N00174.AR.001963
NSWC INDIAN HEAD
5090.3a

VALIDATED DATA PACKAGE, 76390, NSWC INDIAN HEAD MD
6/26/2015
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

June 18, 2015

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

Attn: Ed Corack

Title: Report of Data: Case 76390

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:

Four soil and one water samples were received May 11, 2015, at 6.0°C. Written results for the requested analyses are provided on this June 18, 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/ab
Enclosure
cc: File

Number of pages in this report: 62

Sample receipt information

ARF: 76390

Project: CTO JU11 112G02622 NSF Indian Head, MD

Sample Receipt Information:

The soil and water samples were received on May 11, 2015, at 6.0C. The samples were assigned Analytical Request Form (ARF) number 76390. 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-SS036-0001	AZ16198	SOIL	05/08/15	05/11/15
S67-SB036-0405	AZ16199	SOIL	05/08/15	05/11/15
S67-RB01-050815	AZ16200	WATER	05/08/15	05/11/15
S67-SS037-0001	AZ16201	SOIL	05/08/15	05/11/15
S67-SB037-0607	AZ16202	SOIL	05/08/15	05/11/15

Percent moisture was determined using CLP 4.0.

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 soil samples were extracted according to EPA method 3550B. The samples were analyzed according to EPA Method 8270D using an Agilent GC/MS. Samples S67-SS036-0001 and S67-SS037-0001 were injected at a 10:1 dilution because of color and viscosity. All holding times were met.

Manual integration were performed in accordance with APPL's SOP. Phenol-D6 was manually integrated in the 100ug/mL standard. 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.

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

Method blanks

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

Surrogates

Surrogate recoveries are summarized on Form 2 & 8. Samples S67-SS036-0001 and S67-SS037-0001 recovered the surrogate 2-Fluorobiphenyl below the 45% lower control limit at 31.5% and 33.4%. Both extracts were dark and viscous and were injected at a dilution of 10:1. Both samples had a passing 2-FPB in the PAH extraction. Samples S67-SB036-0405 and S67-SB037-0607 recovered 2-Fluorobiphenyl below the 45% lower control limit at 37.6% and 39.0%. This surrogate in the PAH extract was also low. All other surrogate recoveries were within the acceptance 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 problem was encountered. All data generated are acceptable.

EPA Method 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Sample Preparation and Analysis Information:

The soil samples were extracted according to EPA method 3550B. The samples were analyzed according to EPA Method 8270D using an Agilent GC/MS with selective ion monitoring. All holding times were met.

Benzo(b)fluoranthene and Benzo(k)fluoranthene could not be chromatographically separated in all samples except S67-SB037-0607. As a result, each of these is reported from the sum of the two area counts and may be biased high.

Quality Control/Assurance

Spike Recovery

A Laboratory Control Spike (LCS) was 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 above one-half the limit of quantitation (LOQ) in the method blank.

Surrogates

Surrogate recoveries are summarized on Form 2 & 8. Samples S67-SB036-0405 and S67-SB037-0607 recovered the surrogate 2-Fluorobiphenyl below the 45% lower control limit at 44.2% and 39.6%. This surrogate was also low in the 8270D extract. Samples S67-SS036-0001, S67-SB036-0405 and S67-RB01-050815 recovered Nitrobenzene-D5 above the 100% upper control limit. The extracts were dark and viscous and injected at a dilution factor of 10:1.

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.

EPA Method 6850
Perchlorate by LC-Mass Spec

Sample Preparation and Analysis Information:

The soil and 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 and the sample S67-SS036-0001. 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 Spikes (LCS) and Interference Check Samples (I.C.S.) were used for quality assurance. All LCS acceptance criteria were met..

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

No sample was selected by the laboratory for MS/MSD analysis.

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 soil samples were dried and extracted according to EPA method 8330B, without using incremental sampling procedures. 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. 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.

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

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. The internal standard in the ICS recovered slightly below the lower control limit. All calibration criteria were met.

Summary:

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

EPA Method 6010C
Metals

Digestion and Analysis Information:

The soil samples were digested according to EPA method 3050B. The samples were analyzed for 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. Lithium increased in sensitivity in the 20:45 CCV with 114%R; the client was notified and no further action was required.

Blanks:

No target metal was detected above one half the LOQ in the method blank.

Spikes:

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

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

Summary:

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

Inorganic Analyses

EPA Method 9045D and Walkley Black

Sample Preparation and Analysis

The samples were prepared and analyzed according to the methods. 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.

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 blank.

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.

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CHAIN OF CUSTODY RECORD 76390

6.0

C.O.C. 48702

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: Tetra Tech Phone: 757-466-4908	Company Name: See Contract Phone:
Address: 5700 Lake Wright Dr. Si309 Fax:	Address: Fax:
Norfolk, VA 23502	
Attn: Ed Corack	Attn:

Project Name/Number	Sampler (Print)
CTO-JU11 112GC2622 NSF-Indian Head Site 67	Jacob Birkett
Purchase Order Number	Sampler (Signature)

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Analysis Requested/Method Number: Perchlorate +	PAHs	Phthalates	Energetics	Metals	Perchlorate	pH	TOC
SG7-SS036-0001	S36	5-8-15	1000	ET	3			3	250	2				→	1	→
SG7-SB036-0405	S36	5-8-15	1015	ET	2			2	250	2				→		
SG7-RB01-050815	—	5-8-15	1130	ET	1	1			1							
SG7-SS037-0001	S37	5-8-15	1150	ET	3			3		2	→			→	1	→
SG7-SB037-0607	S37	5-8-15	1215	ET	2			2		2	→			→		

JB 5-8-15

Rinsate Blank Std TAT

Date Shipped: 5-8-15
Carrier: FedEx
Waybill No.: 8992-5262-6220
Comments:

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	5-8-15	1700	FedEx
Relinquished by:	Date	Time	Received by:

Relinquished by:	Date	Time	Received by:
Relinquished by:	Date 5-11-15	Time 9:30	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 SOILS

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: 76390

Sample ID: S67-SS036-0001

APPL ID: AZ16198

Sample Collection Date: 5/8/2015

QCG: #87DJU-150521A-197602

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.6 Percent Moisture.)								
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	2.100 U	8.10	2.100	0.760	mg/kg	5/21/2015	5/28/2015
EPA 8270D	BUTYL BENZYL PHTHALATE	2.100 U	4.10	2.100	0.690	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DI-N-BUTYL PHTHALATE	2.100 U	4.10	2.100	0.810	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DI-N-OCTYL PHTHALATE	2.100 U	4.10	2.100	0.710	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DIETHYL PHTHALATE	2.100 U	4.10	2.100	0.760	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DIMETHYL PHTHALATE	2.100 U	4.10	2.100	0.770	mg/kg	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	48.0	35-125			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	31.5 #	45-105			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	53.3	35-105			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	53.0	35-100			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: PHENOL (S)	53.7	40-100			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	57.0	30-125			%	5/21/2015	5/28/2015

= Recovery (or RPD) is outside QC limits.

Quant Method: Y0520TT.M
Run #: 0520Y062
Instrument: Yoda
Sequence: Y150520
Dilution Factor: 10
Initials: DA

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APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8270D SOILS

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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: 76390

Sample ID: S67-SB036-0405

APPL ID: AZ16199

Sample Collection Date: 5/8/2015

QCG: #87DJU-150521A-197602

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 19.3 Percent Moisture.)								
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	2.100 U	8.20	2.100	0.770	mg/kg	5/21/2015	5/28/2015
EPA 8270D	BUTYL BENZYL PHTHALATE	2.100 U	4.10	2.100	0.690	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DI-N-BUTYL PHTHALATE	2.100 U	4.10	2.100	0.820	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DI-N-OCTYL PHTHALATE	2.100 U	4.10	2.100	0.720	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DIETHYL PHTHALATE	2.100 U	4.10	2.100	0.770	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DIMETHYL PHTHALATE	2.100 U	4.10	2.100	0.780	mg/kg	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	41.7	35-125			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	37.6 #	45-105			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	52.9	35-105			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	51.8	35-100			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: PHENOL (S)	49.5	40-100			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	53.4	30-125			%	5/21/2015	5/28/2015

= Recovery (or RPD) is outside QC limits.

Quant Method: Y0520TT.M
Run #: 0520Y063
Instrument: Yoda
Sequence: Y150520
Dilution Factor: 10
Initials: DA

Printed: 6/2/2015 12:33:47 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8270D SOILS

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: 76390

Sample ID: S67-SS037-0001

APPL ID: AZ16201

Sample Collection Date: 5/8/2015

QCG: #87DJU-150521A-197602

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.5 Percent Moisture.)								
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	2.000 U	8.10	2.000	0.760	mg/kg	5/21/2015	5/28/2015
EPA 8270D	BUTYL BENZYL PHTHALATE	2.000 U	4.00	2.000	0.690	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DI-N-BUTYL PHTHALATE	2.000 U	4.00	2.000	0.810	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DI-N-OCTYL PHTHALATE	2.000 U	4.00	2.000	0.710	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DIETHYL PHTHALATE	2.000 U	4.00	2.000	0.760	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DIMETHYL PHTHALATE	2.000 U	4.00	2.000	0.770	mg/kg	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	42.4	35-125			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	33.4 #	45-105			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	44.3	35-105			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	49.8	35-100			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: PHENOL (S)	43.8	40-100			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	68.2	30-125			%	5/21/2015	5/28/2015

= Recovery (or RPD) is outside QC limits.

Quant Method:	Y0520TT.M
Run #:	0520Y064
Instrument:	Yoda
Sequence:	Y150520
Dilution Factor:	10
Initials:	DA

Printed: 6/2/2015 12:33:47 PM

APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8270D SOILS

Tetra Tech
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Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76390

Sample ID: S67-SB037-0607

APPL ID: AZ16202

Sample Collection Date: 5/8/2015

QCG: #87DJU-150521A-197602

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.0 Percent Moisture.)								
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	0.200 U	0.80	0.200	0.076	mg/kg	5/21/2015	5/28/2015
EPA 8270D	BUTYL BENZYL PHTHALATE	0.200 U	0.40	0.200	0.068	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DI-N-BUTYL PHTHALATE	0.200 U	0.40	0.200	0.080	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DI-N-OCTYL PHTHALATE	0.200 U	0.40	0.200	0.071	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DIETHYL PHTHALATE	0.200 U	0.40	0.200	0.076	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DIMETHYL PHTHALATE	0.200 U	0.40	0.200	0.077	mg/kg	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	58.4	35-125			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	39.0 #	45-105			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	54.0	35-105			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	52.0	35-100			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: PHENOL (S)	55.2	40-100			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	59.8	30-125			%	5/21/2015	5/28/2015

= Recovery (or RPD) is outside QC limits.

Quant Method:	Y0520TT.M
Run #:	0520Y065
Instrument:	Yoda
Sequence:	Y150520
Dilution Factor:	1
Initials:	DA

Printed: 6/2/2015 12:33:47 PM

APPL-F1-SC-MCRes/MCPQL-REG MDLs

Method Blank
EPA 8270D SOILS

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **150521S-16137 - 197602**
Batch ID: #87DJU-150521A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BIS (2-ETHYLHEXYL) PHTHALAT	0.167 U	0.66	0.167	0.062	mg/kg	5/21/2015	5/28/2015
BLANK	BUTYL BENZYL PHTHALATE	0.167 U	0.33	0.167	0.056	mg/kg	5/21/2015	5/28/2015
BLANK	DI-N-BUTYL PHTHALATE	0.167 U	0.33	0.167	0.066	mg/kg	5/21/2015	5/28/2015
BLANK	DI-N-OCTYL PHTHALATE	0.167 U	0.33	0.167	0.058	mg/kg	5/21/2015	5/28/2015
BLANK	DIETHYL PHTHALATE	0.167 U	0.33	0.167	0.062	mg/kg	5/21/2015	5/28/2015
BLANK	DIMETHYL PHTHALATE	0.167 U	0.33	0.167	0.063	mg/kg	5/21/2015	5/28/2015
BLANK	SURROGATE: 2,4,6-TRIBROMOP	66.1	35-125			%	5/21/2015	5/28/2015
BLANK	SURROGATE: 2-FLUORBIPHENY	66.9	45-105			%	5/21/2015	5/28/2015
BLANK	SURROGATE: 2-FLUOROPHENO	70.2	35-105			%	5/21/2015	5/28/2015
BLANK	SURROGATE: NITROBENZENE-	67.7	35-100			%	5/21/2015	5/28/2015
BLANK	SURROGATE: PHENOL (S)	69.3	40-100			%	5/21/2015	5/28/2015
BLANK	SURROGATE: TERPHENYL-D14 (	86.8	30-125			%	5/21/2015	5/28/2015

Quant Method: Y0520TT.M
Run #: 0520Y055
Instrument: Yoda
Sequence: Y150520
Initials: DA

GC SC-Blank-REG MDLs
Printed: 6/2/2015 12:34:13 PM

Laboratory Control Spike Recovery
EPA 8270D SOILS

APPL ID: **150521S-16137 LCS - 197602**
Batch ID: #87DJU-150521A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
BIS (2-ETHYLHEXYL) PHTHALATE	1.67	1.35	80.8	45-125
BUTYL BENZYL PHTHALATE	1.67	1.31	78.4	50-125
DI-N-BUTYL PHTHALATE	1.67	1.30	77.8	55-110
DI-N-OCTYL PHTHALATE	1.67	1.39	83.2	40-130
DIETHYL PHTHALATE	1.67	1.19	71.3	50-115
DIMETHYL PHTHALATE	1.67	1.19	71.3	50-110
SURROGATE: 2,4,6-TRIBROMOPHENOL	6.67	5.07	76.0	35-125
SURROGATE: 2-FLUORBIPHENYL (S)	3.33	2.27	68.2	45-105
SURROGATE: 2-FLUOROPHENOL (S)	6.67	4.46	66.9	35-105
SURROGATE: NITROBENZENE-D5 (S)	3.33	2.22	66.7	35-100
SURROGATE: PHENOL (S)	6.67	4.66	69.9	40-100
SURROGATE: TERPHENYL-D14 (S)	3.33	2.98	89.5	30-125

Comments: _____

Primary	SPK
Quant Method :	Y0520TT.M
Extraction Date :	5/21/2015
Analysis Date :	5/28/2015
Instrument :	Yoda
Run :	0520Y056
Initials :	DA

Printed: 6/2/2015 12:33:55 PM
APPL Standard LCS

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 5/28/2015

Matrix: SOIL Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
150521A-BLK	Blank	35-125	66.1		45-105	66.9	
150521A-LCS	Lab Control Spike	35-125	76.0		45-105	68.2	
AZ16198	S67-SS036-0001	35-125	48.0		45-105	31.5	#
AZ16199	S67-SB036-0405	35-125	41.7		45-105	37.6	#
AZ16201	S67-SS037-0001	35-125	42.4		45-105	33.4	#
AZ16202	S67-SB037-0607	35-125	58.4		45-105	39.0	#

Comments: Batch: #87DJU-150521A

= Recovery outside of Control Limits on Sample.

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 5/28/2015

Matrix: SOIL Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
150521A-BLK	Blank	35-105	70.2		35-100	67.7	
150521A-LCS	Lab Control Spike	35-105	66.9		35-100	66.7	
AZ16198	S67-SS036-0001	35-105	53.3		35-100	53.0	
AZ16199	S67-SB036-0405	35-105	52.9		35-100	51.8	
AZ16201	S67-SS037-0001	35-105	44.3		35-100	49.8	
AZ16202	S67-SB037-0607	35-105	54.0		35-100	52.0	

Comments: Batch: #87DJU-150521A

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 5/28/2015

Matrix: SOIL Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
150521A-BLK	Blank	40-100	69.3		30-125	86.8	
150521A-LCS	Lab Control Spike	40-100	69.9		30-125	89.5	
AZ16198	S67-SS036-0001	40-100	53.7		30-125	57.0	
AZ16199	S67-SB036-0405	40-100	49.5		30-125	53.4	
AZ16201	S67-SS037-0001	40-100	43.8		30-125	68.2	
AZ16202	S67-SB037-0607	40-100	55.2		30-125	59.8	

Comments: Batch: #87DJU-150521A

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 5/28/2015

Matrix: SOIL Instrument: Yoda

Blank ID: 150521A-BLK Time Analyzed: 1449

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150521A-BLK	Blank	0520Y055	5/28/2015 1449
150521A-LCS	Lab Control Spike	0520Y056	5/28/2015 1518
AZ16198	S67-SS036-0001	0520Y062	5/28/2015 1815
AZ16199	S67-SB036-0405	0520Y063	5/28/2015 1845
AZ16201	S67-SS037-0001	0520Y064	5/28/2015 1915
AZ16202	S67-SB037-0607	0520Y065	5/28/2015 1944

Comments: Batch: #87DJU-150521A

EPA 8270D LL SOILS

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-SS036-0001
Sample Collection Date: 5/8/2015

ARF: 76390
APPL ID: AZ16198
QCG: #SIMDD-150521A-197621

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.6 Percent Moisture.)								
8270D-LL	2-METHYLNAPHTHALENE	0.036 J	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	ACENAPHTHENE	0.0210 U	0.061	0.0210	0.0120	mg/kg	5/21/2015	5/27/2015
8270D-LL	ACENAPHTHYLENE	0.12	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	ANTHRACENE	0.062	0.061	0.0210	0.0098	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZ (A) ANTHRACENE	0.14	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (A) PYRENE	0.043 J	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (B) FLUORANTHENE	0.12	0.061	0.0210	0.0140	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (G,H,I) PERYLENE	0.073	0.061	0.0210	0.0160	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (K) FLUORANTHENE	0.32	0.061	0.0210	0.0120	mg/kg	5/21/2015	5/27/2015
8270D-LL	CHRYSENE	0.12	0.061	0.0210	0.0098	mg/kg	5/21/2015	5/27/2015
8270D-LL	DIBENZ (A,H) ANTHRACENE	0.063	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	FLUORANTHENE	0.18	0.061	0.0210	0.0150	mg/kg	5/21/2015	5/27/2015
8270D-LL	FLUORENE	0.040 J	0.061	0.0210	0.0120	mg/kg	5/21/2015	5/27/2015
8270D-LL	INDENO (1,2,3-CD) PYRENE	0.15	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	NAPHTHALENE	0.013 J	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	PHENANTHRENE	0.13	0.061	0.0210	0.0140	mg/kg	5/21/2015	5/27/2015
8270D-LL	PYRENE	0.21	0.061	0.0210	0.0150	mg/kg	5/21/2015	5/27/2015
8270D-LL	SURROGATE: 2-FLUORBIPHENYL (S)	49.9	45-105			%	5/21/2015	5/27/2015
8270D-LL	SURROGATE: NITROBENZENE-D5 (S)	120 #	35-100			%	5/21/2015	5/27/2015
8270D-LL	SURROGATE: TERPHENYL-D14 (S)	61.8	30-125			%	5/21/2015	5/27/2015

J = Estimated value.
# = Recovery (or RPD) is outside QC limits.

Quant Method:	P0518-42.M
Run #:	0515L242
Instrument:	Linus
Sequence:	L150515
Dilution Factor:	10
Initials:	DA

Printed: 6/2/2015 2:16:39 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8270D LL SOILS

Tetra Tech
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APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76390

Sample ID: S67-SB036-0405

APPL ID: AZ16199

Sample Collection Date: 5/8/2015

QCG: #SIMDD-150521A-197621

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 19.3 Percent Moisture.)								
8270D-LL	2-METHYLNAPHTHALENE	0.34	0.062	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	ACENAPHTHENE	0.42	0.062	0.0210	0.0120	mg/kg	5/21/2015	5/27/2015
8270D-LL	ACENAPHTHYLENE	0.17	0.062	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	ANTHRACENE	1.5	0.062	0.0210	0.0099	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZ (A) ANTHRACENE	1.7	0.062	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (A) PYRENE	0.70	0.062	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (B) FLUORANTHENE	2.1	0.062	0.0210	0.0140	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (G,H,I) PERYLENE	0.70	0.062	0.0210	0.0160	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (K) FLUORANTHENE	2.3	0.062	0.0210	0.0120	mg/kg	5/21/2015	5/27/2015
8270D-LL	CHRYSENE	1.6	0.062	0.0210	0.0099	mg/kg	5/21/2015	5/27/2015
8270D-LL	DIBENZ (A,H) ANTHRACENE	0.22	0.062	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	FLUORANTHENE	3.9	0.062	0.0210	0.0150	mg/kg	5/21/2015	5/27/2015
8270D-LL	FLUORENE	0.55	0.062	0.0210	0.0120	mg/kg	5/21/2015	5/27/2015
8270D-LL	INDENO (1,2,3-CD) PYRENE	0.76	0.062	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	NAPHTHALENE	0.61	0.062	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	PHENANTHRENE	4.9	0.062	0.0210	0.0140	mg/kg	5/21/2015	5/27/2015
8270D-LL	PYRENE	3.6	0.062	0.0210	0.0150	mg/kg	5/21/2015	5/27/2015
8270D-LL	SURROGATE: 2-FLUORBIPHENYL (S)	44.2 #	45-105			%	5/21/2015	5/27/2015
8270D-LL	SURROGATE: NITROBENZENE-D5 (S)	104 #	35-100			%	5/21/2015	5/27/2015
8270D-LL	SURROGATE: TERPHENYL-D14 (S)	66.8	30-125			%	5/21/2015	5/27/2015

= Recovery (or RPD) is outside QC limits.

Quant Method: P0518-42.M
Run #: 0515L243
Instrument: Linus
Sequence: L150515
Dilution Factor: 10
Initials: DA

Printed: 6/2/2015 2:16:39 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8270D LL SOILS

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

APPL Inc.
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Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76390

Sample ID: S67-SS037-0001

APPL ID: AZ16201

Sample Collection Date: 5/8/2015

QCG: #SIMDD-150521A-197621

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.5 Percent Moisture.)								
8270D-LL	2-METHYLNAPHTHALENE	0.031 J	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	ACENAPHTHENE	0.0210 U	0.061	0.0210	0.0120	mg/kg	5/21/2015	5/27/2015
8270D-LL	ACENAPHTHYLENE	0.11	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	ANTHRACENE	0.030 J	0.061	0.0210	0.0098	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZ (A) ANTHRACENE	0.087	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (A) PYRENE	0.021 J	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (B) FLUORANTHENE	0.056 J	0.061	0.0210	0.0130	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (G,H,I) PERYLENE	0.055 J	0.061	0.0210	0.0160	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (K) FLUORANTHENE	0.26	0.061	0.0210	0.0120	mg/kg	5/21/2015	5/27/2015
8270D-LL	CHRYSENE	0.073	0.061	0.0210	0.0098	mg/kg	5/21/2015	5/27/2015
8270D-LL	DIBENZ (A,H) ANTHRACENE	0.053 J	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	FLUORANTHENE	0.080	0.061	0.0210	0.0150	mg/kg	5/21/2015	5/27/2015
8270D-LL	FLUORENE	0.034 J	0.061	0.0210	0.0120	mg/kg	5/21/2015	5/27/2015
8270D-LL	INDENO (1,2,3-CD) PYRENE	0.14	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	NAPHTHALENE	0.0210 U	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	PHENANTHRENE	0.047 J	0.061	0.0210	0.0130	mg/kg	5/21/2015	5/27/2015
8270D-LL	PYRENE	0.11	0.061	0.0210	0.0150	mg/kg	5/21/2015	5/27/2015
8270D-LL	SURROGATE: 2-FLUORBIPHENYL (S)	76.5	45-105			%	5/21/2015	5/27/2015
8270D-LL	SURROGATE: NITROBENZENE-D5 (S)	131 #	35-100			%	5/21/2015	5/27/2015
8270D-LL	SURROGATE: TERPHENYL-D14 (S)	116	30-125			%	5/21/2015	5/27/2015

J = Estimated value.
# = Recovery (or RPD) is outside QC limits.

Quant Method:	P0518-42.M
Run #:	0515L244
Instrument:	Linus
Sequence:	L150515
Dilution Factor:	10
Initials:	DA

Printed: 6/2/2015 2:16:39 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

EPA 8270D LL SOILS

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Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76390

Sample ID: S67-SB037-0607

APPL ID: AZ16202

Sample Collection Date: 5/8/2015

QCG: #SIMDD-150521A-197621

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.0 Percent Moisture.)								
8270D-LL	2-METHYLNAPHTHALENE	0.0021 U	0.006	0.0021	0.0011	mg/kg	5/21/2015	5/27/2015
8270D-LL	ACENAPHTHENE	0.0021 U	0.006	0.0021	0.0012	mg/kg	5/21/2015	5/27/2015
8270D-LL	ACENAPHTHYLENE	0.0021 U	0.006	0.0021	0.0011	mg/kg	5/21/2015	5/27/2015
8270D-LL	ANTHRACENE	0.0021 U	0.006	0.0021	0.0010	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZ (A) ANTHRACENE	0.0021 U	0.006	0.0021	0.0011	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (A) PYRENE	0.0021 U	0.006	0.0021	0.0011	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (B) FLUORANTHENE	0.0021 U	0.006	0.0021	0.0013	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (G,H,I) PERYLENE	0.0021 U	0.006	0.0021	0.0016	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (K) FLUORANTHENE	0.0021 U	0.006	0.0021	0.0012	mg/kg	5/21/2015	5/27/2015
8270D-LL	CHRYSENE	0.0021 U	0.006	0.0021	0.0010	mg/kg	5/21/2015	5/27/2015
8270D-LL	DIBENZ (A,H) ANTHRACENE	0.0021 U	0.006	0.0021	0.0011	mg/kg	5/21/2015	5/27/2015
8270D-LL	FLUORANTHENE	0.0021 U	0.006	0.0021	0.0015	mg/kg	5/21/2015	5/27/2015
8270D-LL	FLUORENE	0.0021 U	0.006	0.0021	0.0012	mg/kg	5/21/2015	5/27/2015
8270D-LL	INDENO (1,2,3-CD) PYRENE	0.0021 U	0.006	0.0021	0.0011	mg/kg	5/21/2015	5/27/2015
8270D-LL	NAPHTHALENE	0.0021 U	0.006	0.0021	0.0011	mg/kg	5/21/2015	5/27/2015
8270D-LL	PHENANTHRENE	0.0021 U	0.006	0.0021	0.0013	mg/kg	5/21/2015	5/27/2015
8270D-LL	PYRENE	0.0021 U	0.006	0.0021	0.0015	mg/kg	5/21/2015	5/27/2015
8270D-LL	SURROGATE: 2-FLUORBIPHENYL (S)	39.6 #	45-105			%	5/21/2015	5/27/2015
8270D-LL	SURROGATE: NITROBENZENE-D5 (S)	53.7	35-100			%	5/21/2015	5/27/2015
8270D-LL	SURROGATE: TERPHENYL-D14 (S)	77.9	30-125			%	5/21/2015	5/27/2015

= Recovery (or RPD) is outside QC limits.

Quant Method: P0518-42.M
Run #: 0515L245
Instrument: Linus
Sequence: L150515
Dilution Factor: 1
Initials: DA

Printed: 6/2/2015 2:16:39 PM

APPL-F1-SC-MCRes/MCPQL-REG MDLs

Method Blank
EPA 8270D LL SOILS

Blank Name/QCG: **150521S-16137 - 197621**
Batch ID: #SIMDD-150521A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-METHYLNAPHTHALENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	ACENAPHTHENE	0.0017 U	0.005	0.0017	0.0010	mg/kg	5/21/2015	5/27/2015
BLANK	ACENAPHTHYLENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	ANTHRACENE	0.0017 U	0.005	0.0017	0.0008	mg/kg	5/21/2015	5/27/2015
BLANK	BENZ (A) ANTHRACENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	BENZO (A) PYRENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	BENZO (B) FLUORANTHENE	0.0017 U	0.005	0.0017	0.0011	mg/kg	5/21/2015	5/27/2015
BLANK	BENZO (G,H,I) PERYLENE	0.0017 U	0.005	0.0017	0.0013	mg/kg	5/21/2015	5/27/2015
BLANK	BENZO (K) FLUORANTHENE	0.0017 U	0.005	0.0017	0.0010	mg/kg	5/21/2015	5/27/2015
BLANK	CHRYSENE	0.0017 U	0.005	0.0017	0.0008	mg/kg	5/21/2015	5/27/2015
BLANK	DIBENZ (A,H) ANTHRACENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	FLUORANTHENE	0.0017 U	0.005	0.0017	0.0012	mg/kg	5/21/2015	5/27/2015
BLANK	FLUORENE	0.0017 U	0.005	0.0017	0.0010	mg/kg	5/21/2015	5/27/2015
BLANK	INDENO (1,2,3-CD) PYRENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	NAPHTHALENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	PHENANTHRENE	0.0017 U	0.005	0.0017	0.0011	mg/kg	5/21/2015	5/27/2015
BLANK	PYRENE	0.0017 U	0.005	0.0017	0.0012	mg/kg	5/21/2015	5/27/2015
BLANK	SURROGATE: 2-FLUORBIPHENY	63.5	45-105			%	5/21/2015	5/27/2015
BLANK	SURROGATE: NITROBENZENE-	44.2	35-100			%	5/21/2015	5/27/2015
BLANK	SURROGATE: TERPHENYL-D14 (	106	30-125			%	5/21/2015	5/27/2015

Quant Method: P0518-42.M
Run #: 0515L235
Instrument: Linus
Sequence: L150515
Initials: DA

GC SC-Blank-REG MDLs
Printed: 6/2/2015 2:17:04 PM

Laboratory Control Spike Recovery
EPA 8270D LL SOILS

APPL ID: **150521S-16137 LCS - 197621**
Batch ID: #SIMDD-150521A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
2-METHYLNAPHTHALENE	0.133	0.0883	66.4	45-105
ACENAPHTHENE	0.133	0.127	95.5	45-110
ACENAPHTHYLENE	0.133	0.112	84.2	45-105
ANTHRACENE	0.133	0.126	94.7	55-105
BENZ (A) ANTHRACENE	0.133	0.139	105	50-110
BENZO (A) PYRENE	0.133	0.132	99.2	50-110
BENZO (B) FLUORANTHENE	0.133	0.140	105	45-115
BENZO (G,H,I) PERYLENE	0.133	0.135	102	40-125
BENZO (K) FLUORANTHENE	0.133	0.132	99.2	45-125
CHRYSENE	0.133	0.144	108	55-110
DIBENZ (A,H) ANTHRACENE	0.133	0.136	102	40-125
FLUORANTHENE	0.133	0.127	95.5	55-115
FLUORENE	0.133	0.120	90.2	50-110
INDENO (1,2,3-CD) PYRENE	0.133	0.145	109	40-120
NAPHTHALENE	0.133	0.0797	59.9	40-105
PHENANTHRENE	0.133	0.120	90.2	50-110
PYRENE	0.133	0.146	110	45-125
SURROGATE: 2-FLUORBIPHENYL (S)	0.0667	0.043	64.5	45-105
SURROGATE: NITROBENZENE-D5 (S)	0.0667	0.0313	46.9	35-100
SURROGATE: TERPHENYL-D14 (S)	0.0667	0.0711	107	30-125

Comments: _____

Primary	SPK
Quant Method :	P0518-42.M
Extraction Date :	5/21/2015
Analysis Date :	5/27/2015
Instrument :	Linus
Run :	0515L236
Initials :	DA

Printed: 6/2/2015 2:16:48 PM
APPL Standard LCS

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 5/27/2015

Matrix: SOIL Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-FLUORBIPHENYL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
150521A-BLK	Blank	45-105	63.5		35-100	44.2	
150521A-LCS	Lab Control Spike	45-105	64.5		35-100	46.9	
AZ16198	S67-SS036-0001	45-105	49.9		35-100	120	#
AZ16199	S67-SB036-0405	45-105	44.2	#	35-100	104	#
AZ16201	S67-SS037-0001	45-105	76.5		35-100	131	#
AZ16202	S67-SB037-0607	45-105	39.6	#	35-100	53.7	

Comments: Batch: #SIMDD-150521A

= Recovery outside of Control Limits on Sample.

Printed: 6/2/2015 2:16:54 PM

Form 2 & 8, Surrogate Recovery Summary

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 5/27/2015

Matrix: SOIL Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: TERPHENYL-D14 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
150521A-BLK	Blank	30-125	106				
150521A-LCS	Lab Control Spike	30-125	107				
AZ16198	S67-SS036-0001	30-125	61.8				
AZ16199	S67-SB036-0405	30-125	66.8				
AZ16201	S67-SS037-0001	30-125	116				
AZ16202	S67-SB037-0607	30-125	77.9				

Comments: Batch: #SIMDD-150521A

8270D-LL

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 5/27/2015

Matrix: SOIL Instrument: Linus

Blank ID: 150521A-BLK Time Analyzed: 1917

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150521A-BLK	Blank	0515L235	5/27/2015 1917
150521A-LCS	Lab Control Spike	0515L236	5/27/2015 1942
AZ16198	S67-SS036-0001	0515L242	5/27/2015 2216
AZ16199	S67-SB036-0405	0515L243	5/27/2015 2241
AZ16201	S67-SS037-0001	0515L244	5/27/2015 2307
AZ16202	S67-SB037-0607	0515L245	5/27/2015 2332

Comments: Batch: #SIMDD-150521A

PERCHLORATE EPA 6850 - SOIL

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-SS036-0001
Sample Collection Date: 05/08/15

ARF: 76390
APPL ID: AZ16198
QCG: #6850SM-150518A-198067

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations have been adjusted to reflect 18.6 Percent Moisture.)								
EPA 6850	PERCHLORATE	0.0040 U	0.006	0.0040	0.0020	mg/Kg	05/18/15	05/24/15

Quant Method:	QTLMFL2
Run #:	T523_061.d
Instrument:	AGIL_6460
Sequence:	TQ052315
Dilution Factor:	1
Initials:	RP

Printed: 06/18/15 1:56:00 PM
APPL-F1-SC-MCResOnly-REG MDLs

PERCHLORATE EPA 6850 - SOIL

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-SB036-0405
Sample Collection Date: 05/08/15

ARF: 76390
APPL ID: AZ16199
QCG: #6850SM-150518A-198067

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations have been adjusted to reflect 19.3 Percent Moisture.)								
EPA 6850	PERCHLORATE	0.015	0.006	0.0040	0.0020	mg/Kg	05/18/15	05/24/15

Quant Method:	QTLMFL2
Run #:	T523_062.d
Instrument:	AGIL_6460
Sequence:	TQ052315
Dilution Factor:	1
Initials:	RP

Printed: 06/18/15 1:56:00 PM
APPL-F1-SC-MCResOnly-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-RB01-050815
Sample Collection Date: 05/08/15

ARF: 76390
APPL ID: AZ16200
QCG: #6850-150512A-196913

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	05/12/15	05/12/15

Quant Method:	QTLMFL2
Run #:	T512_030.D
Instrument:	AGIL_6460
Sequence:	TQ051215
Dilution Factor:	1
Initials:	MP

Printed: 06/18/15 1:47:21 PM
APPL-F1-SC-NoMC-REG MDLs

PERCHLORATE EPA 6850 - SOIL

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-SS037-0001
Sample Collection Date: 05/08/15

ARF: 76390
APPL ID: AZ16201
QCG: #6850SM-150518A-198067

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations have been adjusted to reflect 18.5 Percent Moisture.)								
EPA 6850	PERCHLORATE	0.0040 U	0.006	0.0040	0.0020	mg/Kg	05/18/15	05/24/15

Quant Method:	QTLMFL2
Run #:	T523_063.d
Instrument:	AGIL_6460
Sequence:	TQ052315
Dilution Factor:	1
Initials:	RP

Printed: 06/18/15 1:56:00 PM
APPL-F1-SC-MCResOnly-REG MDLs

PERCHLORATE EPA 6850 - SOIL

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-SB037-0607
Sample Collection Date: 05/08/15

ARF: 76390
APPL ID: AZ16202
QCG: #6850SM-150518A-198067

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations have been adjusted to reflect 18.0 Percent Moisture.)								
EPA 6850	PERCHLORATE	0.12	0.006	0.0040	0.0020	mg/Kg	05/18/15	05/24/15

Quant Method:	QTLMFL2
Run #:	T523_064.d
Instrument:	AGIL_6460
Sequence:	TQ052315
Dilution Factor:	1
Initials:	RP

Printed: 06/18/15 1:56:00 PM
APPL-F1-SC-MCResOnly-REG MDLs

Method Blank

PERCHLORATE EPA 6850 - SOIL

Blank Name/QCG: **150518S-16137 - 198067**

Batch ID: #6850SM-150518A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PERCHLORATE	0.0040 U	0.006	0.0040	0.0020	mg/Kg	05/18/15	05/24/15

Quant Method: QTLMFL2
Run #: T523_049.d
Instrument: AGIL_6460
Sequence: TQ052315
Initials: RP

GC SC-Blank-REG MDLs
Printed: 06/18/15 1:56:03 PM

Method Blank
Perchlorate

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **150512W-16226 - 196913**
Batch ID: #6850-150512A

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	05/12/15	05/12/15

Quant Method: QTLMFL2
Run #: T512_029.D
Instrument: AGIL_6460
Sequence: TQ051215
Initials: MP

GC SC-Blank-REG MDLs
Printed: 06/18/15 1:47:24 PM

Laboratory Control Spike Recovery

PERCHLORATE EPA 6850 - SOIL

APPL ID: **150518S-16137 LCS - 198067**
Batch ID: #6850SM-150518A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level mg/Kg	SPK Result mg/Kg	SPK % Recovery	Recovery Limits
PERCHLORATE	0.00594	0.00556	93.6	80-120

Comments: _____

Primary	SPK
Quant Method :	QTLMFL2
Extraction Date :	05/18/15
Analysis Date :	05/24/15
Instrument :	AGIL_6460
Run :	T523_047.d
Initials :	RP

Printed: 06/18/15 1:56:06 PM
APPL Standard LCS

Laboratory Control Spike Recovery

Perchlorate

APPL ID: **150512W-16226 LCS - 196913**
Batch ID: #6850-150512A

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	0.599	99.8	80-120

Comments: _____

Primary	SPK
Quant Method :	QTLMFL2
Extraction Date :	05/12/15
Analysis Date :	05/12/15
Instrument :	AGIL_6460
Run :	T512_027.D
Initials :	MP

Printed: 06/18/15 1:47:27 P
APPL Standa

EPA 6850

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 05/24/15

Matrix: SOIL Instrument: AGIL_6460

Blank ID: 150518A-BLK Time Analyzed: 0628

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150518A-LCS	Lab Control Spike	T523_047.d	05/24/15 0550
150518A-BLK	Blank	T523_049.d	05/24/15 0628
AZ16198	S67-SS036-0001	T523_061.d	05/24/15 1011
AZ16199	S67-SB036-0405	T523_062.d	05/24/15 1030
AZ16201	S67-SS037-0001	T523_063.d	05/24/15 1048
AZ16202	S67-SB037-0607	T523_064.d	05/24/15 1107

Comments: Batch: #6850SM-150518A

EPA 6850

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 05/12/15

Matrix: WATER Instrument: AGIL_6460

Blank ID: 150512A-BLK Time Analyzed: 1617

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150512A-LCS	Lab Control Spike	T512_027.D	05/12/15 1537
150512A-BLK	Blank	T512_029.D	05/12/15 1617
AZ16200	S67-RB01-050815	T512_030.D	05/12/15 1644

Comments: Batch: #6850-150512A

EPA 8330B SOIL

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-SS036-0001
Sample Collection Date: 05/08/15

ARF: 76390
APPL ID: AZ16198
QCG: #83BJU-150520A-197310

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8330B	2,4-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
EPA 8330B	2,6-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
EPA 8330B	HMX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
EPA 8330B	NITROGLYCERIN	0.200 U	0.50	0.200	0.085	mg/kg	05/20/15	05/23/15
EPA 8330B	RDX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
EPA 8330B	TETRYL	0.200 U	0.50	0.200	0.091	mg/kg	05/20/15	05/23/15
EPA 8330B	SURROGATE: 1,2-DINITROBENZENE (	93.8	70-130			%	05/20/15	05/23/15

Quant Method: W150522.M
Run #: 0522_000057
Instrument: Waldorf
Sequence: 150522
Dilution Factor: 1
Initials: MP

Printed: 05/27/15 12:37:47 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 8330B SOIL

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-SB036-0405
Sample Collection Date: 05/08/15

ARF: 76390
APPL ID: AZ16199
QCG: #83BJU-150520A-197310

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8330B	2,4-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
EPA 8330B	2,6-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
EPA 8330B	HMX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
EPA 8330B	NITROGLYCERIN	0.200 U	0.50	0.200	0.085	mg/kg	05/20/15	05/23/15
EPA 8330B	RDX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
EPA 8330B	TETRYL	0.200 U	0.50	0.200	0.091	mg/kg	05/20/15	05/23/15
EPA 8330B	SURROGATE: 1,2-DINITROBENZENE (	94.6	70-130			%	05/20/15	05/23/15

Quant Method:	W150522.M
Run #:	0522_000058
Instrument:	Waldorf
Sequence:	150522
Dilution Factor:	1
Initials:	MP

Printed: 05/27/15 12:37:47 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 8330B SOIL

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: 76390

Sample ID: S67-SS037-0001

APPL ID: AZ16201

Sample Collection Date: 05/08/15

QCG: #83BJU-150520A-197310

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8330B	2,4-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
EPA 8330B	2,6-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
EPA 8330B	HMX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
EPA 8330B	NITROGLYCERIN	0.200 U	0.50	0.200	0.085	mg/kg	05/20/15	05/23/15
EPA 8330B	RDX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
EPA 8330B	TETRYL	0.200 U	0.50	0.200	0.091	mg/kg	05/20/15	05/23/15
EPA 8330B	SURROGATE: 1,2-DINITROBENZENE (	94.9	70-130			%	05/20/15	05/23/15

Quant Method:	W150522.M
Run #:	0522_000060
Instrument:	Waldorf
Sequence:	150522
Dilution Factor:	1
Initials:	MP

Printed: 05/27/15 12:37:47 PM

APPL-F1-SC-NoMC-REG MDLs

EPA 8330B SOIL

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

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

Sample ID: S67-SB037-0607

Sample Collection Date: 05/08/15

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 76390

APPL ID: AZ16202

QCG: #83BJU-150520A-197310

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8330B	2,4-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
EPA 8330B	2,6-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
EPA 8330B	HMX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
EPA 8330B	NITROGLYCERIN	0.200 U	0.50	0.200	0.085	mg/kg	05/20/15	05/23/15
EPA 8330B	RDX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
EPA 8330B	TETRYL	0.200 U	0.50	0.200	0.091	mg/kg	05/20/15	05/23/15
EPA 8330B	SURROGATE: 1,2-DINITROBENZENE (	95.1	70-130			%	05/20/15	05/23/15

Quant Method: W150522.M
Run #: 0522_000061
Instrument: Waldorf
Sequence: 150522
Dilution Factor: 1
Initials: MP

Printed: 05/27/15 12:37:47 PM
APPL-F1-SC-NoMC-REG MDLs

Method Blank
EPA 8330B SOIL

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **150520S-16137 - 197310**
Batch ID: #83BJU-150520A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2,4-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
BLANK	2,6-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
BLANK	HMX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
BLANK	NITROGLYCERIN	0.200 U	0.50	0.200	0.085	mg/kg	05/20/15	05/23/15
BLANK	RDX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
BLANK	TETRYL	0.200 U	0.50	0.200	0.091	mg/kg	05/20/15	05/23/15
BLANK	SURROGATE: 1,2-DINITROBENZ	95.0	70-130			%	05/20/15	05/23/15

Quant Method: W150522.M
Run #: 0522_00005
Instrument: Waldorf
Sequence: 150522
Initials: MP

GC SC-Blank-REG MDLs
Printed: 05/27/15 12:37:26 PM

Laboratory Control Spike Recovery
EPA 8330B SOIL

APPL ID: **150520S-16137 LCS - 197310**
Batch ID: #83BJU-150520A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
2,4-DINITROTOLUENE	1.99	1.83	92.0	80-125
2,6-DINITROTOLUENE	1.99	1.84	92.5	80-120
HMX	1.99	1.90	95.5	75-125
NITROGLYCERIN	1.99	1.83	92.0	68-131
RDX	1.99	1.83	92.0	70-135
TETRYL	1.99	1.97	99.0	10-150
SURROGATE: 1,2-DINITROBENZENE (S	1.99	1.82	91.5	70-130

Comments: _____

Primary	SPK
Quant Method :	W150522.M
Extraction Date :	05/20/15
Analysis Date :	05/23/15
Instrument :	Waldorf
Run :	0522_000048
Initials :	MP

Printed: 05/27/15 12:37:28 PM
APPL Standard LCS

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 05/23/15

Matrix: SOIL Instrument: Waldorf

APPL ID.	Client Sample No.	SURROGATE: 1,2-DINITROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
150520A-LCS	Lab Control Spike	70-130	91.5				
150520A-BLK	Blank	70-130	95.0				
AZ16198	S67-SS036-0001	70-130	93.8				
AZ16199	S67-SB036-0405	70-130	94.6				
AZ16201	S67-SS037-0001	70-130	94.9				
AZ16202	S67-SB037-0607	70-130	95.1				

Comments: Batch: #83BJU-150520A

EPA 8330B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 05/23/15

Matrix: SOIL Instrument: Waldorf

Blank ID: 150520A-BLK Time Analyzed: 1225

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150520A-LCS	Lab Control Spike	0522_000048	05/23/15 1033
150520A-BLK	Blank	0522_000051	05/23/15 1225
AZ16198	S67-SS036-0001	0522_000057	05/23/15 1610
AZ16199	S67-SB036-0405	0522_000058	05/23/15 1648
AZ16201	S67-SS037-0001	0522_000060	05/23/15 1753
AZ16202	S67-SB037-0607	0522_000061	05/23/15 1831

Comments: Batch: #83BJU-150520A

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-SS036-0001
Sample Collection Date: 05/08/15

ARF: 76390
APPL ID: AZ16198

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.6 Percent Moisture.)									
6010C/3050B	ALUMINUM (AL)	4140	61.0	4.90	2.40	mg/Kg	1	06/04/15	06/12/15
6010C/3050B	BORON (B)	98.00U	123.0	98.00	38.00	mg/Kg	20	06/04/15	06/12/15
6010C/3050B	LITHIUM (LI)	4.1	0.82	0.610	0.310	mg/Kg	1	06/04/15	06/12/15
6010C/3050B	ZINC (ZN)	2250	197.0	98.00	28.00	mg/Kg	20	06/04/15	06/12/15

Printed: 06/16/15 1:54:57 PM

PL-F1-SC-MCRes/MCPQL-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

ARF: 76390

Sample ID: S67-SB036-0405

APPL ID: AZ16199

Sample Collection Date: 05/08/15

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 19.3 Percent Moisture.)									
6010C/3050B	ALUMINUM (AL)	4810	62.0	5.00	2.50	mg/Kg	1	06/04/15	06/12/15
6010C/3050B	BORON (B)	99.00U	124.0	99.00	38.00	mg/Kg	20	06/04/15	06/12/15
6010C/3050B	LITHIUM (LI)	3.1	0.83	0.620	0.310	mg/Kg	1	06/04/15	06/12/15
6010C/3050B	ZINC (ZN)	2420	198.0	99.00	29.00	mg/Kg	20	06/04/15	06/12/15

Printed: 06/16/15 1:54:57 PM

PL-F1-SC-MCRes/MCPQL-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-SS037-0001
Sample Collection Date: 05/08/15

ARF: 76390
APPL ID: AZ16201

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.5 Percent Moisture.)									
6010C/3050B	ALUMINUM (AL)	8070	1230.0	98.00	49.00	mg/Kg	20	06/04/15	06/12/15
6010C/3050B	BORON (B)	2.1 J	6.1	4.90	1.90	mg/Kg	1	06/04/15	06/12/15
6010C/3050B	LITHIUM (LI)	7.6	0.82	0.610	0.310	mg/Kg	1	06/04/15	06/12/15
6010C/3050B	ZINC (ZN)	44.3	9.8	4.90	1.40	mg/Kg	1	06/04/15	06/12/15

J = Estimated value.

Printed: 06/16/15 1:54:57 PM

PL-F1-SC-MCRes/MCPQL-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

ARF: 76390

Sample ID: S67-SB037-0607

APPL ID: AZ16202

Sample Collection Date: 05/08/15

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.0 Percent Moisture.)									
6010C/3050B	ALUMINUM (AL)	10900	1220.0	98.00	48.00	mg/Kg	20	06/04/15	06/12/15
6010C/3050B	BORON (B)	27.1	6.1	4.90	1.90	mg/Kg	1	06/04/15	06/12/15
6010C/3050B	LITHIUM (LI)	9.8	0.82	0.610	0.300	mg/Kg	1	06/04/15	06/12/15
6010C/3050B	ZINC (ZN)	35.7	9.8	4.90	1.40	mg/Kg	1	06/04/15	06/12/15

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PL-F1-SC-MCRes/MCPQL-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)	4.00 U	50.0	4.00	1.98	mg/Kg	06/04/15	06/12/15	#61CJU-150604A1-AZ16198
6010C	BORON (B)	4.00 U	5.0	4.00	1.55	mg/Kg	06/04/15	06/12/15	#61CJU-150604A1-AZ16198
6010C	LITHIUM (LI)	0.500 U	0.67	0.500	0.250	mg/Kg	06/04/15	06/12/15	#61CJU-150604A1-AZ16198
6010C	ZINC (ZN)	4.00 U	8.0	4.00	1.15	mg/Kg	06/04/15	06/12/15	#61CJU-150604A1-AZ16198

Laboratory Control Spike Recovery

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/Kg	SPK Result mg/Kg	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6010C	ALUMINUM (AL)	200	186	93.0	80-120	06/04/15	06/12/15	#61CJU-150604A1-AZ16198
EPA 6010C	BORON (B)	25.0	23.8	95.2	80-120	06/04/15	06/12/15	#61CJU-150604A1-AZ16198
EPA 6010C	LITHIUM (LI)	10.00	10.2	102	80-120	06/04/15	06/12/15	#61CJU-150604A1-AZ16198
EPA 6010C	ZINC (ZN)	50.0	46.7	93.4	80-120	06/04/15	06/12/15	#61CJU-150604A1-AZ16198

Comments: _____

6010C/3050B^

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 06/12/15

Matrix: SOIL Instrument: Jules

Blank ID: 150604A1-BLK Time Analyzed: 1426

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150604A1-LCS	Lab Control Spike	150612A	06/12/15 1432
AZ16202	S67-SB037-0607	150612A	06/12/15 1803
AZ16201	S67-SS037-0001	150612A	06/12/15 1757
AZ16199	S67-SB036-0405	150612A	06/12/15 1750
AZ16198	S67-SS036-0001	150612A	06/12/15 1743
150604A1-BLK	Blank	150612A	06/12/15 1426
AZ16202	S67-SB037-0607	150612A	06/12/15 2038
AZ16201	S67-SS037-0001	150612A	06/12/15 2031
AZ16199	S67-SB036-0405	150612A	06/12/15 2024
AZ16198	S67-SS036-0001	150612A	06/12/15 2018

Comments: Batch: #61CJU-150604A1

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-SS036-0001
Sample Collection Date: 05/08/15

APPL ID: AZ16198
ARF: 76390

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.6 Percent Moisture.)									
WalkBlk	TOTAL ORGANIC CARBON	11000	250.0	180.00	120.00	mg/Kg	1	06/03/15	06/03/15

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APPL-F1-SC-MCRes/MCPQL-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-SS036-0001

Sample Collection Date: 05/08/15

APPL ID: AZ16198

ARF: 76390

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 9045D	PH	5.93@22.7C	NA			pH Units	1	05/11/15	05/11/15

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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-SS037-0001
Sample Collection Date: 05/08/15

APPL ID: AZ16201
ARF: 76390

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.5 Percent Moisture.)									
WalkBlk	TOTAL ORGANIC CARBON	19000	250.0	180.00	120.00	mg/Kg	1	06/03/15	06/03/15

Printed: 06/18/15 1:50:22 PM

APPL-F1-SC-MCRes/MCPQL-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-SS037-0001
Sample Collection Date: 05/08/15

APPL ID: AZ16201
ARF: 76390

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 9045D	PH	6.59@22.8C	NA			pH Units	1	05/11/15	05/11/15

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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
WalkBlk	TOTAL ORGANIC C	150.00 U	200.0	150.00	100.00	mg/Kg	06/03/15	06/03/15	TOC-WB-150603A-AZ16137

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/Kg	SPK Result mg/Kg	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
WalkBlk	TOTAL ORGANIC CARBON	2000	1810	90.5	80-120	06/03/15	06/03/15	#TOC-WB-150603A-AZ16137

Comments: _____

WalkBlk

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 06/03/15

Matrix: SOIL Instrument: manual

Blank ID: WB-150603A-BLK Time Analyzed: 1100

APPL ID.	Client Sample No.	File ID.	Date Analyzed
AZ16201	S67-SS037-0001		06/03/15 1124
AZ16198	S67-SS036-0001		06/03/15 1121
WB-150603A-LCS	Lab Control Spike		06/03/15 1103
WB-150603A-BLK	Blank		06/03/15 1100

Comments: Batch: #TOC-WB-150603A

EPA 9045D

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed:

Matrix: SOIL Instrument: Tiamo

Blank ID: Time Analyzed:

APPL ID.	Client Sample No.	File ID.	Date Analyzed
AZ16198	S67-SS036-0001	2	05/11/15 1121
AZ16201	S67-SS037-0001	4	05/11/15 1130

Comments: Batch: #9045D-150511a

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

June 18, 2015

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

Attn: Ed Corack

Title: Report of Data: Case 76390

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:

Four soil and one water samples were received May 11, 2015, at 6.0°C. Written results for the requested analyses are provided on this June 18, 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/ab
Enclosure
cc: File

Number of pages in this report: 573

Data Validation Package

for

CTO JU11 112G02622 NSF Indian Head

ARF 76390

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

Sample receipt information	4
Case Narrative	6
Chain of Custody and ARF	14
EPA Method 8270D	20
QC Summary	21
Sample Data	32
Calibration Data	47
Raw Data	73
EPA Method 8270D-SIM	92
QC Summary	93
Sample Data	103
Calibration Data	143
Raw Data	167
EPA Method 6850	184
QC Summary	185
Sample Data	217
Calibration Data	237
Raw Data	318

EPA Method 8330B 365
QC Summary 366
Sample Data 371
Calibration Data 384
Raw Data 440
EPA Method 6010C 482
QC Summary 483
Sample Data 487
Calibration Data 500
Raw Data 544
Inorganic Analyses 552
QC Summary 553
Sample Data 558
Calibration Data 564
Raw Data 567

SAMPLE RECEIPT INFORMATION

Sample receipt information

ARF: 76390

Project: CTO JU11 112G02622 NSF Indian Head, MD

Sample Receipt Information:

The soil and water samples were received on May 11, 2015, at 6.0C. The samples were assigned Analytical Request Form (ARF) number 76390. 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-SS036-0001	AZ16198	SOIL	05/08/15	05/11/15
S67-SB036-0405	AZ16199	SOIL	05/08/15	05/11/15
S67-RB01-050815	AZ16200	WATER	05/08/15	05/11/15
S67-SS037-0001	AZ16201	SOIL	05/08/15	05/11/15
S67-SB037-0607	AZ16202	SOIL	05/08/15	05/11/15

Percent moisture was determined using CLP 4.0.

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 soil samples were extracted according to EPA method 3550B. The samples were analyzed according to EPA Method 8270D using an Agilent GC/MS. Samples S67-SS036-0001 and S67-SS037-0001 were injected at a 10:1 dilution because of color and viscosity. All holding times were met.

Manual integration were performed in accordance with APPL's SOP. Phenol-D6 was manually integrated in the 100ug/mL standard. 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.

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

Method blanks

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

Surrogates

Surrogate recoveries are summarized on Form 2 & 8. Samples S67-SS036-0001 and S67-SS037-0001 recovered the surrogate 2-Fluorobiphenyl below the 45% lower control limit at 31.5% and 33.4%. Both extracts were dark and viscous and were injected at a dilution of 10:1. Both samples had a passing 2-FPB in the PAH extraction. Samples S67-SB036-0405 and S67-SB037-0607 recovered 2-Fluorobiphenyl below the 45% lower control limit at 37.6% and 39.0%. This surrogate in the PAH extract was also low. All other surrogate recoveries were within the acceptance 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 problem was encountered. All data generated are acceptable.

EPA Method 8270D-SIM
Polynuclear Aromatic Hydrocarbons

Sample Preparation and Analysis Information:

The soil samples were extracted according to EPA method 3550B. The samples were analyzed according to EPA Method 8270D using an Agilent GC/MS with selective ion monitoring. All holding times were met.

Benzo(b)fluoranthene and Benzo(k)fluoranthene could not be chromatographically separated in all samples except S67-SB037-0607. As a result, each of these is reported from the sum of the two area counts and may be biased high.

Quality Control/Assurance

Spike Recovery

A Laboratory Control Spike (LCS) was 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 above one-half the limit of quantitation (LOQ) in the method blank.

Surrogates

Surrogate recoveries are summarized on Form 2 & 8. Samples S67-SB036-0405 and S67-SB037-0607 recovered the surrogate 2-Fluorobiphenyl below the 45% lower control limit at 44.2% and 39.6%. This surrogate was also low in the 8270D extract. Samples S67-SS036-0001, S67-SB036-0405 and S67-RB01-050815 recovered Nitrobenzene-D5 above the 100% upper control limit. The extracts were dark and viscous and injected at a dilution factor of 10:1.

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.

EPA Method 6850
Perchlorate by LC-Mass Spec

Sample Preparation and Analysis Information:

The soil and 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 and the sample S67-SS036-0001. 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 Spikes (LCS) and Interference Check Samples (I.C.S.) were used for quality assurance. All LCS acceptance criteria were met..

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

No sample was selected by the laboratory for MS/MSD analysis.

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 soil samples were dried and extracted according to EPA method 8330B, without using incremental sampling procedures. 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. 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.

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

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. The internal standard in the ICS recovered slightly below the lower control limit. All calibration criteria were met.

Summary:

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

EPA Method 6010C
Metals

Digestion and Analysis Information:

The soil samples were digested according to EPA method 3050B. The samples were analyzed for 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. Lithium increased in sensitivity in the 20:45 CCV with 114%R; the client was notified and no further action was required.

Blanks:

No target metal was detected above one half the LOQ in the method blank.

Spikes:

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

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

Summary:

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

Inorganic Analyses

EPA Method 9045D and Walkley Black

Sample Preparation and Analysis

The samples were prepared and analyzed according to the methods. 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.

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 blank.

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.

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 76390

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 # 48702
RAD Screen (Y/N): Y pH (Y/N): N
Turn Around Type: STD

Received by: YL
Date Received: 05/11/15 Time: 09:30
Delivered by: FED EX
Shuttle Custody Seals (Y/N): Y Time Zone: -4
Chest Temp(s): 6.0°C
Color: E-Brn
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Cynthia Clark
QC Report Type: DVP4/LEDD/MD
Due Date: 06/01/15

Comments:
login to ed.corack@ Amy.Thomson@ & tobrena.sedlmyer@tetratech.com.
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://lsg.applications.tetratech.com/LEDDChecker2010/
Guidance: DOD QSM v4.2: DOD Forms, LOD Database

Sample Distribution:
GC: 4-$87DJU11S, 4-$SIMDDODSM
Extractions: 4-_HPLC6850GROSS, 4-_MSE018, 4-_SON009, 4-_SON009S, 1-_HPL6850
LCMS: 4-$6850SM, 4-$83BJU11S, 1-$6850
Metals: 4-$61CJU11S2(Al,B,Li,Zn)
Wetlab: 2-$9045D, 2-$TOC-WB, 4-MOIST
Other: 4-_M3050

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-SS036-0001	AZ16198S	05/08/15 10:00	$61CJU11S2(Al,B,Li,Zn), $6850SM, $83BJU11S, $87DJU11S, $9045D, $SIMDDODSM, $TOC-WB, MOIST
2.	S67-SB036-0405	AZ16199S	05/08/15 10:15	$61CJU11S2(Al,B,Li,Zn), $6850SM, $83BJU11S, $87DJU11S, $SIMDDODSM, MOIST
3.	S67-RB01-050815	AZ16200W	05/08/15 11:30	$6850
4.	S67-SS037-0001	AZ16201S	05/08/15 11:50	$61CJU11S2(Al,B,Li,Zn), $6850SM, $83BJU11S, $87DJU11S, $9045D, $SIMDDODSM, $TOC-WB, MOIST

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -4 UTC
Page 1 Client Code: TTECNUS-JU11 *Printed 05/18/15 6:18:19 AM* Computer: PM-ASSISTANT **# 76390**

5.	S67-SB037-0607	AZ16202S	05/08/15 12:15	$61CJU11S2(Al,B,Li,Zn), $6850SM, $83BJU11S, $87DJU11S, $SIMDDODSM, MOIST

APPL Sample Receipt Form

ARF# **76390**

Sample	Container Type	Count	pH
AZ16198	[21] 8oz Jar	3	NA
AZ16199	[21] 8oz Jar	2	NA
AZ16200	[4] PL 125mL	1	NA
AZ16201	[21] 8oz Jar	3	NA
AZ16202	[21] 8oz Jar	2	NA

Sample	Container Type	Count	pH

APPL LABS

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

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

CHAIN OF CUSTODY RECORD 76390

6.0

C.O.C. 48702

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: Tetra Tech Phone: 757-466-4908	Company Name: See Contract Phone:
Address: 5700 Lake Wright Dr. Si309 Norfolk, VA 23502 Fax:	Address: Fax:
Attn: Ed Corack	Attn:

Project Name/Number	Sampler (Print)
CTO-JU11 112G03623 NSF-Indian Head Site 67	Jacob Birkett
Purchase Order Number	Sampler (Signature)

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Analysis Requested/Method Number: Perchlorate tc	PAHs	Phthalates	Energetics	Metals	Perchlorate	pH	TOC	Comments
SG7-SS036-0001	S36	5-8-15	1000	ET	3			3	2	2				→	1	→	
SG7-SB036-0405	S36	5-8-15	1015	ET	2			2	2	2				→			
SG7-RB01-050815	—	5-8-15	1130	ET	1	1			1								Rinsate Blank Std TAT
SG7-SS037-0001	S37	5-8-15	1150	ET	3			3		2				→	1	→	
SG7-SB037-0607	S37	5-8-15	1215	ET	2			2		2				→			

5-8-15

Date Shipped: 5-8-15
Carrier: FedEx
Waybill No.: 8992-5262-6230

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	5-8-15	1700	FedEx
Relinquished by:	Date	Time	Received by:

Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received at lab by:
	5-11-15	9:30	

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

See reverse side for Container Preservative and Sampling Information

COOLER RECEIPT FORM **ARF: 76390**

1) Project: CTO JU11 112G02622 NSF Indian Head Date Received: 05/11/15

2) Coolers: Number of Coolers: 1

3) YES Were custody seals present and intact?
How many? 2 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: 6.0 2: ____ 3: ____ 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) NA Was the pH taken of all non-VOA preserved samples and written on the sample container?

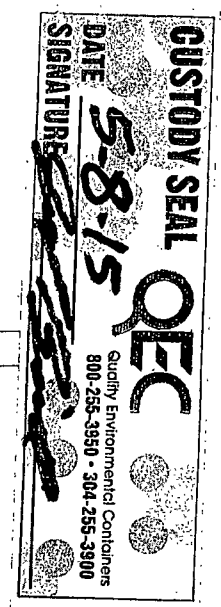
20) NA Was the pH of acid preserved non-VOA samples < 2?

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: ____
Lab notified if pH was not adequate: ____

Notes/Deficiencies:



Personnel receiving samples: BB Second reviewer: YL
Personnel labeling samples: AG
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 SOILS

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **150521S-16137 - 197602**
Batch ID: #87DJU-150521A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	BIS (2-ETHYLHEXYL) PHTHALAT	0.167 U	0.66	0.167	0.062	mg/kg	5/21/2015	5/28/2015
BLANK	BUTYL BENZYL PHTHALATE	0.167 U	0.33	0.167	0.056	mg/kg	5/21/2015	5/28/2015
BLANK	DI-N-BUTYL PHTHALATE	0.167 U	0.33	0.167	0.066	mg/kg	5/21/2015	5/28/2015
BLANK	DI-N-OCTYL PHTHALATE	0.167 U	0.33	0.167	0.058	mg/kg	5/21/2015	5/28/2015
BLANK	DIETHYL PHTHALATE	0.167 U	0.33	0.167	0.062	mg/kg	5/21/2015	5/28/2015
BLANK	DIMETHYL PHTHALATE	0.167 U	0.33	0.167	0.063	mg/kg	5/21/2015	5/28/2015
BLANK	SURROGATE: 2,4,6-TRIBROMOP	66.1	35-125			%	5/21/2015	5/28/2015
BLANK	SURROGATE: 2-FLUORBIPHENY	66.9	45-105			%	5/21/2015	5/28/2015
BLANK	SURROGATE: 2-FLUOROPHENO	70.2	35-105			%	5/21/2015	5/28/2015
BLANK	SURROGATE: NITROBENZENE-	67.7	35-100			%	5/21/2015	5/28/2015
BLANK	SURROGATE: PHENOL (S)	69.3	40-100			%	5/21/2015	5/28/2015
BLANK	SURROGATE: TERPHENYL-D14 (	86.8	30-125			%	5/21/2015	5/28/2015

Quant Method: Y0520TT.M
Run #: 0520Y055
Instrument: Yoda
Sequence: Y150520
Initials: DA

GC SC-Blank-REG MDLs
Printed: 6/2/2015 12:34:15 PM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 5/28/2015

Matrix: SOIL Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2,4,6-TRIBROMOPHENOL (S)			SURROGATE: 2-FLUORBIPHENYL (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
150521A-BLK	Blank	35-125	66.1		45-105	66.9	
150521A-LCS	Lab Control Spike	35-125	76.0		45-105	68.2	
AZ16198	S67-SS036-0001	35-125	48.0		45-105	31.5	#
AZ16199	S67-SB036-0405	35-125	41.7		45-105	37.6	#
AZ16201	S67-SS037-0001	35-125	42.4		45-105	33.4	#
AZ16202	S67-SB037-0607	35-125	58.4		45-105	39.0	#

Comments: Batch: #87DJU-150521A

= Recovery outside of Control Limits on Sample.

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 5/28/2015

Matrix: SOIL Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: 2-FLUOROPHENOL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
150521A-BLK	Blank	35-105	70.2		35-100	67.7	
150521A-LCS	Lab Control Spike	35-105	66.9		35-100	66.7	
AZ16198	S67-SS036-0001	35-105	53.3		35-100	53.0	
AZ16199	S67-SB036-0405	35-105	52.9		35-100	51.8	
AZ16201	S67-SS037-0001	35-105	44.3		35-100	49.8	
AZ16202	S67-SB037-0607	35-105	54.0		35-100	52.0	

Comments: Batch: #87DJU-150521A

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 5/28/2015

Matrix: SOIL Instrument: Yoda

APPL ID.	Client Sample No.	SURROGATE: PHENOL (S)			SURROGATE: TERPHENYL-D14 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
150521A-BLK	Blank	40-100	69.3		30-125	86.8	
150521A-LCS	Lab Control Spike	40-100	69.9		30-125	89.5	
AZ16198	S67-SS036-0001	40-100	53.7		30-125	57.0	
AZ16199	S67-SB036-0405	40-100	49.5		30-125	53.4	
AZ16201	S67-SS037-0001	40-100	43.8		30-125	68.2	
AZ16202	S67-SB037-0607	40-100	55.2		30-125	59.8	

Comments: Batch: #87DJU-150521A

Laboratory Control Spike Recovery
EPA 8270D SOILS

APPL ID: **150521S-16137 LCS - 197602**
Batch ID: #87DJU-150521A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
BIS (2-ETHYLHEXYL) PHTHALATE	1.67	1.35	80.8	45-125
BUTYL BENZYL PHTHALATE	1.67	1.31	78.4	50-125
DI-N-BUTYL PHTHALATE	1.67	1.30	77.8	55-110
DI-N-OCTYL PHTHALATE	1.67	1.39	83.2	40-130
DIETHYL PHTHALATE	1.67	1.19	71.3	50-115
DIMETHYL PHTHALATE	1.67	1.19	71.3	50-110
SURROGATE: 2,4,6-TRIBROMOPHENOL	6.67	5.07	76.0	35-125
SURROGATE: 2-FLUORBIPHENYL (S)	3.33	2.27	68.2	45-105
SURROGATE: 2-FLUOROPHENOL (S)	6.67	4.46	66.9	35-105
SURROGATE: NITROBENZENE-D5 (S)	3.33	2.22	66.7	35-100
SURROGATE: PHENOL (S)	6.67	4.66	69.9	40-100
SURROGATE: TERPHENYL-D14 (S)	3.33	2.98	89.5	30-125

Comments: _____

Primary	SPK
Quant Method :	Y0520TT.M
Extraction Date :	5/21/2015
Analysis Date :	5/28/2015
Instrument :	Yoda
Run :	0520Y056
Initials :	DA

Printed: 6/2/2015 12:33:56 PM
APPL Standard LCS

EPA 8270D

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 5/28/2015

Matrix: SOIL Instrument: Yoda

Blank ID: 150521A-BLK Time Analyzed: 1449

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150521A-BLK	Blank	0520Y055	5/28/2015 1449
150521A-LCS	Lab Control Spike	0520Y056	5/28/2015 1518
AZ16198	S67-SS036-0001	0520Y062	5/28/2015 1815
AZ16199	S67-SB036-0405	0520Y063	5/28/2015 1845
AZ16201	S67-SS037-0001	0520Y064	5/28/2015 1915
AZ16202	S67-SB037-0607	0520Y065	5/28/2015 1944

Comments: Batch: #87DJU-150521A

Form 5
Tune Summary

np 6-18-15

Lab Name: APPL Inc.
Case No: ~~0520Y005.D~~ 76390
Matrix: Soil np 6-18-15
ID: SV Tune 5/14/15

SDG No: ~~Yoda~~ 76390
Date Analyzed: 5/22/2015
Instrument: Yoda
Time Analyzed: 10:28

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5ug/ml SVOC 05/22/15	0520Y006.D	5/22/2015 10:46
2		10ug/ml SVOC 05/22/1	0520Y007.D	5/22/2015 11:15
3		20ug/ml SVOC 05/22/1	0520Y008.D	5/22/2015 11:45
4		40ug/ml SVOC 05/22/1	0520Y009.D	5/22/2015 12:14
5		50ug/ml SVOC 05/22/1	0520Y010.D	5/22/2015 12:43
6		60ug/ml SVOC 05/22/1	0520Y011.D	5/22/2015 13:12
7		80ug/ml SVOC 05/22/1	0520Y012.D	5/22/2015 13:42
8		100ug/ml SVOC 05/22/	0520Y013.D	5/22/2015 14:11
9		50ug/ml SVOC SS 05/2	0520Y014.D	5/22/2015 14:41
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	31.1
68	0 - 2% of mass 69	0.0
70	0 - 2% of mass 69	0.1
127	40 - 60% of mass 198	51.6
197	0 - 1.4% of mass 198	0.1
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.8
275	10 - 30% of mass 198	27.8
365	1 - 100% of mass 198	3.1
441	0.01 - 100% of mass 443	76.5
442	40 - 150% of mass 198	105.2
443	17 - 23% of mass 442	18.9

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 76390
Matrix: Soil
ID: SV TUNE 5/14/15

SDG No: 76390
Date Analyzed: 5/28/2015
Instrument: Yoda
Time Analyzed: 10:36

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		50ug/ml SVOC 05/28/1	0520Y048.D	5/28/2015 10:54
2	Blank	150521A BLK 1/30.00G	0520Y055.D	5/28/2015 14:49
3	Lab Control Spike	150521A LCS-1 1/30.0	0520Y056.D	5/28/2015 15:18
4	S67-SS036-0001	AZ16198S02 1/30.11G	0520Y062.D	5/28/2015 18:15
5	S67-SB036-0405	AZ16199S01 1/30.01G	0520Y063.D	5/28/2015 18:45
6	S67-SS037-0001	AZ16201S02 1/30.10G	0520Y064.D	5/28/2015 19:15
7	S67-SB037-0607	AZ16202S01 1/30.18G	0520Y065.D	5/28/2015 19:44
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60.04% of mass 198	30.0
68	0 - 2% of mass 69	0.1
70	0 - 2% of mass 69	0.4
127	40 - 60% of mass 198	48.9
197	0 - 1.4% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	28.7
365	1 - 100% of mass 198	3.0
441	0.01 - 100% of mass 443	75.6
442	40 - 150% of mass 198	88.4
443	17 - 23% of mass 442	19.4

8A

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: _____ SDG No.: 76390

Lab File ID (Standard): 0520Y010.D Date Analyzed: 05/22/15

Instrument ID: Yoda Time Analyzed: 12:43

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	789097	4.80	3524030	6.23	2025700	8.22
	UPPER LIMIT	1578194	5.30	7048060	6.73	4051400	8.72
	LOWER LIMIT	394549	4.30	1762015	5.73	1012850	7.72
	SAMPLE NO.						
01	50ug/ml SVOC SS 05/2	477080	4.80	2254040	6.23	1379160	8.22
02	50ug/ml SVOC 05/28/15	937800	4.80	4119960	6.24	2216050	8.22
03	150521A BLK 1/30.00G	934649	4.80	4145960	6.24	2316230	8.22
04	150521A LCS-1 1/30.07	983964	4.80	4419820	6.23	2490320	8.22
05	AZ16198S02 1/30.11G x	970871	4.80	4340500	6.23	2443940	8.22
06	AZ16199S01 1/30.01G x	983747	4.80	4313610	6.24	2350050	8.22
07	AZ16201S02 1/30.10G x	942263	4.80	4163520	6.23	2291820	8.22
08	AZ16202S01 1/30.18G	901497	4.80	3814000	6.24	2038630	8.22
09							
10							
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.: 76390

Lab File ID (Standard): 0520Y010.D Date Analyzed: 05/22/15

Instrument ID: Yoda Time Analyzed: 12:43

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	3568970	9.95	3316560	13.01	2280870	14.64
	UPPER LIMIT	7137940	10.45	6633120	13.51	4561740	15.14
	LOWER LIMIT	1784485	9.45	1658280	12.51	1140435	14.14
	SAMPLE NO.						
01	50ug/ml SVOC SS 05/2	2658510	9.95	2791250	13.01	2129350	14.64
02	50ug/ml SVOC 05/28/15	3645220	9.94	2955800	13.00	1573180	14.64
03	150521A BLK 1/30.00G	4141420	9.94	3325730	13.01	2051460	14.64
04	150521A LCS-1 1/30.07	4281750	9.95	3572460	13.01	2131740	14.64
05	AZ16198S02 1/30.11G	4212790	9.95	3306060	13.01	1991520	14.64
06	AZ16199S01 1/30.01G	3948600	9.94	3011560	13.00	1930690	14.65
07	AZ16201S02 1/30.10G	3869410	9.95	2964120	13.01	1918250	14.65
08	AZ16202S01 1/30.18G	3484640	9.94	2634370	13.01	1625770	14.65
09							
10							
11							
12							
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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 SOILS

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: 76390

Sample ID: S67-SS036-0001

APPL ID: AZ16198

Sample Collection Date: 5/8/2015

QCG: #87DJU-150521A-197602

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.6 Percent Moisture.)								
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	2.100 U	8.10	2.100	0.760	mg/kg	5/21/2015	5/28/2015
EPA 8270D	BUTYL BENZYL PHTHALATE	2.100 U	4.10	2.100	0.690	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DI-N-BUTYL PHTHALATE	2.100 U	4.10	2.100	0.810	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DI-N-OCTYL PHTHALATE	2.100 U	4.10	2.100	0.710	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DIETHYL PHTHALATE	2.100 U	4.10	2.100	0.760	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DIMETHYL PHTHALATE	2.100 U	4.10	2.100	0.770	mg/kg	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	48.0	35-125			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	31.5 #	45-105			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	53.3	35-105			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	53.0	35-100			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: PHENOL (S)	53.7	40-100			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	57.0	30-125			%	5/21/2015	5/28/2015

= Recovery (or RPD) is outside QC limits.

Quant Method: Y0520TT.M
Run #: 0520Y062
Instrument: Yoda
Sequence: Y150520
Dilution Factor: 10
Initials: DA

Printed: 6/2/2015 12:33:48 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y150520\0520Y062.D Vial: 62
Acq On : 28 May 15 18:15 Operator: csc
Sample : AZ16198S02 1/30.11G x10 Inst : Yoda
Misc : soil Multiplr: 332.12

Quant Time: Jun 2 11:33 2015 Quant Results File: Y0520TT.RES

Quant Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri May 29 12:06:14 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	970871	40.00	ppb	0.00
7) Napthalene-D8(IS)	6.23	136	4340496	40.00	ppb	0.00
13) Acenaphthene-D10(IS)	8.22	164	2443942	40.00	ppb	0.00
23) Phenanthrene-D10(IS)	9.95	188	4212792	40.00	ppb	0.00
27) Chrysene-D12(IS)	13.01	240	3306063	40.00	ppb	0.00
32) Perylene-D12(IS)	14.64	264	1991522	40.00	ppb	0.00
System Monitoring Compounds						
2) 2-Fluorophenol (S)	4.06	112	383349	3542.43	ppb	0.02
Spiked Amount 6642.312			Recovery =	53.331%		
3) Phenol-D6 (S)	5.16	99	570131	3563.83	ppb	0.05
Spiked Amount 6642.312			Recovery =	53.654%		
8) Nitrobenzene-D5(S)	5.53	82	236053	1758.57	ppb	0.03
Spiked Amount 3321.156			Recovery =	52.951%		
16) 2-Fluorobiphenyl(S)	7.46	172	294383	1045.07	ppb	0.00
Spiked Amount 3321.156			Recovery =	31.467%		
22) 2,4,6-Tribromophenol(S)	9.24	330	59828	3189.37	ppb	0.02
Spiked Amount 6642.312			Recovery =	48.016%		
28) Terphenyl-D14(S)	11.75	244	467427	1894.06	ppb	0.00
Spiked Amount 3321.156			Recovery =	57.030%		

Target Compounds Qvalue

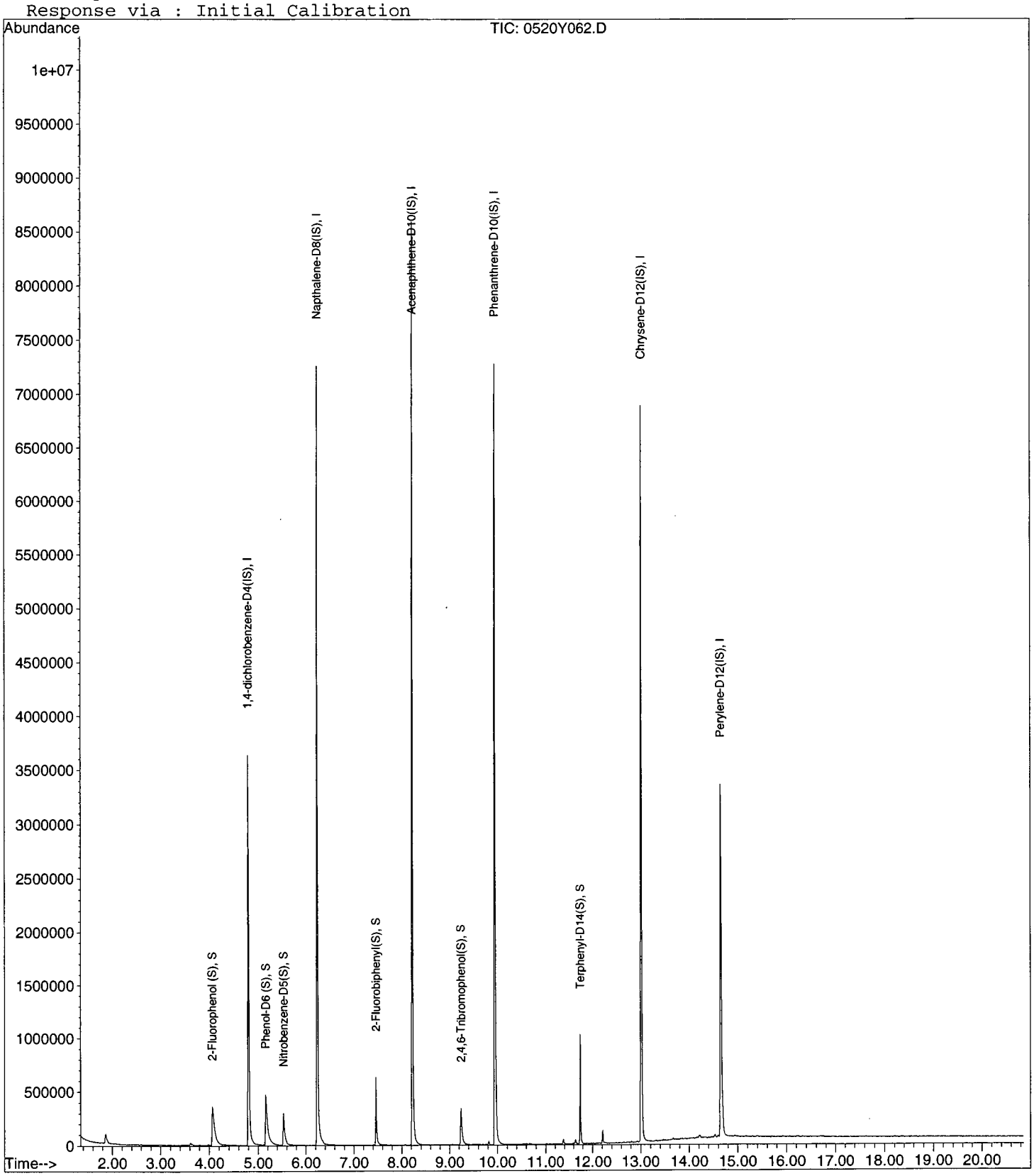
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150520\0520Y062.D Vial: 62
Acq On : 28 May 15 18:15 Operator: csc
Sample : AZ16198S02 1/30.11G x10 Inst : Yoda
Misc : soil Multiplr: 332.12

Quant Time: Jun 2 11:33 2015 Quant Results File: Y0520TT.RES

Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Jun 02 11:00:10 2015
Response via : Initial Calibration



EPA 8270D SOILS

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: 76390

Sample ID: S67-SB036-0405

APPL ID: AZ16199

Sample Collection Date: 5/8/2015

QCG: #87DJU-150521A-197602

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 19.3 Percent Moisture.)								
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	2.100 U	8.20	2.100	0.770	mg/kg	5/21/2015	5/28/2015
EPA 8270D	BUTYL BENZYL PHTHALATE	2.100 U	4.10	2.100	0.690	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DI-N-BUTYL PHTHALATE	2.100 U	4.10	2.100	0.820	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DI-N-OCTYL PHTHALATE	2.100 U	4.10	2.100	0.720	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DIETHYL PHTHALATE	2.100 U	4.10	2.100	0.770	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DIMETHYL PHTHALATE	2.100 U	4.10	2.100	0.780	mg/kg	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	41.7	35-125			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	37.6 #	45-105			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	52.9	35-105			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	51.8	35-100			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: PHENOL (S)	49.5	40-100			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	53.4	30-125			%	5/21/2015	5/28/2015

= Recovery (or RPD) is outside QC limits.

Quant Method: Y0520TT.M
Run #: 0520Y063
Instrument: Yoda
Sequence: Y150520
Dilution Factor: 10
Initials: DA

Printed: 6/2/2015 12:33:48 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y150520\0520Y063.D Vial: 63
Acq On : 28 May 15 18:45 Operator: csc
Sample : AZ16199S01 1/30.01G x10 Inst : Yoda
Misc : soil Multiplr: 333.22

Quant Time: Jun 2 11:32 2015 Quant Results File: Y0520TT.RES

Quant Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri May 29 12:06:14 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	983747	40.00	ppb	0.00
7) Napthalene-D8(IS)	6.24	136	4313607	40.00	ppb	0.00
13) Acenaphthene-D10(IS)	8.22	164	2350052	40.00	ppb	0.00
23) Phenanthrene-D10(IS)	9.94	188	3948602	40.00	ppb	0.00
27) Chrysene-D12(IS)	13.00	240	3011559	40.00	ppb	0.00
32) Perylene-D12(IS)	14.65	264	1930685	40.00	ppb	0.00
System Monitoring Compounds						
2) 2-Fluorophenol (S)	4.07	112	385083	3523.36	ppb	0.02
Spiked Amount 6664.445			Recovery =	52.868%		
3) Phenol-D6 (S)	5.16	99	537458	3298.77	ppb	0.05
Spiked Amount 6664.445			Recovery =	49.498%		
8) Nitrobenzene-D5(S)	5.53	82	229666	1727.39	ppb	0.03
Spiked Amount 3332.223			Recovery =	51.839%		
16) 2-Fluorobiphenyl(S)	7.46	172	338625	1254.33	ppb	0.01
Spiked Amount 3332.223			Recovery =	37.642%		
22) 2,4,6-Tribromophenol(S)	9.24	330	47316	2776.55	ppb	0.02
Spiked Amount 6664.445			Recovery =	41.662%		
28) Terphenyl-D14(S)	11.74	244	398403	1778.15	ppb	0.00
Spiked Amount 3332.223			Recovery =	53.362%		

Target Compounds Qvalue

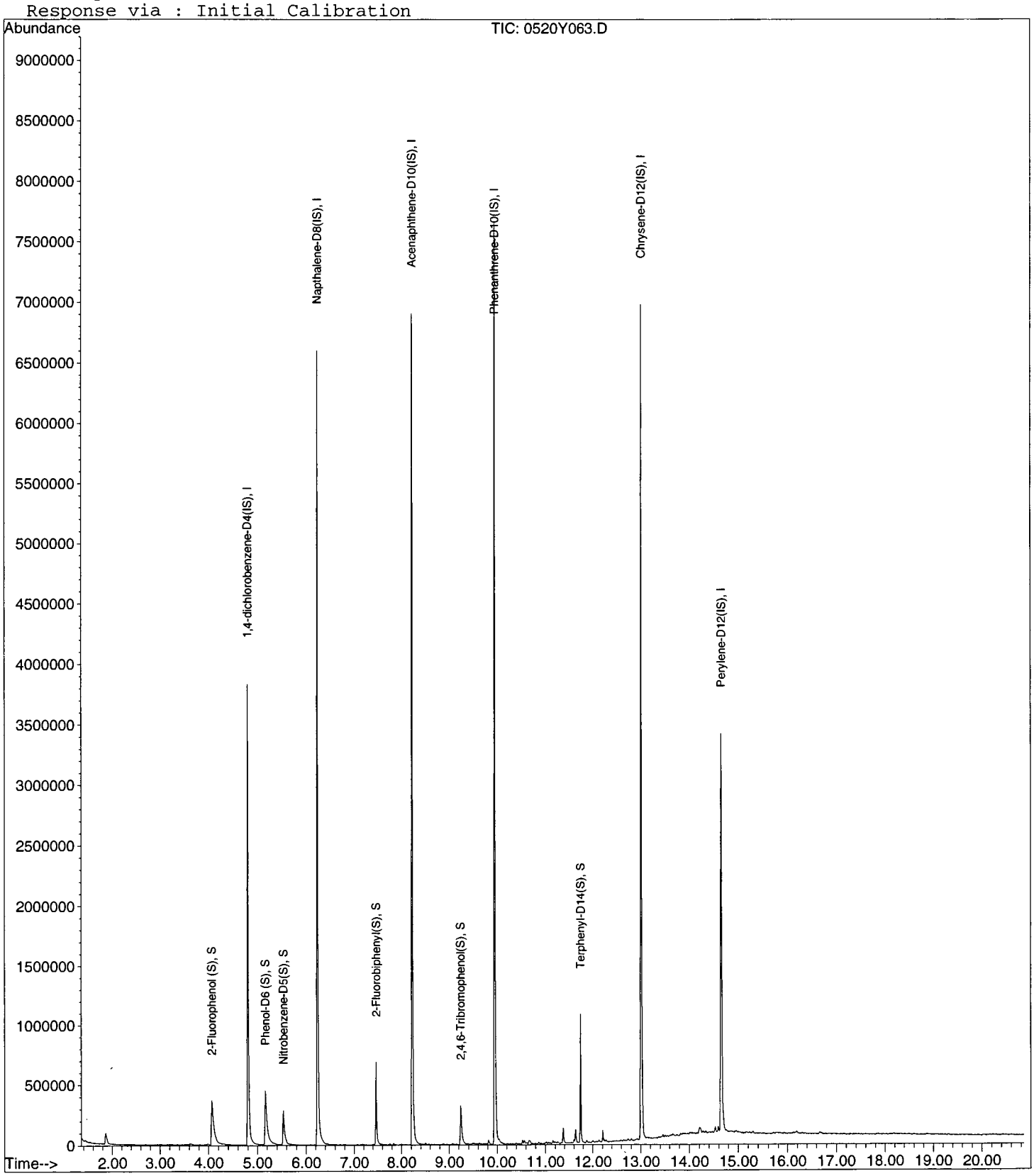
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150520\0520Y063.D Vial: 63
Acq On : 28 May 15 18:45 Operator: csc
Sample : AZ16199S01 1/30.01G x10 Inst : Yoda
Misc : soil Multiplr: 333.22

Quant Time: Jun 2 11:32 2015 Quant Results File: Y0520TT.RES

Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Jun 02 11:00:10 2015
Response via : Initial Calibration



EPA 8270D SOILS

Tetra Tech
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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

ARF: 76390

Sample ID: S67-SS037-0001

APPL ID: AZ16201

Sample Collection Date: 5/8/2015

QCG: #87DJU-150521A-197602

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.5 Percent Moisture.)								
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	2.000 U	8.10	2.000	0.760	mg/kg	5/21/2015	5/28/2015
EPA 8270D	BUTYL BENZYL PHTHALATE	2.000 U	4.00	2.000	0.690	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DI-N-BUTYL PHTHALATE	2.000 U	4.00	2.000	0.810	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DI-N-OCTYL PHTHALATE	2.000 U	4.00	2.000	0.710	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DIETHYL PHTHALATE	2.000 U	4.00	2.000	0.760	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DIMETHYL PHTHALATE	2.000 U	4.00	2.000	0.770	mg/kg	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	42.4	35-125			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	33.4 #	45-105			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	44.3	35-105			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	49.8	35-100			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: PHENOL (S)	43.8	40-100			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	68.2	30-125			%	5/21/2015	5/28/2015

= Recovery (or RPD) is outside QC limits.

Quant Method:	Y0520TT.M
Run #:	0520Y064
Instrument:	Yoda
Sequence:	Y150520
Dilution Factor:	10
Initials:	DA

Printed: 6/2/2015 12:33:48 PM

APPL-F1-SC-MCRes/MCPQL-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y150520\0520Y064.D Vial: 64
Acq On : 28 May 15 19:15 Operator: csc
Sample : AZ16201S02 1/30.10G x10 Inst : Yoda
Misc : soil Multiplr: 332.23

Quant Time: Jun 2 9:53 2015 Quant Results File: Y0520TT.RES

Quant Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri May 29 12:06:14 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	942263	40.00	ppb	0.00
7) Napthalene-D8(IS)	6.23	136	4163521	40.00	ppb	0.00
13) Acenaphthene-D10(IS)	8.22	164	2291819	40.00	ppb	0.00
23) Phenanthrene-D10(IS)	9.95	188	3869407	40.00	ppb	0.00
27) Chrysene-D12(IS)	13.01	240	2964116	40.00	ppb	0.00
32) Perylene-D12(IS)	14.65	264	1918253	40.00	ppb	0.00
System Monitoring Compounds						
2) 2-Fluorophenol (S)	4.07	112	309369	2942.27	ppb	0.03
Spiked Amount 6644.518			Recovery =	44.281%		
3) Phenol-D6 (S)	5.17	99	461816	2909.34	ppb	0.06
Spiked Amount 6644.518			Recovery =	43.786%		
8) Nitrobenzene-D5(S)	5.53	82	212984	1654.71	ppb	0.03
Spiked Amount 3322.259			Recovery =	49.807%		
16) 2-Fluorobiphenyl(S)	7.46	172	292939	1109.34	ppb	0.00
Spiked Amount 3322.259			Recovery =	33.391%		
22) 2,4,6-Tribromophenol(S)	9.24	330	47288	2816.76	ppb	0.02
Spiked Amount 6644.518			Recovery =	42.392%		
28) Terphenyl-D14(S)	11.75	244	501312	2266.46	ppb	0.00
Spiked Amount 3322.259			Recovery =	68.221%		

Target Compounds Qvalue

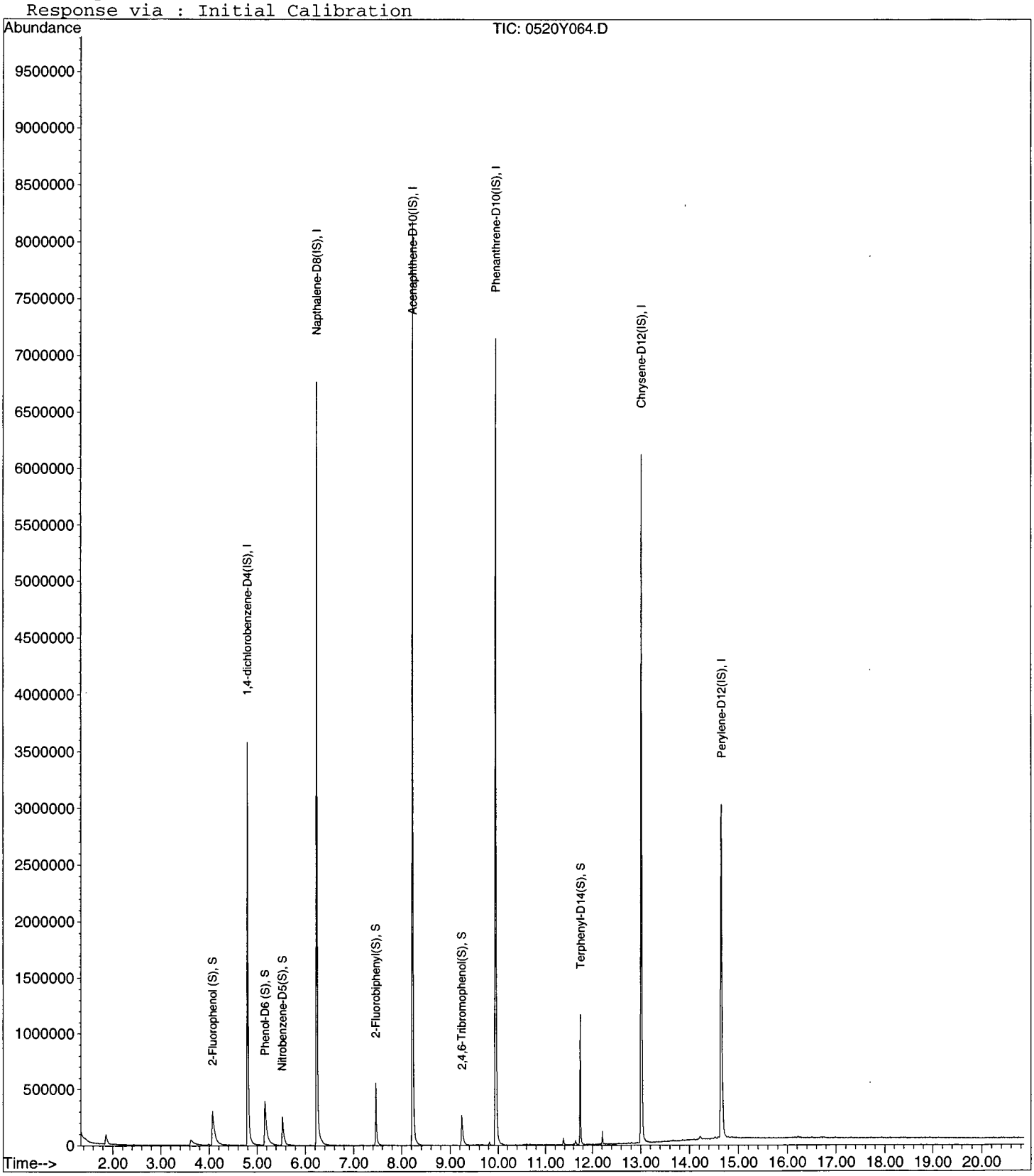
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150520\0520Y064.D Vial: 64
Acq On : 28 May 15 19:15 Operator: csc
Sample : AZ16201S02 1/30.10G x10 Inst : Yoda
Misc : soil Multiplr: 332.23

Quant Time: Jun 2 9:53 2015 Quant Results File: Y0520TT.RES

Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Jun 02 11:00:10 2015
Response via : Initial Calibration



EPA 8270D SOILS

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: 76390

Sample ID: S67-SB037-0607

APPL ID: AZ16202

Sample Collection Date: 5/8/2015

QCG: #87DJU-150521A-197602

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.0 Percent Moisture.)								
EPA 8270D	BIS (2-ETHYLHEXYL) PHTHALATE	0.200 U	0.80	0.200	0.076	mg/kg	5/21/2015	5/28/2015
EPA 8270D	BUTYL BENZYL PHTHALATE	0.200 U	0.40	0.200	0.068	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DI-N-BUTYL PHTHALATE	0.200 U	0.40	0.200	0.080	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DI-N-OCTYL PHTHALATE	0.200 U	0.40	0.200	0.071	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DIETHYL PHTHALATE	0.200 U	0.40	0.200	0.076	mg/kg	5/21/2015	5/28/2015
EPA 8270D	DIMETHYL PHTHALATE	0.200 U	0.40	0.200	0.077	mg/kg	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2,4,6-TRIBROMOPHEN	58.4	35-125			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2-FLUORBIPHENYL (S)	39.0 #	45-105			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: 2-FLUOROPHENOL (S)	54.0	35-105			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: NITROBENZENE-D5 (S)	52.0	35-100			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: PHENOL (S)	55.2	40-100			%	5/21/2015	5/28/2015
EPA 8270D	SURROGATE: TERPHENYL-D14 (S)	59.8	30-125			%	5/21/2015	5/28/2015

= Recovery (or RPD) is outside QC limits.

Quant Method: Y0520TT.M
Run #: 0520Y065
Instrument: Yoda
Sequence: Y150520
Dilution Factor: 1
Initials: DA

Printed: 6/2/2015 12:33:48 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y150520\0520Y065.D Vial: 65
Acq On : 28 May 15 19:44 Operator: csc
Sample : AZ16202S01 1/30.18G Inst : Yoda
Misc : soil Multiplr: 33.13

Quant Time: Jun 2 9:53 2015 Quant Results File: Y0520TT.RES

Quant Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri May 29 12:06:14 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	901497	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.24	136	3813997	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.22	164	2038630	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.94	188	3484635	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.01	240	2634365	40.00	ppb		0.00
32) Perylene-D12(IS)	14.65	264	1625765	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	3.98	112	3580511	3578.07	ppb		-0.06
Spiked Amount 6626.905			Recovery =	53.993%			
3) Phenol-D6 (S)	5.09	99	4948975	3656.47	ppb		-0.02
Spiked Amount 6626.905			Recovery =	55.176%			
8) Nitrobenzene-D5(S)	5.50	82	2037549	1723.49	ppb		0.00
Spiked Amount 3313.453			Recovery =	52.015%			
16) 2-Fluorobiphenyl(S)	7.45	172	3039877	1290.72	ppb		0.00
Spiked Amount 3313.453			Recovery =	38.954%			
22) 2,4,6-Tribromophenol(S)	9.22	330	797347	3870.30	ppb		0.00
Spiked Amount 6626.905			Recovery =	58.403%			
28) Terphenyl-D14(S)	11.74	244	3908180	1982.81	ppb		0.00
Spiked Amount 3313.453			Recovery =	59.841%			
Target Compounds							Qvalue
21) Diethyl phthalate	8.74	149	4768	19.81	ppb	#	95
26) Di-n-butylphthalate	10.54	149	9676	2.59	ppb		98
30) Bis (2-ethylhexyl) phthala	12.82	149	8472	4.32	ppb		98
31) Di-n-octylphthalate	13.50	149	1142	0.35	ppb	#	75

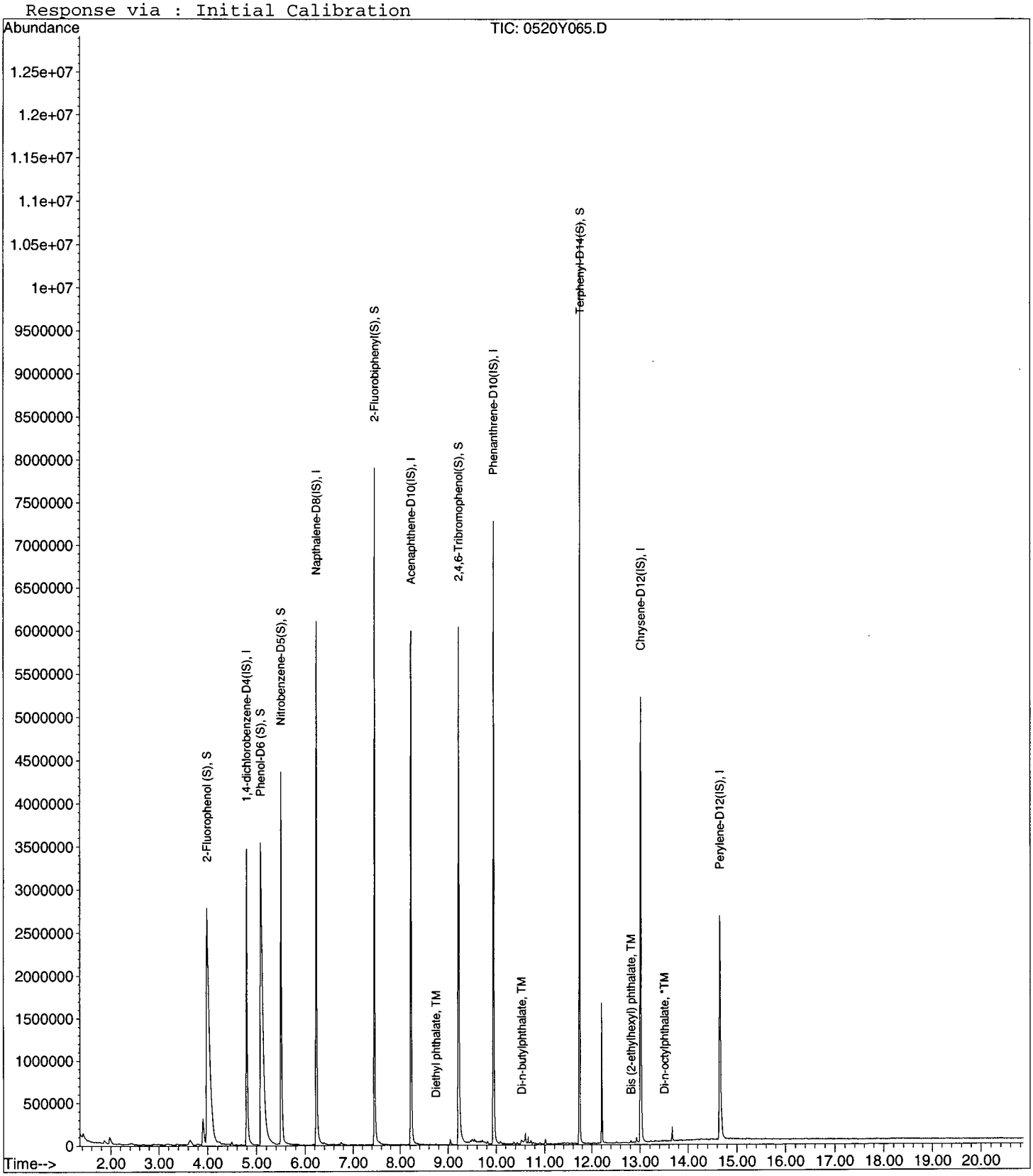
(#) = qualifier out of range (m) = manual integration

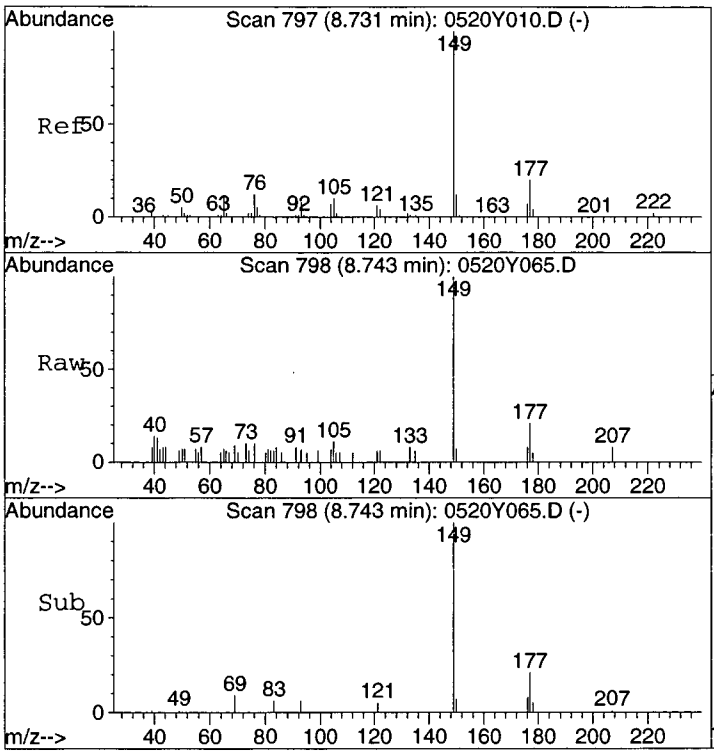
Quantitation Report

Data File : M:\YODA\DATA\Y150520\0520Y065.D Vial: 65
Acq On : 28 May 15 19:44 Operator: csc
Sample : AZ16202S01 1/30.18G Inst : Yoda
Misc : soil Multiplr: 33.13

Quant Time: Jun 2 9:53 2015 Quant Results File: Y0520TT.RES

Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Jun 02 11:00:10 2015
Response via : Initial Calibration

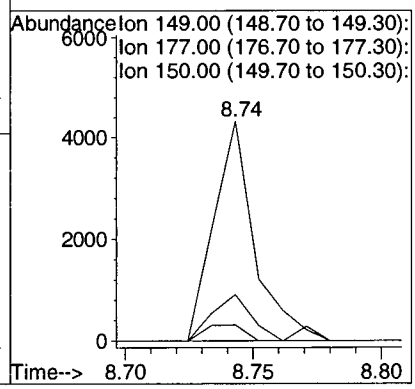


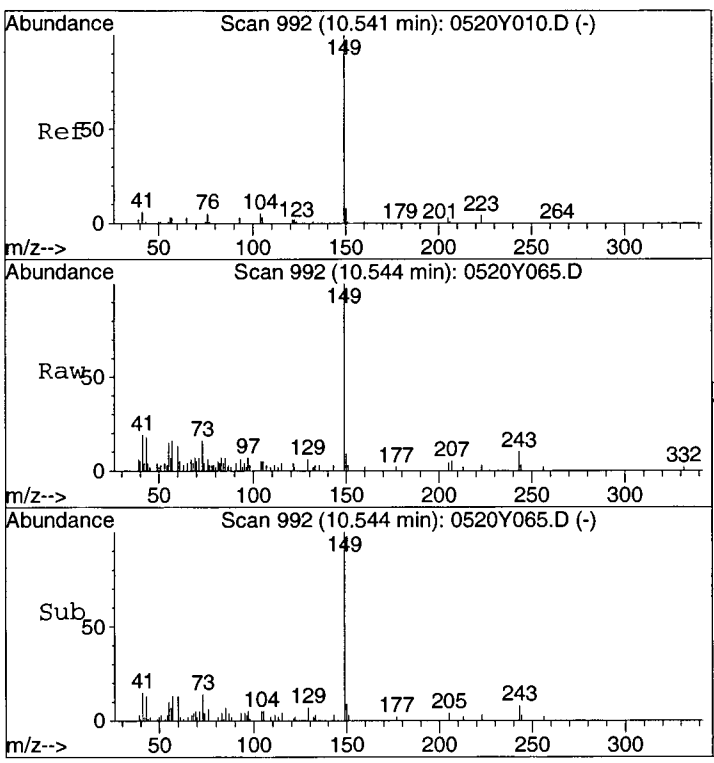


#21
Diethyl phthalate
Concen: 19.81 ppb
RT: 8.74 min Scan# 798
Delta R.T. 0.01 min
Lab File: 0520Y065.D
Acq: 28 May 15 19:44

Tgt Ion:149 Resp: 4768

Ion	Ratio	Lower	Upper
149	100		
177	21.2	15.1	28.0
150	7.3	8.3	15.5#

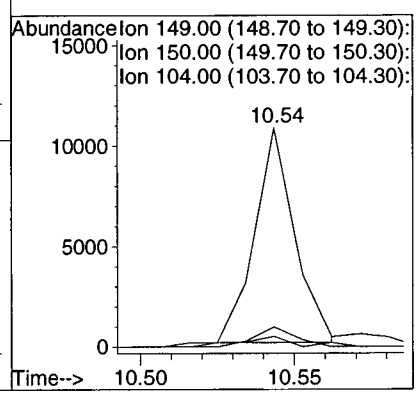


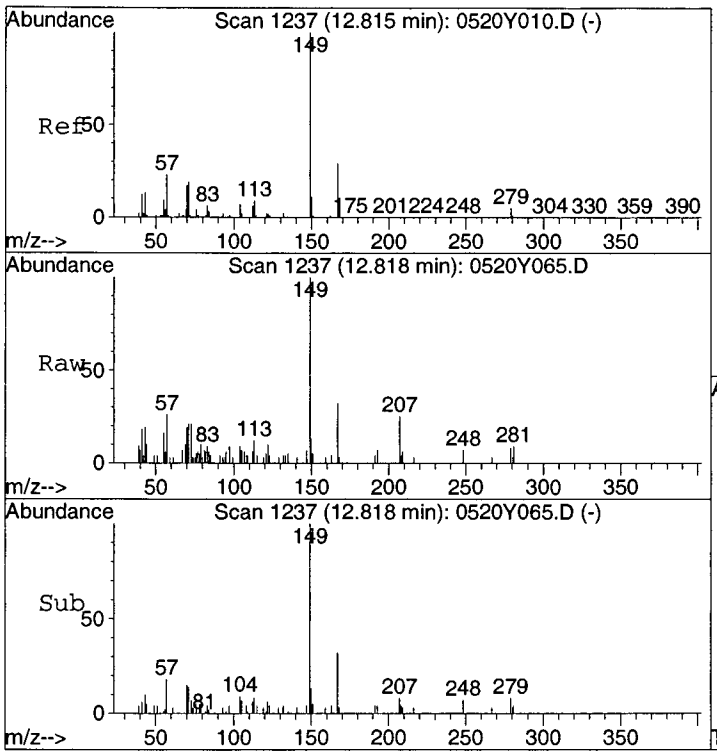


#26
Di-n-butylphthalate
Concen: 2.59 ppb
RT: 10.54 min Scan# 992
Delta R.T. 0.00 min
Lab File: 0520Y065.D
Acq: 28 May 15 19:44

Tgt Ion:149 Resp: 9676

Ion	Ratio	Lower	Upper
149	100		
150	9.4	6.4	11.8
104	4.9	4.3	7.9

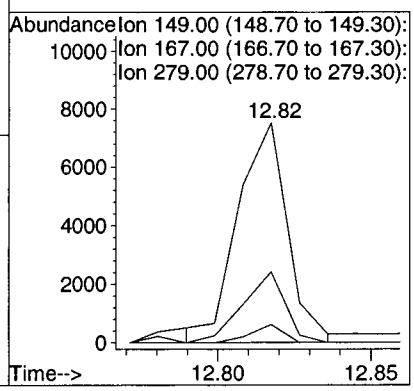


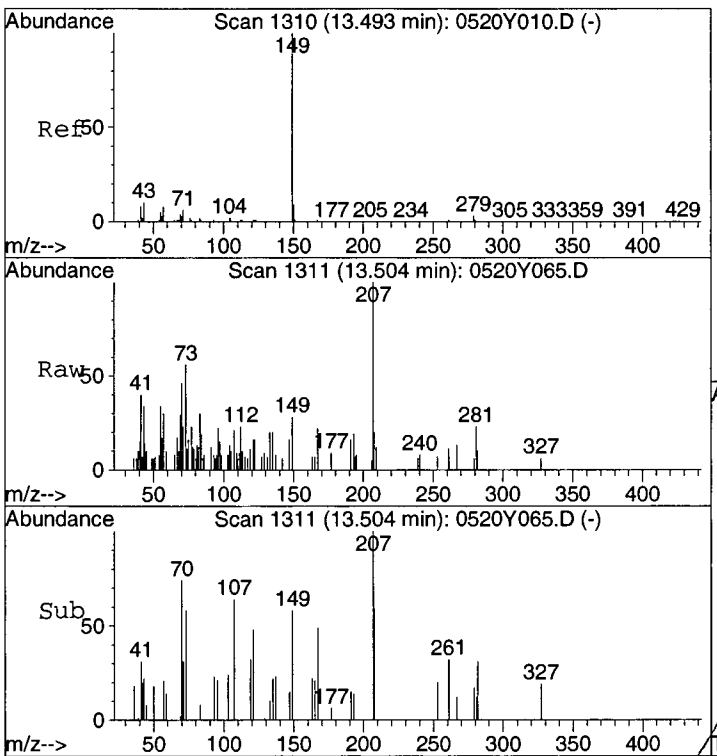


#30
Bis (2-ethylhexyl) phthalate
Concen: 4.32 ppb
RT: 12.82 min Scan# 1237
Delta R.T. 0.00 min
Lab File: 0520Y065.D
Acq: 28 May 15 19:44

Tgt Ion:149 Resp: 8472

Ion	Ratio	Lower	Upper
149	100		
167	33.5	23.1	42.9
279	8.5	7.1	13.3

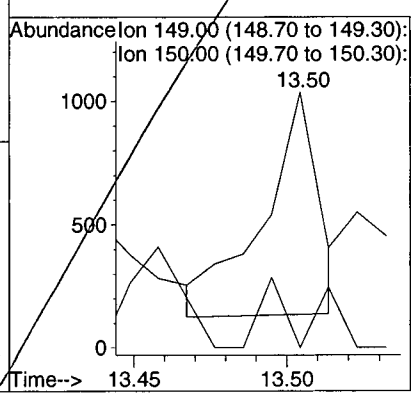




#31
Di-n-octylphthalate
Concen: 0.35 ppb
RT: 13.50 min Scan# 1311
Delta R.T. 0.01 min
Lab File: 0520Y065.D
Acq: 28 May 15 19:44

Tgt Ion:149 Resp: 1142

Ion	Ratio	Lower	Upper
149	100		
150	0.0	6.4	12.0#



EPA METHOD 8270D
Semivolatile Organic Compounds
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 76390
Case No: Initial Cal. Date: 5/20/2015
Matrix: Instrument: Yoda
Initials: DA

		Compound	0520Y006 D	0520Y007.D	0520Y008.D	0520Y009.D	0520Y010.D	0520Y011.D	0520Y012.D	0520Y013.D			Avg	%RSD		
			5	10	20	40	50	60	80	100						
1	I	1,4-dichlorobenzene-D4(IS)														
2	SL	2-Fluorophenol (S)	1.271	1.563	1.753	1.394	1.441	1.365	1.526	1.482			1.5	9.9	SL	0.994
3	SL	Phenol-D6 (S)	3.382	2.112	2.393	1.845	1.908	1.828	2.061	2.018			2.2	23	SL	0.992
4	*TM	Phenol	2.017	2.265	2.622	2.006	2.131	2.062	2.317	2.269			2.2	9.3	*TM	
5	*TM	1,4-DCB	1.832	2.003	2.305	1.777	1.864	1.769	1.907	1.878			1.9	9.1	*TM	
6	**TM	n-Nitrosodi-n-propylamine	0.7766	0.9711	1.105	0.8531	1.104	1.078	1.211	1.199			1.0	15	**TM	
7	I	Napthalene-D8(IS)														
8	S	Nitrobenzene-D5(S)	0.3446	0.4381	0.4895	0.3927	0.4074	0.3841	0.4259	0.4042			0.41	10	S	
9	*TM	2-Nitrophenol	0.1717	0.2118	0.2471	0.2039	0.2166	0.2034	0.2252	0.2187			0.21	10	*TM	
10	*TM	2,4-Dichiorophenol	0.5642	0.6336	0.7405	0.5908	0.6300	0.5492	0.6545	0.6392			0.63	9.6	*TM	
11	*TM	Hexachlorobutadiene	0.1647	0.1793	0.1992	0.1584	0.1685	0.1522	0.1680	0.1581			0.17	8.8	*TM	
12	*TM	4-Chloro-3-methylphenol	0.0236	0.0254	0.0286	0.0221	0.0227	0.0223	0.0243	0.0232			0.02	8.9	*TM	
13	I	Acenaphthene-D10(IS)														
14	**TMQ	Hexachlorocyclopentadiene	0.0044	0.0290	0.0704	0.1202	0.1586	0.1488	0.1594	0.1694			0.11	60	**TMQ	0.995
15	*TM	2,4,6-Trichlorophenol	0.3268	0.3622	0.4200	0.3384	0.3616	0.3330	0.3735	0.3510			0.36	8.3	*TM	
16	S	2-Fluorobiphenyl(S)	1.437	1.655	1.802	1.453	1.509	1.386	1.554	1.454			1.5	9.0	S	
17	TM	Dimethyl phthalate	1.459	1.611	1.803	1.414	1.555	1.463	1.640	1.600			1.6	8.0	TM	
18	*TM	Acenaphthene	1.245	1.374	1.532	1.223	1.316	1.220	1.367	1.279			1.3	7.9	*TM	
19	**TMQ	2,4-Dinitrophenol	0.0026	0.0242	0.1103	0.1202	0.1438	0.1470	0.1779	0.1805			0.11	59	**TMQ	0.996
20	**TM	4-Nitrophenol	0.3115	0.3716	0.4652	0.3603	0.3844	0.3658	0.4580	0.4232			0.39	13	**TM	
21	TML	Diethyl phthalate	1.375	1.610	1.829	1.464	1.532	1.460	1.656	1.592			1.6	9.0	TML	0.993
22	SL	2,4,6-Tribromophenol(S)	0.1897	0.1306	0.1456	0.1207	0.1282	0.1183	0.1430	0.1379			0.14	16	SL	0.988
23	I	Phenanthrene-D10(IS)														
24	*TM	n-Nitrosodiphenylamine	1.099	1.241	1.437	1.165	1.246	1.167	1.334	1.257			1.2	8.5	*TM	
25	*TMQ	Pentachlorophenol	0.0286	0.0379	0.0481	0.0469	0.0558	0.0560	0.0594	0.0589			0.05	22	*TMQ	0.997
26	TM	Di-n-butylphthalate	1.205	1.443	1.711	1.441	1.518	1.353	1.396	1.318			1.4	11	TM	
27	I	Chrysene-D12(IS)														
28	S	Terphenyl-D14(S)	0.9384	1.075	1.153	0.9403	0.9946	0.9238	0.9484	0.9601			0.99	8.2	S	
29	TM	Butyl benzylphthalate	0.6027	0.7028	0.8216	0.6812	0.7459	0.6870	0.7207	0.7064			0.71	8.7	TM	
30	TM	Bis (2-ethylhexyl) phthalate	0.7826	0.9641	1.153	0.9922	1.056	0.9378	1.017	0.9875			0.99	11	TM	
31	*TM	Di-n-octylphthalate	1.290	1.662	1.776	1.707	1.893	1.665	1.735	1.363			1.6	13	*TM	
32	I	Perylene-D12(IS)														
33																
34																
35																

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150520\0520Y006.D Vial: 6
Acq On : 22 May 15 10:46 Operator: csc
Sample : 5ug/ml SVOC 05/22/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 2 10:47 2015 Quant Results File: Y0520TT.RES

Quant Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri May 29 12:06:14 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	776980	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.23	136	3450438	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.22	164	1885022	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.95	188	3305748	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.01	240	2785847	40.00	ppb		0.00
32) Perylene-D12(IS)	14.65	264	1640376	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	4.12	112	246795	8.57	ppb		0.07
Spiked Amount 200.000			Recovery	=	4.283%		
3) Phenol-D6 (S)	5.19	99	328498	7.39	ppb		0.08
Spiked Amount 200.000			Recovery	=	3.695%		
8) Nitrobenzene-D5(S)	5.52	82	148646	4.19	ppb		0.02
Spiked Amount 100.000			Recovery	=	4.194%		
16) 2-Fluorobiphenyl(S)	7.46	172	338544	4.69	ppb		0.00
Spiked Amount 100.000			Recovery	=	4.692%		
22) 2,4,6-Tribromophenol(S)	9.24	330	44690	9.38	ppb		0.02
Spiked Amount 200.000			Recovery	=	4.689%		
28) Terphenyl-D14(S)	11.75	244	326790	4.73	ppb		0.00
Spiked Amount 100.000			Recovery	=	4.732%		
Target Compounds							Qvalue
4) Phenol	5.20	94	195890	4.56	ppb		96
5) 1,4-DCB	4.81	146	177898	4.78	ppb		96
6) n-Nitrosodi-n-propylamine	5.29	43	75421	3.74	ppb		95
9) 2-Nitrophenol	5.89	139	74035	4.04	ppb		91
10) 2,4-Dichlorophenol	6.52	162	243342	4.51	ppb		99
11) Hexachlorobutadiene	6.36	225	71039	4.89	ppb		98
12) 4-Chloro-3-methylphenol	7.21	107	10165	4.91	ppb	#	17
14) Hexachlorocyclopentadiene	7.17	237	1040	7.78	ppb	#	89
15) 2,4,6-Trichlorophenol	7.58	196	77012	4.56	ppb		94
17) Dimethyl phthalate	7.97	163	343740	4.65	ppb		94
18) Acenaphthene	8.26	154	293434	4.72	ppb		97
19) 2,4-Dinitrophenol	8.65	184	608	6.48	ppb		100
20) 4-Nitrophenol	9.20	65	73389	3.97	ppb		97
21) Diethyl phthalate	8.73	149	324049	4.86	ppb		97
24) n-Nitrosodiphenylamine	10.37	167	454279	4.42	ppb		99
25) Pentachlorophenol	9.98	266	11807	5.71	ppb		88
26) Di-n-butylphthalate	10.54	149	497919	4.23	ppb		98
29) Butyl benzylphthalate	12.27	149	209883	4.25	ppb		89
30) Bis (2-ethylhexyl) phthala	12.81	149	272539	3.97	ppb	#	94
31) Di-n-octylphthalate	13.50	149	449254	3.94	ppb		100

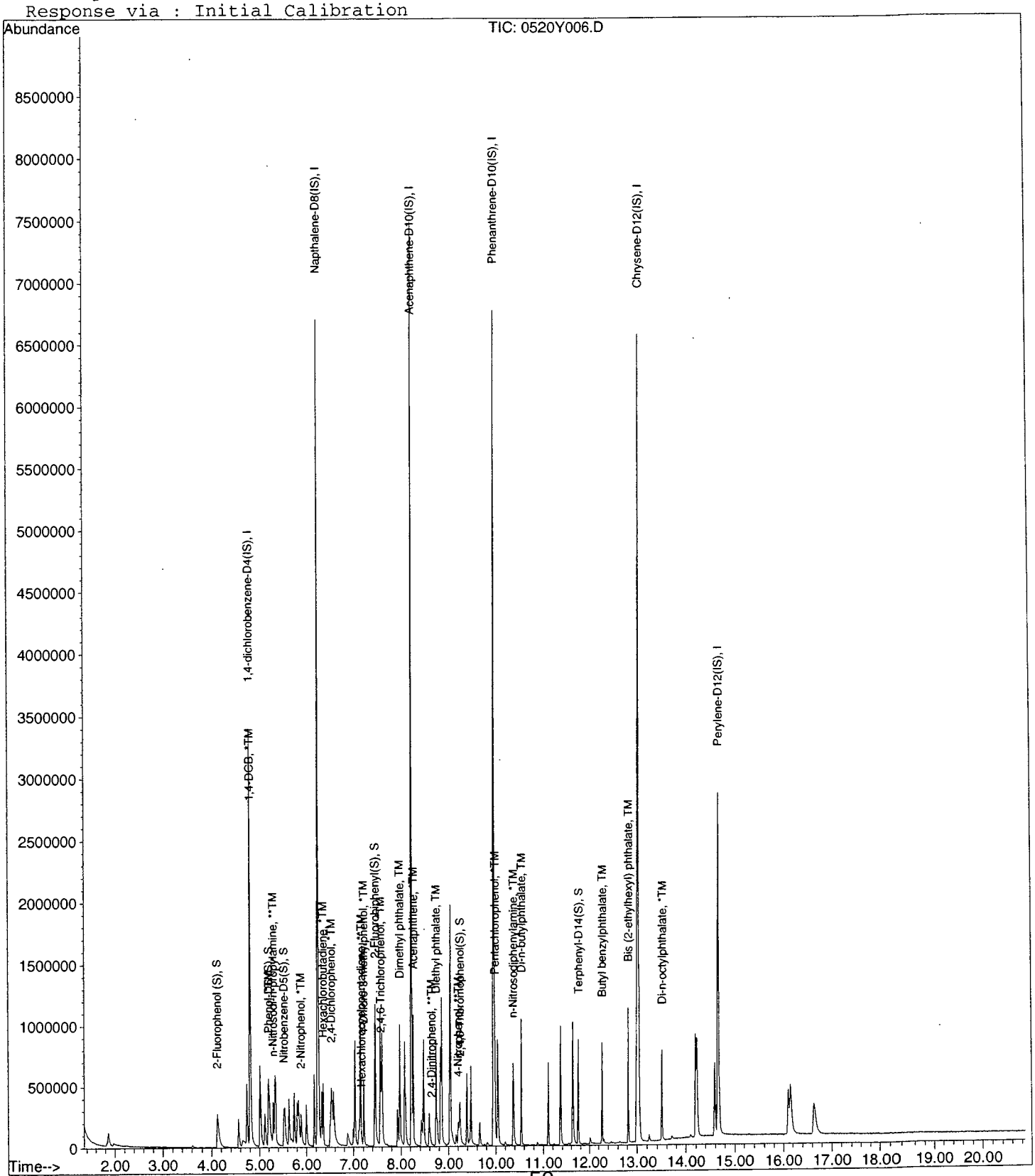
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150520\0520Y006.D Vial: 6
Acq On : 22 May 15 10:46 Operator: csc
Sample : 5ug/ml SVOC 05/22/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 2 10:47 2015 Quant Results File: Y0520TT.RES

Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Jun 02 10:48:52 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150520\0520Y007.D Vial: 7
Acq On : 22 May 15 11:15 Operator: csc
Sample : 10ug/ml SVOC 05/22/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 2 10:47 2015 Quant Results File: Y0520TT.RES

Quant Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri May 29 12:06:14 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	711729	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.24	136	3204797	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.22	164	1853344	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.94	188	3328897	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.00	240	3013322	40.00	ppb		0.00
32) Perylene-D12(IS)	14.65	264	1886518	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	4.10	112	556175	21.18	ppb		0.06
Spiked Amount 200.000			Recovery =	10.593%			
3) Phenol-D6 (S)	5.17	99	751709	20.26	ppb		0.06
Spiked Amount 200.000			Recovery =	10.130%			
8) Nitrobenzene-D5(S)	5.51	82	351037	10.66	ppb		0.01
Spiked Amount 100.000			Recovery =	10.665%			
16) 2-Fluorobiphenyl(S)	7.45	172	766903	10.81	ppb		0.00
Spiked Amount 100.000			Recovery =	10.810%			
22) 2,4,6-Tribromophenol(S)	9.23	330	121047	21.54	ppb		0.01
Spiked Amount 200.000			Recovery =	10.771%			
28) Terphenyl-D14(S)	11.74	244	809651	10.84	ppb		0.00
Spiked Amount 100.000			Recovery =	10.838%			
Target Compounds							Qvalue
4) Phenol	5.19	94	403000	10.24	ppb		94
5) 1,4-DCB	4.82	146	356311	10.45	ppb		99
6) n-Nitrosodi-n-propylamine	5.28	43	172784	9.36	ppb		96
9) 2-Nitrophenol	5.87	139	169704	9.98	ppb		97
10) 2,4-Dichlorophenol	6.51	162	507616	10.13	ppb		97
11) Hexachlorobutadiene	6.35	225	143633	10.64	ppb		99
12) 4-Chloro-3-methylphenol	7.21	107	20362	10.58	ppb	#	16
14) Hexachlorocyclopentadiene	7.17	237	13459	9.52	ppb		96
15) 2,4,6-Trichlorophenol	7.57	196	167811	10.10	ppb		94
17) Dimethyl phthalate	7.97	163	746233	10.27	ppb	#	84
18) Acenaphthene	8.25	154	636435	10.41	ppb		98
19) 2,4-Dinitrophenol	8.56	184	11232	8.19	ppb		100
20) 4-Nitrophenol	9.19	65	172161	9.47	ppb		98
21) Diethyl phthalate	8.73	149	745745	10.65	ppb		96
24) n-Nitrosodiphenylamine	10.36	167	1032422	9.98	ppb		99
25) Pentachlorophenol	9.97	266	31530	10.02	ppb		94
26) Di-n-butylphthalate	10.54	149	1200925	10.14	ppb	#	98
29) Butyl benzylphthalate	12.27	149	529447	9.92	ppb		99
30) Bis (2-ethylhexyl) phthala	12.82	149	726265	9.78	ppb		98
31) Di-n-octylphthalate	13.49	149	1251846	10.15	ppb		99

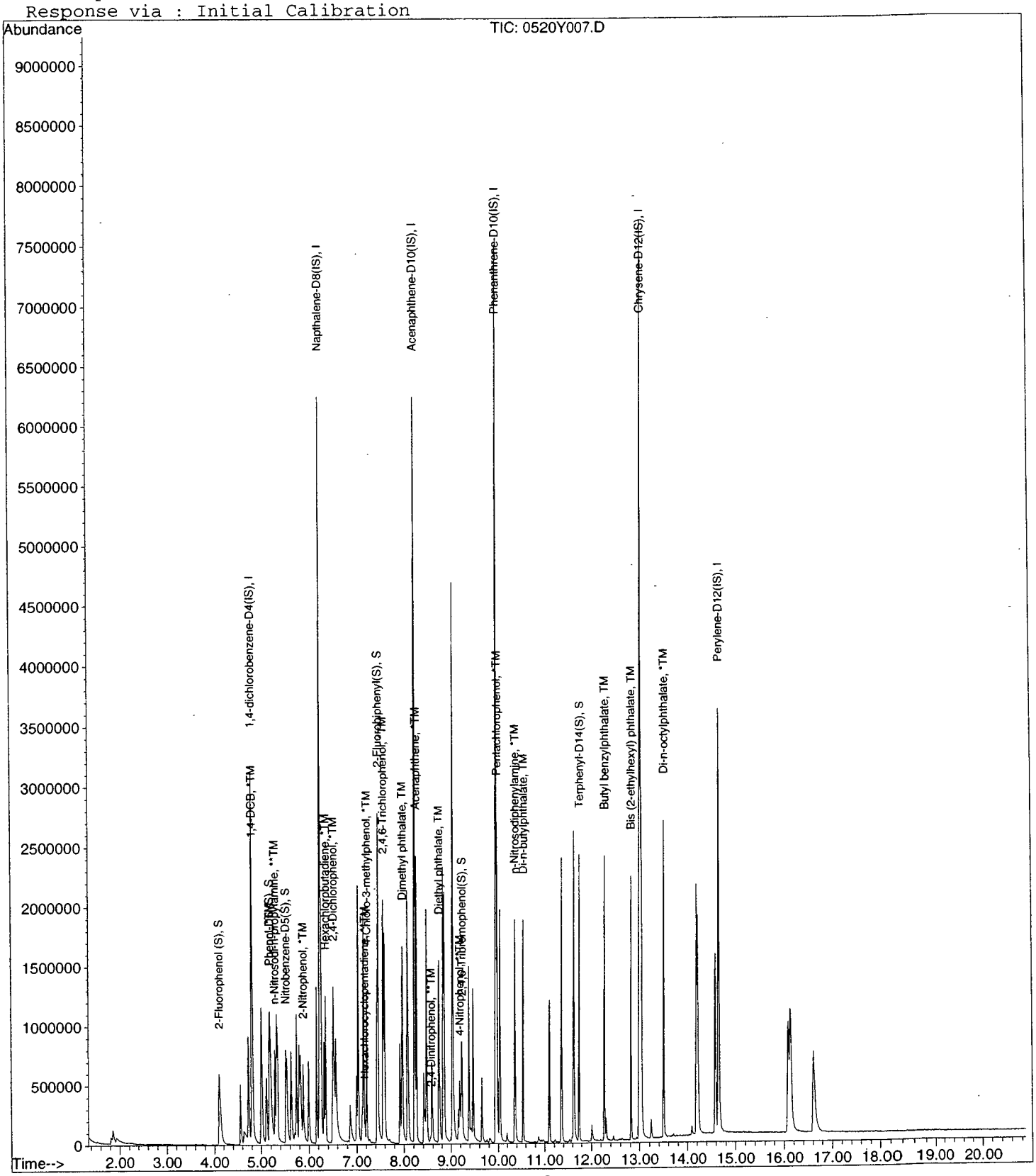
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150520\0520Y007.D Vial: 7
Acq On : 22 May 15 11:15 Operator: csc
Sample : 10ug/ml SVOC 05/22/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 2 10:47 2015 Quant Results File: Y0520TT.RES

Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Jun 02 10:48:52 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150520\0520Y008.D Vial: 8
Acq On : 22 May 15 11:45 Operator: csc
Sample : 20ug/ml SVOC 05/22/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 2 10:47 2015 Quant Results File: Y0520TT.RES

Quant Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri May 29 12:06:14 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	536321	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.24	136	2460518	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.21	164	1459456	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.94	188	2689962	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.00	240	2633883	40.00	ppb		0.00
32) Perylene-D12(IS)	14.65	264	1379249	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	4.08	112	940205	47.62	ppb		0.04
Spiked Amount 200.000			Recovery =	23.810%			
3) Phenol-D6 (S)	5.15	99	1283669	47.43	ppb		0.04
Spiked Amount 200.000			Recovery =	23.717%			
8) Nitrobenzene-D5(S)	5.50	82	602243	23.83	ppb		0.00
Spiked Amount 100.000			Recovery =	23.831%			
16) 2-Fluorobiphenyl(S)	7.45	172	1315033	23.54	ppb		0.00
Spiked Amount 100.000			Recovery =	23.539%			
22) 2,4,6-Tribromophenol(S)	9.23	330	212482	45.01	ppb		0.00
Spiked Amount 200.000			Recovery =	22.508%			
28) Terphenyl-D14(S)	11.74	244	1518105	23.25	ppb		0.00
Spiked Amount 100.000			Recovery =	23.249%			
Target Compounds							Qvalue
4) Phenol	5.17	94	703132	23.72	ppb		96
5) 1,4-DCB	4.82	146	618042	24.05	ppb		99
6) n-Nitrosodi-n-propylamine	5.28	43	296337	21.31	ppb		92
9) 2-Nitrophenol	5.87	139	303943	23.28	ppb		89
10) 2,4-Dichlorophenol	6.51	162	911038	23.69	ppb		96
11) Hexachlorobutadiene	6.35	225	245022	23.63	ppb		99
12) 4-Chloro-3-methylphenol	7.20	107	35158	23.80	ppb	#	14
14) Hexachlorocyclopentadiene	7.17	237	51348	16.63	ppb		99
15) 2,4,6-Trichlorophenol	7.57	196	306460	23.43	ppb		98
17) Dimethyl phthalate	7.97	163	1315746	23.00	ppb	#	80
18) Acenaphthene	8.25	154	1117896	23.22	ppb		97
19) 2,4-Dinitrophenol	8.53	184	80477	21.77	ppb	#	100
20) 4-Nitrophenol	9.18	65	339484	23.71	ppb		99
21) Diethyl phthalate	8.73	149	1334829	23.52	ppb		95
24) n-Nitrosodiphenylamine	10.36	167	1932983	23.12	ppb		99
25) Pentachlorophenol	9.96	266	64717	20.45	ppb		95
26) Di-n-butylphthalate	10.54	149	2300904	24.04	ppb	#	97
29) Butyl benzylphthalate	12.27	149	1081948	23.19	ppb		99
30) Bis (2-ethylhexyl) phthala	12.82	149	1517895	23.37	ppb		98
31) Di-n-octylphthalate	13.49	149	2339398	21.71	ppb		99

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

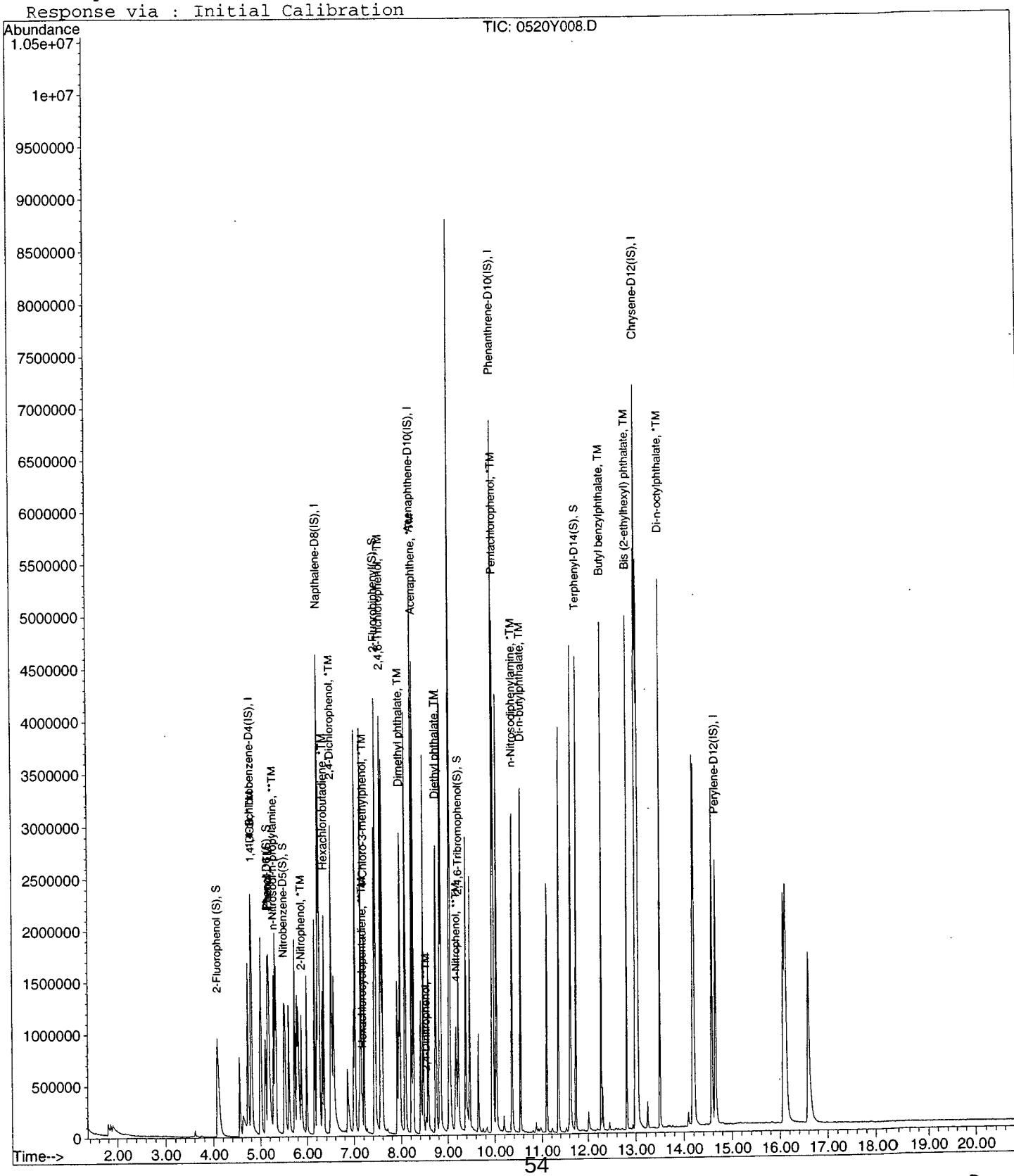
Quantitation Report

Data File : M:\YODA\DATA\Y150520\0520Y008.D
Acq On : 22 May 15 11:45
Sample : 20ug/ml SVOC 05/22/15
Misc :

Vial: 8
Operator: csc
Inst : Yoda
Multiplr: 1.00

Quant Time: Jun 2 10:47 2015 Quant Results File: Y0520TT.RES

Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Jun 02 10:48:52 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150520\0520Y009.D Vial: 9
Acq On : 22 May 15 12:14 Operator: csc
Sample : 40ug/ml SVOC 05/22/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 2 10:47 2015 Quant Results File: Y0520TT.RES

Quant Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri May 29 12:06:14 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	781016	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.23	136	3505306	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.22	164	2036207	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.95	188	3623295	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.01	240	3382326	40.00	ppb		0.00
32) Perylene-D12(IS)	14.64	264	2155209	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	4.05	112	2177862	75.79	ppb		0.00
Spiked Amount 200.000			Recovery =	37.897%			
3) Phenol-D6 (S)	5.12	99	2882043	73.78	ppb		0.01
Spiked Amount 200.000			Recovery =	36.892%			
8) Nitrobenzene-D5(S)	5.50	82	1376418	38.23	ppb		0.00
Spiked Amount 100.000			Recovery =	38.232%			
16) 2-Fluorobiphenyl(S)	7.45	172	2958571	37.96	ppb		0.00
Spiked Amount 100.000			Recovery =	37.957%			
22) 2,4,6-Tribromophenol(S)	9.22	330	491603	73.04	ppb		0.00
Spiked Amount 200.000			Recovery =	36.519%			
28) Terphenyl-D14(S)	11.74	244	3180432	37.93	ppb		0.00
Spiked Amount 100.000			Recovery =	37.929%			
Target Compounds							Qvalue
4) Phenol	5.14	94	1566459	36.29	ppb		99
5) 1,4-DCB	4.81	146	1387561	37.08	ppb		100
6) n-Nitrosodi-n-propylamine	5.29	43	666311	32.90	ppb	#	84
9) 2-Nitrophenol	5.87	139	714614	38.41	ppb		87
10) 2,4-Dichlorophenol	6.49	162	2071011	37.80	ppb		96
11) Hexachlorobutadiene	6.35	225	555140	37.59	ppb		99
12) 4-Chloro-3-methylphenol	7.20	107	77506	36.83	ppb	#	14
14) Hexachlorocyclopentadiene	7.17	237	244842	37.11	ppb		99
15) 2,4,6-Trichlorophenol	7.56	196	689043	37.76	ppb		95
17) Dimethyl phthalate	7.97	163	2879340	36.07	ppb		92
18) Acenaphthene	8.26	154	2490439	37.08	ppb		97
19) 2,4-Dinitrophenol	8.52	184	244845	37.59	ppb	#	100
20) 4-Nitrophenol	9.17	65	733688	36.72	ppb		98
21) Diethyl phthalate	8.73	149	2980636	37.33	ppb		99
24) n-Nitrosodiphenylamine	10.35	167	4220469	37.48	ppb		99
25) Pentachlorophenol	9.95	266	169881	36.19	ppb		98
26) Di-n-butylphthalate	10.54	149	5221513	40.51	ppb		97
29) Butyl benzylphthalate	12.27	149	2303882	38.45	ppb		92
30) Bis (2-ethylhexyl) phthala	12.82	149	3355899	40.24	ppb	#	94
31) Di-n-octylphthalate	13.49	149	5773216	41.72	ppb		99

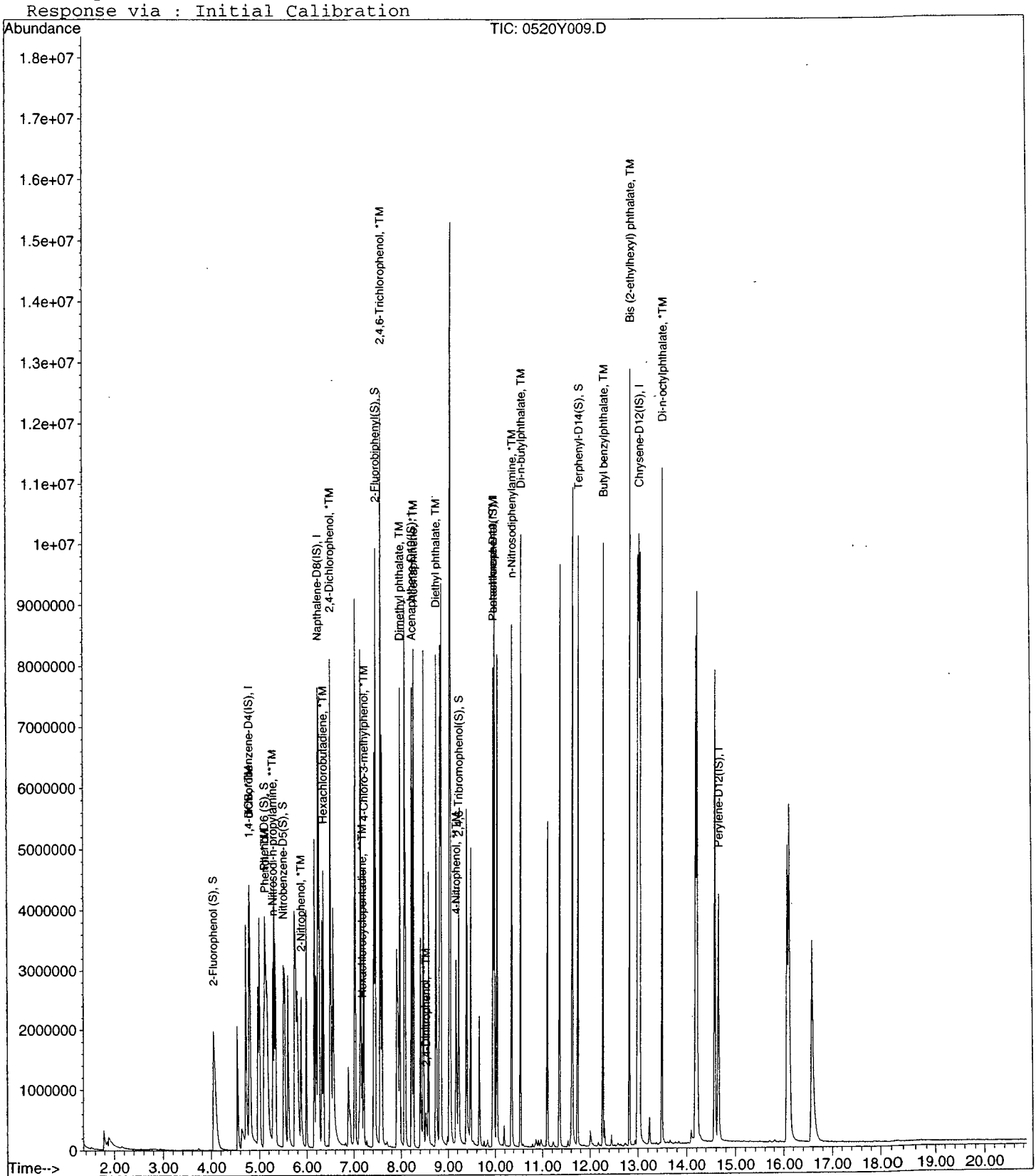
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150520\0520Y009.D Vial: 9
Acq On : 22 May 15 12:14 Operator: csc
Sample : 40ug/ml SVOC 05/22/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 2 10:47 2015 Quant Results File: Y0520TT.RES

Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Jun 02 10:48:52 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150520\0520Y010.D Vial: 10
Acq On : 22 May 15 12:43 Operator: csc
Sample : 50ug/ml SVOC 05/22/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 2 10:47 2015 Quant Results File: Y0520TT.RES

Quant Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri May 29 12:06:14 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	789097	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.23	136	3524029	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.22	164	2025704	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.95	188	3568969	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.01	240	3316564	40.00	ppb		0.00
32) Perylene-D12(IS)	14.64	264	2280872	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	4.04	112	2842780	97.94	ppb		0.00
Spiked Amount 200.000			Recovery =	48.971%			
3) Phenol-D6 (S)	5.11	99	3764614	95.74	ppb		0.00
Spiked Amount 200.000			Recovery =	47.872%			
8) Nitrobenzene-D5(S)	5.50	82	1794638	49.58	ppb		0.00
Spiked Amount 100.000			Recovery =	49.584%			
16) 2-Fluorobiphenyl(S)	7.45	172	3820599	49.27	ppb		0.00
Spiked Amount 100.000			Recovery =	49.271%			
22) 2,4,6-Tribromophenol(S)	9.22	330	649441	96.19	ppb		0.00
Spiked Amount 200.000			Recovery =	48.094%			
28) Terphenyl-D14(S)	11.74	244	4123162	50.15	ppb		0.00
Spiked Amount 100.000			Recovery =	50.147%			
Target Compounds							Qvalue
4) Phenol	5.13	94	2101573	48.18	ppb		99
5) 1,4-DCB	4.81	146	1838737	48.63	ppb		99
6) n-Nitrosodi-n-propylamine	5.29	43	1088971	53.22	ppb		93
9) 2-Nitrophenol	5.87	139	954247	51.02	ppb		88
10) 2,4-Dichlorophenol	6.49	162	2775088	50.38	ppb		98
11) Hexachlorobutadiene	6.35	225	742040	49.98	ppb		97
12) 4-Chloro-3-methylphenol	7.20	107	99869	47.20	ppb	#	14
14) Hexachlorocyclopentadiene	7.17	237	401575	54.58	ppb		99
15) 2,4,6-Trichlorophenol	7.56	196	915533	50.44	ppb		96
17) Dimethyl phthalate	7.97	163	3937522	49.58	ppb		96
18) Acenaphthene	8.26	154	3333346	49.88	ppb		97
19) 2,4-Dinitrophenol	8.51	184	364103	50.52	ppb	#	100
20) 4-Nitrophenol	9.17	65	973429	48.97	ppb		98
21) Diethyl phthalate	8.73	149	3880357	48.68	ppb		98
24) n-Nitrosodiphenylamine	10.35	167	5556568	50.09	ppb		98
25) Pentachlorophenol	9.94	266	248731	51.30	ppb		96
26) Di-n-butylphthalate	10.54	149	6772183	53.34	ppb		97
29) Butyl benzylphthalate	12.27	149	3092083	52.63	ppb		88
30) Bis (2-ethylhexyl) phthala	12.81	149	4376747	53.52	ppb	#	92
31) Di-n-octylphthalate	13.49	149	7847240	57.84	ppb		100

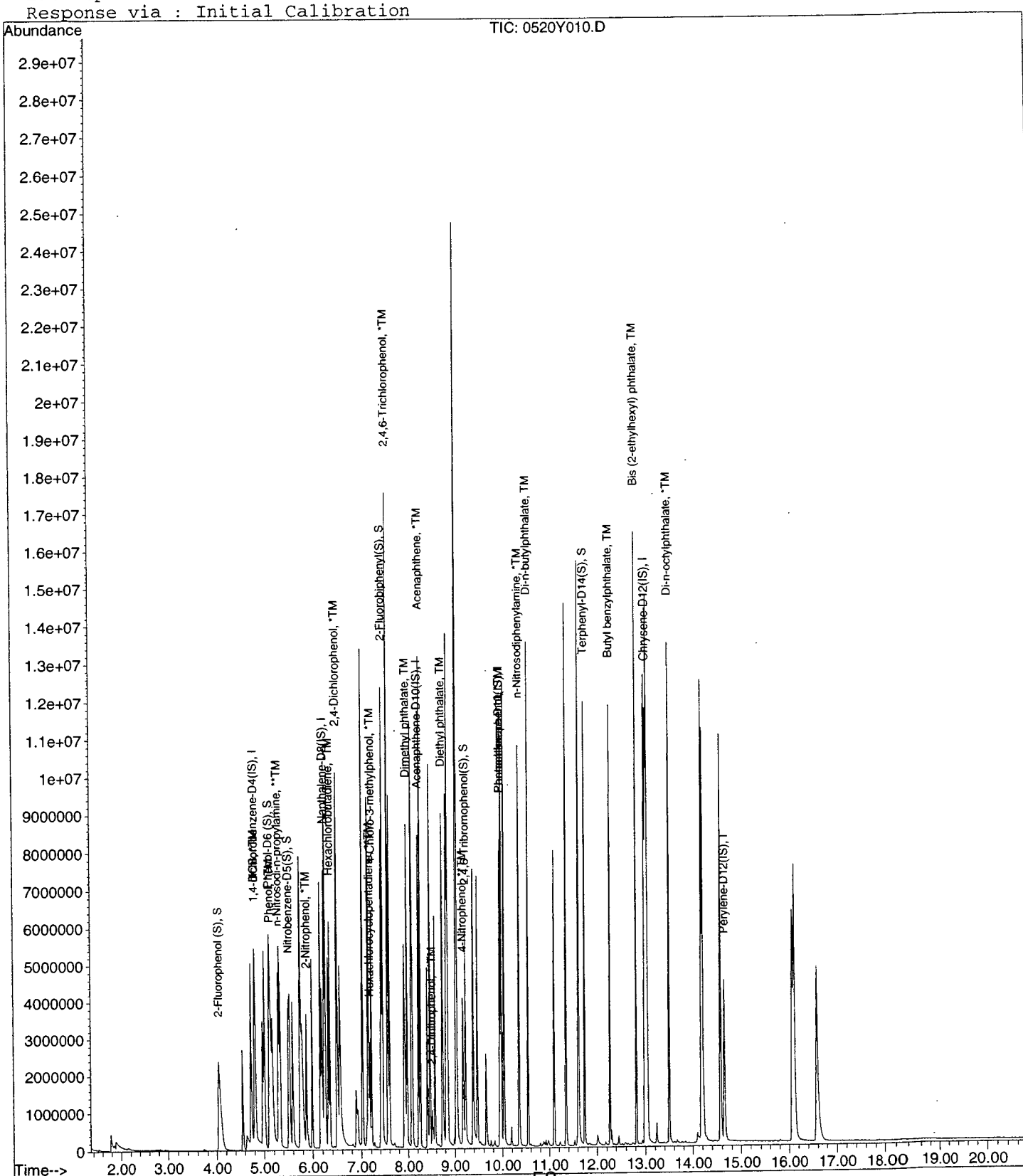
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150520\0520Y010.D Vial: 10
Acq On : 22 May 15 12:43 Operator: csc
Sample : 50ug/ml SVOC 05/22/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 2 10:47 2015 Quant Results File: Y0520TT.RES

Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Jun 02 10:48:52 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150520\0520Y011.D Vial: 11
Acq On : 22 May 15 13:12 Operator: csc
Sample : 60ug/ml SVOC 05/22/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 2 10:47 2015 Quant Results File: Y0520TT.RES

Quant Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri May 29 12:06:14 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	745684	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.23	136	3425046	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.22	164	2045435	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.95	188	3680591	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.01	240	3637880	40.00	ppb		0.00
32) Perylene-D12(IS)	14.64	264	2525912	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	4.03	112	3054194	111.36	ppb		0.00
Spiked Amount 200.000			Recovery =	55.681%			
3) Phenol-D6 (S)	5.10	99	4088841	110.22	ppb		0.00
Spiked Amount 200.000			Recovery =	55.111%			
8) Nitrobenzene-D5(S)	5.51	82	1973572	56.10	ppb		0.00
Spiked Amount 100.000			Recovery =	56.103%			
16) 2-Fluorobiphenyl(S)	7.45	172	4252492	54.31	ppb		0.00
Spiked Amount 100.000			Recovery =	54.312%			
22) 2,4,6-Tribromophenol(S)	9.22	330	725939	106.22	ppb		0.00
Spiked Amount 200.000			Recovery =	53.109%			
28) Terphenyl-D14(S)	11.75	244	5041242	55.90	ppb		0.00
Spiked Amount 100.000			Recovery =	55.897%			
Target Compounds							Qvalue
4) Phenol	5.13	94	2306105	55.95	ppb		99
5) 1,4-DCB	4.81	146	1978564	55.37	ppb		99
6) n-Nitrosodi-n-propylamine	5.29	43	1205905	62.36	ppb		98
9) 2-Nitrophenol	5.87	139	1044787	57.48	ppb		89
10) 2,4-Dichlorophenol	6.49	162	2821647	52.70	ppb		98
11) Hexachlorobutadiene	6.35	225	781810	54.18	ppb		100
12) 4-Chloro-3-methylphenol	7.21	107	114328	55.60	ppb	#	14
14) Hexachlorocyclopentadiene	7.17	237	456490	59.93	ppb		98
15) 2,4,6-Trichlorophenol	7.56	196	1021681	55.74	ppb		97
17) Dimethyl phthalate	7.98	163	4489137	55.98	ppb	#	80
18) Acenaphthene	8.26	154	3743229	55.47	ppb		97
19) 2,4-Dinitrophenol	8.51	184	451131	58.75	ppb	#	100
20) 4-Nitrophenol	9.18	65	1122316	55.92	ppb		99
21) Diethyl phthalate	8.74	149	4480539	55.59	ppb		97
24) n-Nitrosodiphenylamine	10.35	167	6444197	56.33	ppb		99
25) Pentachlorophenol	9.94	266	308980	60.45	ppb		96
26) Di-n-butylphthalate	10.54	149	7468640	57.04	ppb		99
29) Butyl benzylphthalate	12.28	149	3748651	58.17	ppb		92
30) Bis (2-ethylhexyl) phthala	12.81	149	5117380	57.05	ppb	#	91
31) Di-n-octylphthalate	13.50	149	9087213	61.06	ppb		96

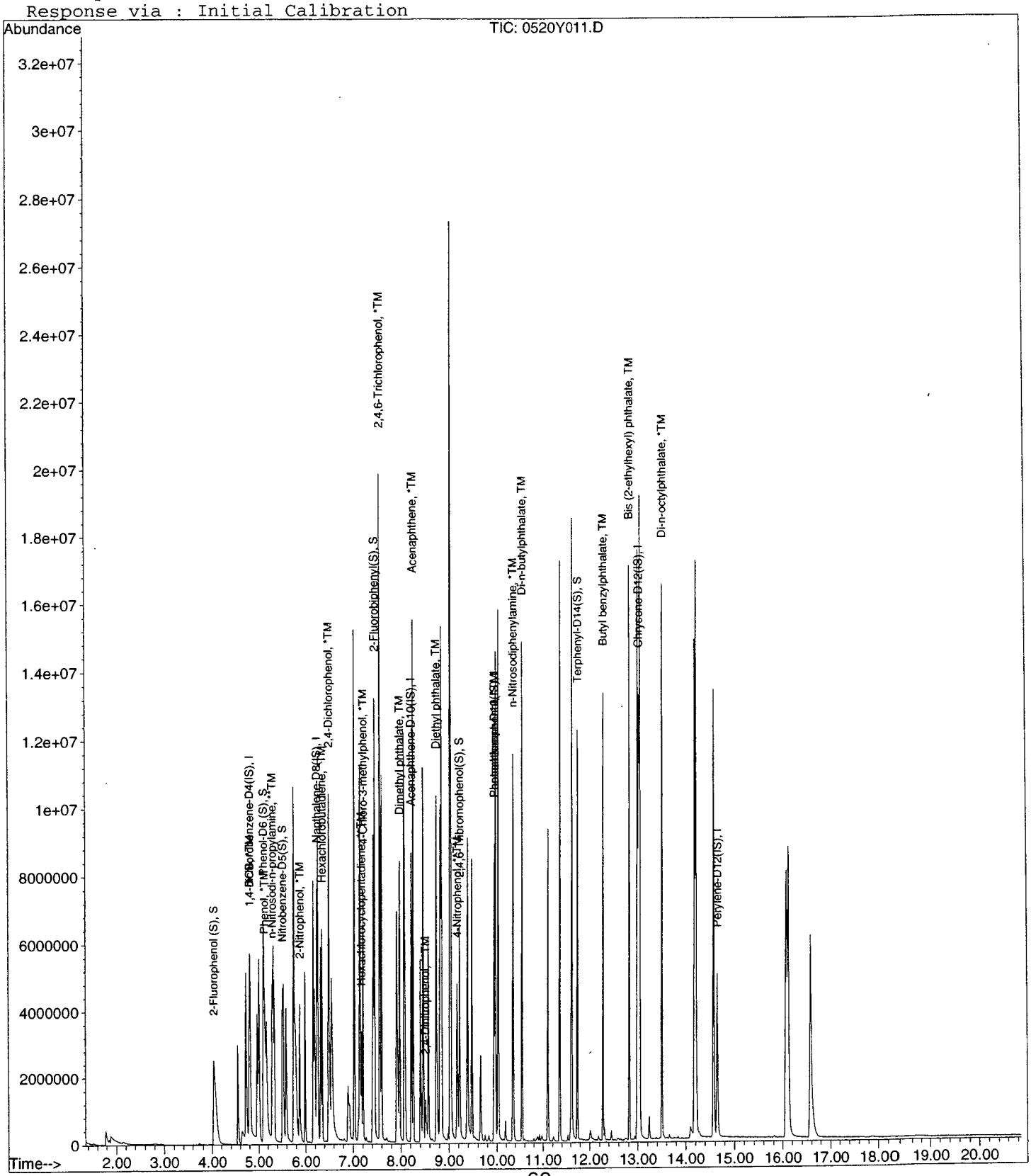
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150520\0520Y011.D Vial: 11
Acq On : 22 May 15 13:12 Operator: csc
Sample : 60ug/ml SVOC 05/22/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 2 10:47 2015 Quant Results File: Y0520TT.RES

Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Jun 02 10:48:52 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150520\0520Y012.D Vial: 12
Acq On : 22 May 15 13:42 Operator: csc
Sample : 80ug/ml SVOC 05/22/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 2 10:47 2015 Quant Results File: Y0520TT.RES

Quant Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri May 29 12:06:14 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	471386	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.24	136	2201686	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.22	164	1325479	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.94	188	2575106	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.01	240	2797916	40.00	ppb		0.00
32) Perylene-D12(IS)	14.65	264	2057568	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	4.04	112	2878109	166.04	ppb		0.00
Spiked Amount 200.000			Recovery =	83.022%			
3) Phenol-D6 (S)	5.10	99	3885528	166.30	ppb		0.00
Spiked Amount 200.000			Recovery =	83.148%			
8) Nitrobenzene-D5(S)	5.50	82	1875307	82.93	ppb		0.00
Spiked Amount 100.000			Recovery =	82.931%			
16) 2-Fluorobiphenyl(S)	7.45	172	4118879	81.18	ppb		0.00
Spiked Amount 100.000			Recovery =	81.178%			
22) 2,4,6-Tribromophenol(S)	9.23	330	757950	169.64	ppb		0.00
Spiked Amount 200.000			Recovery =	84.823%			
28) Terphenyl-D14(S)	11.74	244	5307158	76.51	ppb		0.00
Spiked Amount 100.000			Recovery =	76.512%			
Target Compounds							Qvalue
4) Phenol	5.13	94	2184278	83.83	ppb		98
5) 1,4-DCB	4.81	146	1797847	79.60	ppb		98
6) n-Nitrosodi-n-propylamine	5.29	43	1141626	93.39	ppb	#	86
9) 2-Nitrophenol	5.87	139	991785	84.88	ppb		99
10) 2,4-Dichlorophenol	6.49	162	2881986	83.74	ppb		95
11) Hexachlorobutadiene	6.35	225	739732	79.74	ppb		100
12) 4-Chloro-3-methylphenol	7.20	107	107136	81.05	ppb	#	13
14) Hexachlorocyclopentadiene	7.17	237	422535	79.60	ppb		100
15) 2,4,6-Trichlorophenol	7.56	196	990190	83.36	ppb		99
17) Dimethyl phthalate	7.97	163	4348241	83.68	ppb		94
18) Acenaphthene	8.26	154	3625113	82.90	ppb		96
19) 2,4-Dinitrophenol	8.51	184	471642	83.27	ppb	#	100
20) 4-Nitrophenol	9.17	65	1214197	93.35	ppb		98
21) Diethyl phthalate	8.73	149	4389637	83.77	ppb		98
24) n-Nitrosodiphenylamine	10.35	167	6872196	85.86	ppb		98
25) Pentachlorophenol	9.93	266	306060	82.03	ppb		98
26) Di-n-butylphthalate	10.54	149	7191780	78.50	ppb		97
29) Butyl benzylphthalate	12.27	149	4033100	81.38	ppb		90
30) Bis (2-ethylhexyl) phthala	12.82	149	5693453	82.53	ppb	#	92
31) Di-n-octylphthalate	13.50	149	9711278	84.84	ppb		95

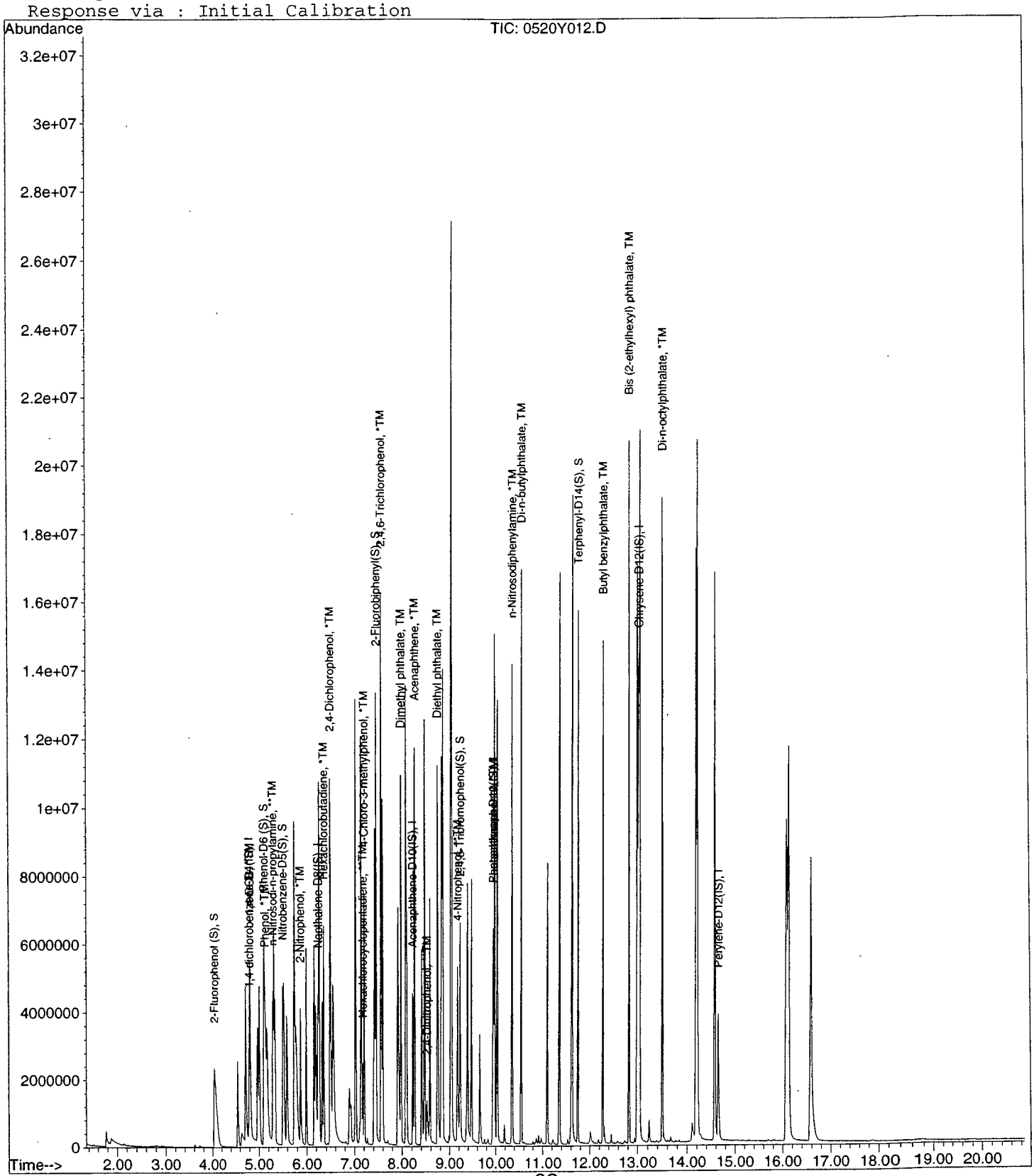
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150520\0520Y012.D Vial: 12
Acq On : 22 May 15 13:42 Operator: csc
Sample : 80ug/ml SVOC 05/22/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 2 10:47 2015 Quant Results File: Y0520TT.RES

Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Jun 02 10:48:52 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y150520\0520Y013.D Vial: 13
Acq On : 22 May 15 14:11 Operator: csc
Sample : 100ug/ml SVOC 05/22/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 2 10:55 2015 Quant Results File: Y0520TT.RES

Quant Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri May 29 12:06:14 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	476024	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.23	136	2309482	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.22	164	1435509	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.95	188	2809978	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.01	240	3038455	40.00	ppb		0.00
32) Perylene-D12(IS)	14.64	264	2240653	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	4.03	112	3526527	201.49	ppb		-0.02
Spiked Amount 200.000			Recovery =	100.744%			
3) Phenol-D6 (S)	5.09	99	4804030m	203.87	ppb		-0.02
Spiked Amount 200.000			Recovery =	101.937%			
8) Nitrobenzene-D5(S)	5.50	82	2333800	98.39	ppb		0.00
Spiked Amount 100.000			Recovery =	98.390%			
16) 2-Fluorobiphenyl(S)	7.45	172	5217364	94.95	ppb		0.00
Spiked Amount 100.000			Recovery =	94.947%			
22) 2,4,6-Tribromophenol(S)	9.22	330	989432	203.98	ppb		0.00
Spiked Amount 200.000			Recovery =	101.990%			
28) Terphenyl-D14(S)	11.75	244	7293230	96.82	ppb		0.00
Spiked Amount 100.000			Recovery =	96.821%			
Target Compounds							Qvalue
4) Phenol	5.11	94	2700240	102.62	ppb		96
5) 1,4-DCB	4.81	146	2234575	97.97	ppb		96
6) n-Nitrosodi-n-propylamine	5.29	43	1427232	115.62	ppb		98
9) 2-Nitrophenol	5.87	139	1262527	103.01	ppb		87
10) 2,4-Dichlorophenol	6.49	162	3690751	102.24	ppb		95
11) Hexachlorobutadiene	6.35	225	913036	93.83	ppb		99
12) 4-Chloro-3-methylphenol	7.20	107	133875	96.56	ppb	#	14
14) Hexachlorocyclopentadiene	7.17	237	607791	99.76	ppb		100
15) 2,4,6-Trichlorophenol	7.56	196	1259538	97.91	ppb		98
17) Dimethyl phthalate	7.98	163	5743504	102.06	ppb	#	84
18) Acenaphthene	8.26	154	4588873	96.90	ppb		97
19) 2,4-Dinitrophenol	8.51	184	647728	98.67	ppb	#	100
20) 4-Nitrophenol	9.18	65	1518697	107.82	ppb		98
21) Diethyl phthalate	8.74	149	5715083	100.60	ppb		99
24) n-Nitrosodiphenylamine	10.35	167	8829418	101.10	ppb		98
25) Pentachlorophenol	9.93	266	413809	98.82	ppb		98
26) Di-n-butylphthalate	10.54	149	9256493	92.59	ppb		97
29) Butyl benzylphthalate	12.28	149	5365726	99.70	ppb		93
30) Bis (2-ethylhexyl) phthala	12.82	149	7501525	100.13	ppb		99
31) Di-n-octylphthalate	13.49	149	10350012	83.26	ppb		98

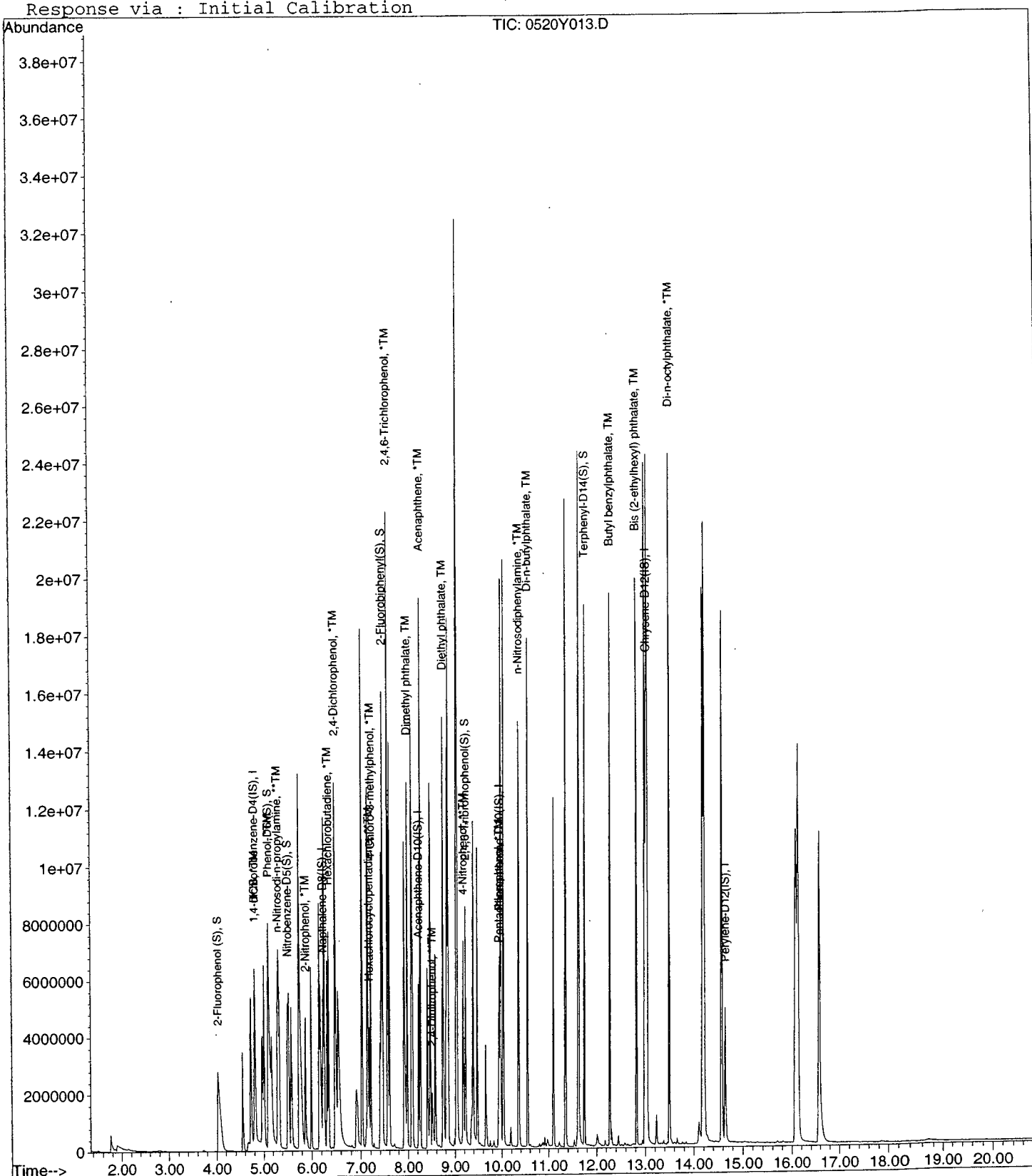
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150520\0520Y013.D Vial: 13
Acq On : 22 May 15 14:11 Operator: csc
Sample : 100ug/ml SVOC 05/22/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 2 10:55 2015 Quant Results File: Y0520TT.RES

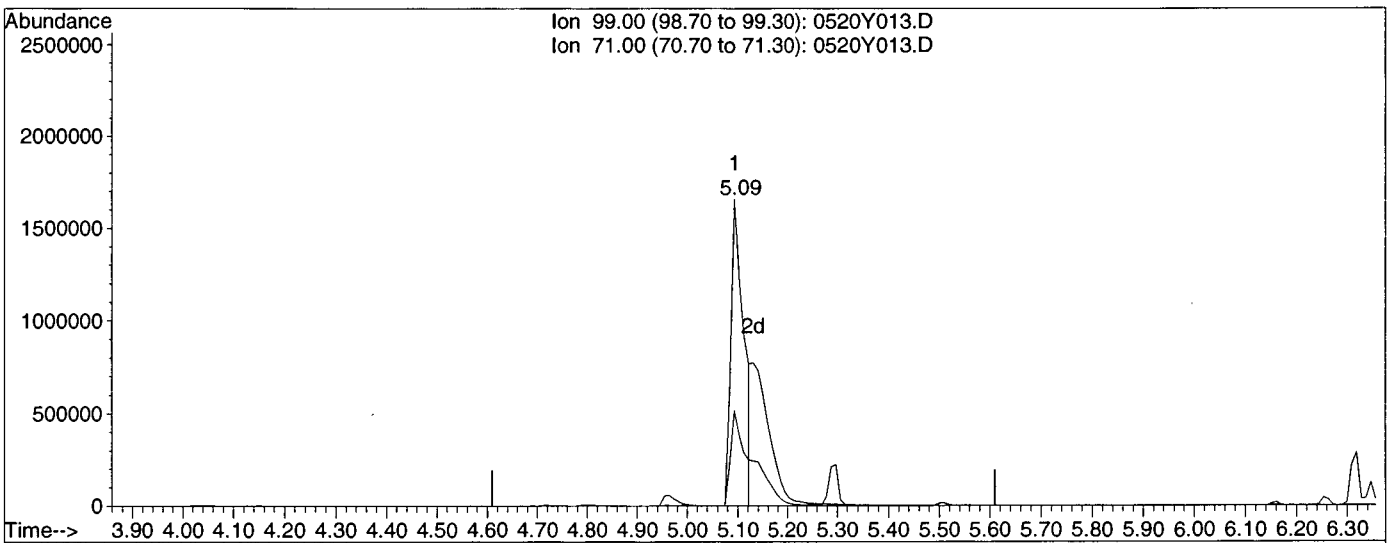
Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Jun 02 10:48:52 2015
Response via : Initial Calibration

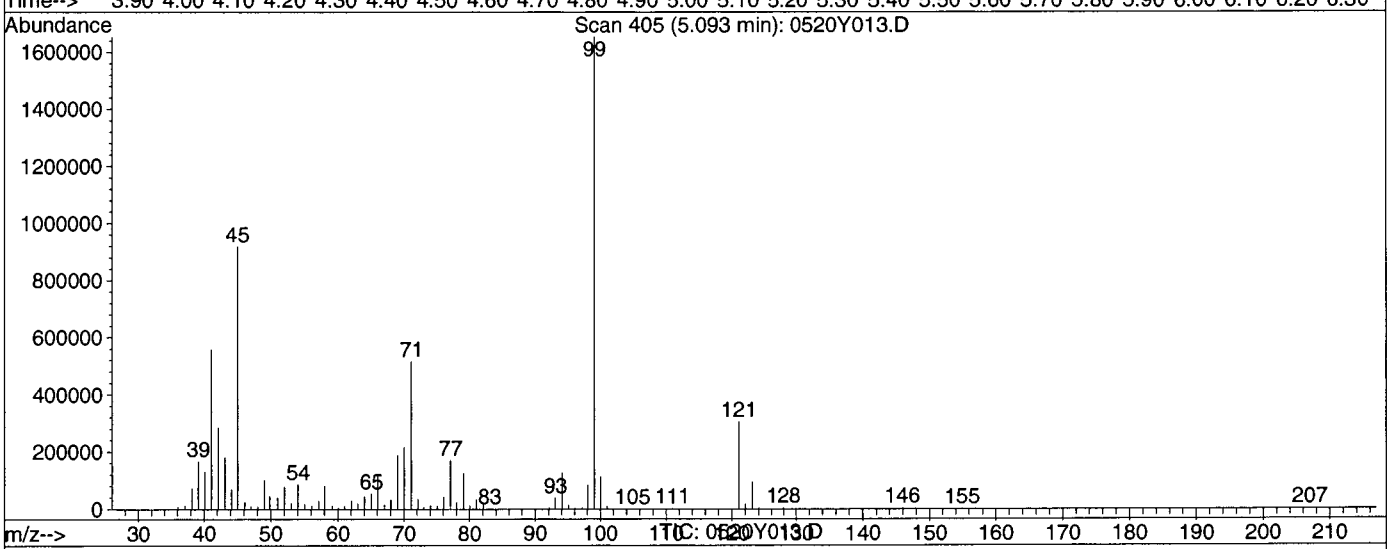


Quantitation Report

Data File : M:\YODA\DATA\Y150520\0520Y013.D Vial: 13
Acq On : 22 May 15 14:11 Operator: csc
Sample : 100ug/ml SVOC 05/22/15 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Jun 2 10:47 2015 Quant Results File: temp.res

Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Jun 02 10:48:52 2015
Response via : Multiple Level Calibration





(3) Phenol-D6 (S) (S)

5.09min 122.1724ppb

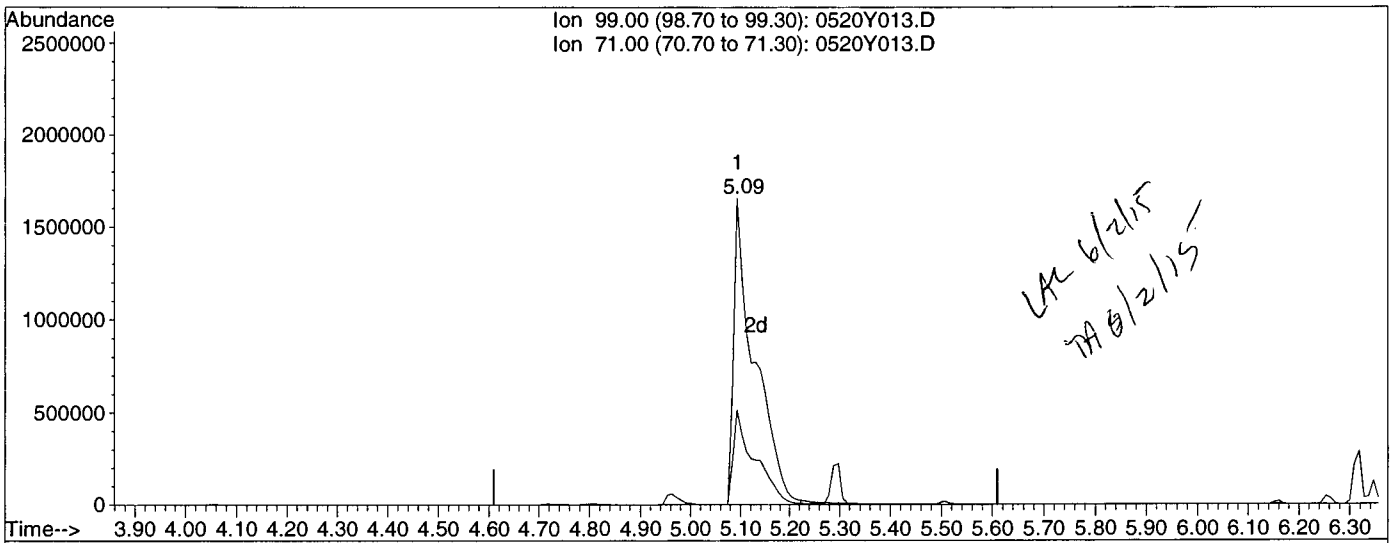
response 2890141

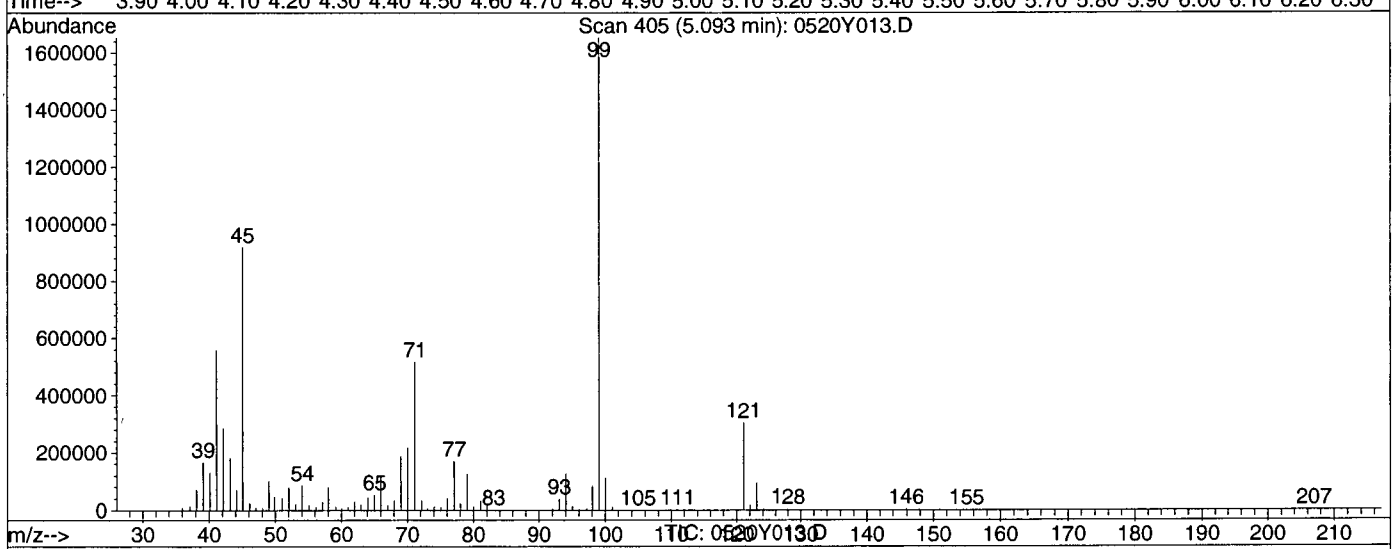
Ion	Exp%	Act%
99.00	100	100
71.00	32.80	36.88
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report

Data File : M:\YODA\DATA\Y150520\0520Y013.D Vial: 13
Acq On : 22 May 15 14:11 Operator: csc
Sample : 100ug/ml SVOC 05/22/15 Inst : Yoda
Misc : Multiplr: 1.00
Quant Time: Jun 2 10:55 2015 Quant Results File: temp.res

Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Jun 02 10:48:52 2015
Response via : Multiple Level Calibration





(3) Phenol-D6 (S) (S)

5.09min 203.8728ppb m

response 4804030

Ion	Exp%	Act%
99.00	100	100
71.00	32.80	22.19#
0.00	0.00	0.00
0.00	0.00	0.00

0520Y013.D Y0520TT.M Tue Jun 02 10:56:03 2015

Form 7

Second Source Calibration

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

SDG No: 76390
Date Analyzed: 5/22/2015
Instrument: Yoda
Initial Cal. Date: 5/20/2015
Data File: 0520Y014.D

		Compound	MEAN	CCRF	%D		%Drift
1	*TM	Phenol	2.211	2.067	6.5	*TM	
2	*TM	1,4-DCB	1.917	2.011	4.9	*TM	
3	**TM	n-Nitrosodi-n-propylamine	1.037	0.8725	16	**TM	
4	*TM	2-Nitrophenol	0.2123	0.2020	4.8	*TM	
5	*TM	2,4-Dichlorophenol	0.6253	0.5989	4.2	*TM	
6	*TM	Hexachlorobutadiene	0.1685	0.1790	6.2	*TM	
7	*TM	4-Chloro-3-methylphenol	0.0240	0.0242	0.85	*TM	
8	**TMQ	Hexachlorocyclopentadiene	0.1075	0.1099	2.2	**TMQ	18
9	*TM	2,4,6-Trichlorophenol	0.3583	0.3248	9.3	*TM	
10	TM	Dimethyl phthalate	1.568	1.490	5.0	TM	
11	*TM	Acenaphthene	1.320	1.261	4.5	*TM	
12	**TMQ	2,4-Dinitrophenol	0.1133	0.1263	11	**TMQ	8.4
13	**TM	4-Nitrophenol	0.3925	0.3505	11	**TM	
14	TML	Diethyl phthalate	1.565	1.502	4.0	TML	4.5
15	*TM	n-Nitrosodiphenylamine	1.243	1.216	2.2	*TM	
16	*TMQ	Pentachlorophenol	0.0489	0.0367	25	*TMQ	29 *
17	TM	Di-n-butylphthalate	1.423	1.386	2.6	TM	
18	TM	Butyl benzylphthalate	0.7085	0.6583	7.1	TM	
19	TM	Bis (2-ethylhexyl) phthalate	0.9863	0.9236	6.4	TM	
20	*TM	Di-n-octylphthalate	1.636	1.704	4.2	*TM	
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			6.9		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150520\0520Y014.D Vial: 14
Acq On : 22 May 15 14:41 Operator: csc
Sample : 50ug/ml SVOC SS 05/22/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 2 11:17 2015 Quant Results File: Y0520TT.RES

Quant Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Jun 02 11:00:10 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	477080	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.23	136	2254044	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.22	164	1379161	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.95	188	2658514	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.01	240	2791249	40.00	ppb		0.00
32) Perylene-D12(IS)	14.64	264	2129348	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)	0.00	99	0	0.00	ppb		
Spiked Amount 200.000			Recovery =	0.000%			
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)	11.75	244	1177	0.02	ppb		0.00
Spiked Amount 100.000			Recovery =	0.017%			
Target Compounds							Qvalue
4) Phenol	5.17	94	1232753	46.75	ppb		89
5) 1,4-DCB	4.81	146	1199318	52.46	ppb		98
6) n-Nitrosodi-n-propylamine	5.28	43	520296	42.06	ppb		92
9) 2-Nitrophenol	5.87	139	569254	47.59	ppb		89
10) 2,4-Dichlorophenol	6.49	162	1687426	47.89	ppb		96
11) Hexachlorobutadiene	6.35	225	504457	53.12	ppb		100
12) 4-Chloro-3-methylphenol	7.21	107	68238	50.43	ppb	#	15
14) Hexachlorocyclopentadiene	7.17	237	189419	41.04	ppb		100
15) 2,4,6-Trichlorophenol	7.56	196	559947	45.33	ppb		94
17) Dimethyl phthalate	7.97	163	2568426	47.50	ppb		92
18) Acenaphthene	8.26	154	2173065	47.76	ppb		98
19) 2,4-Dinitrophenol	8.52	184	217659	45.81	ppb	#	100
20) 4-Nitrophenol	9.17	65	604234	44.65	ppb		97
21) Diethyl phthalate	8.73	149	2590069	47.74	ppb		100
24) n-Nitrosodiphenylamine	10.35	167	4039348	48.89	ppb		99
25) Pentachlorophenol	9.95	266	121801	35.47	ppb		98
26) Di-n-butylphthalate	10.54	149	4606544	48.70	ppb	#	97
29) Butyl benzylphthalate	12.27	149	2297025	46.46	ppb		88
30) Bis (2-ethylhexyl) phthala	12.81	149	3222474	46.82	ppb	#	93
31) Di-n-octylphthalate	13.49	149	5947012	52.08	ppb		100

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

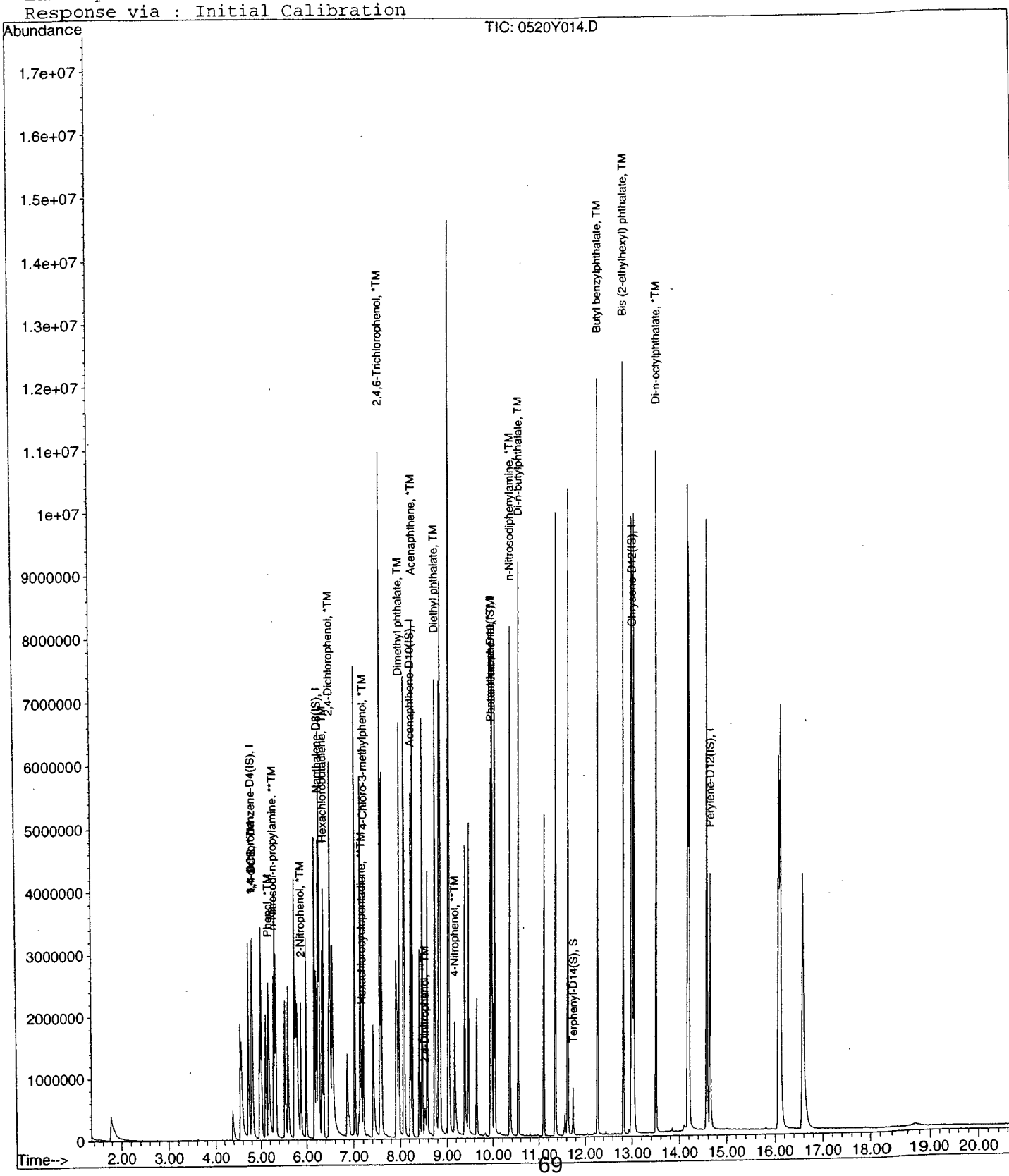
Quantitation Report

Data File : M:\YODA\DATA\Y150520\0520Y014.D
Acq On : 22 May 15 14:41
Sample : 50ug/ml SVOC SS 05/22/15
Misc :

Vial: 14
Operator: csc
Inst : Yoda
Multiplr: 1.00

Quant Time: Jun 2 11:17 2015 Quant Results File: Y0520TT.RES

Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Jun 02 11:00:10 2015
Response via : Initial Calibration



Form 7

Continuing Calibration

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

SDG No: 76390
Date Analyzed: 5/28/2015
Instrument: Yoda
Initial Cal. Date: 5/20/2015
Data File: 0520Y048.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	1,4-dichlorobenzene-D4(IS)	ISTD			I	
2	SL	2-Fluorophenol (S)	1.474	1.378	6.6	SL	6.4
3	SL	Phenol-D6 (S)	2.194	1.819	17	SL	8.8
4	*TM	Phenol	2.211	2.007	9.2	*TM	
5	*TM	1,4-DCB	1.917	1.794	6.4	*TM	
6	**TM	n-Nitrosodi-n-propylamine	1.037	1.042	0.48	**TM	
7	I	Napthalene-D8(IS)	ISTD			I	
8	S	Nitrobenzene-D5(S)	0.4108	0.3948	3.9	S	
9	*TM	2-Nitrophenol	0.2123	0.2025	4.6	*TM	
10	*TM	2,4-Dichlorophenol	0.6253	0.5768	7.7	*TM	
11	*TM	Hexachlorobutadiene	0.1685	0.1598	5.2	*TM	
12	*TM	4-Chloro-3-methylphenol	0.0240	0.0214	11	*TM	
13	I	Acenaphthene-D10(IS)	ISTD			I	
14	**TMQ	Hexachlorocyclopentadiene	0.1075	0.1627	51	**TMQ	11
15	*TM	2,4,6-Trichlorophenol	0.3583	0.3409	4.9	*TM	
16	S	2-Fluorobiphenyl(S)	1.531	1.500	2.0	S	
17	TM	Dimethyl phthalate	1.568	1.398	11	TM	
18	*TM	Acenaphthene	1.320	1.240	6.0	*TM	
19	**TMQ	2,4-Dinitrophenol	0.1133	0.1283	13	**TMQ	7.3
20	**TM	4-Nitrophenol	0.3925	0.3435	12	**TM	
21	TML	Diethyl phthalate	1.565	1.416	9.5	TML	9.9
22	SL	2,4,6-Tribromophenol(S)	0.1392	0.1158	17	SL	13
23	I	Phenanthrene-D10(IS)	ISTD			I	
24	*TM	n-Nitrosodiphenylamine	1.243	1.157	6.9	*TM	
25	*TMQ	Pentachlorophenol	0.0489	0.0586	20	*TMQ	7.3
26	TM	Di-n-butylphthalate	1.423	1.465	2.9	TM	
27	I	Chrysene-D12(IS)	ISTD			I	
28	S	Terphenyl-D14(S)	0.9916	1.030	3.9	S	
29	TM	Butyl benzylphthalate	0.7085	0.7305	3.1	TM	
30	TM	Bis (2-ethylhexyl) phthalate	0.9863	1.041	5.5	TM	
31	*TM	Di-n-octylphthalate	1.636	1.725	5.4	*TM	
32	I	Perylene-D12(IS)	ISTD			I	
33							
34							
35							
36							
37							
38							
39							
40							
		Average			9.5		

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150520\0520Y048.D Vial: 48
Acq On : 28 May 15 10:54 Operator: csc
Sample : 50ug/ml SVOC 05/28/15 Inst : Yoda
Misc : Multiplr: 1.00

Quant Time: Jun 2 11:26 2015 Quant Results File: Y0520TT.RES

Quant Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Jun 02 11:00:10 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	937800	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.24	136	4119963	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.22	164	2216054	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.94	188	3645219	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.00	240	2955804	40.00	ppb		0.00
32) Perylene-D12(IS)	14.64	264	1573179	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	4.01	112	3229987	93.63	ppb		-0.04
Spiked Amount 200.000			Recovery =	46.817%			
3) Phenol-D6 (S)	5.07	99	4263552	91.18	ppb		-0.04
Spiked Amount 200.000			Recovery =	45.591%			
8) Nitrobenzene-D5(S)	5.50	82	2033215	48.05	ppb		0.00
Spiked Amount 100.000			Recovery =	48.050%			
16) 2-Fluorobiphenyl(S)	7.45	172	4156205	48.99	ppb		0.00
Spiked Amount 100.000			Recovery =	48.995%			
22) 2,4,6-Tribromophenol(S)	9.22	330	641274	87.06	ppb		0.00
Spiked Amount 200.000			Recovery =	43.529%			
28) Terphenyl-D14(S)	11.74	244	3807358	51.96	ppb		0.00
Spiked Amount 100.000			Recovery =	51.958%			
Target Compounds							Qvalue
4) Phenol	5.10	94	2352246	45.38	ppb		98
5) 1,4-DCB	4.82	146	2103462	46.81	ppb		99
6) n-Nitrosodi-n-propylamine	5.29	43	1221727	50.24	ppb		95
9) 2-Nitrophenol	5.86	139	1042994	47.70	ppb		97
10) 2,4-Dichlorophenol	6.49	162	2970632	46.13	ppb		98
11) Hexachlorobutadiene	6.35	225	822742	47.40	ppb		100
12) 4-Chloro-3-methylphenol	7.20	107	110074	44.50	ppb	#	14
14) Hexachlorocyclopentadiene	7.17	237	450781	55.70	ppb		98
15) 2,4,6-Trichlorophenol	7.55	196	944240	47.57	ppb		98
17) Dimethyl phthalate	7.97	163	3873903	44.59	ppb		96
18) Acenaphthene	8.26	154	3434318	46.98	ppb		97
19) 2,4-Dinitrophenol	8.51	184	355370	46.35	ppb	#	100
20) 4-Nitrophenol	9.17	65	951637	43.76	ppb		99
21) Diethyl phthalate	8.73	149	3923146	45.03	ppb		99
24) n-Nitrosodiphenylamine	10.35	167	5271897	46.53	ppb		98
25) Pentachlorophenol	9.93	266	267156	53.63	ppb		96
26) Di-n-butylphthalate	10.54	149	6673345	51.46	ppb		97
29) Butyl benzylphthalate	12.27	149	2699065	51.55	ppb		90
30) Bis (2-ethylhexyl) phthala	12.82	149	3844926	52.76	ppb	#	93
31) Di-n-octylphthalate	13.49	149	6371887	52.69	ppb		100

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

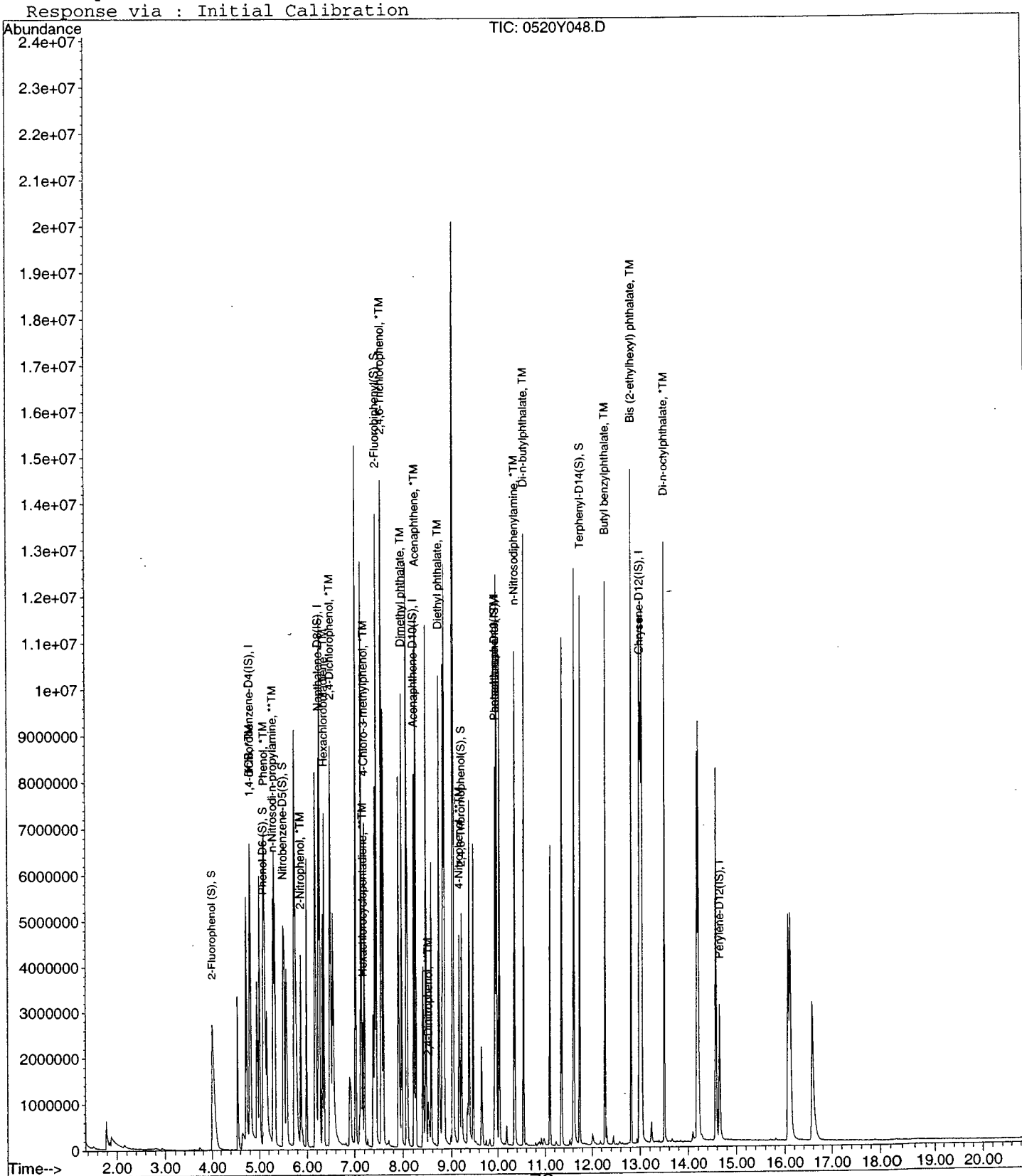
Quantitation Report

Data File : M:\YODA\DATA\Y150520\0520Y048.D
Acq On : 28 May 15 10:54
Sample : 50ug/ml SVOC 05/28/15
Misc :

Vial: 48
Operator: csc
Inst : Yoda
Multiplr: 1.00

Quant Time: Jun 2 11:26 2015 Quant Results File: Y0520TT.RES

Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Tue Jun 02 11:00:10 2015
Response via : Initial Calibration



EPA METHOD 8270D
Semivolatile Organic Compounds
Raw Data

APPL, INC.

Method Blank
EPA 8270D SOILS

Blank Name/QCG: **150521S-16137 - 197602**
Batch ID: #87DJU-150521A

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	0.167 U	0.66	0.167	0.062	mg/kg	5/21/2015	5/28/2015
BLANK	BUTYL BENZYL PHTHALATE	0.167 U	0.33	0.167	0.056	mg/kg	5/21/2015	5/28/2015
BLANK	DI-N-BUTYL PHTHALATE	0.167 U	0.33	0.167	0.066	mg/kg	5/21/2015	5/28/2015
BLANK	DI-N-OCTYL PHTHALATE	0.167 U	0.33	0.167	0.058	mg/kg	5/21/2015	5/28/2015
BLANK	DIETHYL PHTHALATE	0.167 U	0.33	0.167	0.062	mg/kg	5/21/2015	5/28/2015
BLANK	DIMETHYL PHTHALATE	0.167 U	0.33	0.167	0.063	mg/kg	5/21/2015	5/28/2015
BLANK	SURROGATE: 2,4,6-TRIBROMOP	66.1	35-125			%	5/21/2015	5/28/2015
BLANK	SURROGATE: 2-FLUORBIPHENY	66.9	45-105			%	5/21/2015	5/28/2015
BLANK	SURROGATE: 2-FLUOROPHENO	70.2	35-105			%	5/21/2015	5/28/2015
BLANK	SURROGATE: NITROBENZENE-	67.7	35-100			%	5/21/2015	5/28/2015
BLANK	SURROGATE: PHENOL (S)	69.3	40-100			%	5/21/2015	5/28/2015
BLANK	SURROGATE: TERPHENYL-D14 (	86.8	30-125			%	5/21/2015	5/28/2015

Quant Method: Y0520TT.M
Run #: 0520Y055
Instrument: Yoda
Sequence: Y150520
Initials: DA

GC SC-Blank-REG MDLs
Printed: 6/2/2015 12:34:11 PM

Quantitation Report (QT Reviewed)

Data File : M:\YODA\DATA\Y150520\0520Y055.D Vial: 55
Acq On : 28 May 15 14:49 Operator: csc
Sample : 150521A BLK 1/30.00G Inst : Yoda
Misc : soil Multiplr: 33.33333
MS Integration Params: rteint.p
Quant Time: Jun 2 10:36 2015 Quant Results File: Y0520TT.RES

Quant Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri May 29 12:06:14 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	934649	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.24	136	4145958	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.22	164	2316228	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.94	188	4141417	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.01	240	3325730	40.00	ppb		0.00
32) Perylene-D12(IS)	14.64	264	2051463	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	3.97	112	4826646	4680.95	ppb		-0.07
Spiked Amount 6666.667			Recovery =	70.214%			
3) Phenol-D6 (S)	5.08	99	6426671	4617.42	ppb		-0.03
Spiked Amount 6666.667			Recovery =	69.261%			
8) Nitrobenzene-D5(S)	5.50	82	2882944	2256.79	ppb		0.00
Spiked Amount 3333.333			Recovery =	67.704%			
16) 2-Fluorobiphenyl(S)	7.45	172	5934326	2231.02	ppb		0.00
Spiked Amount 3333.333			Recovery =	66.931%			
22) 2,4,6-Tribromophenol(S)	9.22	330	1027477	4405.02	ppb		0.00
Spiked Amount 6666.667			Recovery =	66.075%			
28) Terphenyl-D14(S)	11.74	244	7155193	2892.78	ppb		0.00
Spiked Amount 3333.333			Recovery =	86.783%			
Target Compounds							Qvalue
21) Diethyl phthalate	8.74	149	3647	19.28	ppb		95
26) Di-n-butylphthalate	10.54	149	10722	2.43	ppb		97
30) Bis (2-ethylhexyl) phthala	12.82	149	13551	5.51	ppb	#	96
31) Di-n-octylphthalate	13.50	149	3285	0.80	ppb		93

(#) = qualifier out of range (m) = manual integration
0520Y055.D Y0520TT.M Tue Jun 02 10:37:01 2015

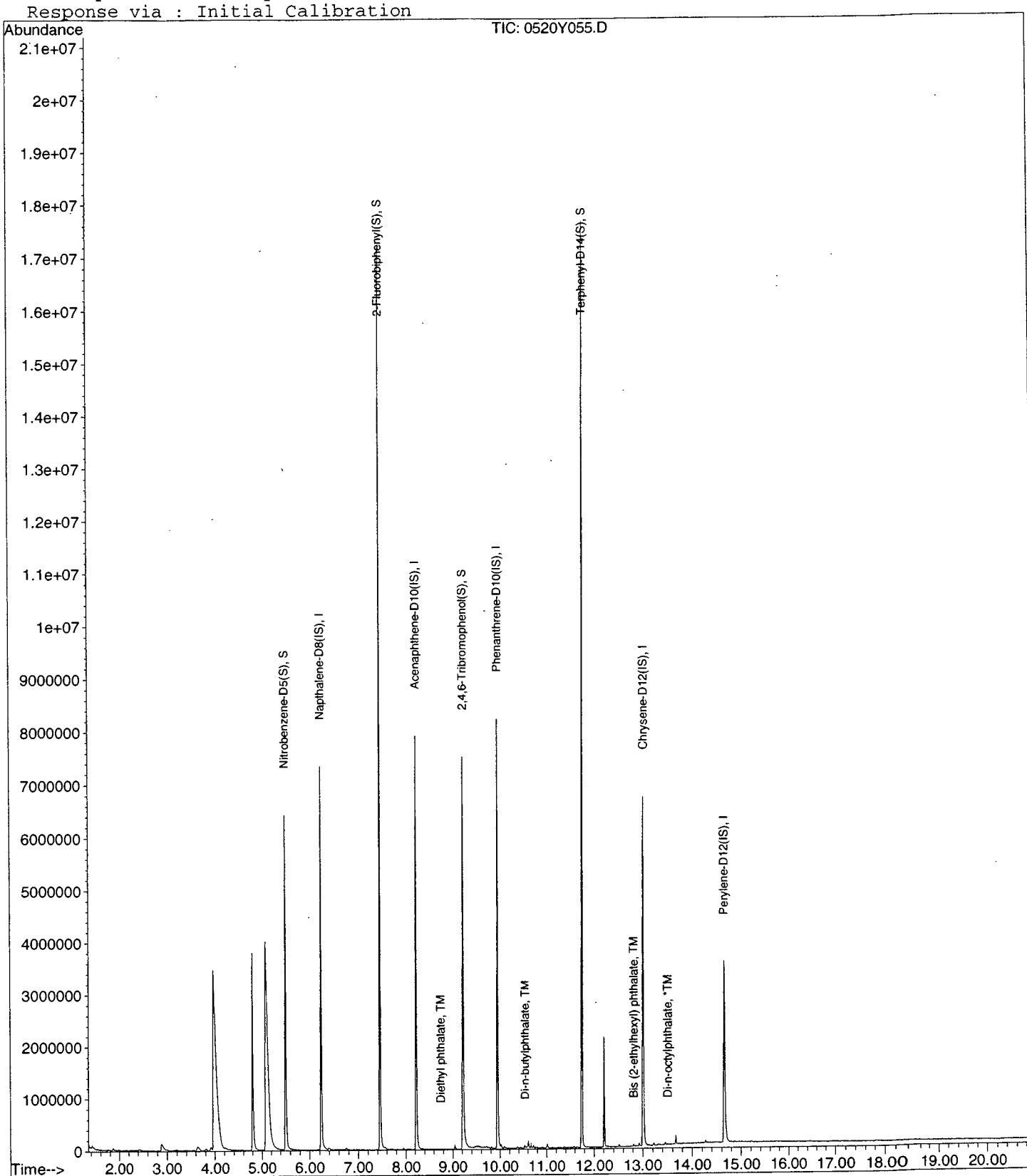
Quantitation Report

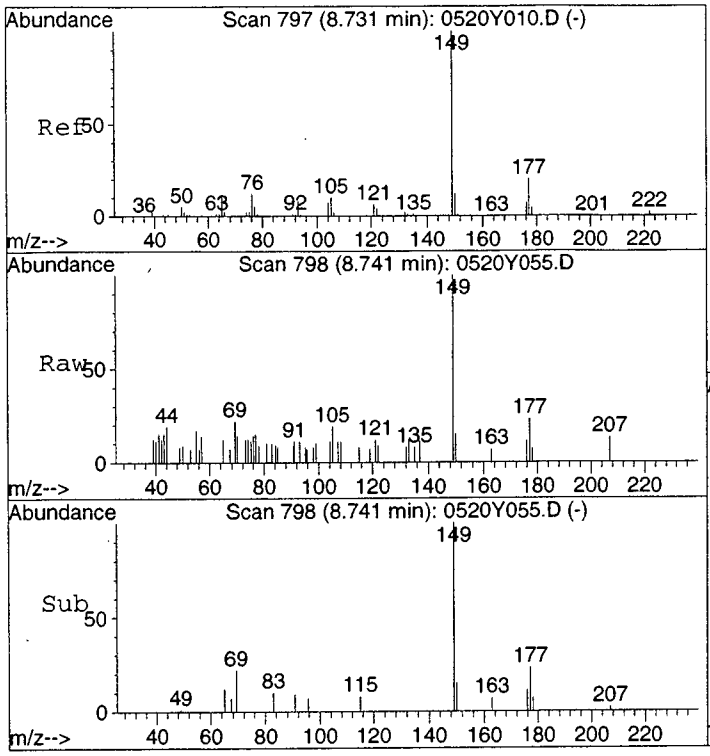
Data File : M:\YODA\DATA\Y150520\0520Y055.D
Acq On : 28 May 15 14:49
Sample : 150521A BLK 1/30.00G
Misc : soil

Vial: 55
Operator: csc
Inst : Yoda
Multiplr: 33.33

Quant Time: Jun 2 10:17 2015 Quant Results File: Y0520TT.RES

Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri May 29 12:06:14 2015
Response via : Initial Calibration

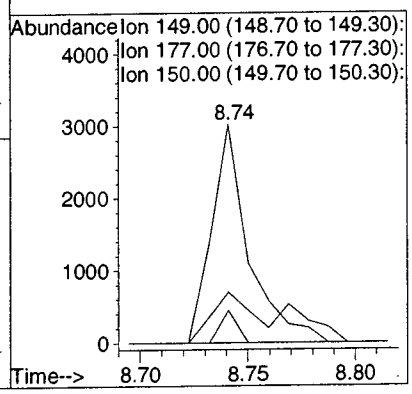


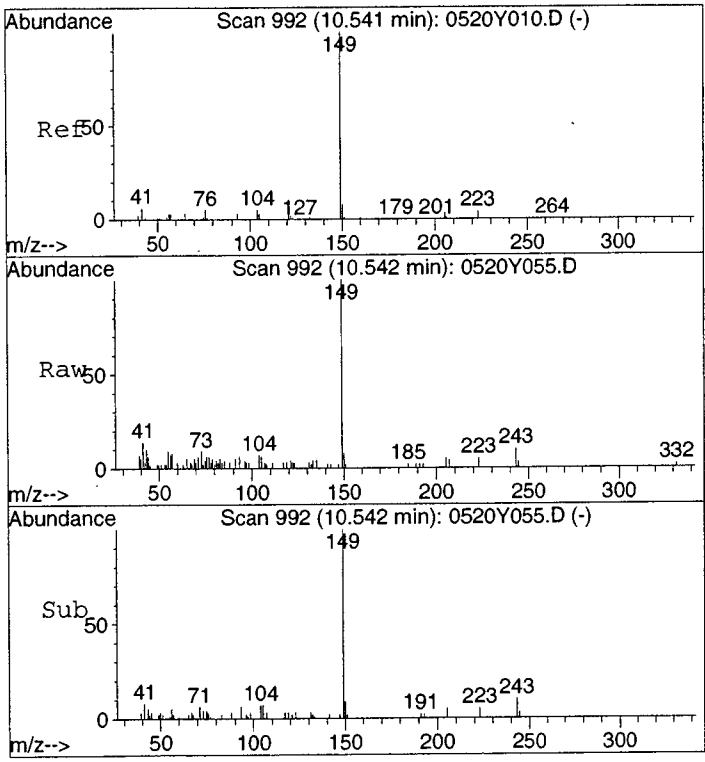


#21
Diethyl phthalate
Concen: 19.28 ppb
RT: 8.74 min Scan# 798
Delta R.T. 0.01 min
Lab File: 0520Y055.D
Acq: 28 May 15 14:49

Tgt Ion:149 Resp: 3647

Ion	Ratio	Lower	Upper
149	100		
177	23.2	15.1	28.0
150	14.9	8.3	15.5

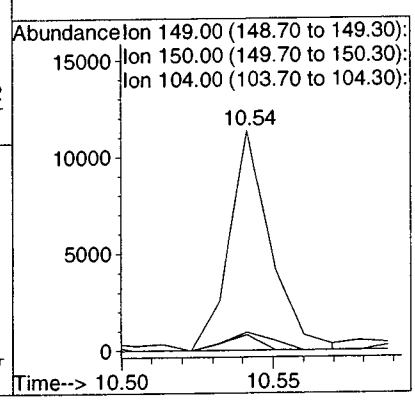


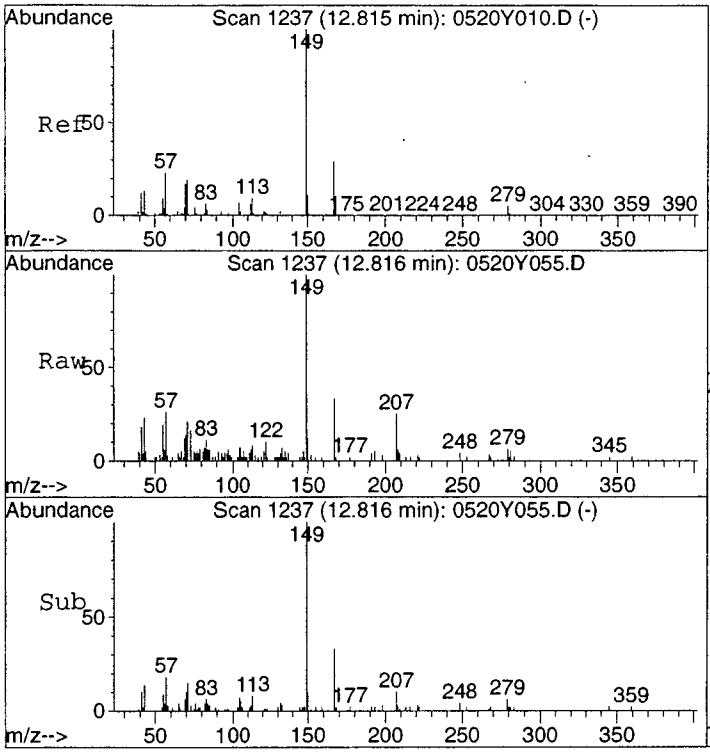


#26
Di-n-butylphthalate
Concen: 2.43 ppb
RT: 10.54 min Scan# 992
Delta R.T. 0.00 min
Lab File: 0520Y055.D
Acq: 28 May 15 14:49

Tgt Ion:149 Resp: 10722

Ion	Ratio	Lower	Upper
149	100		
150	8.4	6.4	11.8
104	7.2	4.3	7.9

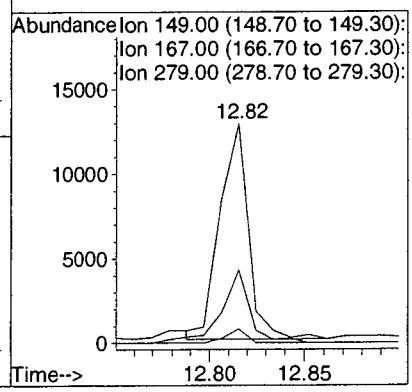


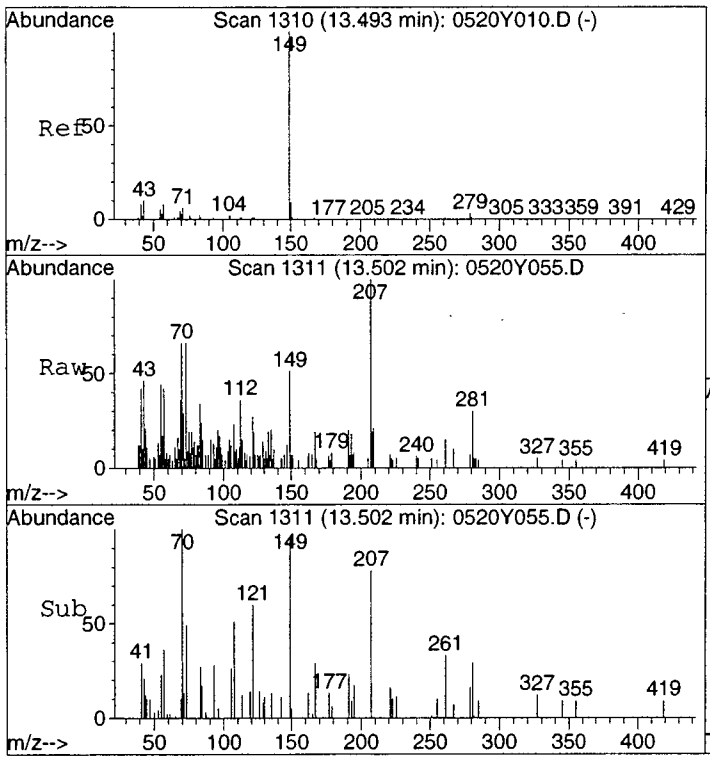


#30
Bis (2-ethylhexyl) phthalate
Concen: 5.51 ppb
RT: 12.82 min Scan# 1237
Delta R.T. 0.00 min
Lab File: 0520Y055.D
Acq: 28 May 15 14:49

Tgt Ion:149 Resp: 13551

Ion	Ratio	Lower	Upper
149	100		
167	34.1	23.1	42.9
279	6.6	7.1	13.3#

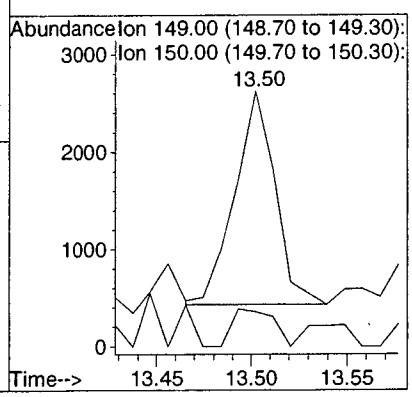




#31
Di-n-octylphthalate
Concen: 0.80 ppb
RT: 13.50 min Scan# 1311
Delta R.T. 0.01 min
Lab File: 0520Y055.D
Acq: 28 May 15 14:49

Tgt Ion:149 Resp: 3285

Ion	Ratio	Lower	Upper
149	100		
150	6.7	6.4	12.0



Laboratory Control Spike Recovery
EPA 8270D SOILS

APPL ID: **150521S-16137 LCS - 197602**
Batch ID: #87DJU-150521A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
BIS (2-ETHYLHEXYL) PHTHALATE	1.67	1.35	80.8	45-125
BUTYL BENZYL PHTHALATE	1.67	1.31	78.4	50-125
DI-N-BUTYL PHTHALATE	1.67	1.30	77.8	55-110
DI-N-OCTYL PHTHALATE	1.67	1.39	83.2	40-130
DIETHYL PHTHALATE	1.67	1.19	71.3	50-115
DIMETHYL PHTHALATE	1.67	1.19	71.3	50-110
SURROGATE: 2,4,6-TRIBROMOPHENOL	6.67	5.07	76.0	35-125
SURROGATE: 2-FLUORBIPHENYL (S)	3.33	2.27	68.2	45-105
SURROGATE: 2-FLUOROPHENOL (S)	6.67	4.46	66.9	35-105
SURROGATE: NITROBENZENE-D5 (S)	3.33	2.22	66.7	35-100
SURROGATE: PHENOL (S)	6.67	4.66	69.9	40-100
SURROGATE: TERPHENYL-D14 (S)	3.33	2.98	89.5	30-125

Comments: _____

Primary	SPK
Quant Method :	Y0520TT.M
Extraction Date :	5/21/2015
Analysis Date :	5/28/2015
Instrument :	Yoda
Run :	0520Y056
Initials :	DA

Printed: 6/2/2015 12:33:57 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\YODA\DATA\Y150520\0520Y056.D Vial: 56
Acq On : 28 May 15 15:18 Operator: csc
Sample : 150521A LCS-1 1/30.07G Inst : Yoda
Misc : soil Multiplr: 33.26

Quant Time: Jun 1 11:22 2015 Quant Results File: Y0520TT.RES

Quant Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri May 29 12:06:14 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	983964	40.00	ppb		0.00
7) Napthalene-D8(IS)	6.23	136	4419817	40.00	ppb		0.00
13) Acenaphthene-D10(IS)	8.22	164	2490321	40.00	ppb		0.00
23) Phenanthrene-D10(IS)	9.95	188	4281753	40.00	ppb		0.00
27) Chrysene-D12(IS)	13.01	240	3572459	40.00	ppb		0.00
32) Perylene-D12(IS)	14.64	264	2131735	40.00	ppb		0.00
System Monitoring Compounds							
2) 2-Fluorophenol (S)	3.97	112	4854290	4461.29	ppb		-0.07
Spiked Amount 6651.147			Recovery =	67.076%			
3) Phenol-D6 (S)	5.06	99	6850450	4664.83	ppb		-0.05
Spiked Amount 6651.147			Recovery =	70.136%			
8) Nitrobenzene-D5(S)	5.50	82	3025830	2216.70	ppb		0.00
Spiked Amount 3325.574			Recovery =	66.656%			
16) 2-Fluorobiphenyl(S)	7.45	172	6501011	2267.92	ppb		0.00
Spiked Amount 3325.574			Recovery =	68.196%			
22) 2,4,6-Tribromophenol(S)	9.22	330	1278414	5073.03	ppb		0.00
Spiked Amount 6651.147			Recovery =	76.273%			
28) Terphenyl-D14(S)	11.75	244	7946573	2983.88	ppb		0.00
Spiked Amount 3325.574			Recovery =	89.725%			
Target Compounds							Qvalue
4) Phenol	5.07	94	1862536	1138.86	ppb		88
5) 1,4-DCB	4.81	146	1584760	1117.80	ppb		99
6) n-Nitrosodi-n-propylamine	5.29	43	973854	1269.25	ppb		97
9) 2-Nitrophenol	5.87	139	847441	1201.47	ppb		87
10) 2,4-Dichlorophenol	6.48	162	2434236	1171.73	ppb		99
11) Hexachlorobutadiene	6.35	225	658624	1176.18	ppb		98
12) 4-Chloro-3-methylphenol	7.20	107	90997	1140.46	ppb	#	14
14) Hexachlorocyclopentadiene	7.17	237	248717	1076.07	ppb		99
15) 2,4,6-Trichlorophenol	7.55	196	818478	1219.71	ppb		98
17) Dimethyl phthalate	7.97	163	3500272	1192.29	ppb		90
18) Acenaphthene	8.26	154	2931202	1186.55	ppb		97
19) 2,4-Dinitrophenol	8.51	184	258619	1123.90	ppb	#	100
20) 4-Nitrophenol	9.17	65	853905	1162.09	ppb		99
21) Diethyl phthalate	8.73	149	3487656	1188.43	ppb		100
24) n-Nitrosodiphenylamine	10.35	167	4799487	1199.35	ppb		98
25) Pentachlorophenol	9.93	266	184061	1115.79	ppb		90
26) Di-n-butylphthalate	10.54	149	5972882	1303.94	ppb	#	97
29) Butyl benzylphthalate	12.27	149	2488530	1307.83	ppb		93
30) Bis (2-ethylhexyl) phthala	12.81	149	3586234	1353.98	ppb	#	93
31) Di-n-octylphthalate	13.49	149	6108460	1389.95	ppb		100

$\frac{1862536 \times 40}{983964 \times 2.211} \times 33.26 = 1138.9$ TA 6/8/15

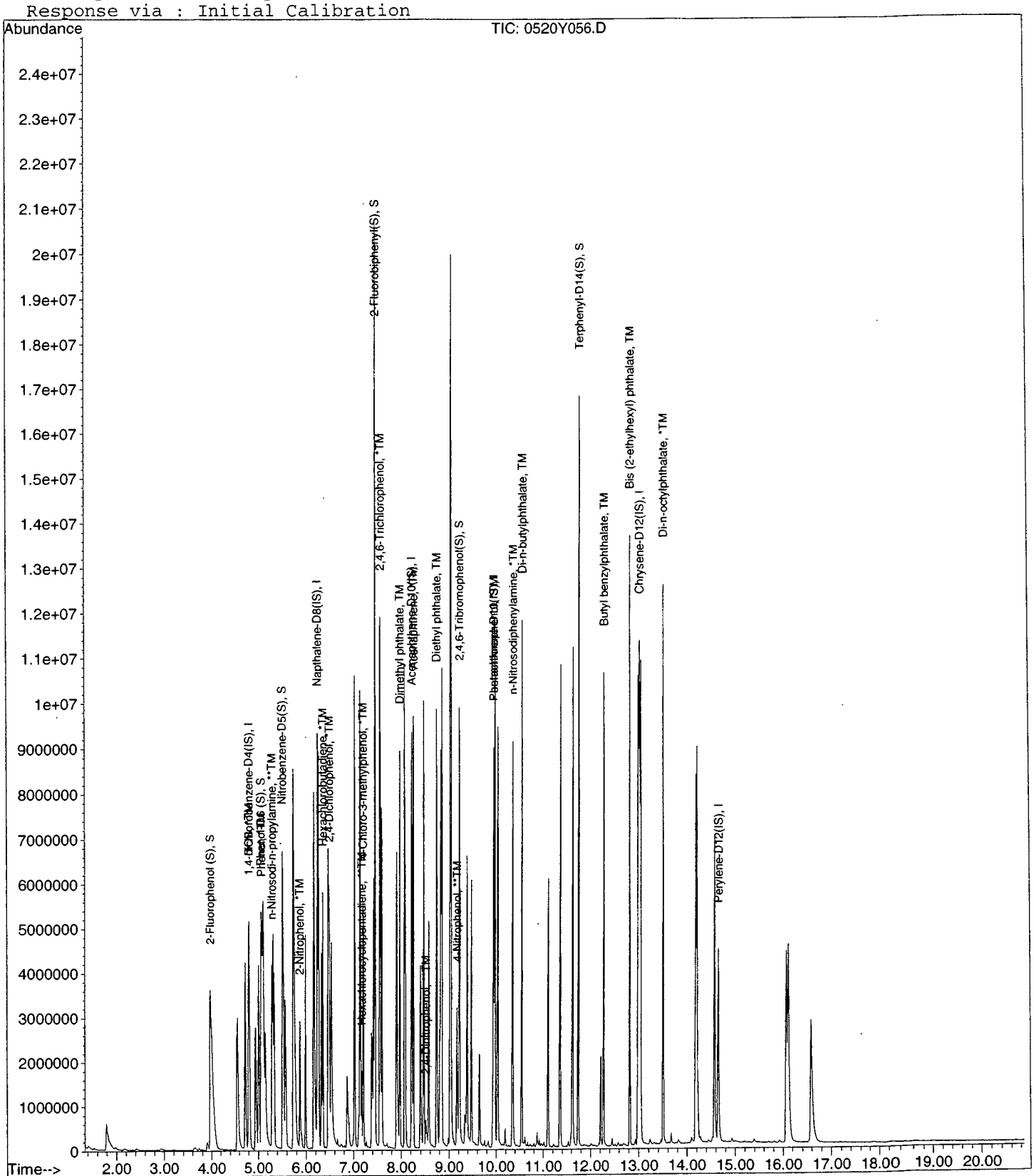
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\YODA\DATA\Y150520\0520Y056.D Vial: 56
Acq On : 28 May 15 15:18 Operator: csc
Sample : 150521A LCS-1 1/30.07G Inst : Yoda
Misc : soil Multiplr: 33.26

Quant Time: Jun 1 11:22 2015 Quant Results File: Y0520TT.RES

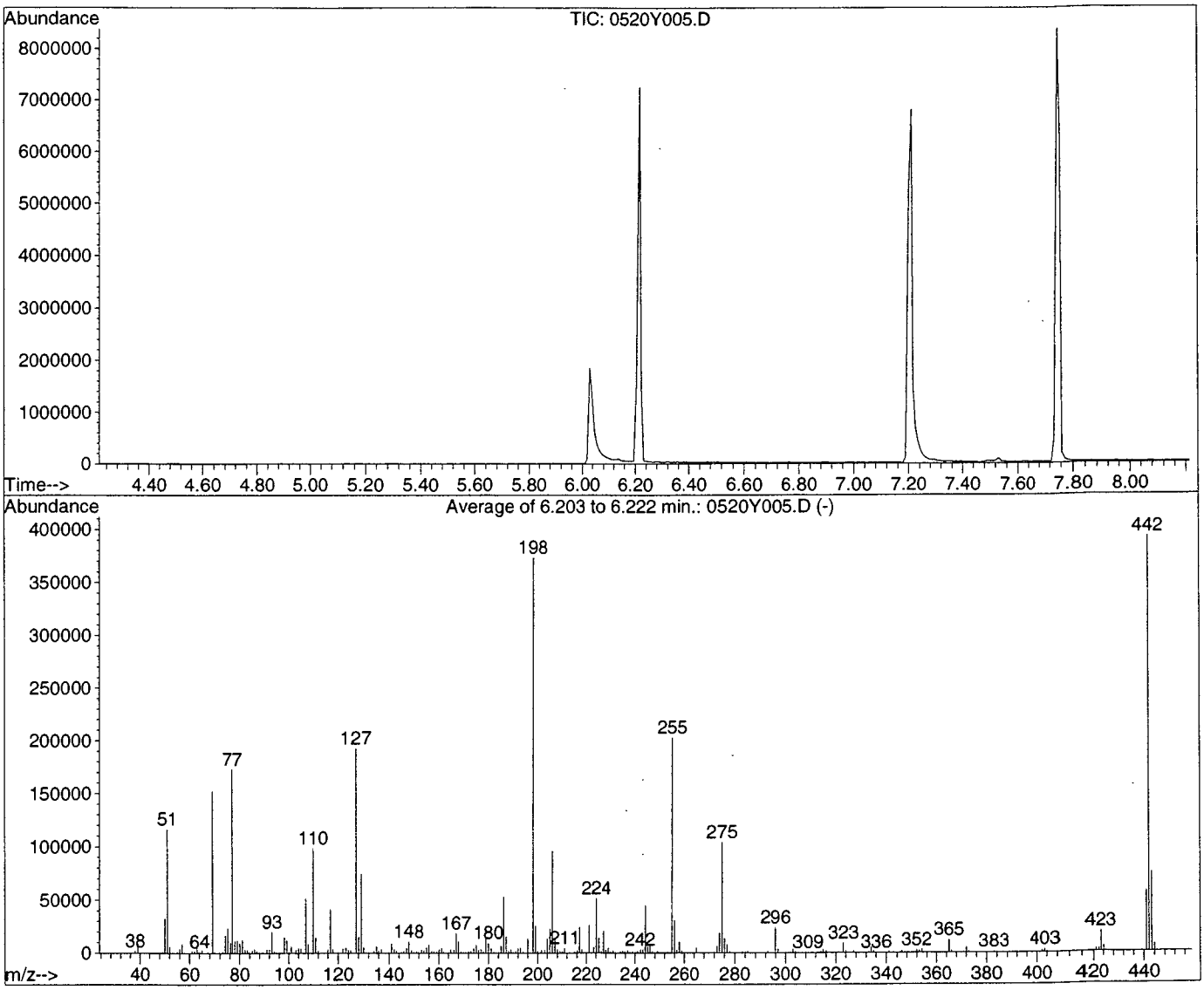
Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C
Last Update : Fri May 29 12:06:14 2015
Response via : Initial Calibration



DFTPP

Data File : M:\YODA\DATA\Y150520\0520Y005.D Vial: 5
Acq On : 22 May 15 10:28 Operator: csc
Sample : SV Tune 5/14/15 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C



AutoFind: Scans 282, 283, 284; Background Corrected with Scan 279

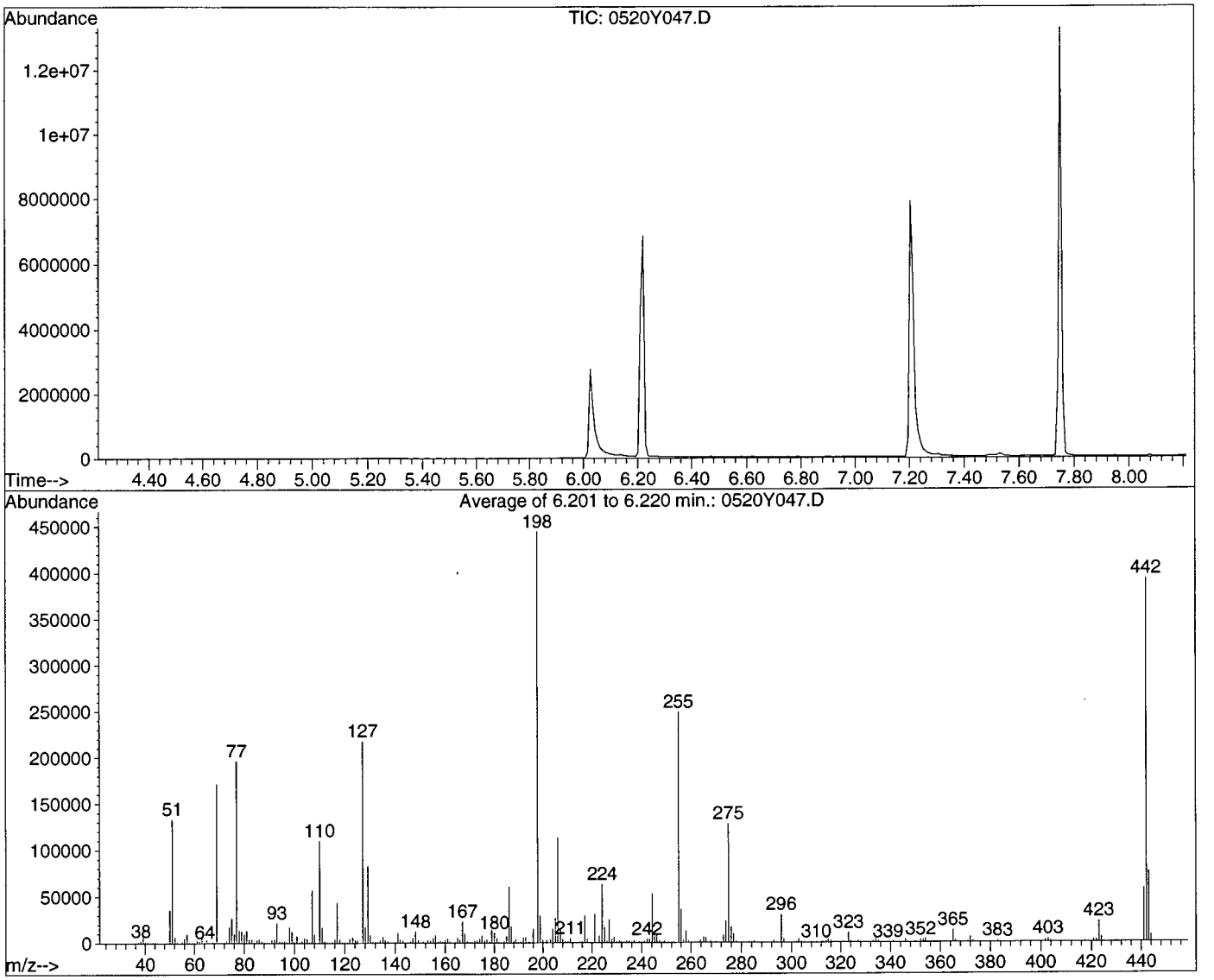
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	31.1	115997	PASS
68	69	0.00	2	0.0	0	PASS
70	69	0.00	2	0.1	127	PASS
127	198	40	60	51.6	192476	PASS
197	198	0.00	1	0.1	253	PASS
198	198	100	100	100.0	373053	PASS
199	198	5	9	6.8	25312	PASS
275	198	10	30	27.8	103725	PASS
365	198	1	100	3.1	11748	PASS
441	443	0.01	100	76.5	56619	PASS
442	198	40	150	105.2	392399	PASS
443	442	17	23	18.9	74045	PASS

0520Y005.D Y0520TT.M Tue Jun 02 10:05:34 2015

DFTPP

Data File : M:\YODA\DATA\Y150520\0520Y047.D Vial: 47
Acq On : 28 May 15 10:36 Operator: csc
Sample : SV TUNE 5/14/15 Inst : Yoda
Misc : Multiplr: 1.00

Method : M:\YODA\DATA\Y150520\Y0520TT.M (RTE Integrator)
Title : EPA 8270C



Spectrum Information: Average of 6.201 to 6.220 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	30.0	133405	PASS
68	69	0.00	2	0.1	168	PASS
70	69	0.00	2	0.4	723	PASS
127	198	40	60	48.9	217427	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	444517	PASS
199	198	5	9	6.6	29426	PASS
275	198	10	30	28.7	127578	PASS
365	198	1	100	3.0	13174	PASS
441	443	0.01	100	75.6	57498	PASS
442	198	40	150	88.4	393040	PASS
443	442	17	23	19.4	76072	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

PCB CONGENERS SPIKE
Source: O2Si **Con.** 100mg/L
CAT: 130116-01-SS
LOT: 250062-35148
Open: 05/22/15-L.H.
Ex: 5/22/16

PCB CONGENERS SURR.					
Prep: 5/22/15-L.H. Ex: 11/22/15					
Compounds		**Int. Conc.**	**ALIQUOT**	**Fin. Vol.**	**Fin. Conc.**
TCMX		1000µg/mL	500µL	50mL	10µg/mL
Part: 70273		OP: 4/21/15			
Lot: 041111-30678		EX: 4/11/16			
Source: Absolute					
Solvent:					
Acetone:		051413C			

8270 Full Scan Standard Curve

PREP DATE:	05/22/15-L.H.												
8270 Standard Curve													
Exp:	05/29/15					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 (200	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 St	2000	XA10079V-34496	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 PAH SIM CCV

PREP DATE:	05/22/15-LH					
8270 PAH SIM Continuing Calibration Verification 5ug/ml						
Exp.DATE:	05/29/15					5
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	8270 PAH SIM S	200	230271-34569	02/27/15	06/08/16	5
o2si	8270 BN:A (200	VAR	242352-34963	02/27/15	#######	5
EM Science	Methylene Chloride		54200	11/06/14		190
Supelco	SIM SV Interna	125	XA10079V-34496	05/15/15	5/15/16	4
				Final Vol.		204

Tech. Chlordane Spike
Source: Absolute **Con.** 1000mg/L
CAT: 130116-01-SS
LOT: 101311-32223
Open: 05/22/15-L.H.
Ex: 5/22/16

104

04/27/15
ac

PREP DATE:	04/27/15						ac
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					a
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					ac
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 St	2000	10079V-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 CONC	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					

Prep: 5/22/15	Exp: 6/26/15	OCL Level 2 Standard			GA
Compound	Initial conc	ource Stoc	Aliquot	Final Conc	Final Vol.
Various	10 ug/ml	OCL Stock	125ul	0.050 ug/ml	25 mL
		Prep: 11/17/14			
		Exp: 6/26/15			
	Hexane:	051914A			

OP/F CURVE		Prep: 5/20/15 Exp: 10/24/15			
SUPPLIER	ID#	[µg/mL]	LOT #	DATE	EXP. DATE
	OP/F STD	5		04/24/15	######
VWR	Hexane		051914A		
					Final VOL.

PCB Water Spike													
Prep: 5/22/15-L.H. Ex: 8/22/15						Acetone:051413C							
Compounds		Int. Conc.	ALIQUOT	Fin. Vol.	Fin. Conc.								
AR 1016		1000µg/mL	50µL	10mL	5µg/mL								
AR1260						IA	IB	1	2	3	4	5	6
Cat: 130011-03		OP: 5/22/15				mL	mL	mL	mL	mL	mL	mL	mL
Lot:235487-34300		EX: 5/22/16				2	5	10	50	20	100	70	100
Source: O2Si						998	995	990	950	80	100	30	NA
Solvent:						1000	1000	1000	1000	100	200	100	100

8270 Full Scan Second Source (SS)						
PREP DATE:	/022/15-L.	EX. 5/29/15				
		Conc.		Date		
Supplier	ID #	µg/mL	Lot #	Code	Exp.Date	µL
o2si	8270 Stock	200	VAR	05/14/15	7/21/15	25
EM Science	Methylene Chloride		54200	11/06/14		75
Supelco	SV Internal	2000	XA10079V-34496	02/27/15	09/30/17	2
				Final Vol.		102

072

02/24/15
csc

GC/MS STANDARD PREPARATION BOOK # 1 PAGE

PREP DATE:	02/24/15					
8270 PAH SIM Continuing Calibration Verification 5ug/ml						
Exp.DATE:	02/31/15					5
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	8270 PAH SIM Stock	10	213931-33759	12/23/14	08/26/15	5
o2si	8270 BN:A Surrogate	VAR	226244-34103	12/23/14	04/10/16	5
EM Science	Methylene Chloride		54200	11/06/14		190
Supelco	SIM Internal Standard	125	XA10079V-34507	12/23/14	09/30/17	4
				Final Vol.		204

02/27/15
csc

8270D PAH SIM Solution, 200 mg/L, 1 ml
110780-01
Lot # 230271 Storage ≤ -10 °C Expiry 8/Jun/2016
Solv: Methylene Chloride
R&D only, not human consumption. Made in the USA

8270D PAH SIM
Lot #: 230271 - 34569
Rec: 1/13/15 MFR exp. 6/8/16

Recieved: 01/31/15
Opened: 02/27/15
Expired: 06/8/16

02/27/15
csc

8270 BN:A (200:400) Surrogate Solution, 1 mL
110004-17
Lot # 237956 Storage ≤ -10 °C Expiry 8/Oct/2016
Solv: Methylene Chloride
R&D only, not human consumption. Made in the USA

8270 BN:A (200:400) Surrogate Solution
Lot #: 237956 - 34559
Rec: 1/13/15 MFR exp. 10/8/16

Recieved: 01/13/15
Opened: 02/27/15
Expired: 10/8/16

NOTEBOOK INSERT LABEL

Semivolatile Internal Std Mix CRM48902
Lot: XA10079V EXP: SEP/2017 STORAGE: REFRIGERATE 2 x 1ml

DATE RECEIVED:

SUPELCO
Solutions within.
595 North Harrison Road • Bellefonte, PA 16823-0048 USA • Phone 814-359-3441

STANDARD TRANSFER LABEL

Date of Preparation:
Reference Number:
Description:
Exp. Date:
Storage: EXP: SEP/2017 REFRIGERATE

CHEMST

02/27/15
csc

Semivolatile Internal Standard Mix
Lot #: XA10079V - 34496
Rec: 12/11/14 MFR exp. 9/30/17

CRM48902 XA10079V
Semivolatile Internal Std Mix
2000ug/ml in dichloromethane

Recieved: 12/11/14
Opened: 02/27/15
Expired: 09/30/17

_SON009

Organic Extraction Worksheet

Method	8270 Sonication Ext. Methylene c 3550	Extraction Set	150521A	Extraction Method	SON009	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:	NO	
Spiked ID 7			Ext. Start Time:	05/21/15 8:15	
Spiked ID 8			Ext. End Time:	05/21/15 14:45	
			GC Requires Extract By:	**05/29/15 0:00**	

pH1			Water Bath Temp Criteria	79,80 °C
pH2				
pH3				

Spiked By: IC **Date** 05/21/15 **Witnessed By:** DL **Date** 05/21/15

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	150521A Blk				1	1 equip	30.00g E-S5 E-WB7	1	NA	05/21/15 8:15	
2	150521A LCS-1		0.250	1	1	1 equip	30.07g E-S4 E-WB7	1	NA	05/21/15 8:15	
3	AZ16137	AZ16137S01			1	1 equip	30.15g E-S3.1 E-WB7	1	NA	05/21/15 8:15	76380
4	AZ16138	AZ16138S01			1	1 equip	30.26g E-S2 E-WB7	1	NA	05/21/15 8:15	76380
5	AZ16139	AZ16139S01			1	1 equip	30.17g E-S1.2 E-WB7	1	NA	05/21/15 8:15	76380
6	AZ16140	AZ16140S01			1	1 equip	30.04g E-S1.1 E-WB7	1	NA	05/21/15 8:15	76380
7	AZ16141	AZ16141S01			1	1 equip	30.33g E-S6 E-WB7	1	NA	05/21/15 8:15	76380
8	AZ16198	AZ16198S02			1	1 equip	30.11g E-S7 E-WB7	1	NA	05/21/15 8:15	76390
9	AZ16199	AZ16199S01			1	1 equip	30.01g E-S5 E-WB6	1	NA	05/21/15 8:15	76390
10	AZ16201	AZ16201S02			1	1 equip	30.10g E-S4 E-WB6	1	NA	05/21/15 8:15	76390
11	AZ16202	AZ16202S01			1	1 equip	30.18g E-S3.1 E-WB6	1	NA	05/21/15 8:15	76390
12	AZ16286	AZ16286S02			1	1 equip	30.10g E-S2 E-WB6	1	NA	05/21/15 8:15	76414
13	AZ16400	AZ16400S02			1	1 equip	30.10g E-S1.2 E-WB6	1	NA	05/21/15 8:15	76447
14	AZ16401	AZ16401S01			1	1 equip	30.34g E-S1.1 E-WB6	1	NA	05/21/15 8:15	76447
15	AZ16402	AZ16402S01			1	1 equip	30.17g E-S6 E-WB6	1	NA	05/21/15 8:15	76447

KY 5/21/15

Solvent and Lot#	
B.Na2SO4	XE21E
MC	55006
Filter Paper	9624720
Acidified Na2SO4	4-13-15

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	GA
Date	5/21/15
Time	1600
Refrigerator	Hobart

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

Modified	05/21/15 3:46:20 PM

Reviewed By: Ky **Date** 5/21/15

05/21/15 3:46:41 PM

Ext_ID 90 47831

Injection Log

Directory: M:\YODA\DATA\Y150520

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	5	0520Y005.D	1	SV Tune 5/14/15		05/22/2015 10:28
2	6	0520Y006.D	1	5ug/ml SVOC 05/22/15		05/22/2015 10:46
3	7	0520Y007.D	1	10ug/ml SVOC 05/22/15		05/22/2015 11:15
4	8	0520Y008.D	1	20ug/ml SVOC 05/22/15		05/22/2015 11:45
5	9	0520Y009.D	1	40ug/ml SVOC 05/22/15		05/22/2015 12:14
6	10	0520Y010.D	1	50ug/ml SVOC 05/22/15		05/22/2015 12:43
7	11	0520Y011.D	1	60ug/ml SVOC 05/22/15		05/22/2015 13:12
8	12	0520Y012.D	1	80ug/ml SVOC 05/22/15		05/22/2015 13:42
9	13	0520Y013.D	1	100ug/ml SVOC 05/22/15		05/22/2015 14:11
10	14	0520Y014.D	1	50ug/ml SVOC SS 05/22/15		05/22/2015 14:41
11	47	0520Y047.D	1	SV TUNE 5/14/15		05/28/2015 10:36
12	48	0520Y048.D	1	50ug/ml SVOC 05/28/15		05/28/2015 10:54
13	55	0520Y055.D	33.33333	150521A BLK 1/30.00G	soil	05/28/2015 14:49
14	56	0520Y056.D	33.25574	150521A LCS-1 1/30.07G	soil	05/28/2015 15:18
15	62	0520Y062.D	332.11558	AZ16198S02 1/30.11G x10	soil	05/28/2015 18:15
16	63	0520Y063.D	333.22226	AZ16199S01 1/30.01G x10	soil	05/28/2015 18:45
17	64	0520Y064.D	332.22591	AZ16201S02 1/30.10G x10	soil	05/28/2015 19:15
18	65	0520Y065.D	33.13453	AZ16202S01 1/30.18G	soil	05/28/2015 19:44

EPA METHOD 8270D
Polynuclear Aromatic Hydrocarbons

APPL, INC.

EPA METHOD 8270D
Polynuclear Aromatic Hydrocarbons
QC Summary

APPL, INC.

Method Blank
EPA 8270D LL SOILS

Blank Name/QCG: **150521S-16137 - 197621**
Batch ID: #SIMDD-150521A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-METHYLNAPHTHALENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	ACENAPHTHENE	0.0017 U	0.005	0.0017	0.0010	mg/kg	5/21/2015	5/27/2015
BLANK	ACENAPHTHYLENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	ANTHRACENE	0.0017 U	0.005	0.0017	0.0008	mg/kg	5/21/2015	5/27/2015
BLANK	BENZ (A) ANTHRACENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	BENZO (A) PYRENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	BENZO (B) FLUORANTHENE	0.0017 U	0.005	0.0017	0.0011	mg/kg	5/21/2015	5/27/2015
BLANK	BENZO (G,H,I) PERYLENE	0.0017 U	0.005	0.0017	0.0013	mg/kg	5/21/2015	5/27/2015
BLANK	BENZO (K) FLUORANTHENE	0.0017 U	0.005	0.0017	0.0010	mg/kg	5/21/2015	5/27/2015
BLANK	CHRYSENE	0.0017 U	0.005	0.0017	0.0008	mg/kg	5/21/2015	5/27/2015
BLANK	DIBENZ (A,H) ANTHRACENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	FLUORANTHENE	0.0017 U	0.005	0.0017	0.0012	mg/kg	5/21/2015	5/27/2015
BLANK	FLUORENE	0.0017 U	0.005	0.0017	0.0010	mg/kg	5/21/2015	5/27/2015
BLANK	INDENO (1,2,3-CD) PYRENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	NAPHTHALENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	PHENANTHRENE	0.0017 U	0.005	0.0017	0.0011	mg/kg	5/21/2015	5/27/2015
BLANK	PYRENE	0.0017 U	0.005	0.0017	0.0012	mg/kg	5/21/2015	5/27/2015
BLANK	SURROGATE: 2-FLUORBIPHENY	63.5	45-105			%	5/21/2015	5/27/2015
BLANK	SURROGATE: NITROBENZENE-	44.2	35-100			%	5/21/2015	5/27/2015
BLANK	SURROGATE: TERPHENYL-D14 (	106	30-125			%	5/21/2015	5/27/2015

Quant Method: P0518-42.M
Run #: 0515L235
Instrument: Linus
Sequence: L150515
Initials: DA

GC SC-Blank-REG MDLs
Printed: 6/2/2015 2:17:02 PM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 5/27/2015

Matrix: SOIL Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: 2-FLUORBIPHENYL (S)			SURROGATE: NITROBENZENE-D5 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
150521A-BLK	Blank	45-105	63.5		35-100	44.2	
150521A-LCS	Lab Control Spike	45-105	64.5		35-100	46.9	
AZ16198	S67-SS036-0001	45-105	49.9		35-100	120	#
AZ16199	S67-SB036-0405	45-105	44.2	#	35-100	104	#
AZ16201	S67-SS037-0001	45-105	76.5		35-100	131	#
AZ16202	S67-SB037-0607	45-105	39.6	#	35-100	53.7	

Comments: Batch: #SIMDD-150521A

= Recovery outside of Control Limits on Sample.

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 5/27/2015

Matrix: SOIL Instrument: Linus

APPL ID.	Client Sample No.	SURROGATE: TERPHENYL-D14 (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
150521A-BLK	Blank	30-125	106				
150521A-LCS	Lab Control Spike	30-125	107				
AZ16198	S67-SS036-0001	30-125	61.8				
AZ16199	S67-SB036-0405	30-125	66.8				
AZ16201	S67-SS037-0001	30-125	116				
AZ16202	S67-SB037-0607	30-125	77.9				

Comments: Batch: #SIMDD-150521A

Laboratory Control Spike Recovery
EPA 8270D LL SOILS

APPL ID: **150521S-16137 LCS - 197621**
Batch ID: #SIMDD-150521A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
2-METHYLNAPHTHALENE	0.133	0.0883	66.4	45-105
ACENAPHTHENE	0.133	0.127	95.5	45-110
ACENAPHTHYLENE	0.133	0.112	84.2	45-105
ANTHRACENE	0.133	0.126	94.7	55-105
BENZ (A) ANTHRACENE	0.133	0.139	105	50-110
BENZO (A) PYRENE	0.133	0.132	99.2	50-110
BENZO (B) FLUORANTHENE	0.133	0.140	105	45-115
BENZO (G,H,I) PERYLENE	0.133	0.135	102	40-125
BENZO (K) FLUORANTHENE	0.133	0.132	99.2	45-125
CHRYSENE	0.133	0.144	108	55-110
DIBENZ (A,H) ANTHRACENE	0.133	0.136	102	40-125
FLUORANTHENE	0.133	0.127	95.5	55-115
FLUORENE	0.133	0.120	90.2	50-110
INDENO (1,2,3-CD) PYRENE	0.133	0.145	109	40-120
NAPHTHALENE	0.133	0.0797	59.9	40-105
PHENANTHRENE	0.133	0.120	90.2	50-110
PYRENE	0.133	0.146	110	45-125
SURROGATE: 2-FLUORBIPHENYL (S)	0.0667	0.043	64.5	45-105
SURROGATE: NITROBENZENE-D5 (S)	0.0667	0.0313	46.9	35-100
SURROGATE: TERPHENYL-D14 (S)	0.0667	0.0711	107	30-125

Comments: _____

Primary	SPK
Quant Method :	P0518-42.M
Extraction Date :	5/21/2015
Analysis Date :	5/27/2015
Instrument :	Linus
Run :	0515L236
Initials :	DA

Printed: 6/2/2015 2:16:47 PM
APPL Standard LCS

8270D-LL

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 5/27/2015

Matrix: SOIL Instrument: Linus

Blank ID: 150521A-BLK Time Analyzed: 1917

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150521A-BLK	Blank	0515L235	5/27/2015 1917
150521A-LCS	Lab Control Spike	0515L236	5/27/2015 1942
AZ16198	S67-SS036-0001	0515L242	5/27/2015 2216
AZ16199	S67-SB036-0405	0515L243	5/27/2015 2241
AZ16201	S67-SS037-0001	0515L244	5/27/2015 2307
AZ16202	S67-SB037-0607	0515L245	5/27/2015 2332

Comments: Batch: #SIMDD-150521A

Printed: 6/2/2015 2:16:43 PM

Form 4, Blank Summary

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 0515L002.D → 76390
Matrix: Soil mp6-18-15
ID: SV Tune 05/14/15

SDG No: mp6-18-15 ~~Linus~~ 76390
Date Analyzed: 5/15/2015
Instrument: Linus
Time Analyzed: 16:56

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.1ug/ml PAH 05/15/1	0515L003.D	5/15/2015 17:15
2		0.2ug/ml PAH	0515L004.D	5/15/2015 17:41
3		0.5ug/ml PAH	0515L005.D	5/15/2015 18:06
4		1.0ug/ml PAH	0515L006.D	5/15/2015 18:32
5		5.0ug/ml PAH	0515L007.D	5/15/2015 18:58
6		10ug/ml PAH	0515L008.D	5/15/2015 19:23
7		50ug/ml PAH	0515L009.D	5/15/2015 19:49
8		100ug/ml PAH	0515L010.D	5/15/2015 20:14
9		5.0ug/ml PAH SS 05/1	0515L011.D	5/15/2015 20:40
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60% of mass 198	36.1
68	0 - 2.05% of mass 69	1.4
70	0 - 2% of mass 69	0.5
127	39.5 - 60% of mass 198	46.9
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.8
275	10 - 30% of mass 198	20.7
365	1 - 100% of mass 198	2.0
441	0.01 - 100% of mass 443	76.6
442	40 - 150% of mass 198	69.5
443	17 - 23% of mass 442	19.2

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 76390
Matrix: Soil
ID: SV TUNE 5/14/15

SDG No: 76390
Date Analyzed: 5/27/2015
Instrument: Linus
Time Analyzed: 15:59

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		5.0ug/ml PAH 5/26/15	0515L228.D	5/27/2015 16:17
2	Blank	150521A BLK 1/30.00G	0515L235.D	5/27/2015 19:17
3	Lab Control Spike	150521A LCS-1 1/30.0	0515L236.D	5/27/2015 19:42
4	S67-SS036-0001	AZ16198S02 1/30.19G	0515L242.D	5/27/2015 22:16
5	S67-SB036-0405	AZ16199S01 1/30.11G	0515L243.D	5/27/2015 22:41
6	S67-SS037-0001	AZ16201S02 1/30.11G	0515L244.D	5/27/2015 23:07
7	S67-SB037-0607	AZ16202S01 1/30.02G	0515L245.D	5/27/2015 23:32
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
51	29.95 - 60% of mass 198	35.0
68	0 - 2.05% of mass 69	1.5
70	0 - 2% of mass 69	0.6
127	39.5 - 60% of mass 198	45.4
197	0 - 1% of mass 198	0.0
198	100 - 100% of mass 198	100.0
199	5 - 9% of mass 198	6.6
275	10 - 30% of mass 198	22.2
365	1 - 100% of mass 198	2.1
441	0.01 - 100% of mass 443	77.8
442	40 - 150% of mass 198	78.3
443	17 - 23% of mass 442	19.3

8A

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 76390

Lab File ID (Standard): 0515L009.D Date Analyzed: 05/15/15

Instrument ID: Linus Time Analyzed: 19:49

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	9907	6.16	4610	8.16	7949	9.88
	UPPER LIMIT	19814	6.66	9220	8.66	15898	10.38
	LOWER LIMIT	4954	5.66	2305	7.66	3975	9.38
	SAMPLE NO.						
01	5.0ug/ml PAH 5/26/15	7511	6.16	3616	8.17	6351	9.90
02	AZ16198S02 1/30.19G	8960	6.16	4291	8.17	7786	9.91
03	AZ16199S01 1/30.11G	11404	6.16	5618	8.17	9957	9.90
04	AZ16201S02 1/30.11G	9240	6.16	4185	8.17	7510	9.91
05	AZ16202S01 1/30.02G	10301	6.16	4795	8.17	8214	9.90
06							
07							
08							
09							
10							
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.: 76390

Lab File ID (Standard): 0515L009.D Date Analyzed: 05/15/15

Instrument ID: Linus Time Analyzed: 19:49

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

		Chrysene-D12(IS)		Perylene-D12(IS)			
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	8664	12.96	5437	14.57		
	UPPER LIMIT	17328	13.46	10874	15.07		
	LOWER LIMIT	4332	12.46	2719	14.07		
	SAMPLE NO.						
01	5.0ug/ml PAH 5/26/15	6697	12.97	4324	14.59		
02	AZ16198S02 1/30.19G	8629	12.97	5850	14.59		
03	AZ16199S01 1/30.11G	10387	12.97	6919	14.58		
04	AZ16201S02 1/30.11G	8207	12.97	5723	14.59		
05	AZ16202S01 1/30.02G	8755	12.97	5927	14.59		
06							
07							
08							
09							
10							
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 SOILS

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: 76390

Sample ID: S67-SS036-0001

APPL ID: AZ16198

Sample Collection Date: 5/8/2015

QCG: #SIMDD-150521A-197621

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.6 Percent Moisture.)								
8270D-LL	2-METHYLNAPHTHALENE	0.036 J	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	ACENAPHTHENE	0.0210 U	0.061	0.0210	0.0120	mg/kg	5/21/2015	5/27/2015
8270D-LL	ACENAPHTHYLENE	0.12	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	ANTHRACENE	0.062	0.061	0.0210	0.0098	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZ (A) ANTHRACENE	0.14	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (A) PYRENE	0.043 J	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (B) FLUORANTHENE	0.12	0.061	0.0210	0.0140	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (G,H,I) PERYLENE	0.073	0.061	0.0210	0.0160	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (K) FLUORANTHENE	0.32	0.061	0.0210	0.0120	mg/kg	5/21/2015	5/27/2015
8270D-LL	CHRYSENE	0.12	0.061	0.0210	0.0098	mg/kg	5/21/2015	5/27/2015
8270D-LL	DIBENZ (A,H) ANTHRACENE	0.063	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	FLUORANTHENE	0.18	0.061	0.0210	0.0150	mg/kg	5/21/2015	5/27/2015
8270D-LL	FLUORENE	0.040 J	0.061	0.0210	0.0120	mg/kg	5/21/2015	5/27/2015
8270D-LL	INDENO (1,2,3-CD) PYRENE	0.15	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	NAPHTHALENE	0.013 J	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	PHENANTHRENE	0.13	0.061	0.0210	0.0140	mg/kg	5/21/2015	5/27/2015
8270D-LL	PYRENE	0.21	0.061	0.0210	0.0150	mg/kg	5/21/2015	5/27/2015
8270D-LL	SURROGATE: 2-FLUORBIPHENYL (S)	49.9	45-105			%	5/21/2015	5/27/2015
8270D-LL	SURROGATE: NITROBENZENE-D5 (S)	120 #	35-100			%	5/21/2015	5/27/2015
8270D-LL	SURROGATE: TERPHENYL-D14 (S)	61.8	30-125			%	5/21/2015	5/27/2015

J = Estimated value.
# = Recovery (or RPD) is outside QC limits.

Quant Method:	P0518-42.M
Run #:	0515L242
Instrument:	Linus
Sequence:	L150515
Dilution Factor:	10
Initials:	DA

Printed: 6/2/2015 2:16:39 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L150515\0515L242.D Vial: 42
Acq On : 27 May 15 22:16 Operator: MA
Sample : AZ16198S02 1/30.19G df10 Inst : Linus
Misc : soil Multiplr: 331.24

Quant Time: May 28 9:21 2015 Quant Results File: P0518-42.RES

Quant Method : M:\LINUS\DATA\L150515\P0518-42.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed May 27 13:24:37 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQ

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	6.16	136	8960	2.50	ppb		0.00
6) Acenaphthene-D10(IS)	8.17	164	4291	2.50	ppb		0.01
11) Phenanthrene-D10(IS)	9.91	188	7786	2.50	ppb		0.01
15) Chrysene-D12(IS)	12.97	240	8629	2.50	ppb		0.01
21) Perylene-D12(IS)	14.59	264	5850	2.50	ppb		0.01
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	5.37	82	149	99.49	ppb		0.01
Spiked Amount 82.809			Recovery = 120.138%				
7) Surrogate Recovery (FBP)	7.41	172	338	41.30	ppb		0.01
Spiked Amount 82.809			Recovery = 49.870%				
17) Surrogate Recovery (TPH)	11.77	244	428	51.16	ppb		0.00
Spiked Amount 82.809			Recovery = 61.778%				
Target Compounds							Qvalue
3) Naphthalene	6.18	128	115	10.87	ppb		96
4) 2-Methylnaphthalene	6.98	142	47	29.20	ppb		90
5) 1-Methylnaphthalene	7.08	142	57	8.54	ppb		90
8) Acenaphthylene	8.01	152	203	101.60	ppb		97
9) Acenaphthene	8.21	154	60	9.15	ppb		89
10) Fluorene	8.82	166	93	32.95	ppb		98
12) Phenanthrene	9.93	178	1516	104.53	ppb		98
13) Anthracene	9.99	178	516	50.81	ppb		99
14) Fluoranthene	11.30	202	2770	146.97	ppb		98
16) Pyrene	11.56	202	2479	167.30	ppb		98
18) Benz (a) anthracene	12.96	228	1357	113.91	ppb		93
19) Chrysene	13.00	228	1258	101.29	ppb	#	96
20) Indeno (1,2,3-cd) pyrene	16.09	276	679	125.70	ppb	#	95
22) Benzo (b) fluoranthene	14.15	252	2069	97.00	ppb		95
23) Benzo (k) fluoranthene	14.15	252	2069	262.53	ppb	#	91
24) Benzo (a) pyrene	14.47	252	753	35.32	ppb		89
25) Dibenz (a,h) anthracene	16.12	278	209	51.25	ppb		88
26) Benzo (g,h,i) perylene	16.53	276	725	59.81	ppb		94

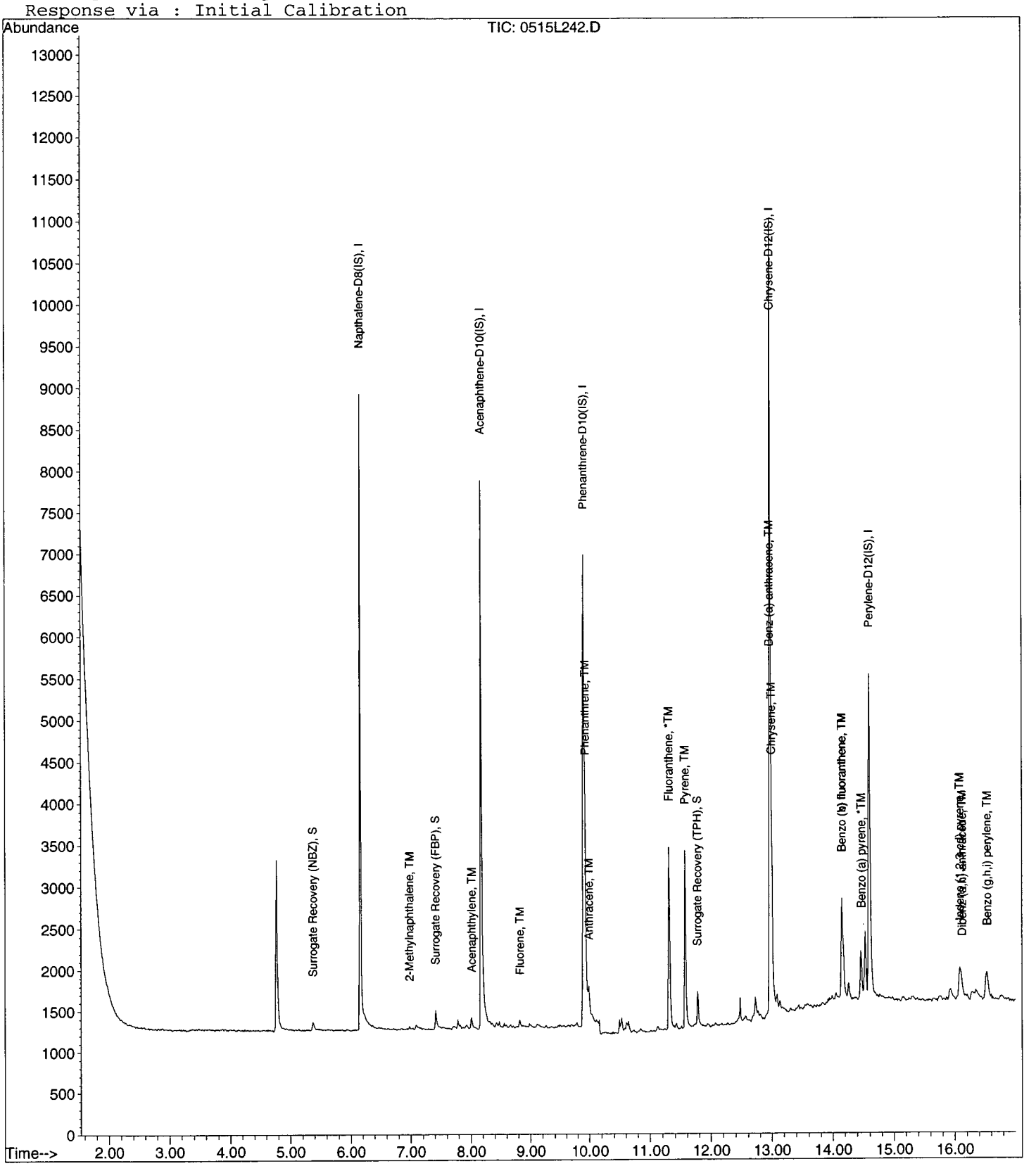
(#) = qualifier out of range (m) = manual integration

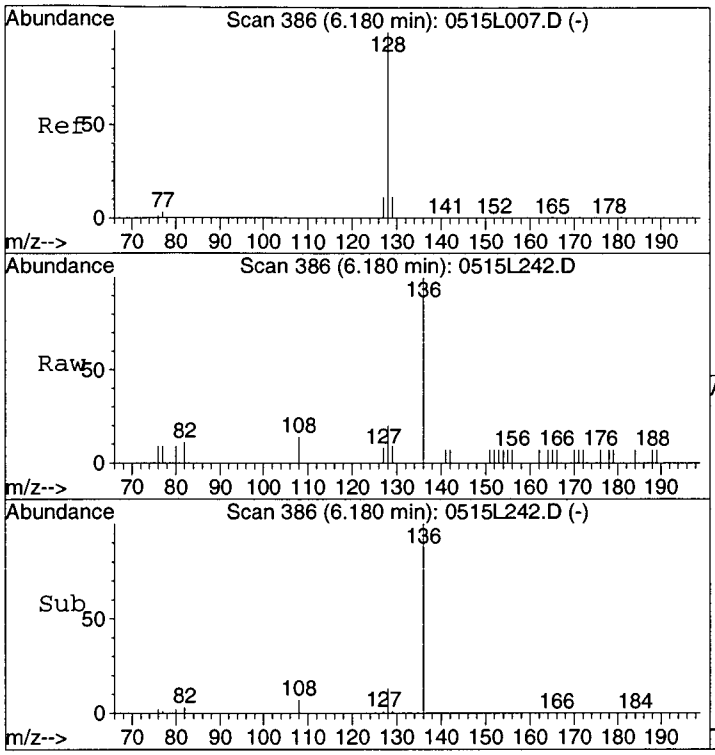
Quantitation Report

Data File : M:\LINUS\DATA\L150515\0515L242.D Vial: 42
Acq On : 27 May 15 22:16 Operator: MA
Sample : AZ16198S02 1/30.19G df10 Inst : Linus
Misc : soil Multiplr: 331.24

Quant Time: May 28 9:21 2015 Quant Results File: P0518-42.RES

Method : M:\LINUS\DATA\L150515\P0518-42.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed May 27 13:24:37 2015
Response via : Initial Calibration

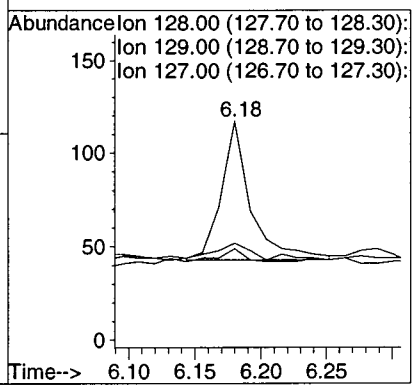


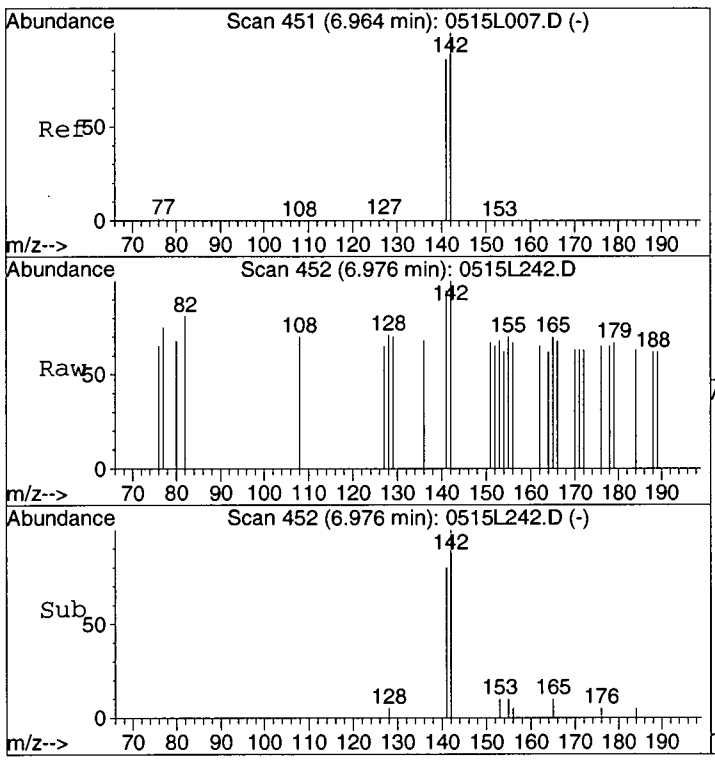


#3
Naphthalene
Concen: 10.87 ppb
RT: 6.18 min Scan# 386
Delta R.T. 0.00 min
Lab File: 0515L242.D
Acq: 27 May 15 22:16

Tgt Ion:128 Resp: 115

Ion	Ratio	Lower	Upper
128	100		
129	12.3	7.8	14.6
127	9.6	8.0	14.8

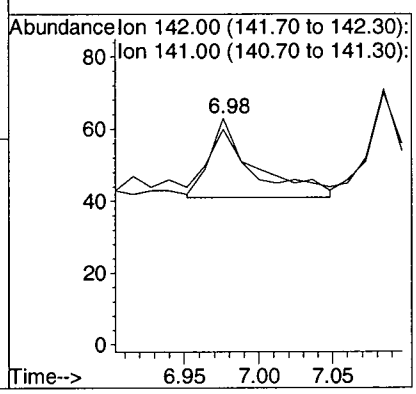


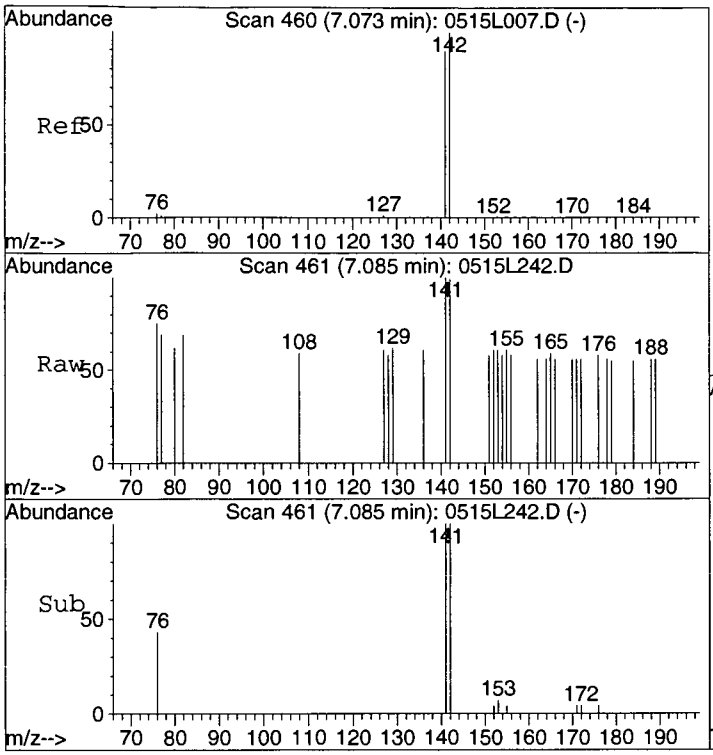


#4
2-Methylnaphthalene
Concen: 29.20 ppb
RT: 6.98 min Scan# 452
Delta R.T. 0.01 min
Lab File: 0515L242.D
Acq: 27 May 15 22:16

Tgt Ion:142 Resp: 47

Ion	Ratio	Lower	Upper
142	100		
141	76.2	60.1	111.5

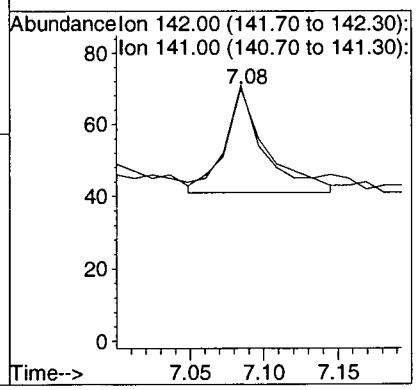


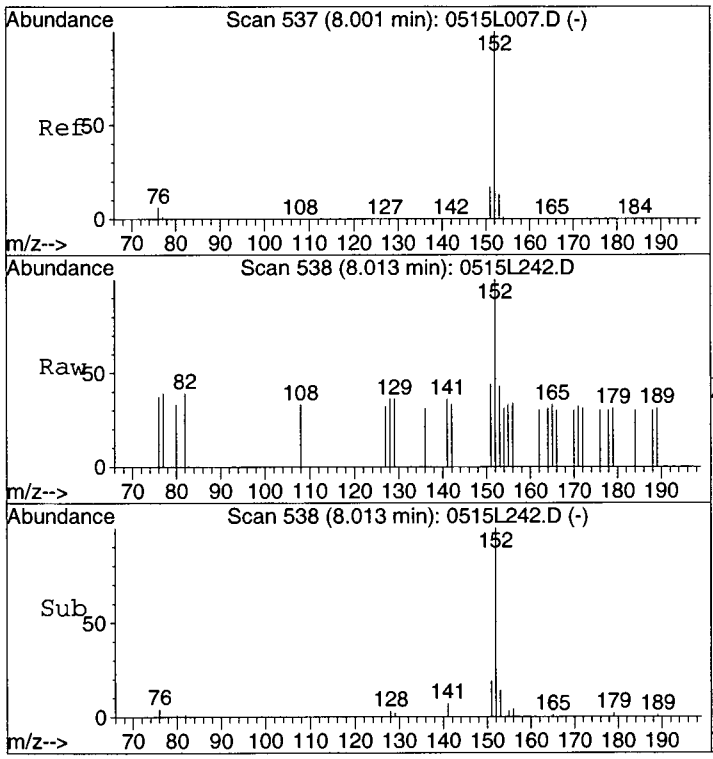


#5
1-Methylnaphthalene
Concen: 8.54 ppb
RT: 7.08 min Scan# 461
Delta R.T. 0.01 min
Lab File: 0515L242.D
Acq: 27 May 15 22:16

Tgt Ion:142 Resp: 57

Ion	Ratio	Lower	Upper
142	100		
141	100.0	63.1	117.3

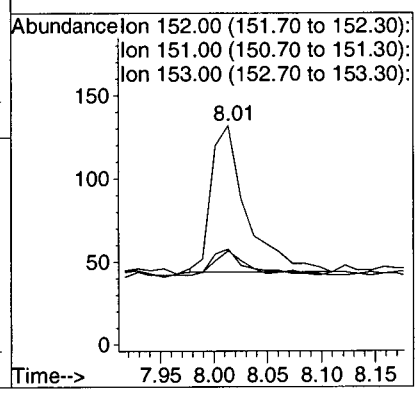


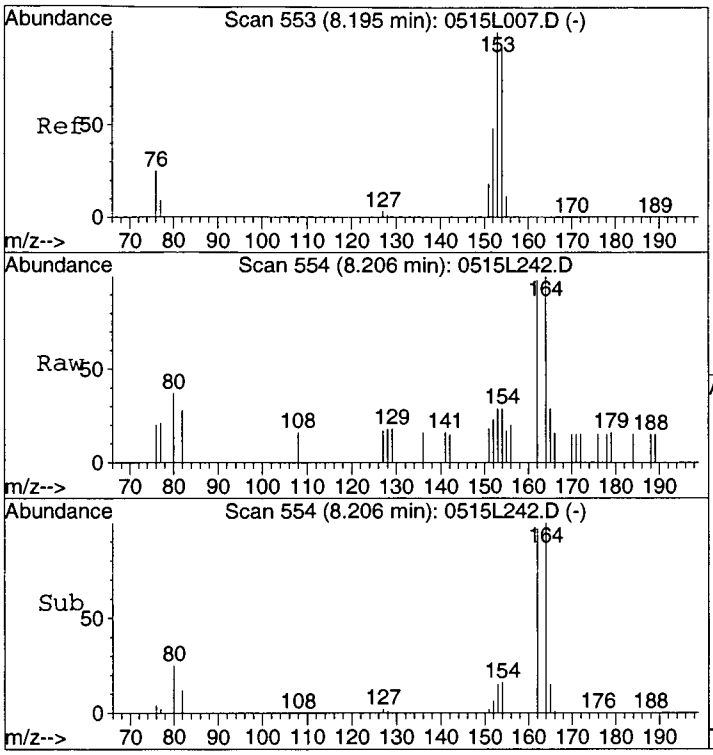


#8
Acenaphthylene
Concen: 101.60 ppb
RT: 8.01 min Scan# 538
Delta R.T. 0.01 min
Lab File: 0515L242.D
Acq: 27 May 15 22:16

Tgt Ion:152 Resp: 203

Ion	Ratio	Lower	Upper
152	100		
151	18.2	12.1	22.5
153	14.8	9.2	17.2

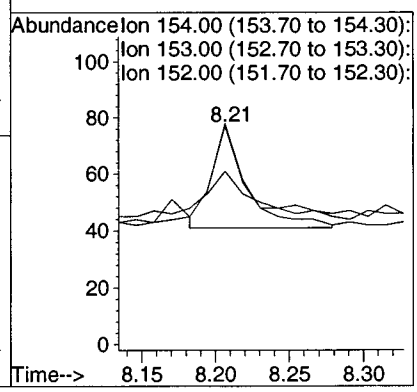


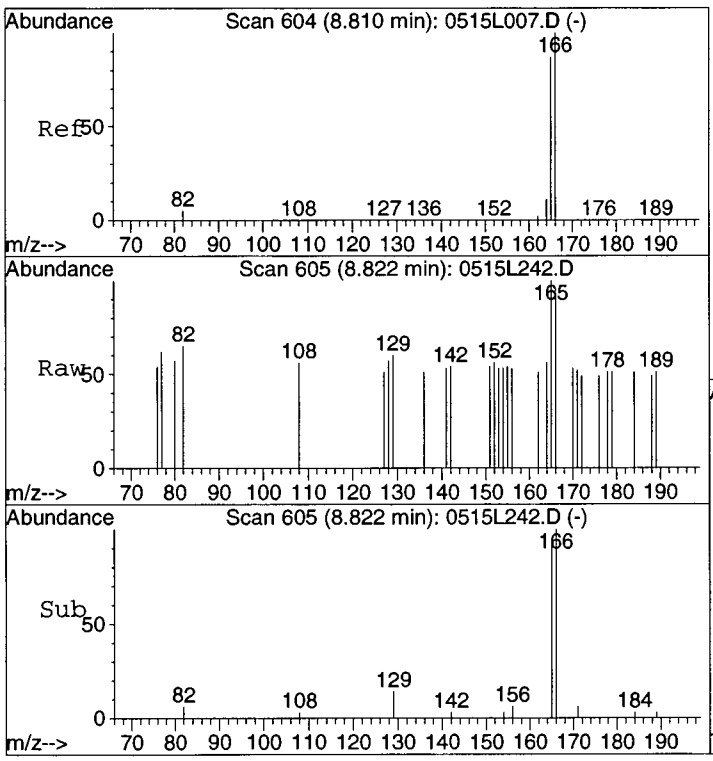


#9
Acenaphthene
Concen: 9.15 ppb
RT: 8.21 min Scan# 554
Delta R.T. 0.01 min
Lab File: 0515L242.D
Acq: 27 May 15 22:16

Tgt Ion:154 Resp: 60

Ion	Ratio	Lower	Upper
154	100		
153	94.3	74.9	139.1
152	45.7	35.9	66.7

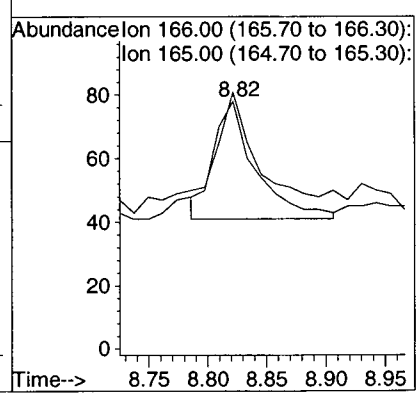


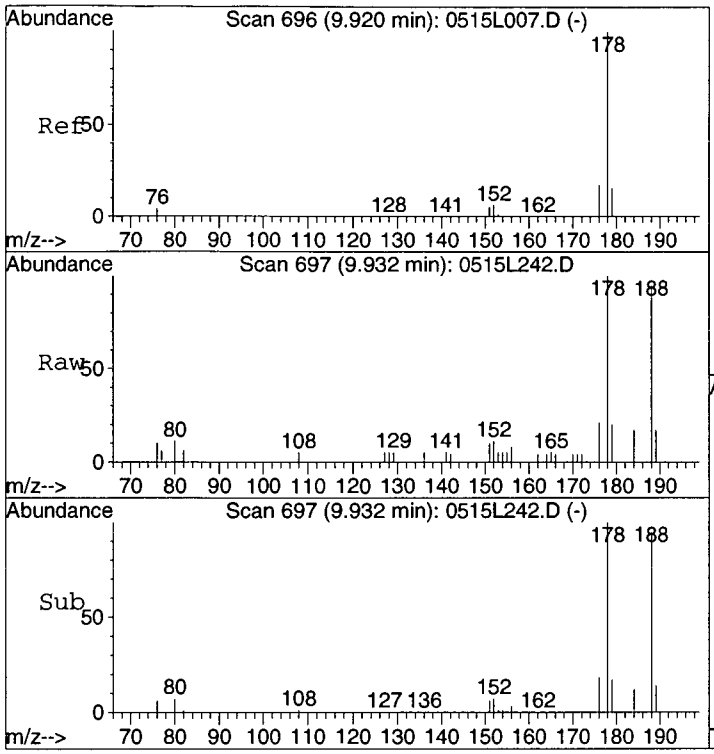


#10
Fluorene
Concen: 32.95 ppb
RT: 8.82 min Scan# 605
Delta R.T. 0.01 min
Lab File: 0515L242.D
Acq: 27 May 15 22:16

Tgt Ion:166 Resp: 93

Ion	Ratio	Lower	Upper
166	100		
165	88.6	60.7	112.7

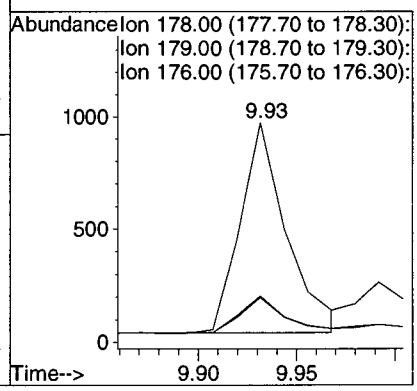


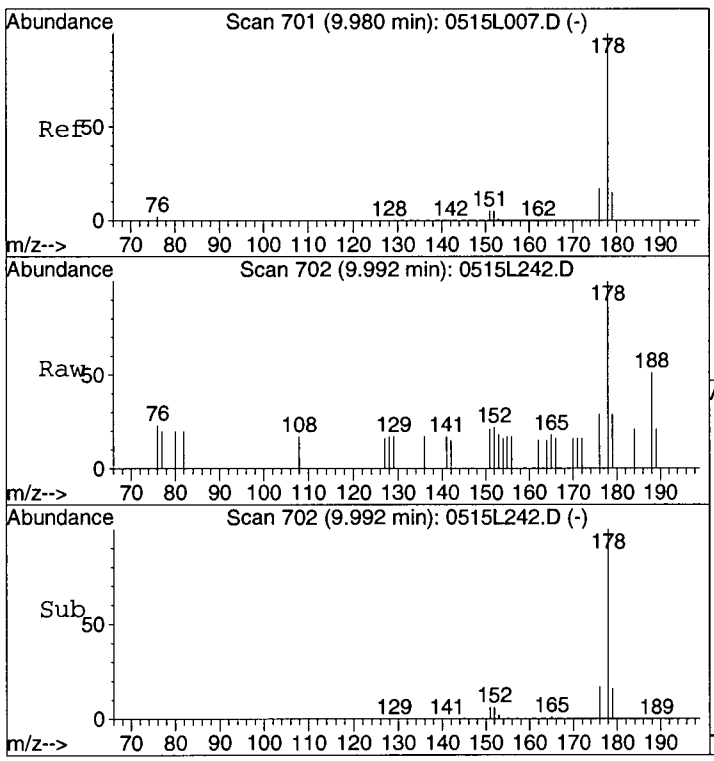


#12
Phenanthrene
Concen: 104.53 ppb
RT: 9.93 min Scan# 697
Delta R.T. 0.01 min
Lab File: 0515L242.D
Acq: 27 May 15 22:16

Tgt Ion:178 Resp: 1516

Ion	Ratio	Lower	Upper
178	100		
179	16.5	10.6	19.6
176	17.7	12.2	22.6

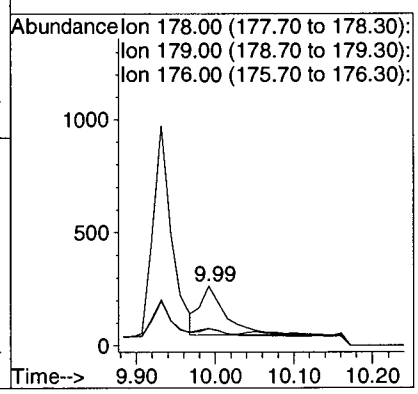


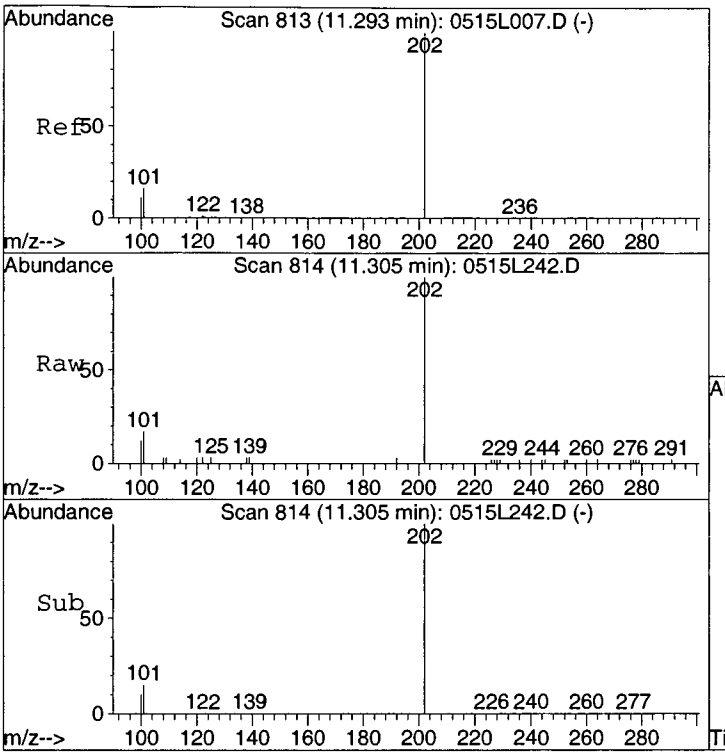


#13
Anthracene
Concen: 50.81 ppb
RT: 9.99 min Scan# 702
Delta R.T. 0.01 min
Lab File: 0515L242.D
Acq: 27 May 15 22:16

Tgt Ion:178 Resp: 516

Ion	Ratio	Lower	Upper
178	100		
179	14.7	10.5	19.5
176	16.5	12.0	22.4

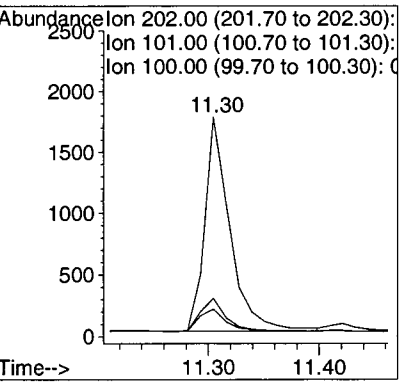


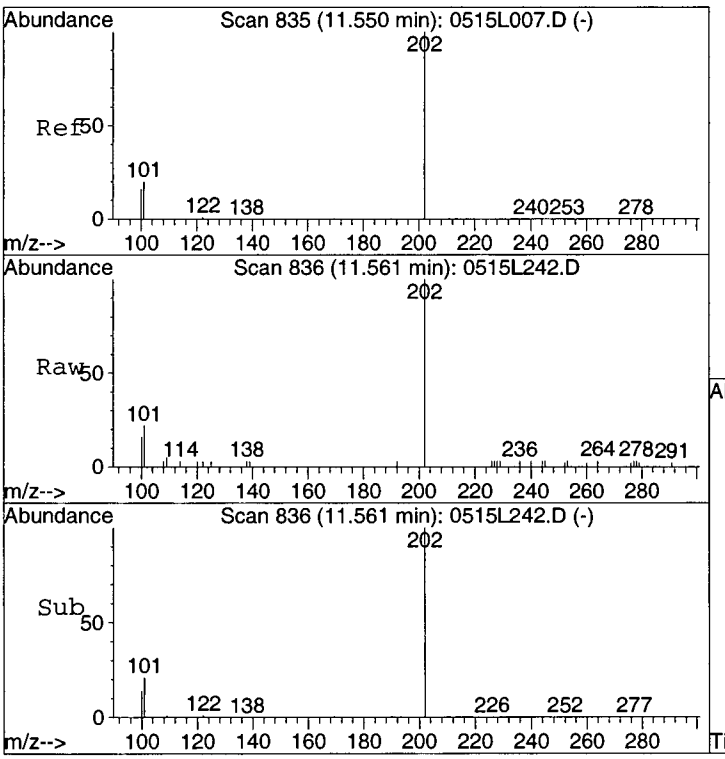


#14
Fluoranthene
Concen: 146.97 ppb
RT: 11.30 min Scan# 814
Delta R.T. 0.01 min
Lab File: 0515L242.D
Acq: 27 May 15 22:16

Tgt Ion:202 Resp: 2770

Ion	Ratio	Lower	Upper
202	100		
101	15.2	11.3	20.9
100	10.4	7.8	14.6

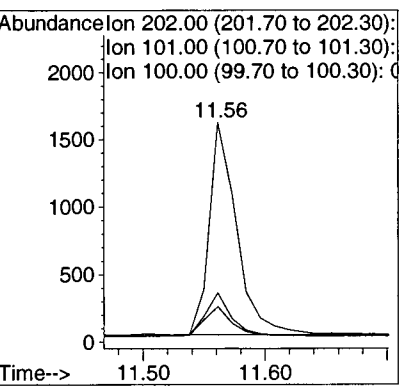


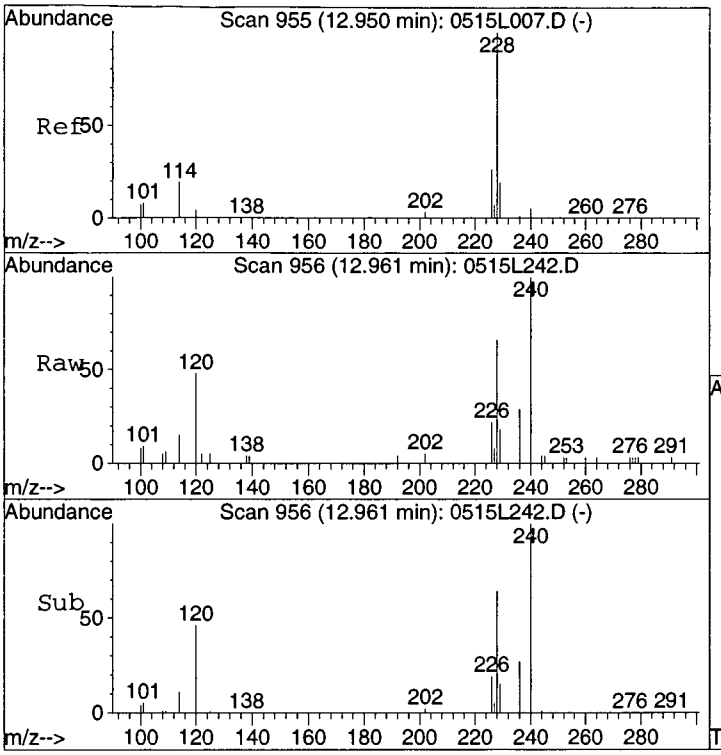


#16
Pyrene
Concen: 167.30 ppb
RT: 11.56 min Scan# 836
Delta R.T. 0.01 min
Lab File: 0515L242.D
Acq: 27 May 15 22:16

Tgt Ion:202 Resp: 2479

Ion	Ratio	Lower	Upper
202	100		
101	20.2	14.3	26.5
100	14.0	10.9	20.3

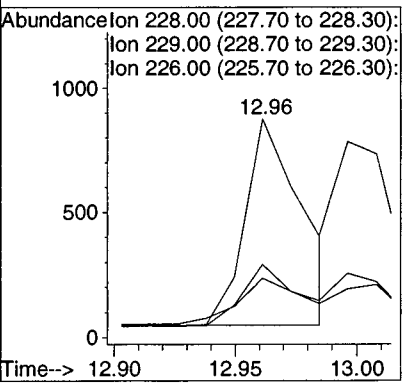


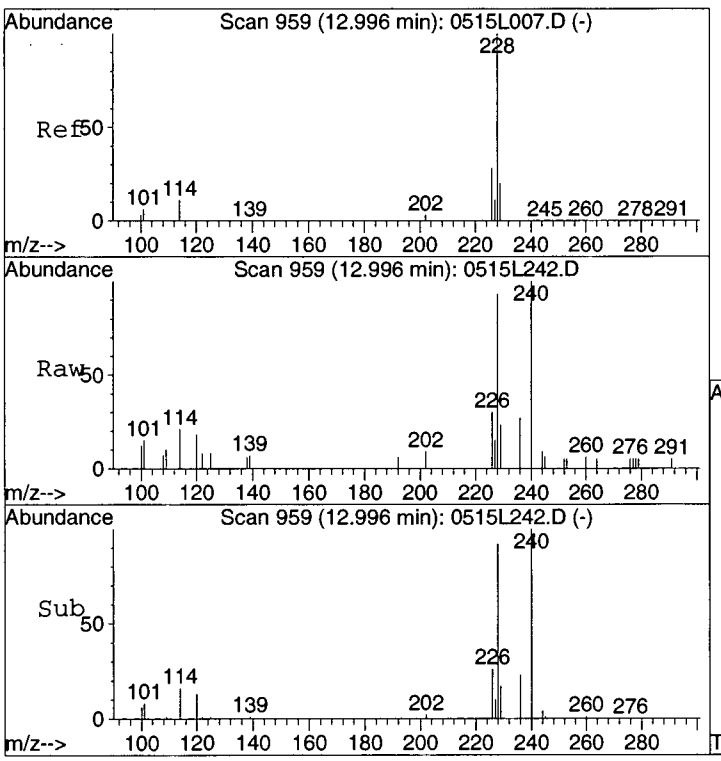


#18
Benz (a) anthracene
Concen: 113.91 ppb
RT: 12.96 min Scan# 956
Delta R.T. 0.01 min
Lab File: 0515L242.D
Acq: 27 May 15 22:16

Tgt Ion:228 Resp: 1357

Ion	Ratio	Lower	Upper
228	100		
229	21.7	13.1	24.3
226	29.7	18.3	33.9

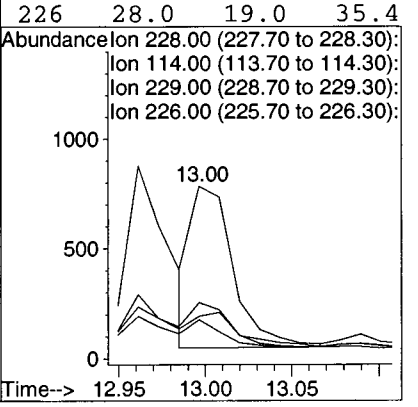


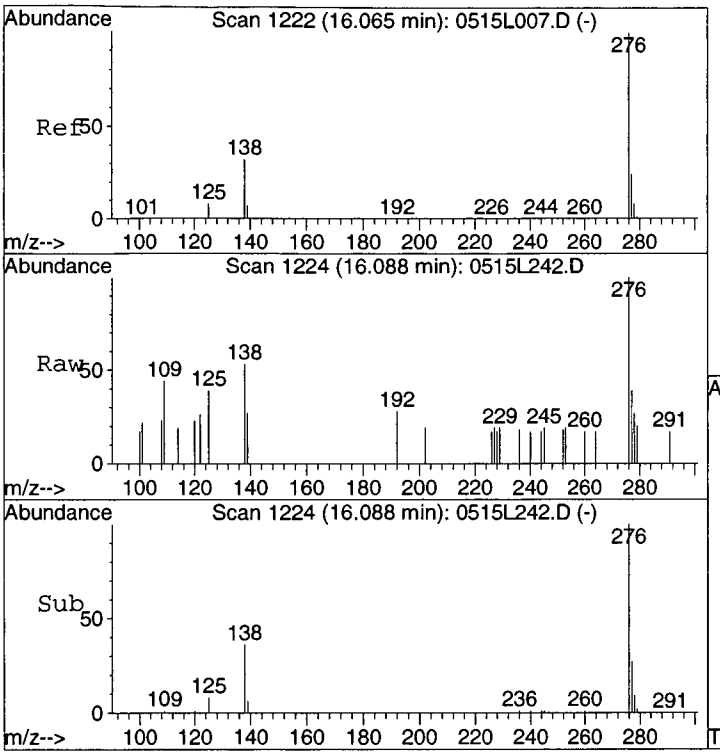


#19
Chrysene
Concen: 101.29 ppb
RT: 13.00 min Scan# 959
Delta R.T. -0.00 min
Lab File: 0515L242.D
Acq: 27 May 15 22:16

Tgt Ion:228 Resp: 1258

Ion	Ratio	Lower	Upper
228	100		
114	17.4	8.5	15.9#
229	19.1	14.1	26.1
226	28.0	19.0	35.4

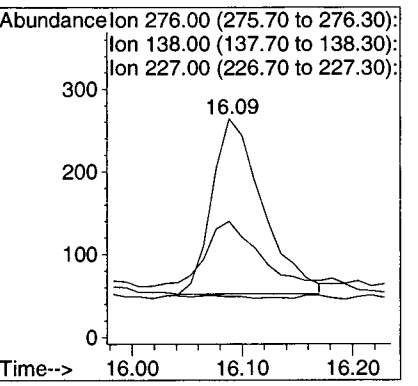


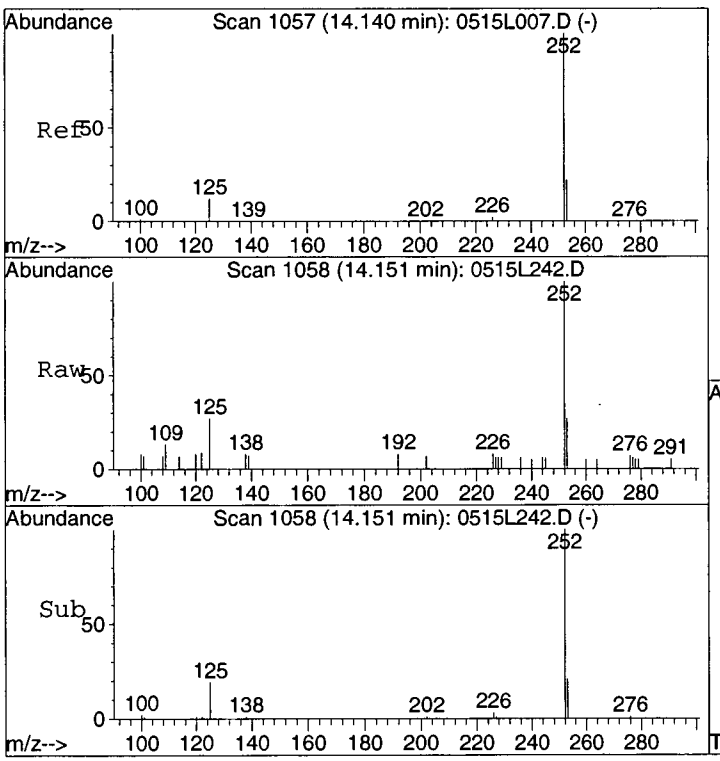


#20
Indeno (1,2,3-cd) pyrene
Concen: 125.70 ppb
RT: 16.09 min Scan# 1224
Delta R.T. 0.02 min
Lab File: 0515L242.D
Acq: 27 May 15 22:16

Tgt Ion:276 Resp: 679

Ion	Ratio	Lower	Upper
276	100		
138	34.9	22.4	41.6
227	0.0	0.1	0.1#

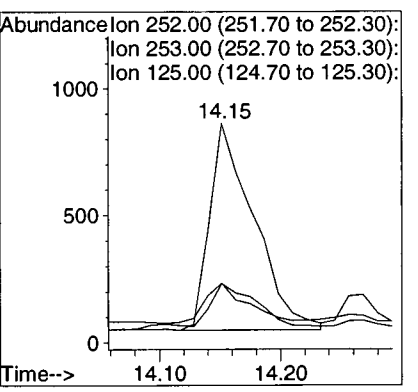


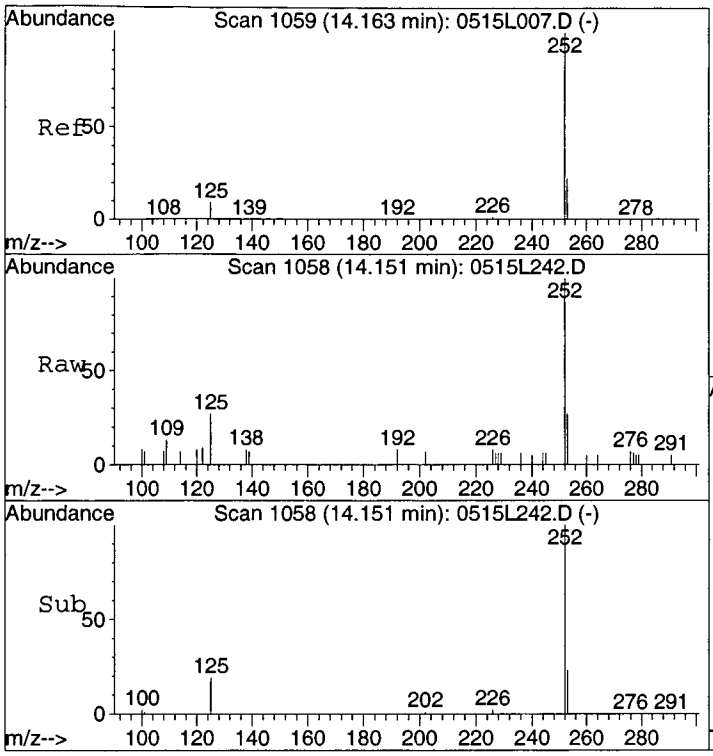


#22
Benzo (b) fluoranthene
Concen: 97.00 ppb
RT: 14.15 min Scan# 1058
Delta R.T. 0.01 min
Lab File: 0515L242.D
Acq: 27 May 15 22:16

Tgt Ion:252 Resp: 2069

Ion	Ratio	Lower	Upper
252	100		
253	20.9	15.4	28.6
125	18.9	10.8	20.0

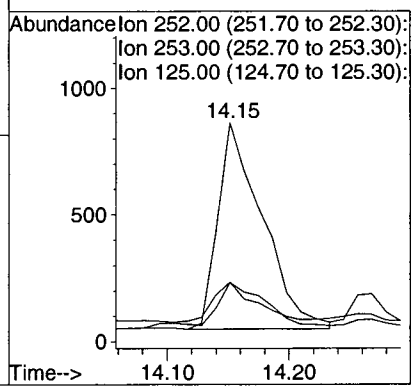


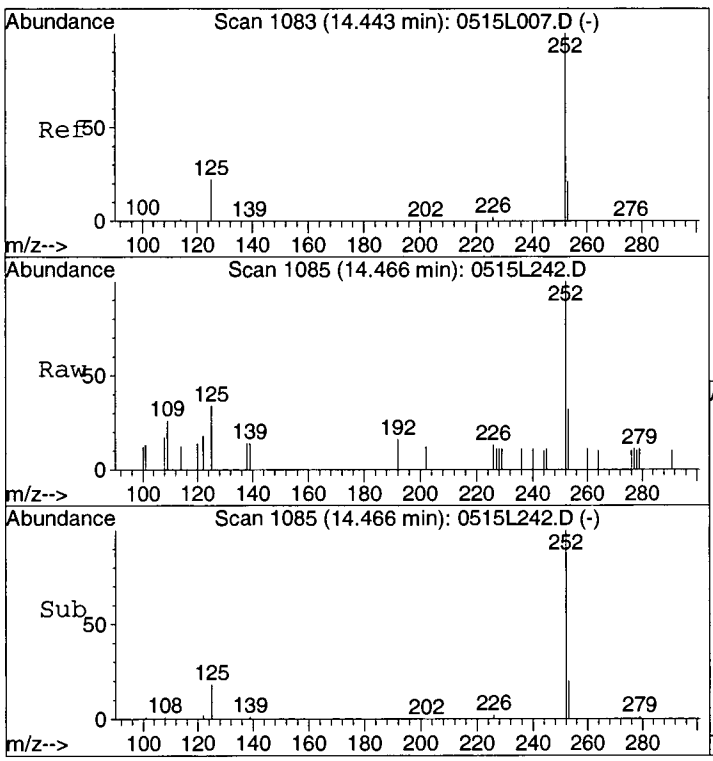


#23
Benzo (k) fluoranthene
Concen: 262.53 ppb
RT: 14.15 min Scan# 1058
Delta R.T. -0.02 min
Lab File: 0515L242.D
Acq: 27 May 15 22:16

Tgt Ion:252 Resp: 2069

Ion	Ratio	Lower	Upper
252	100		
253	20.9	15.6	29.0
125	18.9	7.0	13.0#

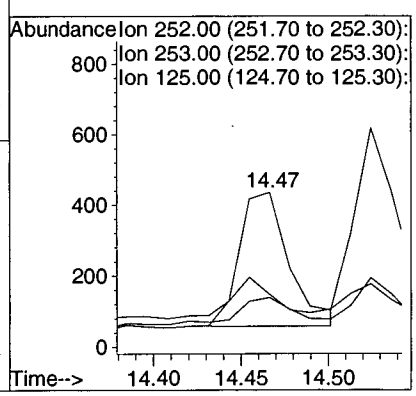


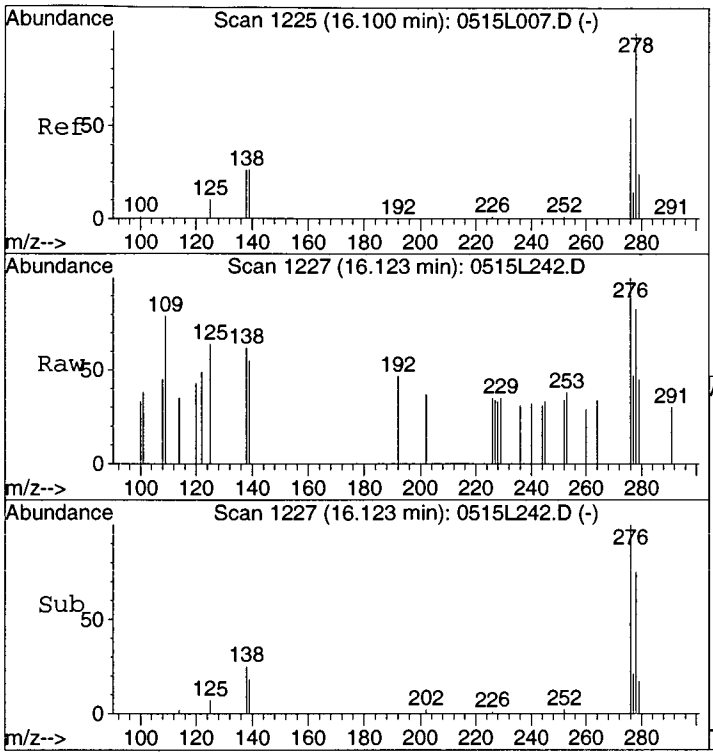


#24
Benzo (a) pyrene
Concen: 35.32 ppb
RT: 14.47 min Scan# 1085
Delta R.T. 0.02 min
Lab File: 0515L242.D
Acq: 27 May 15 22:16

Tgt Ion:252 Resp: 753

Ion	Ratio	Lower	Upper
252	100		
253	17.5	15.0	27.8
125	15.9	15.7	29.1

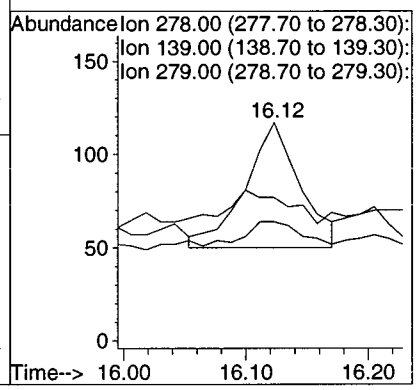


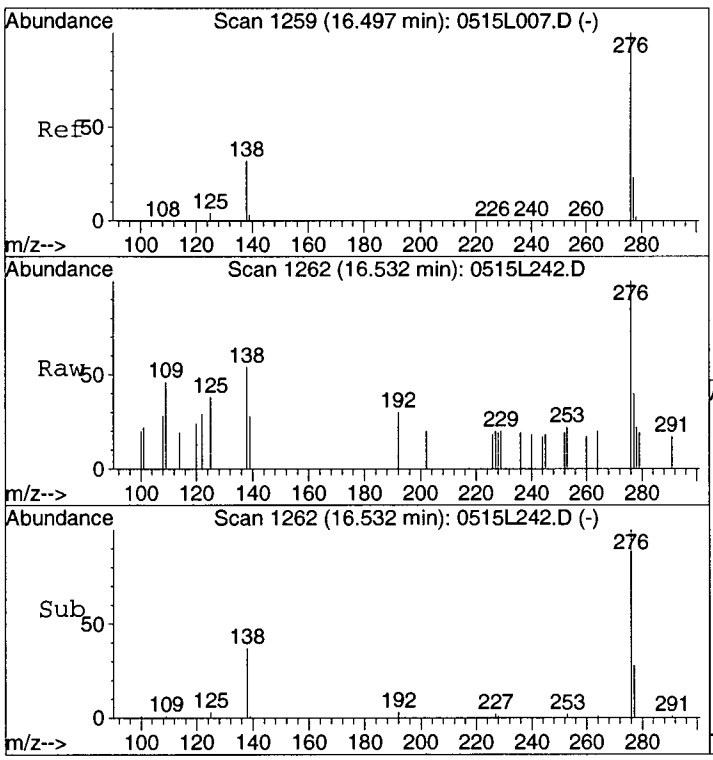


#25
Dibenz (a,h) anthracene
Concen: 51.25 ppb
RT: 16.12 min Scan# 1227
Delta R.T. 0.02 min
Lab File: 0515L242.D
Acq: 27 May 15 22:16

Tgt Ion:278 Resp: 209

Ion	Ratio	Lower	Upper
278	100		
139	18.0	17.9	33.3
279	19.7	16.7	30.9

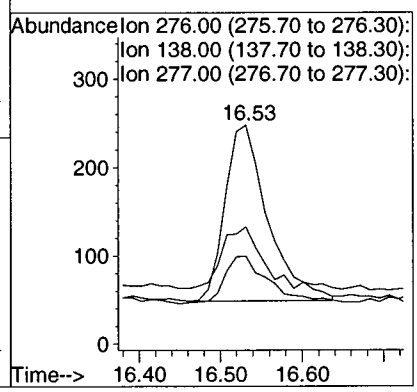




#26
Benzo (g,h,i) perylene
Concen: 59.81 ppb
RT: 16.53 min Scan# 1262
Delta R.T. 0.03 min
Lab File: 0515L242.D
Acq: 27 May 15 22:16

Tgt Ion:276 Resp: 725

Ion	Ratio	Lower	Upper
276	100		
138	35.2	22.3	41.5
277	26.6	16.4	30.4



EPA 8270D LL SOILS

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-SB036-0405
Sample Collection Date: 5/8/2015

ARF: 76390
APPL ID: AZ16199
QCG: #SIMDD-150521A-197621

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 19.3 Percent Moisture.)								
8270D-LL	2-METHYLNAPHTHALENE	0.34	0.062	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	ACENAPHTHENE	0.42	0.062	0.0210	0.0120	mg/kg	5/21/2015	5/27/2015
8270D-LL	ACENAPHTHYLENE	0.17	0.062	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	ANTHRACENE	1.5	0.062	0.0210	0.0099	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZ (A) ANTHRACENE	1.7	0.062	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (A) PYRENE	0.70	0.062	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (B) FLUORANTHENE	2.1	0.062	0.0210	0.0140	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (G,H,I) PERYLENE	0.70	0.062	0.0210	0.0160	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (K) FLUORANTHENE	2.3	0.062	0.0210	0.0120	mg/kg	5/21/2015	5/27/2015
8270D-LL	CHRYSENE	1.6	0.062	0.0210	0.0099	mg/kg	5/21/2015	5/27/2015
8270D-LL	DIBENZ (A,H) ANTHRACENE	0.22	0.062	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	FLUORANTHENE	3.9	0.062	0.0210	0.0150	mg/kg	5/21/2015	5/27/2015
8270D-LL	FLUORENE	0.55	0.062	0.0210	0.0120	mg/kg	5/21/2015	5/27/2015
8270D-LL	INDENO (1,2,3-CD) PYRENE	0.76	0.062	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	NAPHTHALENE	0.61	0.062	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	PHENANTHRENE	4.9	0.062	0.0210	0.0140	mg/kg	5/21/2015	5/27/2015
8270D-LL	PYRENE	3.6	0.062	0.0210	0.0150	mg/kg	5/21/2015	5/27/2015
8270D-LL	SURROGATE: 2-FLUORBIPHENYL (S)	44.2 #	45-105			%	5/21/2015	5/27/2015
8270D-LL	SURROGATE: NITROBENZENE-D5 (S)	104 #	35-100			%	5/21/2015	5/27/2015
8270D-LL	SURROGATE: TERPHENYL-D14 (S)	66.8	30-125			%	5/21/2015	5/27/2015

= Recovery (or RPD) is outside QC limits.

Quant Method: P0518-42.M
Run #: 0515L243
Instrument: Linus
Sequence: L150515
Dilution Factor: 10
Initials: DA

Printed: 6/2/2015 2:16:39 PM
APPL-F1-SC-MCRes/MCPQL-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L150515\0515L243.D Vial: 43
Acq On : 27 May 15 22:41 Operator: MA
Sample : AZ16199S01 1/30.11G df10 Inst : Linus
Misc : soil Multiplr: 332.12

Quant Time: May 28 9:21 2015 Quant Results File: P0518-42.RES

Quant Method : M:\LINUS\DATA\L150515\P0518-42.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed May 27 13:24:37 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQ

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	6.16	136	11404	2.50	ppb		0.00
6) Acenaphthene-D10(IS)	8.17	164	5618	2.50	ppb		0.01
11) Phenanthrene-D10(IS)	9.90	188	9957	2.50	ppb		0.00
15) Chrysene-D12(IS)	12.97	240	10387	2.50	ppb		0.01
21) Perylene-D12(IS)	14.58	264	6919	2.50	ppb		0.00
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	5.37	82	131	86.57	ppb		0.01
Spiked Amount 83.029			Recovery = 104.266%				
7) Surrogate Recovery (FBP)	7.41	172	392	36.68	ppb		0.01
Spiked Amount 83.029			Recovery = 44.176%				
17) Surrogate Recovery (TPH)	11.77	244	557	55.46	ppb		0.00
Spiked Amount 83.029			Recovery = 66.790%				
Target Compounds							Qvalue
3) Naphthalene	6.18	128	6634	493.94	ppb		99
4) 2-Methylnaphthalene	6.98	142	2498	273.50	ppb		95
5) 1-Methylnaphthalene	7.08	142	2032	239.96	ppb		92
8) Acenaphthylene	8.00	152	873	136.77	ppb		96
9) Acenaphthene	8.21	154	2902	338.86	ppb		91
10) Fluorene	8.81	166	4591	440.90	ppb		99
12) Phenanthrene	9.92	178	63792	3979.98	ppb		99
13) Anthracene	9.98	178	17829	1177.03	ppb		98
14) Fluoranthene	11.29	202	61487	3186.62	ppb		92
16) Pyrene	11.56	202	51911	2918.16	ppb	#	81
18) Benz (a) anthracene	12.96	228	22559	1396.09	ppb		95
19) Chrysene	13.00	228	19383	1299.94	ppb		98
20) Indeno (1,2,3-cd) pyrene	16.08	276	9348	614.77	ppb	#	91
22) Benzo (b) fluoranthene	14.14	252	27619	1686.30	ppb		95
23) Benzo (k) fluoranthene	14.14	252	27619	1888.65	ppb	#	90
24) Benzo (a) pyrene	14.45	252	9144	568.88	ppb		93
25) Dibenz (a,h) anthracene	16.10	278	2228	180.12	ppb		98
26) Benzo (g,h,i) perylene	16.51	276	8685	568.37	ppb		99

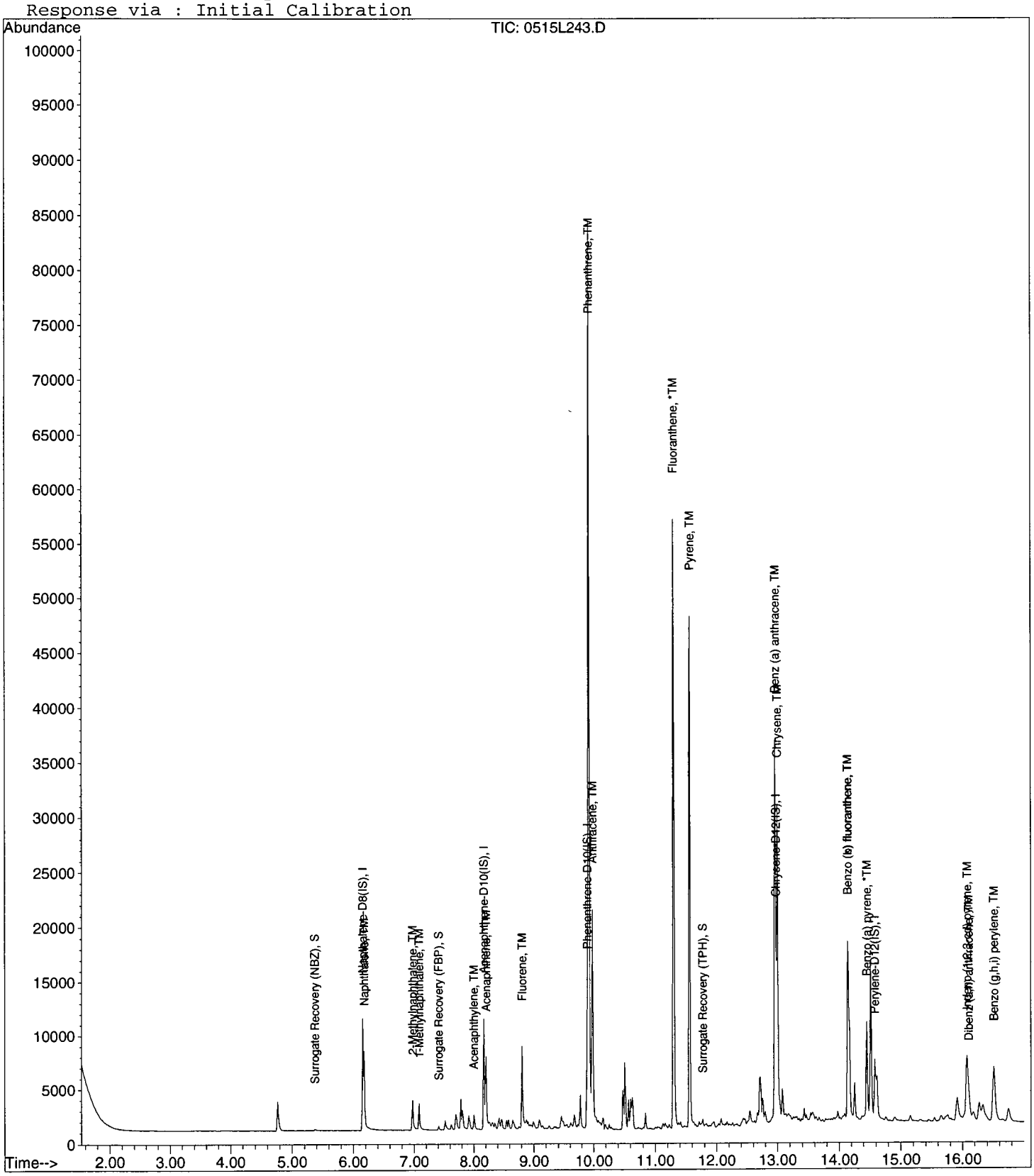
(#) = qualifier out of range (m) = manual integration

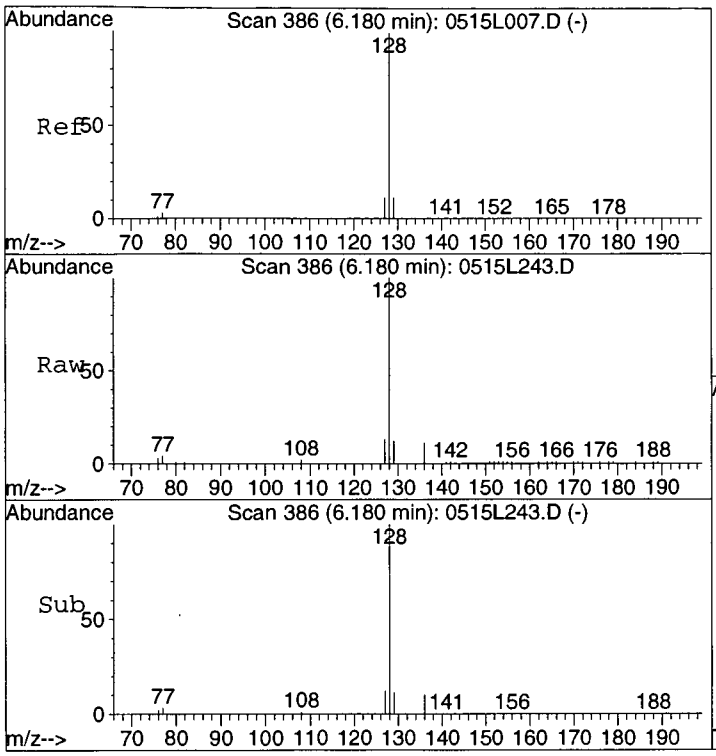
Quantitation Report

Data File : M:\LINUS\DATA\L150515\0515L243.D Vial: 43
Acq On : 27 May 15 22:41 Operator: MA
Sample : AZ16199S01 1/30.11G df10 Inst : Linus
Misc : soil Multiplr: 332.12

Quant Time: May 28 9:21 2015 Quant Results File: P0518-42.RES

Method : M:\LINUS\DATA\L150515\P0518-42.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed May 27 13:24:37 2015
Response via : Initial Calibration

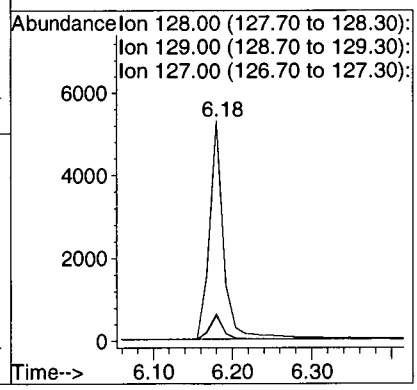


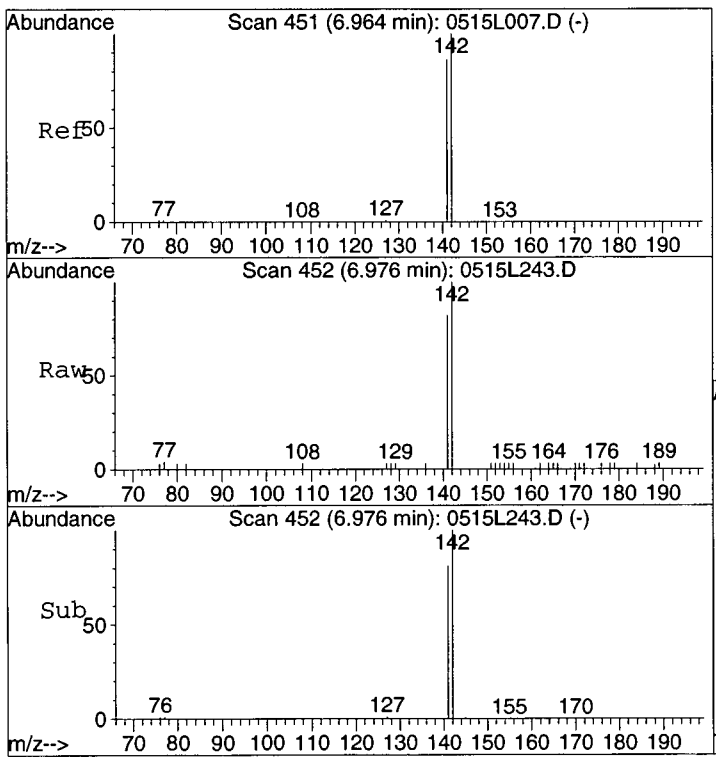


#3
Naphthalene
Concen: 493.94 ppb
RT: 6.18 min Scan# 386
Delta R.T. 0.00 min
Lab File: 0515L243.D
Acq: 27 May 15 22:41

Tgt Ion:128 Resp: 6634

Ion	Ratio	Lower	Upper
128	100		
129	10.9	7.8	14.6
127	11.9	8.0	14.8

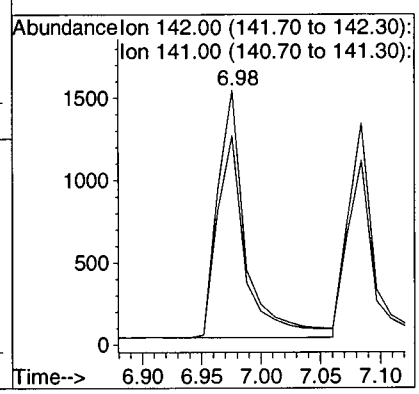


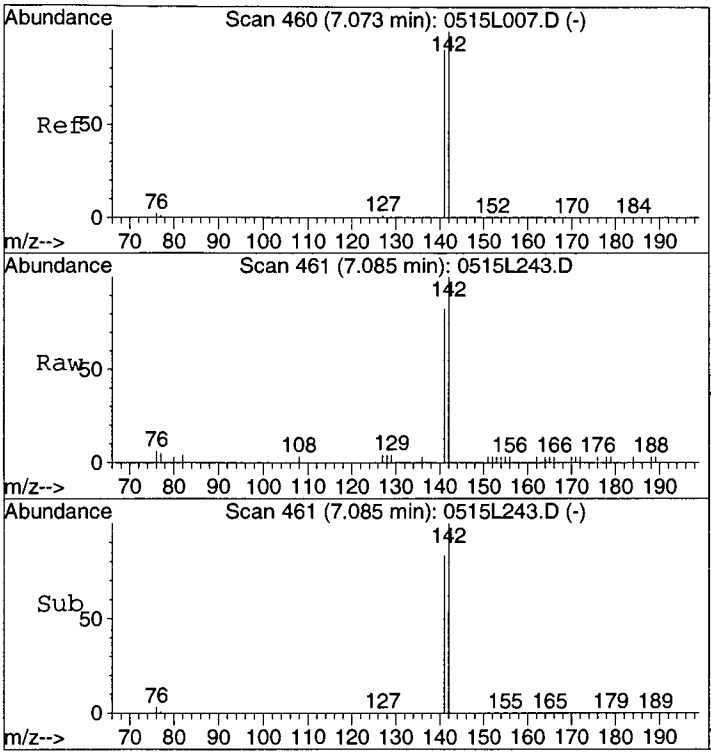


#4
2-Methylnaphthalene
Concen: 273.50 ppb
RT: 6.98 min Scan# 452
Delta R.T. 0.01 min
Lab File: 0515L243.D
Acq: 27 May 15 22:41

Tgt Ion:142 Resp: 2498

Ion	Ratio	Lower	Upper
142	100		
141	81.4	60.1	111.5

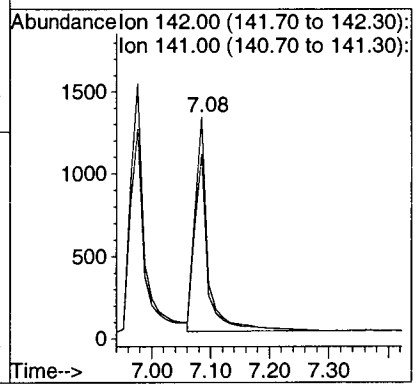


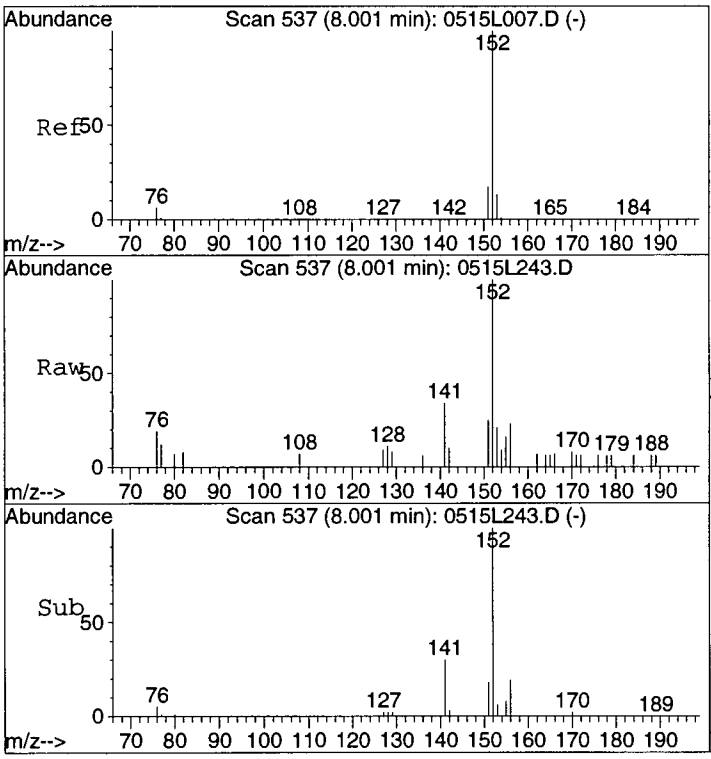


#5
1-Methylnaphthalene
Concen: 239.96 ppb
RT: 7.08 min Scan# 461
Delta R.T. 0.01 min
Lab File: 0515L243.D
Acq: 27 May 15 22:41

Tgt Ion:142 Resp: 2032

Ion	Ratio	Lower	Upper
142	100		
141	82.4	63.1	117.3

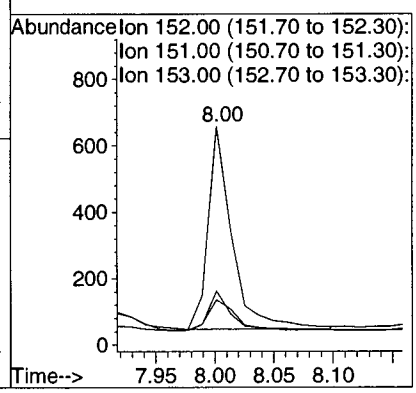


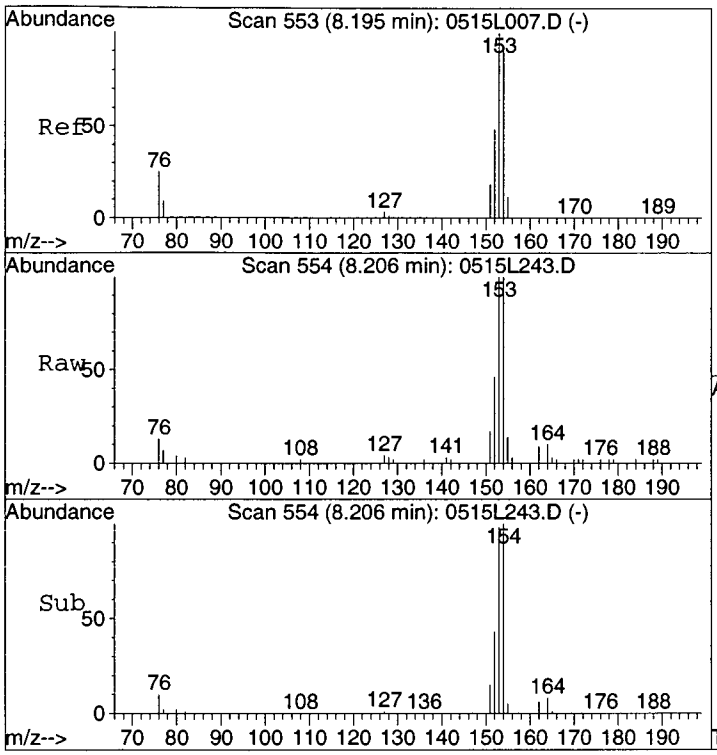


#8
Acenaphthylene
Concen: 136.77 ppb
RT: 8.00 min Scan# 537
Delta R.T. -0.00 min
Lab File: 0515L243.D
Acq: 27 May 15 22:41

Tgt Ion:152 Resp: 873

Ion	Ratio	Lower	Upper
152	100		
151	19.3	12.1	22.5
153	14.9	9.2	17.2

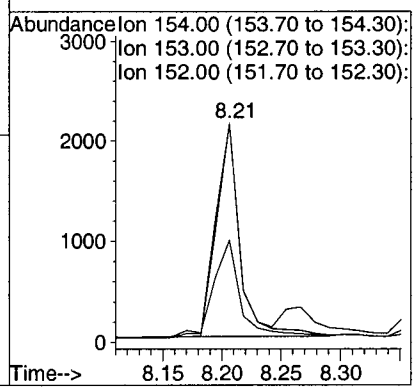


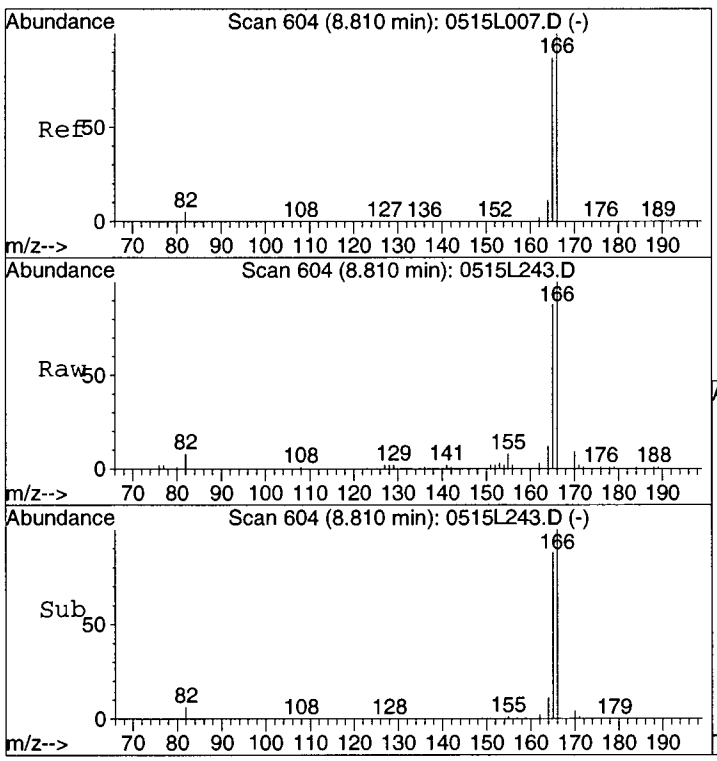


#9
Acenaphthene
Concen: 338.86 ppb
RT: 8.21 min Scan# 554
Delta R.T. 0.01 min
Lab File: 0515L243.D
Acq: 27 May 15 22:41

Tgt Ion:154 Resp: 2902

Ion	Ratio	Lower	Upper
154	100		
153	98.3	74.9	139.1
152	44.5	35.9	66.7

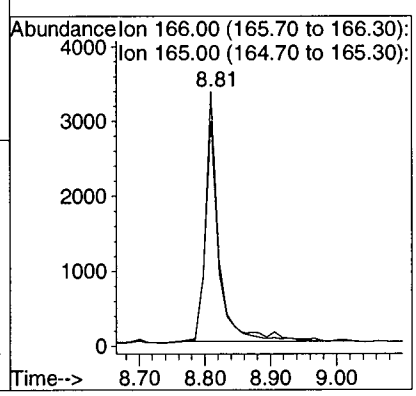


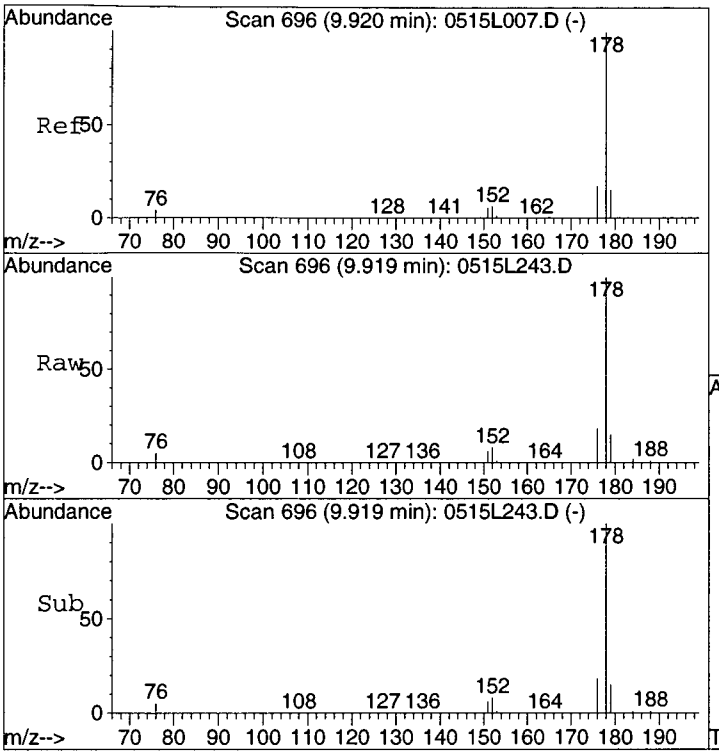


#10
Fluorene
Concen: 440.90 ppb
RT: 8.81 min Scan# 604
Delta R.T. -0.00 min
Lab File: 0515L243.D
Acq: 27 May 15 22:41

Tgt Ion:166 Resp: 4591

Ion	Ratio	Lower	Upper
166	100		
165	87.9	60.7	112.7

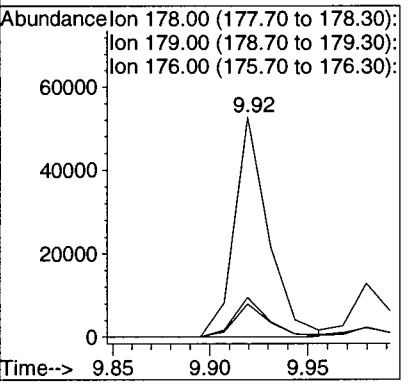


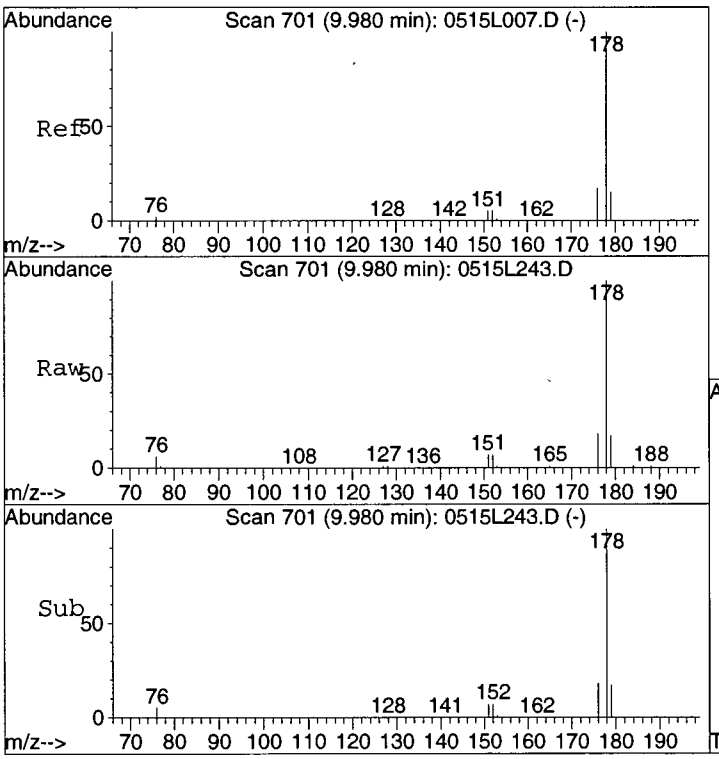


#12
Phenanthrene
Concen: 3979.98 ppb
RT: 9.92 min Scan# 696
Delta R.T. 0.00 min
Lab File: 0515L243.D
Acq: 27 May 15 22:41

Tgt Ion:178 Resp: 63792

Ion	Ratio	Lower	Upper
178	100		
179	15.1	10.6	19.6
176	18.0	12.2	22.6

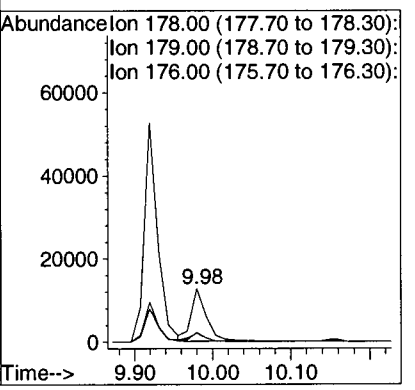


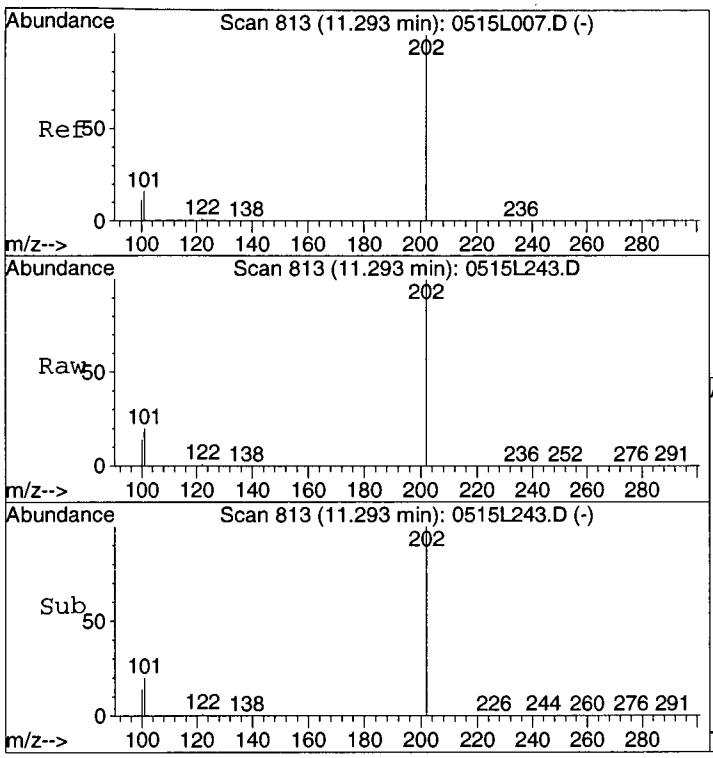


#13
Anthracene
Concen: 1177.03 ppb
RT: 9.98 min Scan# 701
Delta R.T. -0.00 min
Lab File: 0515L243.D
Acq: 27 May 15 22:41

Tgt Ion:178 Resp: 17829

Ion	Ratio	Lower	Upper
178	100		
179	16.2	10.5	19.5
176	17.8	12.0	22.4

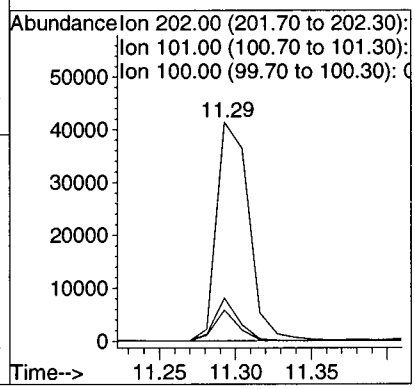


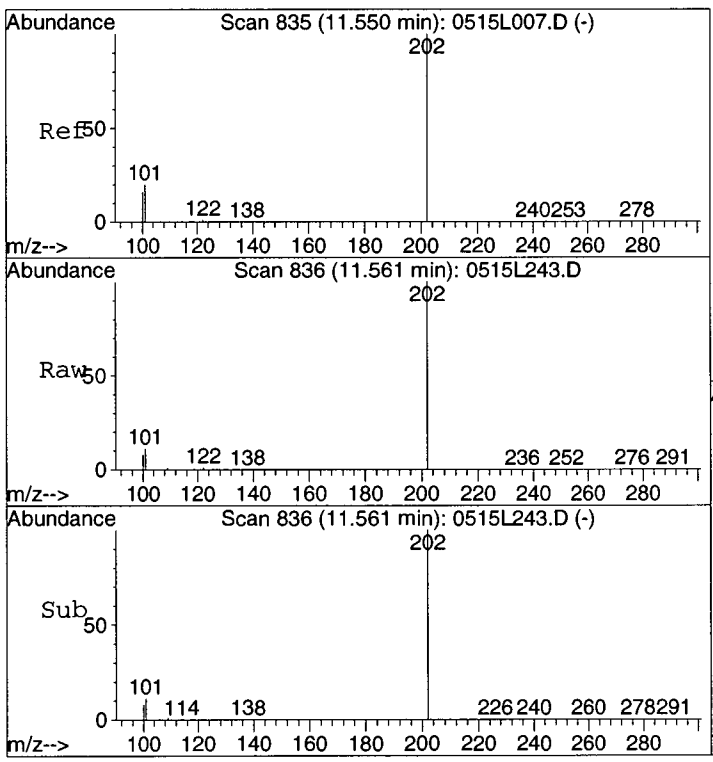


#14
Fluoranthene
Concen: 3186.62 ppb
RT: 11.29 min Scan# 813
Delta R.T. -0.00 min
Lab File: 0515L243.D
Acq: 27 May 15 22:41

Tgt Ion:202 Resp: 61487

Ion	Ratio	Lower	Upper
202	100		
101	19.6	11.3	20.9
100	14.2	7.8	14.6

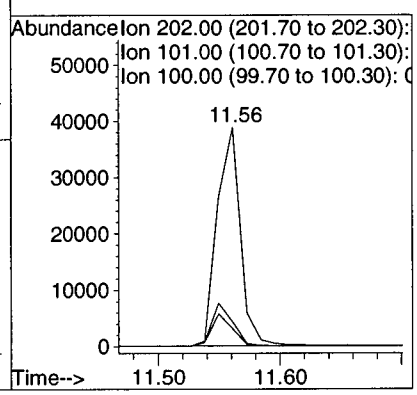


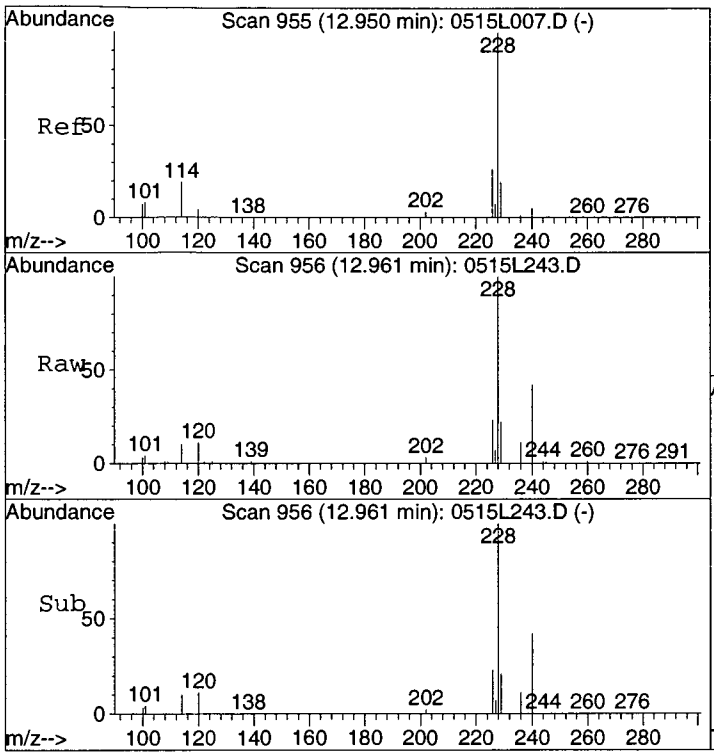


#16
Pyrene
Concen: 2918.16 ppb
RT: 11.56 min Scan# 836
Delta R.T. 0.01 min
Lab File: 0515L243.D
Acq: 27 May 15 22:41

Tgt Ion:202 Resp: 51911

Ion	Ratio	Lower	Upper
202	100		
101	11.1	14.3	26.5#
100	8.0	10.9	20.3#

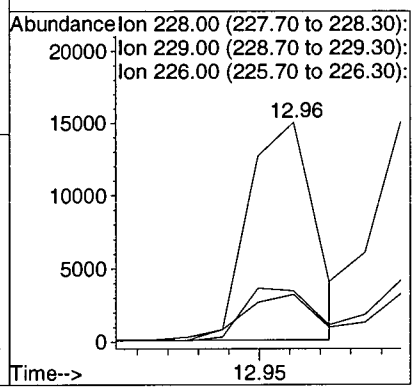


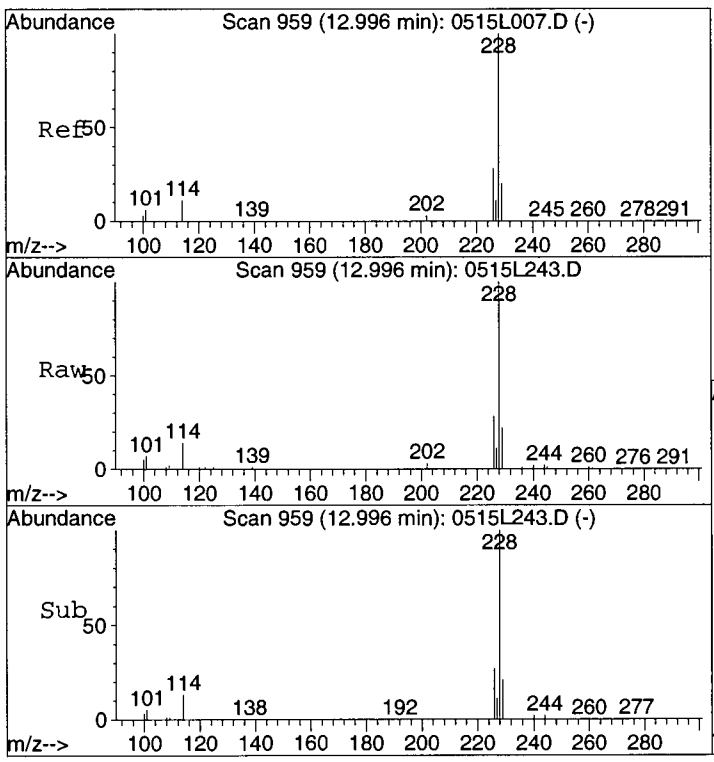


#18
Benz (a) anthracene
Concen: 1396.09 ppb
RT: 12.96 min Scan# 956
Delta R.T. 0.01 min
Lab File: 0515L243.D
Acq: 27 May 15 22:41

Tgt Ion:228 Resp: 22559

Ion	Ratio	Lower	Upper
228	100		
229	19.6	13.1	24.3
226	22.9	18.3	33.9

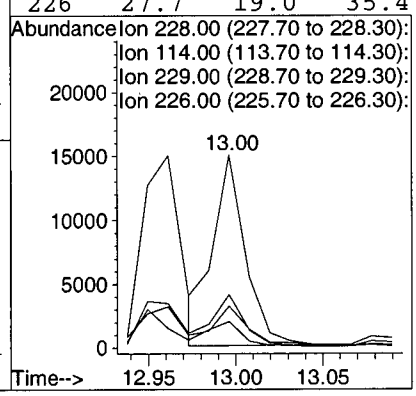


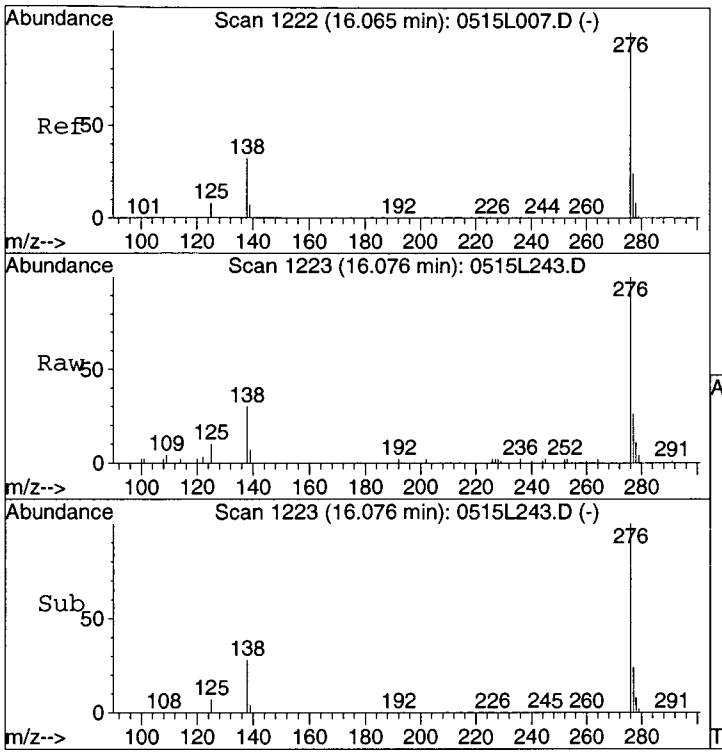


#19
Chrysene
Concen: 1299.94 ppb
RT: 13.00 min Scan# 959
Delta R.T. -0.00 min
Lab File: 0515L243.D
Acq: 27 May 15 22:41

Tgt Ion:228 Resp: 19383

Ion	Ratio	Lower	Upper
228	100		
114	13.4	8.5	15.9
229	21.2	14.1	26.1
226	27.7	19.0	35.4

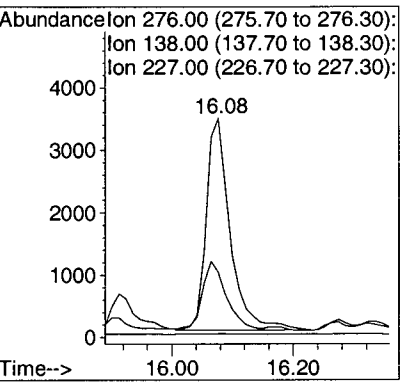


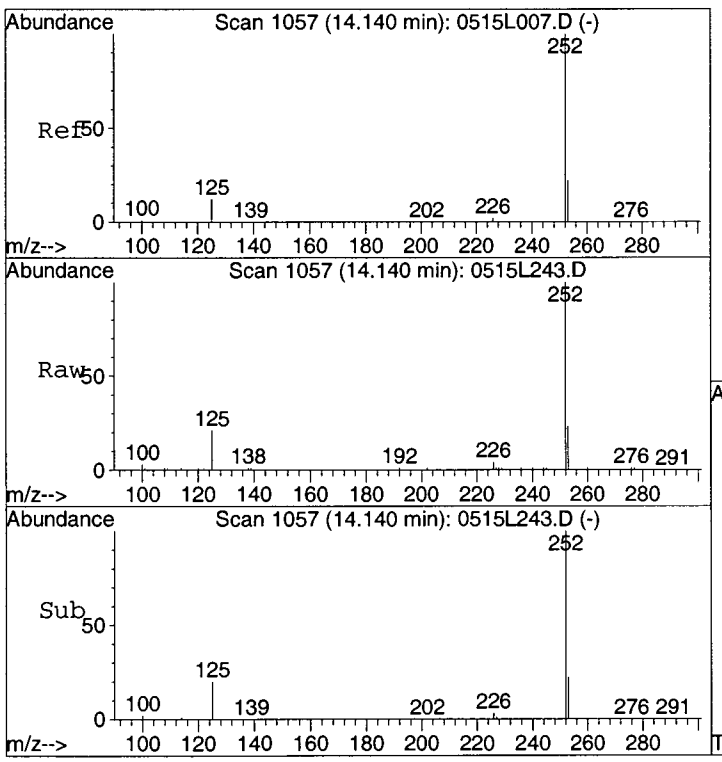


#20
Indeno (1,2,3-cd) pyrene
Concen: 614.77 ppb
RT: 16.08 min Scan# 1223
Delta R.T. 0.01 min
Lab File: 0515L243.D
Acq: 27 May 15 22:41

Tgt Ion:276 Resp: 9348

Ion	Ratio	Lower	Upper
276	100		
138	27.1	22.4	41.6
227	0.1	0.1	0.1#

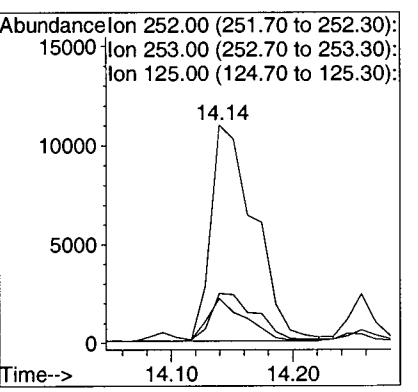


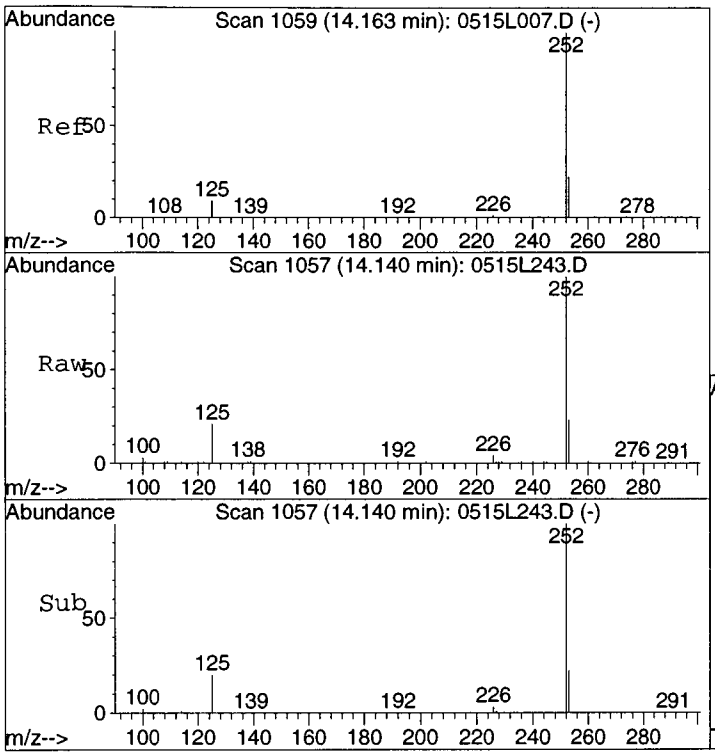


#22
Benzo (b) fluoranthene
Concen: 1686.30 ppb
RT: 14.14 min Scan# 1057
Delta R.T. -0.00 min
Lab File: 0515L243.D
Acq: 27 May 15 22:41

Tgt Ion:252 Resp: 27619

Ion	Ratio	Lower	Upper
252	100		
253	21.3	15.4	28.6
125	19.8	10.8	20.0

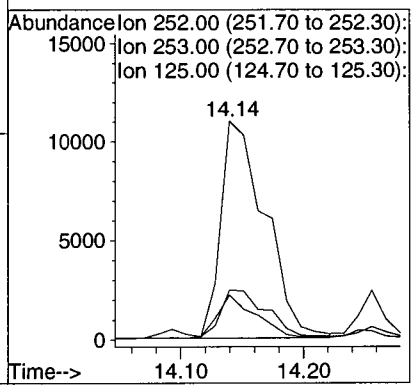


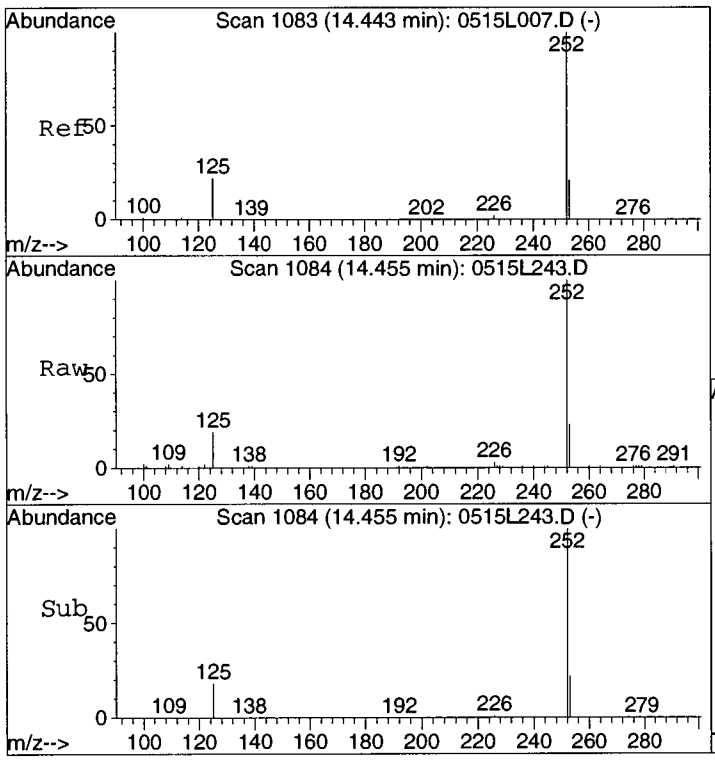


#23
Benzo (k) fluoranthene
Concen: 1888.65 ppb
RT: 14.14 min Scan# 1057
Delta R.T. -0.04 min
Lab File: 0515L243.D
Acq: 27 May 15 22:41

Tgt Ion:252 Resp: 27619

Ion	Ratio	Lower	Upper
252	100		
253	21.3	15.6	29.0
125	19.8	7.0	13.0#

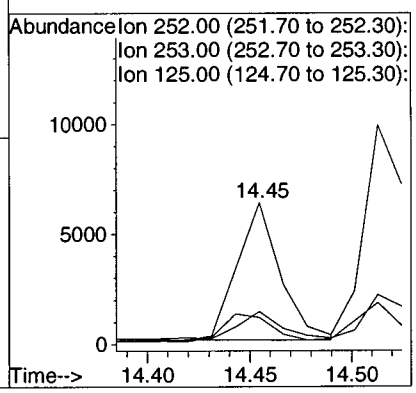


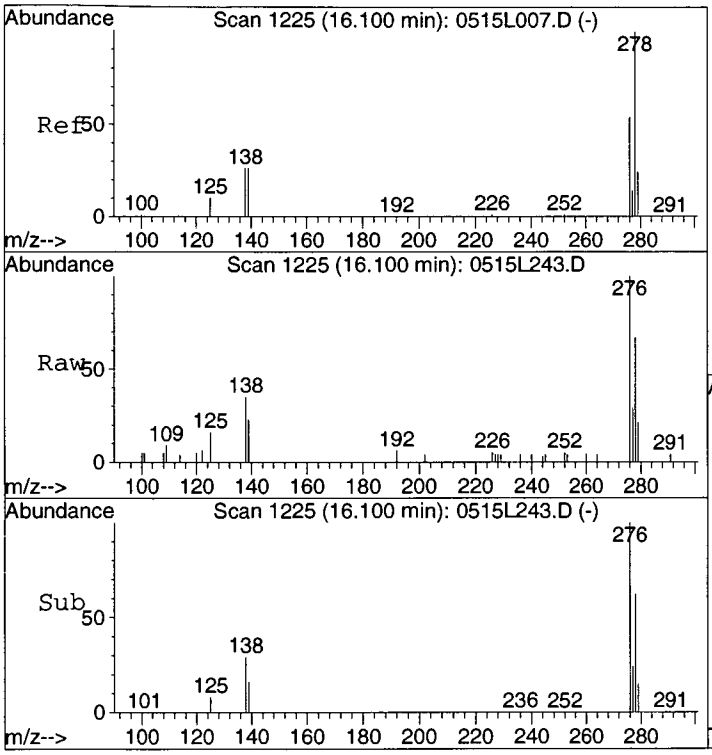


#24
Benzo (a) pyrene
Concen: 568.88 ppb
RT: 14.45 min Scan# 1084
Delta R.T. 0.01 min
Lab File: 0515L243.D
Acq: 27 May 15 22:41

Tgt Ion:252 Resp: 9144

Ion	Ratio	Lower	Upper
252	100		
253	19.5	15.0	27.8
125	17.4	15.7	29.1

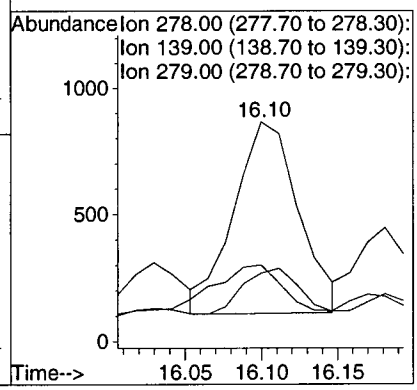


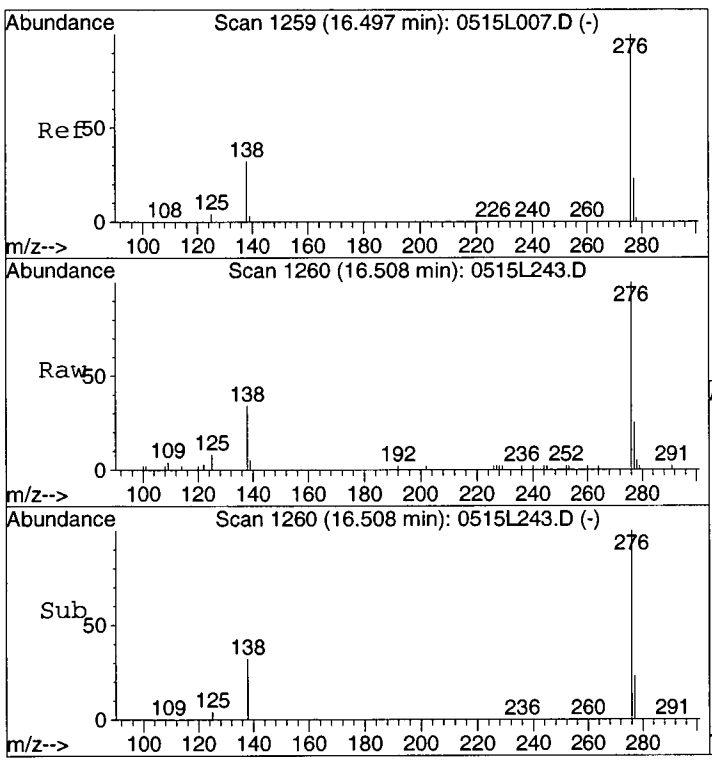


#25
Dibenz (a,h) anthracene
Concen: 180.12 ppb
RT: 16.10 min Scan# 1225
Delta R.T. -0.00 min
Lab File: 0515L243.D
Acq: 27 May 15 22:41

Tgt Ion:278 Resp: 2228

Ion	Ratio	Lower	Upper
278	100		
139	27.2	17.9	33.3
279	23.9	16.7	30.9

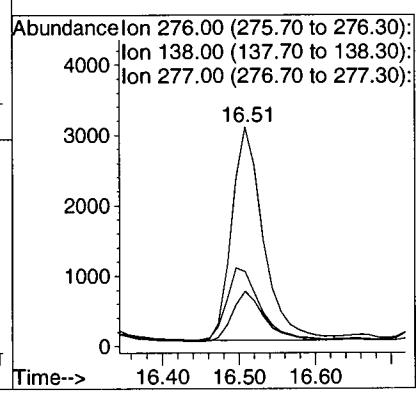




#26
Benzo (g,h,i) perylene
Concen: 568.37 ppb
RT: 16.51 min Scan# 1260
Delta R.T. 0.01 min
Lab File: 0515L243.D
Acq: 27 May 15 22:41

Tgt Ion:276 Resp: 8685

Ion	Ratio	Lower	Upper
276	100		
138	32.3	22.3	41.5
277	23.6	16.4	30.4



EPA 8270D LL SOILS

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: 76390

Sample ID: S67-SS037-0001

APPL ID: AZ16201

Sample Collection Date: 5/8/2015

QCG: #SIMDD-150521A-197621

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.5 Percent Moisture.)								
8270D-LL	2-METHYLNAPHTHALENE	0.031 J	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	ACENAPHTHENE	0.0210 U	0.061	0.0210	0.0120	mg/kg	5/21/2015	5/27/2015
8270D-LL	ACENAPHTHYLENE	0.11	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	ANTHRACENE	0.030 J	0.061	0.0210	0.0098	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZ (A) ANTHRACENE	0.087	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (A) PYRENE	0.021 J	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (B) FLUORANTHENE	0.056 J	0.061	0.0210	0.0130	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (G,H,I) PERYLENE	0.055 J	0.061	0.0210	0.0160	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (K) FLUORANTHENE	0.26	0.061	0.0210	0.0120	mg/kg	5/21/2015	5/27/2015
8270D-LL	CHRYSENE	0.073	0.061	0.0210	0.0098	mg/kg	5/21/2015	5/27/2015
8270D-LL	DIBENZ (A,H) ANTHRACENE	0.053 J	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	FLUORANTHENE	0.080	0.061	0.0210	0.0150	mg/kg	5/21/2015	5/27/2015
8270D-LL	FLUORENE	0.034 J	0.061	0.0210	0.0120	mg/kg	5/21/2015	5/27/2015
8270D-LL	INDENO (1,2,3-CD) PYRENE	0.14	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	NAPHTHALENE	0.0210 U	0.061	0.0210	0.0110	mg/kg	5/21/2015	5/27/2015
8270D-LL	PHENANTHRENE	0.047 J	0.061	0.0210	0.0130	mg/kg	5/21/2015	5/27/2015
8270D-LL	PYRENE	0.11	0.061	0.0210	0.0150	mg/kg	5/21/2015	5/27/2015
8270D-LL	SURROGATE: 2-FLUORBIPHENYL (S)	76.5	45-105			%	5/21/2015	5/27/2015
8270D-LL	SURROGATE: NITROBENZENE-D5 (S)	131 #	35-100			%	5/21/2015	5/27/2015
8270D-LL	SURROGATE: TERPHENYL-D14 (S)	116	30-125			%	5/21/2015	5/27/2015

J = Estimated value.
# = Recovery (or RPD) is outside QC limits.

Quant Method:	P0518-42.M
Run #:	0515L244
Instrument:	Linus
Sequence:	L150515
Dilution Factor:	10
Initials:	DA

Printed: 6/2/2015 2:16:39 PM

APPL-F1-SC-MCRes/MCPQL-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L150515\0515L244.D Vial: 44
Acq On : 27 May 15 23:07 Operator: MA
Sample : AZ16201S02 1/30.11G df10 Inst : Linus
Misc : soil Multiplr: 332.12

Quant Time: Jun 1 11:05 2015 Quant Results File: P0518-42.RES

Quant Method : M:\LINUS\DATA\L150515\P0518-42.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed May 27 13:24:37 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQ

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	6.16	136	9240	2.50	ppb		0.00
6) Acenaphthene-D10(IS)	8.17	164	4185	2.50	ppb		0.01
11) Phenanthrene-D10(IS)	9.91	188	7510	2.50	ppb		0.01
15) Chrysene-D12(IS)	12.97	240	8207	2.50	ppb		0.01
21) Perylene-D12(IS)	14.59	264	5723	2.50	ppb		0.01
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	5.37	82	187	109.00	ppb		0.01
Spiked Amount 83.029			Recovery = 131.277%				
7) Surrogate Recovery (FBP)	7.41	172	506	63.56	ppb		0.01
Spiked Amount 83.029			Recovery = 76.548%				
17) Surrogate Recovery (TPH)	11.77	244	765	96.40	ppb		0.00
Spiked Amount 83.029			Recovery = 116.098%				
Target Compounds							Qvalue
3) Naphthalene	6.18	128	62	5.70	ppb	#	90
4) 2-Methylnaphthalene	6.98	142	15	25.14	ppb		98
8) Acenaphthylene	8.00	152	64	91.53	ppb		99
9) Acenaphthene	8.21	154	33	5.17	ppb		89
10) Fluorene	8.82	166	46	27.56	ppb		92
12) Phenanthrene	9.93	178	666	38.66	ppb		98
13) Anthracene	9.99	178	197	24.80	ppb		95
14) Fluoranthene	11.30	202	1488	65.03	ppb		94
16) Pyrene	11.56	202	1312	93.34	ppb		95
18) Benz (a) anthracene	12.96	228	733	70.98	ppb		94
19) Chrysene	13.01	228	702	59.59	ppb		97
20) Indeno (1,2,3-cd) pyrene	16.10	276	496	115.17	ppb	#	91
22) Benzo (b) fluoranthene	14.15	252	1352	45.97	ppb		99
23) Benzo (k) fluoranthene	14.15	252	1352	210.76	ppb	#	95
24) Benzo (a) pyrene	14.47	252	507	17.47	ppb	#	88
25) Dibenz (a,h) anthracene	16.12	278	105	43.57	ppb		96
26) Benzo (g,h,i) perylene	16.53	276	517	44.87	ppb		89

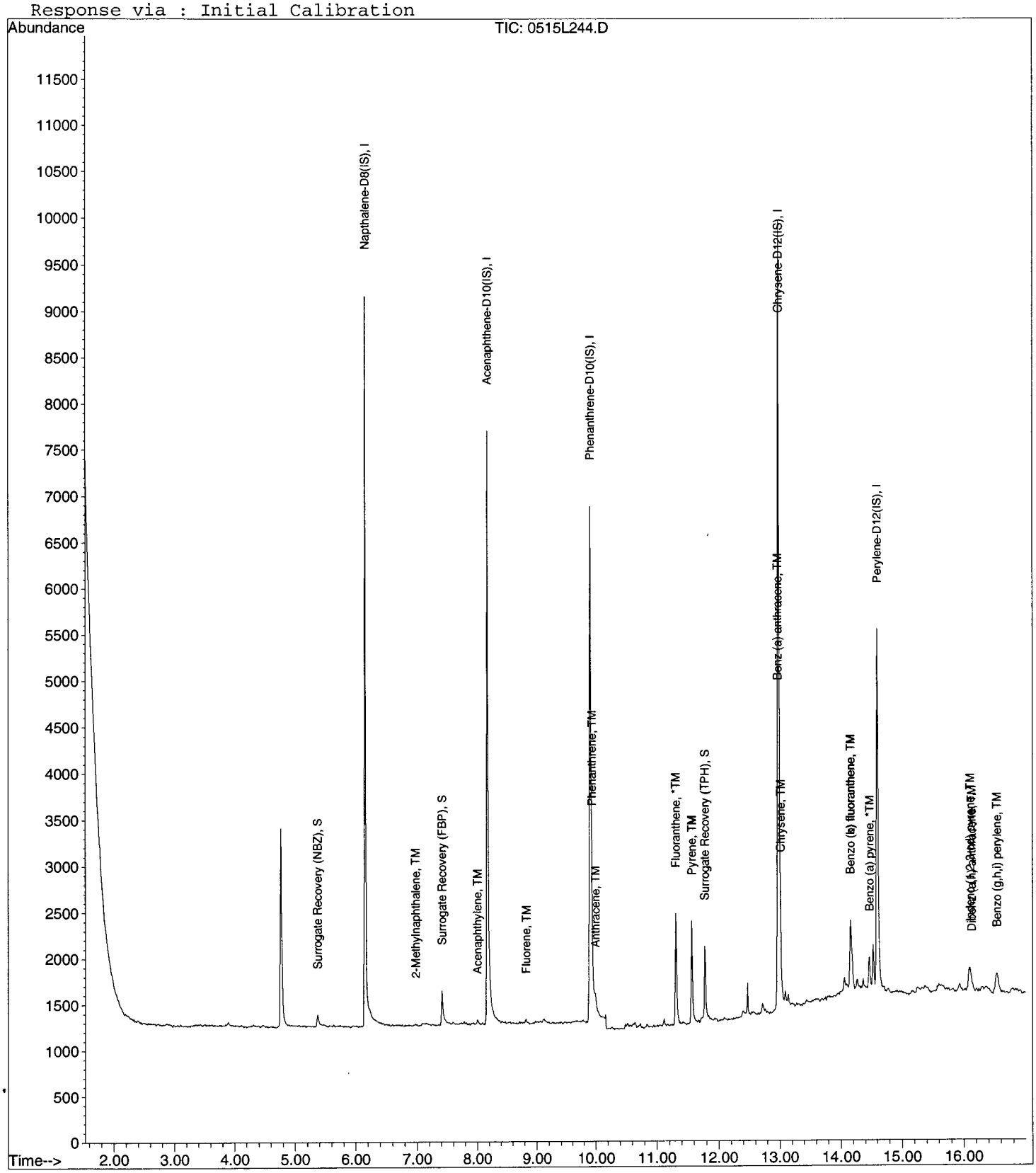
(#) = qualifier out of range (m) = manual integration

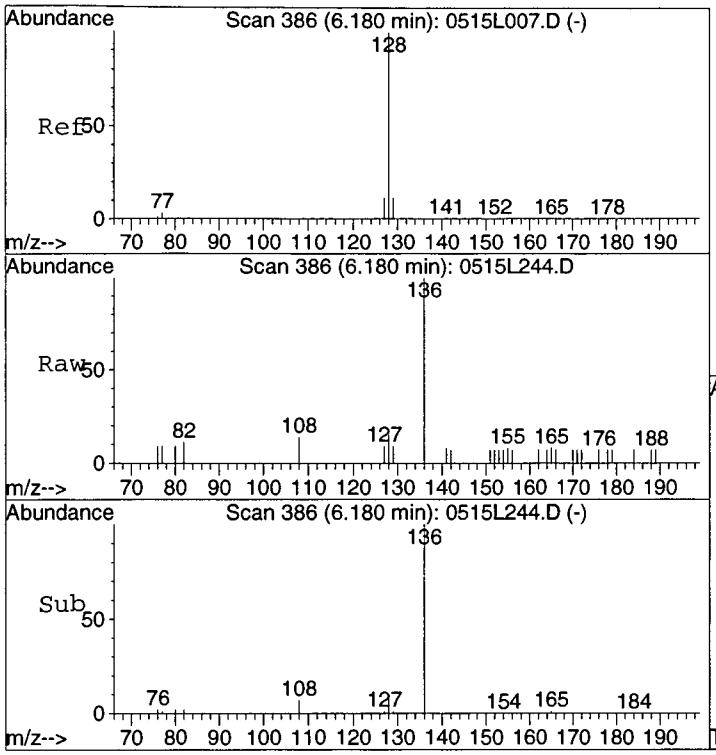
Quantitation Report

Data File : M:\LINUS\DATA\L150515\0515L244.D Vial: 44
Acq On : 27 May 15 23:07 Operator: MA
Sample : AZ16201S02 1/30.11G df10 Inst : Linus
Misc : soil Multiplr: 332.12

Quant Time: Jun 1 11:05 2015 Quant Results File: P0518-42.RES

Method : M:\LINUS\DATA\L150515\P0518-42.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed May 27 13:24:37 2015
Response via : Initial Calibration

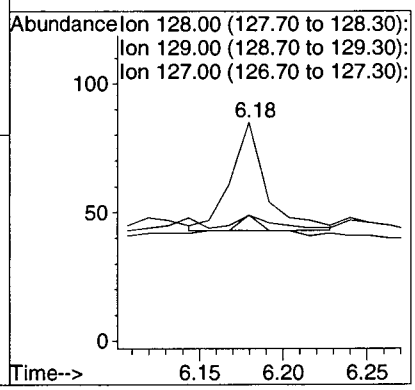


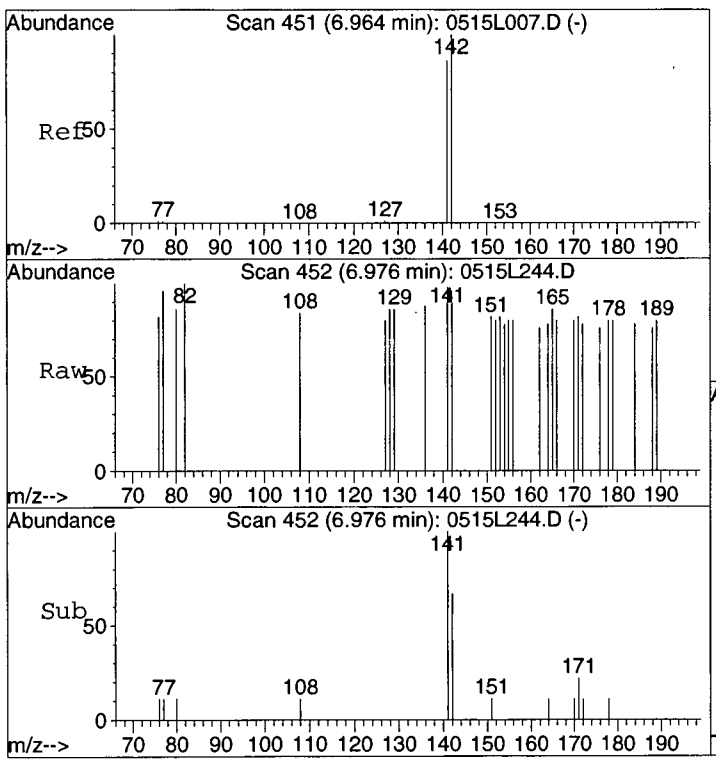


#3
Naphthalene
Concen: 5.70 ppb
RT: 6.18 min Scan# 386
Delta R.T. 0.00 min
Lab File: 0515L244.D
Acq: 27 May 15 23:07

Tgt Ion:128 Resp: 62

Ion	Ratio	Lower	Upper
128	100		
129	12.5	7.8	14.6
127	17.5	8.0	14.8#

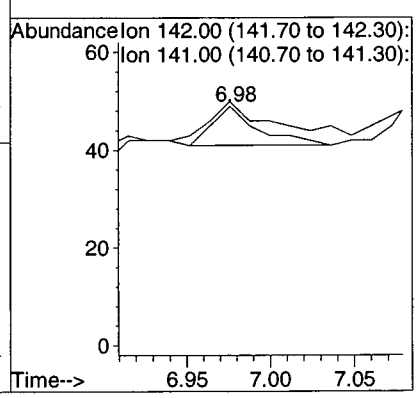


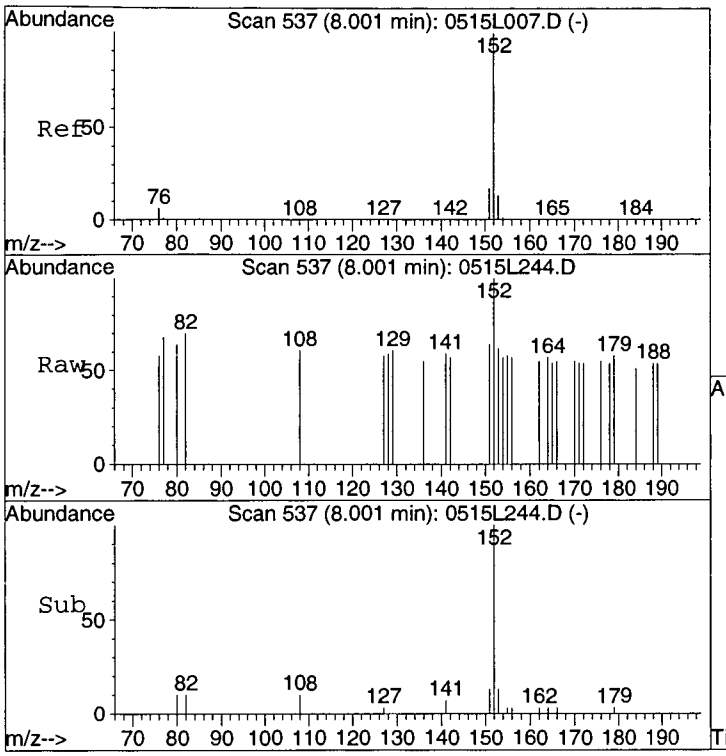


#4
2-Methylnaphthalene
Concen: 25.14 ppb
RT: 6.98 min Scan# 452
Delta R.T. 0.01 min
Lab File: 0515L244.D
Acq: 27 May 15 23:07

Tgt Ion:142 Resp: 15

Ion	Ratio	Lower	Upper
142	100		
141	87.5	60.1	111.5

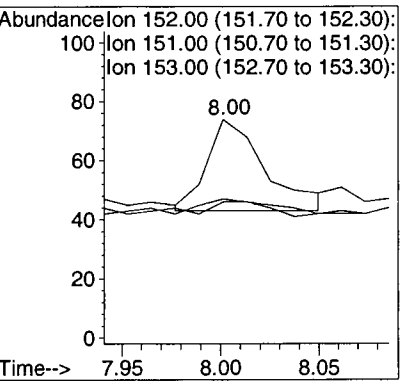


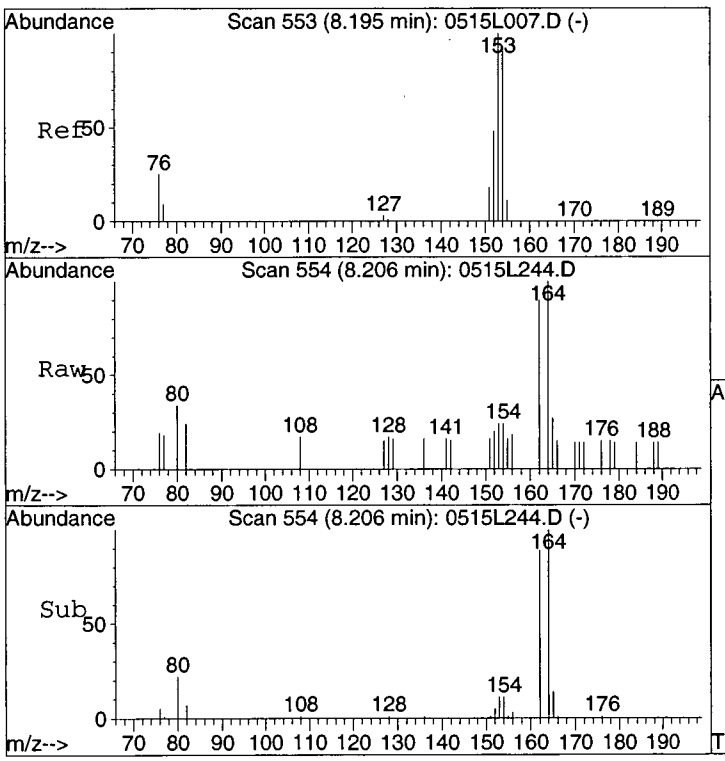


#8
Acenaphthylene
Concen: 91.53 ppb
RT: 8.00 min Scan# 537
Delta R.T. -0.00 min
Lab File: 0515L244.D
Acq: 27 May 15 23:07

Tgt Ion:152 Resp: 64

Ion	Ratio	Lower	Upper
152	100		
151	17.2	12.1	22.5
153	13.8	9.2	17.2

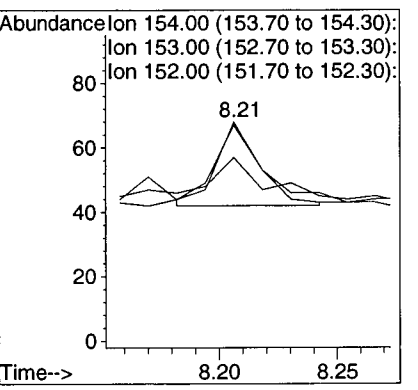


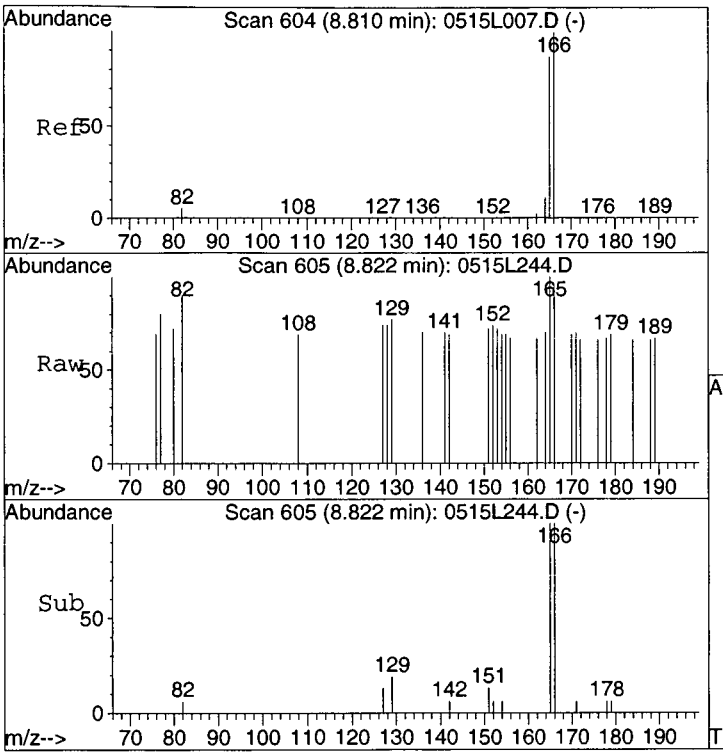


#9
Acenaphthene
Concen: 5.17 ppb
RT: 8.21 min Scan# 554
Delta R.T. 0.01 min
Lab File: 0515L244.D
Acq: 27 May 15 23:07

Tgt Ion:154 Resp: 33

Ion	Ratio	Lower	Upper
154	100		
153	92.0	74.9	139.1
152	48.0	35.9	66.7

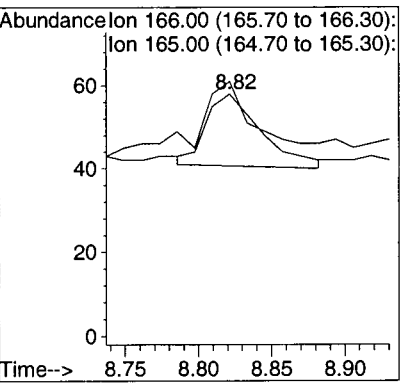


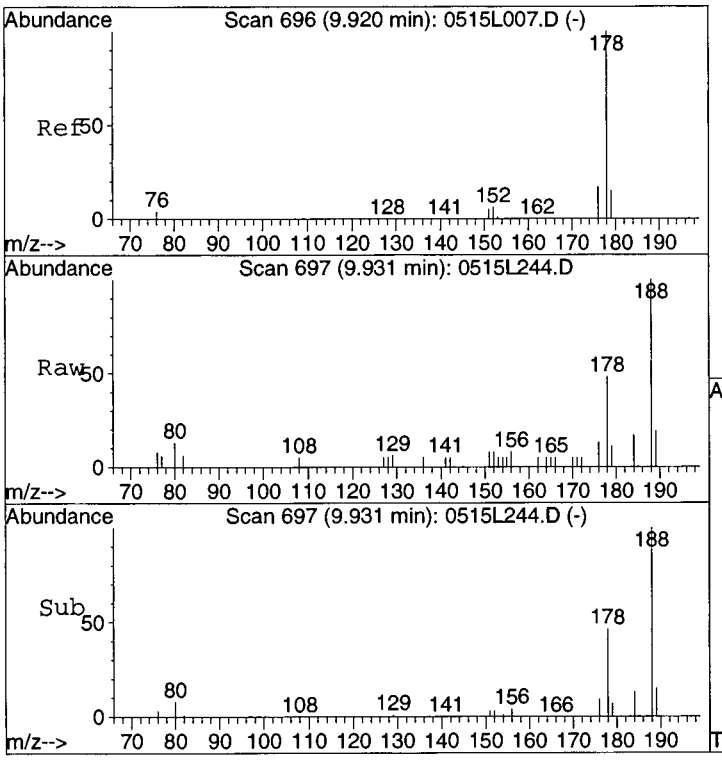


#10
Fluorene
Concen: 27.56 ppb
RT: 8.82 min Scan# 605
Delta R.T. 0.01 min
Lab File: 0515L244.D
Acq: 27 May 15 23:07

Tgt Ion:166 Resp: 46

Ion	Ratio	Lower	Upper
166	100		
165	93.8	60.7	112.7

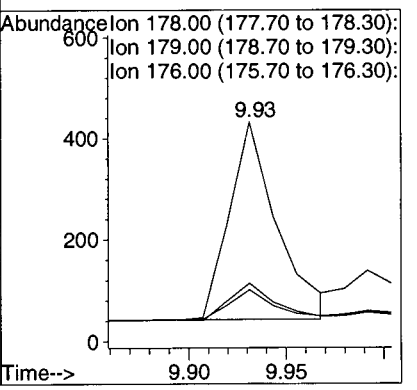


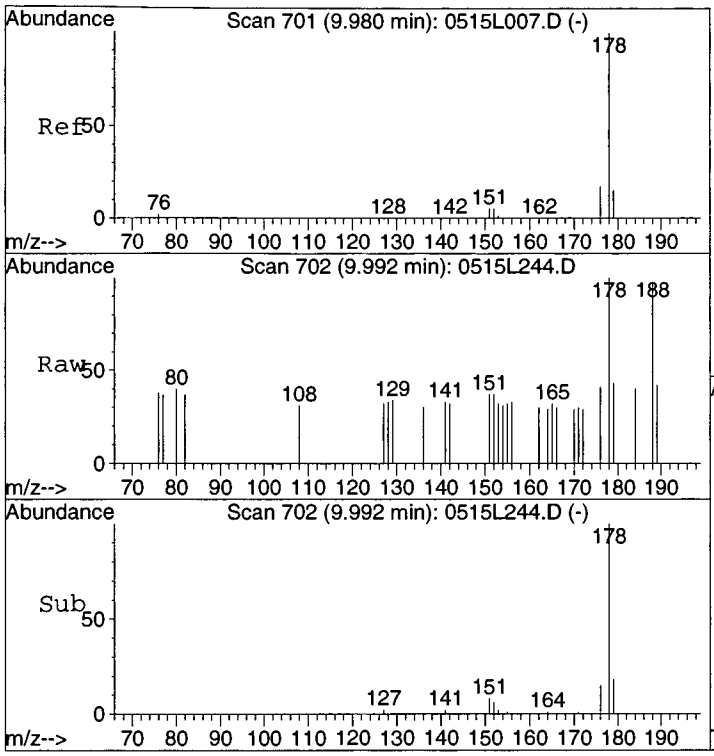


#12
Phenanthrene
Concen: 38.66 ppb
RT: 9.93 min Scan# 697
Delta R.T. 0.01 min
Lab File: 0515L244.D
Acq: 27 May 15 23:07

Tgt Ion:178 Resp: 666

Ion	Ratio	Lower	Upper
178	100		
179	15.1	10.6	19.6
176	18.7	12.2	22.6

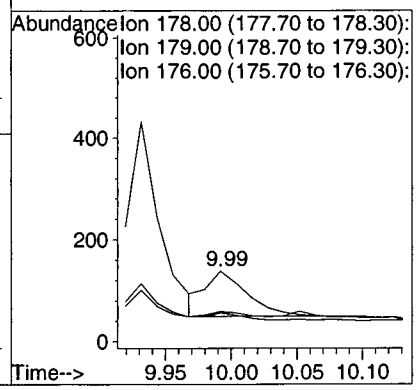


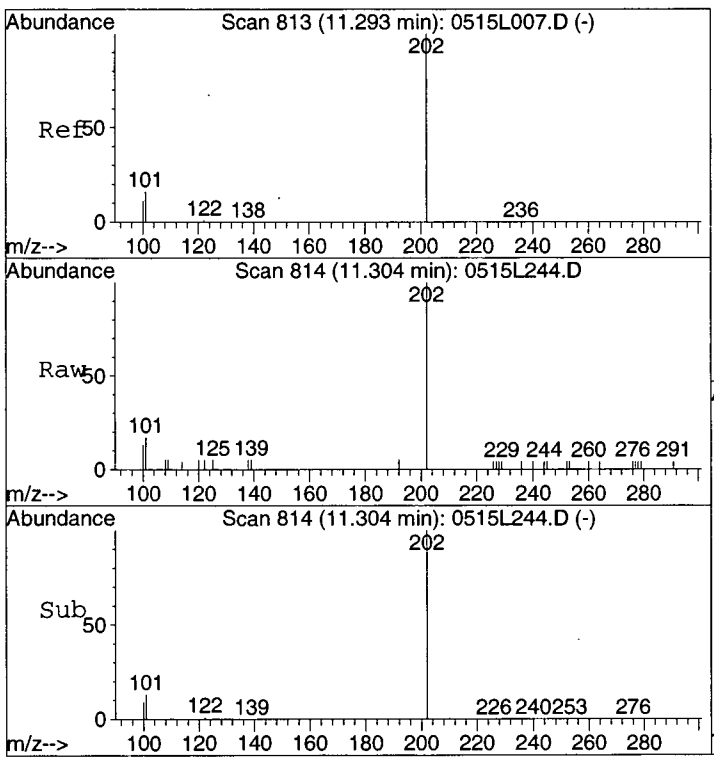


#13
Anthracene
Concen: 24.80 ppb
RT: 9.99 min Scan# 702
Delta R.T. 0.01 min
Lab File: 0515L244.D
Acq: 27 May 15 23:07

Tgt Ion:178 Resp: 197

Ion	Ratio	Lower	Upper
178	100		
179	13.5	10.5	19.5
176	14.6	12.0	22.4

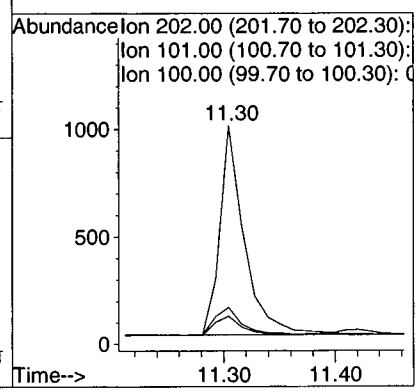


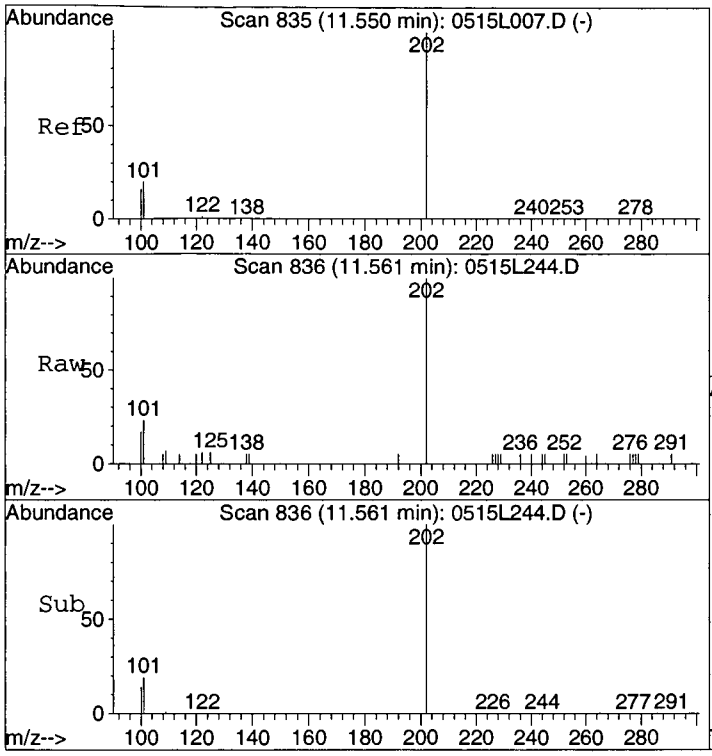


#14
Fluoranthene
Concen: 65.03 ppb
RT: 11.30 min Scan# 814
Delta R.T. 0.01 min
Lab File: 0515L244.D
Acq: 27 May 15 23:07

Tgt Ion:202 Resp: 1488

Ion	Ratio	Lower	Upper
202	100		
101	13.1	11.3	20.9
100	9.2	7.8	14.6

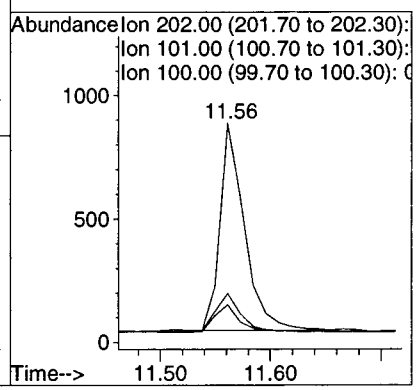


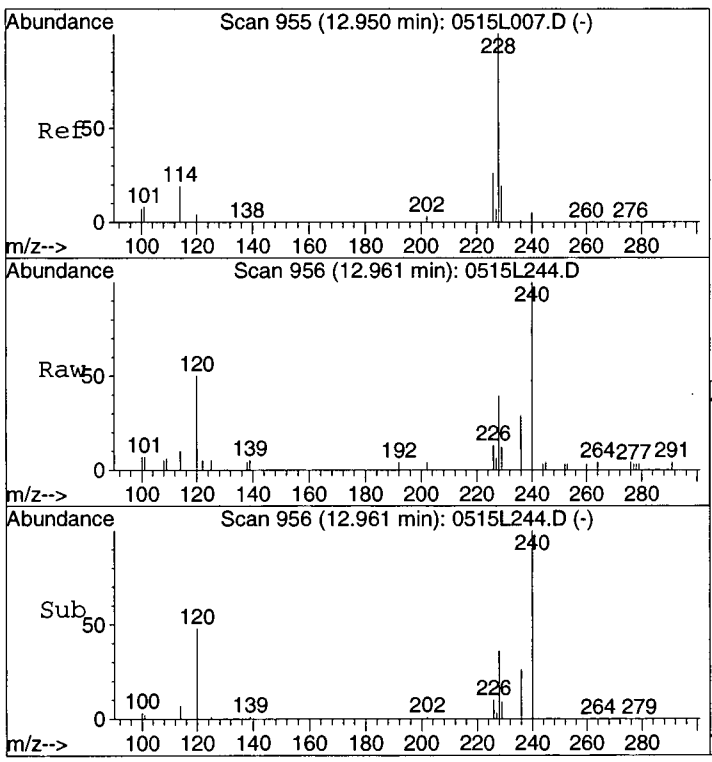


#16
Pyrene
Concen: 93.34 ppb
RT: 11.56 min Scan# 836
Delta R.T. 0.01 min
Lab File: 0515L244.D
Acq: 27 May 15 23:07

Tgt Ion:202 Resp: 1312

Ion	Ratio	Lower	Upper
202	100		
101	18.3	14.3	26.5
100	13.5	10.9	20.3

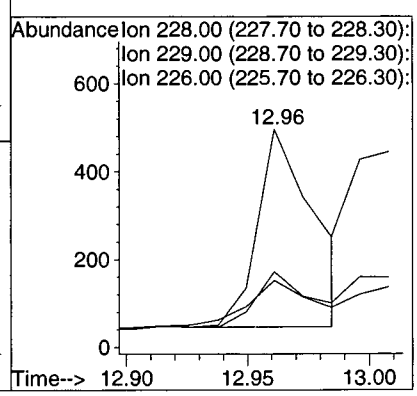


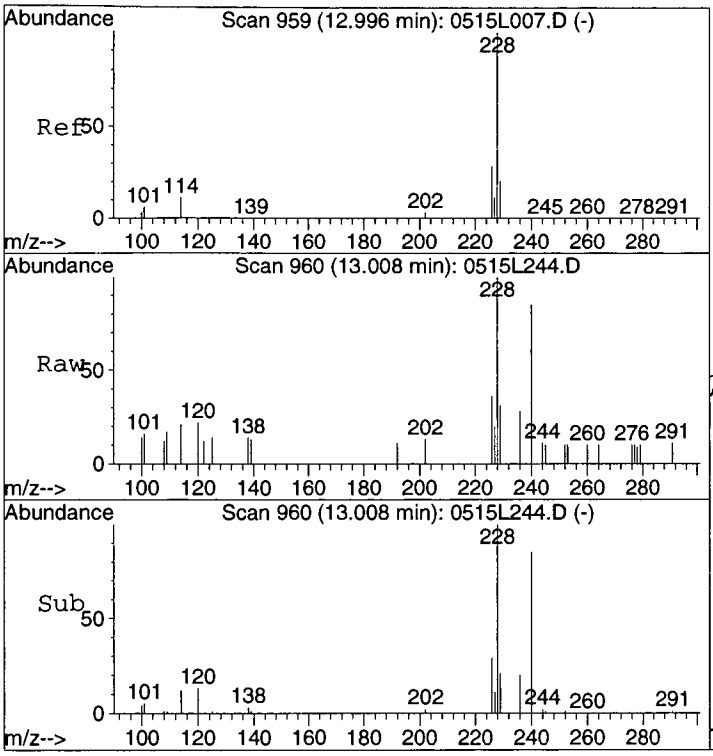


#18
Benz (a) anthracene
Concen: 70.98 ppb
RT: 12.96 min Scan# 956
Delta R.T. 0.01 min
Lab File: 0515L244.D
Acq: 27 May 15 23:07

Tgt Ion:228 Resp: 733

Ion	Ratio	Lower	Upper
228	100		
229	22.4	13.1	24.3
226	27.9	18.3	33.9

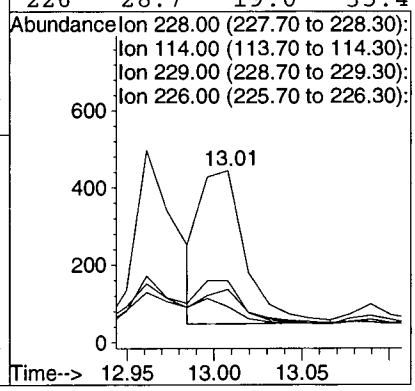


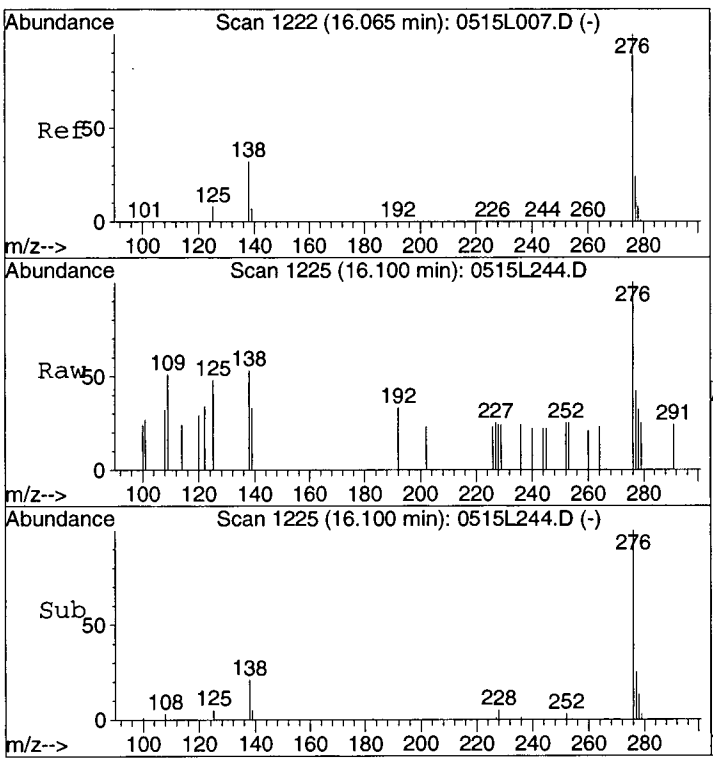


#19
Chrysene
Concen: 59.59 ppb
RT: 13.01 min Scan# 960
Delta R.T. 0.01 min
Lab File: 0515L244.D
Acq: 27 May 15 23:07

Tgt Ion:228 Resp: 702

Ion	Ratio	Lower	Upper
228	100		
114	11.6	8.5	15.9
229	22.2	14.1	26.1
226	28.7	19.0	35.4

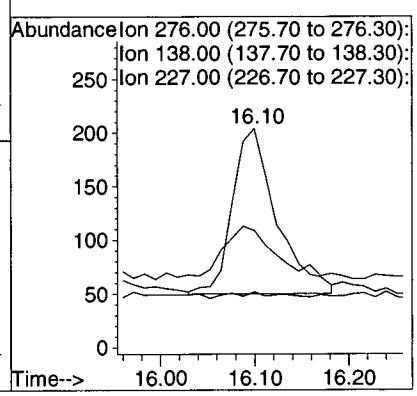


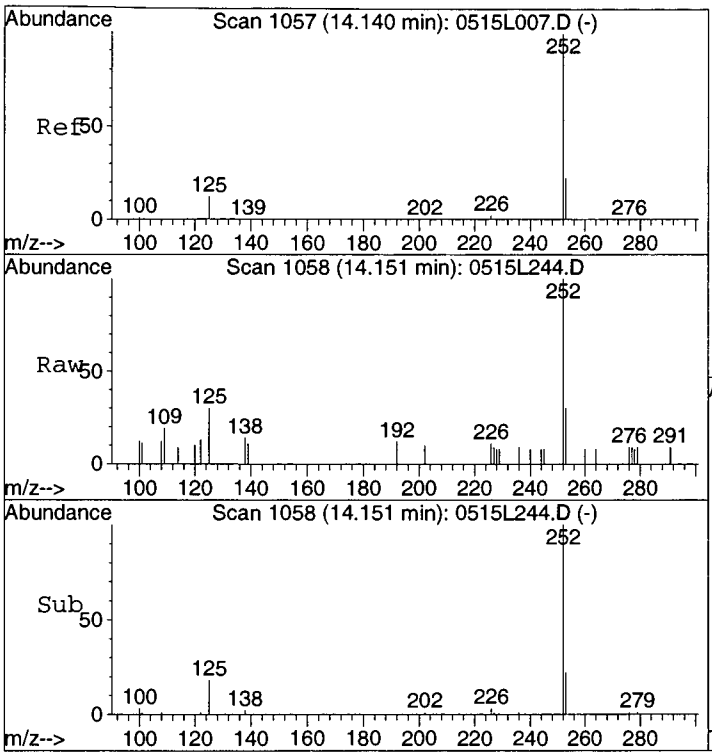


#20
Indeno (1,2,3-cd) pyrene
Concen: 115.17 ppb
RT: 16.10 min Scan# 1225
Delta R.T. 0.03 min
Lab File: 0515L244.D
Acq: 27 May 15 23:07

Tgt Ion:276 Resp: 496

Ion	Ratio	Lower	Upper
276	100		
138	27.0	22.4	41.6
227	2.6	0.1	0.1#

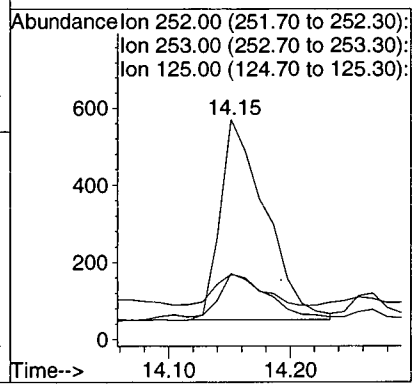


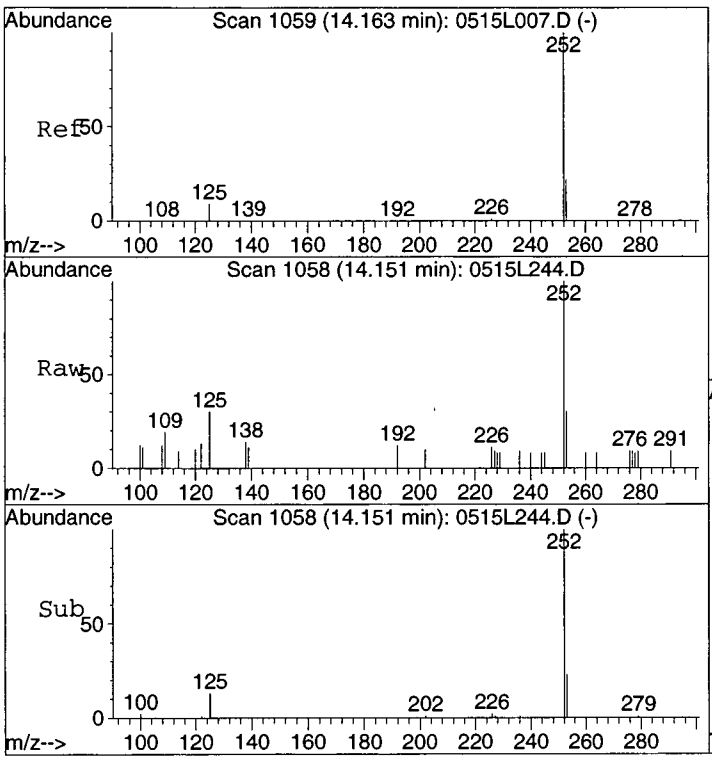


#22
Benzo (b) fluoranthene
Concen: 45.97 ppb
RT: 14.15 min Scan# 1058
Delta R.T. 0.01 min
Lab File: 0515L244.D
Acq: 27 May 15 23:07

Tgt Ion:252 Resp: 1352

Ion	Ratio	Lower	Upper
252	100		
253	21.6	15.4	28.6
125	15.0	10.8	20.0

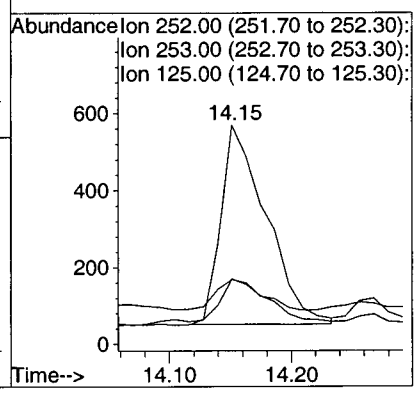


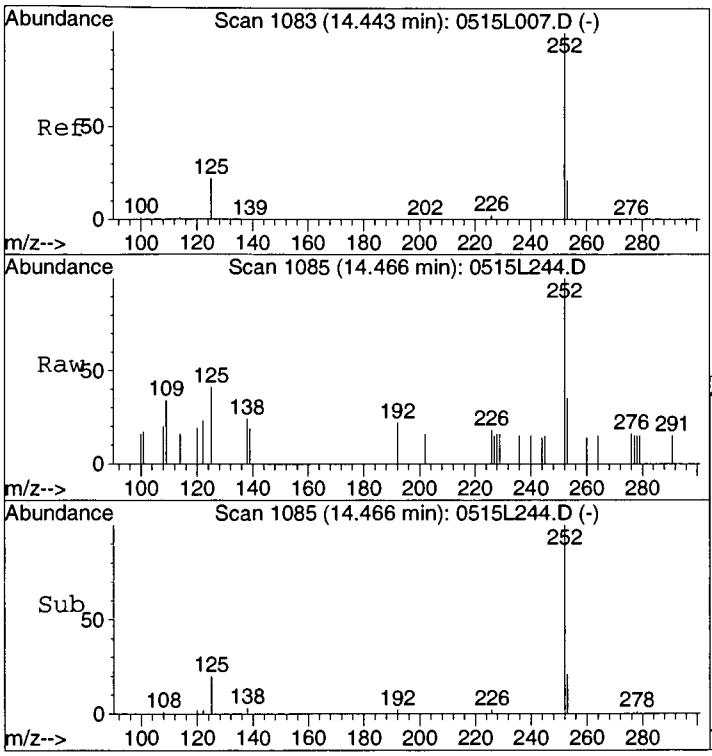


#23
Benzo (k) fluoranthene
Concen: 210.76 ppb
RT: 14.15 min Scan# 1058
Delta R.T. -0.02 min
Lab File: 0515L244.D
Acq: 27 May 15 23:07

Tgt Ion:252 Resp: 1352

Ion	Ratio	Lower	Upper
252	100		
253	21.6	15.6	29.0
125	15.0	7.0	13.0#

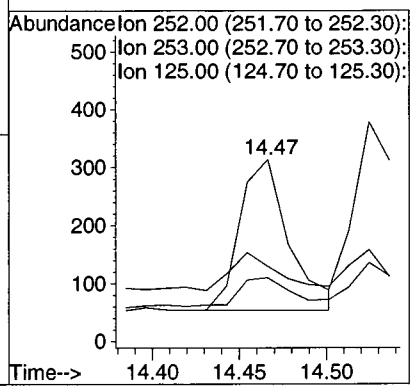


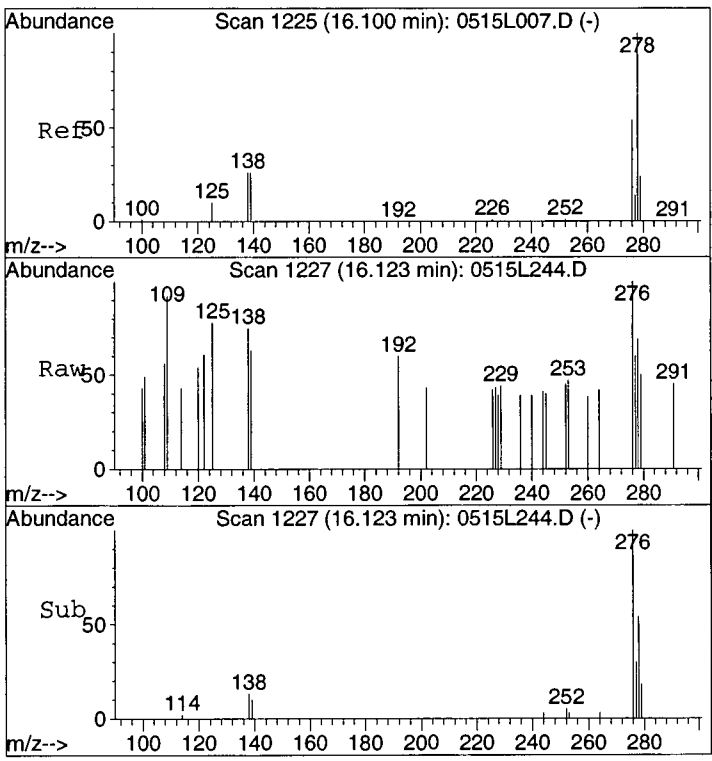


#24
Benzo (a) pyrene
Concen: 17.47 ppb
RT: 14.47 min Scan# 1085
Delta R.T. 0.02 min
Lab File: 0515L244.D
Acq: 27 May 15 23:07

Tgt Ion:252 Resp: 507

Ion	Ratio	Lower	Upper
252	100		
253	18.8	15.0	27.8
125	13.8	15.7	29.1#

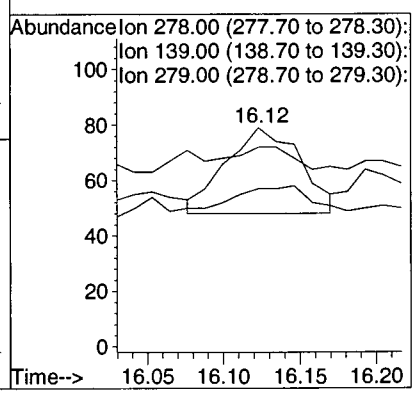


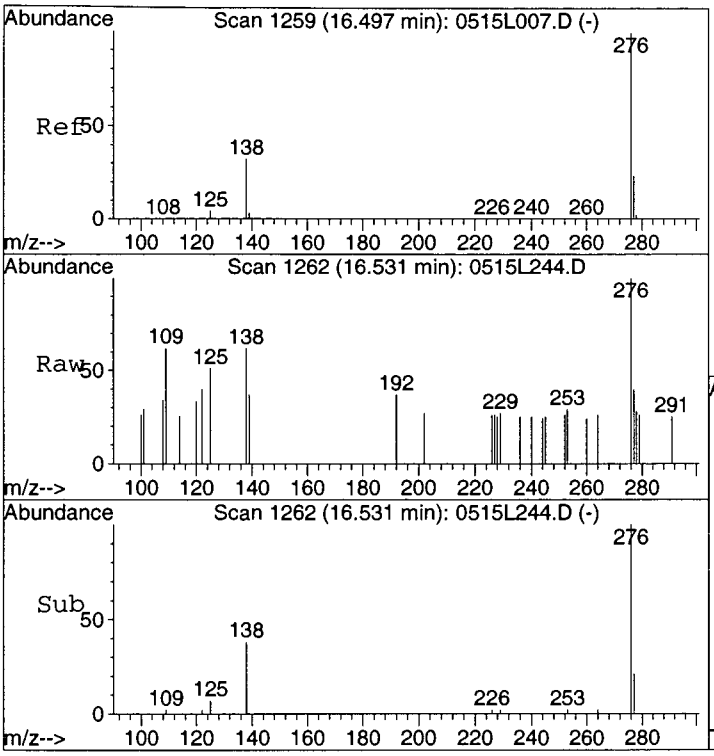


#25
Dibenz (a,h) anthracene
Concen: 43.57 ppb
RT: 16.12 min Scan# 1227
Delta R.T. 0.02 min
Lab File: 0515L244.D
Acq: 27 May 15 23:07

Tgt Ion:278 Resp: 105

Ion	Ratio	Lower	Upper
278	100		
139	26.9	17.9	33.3
279	26.9	16.7	30.9

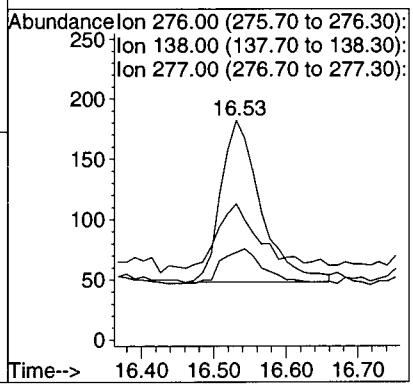




#26
Benzo (g,h,i) perylene
Concen: 44.87 ppb
RT: 16.53 min Scan# 1262
Delta R.T. 0.03 min
Lab File: 0515L244.D
Acq: 27 May 15 23:07

Tgt Ion:276 Resp: 517

Ion	Ratio	Lower	Upper
276	100		
138	39.6	22.3	41.5
277	19.4	16.4	30.4



EPA 8270D LL SOILS

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: 76390

Sample ID: S67-SB037-0607

APPL ID: AZ16202

Sample Collection Date: 5/8/2015

QCG: #SIMDD-150521A-197621

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.0 Percent Moisture.)								
8270D-LL	2-METHYLNAPHTHALENE	0.0021 U	0.006	0.0021	0.0011	mg/kg	5/21/2015	5/27/2015
8270D-LL	ACENAPHTHENE	0.0021 U	0.006	0.0021	0.0012	mg/kg	5/21/2015	5/27/2015
8270D-LL	ACENAPHTHYLENE	0.0021 U	0.006	0.0021	0.0011	mg/kg	5/21/2015	5/27/2015
8270D-LL	ANTHRACENE	0.0021 U	0.006	0.0021	0.0010	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZ (A) ANTHRACENE	0.0021 U	0.006	0.0021	0.0011	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (A) PYRENE	0.0021 U	0.006	0.0021	0.0011	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (B) FLUORANTHENE	0.0021 U	0.006	0.0021	0.0013	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (G,H,I) PERYLENE	0.0021 U	0.006	0.0021	0.0016	mg/kg	5/21/2015	5/27/2015
8270D-LL	BENZO (K) FLUORANTHENE	0.0021 U	0.006	0.0021	0.0012	mg/kg	5/21/2015	5/27/2015
8270D-LL	CHRYSENE	0.0021 U	0.006	0.0021	0.0010	mg/kg	5/21/2015	5/27/2015
8270D-LL	DIBENZ (A,H) ANTHRACENE	0.0021 U	0.006	0.0021	0.0011	mg/kg	5/21/2015	5/27/2015
8270D-LL	FLUORANTHENE	0.0021 U	0.006	0.0021	0.0015	mg/kg	5/21/2015	5/27/2015
8270D-LL	FLUORENE	0.0021 U	0.006	0.0021	0.0012	mg/kg	5/21/2015	5/27/2015
8270D-LL	INDENO (1,2,3-CD) PYRENE	0.0021 U	0.006	0.0021	0.0011	mg/kg	5/21/2015	5/27/2015
8270D-LL	NAPHTHALENE	0.0021 U	0.006	0.0021	0.0011	mg/kg	5/21/2015	5/27/2015
8270D-LL	PHENANTHRENE	0.0021 U	0.006	0.0021	0.0013	mg/kg	5/21/2015	5/27/2015
8270D-LL	PYRENE	0.0021 U	0.006	0.0021	0.0015	mg/kg	5/21/2015	5/27/2015
8270D-LL	SURROGATE: 2-FLUORBIPHENYL (S)	39.6 #	45-105			%	5/21/2015	5/27/2015
8270D-LL	SURROGATE: NITROBENZENE-D5 (S)	53.7	35-100			%	5/21/2015	5/27/2015
8270D-LL	SURROGATE: TERPHENYL-D14 (S)	77.9	30-125			%	5/21/2015	5/27/2015

= Recovery (or RPD) is outside QC limits.

Quant Method:	P0518-42.M
Run #:	0515L245
Instrument:	Linus
Sequence:	L150515
Dilution Factor:	1
Initials:	DA

Printed: 6/2/2015 2:16:39 PM

APPL-F1-SC-MCRes/MCPQL-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L150515\0515L245.D Vial: 45
Acq On : 27 May 15 23:32 Operator: MA
Sample : AZ16202S01 1/30.02G Inst : Linus
Misc : soil Multiplr: 33.31

Quant Time: Jun 1 11:07 2015 Quant Results File: P0518-42.RES

Quant Method : M:\LINUS\DATA\L150515\P0518-42.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed May 27 13:24:37 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQ

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	6.16	136	10301	2.50	ppb		0.00
6) Acenaphthene-D10(IS)	8.17	164	4795	2.50	ppb		0.01
11) Phenanthrene-D10(IS)	9.90	188	8214	2.50	ppb		0.00
15) Chrysene-D12(IS)	12.97	240	8755	2.50	ppb		0.01
21) Perylene-D12(IS)	14.59	264	5927	2.50	ppb		0.01
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	5.36	82	1562	44.71	ppb		0.00
Spiked Amount 83.278			Recovery =	53.684%			
7) Surrogate Recovery (FBP)	7.41	172	3002	33.01	ppb		0.01
Spiked Amount 83.278			Recovery =	39.637%			
17) Surrogate Recovery (TPH)	11.77	244	5474	64.85	ppb		0.00
Spiked Amount 83.278			Recovery =	77.875%			
Target Compounds							Qvalue
12) Phenanthrene	9.92	178	25	-1.48	ppb	#	92
14) Fluoranthene	11.30	202	15	-3.76	ppb	#	67
22) Benzo (b) fluoranthene	14.15	252	27	-5.54	ppb	#	71
24) Benzo (a) pyrene	14.45	252	27	-2.02	ppb	#	77

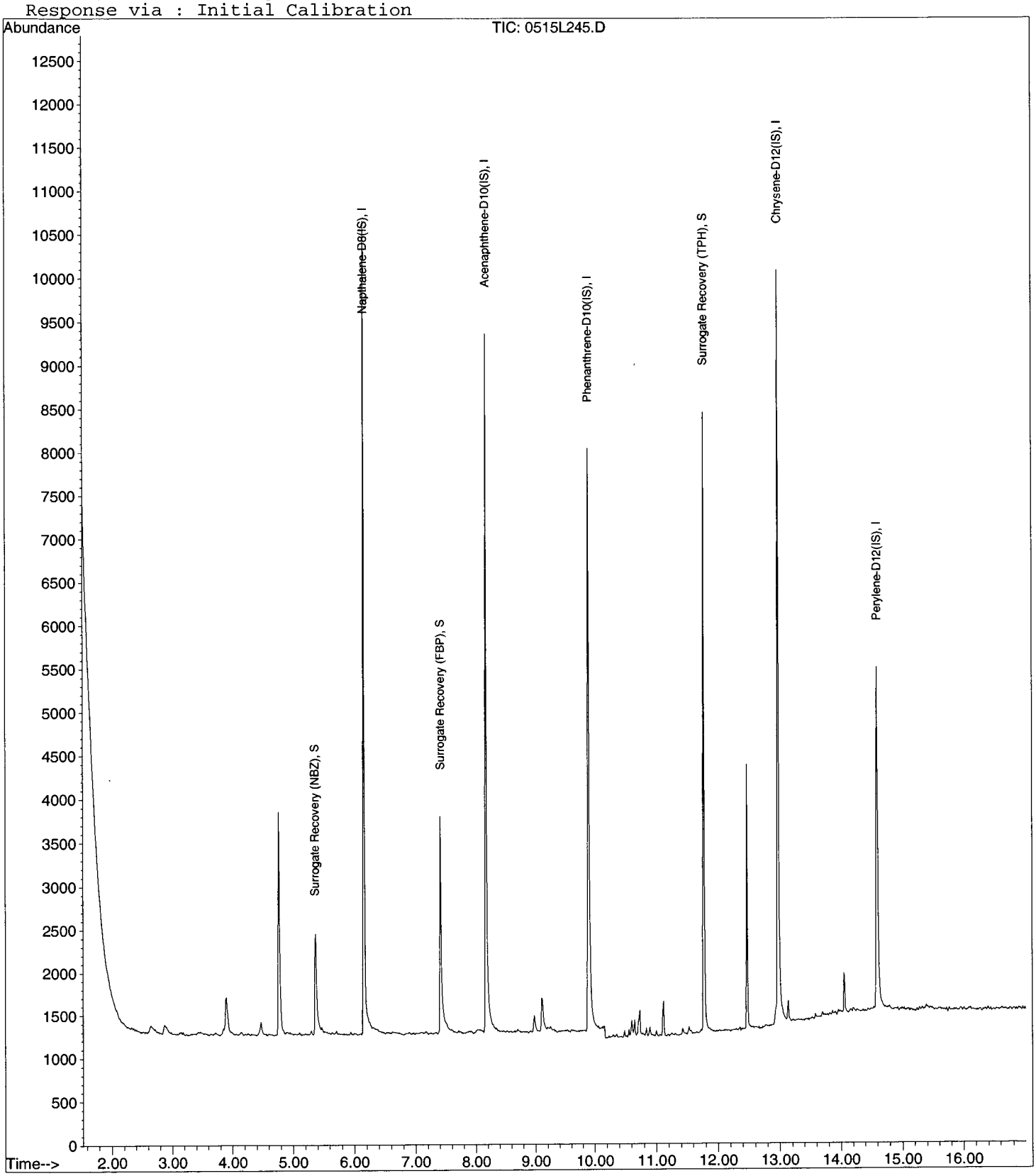
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150515\0515L245.D Vial: 45
Acq On : 27 May 15 23:32 Operator: MA
Sample : AZ16202S01 1/30.02G Inst : Linus
Misc : soil Multiplr: 33.31

Quant Time: Jun 1 11:07 2015 Quant Results File: P0518-42.RES

Method : M:\LINUS\DATA\L150515\P0518-42.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed May 27 13:24:37 2015
Response via : Initial Calibration



EPA METHOD 8270D
Polynuclear Aromatic Hydrocarbons
Calibration Data

APPL, INC.

EPA 8270C SIM
P0518-42

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 76390
Case No: Initial Cal. Date: 5/15/2015
Matrix: Instrument: Linus
Initials: MA

			0515L003.D	0515L004.D	0515L005.D	0515L006.D	0515L007.D	0515L008.D	0515L009.D	0515L010.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)	0.2254	0.3678	0.1834	0.1860	0.2776	0.2909	0.3391	0.3198			0.27	25	SL	0.999
3	TM	Naphthalene	0.8554	0.8475	0.7845	0.9100	1.049	1.089	1.174	1.113			0.98	15	TM	
4	TML	2-Methylnaphthalene	0.4994	0.5010	0.4785	0.5210	0.6104	0.6851	0.7669	0.7167			0.60	19	TML	0.999
5	TM	1-Methylnaphthalene	0.5762	0.5810	0.4580	0.5662	0.6341	0.6730	0.7484	0.6954			0.62	15	TM	
6	I	Acenaphthene-D10(IS)														
7	S	Surrogate Recovery (FBP)				1.217	1.812	1.617	1.675	1.577			1.6	14	S	
8	TML	Acenaphthylene	1.795	1.721	1.606	1.730	2.314	2.330	2.600	2.556			2.1	20	TML	1.000
9	*TM	Acenaphthene	1.152	1.120	1.004	1.083	1.397	1.402	1.500	1.468			1.3	15	*TM	
10	TML	Fluorene	1.331	1.190	1.050	1.116	1.471	1.579	1.671	1.606			1.4	17	TML	1.000
11	I	Phenanthrene-D10(IS)														
12	TML	Phenanthrene	1.072	1.012	0.9085	0.9592	1.237	1.307	1.401	1.315			1.2	16	TML	0.999
13	TML	Anthracene	0.9138	0.9496	0.8756	0.9497	1.174	1.229	1.322	1.259			1.1	17	TML	0.999
14	*TML	Fluoranthene	1.292	1.160	1.048	1.124	1.461	1.555	1.707	1.564			1.4	18	*TML	0.998
15	I	Chrysene-D12(IS)														
16	TM	Pyrene	1.385	1.349	1.165	1.236	1.554	1.564	1.593	1.529			1.4	11	TM	
17	S	Surrogate Recovery (TPH)	0.7828	0.7480	0.6866	0.6959	0.9635	0.8453	0.8659	0.8351			0.80	12	S	
18	TML	Benz (a) anthracene	1.074	0.9169	0.8316	0.8680	1.146	1.248	1.372	1.288			1.1	19	TML	0.999
19	TM	Chrysene	1.181	1.069	1.140	1.165	1.314	1.284	1.211	1.171			1.2	6.6	TM	
20	TML	Indeno (1,2,3-cd) pyrene	1.032	0.8816	0.8741	0.9520	1.205	1.296	1.416	1.386			1.1	20	TML	1.000
21	I	Perylene-D12(IS)														
22	TML	Benzo (b) fluoranthene	1.181	1.366	0.9970	1.080	1.710	1.633	2.174	1.841			1.5	27	TML	0.993
23	TML	Benzo (k) fluoranthene	1.572	0.9926	1.318	1.357	1.658	1.985	1.740	1.877			1.6	21	TML	0.999
24	*TML	Benzo (a) pyrene	1.523	1.336	1.301	1.388	1.764	1.857	1.940	1.838			1.6	16	*TML	0.999
25	TML	Dibenz (a,h) anthracene	1.133	1.051	1.104	1.146	1.622	1.761	1.922	1.826			1.4	26	TML	0.999
26	TML	Benzo (g,h,i) perylene	1.398	1.182	1.173	1.261	1.698	1.811	1.927	1.828			1.5	20	TML	0.999
27																
28																
29																
30																
31																
32																
33																
34																
35																

Data File : M:\LINUS\DATA\L150515\0515L003.D Vial: 3
Acq On : 15 May 15 17:15 Operator: csc
Sample : 0.1ug/ml PAH 05/15/15 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: May 18 10:26 2015 Quant Results File: P0518.RES

Quant Method : M:\LINUS\DATA\L150515\P0518.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon May 18 09:20:47 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQ

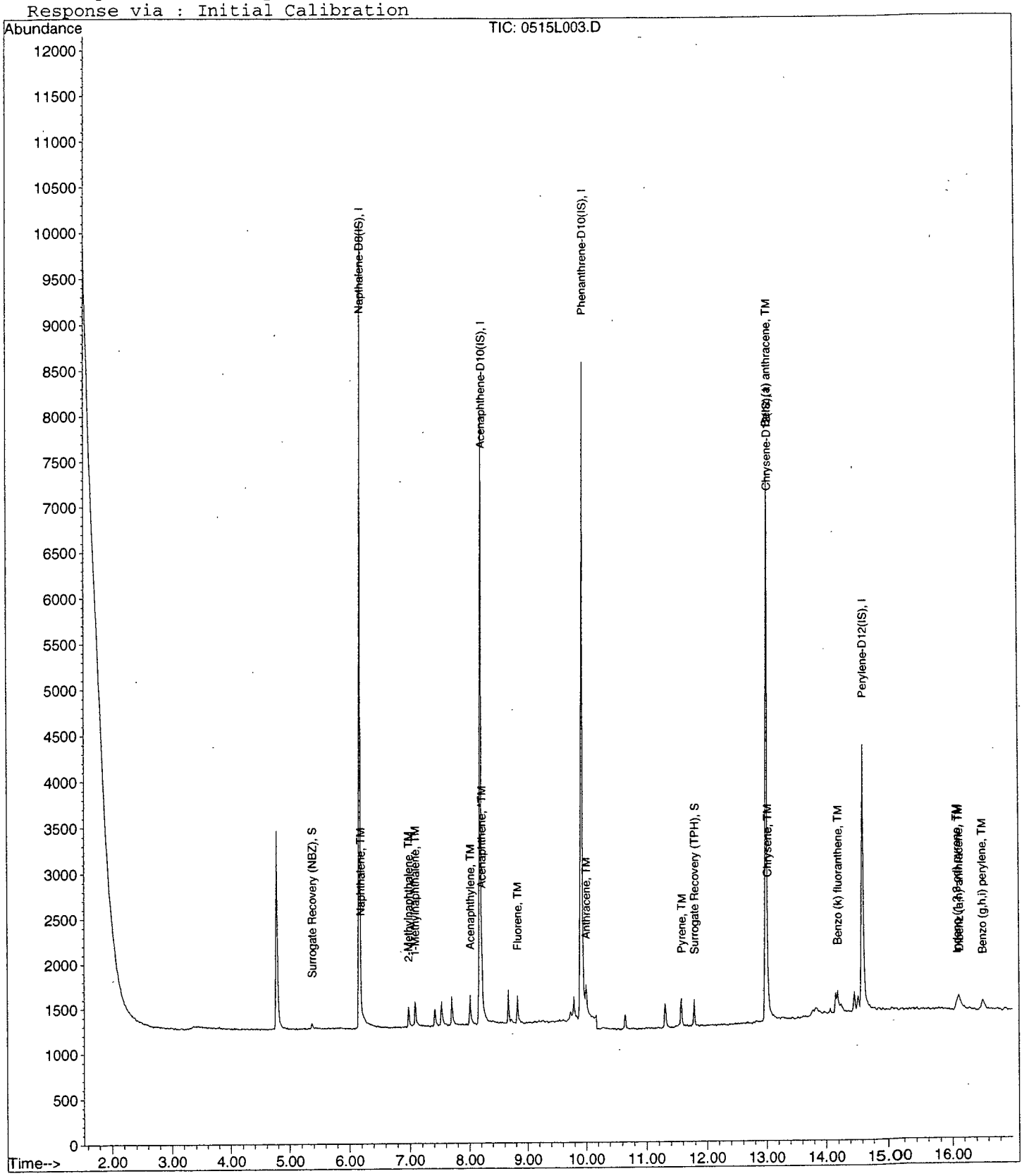
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	6.16	136	9762	2.50	ppb		0.00
6) Acenaphthene-D10(IS)	8.17	164	4471	2.50	ppb		0.01
11) Phenanthrene-D10(IS)	9.90	188	7606	2.50	ppb		0.00
15) Chrysene-D12(IS)	12.97	240	7218	2.50	ppb		0.01
21) Perylene-D12(IS)	14.58	264	4613	2.50	ppb		0.00
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	5.37	82	88	0.24	ppb		0.01
Spiked Amount 2.500			Recovery = 9.680%				
7) Surrogate Recovery (FBP)	7.41	172	230	-0.18	ppb		0.01
Spiked Amount 2.500			Recovery = -7.400%				
17) Surrogate Recovery (TPH)	11.77	244	226	0.10	ppb		0.00
Spiked Amount 2.500			Recovery = 3.880%				
Target Compounds							Qvalue
3) Naphthalene	6.18	128	334	0.09	ppb		96
4) 2-Methylnaphthalene	6.96	142	195	0.14	ppb		95
5) 1-Methylnaphthalene	7.07	142	225	0.09	ppb		100
8) Acenaphthylene	8.00	152	321	0.33	ppb		96
9) Acenaphthene	8.19	154	208	0.09	ppb		98
10) Fluorene	8.81	166	238	0.15	ppb		99
13) Anthracene	9.98	178	278	0.09	ppb		94
16) Pyrene	11.56	202	400	0.10	ppb		92
18) Benz (a) anthracene	12.96	228	310	0.12	ppb		97
19) Chrysene	13.00	228	341	0.10	ppb		94
20) Indeno (1,2,3-cd) pyrene	16.09	276	298	0.31	ppb	#	97
22) Benzo (b) fluoranthene	14.14	252	218	-0.11	ppb		96
23) Benzo (k) fluoranthene	14.17	252	290	0.40	ppb	#	94
25) Dibenz (a,h) anthracene	16.12	278	209	0.17	ppb		90
26) Benzo (g,h,i) perylene	16.51	276	258	0.09	ppb		88

(#) = qualifier out of range (m) = manual integration
0515L003.D P0518.M Tue Jun 02 13:56:42 2015

Data File : M:\LINUS\DATA\L150515\0515L003.D Vial: 3
Acq On : 15 May 15 17:15 Operator: csc
Sample : 0.1ug/ml PAH 05/15/15 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: May 18 10:26 2015 Quant Results File: P0518.RES

Method : M:\LINUS\DATA\L150515\P0518.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon May 18 09:20:47 2015
Response via : Initial Calibration



Data File : M:\LINUS\DATA\L150515\0515L004.D Vial: 4
Acq On : 15 May 15 17:41 Operator: csc
Sample : 0.2ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: May 18 9:13 2015 Quant Results File: P0518.RES

Quant Method : M:\LINUS\DATA\L150515\P0518.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon May 18 09:13:03 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQ

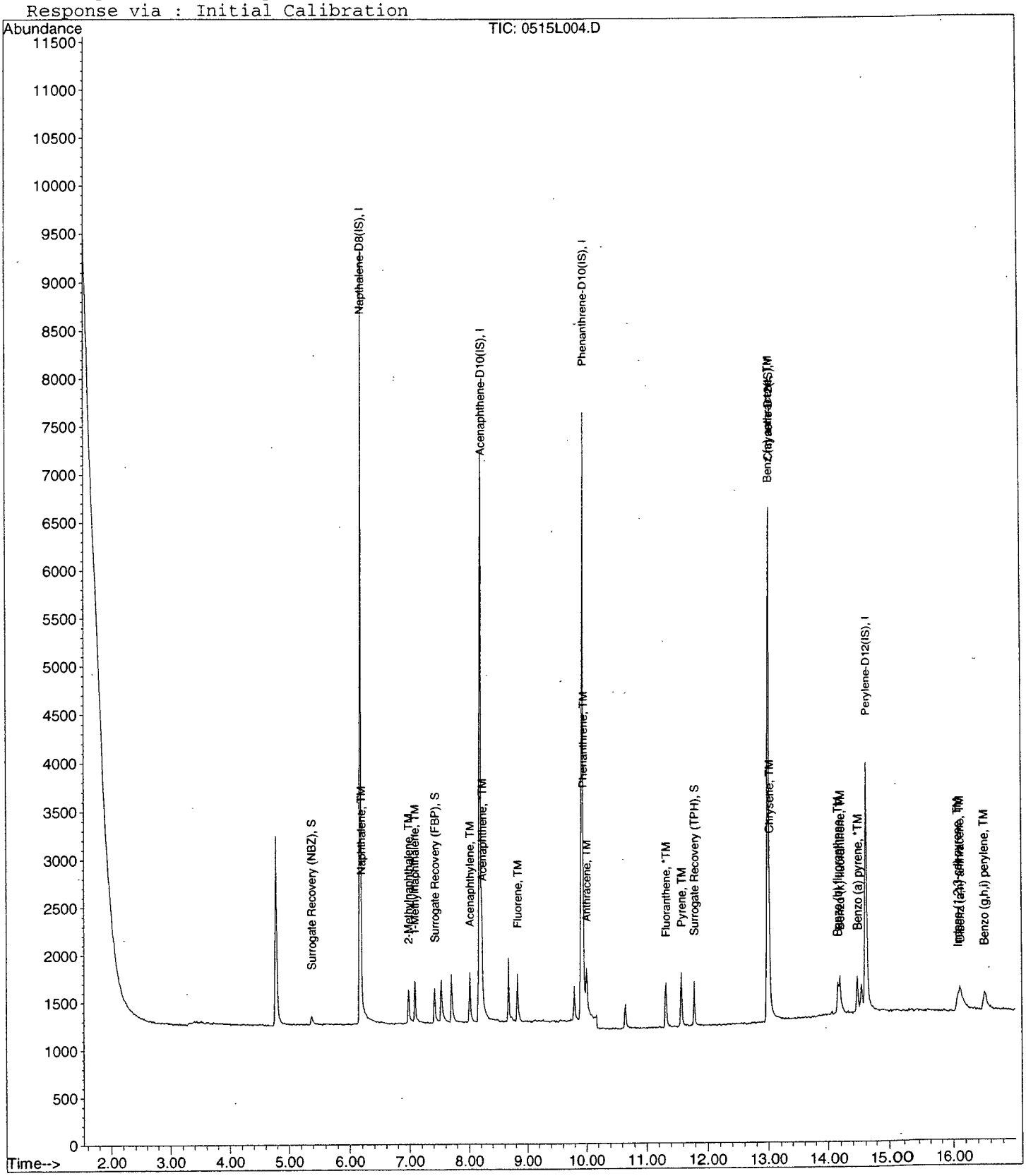
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	6.16	136	9381	2.50	ppb		0.00
6) Acenaphthene-D10(IS)	8.17	164	4264	2.50	ppb		0.01
11) Phenanthrene-D10(IS)	9.90	188	7253	2.50	ppb		0.00
15) Chrysene-D12(IS)	12.97	240	6735	2.50	ppb		0.01
21) Perylene-D12(IS)	14.58	264	4483	2.50	ppb		0.00
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	5.37	82	138	0.81	ppb		0.01
Spiked Amount 2.500			Recovery = 32.400%				
7) Surrogate Recovery (FBP)	7.41	172	438	0.18	ppb		0.01
Spiked Amount 2.500			Recovery = 7.280%				
17) Surrogate Recovery (TPH)	11.77	244	403	0.20	ppb		0.00
Spiked Amount 2.500			Recovery = 8.000%				
Target Compounds							Qvalue
3) Naphthalene	6.18	128	636	0.50	ppb		99
4) 2-Methylnaphthalene	6.96	142	376	0.79	ppb		100
5) 1-Methylnaphthalene	7.07	142	436	0.52	ppb		99
8) Acenaphthylene	8.00	152	587	0.32	ppb		99
9) Acenaphthene	8.21	154	382	0.40	ppb		91
10) Fluorene	8.81	166	406	0.46	ppb		91
12) Phenanthrene	9.92	178	587	0.19	ppb		99
13) Anthracene	9.98	178	551	0.55	ppb		99
14) Fluoranthene	11.30	202	673	0.78	ppb		92
16) Pyrene	11.56	202	727	0.21	ppb		91
18) Benz (a) anthracene	12.96	228	494	0.17	ppb		93
19) Chrysene	13.00	228	576	0.20	ppb		97
20) Indeno (1,2,3-cd) pyrene	16.09	276	475	0.63	ppb	#	92
22) Benzo (b) fluoranthene	14.14	252	490	0.41	ppb	#	89
23) Benzo (k) fluoranthene	14.17	252	356	0.38	ppb		97
24) Benzo (a) pyrene	14.45	252	479	0.38	ppb		97
25) Dibenz (a,h) anthracene	16.12	278	377	0.57	ppb		95
26) Benzo (g,h,i) perylene	16.51	276	424	0.55	ppb		98

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

Data File : M:\LINUS\DATA\L150515\0515L004.D Vial: 4
Acq On : 15 May 15 17:41 Operator: csc
Sample : 0.2ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: May 18 9:13 2015 Quant Results File: P0518.RES

Method : M:\LINUS\DATA\L150515\P0518.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon May 18 09:20:47 2015
Response via : Initial Calibration



Data File : M:\LINUS\DATA\L150515\0515L005.D Vial: 5
Acq On : 15 May 15 18:06 Operator: csc
Sample : 0.5ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: May 18 9:13 2015 Quant Results File: P0518.RES

Quant Method : M:\LINUS\DATA\L150515\P0518.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon May 18 09:13:03 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQ

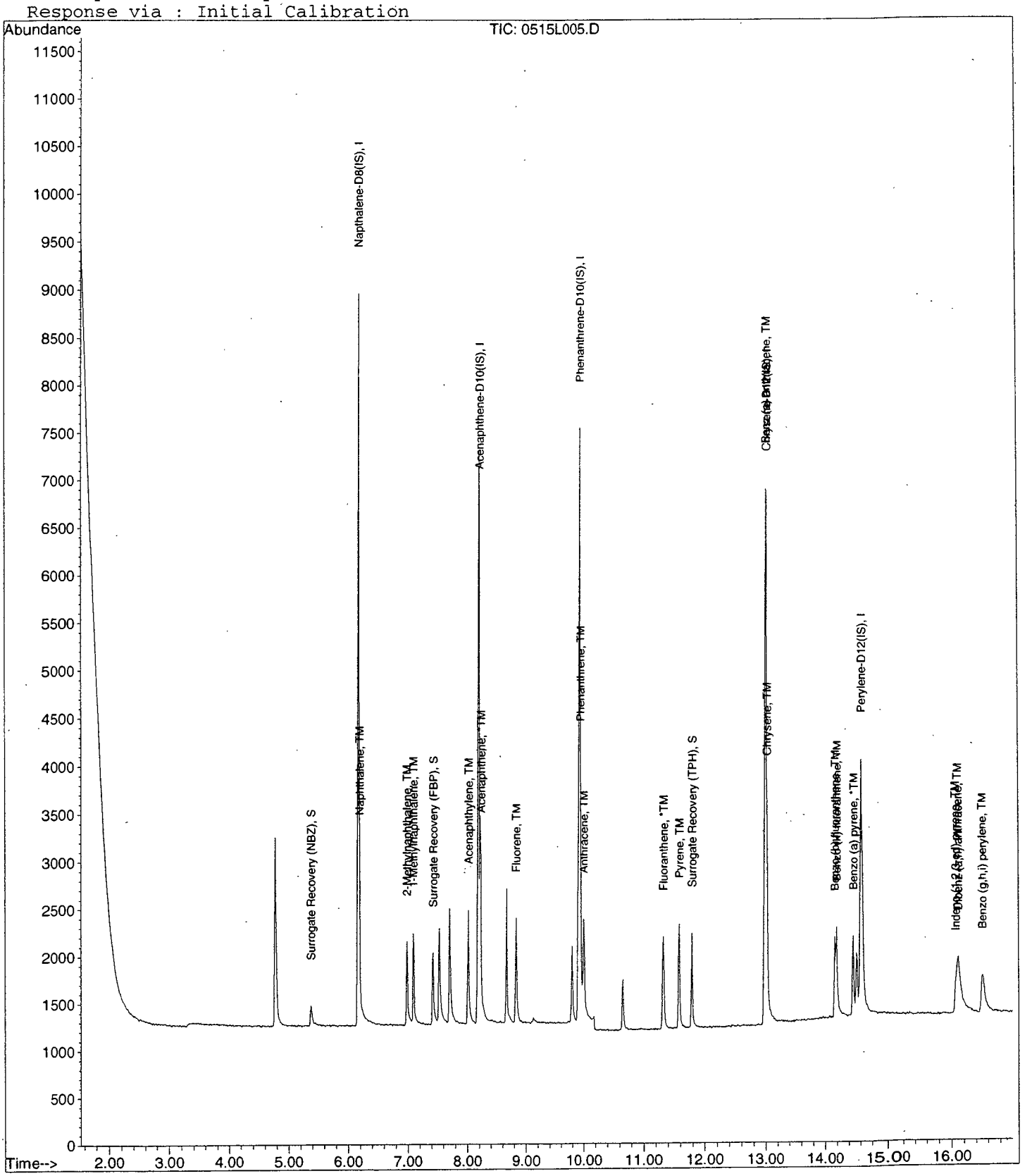
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	6.16	136	9050	2.50	ppb		0.00
6) Acenaphthene-D10(IS)	8.17	164	4233	2.50	ppb		0.01
11) Phenanthrene-D10(IS)	9.90	188	7149	2.50	ppb		0.00
15) Chrysene-D12(IS)	12.97	240	6590	2.50	ppb		0.01
21) Perylene-D12(IS)	14.58	264	4308	2.50	ppb		0.00
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	5.37	82	332	0.98	ppb		0.01
Spiked Amount 2.500			Recovery = 39.000%				
7) Surrogate Recovery (FBP)	7.41	172	955	0.40	ppb		0.01
Spiked Amount 2.500			Recovery = 15.960%				
17) Surrogate Recovery (TPH)	11.77	244	905	0.46	ppb		0.00
Spiked Amount 2.500			Recovery = 18.400%				
Target Compounds							Qvalue
3) Naphthalene	6.18	128	1420	0.70	ppb		100
4) 2-Methylnaphthalene	6.96	142	866	0.97	ppb		99
5) 1-Methylnaphthalene	7.07	142	829	0.67	ppb		94
8) Acenaphthylene	8.00	152	1360	0.51	ppb		97
9) Acenaphthene	8.21	154	850	0.60	ppb		96
10) Fluorene	8.81	166	889	0.64	ppb		94
12) Phenanthrene	9.92	178	1299	0.42	ppb		98
13) Anthracene	9.98	178	1252	0.76	ppb		98
14) Fluoranthene	11.30	202	1498	0.96	ppb		93
16) Pyrene	11.56	202	1536	0.46	ppb		91
18) Benz (a) anthracene	12.96	228	1096	0.39	ppb		96
19) Chrysene	13.00	228	1502	0.53	ppb		97
20) Indeno (1,2,3-cd) pyrene	16.08	276	1152	0.83	ppb	#	90
22) Benzo (b) fluoranthene	14.14	252	859	0.55	ppb	#	96
23) Benzo (k) fluoranthene	14.17	252	1136	0.72	ppb		97
24) Benzo (a) pyrene	14.45	252	1121	0.64	ppb		94
25) Dibenz (a,h) anthracene	16.11	278	951	0.80	ppb		94
26) Benzo (g,h,i) perylene	16.51	276	1011	0.80	ppb		97

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

Data File : M:\LINUS\DATA\L150515\0515L005.D Vial: 5
Acq On : 15 May 15 18:06 Operator: csc
Sample : 0.5ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: May 18 9:13 2015 Quant Results File: P0518.RES

Method : M:\LINUS\DATA\L150515\P0518.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon May 18 09:20:47 2015
Response via : Initial Calibration



Data File : M:\LINUS\DATA\L150515\0515L006.D Vial: 6
Acq On : 15 May 15 18:32 Operator: csc
Sample : 1.0ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: May 18 9:13 2015 Quant Results File: P0518.RES

Quant Method : M:\LINUS\DATA\L150515\P0518.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon May 18 09:13:03 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQ

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	6.16	136	8964	2.50	ppb		0.00
6) Acenaphthene-D10(IS)	8.16	164	4488	2.50	ppb		0.00
11) Phenanthrene-D10(IS)	9.90	188	7363	2.50	ppb		0.00
15) Chrysene-D12(IS)	12.97	240	6941	2.50	ppb		0.01
21) Perylene-D12(IS)	14.58	264	4617	2.50	ppb		0.00
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	5.37	82	667	1.26	ppb		0.01
Spiked Amount 2.500			Recovery = 50.400%				
7) Surrogate Recovery (FBP)	7.41	172	2185	0.86	ppb		0.01
Spiked Amount 2.500			Recovery = 34.440%				
17) Surrogate Recovery (TPH)	11.77	244	1932	0.93	ppb		0.00
Spiked Amount 2.500			Recovery = 37.280%				
Target Compounds							Qvalue
3) Naphthalene	6.18	128	3263	1.16	ppb		99
4) 2-Methylnaphthalene	6.96	142	1868	1.34	ppb		98
5) 1-Methylnaphthalene	7.07	142	2030	1.14	ppb		96
8) Acenaphthylene	8.00	152	3106	0.91	ppb		99
9) Acenaphthene	8.19	154	1945	1.01	ppb		97
10) Fluorene	8.81	166	2003	1.02	ppb		94
12) Phenanthrene	9.92	178	2825	0.89	ppb		99
13) Anthracene	9.98	178	2797	1.18	ppb		98
14) Fluoranthene	11.30	202	3311	1.32	ppb		92
16) Pyrene	11.56	202	3431	0.97	ppb	#	87
18) Benz (a) anthracene	12.96	228	2410	0.81	ppb		97
19) Chrysene	13.00	228	3235	1.09	ppb		98
20) Indeno (1,2,3-cd) pyrene	16.08	276	2643	1.22	ppb	#	97
22) Benzo (b) fluoranthene	14.14	252	1994	0.91	ppb		96
23) Benzo (k) fluoranthene	14.17	252	2506	1.22	ppb		96
24) Benzo (a) pyrene	14.45	252	2564	1.14	ppb		96
25) Dibenz (a,h) anthracene	16.11	278	2117	1.20	ppb		98
26) Benzo (g,h,i) perylene	16.51	276	2328	1.27	ppb		98

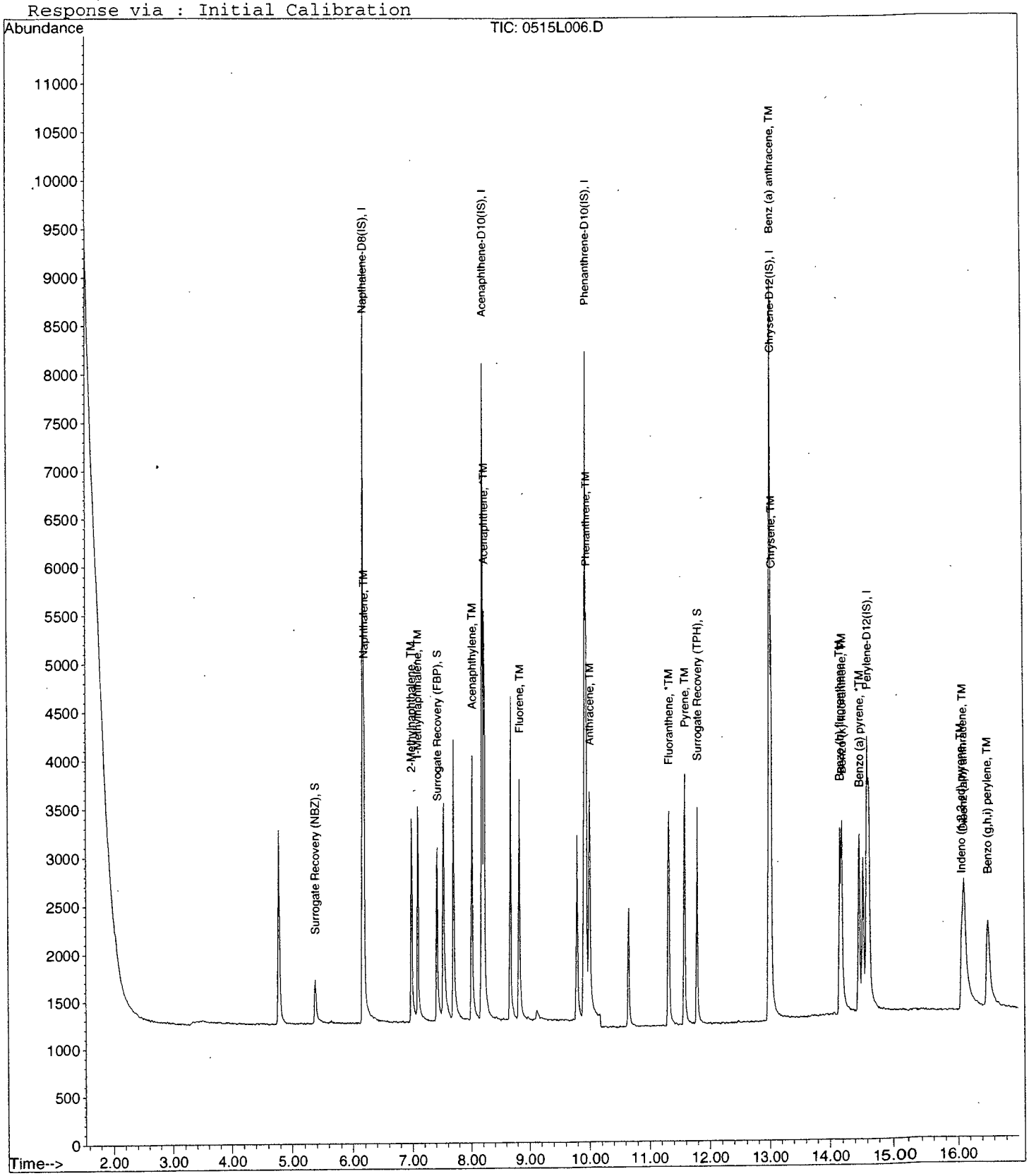
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150515\0515L006.D Vial: 6
Acq On : 15 May 15 18:32 Operator: csc
Sample : 1.0ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: May 18 9:13 2015 Quant Results File: P0518.RES

Method : M:\LINUS\DATA\L150515\P0518.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon May 18 09:20:47 2015
Response via : Initial Calibration



Data File : M:\LINUS\DATA\L150515\0515L007.D Vial: 7
Acq On : 15 May 15 18:58 Operator: csc
Sample : 5.0ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: May 18 9:13 2015 Quant Results File: P0518.RES

Quant Method : M:\LINUS\DATA\L150515\P0518.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon May 18 09:13:03 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQ

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	6.16	136	7444	2.50	ppb		0.00
6) Acenaphthene-D10(IS)	8.16	164	3374	2.50	ppb		0.00
11) Phenanthrene-D10(IS)	9.90	188	5789	2.50	ppb		0.00
15) Chrysene-D12(IS)	12.96	240	5736	2.50	ppb		0.00
21) Perylene-D12(IS)	14.58	264	3671	2.50	ppb		0.00
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	5.36	82	4133	4.89	ppb		0.00
Spiked Amount 2.500			Recovery = 195.520%				
7) Surrogate Recovery (FBP)	7.40	172	12230	6.41	ppb		0.00
Spiked Amount 2.500			Recovery = 256.280%				
17) Surrogate Recovery (TPH)	11.77	244	11053	6.45	ppb		0.00
Spiked Amount 2.500			Recovery = 258.000%				
Target Compounds							Qvalue
3) Naphthalene	6.18	128	15624	5.05	ppb		100
4) 2-Methylnaphthalene	6.96	142	9087	4.65	ppb		100
5) 1-Methylnaphthalene	7.07	142	9441	4.77	ppb		100
8) Acenaphthylene	8.00	152	15612	5.09	ppb		100
9) Acenaphthene	8.19	154	9425	5.21	ppb		100
10) Fluorene	8.81	166	9927	5.02	ppb		100
12) Phenanthrene	9.92	178	14320	5.74	ppb		100
13) Anthracene	9.98	178	13594	5.20	ppb		100
14) Fluoranthene	11.29	202	16914	5.05	ppb		100
16) Pyrene	11.55	202	17823	6.08	ppb		100
18) Benz (a) anthracene	12.95	228	13150	5.34	ppb		100
19) Chrysene	13.00	228	15075	6.16	ppb		100
20) Indeno (1,2,3-cd) pyrene	16.06	276	13822	5.05	ppb	#	100
22) Benzo (b) fluoranthene	14.14	252	12555	5.60	ppb		100
23) Benzo (k) fluoranthene	14.16	252	12170	6.25	ppb		100
24) Benzo (a) pyrene	14.44	252	12949	6.16	ppb		100
25) Dibenz (a,h) anthracene	16.10	278	11907	5.92	ppb		100
26) Benzo (g,h,i) perylene	16.50	276	12470	6.31	ppb		100

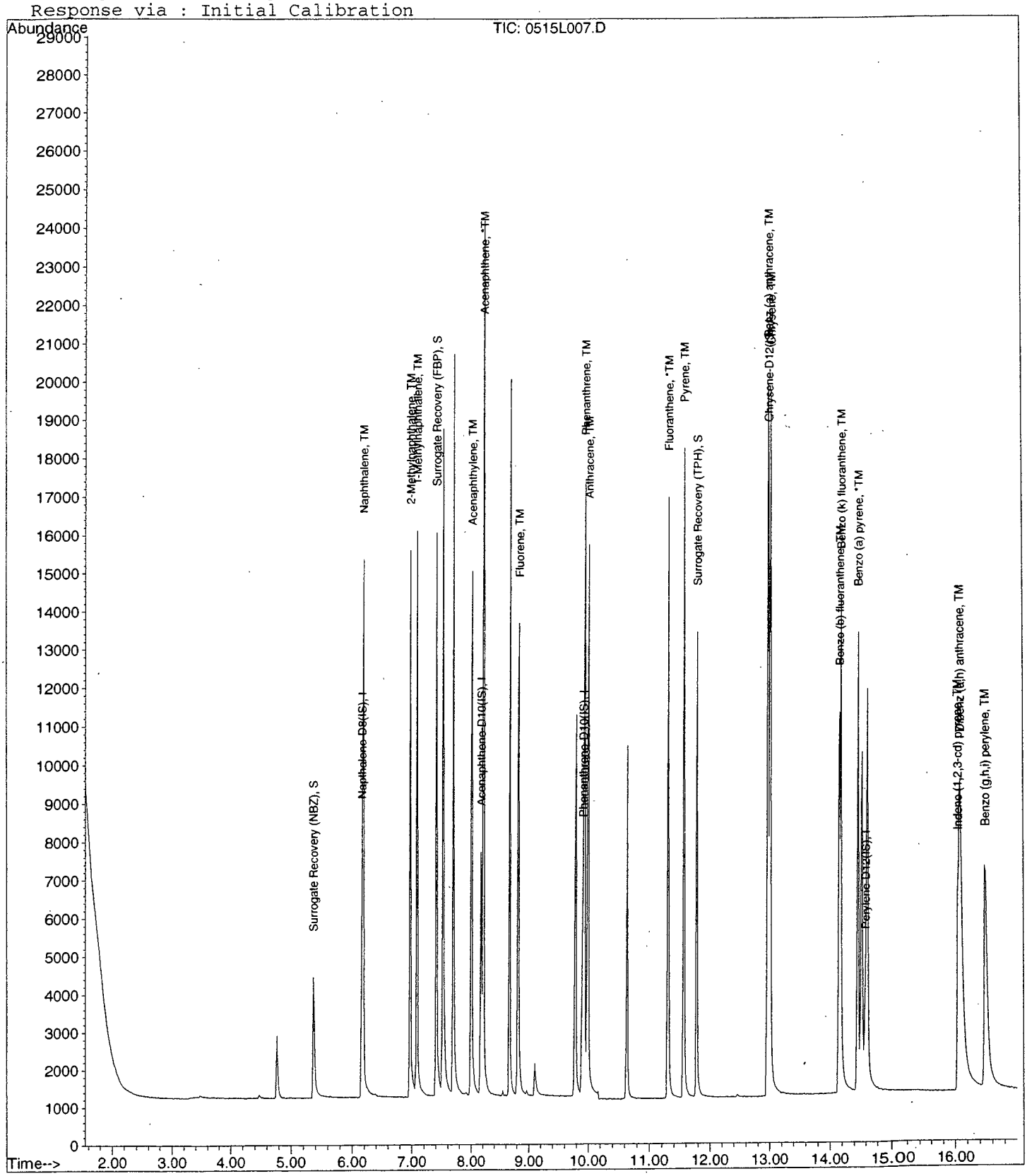
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150515\0515L007.D Vial: 7
Acq On : 15 May 15 18:58 Operator: csc
Sample : 5.0ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: May 18 9:13 2015 Quant Results File: P0518.RES

Method : M:\LINUS\DATA\L150515\P0518.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon May 18 09:20:47 2015
Response via : Initial Calibration



Data File : M:\LINUS\DATA\L150515\0515L008.D Vial: 8
Acq On : 15 May 15 19:23 Operator: csc
Sample : 10ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: May 18 9:13 2015 Quant Results File: P0518.RES

Quant Method : M:\LINUS\DATA\L150515\P0518.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon May 18 09:13:03 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQ

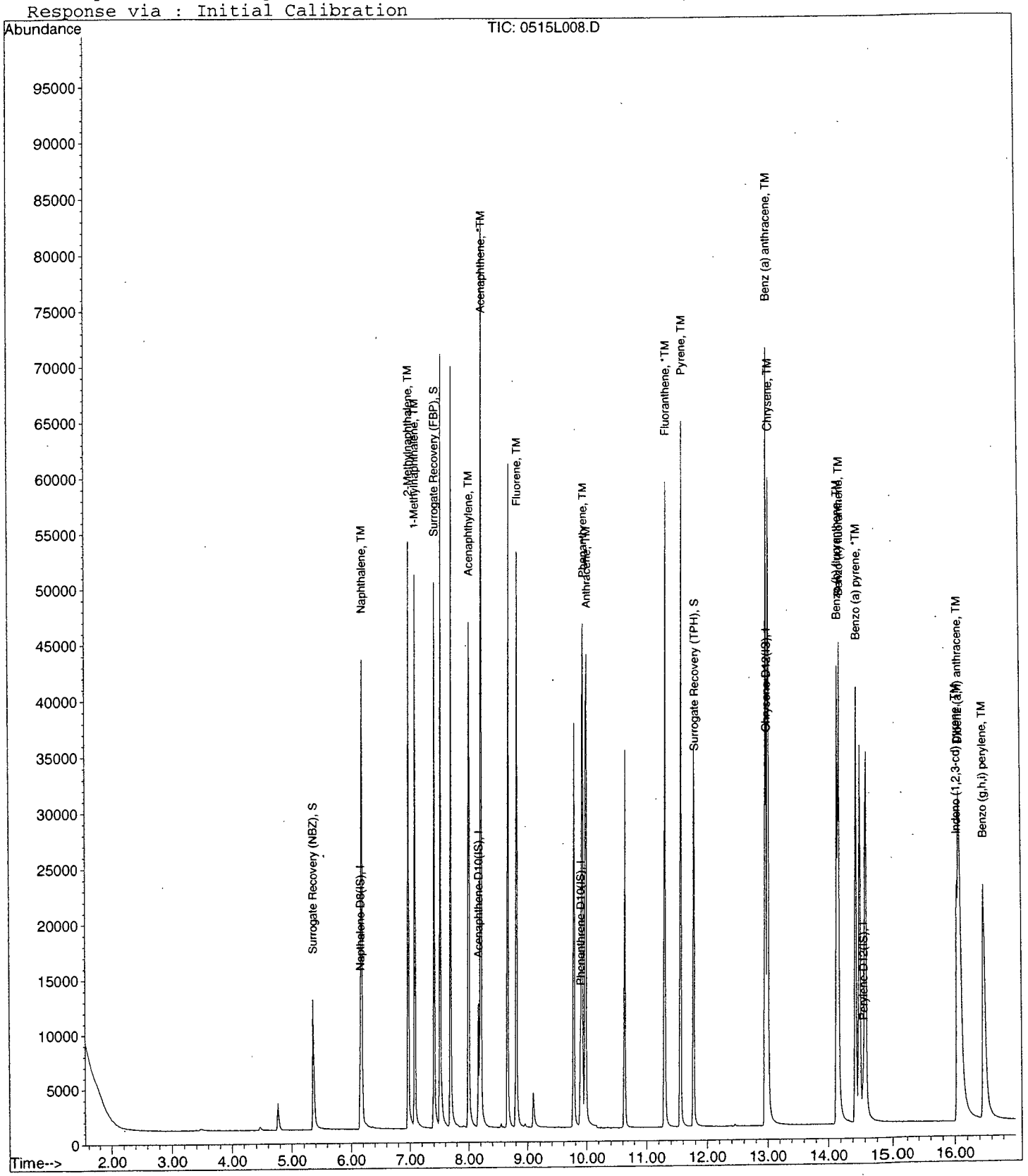
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	6.16	136	10891	2.50	ppb		0.00
6) Acenaphthene-D10(IS)	8.16	164	5030	2.50	ppb		0.00
11) Phenanthrene-D10(IS)	9.88	188	8662	2.50	ppb		-0.01
15) Chrysene-D12(IS)	12.96	240	8905	2.50	ppb		0.00
21) Perylene-D12(IS)	14.57	264	5552	2.50	ppb		-0.01
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	5.36	82	12674	9.48	ppb		0.00
Spiked Amount 2.500			Recovery = 379.120%				
7) Surrogate Recovery (FBP)	7.40	172	32526	11.43	ppb		0.00
Spiked Amount 2.500			Recovery = 457.200%				
17) Surrogate Recovery (TPH)	11.77	244	30110	11.32	ppb		0.00
Spiked Amount 2.500			Recovery = 452.680%				
Target Compounds							Qvalue
3) Naphthalene	6.18	128	47430	10.10	ppb		100
4) 2-Methylnaphthalene	6.96	142	29844	9.62	ppb		99
5) 1-Methylnaphthalene	7.07	142	29320	9.71	ppb		98
8) Acenaphthylene	7.99	152	46873	10.07	ppb		97
9) Acenaphthene	8.19	154	28199	10.20	ppb		99
10) Fluorene	8.80	166	31766	10.43	ppb		92
12) Phenanthrene	9.92	178	45279	12.14	ppb		100
13) Anthracene	9.98	178	42591	10.46	ppb		99
14) Fluoranthene	11.29	202	53862	10.02	ppb		94
16) Pyrene	11.55	202	55714	12.24	ppb		95
18) Benz (a) anthracene	12.95	228	44470	11.64	ppb		98
19) Chrysene	12.98	228	45739	12.03	ppb	#	93
20) Indeno (1,2,3-cd) pyrene	16.05	276	46158	10.29	ppb	#	96
22) Benzo (b) fluoranthene	14.13	252	36269	10.48	ppb		96
23) Benzo (k) fluoranthene	14.16	252	44089	14.63	ppb		95
24) Benzo (a) pyrene	14.44	252	41250	12.77	ppb		95
25) Dibenz (a,h) anthracene	16.09	278	39115	12.37	ppb		98
26) Benzo (g,h,i) perylene	16.48	276	40228	13.02	ppb		98

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

Data File : M:\LINUS\DATA\L150515\0515L008.D Vial: 8
Acq On : 15 May 15 19:23 Operator: csc
Sample : 10ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: May 18 9:13 2015 Quant Results File: P0518.RES

Method : M:\LINUS\DATA\L150515\P0518.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon May 18 09:20:47 2015
Response via : Initial Calibration



Data File : M:\LINUS\DATA\L150515\0515L009.D Vial: 9
Acq On : 15 May 15 19:49 Operator: csc
Sample : 50ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: May 18 9:13 2015 Quant Results File: P0518.RES

Quant Method : M:\LINUS\DATA\L150515\P0518.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon May 18 09:13:03 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQ

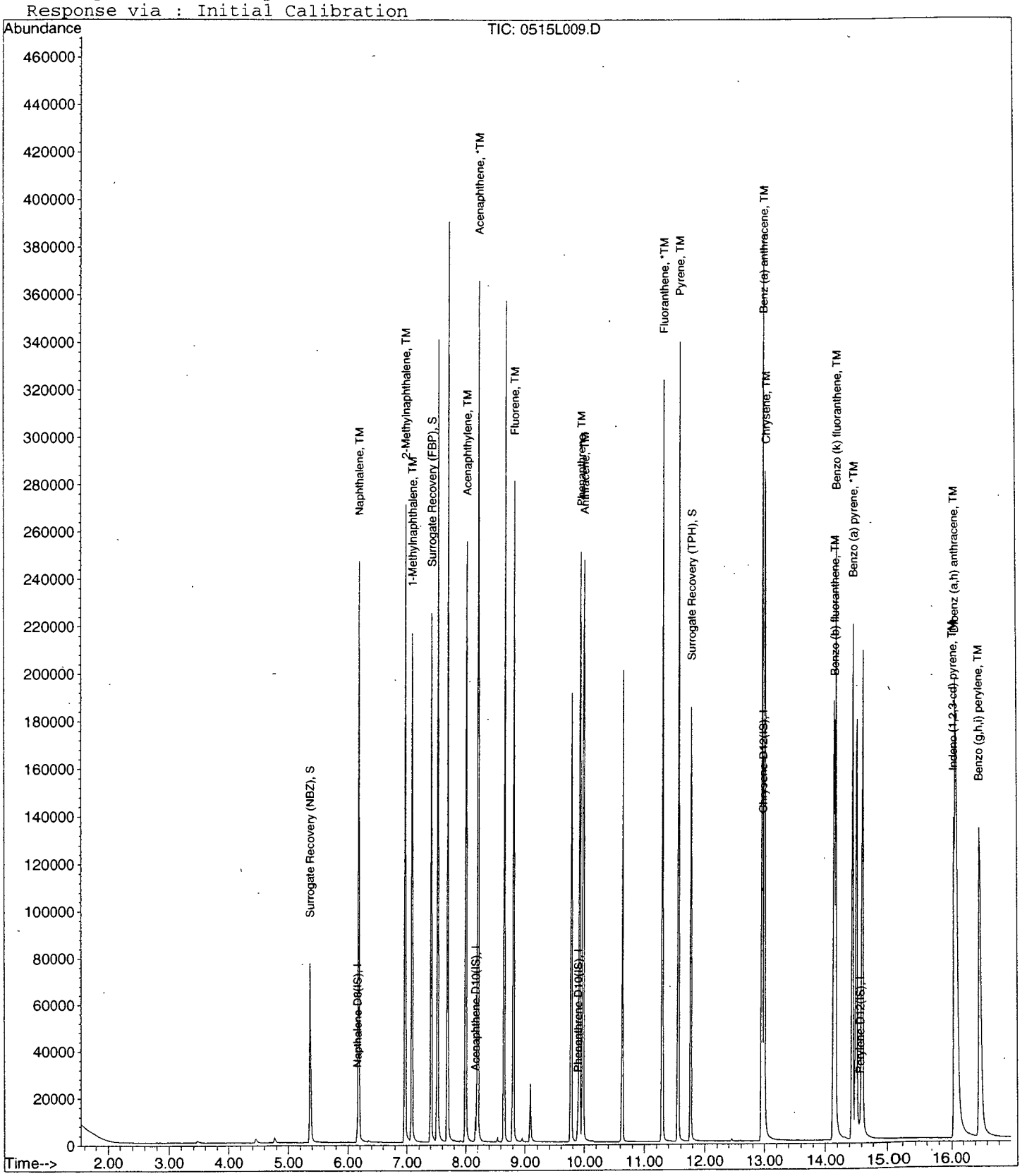
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	6.16	136	9907	2.50	ppb		0.00
6) Acenaphthene-D10(IS)	8.16	164	4610	2.50	ppb		0.00
11) Phenanthrene-D10(IS)	9.88	188	7949	2.50	ppb		-0.01
15) Chrysene-D12(IS)	12.96	240	8664	2.50	ppb		0.00
21) Perylene-D12(IS)	14.57	264	5437	2.50	ppb		-0.01
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	5.36	82	67181	51.86	ppb		0.00
Spiked Amount 2.500			Recovery = 2074.400%				
7) Surrogate Recovery (FBP)	7.40	172	154415	59.21	ppb		0.00
Spiked Amount 2.500			Recovery = 2368.360%				
17) Surrogate Recovery (TPH)	11.76	244	150044	57.96	ppb		-0.01
Spiked Amount 2.500			Recovery = 2318.600%				
Target Compounds							Qvalue
3) Naphthalene	6.18	128	232647	52.94	ppb		100
4) 2-Methylnaphthalene	6.96	142	151960	50.80	ppb		99
5) 1-Methylnaphthalene	7.07	142	148295	52.39	ppb		99
8) Acenaphthylene	8.00	152	239701	55.40	ppb		99
9) Acenaphthene	8.19	154	138275	53.52	ppb		98
10) Fluorene	8.80	166	154069	53.88	ppb		93
12) Phenanthrene	9.92	178	222761	65.08	ppb		99
13) Anthracene	9.98	178	210206	54.53	ppb		99
14) Fluoranthene	11.29	202	271453	52.11	ppb		95
16) Pyrene	11.55	202	276045	62.33	ppb		99
18) Benz (a) anthracene	12.95	228	237738	63.94	ppb		99
19) Chrysene	13.00	228	209845	56.74	ppb	#	96
20) Indeno (1,2,3-cd) pyrene	16.05	276	245430	54.01	ppb	#	98
22) Benzo (b) fluoranthene	14.14	252	236425	68.41	ppb		97
23) Benzo (k) fluoranthene	14.16	252	189251	63.32	ppb		100
24) Benzo (a) pyrene	14.44	252	210997	65.87	ppb		98
25) Dibenz (a,h) anthracene	16.09	278	208974	65.60	ppb		94
26) Benzo (g,h,i) perylene	16.48	276	209511	67.57	ppb		92

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

Data File : M:\LINUS\DATA\L150515\0515L009.D Vial: 9
Acq On : 15 May 15 19:49 Operator: csc
Sample : 50ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: May 18 9:13 2015 Quant Results File: P0518.RES

Method : M:\LINUS\DATA\L150515\P0518.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon May 18 09:20:47 2015
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L150515\0515L010.D Vial: 10
Acq On : 15 May 15 20:14 Operator: csc
Sample : 100ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: May 18 9:16 2015 Quant Results File: P0518.RES

Quant Method : M:\LINUS\DATA\L150515\P0518.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon May 18 09:16:04 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQ

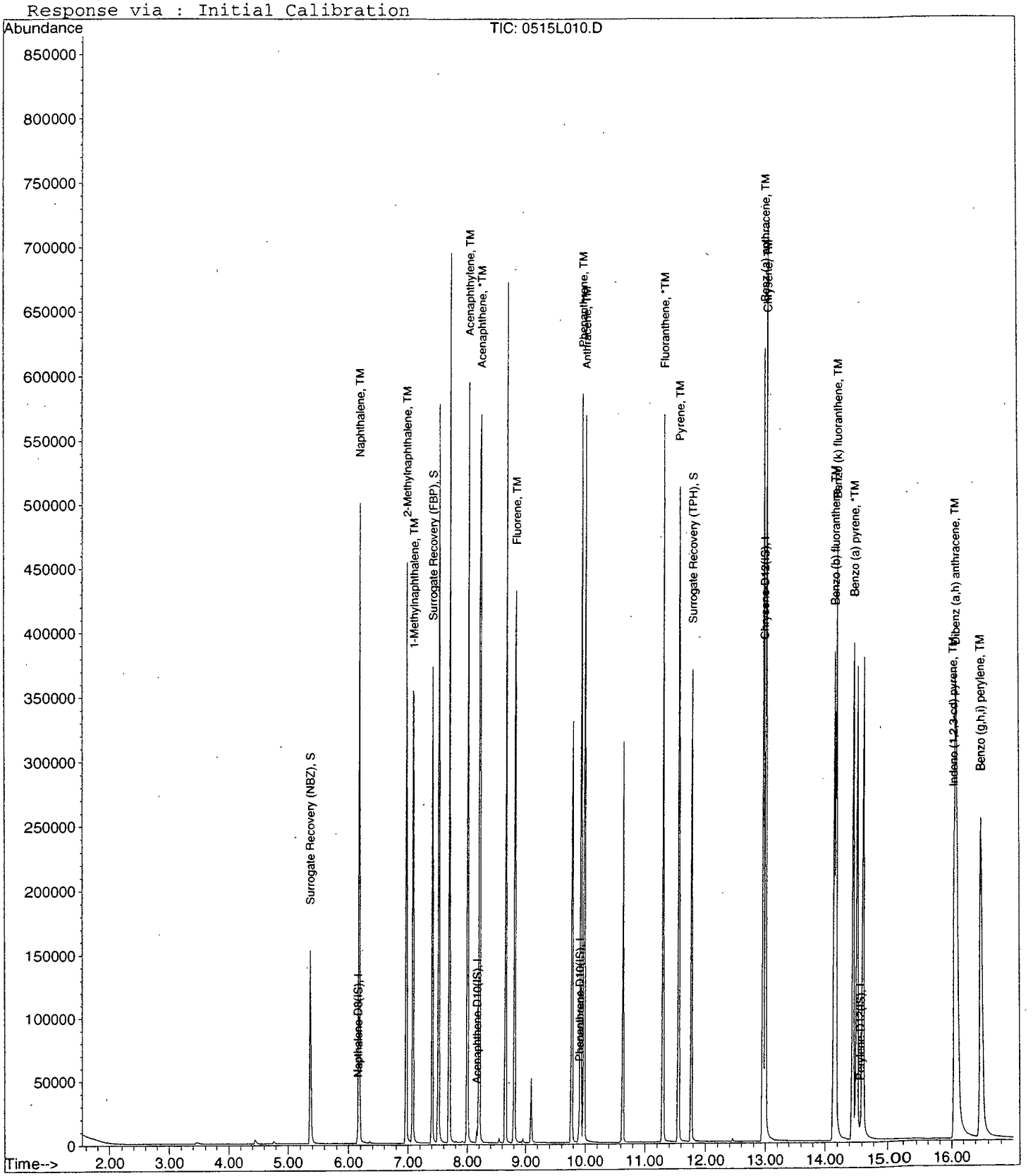
Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Napthalene-D8(IS)	6.16	136	10112	2.50 ppb		0.00
6) Acenaphthene-D10(IS)	8.16	164	4552	2.50 ppb		0.00
11) Phenanthrene-D10(IS)	9.90	188	7824	2.50 ppb		0.00
15) Chrysene-D12(IS)	12.96	240	8642	2.50 ppb		0.00
21) Perylene-D12(IS)	14.57	264	5573	2.50 ppb		-0.01
System Monitoring Compounds						
2) Surrogate Recovery (NBZ)	5.36	82	129333	98.87 ppb		0.00
Spiked Amount 2.500			Recovery	= 3954.600%		
7) Surrogate Recovery (FBP)	7.40	172	287071	108.77 ppb		0.00
Spiked Amount 2.500			Recovery	= 4350.920%		
17) Surrogate Recovery (TPH)	11.77	244	288680	104.01 ppb		0.00
Spiked Amount 2.500			Recovery	= 4160.560%		
Target Compounds						Qvalue
3) Naphthalene	6.18	128	450212	98.96 ppb		99
4) 2-Methylnaphthalene	6.96	142	289899	98.68 ppb		99
5) 1-Methylnaphthalene	7.08	142	281266	98.57 ppb		89
8) Acenaphthylene	8.00	152	465419	99.67 ppb		99
9) Acenaphthene	8.21	154	267375	99.59 ppb		90
10) Fluorene	8.81	166	292349	99.21 ppb		98
12) Phenanthrene	9.92	178	411564	114.22 ppb		98
13) Anthracene	9.98	178	393985	99.04 ppb		98
14) Fluoranthene	11.29	202	489534	98.27 ppb		96
16) Pyrene	11.55	202	528567	107.53 ppb		91
18) Benz (a) anthracene	12.95	228	445303	117.84 ppb		99
19) Chrysene	13.00	228	404821	98.25 ppb		98
20) Indeno (1,2,3-cd) pyrene	16.06	276	479086	99.57 ppb		94
22) Benzo (b) fluoranthene	14.14	252	410473	96.69 ppb		100
23) Benzo (k) fluoranthene	14.17	252	418502	102.96 ppb		100
24) Benzo (a) pyrene	14.45	252	409725	98.93 ppb		94
25) Dibenz (a,h) anthracene	16.11	278	407020	98.99 ppb	#	91
26) Benzo (g,h,i) perylene	16.51	276	407552	98.96 ppb		98

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

Data File : M:\LINUS\DATA\L150515\0515L010.D Vial: 10
Acq On : 15 May 15 20:14 Operator: csc
Sample : 100ug/ml PAH Inst : Linus
Misc : Multiplr: 1.00

Quant Time: May 18 9:16 2015 Quant Results File: P0518.RES

Method : M:\LINUS\DATA\L150515\P0518.M (RTE Integrator)
Title : EPA 8270
Last Update : Mon May 18 09:20:47 2015
Response via : Initial Calibration



Form 7

Second Source Calibration

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

SDG No: 76390
Date Analyzed: 5/15/2015
Instrument: Linus
Initial Cal. Date: 5/15/2015
Data File: 0515L011.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	Naphthalene	0.9778	1.160	19	TM	
2	TML	2-Methylnaphthalene	0.5974	0.6612	11	TML	7.6
3	TM	1-Methylnaphthalene	0.6165	0.6742	9.3	TM	
4	TML	Acenaphthylene	2.081	2.416	16	TML	0.82
5	*TM	Acenaphthene	1.266	1.506	19	*TM	
6	TML	Fluorene	1.377	1.617	17	TML	1.2
7	TML	Phenanthrene	1.151	1.293	12	TML	3.9
8	TML	Anthracene	1.084	1.193	10	TML	5.7
9	*TML	Fluoranthene	1.364	1.541	13	*TML	5.4
10	TM	Pyrene	1.422	1.591	12	TM	
11	TML	Benz (a) anthracene	1.093	1.209	11	TML	6.5
12	TM	Chrysene	1.192	1.400	17	TM	
13	TML	Indeno (1,2,3-cd) pyrene	1.130	1.364	21	TML	2.6
14	TML	Benzo (b) fluoranthene	1.498	1.918	28	TML	2.6
15	TML	Benzo (k) fluoranthene	1.563	1.660	6.2	TML	4.3
16	*TML	Benzo (a) pyrene	1.618	1.795	11	*TML	4.7
17	TML	Dibenz (a,h) anthracene	1.446	1.775	23	TML	1.7
18	TML	Benzo (g,h,i) perylene	1.535	1.762	15	TML	4.4
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
		Average			15.0		

Data File : M:\LINUS\DATA\L150515\0515L011.D Vial: 11
Acq On : 15 May 15 20:40 Operator: csc
Sample : 5.0ug/ml PAH SS 05/15/15 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 2 13:17 2015 Quant Results File: P0518-42.RES

Quant Method : M:\LINUS\DATA\L150515\P0518-42.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed May 27 13:24:37 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQ

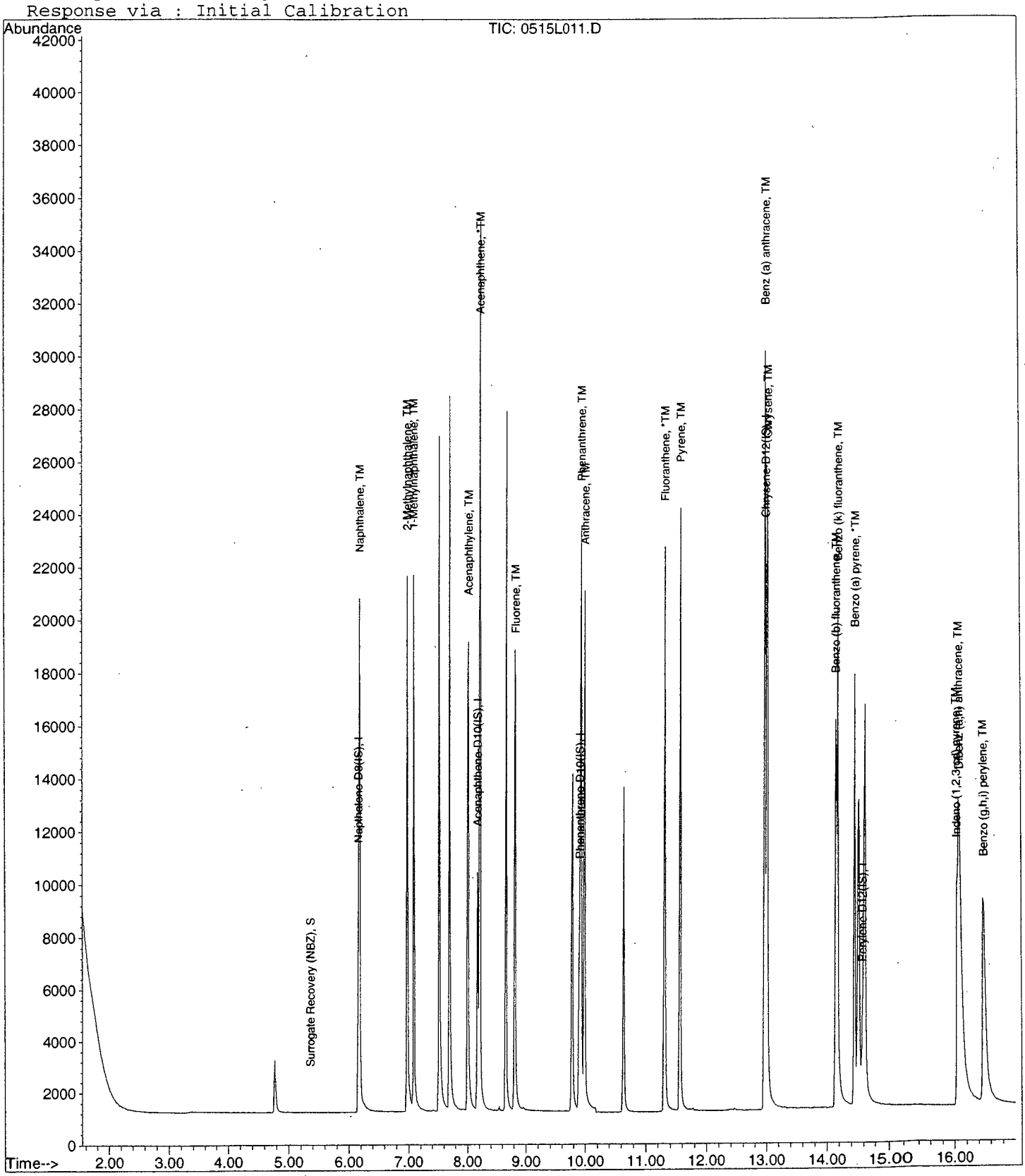
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	6.16	136	9571	2.50	ppb		0.00
6) Acenaphthene-D10(IS)	8.16	164	4405	2.50	ppb		0.00
11) Phenanthrene-D10(IS)	9.90	188	7622	2.50	ppb		0.00
15) Chrysene-D12(IS)	12.96	240	7750	2.50	ppb		0.00
21) Perylene-D12(IS)	14.57	264	4908	2.50	ppb		-0.01
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	5.36	82	6	0.18	ppb		0.00
Spiked Amount 2.500			Recovery =	7.080%			
7) Surrogate Recovery (FBP)	7.40	172	46	0.02	ppb		0.00
Spiked Amount 2.500			Recovery =	0.680%			
17) Surrogate Recovery (TPH)	11.77	244	66	0.03	ppb		0.00
Spiked Amount 2.500			Recovery =	1.080%			
Target Compounds							Qvalue
3) Naphthalene	6.18	128	22202	5.93	ppb		99
4) 2-Methylnaphthalene	6.96	142	12656	4.62	ppb		100
5) 1-Methylnaphthalene	7.07	142	12905	5.47	ppb		100
8) Acenaphthylene	8.00	152	21286	4.96	ppb		99
9) Acenaphthene	8.19	154	13269	5.95	ppb		99
10) Fluorene	8.81	166	14244	5.06	ppb		100
12) Phenanthrene	9.92	178	19706	4.81	ppb		99
13) Anthracene	9.98	178	18184	4.71	ppb		99
14) Fluoranthene	11.29	202	23497	4.73	ppb		99
16) Pyrene	11.55	202	24659	5.59	ppb		98
18) Benz (a) anthracene	12.95	228	18746	4.68	ppb		99
19) Chrysene	13.00	228	21695	5.87	ppb		98
20) Indeno (1,2,3-cd) pyrene	16.05	276	21147	5.13	ppb		93
22) Benzo (b) fluoranthene	14.13	252	18824	4.87	ppb	#	93
23) Benzo (k) fluoranthene	14.16	252	16293	4.78	ppb	#	95
24) Benzo (a) pyrene	14.44	252	17615	4.77	ppb		100
25) Dibenz (a,h) anthracene	16.10	278	17424	4.91	ppb		99
26) Benzo (g,h,i) perylene	16.50	276	17299	4.78	ppb		99

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

Data File : M:\LINUS\DATA\L150515\0515L011.D Vial: 11
Acq On : 15 May 15 20:40 Operator: csc
Sample : 5.0ug/ml PAH SS 05/15/15 Inst : Linus
Misc : Multiplr: 1.00

Quant Time: Jun 2 13:17 2015 Quant Results File: P0518-42.RES

Method : M:\LINUS\DATA\L150515\P0518-42.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed May 27 13:24:37 2015
Response via : Initial Calibration



EPA 8270C SIM
P0518-42

Form 7

Continuing Calibration

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

SDG No: 76390
Date Analyzed: 5/27/2015
Instrument: Linus
Initial Cal. Date: 5/15/2015
Data File: 0515L228.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Napthalene-D8(IS)	ISTD			I	
2	SL	Surrogate Recovery (NBZ)	0.2737	0.2480	9.4	SL	20
3	TM	Naphthalene	0.9778	1.026	5.0	TM	
4	TML	2-Methylnaphthalene	0.5974	0.6372	6.7	TML	11
5	TM	1-Methylnaphthalene	0.6165	0.6495	5.3	TM	
6	I	Acenaphthene-D10(IS)	ISTD			I	
7	S	Surrogate Recovery (FBP)	1.580	1.511	4.3	S	
8	TML	Acenaphthylene	2.081	2.279	9.5	TML	6.2
9	*TM	Acenaphthene	1.266	1.360	7.4	*TM	
10	TML	Fluorene	1.377	1.494	8.5	TML	6.4
11	I	Phenanthrene-D10(IS)	ISTD			I	
12	TML	Phenanthrene	1.151	1.223	6.2	TML	9.1
13	TML	Anthracene	1.084	1.169	7.9	TML	7.6
14	*TML	Fluoranthene	1.364	1.488	9.1	*TML	8.7
15	I	Chrysene-D12(IS)	ISTD			I	
16	TM	Pyrene	1.422	1.483	4.3	TM	
17	S	Surrogate Recovery (TPH)	0.8029	0.7985	0.55	S	
18	TML	Benz (a) anthracene	1.093	1.248	14	TML	3.5
19	TM	Chrysene	1.192	1.214	1.9	TM	
20	TML	Indeno (1,2,3-cd) pyrene	1.130	1.360	20	TML	2.2
21	I	Perylene-D12(IS)	ISTD			I	
22	TML	Benzo (b) fluoranthene	1.498	1.894	26	TML	3.8
23	TML	Benzo (k) fluoranthene	1.563	1.735	11	TML	0.28
24	*TML	Benzo (a) pyrene	1.618	1.761	8.8	*TML	6.5
25	TML	Dibenz (a,h) anthracene	1.446	1.775	23	TML	1.7
26	TML	Benzo (g,h,i) perylene	1.535	1.784	16	TML	3.2
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			9.8		

Data File : M:\LINUS\DATA\L150515\0515L228.D Vial: 28
Acq On : 27 May 15 16:17 Operator: MA
Sample : 5.0ug/ml PAH 5/26/15 Inst : Linus
Misc : soil Multiplr: 1.00

Quant Time: May 28 9:21 2015 Quant Results File: P0518-42.RES

Quant Method : M:\LINUS\DATA\L150515\P0518-42.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed May 27 13:24:37 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQ

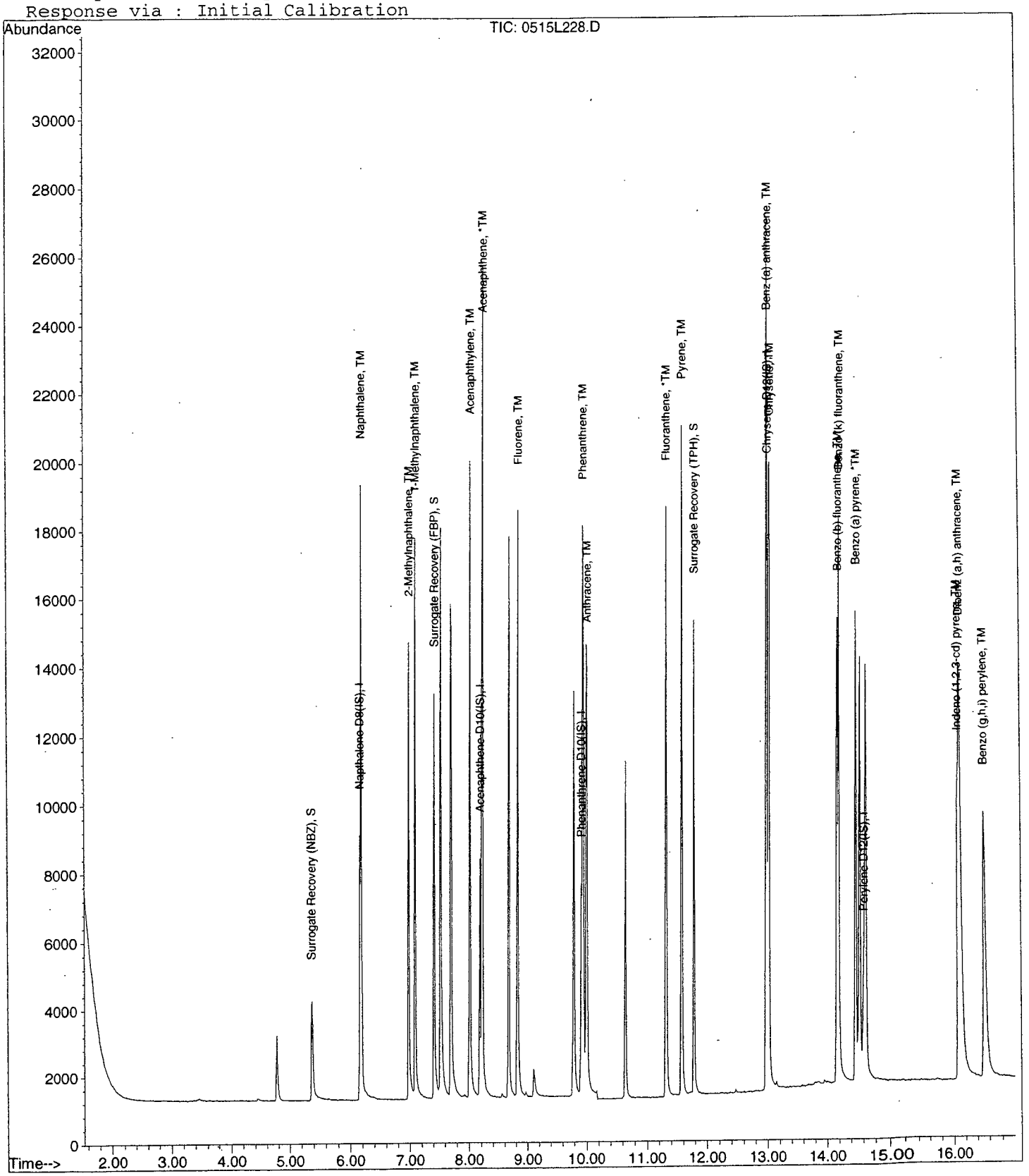
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	6.16	136	7511	2.50	ppb		0.00
6) Acenaphthene-D10(IS)	8.17	164	3616	2.50	ppb		0.01
11) Phenanthrene-D10(IS)	9.90	188	6351	2.50	ppb		0.00
15) Chrysene-D12(IS)	12.97	240	6697	2.50	ppb		0.01
21) Perylene-D12(IS)	14.59	264	4324	2.50	ppb		0.01
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	5.36	82	3726	4.00	ppb		0.00
Spiked Amount 2.500			Recovery	=	160.000%		
7) Surrogate Recovery (FBP)	7.41	172	10930	4.78	ppb		0.01
Spiked Amount 2.500			Recovery	=	191.360%		
17) Surrogate Recovery (TPH)	11.77	244	10695	4.97	ppb		0.00
Spiked Amount 2.500			Recovery	=	198.920%		
Target Compounds							Qvalue
3) Naphthalene	6.18	128	15420	5.25	ppb		99
4) 2-Methylnaphthalene	6.98	142	9572	4.45	ppb		92
5) 1-Methylnaphthalene	7.08	142	9757	5.27	ppb		92
8) Acenaphthylene	8.00	152	16480	4.69	ppb		98
9) Acenaphthene	8.21	154	9832	5.37	ppb		94
10) Fluorene	8.81	166	10803	4.68	ppb		96
12) Phenanthrene	9.92	178	15536	4.54	ppb		98
13) Anthracene	9.99	178	14853	4.62	ppb		98
14) Fluoranthene	11.30	202	18903	4.56	ppb		94
16) Pyrene	11.56	202	19858	5.21	ppb		91
18) Benz (a) anthracene	12.96	228	16717	4.83	ppb		98
19) Chrysene	13.01	228	16265	5.09	ppb		97
20) Indeno (1,2,3-cd) pyrene	16.09	276	18213	5.11	ppb	#	97
22) Benzo (b) fluoranthene	14.15	252	16376	4.81	ppb	#	95
23) Benzo (k) fluoranthene	14.17	252	15008	4.99	ppb	#	94
24) Benzo (a) pyrene	14.45	252	15227	4.68	ppb		97
25) Dibenz (a,h) anthracene	16.12	278	15351	4.91	ppb		98
26) Benzo (g,h,i) perylene	16.52	276	15430	4.84	ppb		98

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

Data File : M:\LINUS\DATA\L150515\0515L228.D Vial: 28
Acq On : 27 May 15 16:17 Operator: MA
Sample : 5.0ug/ml PAH 5/26/15 Inst : Linus
Misc : soil Multiplr: 1.00

Quant Time: May 28 9:21 2015 Quant Results File: P0518-42.RES

Method : M:\LINUS\DATA\L150515\P0518-42.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed May 27 13:24:37 2015
Response via : Initial Calibration



EPA METHOD 8270D
Polynuclear Aromatic Hydrocarbons
Raw Data

APPL, INC.

Method Blank
EPA 8270D LL SOILS

Blank Name/QCG: **150521S-16137 - 197621**
Batch ID: #SIMDD-150521A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	2-METHYLNAPHTHALENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	ACENAPHTHENE	0.0017 U	0.005	0.0017	0.0010	mg/kg	5/21/2015	5/27/2015
BLANK	ACENAPHTHYLENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	ANTHRACENE	0.0017 U	0.005	0.0017	0.0008	mg/kg	5/21/2015	5/27/2015
BLANK	BENZ (A) ANTHRACENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	BENZO (A) PYRENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	BENZO (B) FLUORANTHENE	0.0017 U	0.005	0.0017	0.0011	mg/kg	5/21/2015	5/27/2015
BLANK	BENZO (G,H,I) PERYLENE	0.0017 U	0.005	0.0017	0.0013	mg/kg	5/21/2015	5/27/2015
BLANK	BENZO (K) FLUORANTHENE	0.0017 U	0.005	0.0017	0.0010	mg/kg	5/21/2015	5/27/2015
BLANK	CHRYSENE	0.0017 U	0.005	0.0017	0.0008	mg/kg	5/21/2015	5/27/2015
BLANK	DIBENZ (A,H) ANTHRACENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	FLUORANTHENE	0.0017 U	0.005	0.0017	0.0012	mg/kg	5/21/2015	5/27/2015
BLANK	FLUORENE	0.0017 U	0.005	0.0017	0.0010	mg/kg	5/21/2015	5/27/2015
BLANK	INDENO (1,2,3-CD) PYRENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	NAPHTHALENE	0.0017 U	0.005	0.0017	0.0009	mg/kg	5/21/2015	5/27/2015
BLANK	PHENANTHRENE	0.0017 U	0.005	0.0017	0.0011	mg/kg	5/21/2015	5/27/2015
BLANK	PYRENE	0.0017 U	0.005	0.0017	0.0012	mg/kg	5/21/2015	5/27/2015
BLANK	SURROGATE: 2-FLUORBIPHENY	63.5	45-105			%	5/21/2015	5/27/2015
BLANK	SURROGATE: NITROBENZENE-	44.2	35-100			%	5/21/2015	5/27/2015
BLANK	SURROGATE: TERPHENYL-D14 (	106	30-125			%	5/21/2015	5/27/2015

Quant Method: P0518-42.M
Run #: 0515L235
Instrument: Linus
Sequence: L150515
Initials: DA

GC SC-Blank-REG MDLs
Printed: 6/2/2015 2:17:06 PM

Quantitation Report (QT Reviewed)

Data File : M:\LINUS\DATA\L150515\0515L235.D Vial: 35
Acq On : 27 May 15 19:17 Operator: MA
Sample : 150521A BLK 1/30.00G Inst : Linus
Misc : soil Multiplr: 33.33

Quant Time: Jun 1 10:50 2015 Quant Results File: P0518-42.RES

Quant Method : M:\LINUS\DATA\L150515\P0518-42.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed May 27 13:24:37 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQ

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Napthalene-D8(IS)	6.16	136	8216	2.50 ppb	0.00
6) Acenaphthene-D10(IS)	8.17	164	3798	2.50 ppb	0.01
11) Phenanthrene-D10(IS)	9.91	188	6307	2.50 ppb	0.01
15) Chrysene-D12(IS)	12.97	240	6696	2.50 ppb	0.01
21) Perylene-D12(IS)	14.61	264	4479	2.50 ppb	0.02
System Monitoring Compounds					
2) Surrogate Recovery (NBZ)	5.37	82	993	36.82 ppb	0.01
Spiked Amount 83.333			Recovery = 44.186%		
7) Surrogate Recovery (FBP)	7.41	172	3807	52.88 ppb	0.01
Spiked Amount 83.333			Recovery = 63.461%		
17) Surrogate Recovery (TPH)	11.77	244	5720	88.66 ppb	0.00
Spiked Amount 83.333			Recovery = 106.397%		

Target Compounds Qvalue

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

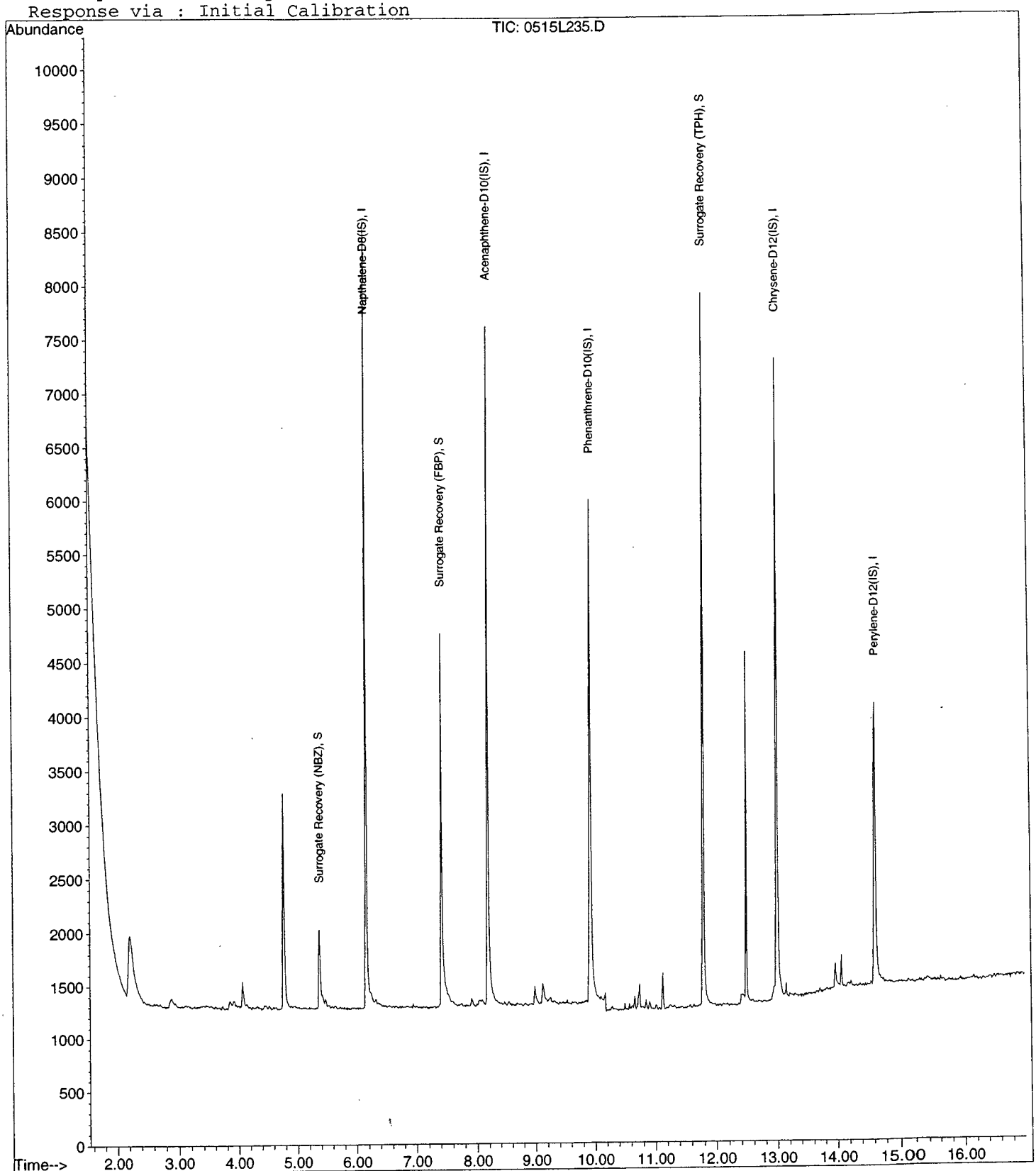
Quantitation Report

Data File : M:\LINUS\DATA\L150515\0515L235.D
Acq On : 27 May 15 19:17
Sample : 150521A BLK 1/30.00G
Misc : soil

Vial: 35
Operator: MA
Inst : Linus
Multiplr: 33.33

Quant Time: Jun 1 10:50 2015 Quant Results File: P0518-42.RES

Method : M:\LINUS\DATA\L150515\P0518-42.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed May 27 13:24:37 2015
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8270D LL SOILS

APPL ID: **150521S-16137 LCS - 197621**
Batch ID: #SIMDD-150521A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
2-METHYLNAPHTHALENE	0.133	0.0883	66.4	45-105
ACENAPHTHENE	0.133	0.127	95.5	45-110
ACENAPHTHYLENE	0.133	0.112	84.2	45-105
ANTHRACENE	0.133	0.126	94.7	55-105
BENZ (A) ANTHRACENE	0.133	0.139	105	50-110
BENZO (A) PYRENE	0.133	0.132	99.2	50-110
BENZO (B) FLUORANTHENE	0.133	0.140	105	45-115
BENZO (G,H,I) PERYLENE	0.133	0.135	102	40-125
BENZO (K) FLUORANTHENE	0.133	0.132	99.2	45-125
CHRYSENE	0.133	0.144	108	55-110
DIBENZ (A,H) ANTHRACENE	0.133	0.136	102	40-125
FLUORANTHENE	0.133	0.127	95.5	55-115
FLUORENE	0.133	0.120	90.2	50-110
INDENO (1,2,3-CD) PYRENE	0.133	0.145	109	40-120
NAPHTHALENE	0.133	0.0797	59.9	40-105
PHENANTHRENE	0.133	0.120	90.2	50-110
PYRENE	0.133	0.146	110	45-125
SURROGATE: 2-FLUORBIPHENYL (S)	0.0667	0.043	64.5	45-105
SURROGATE: NITROBENZENE-D5 (S)	0.0667	0.0313	46.9	35-100
SURROGATE: TERPHENYL-D14 (S)	0.0667	0.0711	107	30-125

Comments: _____

Primary	SPK
Quant Method :	P0518-42.M
Extraction Date :	5/21/2015
Analysis Date :	5/27/2015
Instrument :	Linus
Run :	0515L236
Initials :	DA

Printed: 6/2/2015 2:16:49 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\LINUS\DATA\L150515\0515L236.D Vial: 36
Acq On : 27 May 15 19:42 Operator: MA
Sample : 150521A LCS-1 1/30.01G Inst : Linus
Misc : soil Multiplr: 33.32

Quant Time: May 28 9:21 2015 Quant Results File: P0518-42.RES

Quant Method : M:\LINUS\DATA\L150515\P0518-42.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed May 27 13:24:37 2015
Response via : Initial Calibration
DataAcq Meth : 87SIMAQ

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Napthalene-D8(IS)	6.16	136	9702	2.50	ppb		0.00
6) Acenaphthene-D10(IS)	8.17	164	4792	2.50	ppb		0.01
11) Phenanthrene-D10(IS)	9.90	188	8492	2.50	ppb		0.00
15) Chrysene-D12(IS)	12.97	240	8827	2.50	ppb		0.01
21) Perylene-D12(IS)	14.59	264	5818	2.50	ppb		0.01
System Monitoring Compounds							
2) Surrogate Recovery (NBZ)	5.37	82	965	31.31	ppb		0.01
Spiked Amount 83.306			Recovery = 37.581%				
7) Surrogate Recovery (FBP)	7.41	172	3908	43.01	ppb		0.01
Spiked Amount 83.306			Recovery = 51.632%				
17) Surrogate Recovery (TPH)	11.77	244	6049	71.10	ppb		0.00
Spiked Amount 83.306			Recovery = 85.353%				
Target Compounds							Qvalue
3) Naphthalene	6.18	128	9072	79.66	ppb		99
4) 2-Methylnaphthalene	6.98	142	7276	88.29	ppb		92
5) 1-Methylnaphthalene	7.08	142	7088	98.71	ppb		91
8) Acenaphthylene	8.00	152	15303	112.15	ppb		99
9) Acenaphthene	8.21	154	9254	127.10	ppb		93
10) Fluorene	8.81	166	10972	119.98	ppb		97
12) Phenanthrene	9.92	178	16547	120.29	ppb		98
13) Anthracene	9.98	178	16286	126.43	ppb		99
14) Fluoranthene	11.30	202	21238	127.19	ppb	#	89
16) Pyrene	11.56	202	21965	145.78	ppb	#	88
18) Benz (a) anthracene	12.96	228	19049	139.19	ppb		98
19) Chrysene	13.00	228	18206	144.16	ppb	#	94
20) Indeno (1,2,3-cd) pyrene	16.09	276	20309	145.32	ppb	#	99
22) Benzo (b) fluoranthene	14.15	252	19316	139.75	ppb	#	94
23) Benzo (k) fluoranthene	14.17	252	15753	131.93	ppb	#	95
24) Benzo (a) pyrene	14.45	252	17432	132.22	ppb		97
25) Dibenz (a,h) anthracene	16.12	278	17052	135.78	ppb		98
26) Benzo (g,h,i) perylene	16.52	276	17381	135.13	ppb		96

$\frac{9072 \times 2.5}{9702 \times 0.9770} \times 33.32 = 79.695$ MA 6/8/15

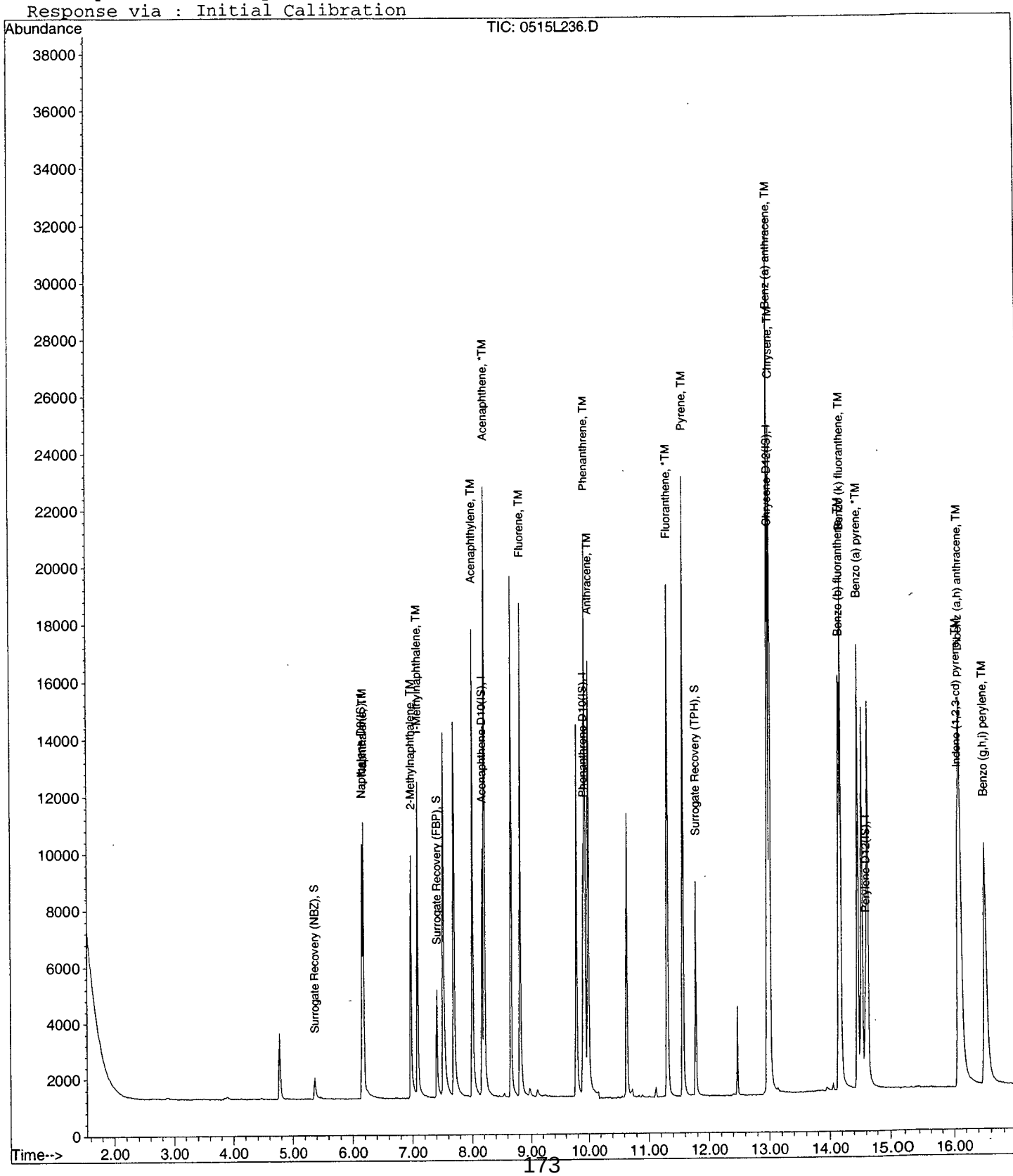
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LINUS\DATA\L150515\0515L236.D Vial: 36
Acq On : 27 May 15 19:42 Operator: MA
Sample : 150521A LCS-1 1/30.01G Inst : Linus
Misc : soil Multiplr: 33.32

Quant Time: May 28 9:21 2015 Quant Results File: P0518-42.RES

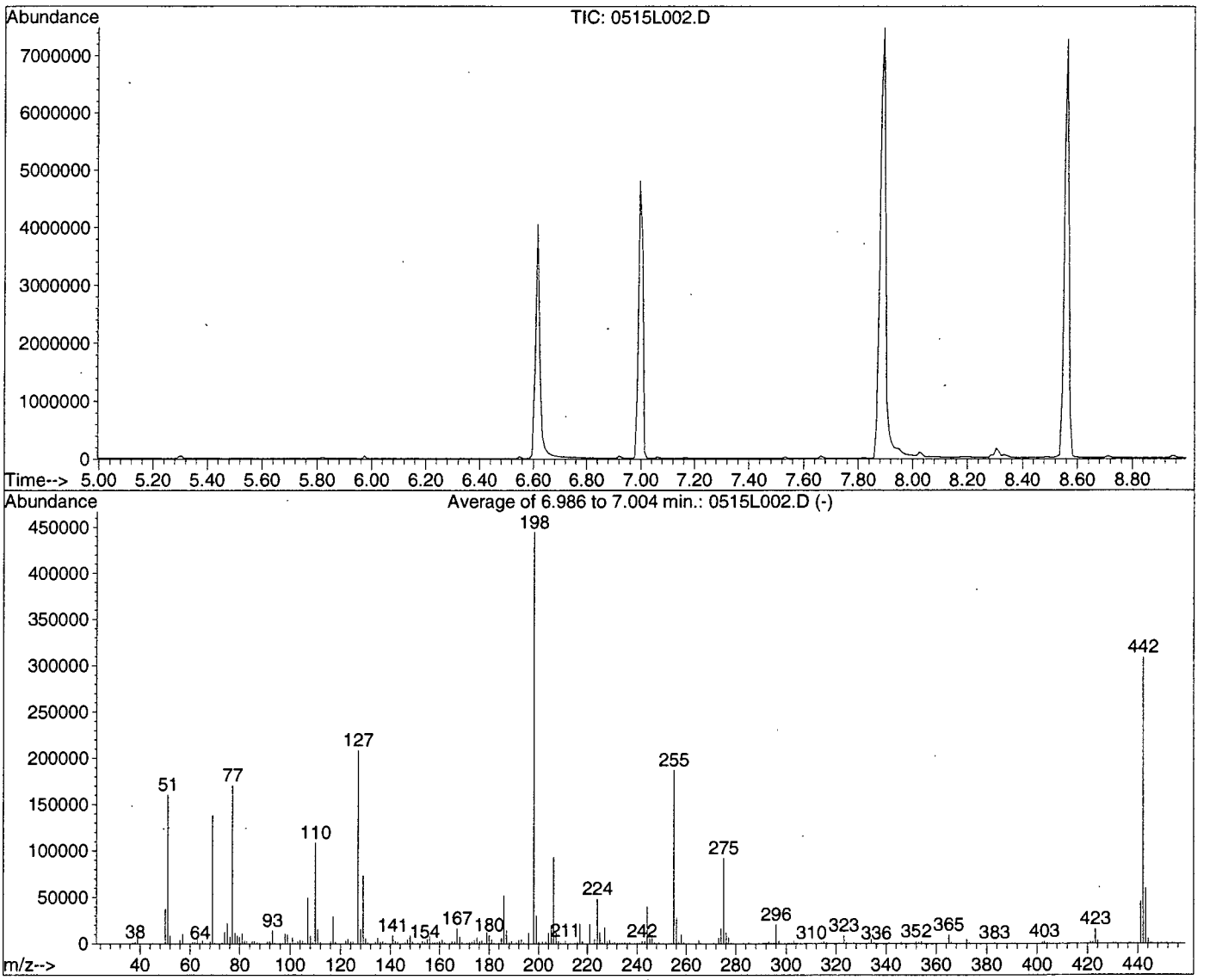
Method : M:\LINUS\DATA\L150515\P0518-42.M (RTE Integrator)
Title : EPA 8270
Last Update : Wed May 27 13:24:37 2015
Response via : Initial Calibration



DFTPP

Data File : M:\LINUS\DATA\L150515\0515L002.D Vial: 2
Acq On : 15 May 15 16:56 Operator: csc
Sample : SV Tune 05/14/15 Inst : Linus
Misc : Multiplr: 1.00

Method : M:\LINUS\DATA\L150515\P0518.M (RTE Integrator)
Title : EPA 8270



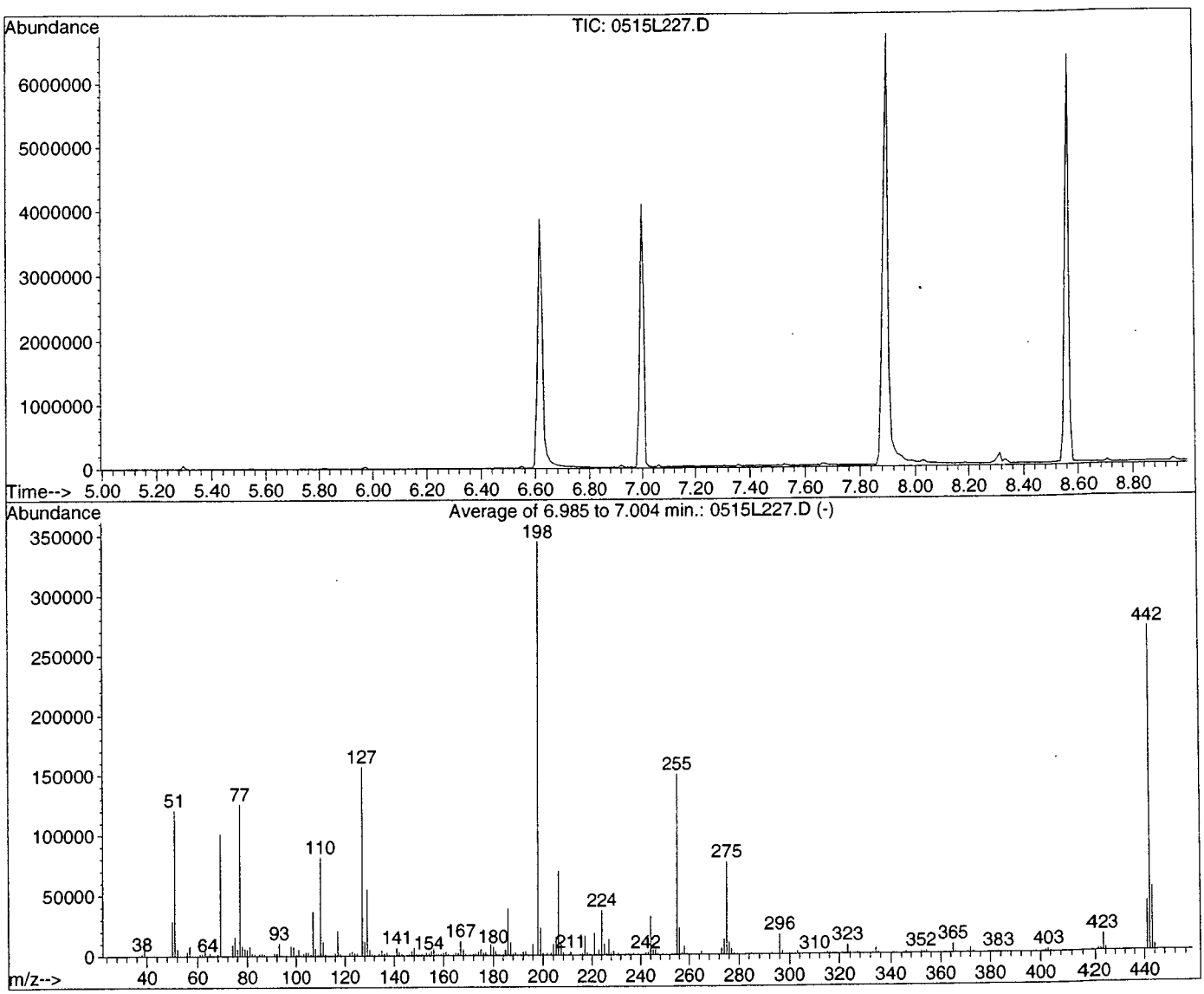
AutoFind: Scans 475, 476, 477; Background Corrected with Scan 472

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	36.1	160774	PASS
68	69	0.00	2	1.4	1998	PASS
70	69	0.00	2	0.5	725	PASS
127	198	40	60	46.9	208571	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	444800	PASS
199	198	5	9	6.8	30375	PASS
275	198	10	30	20.7	91932	PASS
365	198	1	100	2.0	9111	PASS
441	443	0.01	100	76.6	45477	PASS
442	198	40	150	69.5	309146	PASS
443	442	17	23	19.2	59336	PASS

Data File : M:\LINUS\DATA\L150515\0515L227.D
Acq On : 27 May 15 15:59
Sample : SV TUNE 5/14/15
Misc : soil

Vial: 27
Operator: MA
Inst : Linus
Multiplr: 1.00

Method : M:\LINUS\DATA\L150515\P0518-42.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	35.0	120837	PASS
68	69	0.00	2	1.5	1553	PASS
70	69	0.00	2	0.6	627	PASS
127	198	40	60	45.4	156717	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	344816	PASS
199	198	5	9	6.6	22697	PASS
275	198	10	30	22.2	76418	PASS
365	198	1	100	2.1	7407	PASS
441	443	0.01	100	77.8	40627	PASS
442	198	40	150	78.3	270147	PASS
443	442	17	23	19.3	52208	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 PAH SIM Standard Curve

PREP DATE:	05/15/15-L.H.												
8270 PAH SIM STANDARD CURVE													
Exp.DATE:	05/22/15					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 Stock	200	230271-34569	02/27/15	06/08/16	0	0	0	0	5	5	25	50
	5.0ug/mL	5		05/15/15	05/22/15	0	0	10	20	0	0	0	0
	1.0ug/mL	1		05/15/15	05/22/15	10	20	0	0	0	0	0	0
o2si	8270 BN:A (200:400	VAR	242352-34963	05/04/15	01/01/17	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 Internal St	125	A10079V-3449	05/15/15	5/15/16	2	2	2	2	4	2	2	2
				Final Vol.		102	102	102	102	204	102	102	102

8270 PAH SIM SS

PREP DATE:	05/15/15-L.H.					
8270 PAH SIM Second Source 5µg/mL						
Exp.DATE:	05/15/15					5
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	8270 PAH SIM Stock	200	243252-34609	02/27/15	01/15/17	5
EM Science	Methylene Chloride		54200	11/06/14		195
Supelco	SIM SV Internal St	125	A10079V-3449	05/15/15	5/15/16	4
				Final Vol.		204

8270 PAH SIM CCV

PREP DATE:	05/15/15					
8270 PAH SIM Continuing Calibration Verification 5ug/ml						
Exp.DATE:	05/22/15					5
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	8270 PAH SIM Stock	200	230271-34569	02/27/15	06/08/16	5
o2si	8270 BN:A (200:400	VAR	242352-34963	05/04/15	01/01/17	5
EM Science	Methylene Chloride		54200	11/06/14		190
Supelco	SIM SV Internal St	125	A10079V-3449	05/15/15	5/15/16	4
				Final Vol.		204

072

02/24/15
csc

GC/MS STANDARD PREPARATION BOOK # L PAGE

PREP DATE:	02/24/15					MU
8270 PAH SIM Continuing Calibration Verification 5ug/ml						
Exp.DATE:	02/31/15					5
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	8270 PAH SIM Stock	10	213931-33759	12/23/14	08/26/15	5
o2si	8270 BN:A Surrogate	VAR	226244-34103	12/23/14	04/10/16	5
EM Science	Methylene Chloride		54200	11/06/14		190
Supelco	SIM Internal Standard	125	XA10079V-34507	12/23/14	09/30/17	4
				Final Vol.		204

02/27/15
csc

8270D PAH SIM Solution, 200 mg/L, 1 ml
110789-01
Lot # 230271 Storage ≤-10 °C Expiry 8/Jun/2016
Solv: Methylene Chloride
R&D only, not for consumption. Made in the USA

8270D PAH SIM
Lot #: 230271 - 34569
Rec: 1/13/15 MFR exp. 6/8/16

Recieved: 01/13/15
Opened: 02/27/15
Expired: 06/8/16

02/27/15
csc

8270 BN:A (200:400) Surrogate Solution, 1 mL
110004-17
Lot # 237956 Storage ≤-10 °C Expiry 8/Oct/2016
Solv: Methylene Chloride
R&D only, not for consumption. Made in the USA

8270 BN:A (200:400) Surrogate Solution
Lot #: 237956 - 34559
Rec: 1/13/15 MFR exp. 10/8/16

Recieved: 01/13/15
Opened: 02/27/15
Expired: 10/8/16

NOTEBOOK INSERT LABEL

Semivolatile Internal Std Mix **CRM48902**
Lot: XA10079V EXP: SEP/2017 STORAGE: REFRIGERATE 2 x 1ml

DATE RECEIVED:

SUPELCO
Solutions within.
595 North Harrison Road • Bellefonte, PA
16823-0048 USA • Phone 814-359-3441

STANDARD TRANSFER LABEL

Date of Preparation: **Exp. Date:**
Reference Number: **Storage:** EXP: SEP/2017
Description: REFRIGERATE
CHEMST

02/27/15
csc

Semivolatile Internal Standard Mix
Lot #: XA10079V - 34496
Rec: 12/11/14 MFR exp. 9/30/17

CRM48902 XA10079V
Semivolatile Internal Std Mix
2000ug/ml in dichloromethane

Recieved: 12/11/14
Opened: 02/27/15
Expired: 09/30/17

8270 SIM PAH Internal Standard

PREP DATE:	5/15/15-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 Standa	2000	A10079V-3449	05/15/15	5/15/16	50
EM Science	Methylene Chloride		47186	11/06/14		750
				Final Vol.		800

8270 Full Scan CCV

PREP DATE:	05/15/15-L.H.					
8270 Continuing Calibration Verification 50ug/ml						
Exp:	05/22/15					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 (200:400	VAR	242352-34963	02/27/15	10/8/16	25
EM Science	Methylene Chloride		47186	11/06/14		50
Supelco	SV Internal Standa	2000	A10079V-3449	02/27/15	09/30/17	2

1ug/ml 1,2,3-TCP

PREP DATE:	05/15/15-LH					
1,2,3-TCP 1ug/ml						
Exp. Date:	11/04/15					
		Conc.		Date	Exp.	
Supplier	ID#	µg/mL	Lot #	Code	Date	µL
O2si	1,2,3-TCP	1000	02872-3201	05/15/15-LH	01/23/16	5
J.T.Baker	Purge & Trap MeoH		0000062345	10/10/13		4995

1,2,3-TCP CCV

PREP DATE:	5/15/15-L.H.					
1,2,3-TCP Continuing Calibration Verification 0.05ug/mL						
Exp. Date:	11/4/15					
		Conc.		Date	Exp.	
Supplier	ID#	µg/mL	Lot #	Code	Date	µL
O2si	1,2,3-TCP	1.0	02641-3200	5/4/15	01/23/16	50
O2si	1,2,3-TCP-d5	2.0	02640-3200	5/4/15	01/27/16	25
J.T.Baker	Purge & Trap MeoH		0000062345	10/10/13		925
				Final Vol.		1000

GC/MS STANDARD PREPARATION BOOK # L PAGE #

073

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
Exp: 060116 Storage 20 °C

EPA Method 525 - Internal Standard
4 components CAUTION: Sonicate Before Use
500 ug/mL in acetc
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					
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					
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					
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

PREP DATE:	02/26/15		EXP:	03/03/15										
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:	05/26/15-LH					
8270 PAH SIM Continuing Calibration Verification 5ug/ml						
Exp.DATE:	06/02/15					5
		Conc.		Date	Exp.	
Supplier	ID #	µg/mL	Lot #	Code	Date	µL
o2si	8270 PAH SIM Stock	200	230271-34569	02/27/15	06/08/16	5
o2si	8270 BN:A (200:400)S	VAR	242352-34963	02/27/15	10/08/16	5
EM Science	Methylene Chloride		54200	11/06/14		190
Supelco	SIM SV Internal Star	125	A10079V-3449	05/15/15	5/15/16	4
				Final Vol.		204

8270 Full Scan CCV						
PREP DATE:	06/02/15-L.H.					
8270 Continuing Calibration Verification 50ug/ml						
Exp:	05/22/15					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 (200:400)	VAR	242352-34963	05/21/15	5/21/16	25
EM Science	Methylene Chloride		47186	11/06/14		50
Supelco	SV Internal Standard	2000	A10079V-3449	05/21/15	5/21/16	2

Prep: 05/26/15 Exp: 04/27/15 GA	HERB SECOND SOURCE				
	Conc.	Conc.	Aliqout	TOCK SOUIR	Final Vol.
	in mix	In Stock			Solvent
Analytes:	(ug/ml)	(ug/ml)	(uL)	O2SI	(ml)
Dalapon	12.8	64	1000	AT: 132070-0	5
3,5 Dichlorobenzoic Acid	1.28	6.4		Lot: 207738	MTBE
4-Nitrophenol	3.2	16		OP: 5/26/15	Lot #
2,4-DCAA (S)	6.4	32		Exp: 4/27/16	50223
Dicamba	1.28	6.4			
MCPP	1280	6400			
MCPA	1280	6400			
2,4-DP	6.4	32			
2,4-D	6.4	32			
DNOC	2.56	12.8			
PCP	1.28	6.4			
2,4,5-TP	1.28	6.4			
Chloramben	6.4	32			
2,4,5-T	1.28	6.4			
Dinoseb	3.2	16			
2,4-DB	12.8	64			
Bentazon	6.4	32			
Picloram	1.28	6.4			
Dacthal	1.28	6.4			
Acifluorfen	3.2	16			
***1 ml ampule is derivitized by extraction and brought up to 5ml in MTBE*					

_SON009S

Organic Extraction Worksheet

Method	SIM Sonicat Ext. Methylene c 3550	Extraction Set	150521A	Extraction Method	SON009S	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:	NO	
Spiked ID 7			Ext. Start Time:	05/21/15 8:15	
Spiked ID 8			Ext. End Time:	05/21/15 15:30	
			GC Requires Extract By:	**05/29/15 0:00**	

pH1			Water Bath Temp Criteria	81,80 °C
pH2				
pH3				

Spiked By: IC **Date** 05/21/15 **Witnessed By:** DL **Date** 05/21/15

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	150521A Blk				0.0250	1 equip	30.00g E-S5 E-WB7	1	NA	05/21/15 8:15	
2	150521A LCS-1		0.0250	1	0.0250	1 equip	30.01g E-S4 E-WB7	1	NA	05/21/15 8:15	
3	AZ16137	AZ16137S01			0.0250	1 equip	30.02g E-S3.1 E-WB7	1	NA	05/21/15 8:15	76380
4	AZ16138	AZ16138S01			0.0250	1 equip	30.25g E-S2 E-WB7	1	NA	05/21/15 8:15	76380
5	AZ16139	AZ16139S01			0.0250	1 equip	30.07g E-S1.2 E-WB7	1	NA	05/21/15 8:15	76380
6	AZ16140	AZ16140S01			0.0250	1 equip	30.07g E-S1.1 E-WB7	1	NA	05/21/15 8:15	76380
7	AZ16141	AZ16141S01			0.0250	1 equip	30.23g E-S6 E-WB7	1	NA	05/21/15 8:15	76380
8	AZ16198	AZ16198S02			0.0250	1 equip	30.19g E-S7 E-WB7	1	NA	05/21/15 8:15	76390
9	AZ16199	AZ16199S01			0.0250	1 equip	30.11g E-S5 E-WB6	1	NA	05/21/15 8:15	76390
10	AZ16201	AZ16201S02			0.0250	1 equip	30.11g E-S4 E-WB6	1	NA	05/21/15 8:15	76390
11	AZ16202	AZ16202S01			0.0250	1 equip	30.02g E-S3.1 E-WB6	1	NA	05/21/15 8:15	76390
12	AZ16400	AZ16400S02			0.0250	1 equip	30.13g E-S2 E-WB6	1	NA	05/21/15 8:15	76447
13	AZ16401	AZ16401S01			0.0250	1 equip	30.09g E-S1.2 E-WB6	1	NA	05/21/15 8:15	76447
14	AZ16402	AZ16402S01			0.0250	1 equip	30.11g E-S1.1 E-WB6	1	NA	05/21/15 8:15	76447

KY 5/21/15

Solvent and Lot#	
SAND	WF27C
MC	55006
Filter Paper	9624720
B.Na2SO4	XE21E

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	GA
Date	5/21/15
Time	1600
Refrigerator	Hobart

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

Modified	05/21/15 3:43:46 PM

Reviewed By: KY **Date** 5/21/15

Injection Log

Directory: M:\LINUS\DATA\L150515

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	2	0515L002.D	1	SV Tune 05/14/15		05/15/2015 16:56
2	3	0515L003.D	1	0.1ug/ml PAH 05/15/15		05/15/2015 17:15
3	4	0515L004.D	1	0.2ug/ml PAH		05/15/2015 17:41
4	5	0515L005.D	1	0.5ug/ml PAH		05/15/2015 18:06
5	6	0515L006.D	1	1.0ug/ml PAH		05/15/2015 18:32
6	7	0515L007.D	1	5.0ug/ml PAH		05/15/2015 18:58
7	8	0515L008.D	1	10ug/ml PAH		05/15/2015 19:23
8	9	0515L009.D	1	50ug/ml PAH		05/15/2015 19:49
9	10	0515L010.D	1	100ug/ml PAH		05/15/2015 20:14
10	11	0515L011.D	1	5.0ug/ml PAH SS 05/15/15		05/15/2015 20:40
11	27	0515L227.D	1	SV TUNE 5/14/15	soil	05/27/2015 15:59
12	28	0515L228.D	1	5.0ug/ml PAH 5/26/15	soil	05/27/2015 16:17
13	35	0515L235.D	33.33333	150521A BLK 1/30.00G	soil	05/27/2015 19:17
14	36	0515L236.D	33.32223	150521A LCS-1 1/30.01G	soil	05/27/2015 19:42
15	42	0515L242.D	331.23551	AZ16198S02 1/30.19G df10	soil	05/27/2015 22:16
16	43	0515L243.D	332.11558	AZ16199S01 1/30.11G df10	soil	05/27/2015 22:41
17	44	0515L244.D	332.11558	AZ16201S02 1/30.11G df10	soil	05/27/2015 23:07
18	45	0515L245.D	33.31113	AZ16202S01 1/30.02G	soil	05/27/2015 23:32

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: **150512W-16226 - 196913**
Batch ID: #6850-150512A

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	05/12/15	05/12/15

Quant Method: QTLMFL2
Run #: T512_029.D
Instrument: AGIL_6460
Sequence: TQ051215
Initials: MP

GC SC-Blank-REG MDLs
Printed: 05/13/15 11:50:06 AM

Method Blank
PERCHLORATE EPA 6850 - SOIL

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **150518S-16137 - 198067**
Batch ID: #6850SM-150518A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PERCHLORATE	0.0040 U	0.006	0.0040	0.0020	mg/Kg	05/18/15	05/24/15

Quant Method: QTLMFL2
Run #: T523_049.d
Instrument: AGIL_6460
Sequence: TQ052315
Initials: RP

GC SC-Blank-REG MDLs
Printed: 06/17/15 10:45:59 AM

Laboratory Control Spike Recovery
Perchlorate

APPL ID: **150512W-16226 LCS - 196913**
Batch ID: #6850-150512A

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	0.599	99.8	80-120

Comments: _____

Primary	SPK
Quant Method :	QTLMFL2
Extraction Date :	05/12/15
Analysis Date :	05/12/15
Instrument :	AGIL_6460
Run :	T512_027.D
Initials :	MP

Printed: 05/13/15 11:50:01 AM
APPL Standard LCS

Laboratory Control Spike Recovery
PERCHLORATE EPA 6850 - SOIL

APPL ID: **150518S-16137 LCS - 198067**
Batch ID: #6850SM-150518A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level mg/Kg	SPK Result mg/Kg	SPK % Recovery	Recovery Limits
PERCHLORATE	0.00594	0.00556	93.6	80-120

Comments: _____

Primary	SPK
Quant Method :	QTLMFL2
Extraction Date :	05/18/15
Analysis Date :	05/24/15
Instrument :	AGIL_6460
Run :	T523_047.d
Initials :	RP

Printed: 06/17/15 10:45:48 AM
APPL Standard LCS

EPA 6850

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 05/12/15

Matrix: WATER Instrument: AGIL_6460

Blank ID: 150512A-BLK Time Analyzed: 1617

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150512A-LCS	Lab Control Spike	T512_027.D	05/12/15 1537
150512A-BLK	Blank	T512_029.D	05/12/15 1617
AZ16200	S67-RB01-050815	T512_030.D	05/12/15 1644

Comments: Batch: #6850-150512A

Printed: 05/21/15 10:33:52 AM

Form 4, Blank Summary

EPA 6850

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 05/24/15

Matrix: SOIL Instrument: AGIL_6460

Blank ID: 150518A-BLK Time Analyzed: 0628

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150518A-LCS	Lab Control Spike	T523_047.d	05/24/15 0550
150518A-BLK	Blank	T523_049.d	05/24/15 0628
AZ16198	S67-SS036-0001	T523_061.d	05/24/15 1011
AZ16199	S67-SB036-0405	T523_062.d	05/24/15 1030
AZ16201	S67-SS037-0001	T523_063.d	05/24/15 1048
AZ16202	S67-SB037-0607	T523_064.d	05/24/15 1107

Comments: Batch: #6850SM-150518A

Interferrence Check Sample

Perchlorate EPA 6850 Water

APPL ID: 150512W-16226 ICS-196913
Batch ID: #6850-150512A

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	0.558	93.0%	70-130

Comments:

Quant Method:	QTLMFL2
Extraction Date:	05/12/15
Analysis Date:	05/12/15
Instrument:	AGIL_6560
Run:	T512_028.D
Initials:	RP

Interferrence Check Sample

Perchlorate EPA 6850 Soil

APPL ID: 150518S-16137 ICS - 198067
Batch ID: #6850SM-150518A

APPL Inc.
908 N. Temperance Ave.
Clovis, CA 93711

Compound Name	Spike Level mg/Kg	Spk Result mg/Kg	SPK% Recovery	Recovery Limits
Perchlorate	0.00571	0.00599	104.9%	70-130

Comments:

Quant Method:	QTLMFL2
Extraction Date:	05/18/15
Analysis Date:	05/24/15
Instrument:	AGIL_6560
Run:	T523_048.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.** **76390**

Lab File ID (Standard): T512_003.d

Instrument ID: Agilent 6460 Triple Quad LC/MS

	PER_IS			
	12_HOUR_STD AVERAGE	4906019		
	UPPER LIMIT RESPONSE	7359029		
	LOWER LIMIT RESPONSE	2453010		
Data File ID:	Sample ID:	Analysis Date and Time	IS AREA COUNT #	IS R.T. #
T512_002.d	PER_CCV 0.0004 ug/ml 05/07/15	5/12/15 7:51	4374131	14.007
T512_003.d	PER_CCV 0.002 ug/ml 05/07/15	5/12/15 8:10	4906019	13.935
T512_024.d	PER_CCV 0.0004 ug/ml 05/07/15	5/12/15 14:41	4120838	13.813
T512_025.d	PER_CCV 0.002 ug/ml 05/07/15	5/12/15 14:59	4766152	13.589
T512_027.d	150512WA_LCS-1 1052.6 DF 05/12/15	5/12/15 15:37	4309588	13.742
T512_028.d	150512W_ICSA 1052.6 DF 05/12/15	5/12/15 15:57	3818635	12.855
T512_029.d	150512WBLKA 1052.6 DF 05/12/15	5/12/15 16:17	4755283	13.935
T512_030.d	AZ16200_W01 1052.6 DF 05/12/15	5/12/15 16:44	4479067	13.935
T512_036.d	PER_CCV 0.0004 ug/ml 05/07/15	5/12/15 18:36	4044824	13.62
T512_037.d	PER_CCV 0.002 ug/ml 05/07/15	5/12/15 18:54	4679515	13.64

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.** **76390**

Lab File ID (Standard): T523_003.d

Instrument ID: Agilent 6460 Triple Quad LC/MS

	PER_IS			
	12_HOUR_STD AVERAGE	8764619		
	UPPER LIMIT RESPONSE	13146929		
	LOWER LIMIT RESPONSE	4382310		
Data File ID:	Sample ID:	Analysis Date and Time	IS AREA COUNT #	IS R.T. #
T523_002.d	PER_CCV 0.0004 ug/ml 05/07/15	5/23/15 15:38	7841423	12.957
T523_003.d	PER_CCV 0.002 ug/ml 05/07/15	5/23/15 15:57	8764619	13.13
T523_044.d	PER_CCV 0.0004 ug/ml 05/07/15	5/24/15 4:55	6579582	14.037
T523_045.d	PER_CCV 0.002 ug/ml 05/07/15	5/24/15 5:13	6755219	14.2
T523_047.d	150518SA_LCS-1 10422.1 DF 05/18/15	5/24/15 5:50	5484178	14.262
T523_048.d	150518S_ICSA 10025.1 DF 05/18/15	5/24/15 6:09	4353871*	13.273
T523_049.d	150518SBLKA 10319.9 DF 05/18/15	5/24/15 6:28	5786126	14.251
T523_057.d	PER_CCV 0.0004 ug/ml 05/07/15	5/24/15 8:57	6631309	13.762
T523_058.d	PER_CCV 0.002 ug/ml 05/07/15	5/24/15 9:15	7264937	13.823
T523_061.d	AZ16198_S01 8628.1 DF 05/18/15	5/24/15 10:11	6460539	13.589
T523_062.d	AZ16199_S01 8354.2 DF 05/18/15	5/24/15 10:30	6231243	13.334
T523_063.d	AZ16201_S01 8421.1 DF 05/18/15	5/24/15 10:48	6390660	13.426
T523_064.d	AZ16202_S01 8489.0 DF 05/18/15	5/24/15 11:07	6171466	13.283
T523_069.d	PER_CCV 0.0004 ug/ml 05/07/15	5/24/15 13:00	4418362	13.406
T523_070.d	PER_CCV 0.002 ug/ml 05/07/15	5/24/15 13:18	5503588	13.497

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 17:52 Vial Number: NA
Sample Name: PERCHLORATE 0.0002 ug/ml 11/11/14 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 Vial Number: NA
Sample Name: PERCHLORATE 0.0004 ug/ml 11/11/14 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 Vial Number: NA
Sample Name: PERCHLORATE 0.001 ug/ml 11/11/14 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 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: 03/12/15 19:07 Vial Number: NA
Sample Name: PERCHLORATE 0.005 ug/ml 11/11/14 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 Vial Number: NA
Sample Name: PERCHLORATE 0.010 ug/ml 08/27/14 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 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	

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\150512
Instrument Name : TQ (Agilent 6460 Triple Quad LC/MS)
Method File : 6460_ESI_PER_N_NEWER_K'_COLUMN.m
Operator : BA

Date Aquired: 05/12/15 7:32 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T512_001.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.248	55111	16.3
2)	Perchlorate_85	13.939	3382	

Date Aquired: 05/12/15 7:51 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 05/07/15 Data File ID: T512_002.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.024	503072	3.2
2)	Perchlorate_85	14.031	159436	

Date Aquired: 05/12/15 8:10 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 05/07/15 Data File ID: T512_003.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.942	2324805	3.4
2)	Perchlorate_85	13.939	682523	

Date Aquired: 05/12/15 8:28 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T512_004.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.83	56137	1.8
2)	Perchlorate_85	13.878	31048	

Date Aquired: 05/12/15 8:47 Vial Number: NA
Sample Name: AZ16055_W01 1052631.6 DF 05/07/15_5/11 Data File ID: T512_005.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.667	188957	3.2
2)	Perchlorate_85	13.694	58504	

Date Aquired: 05/12/15 9:06 Vial Number: NA
Sample Name: AZ16055_W01 105263.2 DF 05/07/15_5/11 Data File ID: T512_006.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.198	1018832	3.0
2)	Perchlorate_85	13.175	344109	

Date Aquired: 05/12/15 9:24 Vial Number: NA
Sample Name: AZ16055_W01 10526.3 DF 05/07/15_5/11 Data File ID: T512_007.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.73	5472383	3.4
2)	Perchlorate_85	12.726	1632035	

Date Aquired: 05/12/15 9:43 Vial Number: NA
Sample Name: PER_IS_50:50 0.005 ug/ml 05/10/15 Data File ID: T512_008.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.942	2978	1.9
2)	Perchlorate_85	14.061	1570	

Date Aquired: 05/12/15 10:02 Vial Number: NA
Sample Name: AZ16056_W01 1052631.6 DF 05/07/15_5/11 Data File ID: T512_009.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.708	2657056	3.3
2)	Perchlorate_85	13.715	800065	

Date Aquired: 05/12/15 10:20 Vial Number: NA
Sample Name: AZ16056_W01 105263.2 DF 05/07/15_5/11 Data File ID: T512_010.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.086	27328927	3.4
2)	Perchlorate_85	13.103	8068620	

Date Aquired: 05/12/15 10:39 Vial Number: NA
Sample Name: AZ16056_W01 10526.3 DF 05/07/15_5/11 Data File ID: T512_011.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.424	141975604	3.1
2)	Perchlorate_85	12.421	45637143	

Date Aquired: 05/12/15 10:57 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T512_012.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.769	53371	33.3
2)	Perchlorate_85	14.051	1605	

Date Aquired: 05/12/15 11:16 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 05/07/15 Data File ID: T512_013.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.708	502640	3.0
2)	Perchlorate_85	13.715	167292	

Date Aquired: 05/12/15 11:35 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 05/07/15 Data File ID: T512_014.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.698	2352197	3.3
2)	Perchlorate_85	13.705	720720	

Date Aquired: 05/12/15 11:53 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T512_015.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.728	54063	2.3
2)	Perchlorate_85	13.715	23332	

Date Aquired: 05/12/15 12:12 Vial Number: NA
Sample Name: AZ16055_W01 1052631.6 DF 05/07/15_5/11 Data File ID: T512_016.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.565	192742	2.7
2)	Perchlorate_85	13.531	72722	

Date Aquired: 05/12/15 12:30 Vial Number: NA
Sample Name: AZ16055_W01 105263.2 DF 05/07/15_5/11 Data File ID: T512_017.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.852	978901	2.8
2)	Perchlorate_85	12.818	343516	

Date Aquired: 05/12/15 12:49 Vial Number: NA
Sample Name: AZ16055_W01 10526.3 DF 05/07/15_5/11 Data File ID: T512_018.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.404	6859471	3.4
2)	Perchlorate_85	12.4	1998939	

Date Aquired: 05/12/15 13:08 Vial Number: NA
Sample Name: PER_IS_50:50 0.005 ug/ml 05/10/15 Data File ID: T512_019.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.105	1493	1.1
2)	Perchlorate_85	13.949	1323	

Date Aquired: 05/12/15 13:26 Vial Number: NA
Sample Name: AZ16056_W01 1052631.6 DF 05/07/15_5/11 Data File ID: T512_020.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.637	2484224	3.3
2)	Perchlorate_85	13.633	746339	

Date Aquired: 05/12/15 13:45 Vial Number: NA
Sample Name: AZ16056_W01 105263.2 DF 05/07/15_5/11 Data File ID: T512_021.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.913	27706961	3.4
2)	Perchlorate_85	12.9	8121237	

Date Aquired: 05/12/15 14:04 Vial Number: NA
Sample Name: AZ16056_W01 10526.3 DF 05/07/15_5/11 Data File ID: T512_022.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.373	142288714	3.1
2)	Perchlorate_85	12.36	45549708	

Date Aquired: 05/12/15 14:22 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T512_023.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.596	59465	2.2
2)	Perchlorate_85	13.572	27205	

Date Aquired: 05/12/15 14:41 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 05/07/15 Data File ID: T512_024.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.81	445546	3.0
2)	Perchlorate_85	13.817	149445	

Date Aquired: 05/12/15 14:59 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 05/07/15 Data File ID: T512_025.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.586	2273891	3.3
2)	Perchlorate_85	13.572	688478	

Date Aquired: 05/12/15 15:18 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T512_026.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.677	41768	12.2
2)	Perchlorate_85	14.092	3415	

Date Aquired: 05/12/15 15:37 Vial Number: NA
Sample Name: 150512WA_LCS-1 1052.6 DF 05/12/15 Data File ID: T512_027.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.769	623312	3.0
2)	Perchlorate_85	13.725	208822	

Date Aquired: 05/12/15 15:57 Vial Number: NA
Sample Name: 150512W_ICSA 1052.6 DF 05/12/15 Data File ID: T512_028.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.934	514351	3.0
2)	Perchlorate_85	12.951	171061	

Date Aquired: 05/12/15 16:17 Vial Number: NA
Sample Name: 150512WBLKA 1052.6 DF 05/12/15 Data File ID: T512_029.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.065	3486	0.7
2)	Perchlorate_85	14.051	5238	

Date Aquired: 05/12/15 16:44 Vial Number: NA
Sample Name: AZ16200_W01 1052.6 DF 05/12/15 Data File ID: T512_030.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.973	28010	2.2
2)	Perchlorate_85	13.898	12987	

Date Aquired: 05/12/15 17:02 Vial Number: NA
Sample Name: AZ16226_W01 1052.6 DF 05/12/15 Data File ID: T512_031.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.648	234088	3.1
2)	Perchlorate_85	12.574	76366	

Date Aquired: 05/12/15 17:21 Vial Number: NA
Sample Name: AZ16227_W01 1052.6 DF 05/12/15 Data File ID: T512_032.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.801	289829	3.0
2)	Perchlorate_85	12.869	95928	

Date Aquired: 05/12/15 17:40 Vial Number: NA
Sample Name: AZ16228_W01 1052.6 DF 05/12/15 Data File ID: T512_033.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.067	14990612	3.5
2)	Perchlorate_85	12.105	4261915	

Date Aquired: 05/12/15 17:58 Vial Number: NA
Sample Name: AZ16229_W01 1052.6 DF 05/12/15 Data File ID: T512_034.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.139	488049203	2.7
2)	Perchlorate_85	12.105	182329726	

Date Aquired: 05/12/15 18:17 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T512_035.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.932	64612	2.4
2)	Perchlorate_85	13.878	27280	

Date Aquired: 05/12/15 18:36 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 05/07/15 Data File ID: T512_036.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.606	464615	3.1
2)	Perchlorate_85	13.613	150783	

Date Aquired: 05/12/15 18:54 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 05/07/15 Data File ID: T512_037.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.647	2190808	3.2
2)	Perchlorate_85	13.633	678751	

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\150523
Instrument Name : TQ (Agilent 6460 Triple Quad LC/MS)
Method File : 6460_ESI_PER_N_NEWER_K'_COLUMN.m
Operator : BA

Date Aquired: 05/23/15 15:20 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T523_001.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.117	71005	1.9
2)	Perchlorate_85	13.134	37385	

Date Aquired: 05/23/15 15:38 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 05/07/15 Data File ID: T523_002.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.974	857023	2.7
2)	Perchlorate_85	12.981	313246	

Date Aquired: 05/23/15 15:57 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 05/07/15 Data File ID: T523_003.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.127	4097326	3.3
2)	Perchlorate_85	13.134	1252418	

Date Aquired: 05/23/15 16:15 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T523_004.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.147	50856	2.5
2)	Perchlorate_85	12.981	20452	

Date Aquired: 05/23/15 16:37 Vial Number: NA
Sample Name: 150521SA_LCS-1 10422.1 DF 05/21/15 Data File ID: T523_005.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.147	595644	2.8
2)	Perchlorate_85	13.175	215686	

Date Aquired: 05/24/15 4:17 Vial Number: NA
Sample Name: AZ16403_W04 1052.6 DF 05/18/15 Data File ID: T523_042.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.626	6933729	3.3
2)	Perchlorate_85	13.613	2075967	

Date Aquired: 05/24/15 4:36 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T523_043.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.126	79123	26.2
2)	Perchlorate_85	12.94	3023	

Date Aquired: 05/24/15 4:55 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 05/07/15 Data File ID: T523_044.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.024	691196	2.8
2)	Perchlorate_85	14.031	247754	

Date Aquired: 05/24/15 5:13 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 05/07/15 Data File ID: T523_045.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.217	3171297	3.3
2)	Perchlorate_85	14.194	970030	

Date Aquired: 05/24/15 5:32 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T523_046.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.207	77653	13.8
2)	Perchlorate_85	12.971	5620	

Date Aquired: 05/24/15 5:50 Vial Number: NA
Sample Name: 150518SA_LCS-1 10422.1 DF 05/18/15 Data File ID: T523_047.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.248	742644	2.9
2)	Perchlorate_85	14.245	256573	

Date Aquired: 05/24/15 6:09 Vial Number: NA
Sample Name: 150518S_ICSA 10025.1 DF 05/18/15 Data File ID: T523_048.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.26	660527	2.2
2)	Perchlorate_85	13.246	295223	

Date Aquired: 05/24/15 6:28 Vial Number: NA
Sample Name: 150518SBLKA 10319.9 DF 05/18/15 Data File ID: T523_049.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.995	7316	1.3
2)	Perchlorate_85	13.052	5610	

Date Aquired: 05/24/15 6:46 Vial Number: NA
Sample Name: AZ16137-S01 9153.3 DF 05/18/15 Data File ID: T523_050.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.832	7187	0.5
2)	Perchlorate_85	12.614	15819	

Date Aquired: 05/24/15 7:05 Vial Number: NA
Sample Name: AZ16137_S01_MS-1 8920.6 DF 05/18/15 Data File ID: T523_051.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.126	798462	3.1
2)	Perchlorate_85	14.132	261182	

Date Aquired: 05/24/15 7:24 Vial Number: NA
Sample Name: AZ16137_S01_MSD-1 8996.9 DF 05/18/15 Data File ID: T523_052.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.064	809460	3.1
2)	Perchlorate_85	14.071	260591	

Date Aquired: 05/24/15 7:42 Vial Number: NA
Sample Name: AZ16138_S01 9074.4 DF 05/18/15 Data File ID: T523_053.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.964	8625	5.2
2)	Perchlorate_85	12.961	1657	

Date Aquired: 05/24/15 8:01 Vial Number: NA
Sample Name: AZ16139_S01 8628.1 DF 05/18/15 Data File ID: T523_054.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.035	5371	0.9
2)	Perchlorate_85	13.022	5841	

Date Aquired: 05/24/15 8:19 Vial Number: NA
Sample Name: AZ16140_S01 9153.3 DF 05/18/15 Data File ID: T523_055.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.993	3337205	3.3
2)	Perchlorate_85	13.99	1007106	

Date Aquired: 05/24/15 8:38 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T523_056.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.932	66732	15.4
2)	Perchlorate_85	12.889	4323	

Date Aquired: 05/24/15 8:57 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 05/07/15 Data File ID: T523_057.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.769	758603	3.0
2)	Perchlorate_85	13.786	254673	

Date Aquired: 05/24/15 9:15 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 05/07/15 Data File ID: T523_058.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.82	3406090	3.3
2)	Perchlorate_85	13.806	1040769	

Date Aquired: 05/24/15 9:34 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T523_059.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.749	65303	27.8
2)	Perchlorate_85	12.991	2347	

Date Aquired: 05/24/15 9:53 Vial Number: NA
Sample Name: AZ16141_S01 7683.4 DF 05/18/15 Data File ID: T523_060.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.667	2251605	3.2
2)	Perchlorate_85	13.674	705207	

Date Aquired: 05/24/15 10:11 Vial Number: NA
Sample Name: AZ16198_S01 8628.1 DF 05/18/15 Data File ID: T523_061.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.616	190072	2.7
2)	Perchlorate_85	13.603	71515	

Date Aquired: 05/24/15 10:30 Vial Number: NA
Sample Name: AZ16199_S01 8354.2 DF 05/18/15 Data File ID: T523_062.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.351	2265490	3.1
2)	Perchlorate_85	13.338	726832	

Date Aquired: 05/24/15 10:48 Vial Number: NA
Sample Name: AZ16201_S01 8421.1 DF 05/18/15 Data File ID: T523_063.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.944	2540	0.1
2)	Perchlorate_85	12.787	17805	

Date Aquired: 05/24/15 11:07 Vial Number: NA
Sample Name: AZ16202_S01 8489.0 DF 05/18/15 Data File ID: T523_064.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.29	18415075	3.4
2)	Perchlorate_85	13.297	5380483	

Date Aquired: 05/24/15 11:26 Vial Number: NA
Sample Name: AZ16400_S01 7914.5 DF 05/18/15 Data File ID: T523_065.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.127	3795664	3.2
2)	Perchlorate_85	13.124	1177554	

Date Aquired: 05/24/15 11:44 Vial Number: NA
Sample Name: AZ16401_S01 8097.2 DF 05/18/15 Data File ID: T523_066.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.229	872107	3.2
2)	Perchlorate_85	13.277	270166	

Date Aquired: 05/24/15 12:03 Vial Number: NA
Sample Name: AZ16402_S01 7914.5 DF 05/18/15 Data File ID: T523_067.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.035	3325948	3.3
2)	Perchlorate_85	13.032	995494	

Date Aquired: 05/24/15 12:41 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T523_068.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.198	55871	40.2
2)	Perchlorate_85	12.981	1390	

Date Aquired: 05/24/15 13:00 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 05/07/15 Data File ID: T523_069.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.423	521126	3.0
2)	Perchlorate_85	13.429	173626	

Date Aquired: 05/24/15 13:18 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 05/07/15 Data File ID: T523_070.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.504	2587270	3.2
2)	Perchlorate_85	13.521	812912	

Date Aquired: 05/24/15 13:37 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T523_071.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.219	52496	40.9
2)	Perchlorate_85	13.032	1282	

EPA METHOD 6850
Perchlorate
LC/MS

Sample Data

APPL, INC.

PERCHLORATE EPA 6850 - SOIL

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-SS036-0001
Sample Collection Date: 05/08/15

ARF: 76390
APPL ID: AZ16198
QCG: #6850SM-150518A-198067

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations have been adjusted to reflect 18.6 Percent Moisture.)								
EPA 6850	PERCHLORATE	0.0040 U	0.006	0.0040	0.0020	mg/Kg	05/18/15	05/24/15

Quant Method:	QTLMFL2
Run #:	T523_061.d
Instrument:	AGIL_6460
Sequence:	TQ052315
Dilution Factor:	1
Initials:	RP

Printed: 06/17/15 10:48:35 AM
APPL-F1-SC-MCResOnly-REG MDLs

Data File ID: T523_061.d

Date Injected : 05/24/15

Time Injected : 10:11

Sample ID : AZ16198_S01 8628.1 DF 05/18/15

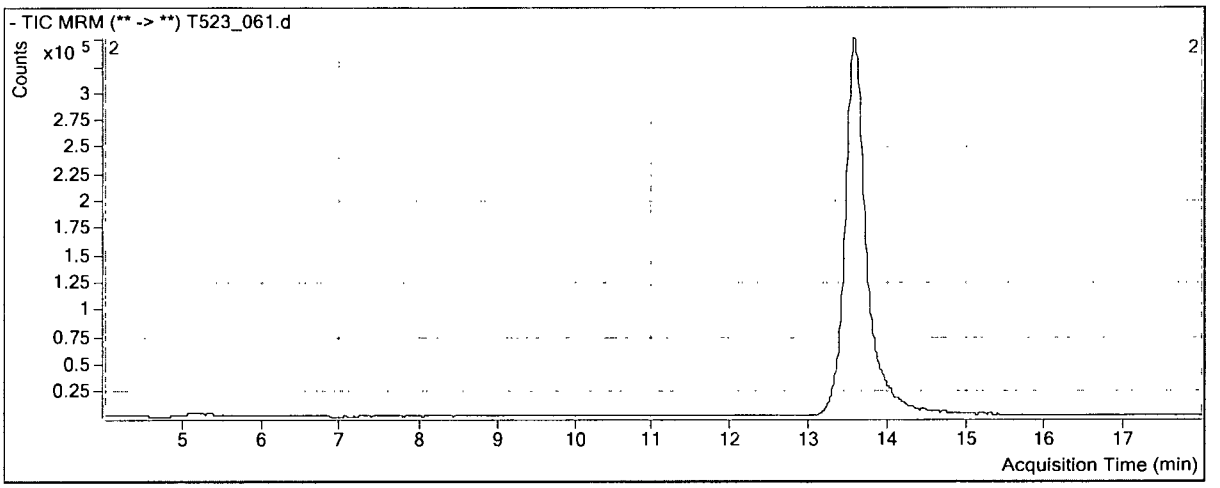
Client ID : S67-SS036-0001

Retention Time		Area Count Response	Compound_ID Product Ion			
13.589		6460539	PER_IS_89			
13.616	*	190072	Perchlorate_83	(190072 * 0.0050) / (1.27 * 6460539.00) *	8628.10 =	0.999180 ppb
13.603	*	71515	Perchlorate_85	(71515 * 0.0050) / (0.39 * 6460539.00) *	8628.10 =	1.219454 ppb

* MANUAL INTEGRAION

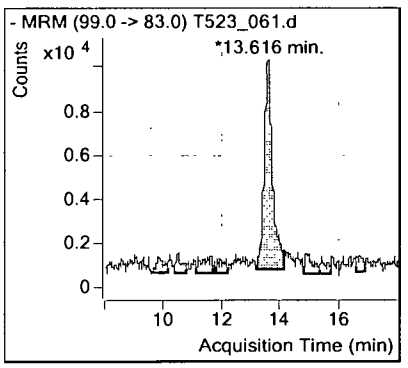
Quantitative Analysis Sample Report

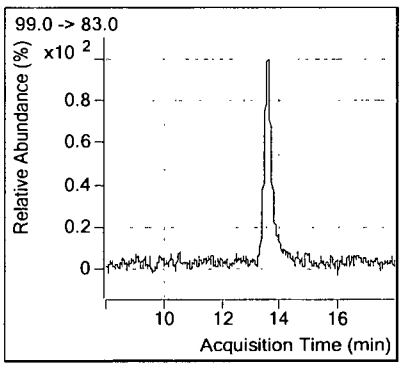
Batch Data Path	D:\MassHunter\Data\150523\QuantResults\150523_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T523_061.d	**Sample Name**	AZ16198_S01 8628.1 DF 05/18/15
Sample Type	Sample	**Acq_Date**	05/24/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	10:11
ClientID	S67-SS036-0001	**Inj Vol**	20

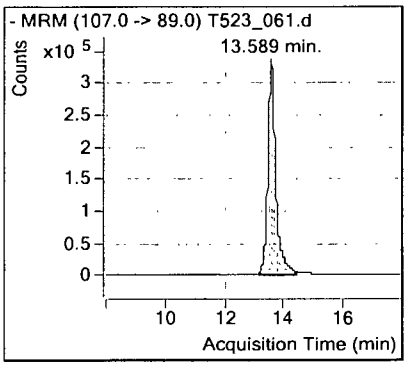


Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108	*	13.616	190072	6460539	* MANUAL INT
Perchlorate_102	PER_IS_108	*	13.603	71515	6460539	* MANUAL INT

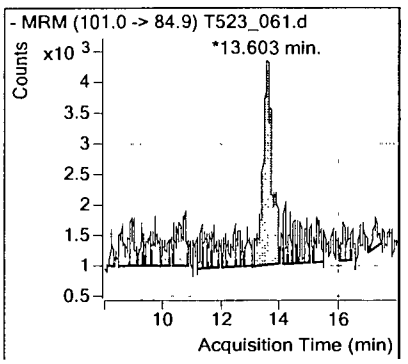
Perchlorate_100

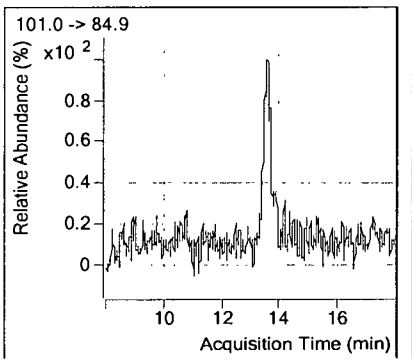


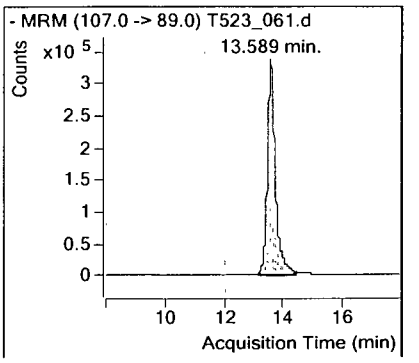


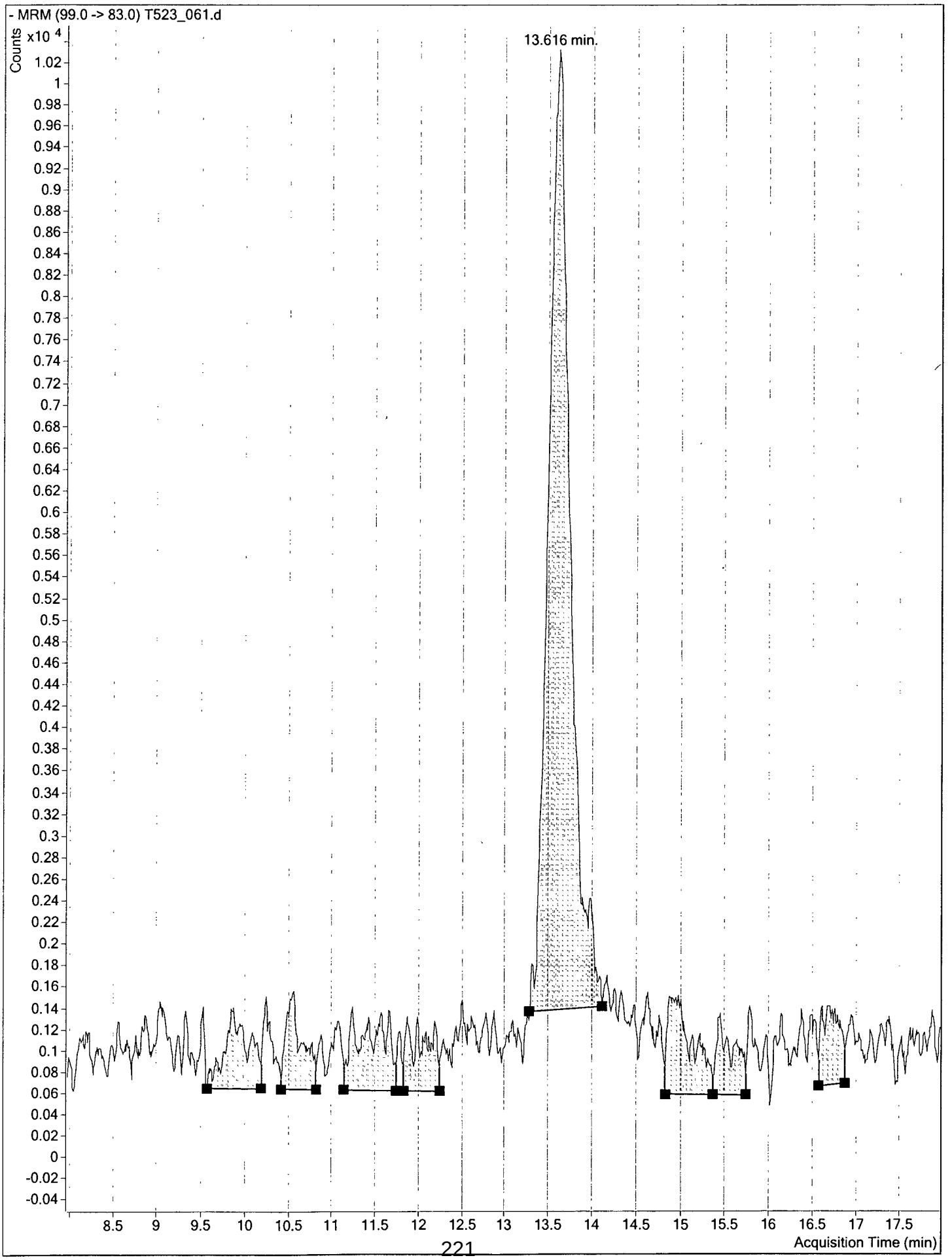


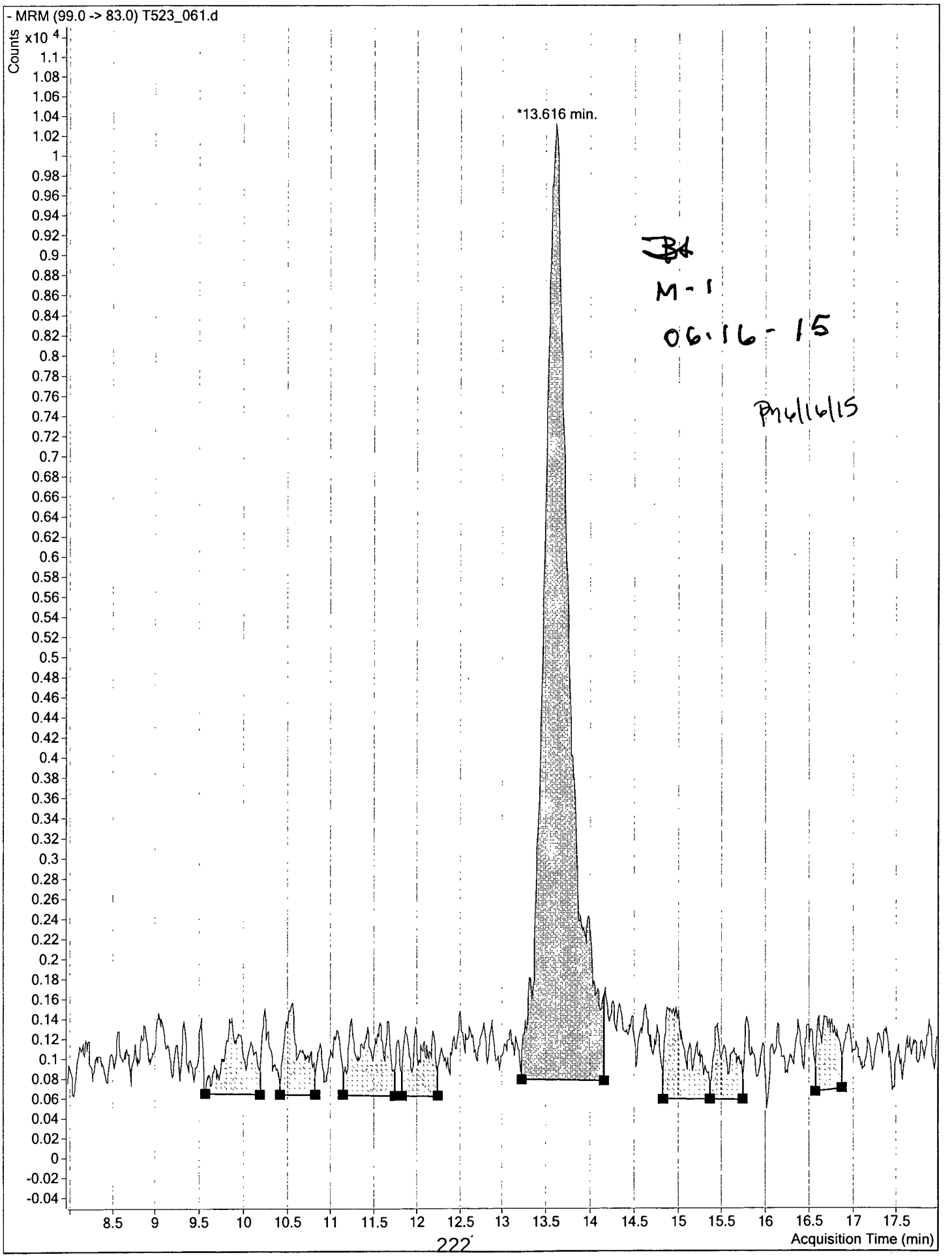
Perchlorate_102



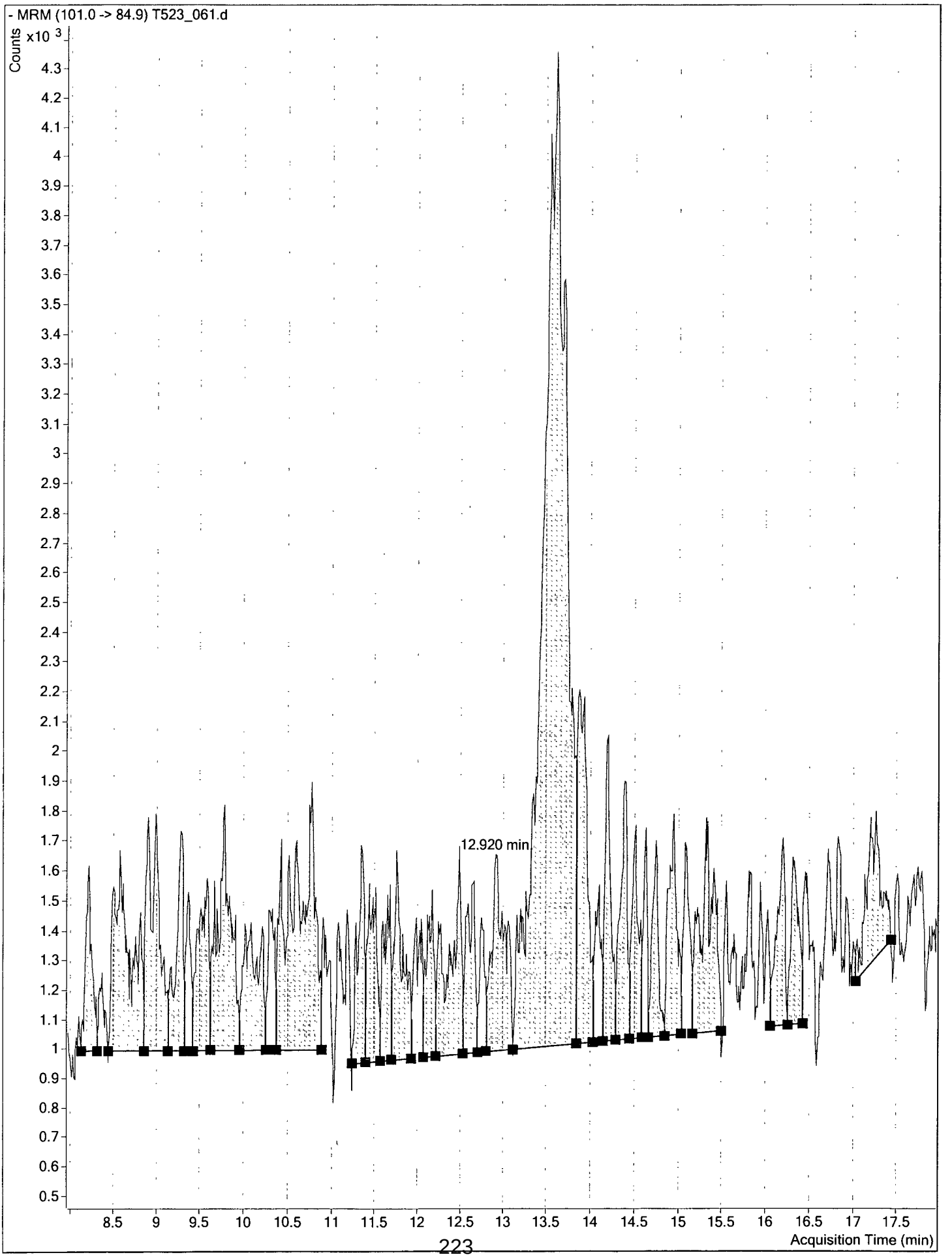


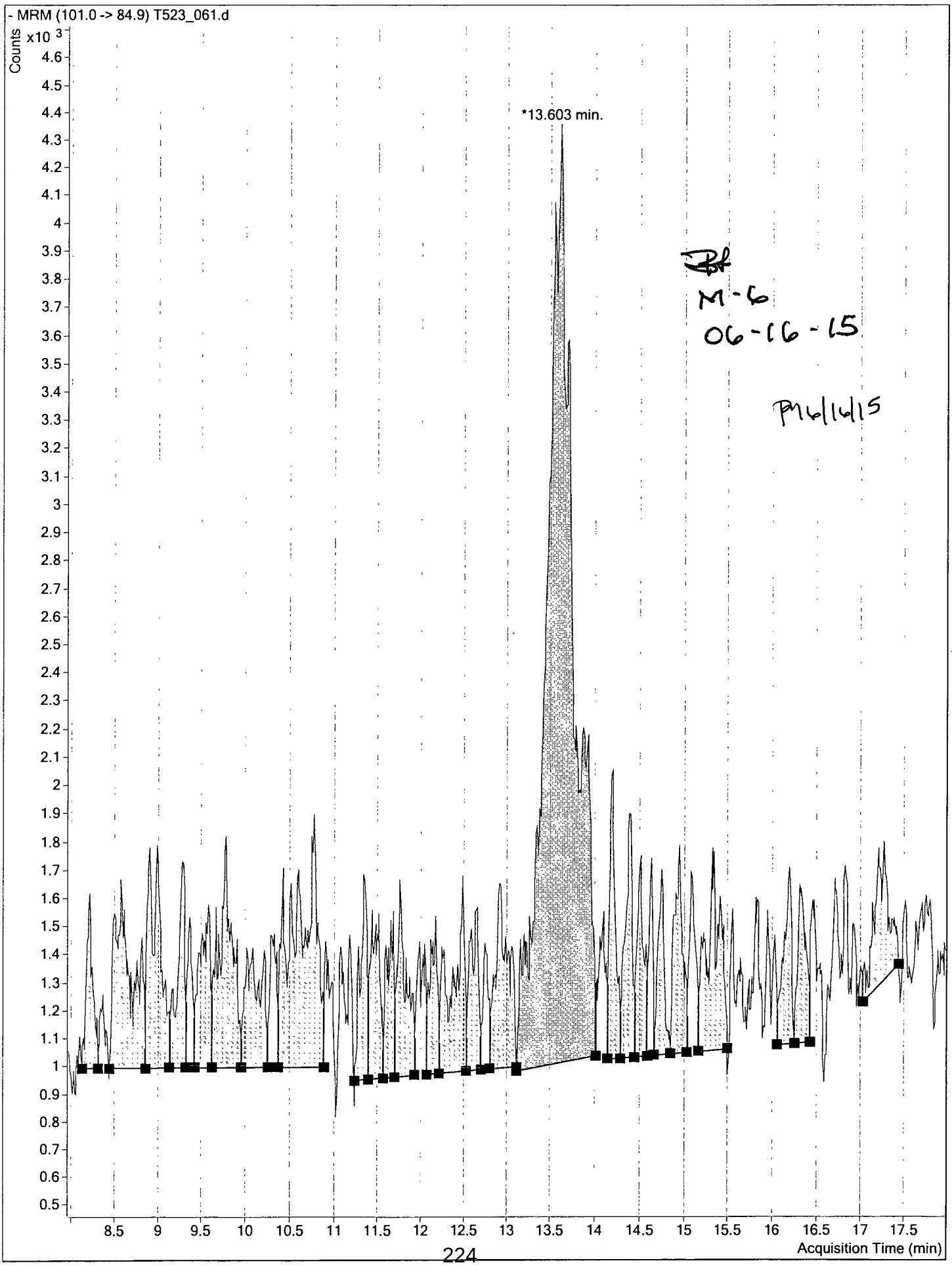



- MRM (99.0 -> 83.0) T523_061.d
Counts
x10 4
13.616 min.
Acquisition Time (min)



~~B4~~
M-1
06.16-15
PM 6/16/15


- MRM (101.0 -> 84.9) T523_061.d
Counts
x10 3
4.3
4.2
4.1
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
12.920 min
8.5
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 (101.0 -> 84.9) T523_061.d
Counts
x10 3
*13.603 min.
Acquisition Time (min)
M-6
06-16-15
PM6/16/15

PERCHLORATE EPA 6850 - SOIL

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-SB036-0405
Sample Collection Date: 05/08/15

ARF: 76390
APPL ID: AZ16199
QCG: #6850SM-150518A-198067

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations have been adjusted to reflect 19.3 Percent Moisture.)								
EPA 6850	PERCHLORATE	0.015	0.006	0.0040	0.0020	mg/Kg	05/18/15	05/24/15

Quant Method:	QTLMFL2
Run #:	T523_062.d
Instrument:	AGIL_6460
Sequence:	TQ052315
Dilution Factor:	1
Initials:	RP

Printed: 06/17/15 10:48:35 AM
APPL-F1-SC-MCResOnly-REG MDLs

Data File ID: T523_062.d

Date Injected : 05/24/15

Time Injected : 10:30

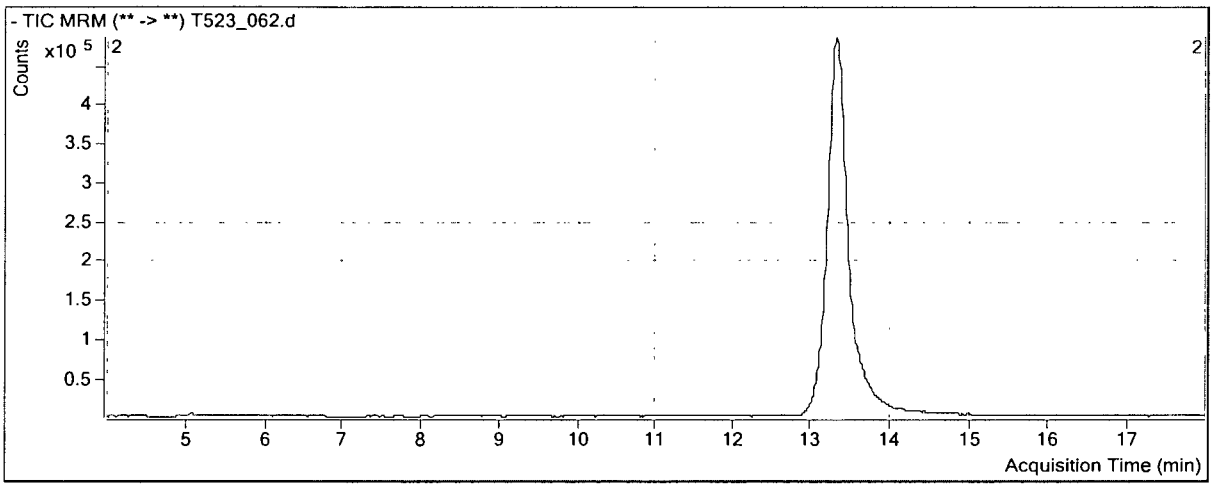
Sample ID : AZ16199_S01 8354.2 DF 05/18/15

Client ID : S67-SB036-0405

Retention Time	Area Count Response	Compound_ID Product Ion		
13.334	6231243	PER_IS_89		
13.351	2265490	Perchlorate_83	(2265490 * 0.0050) / (1.27 * 6231243.00) * 8354.20 =	11.955599 ppb
13.338	726832	Perchlorate_85	(726832 * 0.0050) / (0.39 * 6231243.00) * 8354.20 =	12.441880 ppb

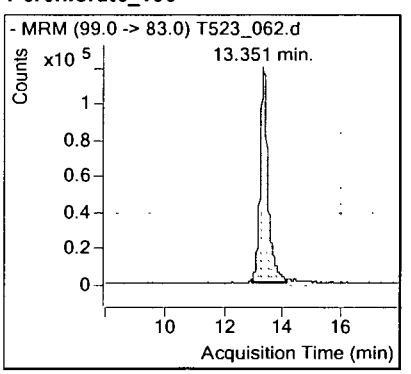
Quantitative Analysis Sample Report

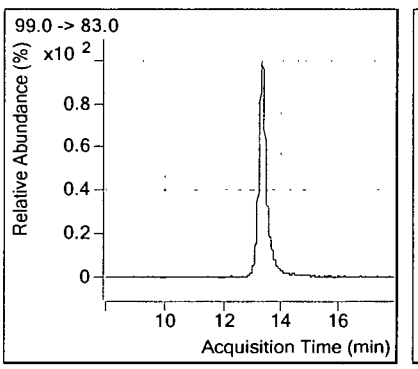
Batch Data Path	D:\MassHunter\Data\150523\QuantResults\150523_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T523_062.d	**Sample Name**	AZ16199_S01 8354.2 DF 05/18/15
Sample Type	Sample	**Acq_Date**	05/24/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	10:30
ClientID	S67-SB036-0405	**Inj Vol**	20

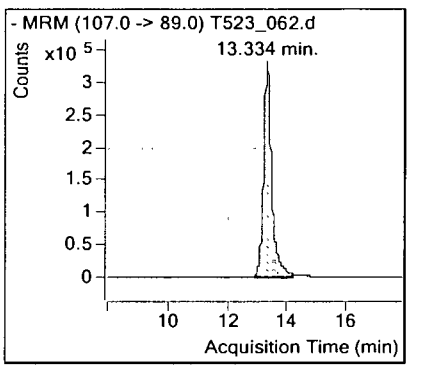


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.351	2265490	6231243
Perchlorate_102	PER_IS_108	13.338	726832	6231243

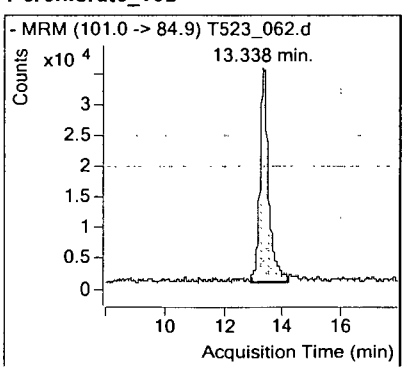
Perchlorate_100

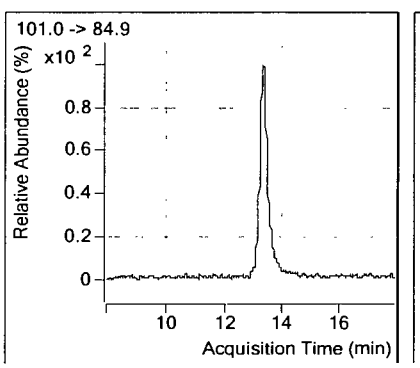


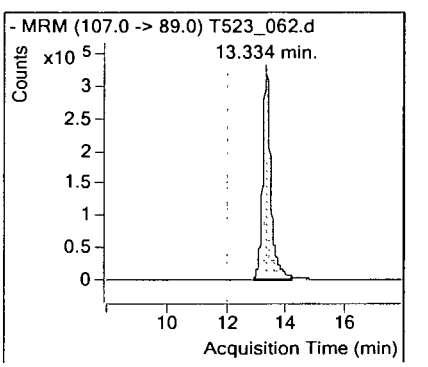




Perchlorate_102







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-RB01-050815
Sample Collection Date: 05/08/15

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 76390
APPL ID: AZ16200
QCG: #6850-150512A-196913

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.400 U	0.60	0.400	0.200	ug/L	05/12/15	05/12/15

Quant Method:	QTLMFL2
Run #:	T512_030.D
Instrument:	AGIL_6460
Sequence:	TQ051215
Dilution Factor:	1
Initials:	MP

Printed: 05/13/15 11:50:10 AM
APPL-F1-SC-NoMC-REG MDLs

Data File ID: T512_030.d

Date Injected : 05/12/15

Time Injected : 16:44

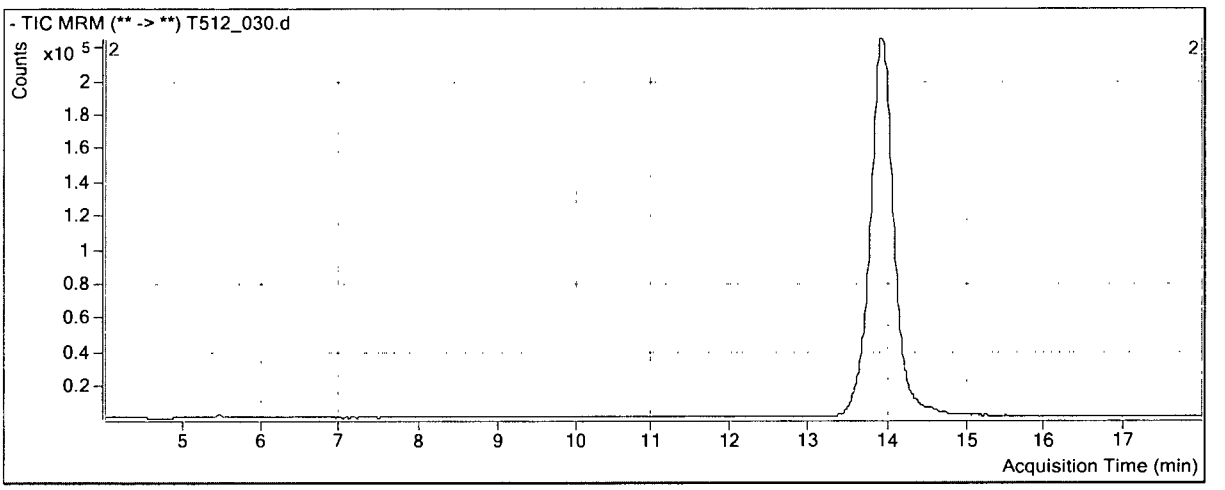
Sample ID : AZ16200_W01 1052.6 DF 05/12/15

Client ID : S67-RB01-050815

Retention Time	Area Count Response	Compound_ID Product Ion			
13.935	4479067	PER_IS_89			
13.973	28010	Perchlorate_83	(28010 * 0.0050) / (1.27 * 4479067.00) *	1052.60 =	0.025910 ppb
13.898	12987	Perchlorate_85	(12987 * 0.0050) / (0.39 * 4479067.00) *	1052.60 =	0.038968 ppb

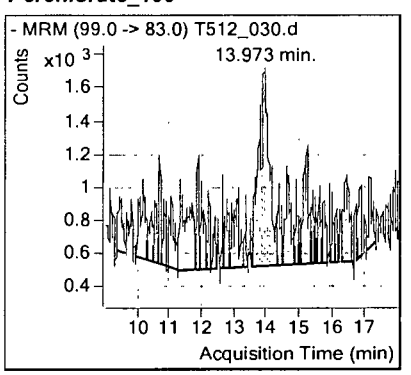
Quantitative Analysis Sample Report

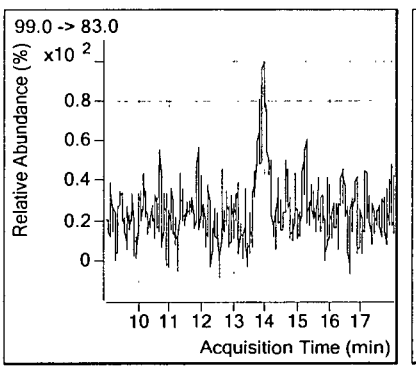
Batch Data Path	D:\MassHunter\Data\150512\QuantResults\150512_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T512_030.d	**Sample Name**	AZ16200_W01 1052.6 DF 05/12/15
Sample Type	Sample	**Acq_Date**	05/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	16:44
ClientID	S67-RB01-050815	**Inj Vol**	20

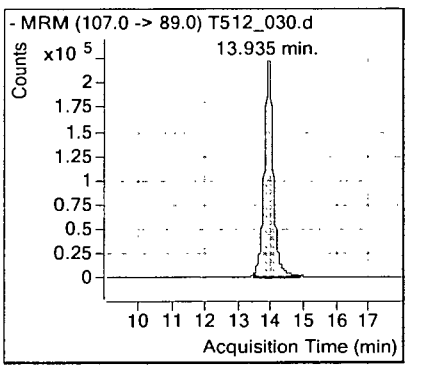


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.973	28010	4479067
Perchlorate_102	PER_IS_108	13.898	12987	4479067

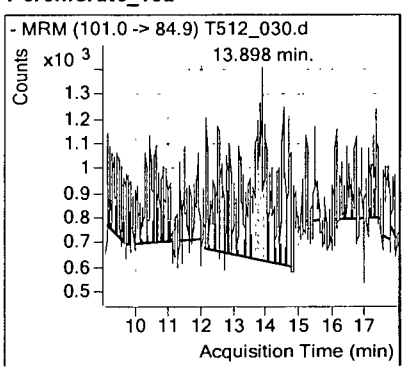
Perchlorate_100

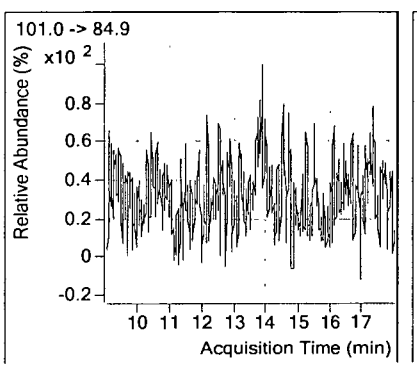


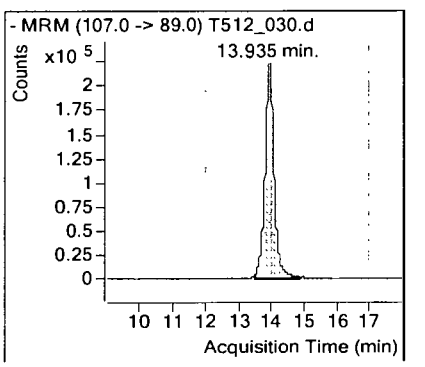




Perchlorate_102







PERCHLORATE EPA 6850 - SOIL

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-SS037-0001
Sample Collection Date: 05/08/15

ARF: 76390
APPL ID: AZ16201
QCG: #6850SM-150518A-198067

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations have been adjusted to reflect 18.5 Percent Moisture.)								
EPA 6850	PERCHLORATE	0.0040 U	0.006	0.0040	0.0020	mg/Kg	05/18/15	05/24/15

Quant Method:	QTLMFL2
Run #:	T523_063.d
Instrument:	AGIL_6460
Sequence:	TQ052315
Dilution Factor:	1
Initials:	RP

Printed: 06/17/15 10:48:36 AM
APPL-F1-SC-MCResOnly-REG MDLs

Data File ID: T523_063.d

Date Injected : 05/24/15

Time Injected : 10:48

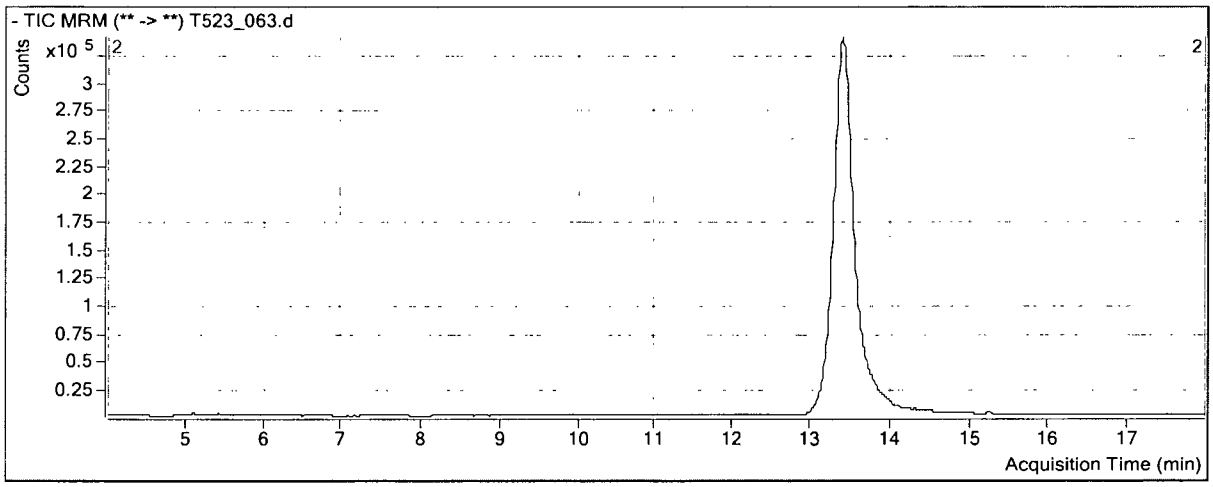
Sample ID : AZ16201_S01 8421.1 DF 05/18/15

Client ID : S67-SS037-0001

Retention Time	Area Count Response	Compound_ID Product Ion			
13.426	6390660	PER_IS_89			
12.944	2540	Perchlorate_83	(2540 * 0.0050) / (1.27 * 6390660.00) *	8421.10 =	0.013175 ppb
12.787	17805	Perchlorate_85	(17805 * 0.0050) / (0.39 * 6390660.00) *	8421.10 =	0.299562 ppb

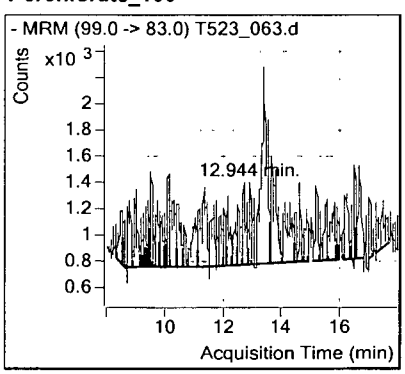
Quantitative Analysis Sample Report

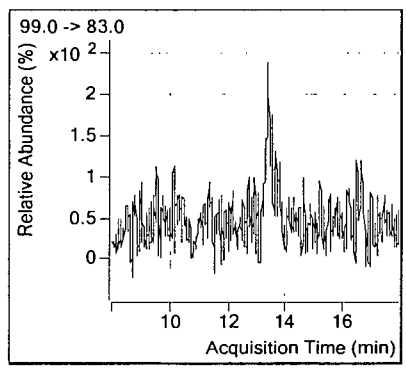
Batch Data Path	D:\MassHunter\Data\150523\QuantResults\150523_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T523_063.d	**Sample Name**	AZ16201_S01 8421.1 DF 05/18/15
Sample Type	Sample	**Acq_Date**	05/24/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	10:48
ClientID	S67-SS037-0001	**Inj Vol**	20

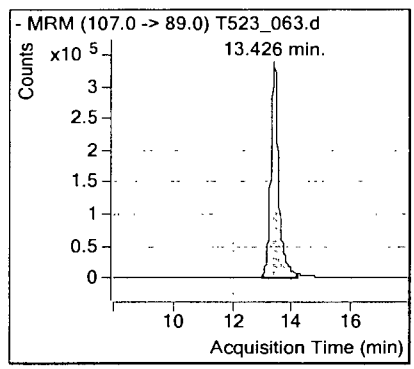


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	12.944	2540	6390660
Perchlorate_102	PER_IS_108	12.787	17805	6390660

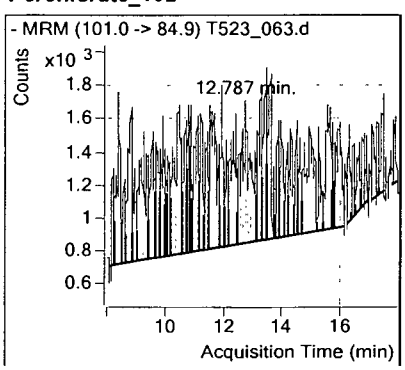
Perchlorate_100

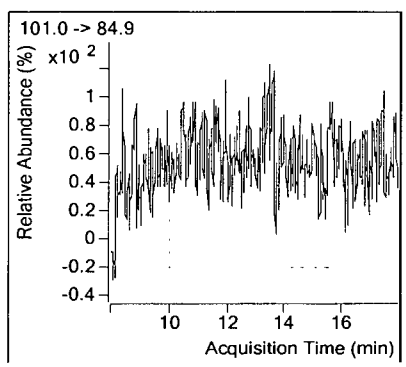


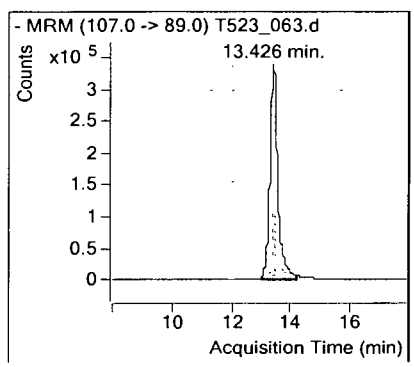




Perchlorate_102







PERCHLORATE EPA 6850 - SOIL

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: 76390

Sample ID: S67-SB037-0607

APPL ID: AZ16202

Sample Collection Date: 05/08/15

QCG: #6850SM-150518A-198067

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
(Solid Concentrations have been adjusted to reflect 18.0 Percent Moisture.)								
EPA 6850	PERCHLORATE	0.12	0.006	0.0040	0.0020	mg/Kg	05/18/15	05/24/15

Quant Method:	QTLMFL2
Run #:	T523_064.d
Instrument:	AGIL_6460
Sequence:	TQ052315
Dilution Factor:	1
Initials:	RP

Printed: 06/17/15 10:48:36 AM

APPL-F1-SC-MCResOnly-REG MDLs

Data File ID: T523_064.d

Date Injected : 05/24/15

Time Injected : 11:07

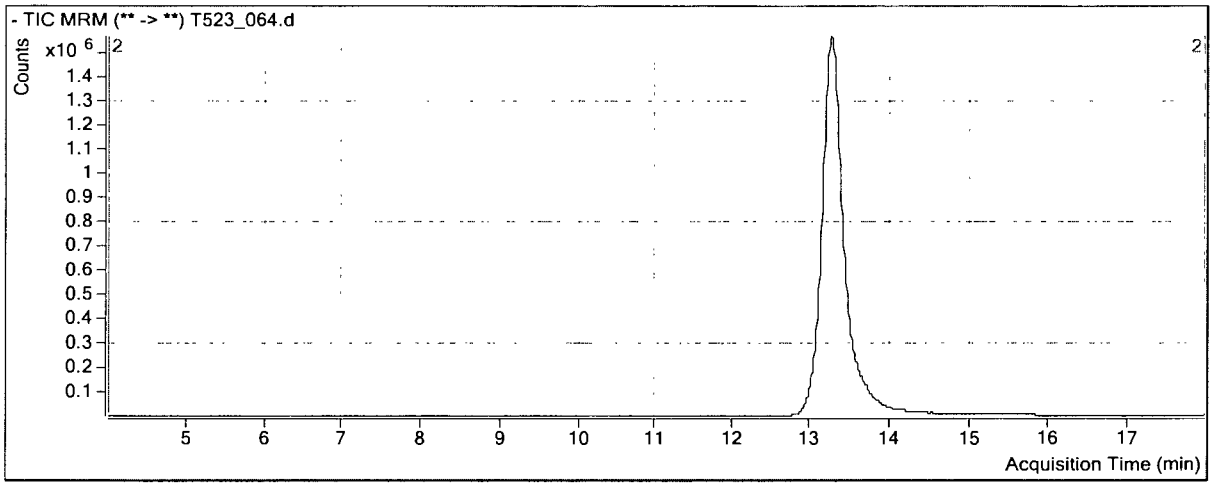
Sample ID : AZ16202_S01 8489.0 DF 05/18/15

Client ID : S67-SB037-0607

Retention Time	Area Count Response	Compound_ID Product Ion		
13.283	6171466	PER_IS_89		
13.29	18415075	Perchlorate_83	(18415075 * 0.0050) / (1.27 * 6171466.00) * 8489.00 =	99.705859 ppb
13.297	5380483	Perchlorate_85	(5380483 * 0.0050) / (0.39 * 6171466.00) * 8489.00 =	94.495523 ppb

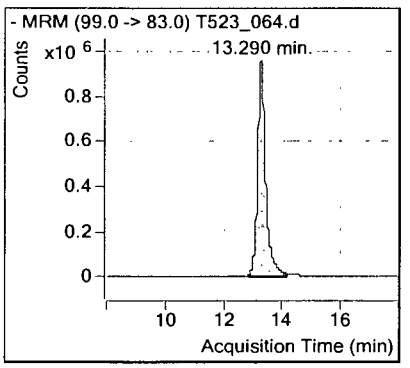
Quantitative Analysis Sample Report

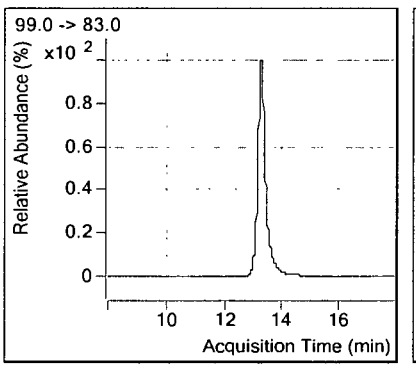
Batch Data Path	D:\MassHunter\Data\150523\QuantResults\150523_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T523_064.d	**Sample Name**	AZ16202_S01 8489.0 DF 05/18/15
Sample Type	Sample	**Acq_Date**	05/24/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	11:07
ClientID	S67-SB037-0607	**Inj Vol**	20

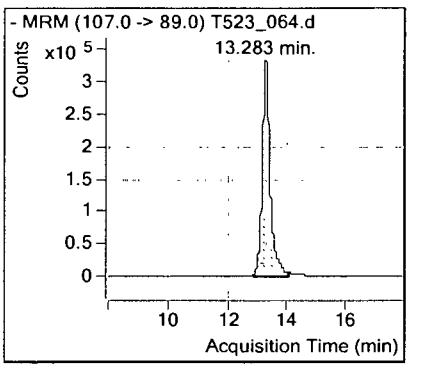


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.290	18415075	6171466
Perchlorate_102	PER_IS_108	13.297	5380483	6171466

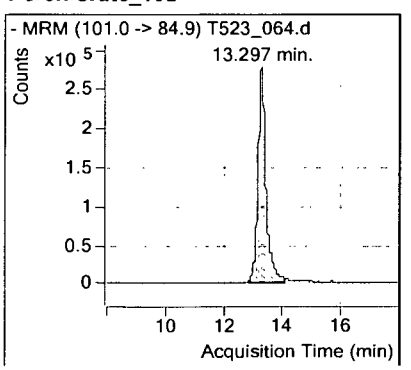
Perchlorate_100

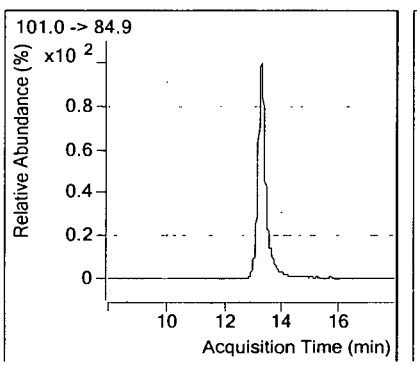


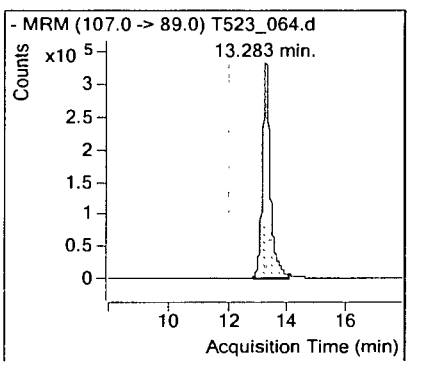




Perchlorate_102







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	%RSD
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

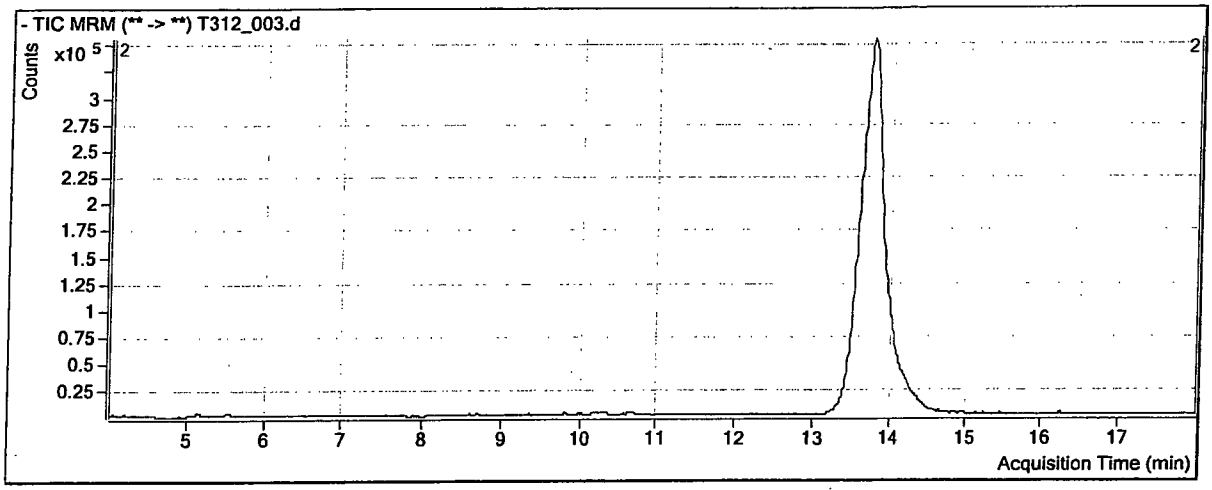
Client ID : NA

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

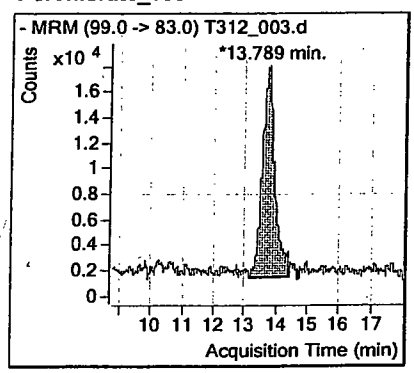
Quantitative Analysis Sample Report

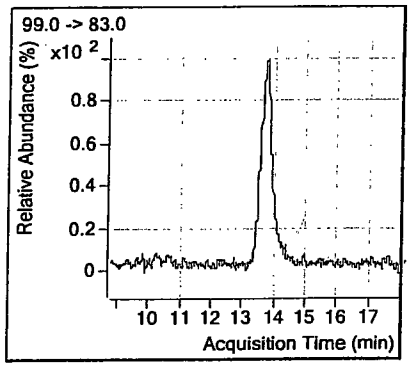
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_003.d	**Sample Name**	PERCHLORATE 0.0002 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	17:52
ClientID	NA	**Inj Vol**	20

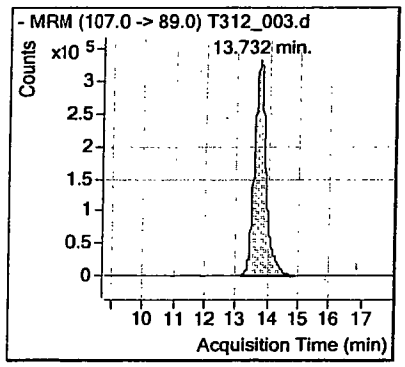


Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108	*	13.789	446712	8337058	* MANUAL INT
Perchlorate_102	PER_IS_108		13.704	144754	8337058	

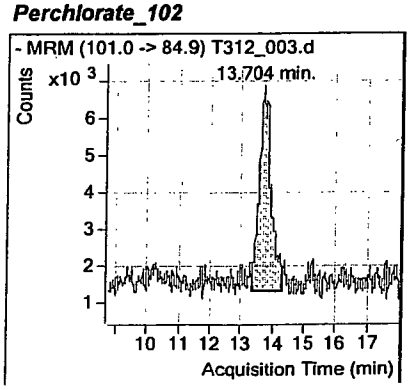
Perchlorate_100

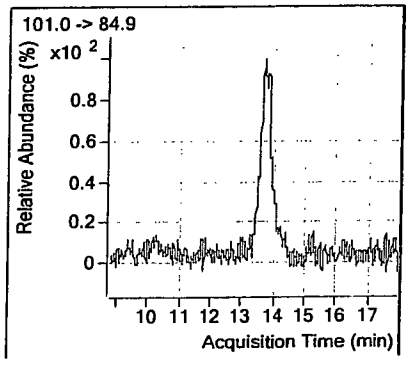


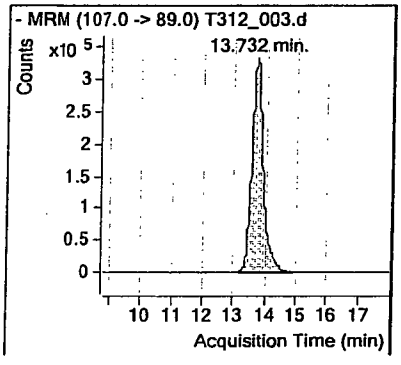


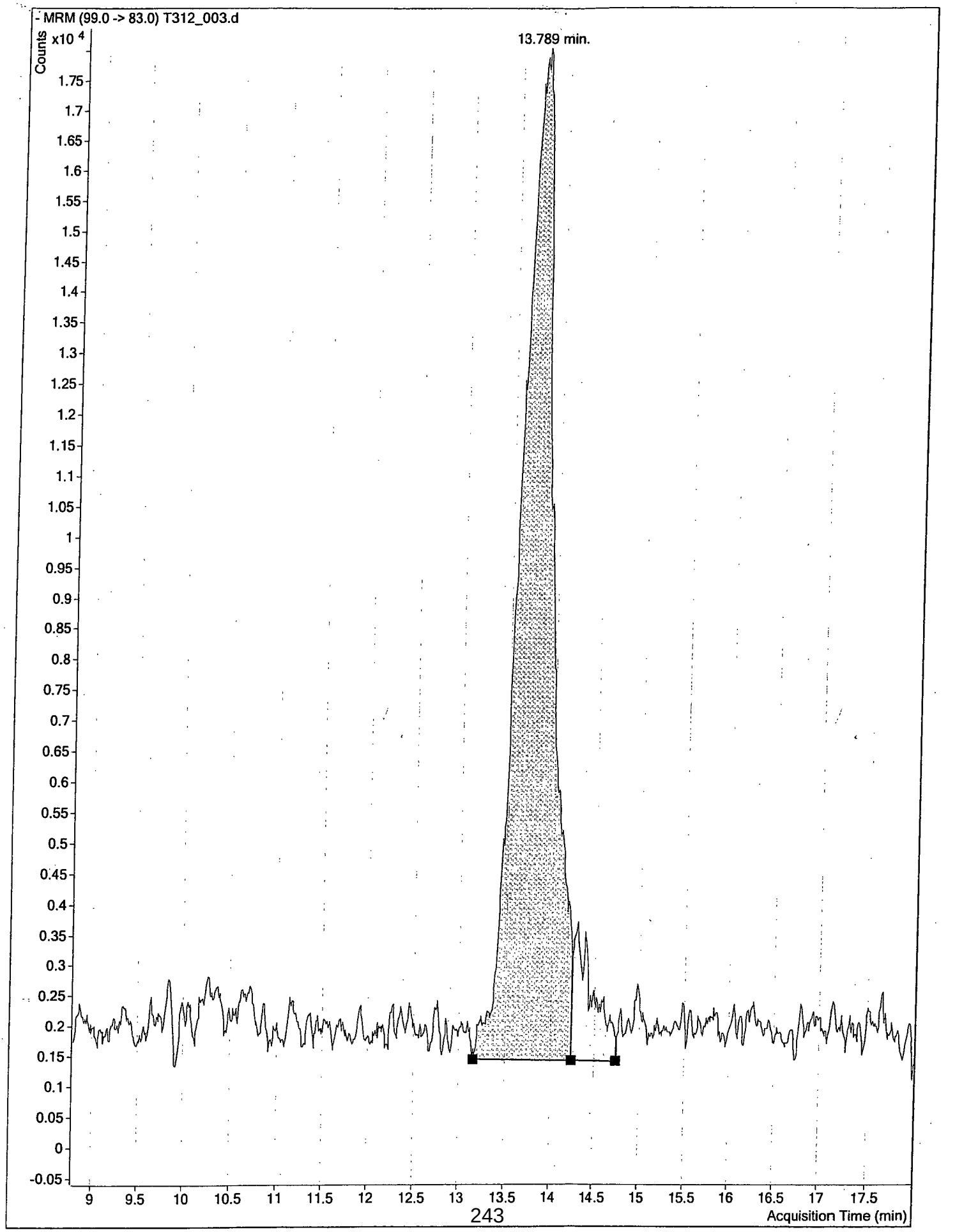


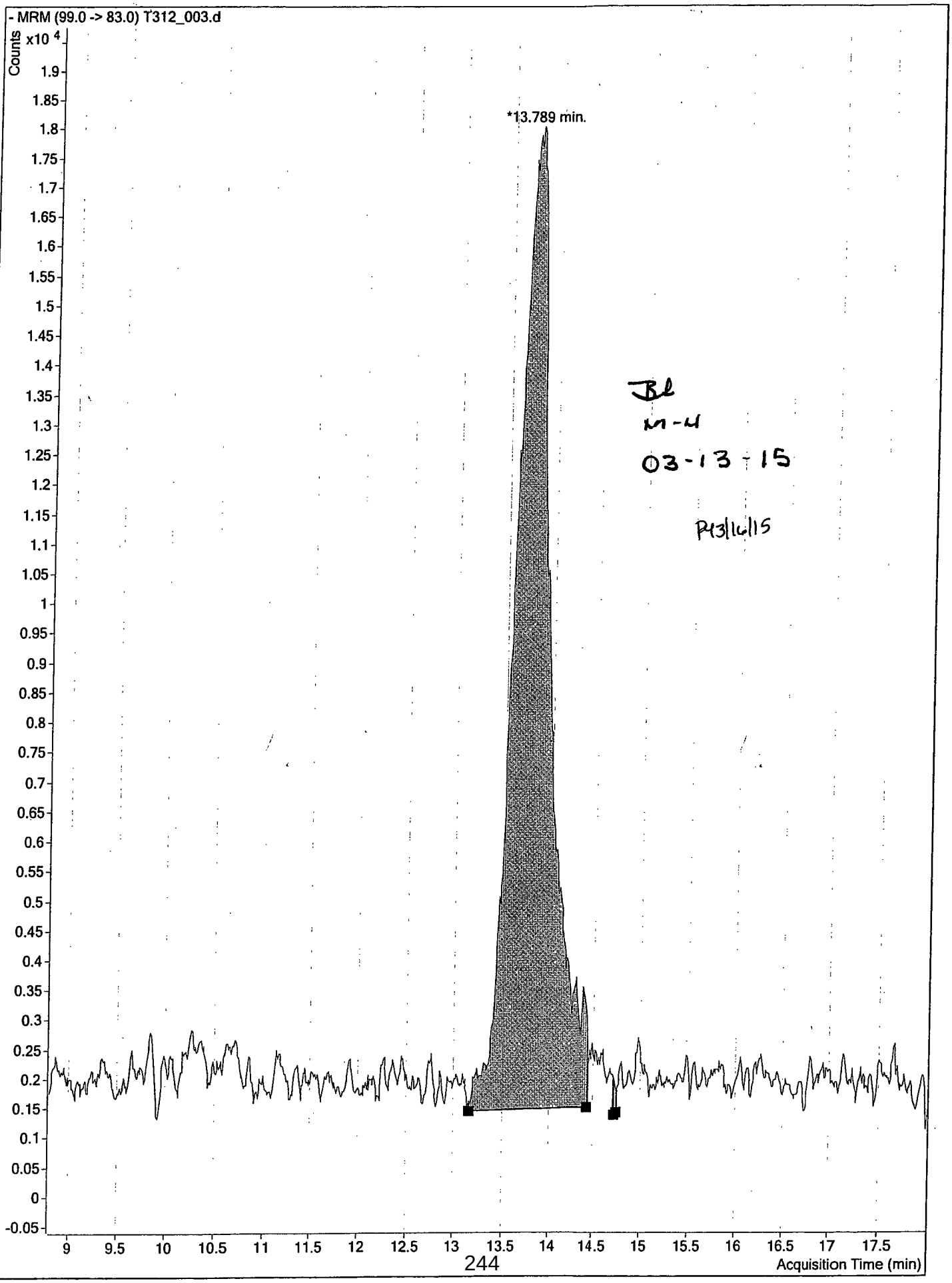
Perchlorate_102








- 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-H
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

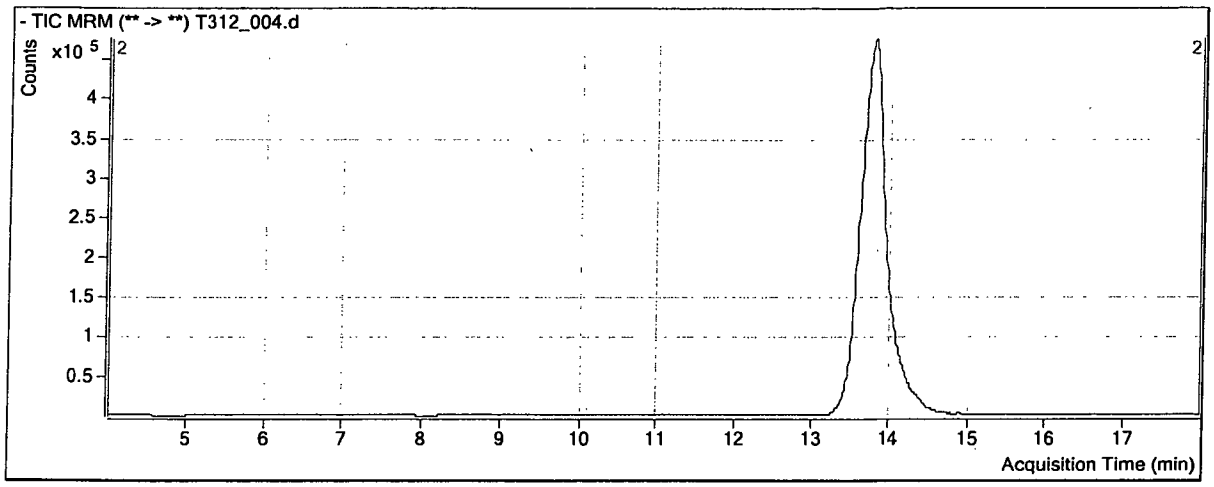
Sample ID : PERCHLORATE 0.0004 ug/ml 11/11/14

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

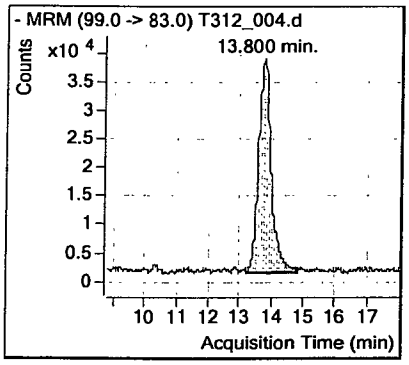
Quantitative Analysis Sample Report

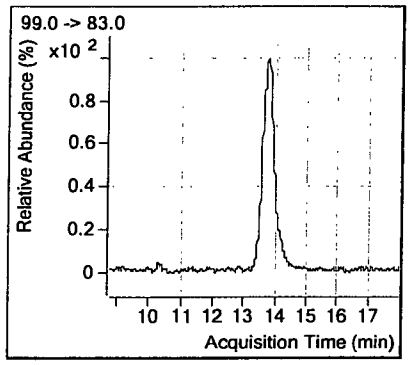
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_004.d	**Sample Name**	PERCHLORATE 0.0004 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	18:11
ClientID	NA	**Inj Vol**	20

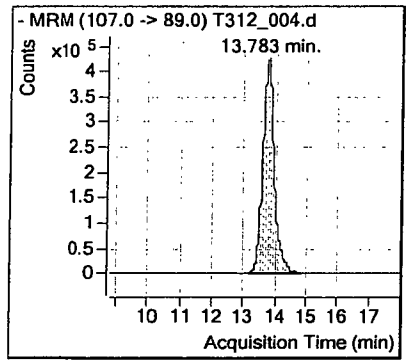


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.800	1023403	10671196
Perchlorate_102	PER_IS_108	13.827	337305	10671196

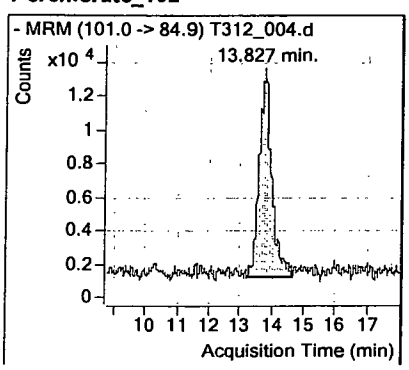
Perchlorate_100

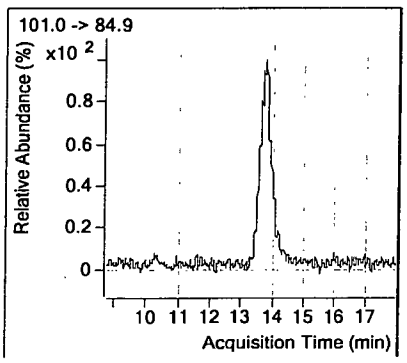


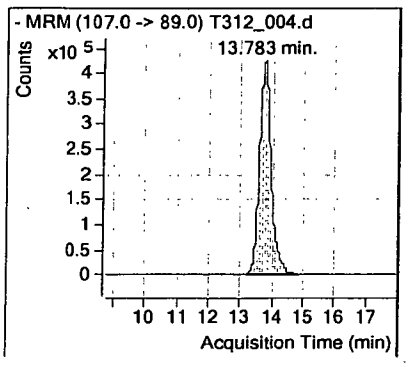




Perchlorate_102







Data File ID: T312_005.d

Date Injected : 03/12/15

Time Injected : 18:29

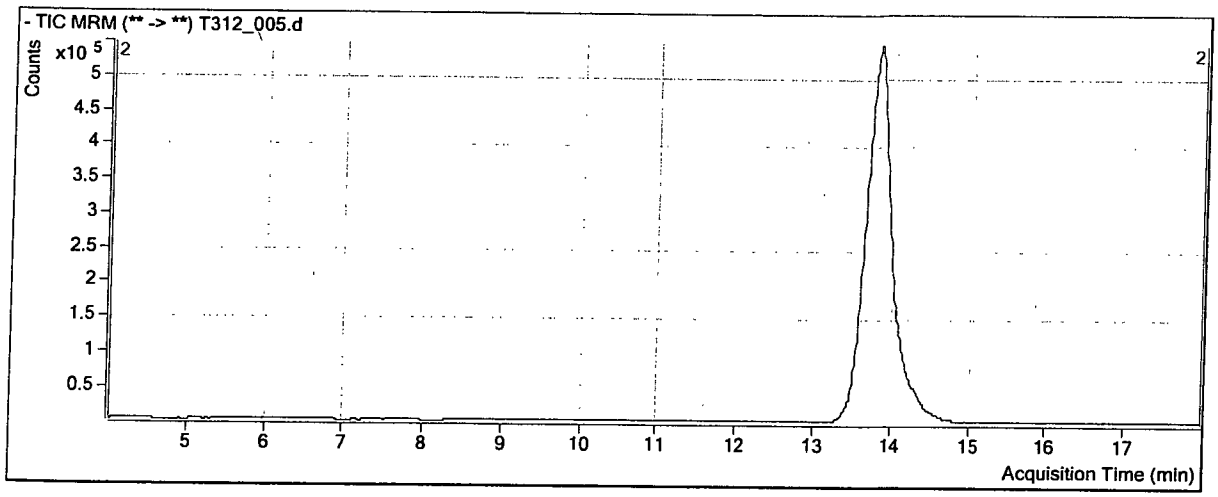
Sample ID : PERCHLORATE 0.001 ug/ml 11/11/14

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

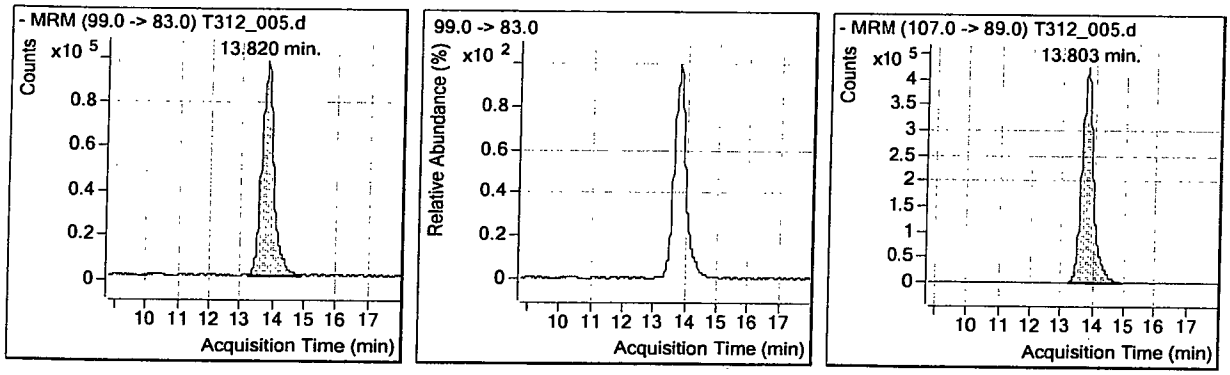
Quantitative Analysis Sample Report

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

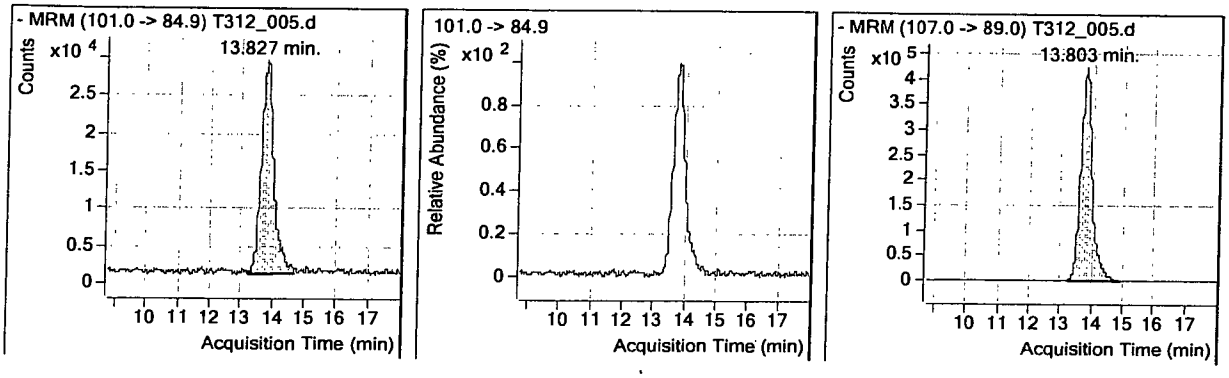


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.820	2483393	10651968
Perchlorate_102	PER_IS_108	13.827	781617	10651968

Perchlorate_100



Perchlorate_102



Data File ID: T312_006.d

Date Injected : 03/12/15

Time Injected : 18:48

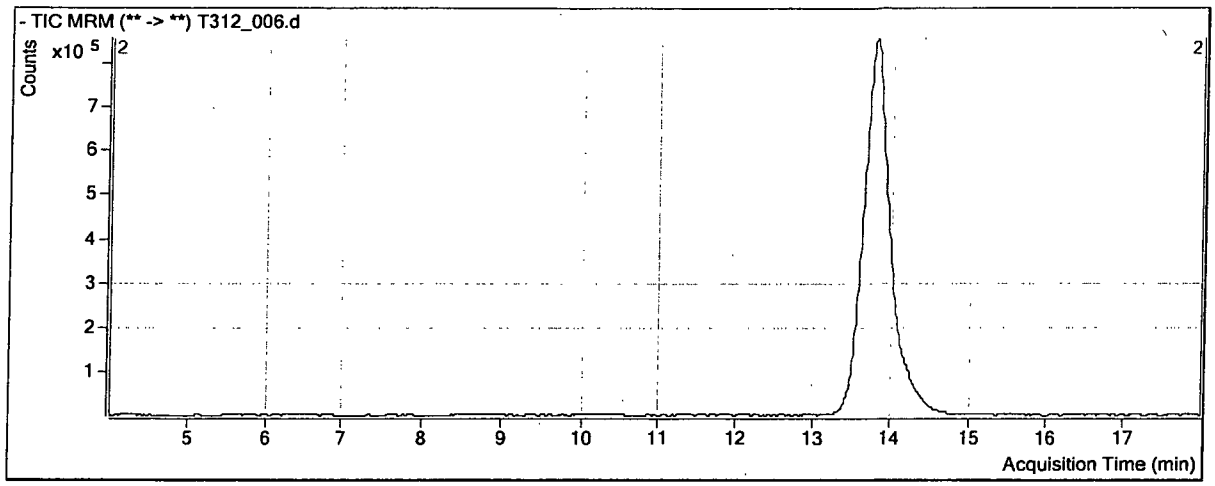
Sample ID : PERCHLORATE 0.002 ug/ml 11/11/14

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

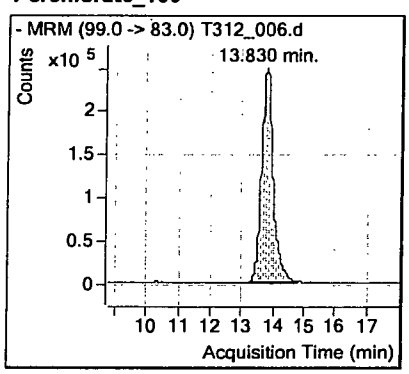
Quantitative Analysis Sample Report

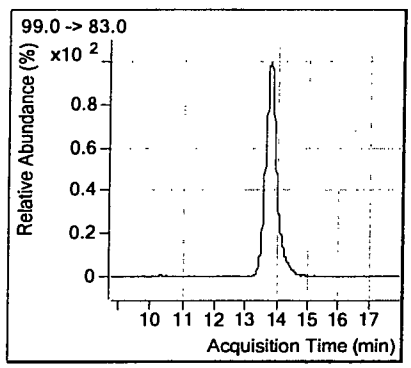
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_006.d	**Sample Name**	PERCHLORATE 0.002 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	18:48
ClientID	NA	**Inj Vol**	20

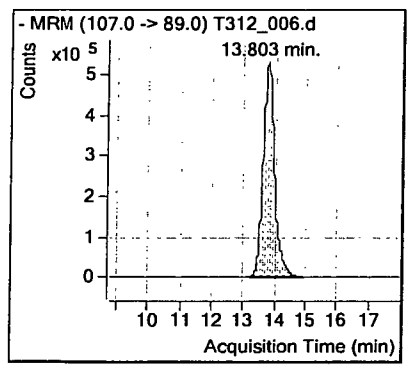


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.830	6351752	13529952
Perchlorate_102	PER_IS_108	13.817	1920912	13529952

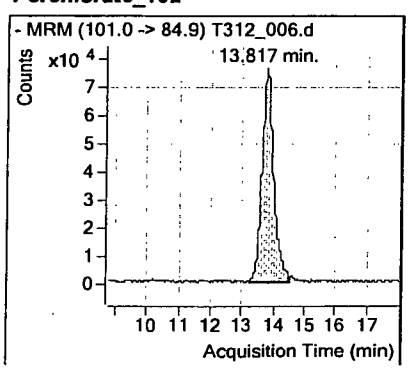
Perchlorate_100

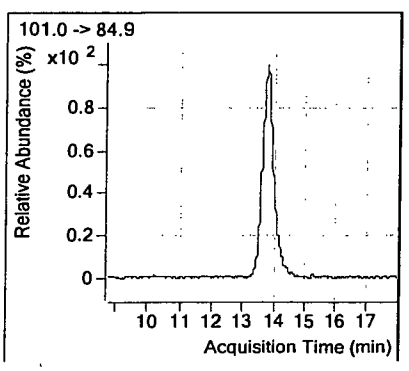


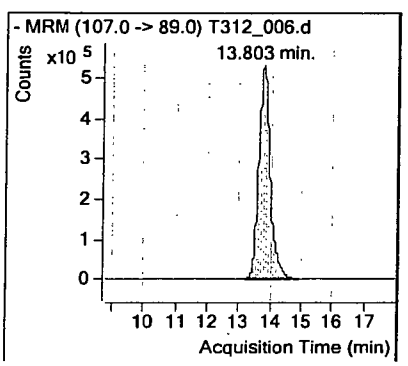




Perchlorate_102







Data File ID: T312_007.d

Date Injected : 03/12/15

Time Injected : 19:07

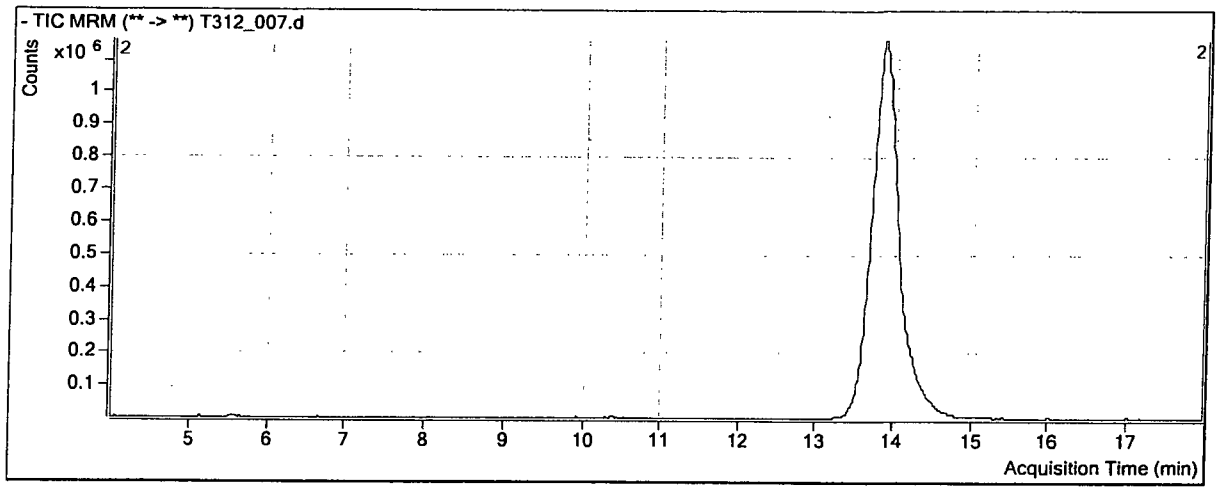
Sample ID : PERCHLORATE 0.005 ug/ml 11/11/14

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

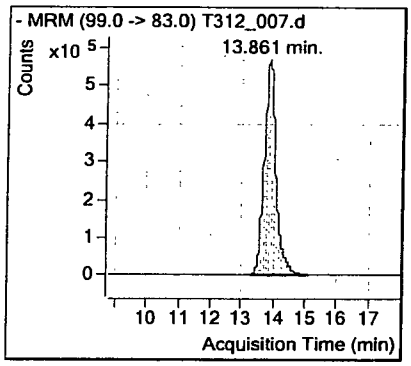
Quantitative Analysis Sample Report

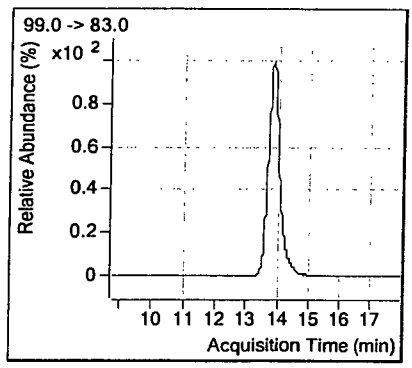
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_007.d	**Sample Name**	PERCHLORATE 0.005 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	19:07
ClientID	NA	**Inj Vol**	20

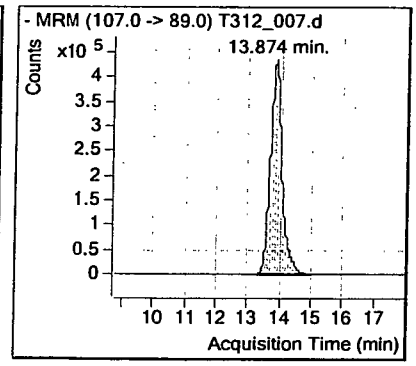


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.861	14499255	11028880
Perchlorate_102	PER_IS_108	13.878	4209044	11028880

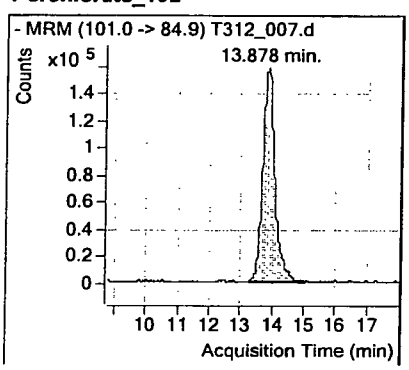
Perchlorate_100

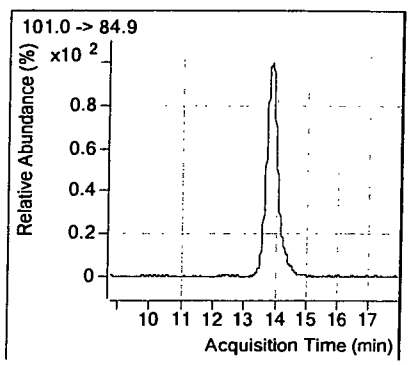


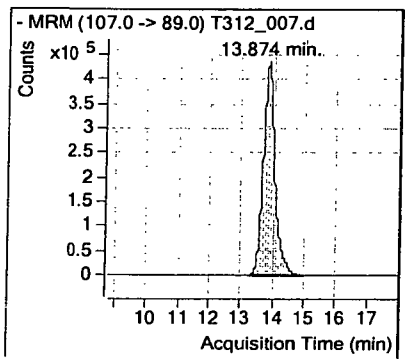




Perchlorate_102







Data File ID: T312_008.d

Date Injected : 03/12/15

Time Injected : 19:25

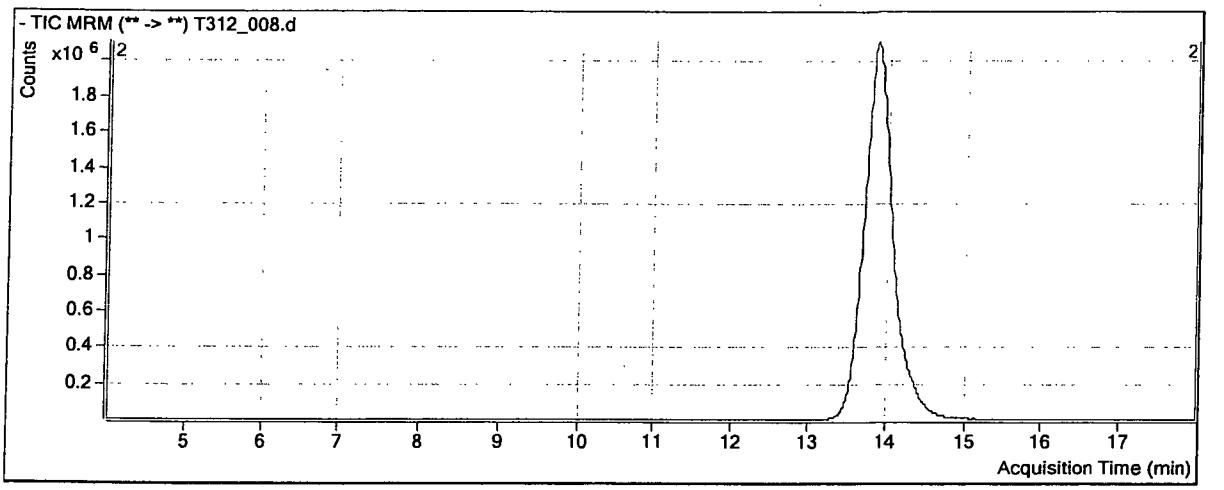
Sample ID : PERCHLORATE 0.010 ug/ml 08/27/14

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

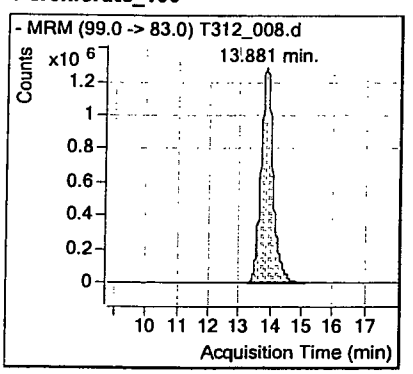
Quantitative Analysis Sample Report

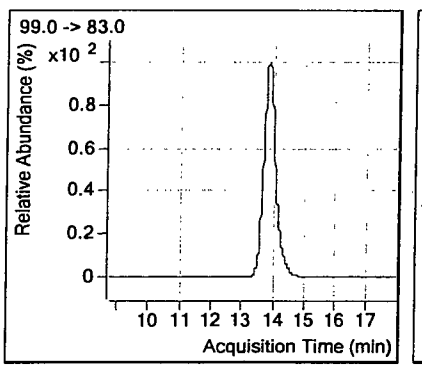
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_008.d	**Sample Name**	PERCHLORATE 0.010 ug/ml 08/27/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	19:25
ClientID	NA	**Inj Vol**	20

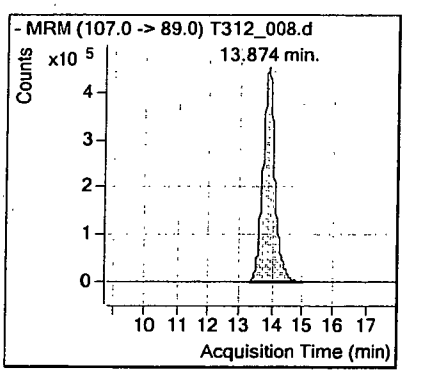


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.881	34223790	11973072
Perchlorate_102	PER_IS_108	13.878	9985270	11973072

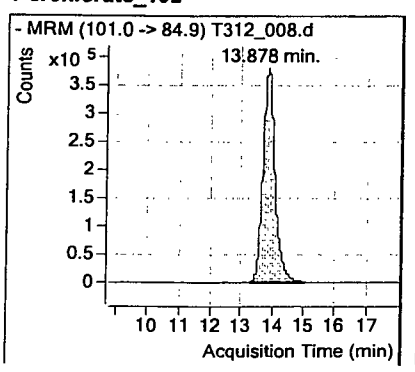
Perchlorate_100

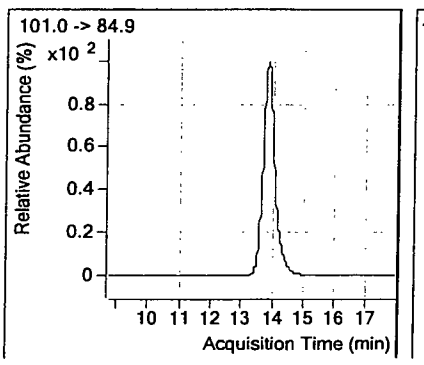


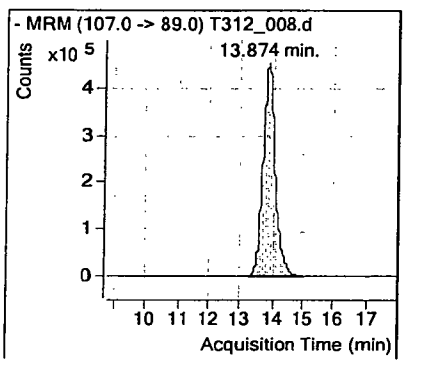




Perchlorate_102







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

FILE ID : TQCK1210.RFB

Data File ID: T312_010.d

Date Injected : 03/12/15

Time Injected : 20:02

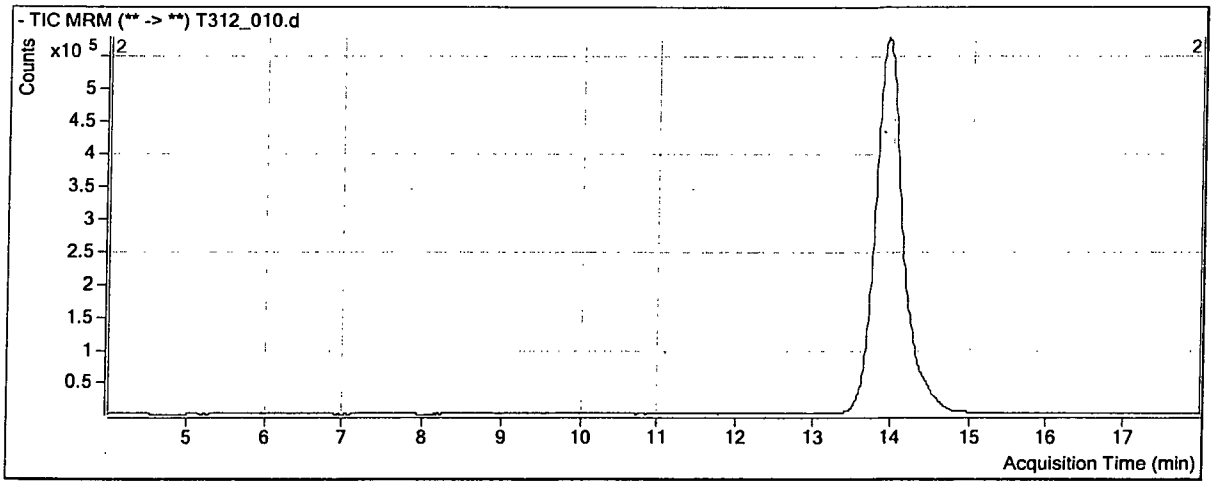
Sample ID : PER_SS 0.0004 ug/ml 11/11/14

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

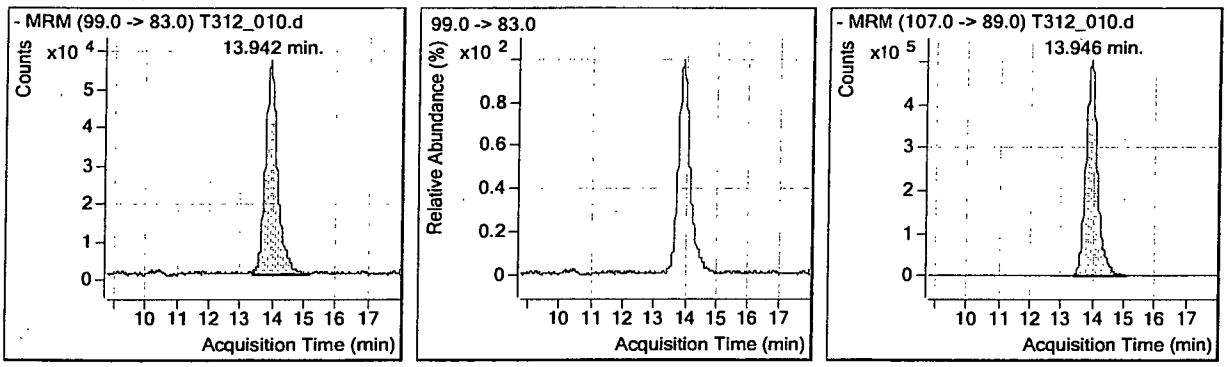
Quantitative Analysis Sample Report

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

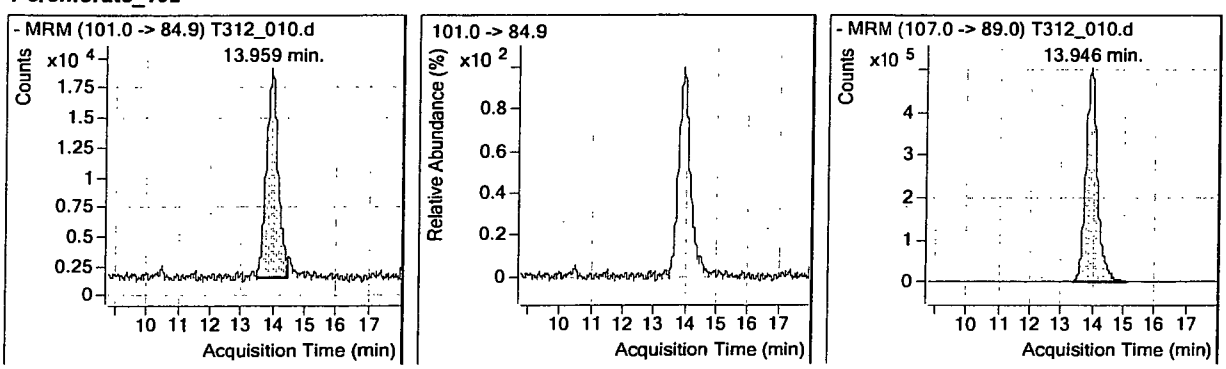


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.942	1472839	12977621
Perchlorate_102	PER_IS_108	13.959	440675	12977621

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

FILE ID : TQCK1211.RFB

Data File ID: T312_011.d

Date Injected : 03/12/15

Time Injected : 20:21

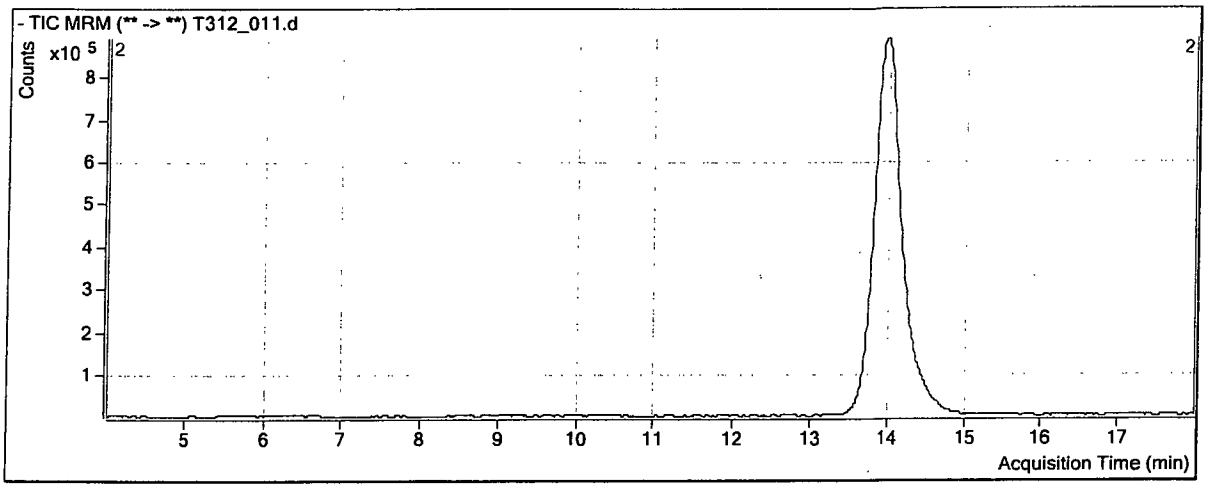
Sample ID : PER_SS 0.002 ug/ml 11/11/14

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

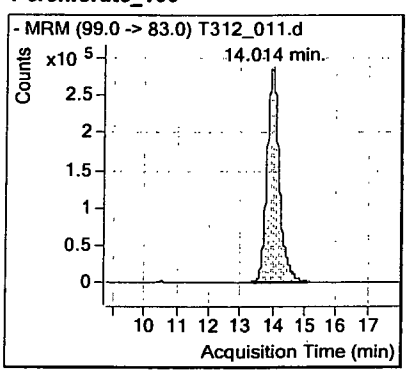
Quantitative Analysis Sample Report

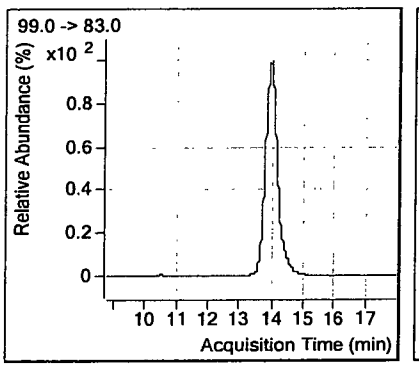
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_011.d	**Sample Name**	PER_SS 0.002 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	20:21
ClientID	NA	**Inj Vol**	20

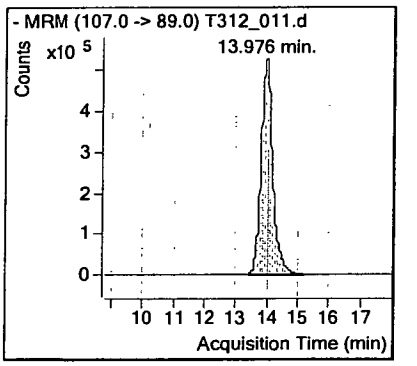


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.014	7468678	13747369
Perchlorate_102	PER_IS_108	14.000	2222387	13747369

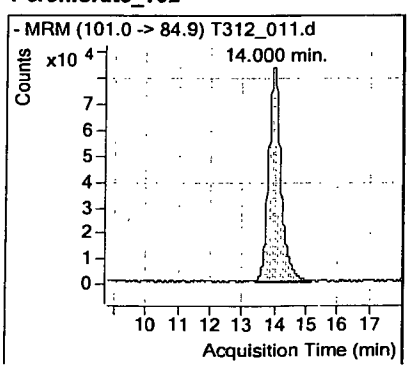
Perchlorate_100

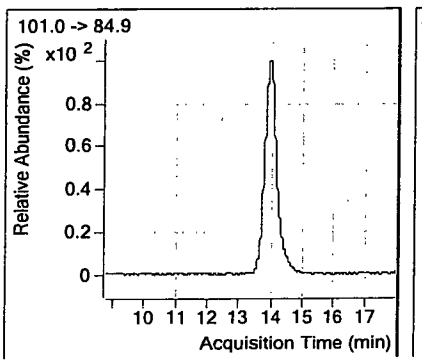


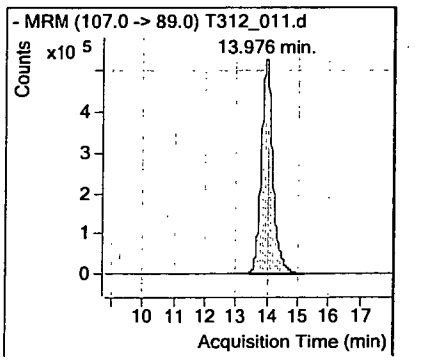




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

.ab Name: APPL Inc.

)etector 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

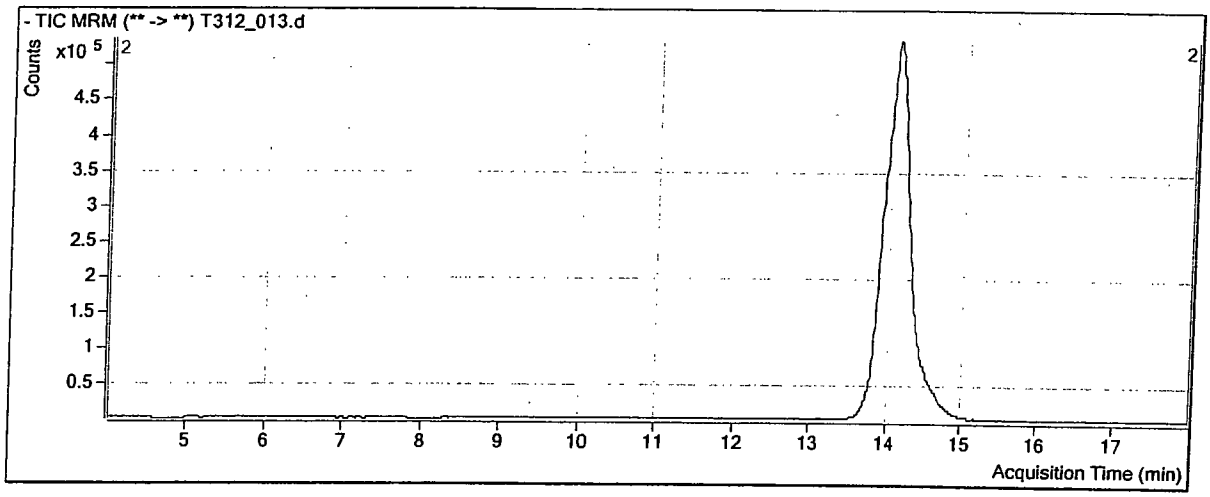
Sample ID : PER_CCV_1 0.0004 ug/ml 11/11/14

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

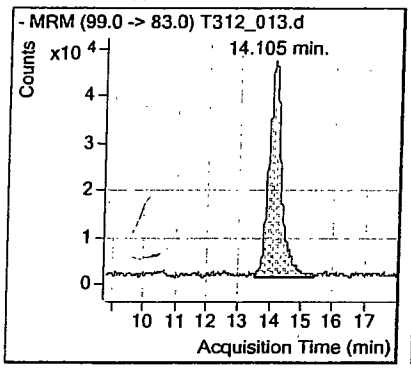
Quantitative Analysis Sample Report

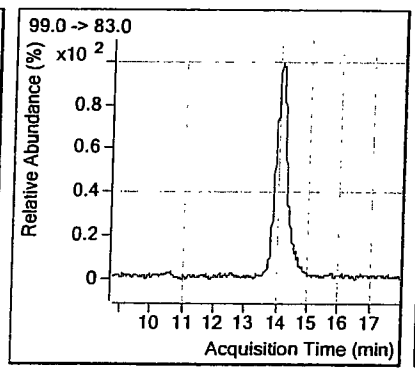
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_013.d	**Sample Name**	PER_CCV_1 0.0004 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	20:58
ClientID	NA	**Inj Vol**	20

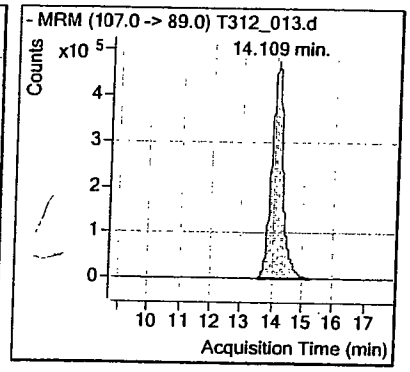


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.105	1267031	12323795
Perchlorate_102	PER_IS_108	14.143	410558	12323795

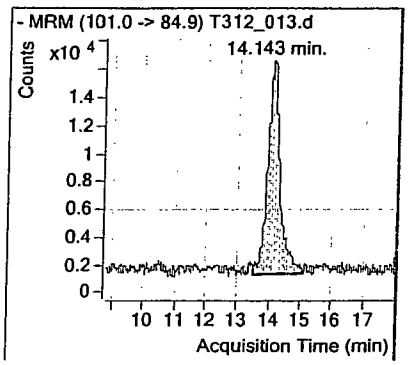
Perchlorate_100

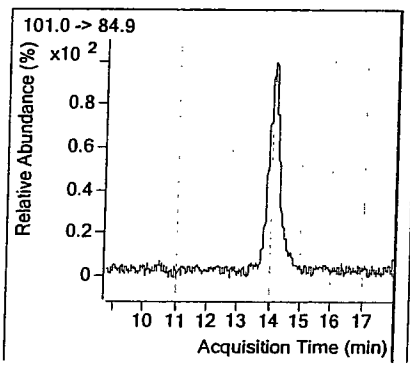


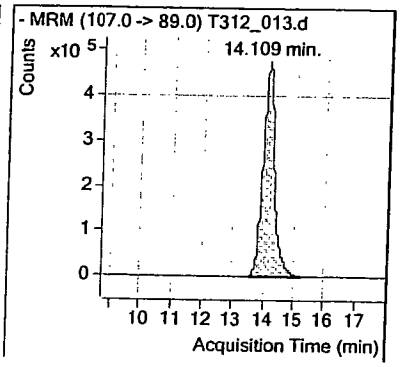




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

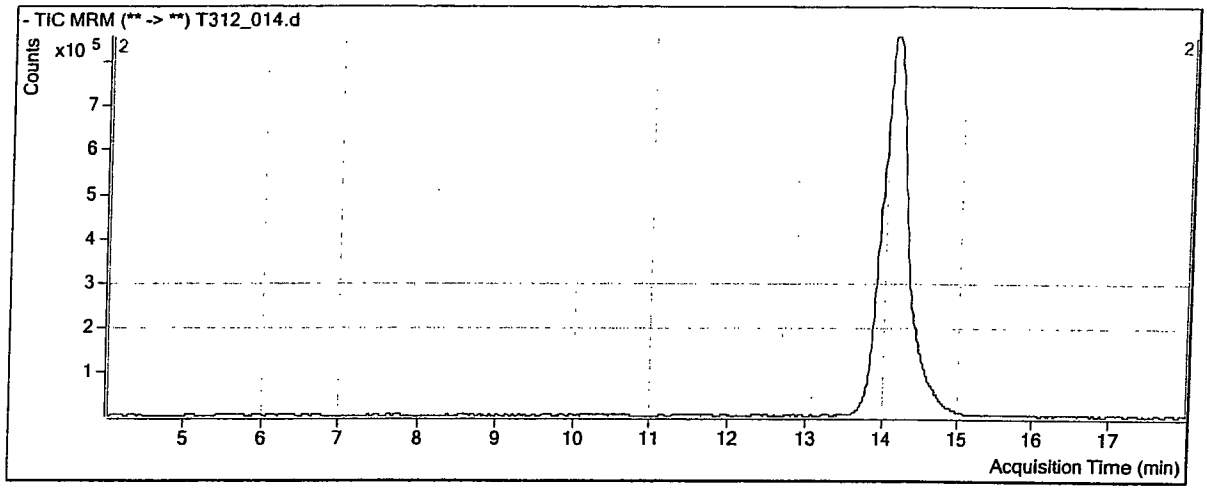
Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T312_014.d

	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

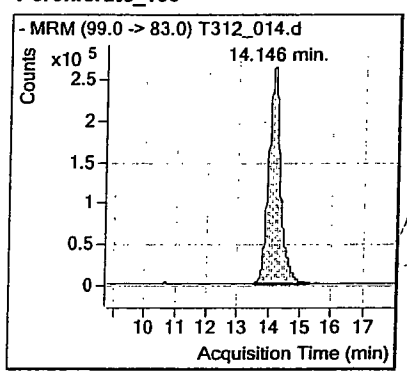
Quantitative Analysis Sample Report

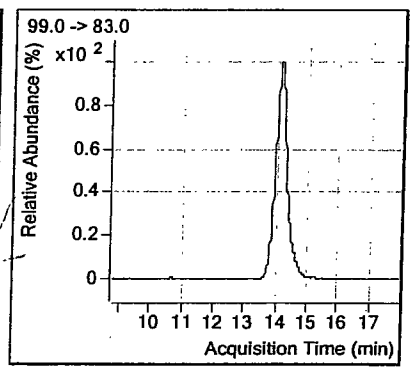
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_014.d	**Sample Name**	PER_CCV_1 0.002 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	21:17
ClientID	NA	**Inj Vol**	20

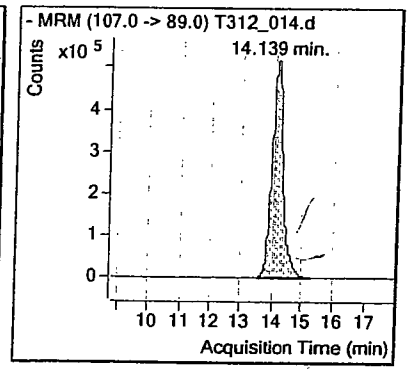


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.146	6907110	13576634
Perchlorate_102	PER_IS_108	14.122	2093567	13576634

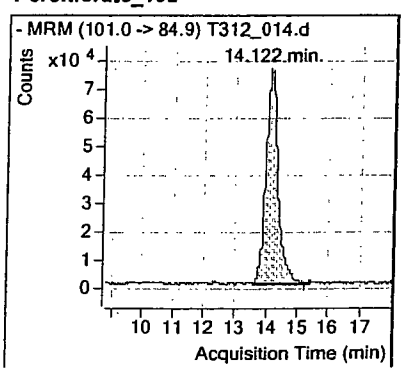
Perchlorate_100

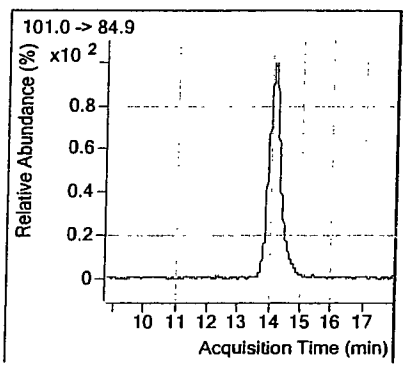


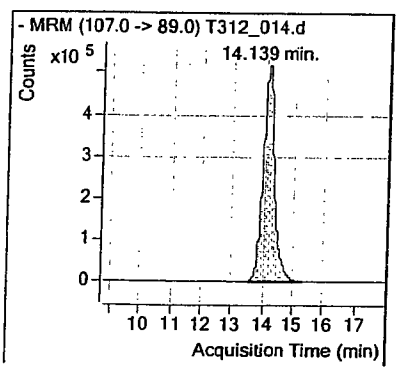




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T512_002.d

	Date (s) of Analysis From:03/12/15 To:05/12/15 Time (s) of Analysis From:17:52 To:7:32				Date of Analysis: 05/12/15 Time of Analysis: 7:51 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	14.02	1.437634	N	13.2
Perchlorate_85	13.70	13.60	13.80	0.391605	14.03	0.455622	N	16.3

FILE ID : TQCK1202.RFB

Data File ID: T512_002.d

Date Injected : 05/12/15

Time Injected : 7:51

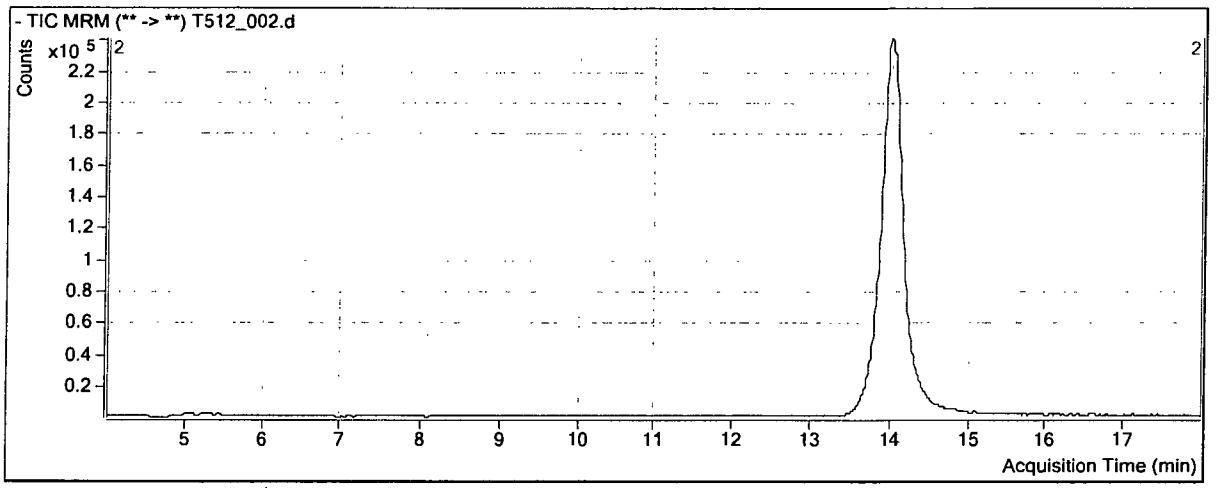
Sample ID : PER_CCV 0.0004 ug/ml 05/07/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
14.007	4374131	PER_IS_89
14.024	503072	Perchlorate_83
14.031	159436	Perchlorate_85

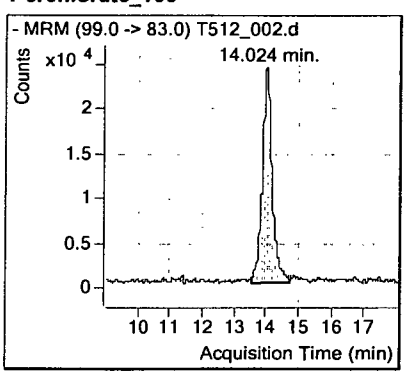
Quantitative Analysis Sample Report

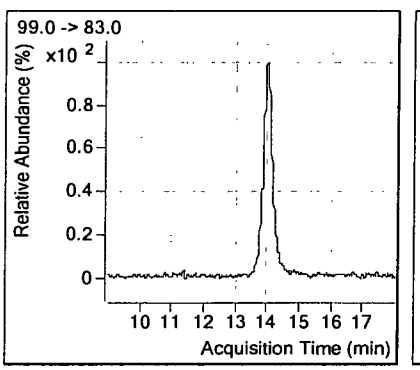
Batch Data Path	D:\MassHunter\Data\150512\QuantResults\150512_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T512_002.d	**Sample Name**	PER_CCV 0.0004 ug/ml 05/07/15
Sample Type	Sample	**Acq_Date**	05/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	7:51
ClientID	NA	**Inj Vol**	20

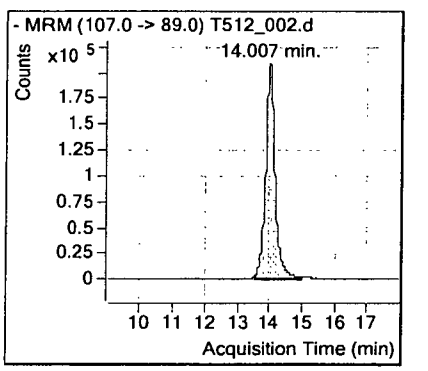


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.024	503072	4374131
Perchlorate_102	PER_IS_108	14.031	159436	4374131

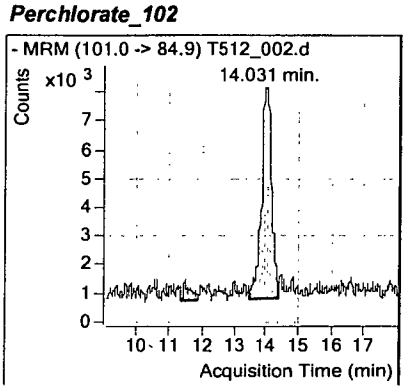
Perchlorate_100

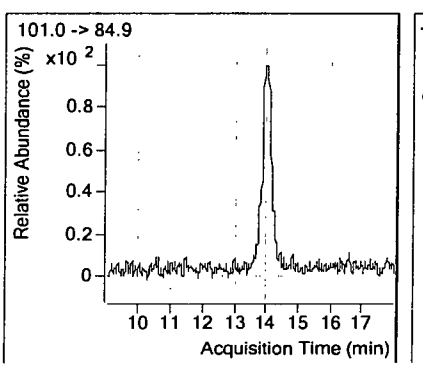


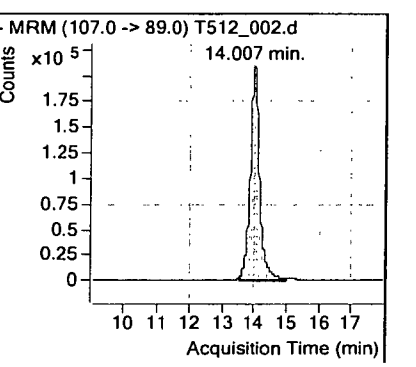




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T512_003.d

	Date (s) of Analysis From:03/12/15 To:05/12/15 Time (s) of Analysis From:17:52 To:7:32				Date of Analysis: 05/12/15 Time of Analysis: 8:10 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	13.94	1.184670	N	6.7
Perchlorate_85	13.70	13.60	13.80	0.391605	13.94	0.347799	N	11.2

FILE ID : TQCK1203.RFB

Data File ID: T512_003.d

Date Injected : 05/12/15

Time Injected : 8:10

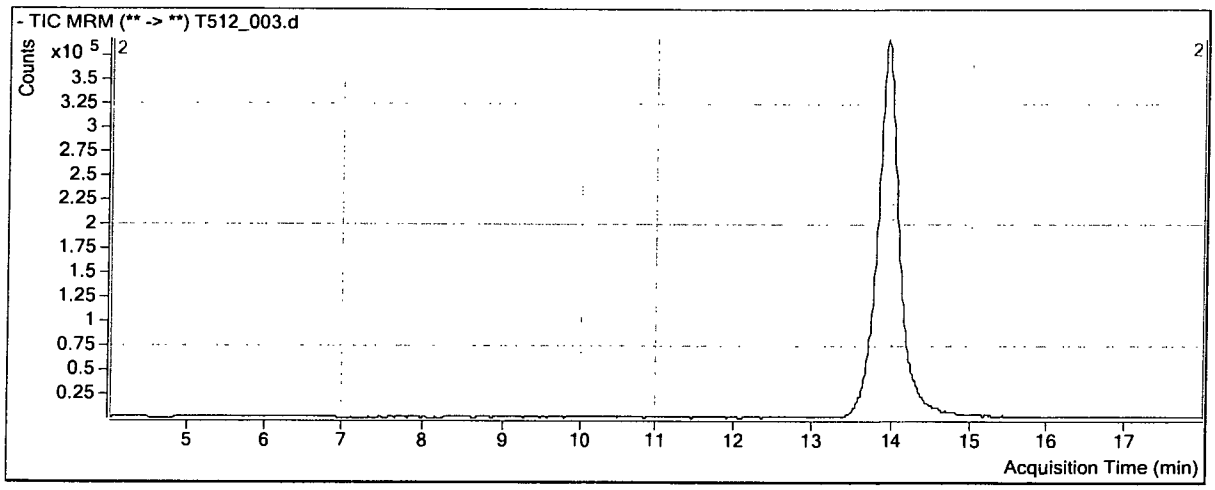
Sample ID : PER_CCV 0.002 ug/ml 05/07/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.935	4906019	PER_IS_89
13.942	2324805	Perchlorate_83
13.939	682523	Perchlorate_85

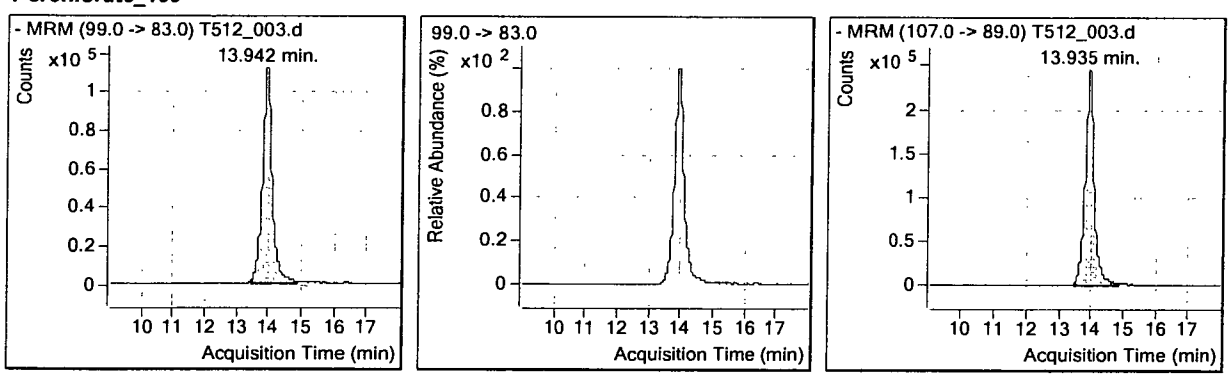
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150512\QuantResults\150512_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T512_003.d	**Sample Name**	PER_CCV 0.002 ug/ml 05/07/15
Sample Type	Sample	**Acq_Date**	05/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	8:10
ClientID	NA	**Inj Vol**	20

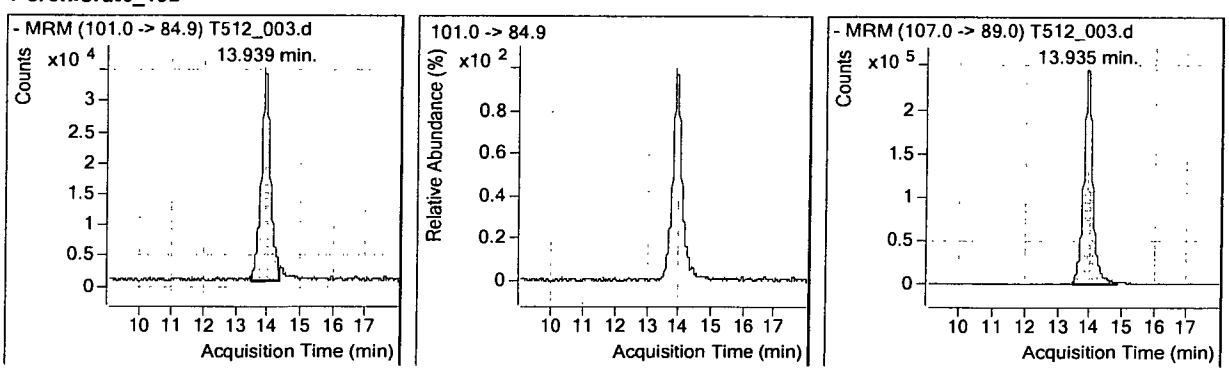


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.942	2324805	4906019
Perchlorate_102	PER_IS_108	13.939	682523	4906019

Perchlorate_100



Perchlorate_102



CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T512_024.d

	Date (s) of Analysis From:03/12/15 To:05/12/15 Time (s) of Analysis From:17:52 To:14:04				Date of Analysis: 05/12/15 Time of Analysis: 14:41 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	13.81	1.351503	N	6.4
Perchlorate_85	13.70	13.60	13.80	0.391605	13.82	0.453321	N	15.8

FILE ID : TQCK1224.RFB

Data File ID: T512_024.d

Date Injected : 05/12/15

Time Injected : 14:41

Sample ID : PER_CCV 0.0004 ug/ml 05/07/15

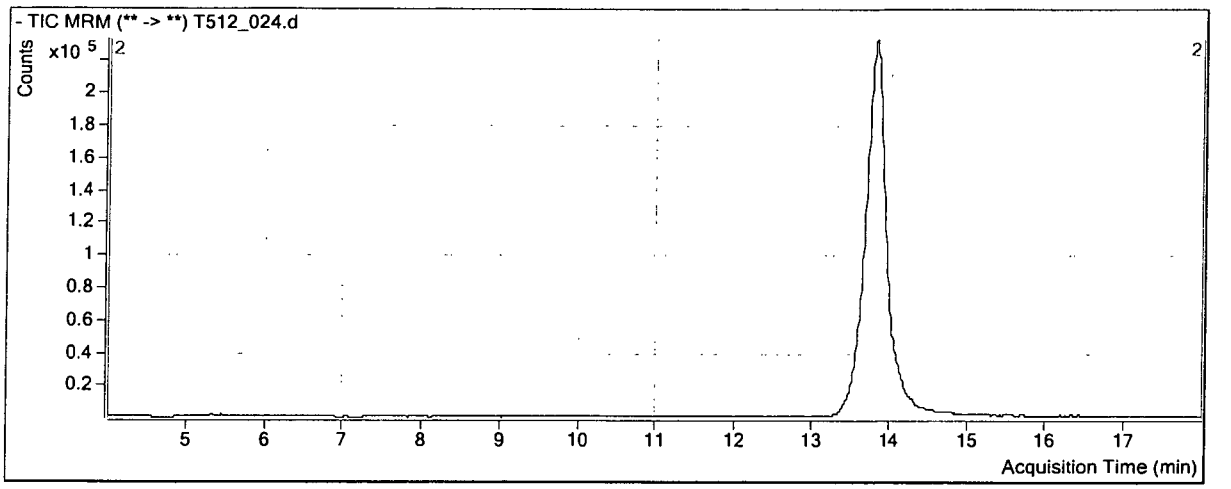
Client ID : NA

Retention Time		Area Count Response	Compound_ID Product Ion
13.813		4120838	PER_IS_89
13.81	*	445546	Perchlorate_83
13.817		149445	Perchlorate_85

* MANUAL INTEGRAION

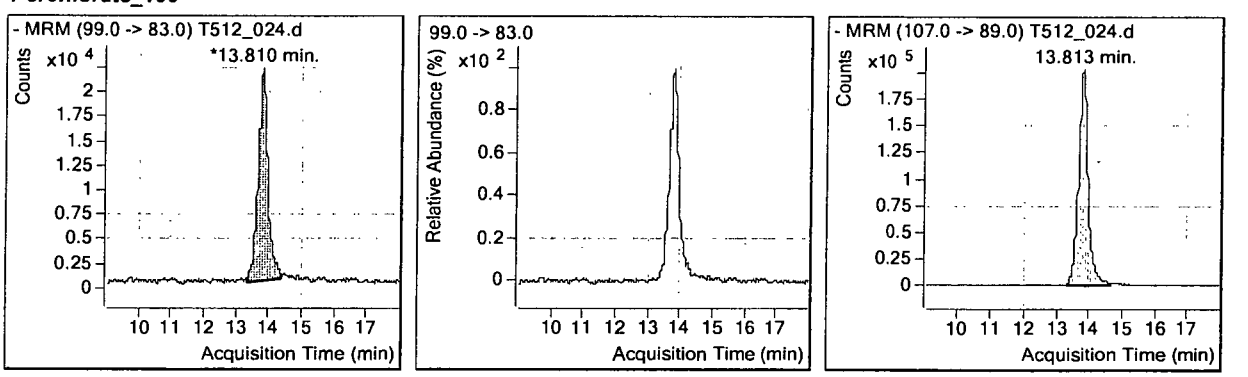
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150512\QuantResults\150512_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T512_024.d	**Sample Name**	PER_CCV 0.0004 ug/ml 05/07/15
Sample Type	Sample	**Acq_Date**	05/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	14:41
ClientID	NA	**Inj Vol**	20

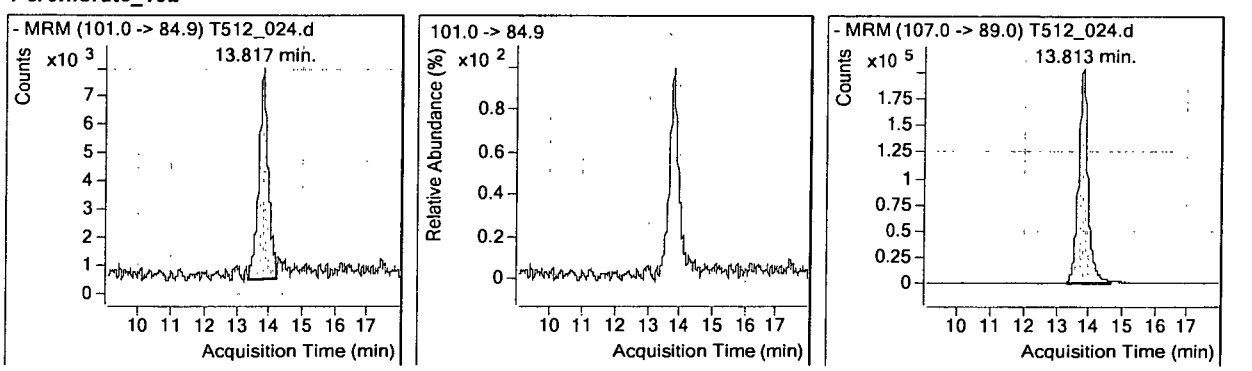


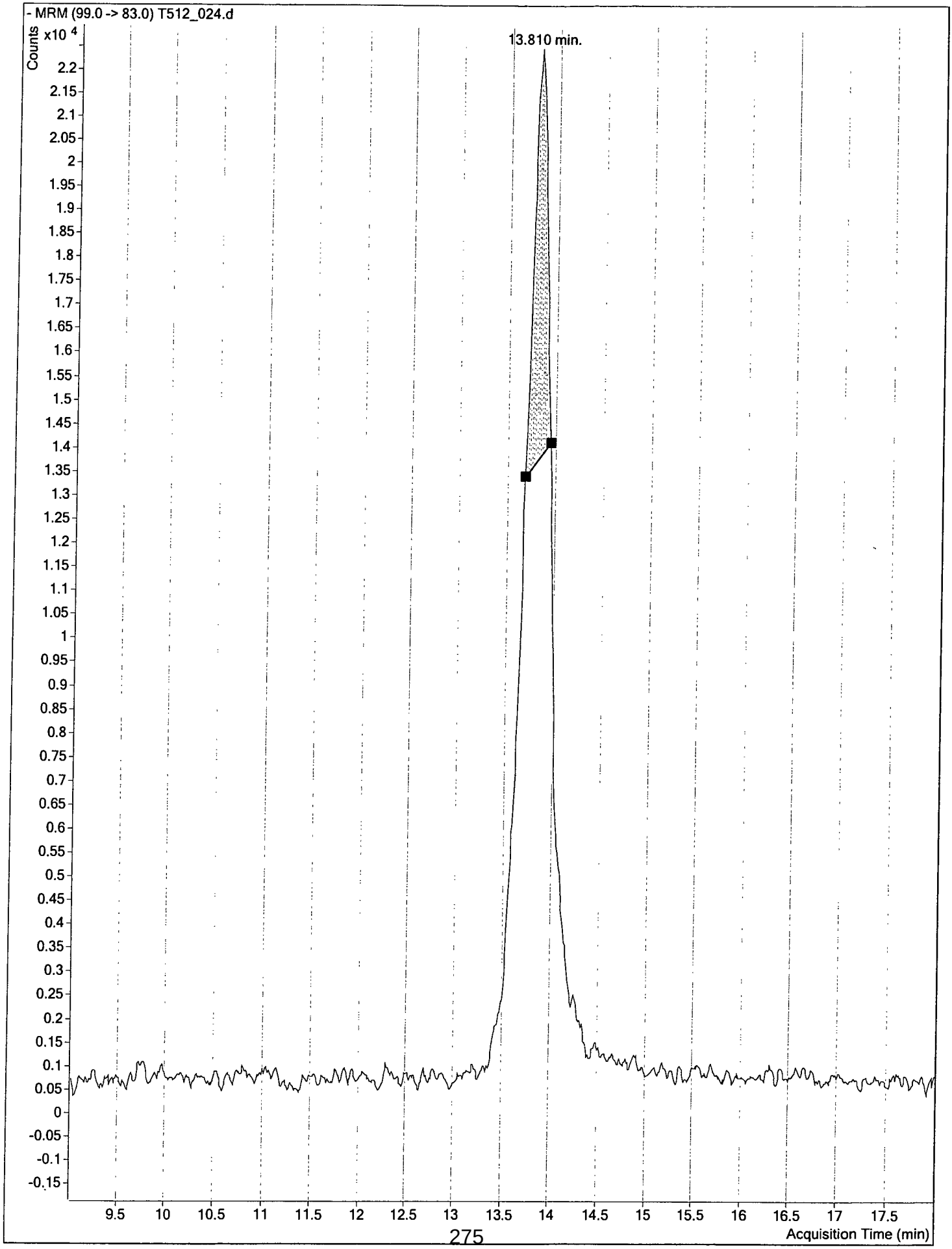
Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108	*	13.810	445546	4120838	* MANUAL INT
Perchlorate_102	PER_IS_108		13.817	149445	4120838	

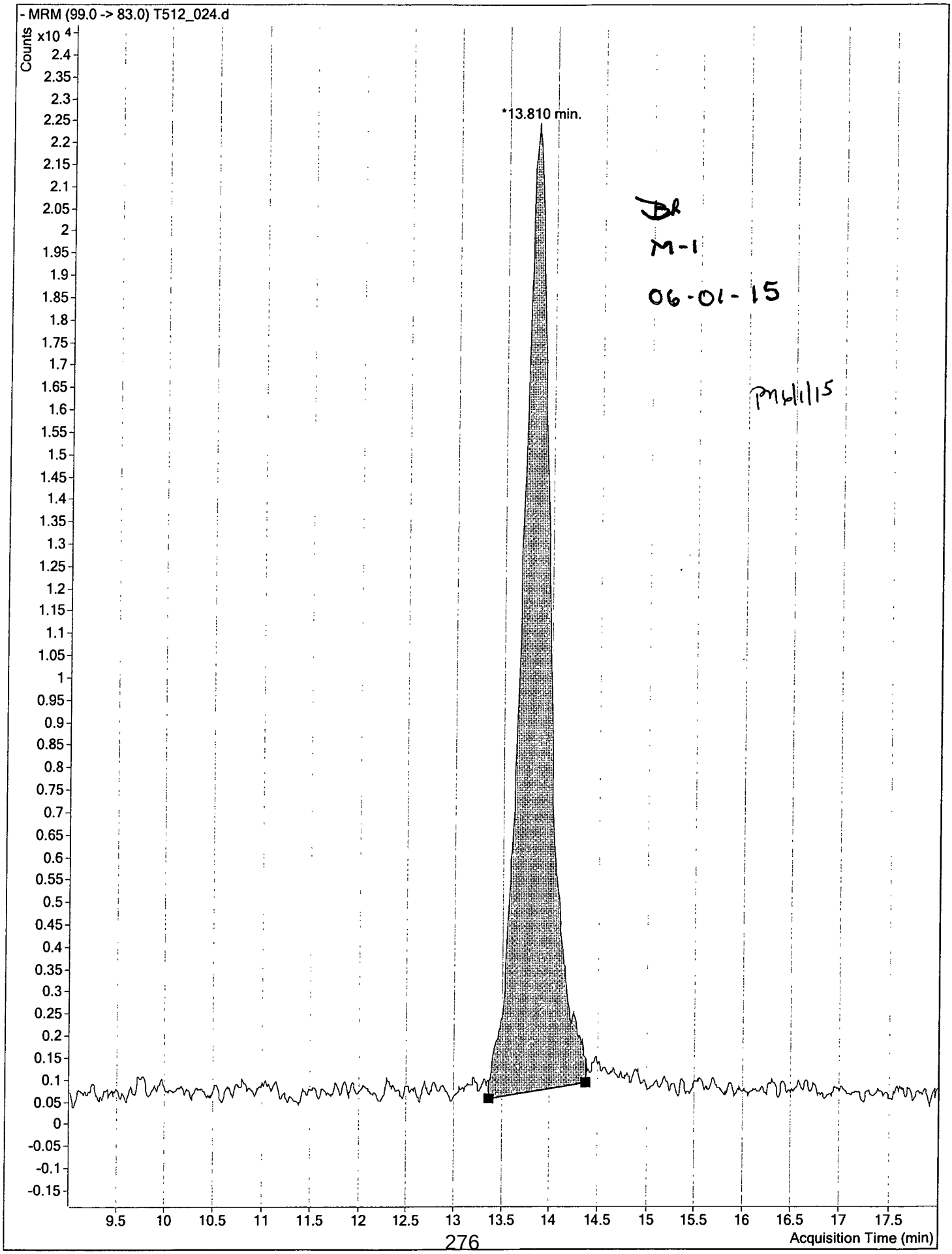
Perchlorate_100



Perchlorate_102




- MRM (99.0 -> 83.0) T512_024.d
Counts
x10 4
13.810 min.
Acquisition Time (min)


- MRM (99.0 -> 83.0) T512_024.d
Counts
x10 4
*13.810 min.
M-1
06-01-15
Acquisition Time (min)

CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T512_025.d

	Date (s) of Analysis From:03/12/15 To:05/12/15 Time (s) of Analysis From:17:52 To:14:04				Date of Analysis: 05/12/15 Time of Analysis: 14:59 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	13.59	1.192729	N	6.1
Perchlorate_85	13.70	13.60	13.80	0.391605	13.57	0.361129	N	7.8

FILE ID : TQCK1225.RFB

Data File ID: T512_025.d

Date Injected : 05/12/15

Time Injected : 14:59

Sample ID : PER_CCV 0.002 ug/ml 05/07/15

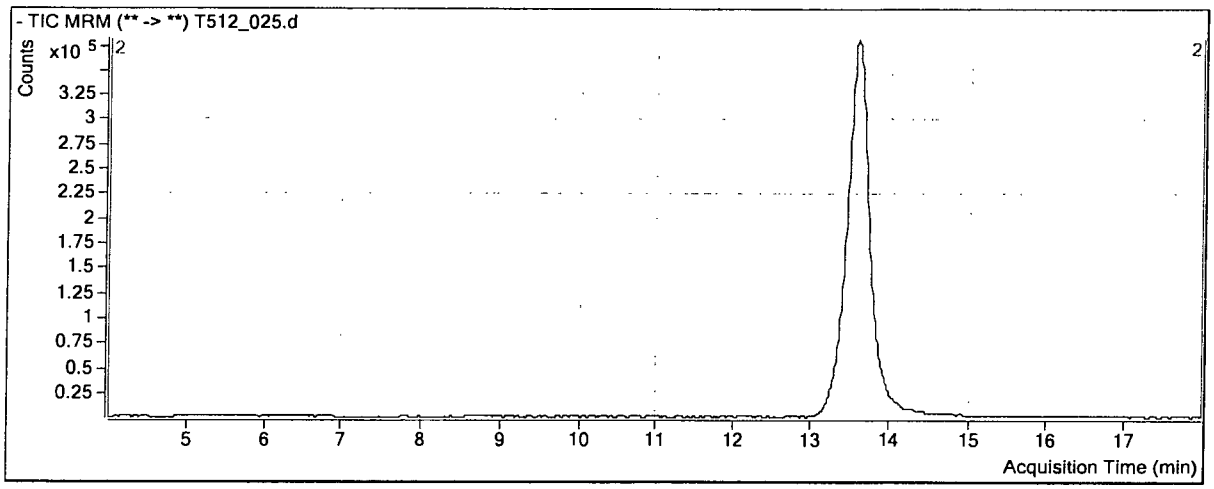
Client ID : NA

Retention Time		Area Count Response	Compound_ID Product Ion
13.589		4766152	PER_IS_89
13.586		2273891	Perchlorate_83
13.572	*	688478	Perchlorate_85

* MANUAL INTEGRAION

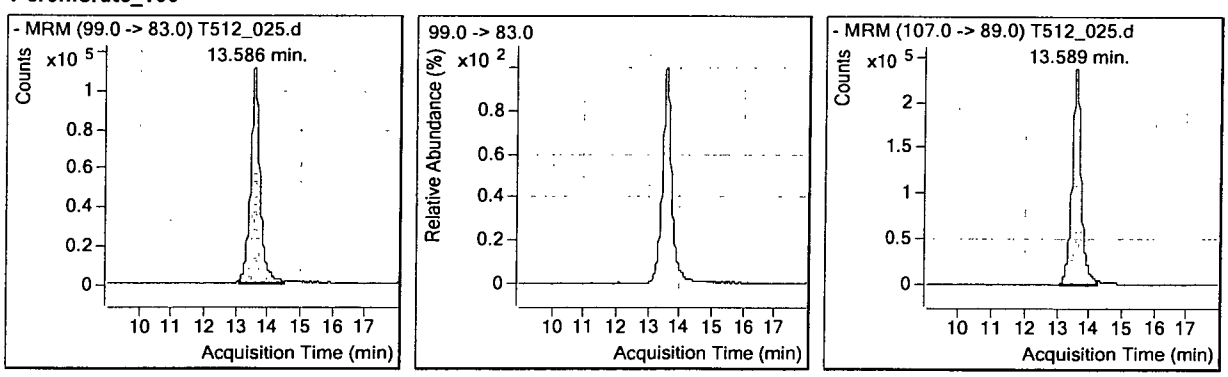
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150512\QuantResults\150512_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T512_025.d	**Sample Name**	PER_CCV 0.002 ug/ml 05/07/15
Sample Type	Sample	**Acq_Date**	05/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	14:59
ClientID	NA	**Inj Vol**	20

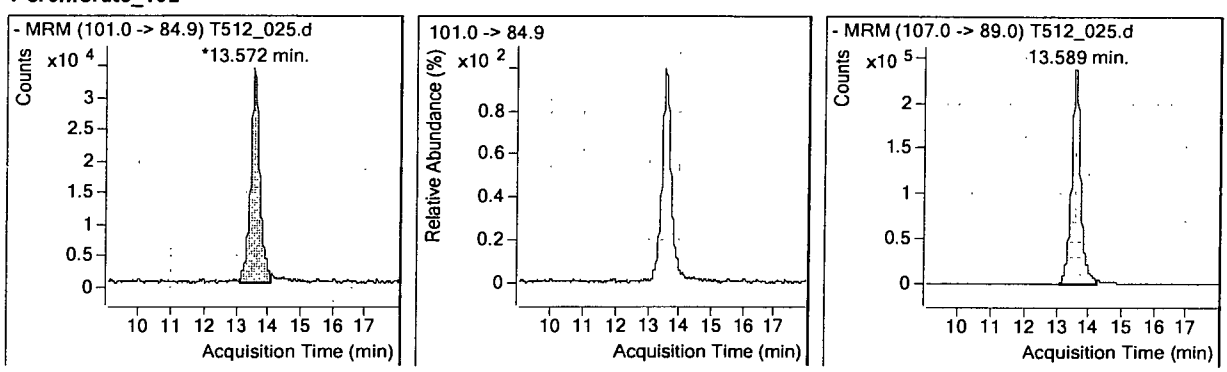


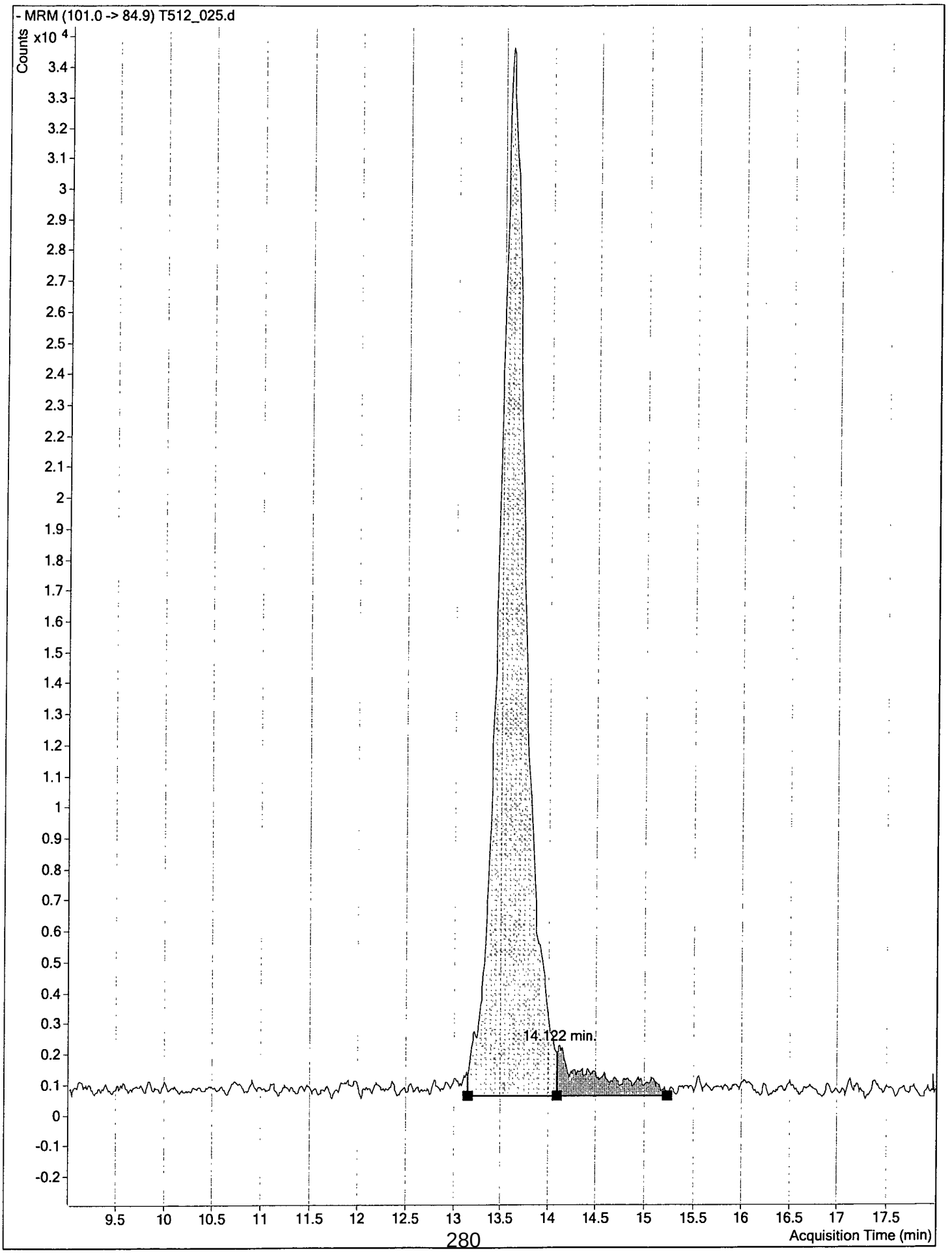
Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108		13.586	2273891	4766152	
Perchlorate_102	PER_IS_108	*	13.572	688478	4766152	* MANUAL INT

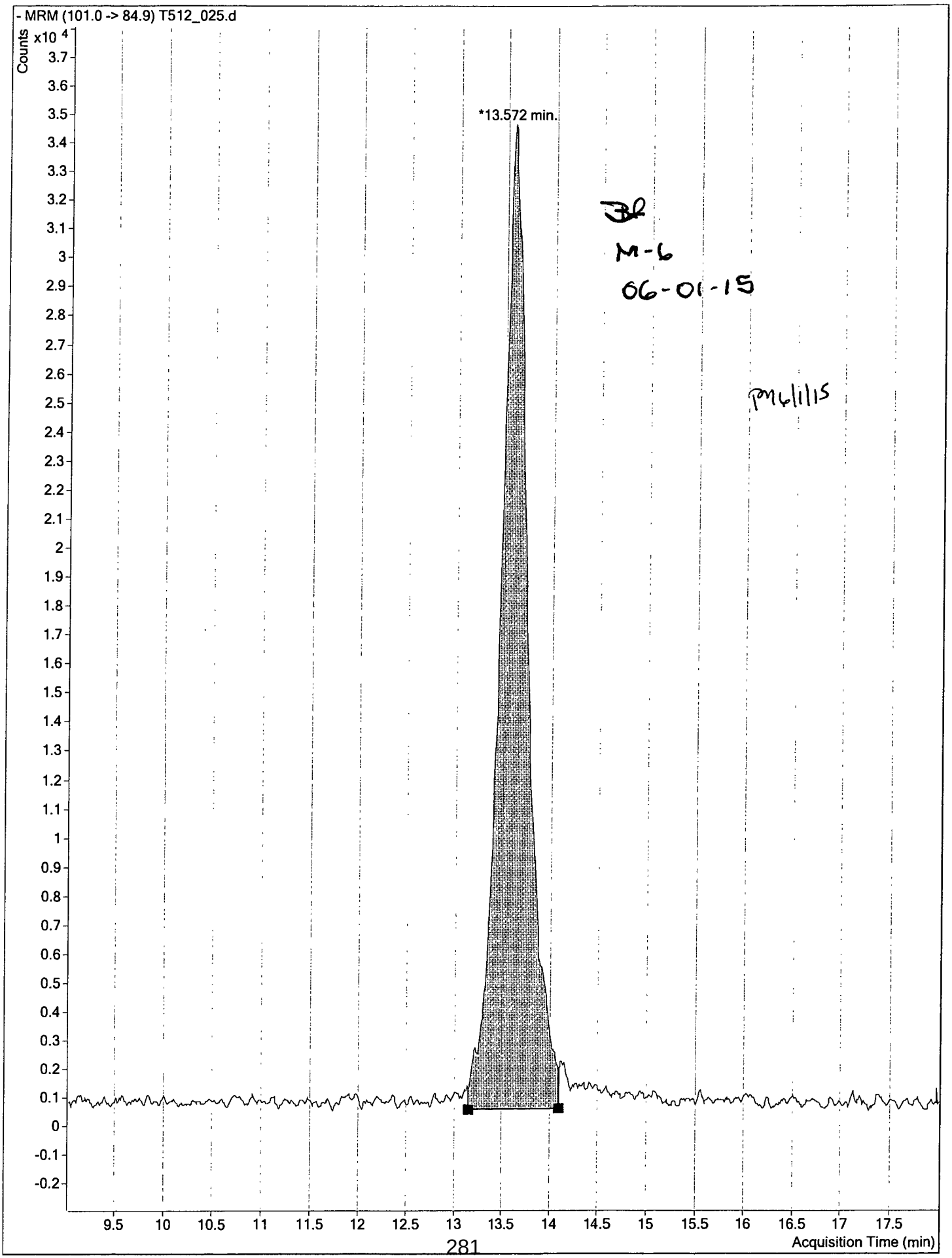
Perchlorate_100



Perchlorate_102




- MRM (101.0 -> 84.9) T512_025.d
Counts
x10 4
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
-0.1
-0.2
14.122 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) T512_025.d
Counts
x10 4
*13.572 min.
M-6
06-01-15
Acquisition Time (min)

CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T512_036.d

	Date (s) of Analysis From:03/12/15 To:05/12/15 Time (s) of Analysis From:17:52 To:17:58				Date of Analysis: 05/12/15 Time of Analysis: 18:36 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	13.61	1.435832	N	13.0
Perchlorate_85	13.70	13.60	13.80	0.391605	13.61	0.465975	N	19.0

FILE ID : TQCK1236.RFB

Data File ID: T512_036.d

Date Injected : 05/12/15

Time Injected : 18:36

Sample ID : PER_CCV 0.0004 ug/ml 05/07/15

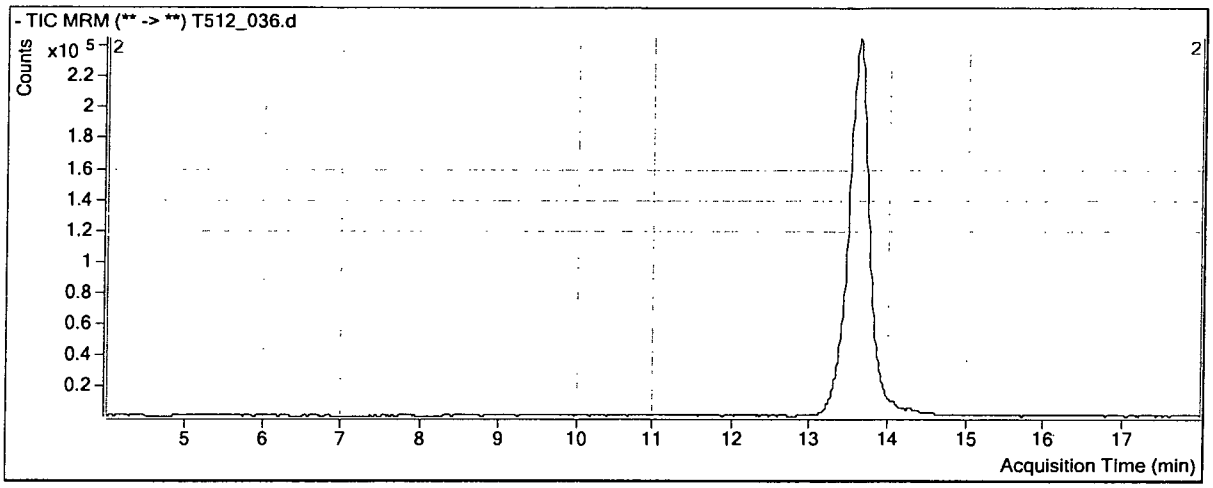
Client ID : NA

Retention Time		Area Count Response	Compound_ID Product Ion
13.62		4044824	PER_IS_89
13.606		464615	Perchlorate_83
13.613	*	150783	Perchlorate_85

* MANUAL INTEGRAION

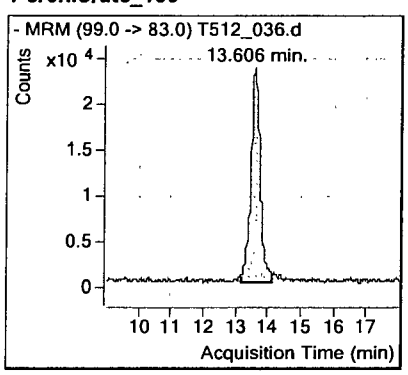
Quantitative Analysis Sample Report

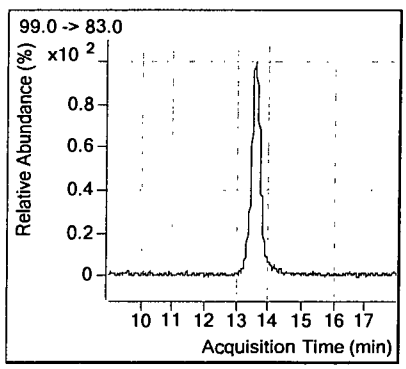
Batch Data Path	D:\MassHunter\Data\150512\QuantResults\150512_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T512_036.d	**Sample Name**	PER_CCV 0.0004 ug/ml 05/07/15
Sample Type	Sample	**Acq_Date**	05/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	18:36
ClientID	NA	**Inj Vol**	20

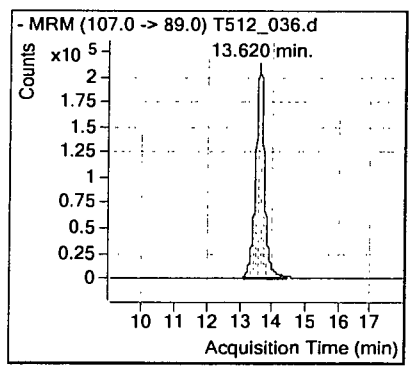


Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108		13.606	464615	4044824	
Perchlorate_102	PER_IS_108	*	13.613	150783	4044824	* MANUAL INT

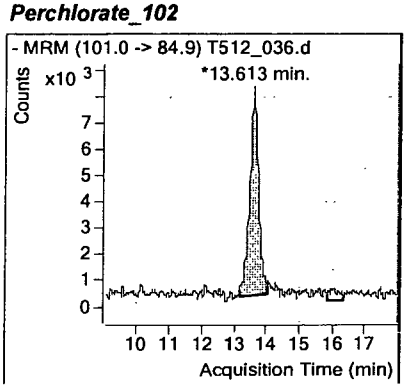
Perchlorate_100

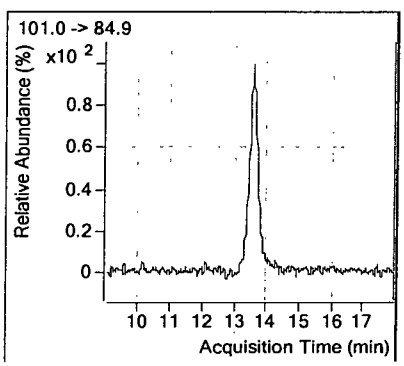


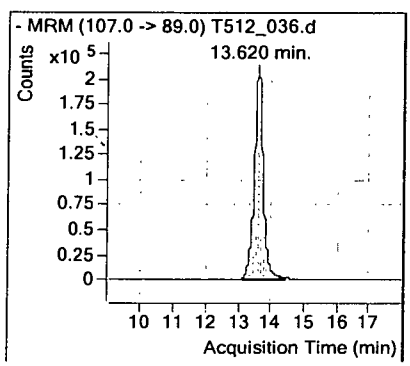


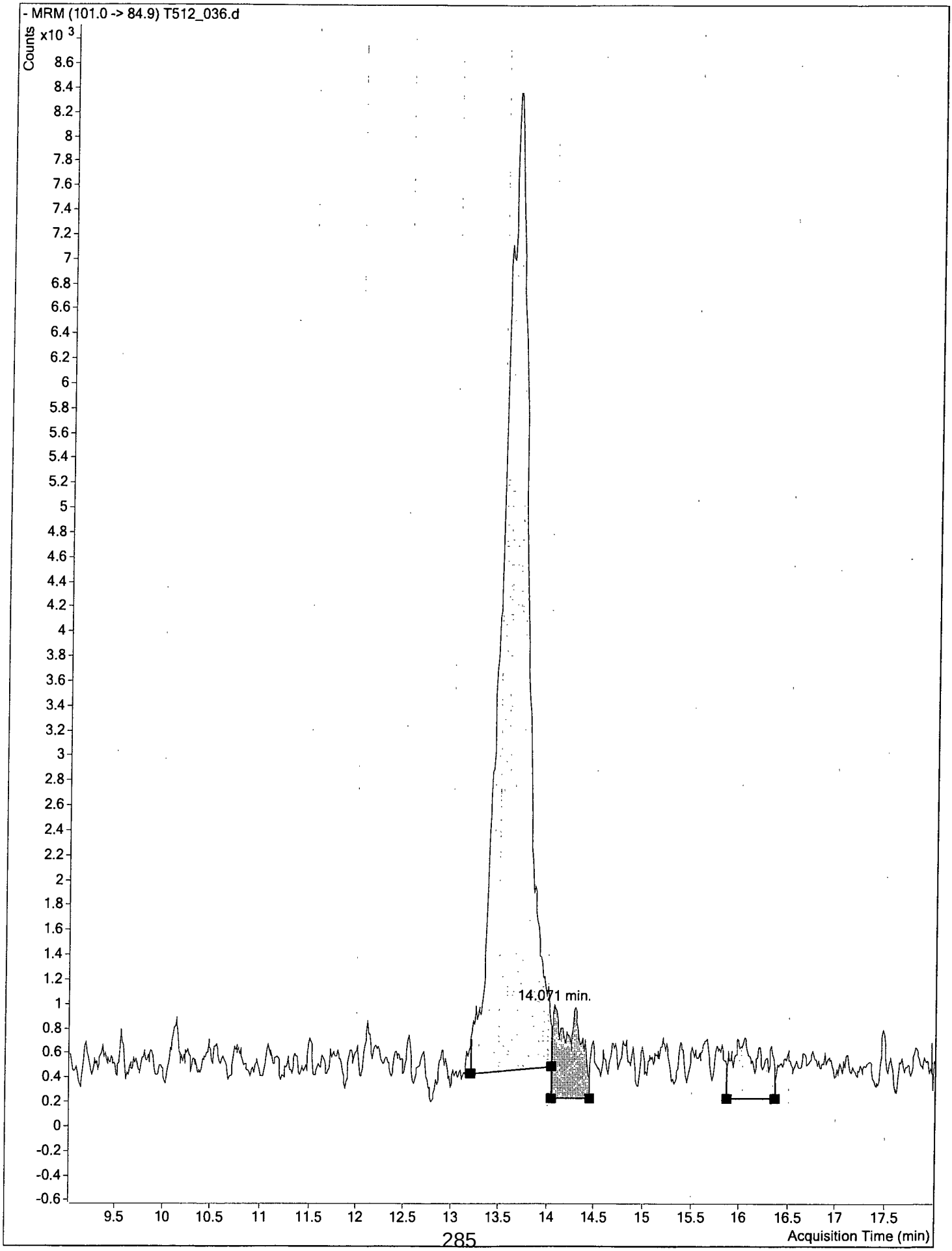


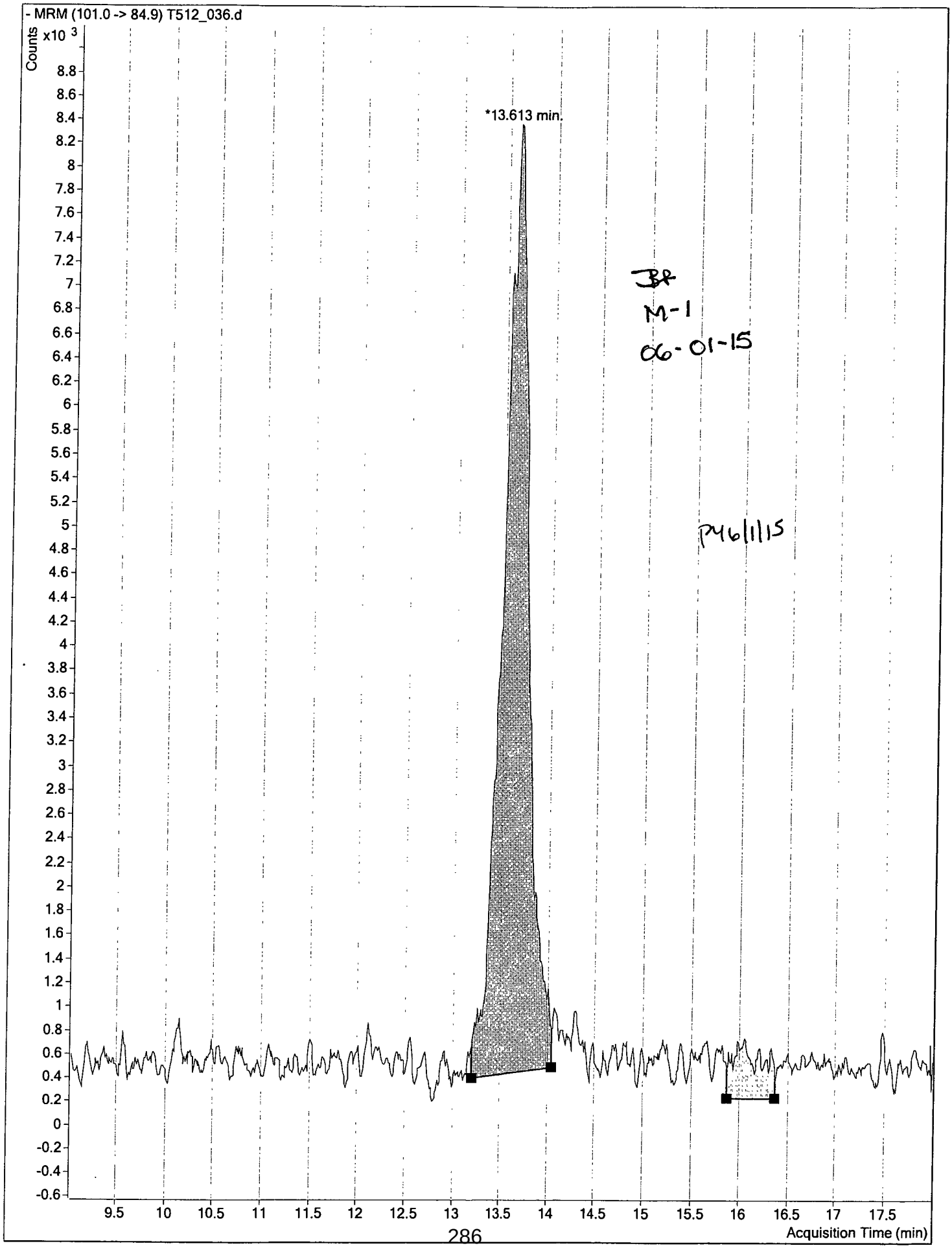
Perchlorate_102








- MRM (101.0 -> 84.9) T512_036.d
Counts
x10 3
8.6
8.4
8.2
8
7.8
7.6
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
14.071 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) T512_036.d
Counts x10 3
*13.613 min.
BR
M-1
06-01-15
P46/1115
Acquisition Time (min)

CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T512_037.d

	Date (s) of Analysis From:03/12/15 To:05/12/15 Time (s) of Analysis From:17:52 To:17:58				Date of Analysis: 05/12/15 Time of Analysis: 18:54 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	13.65	1.170425	N	7.9
Perchlorate_85	13.70	13.60	13.80	0.391605	13.63	0.362618	N	7.4

FILE ID : TQCK1237.RFB

Data File ID: T512_037.d

Date Injected : 05/12/15

Time Injected : 18:54

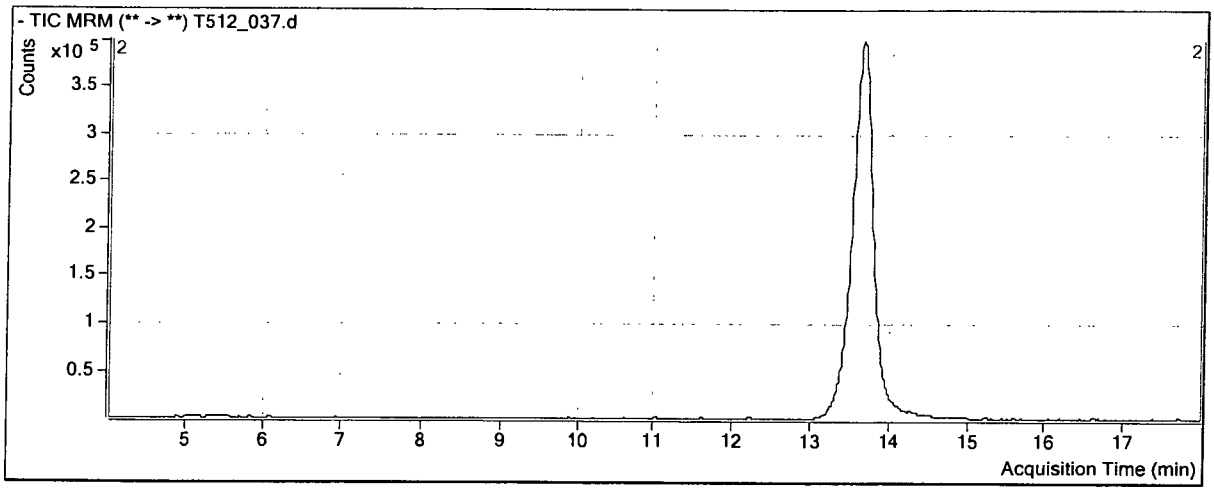
Sample ID : PER_CCV 0.002 ug/ml 05/07/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.64	4679515	PER_IS_89
13.647	2190808	Perchlorate_83
13.633	678751	Perchlorate_85

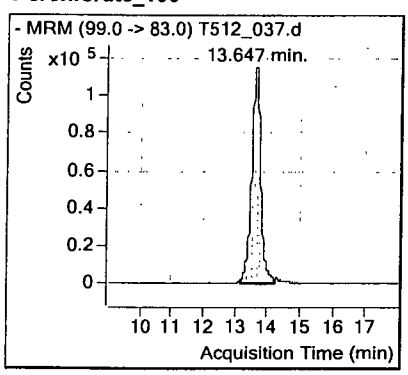
Quantitative Analysis Sample Report

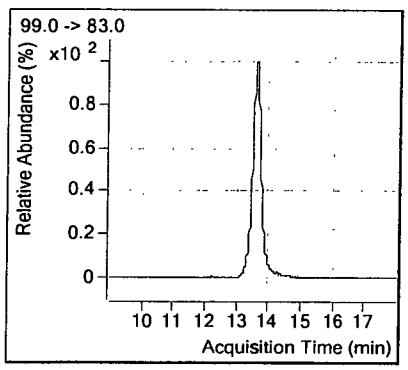
Batch Data Path	D:\MassHunter\Data\150512\QuantResults\150512_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T512_037.d	**Sample Name**	PER_CCV 0.002 ug/ml 05/07/15
Sample Type	Sample	**Acq_Date**	05/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	18:54
ClientID	NA	**Inj Vol**	20

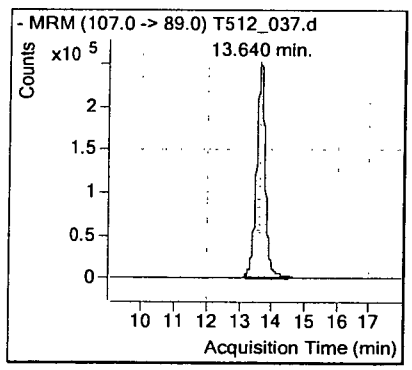


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.647	2190808	4679515
Perchlorate_102	PER_IS_108	13.633	678751	4679515

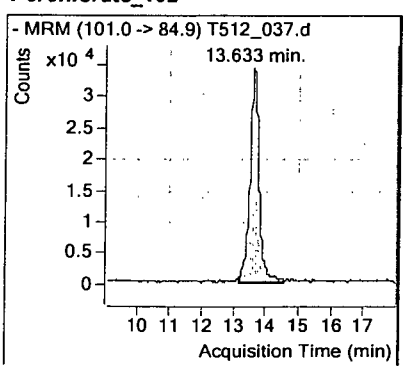
Perchlorate_100

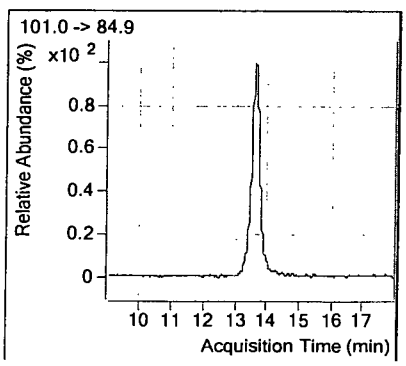


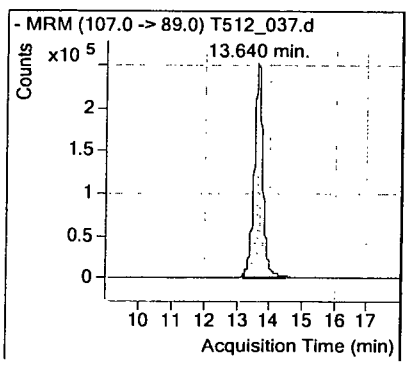




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T523_002.d

	Date (s) of Analysis From:03/12/15 To:05/23/15 Time (s) of Analysis From:17:52 To:15:20				Date of Analysis: 05/23/15 Time of Analysis: 15:38 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	12.97	1.366179	N	7.6
Perchlorate_85	13.70	13.60	13.80	0.391605	12.98	0.499345	N	27.5

FILE ID : TQCK2302.RFB

Data File ID: T523_002.d

Date Injected : 05/23/15

Time Injected : 15:38

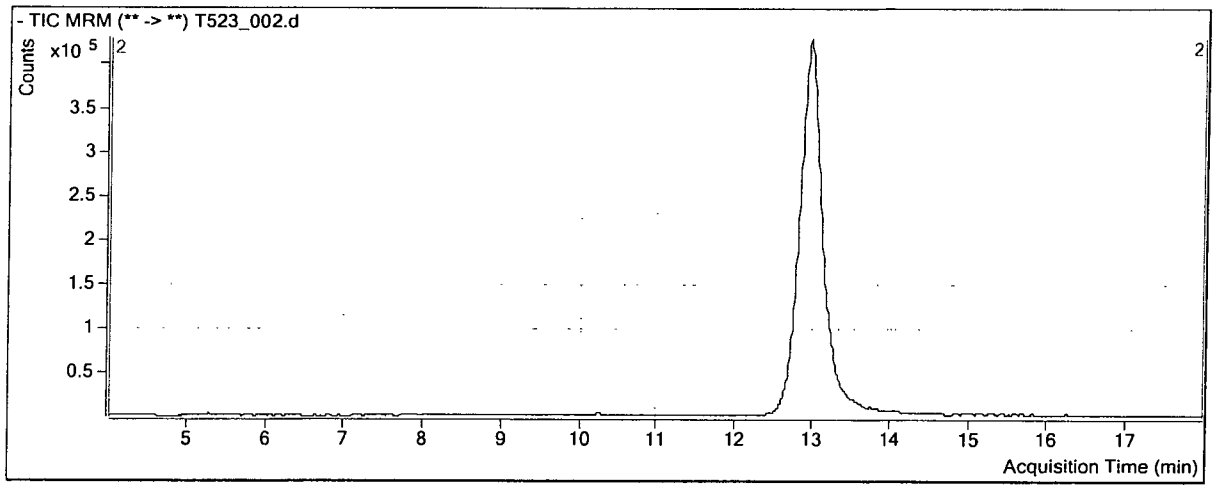
Sample ID : PER_CCV 0.0004 ug/ml 05/07/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
12.957	7841423	PER_IS_89
12.974	857023	Perchlorate_83
12.981	313246	Perchlorate_85

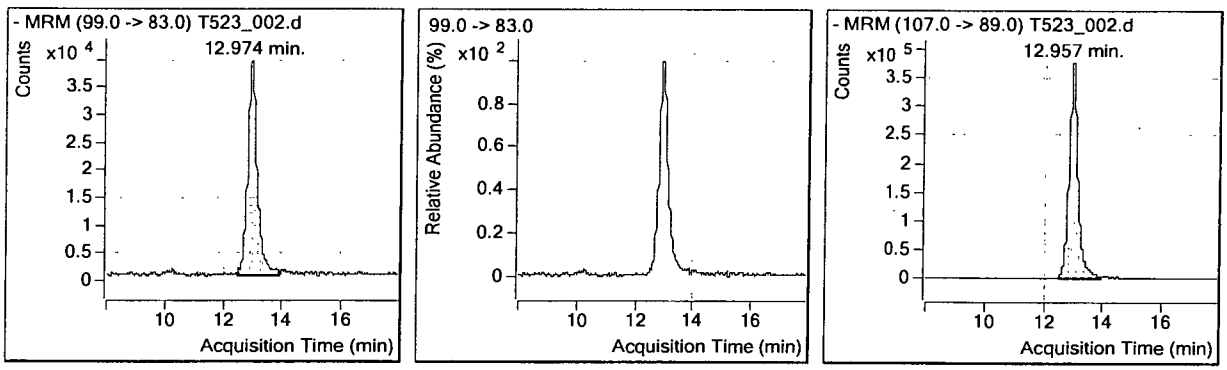
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150523\QuantResults\150523_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T523_002.d	**Sample Name**	PER_CCV 0.0004 ug/ml 05/07/15
Sample Type	Sample	**Acq_Date**	05/23/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	15:38
ClientID	NA	**Inj Vol**	20

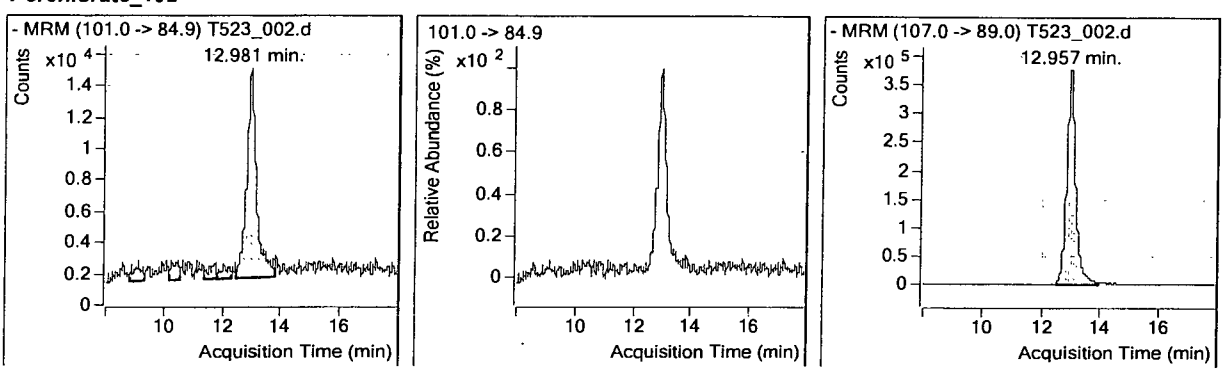


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	12.974	857023	7841423
Perchlorate_102	PER_IS_108	12.981	313246	7841423

Perchlorate_100



Perchlorate_102



CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T523_003.d

	Date (s) of Analysis From:03/12/15 To:05/23/15 Time (s) of Analysis From:17:52 To:15:20				Date of Analysis: 05/23/15 Time of Analysis: 15:57 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	13.13	1.168712	N	8.0
Perchlorate_85	13.70	13.60	13.80	0.391605	13.13	0.357237	N	8.8

FILE ID : TQCK2303.RFB

Data File ID: T523_003.d

Date Injected : 05/23/15

Time Injected : 15:57

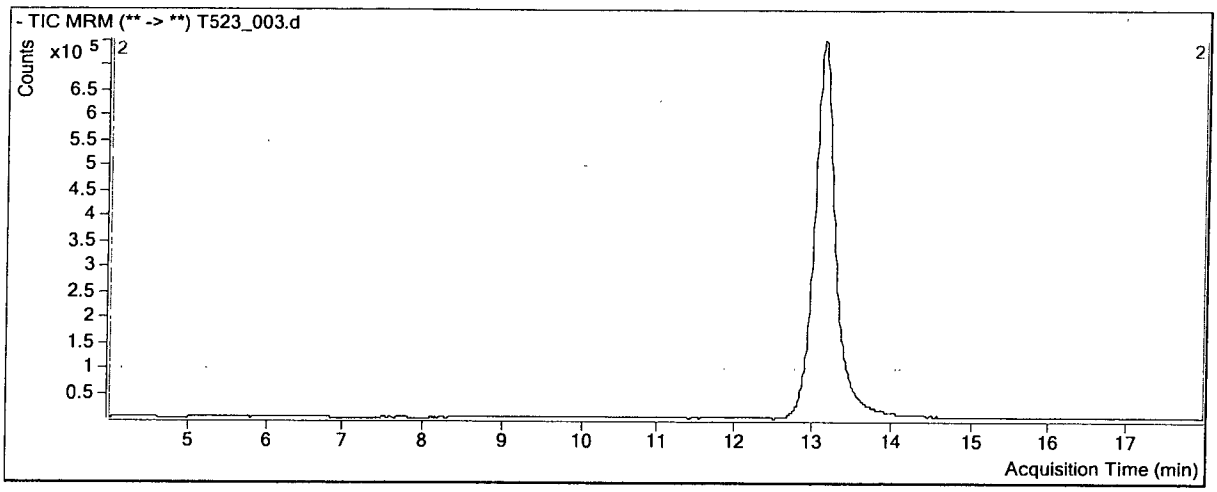
Sample ID : PER_CCV 0.002 ug/ml 05/07/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.13	8764619	PER_IS_89
13.127	4097326	Perchlorate_83
13.134	1252418	Perchlorate_85

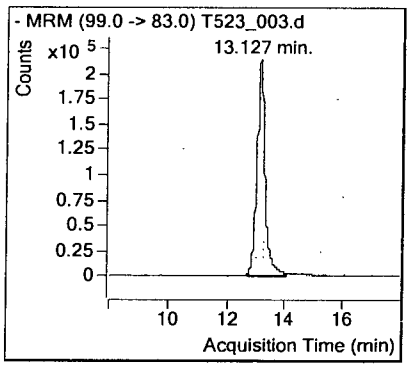
Quantitative Analysis Sample Report

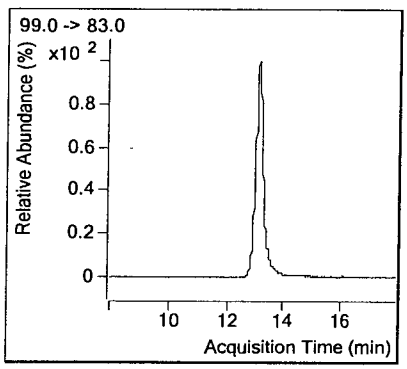
Batch Data Path	D:\MassHunter\Data\150523\QuantResults\150523_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T523_003.d	**Sample Name**	PER_CCV 0.002 ug/ml 05/07/15
Sample Type	Sample	**Acq_Date**	05/23/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	15:57
ClientID	NA	**Inj Vol**	20

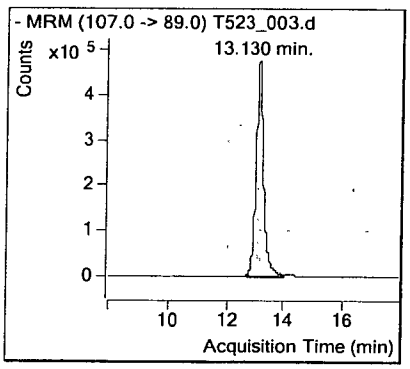


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.127	4097326	8764619
Perchlorate_102	PER_IS_108	13.134	1252418	8764619

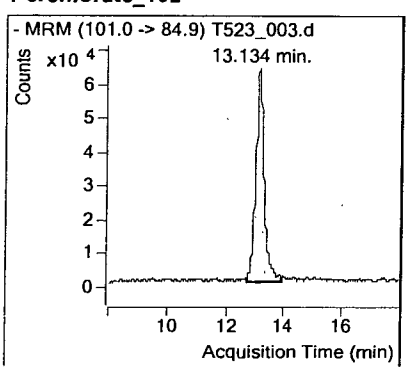
Perchlorate_100

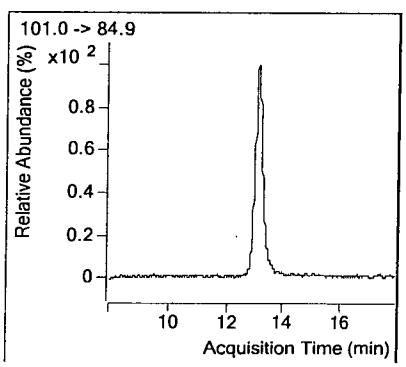


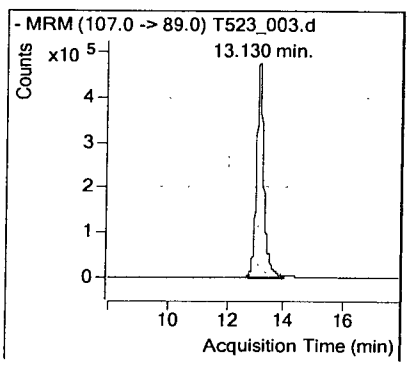




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T523_044.d

	Date (s) of Analysis From:03/12/15 To:05/24/15 Time (s) of Analysis From:17:52 To:4:17				Date of Analysis: 05/24/15 Time of Analysis: 4:55 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	14.02	1.313146	N	3.4
Perchlorate_85	13.70	13.60	13.80	0.391605	14.03	0.470687	N	20.2

FILE ID : TQCK2344.RFB

Data File ID: T523_044.d

Date Injected : 05/24/15

Time Injected : 4:55

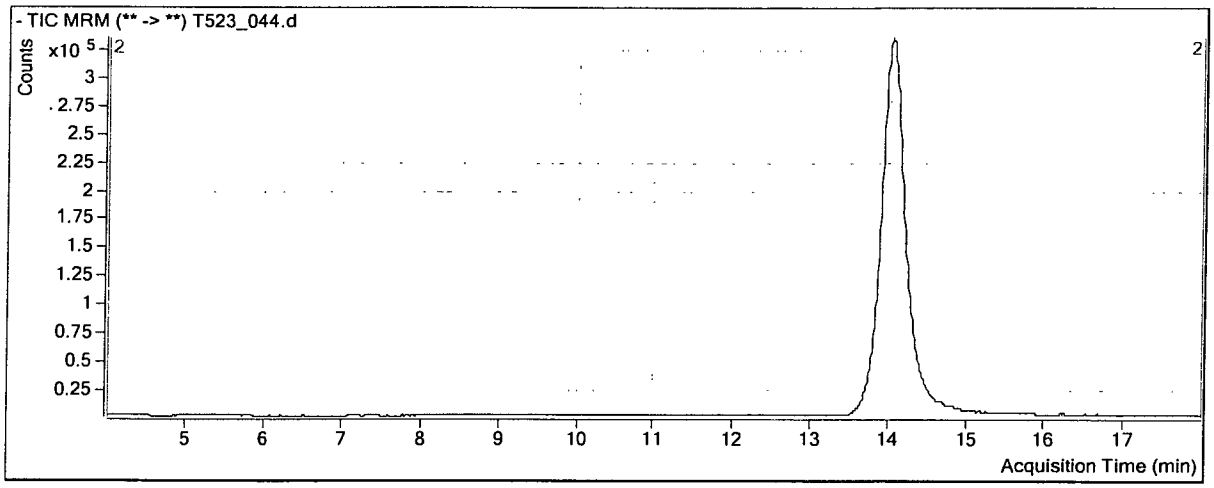
Sample ID : PER_CCV 0.0004 ug/ml 05/07/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
14.037	6579582	PER_IS_89
14.024	691196	Perchlorate_83
14.031	247754	Perchlorate_85

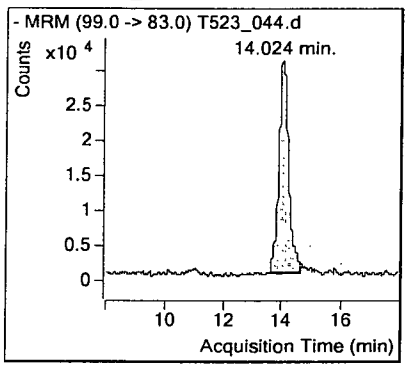
Quantitative Analysis Sample Report

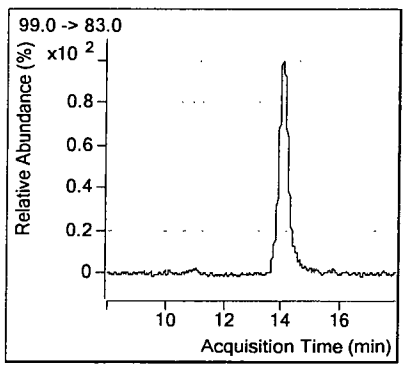
Batch Data Path	D:\MassHunter\Data\150523\QuantResults\150523_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T523_044.d	**Sample Name**	PER_CCV 0.0004 ug/ml 05/07/15
Sample Type	Sample	**Acq_Date**	05/24/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	4:55
ClientID	NA	**Inj Vol**	20

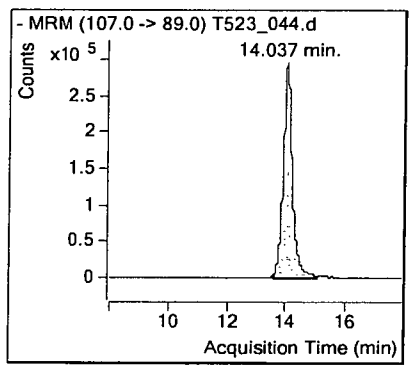


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.024	691196	6579582
Perchlorate_102	PER_IS_108	14.031	247754	6579582

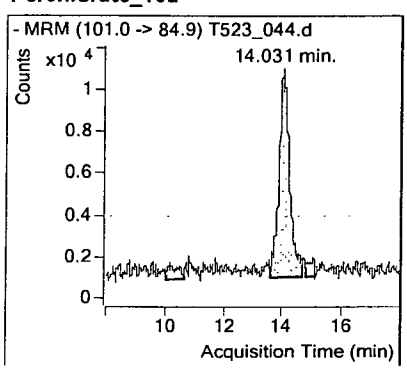
Perchlorate_100

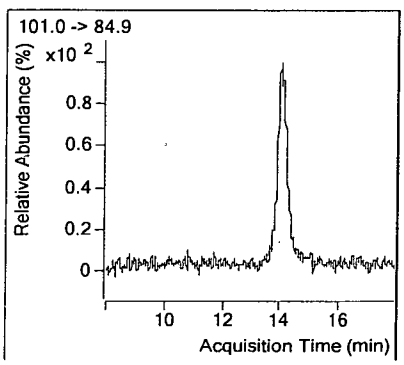


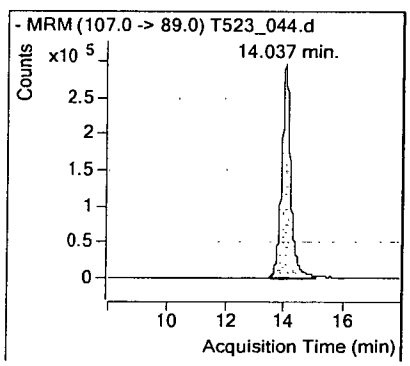




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T523_045.d

	Date (s) of Analysis From:03/12/15 To:05/24/15 Time (s) of Analysis From:17:52 To:4:17				Date of Analysis: 05/24/15 Time of Analysis: 5:13 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	14.22	1.173647	N	7.6
Perchlorate_85	13.70	13.60	13.80	0.391605	14.19	0.358993	N	8.3

FILE ID : TQCK2345.RFB

Data File ID: T523_045.d

Date Injected : 05/24/15

Time Injected : 5:13

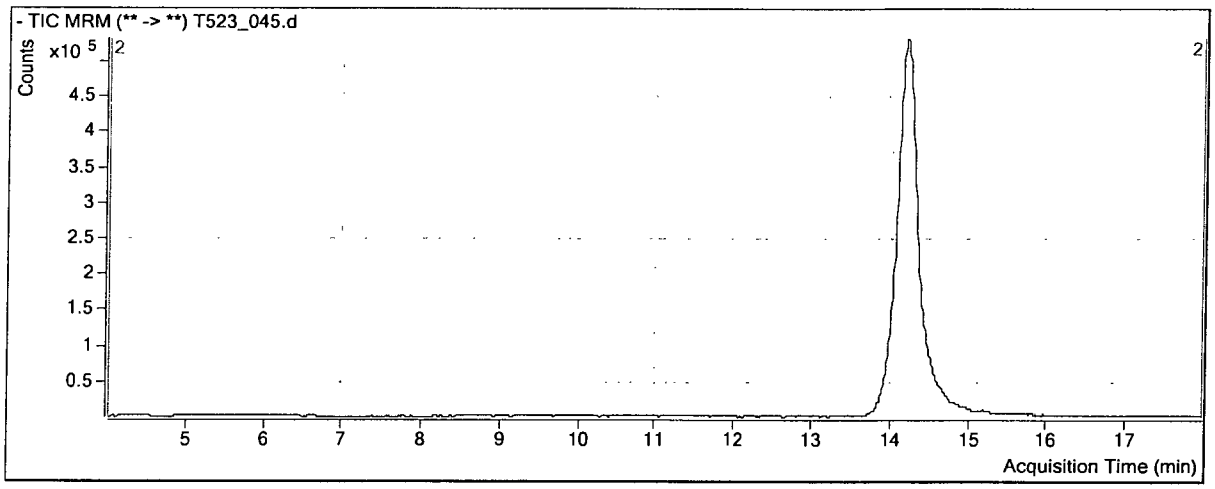
Sample ID : PER_CCV 0.002 ug/ml 05/07/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
14.2	6755219	PER_IS_89
14.217	3171297	Perchlorate_83
14.194	970030	Perchlorate_85

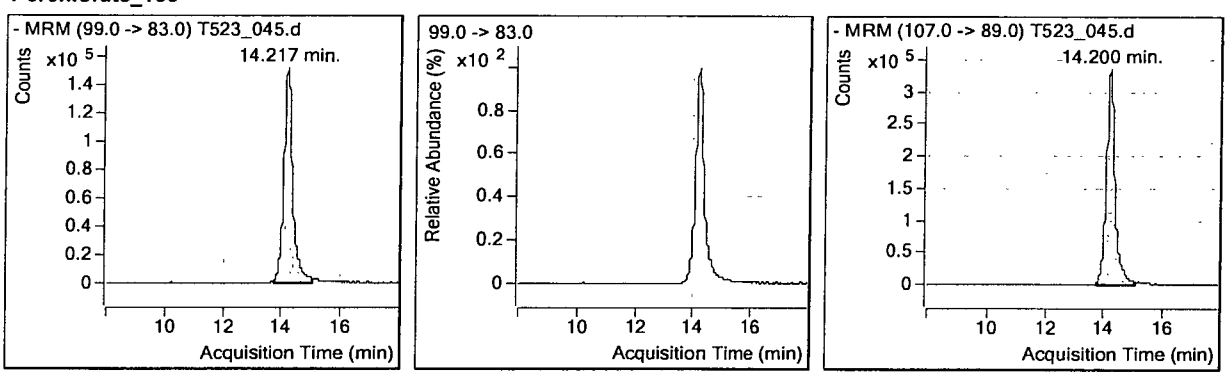
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150523\QuantResults\150523_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T523_045.d	**Sample Name**	PER_CCV 0.002 ug/ml 05/07/15
Sample Type	Sample	**Acq_Date**	05/24/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	5:13
ClientID	NA	**Inj Vol**	20

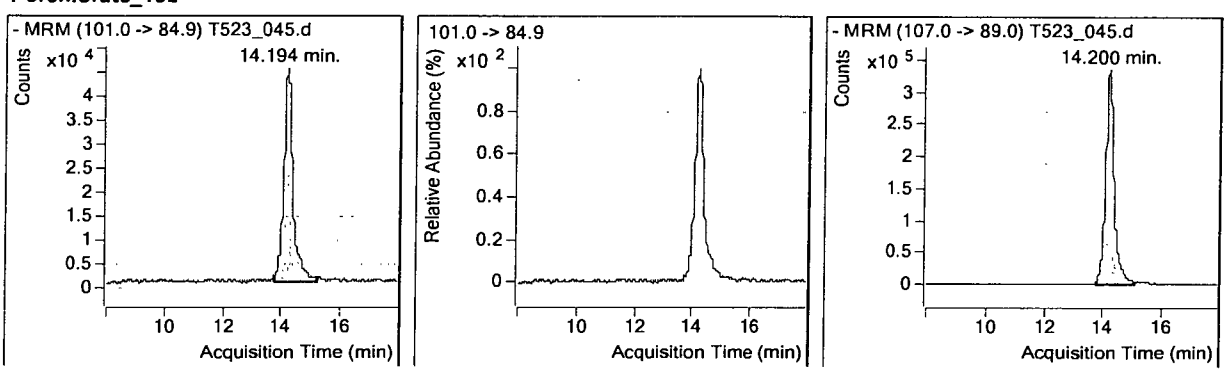


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.217	3171297	6755219
Perchlorate_102	PER_IS_108	14.194	970030	6755219

Perchlorate_100



Perchlorate_102



CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T523_057.d

	Date (s) of Analysis From:03/12/15 To:05/24/15 Time (s) of Analysis From:17:52 To:8:19				Date of Analysis: 05/24/15 Time of Analysis: 8:57 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	13.77	1.429965	N	12.6
Perchlorate_85	13.70	13.60	13.80	0.391605	13.79	0.480058	N	22.6

FILE ID : TQCK2357.RFB

Data File ID: T523_057.d

Date Injected : 05/24/15

Time Injected : 8:57

Sample ID : PER_CCV 0.0004 ug/ml 05/07/15

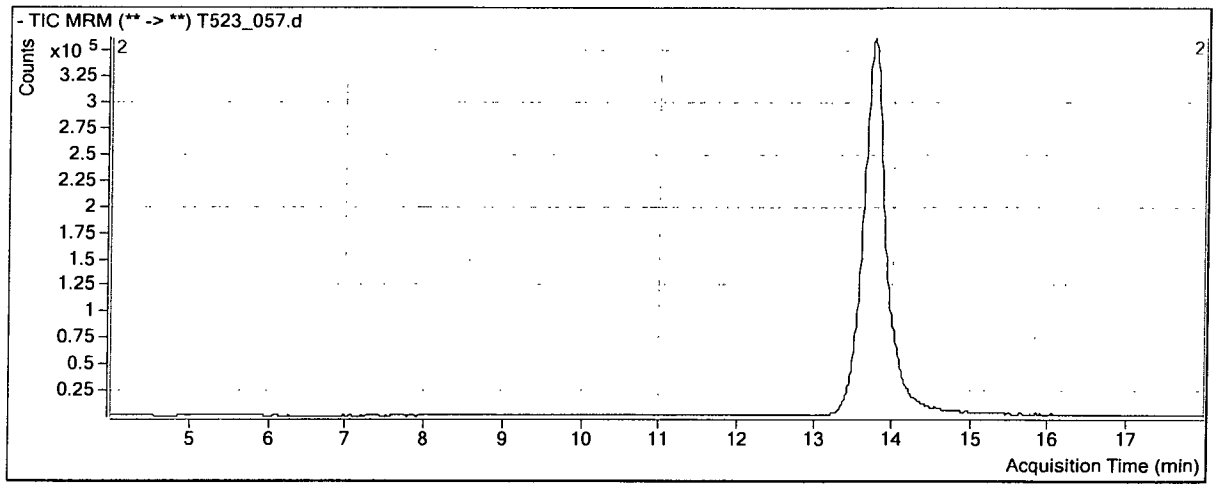
Client ID : NA

Retention Time		Area Count Response	Compound_ID Product Ion
13.762		6631309	PER_IS_89
13.769		758603	Perchlorate_83
13.786	*	254673	Perchlorate_85

* MANUAL INTEGRAION

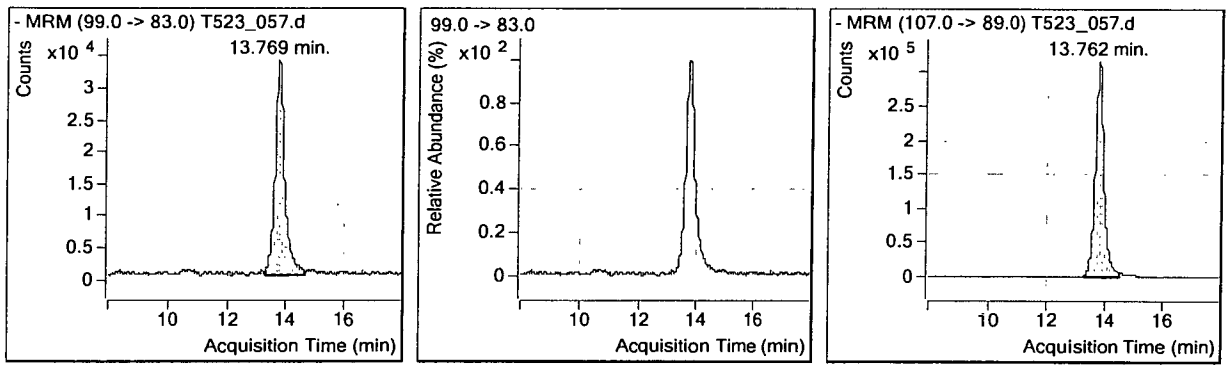
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150523\QuantResults\150523_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T523_057.d	**Sample Name**	PER_CCV 0.0004 ug/ml 05/07/15
Sample Type	Sample	**Acq_Date**	05/24/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	8:57
ClientID	NA	**Inj Vol**	20

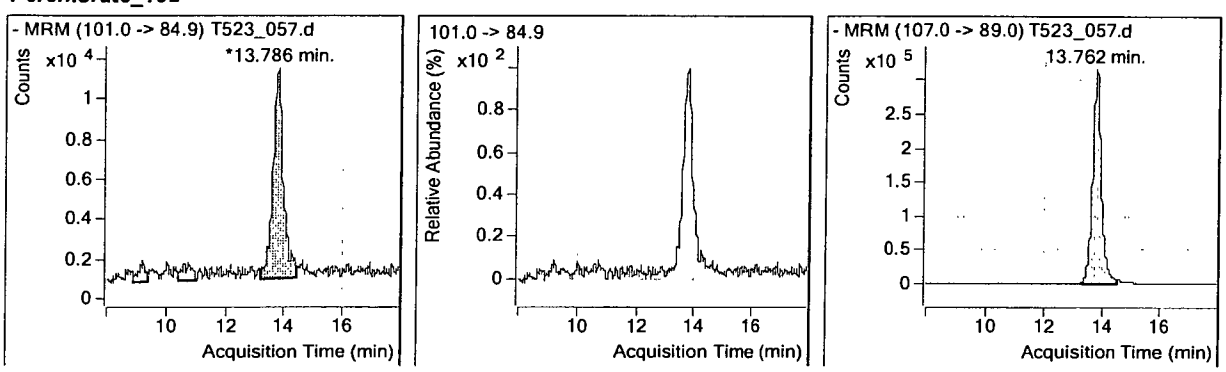


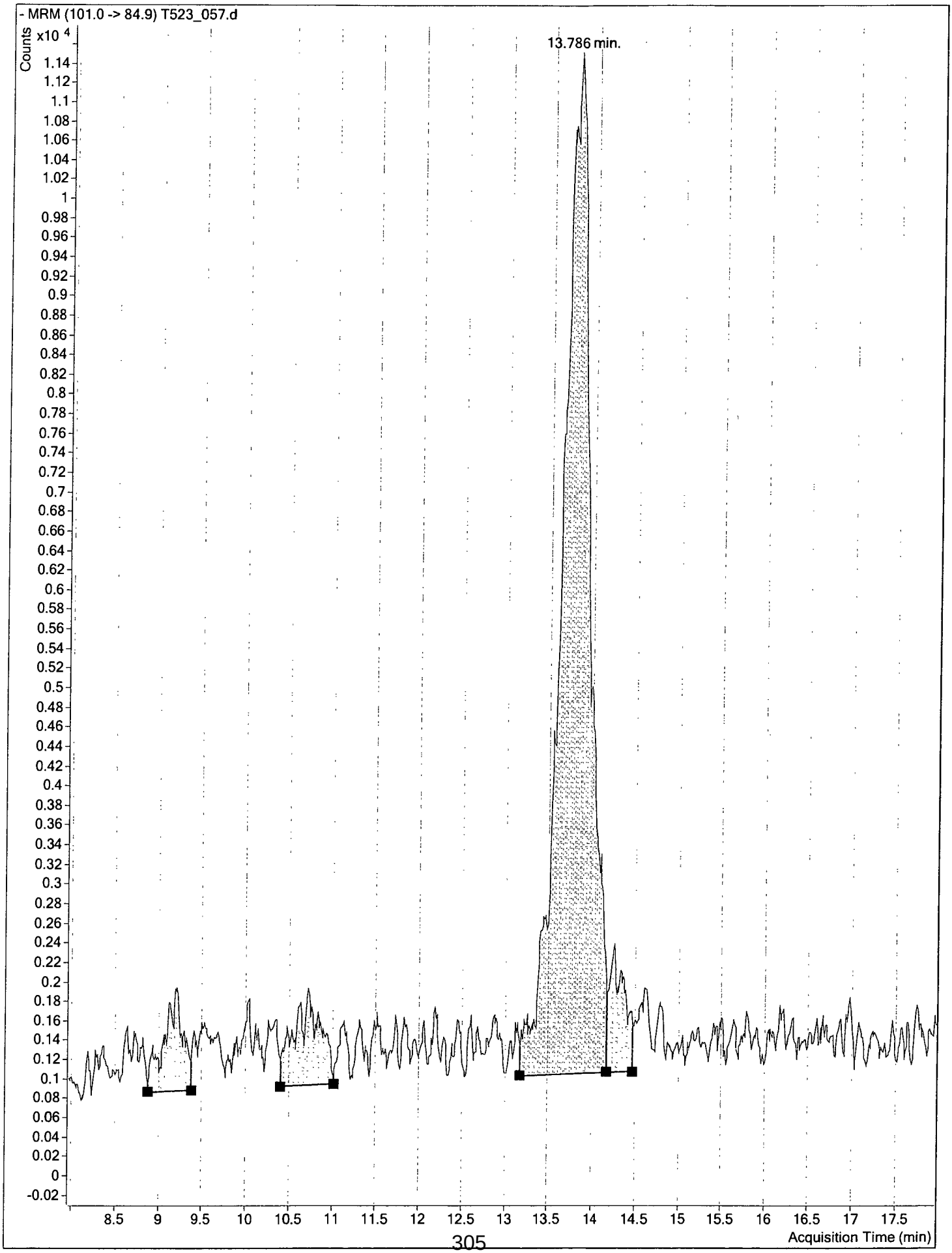
Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108		13.769	758603	6631309	
Perchlorate_102	PER_IS_108	*	13.786	254673	6631309	* MANUAL INT

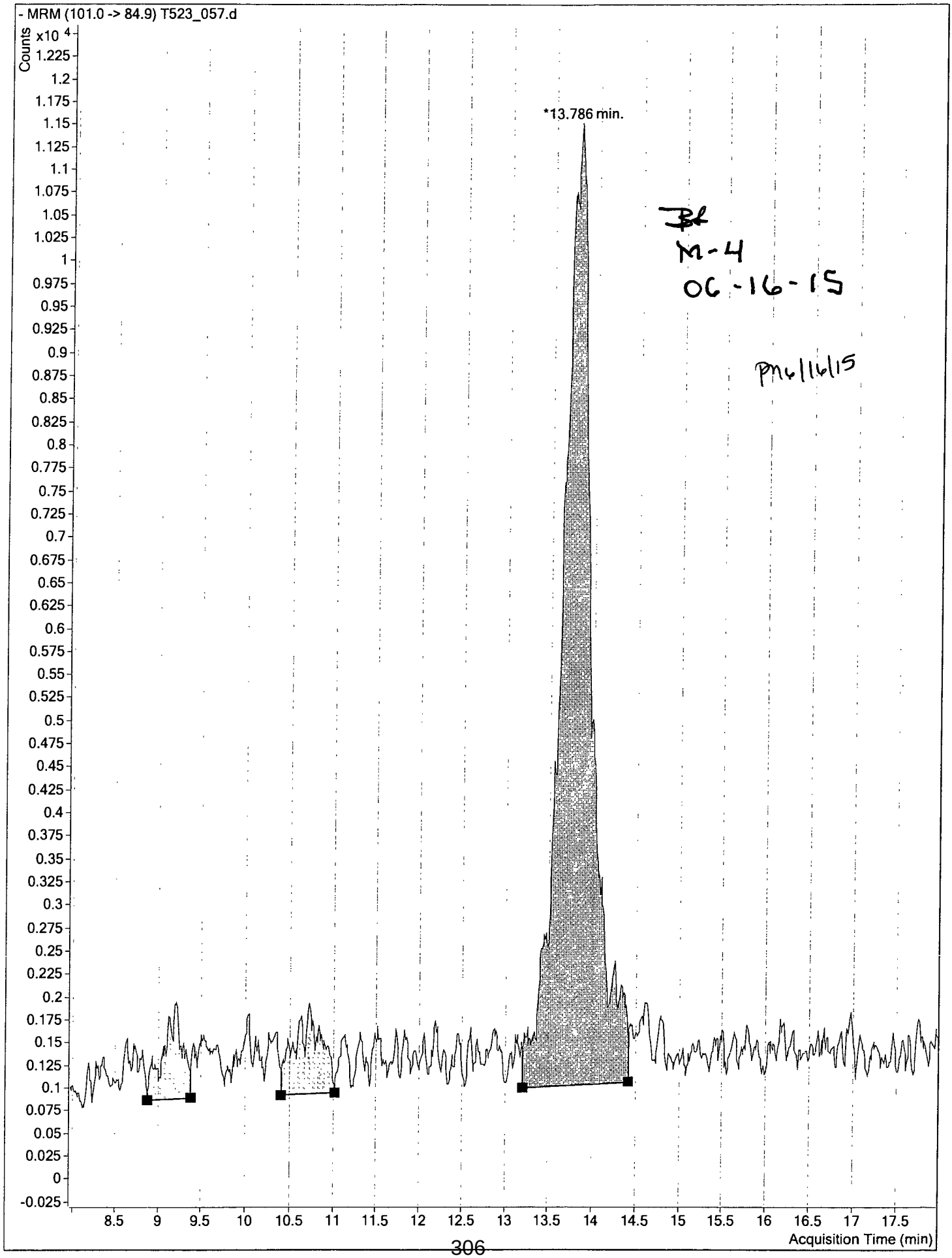
Perchlorate_100



Perchlorate_102




- MRM (101.0 -> 84.9) T523_057.d
Counts
x10 4
13.786 min.
Acquisition Time (min)


- MRM (101.0 -> 84.9) T523_057.d
Counts
x10 4
*13.786 min.
Acquisition Time (min)
BL
M-4
06-16-15
PM6/16/15

CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T523_058.d

	Date (s) of Analysis From:03/12/15 To:05/24/15 Time (s) of Analysis From:17:52 To:8:19				Date of Analysis: 05/24/15 Time of Analysis: 9:15 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	13.82	1.172099	N	7.7
Perchlorate_85	13.70	13.60	13.80	0.391605	13.81	0.358148	N	8.5

FILE ID : TQCK2358.RFB

Data File ID: T523_058.d

Date Injected : 05/24/15

Time Injected : 9:15

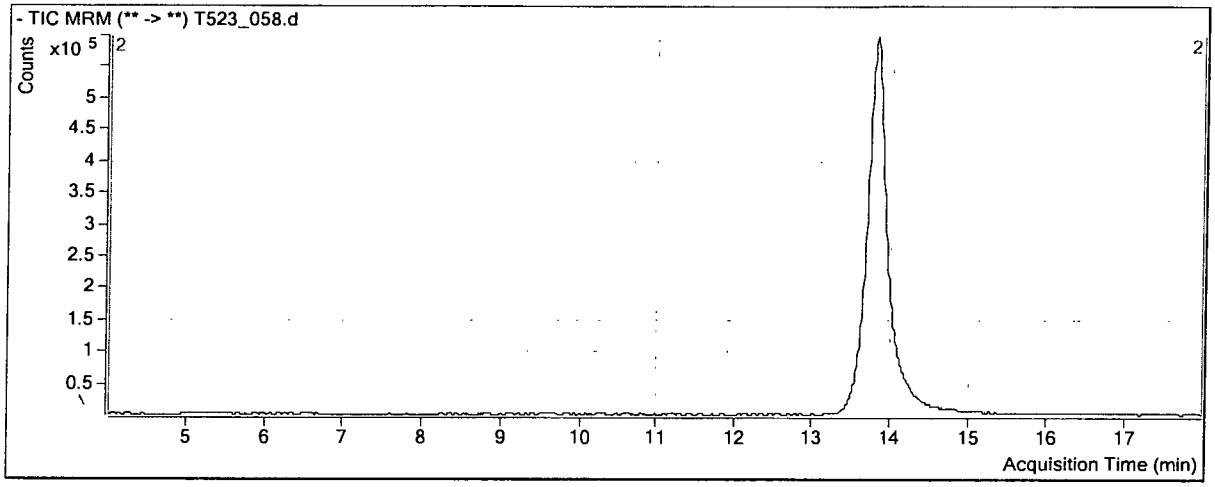
Sample ID : PER_CCV 0.002 ug/ml 05/07/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.823	7264937	PER_IS_89
13.82	3406090	Perchlorate_83
13.806	1040769	Perchlorate_85

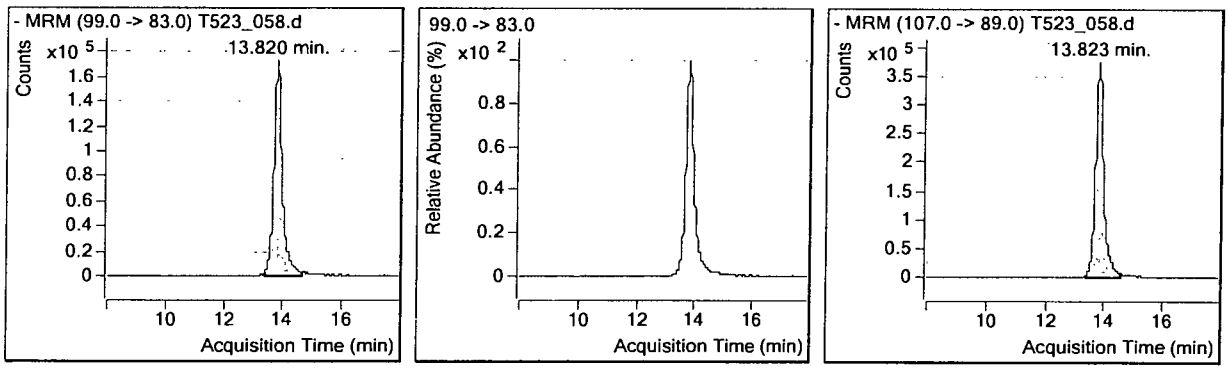
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150523\QuantResults\150523_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T523_058.d	**Sample Name**	PER_CCV 0.002 ug/ml 05/07/15
Sample Type	Sample	**Acq_Date**	05/24/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	9:15
ClientID	NA	**Inj Vol**	20

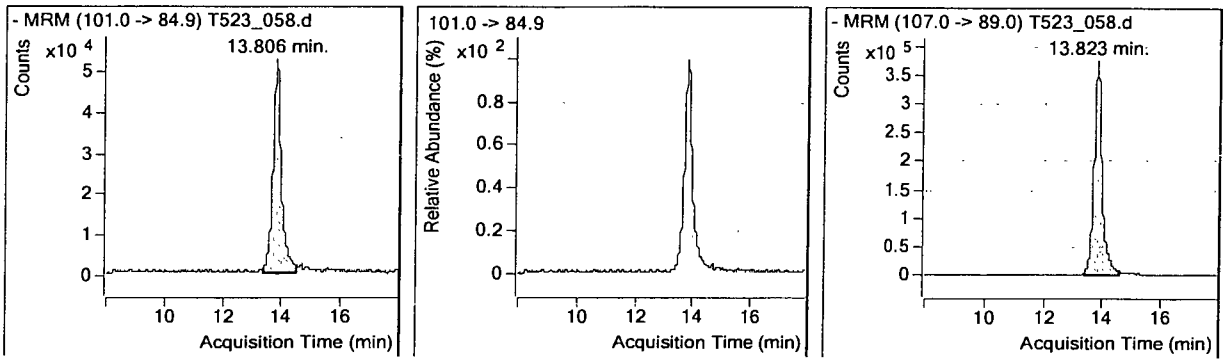


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.820	3406090	7264937
Perchlorate_102	PER_IS_108	13.806	1040769	7264937

Perchlorate_100



Perchlorate_102



CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T523_069.d

	Date (s) of Analysis From:03/12/15 To:05/24/15 Time (s) of Analysis From:17:52 To:12:03				Date of Analysis: 05/24/15 Time of Analysis: 13:00 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	13.42	1.474319	N	16.1
Perchlorate_85	13.70	13.60	13.80	0.391605	13.43	0.491206	N	25.4

FILE ID : TQCK2369.RFB

Data File ID: T523_069.d

Date Injected : 05/24/15

Time Injected : 13:00

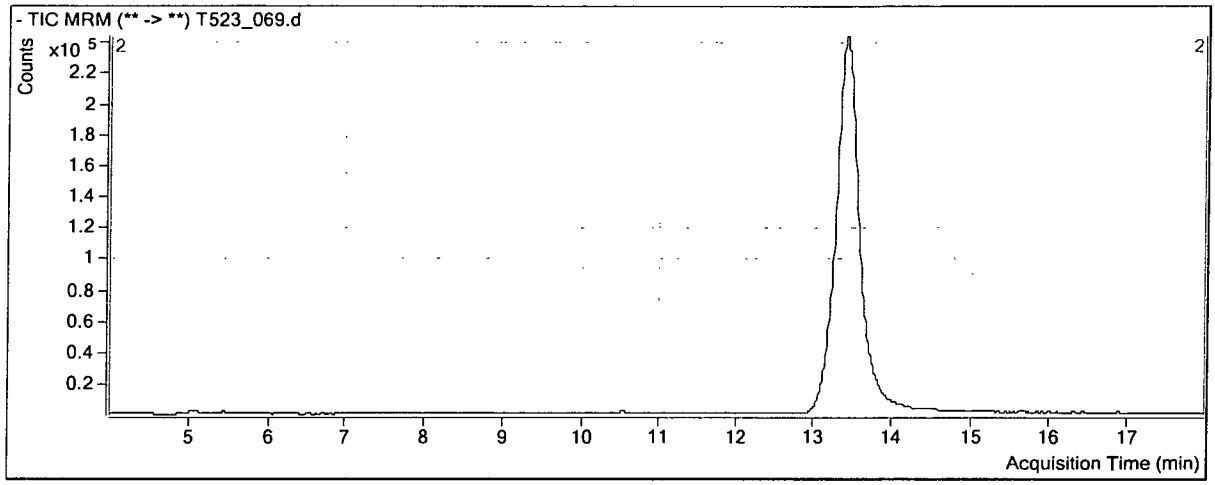
Sample ID : PER_CCV 0.0004 ug/ml 05/07/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.406	4418362	PER_IS_89
13.423	521126	Perchlorate_83
13.429	173626	Perchlorate_85

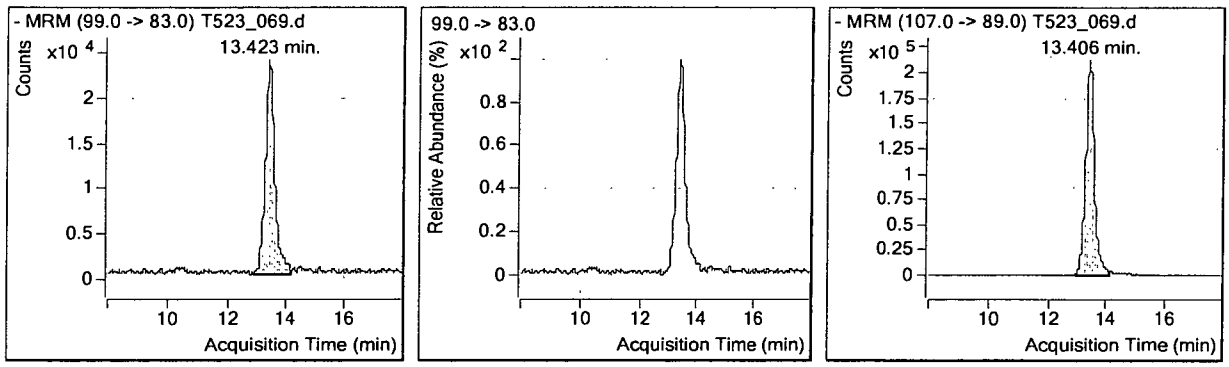
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150523\QuantResults\150523_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T523_069.d	**Sample Name**	PER_CCV 0.0004 ug/ml 05/07/15
Sample Type	Sample	**Acq_Date**	05/24/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	13:00
ClientID	NA	**Inj Vol**	20

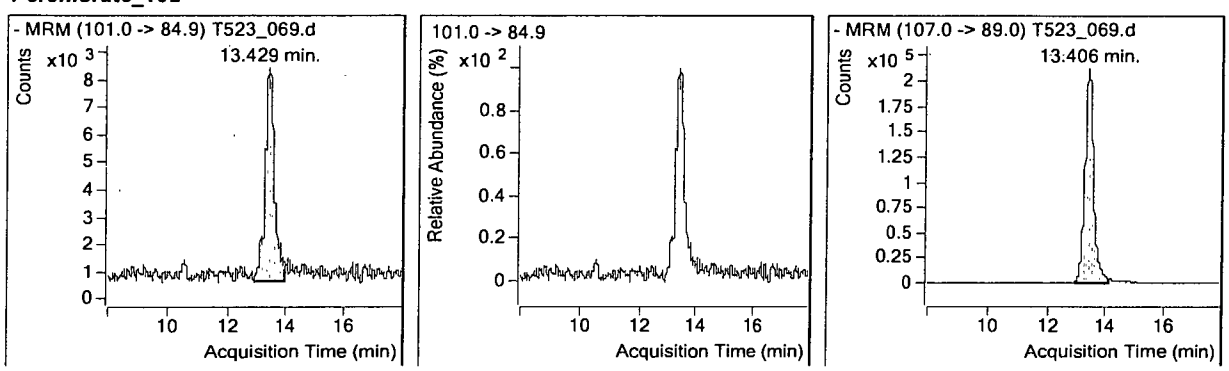


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.423	521126	4418362
Perchlorate_102	PER_IS_108	13.429	173626	4418362

Perchlorate_100



Perchlorate_102



CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T523_070.d

	Date (s) of Analysis From:03/12/15 To:05/24/15 Time (s) of Analysis From:17:52 To:12:03				Date of Analysis: 05/24/15 Time of Analysis: 13:18 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	13.50	1.175265	N	7.5
Perchlorate_85	13.70	13.60	13.80	0.391605	13.52	0.369265	N	5.7

FILE ID : TQCK2370.RFB

Data File ID: T523_070.d

Date Injected : 05/24/15

Time Injected : 13:18

Sample ID : PER_CCV 0.002 ug/ml 05/07/15

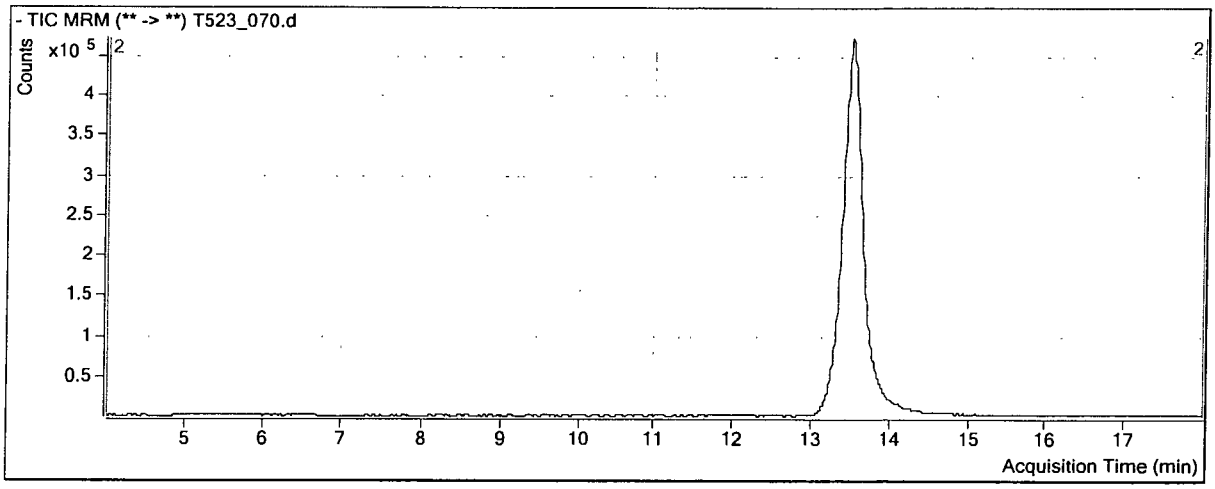
Client ID : NA

Retention Time		Area Count Response	Compound_ID Product Ion
13.497		5503588	PER_IS_89
13.504	*	2587270	Perchlorate_83
13.521		812912	Perchlorate_85

* MANUAL INTEGRAION

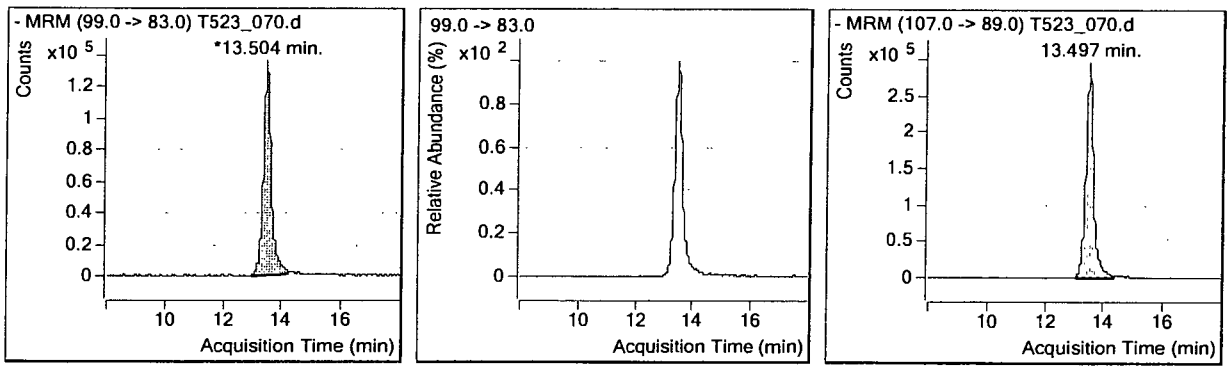
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150523\QuantResults\150523_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T523_070.d	**Sample Name**	PER_CCV 0.002 ug/ml 05/07/15
Sample Type	Sample	**Acq_Date**	05/24/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	13:18
ClientID	NA	**Inj Vol**	20

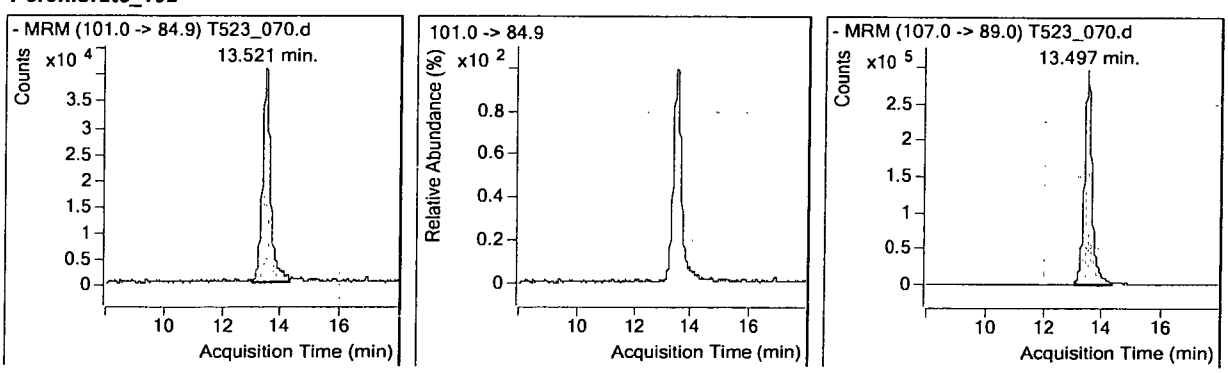


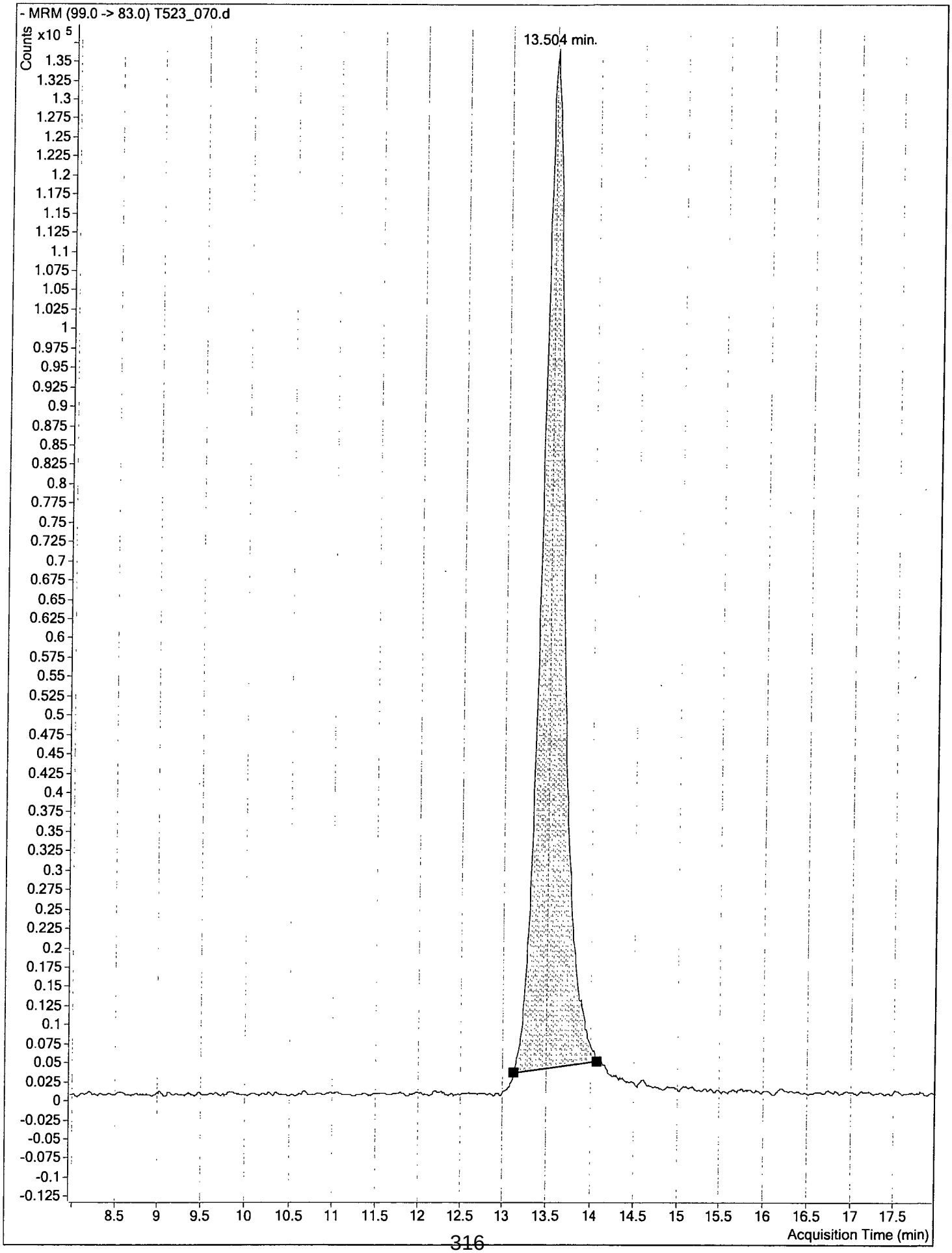
Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108	*	13.504	2587270	5503588	* MANUAL INT
Perchlorate_102	PER_IS_108		13.521	812912	5503588	

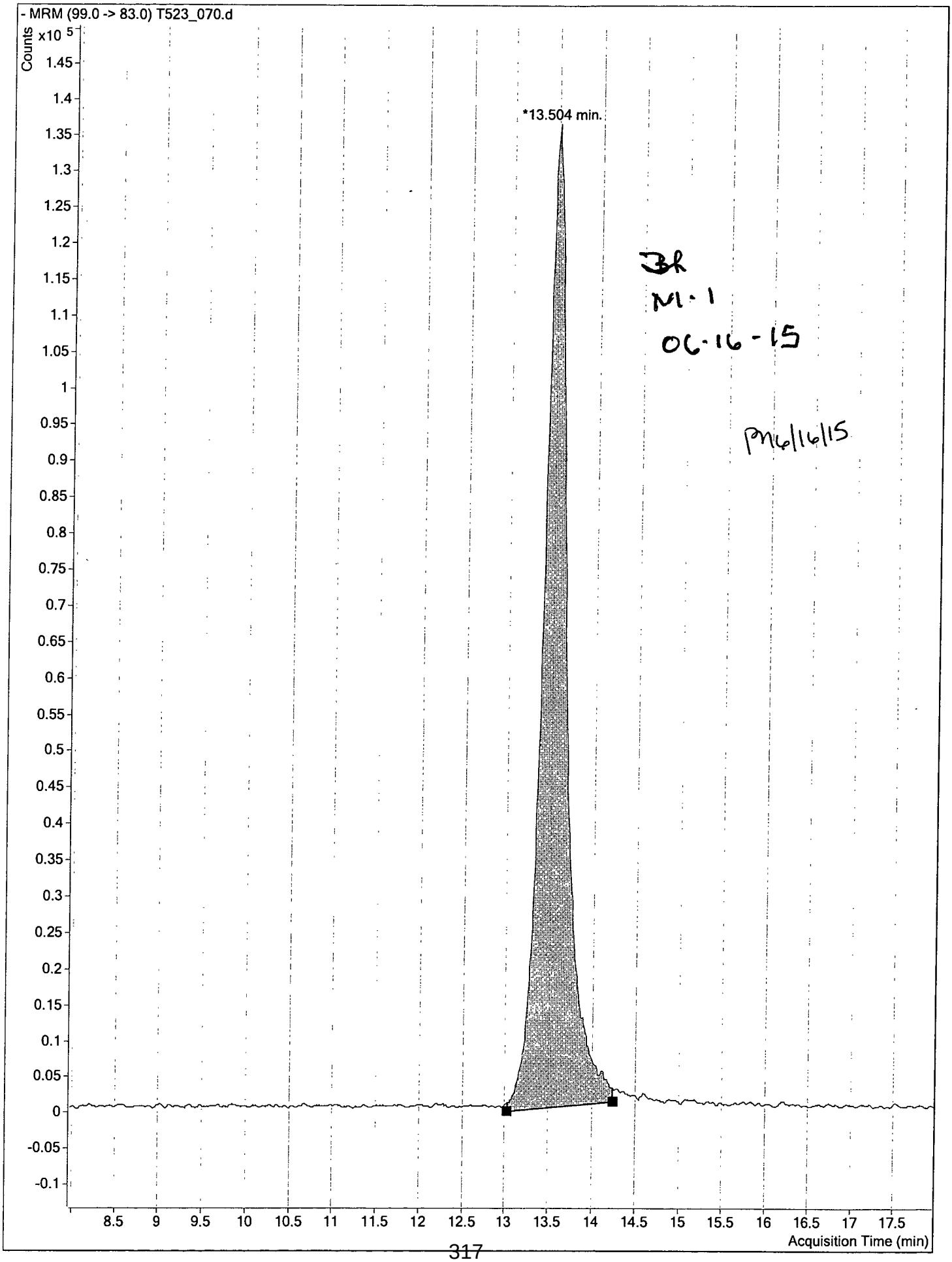
Perchlorate_100



Perchlorate_102




- MRM (99.0 -> 83.0) T523_070.d
Counts
x10 5
13.504 min.
Acquisition Time (min)



BR
M-1
06-16-15

PM6/16/15

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: **150512W-16226 - 196913**
Batch ID: #6850-150512A

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	05/12/15	05/12/15

Quant Method: QTLMFL2
Run #: T512_029.D
Instrument: AGIL_6460
Sequence: TQ051215
Initials: MP

GC SC-Blank-REG MDLs
Printed: 05/13/15 11:50:06 AM

Data File ID: T512_029.d

Date Injected : 05/12/15

Time Injected : 16:17

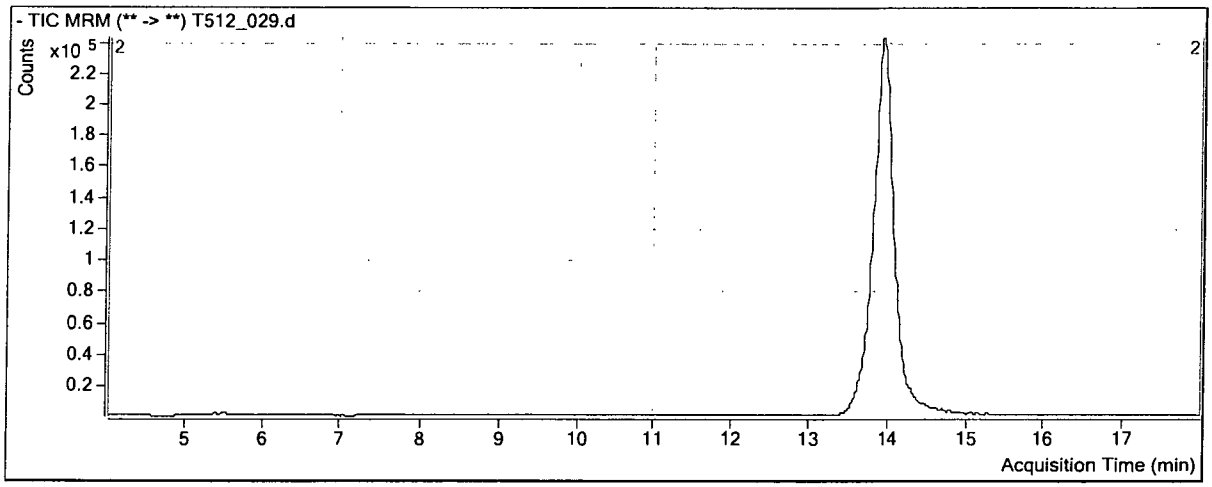
Sample ID : 150512WBLKA 1052.6 DF 05/12/15

Client ID : LAB_CNTL_W_BLKA

Retention Time	Area Count Response	Compound_ID Product Ion			
13.935	4755283	PER_IS_89			
14.065	3486	Perchlorate_83	(3486 * 0.0050) / (1.27 * 4755283.00) *	1052.60 =	0.003037 ppb
14.051	5238	Perchlorate_85	(5238 * 0.0050) / (0.39 * 4755283.00) *	1052.60 =	0.014804 ppb

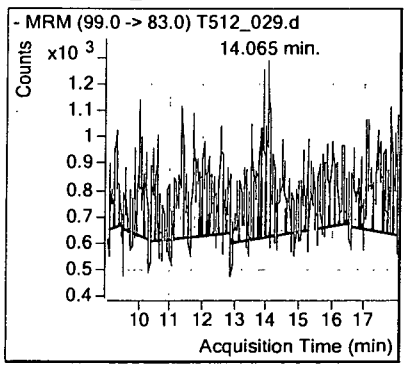
Quantitative Analysis Sample Report

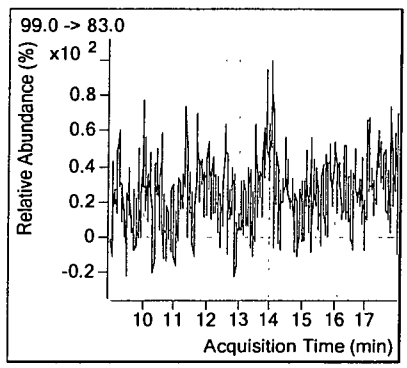
Batch Data Path	D:\MassHunter\Data\150512\QuantResults\150512_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T512_029.d	**Sample Name**	150512WBLKA 1052.6 DF 05/12/15
Sample Type	Sample	**Acq_Date**	05/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	16:17
ClientID	LAB_CNTL_W_BLKA	**Inj Vol**	20

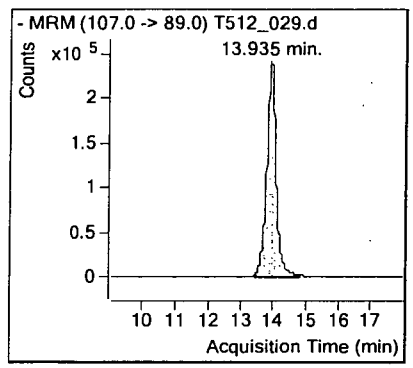


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.065	3486	4755283
Perchlorate_102	PER_IS_108	14.051	5238	4755283

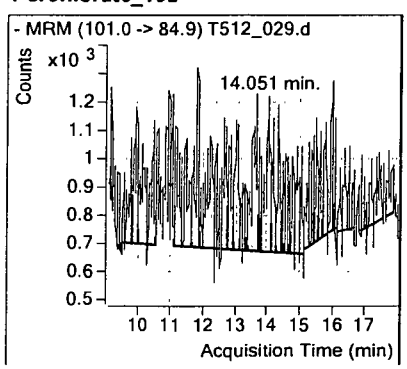
Perchlorate_100

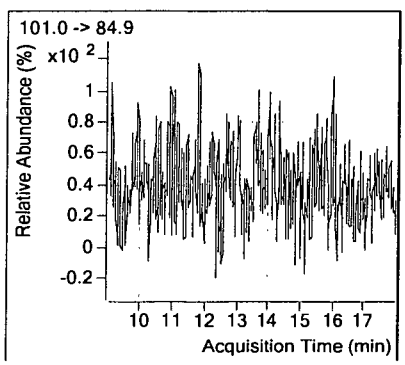


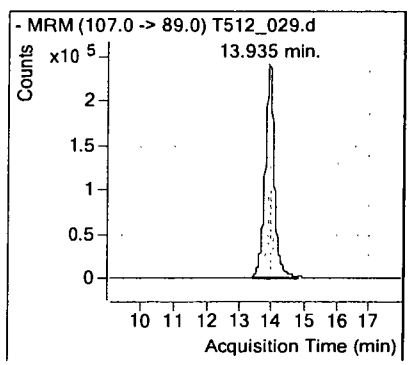




Perchlorate_102







Method Blank
PERCHLORATE EPA 6850 - SOIL

Blank Name/QCG: **150518S-16137 - 198067**
Batch ID: #6850SM-150518A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	PERCHLORATE	0.0040 U	0.006	0.0040	0.0020	mg/Kg	05/18/15	05/24/15

Quant Method: QTLMFL2
Run #: T523_049.d
Instrument: AGIL_6460
Sequence: TQ052315
Initials: RP

GC SC-Blank-REG MDLs
Printed: 06/17/15 10:46:00 AM

Data File ID: T523_049.d

Date Injected : 05/24/15

Time Injected : 6:28

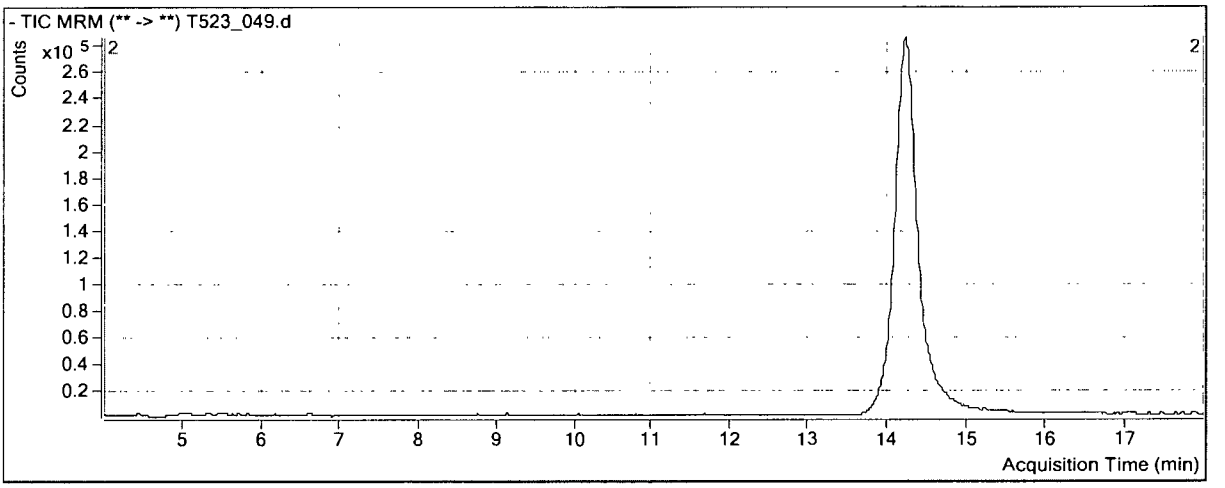
Sample ID : 150518SBLKA 10319.9 DF 05/18/15

Client ID : LAB_CNTL_S_BLKA

Retention Time	Area Count Response	Compound_ID Product Ion		
14.251	5786126	PER_IS_89		
12.995	7316	Perchlorate_83	(7316 * 0.0050) / (1.27 * 5786126.00) * 10319.90 =	0.051362 ppb
13.052	5610	Perchlorate_85	(5610 * 0.0050) / (0.39 * 5786126.00) * 10319.90 =	0.127753 ppb

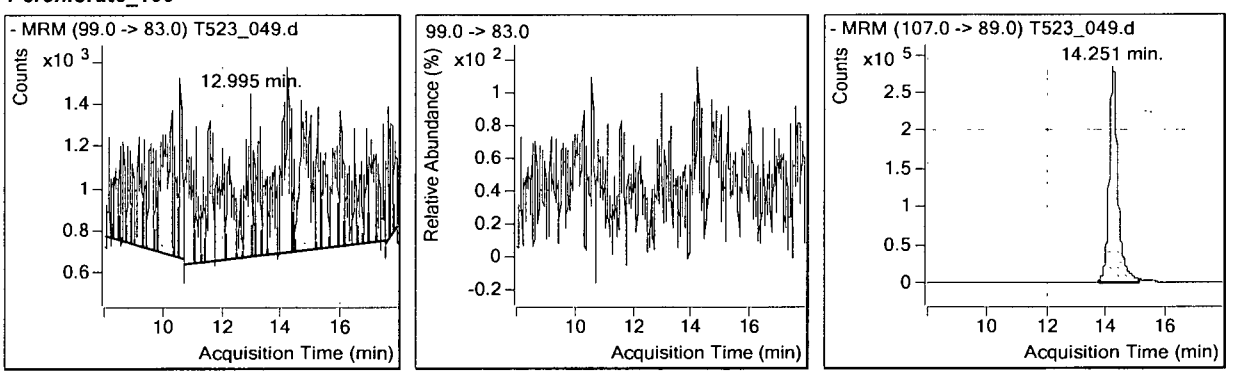
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150523\QuantResults\150523_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T523_049.d	**Sample Name**	150518SBLKA 10319.9 DF 05/18/15
Sample Type	Sample	**Acq_Date**	05/24/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	6:28
ClientID	LAB_CNTL_S_BLKA	**Inj Vol**	20

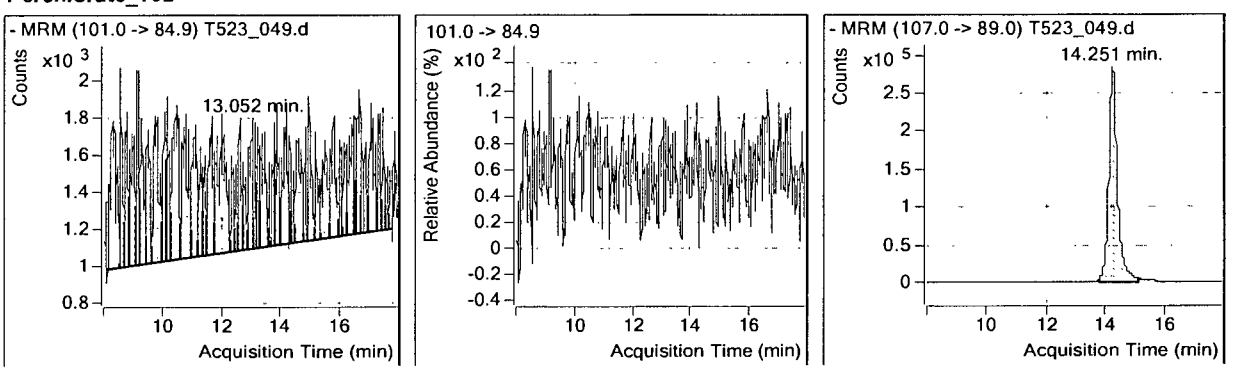


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	12.995	7316	5786126
Perchlorate_102	PER_IS_108	13.052	5610	5786126

Perchlorate_100



Perchlorate_102



Laboratory Control Spike Recovery
Perchlorate

APPL ID: **150512W-16226 LCS - 196913**
Batch ID: #6850-150512A

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	0.599	99.8	80-120

Comments: _____

Primary	SPK
Quant Method :	QTLMFL2
Extraction Date :	05/12/15
Analysis Date :	05/12/15
Instrument :	AGIL_6460
Run :	T512_027.D
Initials :	MP

Printed: 05/13/15 11:50:01 AM
APPL Standard LCS

Data File ID: T512_027.d

Date Injected : 05/12/15

Time Injected : 15:37

Sample ID : 150512WA_LCS-1 1052.6 DF 05/12/15

Client ID : LAB_CNTL_W_SPKA

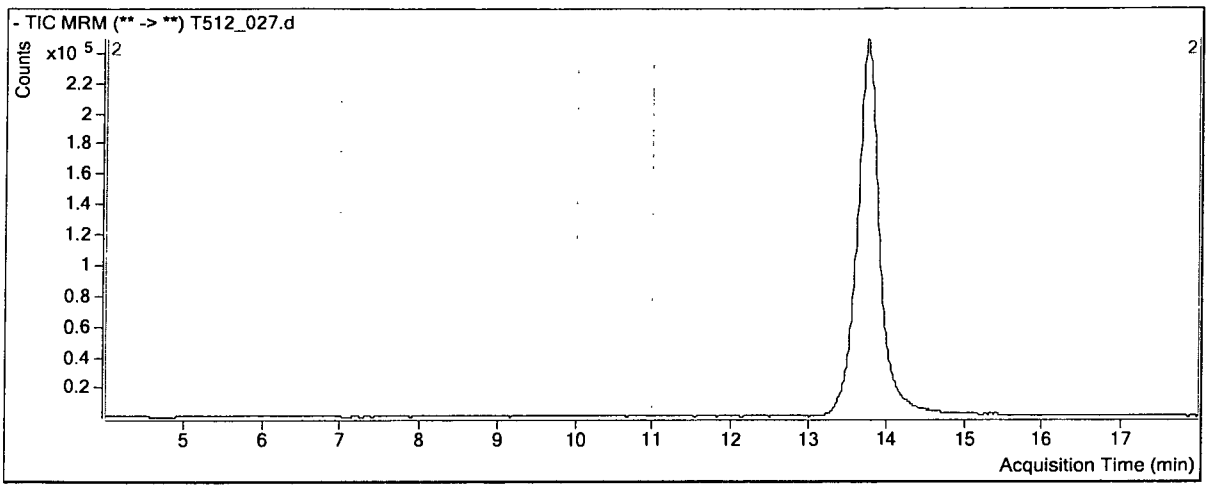
Retention Time	Area Count Response	Compound_ID Product Ion			
13.742	4309588	PER_IS_89			
13.769	623312	Perchlorate_83	(623312 * 0.0050) / (1.27 * 4309588.00) *	1052.60 =	0.599256 ppb
13.725	208822	Perchlorate_85	(208822 * 0.0050) / (0.39 * 4309588.00) *	1052.60 =	0.651217 ppb

$$\frac{(1052.6)(623312)(0.005)}{(1.270255)(4309588)} = 0.599256$$

6/9/15
PP

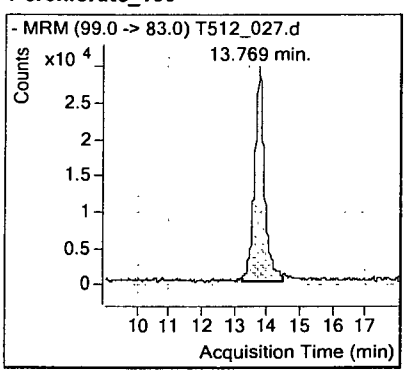
Quantitative Analysis Sample Report

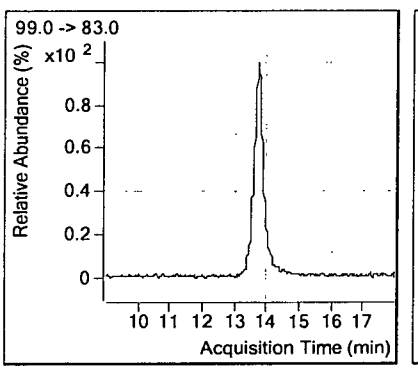
Batch Data Path	D:\MassHunter\Data\150512\QuantResults\150512_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T512_027.d	**Sample Name**	150512WA_LCS-1 1052.6 DF 05/12/15
Sample Type	Sample	**Acq_Date**	05/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	15:37
ClientID	LAB_CNTL_W_SPKA	**Inj Vol**	20

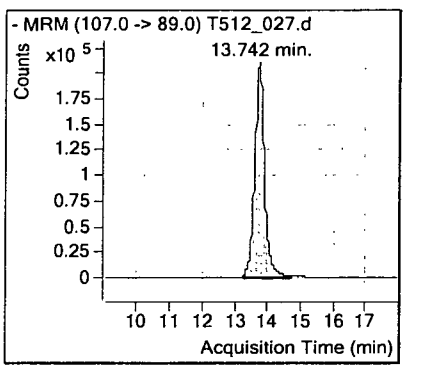


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.769	623312	4309588
Perchlorate_102	PER_IS_108	13.725	208822	4309588

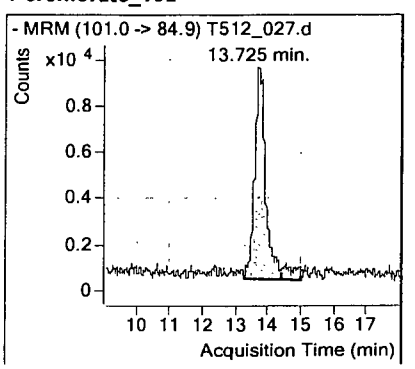
Perchlorate_100

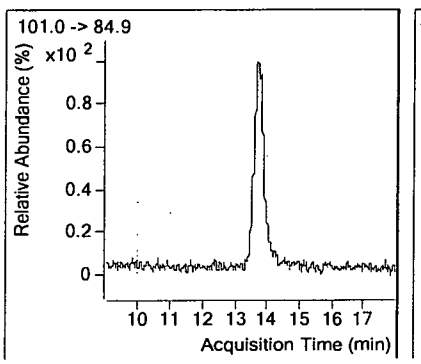


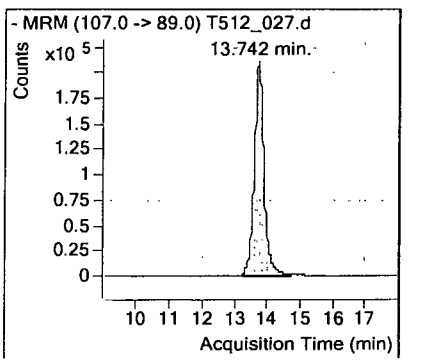




Perchlorate_102







Laboratory Control Spike Recovery
PERCHLORATE EPA 6850 - SOIL

APPL ID: **150518S-16137 LCS - 198067**
Batch ID: #6850SM-150518A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level mg/Kg	SPK Result mg/Kg	SPK % Recovery	Recovery Limits
PERCHLORATE	0.00594	0.00556	93.6	80-120

Comments: _____

Primary	SPK
Quant Method :	QTLMFL2
Extraction Date :	05/18/15
Analysis Date :	05/24/15
Instrument :	AGIL_6460
Run :	T523_047.d
Initials :	RP

Printed: 06/17/15 10:45:49 AM
APPL Standard LCS

Data File ID: T523_047.d

Date Injected : 05/24/15

Time Injected : 5:50

Sample ID : 150518SA_LCS-1 10422.1 DF 05/18/15

Client ID : LAB_CNTL_S_SPKA

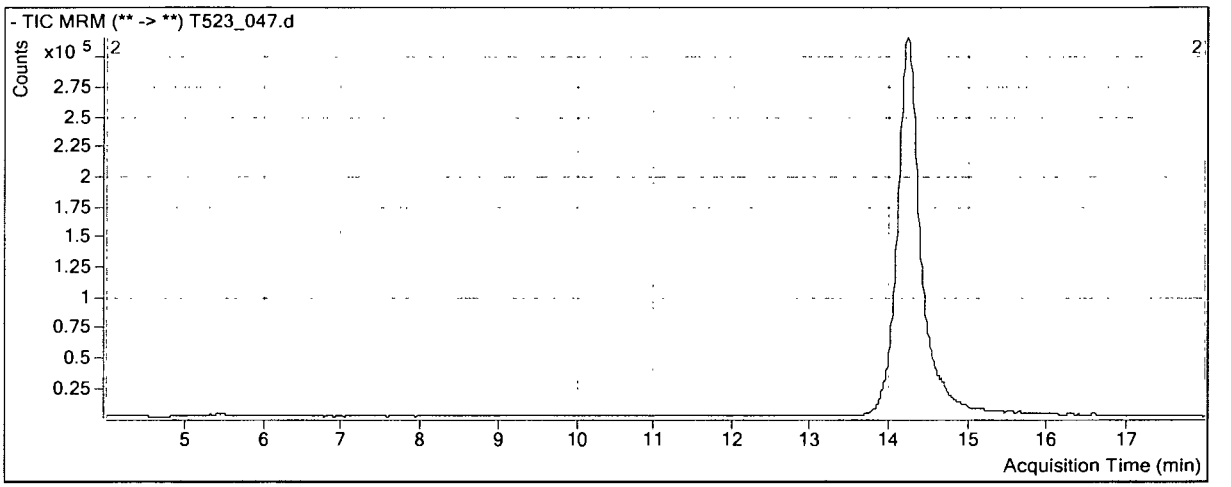
Retention Time	Area Count Response	Compound_ID Product Ion		
14.262	5484178	PER_IS_89		
14.248	742644	Perchlorate_83	(742644 * 0.0050) / (1.27 * 5484178.00) * 10422.10 =	5.555247 ppb
14.245	256573	Perchlorate_85	(256573 * 0.0050) / (0.39 * 5484178.00) * 10422.10 =	6.225531 ppb

$$\frac{(10422.1)(742644)(0.005)}{(1.270255)(5484178)} = 5.555248$$

6/17/15
PP

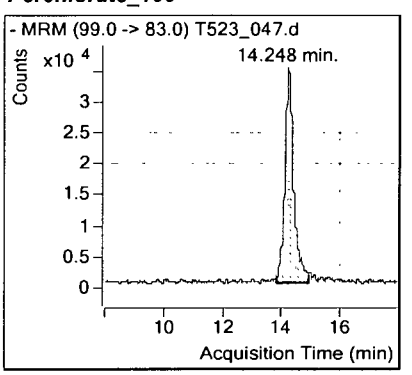
Quantitative Analysis Sample Report

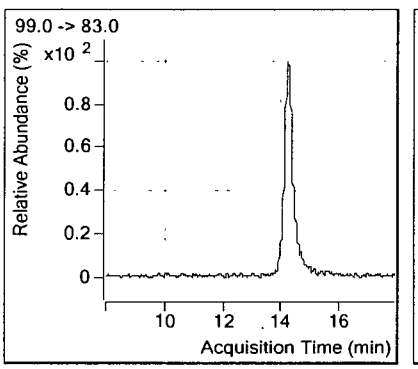
Batch Data Path	D:\MassHunter\Data\150523\QuantResults\150523_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T523_047.d	**Sample Name**	150518SA_LCS-1 10422.1 DF 05/18/15
Sample Type	Sample	**Acq_Date**	05/24/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	5:50
ClientID	LAB_CNTL_S_SPKA	**Inj Vol**	20

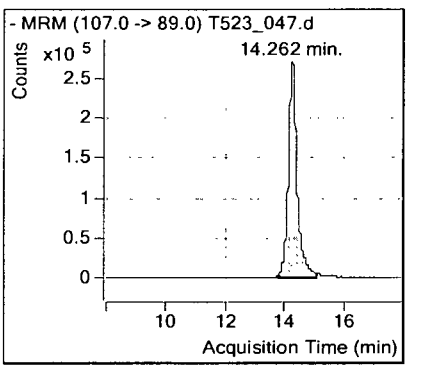


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.248	742644	5484178
Perchlorate_102	PER_IS_108	14.245	256573	5484178

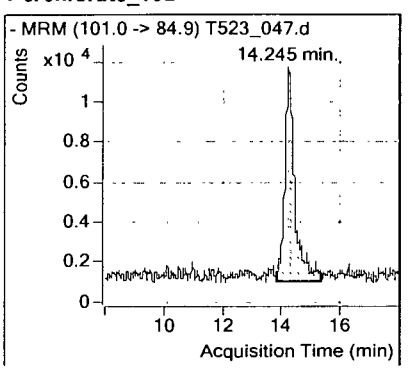
Perchlorate_100

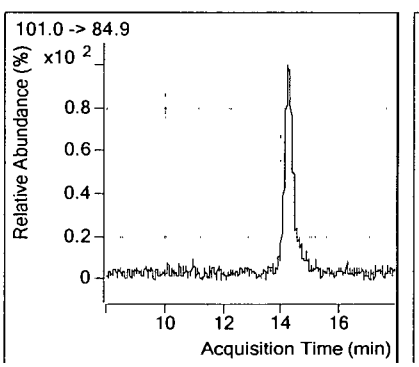


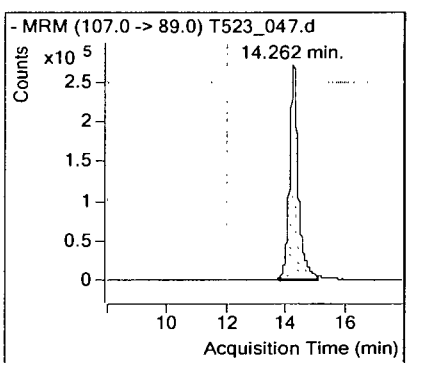




Perchlorate_102







Interferrence Check Sample

Perchlorate EPA 6850 Water

APPL ID: 150512W-16226 ICS-196913
Batch ID: #6850-150512A

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	0.558	93.0%	70-130

Comments:

Quant Method:	QTLMFL2
Extraction Date:	05/12/15
Analysis Date:	05/12/15
Instrument:	AGIL_6560
Run:	T512_028.D
Initials:	RP

Data File ID: T512_028.d

Date Injected : 05/12/15

Time Injected : 15:57

Sample ID : 150512W_ICSA 1052.6 DF 05/12/15

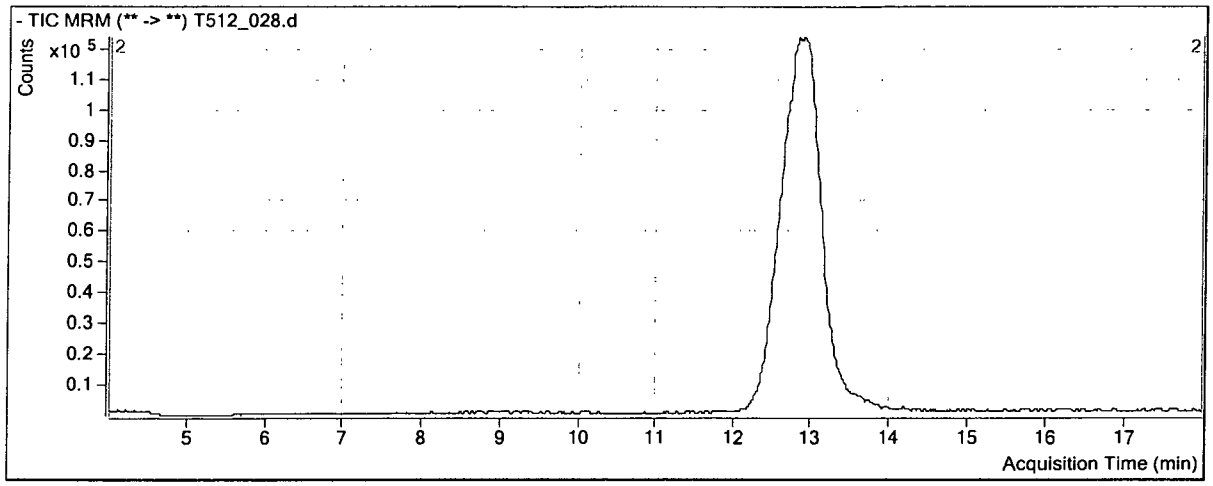
Client ID : LAB_CNTL_W_ICSA

Retention Time		Area Count Response	Compound_ID Product Ion			
12.855		3818635	PER_IS_89			
12.934	*	514351	Perchlorate_83	(514351 * 0.0050) / (1.27 * 3818635.00) *	1052.60 =	0.558077 ppb
12.951	*	171061	Perchlorate_85	(171061 * 0.0050) / (0.39 * 3818635.00) *	1052.60 =	0.602044 ppb

* MANUAL INTEGRAION

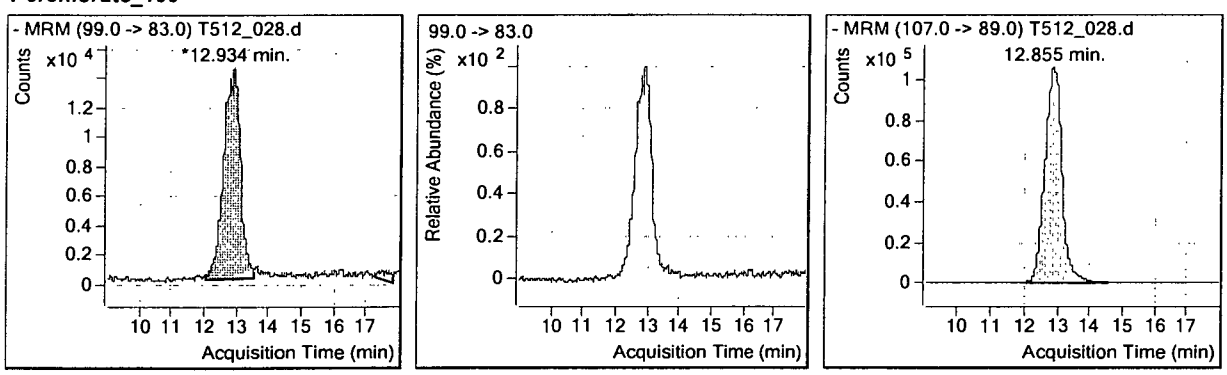
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150512\QuantResults\150512_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T512_028.d	**Sample Name**	150512W_ICSA 1052.6 DF 05/12/15
Sample Type	Sample	**Acq_Date**	05/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	15:57
ClientID	LAB_CNTL_W_ICSA	**Inj Vol**	20

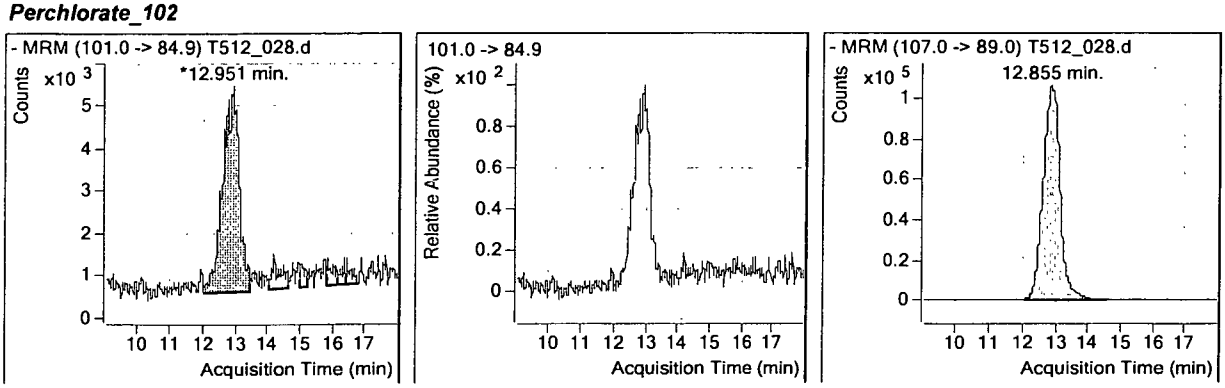


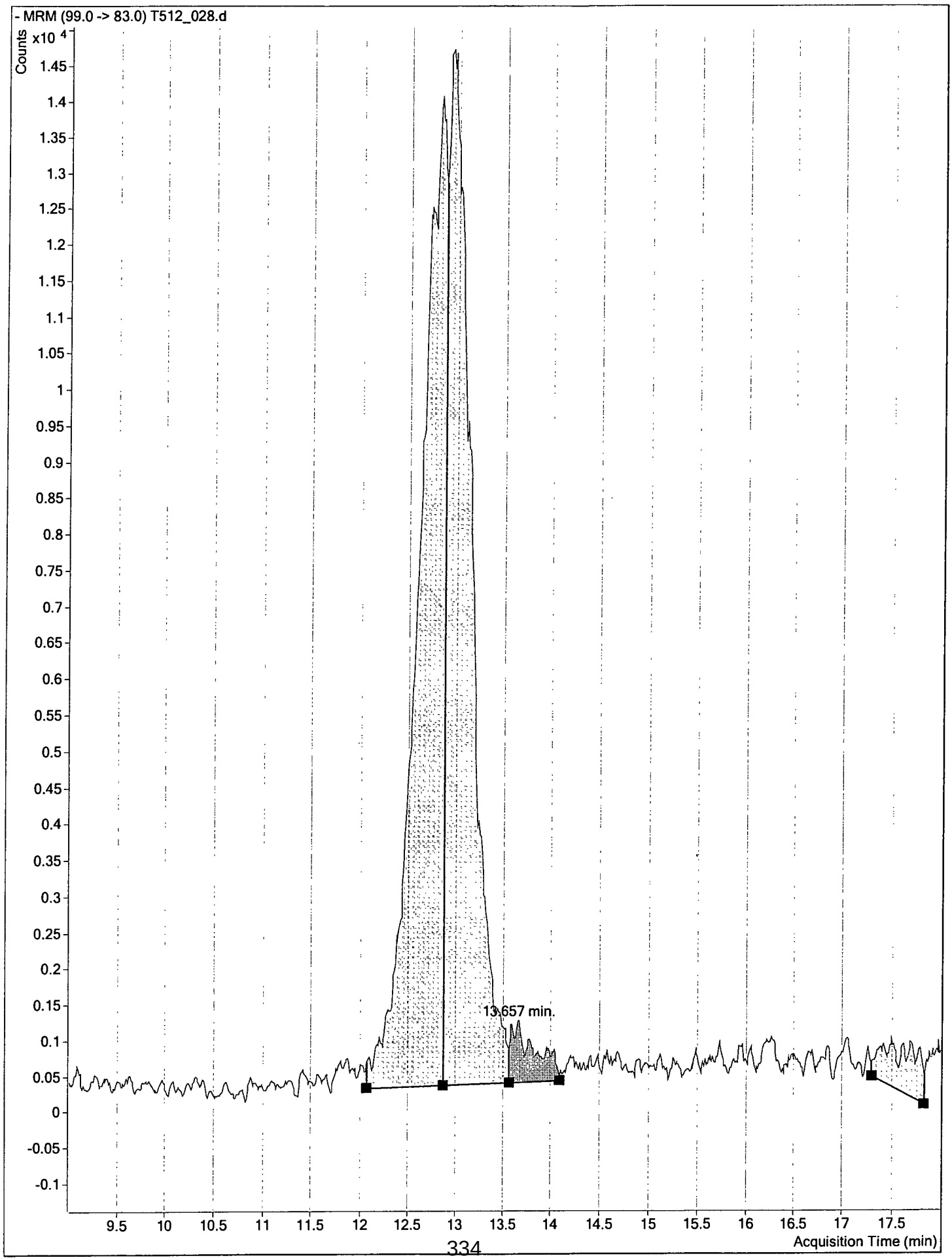
Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108	*	12.934	514351	3818635	* MANUAL INT
Perchlorate_102	PER_IS_108	*	12.951	171061	3818635	* MANUAL INT

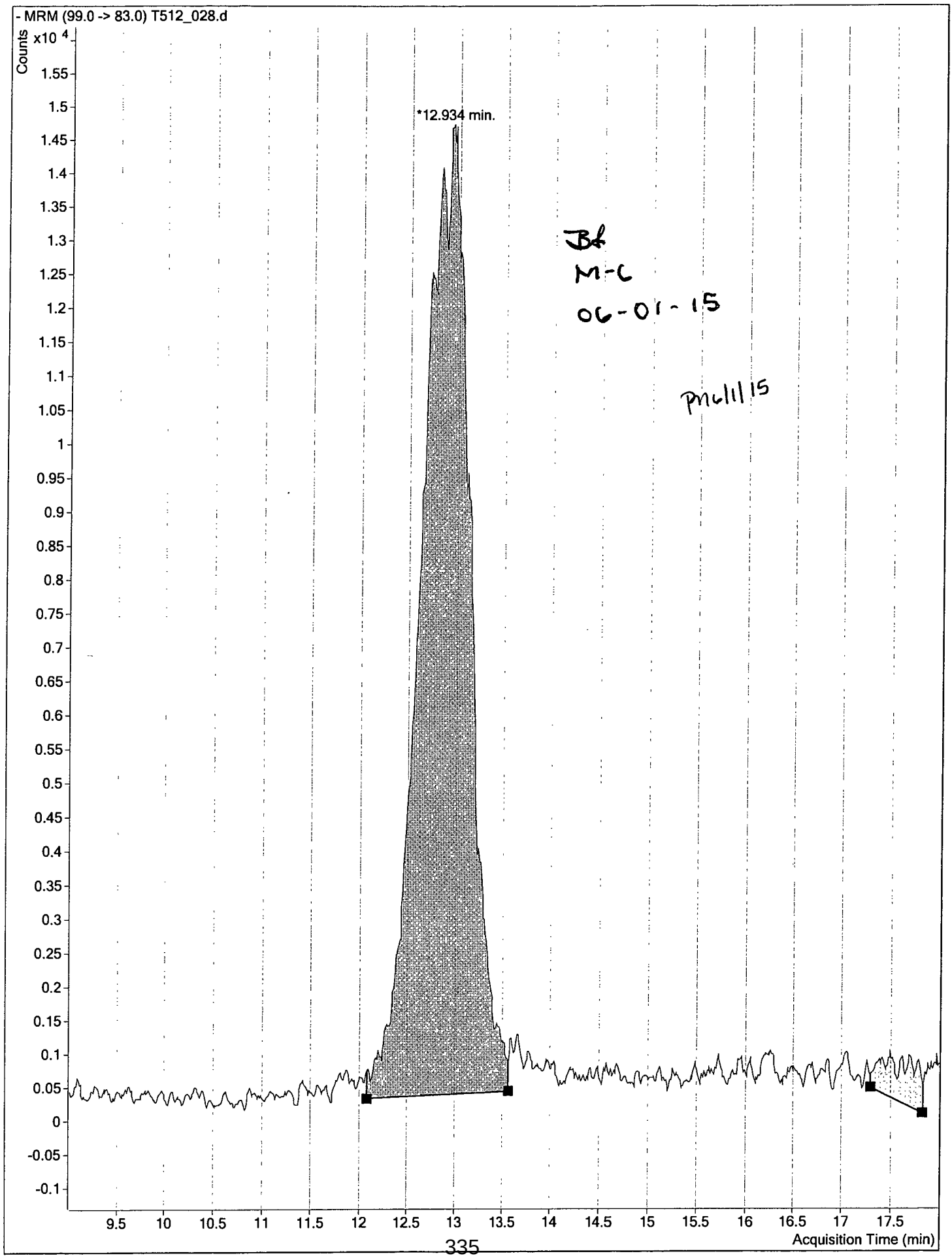
Perchlorate_100

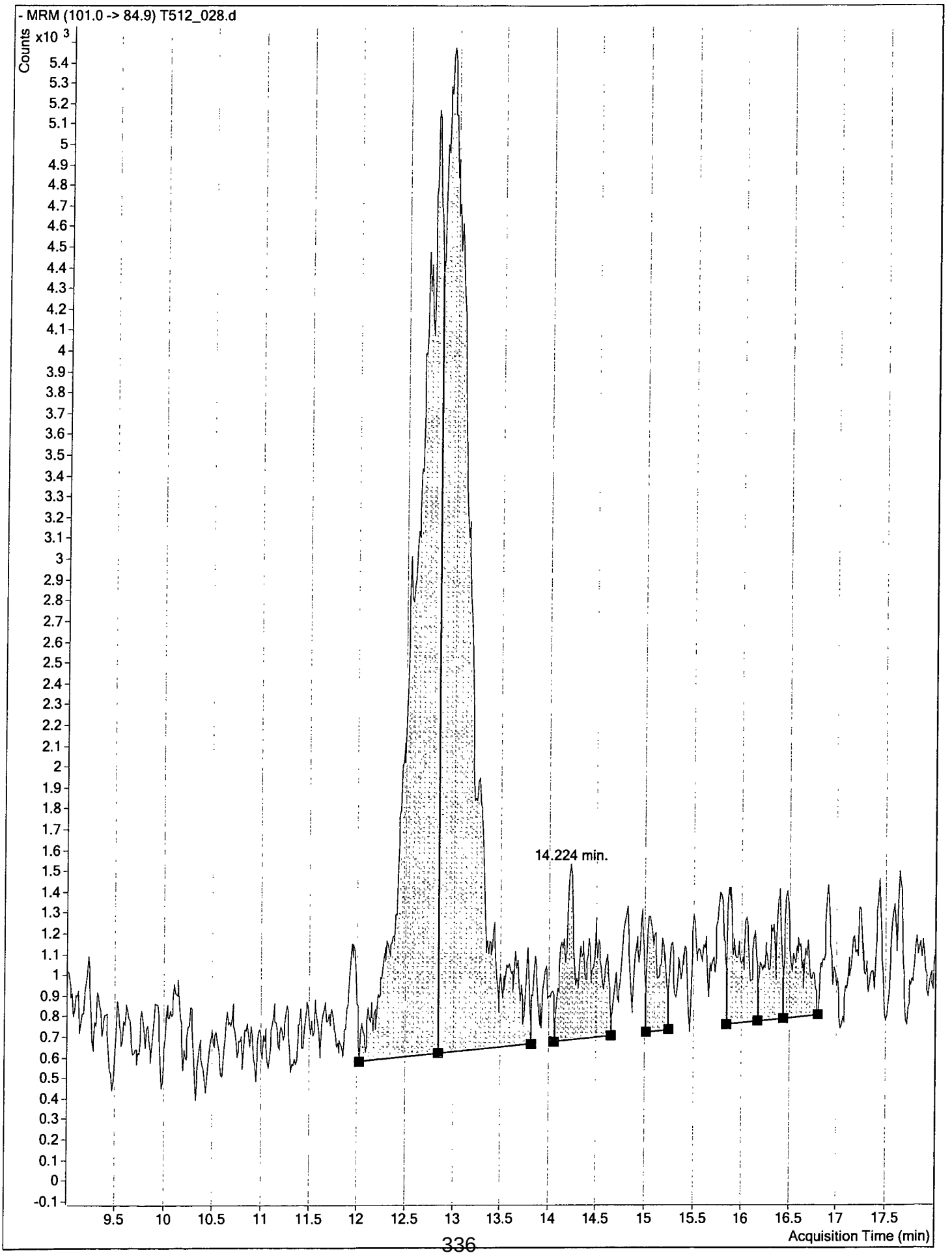


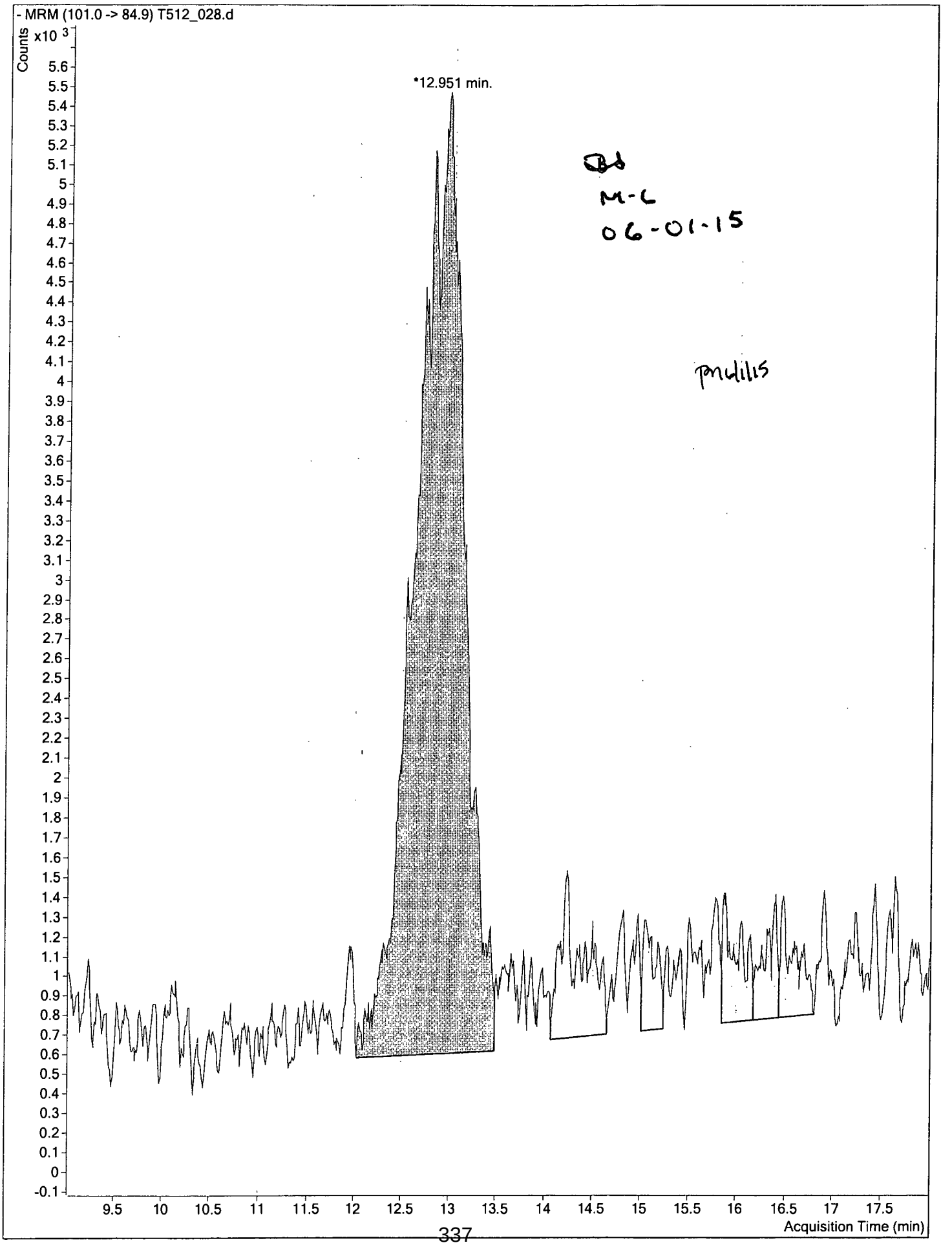
Perchlorate_102




- MRM (99.0 -> 83.0) T512_028.d
Counts
x10 4
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
-0.1
13.657 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 (99.0 -> 83.0) T512_028.d
Counts
x10 4
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
-0.1
*12.934 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)
JBf
M-C
06-01-15
PM 6/11/15


- MRM (101.0 -> 84.9) T512_028.d
Counts
x10 3
5.4
5.3
5.2
5.1
5
4.9
4.8
4.7
4.6
4.5
4.4
4.3
4.2
4.1
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
0
-0.1
14.224 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)



M-C
06-01-15

penicillin

Interferrence Check Sample

Perchlorate EPA 6850 Soil

APPL ID: 150518S-16137 ICS - 198067
Batch ID: #6850SM-150518A

APPL Inc.
908 N. Temperance Ave.
Clovis, CA 93711

Compound Name	Spike Level mg/Kg	Spk Result mg/Kg	SPK% Recovery	Recovery Limits
Perchlorate	0.00571	0.00599	104.9%	70-130

Comments:

Quant Method:	QTLMFL2
Extraction Date:	05/18/15
Analysis Date:	05/24/15
Instrument:	AGIL_6560
Run:	T523_048.D
Initials:	RP

Data File ID: T523_048.d

Date Injected : 05/24/15

Time Injected : 6:09

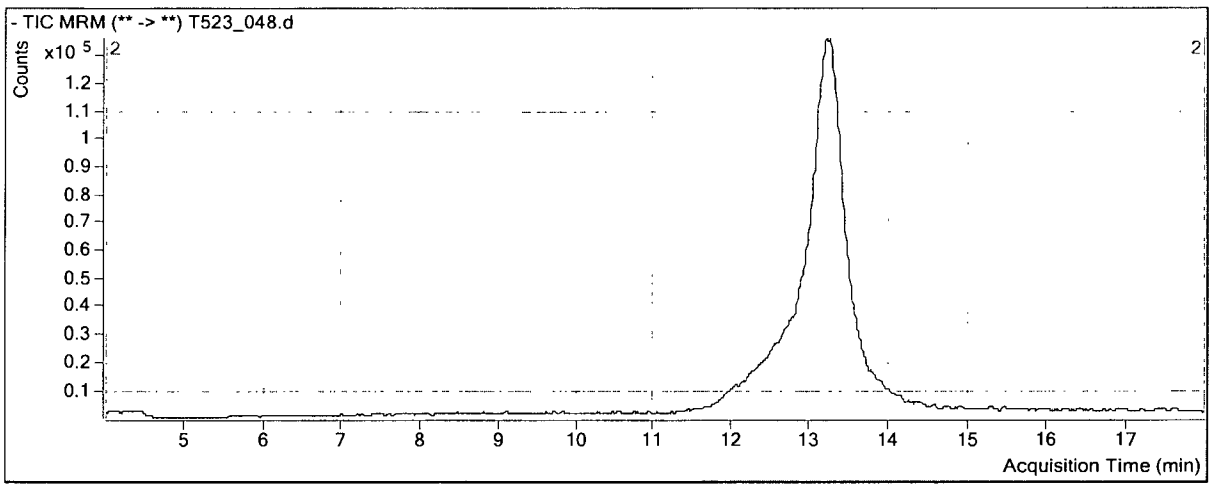
Sample ID : 150518S_ICSA 10025.1 DF 05/18/15

Client ID : LAB_CNTL_S_ICSA

Retention Time	Area Count Response	Compound_ID Product Ion		
13.273	4353871	PER_IS_89		
13.26	660527	Perchlorate_83	(660527 * 0.0050) / (1.27 * 4353871.00) * 10025.10 =	5.986634 ppb
13.246	295223	Perchlorate_85	(295223 * 0.0050) / (0.39 * 4353871.00) * 10025.10 =	8.679308 ppb

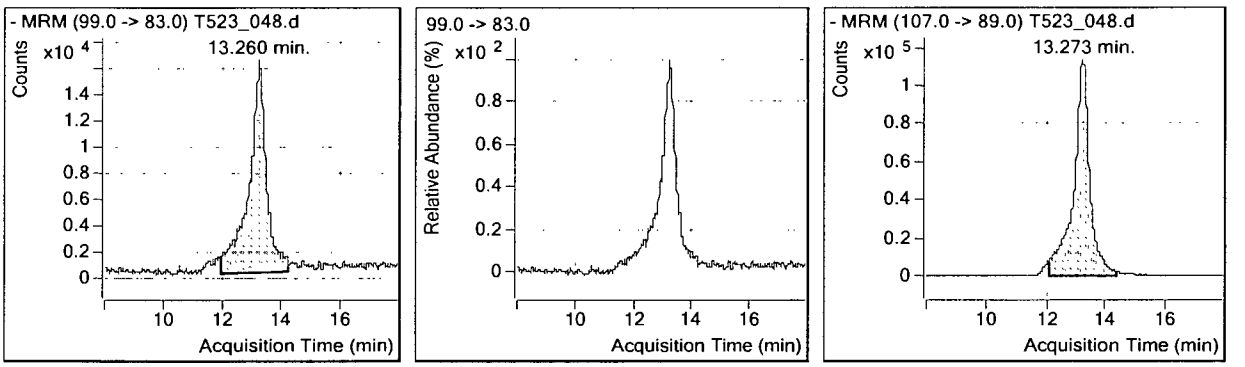
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150523\QuantResults\150523_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T523_048.d	**Sample Name**	150518S_ICSA 10025.1 DF 05/18/15
Sample Type	Sample	**Acq_Date**	05/24/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	6:09
ClientID	LAB_CNTL_S_ICSA	**Inj Vol**	20

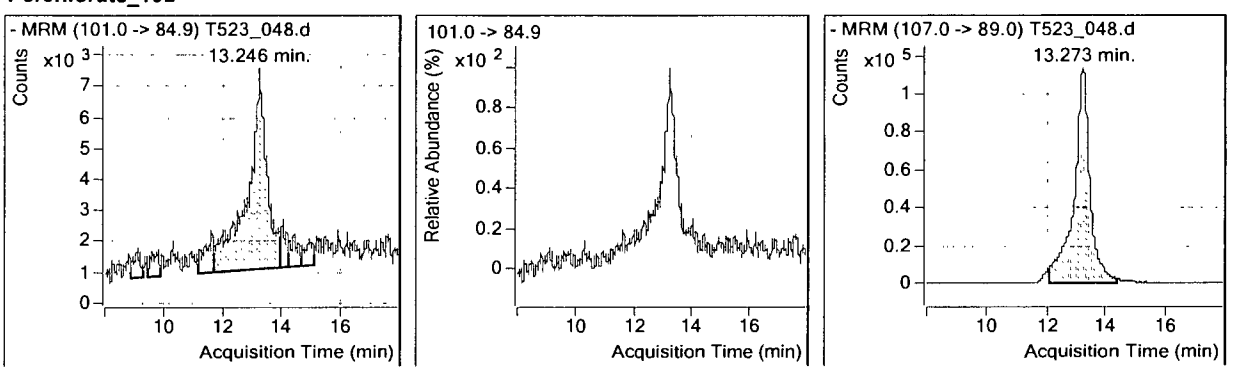


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.260	660527	4353871
Perchlorate_102	PER_IS_108	13.246	295223	4353871

Perchlorate_100



Perchlorate_102



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.

040 LCMS STANDARD PREP LOG# 105 PAGE# 40

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	NOL EN.? LOT#	DATE? INITIALS
PER IS	0.005µg/mL	04-20-15:					JR
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. JR							

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL. ENT. LOT #	DATE INITIALS
Scav_spk 250 ug/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: 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 O2SI $^{18}O_4$ 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 O2SI $^{18}O_4$ 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	NOL ENT # LOT #	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	VOL. LOT #	DATE INITIALS

NOTE: THE FOLLOWING DOCUMENTATION JH
WAS PERFORMED AS DATED: 05-19-15

PER. CCV 0.0004 µg/mL 05:07-15: JH
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
025I $^{18}O_4$ 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 025I $^{18}O_4$
Perchlorate 100µg/L Lot
1074176-35163

PER. IS 0.005µg/mL 05-07-15:
025I $^{18}O_4$ 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.

076

LC/MS STANDARD PREP LOG# 105 PAGE# 76

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N LOT #	DATE & INITIALS
NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED: 06-02-15							JA 06-02-15
PER_IS_50:50 0.005µg/mL 05-10-15: COMBINED 10.000 mL Laboratory Source DI_H2O with 10.000 mL Burdick & Jackson Acetonitrile lot DL308. Withdrew 1.000mL and then delivered 1.000 mL 02 5I $^{18}O_4$ Perchlorate 100µg/L lot 10TH176-35163							JA 05-10-15
AZ16057_W01 10526.3 DF 05-07-15_5/10: AZ16057_W01 1052.6 DF 05-07-15 TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005µg/mL 05-10-15							
AZ16057_W01 105263.2 DF 05-07-15_5/10: AZ16057_W01 10526.3 DF 05-07-15_5/10 TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005µg/mL 05-10-15							
AZ16057_W01 1052631.6 DF 05-07-15_5/10: AZ16057_W01 105263.2 DF 05-07-15_5/10 TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005µg/mL 05-10-15							

TOMS STANDARD PREP LOG# 105 PAGES 77

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	VOL. ENT 07 LOT #	DATE / INITIALS

NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED: JBL 06-02-15 JBL 06-02-15

AZ16057_W01 10526315.8 DF 05-07-15_5/10: JBL
AZ16057_W01 1052631.6 DF 05-07-15_5/10 05-10-15
TOOK 0.050 ml AND ADDED TO
0.450 ml PER_IS_50:50 0.005 µg/ml
05-10-15

AZ16059_W01 10526.3 DF 05-07-15_5/10:
AZ16059_W01 1052.6 DF 05-07-15_5/10
TOOK 0.050 ml AND ADDED TO
0.450 ml PER_IS_50:50 0.005 µg/ml
05-10-15

AZ16059_W01 105263.2 DF 05-07-15_5/10:
AZ16059_W01 10526.3 DF 05-07-15_5/10
TOOK 0.050 ml AND ADDED TO
0.450 ml PER_IS_50:50 0.005 µg/ml
05-10-15

AZ16059_W01 1052631.6 DF 05-07-15_5/10:
AZ16059_W01 105263.2 DF 05-07-15_5/10
TOOK 0.050 ml AND ADDED TO
0.450 ml PER_IS_50:50 0.005 µg/ml
05-10-15

AZ16059_W01 10526315.8 DF 05-07-15_5/10:
AZ16059_W01 1052631.6 DF 05-07-15_5/10
TOOK 0.050 ml AND ADDED TO
0.450 ml PER_IS_50:50 0.005 µg/ml
05-10-15

078

LC/MS STANDARD PREP LOG# 105 PAGE# 78

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE/ INITIALS
NOTE: THE FOLLOWING DOCUMENTATION							JR
WAS PERFORMED AS DATED: JR 06.02.15							06.02.15
AZ16061_IW01 10526.3 DF 05-07-15_5/10:							JR
AZ16061_IW01 10526 DF 05-07-15							05.10.15
TOOK 0.050mL AND ADDED TO							
0.450 mL PER_IS_50:50 0.005µg/mL							
05-10-15							
AZ16061_IW01 105263.2 DF 05-07-15_5/10:							
AZ16061_IW01 10526.3 DF 05-07-15_5/10							
TOOK 0.050mL AND ADDED TO							
0.450 mL PER_IS_50:50 0.005µg/mL							
05-10-15							
AZ16061_IW01 1052631.6 DF 05-07-15_5/10:							
AZ16061_IW01 105263.2 DF 05-07-15_5/10							
TOOK 0.050mL AND ADDED TO							
0.450 mL PER_IS_50:50 0.005µg/mL							
05-10-15							
AZ16061_IW01 10526315.8 DF 05-07-15_5/10							
AZ16061_IW01 1052631.6 DF 05-07-15_5/10							
TOOK 0.050mL AND ADDED TO							
0.450 mL PER_IS_50:50 0.005µg/mL							
05-10-15							

LCMS STANDARD PREP LOG# 105 PAGE 79

Material	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N LOT # 079	DATE / INITIAL

NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED: JH 06-02-15 — JH 06-02-15

AZ16062-W01 10526.3 DF 05-07-15_5/10: — JH
AZ16062-W01 1052.6 DF 05-07-15_5/10 — 05-10-15
TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS_50:50 0.005µg/ml 05-10-15

AZ16062-W01 105263.2 DF 05-07-15_5/10:
AZ16062-W01 10526.3 DF 05-07-15_5/10
TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS_50:50 0.005µg/ml 05-10-15

AZ16062-W01 1052631.6 DF 05-07-15_5/10:
AZ16062-W01 105263.2 DF 05-07-15_5/10
~~TOOK 0.450 ml~~ JH 06-02-15 TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS_50:50 0.005µg/ml 05-10-15

AZ16062-W01 10526315.8 DF 05-07-15_5/10:
AZ16062-W01 1052631.6 DF 05-07-15_5/10
TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS_50:50 0.005µg/ml 05-10-15

AZ16062-W01-MS-1 10526.3 DF 05-07-15_5/10
AZ16062-W01-MS-1 1052.6 DF 05-07-15
TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS_50:50 0.005µg/ml 05-10-15

080

LC/MS STANDARD PREP LOG# 105 PAGES 80

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT / LOT #	DATE / INITIALS
NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED: JB 06-02-15							JB 06-02-15
AZ16062_W01_MS-1	105263.2	DF 05-07-15	5/10				JB
AZ16062_W01_MS-1	10526.3	DF 05-07-15	5/10				05-10
TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50150 0.005 µg/mL 05-10-15							
AZ16062_W01_MS-1	1052631.6	DF 05-07-15	5/10				
AZ16062_W01_MS-1	105263.2	DF 05-07-15	5/10				
TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005 µg/mL 05-10-15							
AZ16062_W01_MS-1	10526315.8	DF 05-07-15	5/10				
AZ16062_W01_MS-1	1052631.6	DF 05-07-15	5/10				
TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005 µg/mL 05-10-15							
AZ16062_W01_MSD-1	10526.3	DF 05-07-15	5/10				
AZ16062_W01_MSD-1	1052.6	DF 05-07-15					
TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005 µg/mL 05-10-15							
AZ16062_W01_MSD-1	105263.2	DF 05-07-15	5/10				
AZ16062_W01_MSD-1	10526.3	DF 05-07-15	5/10				
TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005 µg/mL 05-10-15							

LCMS STANDARD PREP LOG# 105 PAGE 81

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CNC	SOL'N. LOT# 081	INITIALS

NOTE: THE FOLLOWING DOCUMENTATION JH
WAS PERFORMED AS DATED: JH 06.02.15 06.02.15

15

AZ16062-W01_MSD-1 1052631.6 DF 05.07.15_5/10 JH

BR AZ16062-W01_MSD-1 105263.2 DF 05.07.15_5/10 05.10.15

10.15 TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005 µg/mL 05.10.15

AZ16062-W01_MSD-1 10526315.8 DF 05-07-15_5/10
AZ16062-W01_MSD-1 1052631.6 DF
05.07.15_5/10 TOOK 0.050 mL AND ADDED
TO 0.450 mL PER_IS_50:50 0.005 µg/mL
05-10-15

AZ16058_W01 10526.3 DF 05-07-15_5/10:
AZ16058-W01 1052.6 DF 05.07.15_5/10
TOOK 0.050 mL AND ADDED TO 0.450
mL PER_IS_50:50 0.005 µg/mL 05.10.15

AZ16058-W01 105263.2 DF 05.07.15_5/10:
AZ16058_W01 10526.3 DF 05-07-15_5/10
TOOK 0.050 mL AND ADDED TO 0.450
mL PER_IS_50:50 0.005 µg/mL 05.10.15

AZ16058_W01 1052631.6 DF 05-07-15_5/10:
AZ16058-W01 105263.2 DF 05.07.15_5/10
TOOK 0.050 mL AND ADDED TO
0.450 mL PER_IS_50:50 0.005 µg/mL 05-10-15

LC/MS STANDARD PREP LOG# 105 PAGE 82

082

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CNC	SOL'N. LOT #	DATE INITIAL

NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED JH 05-02-15 JH 05-02-15

AZ16060_W01 10526.3 DF 05-07-15_5/10: JH
AZ16060_W01 1052.6 DF 05-07-15 05-10-15
TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005µg/mL 05-10-15

5/11 JH
AZ16055_W01 10526.3 DF 05-07-15_5/10: JH
AZ16055_W01 1052.6 DF 05-07-15 05-11-15
TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005µg/mL 05-10-15

5/11 JH
AZ16055_W01 105263.2 DF 05-07-15_~~5/10~~:
AZ16055_W01 10526.3 DF 05-07-15_5/10
TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005µg/mL 05-10-15

5/11 JH
AZ16055_W01 1052631.6 DF 05-07-15_~~5/10~~
AZ16055_W01 105263.2 DF 05-07-15_5/10
TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005µg/mL 05-10-15

JH 5/11
AZ16056_W01 10526.3 DF 05-07-15_~~5/10~~:
AZ16056_W01 1052.6 DF 05-07-15
TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005µg/mL 05-10-15

LCMS STANDARD PREP LOG# 105 PAGE 83

083

	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N. LOT #	DATE INITIAL

NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED JH 06-02-15 06-02-15 JH

AZ16056-WO1 105263.2 DF 05-07-15 ~~5/10~~ 5/11: JH
AZ16056-WO1 10526.3 DF 05-07-15 ~~5/10~~ 5/11 05-11-15
TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS_50:50 0.005 µg/ml 05-10-15

AZ16056-WO1 1052631.6 DF 05-07-15 ~~5/10~~ 5/11:
AZ16056-WO1 105263.2 DF 05-07-15 ~~5/10~~ 5/11
TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS_50:50 0.005 µg/ml 05-10-15

AZ16136-WO1 H210.4 DF 05-08-15 5/11:
AZ16136-WO1 1052.6 DF 05-08-15
TOOK 0.050 ml AND ADDED TO 0.150 ml PER_IS_50150 0.005 µg/ml 05-10-15

AZ16237-WO1 ~~1052.6~~ 10526.3 JH DF 05-12-15 5/13: JH
AZ16237-WO1 1052.6 DF 05-12-15 05-13-15
TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS_50:50 0.005 µg/ml 05-10-15

AZ16237-WO1 105263.2 DF 05-12-15 5/13
AZ16237-WO1 10526.3 DF 05-12-15 5/13
TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS_50:50 0.005 µg/ml 05-10-15

084

LC/MS STANDARD PREP LOG# 105 PAGE# 84

STANDARD	INITIAL CONC	SOURCE DATE	AMOUNT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE / INITIALS

NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED: JL 06-02-15 06-02-15

AZ16237_W01 10526316 DF 05-12-15_5-13 JL
AZ16237_W01 10526.3.2 DF 05-12-15_5/13 05-13-15
TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS_50:50 0.005 µg/ml
05-10-15

AZ16237_W01 10526315.8 DF 05-12-15_5/13
AZ16237_W01 10526316 DF 05-12-15_5/13
TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS_50:50 0.005 µg/ml
05-10-15

AZ16229_W01 10526.3 DF 05-12-15_5/13:
AZ16229_W01 10526 DF 05-12-15
TOOK 0.050 ml AND ADDED TO
~~0.05~~ JL 0.450 ml PER_IS_50:50
0.005 µg/ml 05-10-15

AZ16229_W01 10526.3.2 DF 05-12-15_5/13
AZ16229_W01 10526.3 DF 05-12-15_5/13
TOOK 0.050 ml AND ADDED TO
0.450 ml PER_IS_50:50 0.005 µg/ml
05-10-15

VOA/MS STANDARD PREP LOG# 105 PAGE 85

085

STANDARD ID	INITIAL CONC	SOURCE	DATE	ALIQUOT VOLUME	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE INITIAL'S
NOTE: THE FOLLOWING DOCUMENTATION								JH
WAS PERFORMED AS DATED: JH 06-02-15								06-02-15
AZ16229-W01	1052631.6	DF	05-12-15_5/13;					JH
AZ16229-W01	105263.2	DF	05-12-15_5/13					05-13-15
TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS-50:50	0.005	µg/ml	05-10-15					

086

LC/MS STANDARD PREP LOG# 105 PAGE# 86

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CNC	SOL'N LOT#	DATE & INITIALS

NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED: ~~BL~~ 06-09-15 06-08- 3L

AZ16230_W01 . 105263.2 DF 05-12-15_5/14 & BL
AZ16230_W01 10526.3 DF 05-12-15_5/14 05-14-
TOOK 0.050 ml AND ADDED TO
0.450 ml PER_IS_50:50 0.005µg/ml
05-14-15

AZ16230_W01 1052631.6 DF 05-12-15_5/14 &
AZ16230_W01 105263.2 DF 05-12-15_5/14
TOOK 0.050 ml AND ADDED TO
~~0.005 µg/ml~~ BL 0.450 ml PER_IS_50:50
0.005 µg/ml 05-14-15

AZ16230_W01 10526315.8 DF 05-12-15_5/14:
AZ16230_W01 1052631.6 DF 05-12-15 5/14
TOOK 0.050 ml AND ADDED TO
0.450 ml PER_IS_50:50 0.005µg/ml
05-14-15

AZ16236_W01 10526.3 DF 05-12-15_5/14:
AZ16236_W01 1052.6 DF 05-12-15 TOOK
0.050 ml AND ADDED TO 0.450
ml PER_IS_50:50 0.005µg/ml
05-14-15

AZ16236_W01 105263.2 DF 05-12-15_5/14:
AZ16236_W01 10526.3 DF 05-12-15_5/14
TOOK 0.050ML AND ADDED TO 0.450
ml PER

LCMS STANDARD PREP LOG# 105 PAGE 87

087

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT#	DATE INITIAL

NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED! JF 06.08.15 — JR 06.08.15

AZ16236_W01 ~~105233~~ 105263.1.6 DF — JR
05.12.15_5/14 — 05.14.15

AZ16236_W01 105263.2 DF 05.12.15_5/14
TOOK 0.050 ml AND ADDED TO
0.450 ml PERIS_50:50 0.005 µg/ml
05.14.15

AZ16228_W01 10526.3 DF 05.12.15_5/14:
AZ16228_W01 1052.6 DF 05-12-15 TOOK
0.050 ml AND ADDED TO 0.450 ml
PER_IS_50:50 0.005 µg/ml 05.14.15:

~~AZ16228_W01~~ JF
AZ16231_W01 10526.3 DF 05.12.15_5/14:
AZ16231_W01 1052.6 DF 05.12.15
TOOK 0.050 ml AND ADDED TO
0.450 ml PER_IS.50:50 0.005 µg/ml
05-14-15.

AZ16233_W01 10526.3 DF 05.12.15.5/14:
AZ16233_W01 10526 DF 05.12.15 TOOK
0.050 ml AND ADDED TO 0.450 ml
PER_IS_60:50 0.005 µg/ml 05.14.15.

AZ16233_W01 105263.2 DF 05.12.15_5/14:
AZ16233_W01 10526.3 DF 05.12.15_5/14
TOOK 0.050 ml AND ADDED TO 0.450 ml
PER_IS_50:50 0.005 µg/ml 05-14-15

088 LC/MS STANDARD PREP LOG# 105 PAGE 88

STANDARD	INITIAL CONC	SOURCE DATE	AMOUNT	FINAL VOLUME	FINAL CNC	ACL EN. LOT #	DATE/ INITIALS
NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED: JR 06-08-15							JR 06-08-15
AZ16231_W01 105263.2 DF 05-12-15_5/15: AZ16231-W01 10526.3 DF 05-12-15_5/14 TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS. 50:50 0.005 µg/mL 05-14-15							JR 05-15-15
AZ16231_W01 1052631.6 AF 05-12-15_5/15: AZ16231_W01 105263.2 DF 05-12-15_5/15 TOOK 0.050 mL AND ADDED TO 0.450 mL PER_IS_50:50 0.005 µg/mL 05-14-15							

_HPL6850

Organic Extraction Worksheet

Method	EPA 6850 HPLC Perchlorate Extraction	Extraction Set	150512A	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:	NA	
Spiked ID 7			Ext. Start Time:	05/12/15 12:30	
Spiked ID 8			Ext. End Time:	05/12/15 13:15	
			GC Requires Extract By:		

pH1			Water Bath Temp Criteria
pH2			
pH3			

Spiked By: CFM **Date** 05/12/15 12:28:00 PM **Witnessed By:** DL **Date** 05/12/15 12:28:00 PM

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	150512A Blk				NA	NA equip	5ML	5ML	NA	05/12/15 12:30	
2	150512A LCS-1		0.030	1	NA	NA equip	5ML	5ML	NA	05/12/15 12:30	
3	150512A ICS		0.030/0.060	1/2	NA	NA equip	5ML	5ML	NA	05/12/15 12:30	
4	AZ16200	AZ16200W01			NA	NA equip	5ML	5ML	NA	05/12/15 12:30	76390 - STD
5	AZ16226	AZ16226W01			NA	NA equip	5ML	5ML	NA	05/12/15 12:30	76398 - 24 HOUR RUSH
6	AZ16227	AZ16227W01			NA	NA equip	5ML	5ML	NA	05/12/15 12:30	76398 - 24 HOUR RUSH
7	AZ16228	AZ16228W01			NA	NA equip	5ML	5ML	NA	05/12/15 12:30	76398 - 24 HOUR RUSH
8	AZ16229	AZ16229W01			NA	NA equip	5ML	5ML	NA	05/12/15 12:30	76398 - 24 HOUR RUSH
9	AZ16230	AZ16230W01			NA	NA equip	5ML	5ML	NA	05/12/15 12:30	76398 - 24 HOUR RUSH
10	AZ16231	AZ16231W01			NA	NA equip	5ML	5ML	NA	05/12/15 12:30	76398 - 24 HOUR RUSH
11	AZ16232	AZ16232W01			NA	NA equip	5ML	5ML	NA	05/12/15 12:30	76398 - 24 HOUR RUSH
12	AZ16233	AZ16233W01			NA	NA equip	5ML	5ML	NA	05/12/15 12:30	76398 - 24 HOUR RUSH
13	AZ16234	AZ16234W01			NA	NA equip	5ML	5ML	NA	05/12/15 12:30	76398 - 24 HOUR RUSH
14	AZ16235	AZ16235W04			NA	NA equip	5ML	5ML	NA	05/12/15 12:30	76401 - STD
15	AZ16236	AZ16236W04			NA	NA equip	5ML	5ML	NA	05/12/15 12:30	76401 - STD
16	AZ16237	AZ16237W01			NA	NA equip	5ML	5ML	NA	05/12/15 12:30	76398 - 24 HOUR RUSH

Ivent and Lot#	
llipore Water	5-12-15

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	PM
Date	5/12/15
Time	1:30
Refrigerator	NA

	Technician's Initials
Scanned By	CFM
Sample Preparation	CFM
Extraction	CFM
Concentration	----------

Modified	05/12/15 1:17:50 PM

Reviewed By: PM **Date** 5/12/15

Organic Extraction Worksheet

Method	EPA 6850 HPLC Perchlorate Extraction	Extraction Set	150518A	Extraction Method	HPLC6850GROS	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:	NA	
Spiked ID 7			Ext. Start Time:	05/18/15 12:00	
Spiked ID 8			Ext. End Time:	05/18/15 13:48	
			GC Requires Extract By:		

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: CFM **Date** 05/18/15 11:52:00 AM **Witnessed By:** DL **Date** 05/18/15 11:52:00 AM

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	150518A Blk				NA	NA equip	1.02g	10ML	NA	05/18/15 12:00	
2	150518A LCS-1		0.060	1	NA	NA equip	1.01g	10ML	NA	05/18/15 12:00	
3	150518A ICS		0.060/0.120	1/2	NA	NA equip	1.05g	10ML	NA	05/18/15 12:00	
4	AZ16137 MS-1	AZ16137S01	0.060		NA	NA equip	1.18g	10ML	NA	05/18/15 12:00	76380
5	AZ16137 MSD-1	AZ16137S01	0.060		NA	NA equip	1.17g	10ML	NA	05/18/15 12:00	76380
6	AZ16137	AZ16137S01			NA	NA equip	1.15g	10ML	NA	05/18/15 12:00	76380
7	AZ16138	AZ16138S01			NA	NA equip	1.16g	10ML	NA	05/18/15 12:00	76380
8	AZ16139	AZ16139S01			NA	NA equip	1.22g	10ML	NA	05/18/15 12:00	76380
9	AZ16140	AZ16140S01			NA	NA equip	1.15g	10ML	NA	05/18/15 12:00	76380
10	AZ16141	AZ16141S01			NA	NA equip	1.37g	10ML	NA	05/18/15 12:00	76380
11	AZ16198	AZ16198S01			NA	NA equip	1.22g	10ML	NA	05/18/15 12:00	76390
12	AZ16199	AZ16199S01			NA	NA equip	1.26g	10ML	NA	05/18/15 12:00	76390
13	AZ16201	AZ16201S01			NA	NA equip	1.25g	10ML	NA	05/18/15 12:00	76390
14	AZ16202	AZ16202S01			NA	NA equip	1.24g	10ML	NA	05/18/15 12:00	76390
15	AZ16400	AZ16400S01			NA	NA equip	1.33g	10ML	NA	05/18/15 12:00	76447
16	AZ16401	AZ16401S01			NA	NA equip	1.30g	10ML	NA	05/18/15 12:00	76447

lvent and Lot#	
WATER	5-18-15
ND	3223C517

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	PM
Date	5/18/15
Time	13:00
Refrigerator	NA

	Technician's Initials
Scanned By	CFM
Sample Preparation	CFM
Extraction	CFM
Concentration	----------

Modified	05/18/15 12:07:37 PM

Reviewed By: PM **Date** 5/18/15

18/15 1:49:44 PM

Ext_ID 362 47806

_HPLC6850G

Organic Extraction Worksheet

Method	EPA 6850 HPLC Perchlorate Extraction	Extraction Set	150518A	Extraction Method	HPLC6850GROS	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:	NA	
Spiked ID 7			Ext. Start Time:	05/18/15 12:00	
Spiked ID 8			Ext. End Time:	05/18/15 13:48	
			GC Requires Extract By:		

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: CFM **Date** 05/18/15 11:52:00 AM **Witnessed By:** DL **Date** 05/18/15 11:52:00 AM

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	AZ16402	AZ16402S01			NA	NA	1.33g	10ML	NA	05/18/15 12:00	76447
						equip					

PM 5/18/15

ent and Lot#	
/ATER	5-18-15
D	3223C517

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	PM
Date	5/18/15
Time	13:00
Refrigerator	NA

	Technician's Initials
Scanned By	CFM
Sample Preparation	CFM
Extraction	CFM
Concentration	----------

Modified	05/18/15 12:07:37 PM

Reviewed By: PM **Date** 5/18/15

/15 1:49:44 PM

Ext_ID 47808

METHOD 6850 INJECTION LOG: 03/12/15, 05/12/15, 05/23/15

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 05/07/15	T512_002.d	05/12/15 7:51
PER_CCV 0.002 ug/ml 05/07/15	T512_003.d	05/12/15 8:10
PER_CCV 0.0004 ug/ml 05/07/15	T512_024.d	05/12/15 14:41
PER_CCV 0.002 ug/ml 05/07/15	T512_025.d	05/12/15 14:59
150512WA_LCS-1 1052.6 DF 05/12/15	T512_027.d	05/12/15 15:37
150512W_ICSA 1052.6 DF 05/12/15	T512_028.d	05/12/15 15:57
150512WBLKA 1052.6 DF 05/12/15	T512_029.d	05/12/15 16:17
AZ16200_W01 1052.6 DF 05/12/15	T512_030.d	05/12/15 16:44
PER_CCV 0.0004 ug/ml 05/07/15	T512_036.d	05/12/15 18:36
PER_CCV 0.002 ug/ml 05/07/15	T512_037.d	05/12/15 18:54
PER_CCV 0.0004 ug/ml 05/07/15	T523_002.d	05/23/15 15:38
PER_CCV 0.002 ug/ml 05/07/15	T523_003.d	05/23/15 15:57
PER_CCV 0.0004 ug/ml 05/07/15	T523_044.d	05/24/15 4:55
PER_CCV 0.002 ug/ml 05/07/15	T523_045.d	05/24/15 5:13
150518SA_LCS-1 10422.1 DF 05/18/15	T523_047.d	05/24/15 5:50
150518S_ICSA 10025.1 DF 05/18/15	T523_048.d	05/24/15 6:09
150518SBLKA 10319.9 DF 05/18/15	T523_049.d	05/24/15 6:28
PER_CCV 0.0004 ug/ml 05/07/15	T523_057.d	05/24/15 8:57
PER_CCV 0.002 ug/ml 05/07/15	T523_058.d	05/24/15 9:15
AZ16198_S01 8628.1 DF 05/18/15	T523_061.d	05/24/15 10:11
AZ16199_S01 8354.2 DF 05/18/15	T523_062.d	05/24/15 10:30
AZ16201_S01 8421.1 DF 05/18/15	T523_063.d	05/24/15 10:48
AZ16202_S01 8489.0 DF 05/18/15	T523_064.d	05/24/15 11:07
PER_CCV 0.0004 ug/ml 05/07/15	T523_069.d	05/24/15 13:00
PER_CCV 0.002 ug/ml 05/07/15	T523_070.d	05/24/15 13:18

EXPLOSIVES
EPA METHOD 8330

APPL, INC.

EPA 8330
EXPLOSIVES

QC Summary

APPL, INC.

Method Blank
EPA 8330B SOIL

Blank Name/QCG: **150520S-16137 - 197310**
Batch ID: #83BJU-150520A

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	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
BLANK	2,6-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
BLANK	HMX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
BLANK	NITROGLYCERIN	0.200 U	0.50	0.200	0.085	mg/kg	05/20/15	05/23/15
BLANK	RDX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
BLANK	TETRYL	0.200 U	0.50	0.200	0.091	mg/kg	05/20/15	05/23/15
BLANK	SURROGATE: 1,2-DINITROBENZ	95.0	70-130			%	05/20/15	05/23/15

Quant Method: W150522.M
Run #: 0522_000051
Instrument: Waldorf
Sequence: 150522
Initials: MP

GC SC-Blank-REG MDLs
Printed: 05/26/15 10:56:24 AM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 05/23/15

Matrix: SOIL Instrument: Waldorf

APPL ID.	Client Sample No.	SURROGATE: 1,2-DINITROBENZENE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
150520A-LCS	Lab Control Spike	70-130	91.5				
150520A-BLK	Blank	70-130	95.0				
AZ16198	S67-SS036-0001	70-130	93.8				
AZ16199	S67-SB036-0405	70-130	94.6				
AZ16201	S67-SS037-0001	70-130	94.9				
AZ16202	S67-SB037-0607	70-130	95.1				

Comments: Batch: #83BJU-150520A

Laboratory Control Spike Recovery
EPA 8330B SOIL

APPL ID: **150520S-16137 LCS - 197310**
Batch ID: #83BJU-150520A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
2,4-DINITROTOLUENE	1.99	1.83	92.0	80-125
2,6-DINITROTOLUENE	1.99	1.84	92.5	80-120
HMX	1.99	1.90	95.5	75-125
NITROGLYCERIN	1.99	1.83	92.0	68-131
RDX	1.99	1.83	92.0	70-135
TETRYL	1.99	1.97	99.0	10-150
SURROGATE: 1,2-DINITROBENZENE (S	1.99	1.82	91.5	70-130

Comments: _____

Primary	SPK
Quant Method :	W150522.M
Extraction Date :	05/20/15
Analysis Date :	05/23/15
Instrument :	Waldorf
Run :	0522_000048
Initials :	MP

Printed: 05/26/15 10:56:27 AM
APPL Standard LCS

EPA 8330B

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 05/23/15

Matrix: SOIL Instrument: Waldorf

Blank ID: 150520A-BLK Time Analyzed: 1225

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150520A-LCS	Lab Control Spike	0522_000048	05/23/15 1033
150520A-BLK	Blank	0522_000051	05/23/15 1225
AZ16198	S67-SS036-0001	0522_000057	05/23/15 1610
AZ16199	S67-SB036-0405	0522_000058	05/23/15 1648
AZ16201	S67-SS037-0001	0522_000060	05/23/15 1753
AZ16202	S67-SB037-0607	0522_000061	05/23/15 1831

Comments: Batch: #83BJU-150520A

Printed: 05/26/15 10:56:32 AM

Form 4, Blank Summary

EPA 8330
EXPLOSIVES

Sample Data

APPL, INC.

EPA 8330B SOIL

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: 76390

Sample ID: S67-SS036-0001

APPL ID: AZ16198

Sample Collection Date: 05/08/15

QCG: #83BJU-150520A-197310

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8330B	2,4-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
EPA 8330B	2,6-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
EPA 8330B	HMX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
EPA 8330B	NITROGLYCERIN	0.200 U	0.50	0.200	0.085	mg/kg	05/20/15	05/23/15
EPA 8330B	RDX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
EPA 8330B	TETRYL	0.200 U	0.50	0.200	0.091	mg/kg	05/20/15	05/23/15
EPA 8330B	SURROGATE: 1,2-DINITROBENZENE (	93.8	70-130			%	05/20/15	05/23/15

Quant Method: W150522.M
Run #: 0522_000057
Instrument: Waldorf
Sequence: 150522
Dilution Factor: 1
Initials: MP

Printed: 05/26/15 10:56:24 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000057.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 16:10:51
Operator : MP
Sample : AZ16198S01 7.984 DF 05/20/15
Misc : Soil
ALS Vial : 4288 Sample Multiplier: 7.98403

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 26 07:37:54 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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	3.534	0	910054	N.D.	561.516 #
	Spiked Amount 598.802			Recovery =		0.00%	93.77%
	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	0.000	0	0	N.D. d2DL	N.D.
9)	TM TETRYL	6.391	0.000	3078	0	NoCal	N.D.
10)	TM 2,4,6-TRI...	6.866	0.000	4894	0	NoCal	N.D.
11)	TM 2-AMINO-4...	7.089	0.000	9552	0	NoCal	N.D.
12)	TM 4-AMINO-2...	7.470	0.000	13441	0	NoCal	N.D.
13)	TM 2,4-DINIT...	8.583	0.000	12270	0	NoCal	N.D.
14)	TM 2,6-DINIT...	8.941	0.000	12326	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	0.000	0.000	0	0	N.D.	N.D.

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

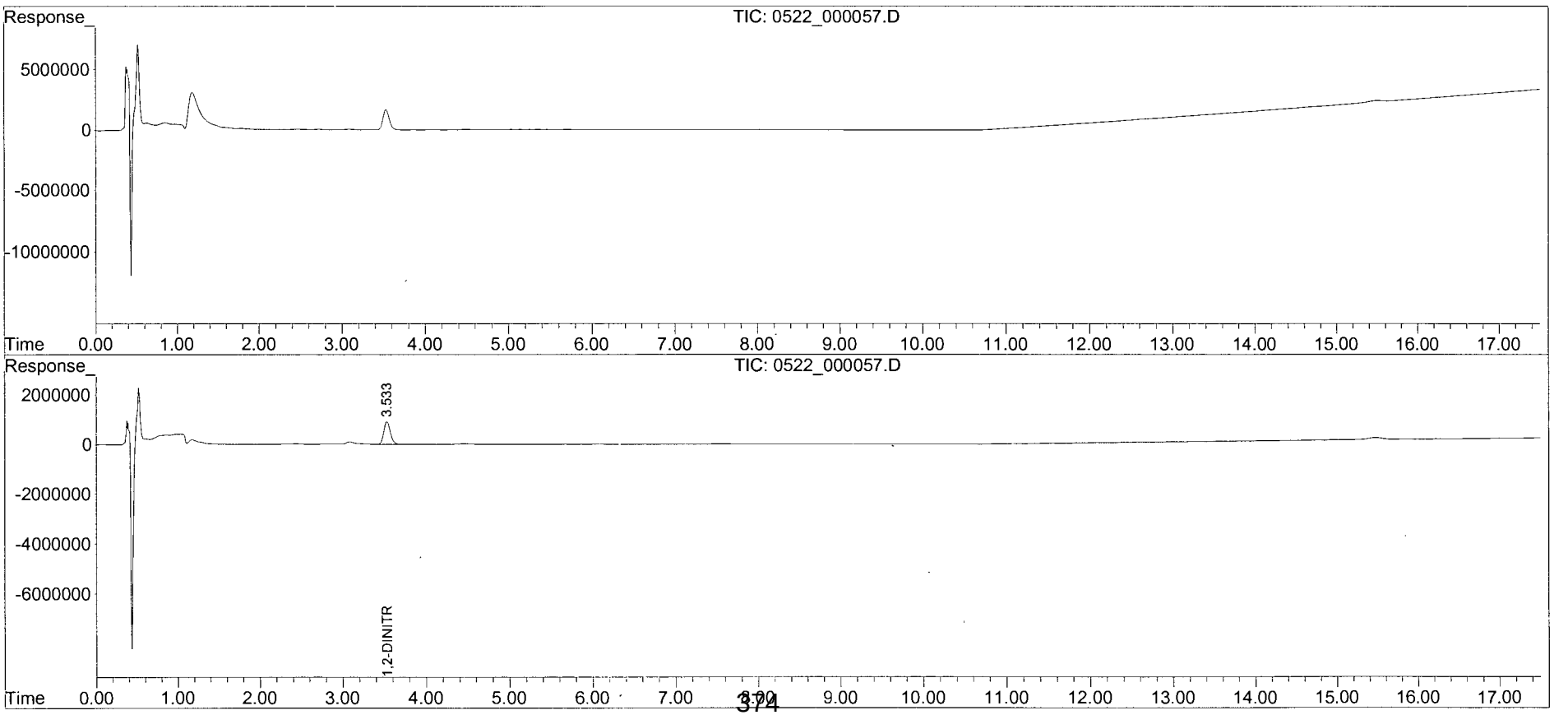
MP
05-26-15

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000057.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 16:10:51
Operator : MP
Sample : AZ16198S01 7.984 DF 05/20/15
Misc : Soil
ALS Vial : 4288 Sample Multiplier: 7.98403

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 26 07:37:54 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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 SOIL

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-SB036-0405
Sample Collection Date: 05/08/15

ARF: 76390
APPL ID: AZ16199
QCG: #83BJU-150520A-197310

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8330B	2,4-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
EPA 8330B	2,6-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
EPA 8330B	HMX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
EPA 8330B	NITROGLYCERIN	0.200 U	0.50	0.200	0.085	mg/kg	05/20/15	05/23/15
EPA 8330B	RDX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
EPA 8330B	TETRYL	0.200 U	0.50	0.200	0.091	mg/kg	05/20/15	05/23/15
EPA 8330B	SURROGATE: 1,2-DINITROBENZENE (	94.6	70-130			%	05/20/15	05/23/15

Quant Method: W150522.M
Run #: 0522_000058
Instrument: Waldorf
Sequence: 150522
Dilution Factor: 1
Initials: MP

Printed: 05/26/15 10:56:25 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000058.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 16:48:21
Operator : MP
Sample : AZ16199S01 7.952 DF 05/20/15
Misc : Soil
ALS Vial : 4289 Sample Multiplier: 7.95229

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 26 07:38:50 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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	3.537	0	918182	N.D.	564.279 #
	Spiked Amount 596.421			Recovery	=	0.00%	94.61%
	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	0.000	0	0	N.D. d	20L N.D.
9)	TM TETRYL	6.359	0.000	3686	0	NoCal	N.D.
10)	TM 2,4,6-TRI...	6.897	0.000	1631	0	NoCal	N.D.
11)	TM 2-AMINO-4...	7.073	0.000	3629	0	NoCal	N.D.
12)	TM 4-AMINO-2...	7.388	0.000	56554	0	NoCal	NT N.D. d
13)	TM 2,4-DINIT...	8.567	0.000	8731	0	NoCal	N.D.
14)	TM 2,6-DINIT...	8.986	0.000	2247	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	0.000	0.000	0	0	N.D.	N.D.

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

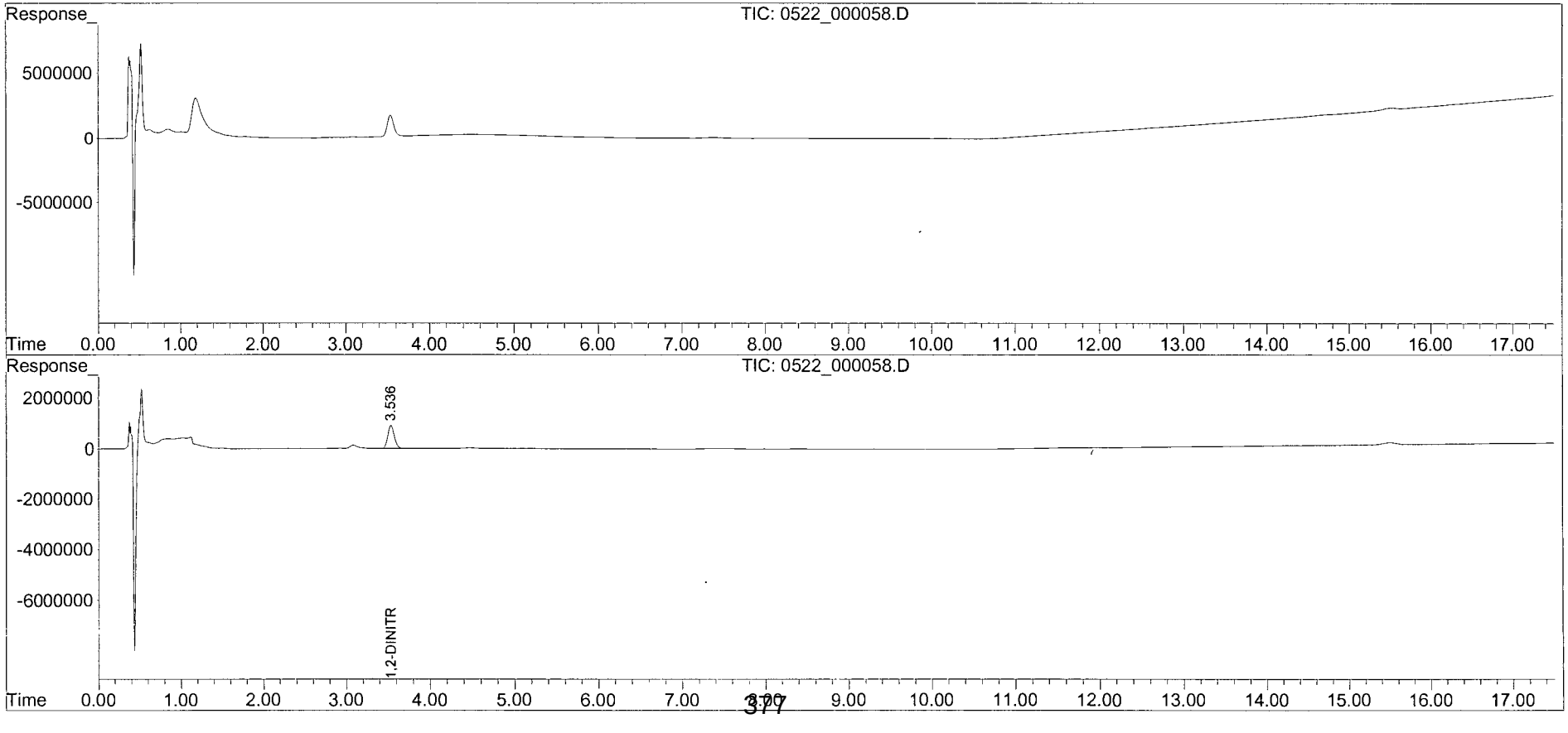
MP
05-26-15

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000058.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 16:48:21
Operator : MP
Sample : AZ16199S01 7.952 DF 05/20/15
Misc : Soil
ALS Vial : 4289 Sample Multiplier: 7.95229

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 26 07:38:50 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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 SOIL

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-SS037-0001
Sample Collection Date: 05/08/15

ARF: 76390
APPL ID: AZ16201
QCG: #83BJU-150520A-197310

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8330B	2,4-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
EPA 8330B	2,6-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
EPA 8330B	HMX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
EPA 8330B	NITROGLYCERIN	0.200 U	0.50	0.200	0.085	mg/kg	05/20/15	05/23/15
EPA 8330B	RDX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
EPA 8330B	TETRYL	0.200 U	0.50	0.200	0.091	mg/kg	05/20/15	05/23/15
EPA 8330B	SURROGATE: 1,2-DINITROBENZENE (	94.9	70-130			%	05/20/15	05/23/15

Quant Method: W150522.M
Run #: 0522_000060
Instrument: Waldorf
Sequence: 150522
Dilution Factor: 1
Initials: MP

Printed: 05/26/15 10:56:25 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000060.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 17:53:28
Operator : MP
Sample : AZ16201S01 7.968 DF 05/20/15
Misc : Soil
ALS Vial : 4290 Sample Multiplier: 7.96813

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 26 07:40:16 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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	3.539	0	920668	N.D.	566.934 #
	Spiked Amount 597.610			Recovery	=	0.00%	94.87%
	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	0.000	0	0	N.D. d<DL	N.D.
9)	TM TETRYL	6.422	0.000	2816	0	NoCal	N.D.
10)	TM 2,4,6-TRI...	6.857	0.000	3784	0	NoCal	N.D.
11)	TM 2-AMINO-4...	7.121	0.000	3390	0	NoCal	N.D.
12)	TM 4-AMINO-2...	7.473	0.000	15974	0	NoCal	N.D.
13)	TM 2,4-DINIT...	8.610	0.000	2542	0	NoCal	N.D.
14)	TM 2,6-DINIT...	8.946	0.000	6750	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	0.000	0.000	0	0	N.D.	N.D.

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

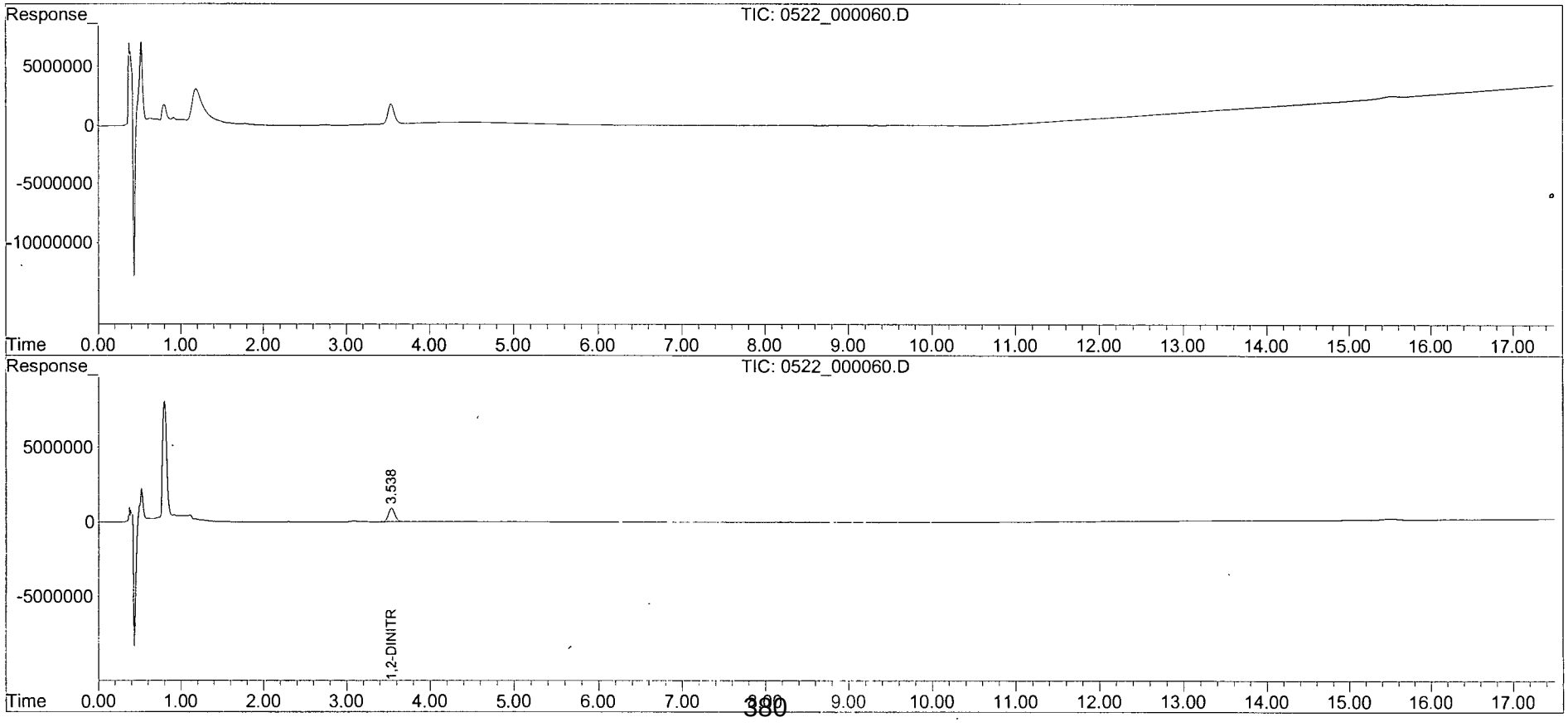
MP
05-26-15

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000060.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 17:53:28
Operator : MP
Sample : AZ16201S01 7.968 DF 05/20/15
Misc : Soil
ALS Vial : 4290 Sample Multiplier: 7.96813

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 26 07:40:16 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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 SOIL

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-SB037-0607
Sample Collection Date: 05/08/15

ARF: 76390
APPL ID: AZ16202
QCG: #83BJU-150520A-197310

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8330B	2,4-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
EPA 8330B	2,6-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
EPA 8330B	HMX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
EPA 8330B	NITROGLYCERIN	0.200 U	0.50	0.200	0.085	mg/kg	05/20/15	05/23/15
EPA 8330B	RDX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
EPA 8330B	TETRYL	0.200 U	0.50	0.200	0.091	mg/kg	05/20/15	05/23/15
EPA 8330B	SURROGATE: 1,2-DINITROBENZENE (	95.1	70-130			%	05/20/15	05/23/15

Quant Method: W150522.M
Run #: 0522_000061
Instrument: Waldorf
Sequence: 150522
Dilution Factor: 1
Initials: MP

Printed: 05/26/15 10:56:25 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000061.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 18:31:03
Operator : MP
Sample : AZ16202S01 7.976 DF 05/20/15
Misc : Soil
ALS Vial : 4291 Sample Multiplier: 7.97607

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 26 07:41:45 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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	3.534	0	923198	N.D.	569.058 #
	Spiked Amount 598.205			Recovery	=	0.00%	95.13%
	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	0.000	0	0	N.D. d	LOL N.D.
9)	TM TETRYL	6.409	0.000	2648	0	NoCal	N.D.
10)	TM 2,4,6-TRI...	6.901	0.000	7264	0	NoCal	N.D.
11)	TM 2-AMINO-4...	7.034	0.000	5360	0	NoCal	N.D.
12)	TM 4-AMINO-2...	7.375	0.000	48903	0	NoCal	NT N.D. d
13)	TM 2,4-DINIT...	8.577	0.000	3618	0	NoCal	N.D.
14)	TM 2,6-DINIT...	8.966	0.000	1591	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.	NT 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.

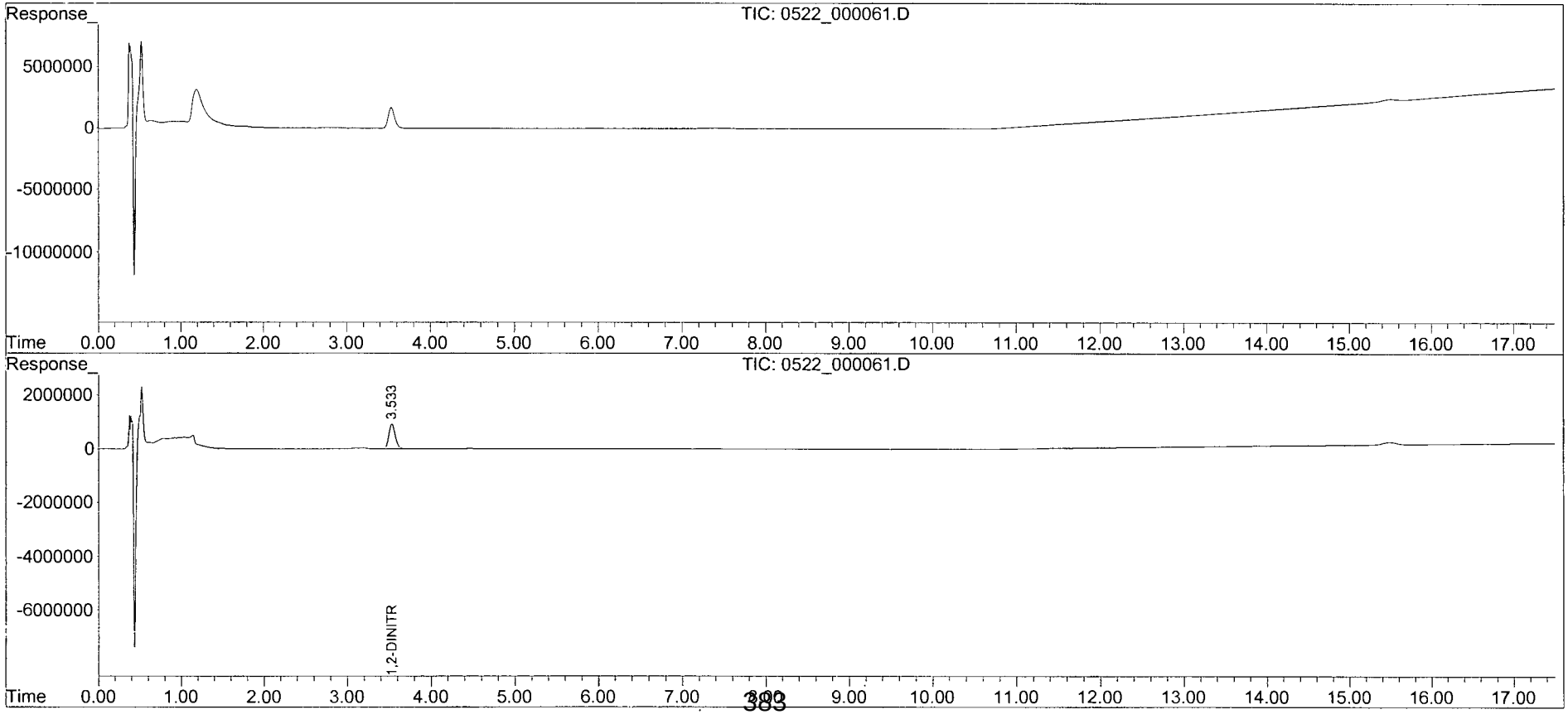
MP
05-26-15

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000061.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 18:31:03
Operator : MP
Sample : AZ16202S01 7.976 DF 05/20/15
Misc : Soil
ALS Vial : 4291 Sample Multiplier: 7.97607

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 26 07:41:45 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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: 76390
Case No: Initial Cal. Date: 05/22/15
Matrix: Instrument: Waldorf
Initials: MP

			0522_000014.D	0522_000015.D	0522_000016.D	0522_000017.D	0522_000018.D	0522_000019.D	0522_000020.D	0522_000021.D	0522_000023.D				
		Compound	1	2	3	4	5	6	7	8	9		Avg	%RSD	
####	TM	NITROGLYCERIN	137	120	138	132	133	133	130	129	131		131.4	3.9	TM
####	TM	PETN			81.5	95.0	103	108	107	107	109		101.4	10	TM
####		Signal #2													
####	TM	HMX #2	584	694	666	640	652	676	655	639	639		649.5	4.7	TM
####	TM	RDX #2	425	422	426	427	424	428	428	424	429		425.8	0.52	TM
####	TM	1,3,5-TRINITROBENZENE #2	773	767	777	772	769	778	777	772	780		773.7	0.58	TM
####	S	1,2-DINITROBENZENE #2	303	319	328	325	323	326	327	327	334		323.5	2.6	S
####	TM	1,3-DINITROBENZENE #2	716	721	729	728	723	731	733	732	746		728.7	1.2	TM
####	TM	3,5-DINITROANILINE #2	548	552	557	555	552	558	559	559	562		555.8	0.77	TM
####	TM	NITROBENZENE #2	334	333	331	333	330	334	334	334	340		333.8	0.84	TM
####	TM	TETRYL #2	230	229	224	228	226	228	230	228	237		228.9	1.6	TM
####	TM	2,4,6-TRINITROTOLUENE #2	316	312	312	311	309	313	313	312	318		312.8	0.88	TM
####	TM	2-AMINO-4,6-DINITROTOLUENE	287	278	279	280	277	281	281	280	286		281.1	1.2	TM
####	TM	4-AMINO-2,6-DINITROTOLUENE	208	199	202	202	200	202	202	201	205		202.4	1.3	TM
####	TM	2,4-DINITROTOLUENE #2	285	291	296	295	293	297	297	298	304		295.2	1.7	TM
####	TM	2,6-DINITROTOLUENE #2	161	158	164	164	161	163	163	163	166		162.6	1.4	TM
####	TM	2-NITROTOLUENE #2	119	114	110	110	110	111	111	110	113		112.1	2.6	TM
####	TM	4-NITROTOLUENE #2	113	110	110	110	109	111	111	111	113		110.9	1.1	TM
####	TM	3-NITROTOLUENE #2	125	135	132	132	131	133	134	134	136		132.4	2.5	TM
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Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000014.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 16:07:53
Operator : MP
Sample : 8330CB 0.005 PPM 05/22/15
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: May 23 08:56:46 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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	3.531	0	60695	N.D.	4.454 #
	Spiked Amount 62.500			Recovery	=	0.00%	7.13%
	Target Compounds						
1)	TM HMX	0.000	0.908	0	116863	N.D.	4.440m#
2)	TM RDX	0.000	1.722	0	84918	N.D.	4.849 #
3)	TM 1,3,5-TRI...	0.000	2.812	0	154593	N.D.	4.887 #
5)	TM 1,3-DINIT...	0.000	3.704	0	143190	N.D.	4.738 #
6)	TM 3,5-DINIT...	0.000	3.912	0	109681	N.D.	4.555 #
7)	TM NITROBENZENE	0.000	5.027	0	66852	N.D.	4.834 #
8)	TM NITROGLYC...	6.023	0.000	27427	0	4.921	N.D. #
9)	TM TETRYL	6.381	6.373	88335	45934	NoCal	4.382 #
10)	TM 2,4,6-TRI...	6.857	6.877	74624	63205	NoCal	4.842 #
11)	TM 2-AMINO-4...	7.080	7.070	88869	57386	NoCal	4.625 #
12)	TM 4-AMINO-2...	7.420	7.415	81261	41596	NoCal	4.574 #
13)	TM 2,4-DINIT...	8.527	8.554	58052	57084	NoCal	4.506 #
14)	TM 2,6-DINIT...	8.925	8.908	51464	32183	NoCal	4.563 #
15)	TM 2-NITROTO...	0.000	12.272	0	23750	N.D.	4.800 #
16)	TM 4-NITROTO...	0.000	12.869	0	22503	N.D.	4.548 #
17)	TM 3-NITROTO...	0.000	13.759	0	24956	N.D.	4.244 #
18)	TM PETN	0.000	0.000	0	0	N.D.	N.D.

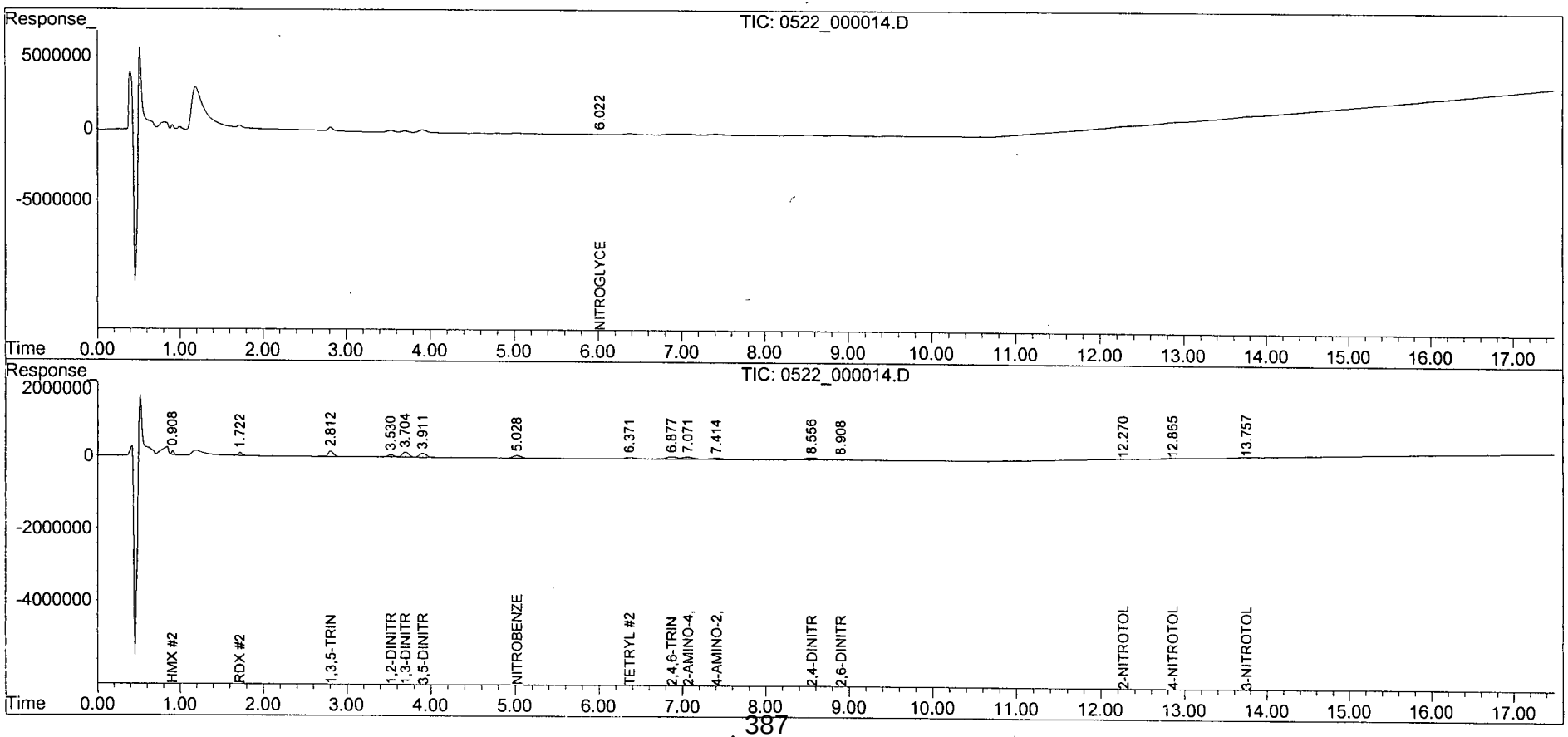
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000014.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 16:07:53
Operator : MP
Sample : 8330CB 0.005 PPM 05/22/15
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: May 23 08:56:46 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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



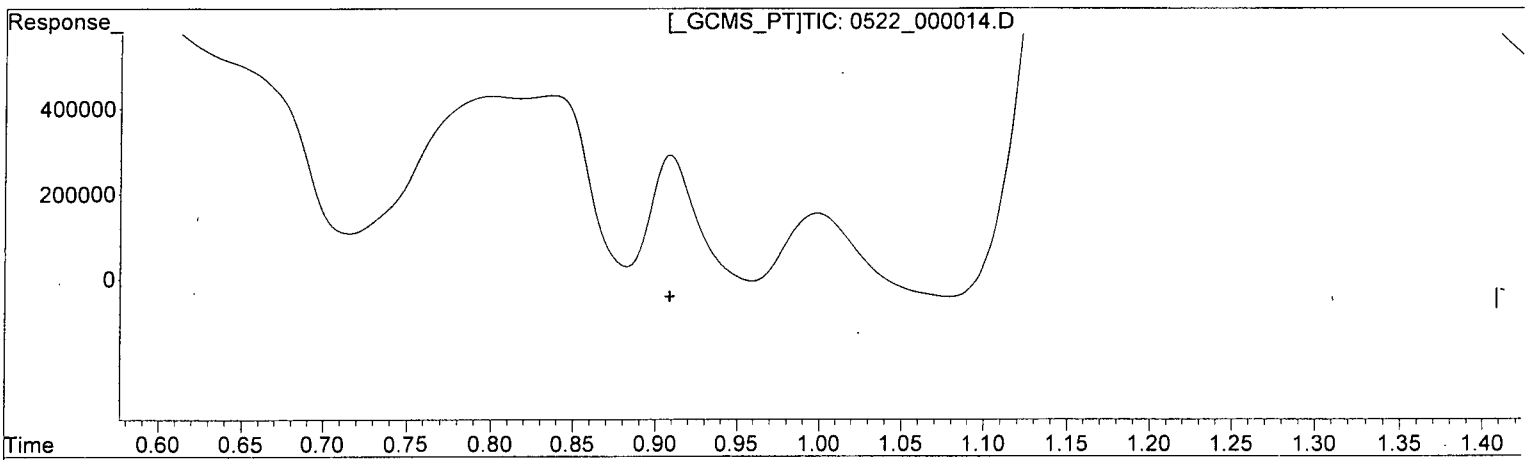
W150522.M Sat May 23 08:58:21 2015 WALDORF Page: 2

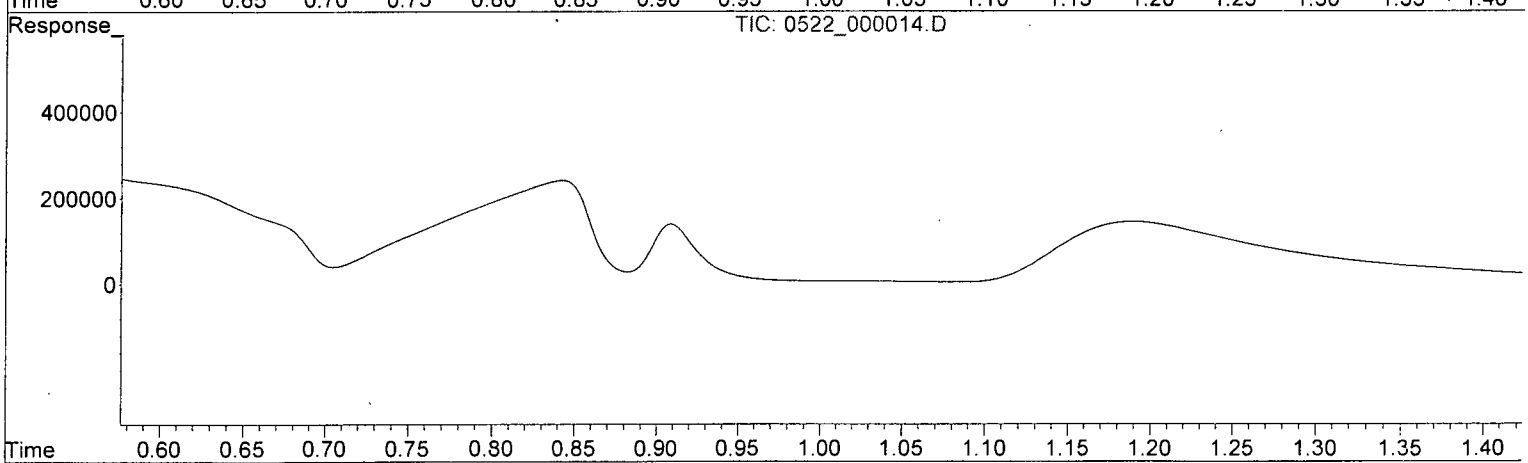
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000014.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 16:07:53
Operator : MP
Sample : 8330CB 0.005 PPM 05/22/15
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: May 23 08:46:16 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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)

0.000min 0.000 ppb

response 0

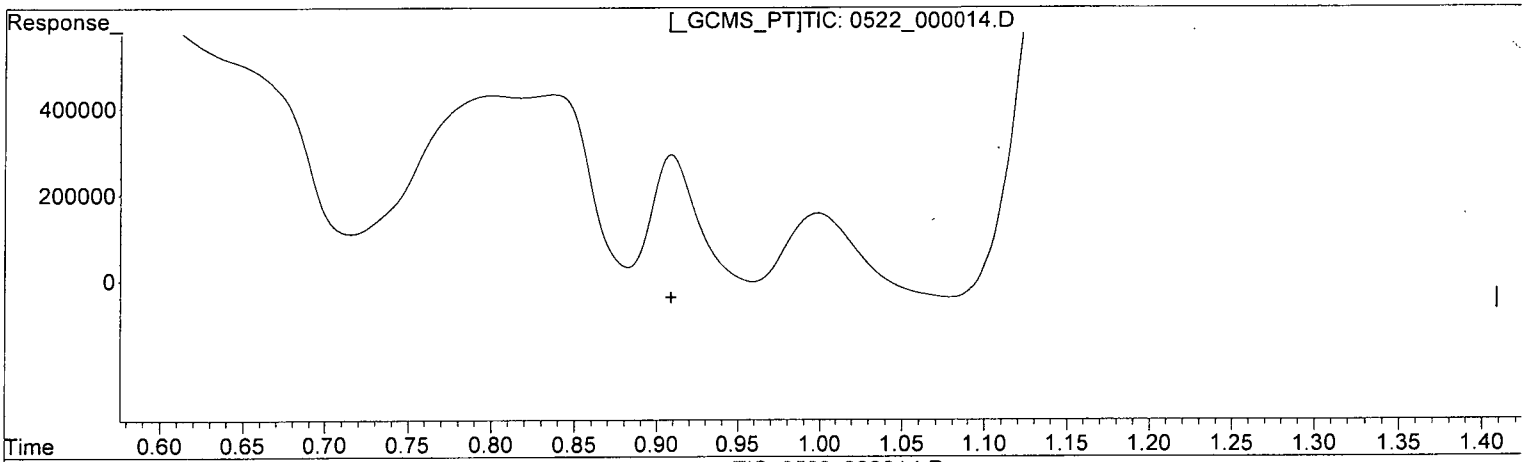
(+) = Expected Retention Time

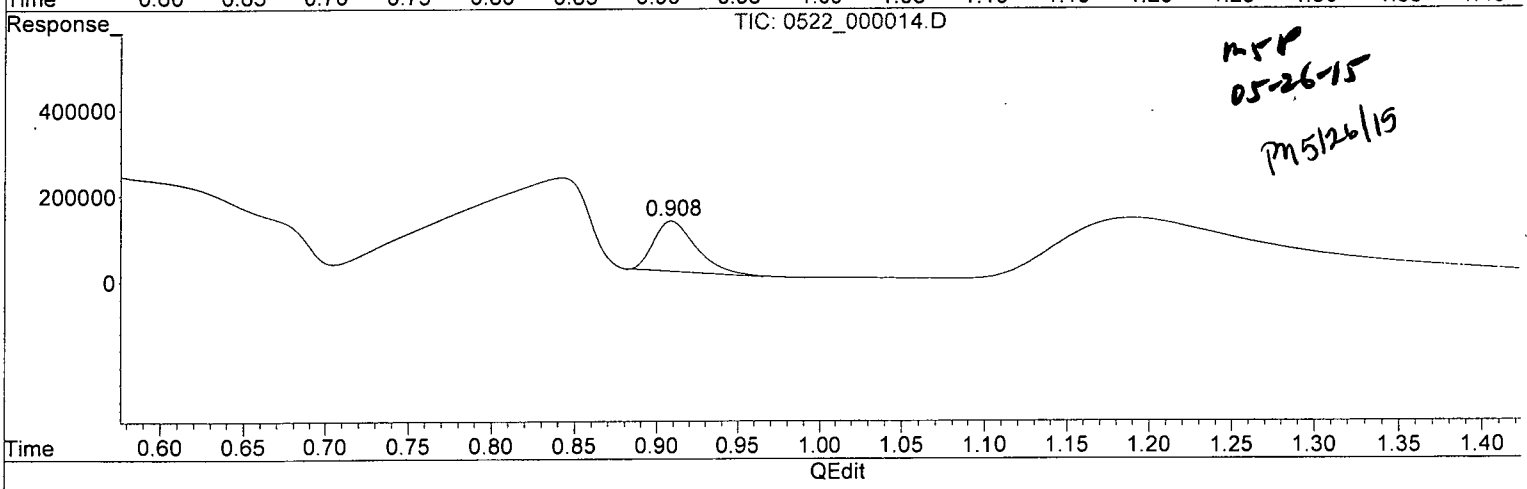
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000014.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 16:07:53
Operator : MP
Sample : 8330CB 0.005 PPM 05/22/15
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: May 23 08:46:16 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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





MRP 05-26-15
PM 5/26/15

(1) HMX (TM)

0.000min 0.000 ppb

response 0

(1) HMX #2 (TM)

0.908min 4.440 ppb m

response 116863

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000015.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 16:35:23
Operator : MP
Sample : 8330CB 0.010 PPM 05/22/15
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: May 23 08:55:40 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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	3.535	0	127701	N.D.	9.372 #
	Spiked Amount 62.500			Recovery	=	0.00%	15.00%
	Target Compounds						
1) TM	HMX	0.000	0.910	0	277521	N.D.	10.544m#
2) TM	RDX	0.000	1.724	0	168970	N.D.	9.648 #
3) TM	1,3,5-TRI...	0.000	2.815	0	306613	N.D.	9.693 #
5) TM	1,3-DINIT...	0.000	3.708	0	288212	N.D.	9.537 #
6) TM	3,5-DINIT...	0.000	3.916	0	220804	N.D.	9.170 #
7) TM	NITROBENZENE	0.000	5.032	0	133342	N.D.	9.642 #
8) TM	NITROGLYC...	6.053	0.000	48081	0	8.627m	N.D. #
9) TM	TETRYL	6.386	6.386	168423	91646	NoCal	8.744 #
10) TM	2,4,6-TRI...	6.883	6.880	174881	124840	NoCal	9.563 #
11) TM	2-AMINO-4...	7.081	7.079	184134	111282	NoCal	8.969 #
12) TM	4-AMINO-2...	7.429	7.425	168272	79765	NoCal	8.771 #
13) TM	2,4-DINIT...	8.557	8.561	96512	116390	NoCal	9.188 #
14) TM	2,6-DINIT...	8.910	8.918	102587	63336	NoCal	8.980 #
15) TM	2-NITROTO...	0.000	12.277	0	45530	N.D.	9.202 #
16) TM	4-NITROTO...	0.000	12.877	0	43915	N.D.	8.875 #
17) TM	3-NITROTO...	0.000	13.766	0	53902	N.D.	9.167 #
18) TM	PETN	16.091	0.000	33221	0	7.221	N.D. #

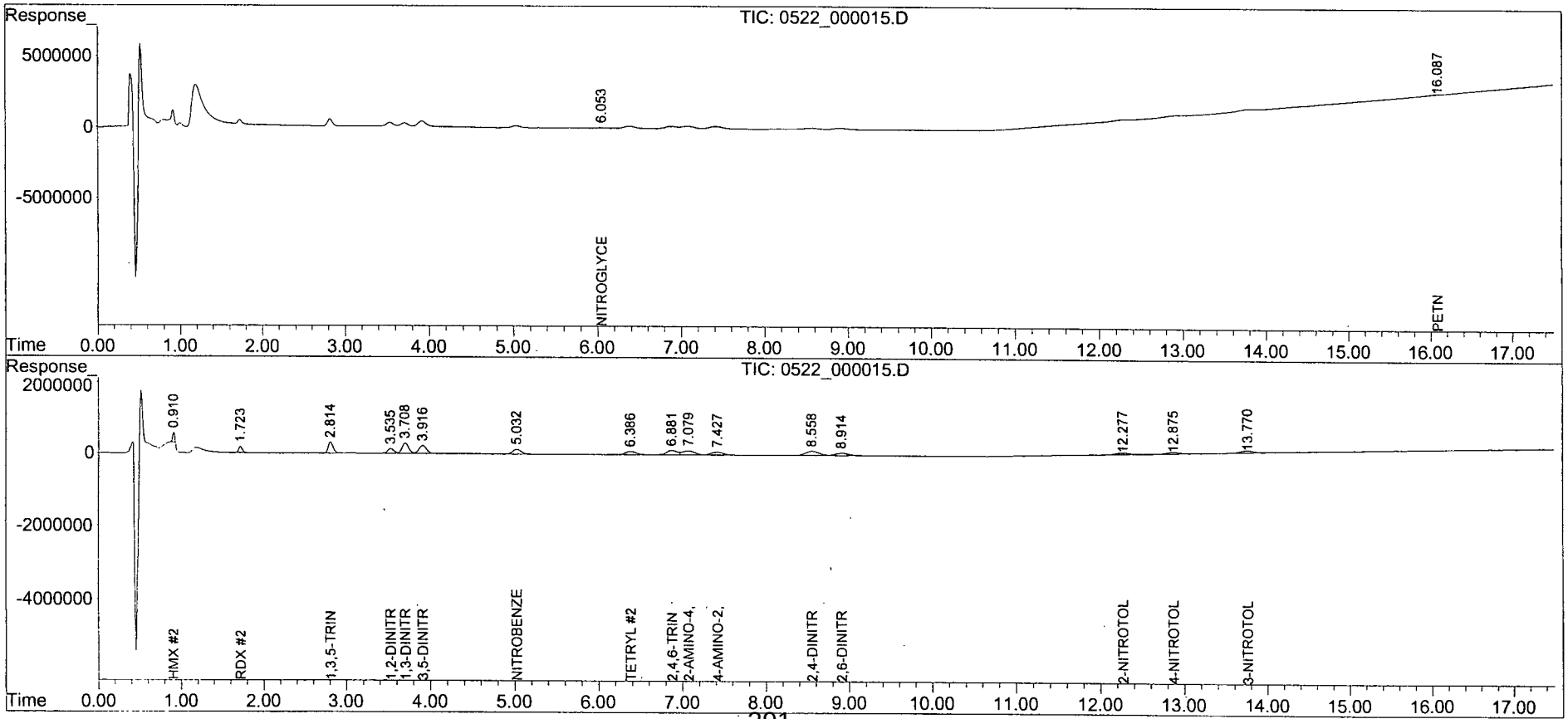
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000015.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 16:35:23
Operator : MP
Sample : 8330CB 0.010 PPM 05/22/15
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: May 23 08:55:40 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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



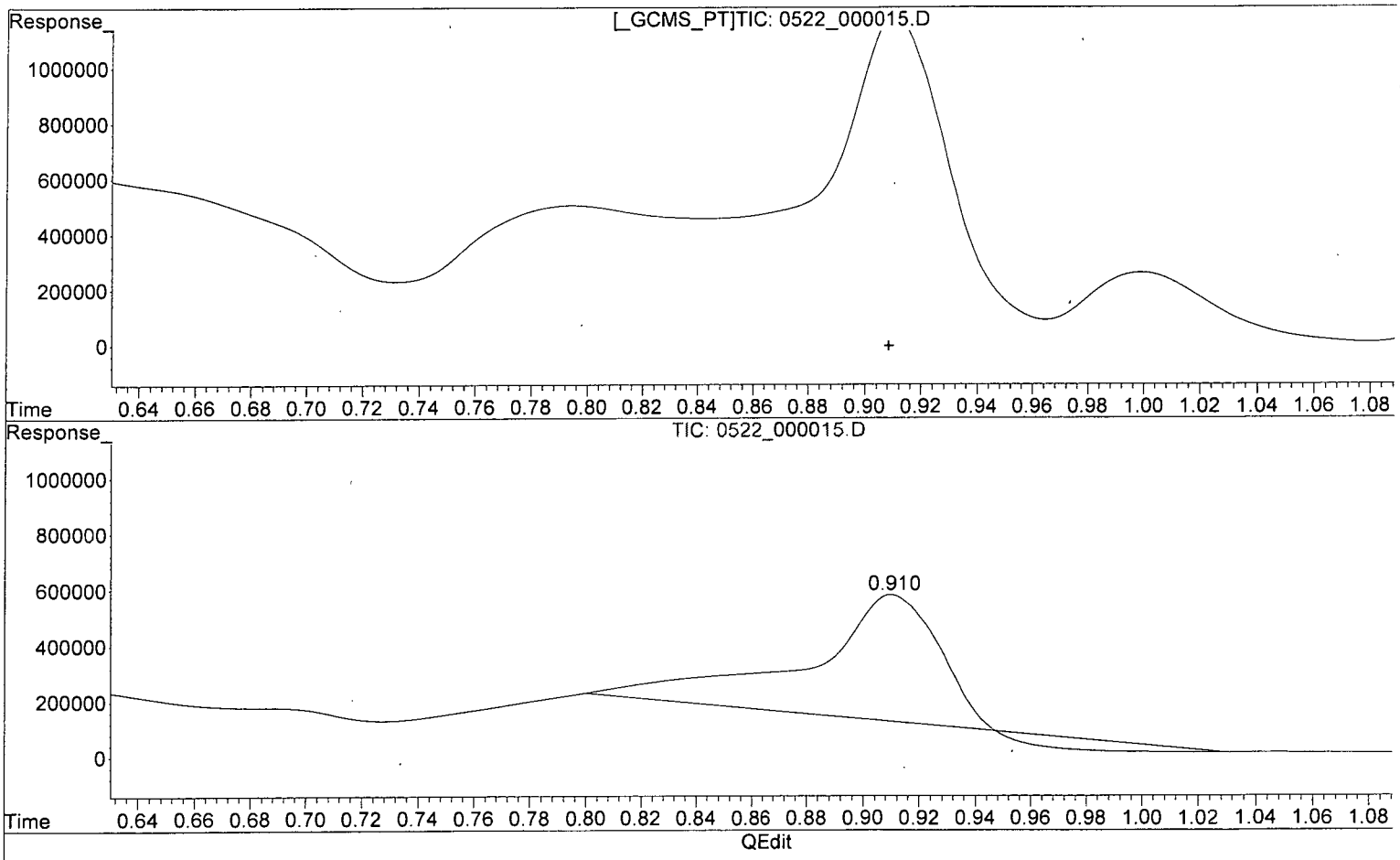
W150522 M Sat May 23 08:56:30 2015 WALDORF Page: 2

Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000015.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 16:35:23
Operator : MP
Sample : 8330CB 0.010 PPM 05/22/15
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: May 23 08:46:19 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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)

0.911min 17.212 ppb

response 452998

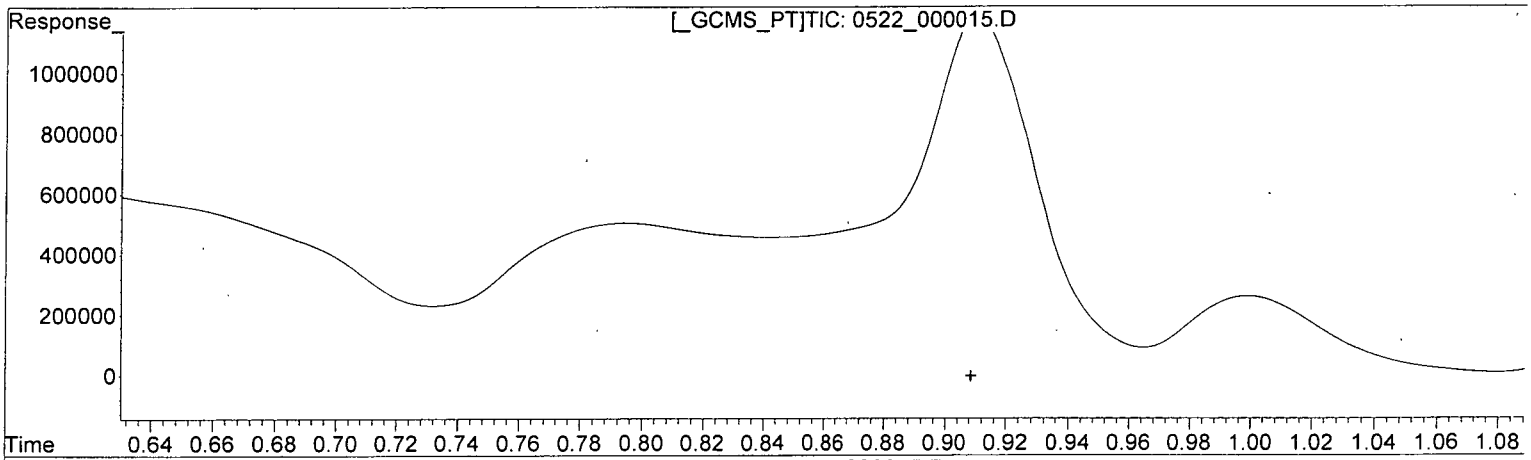
(+) = Expected Retention Time

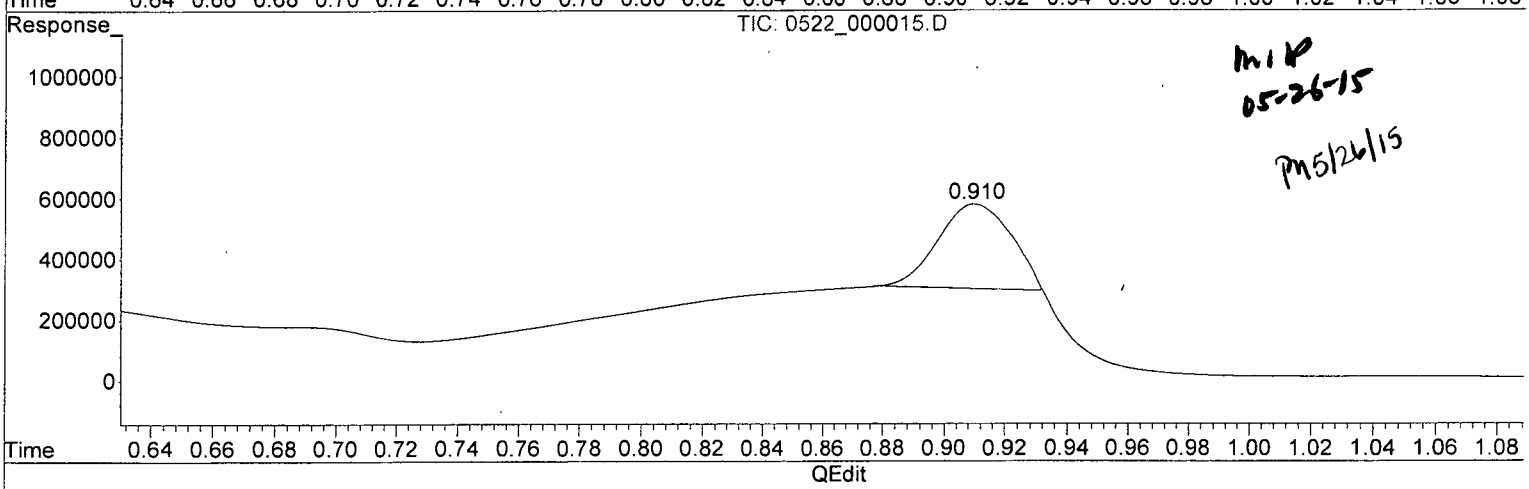
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000015.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 16:35:23
Operator : MP
Sample : 8330CB 0.010 PPM 05/22/15
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: May 23 08:46:19 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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





MLP 05-26-15

PM 5/26/15

(1) HMX (TM)

0.000min 0.000 ppb

response 0

(1) HMX #2 (TM)

0.910min 10.544 ppb m

response 277521

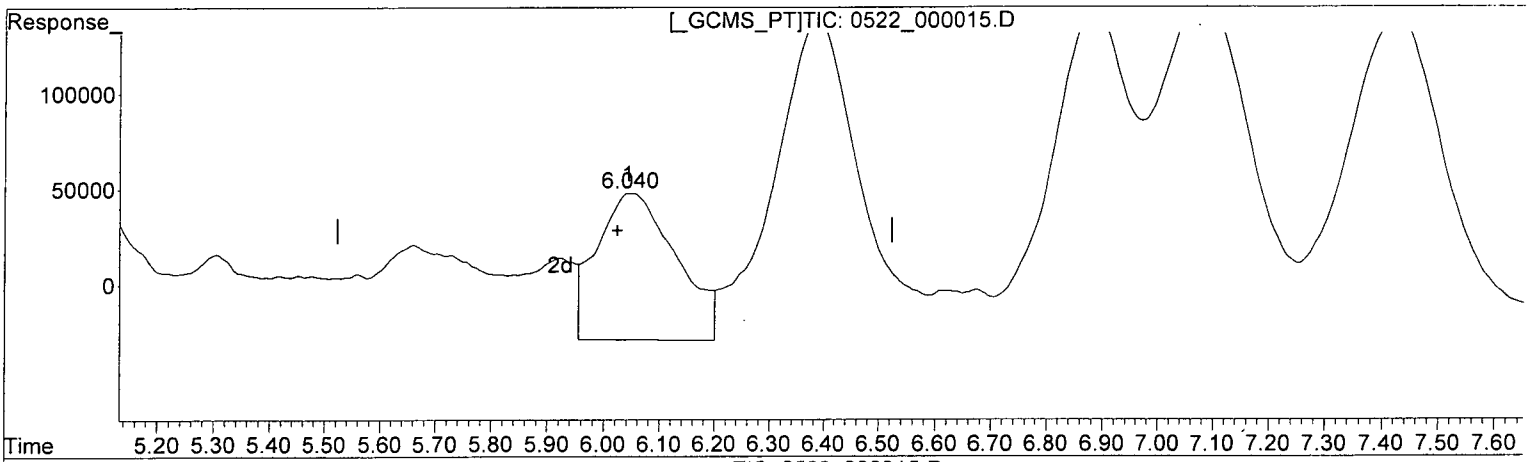
(+) = Expected Retention Time

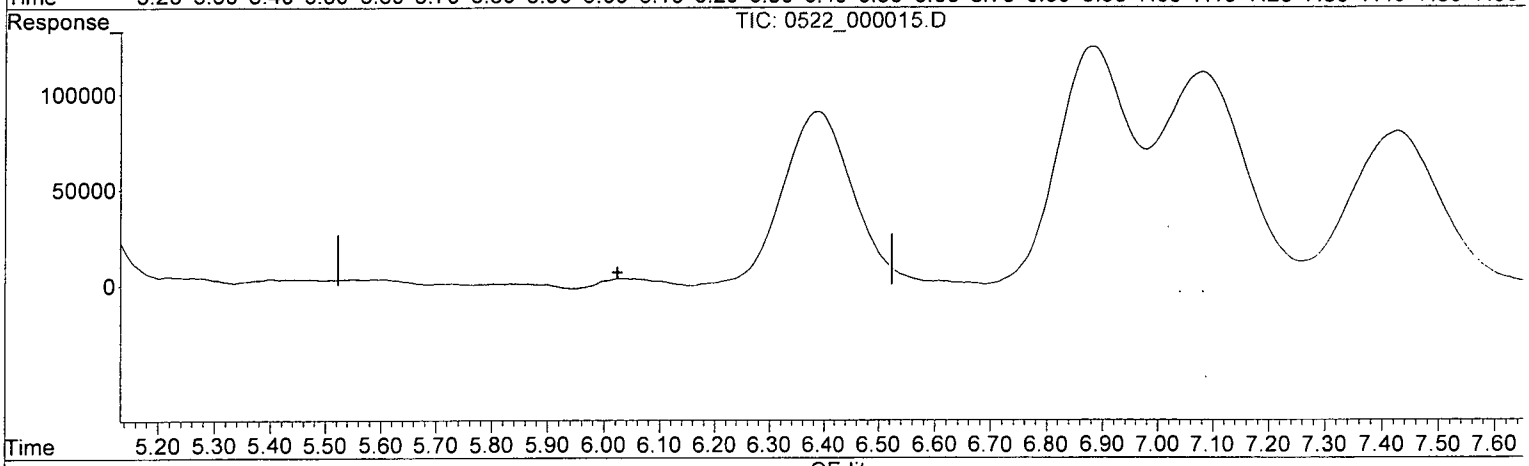
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000015.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 16:35:23
Operator : MP
Sample : 8330CB 0.010 PPM 05/22/15
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: May 23 08:46:19 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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)

6.042min 13.749 ppb

response 76625

(8) NITROGLYCERIN #2 (TM)

0.000min 0.000 ppb

response 0

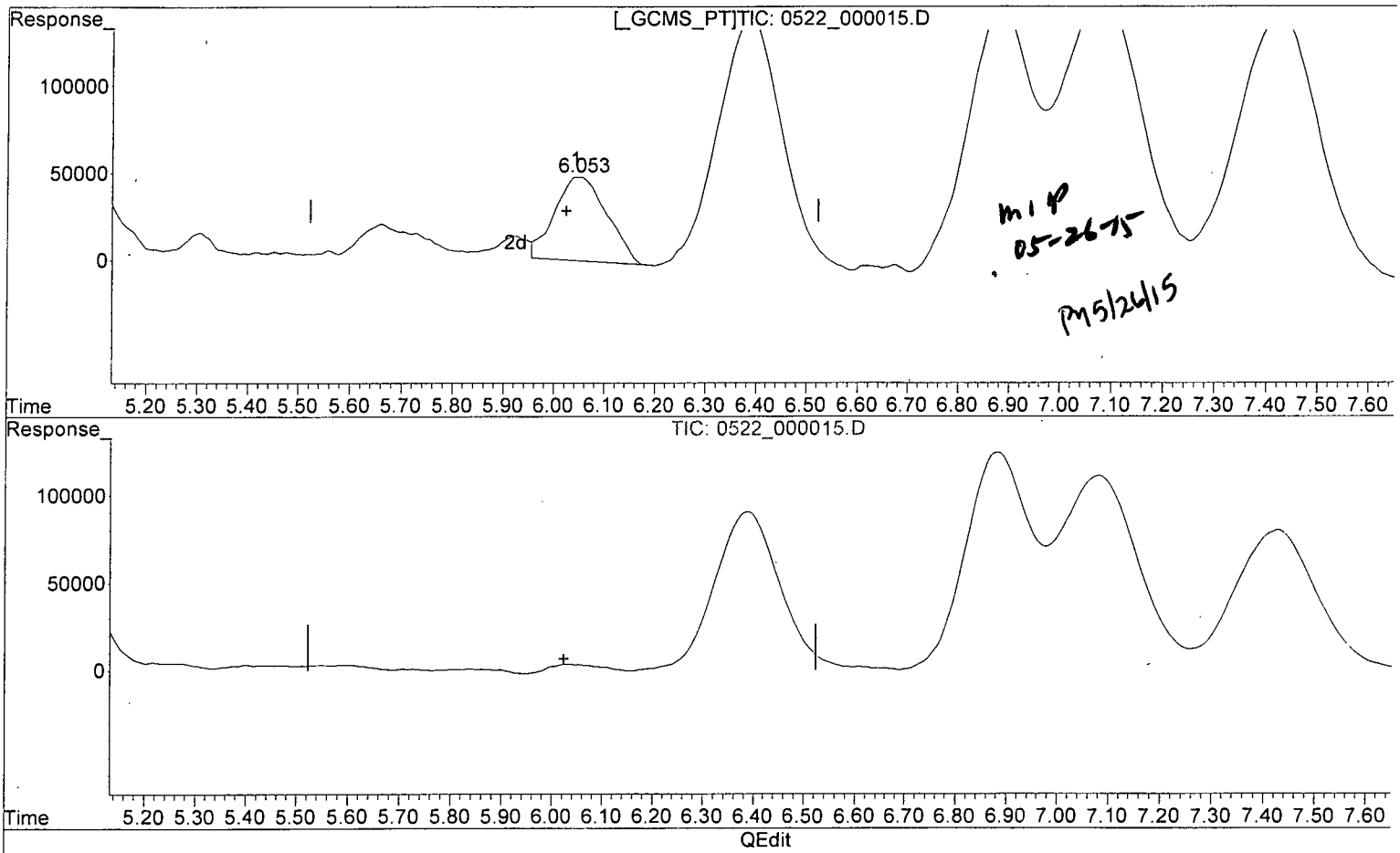
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000015.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 16:35:23
Operator : MP
Sample : 8330CB 0.010 PPM 05/22/15
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: May 23 08:46:19 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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)

6.053min 8.627 ppb m

response 48081

(8) NITROGLYCERIN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000016.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 17:02:53
Operator : MP
Sample : 8330CB 0.020 PPM 05/22/15
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: May 23 08:54:25 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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	3.537	0	262646	N.D.	19.275 #
	Spiked Amount 62.500			Recovery	=	0.00%	30.84%
	Target Compounds						
1) TM	HMX	0.000	0.910	0	533059	N.D.	20.254m#
2) TM	RDX	0.000	1.724	0	341011	N.D.	19.471 #
3) TM	1,3,5-TRI...	0.000	2.816	0	621520	N.D.	19.648 #
5) TM	1,3-DINIT...	0.000	3.709	0	583563	N.D.	19.310 #
6) TM	3,5-DINIT...	0.000	3.916	0	445840	N.D.	18.515 #
7) TM	NITROBENZENE	0.000	5.033	0	264975	N.D.	19.161 #
8) TM	NITROGLYC...	6.040	0.000	110320	0	19.796	N.D. #
9) TM	TETRYL	6.383	6.385	295550	179101	NoCal	17.088 #
10) TM	2,4,6-TRI...	6.880	6.880	322710	249913	NoCal	19.144 #
11) TM	2-AMINO-4...	7.079	7.078	332535	223533	NoCal	18.016 #
12) TM	4-AMINO-2...	7.421	7.422	308181	161739	NoCal	17.785 #
13) TM	2,4-DINIT...	8.559	8.558	184676	237033	NoCal	18.712 #
14) TM	2,6-DINIT...	8.921	8.916	196417	131074	NoCal	18.585 #
15) TM	2-NITROTO...	0.000	12.267	0	87831	N.D.	17.751 #
16) TM	4-NITROTO...	0.000	12.868	0	88090	N.D.	17.803 #
17) TM	3-NITROTO...	0.000	13.759	0	105360	N.D.	17.918 #
18) TM	PETN	16.096	0.000	65233	0	14.180m	N.D. #

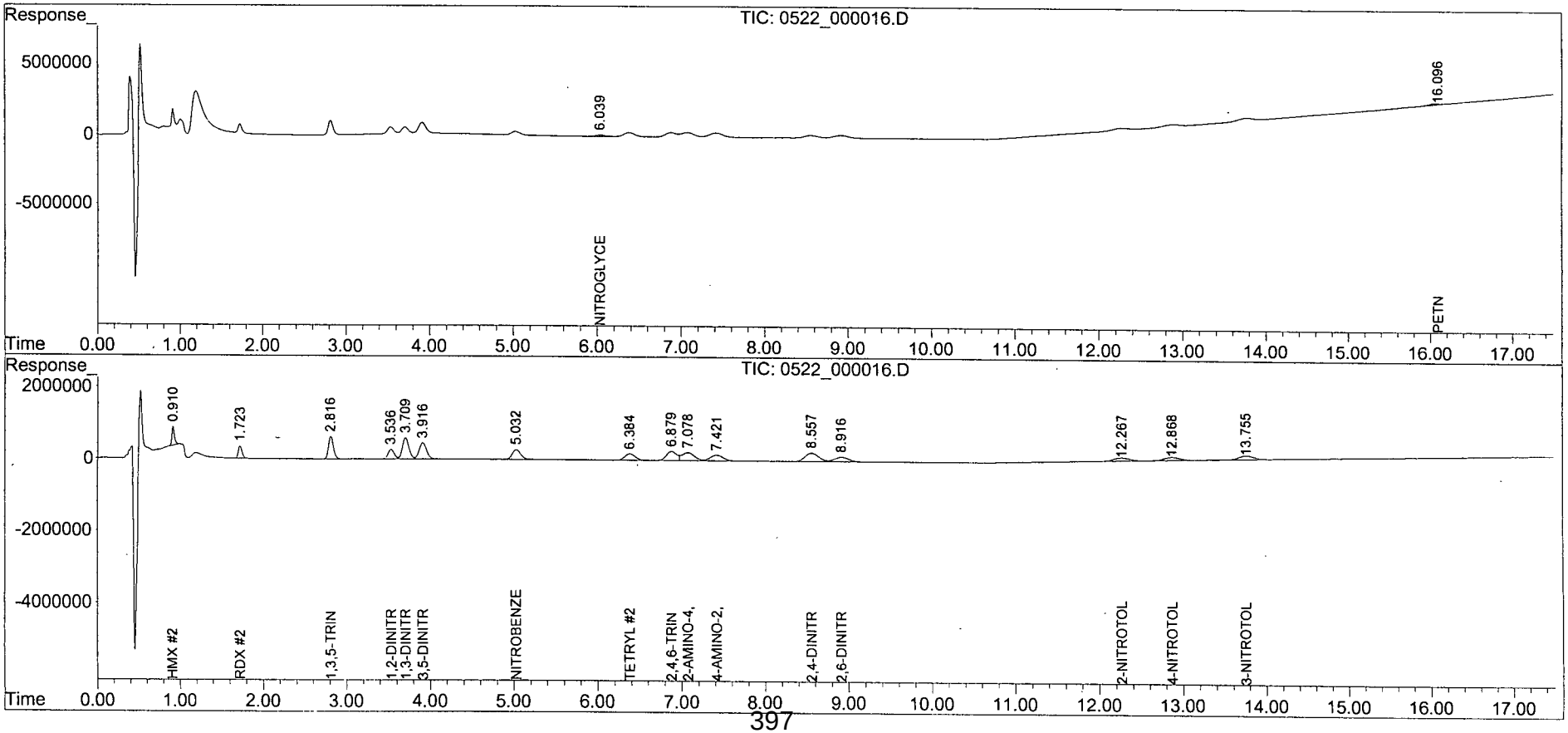
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000016.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 17:02:53
Operator : MP
Sample : 8330CB 0.020 PPM 05/22/15
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: May 23 08:54:25 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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

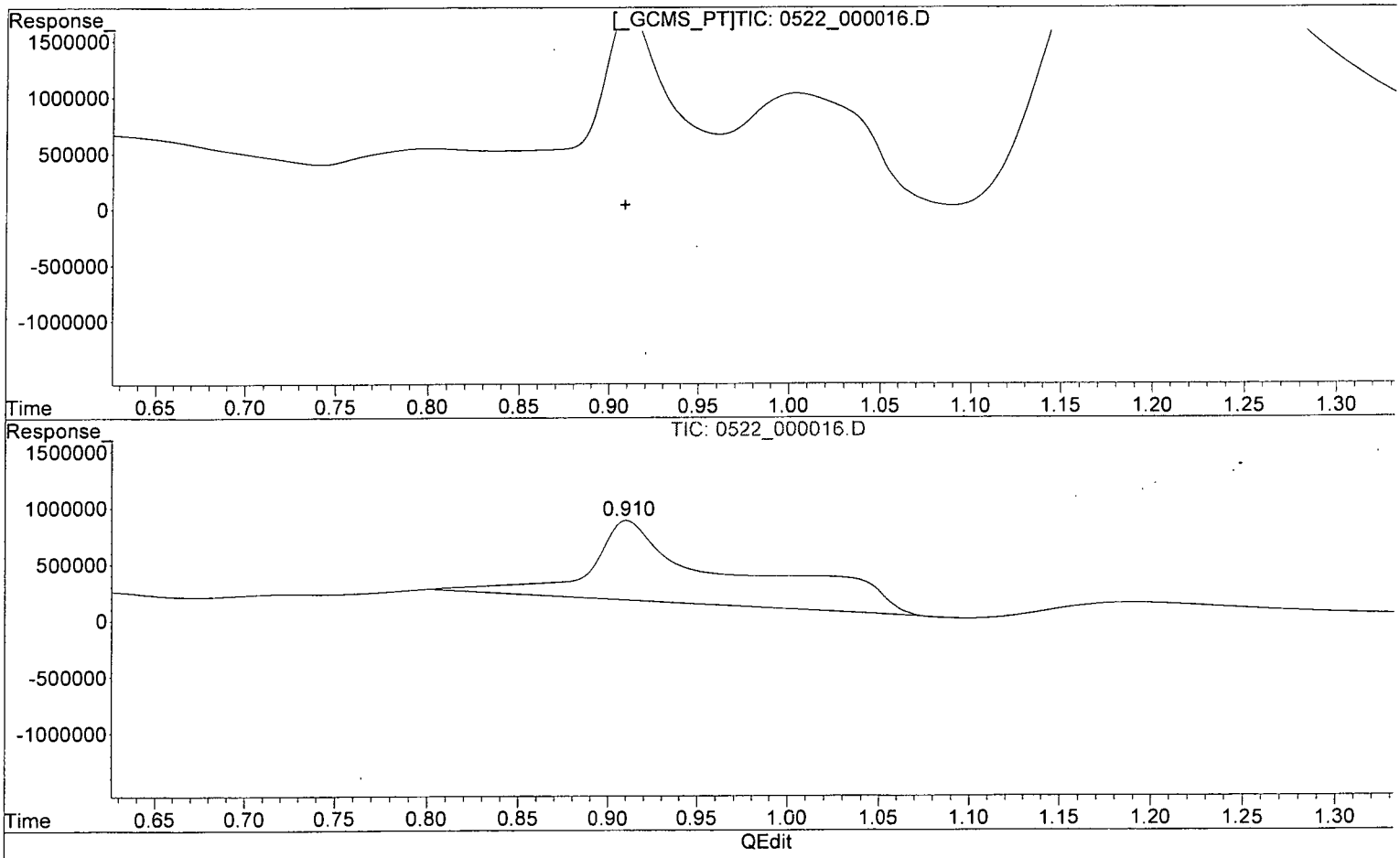


Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000016.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 17:02:53
Operator : MP
Sample : 8330CB 0.020 PPM 05/22/15
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: May 23 08:46:22 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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)

0.911min 26.788 ppb

response 705027

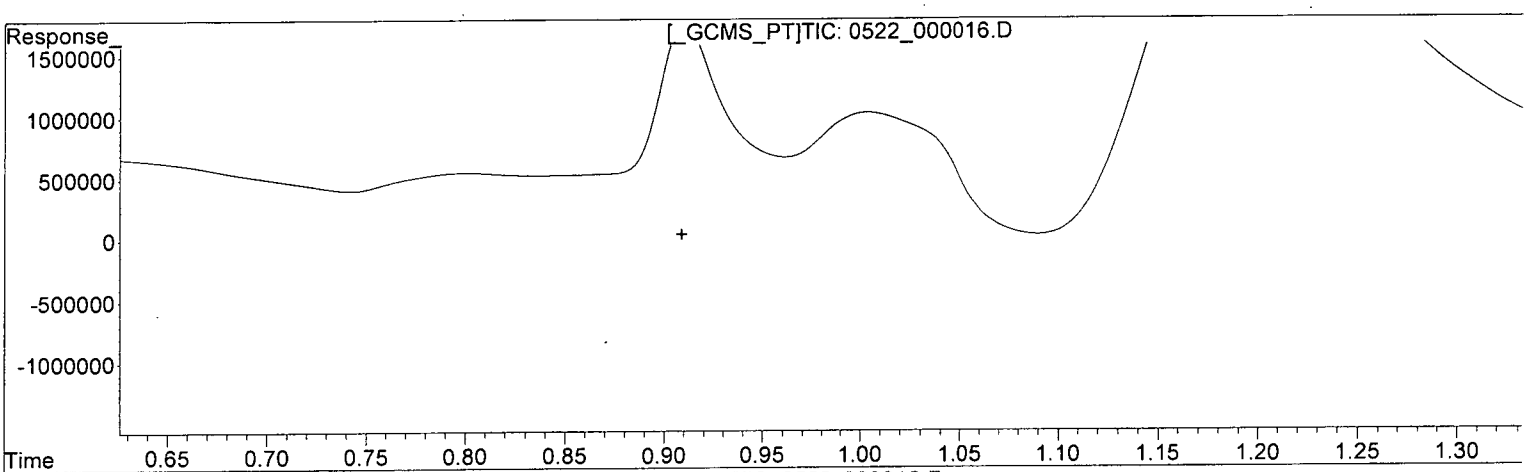
(+) = Expected Retention Time

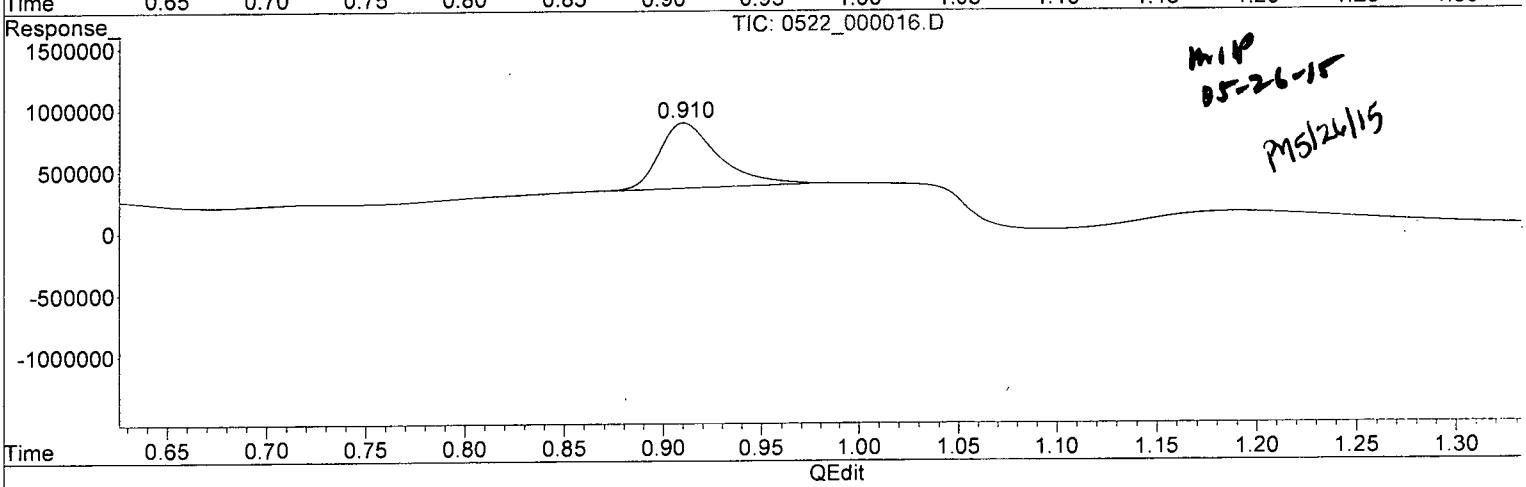
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000016.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 17:02:53
Operator : MP
Sample : 8330CB 0.020 PPM 05/22/15
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: May 23 08:46:22 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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





MP 05-26-15

PM 5/26/15

(1) HMX (TM)

0.000min 0.000 ppb

response 0

(1) HMX #2 (TM)

0.910min 20.254 ppb m

response 533059

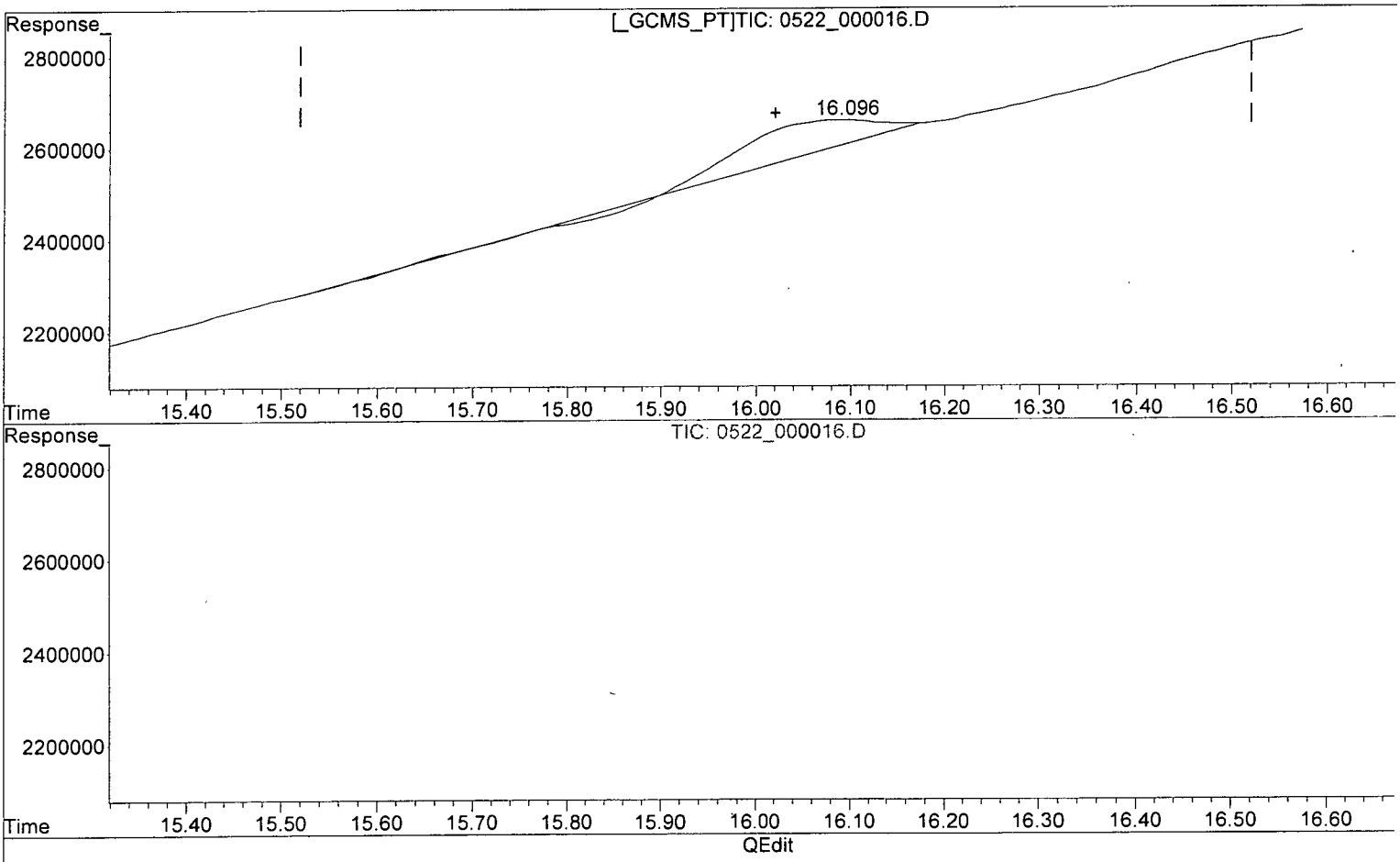
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000016.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 17:02:53
Operator : MP
Sample : 8330CB 0.020 PPM 05/22/15
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: May 23 08:46:22 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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



(18) PETN (TM)

16.090min 11.845 ppb

response 54492

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

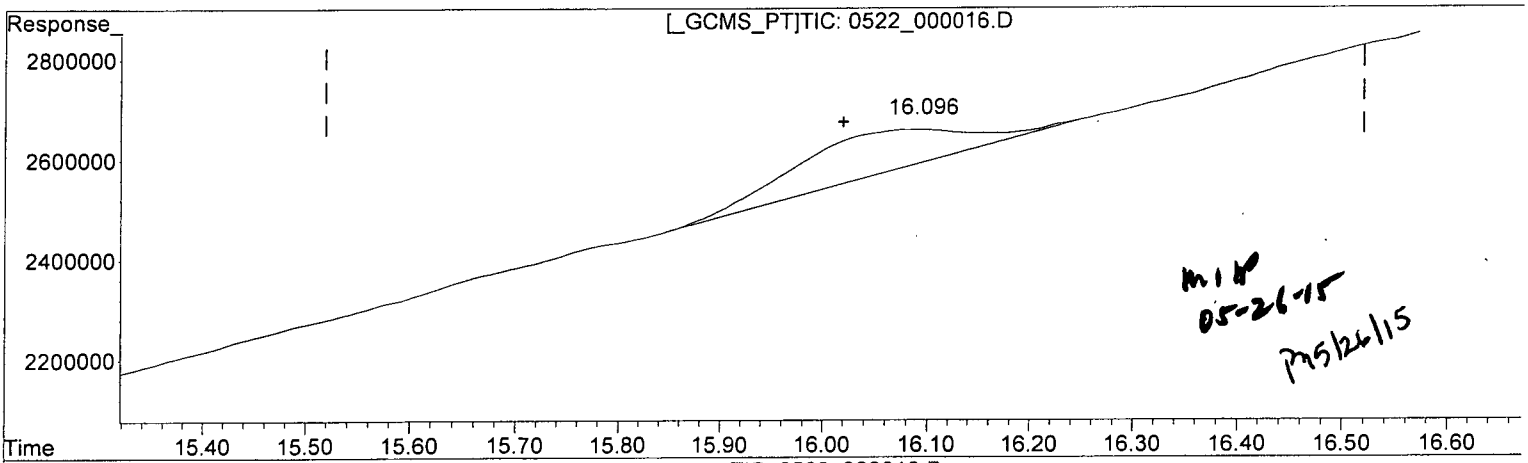
(+) = Expected Retention Time

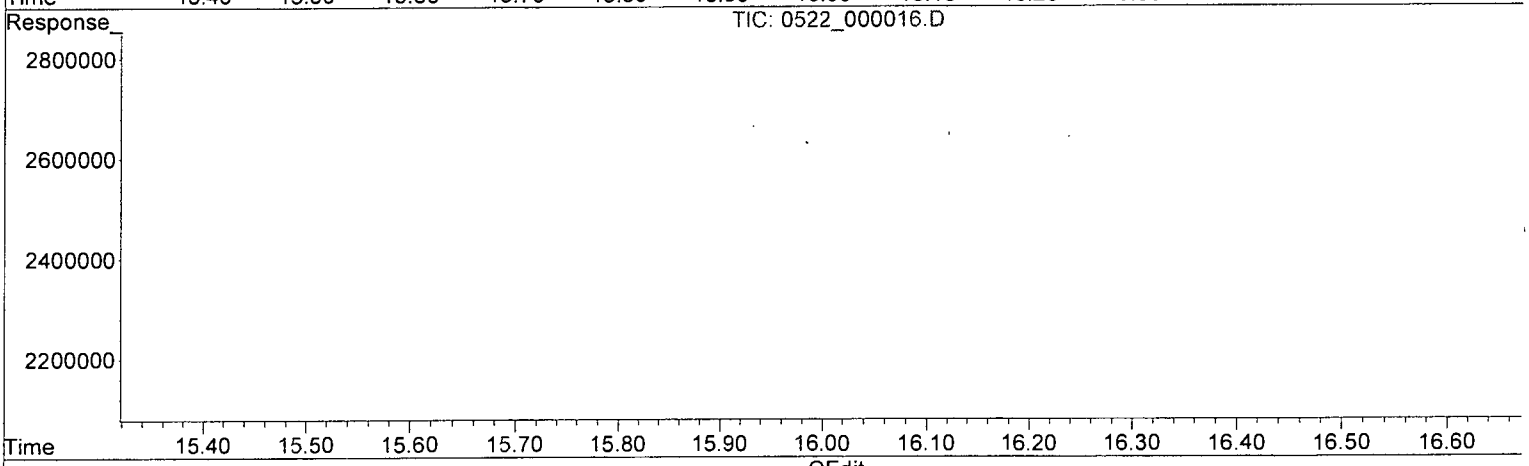
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000016.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 17:02:53
Operator : MP
Sample : 8330CB 0.020 PPM 05/22/15
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: May 23 08:46:22 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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





QEdit

(18) PETN (TM)

16.096min 14.180 ppb m

response 65233

(18) PETN #2 (TM)

0.000min 0.000 ppb

response 0

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000017.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 17:30:23
Operator : MP
Sample : 8330CB 0.050 PPM 05/22/15
Misc :
ALS Vial : 8387 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:52:06 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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	3.531	0	649173	N.D.	47.641 #
	Spiked Amount 62.500			Recovery	=	0.00%	76.23%
	Target Compounds						
1)	TM HMX	0.000	0.908	0	1280731	N.D.	48.662m#
2)	TM RDX	0.000	1.722	0	853611	N.D.	48.739 #
3)	TM 1,3,5-TRI...	0.000	2.812	0	1543113	N.D.	48.782 #
5)	TM 1,3-DINIT...	0.000	3.705	0	1455101	N.D.	48.148 #
6)	TM 3,5-DINIT...	0.000	3.912	0	1110694	N.D.	46.126 #
7)	TM NITROBENZENE	0.000	5.029	0	665871	N.D.	48.151 #
8)	TM NITROGLYC...	6.037	0.000	263621	0	47.304	N.D. #
9)	TM TETRYL	6.378	6.376	744181	455426	NoCal	43.451 #
10)	TM 2,4,6-TRI...	6.872	6.872	806095	621067	NoCal	47.575 #
11)	TM 2-AMINO-4...	7.070	7.070	843942	559774	NoCal	45.115 #
12)	TM 4-AMINO-2...	7.413	7.414	750390	404091	NoCal	44.434 #
13)	TM 2,4-DINIT...	8.551	8.551	439128	590887	NoCal	46.645 #
14)	TM 2,6-DINIT...	8.911	8.909	453309	328053	NoCal	46.514 #
15)	TM 2-NITROTO...	0.000	12.256	0	220810	N.D.	44.628 #
16)	TM 4-NITROTO...	0.000	12.859	0	220626	N.D.	44.589 #
17)	TM 3-NITROTO...	0.000	13.751	0	264010	N.D.	44.899 #
18)	TM PETN	16.045	0.000	189934	0	41.287	N.D. #

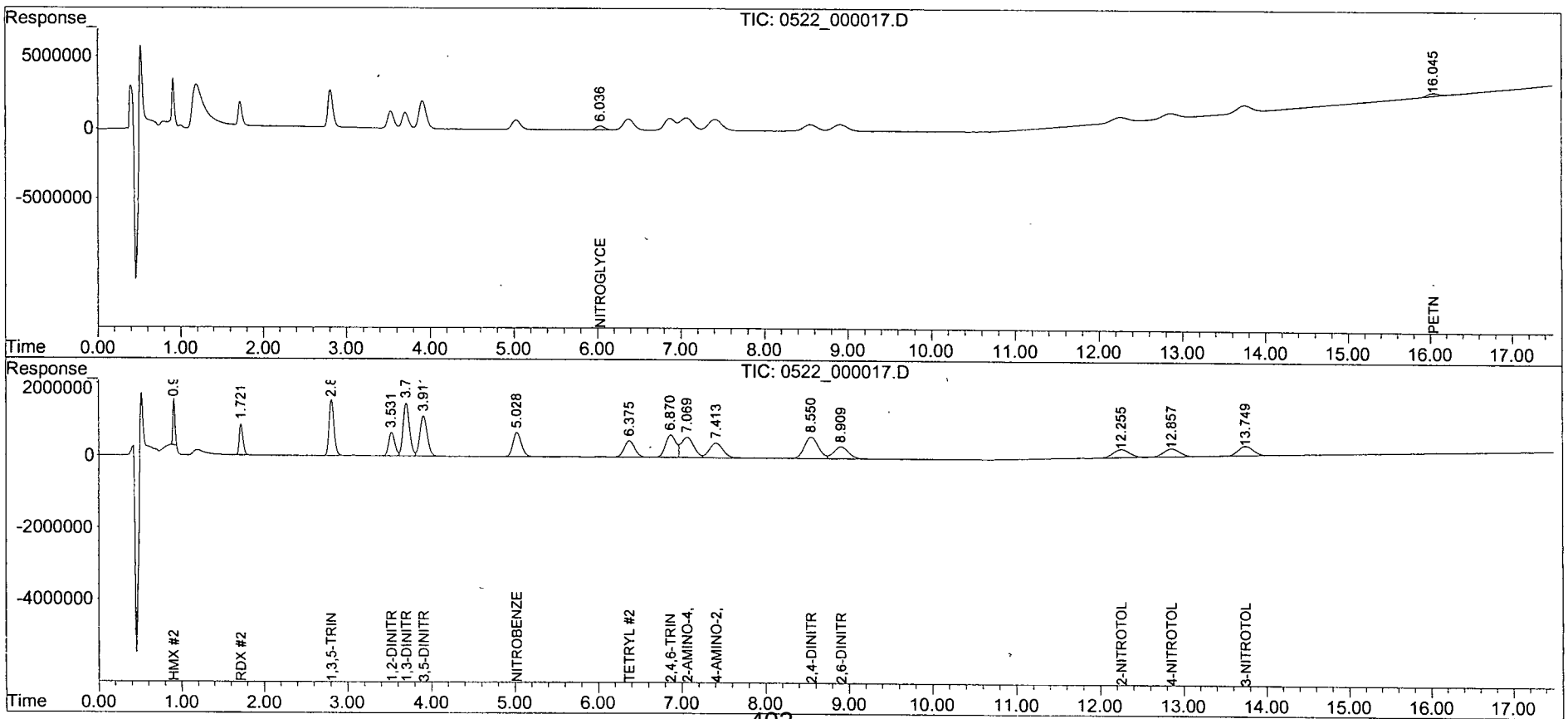
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000017.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 17:30:23
Operator : MP
Sample : 8330CB 0.050 PPM 05/22/15
Misc :
ALS Vial : 8387 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:52:06 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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

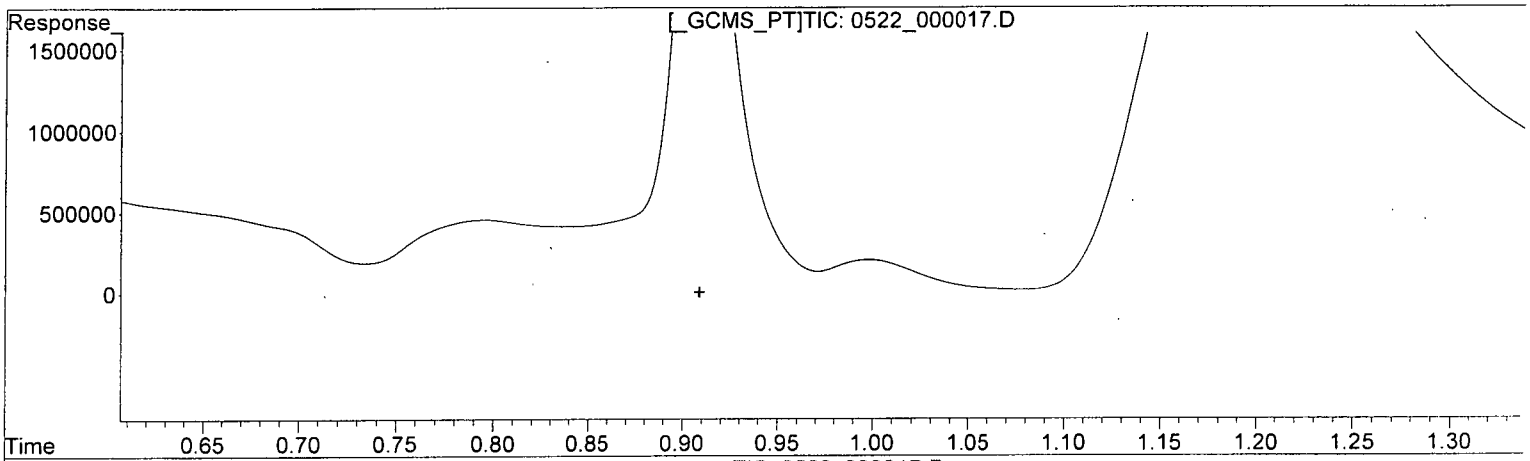


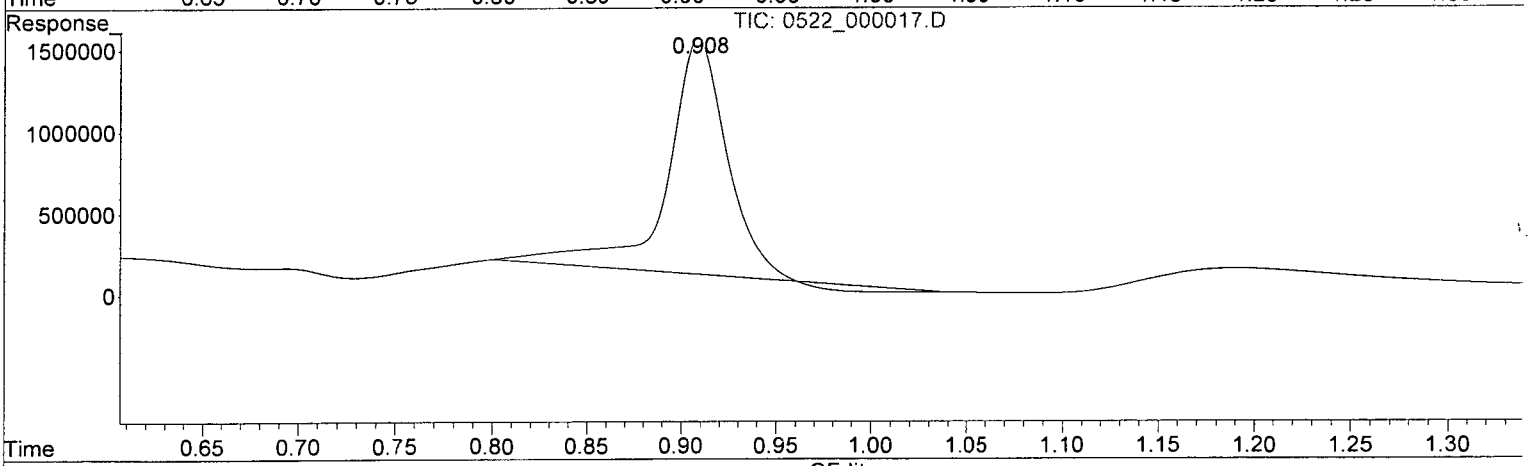
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000017.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 17:30:23
Operator : MP
Sample : 8330CB 0.050 PPM 05/22/15
Misc :
ALS Vial : 8387 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:46:25 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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)

0.909min 54.634 ppb

response 1437929

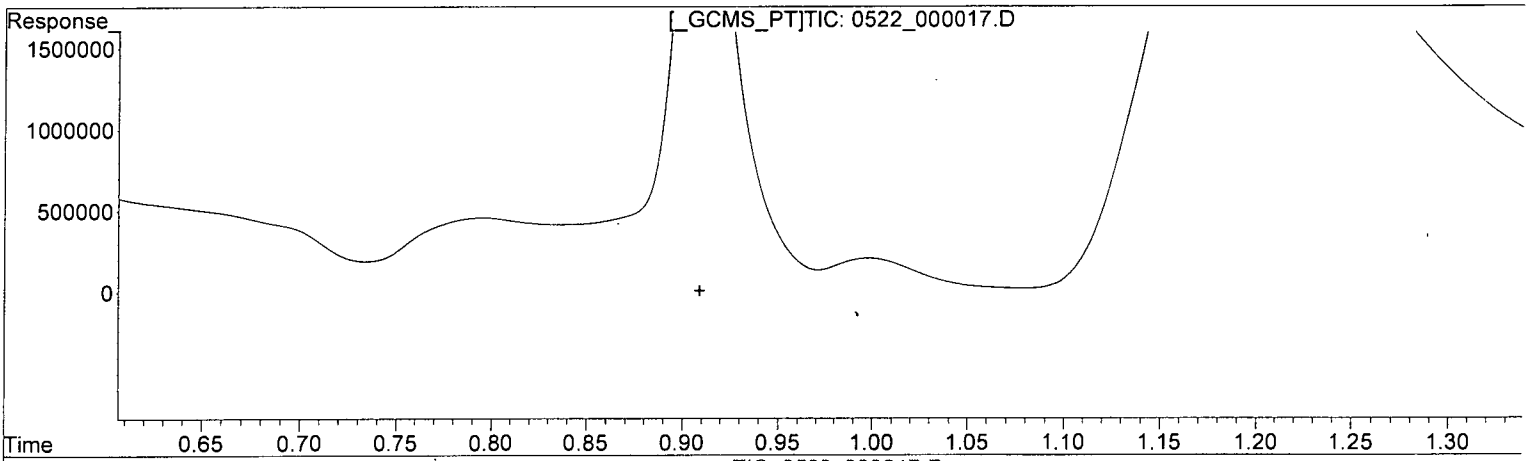
(+) = Expected Retention Time

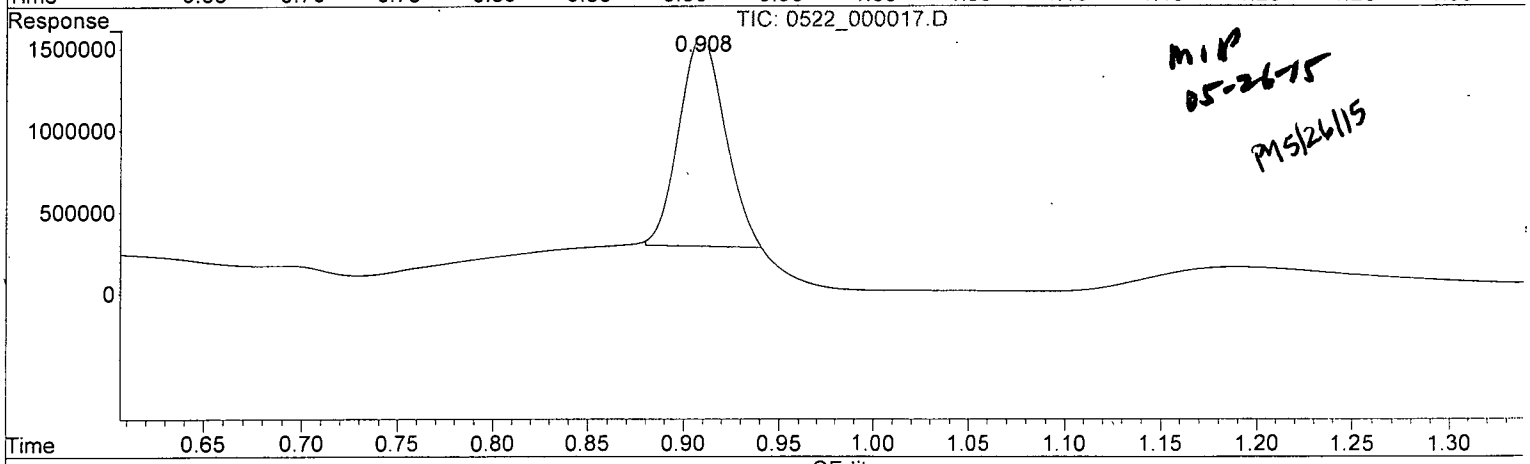
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000017.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 17:30:23
Operator : MP
Sample : 8330CB 0.050 PPM 05/22/15
Misc :
ALS Vial : 8387 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:46:25 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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





MIP 05-26-15 PM 5/26/15

(1) HMX (TM)

0.000min 0.000 ppb

response 0

(1) HMX #2 (TM)

0.908min 48.662 ppb m

response 1280731

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000018.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 17:57:54
Operator : MP
Sample : 8330CB 0.10 PPM 05/22/15
Misc :
ALS Vial : 8388 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:50:59 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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

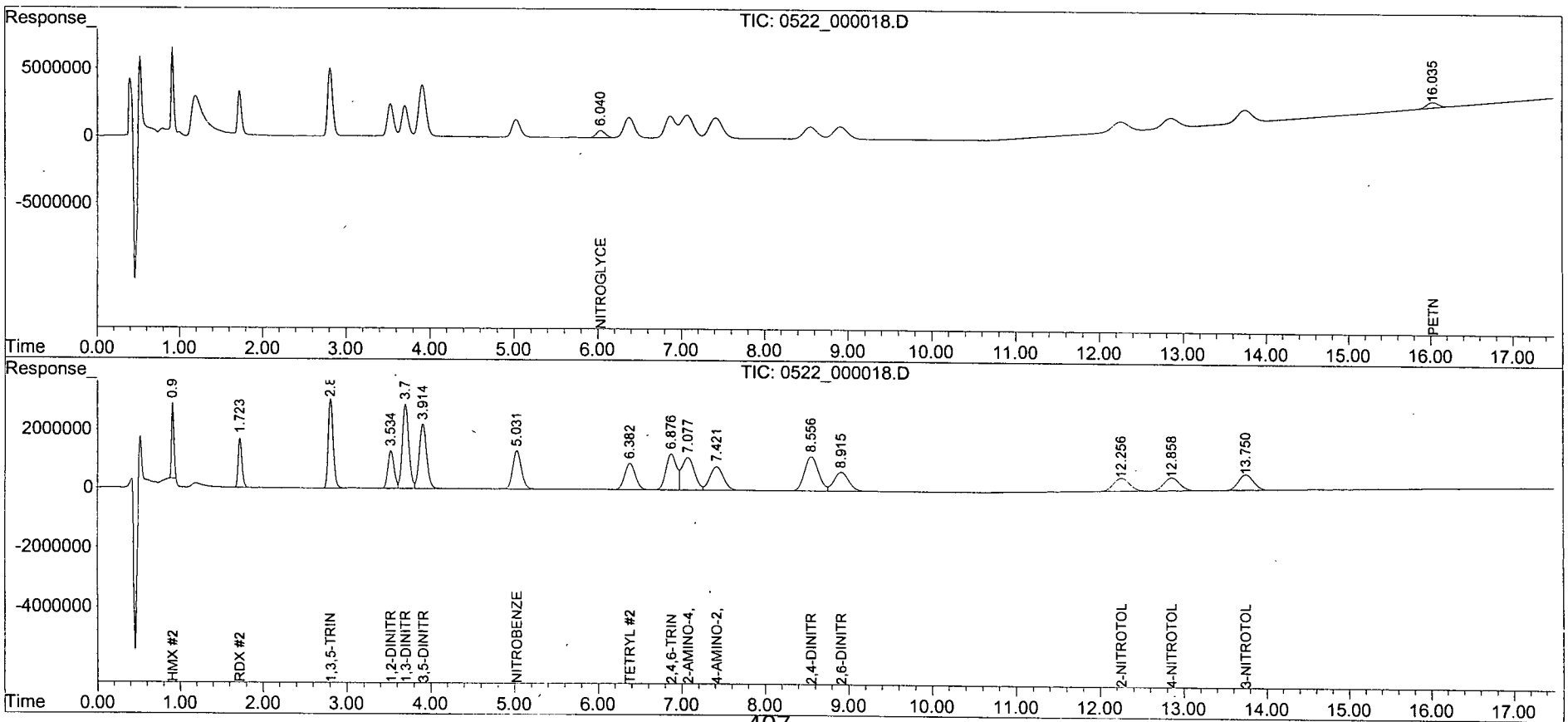
	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
4) S	1,2-DINIT...	0.000	3.535	0	1290640	N.D.	94.716 #
	Spiked Amount 62.500			Recovery =		0.00%	151.55%
	Target Compounds						
1) TM	HMX	0.000	0.910	0	2606306	N.D.	99.027m#
2) TM	RDX	0.000	1.724	0	1695994	N.D.	96.838 #
3) TM	1,3,5-TRI...	0.000	2.814	0	3075082	N.D.	97.212 #
5) TM	1,3-DINIT...	0.000	3.707	0	2892550	N.D.	95.712 #
6) TM	3,5-DINIT...	0.000	3.915	0	2207280	N.D.	91.666 #
7) TM	NITROBENZENE	0.000	5.032	0	1320781	N.D.	95.510 #
8) TM	NITROGLYC...	6.041	0.000	530814	0	95.248	N.D. #
9) TM	TETRYL	6.383	6.383	1485615	902928	NoCal	86.147 #
10) TM	2,4,6-TRI...	6.877	6.876	1600218	1235293	NoCal	94.627 #
11) TM	2-AMINO-4...	7.078	7.077	1672837	1109691	NoCal	89.435 #
12) TM	4-AMINO-2...	7.422	7.421	1488563	801060	NoCal	88.085 #
13) TM	2,4-DINIT...	8.557	8.557	870898	1172656	NoCal	92.571 #
14) TM	2,6-DINIT...	8.915	8.916	898126	644179	NoCal	91.337 #
15) TM	2-NITROTO...	0.000	12.257	0	439307	N.D.	88.788 #
16) TM	4-NITROTO...	0.000	12.858	0	437816	N.D.	88.484 #
17) TM	3-NITROTO...	0.000	13.750	0	524084	N.D.	89.129 #
18) TM	PETN	16.035	0.000	411789	0	89.514	N.D. #

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000018.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 17:57:54
Operator : MP
Sample : 8330CB 0.10 PPM 05/22/15
Misc :
ALS Vial : 8388 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:50:59 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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

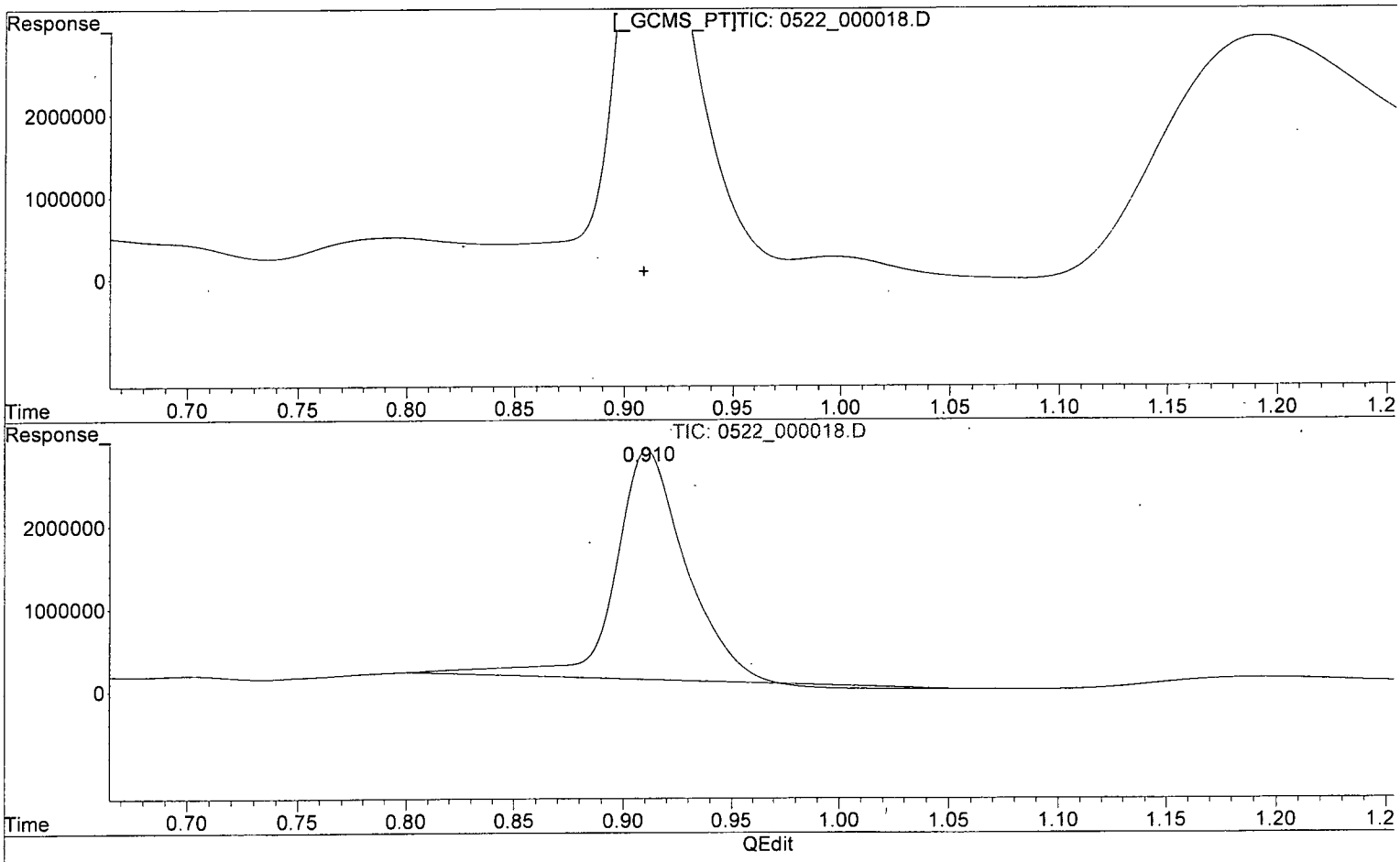


Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000018.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 17:57:54
Operator : MP
Sample : 8330CB 0.10 PPM 05/22/15
Misc :
ALS Vial : 8388 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:46:28 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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)

0.912min 105.179 ppb

response 2768218

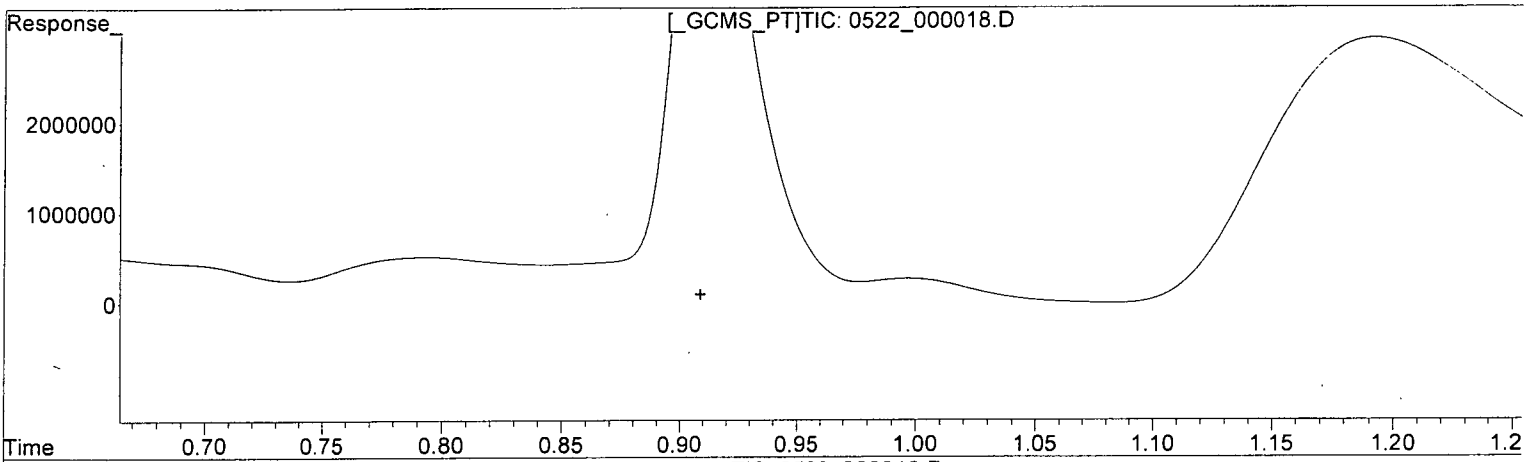
(+) = Expected Retention Time

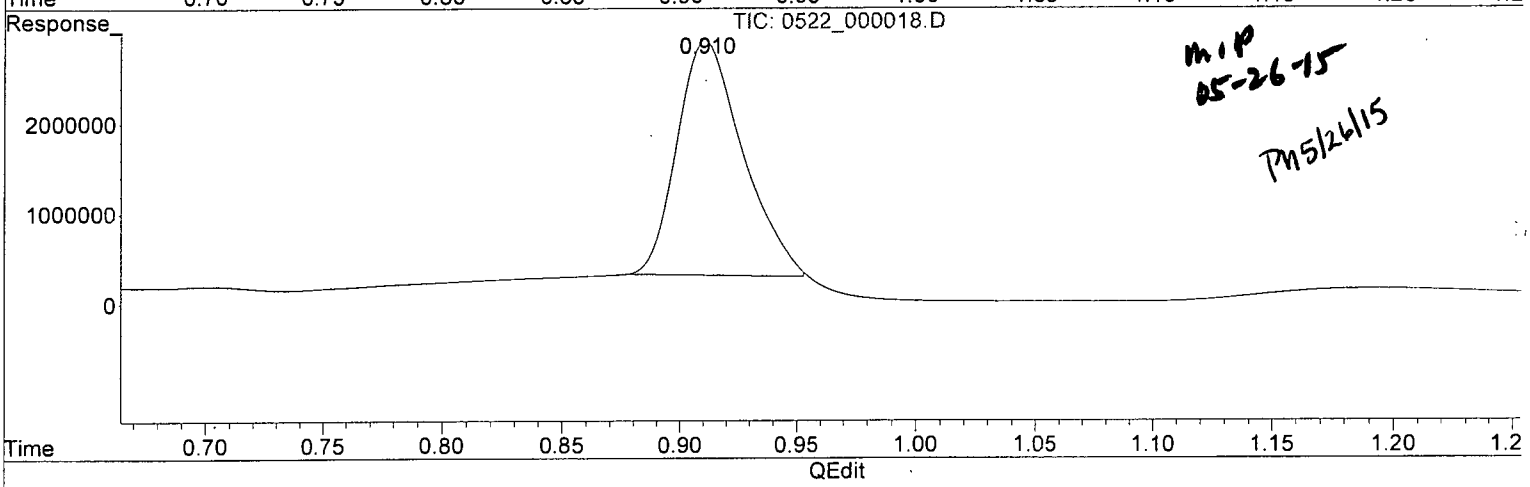
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000018.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 17:57:54
Operator : MP
Sample : 8330CB 0.10 PPM 05/22/15
Misc :
ALS Vial : 8388 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:46:28 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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





MP 05-26-15

PM 5/26/15

(1) HMX (TM)

0.000min 0.000 ppb

response 0

(1) HMX #2 (TM)

0.910min 99.027 ppb m

response 2606306

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000019.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 18:25:25
Operator : MP
Sample : 8330CB 0.20 PPM 05/22/15
Misc :
ALS Vial : 8389 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:46:31 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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	3.529	0	2607917	N.D.	191.386	#
	Spiked Amount 62.500			Recovery	=	0.00%	306.22%	
	Target Compounds							
1)	TM HMX	0.000	0.909	0	5406170	N.D.	205.408	#
2)	TM RDX	0.000	1.721	0	3423178	N.D.	195.456	#
3)	TM 1,3,5-TRI...	0.000	2.809	0	6223860	N.D.	196.754	#
5)	TM 1,3-DINIT...	0.000	3.702	0	5850290	N.D.	193.581	#
6)	TM 3,5-DINIT...	0.000	3.910	0	4462918	N.D.	185.340	#
7)	TM NITROBENZENE	0.000	5.028	0	2671122	N.D.	193.157	#
8)	TM NITROGLYC...	6.037	6.033	1064367	21764	190.988	NoCal	#
9)	TM TETRYL	6.378	6.378	3008528	1827851	NoCal	174.392	#
10)	TM 2,4,6-TRI...	6.872	6.872	3234786	2503048	NoCal	191.740	#
11)	TM 2-AMINO-4...	7.073	7.073	3375410	2244726	NoCal	180.913	#
12)	TM 4-AMINO-2...	7.417	7.418	2998380	1617102	NoCal	177.818	#
13)	TM 2,4-DINIT...	8.555	8.555	1746281	2373610	NoCal	187.375	#
14)	TM 2,6-DINIT...	8.916	8.915	1810737	1305146	NoCal	185.055	#
15)	TM 2-NITROTO...	0.000	12.265	0	891016	N.D.	180.082	#
16)	TM 4-NITROTO...	0.000	12.863	0	887417	N.D.	179.350	#
17)	TM 3-NITROTO...	0.000	13.754	0	1067793	N.D.	181.596	#
18)	TM PETN	16.029	0.000	862296	0	187.444	N.D.	#

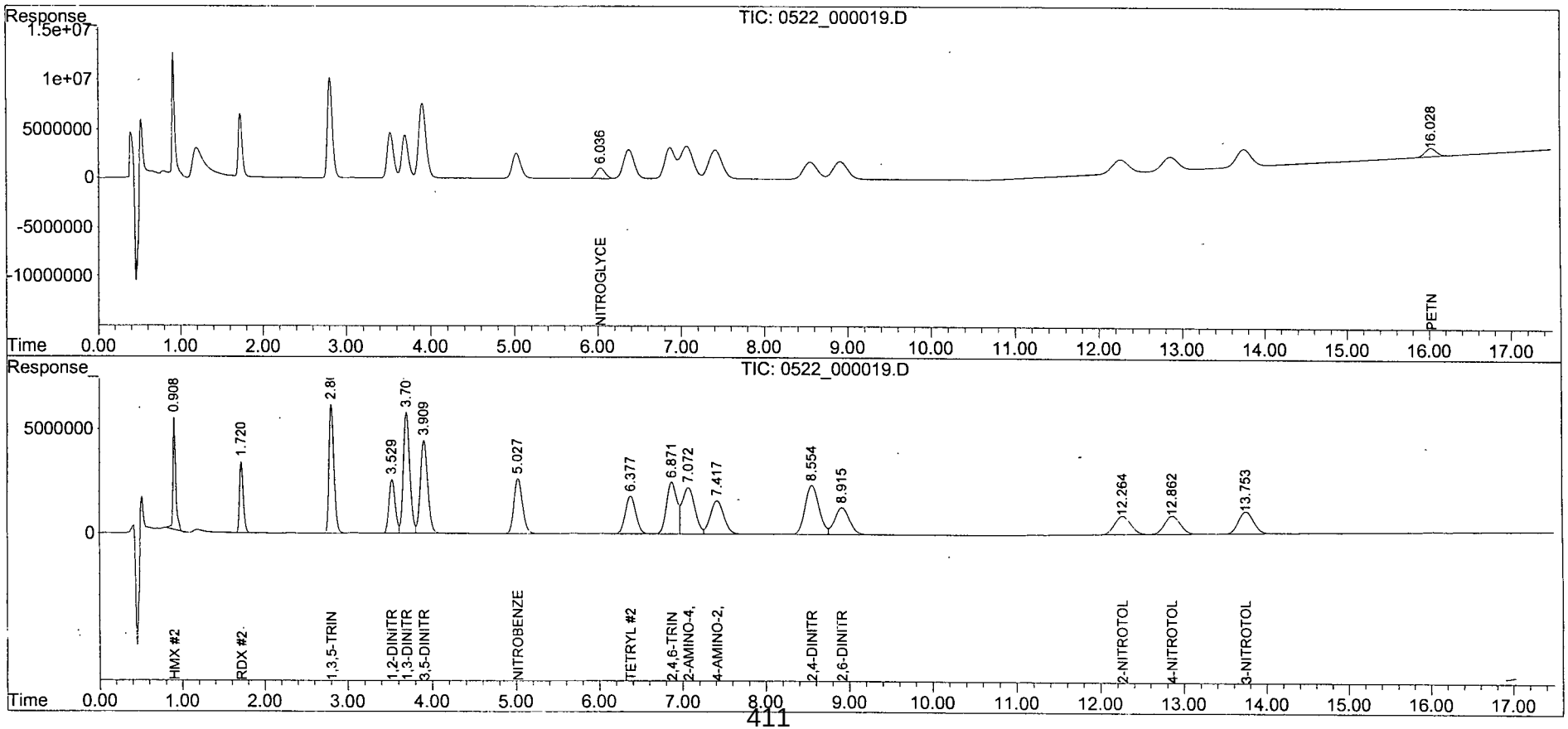
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000019.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 18:25:25
Operator : MP
Sample : 8330CB 0.20 PPM 05/22/15
Misc :
ALS Vial : 8389 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:46:31 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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



W150522.M Sat May 23 08:50:41 2015 WALDORF Page: 2

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000020.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 18:52:55
Operator : MP
Sample : 8330CB 0.50 PPM 05/22/15
Misc :
ALS Vial : 8390 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:49:26 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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	3.532	0	6536750	N.D.	479.710	#
	Spiked Amount 62.500			Recovery	=	0.00%	767.54%	
	Target Compounds							
1)	TM HMX	0.000	0.912	0	13093933	N.D.	497.507	#
2)	TM RDX	0.000	1.725	0	8556770	N.D.	488.573	#
3)	TM 1,3,5-TRI...	0.000	2.813	0	15539688	N.D.	491.253	#
5)	TM 1,3-DINIT...	0.000	3.704	0	14653448	N.D.	484.870	#
6)	TM 3,5-DINIT...	0.000	3.912	0	11178554	N.D.	464.233	#
7)	TM NITROBENZENE	0.000	5.028	0	6683911	N.D.	483.335	#
8)	TM NITROGLYC...	6.034	6.029	2604059	52764	467.267m	NoCal	#
9)	TM TETRYL	6.376	6.376	7486113	4607535	NoCal	439.597	#
10)	TM 2,4,6-TRI...	6.870	6.870	8029656	6252449	NoCal	478.954	#
11)	TM 2-AMINO-4...	7.070	7.069	8405544	5619907	NoCal	452.935	#
12)	TM 4-AMINO-2...	7.414	7.414	7453750	4039281	NoCal	444.164	#
13)	TM 2,4-DINIT...	8.549	8.549	4361031	5949145	NoCal	469.632	#
14)	TM 2,6-DINIT...	8.910	8.909	4509069	3261676	NoCal	462.468	#
15)	TM 2-NITROTO...	0.000	12.261	0	2225219	N.D.	449.736	#
16)	TM 4-NITROTO...	0.000	12.859	0	2224626	N.D.	449.605	#
17)	TM 3-NITROTO...	0.000	13.751	0	2675829	N.D.	455.070	#
18)	TM PETN	16.025	0.000	2135884	0	464.294	N.D.	#

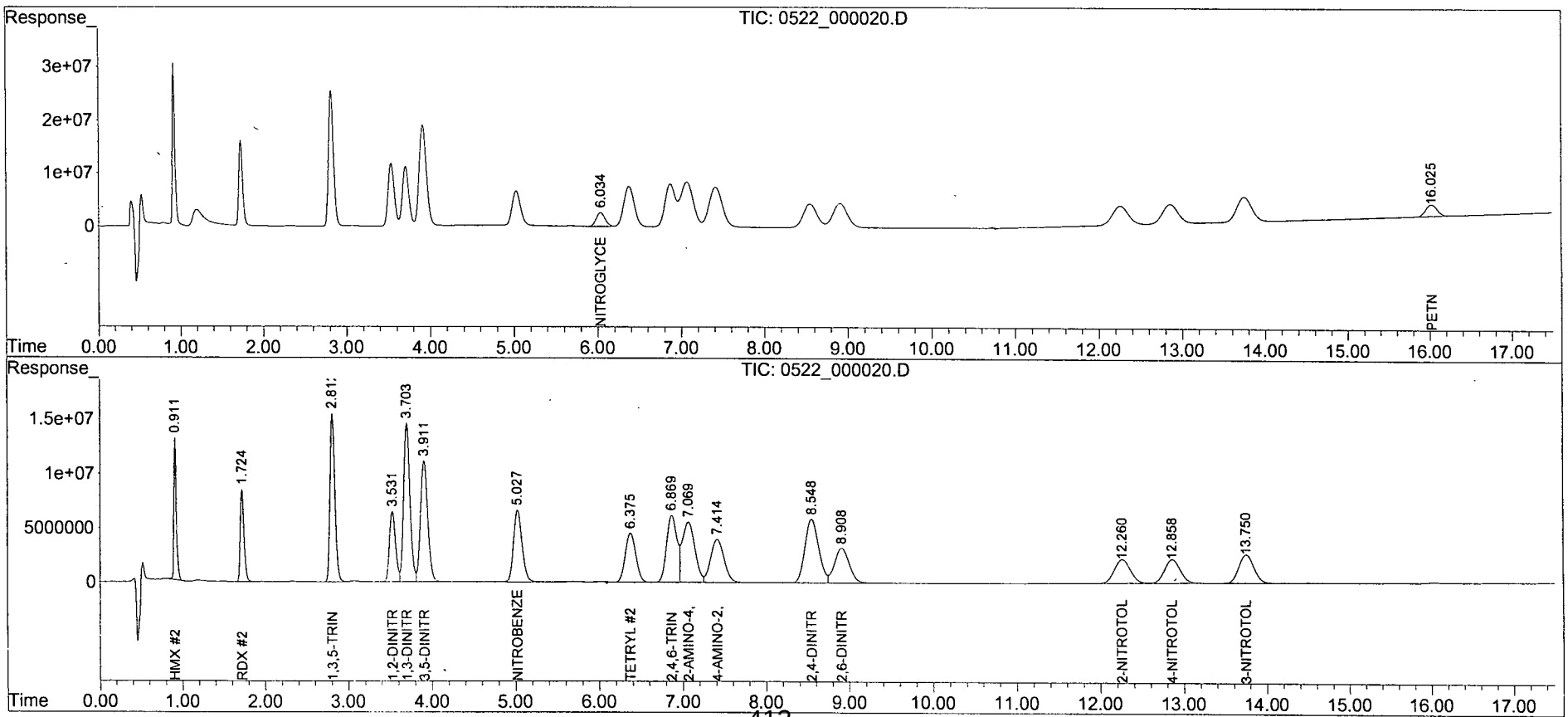
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000020.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 18:52:55
Operator : MP
Sample : 8330CB 0.50 PPM 05/22/15
Misc :
ALS Vial : 8390 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:49:26 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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

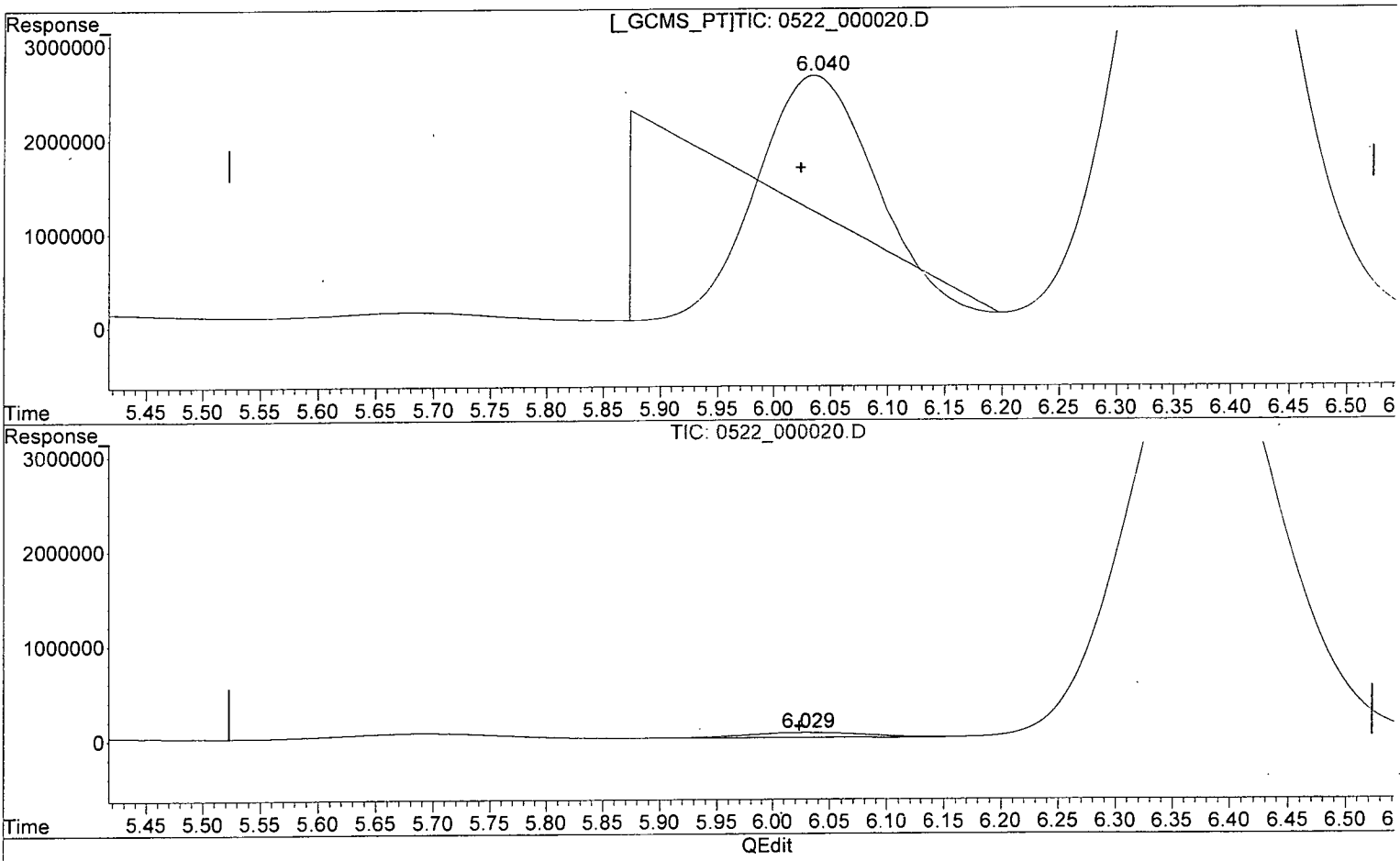


Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000020.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 18:52:55
Operator : MP
Sample : 8330CB 0.50 PPM 05/22/15
Misc :
ALS Vial : 8390 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:46:34 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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



(8) NITROGLYCERIN (TM)

6.035min 258.894 ppb

response 1442806

(8) NITROGLYCERIN #2 (TM)

6.029min 0.000 ppb

response 52764

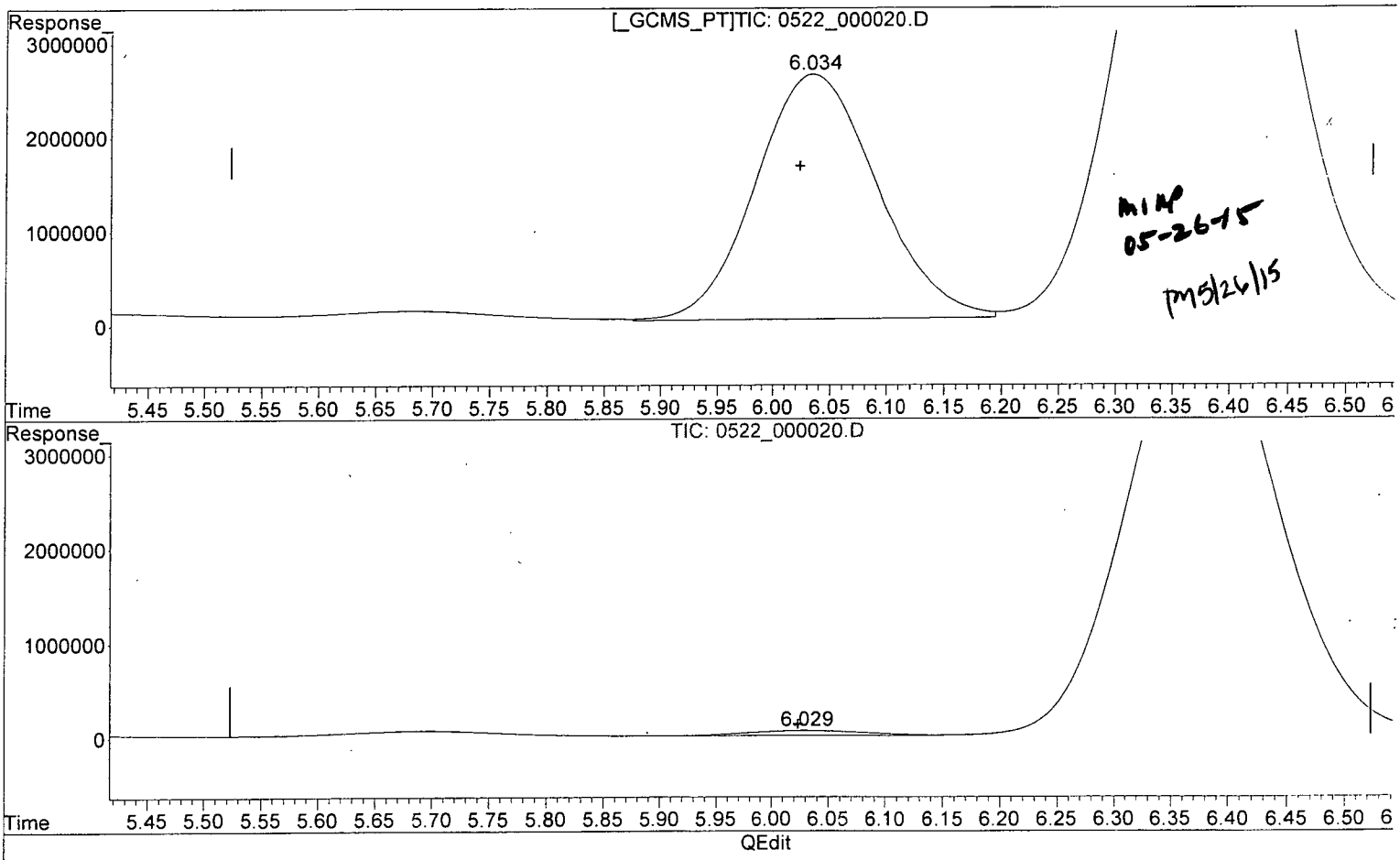
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000020.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 18:52:55
Operator : MP
Sample : 8330CB 0.50 PPM 05/22/15
Misc :
ALS Vial : 8390 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:46:34 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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)

6.034min 467.267 ppb m

response 2604059

(8) NITROGLYCERIN #2 (TM)

6.029min 0.000 ppb

response 52764

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000021.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 19:20:26
Operator : MP
Sample : 8330CB 1.0 PPM 05/22/15
Misc :
ALS Vial : 8391 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:48:19 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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	3.526	0	13063722	N.D.	958.702	#
	Spiked Amount 62.500			Recovery	=	0.00%	1533.92%	
	Target Compounds							
1)	TM HMX	0.000	0.910	0	25565755	N.D.	971.376	#
2)	TM RDX	0.000	1.721	0	16944805	N.D.	967.511	#
3)	TM 1,3,5-TRI...	0.000	2.808	0	30884999	N.D.	976.362	#
5)	TM 1,3-DINIT...	0.000	3.698	0	29294479	N.D.	969.330	#
6)	TM 3,5-DINIT...	0.000	3.906	0	22350043	N.D.	928.174	#
7)	TM NITROBENZENE	0.000	5.019	0	13349299	N.D.	965.330	#
8)	TM NITROGLYC...	6.023	6.020	5146871	112765	923.543m	NoCal	#
9)	TM TETRYL	6.365	6.365	14825795	9135558	NoCal	871.607	#
10)	TM 2,4,6-TRI...	6.859	6.859	16022681	12472012	NoCal	955.390	#
11)	TM 2-AMINO-4...	7.059	7.059	16751362	11202296	NoCal	902.846	#
12)	TM 4-AMINO-2...	7.403	7.403	14857900	8042665	NoCal	884.380	#
13)	TM 2,4-DINIT...	8.536	8.536	8720715	11903150	NoCal	939.648	#
14)	TM 2,6-DINIT...	8.897	8.897	8992506	6508725	NoCal	922.862	#
15)	TM 2-NITROTO...	0.000	12.251	0	4418487	N.D.	893.014	#
16)	TM 4-NITROTO...	0.000	12.850	0	4422161	N.D.	893.736	#
17)	TM 3-NITROTO...	0.000	13.745	0	5340802	N.D.	908.293	#
18)	TM PETN	16.021	0.000	4272602	0	928.769	N.D.	#

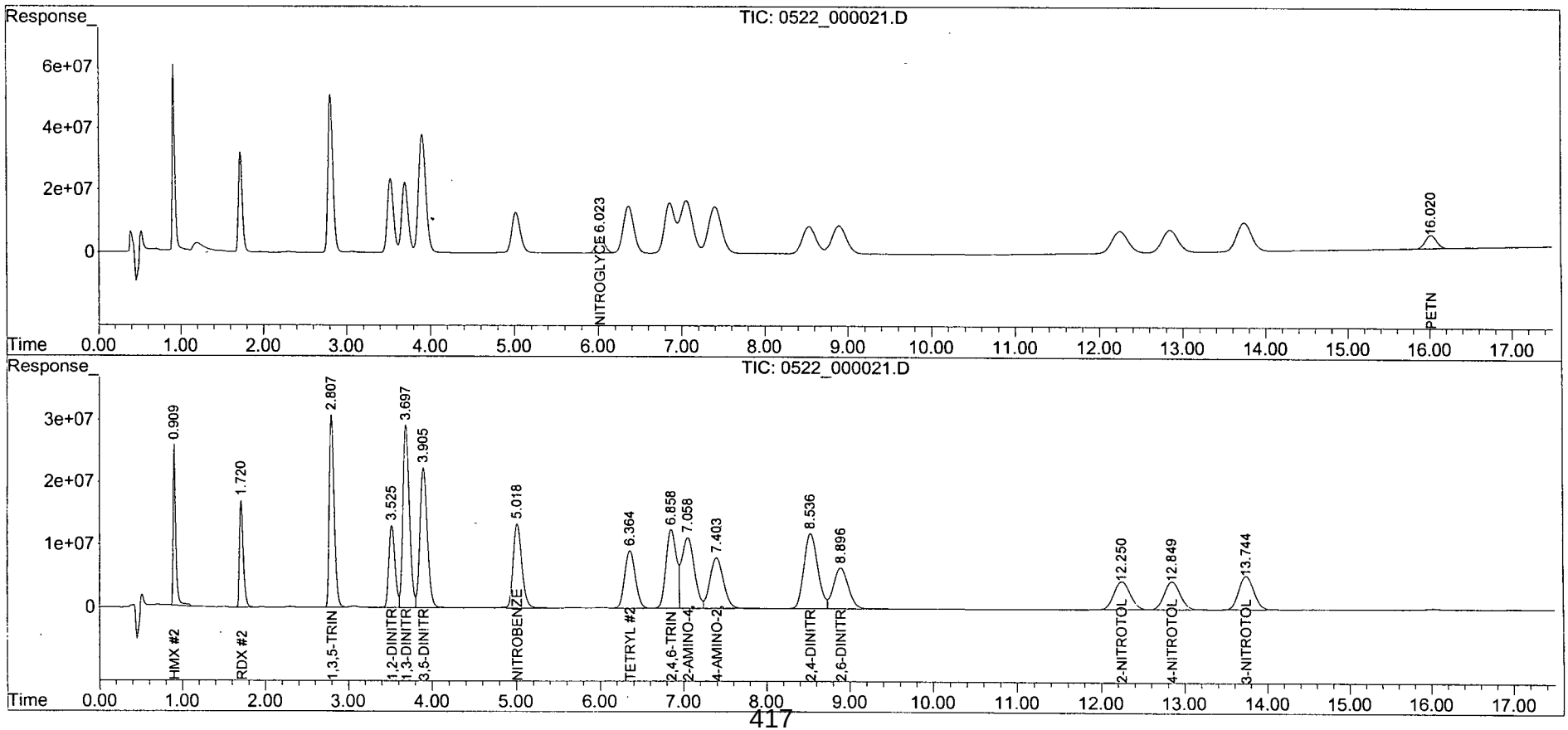
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000021.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 19:20:26
Operator : MP
Sample : 8330CB 1.0 PPM 05/22/15
Misc :
ALS Vial : 8391 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:48:19 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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

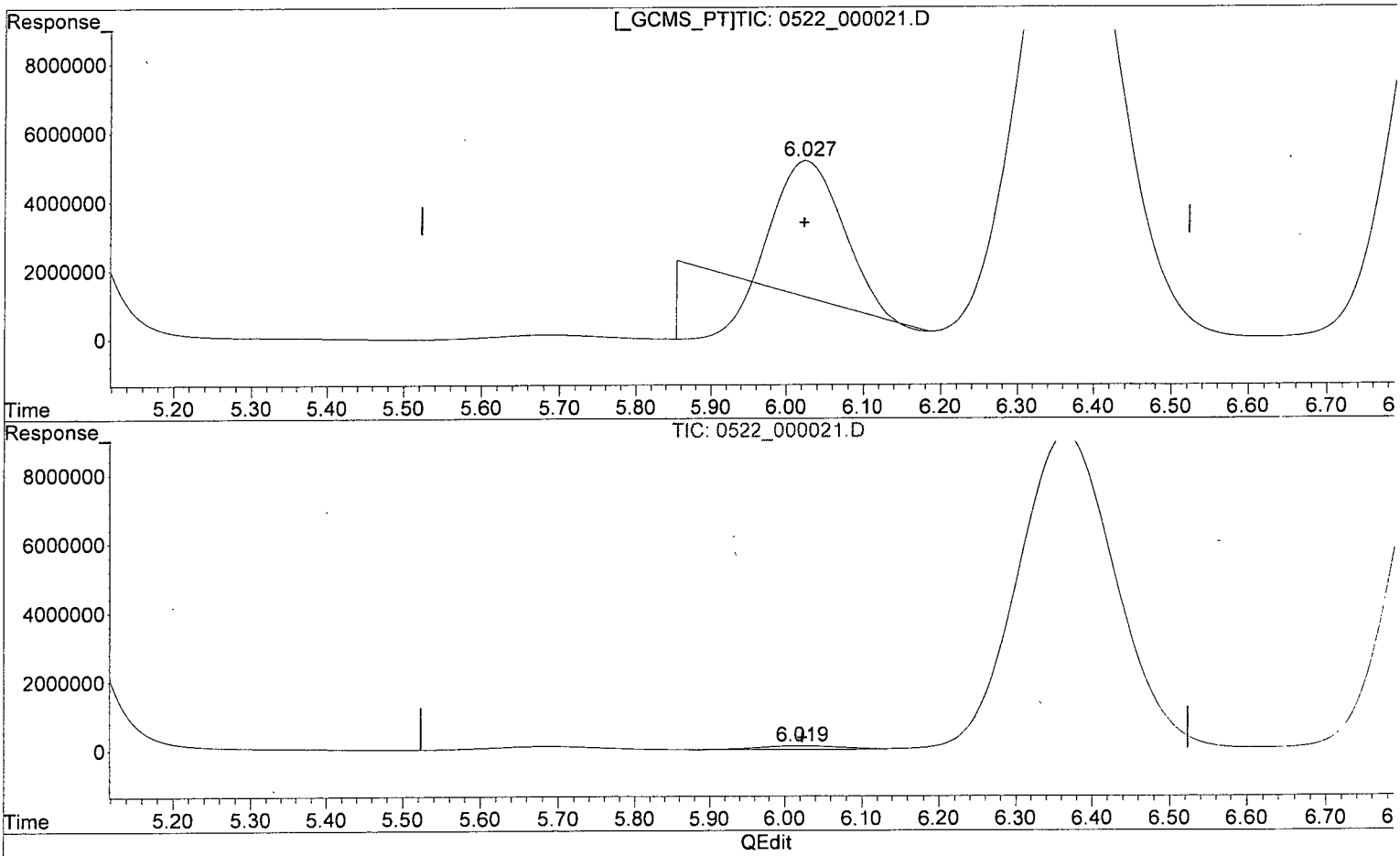


Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000021.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 19:20:26
Operator : MP
Sample : 8330CB 1.0 PPM 05/22/15
Misc :
ALS Vial : 8391 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:46:37 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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)

6.024min 711.081 ppb

response 3962825

(8) NITROGLYCERIN #2 (TM)

6.020min 0.000 ppb

response 112765

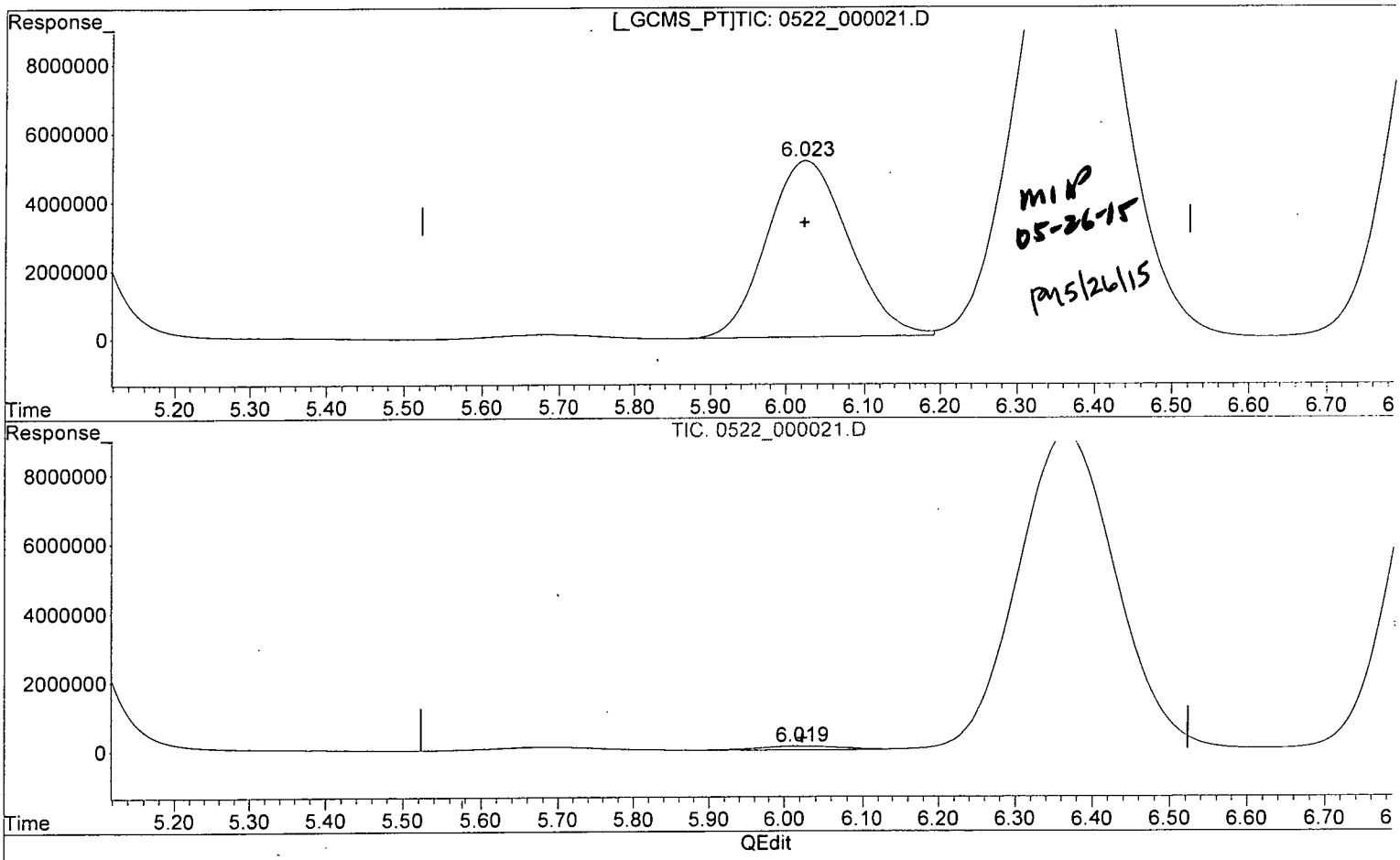
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000021.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 19:20:26
Operator : MP
Sample : 8330CB 1.0 PPM 05/22/15
Misc :
ALS Vial : 8391 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:46:37 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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)

6.023min 923.543 ppb m

response 5146871

(8) NITROGLYCERIN #2 (TM)

6.020min 0.000 ppb

response 112765

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000022.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 19:47:57
Operator : MP
Sample : 8330MXA 2.0 PPM 05/22/15
Misc :
ALS Vial : 8392 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:46:40 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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	3.528	0	26699791	N.D.	1959.407	#
	Spiked Amount 62.500			Recovery	=	0.00%	3135.05%	
	Target Compounds							
1)	TM HMX	0.000	0.909	0	51125746	N.D.	1942.533	#
2)	TM RDX	0.000	1.720	0	34296475	N.D.	1958.254	#
3)	TM 1,3,5-TRI...	0.000	2.808	0	62386918	N.D.	1972.226	#
5)	TM 1,3-DINIT...	0.000	3.700	0	59642142	N.D.	1973.509	#
6)	TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.	
7)	TM NITROBENZENE	0.000	5.022	0	27219378	N.D.	1968.320	#
8)	TM NITROGLYC...	5.993	5.988	-1131123	58860	N.D.	NoCal	
9)	TM TETRYL	6.370	6.370	31034512	18949650	NoCal	1807.952	#
10)	TM 2,4,6-TRI...	6.862	6.863	32706593	25443124	NoCal	1949.012	#
11)	TM 2-AMINO-4...	7.061	7.061	34245322	22905847	NoCal	1846.090	#
12)	TM 4-AMINO-2...	7.407	7.407	30318468	16364377	NoCal	1799.445	#
13)	TM 2,4-DINIT...	8.539	8.539	17785609	24299263	NoCal	1918.211	#
14)	TM 2,6-DINIT...	8.901	8.901	18336089	13284430	NoCal	1883.578	#
15)	TM 2-NITROTO...	0.000	12.247	0	9046766	N.D.	1828.429	#
16)	TM 4-NITROTO...	0.000	12.843	0	9037848	N.D.	1826.583	#
17)	TM 3-NITROTO...	0.000	13.739	0	10916758	N.D.	1856.579	#
18)	TM PETN	0.000	0.000	0	0	N.D.	N.D.	

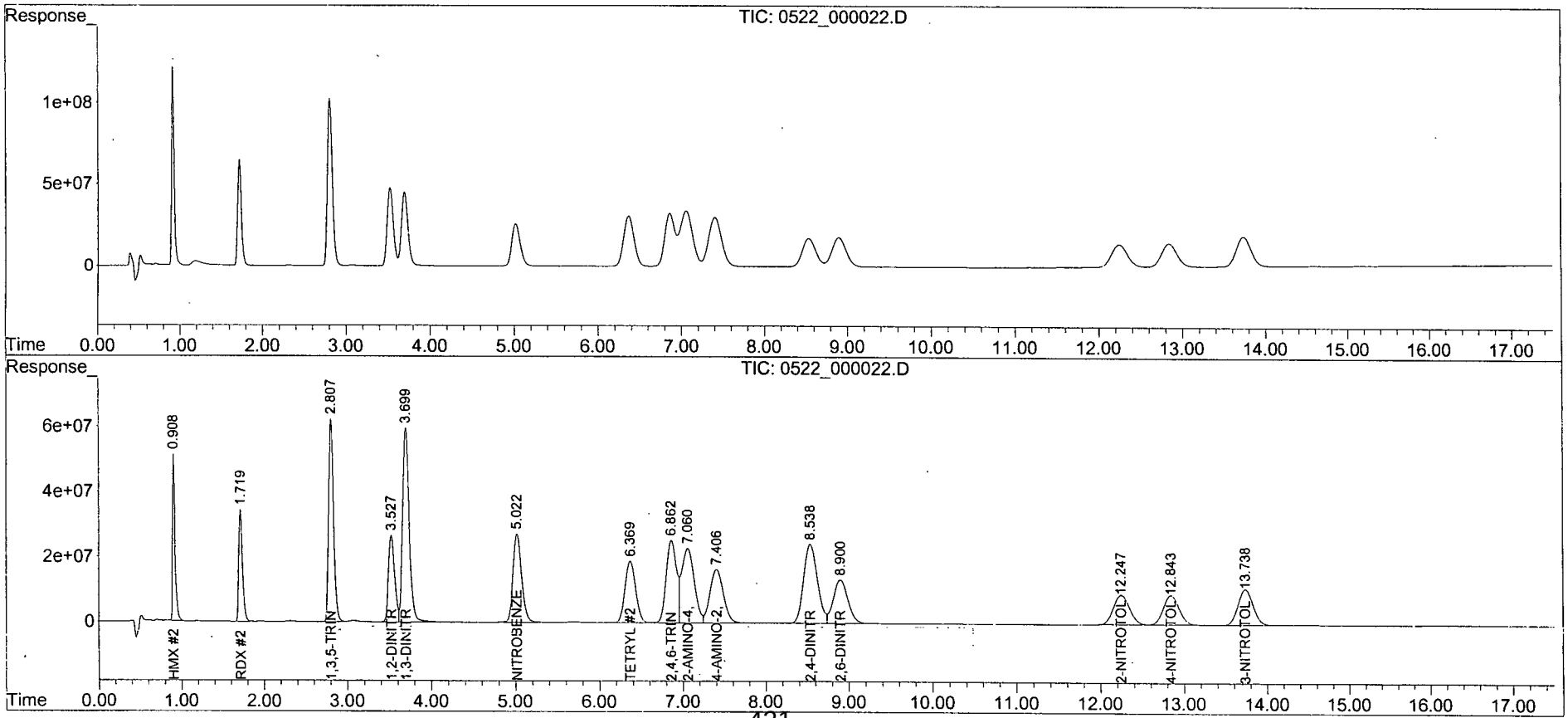
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000022.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 19:47:57
Operator : MP
Sample : 8330MXA 2.0 PPM 05/22/15
Misc :
ALS Vial : 8392 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 08:46:40 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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



W150522.M Sat May 23 08:47:52 2015 WALDORF Page: 2

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000023.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 20:15:27
Operator : MP
Sample : 8330MXB 2.0 PPM 05/22/15
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: May 23 08:47:01 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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	3.909	0	44937660	N.D.	1866.213 #
7)	TM NITROBENZENE	0.000	0.000	0	0	N.D. d	N.D. d
8)	TM NITROGLYC...	6.030	6.030	10501636	195853	1884.391	NoCal #
9)	TM TETRYL	0.000	0.000	0	0	N.D.	N.D.
10)	TM 2,4,6-TRI...	6.930	0.000	43283	0	NoCal	N.D.
11)	TM 2-AMINO-4...	7.080	0.000	15932	0	NoCal	N.D.
12)	TM 4-AMINO-2...	7.392	0.000	17692	0	NoCal	N.D.
13)	TM 2,4-DINIT...	8.533	0.000	10405	0	NoCal	N.D.
14)	TM 2,6-DINIT...	8.895	0.000	14327	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	16.008	0.000	8729316	0	1897.559	N.D. #

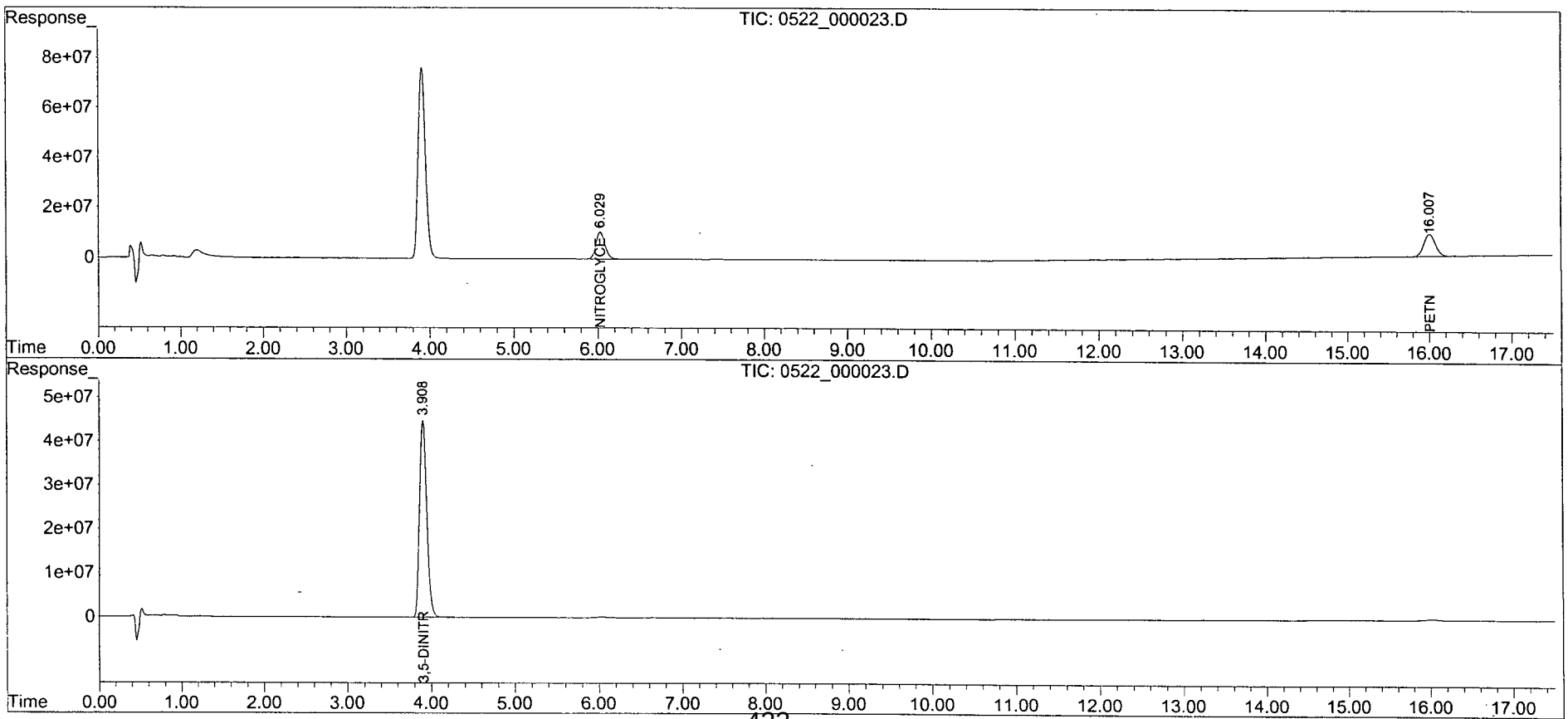
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000023.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 20:15:27
Operator : MP
Sample : 8330MXB 2.0 PPM 05/22/15
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: May 23 08:47:01 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Mon May 18 09:47:14 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: 76396
Date Analyzed: 22-May-2015, 21:37:58
Instrument: Waldorf
Initial Cal. Date: 05/22/15
Data File: 0522_000026-27.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	NITROGLYCERIN	131	133	1.4	TM	
2	TM	PETN	101	106	4.5	TM	
3		Signal #2					
4	TM	HMX	649	626	3.6	TM	
5	TM	RDX	426	425	0.10	TM	
6	TM	1,3,5-TRINITROBENZENE	774	720	6.9	TM	
7	S	1,2-DINITROBENZENE	323	342	5.8	S	
8	TM	1,3-DINITROBENZENE	729	738	1.3	TM	
9	TM	3,5-DINITROANILINE	556	588	5.8	TM	
10	TM	NITROBENZENE	334	336	0.73	TM	
11	TM	2,4,6-TRINITROTOLUENE	313	318	1.6	TM	
12	TM	2-AMINO-4,6-DINITROTOLUEN	281	262	6.7	TM	
13	TM	4-AMINO-2,6-DINITROTOLUEN	202	218	7.9	TM	
14	TM	2,4-DINITROTOLUENE	295	312	5.7	TM	
15	TM	2,6-DINITROTOLUENE	163	169	3.9	TM	
16	TM	2-NITROTOLUENE	112	114	1.8	TM	
17	TM	4-NITROTOLUENE	111	113	2.0	TM	
18	TM	3-NITROTOLUENE	132	140	5.6	TM	
19	TM	TETRYL	229	245	7.1	TM	
20							
21							
22							
23							
24							
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36							
37							
38							
39							

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000026.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 21:37:58
Operator : MP
Sample : 8330_SS 1.0 PPM 05/22/15
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: May 23 09:09:58 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:07:30 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

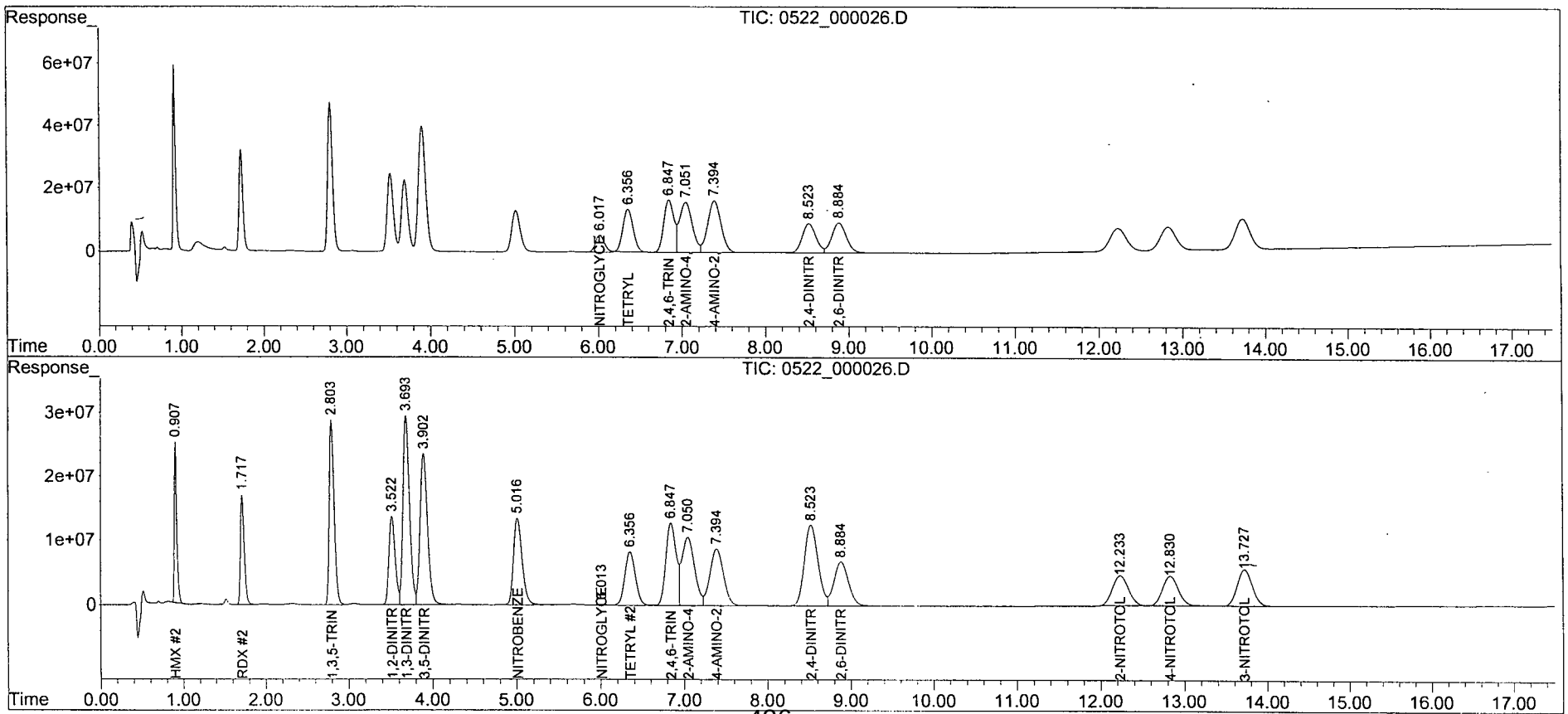
	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.523	0	13686166	N.D.	1057.681	#
	Spiked Amount 62.500			Recovery	=	0.00%	1692.29%	
	Target Compounds							
1)	TM HMX	0.000	0.909	0	25046700	N.D.	964.148	#
2)	TM RDX	0.000	1.718	0	17015404	N.D.	999.040	#
3)	TM 1,3,5-TRI...	0.000	2.804	0	28816272	N.D.	931.072	#
5)	TM 1,3-DINIT...	0.000	3.694	0	29521663	N.D.	1012.793	#
6)	TM 3,5-DINIT...	0.000	3.902	0	23531862	N.D.	1058.480	#
7)	TM NITROBENZENE	0.000	5.017	0	13449297	N.D.	1007.346	#
8)	TM NITROGLYC...	6.017	6.014	5329290	133108	1013.653m	1252.663	
9)	TM TETRYL	6.357	6.357	13306833	8224915	859.217	898.255	
10)	TM 2,4,6-TRI...	6.848	6.848	16398781	12711220	1144.544	1015.917	
11)	TM 2-AMINO-4...	7.051	7.051	15700744	10493610	1032.426	933.290	
12)	TM 4-AMINO-2...	7.394	7.394	16165189	8739257	1181.397	1079.454	
13)	TM 2,4-DINIT...	8.524	8.524	9095826	12483512	1103.768	1057.219	
14)	TM 2,6-DINIT...	8.885	8.885	9342247	6759755	1113.774	1039.487	
15)	TM 2-NITROTO...	0.000	12.234	0	4563295	N.D.	1017.803	#
16)	TM 4-NITROTO...	0.000	12.831	0	4522887	N.D.	1019.826	#
17)	TM 3-NITROTO...	0.000	13.728	0	5592648	N.D.	1056.099	#
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.

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000026.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 21:37:58
Operator : MP
Sample : 8330_SS 1.0 PPM 05/22/15
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: May 23 09:09:58 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:07:30 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

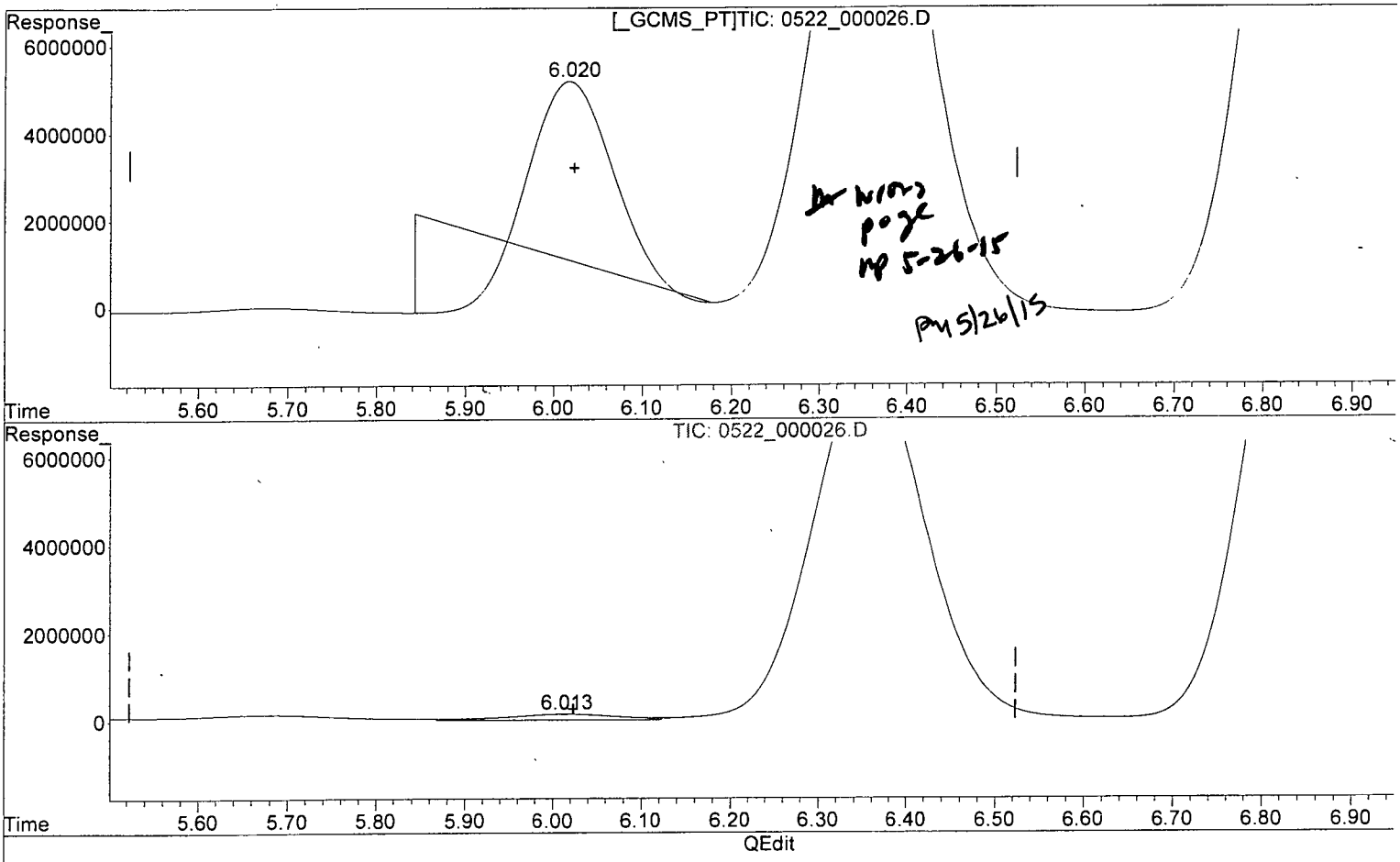


Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000026.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 21:37:58
Operator : MP
Sample : 8330_SS 1.0 PPM 05/22/15
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: May 23 09:08:46 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:07:30 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



(8) NITROGLYCERIN (TM)

6.018min 780.047 ppb

response 4101103

(8) NITROGLYCERIN #2 (TM)

6.014min 1252.663 ppb

response 133108

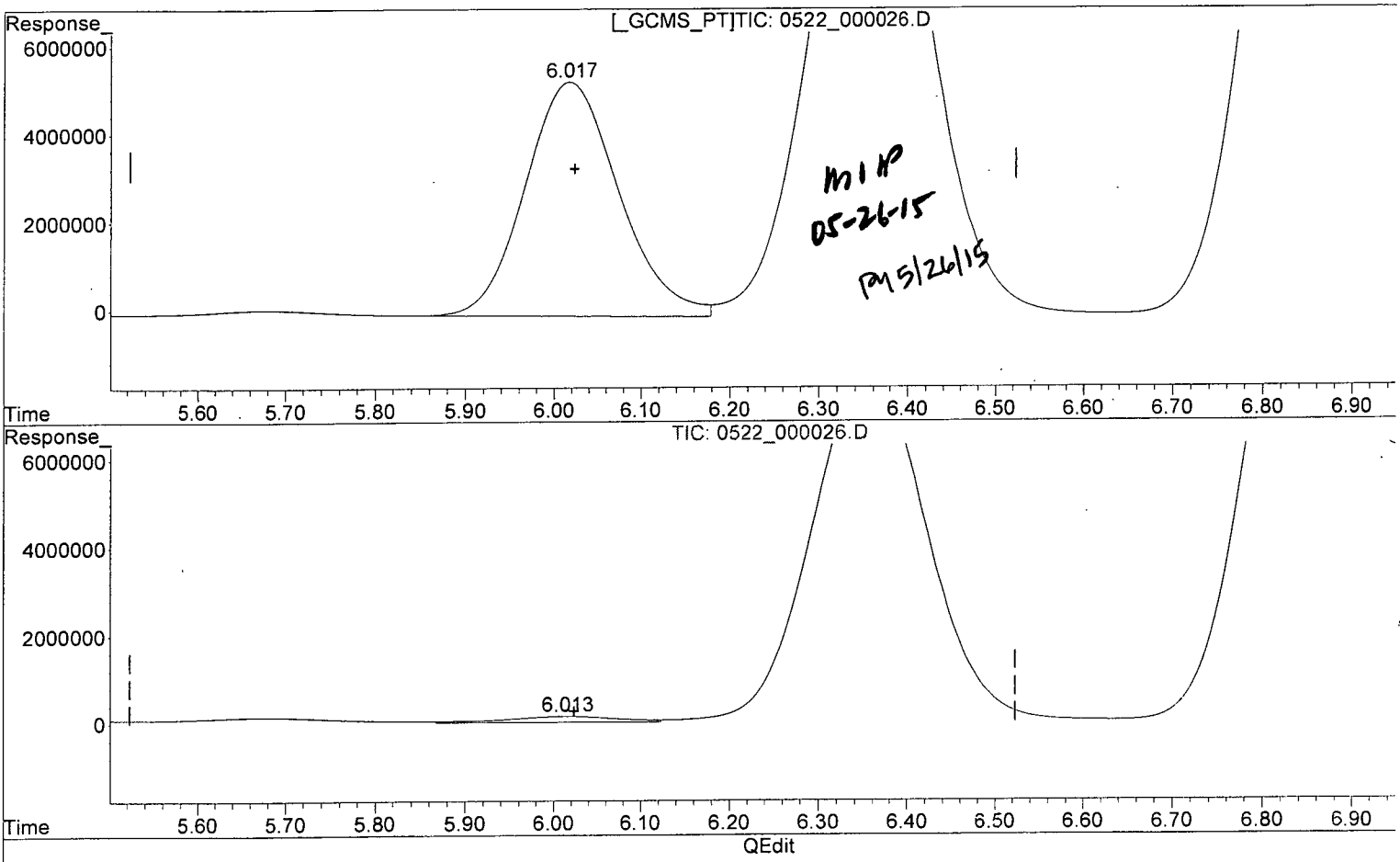
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000026.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 21:37:58
Operator : MP
Sample : 8330_SS 1.0 PPM 05/22/15
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: May 23 09:08:46 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:07:30 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)

6.017min 1013.653 ppb m

response 5329290

(8) NITROGLYCERIN #2 (TM)

6.014min 1252.663 ppb

response 133108

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000027.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 22:05:29
Operator : MP
Sample : PETN_TETRYL_SS 1.0 PPM 05/22/51
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: May 23 09:09:04 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:07:30 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	6.363	6.363	16063827	9806270	1037.235	1070.957
10)	TM 2,4,6-TRI...	0.000	0.000	0	0	N.D. d	N.D. d
11)	TM 2-AMINO-4...	0.000	0.000	0	0	N.D. d	N.D. d
12)	TM 4-AMINO-2...	0.000	0.000	0	0	N.D. d	N.D. d
13)	TM 2,4-DINIT...	0.000	0.000	0	0	N.D. d	N.D. d
14)	TM 2,6-DINIT...	0.000	0.000	0	0	N.D. d	N.D. 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	15.990	0.000	4238463	0	1044.738	N.D. #

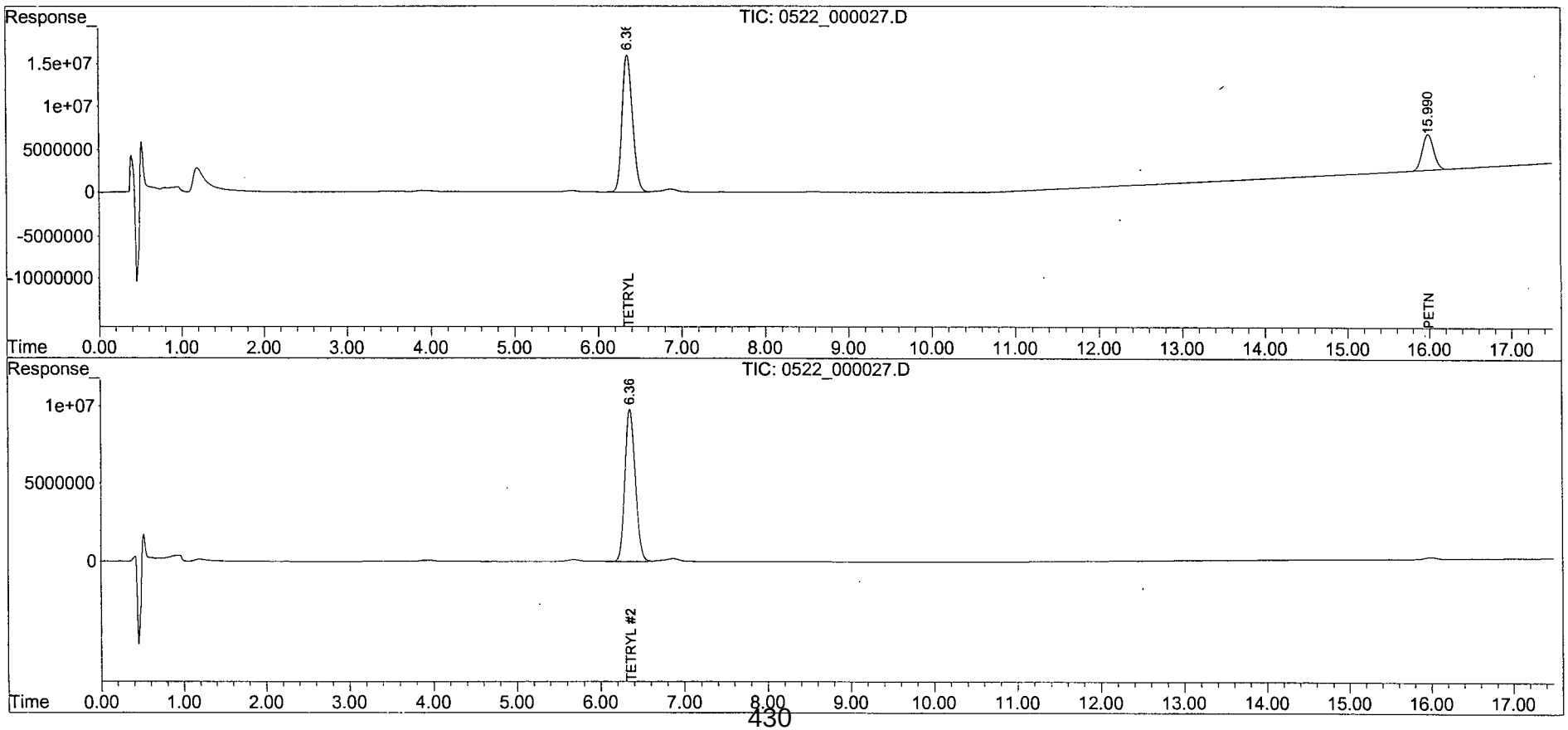
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000027.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 22-May-2015, 22:05:29
Operator : MP
Sample : PETN_TETRYL_SS 1.0 PPM 05/22/51
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: May 23 09:09:04 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:07:30 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. SDG No: 76390

Case No: Date Analyzed: 23-May-2015, 08:13:14

Matrix: Instrument: Waldorf

Initial Cal. Date: 05/22/15

Data File: 0522_000044.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	NITROGLYCERIN	131	131	0.25	TM	
2	TM	PETN	101	107	5.1	TM	
3		Signal #2					
4	TM	HMX	649	644	0.81	TM	
5	TM	RDX	426	425	0.26	TM	
6	TM	1,3,5-TRINITROBENZENE	774	768	0.78	TM	
7	S	1,2-DINITROBENZENE	323	326	0.72	S	
8	TM	1,3-DINITROBENZENE	729	730	0.19	TM	
9	TM	3,5-DINITROANILINE	556	555	0.22	TM	
10	TM	NITROBENZENE	334	327	2.0	TM	
11	TM	TETRYL	229	230	0.49	TM	
12	TM	2,4,6-TRINITROTOLUENE	313	309	1.1	TM	
13	TM	2-AMINO-4,6-DINITROTOLUEN	281	278	1.0	TM	
14	TM	4-AMINO-2,6-DINITROTOLUEN	202	201	0.66	TM	
15	TM	2,4-DINITROTOLUENE	295	297	0.60	TM	
16	TM	2,6-DINITROTOLUENE	163	163	0.32	TM	
17	TM	2-NITROTOLUENE	112	110	2.2	TM	
18	TM	4-NITROTOLUENE	111	110	0.46	TM	
19	TM	3-NITROTOLUENE	132	132	0.46	TM	
20							
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40							

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000044.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 08:13:14
Operator : MP
Sample : 8330_CCV 1.0 PPM 05/22/15
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 09:20:22 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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	3.551	0	13033262	N.D.	1007.224	#
	Spiked Amount 62.500			Recovery	=	0.00%	1611.56%	
	Target Compounds							
1)	TM HMX	0.000	0.913	0	25766714	N.D.	991.864	#
2)	TM RDX	0.000	1.731	0	16987352	N.D.	997.393	#
3)	TM 1,3,5-TRI...	0.000	2.824	0	30707028	N.D.	992.164	#
5)	TM 1,3-DINIT...	0.000	3.721	0	29203547	N.D.	1001.879	#
6)	TM 3,5-DINIT...	0.000	3.940	0	22182417	N.D.	997.781	#
7)	TM NITROBENZENE	0.000	5.048	0	13078148	N.D.	979.547	#
8)	TM NITROGLYC...	6.054	6.051	5244498	110802	997.525	NoCal	#
9)	TM TETRYL	6.418	6.418	15123905	9201676	NoCal	1004.929	#
10)	TM 2,4,6-TRI...	6.901	6.901	15976632	12376178	NoCal	989.139	#
11)	TM 2-AMINO-4...	7.121	7.121	16781376	11131401	NoCal	990.015	#
12)	TM 4-AMINO-2...	7.465	7.465	14971759	8042355	NoCal	993.374	#
13)	TM 2,4-DINIT...	8.589	8.589	8718482	11878656	NoCal	1005.994	#
14)	TM 2,6-DINIT...	8.950	8.950	8997170	6524085	NoCal	1003.246	#
15)	TM 2-NITROTO...	0.000	12.291	0	4383143	N.D.	977.622	#
16)	TM 4-NITROTO...	0.000	12.888	0	4414548	N.D.	995.397	#
17)	TM 3-NITROTO...	0.000	13.778	0	5271169	N.D.	995.392	#
18)	TM PETN	16.034	0.000	4263867	0	1051.000	N.D.	#

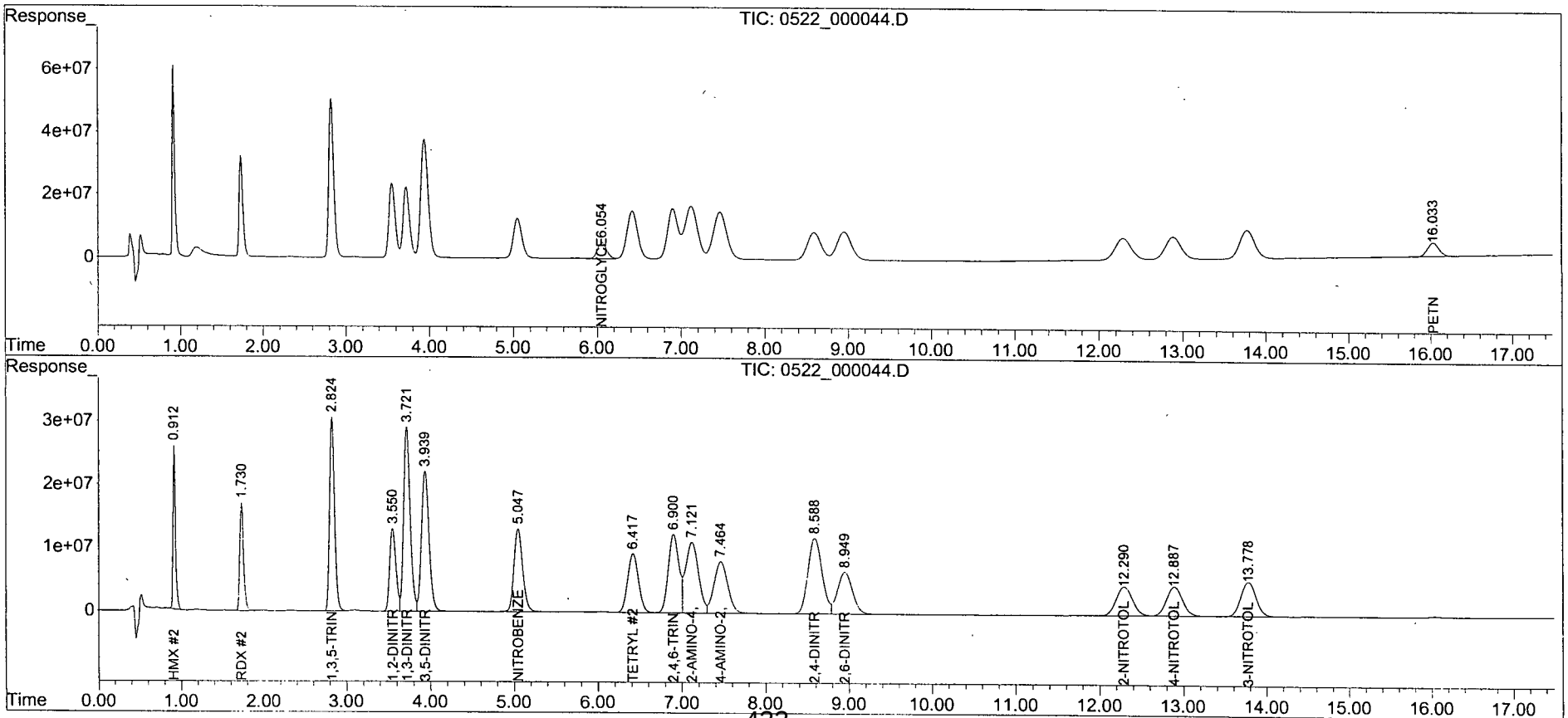
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000044.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 08:13:14
Operator : MP
Sample : 8330_CCV 1.0 PPM 05/22/15
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 09:20:22 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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



W150522.M Sat May 23 09:20:52 2015 WALDORF Page: 2

Form 7

Continuing Calibration

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

SDG No: 76396
Date Analyzed: 23-May-2015, 17:25:54
Instrument: Waldorf
Initial Cal. Date: 05/22/15
Data File: 0522_000059.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	NITROGLYCERIN	131	129	2.0	TM	
2	TM	PETN	101	105	3.6	TM	
3		Signal #2					
4	TM	HMX	649	648	0.20	TM	
5	TM	RDX	426	424	0.51	TM	
6	TM	1,3,5-TRINITROBENZENE	774	762	1.5	TM	
7	S	1,2-DINITROBENZENE	323	324	0.04	S	
8	TM	1,3-DINITROBENZENE	729	723	0.72	TM	
9	TM	3,5-DINITROANILINE	556	550	0.97	TM	
10	TM	NITROBENZENE	334	315	5.5	TM	
11	TM	TETRYL	229	224	2.1	TM	
12	TM	2,4,6-TRINITROTOLUENE	313	305	2.4	TM	
13	TM	2-AMINO-4,6-DINITROTOLUEN	281	277	1.4	TM	
14	TM	4-AMINO-2,6-DINITROTOLUEN	202	199	1.8	TM	
15	TM	2,4-DINITROTOLUENE	295	292	1.0	TM	
16	TM	2,6-DINITROTOLUENE	163	160	1.3	TM	
17	TM	2-NITROTOLUENE	112	104	7.4	TM	
18	TM	4-NITROTOLUENE	111	106	4.2	TM	
19	TM	3-NITROTOLUENE	132	126	4.6	TM	
20							
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Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000059.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 17:25:54
Operator : MP
Sample : 8330_CCV 1.0 PPM 05/22/15
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 24 12:50:44 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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	3.533	0	12945069	N.D.	1000.409	#
	Spiked Amount 62.500			Recovery =		0.00%	1600.65%	
	Target Compounds							
1)	TM HMX	0.000	0.907	0	25927371	N.D.	998.049	#
2)	TM RDX	0.000	1.721	0	16944784	N.D.	994.893	#
3)	TM 1,3,5-TRI...	0.000	2.814	0	30478139	N.D.	984.768	#
5)	TM 1,3-DINIT...	0.000	3.706	0	28937562	N.D.	992.754	#
6)	TM 3,5-DINIT...	0.000	3.915	0	22016827	N.D.	990.332	#
7)	TM NITROBENZENE	0.000	5.029	0	12613342	N.D.	944.733	#
8)	TM NITROGLYC...	6.040	0.000	5153242	0	980.168	N.D.	d#
9)	TM TETRYL	6.386	6.385	14745789	8968494	NoCal	979.462	#
10)	TM 2,4,6-TRI...	6.880	6.880	15758872	12212506	NoCal	976.058	#
11)	TM 2-AMINO-4...	7.078	7.078	16626480	11087756	NoCal	986.133	#
12)	TM 4-AMINO-2...	7.423	7.423	14701202	7947388	NoCal	981.644	#
13)	TM 2,4-DINIT...	8.560	8.560	8601896	11688477	NoCal	989.888	#
14)	TM 2,6-DINIT...	8.919	8.919	8886920	6418681	NoCal	987.038	#
15)	TM 2-NITROTO...	0.000	12.260	0	4151380	N.D.	925.929	#
16)	TM 4-NITROTO...	0.000	12.857	0	4249833	N.D.	958.257	#
17)	TM 3-NITROTO...	0.000	13.748	0	5051798	N.D.	953.966	#
18)	TM PETN	16.028	0.000	4204550	0	1036.379	N.D.	#

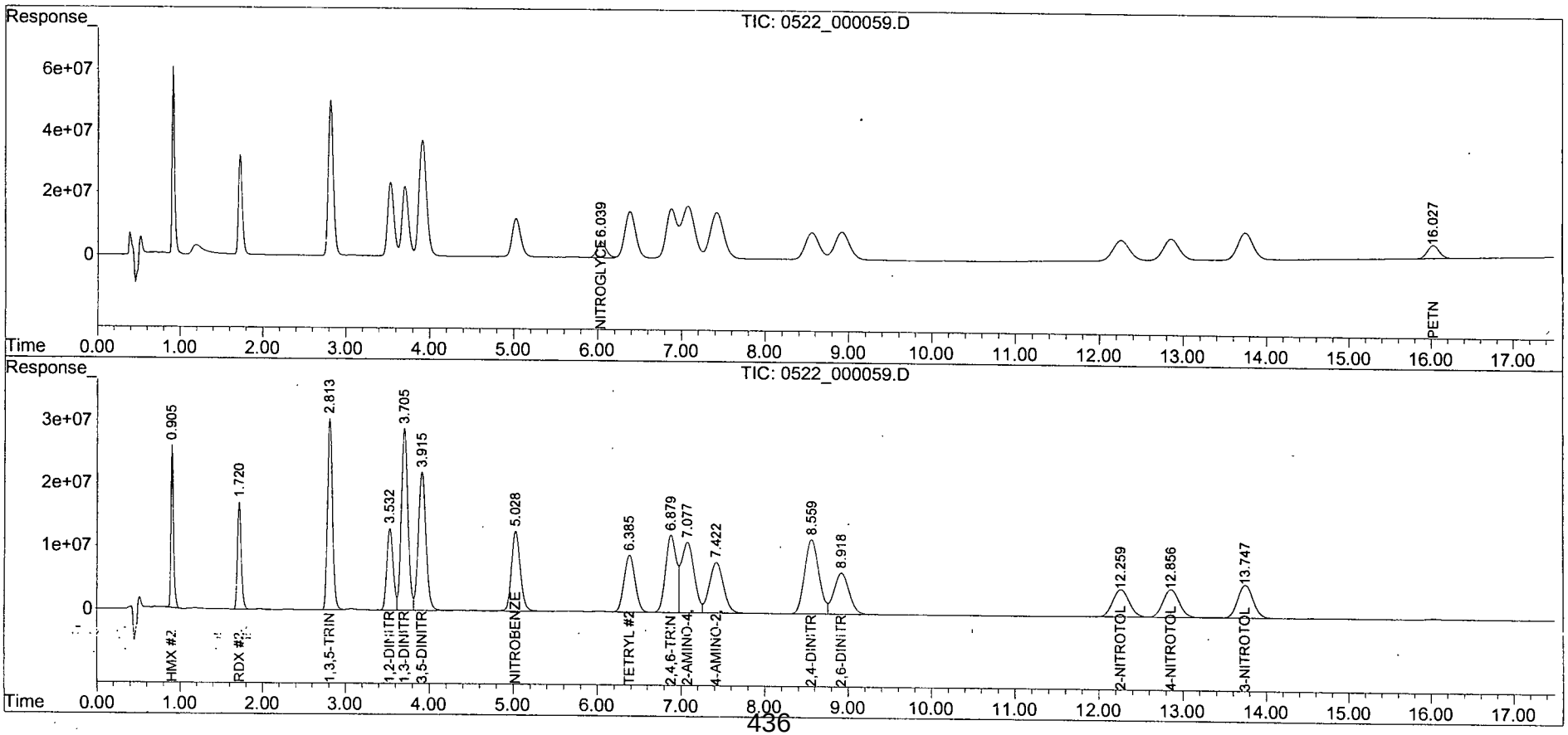
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000059.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 17:25:54
Operator : MP
Sample : 8330_CCV 1.0 PPM 05/22/15
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 24 12:50:44 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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. SDG No: 76396

Case No: Date Analyzed: 23-May-2015, 22:53:30

Matrix: Instrument: Waldorf

Initial Cal. Date: 05/22/15

Data File: 0522_000068.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	NITROGLYCERIN	131	129	1.8	TM	
2	TM	PETN	101	105	4.0	TM	
3		Signal #2					
4	TM	HMX	649	642	1.2	TM	
5	TM	RDX	426	424	0.37	TM	
6	TM	1,3,5-TRINITROBENZENE	774	762	1.5	TM	
7	S	1,2-DINITROBENZENE	323	325	0.32	S	
8	TM	1,3-DINITROBENZENE	729	726	0.31	TM	
9	TM	3,5-DINITROANILINE	556	552	0.74	TM	
10	TM	NITROBENZENE	334	313	6.3	TM	
11	TM	TETRYL	229	225	1.9	TM	
12	TM	2,4,6-TRINITROTOLUENE	313	306	2.2	TM	
13	TM	2-AMINO-4,6-DINITROTOLUEN	281	277	1.6	TM	
14	TM	4-AMINO-2,6-DINITROTOLUEN	202	199	1.6	TM	
15	TM	2,4-DINITROTOLUENE	295	294	0.28	TM	
16	TM	2,6-DINITROTOLUENE	163	162	0.66	TM	
17	TM	2-NITROTOLUENE	112	104	7.3	TM	
18	TM	4-NITROTOLUENE	111	106	4.0	TM	
19	TM	3-NITROTOLUENE	132	126	4.9	TM	
20							
21							
22							
23							
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39							
40							

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000068.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 22:53:30
Operator : MP
Sample : 8330_CCV 1.0 PPM 05/22/15
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 24 12:53:13 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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

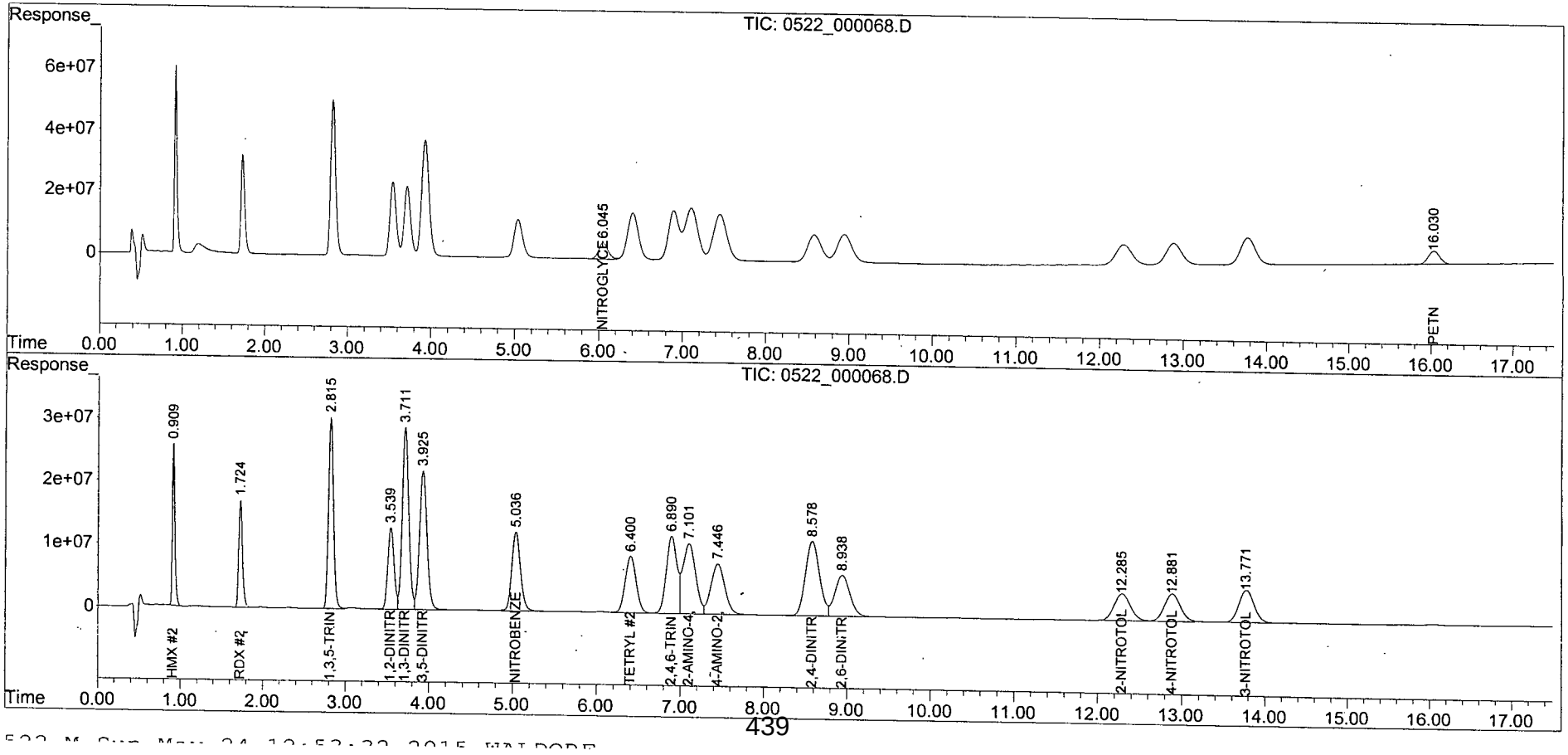
	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb	
	System Monitoring Compounds							
4)	S 1,2-DINIT...	0.000	3.539	0	12980583	N.D.	1003.153	#
	Spiked Amount 62.500			Recovery =		0.00%	1605.04%	
	Target Compounds							
1)	TM HMX	0.000	0.910	0	25676688	N.D.	988.399	#
2)	TM RDX	0.000	1.725	0	16968203	N.D.	996.268	#
3)	TM 1,3,5-TRI...	0.000	2.816	0	30491590	N.D.	985.203	#
5)	TM 1,3-DINIT...	0.000	3.711	0	29059401	N.D.	996.934	#
6)	TM 3,5-DINIT...	0.000	3.926	0	22066952	N.D.	992.587	#
7)	TM NITROBENZENE	0.000	5.037	0	12513311	N.D.	937.241	#
8)	TM NITROGLYC...	6.046	0.000	5160793	0	981.604	N.D.	d#
9)	TM TETRYL	6.401	6.401	14747062	8982479	NoCal	980.990	#
10)	TM 2,4,6-TRI...	6.891	6.891	15745431	12231466	NoCal	977.574	#
11)	TM 2-AMINO-4...	7.102	7.102	16596591	11062212	NoCal	983.861	#
12)	TM 4-AMINO-2...	7.447	7.447	14747292	7964425	NoCal	983.748	#
13)	TM 2,4-DINIT...	8.579	8.579	8647210	11775148	NoCal	997.228	#
14)	TM 2,6-DINIT...	8.939	8.939	8924288	6460151	NoCal	993.415	#
15)	TM 2-NITROTO...	0.000	12.286	0	4157326	N.D.	927.255	#
16)	TM 4-NITROTO...	0.000	12.882	0	4258177	N.D.	960.139	#
17)	TM 3-NITROTO...	0.000	13.771	0	5037397	N.D.	951.247	#
18)	TM PETN	16.031	0.000	4219801	0	1040.138	N.D.	#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000068.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 22:53:30
Operator : MP
Sample : 8330_CCV 1.0 PPM 05/22/15
Misc :
ALS Vial : 4423 Sample Multiplier: 1

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 24 12:53:13 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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 SOIL

Blank Name/QCG: **150520S-16137 - 197310**
Batch ID: #83BJU-150520A

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	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
BLANK	2,6-DINITROTOLUENE	0.200 U	0.50	0.200	0.083	mg/kg	05/20/15	05/23/15
BLANK	HMX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
BLANK	NITROGLYCERIN	0.200 U	0.50	0.200	0.085	mg/kg	05/20/15	05/23/15
BLANK	RDX	0.200 U	0.50	0.200	0.080	mg/kg	05/20/15	05/23/15
BLANK	TETRYL	0.200 U	0.50	0.200	0.091	mg/kg	05/20/15	05/23/15
BLANK	SURROGATE: 1,2-DINITROBENZ	95.0	70-130			%	05/20/15	05/23/15

Quant Method: W150522.M
Run #: 0522_000051
Instrument: Waldorf
Sequence: 150522
Initials: MP

GC SC-Blank-REG MDLs
Printed: 05/26/15 10:52:59 AM

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000051.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 12:25:49
Operator : MP
Sample : 150520ABLKS 7.992 DF 05/20/15
Misc : Soil
ALS Vial : 4227 Sample Multiplier: 7.99201

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 26 07:31:13 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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	3.535	0	922186	N.D.	569.571 #
Spiked Amount 599.401			Recovery	=	0.00%	95.02%
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	0.000	0	0	N.D. d<DL	N.D.
9) TM TETRYL	6.426	0.000	5874	0	NoCal	N.D.
10) TM 2,4,6-TRI...	6.903	0.000	11606	0	NoCal	N.D.
11) TM 2-AMINO-4...	7.130	0.000	5700	0	NoCal	N.D.
12) TM 4-AMINO-2...	7.410	0.000	19856	0	NoCal	N.D.
13) TM 2,4-DINIT...	8.656	0.000	11827	0	NoCal	N.D.
14) TM 2,6-DINIT...	8.963	0.000	7121	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	0.000	0.000	0	0	N.D.	N.D.

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

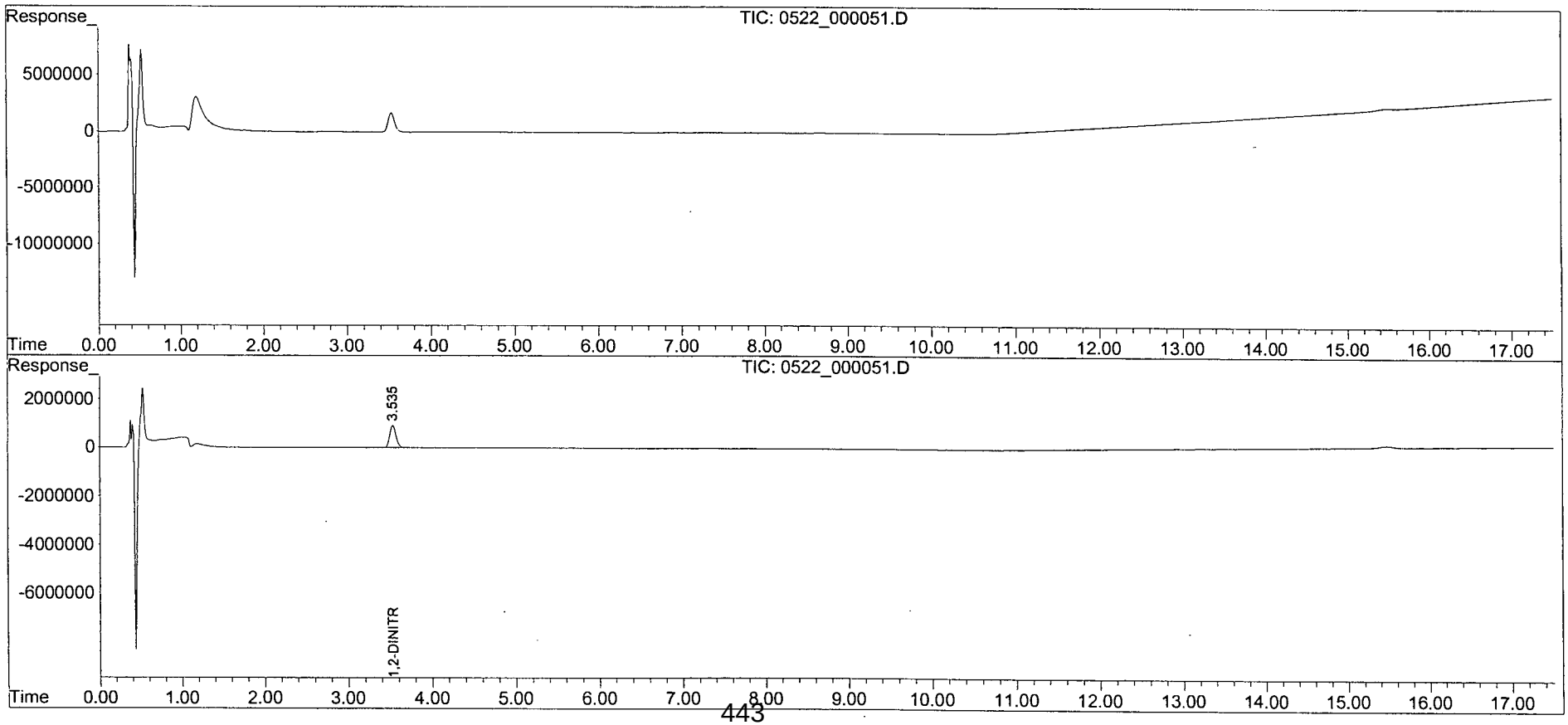
MP 05-26-15

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000051.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 12:25:49
Operator : MP
Sample : 150520ABLKS 7.992 DF 05/20/15
Misc : Soil
ALS Vial : 4227 Sample Multiplier: 7.99201

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 26 07:31:13 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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



Laboratory Control Spike Recovery
EPA 8330B SOIL

APPL ID: **150520S-16137 LCS - 197310**
Batch ID: #83BJU-150520A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level mg/kg	SPK Result mg/kg	SPK % Recovery	Recovery Limits
2,4-DINITROTOLUENE	1.99	1.83	92.0	80-125
2,6-DINITROTOLUENE	1.99	1.84	92.5	80-120
HMX	1.99	1.90	95.5	75-125
NITROGLYCERIN	1.99	1.83	92.0	68-131
RDX	1.99	1.83	92.0	70-135
TETRYL	1.99	1.97	99.0	10-150
SURROGATE: 1,2-DINITROBENZENE (S	1.99	1.82	91.5	70-130

Comments: _____

Primary	SPK
Quant Method :	W150522.M
Extraction Date :	05/20/15
Analysis Date :	05/23/15
Instrument :	Waldorf
Run :	0522_000048
Initials :	MP

Printed: 05/26/15 10:52:51 AM
APPL Standard LCS

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000048.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 10:33:19
Operator : MP
Sample : 150520ALCS-1 7.952 DF 05/20/15
Misc : Soil
ALS Vial : 4224 Sample Multiplier: 7.95229

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 12:45:09 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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	3.538	0	2966342	N.D.	1822.999 #
Spiked Amount 596.421			Recovery =		0.00%	305.66%
Target Compounds						
1) TM HMX	0.000	0.917	0	6196311	N.D.	1896.787m#
2) TM RDX	0.000	1.730	0	3909361	N.D.	1825.318 #
3) TM 1,3,5-TRI...	0.000	2.819	0	7040913	N.D.	1809.117 #
5) TM 1,3-DINIT...	0.000	3.709	0	6516140	N.D.	1777.716 #
6) TM 3,5-DINIT...	0.000	0.000	0	0	N.D.	N.D.
7) TM NITROBENZENE	0.000	5.028	0	2944254	N.D.	1753.664 #
8) TM NITROGLYC...	6.041	6.035	1209690	27493	1829.727	NoCal #
9) TM TETRYL	6.383	6.383	3717267	2273302	NoCal	1974.320 #
10) TM 2,4,6-TRI...	6.875	6.875	3755806	2921104	NoCal	1856.565 #
11) TM 2-AMINO-4...	7.068	7.068	3897276	2598275	NoCal	1837.677 #
12) TM 4-AMINO-2...	7.412	7.412	3287013	1770809	NoCal	1739.376 #
13) TM 2,4-DINIT...	8.551	8.550	2015770	2719081	NoCal	1831.228 #
14) TM 2,6-DINIT...	8.909	8.908	2154262	1503057	NoCal	1838.043 #
15) TM 2-NITROTO...	0.000	12.245	0	975996	N.D.	1731.112 #
16) TM 4-NITROTO...	0.000	12.845	0	1000097	N.D.	1793.265 #
17) TM 3-NITROTO...	0.000	13.735	0	1206249	N.D.	1811.408 #
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 05-26-15

Algorithm Check

RDX

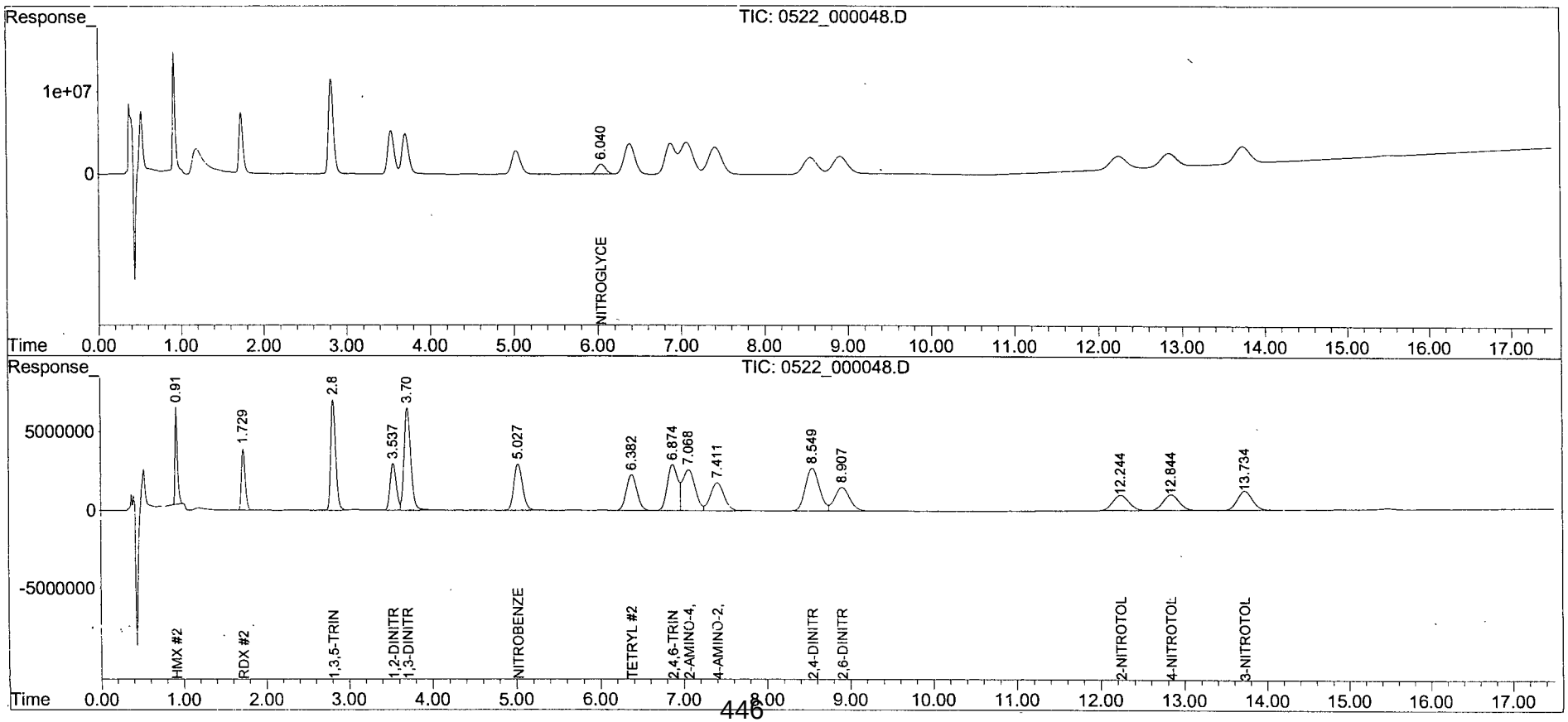
$\frac{3909361}{425.6\ (40)} \times 7.95229 = 1825.29$ ✓ MP 05-26-15

Quantitation Report (QT Reviewed)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000048.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 10:33:19
Operator : MP
Sample : 150520ALCS-1 7.952 DF 05/20/15
Misc : Soil
ALS Vial : 4224 Sample Multiplier: 7.95229

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 12:45:09 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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

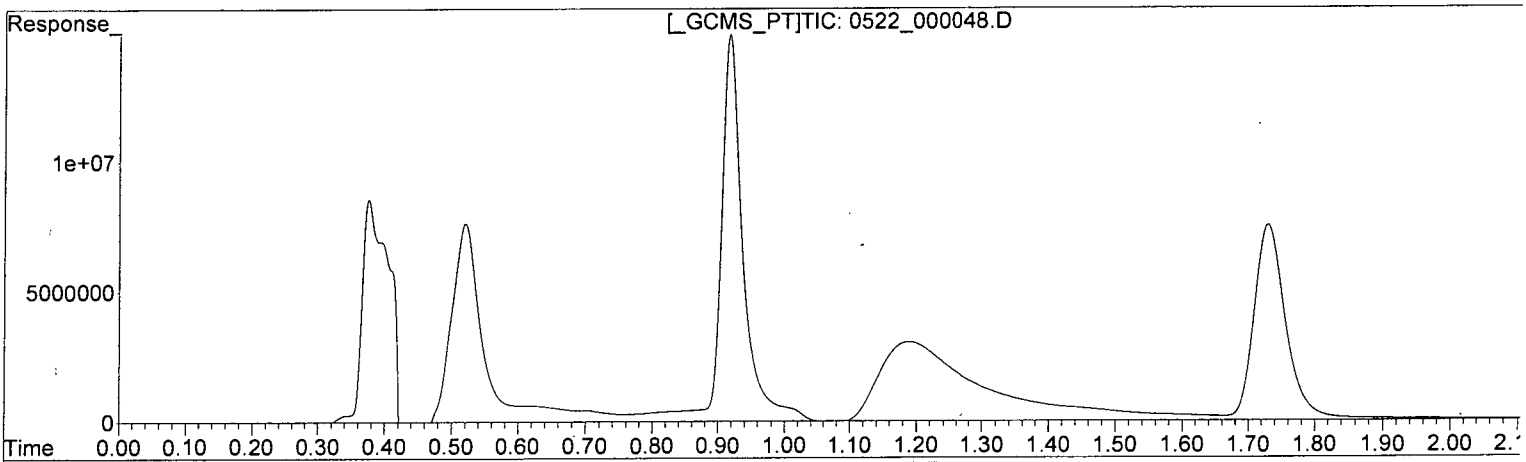


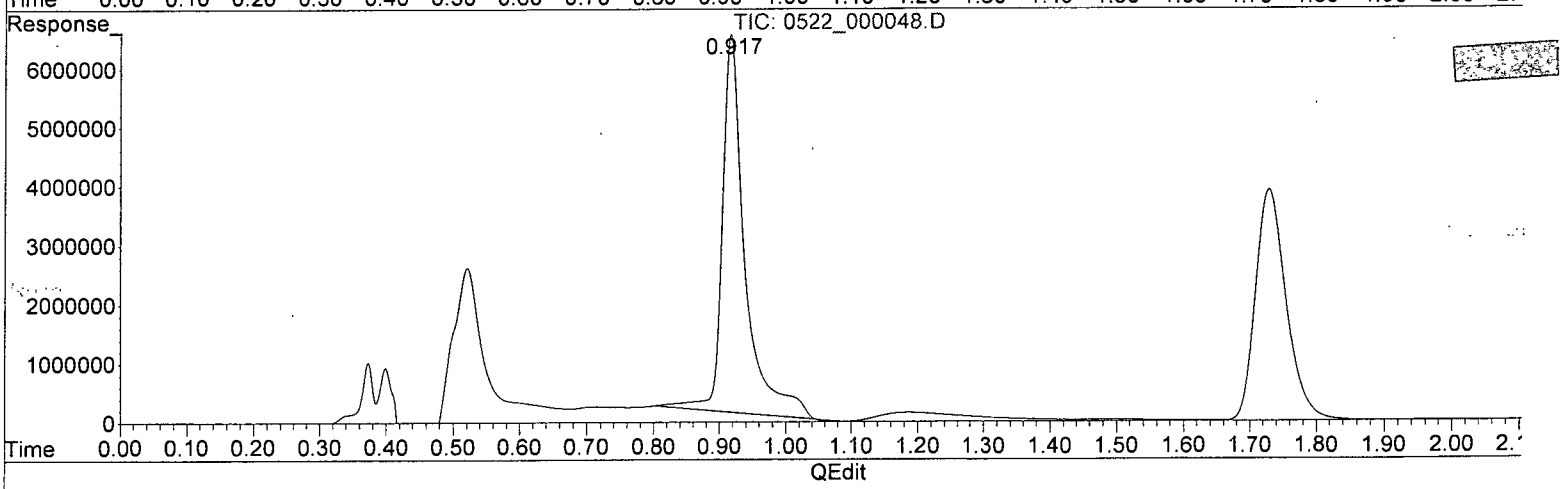
Quantitation Report (QEdit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000048.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 10:33:19
Operator : MP
Sample : 150520ALCS-1 7.952 DF 05/20/15
Misc : Soil
ALS Vial : 4224 Sample Multiplier: 7.95229

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 11:17:38 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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





(1) HMX (TM)

0.000min 0.000 ppb

response 0

(1) HMX #2 (TM)

0.918min 1951.356 ppb

response 6374574

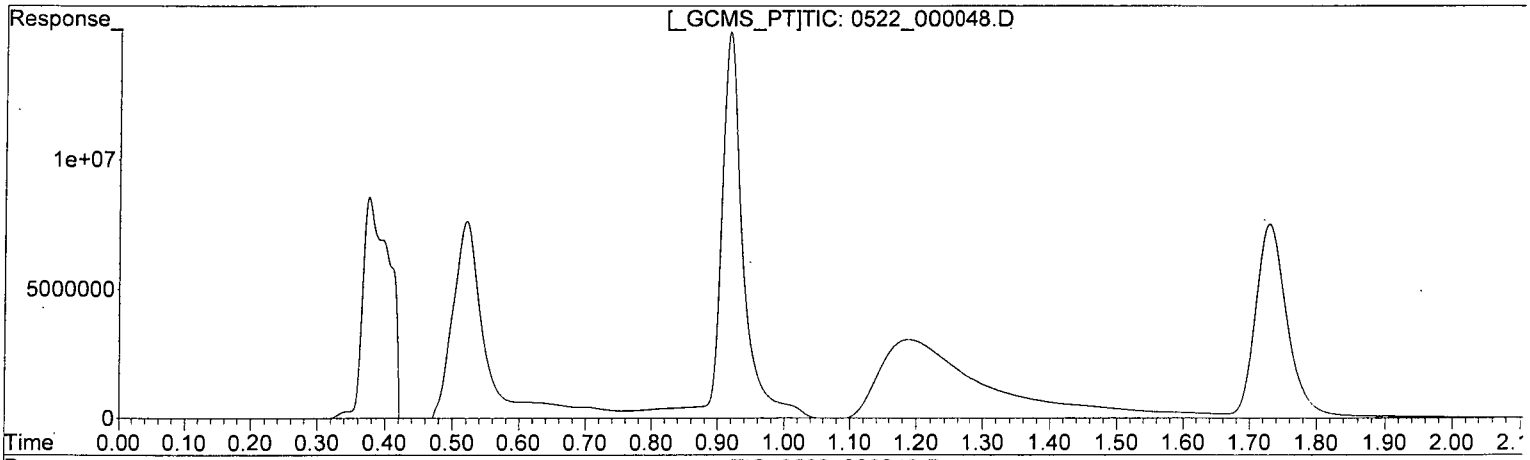
(+) = Expected Retention Time

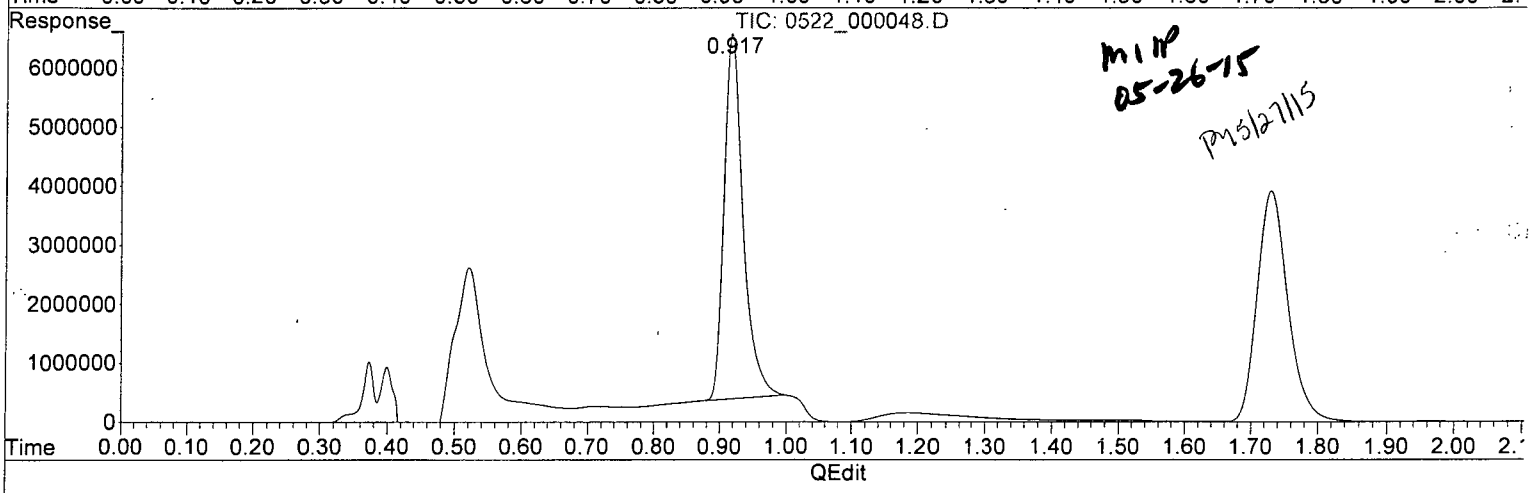
Quantitation Report (Qedit)

Data Path : Z:\WALDORF\CHEM32\2\DATA\150522\150522\
Data File : 0522_000048.D
Signal(s) : Signal #1: DAD1B.ch Signal #2: DAD1A.ch
Acq On : 23-May-2015, 10:33:19
Operator : MP
Sample : 150520ALCS-1 7.952 DF 05/20/15
Misc : Soil
ALS Vial : 4224 Sample Multiplier: 7.95229

Integration File signal 1: Waldorf_Signal_1_110721.e
Integration File signal 2: Waldorf_Signal_2_110803.e
Quant Time: May 23 11:17:38 2015
Quant Method : Z:\WALDORF\CHEM32\2\DATA\150522\150522\W150522.M
Quant Title : 8330B - Soil - Waldorf
QLast Update : Sat May 23 09:16:20 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





MP 05-26-15
PM 5/27/15

(1) HMX (TM)

0.000min 0.000 ppb

response 0

(1) HMX #2 (TM)

0.917min 1896.787 ppb m

response 6196311

(+) = Expected Retention Time

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								
6a 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									MP
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	
8330_MX-B	10.0 ppm	07/01/13							
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							

MP 8-31-13

LC/MS STANDARD PREP LOG# 103 PAGE# 65

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE INITIALS

NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED: JF 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 JF

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	JF
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 JF
	Ash Std 20 ug/ml						
8321MX29-8	400	11-20-13	0.250	5.0	20	Methanol/	12-26-13 JF
8321MX 10-4	1000	8-29-13	0.100				
8321MX 6-7	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 JF
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

LC/MS STANDARD PREP LOG# 103 PAGE# 66

066

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE / INITIALS
8330MX-B-SS 100 ug/ml						4 H 12-27-13	12-27-13 HP
8330MX-B 100 ug/ml Absolute Part #9509B, Lot # ~~121311~~ 051412-30759, I broke open the vial and transferred to an amber 1.8ml injection vial → 8330MX-B-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

LCMS STANDARD PREP LOG# 104 PAGE 8

008 STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CNC	SOL'N LOT #	DATE / INITIALS
1,2-DNB	1000 ug/mL						04-23-14 M

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-Dinitrobenzene
Solution, 1,000 mg/L, 1 mL
Made in the USA
Lot # 216681 Storage <10 Degrees C Expiry 10/25/16
Solv: Acetonitrile

1,2-Dinitrobenzene
Lot #: 216681 - 33241
Rec: 1/8/14 MFR exp. 10/25/16

1,2-DNB	100 ug/mL							MP
1,2-DNB	1000	04-23-14	1.0	10.0	100	1:1 ACN/MeOH	04-23-14	
							02-19-14	

MX-8330	1000 ug/mL							M 04-23-14

AccuStandard
M-8330-R
Method 8330 - Explosives by HPLC
1000 µg/mL in MeOH:AcN (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

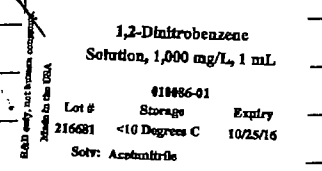
I broke open the vial labeled above and transferred to an amber 1.8 mL injection vial → MX-8330 1000 ug/mL 04-23-14

MX-8330	100 ug/mL							MP
MX-8330	1000	04-23-14	1.0	10.0	100	1:1 ACN/MeOH	04-23-14	
							02-19-14	

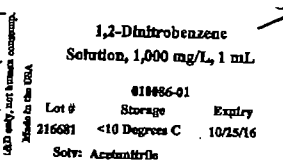
1,2-DNB	5.0 ug/mL							M
1,2-DNB	100	04-23-14	0.50	10.0	5.0	1:1 ACN/MeOH	04-23-14	
							02-19-14	

LC/MS STANDARD PREP LOG# 104 PAGE# 23

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT#	DATE INITIALS
	8321 TS 0.005 DF						
8321 TS	0.10 DF	06-12-14	0.10	20	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	0.10 DF	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 100 ug/mL 06-12-14

I combined the remaining balance of P 06-12-14 the 2 vials above and transferred to one amber 1.8ml injection vial. I labeled this solution 1,2-DNB 1000 ug/mL 06-12-14

LCMS STANDARD PREP LOG# 104 PAGE# 25

025

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE INITIALS
PETN	1000 ug/ml						06-12-14

I broke open the vial labeled to the left and transferred to an 8ml Amber vial

→ PETN 1000ug/L 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

PETN 100 ug/L

PETN	1000	06-12-14	1.0	10.0	100	1:1 ACN/MeOH	06-12-14	

8321 MX6-7 500 ug/L 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
Date Opened:
Custom Pesticide Solution 6-7
Lot #: 160093 - 26674
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 → 8321 MX6-7 500 ug/L (to be QC'd)

8321 MX6-7 20 ug/L 06-12-14

8321 MX6-7	50.0	06-12-14	0.080	2.0	20	MeOH	53235	

8321 MX6-7 0.02 DF (OLD)

8321 MX6-7	20	06-12-14	0.040	2.0	0.02	MeOH	53235	06-12-14
MRGES	100	03-17-14	0.020	1	1.0	1	1	1

LCMS STANDARD PREP LOG# 104 Page 37

037

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT#	INITIAL
Spinosad 100 ug/mL							
Spinosad	1737	04-14-14	0.075	1.0	100	Methanol/53235	kp 07-14-14
Spinosad 50 ug/mL							
Sp.nosad	500	07-14-14	0.10	1.0	50	Methanol/53235	kp 07-14-14
Spinosad 20 ug/mL							kp
Sp.nosad	200	07-14-14	0.10	1.0	20	Methanol/53235	07-14-14
Spinosad 10 ug/mL							
Sp.nosad	100	07-14-14	0.10	1.0	10	Methanol/53235	07-14-14 kp
Picric Acid spk 2.0 ug/mL							
Picric Acid	10	04-16-14	0.160	8.0	2.0	ACN/DI509	07-15-14 kp
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 kp
HPLCFS 1.0 ug/mL							
HPLCFS	1000	04-22-14	0.20	200	1.0	MeOH/53235	07-15-14 kp
HPLCFS 1000 ug/mL							07-15-14 kp

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 consumption. Made in the USA

I broke open the vial labelled to the left and transferred to an amber 1.8 ml injection Vial → HPLCFS 100 ug/mL 07-15-14

Custom 8321 Internal Std Mix 4-8
Lot #: 209160 - 32460
Rec: 5/29/13 MFR exp. 5/20/15

HPLCFS 100 ug/mL								
HPLCFS	1000	07-15-14	1.0	10.0	100	MeOH/53235	07-15-14 kp	
Tetryl ss 100 ug/mL								kp
tetryl ss	1000	08-27-13	0.10	1.0	100	1:1 ACN/MeOH	07-01-14	02-15-14

LC/MS STANDARD PREP LOG# 104 PAGE 45

045

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT#	DATE INITIALS
8321V	0.2ug/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	1.0	1	1
8321V	0.1ug/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	1.0	1	1
MX-8330R	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-8330R 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
616686-01
Lot # 216681 | Storage <10 Degrees C | Expiry 10/25/16
Solv: Acetonitrile
MAD 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 1000ug/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
MAD 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

LC/MS STANDARD PREP LOG# 104 PAGE# 46

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

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

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	⊥	⊥	⊥		⊥

LC/MS STANDARD PREP LOG# 104 PAGE 47

047

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N. LOT #	DATE INITIALS
	PETN_SS 100 ng/mL						
PETN	1000	06-12-14	0.10	1.0	100	1:1 ACN/MeOH 07-02-14	08-06-14 AP
	8321 SS 20 ng/mL						AP
Isotope	1024	03-10-14	0.195	10.0	20	MeOH/53235	08-07-14
8141 SS	1000	07-31-14	0.20	1	1	1	1
	8321 TS_spl 1 DF						
8321MXB-7	1000	06-12-14	0.10	5.0	20	MeOH/53235	08-07-14 AP

AP 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

LC/MS STANDARD PREP LOG# 104 PAGE 48

048
STANDARD

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT#	DATE INITIALS
							080614 MP
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

LC/MS STANDARD PREP LOG# 104 PAGE# 49

049

DATE / INITIALS

6-14

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOVENT/LOT	DATE/IN.
8330_CB(1:1) 1.0 PPM							
8330MXA	10.0	08/06/14	0.100	1.0	1.0	1:1 ACN/MEOH	08/06/14
8330MXB	10.0	08/06/14				02/19/14	
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	08/06/14
						02/19/14	
8330_CB 0.005 PPM							
8330_CB(1:1)	0.1	08/06/14	0.050	1	0.005	1:1:6_ACN	08/06/14
						MEOH: MILLIPORE	
8330_CB 0.010 PPM							
8330_CB(1:1)	0.1	08/06/14	0.100	1.00	0.010	1:1:6_ACN	08/06/14
						MEOH: MILLIPORE	
8330_CB 0.020 PPM							
8330_CB(1:1)	0.1	08/06/14	0.200	1.00	0.020	1:1:6_ACN	08/06/14
						MEOH: MILLIPORE	
8330_CB 0.050 PPM							
8330_CB(1:1)	1.0	08/06/14	0.050	1.00	0.050	1:1:6_ACN	08/06/14
						MEOH: MILLIPORE	
8330_CB 0.10 PPM							
8330_CB(1:1)	1.0	08/06/14	0.100	1.00	0.10	1:1:6_ACN	08/06/14
						MEOH: MILLIPORE	
8330_CB 0.20 PPM							
8330_CB(1:1)	1.0	08/06/14	0.20	1.00	0.20	1:1:6_ACN	08/06/14
						MEOH: MILLIPORE	
8330_CB 0.50 PPM							
8330MXA	10.0	08/06/14	0.050	1.00	0.050	1:1:6_ACN	08/06/14
8330MXB	10.0	08/06/14	0.050			MEOH: MILLIPORE	
8330_CB 1.0 PPM							
8330MXA	10.0	08/06/14	0.100	1.00	1.000	1:1:6_ACN	08/06/14
8330MXB	10.0	08/06/14	0.100			MEOH: MILLIPORE	
8330MXA_CB 2.0 PPM							
8330MXA_CB	10.0	08/06/14	0.200	1.00	2.000	1:1:6_ACN	08/06/14
						MEOH: MILLIPORE	
8330MXB_CB 2.0 PPM							
8330MXB_CB	10.0	08/06/14	0.200	1.00	2.000	1:1:6_ACN	08/06/14
						MEOH: MILLIPORE	
8330_SS 1.0 PPM							
8330MXA_SS	100	12/27/13	0.010	1.00	1.0	1:1:6_ACN	08/06/14
8330MXB_SS	100	12/27/13	0.010			MEOH: MILLIPORE	
PETN_TET_SS 1.0 PPM							
PETN_SS	100	08/06/14	0.01	1.00	1.0	1:1:6_ACN	08/06/14
TETRYL_SS	100	07/01/14	0.01			MEOH: MILLIPORE	

08-06-14

LCMS STANDARD PREP LOG# 104 PAGE# 58

058

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE INITIALS
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

LCMS STANDARD PREP LOG# 104 Page 59

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

LCMS STANDARD PREP LOG# 104 PAGE# 101

101

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	INITIALS
CC_Carb sph 2.0 ug/mL							
832L_SS	100	11-03-14	0.200	10.0	2.0	MeOH/54115	12-12-14 HP
HPLC IS 1.0 ug/mL							
HPLCIS	100	10-02-14	2.0	200	1.0	MeOH/54115	12-15-14 HP
HPLCISAQ 1.0 ug/mL					12-16-14		
HPLCIS	100	10-02-14	1.0	100	1.0	Millipore water	12-16-14 HP
Carb sph 10 ug/mL							
832 MIX 29-8	400	09-22-14	0.050	2.0	10	MeOH/54115	12-17-14 HP
832 Surr 10 ug/mL							
Isoxaben	1024	03-10-14	0.029	3.0	10.0	MeOH/54115	12-17-14 HP
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 HP
8141 Surr	1000	~~10-30-14~~ 12-03-14 HP 12-17-14	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 HP
Nitroglycerin 100 ug/mL							
Nitroglycerin	1000	02-25-14	0.50	5.0	100	1:1 ACN/MeOH	12-19-14 HP
832TS_Stock							
832 MIX 6-7	1000	09-25-14	0.050	10.0	5.0	MeOH/54115	12-22-14 HP
Isoxaben	1024	03-10-14	0.098	〃	10	〃	〃
8141 Surr	1000	12-03-14	0.100	〃	〃	〃	〃

LC/MS STANDARD PREP LOG# 104 PAGE# 103

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]~~ HP 12-22-14	12-22-14 HP
8321 Surr	20	12-18-14	0.10	1	1		
83TS sph/surr 100DF	12-22-14	0.10	1.0	100DF	HPLCFS 1 ug/ml		12-22-14 HP

Tetryl SS 1000 ug/ml 12-23-14
Tetryl 1000 ug/ml Absolute Lot 112310-33879, I broke open the vial and transferred to an amber 1.8 ml injection vial → Tetryl SS 1000 ug/ml 12-23-14

1:1 ACN/MeOH 12-23-14 HP
I took 0.250 ml Methanol Lot 54115 and added 0.250 ml Acetonitrile Lot DK902. HP

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

LC/MS STANDARD PREP LOG# 104 PAGE# 104

104

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	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

LC/MS STANDARD PREP LOG# 104 PAGE# 106

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

CH PO BOX 599

Pentaerythritol tetranitrate
Lot #: 2377700 - 34516
Rec: 12/16/14 MFR exp. 4/30/15

Pentaeryth

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

LC/MS STANDARD PREP LOG# 104 PAGE 109

109

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	INITIALS
8321PA_SS 0.10 DF							
Picric Acid_SS	1.0	11-17-14	0.20	2.0	0.10	ACN/DK902	01-13-15
4-Nitrophenol	10	01-13-15	0.020	1	0.10	1	1
MX8330 Sph 100ug/mL							
MX-8330R	1000	08-06-14	0.80	8.0	10.0	1:1 ACN/MeOH	01-15-15
1,2-DNB	1000	12-23-14	0.80	1	1	12-23-14	
Tetryl SS 100ug/mL							
Tetryl SS	1000	12-23-14	0.10	1.0	100	1:1 ACN/MeOH	01-15-15
						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	SOL'N 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

LC/MS STANDARD PREP BOOK 105 PAGE 17

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'VENT / LOT #	DATE / INITIALS
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

018

LC/MS STANDARD PREP LOG# 105 PAGE# 18

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	100	08/06/14	0.01	1.00	1.0	1:1:6_ACN	03/12/15
TETRYL_SS	100	01/15/15	0.01			MEOH: MILLIPORE	

PETN_SS 100 08-06-14 the Solution was QC'd on 03-13-15 on Stetler, Data File 0312_D00047.D NP 03-16-15

TOMS STANDARD PREP LOG# 105 PAGE 21

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOVENT/LOT	DATE/IN.
Scav_spk 30 ug/ml (5ml)							
Hexahydro-1,3,5-tris(hydroxyethyl) triazine							
1180	03-18-15	0.127	5.0	30	MeOH	54115	03-19-15
2,2'-thiodiethanol							
1030	03-19-15	0.146					
2-(1,3,5-Dithiazinan-5-yl) ethanol							
525	03-11-15	0.286					
Scav spk 3.0 ug/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

022 GC/MS STANDARD PREP LOG# 105 PAGE 22

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N 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

040 LCMS 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:							JB
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. JB							
8330 MX-A_SS 100ng/mL							04-21-15 MP
8330 MixA, 100ng/mL, Absolute Lot #103014-34464. I broke the vial open and transferred to an amber 1.8mL injection vial → 8330MX-A_SS 100ng/mL							04-21-15
8330MXB_SS 100ng/mL							04-21-15 MP
8330 MixB, 100ng/mL, Absolute Lot #103014-34467. I broke the vial open and transferred to an amber 1.8mL injection vial → 8330MX-B_SS 100ng/mL							04-21-15
Tebuthiuron_SS 100ng/mL							03-05-15 MP
Tebuthiuron(SS)	1000	12-22-14	0.10	1.0	100	1:1 ACN/MeOH	04-22-15

LC/MS STANDARD PREP LOG# 105 PAGE# 41

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

042 LCMS STANDARD PREP LOG 105 - 42

Standard prep performed as dated, Documented here 04-22-15 MP

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT#	DATE / INITIALS
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

LCMS STANDARD PREP LOG# 105 PAGE 43

043

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/MeOH	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
8330mixA-SS 100 ug/mL						04-28-15	HP
8330mix-A 100 ug/mL Absolute lot 103014-34465, I broke open the vial and transferred to an amber 1.5 ml injection vial → 8330mix-A SS 100 ug/mL 04-28-15							
8330mixB-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 1.5 ml injection vial → 8330mixB-SS 100 ug/mL 04-28-15							

044 LCMS STANDARD PREP LOG# 105 PAGE 44

STANDARD	INITIAL CONC	SOURCE	DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT#	INITIALS
PETN_SS	1000							

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 1.8ml injection vial → PETN_SS 1000ug/L-1 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	

Sodass weight Comparison 04-28-15 hp
Balance ID: Mettler AT-200 #J-28448

Time- S-weight	Balance readings
20g	20.0000
1g	1.0002
100mg	0.1000
20mg	~~0.0020~~ 0.0030 hp 4-28-15

048

GCMS STANDARD PREP LOG# 105 PAGE# 48

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE / INITIALS
Standard Prep performed as Dated, documented here 05-01-15							MP

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC.	SOVENT/LOT	DATE/IN.
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	04/27/15
8330MXB_CB(1:1) 0.10 PPM 8330MXB_CB(1:1)	1.0	04/27/15	0.100	1.0	0.1	1:1 ACN/MEOH 03/05/15	04/27/15
8330MXB_CB 0.005 PPM 8330MXB_CB(1:1)	0.1	04/27/15	0.050	1	0.005	1:1:6_ACN/MEOH MILLIPORE	04/27/15
8330MXB_CB 0.010 PPM 8330MXB_CB(1:1)	0.1	04/27/15	0.100	1.00	0.010	1:1:6_ACN/MEOH MILLIPORE	04/27/15
8330MXB_CB 0.020 PPM 8330MXB_CB(1:1)	0.1	04/27/15	0.200	1.00	0.020	1:1:6_ACN/MEOH MILLIPORE	04/27/15
8330MXB_CB 0.050 PPM 8330MXB_CB(1:1)	1.0	04/27/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	04/27/15
8330MXB_CB 0.10 PPM 8330MXB_CB(1:1)	1.0	04/27/15	0.100	1.00	0.100	1:1:6_ACN/MEOH MILLIPORE	04/27/15
8330MXB_CB 0.20 PPM 8330MXB_CB(1:1)	1.0	04/27/15	0.200	1.00	0.200	1:1:6_ACN/MEOH MILLIPORE	04/27/15
8330MXB_CB 0.50 PPM 8330MXB_CB	10.0	03/05/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	04/27/15
8330MXB_CB 1.0 PPM 8330MXB_CB	10.0	03/05/15	0.100	1.00	1.000	1:1:6_ACN/MEOH MILLIPORE	04/27/15
8330MXB_CB 2.0 PPM 8330MXB_CB	10.0	03/05/15	0.200	1.00	2.000	1:1:6_ACN/MEOH MILLIPORE	04/27/15

VOMS STANDARD PREP LOG# 105 Page 49

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'VENT/ LOT#	DATE/ INITIALS
Standard Prep performed as Dated, documented here 05-01-15							MP

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC.	SOVENT/LOT	DATE/IN.
8330MXA_SS 1.0 PPM 8330MXA_SS	100	04/28/15	0.010	1.00	1.0	1:1:6_ACN/MEOH MILLIPORE	04/27/15
8330MXB_SS 1.0 PPM 8330MXB_SS	100	04/28/15	0.010	1.00	1.0	1:1:6_ACN/MEOH MILLIPORE	04/27/15
PETN_TET_SS 1.0 PPM PETN_SS TETRYL_SS	100 100	04/28/15 04/28/15	0.01 0.01	1.00	1.0	1:1:6_ACN MEOH: MILLIPORE	04/29/15
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	04/28/15
8330MXA_CB(1:1) 0.10 PPM 8330MXA_CB(1:1)	1.0	04/28/15	0.100	1.0	0.1	1:1 ACN/MEOH 03/05/15	04/28/15
8330MXA_CB 0.005 PPM 8330MXA_CB(1:1)	0.1	04/28/15	0.050	1	0.005	1:1:6_ACN/MEOH MILLIPORE	04/28/15
8330MXA_CB 0.010 PPM 8330MXA_CB(1:1)	0.1	04/28/15	0.100	1.00	0.010	1:1:6_ACN/MEOH MILLIPORE	04/28/15
8330MXA_CB 0.020 PPM 8330MXA_CB(1:1)	0.1	04/28/15	0.200	1.00	0.020	1:1:6_ACN/MEOH MILLIPORE	04/28/15
8330MXA_CB 0.050 PPM 8330MXA_CB(1:1)	1.0	04/28/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	04/28/15
8330MXA_CB 0.10 PPM 8330MXA_CB(1:1)	1.0	04/28/15	0.100	1.00	0.100	1:1:6_ACN/MEOH MILLIPORE	04/28/15
8330MXA_CB 0.20 PPM 8330MXA_CB(1:1)	1.0	04/28/15	0.200	1.00	0.200	1:1:6_ACN/MEOH MILLIPORE	04/28/15
8330MXA_CB 0.50 PPM 8330MXA	10.0	03/05/15	0.050	1.00	0.050	1:1:6_ACN/MEOH MILLIPORE	04/28/15
8330MXA_CB 1.0 PPM 8330MXA	10.0	03/05/15	0.100	1.00	1.000	1:1:6_ACN/MEOH MILLIPORE	04/28/15
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	04/28/15

Organic Extraction Worksheet

Method	Explosives Soil Extraction 8330B	Extraction Set	150520A	Extraction Method	MSE018	Units	mL

Spiked ID 1	8330 100ppm STK 5-5-15 exp 11-5-15		Surrogate ID 1	1,2-DNB STK 100 PPM 4-22-15 exp 10-22-15	
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:	05/20/15 13:40	
Spiked ID 8			Ext. End Time:	05/21/15 7:40	
			GC Requires Extract By:		

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: CFM **Date** 05/20/15 1:20:00 PM **Witnessed By:** DL **Date** 05/20/15 1:20:00 PM

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	150520A Blk				0.060	1 equip	10.01g	20mLs	NA	05/20/15 13:40	
2	150520A LCS-1		0.200	1-2	NA	NA equip	10.06g	20mLs	NA	05/20/15 13:40	
3	AZ16137 MS-1	AZ16137S01	0.200	1-2	NA	NA equip	10.05g	20mLs	NA	05/20/15 13:40	76380
4	AZ16137 MSD-1	AZ16137S01	0.200	1-2	NA	NA equip	10.02g	20mLs	NA	05/20/15 13:40	76380
5	AZ16137	AZ16137S01			0.060	1 equip	10.10g	20mLs	NA	05/20/15 13:40	76380
6	AZ16138	AZ16138S01			0.060	1 equip	10.03g	20mLs	NA	05/20/15 13:40	76380
7	AZ16139	AZ16139S01			0.060	1 equip	10.18g	20mLs	NA	05/20/15 13:40	76380
8	AZ16140	AZ16140S01			0.060	1 equip	10.10g	20mLs	NA	05/20/15 13:40	76380
9	AZ16141	AZ16141S01			0.060	1 equip	10.09g	20mLs	NA	05/20/15 13:40	76380
10	AZ16198	AZ16198S01			0.060	1 equip	10.02g	20mLs	NA	05/20/15 13:40	76390
11	AZ16199	AZ16199S01			0.060	1 equip	10.06g	20mLs	NA	05/20/15 13:40	76390
12	AZ16201	AZ16201S01			0.060	1 equip	10.04g	20mLs	NA	05/20/15 13:40	76390
13	AZ16202	AZ16202S01			0.060	1 equip	10.03g	20mLs	NA	05/20/15 13:40	76390
14	AZ16400	AZ16400S01			0.060	1 equip	10.04g	20mLs	NA	05/20/15 13:40	76447
15	AZ16401	AZ16401S01			0.060	1 equip	10.11g	20mLs	NA	05/20/15 13:40	76447
16	AZ16402	AZ16402S01			0.060	1 equip	10.04g	20mLs	NA	05/20/15 13:40	76447

Solvent and Lot#	
Acetonitrile	DM 394
Silica Sand	041913

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	MP
Date	05-21-15
Time	0850
Refrigerator	Brown

	Technician's Initials
Scanned By	CFM
Sample Preparation	CFM
Extraction	CFM
Concentration	----------

Modified	05/21/15 7:59:39 AM

Reviewed By: MP **Date** 05-21-15

Injection Log

Directory: Z:\WALDORF\CHEM32\2\DATA\150522\150522

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	0	0522_000014.D		8330CB 0.005 PPM 05/22/15		5/22/15 16:07
2	0	0522_000015.D		8330CB 0.010 PPM 05/22/15		5/22/15 16:35
3	0	0522_000016.D		8330CB 0.020 PPM 05/22/15		5/22/15 17:02
4	0	0522_000017.D		8330CB 0.050 PPM 05/22/15		5/22/15 17:30
5	0	0522_000018.D		8330CB 0.10 PPM 05/22/15		5/22/15 17:57
6	0	0522_000019.D		8330CB 0.20 PPM 05/22/15		5/22/15 18:25
7	0	0522_000020.D		8330CB 0.50 PPM 05/22/15		5/22/15 18:52
8	0	0522_000021.D		8330CB 1.0 PPM 05/22/15		5/22/15 19:20
9	0	0522_000022.D		8330MXA 2.0 PPM 05/22/15		5/22/15 19:47
10	0	0522_000023.D		8330MXB 2.0 PPM 05/22/15		5/22/15 20:15
11	0	0522_000024.D		8330CB 0.005 PPM 05/22/15		5/22/15 20:42
12	0	0522_000025.D		8330CB 0.010 PPM 05/22/15		5/22/15 21:10
13	0	0522_000026.D		8330_SS 1.0 PPM 05/22/15		5/22/15 21:37
14	0	0522_000027.D		PETN_TETRYL_SS 1.0 PPM 05/22/51		5/22/15 22:05
15	0	0522_000044.D		8330_CCV 1.0 PPM 05/22/15		5/23/15 8:13
16	0	0522_000048.D	7.95229	150520ALCS-1 7.952 DF 05/20/15	Soil	5/23/15 10:33
17	0	0522_000051.D	7.99201	150520ABLKS 7.992 DF 05/20/15	Soil	5/23/15 12:25
18	0	0522_000057.D	7.98403	AZ16198S01 7.984 DF 05/20/15	Soil	5/23/15 16:10
19	0	0522_000058.D	7.95229	AZ16199S01 7.952 DF 05/20/15	Soil	5/23/15 16:48
20	0	0522_000059.D		8330_CCV 1.0 PPM 05/22/15		5/23/15 17:25
21	0	0522_000060.D	7.96813	AZ16201S01 7.968 DF 05/20/15	Soil	5/23/15 17:53
22	0	0522_000061.D	7.97607	AZ16202S01 7.976 DF 05/20/15	Soil	5/23/15 18:31
23	0	0522_000068.D		8330_CCV 1.0 PPM 05/22/15		5/23/15 22:53

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)	4.00 U	50.0	4.00	1.98	mg/Kg	06/04/15	06/12/15	#61CJU-150604A1-AZ16198
6010C	BORON (B)	4.00 U	5.0	4.00	1.55	mg/Kg	06/04/15	06/12/15	#61CJU-150604A1-AZ16198
6010C	LITHIUM (LI)	0.500 U	0.67	0.500	0.250	mg/Kg	06/04/15	06/12/15	#61CJU-150604A1-AZ16198
6010C	ZINC (ZN)	4.00 U	8.0	4.00	1.15	mg/Kg	06/04/15	06/12/15	#61CJU-150604A1-AZ16198

Metals SC-Blank-REG MDLs
Printed: 06/16/15 1:32:33 PM

Laboratory Control Spike Recovery
METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/Kg	SPK Result mg/Kg	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6010C	ALUMINUM (AL)	200	186	93.0	80-120	06/04/15	06/12/15	#61CJU-150604A1-AZ16198
EPA 6010C	BORON (B)	25.0	23.8	95.2	80-120	06/04/15	06/12/15	#61CJU-150604A1-AZ16198
EPA 6010C	LITHIUM (LI)	10.00	10.2	102	80-120	06/04/15	06/12/15	#61CJU-150604A1-AZ16198
EPA 6010C	ZINC (ZN)	50.0	46.7	93.4	80-120	06/04/15	06/12/15	#61CJU-150604A1-AZ16198

Comments: _____

6010C/3050B^

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 06/12/15

Matrix: SOIL Instrument: Jules

Blank ID: 150604A1-BLK Time Analyzed: 1426

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150604A1-LCS	Lab Control Spike	150612A	06/12/15 1432
AZ16202	S67-SB037-0607	150612A	06/12/15 1803
AZ16201	S67-SS037-0001	150612A	06/12/15 1757
AZ16199	S67-SB036-0405	150612A	06/12/15 1750
AZ16198	S67-SS036-0001	150612A	06/12/15 1743
150604A1-BLK	Blank	150612A	06/12/15 1426
AZ16202	S67-SB037-0607	150612A	06/12/15 2038
AZ16201	S67-SS037-0001	150612A	06/12/15 2031
AZ16199	S67-SB036-0405	150612A	06/12/15 2024
AZ16198	S67-SS036-0001	150612A	06/12/15 2018

Comments: Batch: #61CJU-150604A1

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-SS036-0001
Sample Collection Date: 05/08/15

ARF: 76390
APPL ID: AZ16198

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.6 Percent Moisture.)									
6010C/3050B	ALUMINUM (AL)	4140	61.0	4.90	2.40	mg/Kg	1	06/04/15	06/12/15
6010C/3050B	BORON (B)	98.00U	123.0	98.00	38.00	mg/Kg	20	06/04/15	06/12/15
6010C/3050B	LITHIUM (LI)	4.1	0.82	0.610	0.310	mg/Kg	1	06/04/15	06/12/15
6010C/3050B	ZINC (ZN)	2250	197.0	98.00	28.00	mg/Kg	20	06/04/15	06/12/15

Printed: 06/16/15 1:32:49 PM

PL-F1-SC-MCRes/MCPQL-REG MDLs

Sequence No.: 59
Sample ID: AZ16198S02
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 1 g
Dilution:
Wash Time:

Autosampler Location: 57
Date Collected: 06/12/15 8:18:07 PM
Data Type: Reprocessed on 06/15/15 10:36:46 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AZ16198S02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	267055.9	131.4	%	0.06				0.04%
Y Radial	19372.8	147.7	%	1.06				0.72%
Ag 338.289†	5983.9	36.84	ug/L	0.772	3.684	mg/kg	0.0772	2.10%
Al 308.215†	38419.2	33740	ug/L	629.18	3374	mg/kg	62.92	1.86%
As 188.979†	637.3	221.7	ug/L	2.07	22.17	mg/kg	0.207	0.93%
B 249.677†	-56267.5	-375.2	ug/L	3.98	-37.52	mg/kg	0.398	1.06%
Ba 233.527†	188384.7	473.0	ug/L	1.18	47.30	mg/kg	0.118	0.25%
Be 313.107†	6401.7	1.980	ug/L	0.0073	0.198	mg/kg	0.0007	0.37%
Ca 315.887†	63016.6	4873	ug/L	87.56	487.3	mg/kg	8.76	1.80%
Cd 214.440†	12939.6	14.62	ug/L	0.284	1.462	mg/kg	0.0284	1.94%
Co 228.616†	16248.1	171.1	ug/L	1.03	17.11	mg/kg	0.103	0.60%
Cr 267.716†	5676.1	70.05	ug/L	0.631	7.005	mg/kg	0.0631	0.90%
Cu 327.393†	2460868.0	13900	ug/L	43.64	1390	mg/kg	4.36	0.31%
Fe 273.955†	39776178.2	588900	ug/L	817.57	58890	mg/kg	81.76	0.14%
K 766.490†	32381.0	5265	ug/L	112.18	526.5	mg/kg	11.22	2.13%
Mg 285.213†	112599.3	8421	ug/L	144.53	842.1	mg/kg	14.45	1.72%
Mn 257.610†	65891.7	939.7	ug/L	16.67	93.97	mg/kg	1.667	1.77%
Mo 202.031†	183.2	17.64	ug/L	0.425	1.764	mg/kg	0.0425	2.41%
Na 589.592†	7715.0	1328	ug/L	23.20	132.8	mg/kg	2.32	1.75%
Ni 231.604†	11160.9	269.5	ug/L	1.39	26.95	mg/kg	0.139	0.52%
P 213.617†	-1329.8	-460.8	ug/L	11.42	-46.08	mg/kg	1.142	2.48%
Pb 220.353†	28252.5	5033	ug/L	18.14	503.3	mg/kg	1.81	0.36%
Sb 206.836†	77.9	12.30	ug/L	2.032	1.230	mg/kg	0.2032	16.51%
Se 196.026†	-557.4	21.85	ug/L	4.856	2.185	mg/kg	0.4856	22.22%
Sn 189.927†	101.8	20.71	ug/L	1.288	2.071	mg/kg	0.1288	6.22%
Sr 421.552†	14799.9	43.86	ug/L	0.875	4.386	mg/kg	0.0875	2.00%
Ti 337.279†	28419.4	892.0	ug/L	15.65	89.20	mg/kg	1.565	1.75%
Tl 190.801†	43.3	8.655	ug/L	4.8197	0.865	mg/kg	0.4820	55.69%
V 292.402†	17063.3	182.3	ug/L	0.34	18.23	mg/kg	0.034	0.19%
Zn 206.200†	1040542.1	12950	ug/L	30.87	1295	mg/kg	3.09	0.24%
Li 670.784	502981.7	32.56	ug/L	0.221	3.256	mg/kg	0.0221	0.68%

Sequence No.: 37
Sample ID: AZ16198S02-1/20
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 1 g
Dilution: 20X
Wash Time:

Autosampler Location: 73
Date Collected: 06/12/15 5:43:20 PM
Data Type: Reprocessed on 06/15/15 10:36:22 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AZ16198S02-1/20

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	213748.9	105.2	%	0.33				0.32%
Y Radial	14213.1	108.3	%	0.48				0.45%
Ag 338.289†	430.5	2.650	ug/L	0.3328	5.300	mg/kg	0.6656	12.56%
Al 308.215†	2587.5	2273	ug/L	18.62	4545	mg/kg	37.23	0.82%
As 188.979†	41.2	15.83	ug/L	0.728	31.67	mg/kg	1.455	4.59%
B 249.677†	-3766.4	-1.292	ug/L	0.4713	-2.584	mg/kg	0.9427	36.48%
Ba 233.527†	12481.1	30.78	ug/L	0.126	61.56	mg/kg	0.253	0.41%
Be 313.107†	296.6	0.092	ug/L	0.0041	0.184	mg/kg	0.0081	4.43%
Ca 315.887†	4408.6	340.8	ug/L	2.77	681.5	mg/kg	5.54	0.81%
Cd 214.440†	906.4	0.502	ug/L	0.0542	1.005	mg/kg	0.1084	10.80%
Co 228.616†	1138.8	11.81	ug/L	0.077	23.61	mg/kg	0.154	0.65%
Cr 267.716†	365.2	4.458	ug/L	0.0714	8.915	mg/kg	0.1427	1.60%
Cu 327.393†	155717.3	879.9	ug/L	3.63	1760	mg/kg	7.26	0.41%
Fe 273.955†	3311433.0	49030	ug/L	185.06	98050	mg/kg	370.12	0.38%
K 766.490†	2143.1	342.6	ug/L	8.58	685.1	mg/kg	17.15	2.50%
Mg 285.213†	7622.9	577.6	ug/L	0.57	1155	mg/kg	1.14	0.10%
Mn 257.610†	4617.8	65.90	ug/L	0.374	131.8	mg/kg	0.75	0.57%
Mo 202.031†	18.0	1.537	ug/L	0.1381	3.073	mg/kg	0.2763	8.99%
Na 589.592†	421.5	72.36	ug/L	2.724	144.7	mg/kg	5.45	3.76%
Ni 231.604†	770.5	18.78	ug/L	0.341	37.55	mg/kg	0.681	1.81%
P 213.617†	-107.0	-37.08	ug/L	1.218	-74.17	mg/kg	2.435	3.28%
Pb 220.353†	1926.0	341.5	ug/L	1.88	682.9	mg/kg	3.75	0.55%
Sb 206.836†	4.1	0.645	ug/L	1.3683	1.290	mg/kg	2.7365	212.14%
Se 196.026†	-44.0	2.665	ug/L	3.7212	5.330	mg/kg	7.4424	139.62%
Sn 189.927†	6.5	1.319	ug/L	0.3124	2.638	mg/kg	0.6247	23.68%
Sr 421.552†	928.2	2.739	ug/L	0.0604	5.478	mg/kg	0.1208	2.21%
Ti 337.279†	1973.7	61.94	ug/L	0.321	123.9	mg/kg	0.64	0.52%
Tl 190.801†	0.6	0.120	ug/L	0.5261	0.240	mg/kg	1.0522	438.38%
V 292.402†	1112.0	11.88	ug/L	0.038	23.76	mg/kg	0.076	0.32%
Zn 206.200†	73611.5	915.7	ug/L	2.94	1831	mg/kg	5.88	0.32%
Li 670.784	19080.8	1.235	ug/L	0.0157	2.470	mg/kg	0.0314	1.27%

Metals Analysis

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: 76390

Sample ID: S67-SB036-0405

APPL ID: AZ16199

Sample Collection Date: 05/08/15

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 19.3 Percent Moisture.)									
6010C/3050B	ALUMINUM (AL)	4810	62.0	5.00	2.50	mg/Kg	1	06/04/15	06/12/15
6010C/3050B	BORON (B)	99.00 U	124.0	99.00	38.00	mg/Kg	20	06/04/15	06/12/15
6010C/3050B	LITHIUM (LI)	3.1	0.83	0.620	0.310	mg/Kg	1	06/04/15	06/12/15
6010C/3050B	ZINC (ZN)	2420	198.0	99.00	29.00	mg/Kg	20	06/04/15	06/12/15

Printed: 06/16/15 1:32:49 PM

PL-F1-SC-MCRes/MCPQL-REG MDLs

Sequence No.: 60
Sample ID: AZ16199S01
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 1 g
Dilution:
Wash Time:

Autosampler Location: 58
Date Collected: 06/12/15 8:24:39 PM
Data Type: Reprocessed on 06/15/15 10:36:48 AM
Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AZ16199S01

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	248764.7	122.4	%	0.89				0.73%
Y Radial	15517.9	118.3	%	16.27				13.75%
Ag 338.289†	8572.6	52.78	ug/L	0.242	5.278	mg/kg	0.0242	0.46%
Al 308.215†	44122.9	38750	ug/L	6033.18	3875	mg/kg	603.32	15.57%
As 188.979†	950.3	333.5	ug/L	1.92	33.35	mg/kg	0.192	0.57%
B 249.677†	-95480.9	-897.2	ug/L	15.98	-89.72	mg/kg	1.598	1.78%
Ba 233.527†	441153.0	1134	ug/L	7.96	113.4	mg/kg	0.80	0.70%
Be 313.107†	7324.0	2.266	ug/L	0.0246	0.227	mg/kg	0.0025	1.09%
Ca 315.887†	48150.2	3715	ug/L	567.89	371.5	mg/kg	56.79	15.29%
Cd 214.440†	19489.6	21.22	ug/L	0.385	2.122	mg/kg	0.0385	1.82%
Co 228.616†	32913.4	355.4	ug/L	2.33	35.54	mg/kg	0.233	0.66%
Cr 267.716†	7522.0	91.75	ug/L	0.935	9.175	mg/kg	0.0935	1.02%
Cu 327.393†	3434846.0	19400	ug/L	106.12	1940	mg/kg	10.61	0.55%
Fe 273.955†	60392085.5	894100	ug/L	5125.36	89410	mg/kg	512.54	0.57%
K 766.490†	36710.0	5833	ug/L	988.57	583.3	mg/kg	98.86	16.95%
Mg 285.213†	134959.4	10250	ug/L	1460.69	1025	mg/kg	146.07	14.25%
Mn 257.610†	165578.3	2358	ug/L	362.47	235.8	mg/kg	36.25	15.37%
Mo 202.031†	321.6	27.66	ug/L	1.715	2.766	mg/kg	0.1715	6.20%
Na 589.592†	5587.2	955.2	ug/L	161.72	95.52	mg/kg	16.172	16.93%
Ni 231.604†	20152.0	483.6	ug/L	3.65	48.36	mg/kg	0.365	0.76%
P 213.617†	-3786.1	-1312	ug/L	14.34	-131.2	mg/kg	1.43	1.09%
Pb 220.353†	43118.8	7679	ug/L	64.27	767.9	mg/kg	6.43	0.84%
Sb 206.836†	120.4	19.01	ug/L	2.883	1.901	mg/kg	0.2883	15.17%
Se 196.026†	-953.5	-7.360	ug/L	3.7935	-0.736	mg/kg	0.3794	51.54%
Sn 189.927†	160.0	32.55	ug/L	1.194	3.255	mg/kg	0.1194	3.67%
Sr 421.552†	26298.6	78.26	ug/L	12.385	7.826	mg/kg	1.2385	15.82%
Ti 337.279†	38087.6	1195	ug/L	184.58	119.5	mg/kg	18.46	15.44%
Tl 190.801†	69.8	13.93	ug/L	4.325	1.393	mg/kg	0.4325	31.04%
V 292.402†	23995.4	256.3	ug/L	1.81	25.63	mg/kg	0.181	0.71%
Zn 206.200†	1110876.5	13810	ug/L	81.81	1381	mg/kg	8.18	0.59%
Li 670.784	392801.9	25.43	ug/L	0.145	2.543	mg/kg	0.0145	0.57%

Sequence No.: 38
Sample ID: AZ16199S01-1/20
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 1 g
Dilution: 20X
Wash Time:

Autosampler Location: 74
Date Collected: 06/12/15 5:50:38 PM
Data Type: Reprocessed on 06/15/15 10:36:23 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AZ16199S01-1/20

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	206425.5	101.6	%	0.18				0.18%
Y Radial	14090.1	107.4	%	1.05				0.98%
Ag 338.289†	539.1	3.319	ug/L	0.4143	6.638	mg/kg	0.8286	12.48%
Al 308.215†	2361.1	2074	ug/L	5.74	4148	mg/kg	11.48	0.28%
As 188.979†	56.2	23.28	ug/L	0.345	46.55	mg/kg	0.691	1.48%
B 249.677†	-5861.3	3.524	ug/L	1.3505	7.049	mg/kg	2.7010	38.32%
Ba 233.527†	28027.9	70.87	ug/L	0.181	141.7	mg/kg	0.36	0.26%
Be 313.107†	373.4	0.116	ug/L	0.0069	0.231	mg/kg	0.0138	5.97%
Ca 315.887†	2718.1	209.2	ug/L	3.01	418.4	mg/kg	6.03	1.44%
Cd 214.440†	1298.6	0.139	ug/L	0.0052	0.279	mg/kg	0.0104	3.74%
Co 228.616†	2215.4	23.51	ug/L	0.066	47.02	mg/kg	0.132	0.28%
Cr 267.716†	466.2	5.599	ug/L	0.1557	11.20	mg/kg	0.311	2.78%
Cu 327.393†	203360.4	1150	ug/L	1.77	2299	mg/kg	3.55	0.15%
Fe 273.955†	5303193.1	78510	ug/L	172.07	157000	mg/kg	344.13	0.22%
K 766.490†	1872.2	277.8	ug/L	13.20	555.7	mg/kg	26.41	4.75%
Mg 285.213†	7199.9	572.2	ug/L	5.22	1144	mg/kg	10.45	0.91%
Mn 257.610†	9248.3	131.9	ug/L	0.76	263.8	mg/kg	1.52	0.58%
Mo 202.031†	21.4	2.168	ug/L	0.1635	4.335	mg/kg	0.3270	7.54%
Na 589.592†	118.8	19.71	ug/L	6.786	39.41	mg/kg	13.572	34.44%
Ni 231.604†	1353.6	32.86	ug/L	0.562	65.73	mg/kg	1.125	1.71%
P 213.617†	-263.5	-91.29	ug/L	4.588	-182.6	mg/kg	9.18	5.03%
Pb 220.353†	3075.3	544.9	ug/L	4.17	1090	mg/kg	8.34	0.77%
Sb 206.836†	1.4	0.226	ug/L	1.2294	0.452	mg/kg	2.4588	544.41%
Se 196.026†	-69.4	4.575	ug/L	0.6144	9.151	mg/kg	1.2288	13.43%
Sn 189.927†	11.7	2.388	ug/L	0.3531	4.776	mg/kg	0.7062	14.79%
Sr 421.552†	1289.2	3.804	ug/L	0.0382	7.609	mg/kg	0.0765	1.01%
Ti 337.279†	2106.8	66.06	ug/L	0.456	132.1	mg/kg	0.91	0.69%
Tl 190.801†	-0.8	-0.167	ug/L	1.9807	-0.335	mg/kg	3.9615	>999.9%
V 292.402†	1495.8	15.98	ug/L	0.026	31.96	mg/kg	0.053	0.16%
Zn 206.200†	78473.1	974.8	ug/L	3.02	1950	mg/kg	6.03	0.31%
Li 670.784	15715.1	1.017	ug/L	0.0069	2.035	mg/kg	0.0138	0.68%

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-SS037-0001
Sample Collection Date: 05/08/15

ARF: 76390
APPL ID: AZ16201

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.5 Percent Moisture.)									
6010C/3050B	ALUMINUM (AL)	8070	1230.0	98.00	49.00	mg/Kg	20	06/04/15	06/12/15
6010C/3050B	BORON (B)	2.1J	6.1	4.90	1.90	mg/Kg	1	06/04/15	06/12/15
6010C/3050B	LITHIUM (LI)	7.6	0.82	0.610	0.310	mg/Kg	1	06/04/15	06/12/15
6010C/3050B	ZINC (ZN)	44.3	9.8	4.90	1.40	mg/Kg	1	06/04/15	06/12/15

J = Estimated value.

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PL-F1-SC-MCRes/MCPQL-REG MDLs

Sequence No.: 61
Sample ID: AZ16201S02
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 1.03 g
Dilution:
Wash Time:

Autosampler Location: 59
Date Collected: 06/12/15 8:31:16 PM
Data Type: Reprocessed on 06/15/15 10:36:49 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AZ16201S02

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	258005.6	127.0	%	0.81				0.64%
Y Radial	18117.2	138.1	%	1.80				1.30%
Ag 338.289†	286.1	1.761	ug/L	0.4171	0.171	mg/kg	0.0405	23.68%
Al 308.215†	62985.6	55320	ug/L	1218.96	5371	mg/kg	118.35	2.20%
As 188.979†	419.6	106.6	ug/L	1.10	10.35	mg/kg	0.107	1.03%
B 249.677†	-8292.0	17.52	ug/L	2.195	1.701	mg/kg	0.2131	12.53%
Ba 233.527†	109146.0	286.6	ug/L	0.11	27.82	mg/kg	0.010	0.04%
Be 313.107†	8502.6	2.630	ug/L	0.0080	0.255	mg/kg	0.0008	0.30%
Ca 315.887†	156766.3	12150	ug/L	256.46	1179	mg/kg	24.90	2.11%
Cd 214.440†	1875.8	0.928	ug/L	0.0522	0.090	mg/kg	0.0051	5.63%
Co 228.616†	3296.0	33.73	ug/L	0.170	3.274	mg/kg	0.0165	0.50%
Cr 267.716†	8888.9	113.7	ug/L	0.46	11.04	mg/kg	0.045	0.41%
Cu 327.393†	22372.9	130.5	ug/L	2.52	12.67	mg/kg	0.244	1.93%
Fe 273.955†	7885874.8	116700	ug/L	484.46	11330	mg/kg	47.03	0.41%
K 766.490†	38293.4	6579	ug/L	134.40	638.7	mg/kg	13.05	2.04%
Mg 285.213†	112602.6	8030	ug/L	170.85	779.6	mg/kg	16.59	2.13%
Mn 257.610†	62685.9	891.6	ug/L	18.61	86.56	mg/kg	1.806	2.09%
Mo 202.031†	97.2	5.324	ug/L	0.2735	0.517	mg/kg	0.0266	5.14%
Na 589.592†	5188.1	888.4	ug/L	23.83	86.25	mg/kg	2.314	2.68%
Ni 231.604†	2975.9	71.13	ug/L	0.233	6.906	mg/kg	0.0226	0.33%
P 213.617†	3658.5	1268	ug/L	10.82	123.1	mg/kg	1.05	0.85%
Pb 220.353†	1852.7	329.0	ug/L	2.22	31.95	mg/kg	0.215	0.67%
Sb 206.836†	31.2	4.928	ug/L	1.3132	0.478	mg/kg	0.1275	26.65%
Se 196.026†	-107.7	6.366	ug/L	1.4477	0.618	mg/kg	0.1406	22.74%
Sn 189.927†	28.5	5.803	ug/L	0.6891	0.563	mg/kg	0.0669	11.87%
Sr 421.552†	26634.5	79.63	ug/L	1.913	7.731	mg/kg	0.1857	2.40%
Ti 337.279†	19985.9	627.9	ug/L	12.65	60.96	mg/kg	1.229	2.02%
Tl 190.801†	-13.7	-2.732	ug/L	0.0891	-0.265	mg/kg	0.0086	3.26%
V 292.402†	15059.1	160.9	ug/L	1.08	15.62	mg/kg	0.105	0.67%
Zn 206.200†	30194.0	372.1	ug/L	9.19	36.12	mg/kg	0.892	2.47%
Li 670.784	982983.4	63.63	ug/L	0.315	6.178	mg/kg	0.0306	0.50%

Sequence No.: 39
Sample ID: AZ16201S02-1/20
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 1.03 g
Dilution: 20X
Wash Time:

Autosampler Location: 75
Date Collected: 06/12/15 5:57:55 PM
Data Type: Reprocessed on 06/15/15 10:36:24 AM
Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AZ16201S02-1/20

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	206514.8	101.6	%	0.66				0.65%
Y Radial	13984.0	106.6	%	0.59				0.55%
Ag 338.289†	7.1	0.044	ug/L	0.1781	0.085	mg/kg	0.3459	404.73%
Al 308.215†	3856.2	3387	ug/L	9.46	6577	mg/kg	18.37	0.28%
As 188.979†	25.7	6.609	ug/L	0.6821	12.83	mg/kg	1.324	10.32%
B 249.677†	-190.8	12.80	ug/L	0.123	24.86	mg/kg	0.240	0.96%
Ba 233.527†	6945.7	18.22	ug/L	0.072	35.38	mg/kg	0.140	0.40%
Be 313.107†	435.0	0.135	ug/L	0.0019	0.261	mg/kg	0.0037	1.42%
Ca 315.887†	9692.8	751.1	ug/L	2.52	1459	mg/kg	4.90	0.34%
Cd 214.440†	143.4	0.135	ug/L	0.0373	0.263	mg/kg	0.0724	27.54%
Co 228.616†	229.6	2.371	ug/L	0.1940	4.604	mg/kg	0.3767	8.18%
Cr 267.716†	538.4	6.885	ug/L	0.0848	13.37	mg/kg	0.165	1.23%
Cu 327.393†	1377.4	8.055	ug/L	0.2891	15.64	mg/kg	0.561	3.59%
Fe 273.955†	521048.0	7713	ug/L	15.99	14980	mg/kg	31.06	0.21%
K 766.490†	2185.5	374.8	ug/L	5.64	727.7	mg/kg	10.96	1.51%
Mg 285.213†	6945.6	495.7	ug/L	2.61	962.6	mg/kg	5.07	0.53%
Mn 257.610†	3948.5	56.16	ug/L	0.160	109.0	mg/kg	0.31	0.28%
Mo 202.031†	7.6	0.390	ug/L	0.1816	0.758	mg/kg	0.3526	46.50%
Na 589.592†	128.4	21.54	ug/L	12.377	41.83	mg/kg	24.032	57.46%
Ni 231.604†	201.1	4.805	ug/L	0.2565	9.331	mg/kg	0.4980	5.34%
P 213.617†	239.6	83.03	ug/L	0.131	161.2	mg/kg	0.25	0.16%
Pb 220.353†	111.9	19.76	ug/L	0.274	38.37	mg/kg	0.533	1.39%
Sb 206.836†	1.9	0.303	ug/L	0.1713	0.588	mg/kg	0.3326	56.55%
Se 196.026†	-6.9	0.481	ug/L	1.0303	0.935	mg/kg	2.0006	214.04%
Sn 189.927†	0.1	0.012	ug/L	0.0941	0.023	mg/kg	0.1827	791.85%
Sr 421.552†	1416.8	4.231	ug/L	0.0834	8.215	mg/kg	0.1619	1.97%
Ti 337.279†	1244.8	39.11	ug/L	0.593	75.93	mg/kg	1.152	1.52%
Tl 190.801†	-7.7	-1.546	ug/L	0.6791	-3.002	mg/kg	1.3187	43.93%
V 292.402†	924.3	9.874	ug/L	0.0285	19.17	mg/kg	0.055	0.29%
Zn 206.200†	1624.6	19.95	ug/L	0.424	38.75	mg/kg	0.822	2.12%
Li 670.784	32431.5	2.099	ug/L	0.0245	4.077	mg/kg	0.0475	1.16%

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

ARF: 76390

Sample ID: S67-SB037-0607

APPL ID: AZ16202

Sample Collection Date: 05/08/15

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.0 Percent Moisture.)									
6010C/3050B	ALUMINUM (AL)	10900	1220.0	98.00	48.00	mg/Kg	20	06/04/15	06/12/15
6010C/3050B	BORON (B)	27.1	6.1	4.90	1.90	mg/Kg	1	06/04/15	06/12/15
6010C/3050B	LITHIUM (LI)	9.8	0.82	0.610	0.300	mg/Kg	1	06/04/15	06/12/15
6010C/3050B	ZINC (ZN)	35.7	9.8	4.90	1.40	mg/Kg	1	06/04/15	06/12/15

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PL-F1-SC-MCRes/MCPQL-REG MDLs

Sequence No.: 62
Sample ID: AZ16202S02
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 0.98 g
Dilution:
Wash Time:

Autosampler Location: 60
Date Collected: 06/12/15 8:38:27 PM
Data Type: Reprocessed on 06/15/15 10:36:50 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AZ16202S02

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	220874.0	108.7	%	0.50				0.46%
Y Radial	15815.8	120.5	%	3.30				2.74%
Ag 338.289†	120.9	0.744	ug/L	0.3397	0.076	mg/kg	0.0347	45.65%
Al 308.215†	92406.1	81170	ug/L	2404.00	8283	mg/kg	245.31	2.96%
As 188.979†	91.7	36.12	ug/L	0.458	3.686	mg/kg	0.0468	1.27%
B 249.677†	-3291.9	217.2	ug/L	3.92	22.17	mg/kg	0.400	1.81%
Ba 233.527†	42114.7	105.9	ug/L	0.12	10.81	mg/kg	0.012	0.12%
Be 313.107†	14056.4	4.349	ug/L	0.0123	0.444	mg/kg	0.0013	0.28%
Ca 315.887†	51834.0	4012	ug/L	121.28	409.4	mg/kg	12.38	3.02%
Cd 214.440†	1489.3	-1.041	ug/L	0.0165	-0.106	mg/kg	0.0017	1.59%
Co 228.616†	1296.3	9.185	ug/L	0.0752	0.937	mg/kg	0.0077	0.82%
Cr 267.716†	26778.5	344.6	ug/L	2.55	35.16	mg/kg	0.260	0.74%
Cu 327.393†	15730.4	94.40	ug/L	0.601	9.633	mg/kg	0.0613	0.64%
Fe 273.955†	8898649.8	131700	ug/L	1254.63	13440	mg/kg	128.02	0.95%
K 766.490†	160651.4	27860	ug/L	824.77	2843	mg/kg	84.16	2.96%
Mg 285.213†	204111.8	14490	ug/L	433.33	1478	mg/kg	44.22	2.99%
Mn 257.610†	9675.3	138.0	ug/L	3.97	14.08	mg/kg	0.405	2.88%
Mo 202.031†	164.0	7.723	ug/L	0.1069	0.788	mg/kg	0.0109	1.38%
Na 589.592†	5628.7	940.6	ug/L	32.79	95.98	mg/kg	3.346	3.49%
Ni 231.604†	1104.7	27.94	ug/L	0.332	2.852	mg/kg	0.0338	1.19%
P 213.617†	2842.2	984.9	ug/L	7.85	100.5	mg/kg	0.80	0.80%
Pb 220.353†	656.0	114.8	ug/L	0.99	11.71	mg/kg	0.101	0.87%
Sb 206.836†	60.7	9.578	ug/L	0.5837	0.977	mg/kg	0.0596	6.09%
Se 196.026†	-129.2	5.793	ug/L	1.8543	0.591	mg/kg	0.1892	32.01%
Sn 189.927†	17.4	3.530	ug/L	0.2243	0.360	mg/kg	0.0229	6.36%
Sr 421.552†	19237.8	57.67	ug/L	1.797	5.884	mg/kg	0.1833	3.12%
Ti 337.279†	34199.9	1074	ug/L	31.63	109.6	mg/kg	3.23	2.94%
Tl 190.801†	-31.9	-6.363	ug/L	1.5589	-0.649	mg/kg	0.1591	24.50%
V 292.402†	27203.9	290.6	ug/L	0.50	29.65	mg/kg	0.051	0.17%
Zn 206.200†	23154.7	287.0	ug/L	2.02	29.29	mg/kg	0.206	0.70%
Li 670.784	1204599.6	77.98	ug/L	0.240	7.957	mg/kg	0.0245	0.31%

Sequence No.: 40
Sample ID: AZ16202S02-1/20
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 0.98 g
Dilution: 20X
Wash Time:

Autosampler Location: 76
Date Collected: 06/12/15 6:03:27 PM
Data Type: Reprocessed on 06/15/15 10:36:25 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: AZ16202S02-1/20

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	203337.7	100.1	%	0.64				0.64%
Y Radial	14135.1	107.7	%	0.25				0.23%
Ag 338.289†	-11.6	-0.072	ug/L	0.4868	-0.146	mg/kg	0.9936	679.58%
Al 308.215†	5000.8	4393	ug/L	12.17	8965	mg/kg	24.84	0.28%
As 188.979†	6.0	2.259	ug/L	1.3735	4.610	mg/kg	2.8030	60.81%
B 249.677†	-137.3	14.38	ug/L	0.448	29.35	mg/kg	0.913	3.11%
Ba 233.527†	2378.2	5.971	ug/L	0.0502	12.19	mg/kg	0.102	0.84%
Be 313.107†	770.3	0.238	ug/L	0.0064	0.486	mg/kg	0.0130	2.67%
Ca 315.887†	2848.4	220.5	ug/L	0.96	450.0	mg/kg	1.97	0.44%
Cd 214.440†	95.2	-0.032	ug/L	0.0483	-0.065	mg/kg	0.0986	150.96%
Co 228.616†	73.6	0.523	ug/L	0.0657	1.068	mg/kg	0.1342	12.57%
Cr 267.716†	1434.8	18.46	ug/L	0.173	37.67	mg/kg	0.352	0.94%
Cu 327.393†	811.6	4.904	ug/L	0.0511	10.01	mg/kg	0.104	1.04%
Fe 273.955†	516846.1	7651	ug/L	8.58	15610	mg/kg	17.51	0.11%
K 766.490†	8076.7	1400	ug/L	21.13	2858	mg/kg	43.12	1.51%
Mg 285.213†	11078.9	786.8	ug/L	1.46	1606	mg/kg	2.98	0.19%
Mn 257.610†	543.1	7.746	ug/L	0.0989	15.81	mg/kg	0.202	1.28%
Mo 202.031†	9.8	0.458	ug/L	0.3022	0.934	mg/kg	0.6168	66.04%
Na 589.592†	123.1	19.47	ug/L	3.897	39.74	mg/kg	7.952	20.01%
Ni 231.604†	58.4	1.491	ug/L	0.1808	3.044	mg/kg	0.3689	12.12%
P 213.617†	173.9	60.26	ug/L	0.407	123.0	mg/kg	0.83	0.68%
Pb 220.353†	33.6	5.765	ug/L	0.5657	11.76	mg/kg	1.155	9.81%
Sb 206.836†	2.1	0.335	ug/L	0.6764	0.683	mg/kg	1.3804	202.02%
Se 196.026†	-6.9	0.536	ug/L	0.8809	1.093	mg/kg	1.7977	164.49%
Sn 189.927†	-0.7	-0.139	ug/L	0.2616	-0.284	mg/kg	0.5339	187.78%
Sr 421.552†	888.2	2.660	ug/L	0.0666	5.428	mg/kg	0.1359	2.50%
Ti 337.279†	1875.8	58.93	ug/L	0.275	120.3	mg/kg	0.56	0.47%
Tl 190.801†	-5.7	-1.137	ug/L	0.7857	-2.319	mg/kg	1.6035	69.13%
V 292.402†	1534.6	16.39	ug/L	0.105	33.46	mg/kg	0.214	0.64%
Zn 206.200†	963.9	11.89	ug/L	0.131	24.28	mg/kg	0.268	1.10%
Li 670.784	38301.4	2.479	ug/L	0.0274	5.060	mg/kg	0.0559	1.10%

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: 76390 SDG: 76390
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 06/12/15 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 13:26	%R(1)	True CCV1	Found 13:57	%R(1)	True CCV2	Found 15:02	%R(1)	
Aluminum (Al)	12500	12560	100	10000	9912	99.1	7500	7411	98.8	P
Boron (B)	500	526.1	105	500	514	103	375	393.7	105	P
Lithium (Li)	250	270	108	250	239.5	95.8	187.5	177.8	94.8	P
Zinc (Zn)	500	521.6	104	500	507.3	101	375	396.2	106	P

(1) Control Limits: Metals 90-110

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Tetra Tech
ARF No: 76390 SDG: 76390
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 06/12/15 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 13:26	%R(1)	True CCV1	Found 16:29	%R(1)	True CCV2	Found 18:09	%R(1)	
Aluminum (Al)	12500	12560	100	10000	9995	100	7500	7483	99.8	P
Boron (B)	500	526.1	105	500	512.6	103	375	396.6	106	P
Lithium (Li)	250	270	108	250	243.6	97.4	187.5	172.3	91.9	P
Zinc (Zn)	500	521.6	104	500	506.5	101	375	391.3	104	P

(1) Control Limits: Metals 90-110

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Tetra Tech
ARF No: 76390 SDG: 76390
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 06/12/15 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 13:26	%R(1)	True CCV2	Found 20:01	%R(1)	True CCV1	Found 20:45	%R(1)	
Aluminum (Al)	12500	12560	100	7500	7137	95.2	10000	10110	101	P
Boron (B)	500	526.1	105	375	391	104	500	525.2	105	P
Lithium (Li)	250	270	108	187.5	193.9	103	250	286.1	114	*
Zinc (Zn)	500	521.6	104	375	402.6	107	500	527.8	106	P

(1) Control Limits: Metals 90-110

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Tetra Tech

ARF No.: 76390 SDG: 76390

Preparation Blank Matrix (soil/water): soil

Preparation Blank Concentration Units (ug/L or mg/kg): mg/Kg

Analysis Date: 06/12/15

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)								Preparation Blank		M
		C	1	C	2	C	3	C		C			
	13:37		14:08		15:08		16:34				14:26		
Aluminum (Al)	500.00	U	500.00	U	500.00	U	500.00	U			50.00	U	P
Boron (B)	50.00	U	50.00	U	50.00	U	50.00	U			5.00	U	P
Lithium (Li)	6.70	U	6.70	U	6.70	U	6.70	U			.67	U	P
Zinc (Zn)	80.00	U	80.00	U	80.00	U	80.00	U			8.00	U	P

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Tetra Tech

ARF No.: 76390 SDG: 76390

Preparation Blank Matrix (soil/water): soil

Preparation Blank Concentration Units (ug/L or mg/kg): mg/Kg

Analysis Date: 06/12/15

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)								Preparation Blank		M
		C	1	C	2	C	3	C		C			
	13:37		18:15		20:11		21:00				14:26		
Aluminum (Al)	500.00	U	500.00	U	500.00	U	500.00	U			50.00	U	P
Boron (B)	50.00	U	50.00	U	50.00	U	50.00	U			5.00	U	P
Lithium (Li)	6.70	U	6.70	U	6.70	U	6.70	U			.67	U	P
Zinc (Zn)	80.00	U	80.00	U	80.00	U	80.00	U			8.00	U	P

A.P.P.L. INC.
4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: A.P.P.L. INC. Contract: Tetra Tech
ARF No.: 76390 SDG: 76390
ICP ID Number: Jules ICS Source: Environmental Express

Analysis Date: 06/12/15 Concentration Units: ug/L

Analyte	True		Initial Found		
	Sol A	Sol AB	Sol A 13:43	Sol AB 13:50	%R(1)
Aluminum (Al)	100000	100000	100300	99840	99.8
Boron (B)			-14.65	-15.98	
Calcium (Ca)	100000	100000	103800	103400	103
Iron (Fe)	100000	100000	98980	98220	98.2
Lithium (Li)		0	0.8	0.68	
Magnesium (Mg)	100000	100000	100000	100400	100
Zinc (Zn)		500	0.999	485.9	97.2

(1) Control Limits: Metals 80-120

Reprocessing Begun
Logged In Analyst: chemist_metals Technique: ICP Continuous

Results Data Set (original): 150612A6010
Results Library (original): C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Results\Results.mdb
Results Data Set (reprocessed):
Results Library (reprocessed):

Sequence No.: 1 Autosampler Location: 1
Sample ID: CalBlk 150612RJS I:JL O:R Date Collected: 06/12/15 12:56:41 PM
Analyst: Data Type: Reprocessed on 06/15/15 10:35:40 AM
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:
Wash Time:

Mean Data: CalBlk 150612RJS I:JL O:R

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	203189.8	528.51	0.26%	100.0	%
Y Radial	13119.9	152.02	1.16%	100.0	%
Ag 338.289†	-58.7	52.66	89.65%	[0.00]	ug/L
Al 308.215†	71.0	5.32	7.49%	[0.00]	ug/L
As 188.979†	-76.5	4.42	5.78%	[0.00]	ug/L
B 249.677†	49.2	9.52	19.36%	[0.00]	ug/L
Ba 233.527†	-54.1	6.40	11.84%	[0.00]	ug/L
Be 313.107†	2142.9	12.43	0.58%	[0.00]	ug/L
Ca 315.887†	-306.4	16.52	5.39%	[0.00]	ug/L
Cd 214.440†	-389.3	13.59	3.49%	[0.00]	ug/L
Co 228.616†	-225.7	1.70	0.75%	[0.00]	ug/L
Cr 267.716†	27.6	9.11	33.04%	[0.00]	ug/L
Cu 327.393†	-1695.6	55.62	3.28%	[0.00]	ug/L
Fe 273.955†	-25.0	4.12	16.51%	[0.00]	ug/L
K 766.490†	-793.3	122.41	15.43%	[0.00]	ug/L
Mg 285.213†	82.5	16.38	19.86%	[0.00]	ug/L
Mn 257.610†	-67.5	5.40	8.01%	[0.00]	ug/L
Mo 202.031†	-76.5	3.57	4.67%	[0.00]	ug/L
Na 589.592†	390.3	32.76	8.39%	[0.00]	ug/L
Ni 231.604†	-145.8	8.82	6.05%	[0.00]	ug/L
P 213.617†	-70.3	4.21	6.00%	[0.00]	ug/L
Pb 220.353†	25.2	5.67	22.49%	[0.00]	ug/L
Sb 206.836†	-9.4	7.34	78.01%	[0.00]	ug/L
Se 196.026†	17.2	1.37	7.97%	[0.00]	ug/L
Sn 189.927†	0.7	0.53	77.76%	[0.00]	ug/L
Sr 421.552†	-57.6	26.79	46.54%	[0.00]	ug/L
Ti 337.279†	-36.1	7.84	21.72%	[0.00]	ug/L
Tl 190.801†	-10.8	2.57	23.88%	[0.00]	ug/L
V 292.402†	-143.3	6.85	4.78%	[0.00]	ug/L
Zn 206.200†	360.2	24.31	6.75%	[0.00]	ug/L
Li 670.784	4402.2	42.58	0.97%	[0.00]	ug/L

Sequence No.: 2
Sample ID: STD 1 150612RJS I:JL O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 2
Date Collected: 06/12/15 1:02:53 PM
Data Type: Reprocessed on 06/15/15 10:35:42 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 1 150612RJS I:JL O:RJ

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	204890.8	1033.91	0.50%	100.8	%
Y Radial	13852.4	50.05	0.36%	105.6	%
Ag 338.289†	943.9	19.23	2.04%	[0.5]	ug/L
Al 308.215†	274.5	2.69	0.98%	[50]	ug/L
As 188.979†	53.8	6.12	11.36%	[2]	ug/L
B 249.677†	1112.2	18.97	1.71%	[25]	ug/L
Ba 233.527†	4520.4	18.72	0.41%	[1.5]	ug/L
Be 313.107†	34091.0	157.69	0.46%	[1]	ug/L
Ca 315.887†	7316.1	11.53	0.16%	[50]	ug/L
Cd 214.440†	2646.1	16.52	0.62%	[0.25]	ug/L
Co 228.616†	1152.3	4.27	0.37%	[2.5]	ug/L
Cr 267.716†	800.6	7.59	0.95%	[0.5]	ug/L
Cu 327.393†	2201.8	41.05	1.86%	[2.5]	ug/L
Fe 273.955†	15428.0	61.25	0.40%	[25]	ug/L
K 766.490†	3978.3	57.45	1.44%	[500]	ug/L
Mg 285.213†	7438.0	10.16	0.14%	[25]	ug/L
Mn 257.610†	796.5	3.59	0.45%	[1]	ug/L
Mo 202.031†	337.4	3.03	0.90%	[1]	ug/L
Na 589.592†	4283.1	60.29	1.41%	[500]	ug/L
Ni 231.604†	486.6	8.37	1.72%	[1]	ug/L
P 213.617†	178.4	1.56	0.87%	[12.5]	ug/L
Pb 220.353†	65.7	5.01	7.63%	[1.5]	ug/L
Sb 206.836†	70.2	5.98	8.52%	[2]	ug/L
Se 196.026†	28.3	8.55	30.26%	[2]	ug/L
Sn 189.927†	64.0	1.97	3.08%	[3]	ug/L
Sr 421.552†	3541.9	36.02	1.02%	[1]	ug/L
Ti 337.279†	401.8	8.54	2.13%	[2.5]	ug/L
Tl 190.801†	66.8	7.25	10.84%	[2]	ug/L
V 292.402†	1022.4	8.88	0.87%	[0.5]	ug/L
Zn 206.200†	2876.2	22.01	0.77%	[25]	ug/L
Li 670.784	52749.1	275.23	0.52%	[5]	ug/L

Sequence No.: 3
Sample ID: STD 2 150612RJS I:JL O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 3
Date Collected: 06/12/15 1:09:07 PM
Data Type: Reprocessed on 06/15/15 10:35:43 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 2 150612RJS I:JL O:RJ

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	194907.2	898.33	0.46%	95.92	%
Y Radial	13937.3	868.97	6.23%	106.2	%
Ag 338.289†	40195.1	144.36	0.36%	[250]	ug/L
Al 308.215†	10912.3	637.90	5.85%	[10000]	ug/L
As 188.979†	2243.3	24.96	1.11%	[500]	ug/L
B 249.677†	15089.9	90.81	0.60%	[500]	ug/L
Ba 233.527†	185331.6	600.96	0.32%	[500]	ug/L
Be 313.107†	1605818.8	3121.77	0.19%	[500]	ug/L
Ca 315.887†	313240.7	17959.45	5.73%	[25000]	ug/L
Cd 214.440†	122579.4	317.91	0.26%	[500]	ug/L
Co 228.616†	43316.8	196.51	0.45%	[500]	ug/L
Cr 267.716†	38777.0	318.42	0.82%	[500]	ug/L
Cu 327.393†	87449.0	378.93	0.43%	[500]	ug/L
Fe 273.955†	675336.8	2347.57	0.35%	[10000]	ug/L
K 766.490†	54597.7	2935.00	5.38%	[10000]	ug/L
Mg 285.213†	346008.2	19459.49	5.62%	[25000]	ug/L
Mn 257.610†	33896.6	1946.96	5.74%	[500]	ug/L
Mo 202.031†	15278.1	142.03	0.93%	[500]	ug/L
Na 589.592†	69357.2	3914.69	5.64%	[12500]	ug/L
Ni 231.604†	21743.8	151.61	0.70%	[500]	ug/L
P 213.617†	7124.8	61.35	0.86%	[2500]	ug/L
Pb 220.353†	2766.8	27.88	1.01%	[500]	ug/L
Sb 206.836†	3128.4	26.08	0.83%	[500]	ug/L
Se 196.026†	1351.3	16.09	1.19%	[500]	ug/L
Sn 189.927†	2452.2	21.03	0.86%	[500]	ug/L
Sr 421.552†	158921.9	10051.03	6.32%	[500]	ug/L
Ti 337.279†	15315.6	864.82	5.65%	[500]	ug/L
Tl 190.801†	2541.8	23.48	0.92%	[500]	ug/L
V 292.402†	46344.3	19.23	0.04%	[500]	ug/L
Zn 206.200†	39707.0	170.01	0.43%	[500]	ug/L
Li 670.784	3579783.9	5361.54	0.15%	[250]	ug/L

Sequence No.: 4
Sample ID: STD 3 150612RJS I:JL O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 4
Date Collected: 06/12/15 1:14:56 PM
Data Type: Reprocessed on 06/15/15 10:35:44 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD 3 150612RJS I:JL O:RJ

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Y 371.029	191152.4	1013.95	0.53%	94.08	%
Y Radial	13187.3	99.13	0.75%	100.5	%
Ag 338.289†	81421.3	181.41	0.22%	[500]	ug/L
Al 308.215†	23011.1	124.86	0.54%	[20000]	ug/L
As 188.979†	4501.3	39.48	0.88%	[1000]	ug/L
B 249.677†	30803.2	114.76	0.37%	[1000]	ug/L
Ba 233.527†	373030.4	710.79	0.19%	[1000]	ug/L
Be 313.107†	3237526.3	7010.12	0.22%	[1000]	ug/L
Ca 315.887†	649688.6	9682.27	1.49%	[50000]	ug/L
Cd 214.440†	245591.7	513.49	0.21%	[1000]	ug/L
Co 228.616†	86546.9	118.57	0.14%	[1000]	ug/L
Cr 267.716†	77566.9	609.11	0.79%	[1000]	ug/L
Cu 327.393†	177878.9	377.27	0.21%	[1000]	ug/L
Fe 273.955†	1350904.7	2292.67	0.17%	[20000]	ug/L
K 766.490†	116281.5	610.12	0.52%	[20000]	ug/L
Mg 285.213†	714101.7	11476.54	1.61%	[50000]	ug/L
Mn 257.610†	70989.9	303.61	0.43%	[1000]	ug/L
Mo 202.031†	30787.3	243.98	0.79%	[1000]	ug/L
Na 589.592†	145163.6	2576.54	1.77%	[25000]	ug/L
Ni 231.604†	43000.1	347.49	0.81%	[1000]	ug/L
P 213.617†	14473.8	158.00	1.09%	[5000]	ug/L
Pb 220.353†	5487.3	49.25	0.90%	[1000]	ug/L
Sb 206.836†	6352.2	56.77	0.89%	[1000]	ug/L
Se 196.026†	2722.1	36.30	1.33%	[1000]	ug/L
Sn 189.927†	4918.7	42.91	0.87%	[1000]	ug/L
Sr 421.552†	335696.1	6119.90	1.82%	[1000]	ug/L
Ti 337.279†	32105.7	146.46	0.46%	[1000]	ug/L
Tl 190.801†	4988.8	72.43	1.45%	[1000]	ug/L
V 292.402†	93838.1	229.65	0.24%	[1000]	ug/L
Zn 206.200†	80342.1	132.88	0.17%	[1000]	ug/L
Li 670.784	7865167.1	27046.04	0.34%	[500]	ug/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Ag 338.289	3	Lin Thru 0	0.0	162.4	0.00000	0.999942	
Al 308.215	3	Lin Thru 0	0.0	1.139	0.00000	0.999746	
As 188.979	3	Lin Thru 0	0.0	4.498	0.00000	0.999959	
B 249.677	3	Lin Thru 0	0.0	30.69	0.00000	0.999916	
Ba 233.527	3	Lin Thru 0	0.0	372.6	0.00000	0.999952	
Be 313.107	3	Lin Thru 0	0.0	3232	0.00000	0.999958	
Ca 315.887	3	Lin Thru 0	0.0	12.90	0.00000	0.999854	
Cd 214.440	3	Lin Thru 0	0.0	245.5	0.00000	0.999955	
Co 228.616	3	Lin Thru 0	0.0	86.57	0.00000	0.999953	
Cr 267.716	3	Lin Thru 0	0.0	77.56	0.00000	0.999961	
Cu 327.393	3	Lin Thru 0	0.0	177.3	0.00000	0.999938	
Fe 273.955	3	Lin Thru 0	0.0	67.54	0.00000	0.999959	
K 766.490	3	Lin Thru 0	0.0	5.744	0.00000	0.999659	
Mg 285.213	3	Lin Thru 0	0.0	14.19	0.00000	0.999883	
Mn 257.610	3	Lin Thru 0	0.0	70.35	0.00000	0.999792	
Mo 202.031	3	Lin Thru 0	0.0	30.74	0.00000	0.999956	
Na 589.592	3	Lin Thru 0	0.0	5.756	0.00000	0.999801	
Ni 231.604	3	Lin Thru 0	0.0	43.10	0.00000	0.999947	
P 213.617	3	Lin Thru 0	0.0	2.886	0.00000	0.999942	
Pb 220.353	3	Lin Thru 0	0.0	5.497	0.00000	0.999951	
Sb 206.836	3	Lin Thru 0	0.0	6.333	0.00000	0.999949	
Se 196.026	3	Lin Thru 0	0.0	2.718	0.00000	0.999968	

Sn 189.927	3	Lin Thru 0	0.0	4.916	0.00000	0.999959
Sr 421.552	3	Lin Thru 0	0.0	332.1	0.00000	0.999732
Ti 337.279	3	Lin Thru 0	0.0	31.81	0.00000	0.999787
Tl 190.801	3	Lin Thru 0	0.0	5.008	0.00000	0.999920
V 292.402	3	Lin Thru 0	0.0	93.61	0.00000	0.999944
Zn 206.200	3	Lin Thru 0	0.0	80.17	0.00000	0.999942
Li 670.784	3	Lin Thru 0	0.0	15450	0.00000	0.999329

Sequence No.: 5
Sample ID: ICV 150612RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 5
Date Collected: 06/12/15 1:26:55 PM
Data Type: Reprocessed on 06/15/15 10:35:45 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICV 150612RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	198221.1	97.55	%	0.412				0.42%
Y Radial	13541.2	103.2	%	0.44				0.42%
Ag 338.289†	40879.3	251.7	ug/L	1.97	251.7	ug/L	1.97	0.78%
QC value within limits for Ag 338.289 Recovery = 100.67%								
Al 308.215†	14275.1	12560	ug/L	87.68	12560	ug/L	87.68	0.70%
QC value within limits for Al 308.215 Recovery = 100.48%								
As 188.979†	2048.9	452.2	ug/L	1.21	452.2	ug/L	1.21	0.27%
QC value within limits for As 188.979 Recovery = 90.45%								
B 249.677†	15235.4	526.1	ug/L	2.54	526.1	ug/L	2.54	0.48%
QC value within limits for B 249.677 Recovery = 105.22%								
Ba 233.527†	187349.3	502.4	ug/L	2.65	502.4	ug/L	2.65	0.53%
QC value within limits for Ba 233.527 Recovery = 100.49%								
Be 313.107†	1608761.8	497.7	ug/L	2.85	497.7	ug/L	2.85	0.57%
QC value within limits for Be 313.107 Recovery = 99.54%								
Ca 315.887†	168882.4	13090	ug/L	93.26	13090	ug/L	93.26	0.71%
QC value within limits for Ca 315.887 Recovery = 104.69%								
Cd 214.440†	124828.9	508.5	ug/L	3.31	508.5	ug/L	3.31	0.65%
QC value within limits for Cd 214.440 Recovery = 101.71%								
Co 228.616†	43742.4	505.2	ug/L	2.75	505.2	ug/L	2.75	0.54%
QC value within limits for Co 228.616 Recovery = 101.05%								
Cr 267.716†	39456.0	508.6	ug/L	1.16	508.6	ug/L	1.16	0.23%
QC value within limits for Cr 267.716 Recovery = 101.73%								
Cu 327.393†	90221.9	510.0	ug/L	3.18	510.0	ug/L	3.18	0.62%
QC value within limits for Cu 327.393 Recovery = 102.00%								
Fe 273.955†	851818.9	12570	ug/L	68.01	12570	ug/L	68.01	0.54%
QC value within limits for Fe 273.955 Recovery = 100.58%								
K 766.490†	71945.5	12500	ug/L	104.35	12500	ug/L	104.35	0.83%
QC value within limits for K 766.490 Recovery = 99.98%								
Mg 285.213†	181963.9	12830	ug/L	110.07	12830	ug/L	110.07	0.86%
QC value within limits for Mg 285.213 Recovery = 102.64%								
Mn 257.610†	35702.1	507.1	ug/L	3.94	507.1	ug/L	3.94	0.78%
QC value within limits for Mn 257.610 Recovery = 101.43%								
Mo 202.031†	15306.4	498.5	ug/L	1.12	498.5	ug/L	1.12	0.22%
QC value within limits for Mo 202.031 Recovery = 99.69%								
Na 589.592†	73647.9	12780	ug/L	105.16	12780	ug/L	105.16	0.82%
QC value within limits for Na 589.592 Recovery = 102.23%								
Ni 231.604†	22407.8	519.0	ug/L	1.21	519.0	ug/L	1.21	0.23%
QC value within limits for Ni 231.604 Recovery = 103.79%								
P 213.617†	7296.7	2528	ug/L	5.19	2528	ug/L	5.19	0.21%
QC value within limits for P 213.617 Recovery = 101.14%								
Pb 220.353†	2856.2	522.4	ug/L	1.51	522.4	ug/L	1.51	0.29%
QC value within limits for Pb 220.353 Recovery = 104.49%								
Sb 206.836†	3251.4	513.4	ug/L	2.31	513.4	ug/L	2.31	0.45%
QC value within limits for Sb 206.836 Recovery = 102.68%								
Se 196.026†	1393.0	516.3	ug/L	4.57	516.3	ug/L	4.57	0.89%
QC value within limits for Se 196.026 Recovery = 103.26%								
Sn 189.927†	1276.9	259.7	ug/L	0.85	259.7	ug/L	0.85	0.33%
QC value within limits for Sn 189.927 Recovery = 103.90%								
Sr 421.552†	168575.7	507.0	ug/L	5.99	507.0	ug/L	5.99	1.18%
QC value within limits for Sr 421.552 Recovery = 101.41%								
Ti 337.279†	16192.4	508.8	ug/L	4.23	508.8	ug/L	4.23	0.83%
QC value within limits for Ti 337.279 Recovery = 101.76%								
Tl 190.801†	2588.9	517.0	ug/L	1.63	517.0	ug/L	1.63	0.32%
QC value within limits for Tl 190.801 Recovery = 103.39%								
V 292.402†	46569.4	497.5	ug/L	2.57	497.5	ug/L	2.57	0.52%
QC value within limits for V 292.402 Recovery = 99.50%								
Zn 206.200†	41321.5	521.6	ug/L	3.58	521.6	ug/L	3.58	0.69%
QC value within limits for Zn 206.200 Recovery = 104.33%								

Li 670.784	4171413.8	270.0 ug/L	0.59	270.0 ug/L	0.59	0.22%

QC value within limits for Li 670.784 Recovery = 108.01%
All analyte(s) passed QC.

Sequence No.: 6
Sample ID: ICB 150612RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 1
Date Collected: 06/12/15 1:37:16 PM
Data Type: Reprocessed on 06/15/15 10:35:46 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICB 150612RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	203764.6	100.3	%	0.62				0.62%
Y Radial	13522.8	103.1	%	1.76				1.70%
Ag 338.289†	-17.6	-0.108	ug/L	0.2167	-0.108	ug/L	0.2167	200.30%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	-6.2	-5.449	ug/L	2.3760	-5.449	ug/L	2.3760	43.60%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	8.4	1.874	ug/L	0.4645	1.874	ug/L	0.4645	24.79%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	53.3	1.737	ug/L	0.2490	1.737	ug/L	0.2490	14.33%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	20.4	0.054	ug/L	0.0346	0.054	ug/L	0.0346	63.43%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-11.6	-0.004	ug/L	0.0077	-0.004	ug/L	0.0077	216.01%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	37.8	2.926	ug/L	0.4883	2.926	ug/L	0.4883	16.69%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	20.3	0.083	ug/L	0.0437	0.083	ug/L	0.0437	52.67%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	25.4	0.297	ug/L	0.1260	0.297	ug/L	0.1260	42.44%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	2.3	0.030	ug/L	0.0621	0.030	ug/L	0.0621	209.05%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	355.8	2.007	ug/L	0.3076	2.007	ug/L	0.3076	15.33%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	10.0	0.144	ug/L	0.0501	0.144	ug/L	0.0501	34.71%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	87.9	15.30	ug/L	5.424	15.30	ug/L	5.424	35.45%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	10.9	0.764	ug/L	0.6707	0.764	ug/L	0.6707	87.80%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	14.5	0.206	ug/L	0.1536	0.206	ug/L	0.1536	74.54%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	21.7	0.704	ug/L	0.1130	0.704	ug/L	0.1130	16.05%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	-1.1	-0.216	ug/L	7.9269	-0.216	ug/L	7.9269	>999.9%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-6.8	-0.157	ug/L	0.1739	-0.157	ug/L	0.1739	111.05%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	-0.2	-0.057	ug/L	0.8573	-0.057	ug/L	0.8573	>999.9%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	5.4	0.988	ug/L	0.1708	0.988	ug/L	0.1708	17.29%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	19.3	3.048	ug/L	1.3894	3.048	ug/L	1.3894	45.59%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-5.9	-2.169	ug/L	1.5180	-2.169	ug/L	1.5180	69.99%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	1.8	0.376	ug/L	0.2443	0.376	ug/L	0.2443	65.04%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	9.2	0.028	ug/L	0.1189	0.028	ug/L	0.1189	431.52%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	-8.4	-0.264	ug/L	0.3711	-0.264	ug/L	0.3711	140.64%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	-3.5	-0.695	ug/L	0.3654	-0.695	ug/L	0.3654	52.57%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	2.2	0.023	ug/L	0.1010	0.023	ug/L	0.1010	432.20%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	-160.0	-1.994	ug/L	0.0861	-1.994	ug/L	0.0861	4.32%
QC value within limits for Zn 206.200 Recovery = Not calculated								

Li 670.784	6972.4	0.451 ug/L	0.0049	0.451 ug/L	0.0049	1.08%

QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 7
Sample ID: ICSA 150612RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 6
Date Collected: 06/12/15 1:43:23 PM
Data Type: Reprocessed on 06/15/15 10:35:48 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSA 150612RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	192595.2	94.79	%	0.213				0.22%
Y Radial	13405.4	102.2	%	0.47				0.46%
Ag 338.289†	72.1	0.444	ug/L	0.2262	0.444	ug/L	0.2262	50.96%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	114220.9	100300	ug/L	167.75	100300	ug/L	167.75	0.17%
QC value within limits for Al 308.215 Recovery = 100.30%								
As 188.979†	17.4	4.187	ug/L	0.9747	4.187	ug/L	0.9747	23.28%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	-7841.4	-14.65	ug/L	2.213	-14.65	ug/L	2.213	15.11%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	1657.2	-1.139	ug/L	0.0993	-1.139	ug/L	0.0993	8.72%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	275.6	0.085	ug/L	0.0039	0.085	ug/L	0.0039	4.63%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	1339315.2	103800	ug/L	143.50	103800	ug/L	143.50	0.14%
QC value within limits for Ca 315.887 Recovery = 103.81%								
Cd 214.440†	887.6	-0.289	ug/L	0.0610	-0.289	ug/L	0.0610	21.09%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	122.0	-1.494	ug/L	0.1772	-1.494	ug/L	0.1772	11.86%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	80.6	0.132	ug/L	0.1067	0.132	ug/L	0.1067	81.07%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	-126.0	0.706	ug/L	0.0899	0.706	ug/L	0.0899	12.73%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	6685686.8	98980	ug/L	994.25	98980	ug/L	994.25	1.00%
QC value within limits for Fe 273.955 Recovery = 98.98%								
K 766.490†	174.7	-66.61	ug/L	8.198	-66.61	ug/L	8.198	12.31%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	1418866.1	100000	ug/L	167.24	100000	ug/L	167.24	0.17%
QC value within limits for Mg 285.213 Recovery = 100.05%								
Mn 257.610†	229.9	-0.054	ug/L	0.0995	-0.054	ug/L	0.0995	182.73%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	-67.5	-0.766	ug/L	0.3582	-0.766	ug/L	0.3582	46.74%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	164.0	16.24	ug/L	1.644	16.24	ug/L	1.644	10.12%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-94.6	0.249	ug/L	0.1407	0.249	ug/L	0.1407	56.46%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	-107.2	-37.16	ug/L	2.779	-37.16	ug/L	2.779	7.48%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	-61.0	-1.144	ug/L	0.4191	-1.144	ug/L	0.4191	36.64%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	-3.4	-0.536	ug/L	2.0189	-0.536	ug/L	2.0189	376.45%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-116.5	-3.945	ug/L	3.2533	-3.945	ug/L	3.2533	82.47%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	10.2	2.078	ug/L	0.4659	2.078	ug/L	0.4659	22.42%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	242.1	-3.333	ug/L	0.0960	-3.333	ug/L	0.0960	2.88%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	40.2	-0.464	ug/L	0.5299	-0.464	ug/L	0.5299	114.08%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	-32.6	-6.502	ug/L	0.7702	-6.502	ug/L	0.7702	11.85%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	39.6	0.424	ug/L	0.1746	0.424	ug/L	0.1746	41.23%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	136.6	0.999	ug/L	0.2773	0.999	ug/L	0.2773	27.74%
QC value within limits for Zn 206.200 Recovery = Not calculated								

Li 670.784	12357.5	0.800 ug/L	0.0075	0.800 ug/L	0.0075	0.94%

All analyte(s) passed QC.

Sequence No.: 8
Sample ID: ICSAB 150612RJS I:JL O:RJ
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 7
Date Collected: 06/12/15 1:50:38 PM
Data Type: Reprocessed on 06/15/15 10:35:49 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSAB 150612RJS I:JL O:RJ

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	193304.1	95.13	%	0.108				0.11%
Y Radial	13514.7	103.0	%	0.33				0.32%
Ag 338.289†	82900.8	510.4	ug/L	0.43	510.4	ug/L	0.43	0.08%
QC value within limits for Ag 338.289 Recovery = 102.07%								
Al 308.215†	113679.6	99840	ug/L	892.65	99840	ug/L	892.65	0.89%
QC value within limits for Al 308.215 Recovery = 99.84%								
As 188.979†	1025.8	226.6	ug/L	1.41	226.6	ug/L	1.41	0.62%
QC value within limits for As 188.979 Recovery = 90.65%								
B 249.677†	-7810.8	-15.98	ug/L	0.719	-15.98	ug/L	0.719	4.50%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	93542.8	245.7	ug/L	0.27	245.7	ug/L	0.27	0.11%
QC value within limits for Ba 233.527 Recovery = 98.28%								
Be 313.107†	779442.1	241.1	ug/L	0.66	241.1	ug/L	0.66	0.27%
QC value within limits for Be 313.107 Recovery = 96.45%								
Ca 315.887†	1334439.2	103400	ug/L	995.46	103400	ug/L	995.46	0.96%
QC value within limits for Ca 315.887 Recovery = 103.43%								
Cd 214.440†	120649.0	487.8	ug/L	0.03	487.8	ug/L	0.03	0.01%
QC value within limits for Cd 214.440 Recovery = 97.56%								
Co 228.616†	21754.7	249.1	ug/L	0.50	249.1	ug/L	0.50	0.20%
QC value within limits for Co 228.616 Recovery = 99.63%								
Cr 267.716†	18838.5	242.0	ug/L	0.58	242.0	ug/L	0.58	0.24%
QC value within limits for Cr 267.716 Recovery = 96.81%								
Cu 327.393†	44317.9	251.2	ug/L	0.52	251.2	ug/L	0.52	0.21%
QC value within limits for Cu 327.393 Recovery = 100.47%								
Fe 273.955†	6635958.9	98220	ug/L	478.84	98220	ug/L	478.84	0.49%
QC value within limits for Fe 273.955 Recovery = 98.22%								
K 766.490†	112.9	-78.19	ug/L	1.867	-78.19	ug/L	1.867	2.39%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	1424460.8	100400	ug/L	940.93	100400	ug/L	940.93	0.94%
QC value within limits for Mg 285.213 Recovery = 100.44%								
Mn 257.610†	17668.8	247.8	ug/L	0.89	247.8	ug/L	0.89	0.36%
QC value within limits for Mn 257.610 Recovery = 99.13%								
Mo 202.031†	7311.9	239.5	ug/L	0.84	239.5	ug/L	0.84	0.35%
QC value within limits for Mo 202.031 Recovery = 95.79%								
Na 589.592†	80.9	0.906	ug/L	3.7326	0.906	ug/L	3.7326	411.77%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	20824.2	485.0	ug/L	1.16	485.0	ug/L	1.16	0.24%
QC value within limits for Ni 231.604 Recovery = 97.00%								
P 213.617†	-188.6	-65.34	ug/L	2.060	-65.34	ug/L	2.060	3.15%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	2629.3	489.2	ug/L	0.23	489.2	ug/L	0.23	0.05%
QC value within limits for Pb 220.353 Recovery = 97.84%								
Sb 206.836†	1605.5	253.5	ug/L	2.54	253.5	ug/L	2.54	1.00%
QC value within limits for Sb 206.836 Recovery = 101.40%								
Se 196.026†	547.9	239.6	ug/L	2.83	239.6	ug/L	2.83	1.18%
QC value within limits for Se 196.026 Recovery = 95.83%								
Sn 189.927†	12.2	2.485	ug/L	0.8254	2.485	ug/L	0.8254	33.21%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	227.6	-3.362	ug/L	0.0533	-3.362	ug/L	0.0533	1.59%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	53.5	-0.002	ug/L	0.8743	-0.002	ug/L	0.8743	>999.9%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	1158.9	231.4	ug/L	2.91	231.4	ug/L	2.91	1.26%
QC value within limits for Tl 190.801 Recovery = 92.56%								
V 292.402†	24361.0	260.2	ug/L	0.78	260.2	ug/L	0.78	0.30%
QC value within limits for V 292.402 Recovery = 104.10%								
Zn 206.200†	38791.0	485.9	ug/L	0.65	485.9	ug/L	0.65	0.13%
QC value within limits for Zn 206.200 Recovery = 97.18%								

Li 670.784	10500.4	0.680 ug/L	0.0084	0.680 ug/L	0.0084	1.23%

All analyte(s) passed QC.

Sequence No.: 9
Sample ID: CCV1 150612RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 3
Date Collected: 06/12/15 1:57:55 PM
Data Type: Reprocessed on 06/15/15 10:35:50 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 150612RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	196666.0	96.79	%	0.901				0.93%
Y Radial	13673.1	104.2	%	1.07				1.03%
Ag 338.289†	40400.1	248.7	ug/L	0.31	248.7	ug/L	0.31	0.12%
QC value within limits for Ag 338.289 Recovery = 99.49%								
Al 308.215†	11261.2	9912	ug/L	21.87	9912	ug/L	21.87	0.22%
QC value within limits for Al 308.215 Recovery = 99.12%								
As 188.979†	2244.3	494.1	ug/L	5.03	494.1	ug/L	5.03	1.02%
QC value within limits for As 188.979 Recovery = 98.83%								
B 249.677†	15066.1	514.0	ug/L	1.37	514.0	ug/L	1.37	0.27%
QC value within limits for B 249.677 Recovery = 102.80%								
Ba 233.527†	185829.9	498.5	ug/L	0.70	498.5	ug/L	0.70	0.14%
QC value within limits for Ba 233.527 Recovery = 99.70%								
Be 313.107†	1603170.7	496.0	ug/L	1.13	496.0	ug/L	1.13	0.23%
QC value within limits for Be 313.107 Recovery = 99.19%								
Ca 315.887†	326256.5	25280	ug/L	58.88	25280	ug/L	58.88	0.23%
QC value within limits for Ca 315.887 Recovery = 101.14%								
Cd 214.440†	123109.2	501.8	ug/L	1.06	501.8	ug/L	1.06	0.21%
QC value within limits for Cd 214.440 Recovery = 100.36%								
Co 228.616†	43345.9	500.7	ug/L	0.26	500.7	ug/L	0.26	0.05%
QC value within limits for Co 228.616 Recovery = 100.14%								
Cr 267.716†	38750.0	499.5	ug/L	5.07	499.5	ug/L	5.07	1.02%
QC value within limits for Cr 267.716 Recovery = 99.89%								
Cu 327.393†	87914.3	496.9	ug/L	0.34	496.9	ug/L	0.34	0.07%
QC value within limits for Cu 327.393 Recovery = 99.37%								
Fe 273.955†	679215.5	10020	ug/L	14.34	10020	ug/L	14.34	0.14%
QC value within limits for Fe 273.955 Recovery = 100.17%								
K 766.490†	57450.9	9976	ug/L	12.01	9976	ug/L	12.01	0.12%
QC value within limits for K 766.490 Recovery = 99.76%								
Mg 285.213†	361673.8	25490	ug/L	32.23	25490	ug/L	32.23	0.13%
QC value within limits for Mg 285.213 Recovery = 101.96%								
Mn 257.610†	35323.3	501.2	ug/L	1.13	501.2	ug/L	1.13	0.23%
QC value within limits for Mn 257.610 Recovery = 100.24%								
Mo 202.031†	15312.5	498.6	ug/L	5.42	498.6	ug/L	5.42	1.09%
QC value within limits for Mo 202.031 Recovery = 99.72%								
Na 589.592†	75142.8	13040	ug/L	16.44	13040	ug/L	16.44	0.13%
QC value within limits for Na 589.592 Recovery = 104.33%								
Ni 231.604†	21781.0	504.5	ug/L	5.56	504.5	ug/L	5.56	1.10%
QC value within limits for Ni 231.604 Recovery = 100.89%								
P 213.617†	7141.6	2475	ug/L	25.48	2475	ug/L	25.48	1.03%
QC value within limits for P 213.617 Recovery = 98.99%								
Pb 220.353†	2726.3	499.0	ug/L	3.62	499.0	ug/L	3.62	0.73%
QC value within limits for Pb 220.353 Recovery = 99.80%								
Sb 206.836†	3127.5	493.8	ug/L	7.05	493.8	ug/L	7.05	1.43%
QC value within limits for Sb 206.836 Recovery = 98.77%								
Se 196.026†	1361.0	503.1	ug/L	2.25	503.1	ug/L	2.25	0.45%
QC value within limits for Se 196.026 Recovery = 100.63%								
Sn 189.927†	2444.1	497.2	ug/L	5.37	497.2	ug/L	5.37	1.08%
QC value within limits for Sn 189.927 Recovery = 99.44%								
Sr 421.552†	172227.0	517.6	ug/L	7.39	517.6	ug/L	7.39	1.43%
QC value within limits for Sr 421.552 Recovery = 103.52%								
Ti 337.279†	15853.9	498.0	ug/L	0.55	498.0	ug/L	0.55	0.11%
QC value within limits for Ti 337.279 Recovery = 99.60%								
Tl 190.801†	2470.5	493.3	ug/L	5.09	493.3	ug/L	5.09	1.03%
QC value within limits for Tl 190.801 Recovery = 98.66%								
V 292.402†	46009.2	491.5	ug/L	0.94	491.5	ug/L	0.94	0.19%
QC value within limits for V 292.402 Recovery = 98.30%								
Zn 206.200†	40133.1	507.3	ug/L	1.15	507.3	ug/L	1.15	0.23%
QC value within limits for Zn 206.200 Recovery = 101.47%								

Li 670.784	3699085.7	239.5 ug/L	1.69	239.5 ug/L	1.69	0.70%

QC value within limits for Li 670.784 Recovery = 95.78%
All analyte(s) passed QC.

Sequence No.: 10
Sample ID: CCB 150612RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 1
Date Collected: 06/12/15 2:08:21 PM
Data Type: Reprocessed on 06/15/15 10:35:52 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 150612RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	201570.0	99.20	%	0.306				0.31%
Y Radial	13406.6	102.2	%	0.72				0.70%
Ag 338.289†	7.1	0.044	ug/L	0.3282	0.044	ug/L	0.3282	750.40%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	1.0	0.867	ug/L	3.1476	0.867	ug/L	3.1476	363.18%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	0.7	0.154	ug/L	0.4866	0.154	ug/L	0.4866	316.21%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	49.6	1.625	ug/L	0.3203	1.625	ug/L	0.3203	19.72%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	11.1	0.029	ug/L	0.0250	0.029	ug/L	0.0250	85.05%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	19.2	0.006	ug/L	0.0040	0.006	ug/L	0.0040	66.62%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	4.8	0.368	ug/L	0.4727	0.368	ug/L	0.4727	128.45%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	5.0	0.020	ug/L	0.0452	0.020	ug/L	0.0452	221.61%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	19.2	0.225	ug/L	0.0730	0.225	ug/L	0.0730	32.51%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-8.8	-0.114	ug/L	0.0288	-0.114	ug/L	0.0288	25.22%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	514.9	2.904	ug/L	0.2729	2.904	ug/L	0.2729	9.40%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	246.5	3.645	ug/L	0.1853	3.645	ug/L	0.1853	5.09%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	76.4	13.31	ug/L	6.004	13.31	ug/L	6.004	45.12%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	33.5	2.363	ug/L	0.1032	2.363	ug/L	0.1032	4.37%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	6.3	0.090	ug/L	0.1210	0.090	ug/L	0.1210	134.27%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	21.9	0.712	ug/L	0.3509	0.712	ug/L	0.3509	49.24%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	-86.2	-14.99	ug/L	7.261	-14.99	ug/L	7.261	48.44%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-0.6	-0.014	ug/L	0.1787	-0.014	ug/L	0.1787	>999.9%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	-1.8	-0.633	ug/L	0.6876	-0.633	ug/L	0.6876	108.58%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	10.6	1.933	ug/L	0.7715	1.933	ug/L	0.7715	39.91%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	16.2	2.558	ug/L	0.2095	2.558	ug/L	0.2095	8.19%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	0.1	0.052	ug/L	1.5842	0.052	ug/L	1.5842	>999.9%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	4.5	0.920	ug/L	0.2370	0.920	ug/L	0.2370	25.76%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	9.2	0.028	ug/L	0.0583	0.028	ug/L	0.0583	211.00%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	-8.9	-0.280	ug/L	0.4424	-0.280	ug/L	0.4424	157.95%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	-5.7	-1.134	ug/L	1.1790	-1.134	ug/L	1.1790	103.98%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	3.7	0.040	ug/L	0.1010	0.040	ug/L	0.1010	254.92%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	-77.5	-0.968	ug/L	0.1197	-0.968	ug/L	0.1197	12.37%
QC value within limits for Zn 206.200 Recovery = Not calculated								

Li 670.784	10445.0	0.676 ug/L	0.0036	0.676 ug/L	0.0036	0.53%	

QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 16
Sample ID: CCV2 150612RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 8
Date Collected: 06/12/15 3:02:20 PM
Data Type: Reprocessed on 06/15/15 10:35:58 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV2 150612RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	197040.2	96.97	%	0.764				0.79%
Y Radial	13458.3	102.6	%	0.71				0.69%
Ag 338.289†	30443.7	187.4	ug/L	0.46	187.4	ug/L	0.46	0.24%
QC value within limits for Ag 338.289 Recovery = 99.96%								
Al 308.215†	8419.1	7411	ug/L	12.24	7411	ug/L	12.24	0.17%
QC value within limits for Al 308.215 Recovery = 98.81%								
As 188.979†	1665.0	366.6	ug/L	1.73	366.6	ug/L	1.73	0.47%
QC value within limits for As 188.979 Recovery = 97.76%								
B 249.677†	11551.7	393.7	ug/L	3.38	393.7	ug/L	3.38	0.86%
QC value within limits for B 249.677 Recovery = 104.99%								
Ba 233.527†	139695.7	374.7	ug/L	1.72	374.7	ug/L	1.72	0.46%
QC value within limits for Ba 233.527 Recovery = 99.93%								
Be 313.107†	1191780.5	368.7	ug/L	1.61	368.7	ug/L	1.61	0.44%
QC value within limits for Be 313.107 Recovery = 98.32%								
Ca 315.887†	239380.1	18550	ug/L	46.58	18550	ug/L	46.58	0.25%
QC value within limits for Ca 315.887 Recovery = 98.94%								
Cd 214.440†	92822.9	378.3	ug/L	1.55	378.3	ug/L	1.55	0.41%
QC value within limits for Cd 214.440 Recovery = 100.89%								
Co 228.616†	34296.5	396.2	ug/L	2.16	396.2	ug/L	2.16	0.55%
QC value within limits for Co 228.616 Recovery = 105.64%								
Cr 267.716†	28864.3	372.0	ug/L	2.44	372.0	ug/L	2.44	0.66%
QC value within limits for Cr 267.716 Recovery = 99.21%								
Cu 327.393†	65996.1	373.0	ug/L	1.65	373.0	ug/L	1.65	0.44%
QC value within limits for Cu 327.393 Recovery = 99.46%								
Fe 273.955†	511606.2	7545	ug/L	32.76	7545	ug/L	32.76	0.43%
QC value within limits for Fe 273.955 Recovery = 100.60%								
K 766.490†	42763.6	7425	ug/L	28.72	7425	ug/L	28.72	0.39%
QC value within limits for K 766.490 Recovery = 99.00%								
Mg 285.213†	265189.0	18690	ug/L	68.04	18690	ug/L	68.04	0.36%
QC value within limits for Mg 285.213 Recovery = 99.68%								
Mn 257.610†	26690.8	378.7	ug/L	1.33	378.7	ug/L	1.33	0.35%
QC value within limits for Mn 257.610 Recovery = 101.00%								
Mo 202.031†	11441.2	372.5	ug/L	2.70	372.5	ug/L	2.70	0.73%
QC value within limits for Mo 202.031 Recovery = 99.34%								
Na 589.592†	57060.6	9903	ug/L	43.74	9903	ug/L	43.74	0.44%
QC value within limits for Na 589.592 Recovery = 105.64%								
Ni 231.604†	16316.1	377.9	ug/L	2.31	377.9	ug/L	2.31	0.61%
QC value within limits for Ni 231.604 Recovery = 100.76%								
P 213.617†	5293.7	1834	ug/L	11.61	1834	ug/L	11.61	0.63%
QC value within limits for P 213.617 Recovery = 97.83%								
Pb 220.353†	2010.8	368.0	ug/L	2.67	368.0	ug/L	2.67	0.73%
QC value within limits for Pb 220.353 Recovery = 98.14%								
Sb 206.836†	2310.7	364.8	ug/L	4.79	364.8	ug/L	4.79	1.31%
QC value within limits for Sb 206.836 Recovery = 97.29%								
Se 196.026†	1012.5	374.3	ug/L	3.08	374.3	ug/L	3.08	0.82%
QC value within limits for Se 196.026 Recovery = 99.82%								
Sn 189.927†	1828.4	371.9	ug/L	2.60	371.9	ug/L	2.60	0.70%
QC value within limits for Sn 189.927 Recovery = 99.18%								
Sr 421.552†	135390.4	406.9	ug/L	1.52	406.9	ug/L	1.52	0.37%
QC value within limits for Sr 421.552 Recovery = 108.51%								
Ti 337.279†	11929.0	374.7	ug/L	2.41	374.7	ug/L	2.41	0.64%
QC value within limits for Ti 337.279 Recovery = 99.93%								
Tl 190.801†	1791.6	357.8	ug/L	3.79	357.8	ug/L	3.79	1.06%
QC value within limits for Tl 190.801 Recovery = 95.40%								
V 292.402†	34297.6	366.4	ug/L	1.61	366.4	ug/L	1.61	0.44%
QC value within limits for V 292.402 Recovery = 97.70%								
Zn 206.200†	31364.9	396.2	ug/L	2.72	396.2	ug/L	2.72	0.69%
QC value within limits for Zn 206.200 Recovery = 105.66%								

Li 670.784	2746954.8	177.8 ug/L	1.14	177.8 ug/L	1.14	0.64%

QC value within limits for Li 670.784 Recovery = 94.84%
All analyte(s) passed QC.

Sequence No.: 17
Sample ID: CCB 150612RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 5
Date Collected: 06/12/15 3:08:06 PM
Data Type: Reprocessed on 06/15/15 10:36:00 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 150612RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	202559.0	99.69	%	1.040				1.04%
Y Radial	13530.5	103.1	%	2.38				2.31%
Ag 338.289†	62.8	0.387	ug/L	0.2586	0.387	ug/L	0.2586	66.87%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	-10.9	-9.555	ug/L	3.8011	-9.555	ug/L	3.8011	39.78%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	4.6	1.027	ug/L	1.2153	1.027	ug/L	1.2153	118.36%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	69.5	2.277	ug/L	0.3500	2.277	ug/L	0.3500	15.37%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	35.0	0.094	ug/L	0.0752	0.094	ug/L	0.0752	80.37%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-38.6	-0.012	ug/L	0.0014	-0.012	ug/L	0.0014	11.92%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	214.6	16.64	ug/L	0.715	16.64	ug/L	0.715	4.30%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	-3.2	-0.013	ug/L	0.0209	-0.013	ug/L	0.0209	160.00%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	23.2	0.272	ug/L	0.0460	0.272	ug/L	0.0460	16.94%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-5.8	-0.075	ug/L	0.1051	-0.075	ug/L	0.1051	140.61%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	440.9	2.487	ug/L	0.4427	2.487	ug/L	0.4427	17.80%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	290.2	4.285	ug/L	0.1823	4.285	ug/L	0.1823	4.25%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	67.4	11.74	ug/L	7.958	11.74	ug/L	7.958	67.79%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	19.6	1.386	ug/L	0.1971	1.386	ug/L	0.1971	14.22%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	8.4	0.119	ug/L	0.1413	0.119	ug/L	0.1413	118.66%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	25.4	0.825	ug/L	0.2616	0.825	ug/L	0.2616	31.70%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	-79.6	-13.84	ug/L	3.000	-13.84	ug/L	3.000	21.67%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-0.9	-0.019	ug/L	0.1615	-0.019	ug/L	0.1615	833.76%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	-2.5	-0.877	ug/L	2.0817	-0.877	ug/L	2.0817	237.41%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	1.8	0.335	ug/L	0.3554	0.335	ug/L	0.3554	106.14%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	19.0	2.994	ug/L	0.6523	2.994	ug/L	0.6523	21.79%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	0.3	0.118	ug/L	1.5842	0.118	ug/L	1.5842	>999.9%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	1.8	0.372	ug/L	0.3129	0.372	ug/L	0.3129	84.08%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	1.3	0.003	ug/L	0.0910	0.003	ug/L	0.0910	>999.9%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	-11.1	-0.350	ug/L	0.0882	-0.350	ug/L	0.0882	25.19%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	-7.1	-1.410	ug/L	0.5719	-1.410	ug/L	0.5719	40.55%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	13.7	0.146	ug/L	0.1282	0.146	ug/L	0.1282	87.77%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	-99.3	-1.239	ug/L	0.1839	-1.239	ug/L	0.1839	14.84%
QC value within limits for Zn 206.200 Recovery = Not calculated								

Li 670.784	2895.2	0.187 ug/L	0.0035	0.187 ug/L	0.0035	1.87%

QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 26
Sample ID: CCV1 150612RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 3
Date Collected: 06/12/15 4:29:03 PM
Data Type: Reprocessed on 06/15/15 10:36:10 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 150612RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	195472.7	96.20	%	0.565				0.59%
Y Radial	13307.5	101.4	%	0.47				0.47%
Ag 338.289†	40677.7	250.4	ug/L	0.91	250.4	ug/L	0.91	0.36%
QC value within limits for Ag 338.289 Recovery = 100.17%								
Al 308.215†	11355.6	9995	ug/L	96.83	9995	ug/L	96.83	0.97%
QC value within limits for Al 308.215 Recovery = 99.95%								
As 188.979†	2228.8	490.7	ug/L	2.35	490.7	ug/L	2.35	0.48%
QC value within limits for As 188.979 Recovery = 98.13%								
B 249.677†	15021.5	512.6	ug/L	1.99	512.6	ug/L	1.99	0.39%
QC value within limits for B 249.677 Recovery = 102.51%								
Ba 233.527†	185633.1	498.0	ug/L	1.64	498.0	ug/L	1.64	0.33%
QC value within limits for Ba 233.527 Recovery = 99.59%								
Be 313.107†	1593809.5	493.1	ug/L	2.02	493.1	ug/L	2.02	0.41%
QC value within limits for Be 313.107 Recovery = 98.62%								
Ca 315.887†	329578.5	25540	ug/L	232.97	25540	ug/L	232.97	0.91%
QC value within limits for Ca 315.887 Recovery = 102.17%								
Cd 214.440†	123226.8	502.3	ug/L	1.96	502.3	ug/L	1.96	0.39%
QC value within limits for Cd 214.440 Recovery = 100.45%								
Co 228.616†	43329.2	500.5	ug/L	2.01	500.5	ug/L	2.01	0.40%
QC value within limits for Co 228.616 Recovery = 100.10%								
Cr 267.716†	38830.8	500.5	ug/L	1.65	500.5	ug/L	1.65	0.33%
QC value within limits for Cr 267.716 Recovery = 100.10%								
Cu 327.393†	88297.7	499.0	ug/L	2.22	499.0	ug/L	2.22	0.44%
QC value within limits for Cu 327.393 Recovery = 99.81%								
Fe 273.955†	679912.3	10030	ug/L	36.61	10030	ug/L	36.61	0.37%
QC value within limits for Fe 273.955 Recovery = 100.27%								
K 766.490†	58136.3	10090	ug/L	87.44	10090	ug/L	87.44	0.87%
QC value within limits for K 766.490 Recovery = 100.95%								
Mg 285.213†	364604.9	25700	ug/L	251.38	25700	ug/L	251.38	0.98%
QC value within limits for Mg 285.213 Recovery = 102.78%								
Mn 257.610†	35690.4	506.4	ug/L	4.69	506.4	ug/L	4.69	0.93%
QC value within limits for Mn 257.610 Recovery = 101.28%								
Mo 202.031†	15345.1	499.7	ug/L	1.66	499.7	ug/L	1.66	0.33%
QC value within limits for Mo 202.031 Recovery = 99.93%								
Na 589.592†	76164.6	13220	ug/L	109.79	13220	ug/L	109.79	0.83%
QC value within limits for Na 589.592 Recovery = 105.75%								
Ni 231.604†	21810.4	505.2	ug/L	2.14	505.2	ug/L	2.14	0.42%
QC value within limits for Ni 231.604 Recovery = 101.03%								
P 213.617†	7116.3	2466	ug/L	9.09	2466	ug/L	9.09	0.37%
QC value within limits for P 213.617 Recovery = 98.64%								
Pb 220.353†	2681.7	490.9	ug/L	2.66	490.9	ug/L	2.66	0.54%
QC value within limits for Pb 220.353 Recovery = 98.19%								
Sb 206.836†	3162.3	499.3	ug/L	4.08	499.3	ug/L	4.08	0.82%
QC value within limits for Sb 206.836 Recovery = 99.86%								
Se 196.026†	1356.9	501.6	ug/L	1.64	501.6	ug/L	1.64	0.33%
QC value within limits for Se 196.026 Recovery = 100.33%								
Sn 189.927†	2437.5	495.8	ug/L	0.62	495.8	ug/L	0.62	0.13%
QC value within limits for Sn 189.927 Recovery = 99.17%								
Sr 421.552†	176540.3	530.6	ug/L	4.05	530.6	ug/L	4.05	0.76%
QC value within limits for Sr 421.552 Recovery = 106.11%								
Ti 337.279†	16053.6	504.3	ug/L	5.12	504.3	ug/L	5.12	1.01%
QC value within limits for Ti 337.279 Recovery = 100.86%								
Tl 190.801†	2367.5	472.8	ug/L	3.03	472.8	ug/L	3.03	0.64%
QC value within limits for Tl 190.801 Recovery = 94.55%								
V 292.402†	45557.2	486.7	ug/L	1.85	486.7	ug/L	1.85	0.38%
QC value within limits for V 292.402 Recovery = 97.34%								
Zn 206.200†	40063.6	506.5	ug/L	2.00	506.5	ug/L	2.00	0.40%
QC value within limits for Zn 206.200 Recovery = 101.30%								

Li 670.784	3762788.7	243.6 ug/L	1.85	243.6 ug/L	1.85	0.76%

QC value within limits for Li 670.784 Recovery = 97.43%
All analyte(s) passed QC.

Sequence No.: 27
Sample ID: CCB 150612RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 1
Date Collected: 06/12/15 4:34:51 PM
Data Type: Reprocessed on 06/15/15 10:36:11 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 150612RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	200876.4	98.86	%	0.654				0.66%
Y Radial	13580.3	103.5	%	0.25				0.24%
Ag 338.289†	24.9	0.153	ug/L	0.2154	0.153	ug/L	0.2154	140.71%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	-9.5	-8.420	ug/L	5.6971	-8.420	ug/L	5.6971	67.66%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	3.2	0.699	ug/L	0.6915	0.699	ug/L	0.6915	98.93%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	85.1	2.781	ug/L	0.4943	2.781	ug/L	0.4943	17.77%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	26.0	0.069	ug/L	0.0079	0.069	ug/L	0.0079	11.42%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-15.9	-0.005	ug/L	0.0046	-0.005	ug/L	0.0046	93.89%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	30.7	2.379	ug/L	0.3291	2.379	ug/L	0.3291	13.83%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	-8.9	-0.036	ug/L	0.0441	-0.036	ug/L	0.0441	122.62%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	22.9	0.269	ug/L	0.1578	0.269	ug/L	0.1578	58.71%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-13.5	-0.174	ug/L	0.0764	-0.174	ug/L	0.0764	43.83%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	398.5	2.248	ug/L	0.0797	2.248	ug/L	0.0797	3.54%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	141.6	2.098	ug/L	0.1372	2.098	ug/L	0.1372	6.54%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	7.5	1.311	ug/L	6.0366	1.311	ug/L	6.0366	460.56%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	7.8	0.554	ug/L	0.5614	0.554	ug/L	0.5614	101.34%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	13.6	0.194	ug/L	0.0927	0.194	ug/L	0.0927	47.89%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	37.7	1.226	ug/L	0.2058	1.226	ug/L	0.2058	16.79%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	-92.0	-16.00	ug/L	6.096	-16.00	ug/L	6.096	38.11%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	-14.7	-0.341	ug/L	0.0713	-0.341	ug/L	0.0713	20.91%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	-3.8	-1.316	ug/L	0.9832	-1.316	ug/L	0.9832	74.71%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	8.7	1.582	ug/L	0.5658	1.582	ug/L	0.5658	35.77%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	25.7	4.052	ug/L	0.9686	4.052	ug/L	0.9686	23.90%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	1.6	0.588	ug/L	1.7081	0.588	ug/L	1.7081	290.71%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	7.3	1.479	ug/L	0.1697	1.479	ug/L	0.1697	11.47%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	2.1	0.006	ug/L	0.0305	0.006	ug/L	0.0305	496.57%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	-5.4	-0.170	ug/L	0.4374	-0.170	ug/L	0.4374	256.61%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	6.3	1.252	ug/L	0.7870	1.252	ug/L	0.7870	62.87%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	-1.0	-0.010	ug/L	0.0185	-0.010	ug/L	0.0185	177.43%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	-147.0	-1.835	ug/L	0.3031	-1.835	ug/L	0.3031	16.52%
QC value within limits for Zn 206.200 Recovery = Not calculated								

Li 670.784	3635.6	0.235 ug/L	0.0045	0.235 ug/L	0.0045	1.92%

QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 41
Sample ID: CCV2 150612RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 8
Date Collected: 06/12/15 6:09:43 PM
Data Type: Reprocessed on 06/15/15 10:36:26 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV2 150612RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	198590.9	97.74	%	0.317				0.32%
Y Radial	13579.7	103.5	%	0.98				0.94%
Ag 338.289†	30458.4	187.5	ug/L	0.41	187.5	ug/L	0.41	0.22%
QC value within limits for Ag 338.289 Recovery = 100.01%								
Al 308.215†	8500.8	7483	ug/L	25.28	7483	ug/L	25.28	0.34%
QC value within limits for Al 308.215 Recovery = 99.77%								
As 188.979†	1671.2	368.0	ug/L	1.84	368.0	ug/L	1.84	0.50%
QC value within limits for As 188.979 Recovery = 98.13%								
B 249.677†	11641.2	396.6	ug/L	2.10	396.6	ug/L	2.10	0.53%
QC value within limits for B 249.677 Recovery = 105.77%								
Ba 233.527†	140168.8	376.0	ug/L	0.85	376.0	ug/L	0.85	0.23%
QC value within limits for Ba 233.527 Recovery = 100.27%								
Be 313.107†	1203367.1	372.3	ug/L	0.57	372.3	ug/L	0.57	0.15%
QC value within limits for Be 313.107 Recovery = 99.28%								
Ca 315.887†	239991.8	18600	ug/L	226.62	18600	ug/L	226.62	1.22%
QC value within limits for Ca 315.887 Recovery = 99.20%								
Cd 214.440†	92715.2	377.9	ug/L	0.43	377.9	ug/L	0.43	0.11%
QC value within limits for Cd 214.440 Recovery = 100.77%								
Co 228.616†	34295.7	396.1	ug/L	1.64	396.1	ug/L	1.64	0.41%
QC value within limits for Co 228.616 Recovery = 105.64%								
Cr 267.716†	28740.8	370.5	ug/L	1.67	370.5	ug/L	1.67	0.45%
QC value within limits for Cr 267.716 Recovery = 98.79%								
Cu 327.393†	65815.6	372.0	ug/L	1.14	372.0	ug/L	1.14	0.31%
QC value within limits for Cu 327.393 Recovery = 99.19%								
Fe 273.955†	511853.3	7548	ug/L	13.42	7548	ug/L	13.42	0.18%
QC value within limits for Fe 273.955 Recovery = 100.64%								
K 766.490†	42173.8	7323	ug/L	73.33	7323	ug/L	73.33	1.00%
QC value within limits for K 766.490 Recovery = 97.64%								
Mg 285.213†	266301.7	18770	ug/L	229.12	18770	ug/L	229.12	1.22%
QC value within limits for Mg 285.213 Recovery = 100.10%								
Mn 257.610†	26619.3	377.7	ug/L	1.28	377.7	ug/L	1.28	0.34%
QC value within limits for Mn 257.610 Recovery = 100.72%								
Mo 202.031†	11391.3	370.9	ug/L	1.99	370.9	ug/L	1.99	0.54%
QC value within limits for Mo 202.031 Recovery = 98.91%								
Na 589.592†	52873.4	9176	ug/L	95.74	9176	ug/L	95.74	1.04%
QC value within limits for Na 589.592 Recovery = 97.88%								
Ni 231.604†	16278.2	377.0	ug/L	1.13	377.0	ug/L	1.13	0.30%
QC value within limits for Ni 231.604 Recovery = 100.53%								
P 213.617†	5321.7	1844	ug/L	7.15	1844	ug/L	7.15	0.39%
QC value within limits for P 213.617 Recovery = 98.35%								
Pb 220.353†	2069.3	378.7	ug/L	1.50	378.7	ug/L	1.50	0.40%
QC value within limits for Pb 220.353 Recovery = 100.99%								
Sb 206.836†	2386.5	376.8	ug/L	2.80	376.8	ug/L	2.80	0.74%
QC value within limits for Sb 206.836 Recovery = 100.48%								
Se 196.026†	1010.5	373.6	ug/L	3.45	373.6	ug/L	3.45	0.92%
QC value within limits for Se 196.026 Recovery = 99.63%								
Sn 189.927†	1828.1	371.9	ug/L	1.35	371.9	ug/L	1.35	0.36%
QC value within limits for Sn 189.927 Recovery = 99.17%								
Sr 421.552†	122559.2	368.3	ug/L	4.53	368.3	ug/L	4.53	1.23%
QC value within limits for Sr 421.552 Recovery = 98.21%								
Ti 337.279†	11987.2	376.6	ug/L	1.98	376.6	ug/L	1.98	0.52%
QC value within limits for Ti 337.279 Recovery = 100.42%								
Tl 190.801†	1899.2	379.2	ug/L	1.84	379.2	ug/L	1.84	0.48%
QC value within limits for Tl 190.801 Recovery = 101.13%								
V 292.402†	34938.0	373.2	ug/L	0.39	373.2	ug/L	0.39	0.10%
QC value within limits for V 292.402 Recovery = 99.53%								
Zn 206.200†	30975.9	391.3	ug/L	1.89	391.3	ug/L	1.89	0.48%
QC value within limits for Zn 206.200 Recovery = 104.36%								

Li 670.784	2661627.0	172.3 ug/L	0.46	172.3 ug/L	0.46	0.27%

QC value within limits for Li 670.784 Recovery = 91.89%
All analyte(s) passed QC.

Sequence No.: 42
Sample ID: CCB 150612RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 5
Date Collected: 06/12/15 6:15:30 PM
Data Type: Reprocessed on 06/15/15 10:36:27 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 150612RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	207661.3	102.2	%	1.27				1.24%
Y Radial	13594.4	103.6	%	1.27				1.23%
Ag 338.289†	44.7	0.275	ug/L	0.4986	0.275	ug/L	0.4986	181.03%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	-2.7	-2.408	ug/L	4.4693	-2.408	ug/L	4.4693	185.60%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	3.8	0.829	ug/L	0.2837	0.829	ug/L	0.2837	34.21%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	59.0	1.934	ug/L	0.1920	1.934	ug/L	0.1920	9.93%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	13.9	0.037	ug/L	0.0277	0.037	ug/L	0.0277	74.79%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-22.7	-0.007	ug/L	0.0090	-0.007	ug/L	0.0090	128.14%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	159.7	12.38	ug/L	1.194	12.38	ug/L	1.194	9.65%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	55.2	0.225	ug/L	0.0471	0.225	ug/L	0.0471	20.96%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	22.7	0.265	ug/L	0.0313	0.265	ug/L	0.0313	11.82%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-0.7	-0.009	ug/L	0.0937	-0.009	ug/L	0.0937	>999.9%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	244.0	1.376	ug/L	0.3283	1.376	ug/L	0.3283	23.86%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	264.2	3.897	ug/L	0.3683	3.897	ug/L	0.3683	9.45%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	0.3	0.070	ug/L	7.4403	0.070	ug/L	7.4403	>999.9%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	13.8	0.979	ug/L	0.5340	0.979	ug/L	0.5340	54.53%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	10.3	0.146	ug/L	0.1348	0.146	ug/L	0.1348	92.21%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	22.3	0.725	ug/L	0.1946	0.725	ug/L	0.1946	26.85%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	-103.6	-18.00	ug/L	8.596	-18.00	ug/L	8.596	47.75%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	1.2	0.028	ug/L	0.1347	0.028	ug/L	0.1347	481.55%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	4.2	1.440	ug/L	1.1521	1.440	ug/L	1.1521	80.00%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	5.1	0.936	ug/L	0.9729	0.936	ug/L	0.9729	103.93%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	20.8	3.278	ug/L	1.1927	3.278	ug/L	1.1927	36.38%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-2.0	-0.746	ug/L	1.0624	-0.746	ug/L	1.0624	142.50%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	1.4	0.290	ug/L	0.4141	0.290	ug/L	0.4141	142.93%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	21.7	0.065	ug/L	0.0294	0.065	ug/L	0.0294	45.44%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	-9.8	-0.309	ug/L	0.3208	-0.309	ug/L	0.3208	103.99%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	-0.1	-0.018	ug/L	1.1307	-0.018	ug/L	1.1307	>999.9%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	16.9	0.181	ug/L	0.0698	0.181	ug/L	0.0698	38.57%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	-149.8	-1.869	ug/L	0.1571	-1.869	ug/L	0.1571	8.41%
QC value within limits for Zn 206.200 Recovery = Not calculated								

Li 670.784	1605.3	0.104 ug/L	0.0046	0.104 ug/L	0.0046	4.45%

QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 57
Sample ID: CCV2 150612RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 8
Date Collected: 06/12/15 8:01:31 PM
Data Type: Reprocessed on 06/15/15 10:36:44 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV2 150612RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	211247.1	104.0	%	1.00				0.96%
Y Radial	15361.5	117.1	%	8.66				7.40%
Ag 338.289†	30120.3	185.4	ug/L	1.63	185.4	ug/L	1.63	0.88%
QC value within limits for Ag 338.289 Recovery = 98.90%								
Al 308.215†	8106.9	7137	ug/L	597.09	7137	ug/L	597.09	8.37%
QC value within limits for Al 308.215 Recovery = 95.16%								
As 188.979†	1717.6	378.4	ug/L	1.82	378.4	ug/L	1.82	0.48%
QC value within limits for As 188.979 Recovery = 100.91%								
B 249.677†	11462.0	391.0	ug/L	3.93	391.0	ug/L	3.93	1.01%
QC value within limits for B 249.677 Recovery = 104.26%								
Ba 233.527†	141077.2	378.4	ug/L	4.01	378.4	ug/L	4.01	1.06%
QC value within limits for Ba 233.527 Recovery = 100.92%								
Be 313.107†	1192042.3	368.8	ug/L	4.19	368.8	ug/L	4.19	1.14%
QC value within limits for Be 313.107 Recovery = 98.34%								
Ca 315.887†	229410.6	17780	ug/L	1340.79	17780	ug/L	1340.79	7.54%
QC value within limits for Ca 315.887 Recovery = 94.82%								
Cd 214.440†	93804.8	382.3	ug/L	4.05	382.3	ug/L	4.05	1.06%
QC value within limits for Cd 214.440 Recovery = 101.95%								
Co 228.616†	34898.8	403.2	ug/L	3.72	403.2	ug/L	3.72	0.92%
QC value within limits for Co 228.616 Recovery = 107.51%								
Cr 267.716†	29002.3	373.8	ug/L	3.10	373.8	ug/L	3.10	0.83%
QC value within limits for Cr 267.716 Recovery = 99.69%								
Cu 327.393†	64801.2	366.2	ug/L	4.22	366.2	ug/L	4.22	1.15%
QC value within limits for Cu 327.393 Recovery = 97.66%								
Fe 273.955†	515578.0	7604	ug/L	84.76	7604	ug/L	84.76	1.11%
QC value within limits for Fe 273.955 Recovery = 101.38%								
K 766.490†	40714.7	7069	ug/L	513.05	7069	ug/L	513.05	7.26%
QC value within limits for K 766.490 Recovery = 94.25%								
Mg 285.213†	249846.7	17610	ug/L	1332.63	17610	ug/L	1332.63	7.57%
QC value within limits for Mg 285.213 Recovery = 93.91%								
Mn 257.610†	25706.7	364.8	ug/L	29.55	364.8	ug/L	29.55	8.10%
QC value within limits for Mn 257.610 Recovery = 97.28%								
Mo 202.031†	11461.3	373.2	ug/L	3.93	373.2	ug/L	3.93	1.05%
QC value within limits for Mo 202.031 Recovery = 99.52%								
Na 589.592†	53745.2	9328	ug/L	692.19	9328	ug/L	692.19	7.42%
QC value within limits for Na 589.592 Recovery = 99.50%								
Ni 231.604†	16537.8	383.0	ug/L	3.08	383.0	ug/L	3.08	0.80%
QC value within limits for Ni 231.604 Recovery = 102.13%								
P 213.617†	5474.9	1897	ug/L	13.26	1897	ug/L	13.26	0.70%
QC value within limits for P 213.617 Recovery = 101.18%								
Pb 220.353†	2108.7	385.8	ug/L	3.56	385.8	ug/L	3.56	0.92%
QC value within limits for Pb 220.353 Recovery = 102.87%								
Sb 206.836†	2394.9	378.1	ug/L	3.65	378.1	ug/L	3.65	0.96%
QC value within limits for Sb 206.836 Recovery = 100.84%								
Se 196.026†	1036.9	383.3	ug/L	6.23	383.3	ug/L	6.23	1.62%
QC value within limits for Se 196.026 Recovery = 102.22%								
Sn 189.927†	1863.3	379.0	ug/L	3.68	379.0	ug/L	3.68	0.97%
QC value within limits for Sn 189.927 Recovery = 101.08%								
Sr 421.552†	127338.7	382.7	ug/L	28.83	382.7	ug/L	28.83	7.53%
QC value within limits for Sr 421.552 Recovery = 102.06%								
Ti 337.279†	11468.7	360.3	ug/L	29.95	360.3	ug/L	29.95	8.31%
QC value within limits for Ti 337.279 Recovery = 96.08%								
Tl 190.801†	1899.5	379.3	ug/L	4.57	379.3	ug/L	4.57	1.20%
QC value within limits for Tl 190.801 Recovery = 101.15%								
V 292.402†	34527.9	368.9	ug/L	4.22	368.9	ug/L	4.22	1.15%
QC value within limits for V 292.402 Recovery = 98.36%								
Zn 206.200†	31877.2	402.6	ug/L	3.70	402.6	ug/L	3.70	0.92%
QC value within limits for Zn 206.200 Recovery = 107.36%								

Li 670.784	2995952.4	193.9 ug/L	1.09	193.9 ug/L	1.09	0.56%

QC value within limits for Li 670.784 Recovery = 103.44%
All analyte(s) passed QC.

Sequence No.: 58
Sample ID: CCB 150612RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 5
Date Collected: 06/12/15 8:11:57 PM
Data Type: Reprocessed on 06/15/15 10:36:45 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 150612RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	230313.8	113.3	%	9.24				8.15%
Y Radial	15155.6	115.5	%	2.95				2.55%
Ag 338.289†	11.7	0.072	ug/L	0.1757	0.072	ug/L	0.1757	242.99%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	-6.9	-6.115	ug/L	1.7478	-6.115	ug/L	1.7478	28.58%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	8.2	1.827	ug/L	1.7570	1.827	ug/L	1.7570	96.18%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	29.9	1.035	ug/L	0.0723	1.035	ug/L	0.0723	6.99%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	29.5	0.078	ug/L	0.0195	0.078	ug/L	0.0195	25.14%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	-69.9	-0.022	ug/L	0.0552	-0.022	ug/L	0.0552	255.21%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	178.3	13.82	ug/L	0.977	13.82	ug/L	0.977	7.07%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	79.7	0.323	ug/L	0.0941	0.323	ug/L	0.0941	29.12%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	49.5	0.573	ug/L	0.1036	0.573	ug/L	0.1036	18.07%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-7.0	-0.090	ug/L	0.1034	-0.090	ug/L	0.1034	114.30%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	96.9	0.549	ug/L	0.8788	0.549	ug/L	0.8788	160.14%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	1689.2	25.00	ug/L	3.262	25.00	ug/L	3.262	13.05%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	68.2	11.87	ug/L	11.236	11.87	ug/L	11.236	94.63%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	-9.7	-0.661	ug/L	0.4557	-0.661	ug/L	0.4557	68.95%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	16.1	0.230	ug/L	0.1293	0.230	ug/L	0.1293	56.35%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	24.5	0.796	ug/L	0.2324	0.796	ug/L	0.2324	29.20%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	-108.0	-18.77	ug/L	4.201	-18.77	ug/L	4.201	22.38%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	14.3	0.331	ug/L	0.1502	0.331	ug/L	0.1502	45.36%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	19.4	6.730	ug/L	1.7594	6.730	ug/L	1.7594	26.14%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	-1.6	-0.300	ug/L	0.7868	-0.300	ug/L	0.7868	262.21%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	3.0	0.470	ug/L	0.9102	0.470	ug/L	0.9102	193.74%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-6.5	-2.394	ug/L	0.2639	-2.394	ug/L	0.2639	11.02%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	0.2	0.046	ug/L	0.1771	0.046	ug/L	0.1771	382.10%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	37.3	0.112	ug/L	0.0473	0.112	ug/L	0.0473	42.35%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	13.2	0.414	ug/L	0.1315	0.414	ug/L	0.1315	31.76%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	-3.5	-0.698	ug/L	1.2175	-0.698	ug/L	1.2175	174.32%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	12.2	0.130	ug/L	0.1233	0.130	ug/L	0.1233	94.61%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	-104.4	-1.305	ug/L	0.1648	-1.305	ug/L	0.1648	12.63%
QC value within limits for Zn 206.200 Recovery = Not calculated								

Li 670.784	391.0	0.025	ug/L	0.0039	0.025	ug/L	0.0039 15.54%

QC value within limits for Li 670.784 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 63
Sample ID: CCV1 150612RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 3
Date Collected: 06/12/15 8:45:37 PM
Data Type: Reprocessed on 06/15/15 10:36:51 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV1 150612RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	206367.3	101.6	%	0.17				0.17%
Y Radial	14530.0	110.7	%	0.77				0.70%
Ag 338.289†	41510.0	255.6	ug/L	0.36	255.6	ug/L	0.36	0.14%
QC value within limits for Ag 338.289 Recovery = 102.22%								
Al 308.215†	11486.8	10110	ug/L	59.63	10110	ug/L	59.63	0.59%
QC value within limits for Al 308.215 Recovery = 101.11%								
As 188.979†	2355.0	518.7	ug/L	0.10	518.7	ug/L	0.10	0.02%
QC value within limits for As 188.979 Recovery = 103.74%								
B 249.677†	15380.9	525.2	ug/L	2.92	525.2	ug/L	2.92	0.56%
QC value within limits for B 249.677 Recovery = 105.03%								
Ba 233.527†	192948.9	517.6	ug/L	0.48	517.6	ug/L	0.48	0.09%
QC value within limits for Ba 233.527 Recovery = 103.52%								
Be 313.107†	1663625.8	514.7	ug/L	0.95	514.7	ug/L	0.95	0.19%
QC value within limits for Be 313.107 Recovery = 102.94%								
Ca 315.887†	326587.7	25310	ug/L	188.22	25310	ug/L	188.22	0.74%
QC value within limits for Ca 315.887 Recovery = 101.24%								
Cd 214.440†	128101.2	522.1	ug/L	0.12	522.1	ug/L	0.12	0.02%
QC value within limits for Cd 214.440 Recovery = 104.42%								
Co 228.616†	45141.4	521.5	ug/L	0.18	521.5	ug/L	0.18	0.03%
QC value within limits for Co 228.616 Recovery = 104.29%								
Cr 267.716†	37678.3	485.6	ug/L	0.69	485.6	ug/L	0.69	0.14%
QC value within limits for Cr 267.716 Recovery = 97.13%								
Cu 327.393†	90722.1	512.7	ug/L	0.43	512.7	ug/L	0.43	0.08%
QC value within limits for Cu 327.393 Recovery = 102.55%								
Fe 273.955†	705801.7	10410	ug/L	7.82	10410	ug/L	7.82	0.08%
QC value within limits for Fe 273.955 Recovery = 104.09%								
K 766.490†	62786.4	10900	ug/L	33.57	10900	ug/L	33.57	0.31%
QC value within limits for K 766.490 Recovery = 109.02%								
Mg 285.213†	369483.9	26040	ug/L	73.19	26040	ug/L	73.19	0.28%
QC value within limits for Mg 285.213 Recovery = 104.16%								
Mn 257.610†	35927.1	509.8	ug/L	1.82	509.8	ug/L	1.82	0.36%
QC value within limits for Mn 257.610 Recovery = 101.95%								
Mo 202.031†	15780.3	513.8	ug/L	0.81	513.8	ug/L	0.81	0.16%
QC value within limits for Mo 202.031 Recovery = 102.77%								
Na 589.592†	89852.3	15600	ug/L	20.80	15600	ug/L	20.80	0.13%
QC value greater than the upper limit for Na 589.592 Recovery = 124.77%								
Ni 231.604†	22701.9	525.8	ug/L	0.31	525.8	ug/L	0.31	0.06%
QC value within limits for Ni 231.604 Recovery = 105.16%								
P 213.617†	7573.1	2624	ug/L	4.53	2624	ug/L	4.53	0.17%
QC value within limits for P 213.617 Recovery = 104.97%								
Pb 220.353†	2869.0	525.0	ug/L	0.76	525.0	ug/L	0.76	0.14%
QC value within limits for Pb 220.353 Recovery = 105.00%								
Sb 206.836†	3396.2	536.3	ug/L	0.26	536.3	ug/L	0.26	0.05%
QC value within limits for Sb 206.836 Recovery = 107.25%								
Se 196.026†	1436.3	531.0	ug/L	1.84	531.0	ug/L	1.84	0.35%
QC value within limits for Se 196.026 Recovery = 106.19%								
Sn 189.927†	2492.6	507.0	ug/L	0.83	507.0	ug/L	0.83	0.16%
QC value within limits for Sn 189.927 Recovery = 101.41%								
Sr 421.552†	213368.4	641.4	ug/L	5.94	641.4	ug/L	5.94	0.93%
QC value greater than the upper limit for Sr 421.552 Recovery = 128.29%								
Ti 337.279†	16296.9	511.9	ug/L	2.04	511.9	ug/L	2.04	0.40%
QC value within limits for Ti 337.279 Recovery = 102.39%								
Tl 190.801†	2574.7	514.1	ug/L	1.96	514.1	ug/L	1.96	0.38%
QC value within limits for Tl 190.801 Recovery = 102.83%								
V 292.402†	47503.9	507.5	ug/L	1.40	507.5	ug/L	1.40	0.27%
QC value within limits for V 292.402 Recovery = 101.49%								
Zn 206.200†	41780.9	527.8	ug/L	0.75	527.8	ug/L	0.75	0.14%
QC value within limits for Zn 206.200 Recovery = 105.56%								

Li 670.784 4419329.5 286.1 ug/L 1.16 286.1 ug/L 1.16 0.41%
QC value greater than the upper limit for Li 670.784 Recovery = 114.43%
QC Failed. Continue with analysis.

Sequence No.: 64
Sample ID: CCB 150612RJS I:JL O:RJS
Analyst:
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 1
Date Collected: 06/12/15 9:00:13 PM
Data Type: Reprocessed on 06/15/15 10:36:52 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB 150612RJS I:JL O:RJS

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	218874.8	107.7	%	0.36				0.33%
Y Radial	14906.8	113.6	%	1.20				1.06%
Ag 338.289†	44.0	0.271	ug/L	0.2315	0.271	ug/L	0.2315	85.54%
QC value within limits for Ag 338.289 Recovery = Not calculated								
Al 308.215†	-2.0	-1.806	ug/L	2.8969	-1.806	ug/L	2.8969	160.39%
QC value within limits for Al 308.215 Recovery = Not calculated								
As 188.979†	7.7	1.699	ug/L	0.7428	1.699	ug/L	0.7428	43.72%
QC value within limits for As 188.979 Recovery = Not calculated								
B 249.677†	68.0	2.293	ug/L	0.1146	2.293	ug/L	0.1146	5.00%
QC value within limits for B 249.677 Recovery = Not calculated								
Ba 233.527†	22.0	0.057	ug/L	0.0044	0.057	ug/L	0.0044	7.78%
QC value within limits for Ba 233.527 Recovery = Not calculated								
Be 313.107†	135.4	0.042	ug/L	0.0026	0.042	ug/L	0.0026	6.10%
QC value within limits for Be 313.107 Recovery = Not calculated								
Ca 315.887†	10.8	0.832	ug/L	0.4359	0.832	ug/L	0.4359	52.40%
QC value within limits for Ca 315.887 Recovery = Not calculated								
Cd 214.440†	61.2	0.247	ug/L	0.0365	0.247	ug/L	0.0365	14.76%
QC value within limits for Cd 214.440 Recovery = Not calculated								
Co 228.616†	35.7	0.415	ug/L	0.0354	0.415	ug/L	0.0354	8.52%
QC value within limits for Co 228.616 Recovery = Not calculated								
Cr 267.716†	-13.1	-0.169	ug/L	0.0897	-0.169	ug/L	0.0897	53.07%
QC value within limits for Cr 267.716 Recovery = Not calculated								
Cu 327.393†	177.5	1.002	ug/L	0.2004	1.002	ug/L	0.2004	20.00%
QC value within limits for Cu 327.393 Recovery = Not calculated								
Fe 273.955†	2100.5	31.11	ug/L	0.794	31.11	ug/L	0.794	2.55%
QC value within limits for Fe 273.955 Recovery = Not calculated								
K 766.490†	202.7	35.27	ug/L	5.734	35.27	ug/L	5.734	16.26%
QC value within limits for K 766.490 Recovery = Not calculated								
Mg 285.213†	-9.1	-0.618	ug/L	0.1057	-0.618	ug/L	0.1057	17.11%
QC value within limits for Mg 285.213 Recovery = Not calculated								
Mn 257.610†	10.0	0.142	ug/L	0.0772	0.142	ug/L	0.0772	54.40%
QC value within limits for Mn 257.610 Recovery = Not calculated								
Mo 202.031†	30.9	1.006	ug/L	0.2538	1.006	ug/L	0.2538	25.24%
QC value within limits for Mo 202.031 Recovery = Not calculated								
Na 589.592†	-21.8	-3.821	ug/L	7.2689	-3.821	ug/L	7.2689	190.24%
QC value within limits for Na 589.592 Recovery = Not calculated								
Ni 231.604†	10.8	0.251	ug/L	0.2549	0.251	ug/L	0.2549	101.43%
QC value within limits for Ni 231.604 Recovery = Not calculated								
P 213.617†	11.8	4.098	ug/L	0.4757	4.098	ug/L	0.4757	11.61%
QC value within limits for P 213.617 Recovery = Not calculated								
Pb 220.353†	0.5	0.082	ug/L	0.4300	0.082	ug/L	0.4300	522.74%
QC value within limits for Pb 220.353 Recovery = Not calculated								
Sb 206.836†	8.3	1.312	ug/L	1.2792	1.312	ug/L	1.2792	97.51%
QC value within limits for Sb 206.836 Recovery = Not calculated								
Se 196.026†	-1.6	-0.563	ug/L	2.2233	-0.563	ug/L	2.2233	395.19%
QC value within limits for Se 196.026 Recovery = Not calculated								
Sn 189.927†	-1.0	-0.210	ug/L	0.3429	-0.210	ug/L	0.3429	163.02%
QC value within limits for Sn 189.927 Recovery = Not calculated								
Sr 421.552†	13.2	0.040	ug/L	0.0516	0.040	ug/L	0.0516	129.58%
QC value within limits for Sr 421.552 Recovery = Not calculated								
Ti 337.279†	-3.1	-0.097	ug/L	0.3605	-0.097	ug/L	0.3605	371.19%
QC value within limits for Ti 337.279 Recovery = Not calculated								
Tl 190.801†	-2.9	-0.576	ug/L	1.0598	-0.576	ug/L	1.0598	184.12%
QC value within limits for Tl 190.801 Recovery = Not calculated								
V 292.402†	-15.2	-0.162	ug/L	0.0498	-0.162	ug/L	0.0498	30.70%
QC value within limits for V 292.402 Recovery = Not calculated								
Zn 206.200†	-34.0	-0.427	ug/L	0.0796	-0.427	ug/L	0.0796	18.66%
QC value within limits for Zn 206.200 Recovery = Not calculated								

Li 670.784	4191.3	0.271 ug/L	0.0007	0.271 ug/L	0.0007	0.24%

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)	4.00 U	50.0	4.00	1.98	mg/Kg	06/04/15	06/12/15	#61CJU-150604A1-AZ16198
6010C	BORON (B)	4.00 U	5.0	4.00	1.55	mg/Kg	06/04/15	06/12/15	#61CJU-150604A1-AZ16198
6010C	LITHIUM (LI)	0.500 U	0.67	0.500	0.250	mg/Kg	06/04/15	06/12/15	#61CJU-150604A1-AZ16198
6010C	ZINC (ZN)	4.00 U	8.0	4.00	1.15	mg/Kg	06/04/15	06/12/15	#61CJU-150604A1-AZ16198

Metals SC-Blank-REG MDLs
Printed: 06/16/15 1:32:56 PM

Sequence No.: 11
Sample ID: 150604A-3050-BLK
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 1 g
Dilution:
Wash Time:

Autosampler Location: 46
Date Collected: 06/12/15 2:26:33 PM
Data Type: Reprocessed on 06/15/15 10:35:53 AM
Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: 150604A-3050-BLK

Analyte	Mean Corrected Intensity	Calib. Conc.	Calib. Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Y 371.029	201101.5	98.97	%	0.338				0.34%
Y Radial	13273.3	101.2	%	0.26				0.26%
Ag 338.289†	-25.3	-0.156	ug/L	0.4148	-0.016	mg/kg	0.0415	266.69%
Al 308.215†	-7.1	-6.227	ug/L	4.9362	-0.623	mg/kg	0.4936	79.27%
As 188.979†	0.9	0.188	ug/L	0.7809	0.019	mg/kg	0.0781	414.37%
B 249.677†	16.1	0.538	ug/L	0.0995	0.054	mg/kg	0.0100	18.50%
Ba 233.527†	12.6	0.033	ug/L	0.0438	0.003	mg/kg	0.0044	131.47%
Be 313.107†	-8.0	-0.002	ug/L	0.0034	-0.000	mg/kg	0.0003	135.70%
Ca 315.887†	-53.1	-4.116	ug/L	1.1233	-0.412	mg/kg	0.1123	27.29%
Cd 214.440†	-11.5	-0.047	ug/L	0.0746	-0.005	mg/kg	0.0075	158.57%
Co 228.616†	17.9	0.209	ug/L	0.0301	0.021	mg/kg	0.0030	14.45%
Cr 267.716†	-5.6	-0.072	ug/L	0.0759	-0.007	mg/kg	0.0076	105.27%
Cu 327.393†	273.1	1.541	ug/L	0.2285	0.154	mg/kg	0.0229	14.83%
Fe 273.955†	364.0	5.385	ug/L	0.2300	0.539	mg/kg	0.0230	4.27%
K 766.490†	42.7	7.458	ug/L	11.0152	0.746	mg/kg	1.1015	147.69%
Mg 285.213†	17.9	1.268	ug/L	2.5119	0.127	mg/kg	0.2512	198.13%
Mn 257.610†	19.4	0.276	ug/L	0.1506	0.028	mg/kg	0.0151	54.52%
Mo 202.031†	15.6	0.509	ug/L	0.0328	0.051	mg/kg	0.0033	6.45%
Na 589.592†	-146.3	-25.43	ug/L	2.284	-2.543	mg/kg	0.2284	8.98%
Ni 231.604†	7.2	0.166	ug/L	0.1139	0.017	mg/kg	0.0114	68.65%
P 213.617†	1.1	0.382	ug/L	0.2332	0.038	mg/kg	0.0233	61.06%
Pb 220.353†	2.2	0.404	ug/L	0.6207	0.040	mg/kg	0.0621	153.60%
Sb 206.836†	1.3	0.204	ug/L	0.5113	0.020	mg/kg	0.0511	251.22%
Se 196.026†	1.4	0.506	ug/L	1.4804	0.051	mg/kg	0.1480	292.41%
Sn 189.927†	1.3	0.274	ug/L	0.5410	0.027	mg/kg	0.0541	197.25%
Sr 421.552†	21.5	0.065	ug/L	0.1348	0.006	mg/kg	0.0135	208.04%
Ti 337.279†	-4.7	-0.148	ug/L	0.1134	-0.015	mg/kg	0.0113	76.62%
Tl 190.801†	-1.3	-0.260	ug/L	0.9611	-0.026	mg/kg	0.0961	369.26%
V 292.402†	4.2	0.045	ug/L	0.0815	0.005	mg/kg	0.0081	180.61%
Zn 206.200†	-185.8	-2.319	ug/L	0.1158	-0.232	mg/kg	0.0116	4.99%
Li 670.784	4743.4	0.307	ug/L	0.0056	0.031	mg/kg	0.0006	1.82%

Laboratory Control Spike Recovery

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/Kg	SPK Result mg/Kg	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6010C	ALUMINUM (AL)	200	186	93.0	80-120	06/04/15	06/12/15	#61CJU-150604A1-AZ16198
EPA 6010C	BORON (B)	25.0	23.8	95.2	80-120	06/04/15	06/12/15	#61CJU-150604A1-AZ16198
EPA 6010C	LITHIUM (LI)	10.00	10.2	102	80-120	06/04/15	06/12/15	#61CJU-150604A1-AZ16198
EPA 6010C	ZINC (ZN)	50.0	46.7	93.4	80-120	06/04/15	06/12/15	#61CJU-150604A1-AZ16198

Comments: _____

Sequence No.: 12
Sample ID: 150604A-3050-LCS
Analyst: RJS - Jules
Logged In Analyst (Original) : chemist_metals
Initial Sample Wt: 1 g
Dilution:
Wash Time:

Autosampler Location: 47
Date Collected: 06/12/15 2:32:48 PM
Data Type: Reprocessed on 06/15/15 10:35:54 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: 150604A-3050-LCS

Analyte	Mean Corrected Intensity	Calib. Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Y 371.029	195760.4	96.34	%	0.252				0.26%
Y Radial	13185.6	100.5	%	1.22				1.21%
Ag 338.289†	15744.4	96.93	ug/L	0.436	9.693	mg/kg	0.0436	0.45%
Al 308.215†	2099.0	1855	ug/L	32.77	185.5	mg/kg	3.28	1.77%
As 188.979†	1045.9	228.8	ug/L	1.65	22.88	mg/kg	0.165	0.72%
B 249.677†	7269.4	238.1	ug/L	1.06	23.81	mg/kg	0.106	0.45%
Ba 233.527†	86526.4	232.3	ug/L	0.36	23.23	mg/kg	0.036	0.15%
Be 313.107†	158258.6	48.96	ug/L	0.240	4.896	mg/kg	0.0240	0.49%
Ca 315.887†	302552.0	23450	ug/L	334.88	2345	mg/kg	33.49	1.43%
Cd 214.440†	11383.9	46.90	ug/L	0.256	4.690	mg/kg	0.0256	0.54%
Co 228.616†	20296.0	234.5	ug/L	1.19	23.45	mg/kg	0.119	0.51%
Cr 267.716†	17526.1	225.9	ug/L	0.96	22.59	mg/kg	0.096	0.43%
Cu 327.393†	43526.4	245.8	ug/L	0.28	24.58	mg/kg	0.028	0.12%
Fe 273.955†	63010.9	912.8	ug/L	2.89	91.28	mg/kg	0.289	0.32%
K 766.490†	26693.0	4620	ug/L	64.48	462.0	mg/kg	6.45	1.40%
Mg 285.213†	330722.1	23300	ug/L	346.54	2330	mg/kg	34.65	1.49%
Mn 257.610†	16557.0	234.5	ug/L	3.55	23.45	mg/kg	0.355	1.51%
Mo 202.031†	6913.8	225.1	ug/L	1.01	22.51	mg/kg	0.101	0.45%
Na 589.592†	145289.1	25240	ug/L	309.05	2524	mg/kg	30.90	1.22%
Ni 231.604†	9762.7	226.1	ug/L	0.87	22.61	mg/kg	0.087	0.39%
P 213.617†	5433.7	1883	ug/L	6.58	188.3	mg/kg	0.66	0.35%
Pb 220.353†	1231.8	225.9	ug/L	0.75	22.59	mg/kg	0.075	0.33%
Sb 206.836†	1548.8	244.6	ug/L	1.54	24.46	mg/kg	0.154	0.63%
Se 196.026†	616.3	226.0	ug/L	2.48	22.60	mg/kg	0.248	1.10%
Sn 189.927†	1039.4	211.4	ug/L	1.13	21.14	mg/kg	0.113	0.54%
Sr 421.552†	82429.1	247.3	ug/L	2.91	24.73	mg/kg	0.291	1.18%
Ti 337.279†	7424.9	233.1	ug/L	3.69	23.31	mg/kg	0.369	1.58%
Tl 190.801†	1090.9	217.8	ug/L	0.69	21.78	mg/kg	0.069	0.32%
V 292.402†	22916.8	244.8	ug/L	0.99	24.48	mg/kg	0.099	0.40%
Zn 206.200†	37080.1	466.6	ug/L	0.24	46.66	mg/kg	0.024	0.05%
Li 670.784	1571379.2	101.7	ug/L	1.15	10.17	mg/kg	0.115	1.13%

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	06/12/15	1mL	Al	CPI	14D237-33868	01/15/16
20 mL	HNO3	JT BAKER	0000067379	06/12/15	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				
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	06/12/15	1mL	Al	CPI	14D237-33868	01/15/16
20 mL	HNO3	JT BAKER	0000067379	06/12/15	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	ABSOLUTE	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	PREP	EXP
15mL	STD 3	Today	1 week		2mL	Yttrium	O2SI	Today	1 week
25mL	1%HNO3/5%HCl	Today	1 week		Prepared in 2L 1%HNO3 / 5%HCl				

_M3050

Metals Digestion Worksheet

Method Name 3050B Digestion **Prep Method** M3050alt **Set** 150604A **Units** mL

Spikes			
Spiked ID 1	LCSW LOT# 1075288-35199		
Spiked ID 2	LCSW LOT# 1075395-35200		
Spiked ID 3	Li 10mg/L Prep 6-4-15		
Spiked ID 4			
Spiked By	NM	Date:	06/04/15 9:19:00 AM
Witnessed By	DC	Date:	06/04/15 9:19:00 AM

Starting Temp:	94 c
Ending Temp:	94 c
Temperature Type:	Mod Block
Sufficient Vol for Matrix QC:	Yes
End Date/Time	06/04/15 11:30

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	150604A Blk				1.00g	100mL	06/04/15 9:19	equip: Modblock4
2	150604A LCS		1mL	1+2+3	1.00g	100mL	06/04/15 9:19	equip: Modblock4
3	AZ16137	AZ16137S01			1.01g	100mL	06/04/15 9:19	equip: Modblock4
4	AZ16137 MS	AZ16137S01	2mL	1+2+3	1.01g	100mL	06/04/15 9:19	equip: Modblock4
5	AZ16137 MSD	AZ16137S01	2mL	1+2+3	1.01g	100mL	06/04/15 9:19	equip: Modblock4
6	AZ16138	AZ16138S01			1.05g	100mL	06/04/15 9:19	equip: Modblock4
7	AZ16139	AZ16139S01			1.02g	100mL	06/04/15 9:19	equip: Modblock4
8	AZ16140	AZ16140S01			1.00g	100mL	06/04/15 9:19	equip: Modblock4
9	AZ16141	AZ16141S01			1.05g	100mL	06/04/15 9:19	equip: Modblock4
10	AZ16198	AZ16198S02			1.00g	100mL	06/04/15 9:19	equip: Modblock4
11	AZ16199	AZ16199S01			1.00g	100mL	06/04/15 9:19	equip: Modblock4
12	AZ16201	AZ16201S02			1.03g	100mL	06/04/15 9:19	equip: Modblock4
13	AZ16202	AZ16202S02			0.98g	100mL	06/04/15 9:19	equip: Modblock4
14	AZ16400	AZ16400S02			1.05g	100mL	06/04/15 9:19	equip: Modblock4
15	AZ16401	AZ16401S02			1.02g	100mL	06/04/15 9:19	equip: Modblock4
16	AZ16402	AZ16402S02			0.97g	100mL	06/04/15 9:19	equip: Modblock4

Solvent and Lot#
1:1 HNO3 NA
HNO3 J.T.B 99263 3436
H2O2 EMD na
HCL BDH 4114121 3925

Sample COC Transfer	
Sample prep employee Initials	nm
Analyst's initials	RDJ
Date	6/12/15
Time	1230
Moved to	METALS

Technician's Initials	
Scanned By	nm
Sample Preparation	nm
Digestion	nm
Bring up to volume	nm
Modified	06/04/15 11:01:06 AM

Reviewed By: RDJ **Date:** 6/12/15

6010 Injection Log

Directory: K:\ICAP JULES\Backup Excel\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	12 Jun 2015	12:56	CalBlk 150612RJS I:JL O:R		150612A6010	1.
2	12 Jun 2015	13:02	STD 1 150612RJS I:JL O:RJ		150612A6010	1.
3	12 Jun 2015	13:09	STD 2 150612RJS I:JL O:RJ		150612A6010	1.
4	12 Jun 2015	13:14	STD 3 150612RJS I:JL O:RJ		150612A6010	1.
5	12 Jun 2015	13:26	ICV 150612RJS I:JL O:RJS		150612A6010	1.
6	12 Jun 2015	13:37	ICB 150612RJS I:JL O:RJS		150612A6010	1.
7	12 Jun 2015	13:43	ICSA 150612RJS I:JL O:RJS		150612A6010	1.
8	12 Jun 2015	13:50	ICSAB 150612RJS I:JL O:RJ		150612A6010	1.
9	12 Jun 2015	13:57	CCV1 150612RJS I:JL O:RJS		150612A6010	1.
10	12 Jun 2015	14:08	CCB 150612RJS I:JL O:RJS		150612A6010	1.
11	12 Jun 2015	14:26	150604A-3050-BLK		150612A6010	1.
12	12 Jun 2015	14:32	150604A-3050-LCS		150612A6010	1.
16	12 Jun 2015	15:02	CCV2 150612RJS I:JL O:RJS		150612A6010	1.
17	12 Jun 2015	15:08	CCB 150612RJS I:JL O:RJS		150612A6010	1.
26	12 Jun 2015	16:29	CCV1 150612RJS I:JL O:RJS		150612A6010	1.
27	12 Jun 2015	16:34	CCB 150612RJS I:JL O:RJS		150612A6010	1.
37	12 Jun 2015	17:43	AZ16198S02-1/20		150612A6010	20.
38	12 Jun 2015	17:50	AZ16199S01-1/20		150612A6010	20.
39	12 Jun 2015	17:57	AZ16201S02-1/20		150612A6010	20.
40	12 Jun 2015	18:03	AZ16202S02-1/20		150612A6010	20.
41	12 Jun 2015	18:09	CCV2 150612RJS I:JL O:RJS		150612A6010	1.
42	12 Jun 2015	18:15	CCB 150612RJS I:JL O:RJS		150612A6010	1.
57	12 Jun 2015	20:01	CCV2 150612RJS I:JL O:RJS		150612A6010	1.
58	12 Jun 2015	20:11	CCB 150612RJS I:JL O:RJS		150612A6010	1.
59	12 Jun 2015	20:18	AZ16198S02		150612A6010	1.
60	12 Jun 2015	20:24	AZ16199S01		150612A6010	1.
61	12 Jun 2015	20:31	AZ16201S02		150612A6010	1.
62	12 Jun 2015	20:38	AZ16202S02		150612A6010	1.
63	12 Jun 2015	20:45	CCV1 150612RJS I:JL O:RJS		150612A6010	1.
64	12 Jun 2015	21:00	CCB 150612RJS I:JL O:RJS		150612A6010	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
WalkBlk	TOTAL ORGANIC C	150.00 U	200.0	150.00	100.00	mg/Kg	06/03/15	06/03/15	TOC-WB-150603A-AZ16137

Wetlab SC-Blank-REG MDLs
Printed: 06/05/15 11:45:07 AM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/Kg	SPK Result mg/Kg	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
WalkBlk	TOTAL ORGANIC CARBON	2000	1810	90.5	80-120	06/03/15	06/03/15	#TOC-WB-150603A-AZ16137

Comments: _____

WalkBlk

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed: 06/03/15

Matrix: SOIL Instrument: manual

Blank ID: WB-150603A-BLK Time Analyzed: 1100

APPL ID.	Client Sample No.	File ID.	Date Analyzed
AZ16201	S67-SS037-0001		06/03/15 1124
AZ16198	S67-SS036-0001		06/03/15 1121
WB-150603A-LCS	Lab Control Spike		06/03/15 1103
WB-150603A-BLK	Blank		06/03/15 1100

Comments: Batch: #TOC-WB-150603A

EPA 9045D

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76390

Case No: 76390 Date Analyzed:

Matrix: SOIL Instrument: Tiamo

Blank ID: Time Analyzed:

APPL ID.	Client Sample No.	File ID.	Date Analyzed
AZ16198	S67-SS036-0001	2	05/11/15 1121
AZ16201	S67-SS037-0001	4	05/11/15 1130

Comments: Batch: #9045D-150511a

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-SS036-0001

Sample Collection Date: 05/08/15

APPL ID: AZ16198

ARF: 76390

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.6 Percent Moisture.)									
WalkBlk	TOTAL ORGANIC CARBON	11000	250.0	180.00	120.00	mg/Kg	1	06/03/15	06/03/15

Printed: 06/05/15 11:45:04 AM

APPL-F1-SC-MCRes/MCPQL-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-SS036-0001

Sample Collection Date: 05/08/15

APPL ID: AZ16198

ARF: 76390

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 9045D	PH	5.93@22.7C	NA			pH Units	1	05/11/15	05/11/15

Printed: 06/05/15 11:46:48 AM

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-SS037-0001

Sample Collection Date: 05/08/15

APPL ID: AZ16201

ARF: 76390

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
(Solid Concentrations and Limits have been adjusted to reflect 18.5 Percent Moisture.)									
WalkBlk	TOTAL ORGANIC CARBON	19000	250.0	180.00	120.00	mg/Kg	1	06/03/15	06/03/15

Printed: 06/05/15 11:45:04 AM

APPL-F1-SC-MCRes/MCPQL-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-SS037-0001

Sample Collection Date: 05/08/15

APPL ID: AZ16201

ARF: 76390

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 9045D	PH	6.59@22.8C	NA			pH Units	1	05/11/15	05/11/15

Printed: 06/05/15 11:46:48 AM

APPL-F1-SC-NoMC-REG MDLs

Wetlab Results

ARF: 76390

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

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

Attn: Ed Corack

Method	Analyte	Result	RL	MDL	Units	Prep Date	Analysis Date
APPL ID: AZ16198	-Client Sample ID: S67-SS036-0001		-Sample Collection Date: 05/08/15			Project: CTO JU11 112G02622 N	
CLP MOIST	MOISTURE	18.6	2.0		%	05/13/15	05/14/15
APPL ID: AZ16199	-Client Sample ID: S67-SB036-0405		-Sample Collection Date: 05/08/15			Project: CTO JU11 112G02622 N	
CLP MOIST	MOISTURE	19.3	2.0		%	05/13/15	05/14/15
APPL ID: AZ16201	-Client Sample ID: S67-SS037-0001		-Sample Collection Date: 05/08/15			Project: CTO JU11 112G02622 N	
CLP MOIST	MOISTURE	18.5	2.0		%	05/13/15	05/14/15
APPL ID: AZ16202	-Client Sample ID: S67-SB037-0607		-Sample Collection Date: 05/08/15			Project: CTO JU11 112G02622 N	
CLP MOIST	MOISTURE	18.0	2.0		%	05/13/15	05/14/15

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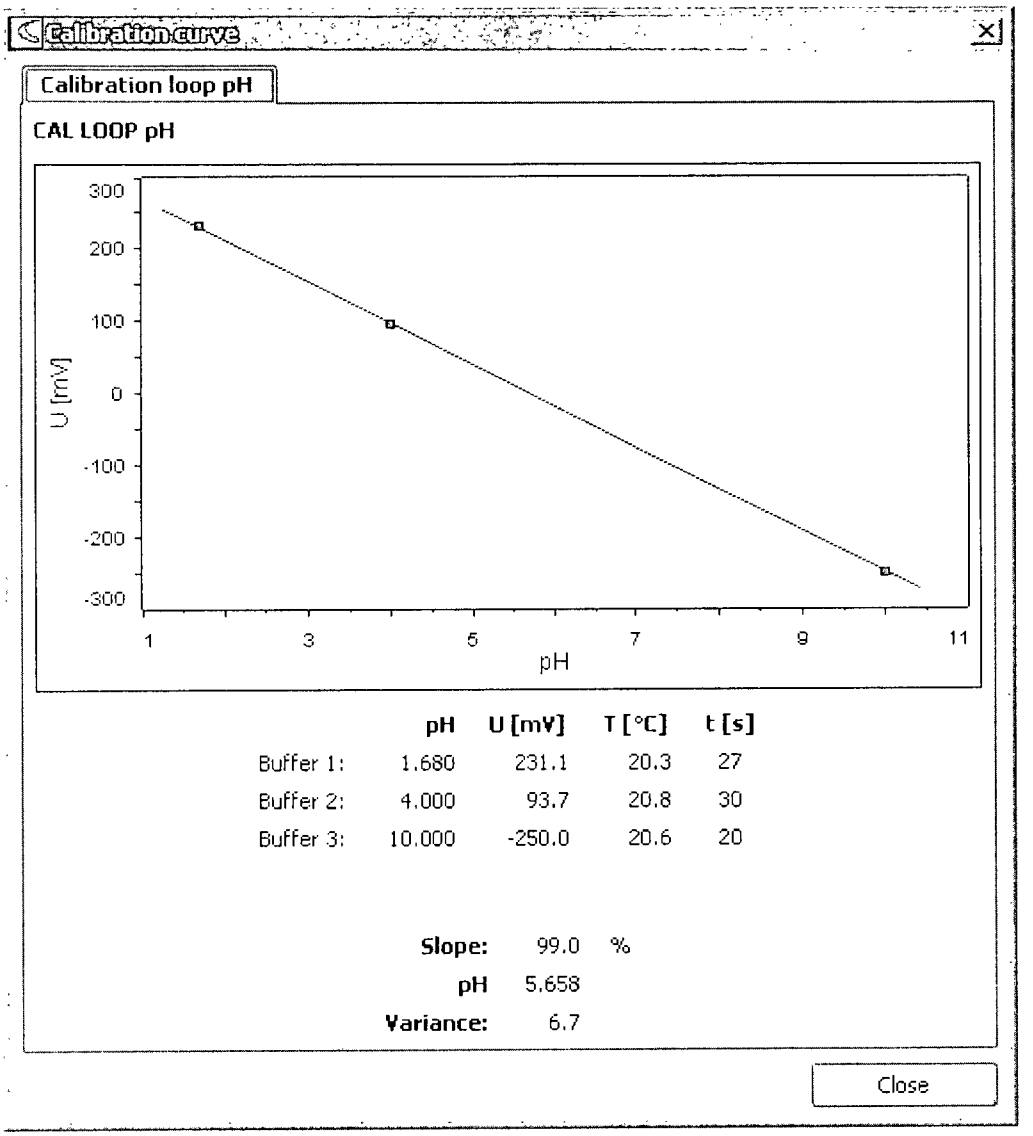
INORGANIC ANALYSIS
Calibration Data

APPL, INC.


Calibration curve
Calibration loop pH
CAL LOOP pH
300
200
100
0
-100
-200
-300
U [mV]
1
3
5
7
9
11
pH
pH U [mV] T [°C] t [s]
Buffer 1: 1.680 231.1 20.3 27
Buffer 2: 4.000 93.7 20.8 30
Buffer 3: 10.000 -250.0 20.6 20
Slope: 99.0 %
pH 5.658
Variance: 6.7
Close

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Tetra Tech

ARF No: 76390 SDG: 76390

Initial Calibration Source: CPI

Continuing Calibration Source: CPI

Analysis Date: 05/11/15

Analyte	Calibration Verification									M
	True CCV1	Found 10:42	%R(1)	True ICV	Found 11:53	%R(1)	True CCV1	Found 11:58	%R(1)	
pH	7	7.05	101	1.68	1.66	98.8	7	7.04	101	

(1) Control Limits: 99-101

ILM02.0

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
WalkBlk	TOTAL ORGANIC C	150.00 U	200.0	150.00	100.00	mg/Kg	06/03/15	06/03/15	TOC-WB-150603A-AZ16137

Wetlab SC-Blank-REG MDLs
Printed: 06/05/15 11:45:07 AM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/Kg	SPK Result mg/Kg	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
WalkBlk	TOTAL ORGANIC CARBON	2000	1810	90.5	80-120	06/03/15	06/03/15	#TOC-WB-150603A-AZ16137

Comments: _____

Walkley Black titration

Date: 06/03/15
Initials: bb
QCG: 150603a

Fe^{2+} Molarity

	Date of Prep	Manufacturer / LOT
FAS	03/13/15	EMD Lot2013050298

g FAS	mL water	g/mol FAS
160.00	1000	392.13

KMnO4 JT BAKER LOT# 00000-72980

mL FAS standardized	KMnO4 titrated (mL)	KMnO4 Conc. (mol/L)	Molarity Fe^{2+} (mol/mL)
10.00	40.20	0.10	0.0004020

Reagents
H2SO4 JT Baker
00000-13768
H3PO4 BDH

TOC std

Manufacturer	Lot number	Conc (mg/L)
O2SI	1052126-33043	1000

2011081075
Ottawa Sand Lot number 3223c517

KCrO7 Prep 03/13/15

LA/ MA	TOC STD (mL)	g Ottawa Sand		% C	C (mg/Kg)
LA	1.000	0.5	=	0.200%	2000
MA	1.000	0.5		0.200%	2000

*Equipment: Hotplates 2&3, Stirplate 6, Buret 2
*samples were digested by heating to 140 degrees celcius for 30 min

TOC in %

Sample number	sample (g)	titrant (mL)		%C		Time
150603A BLK	0.50	27.00	=			11:00
150603A LCS	0.50	26.25	=	0.1812%	90.6%	11:03
AZ16137S02	0.50	23.00		0.9643%		11:06
AZ16137S02 ms	0.50	22.00		1.2057%	120.66%	11:09
AZ16137S02 msd	0.50	22.15		1.1683%	101.99%	11:12
AZ16138S02	0.50	24.00	=	0.7246%		11:15
AZ16140S02	0.50	13.70	=	3.2141%		11:18
AZ16198S01	0.50	23.25	=	0.9039%		11:21
AZ16201S03	0.50	20.50	=	1.5667%		11:24

TOC in mg/Kg

Sample number	sample (g)	titrant (mL)		c in mg/kg		Time
150603A BLK	0.499	27.000	=	0.0		11:00
150603A LCS	0.500	26.250	=	1812.5	90.6%	11:03
AZ16137S02	0.501	23.000	=	9643.3		11:06
AZ16137S02 ms	0.501	22.000	=	12056.6		11:09
AZ16137S02 msd	0.501	22.150	=	11683.2		11:12
AZ16138S02	0.500	24.000	=	7245.5		11:15
AZ16140S02	0.500	13.700	=	32141.1		11:18
AZ16198S01	0.501	23.250	=	9038.8		11:21
AZ16201S03	0.501	20.500		15667.3		11:24

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Result	Temp	Unit	Batch	Initials
CCV	2015-05-11 11:58:24 UTC-7	pH meas 2011	7.04 7.04	22.4	pH Units		
ICV	2015-05-11 11:53:34 UTC-7	pH meas 2011	1.66 1.65	22.1	pH Units		bb
AZ16201S03	2015-05-11 11:30:13 UTC-7	pH meas 2011	6.59 6.67	22.8	pH Units	150511a	bb
AZ16198S02	2015-05-11 11:21:57 UTC-7	pH meas 2011	5.93 5.99	22.7	pH Units	150511a	bb
CCV	2015-05-11 10:42:42 UTC-7	pH meas 2011	7.05 7.04	22.3	pH Units		

% Moisture

Batch: QCG 150513-M005683

Method: CLP 4.0

Date: 05/13/15 10:14

Sample	Container	Pan (g)	Pan+Wet (g)	Pan+Dry 1 (g)	Pan+Dry 2 (g)	Moisture (%)	Comments
AZ16202		1.2755 05/13/15 10:14	8.4002 05/13/15 10:14	7.1177 05/14/15 08:27	7.1176	18 002	AZ16202S01
AZ16201		1.2780 05/13/15 10:13	7.6470 05/13/15 10:14	6.4714	6.4718 05/14/15 08:27	18.452	AZ16201S01
AZ16199		1.2811 05/13/15 10:12	8.5552 05/13/15 10:13	7.1546 05/14/15 08:26	7.1546 05/14/15 08:26	19.255	AZ16199S01
AZ16198		1.2793 05/13/15 10:11	8.1818 05/13/15 10:12	6.8964 05/14/15 08:26	6.8965	18.621	AZ16198S01
AZ16141		1.2751 05/13/15 10:11	8.0892 05/13/15 10:11	6.5009 05/14/15 08:26	6.5010 05/14/15 08:26	23.308	AZ16141S01
AZ16140		1.2701 05/13/15 10:10	7.4458 05/13/15 10:10	6.8048 05/14/15 08:25	6.8048 05/14/15 08:25	10.379	AZ16140S01
AZ16139		1.2653 05/13/15 10:09	7.0452 05/13/15 10:09	6.0340	6.0339 05/14/15 08:25	17.497	AZ16139S01
AZ16138		1.2628 05/13/15 10:08	7.5839 05/13/15 10:08	6.8228 05/14/15 08:24	6.8228 05/14/15 08:24	12.041	AZ16138S01
AZ16137D		1.2576 05/13/15 10:07	7.3570 05/13/15 10:08	6.5178 05/14/15 08:24	6.5179 05/14/15 08:24	13.757	AZ16137S01
AZ16137		1.2532 05/13/15 10:06	7.7107 05/13/15 10:07	6.8452 05/14/15 08:24	6.8453 05/14/15 08:24	13.401	AZ16137S01

Date/Time InOven@104°C	Date/Time OutOven@104°C	Date/Time InOven@104°C	Date/Time OutOven@104°C
05/13/15 10:14:00 AM			05/14/15 8:24:00 AM

Standards Prep Log Book# 62 page# ——→

3/13/15 AP
Exp 3/20/15

AP 3/13/15

NO3-N STDS	STANDARD / STOCK	PREP DATE / LOT	OPEN / EXP DATE	CONC STOCK OR STD [mg/L]	STOCK OR STD (mL)	FINAL VOL. W/DI H2O (mL)	FINAL CONC. NO3-N (mg/L)
100mg/L	O2SI	2/28/14	8/30/15	1000	5	50	100
		Lot 1057207					
0.1 mg/L	100mg/L NO3-N STOCK	3/13/15	3/20/15	100	0.1	100	0.1
0.2 mg/L					0.2	100	0.2
1.0 mg/L					1.0	100	1.0
5.0 mg/L					5.0	100	5.0
10.0 mg/L					10.0	100	10.0
20.0 mg/L					20.0	100	20.0
NO3-N ICV	CPI	6/12/14	12/11/15	1000	0.25	50	5.00
		LOT 14F013					

NO2-N Stds	STANDARD / STOCK	PREP DATE	EXP DATE	CONC STOCK OR STD [mg/L]	STOCK OR STD (mL)	FINAL VOL. W/DI H2O (mL)	FINAL CONC. NO2-N (mg/L)
100mg/L	O2SI	1062905	1/10/16	1000	5	50	100
		7/18/14					
0.1 mg/L	100mg/L NO2-N STOCK	3/13/15	3/20/15	100	0.1	100	0.1
0.2 mg/L					0.2	100	0.2
0.5 mg/L					0.5	100	0.5
2.5 mg/L					2.5	100	2.5
5.0 mg/L					5.0	100	5.0
NO2-N ICV	CPI LOT#13J007	2/24/14	8/20/15	304.5	1	100	3.045

	STOCK	LOT#	EXP DATE	CONC STOCK [mg/L]	STOCK (mL)	FINAL VOL.	FINAL CONC.
LCS/LCSD	O2SI	1057207	3/20/15	1000	0.2	50 mL w/ DI H20	4
	O2SI	1062905	3/20/15	1000	0.1		2
MS / MSD	O2SI	1057207	3/20/15	1000	0.2	50 mL w/ SAMPLE	4
	O2SI	1062905	3/20/15	1000	0.1		2

For TOXN LCS/LCSD, used 0.250 ml 1000 mg/L NO3-N/50 ml DI = 5 mg/L.
For TOXN MS/MSD, used 0.250 ml 1000 mg/L NO3-N/50 ml sample = 5 mg/L..

3/13/15 AP ICV for 180.1 Turbidity
Exp 3/15/15 0.200 ml 4000NTU(Thermo Scientific Lot SX1-33618)/100 ml DI → 8 NTU

3/13/15 AP Color 2120B
Exp 3/15/15 5 ml 500 unit(Ricca Lot 1404774)/50 ml DI → 50 unit stock
5 ml 50 unit (3/13/15)/50ml DI → 5 unit
4 ml 500 unit(Ricca Lot 1404774)/50 ml DI → 40 unit

3/13/15 BB FAS titrant for Walkley Black
exp 3/13/16 160.0016g FAS EMD lot 2013050298
40 mL H_2SO_4 JT Baker 00000 71333
Final vol 1L w/DI water