N00174.AR.001948
NSWC INDIAN HEAD
5090.3a

VALIDATED DATA PACKAGE, 76338, NSWC INDIAN HEAD MD
6/2/2015
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 2, 2015

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

Attn: Ed Corack

Title: Report of Data: Case 76338

Project: CTO JU11 112G02622 NSF Indian Head, MD

Contract #: Prime contract # for DoD: Navy CLEAN. N62467-08-D-1001
Subcontract # 1045497, Work Release # 08-JU11

Dear Mr. Corack:

Eight water samples were received May 6, 2015, in good condition. Written results for the requested analysis are being provided on this June 2, 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: 15

Sample receipt information

ARF: 76338

Project: CTO JU11 112G02622 NSF Indian Head, MD

Sample Receipt Information:

The sample group was received on May 6, 2015, at 2.0°C. The samples were assigned Analytical Request Form (ARF) number 76338. The sample numbers and requested analysis were compared to the chain of custody. No exception was encountered.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
S67-GWB4-050515	AZ15992	WATER	05/05/15	05/06/15
S67-GWC4-050515	AZ15993	WATER	05/05/15	05/06/15
S67-GWD4-050515	AZ15994	WATER	05/05/15	05/06/15
S67-GWE4-050515	AZ15995	WATER	05/05/15	05/06/15
S67-GWF5-050515	AZ15996	WATER	05/05/15	05/06/15
S67-GWG4-050515	AZ15997	WATER	05/05/15	05/06/15
S67-GWG2-050515	AZ15998	WATER	05/05/15	05/06/15
S67-GWF4-050515	AZ15999	WATER	05/05/15	05/06/15

The samples and blank 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 6850

Perchlorate by LC-Mass Spec

Sample Preparation and Analysis Information:

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

Manual integrations were performed in accordance to APPL's SOP. Perchlorate was manually integrated in the calibration standards, sample S67-GWC4-050515 and the ICS. 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:

A Laboratory Control Spike (LCS) was prepared using DI water. The LCS recovery met acceptance criteria.

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

No sample was designated by the client 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 I.S. were within the 50%D acceptance criteria.

Summary:

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

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-GWB4-050515
Sample Collection Date: 05/05/15

ARF: 76338
APPL ID: AZ15992
QCG: #6850-150506A-196713

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	2.6	0.60	0.400	0.200	ug/L	05/06/15	05/06/15

Quant Method:	QTLMFL2
Run #:	T506_008.D
Instrument:	AGIL_6460
Sequence:	TQ050615
Dilution Factor:	1
Initials:	MP

Printed: 06/02/15 12:40:06 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

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

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76338

Sample ID: S67-GWC4-050515

APPL ID: AZ15993

Sample Collection Date: 05/05/15

QCG: #6850-150506A-196713

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	05/06/15	05/06/15

Quant Method:	QTLMFL2
Run #:	T506_009.D
Instrument:	AGIL_6460
Sequence:	TQ050615
Dilution Factor:	1
Initials:	MP

Printed: 06/02/15 12:40:06 PM

APPL-F1-SC-NoMC-REG MDLs

Perchlorate

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

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76338

Sample ID: S67-GWD4-050515

APPL ID: AZ15994

Sample Collection Date: 05/05/15

QCG: #6850-150506A-196713

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	05/06/15	05/08/15

Quant Method:	QTLMFL2
Run #:	T507_063.D
Instrument:	AGIL_6460
Sequence:	TQ050715
Dilution Factor:	1
Initials:	MP

Printed: 06/02/15 12:40:06 PM

APPL-F1-SC-NoMC-REG MDLs

Perchlorate

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

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76338

Sample ID: S67-GWE4-050515

APPL ID: AZ15995

Sample Collection Date: 05/05/15

QCG: #6850-150506A-196713

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	470	60.00	40.000	20.000	ug/L	05/06/15	05/06/15

Quant Method:	QTLMFL2
Run #:	T506_012.D
Instrument:	AGIL_6460
Sequence:	TQ050615
Dilution Factor:	100
Initials:	MP

Printed: 06/02/15 12:40:06 PM

APPL-F1-SC-NoMC-REG MDLs

Perchlorate

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

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-GWF5-050515
Sample Collection Date: 05/05/15

ARF: 76338
APPL ID: AZ15996
QCG: #6850-150506A-196713

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	2400	600.00	400.000	200.000	ug/L	05/06/15	05/06/15

Quant Method:	QTLMFL2
Run #:	T506_014.D
Instrument:	AGIL_6460
Sequence:	TQ050615
Dilution Factor:	1000
Initials:	MP

Printed: 06/02/15 12:40:06 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

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

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-GWG4-050515
Sample Collection Date: 05/05/15

ARF: 76338
APPL ID: AZ15997
QCG: #6850-150506A-196713

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	560	60.00	40.000	20.000	ug/L	05/06/15	05/06/15

Quant Method:	QTLMFL2
Run #:	T506_020.D
Instrument:	AGIL_6460
Sequence:	TQ050615
Dilution Factor:	100
Initials:	MP

Printed: 06/02/15 12:40:06 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

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

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-GWG2-050515
Sample Collection Date: 05/05/15

ARF: 76338
APPL ID: AZ15998
QCG: #6850-150506A-196713

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	180	60.00	40.000	20.000	ug/L	05/06/15	05/07/15

Quant Method:	QTLMFL2
Run #:	T506_055.D
Instrument:	AGIL_6460
Sequence:	TQ050615
Dilution Factor:	100
Initials:	MP

Printed: 06/02/15 12:40:06 PM
APPL-F1-SC-NoMC-REG MDLs

Perchlorate

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

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Ed Corack

Project: CTO JU11 112G02622 NSF Indian Head

ARF: 76338

Sample ID: S67-GWF4-050515

APPL ID: AZ15999

Sample Collection Date: 05/05/15

QCG: #6850-150506A-196713

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.68	0.60	0.400	0.200	ug/L	05/06/15	05/07/15

Quant Method:	QTLMFL2
Run #:	T506_068.D
Instrument:	AGIL_6460
Sequence:	TQ050615
Dilution Factor:	1
Initials:	MP

Printed: 06/02/15 12:40:06 PM

APPL-F1-SC-NoMC-REG MDLs

Method Blank
Perchlorate

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **150506W-15992 - 196713**
Batch ID: #6850-150506A

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	05/06/15	05/06/15

Quant Method: QTLMFL2
Run #: T506_007.D
Instrument: AGIL_6460
Sequence: tq050615
Initials: MP

GC SC-Blank-REG MDLs
Printed: 06/02/15 12:39:36 PM

Laboratory Control Spike Recovery

Perchlorate

APPL ID: **150506W-15992 LCS - 196713**
Batch ID: #6850-150506A

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	0.668	111	80-120

Comments: _____

Primary	SPK
Quant Method :	QTLMFL2
Extraction Date :	05/06/15
Analysis Date :	05/06/15
Instrument :	AGIL_6460
Run :	T506_005.D
Initials :	MP

Printed: 06/02/15 12:39:46 PM
APPL Standard LCS

EPA 6850

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76338

Case No: 76338 Date Analyzed: 05/06/15

Matrix: WATER Instrument: AGIL_6460

Blank ID: 150506A-BLK Time Analyzed: 1847

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150506A-LCS	Lab Control Spike	T506_005.D	05/06/15 1807
150506A-BLK	Blank	T506_007.D	05/06/15 1847
AZ15992	S67-GWB4-050515	T506_008.D	05/06/15 1907
AZ15993	S67-GWC4-050515	T506_009.D	05/06/15 1933
AZ15995	S67-GWE4-050515	T506_012.D	05/06/15 2036
AZ15996	S67-GWF5-050515	T506_014.D	05/06/15 2113
AZ15997	S67-GWG4-050515	T506_020.D	05/06/15 2307
AZ15998	S67-GWG2-050515	T506_055.D	05/07/15 1003
AZ15999	S67-GWF4-050515	T506_068.D	05/07/15 1414
AZ15994	S67-GWD4-050515	T507_063.D	05/08/15 1526

Comments: Batch: #6850-150506A

76338

2-0

CHAIN OF CUSTODY RECORD

APPL, Inc.
908 N Temperance Ave
Clovis, CA 93611
Phone: (559) 275-2175
Fax: (559) 275-4422

C.O.C. 48700

Report to: PLEASE PRINT

Company Name: TetraTech Inc. Phone: 757-466-4908

Address: 5700 Lake Wright Dr, Suite 309
Nor folk, VA 23325 Fax:

Attn: Ed Corack

Invoice to: PLEASE PRINT

Company Name: SEE CONTRACT Phone:

Address: Fax:

Attn:

Project Name/Number: Site 67/112602622

Purchase Order Number:

Sampler (Print): Robert Sok

Sampler (Signature):

Date Shipped: 5-5-15
Carrier: FED EX
Waybill No.: 8992-5262-6783
Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Analysis Requested/Method Number: Perchlorate
567-GWB4-050515	NSF-IH, Site67	5-5-15	1115	East	1	X			X
567-GWC4-050515			1130		1	X			X
567-GWD4-050515			~~1345~~ 1200		1	X			X
567-GWE4-050515			1415		1	X			X
567-GWF5-050515			1445		1	X			X
567-GWG4-050515			1535		1	X			X
567-GWG2-050515			1600		1	X			X
567-GWF4-050515			1345		1	X			X

*24hr TAT on All

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:
	5-5-15	1800	
Relinquished by:	Date	Time	Received by:

Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received at lab by:
	5/6/15	09:50	Yang Zu

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

See reverse side for Container Preservative and Sampling Information

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 2, 2015

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

Attn: Ed Corack

Title: Report of Data: Case 76338

Project: CTO JU11 112G02622 NSF Indian Head, MD

Contract #: Prime contract # for DoD: Navy CLEAN. N62467-08-D-1001
Subcontract # 1045497, Work Release # 08-JU11

Dear Mr. Corack:

Eight water samples were received May 6, 2015, in good condition. Written results for the requested analysis are being provided on this June 2, 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: 179

Data Validation Package

for

CTO JU11 112G02622 NSF Indian Head

ARF 76338

TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

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SAMPLE RECEIPT INFORMATION

Sample receipt information

ARF: 76338

Project: CTO JU11 112G02622 NSF Indian Head, MD

Sample Receipt Information:

The sample group was received on May 6, 2015, at 2.0°C. The samples were assigned Analytical Request Form (ARF) number 76338. The sample numbers and requested analysis were compared to the chain of custody. No exception was encountered.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
S67-GWB4-050515	AZ15992	WATER	05/05/15	05/06/15
S67-GWC4-050515	AZ15993	WATER	05/05/15	05/06/15
S67-GWD4-050515	AZ15994	WATER	05/05/15	05/06/15
S67-GWE4-050515	AZ15995	WATER	05/05/15	05/06/15
S67-GWF5-050515	AZ15996	WATER	05/05/15	05/06/15
S67-GWG4-050515	AZ15997	WATER	05/05/15	05/06/15
S67-GWG2-050515	AZ15998	WATER	05/05/15	05/06/15
S67-GWF4-050515	AZ15999	WATER	05/05/15	05/06/15

The samples and blank 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 6850

Perchlorate by LC-Mass Spec

Sample Preparation and Analysis Information:

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

Manual integrations were performed in accordance to APPL's SOP. Perchlorate was manually integrated in the calibration standards, sample S67-GWC4-050515 and the ICS. 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:

A Laboratory Control Spike (LCS) was prepared using DI water. The LCS recovery met acceptance criteria.

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

No sample was designated by the client 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 I.S. were within the 50%D acceptance criteria.

Summary:

All data were acceptable. No other analytical exception is 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 76338

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** # **48700**
RAD Screen (Y/N): **Y** pH (Y/N): **N**
Turn Around Type: **24 HOURS**

Received by: **YL**
Date Received: **05/06/15** Time: **09:50**
Delivered by: **FED EX**
Shuttle Custody Seals (Y/N): **Y** Time Zone: **-4**
Chest Temp(s): **2.0°C**
Color: **E-Brn**
Samples Chilled until Placed in Refrig/Freezer: **Y**
Project Manager: **Cynthia Clark**
QC Report Type: **DVP4/LEDD/MD**
Due Date: **05/07/15**

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

Sample Distribution:
Extractions: 8-_HPL6850
LCMS: 8-$6850

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-GWB4-050515	AZ15992W	05/05/15 11:15	$6850
2.	S67-GWC4-050515	AZ15993W	05/05/15 11:30	$6850
3.	S67-GWD4-050515	AZ15994W	05/05/15 12:00	$6850
4.	S67-GWE4-050515	AZ15995W	05/05/15 14:15	$6850
5.	S67-GWF5-050515	AZ15996W	05/05/15 14:45	$6850
6.	S67-GWG4-050515	AZ15997W	05/05/15 15:35	$6850
7.	S67-GWG2-050515	AZ15998W	05/05/15 16:00	$6850

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

8. S67-GWF4-050515 AZ15999W 05/05/15 13:45 $6850

APPL Sample Receipt Form

ARF# **76338**

Sample	Container Type	Count	pH
AZ15992	4 PL 125mL	1	NA
AZ15993	4 PL 125mL	1	NA
AZ15994	4 PL 125mL	1	NA
AZ15995	4 PL 125mL	1	NA
AZ15996	4 PL 125mL	1	NA
AZ15997	4 PL 125mL	1	NA
AZ15998	4 PL 125mL	1	NA
AZ15999	4 PL 125mL	1	NA

Sample	Container Type	Count	pH

76338

2-0

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

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

CHAIN OF CUSTODY RECORD

C.O.C. 48700

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: TetraTech Inc. Phone: 757-466-4908	Company Name: SEE CONTRACT Phone:
Address: 5700 Lake Wright Dr, Suite 309 Nor folk, VA 23325 Fax:	Address: Fax:
Attn: Ed Corack	Attn:

Project Name/Number	Sampler (Print)
Site 67/112602622	Robert Sok
Purchase Order Number	Sampler (Signature)

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil	Analysis Requested/Method Number: Perchlorate	Comments
567-GWB4-050515	NSF-IH, Site67	5-5-15	1115	East	1	X			X	*24hr TAT on All
567-GWC4-050515			1130		1	X			X	
567-GWD4-050515			1200 1345		1	X			X	
567-GWE4-050515			1415		1	X			X	
567-GWF5-050515			1445		1	X			X	
567-GWG4-050515			1535		1	X			X	
567-GWG2-050515			1600		1	X			X	
567-GWF4-050515			1345		1	X			X	

Date Shipped: 5-5-15
Carrier: FED EX
Waybill No. 8992-5262-6783
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:	Relinquished by:	Date	Time	Received by:
	5-5-15	1800					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					5/6/15	09:50	Yang Z

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

See reverse side for Container Preservative and Sampling Information

COOLER RECEIPT FORM **ARF: 76338**

1) Project: CTO JU11 112G02622 NSF Indian Head Date Received: 05/06/15

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: __ 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: 2.0 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:

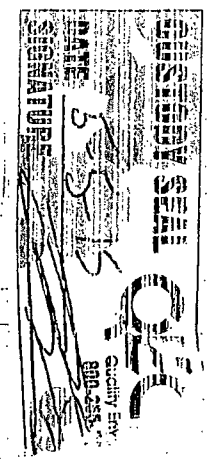
13) YES Were all containers sealed in separate bags?

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: ____
Project manager notified: ____ Date/Time of notification ____
Name of client notified: ____ Date/Time of notification ____

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: **150506W-15992 - 196713**
Batch ID: #6850-150506A

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	05/06/15	05/06/15

Quant Method: QTLMFL2
Run #: T506_007.D
Instrument: AGIL_6460
Sequence: tq050615
Initials: MP

GC SC-Blank-REG MDLs
Printed: 05/07/15 5:50:18 PM

Laboratory Control Spike Recovery
Perchlorate

APPL ID: **150506W-15992 LCS - 196713**
Batch ID: #6850-150506A

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	0.668	111	80-120

Primary	SPK
Quant Method :	QTLMFL2
Extraction Date :	05/06/15
Analysis Date :	05/06/15
Instrument :	AGIL_6460
Run :	T506_005.D
Initials :	MP

Comments: _____

Printed: 05/07/15 5:49:34 PM
APPL Standard LCS

Interferrence Check Sample

Perchlorate EPA 6850 Water

APPL ID: 150506W-15992 ICS-196713
Batch ID: #6850-150506A

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	0.678	113.0%	70-130

Comments:

Quant Method:	QTLMFL2
Extraction Date:	05/06/15
Analysis Date:	05/06/15
Instrument:	AGIL_6560
Run:	T506_006.D
Initials:	RP

EPA 6850

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 76338

Case No: 76338 Date Analyzed: 05/06/15

Matrix: WATER Instrument: AGIL_6460

Blank ID: 150506A-BLK Time Analyzed: 1847

APPL ID.	Client Sample No.	File ID.	Date Analyzed
150506A-LCS	Lab Control Spike	T506_005.D	05/06/15 1807
150506A-BLK	Blank	T506_007.D	05/06/15 1847
AZ15992	S67-GWB4-050515	T506_008.D	05/06/15 1907
AZ15993	S67-GWC4-050515	T506_009.D	05/06/15 1933
AZ15995	S67-GWE4-050515	T506_012.D	05/06/15 2036
AZ15996	S67-GWF5-050515	T506_014.D	05/06/15 2113
AZ15997	S67-GWG4-050515	T506_020.D	05/06/15 2307
AZ15998	S67-GWG2-050515	T506_055.D	05/07/15 1003
AZ15999	S67-GWF4-050515	T506_068.D	05/07/15 1414
AZ15994	S67-GWD4-050515	T507_063.D	05/08/15 1526

Comments: Batch: #6850-150506A

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.** **76338**

Lab File ID (Standard): T06_003.d

Instrument ID: Agilent 6460 Triple Quad LC/MS

	PER_IS			
	12_HOUR_STD AVERAGE	4259453		
	UPPER LIMIT RESPONSE	6389179.5		
	LOWER LIMIT RESPONSE	2129726.5		
Data File ID:	Sample ID:	Analysis Date and Time	IS AREA COUNT #	IS R.T. #
T506_002.d	PER_CCV 0.0004 ug/ml 04/20/15	5/6/15 16:29	3464003	14.17
T506_003.d	PER_CCV 0.002 ug/ml 04/20/15	5/6/15 16:48	4259453	14.139
T506_005.d	150506WA_LCS-1 1052.6 DF 05/06/15	5/6/15 18:07	2869029	13.976
T506_006.d	150506WA_ICSA 1052.6 DF 05/06/15	5/6/15 18:28	2962223	12.753
T506_007.d	150506WBLKA 1052.6 DF 05/06/15	5/6/15 18:47	3464881	13.986
T506_008.d	AZ15992_W01 1052.6 DF 05/06/15	5/6/15 19:07	2990317	13.304
T506_009.d	AZ15993_W01 1052.6 DF 05/06/15	5/6/15 19:33	3058047	12.692
T506_012.d	AZ15995_W01 105263.2 DF 05/06/15_5/06	5/6/15 20:36	3038715	13.823
T506_014.d	AZ15996_W01 1052631.6 DF 05/06/15	5/6/15 21:13	3857922	13.864
T506_016.d	PER_CCV 0.0004 ug/ml 04/20/15	5/6/15 21:50	4055606	13.711
T506_017.d	PER_CCV 0.002 ug/ml 04/20/15	5/6/15 22:09	4923866	13.915
T506_020.d	AZ15997_W01 105263.2 DF 05/06/15_5/06	5/6/15 23:05	3963939	14.098
T506_030.d	PER_CCV 0.0004 ug/ml 04/20/15	5/7/15 2:11	4118531	14.149
T506_031.d	PER_CCV 0.002 ug/ml 04/20/15	5/7/15 2:30	4932867	14.374
T506_044.d	PER_CCV 0.0004 ug/ml 04/20/15	5/7/15 6:32	4075281	14.374
T506_045.d	PER_CCV 0.002 ug/ml 04/20/15	5/7/15 6:50	4872353	14.526
T506_055.d	AZ15998_W01 105263.2 DF 05/06/15_5/6	5/7/15 10:03	3283634	13.823
T506_057.d	PER_CCV 0.0004 ug/ml 04/20/15	5/7/15 10:41	4358642	13.721
T506_058.d	PER_CCV 0.002 ug/ml 04/20/15	5/7/15 11:00	5207137	13.864
T506_068.d	AZ15999_W01 1052.6 DF 05/05/15	5/7/15 14:14	4123823	12.407
T506_070.d	PER_CCV 0.0004 ug/ml 04/20/15	5/7/15 14:51	4367215	13.467
T506_071.d	PER_CCV 0.002 ug/ml 04/20/15	5/7/15 15:15	4602926	13.671

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.** **76338**

Lab File ID (Standard): T0507_003.d

Instrument ID: Agilent 6460 Triple Quad LC/MS

	PER_IS			
	12_HOUR_STD AVERAGE	4431200		
	UPPER LIMIT RESPONSE	6646800		
	LOWER LIMIT RESPONSE	2215600		
Data File ID:	Sample ID:	Analysis Date and Time	IS AREA COUNT #	IS R.T. #
T507_002.d	PER_CCV 0.0004 ug/ml 05/07/15	5/7/15 20:21	3778394	14.638
T507_003.d	PER_CCV 0.002 ug/ml 05/07/15	5/7/15 20:40	4431200	14.649
T507_059.d	PER_CCV 0.0004 ug/ml 05/07/15	5/8/15 14:07	3275330	13.436
T507_060.d	PER_CCV 0.002 ug/ml 05/07/15	5/8/15 14:26	3677642	13.507
T507_063.d	AZ15994_W01 1052.6 DF 05/06/15	5/8/15 15:26	3430214	12.224
T507_070.d	PER_CCV 0.0004 ug/ml 05/07/15	5/8/15 17:42	3519327	13.681
T507_071.d	PER_CCV 0.002 ug/ml 05/07/15	5/8/15 18:00	4130110	13.803

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\150506
Instrument Name : TQ (Agilent 6460 Triple Quad LC/MS)
Method File : 6460_ESI_PER_N_NEWER_K'_COLUMN.m
Operator : BA

Date Aquired: 05/06/15 16:11 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 04/20/15 Data File ID: T506_001.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.177	13808	1.4
2)	Perchlorate_85	14.071	9639	

Date Aquired: 05/06/15 16:29 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 04/20/15 Data File ID: T506_002.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.187	384853	3.1
2)	Perchlorate_85	14.143	124870	

Date Aquired: 05/06/15 16:48 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 04/20/15 Data File ID: T506_003.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.156	2006264	3.2
2)	Perchlorate_85	14.163	627706	

Date Aquired: 05/06/15 17:06 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 04/20/15 Data File ID: T506_004.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.105	25112	8.8
2)	Perchlorate_85	14.143	2841	

Date Aquired: 05/06/15 18:07 Vial Number: NA
Sample Name: 150506WA_LCS-1 1052.6 DF 05/06/15 Data File ID: T506_005.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.003	462792	3.1
2)	Perchlorate_85	13.959	148512	

Date Aquired: 05/06/15 18:28 Vial Number: NA
Sample Name: 150506WA_ICSA 1052.6 DF 05/06/15 Data File ID: T506_006.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.75	484892	3.4
2)	Perchlorate_85	12.726	140765	

Date Aquired: 05/06/15 18:47 Vial Number: NA
Sample Name: 150506WBLKA 1052.6 DF 05/06/15 Data File ID: T506_007.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.095	6524	0.8
2)	Perchlorate_85	13.959	8477	

Date Aquired: 05/06/15 19:07 Vial Number: NA
Sample Name: AZ15992_W01 1052.6 DF 05/06/15 Data File ID: T506_008.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.311	1888012	3.3
2)	Perchlorate_85	13.348	575196	

Date Aquired: 05/06/15 19:33 Vial Number: NA
Sample Name: AZ15993_W01 1052.6 DF 05/06/15 Data File ID: T506_009.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.781	51091	32.8
2)	Perchlorate_85	14.234	1556	

Date Aquired: 05/06/15 19:58 Vial Number: NA
Sample Name: AZ15998_W01 1052.6 DF 05/06/15 Data File ID: T506_010.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.169	115600238	3.1
2)	Perchlorate_85	12.156	37005126	

Date Aquired: 05/06/15 20:17 Vial Number: NA
Sample Name: AZ15995_W01 1052631.6 DF 05/06/15_5/06 Data File ID: T506_011.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.749	363357	3.0
2)	Perchlorate_85	13.745	122833	

Date Aquired: 05/06/15 20:36 Vial Number: NA
Sample Name: AZ15995_W01 105263.2 DF 05/06/15_5/06 Data File ID: T506_012.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.82	3457181	3.3
2)	Perchlorate_85	13.817	1052622	

Date Aquired: 05/06/15 20:54 Vial Number: NA
Sample Name: AZ15996_W01 1052631.6 DF 05/06/15_5/06 Data File ID: T506_013.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.871	242995	2.9
2)	Perchlorate_85	13.847	84546	

Date Aquired: 05/06/15 21:13 Vial Number: NA
Sample Name: AZ15996_W01 1052631.6 DF 05/06/15 Data File ID: T506_014.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.871	2270504	3.3
2)	Perchlorate_85	13.857	683495	

Date Aquired: 05/06/15 21:32 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 04/20/15 Data File ID: T506_015.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.759	31804	15.6
2)	Perchlorate_85	14.183	2043	

Date Aquired: 05/06/15 21:50 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 04/20/15 Data File ID: T506_016.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.698	418944	3.1
2)	Perchlorate_85	13.715	136101	

Date Aquired: 05/06/15 22:09 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 04/20/15 Data File ID: T506_017.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.942	2321135	3.3
2)	Perchlorate_85	13.929	711639	

Date Aquired: 05/06/15 22:27 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 04/20/15 Data File ID: T506_018.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.901	27431	13.5
2)	Perchlorate_85	14.194	2036	

Date Aquired: 05/06/15 22:46 Vial Number: NA
Sample Name: AZ15997_W01 1052631.6 DF 05/06/15_5/06 Data File ID: T506_019.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.085	591428	3.0
2)	Perchlorate_85	14.092	199450	

Date Aquired: 05/06/15 23:05 Vial Number: NA
Sample Name: AZ15997_W01 105263.2 DF 05/06/15_5/06 Data File ID: T506_020.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.115	5334695	3.4
2)	Perchlorate_85	14.102	1583648	

Date Aquired: 05/06/15 23:23 Vial Number: NA
Sample Name: AZ15999_W01 1052631.6 DF 05/06/15_5/06 Data File ID: T506_021.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.115	41134	3.2
2)	Perchlorate_85	14.132	12724	

Date Aquired: 05/06/15 23:42 Vial Number: NA
Sample Name: AZ15999_W01 105263.2 DF 05/06/15_5/06 Data File ID: T506_022.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.217	29242	1.5
2)	Perchlorate_85	14.122	19168	

Date Aquired: 05/07/15 0:01 Vial Number: NA
Sample Name: 150506WA_LCS-1 1052.6 DF 05/06/15 Data File ID: T506_023.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.217	559452	3.0
2)	Perchlorate_85	14.214	188608	

Date Aquired: 05/07/15 0:19 Vial Number: NA
Sample Name: 150506WA_ICSA 1052.6 DF 05/06/15 Data File ID: T506_024.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.025	496792	3.0
2)	Perchlorate_85	12.94	164477	

Date Aquired: 05/07/15 0:38 Vial Number: NA
Sample Name: 150506WBLKA 1052.6 DF 05/06/15 Data File ID: T506_025.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.187	14848	2.3
2)	Perchlorate_85	14.163	6359	

Date Aquired: 05/07/15 0:56 Vial Number: NA
Sample Name: AZ15992_W01 1052.6 DF 05/06/15 Data File ID: T506_026.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.565	1834149	3.3
2)	Perchlorate_85	13.582	559415	

Date Aquired: 05/07/15 1:15 Vial Number: NA
Sample Name: AZ15993_W01 1052.6 DF 05/06/15 Data File ID: T506_027.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.811	46691	42.5
2)	Perchlorate_85	14.224	1099	

Date Aquired: 05/07/15 1:34 Vial Number: NA
Sample Name: AZ15998_W01 1052.6 DF 05/06/15 Data File ID: T506_028.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.567	123524496	3.2
2)	Perchlorate_85	12.584	39018436	

Date Aquired: 05/07/15 1:52 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 04/20/15 Data File ID: T506_029.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.217	29150	4.6
2)	Perchlorate_85	14.245	6276	

Date Aquired: 05/07/15 2:11 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 04/20/15 Data File ID: T506_030.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.156	445917	3.2
2)	Perchlorate_85	14.163	139136	

Date Aquired: 05/07/15 2:30 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 04/20/15 Data File ID: T506_031.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.391	2237183	3.2
2)	Perchlorate_85	14.387	688762	

Date Aquired: 05/07/15 2:48 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 04/20/15 Data File ID: T506_032.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.309	35122	2.4
2)	Perchlorate_85	14.306	14921	

Date Aquired: 05/07/15 3:07 Vial Number: NA
Sample Name: 150506WA_LCS-1 1052.6 DF 05/06/15 Data File ID: T506_033.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.472	555472	3.0
2)	Perchlorate_85	14.479	185507	

Date Aquired: 05/07/15 3:25 Vial Number: NA
Sample Name: 150506WA_ICSA 1052.6 DF 05/06/15 Data File ID: T506_034.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.249	491414	2.9
2)	Perchlorate_85	13.185	167898	

Date Aquired: 05/07/15 3:44 Vial Number: NA
Sample Name: 150506WBLKA 1052.6 DF 05/06/15 Data File ID: T506_035.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.401	4454	2.0
2)	Perchlorate_85	14.092	2222	

Date Aquired: 05/07/15 4:03 Vial Number: NA
Sample Name: AZ15992_W01 1052.6 DF 05/06/15 Data File ID: T506_036.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.779	1830667	3.3
2)	Perchlorate_85	13.796	552981	

Date Aquired: 05/07/15 4:21 Vial Number: NA
Sample Name: AZ15993_W01 1052.6 DF 05/06/15 Data File ID: T506_037.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.056	53614	27.7
2)	Perchlorate_85	14.224	1938	

Date Aquired: 05/07/15 4:40 Vial Number: NA
Sample Name: AZ15998_W01 1052.6 DF 05/06/15 Data File ID: T506_038.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.811	123822962	3.2
2)	Perchlorate_85	12.828	38603148	

Date Aquired: 05/07/15 4:58 Vial Number: NA
Sample Name: AZ15995_W01 1052631.6 DF 05/06/15_5/06 Data File ID: T506_039.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.462	366892	3.4
2)	Perchlorate_85	14.55	106417	

Date Aquired: 05/07/15 5:17 Vial Number: NA
Sample Name: AZ15995_W01 105263.2 DF 05/06/15_5/06 Data File ID: T506_040.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.554	4282203	3.4
2)	Perchlorate_85	14.53	1244226	

Date Aquired: 05/07/15 5:36 Vial Number: NA
Sample Name: AZ15996_W01 1052631.6 DF 05/06/15_5/06 Data File ID: T506_041.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.574	232839	2.8
2)	Perchlorate_85	14.52	84060	

Date Aquired: 05/07/15 5:54 Vial Number: NA
Sample Name: AZ15996_W01 1052631.6 DF 05/06/15 Data File ID: T506_042.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.554	2264081	3.4
2)	Perchlorate_85	14.53	675830	

Date Aquired: 05/07/15 6:13 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 04/20/15 Data File ID: T506_043.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.472	24875	15.2
2)	Perchlorate_85	14.102	1633	

Date Aquired: 05/07/15 6:32 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 04/20/15 Data File ID: T506_044.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.38	440786	3.0
2)	Perchlorate_85	14.346	147844	

Date Aquired: 05/07/15 6:50 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 04/20/15 Data File ID: T506_045.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.554	2309267	3.4
2)	Perchlorate_85	14.55	671122	

Date Aquired: 05/07/15 7:09 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 04/20/15 Data File ID: T506_046.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.36	24699	1.4
2)	Perchlorate_85	14.285	18059	

Date Aquired: 05/07/15 7:27 Vial Number: NA
Sample Name: AZ15997_W01 1052631.6 DF 05/06/15_5/06 Data File ID: T506_047.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.329	561962	3.3
2)	Perchlorate_85	14.326	169187	

Date Aquired: 05/07/15 7:46 Vial Number: NA
Sample Name: AZ15997_W01 105263.2 DF 05/06/15_5/06 Data File ID: T506_048.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.126	5334009	3.4
2)	Perchlorate_85	14.132	1558274	

Date Aquired: 05/07/15 8:05 Vial Number: NA
Sample Name: AZ15999_W01 1052631.6 DF 05/06/15_5/06 Data File ID: T506_049.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.044	30476	1.4
2)	Perchlorate_85	13.99	21394	

Date Aquired: 05/07/15 8:24 Vial Number: NA
Sample Name: AZ15999_W01 105263.2 DF 05/06/15_5/06 Data File ID: T506_050.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.952	41381	1.9
2)	Perchlorate_85	13.949	21514	

Date Aquired: 05/07/15 8:42 Vial Number: NA
Sample Name: 150506WA_LCS-1 1052.6 DF 05/06/15 Data File ID: T506_051.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.993	576828	3.1
2)	Perchlorate_85	14.031	187216	

Date Aquired: 05/07/15 9:01 Vial Number: NA
Sample Name: 150506WA_ICSA 1052.6 DF 05/06/15 Data File ID: T506_052.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.75	476870	3.2
2)	Perchlorate_85	12.757	147971	

Date Aquired: 05/07/15 9:20 Vial Number: NA
Sample Name: 150506WBLKA 1052.6 DF 05/06/15 Data File ID: T506_053.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.299	1175	0.9
2)	Perchlorate_85	14.112	1285	

Date Aquired: 05/07/15 9:43 Vial Number: NA
Sample Name: AZ15998_W01 1052631.6 DF 05/06/15_5/6 Data File ID: T506_054.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.912	193398	2.7
2)	Perchlorate_85	13.878	71718	

Date Aquired: 05/07/15 10:03 Vial Number: NA
Sample Name: AZ15998_W01 105263.2 DF 05/06/15_5/6 Data File ID: T506_055.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.83	1427673	3.1
2)	Perchlorate_85	13.817	454936	

Date Aquired: 05/07/15 10:23 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 04/20/15 Data File ID: T506_056.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.81	31948	17.0
2)	Perchlorate_85	14.234	1879	

Date Aquired: 05/07/15 10:41 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 04/20/15 Data File ID: T506_057.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.738	459856	2.9
2)	Perchlorate_85	13.725	160646	

Date Aquired: 05/07/15 11:00 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 04/20/15 Data File ID: T506_058.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.891	2447643	3.4
2)	Perchlorate_85	13.888	725175	

Date Aquired: 05/07/15 11:19 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 04/20/15 Data File ID: T506_059.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.156	2712	3.2
2)	Perchlorate_85	14.051	839	

Date Aquired: 05/07/15 11:37 Vial Number: NA
Sample Name: AZ15935_W01 1052631.6 DF 05/05/15_5/6 Data File ID: T506_060.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.942	9609	22.8
2)	Perchlorate_85	14.336	422	

Date Aquired: 05/07/15 11:56 Vial Number: NA
Sample Name: AZ15935_W01 1052631.6 DF 05/05/15_5/6 Data File ID: T506_061.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.095	6169	1.4
2)	Perchlorate_85	14.204	4476	

Date Aquired: 05/07/15 12:15 Vial Number: NA
Sample Name: AZ15935_W01 1052631.6 DF 05/05/15_5/6 Data File ID: T506_062.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.075	3360	2.9
2)	Perchlorate_85	14.081	1148	

Date Aquired: 05/07/15 12:33 Vial Number: NA
Sample Name: AZ15935_W01 105263.2 DF 05/05/15_5/6 Data File ID: T506_063.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.555	9789316	3.4
2)	Perchlorate_85	13.562	2871792	

Date Aquired: 05/07/15 12:59 Vial Number: NA
Sample Name: AZ15935_W01 105263.2 DF 05/05/15_5/6 Data File ID: T506_064.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.463	9716597	3.4
2)	Perchlorate_85	13.47	2821372	

Date Aquired: 05/07/15 13:18 Vial Number: NA
Sample Name: AZ15935_W01 105263.2 DF 05/05/15_5/6 Data File ID: T506_065.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.402	8198297	3.4
2)	Perchlorate_85	13.399	2410969	

Date Aquired: 05/07/15 13:36 Vial Number: NA
Sample Name: AZ15999_W01 105263.2 DF 05/05/15_5/6 Data File ID: T506_066.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.392	75123	2.9
2)	Perchlorate_85	13.44	26007	

Date Aquired: 05/07/15 13:55 Vial Number: NA
Sample Name: AZ15999_W01 10526.3 DF 05/05/15_5/6 Data File ID: T506_067.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.341	94869	2.5
2)	Perchlorate_85	13.327	37330	

Date Aquired: 05/07/15 14:14 Vial Number: NA
Sample Name: AZ15999_W01 1052.6 DF 05/05/15 Data File ID: T506_068.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.475	677947	2.7
2)	Perchlorate_85	12.482	247744	

Date Aquired: 05/07/15 14:32 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 04/20/15 Data File ID: T506_069.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.463	36450	16.7
2)	Perchlorate_85	14.051	2181	

Date Aquired: 05/07/15 14:51 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 04/20/15 Data File ID: T506_070.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.474	477613	3.2
2)	Perchlorate_85	13.48	150850	

Date Aquired: 05/07/15 15:15 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 04/20/15 Data File ID: T506_071.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.688	2161686	3.3
2)	Perchlorate_85	13.674	657922	

Date Aquired: 05/07/15 15:34 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 04/20/15 Data File ID: T506_072.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.749	30316	10.6
2)	Perchlorate_85	14.234	2866	

Date Aquired: 05/07/15 15:56 Vial Number: NA
Sample Name: SYRCHK_250_ul_#1 1 DF 05/07/15 Data File ID: T506_073.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.81	41577	23.6
2)	Perchlorate_85	15.172	1761	

Date Aquired: 05/08/15 13:49 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T507_058.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.3	68146	22.1
2)	Perchlorate_85	14.693	3078	

Date Aquired: 05/08/15 14:07 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 05/07/15 Data File ID: T507_059.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.453	394379	3.1
2)	Perchlorate_85	13.44	126914	

Date Aquired: 05/08/15 14:26 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 05/07/15 Data File ID: T507_060.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.504	1714567	3.2
2)	Perchlorate_85	13.501	533485	

Date Aquired: 05/08/15 14:45 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T507_061.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.555	48116	2.5
2)	Perchlorate_85	13.562	19382	

Date Aquired: 05/08/15 15:03 Vial Number: NA
Sample Name: AZ15900_S04 9233.6 DF 05/07/15 Data File ID: T507_062.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.412	521085	3.0
2)	Perchlorate_85	13.429	172445	

Date Aquired: 05/08/15 15:26 Vial Number: NA
Sample Name: AZ15994_W01 1052.6 DF 05/06/15 Data File ID: T507_063.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.564	1083	0.3
2)	Perchlorate_85	14.795	3330	

Date Aquired: 05/08/15 15:46 Vial Number: NA
Sample Name: 150508WA_LCS-1 1052.6 DF 05/08/15 Data File ID: T507_064.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.586	536420	2.9
2)	Perchlorate_85	13.562	184442	

Date Aquired: 05/08/15 16:08 Vial Number: NA
Sample Name: 150508W_ICSA 1052.6 DF 05/08/15 Data File ID: T507_065.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.536	453499	3.0
2)	Perchlorate_85	12.523	150138	

Date Aquired: 05/08/15 16:27 Vial Number: NA
Sample Name: 150508WBLKA 1052.6 DF 05/08/15 Data File ID: T507_066.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	14.605	1021	0.1
2)	Perchlorate_85	14.703	10965	

Date Aquired: 05/08/15 16:46 Vial Number: NA
Sample Name: AZ16135_W01 1052.6 DF 05/08/15 Data File ID: T507_067.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.597	176394	2.5
2)	Perchlorate_85	12.635	69785	

Date Aquired: 05/08/15 17:04 Vial Number: NA
Sample Name: AZ16136_W01 1052.6 DF 05/08/15 Data File ID: T507_068.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	12.241	16974967	3.4
2)	Perchlorate_85	12.237	4930275	

Date Aquired: 05/08/15 17:23 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T507_069.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.637	45869	11.8
2)	Perchlorate_85	14.642	3884	

Date Aquired: 05/08/15 17:42 Vial Number: NA
Sample Name: PER_CCV 0.0004 ug/ml 05/07/15 Data File ID: T507_070.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.677	401419	3.0
2)	Perchlorate_85	13.715	134106	

Date Aquired: 05/08/15 18:00 Vial Number: NA
Sample Name: PER_CCV 0.002 ug/ml 05/07/15 Data File ID: T507_071.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.82	2003979	3.2
2)	Perchlorate_85	13.827	626958	

Date Aquired: 05/08/15 18:19 Vial Number: NA
Sample Name: PER_IS 0.005 ug/ml 05/07/15 Data File ID: T507_072.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.891	52144	12.9
2)	Perchlorate_85	14.754	4041	

Date Aquired: 05/08/15 18:37 Vial Number: NA
Sample Name: 150508WA_LCS-1 1052.6 DF 05/08/15 Data File ID: T507_073.d

#	NAME	Ret Time	Target Response	Ratio
1)	Perchlorate_83	13.901	562280	3.2
2)	Perchlorate_85	13.908	177926	

EPA METHOD 6850
Perchlorate
LC/MS

Sample Data

APPL, INC.

Perchlorate

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

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-GWB4-050515
Sample Collection Date: 05/05/15

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 76338
APPL ID: AZ15992
QCG: #6850-150506A-196713

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	2.6	0.60	0.400	0.200	ug/L	05/06/15	05/06/15

Quant Method:	QTLMFL2
Run #:	T506_008.D
Instrument:	AGIL_6460
Sequence:	TQ050615
Dilution Factor:	1
Initials:	MP

Printed: 05/07/15 5:50:19 PM
APPL-F1-SC-NoMC-REG MDLs

Data File ID: T506_008.d

Date Injected : 05/06/15

Time Injected : 19:07

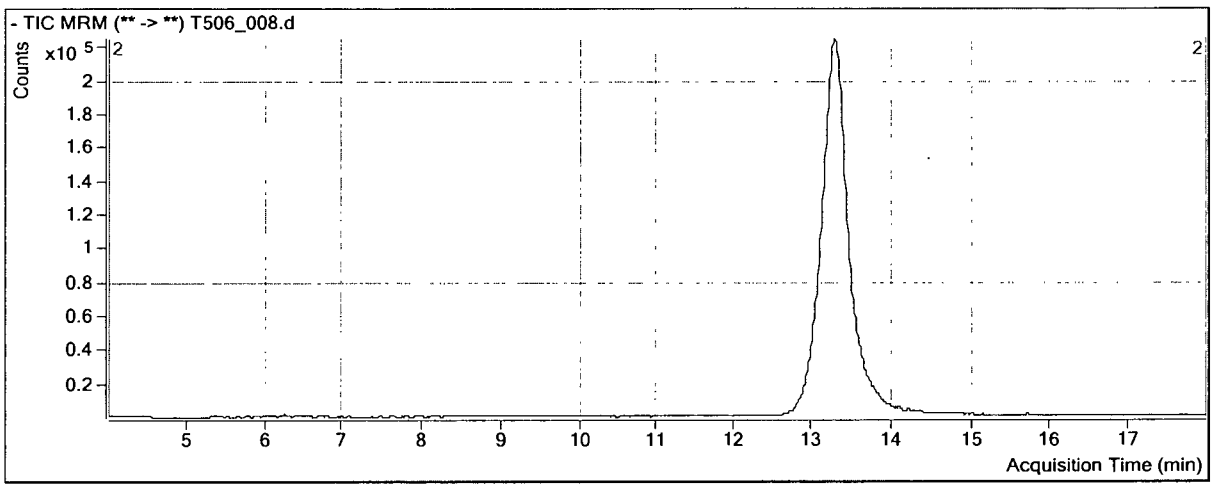
Sample ID : AZ15992_W01 1052.6 DF 05/06/15

Client ID : S67-GWB4-050515

Retention Time	Area Count Response	Compound_ID Product Ion			
13.304	2990317	PER_IS_89			
13.311	1888012	Perchlorate_83	(1888012 * 0.0050) / (1.27 * 2990317.00) *	1052.60 =	2.615953 ppb
13.348	575196	Perchlorate_85	(575196 * 0.0050) / (0.39 * 2990317.00) *	1052.60 =	2.585138 ppb

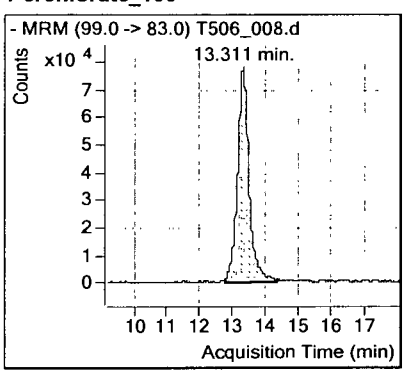
Quantitative Analysis Sample Report

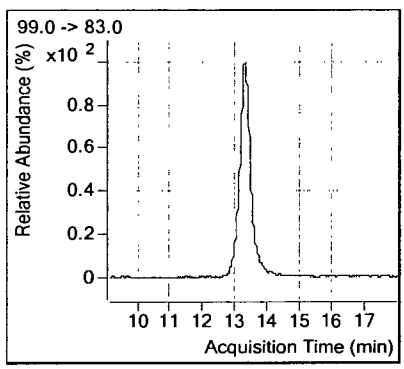
Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_008.d	**Sample Name**	AZ15992_W01 1052.6 DF 05/06/15
Sample Type	Sample	**Acq_Date**	05/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	19:07
ClientID	S67-GWB4-050515	**Inj Vol**	20

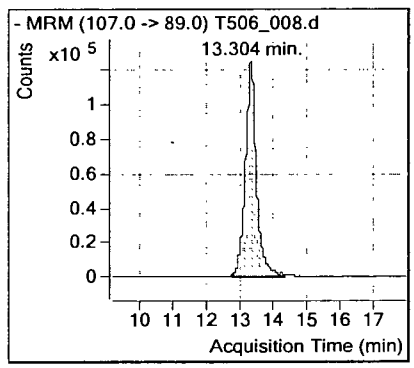


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.311	1888012	2990317
Perchlorate_102	PER_IS_108	13.348	575196	2990317

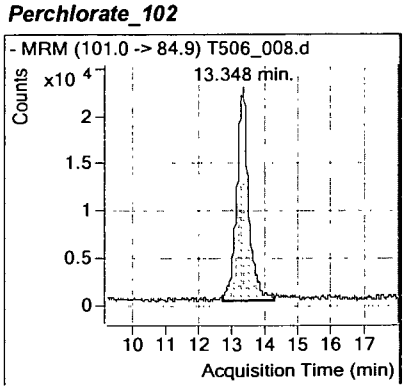
Perchlorate_100

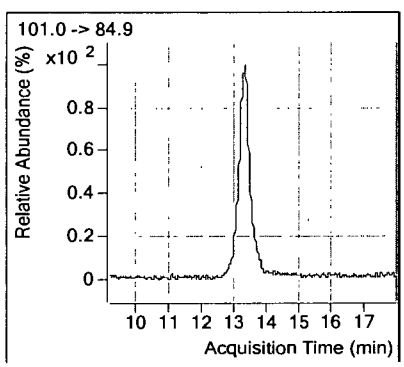


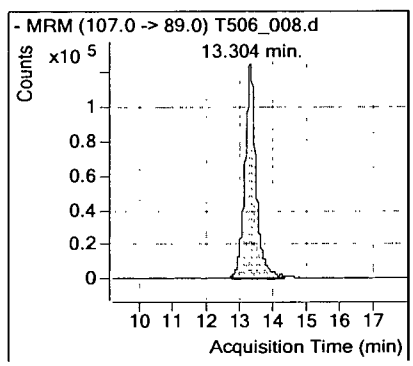




Perchlorate_102







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-GWC4-050515
Sample Collection Date: 05/05/15

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 76338
APPL ID: AZ15993
QCG: #6850-150506A-196713

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	05/06/15	05/06/15

Quant Method:	QTLMFL2
Run #:	T506_009.D
Instrument:	AGIL_6460
Sequence:	TQ050615
Dilution Factor:	1
Initials:	MP

Printed: 05/07/15 5:50:19 PM
APPL-F1-SC-NoMC-REG MDLs

Data File ID: T506_009.d

Date Injected : 05/06/15

Time Injected : 19:33

Sample ID : AZ15993_W01 1052.6 DF 05/06/15

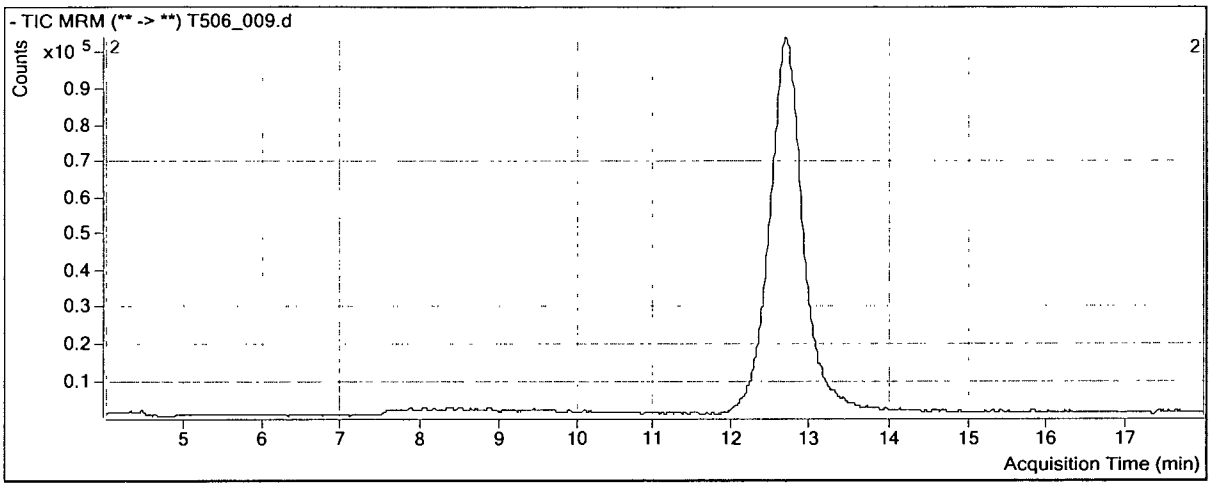
Client ID : S67-GWC4-050515

Retention Time		Area Count Response	Compound_ID Product Ion			
12.692		3058047	PER_IS_89			
12.781	*	51091	Perchlorate_83	(51091 * 0.0050) / (1.27 * 3058047.00) *	1052.60 =	0.069222 ppb
14.234		1556	Perchlorate_85	(1556 * 0.0050) / (0.39 * 3058047.00) *	1052.60 =	0.006838 ppb

* MANUAL INTEGRAION

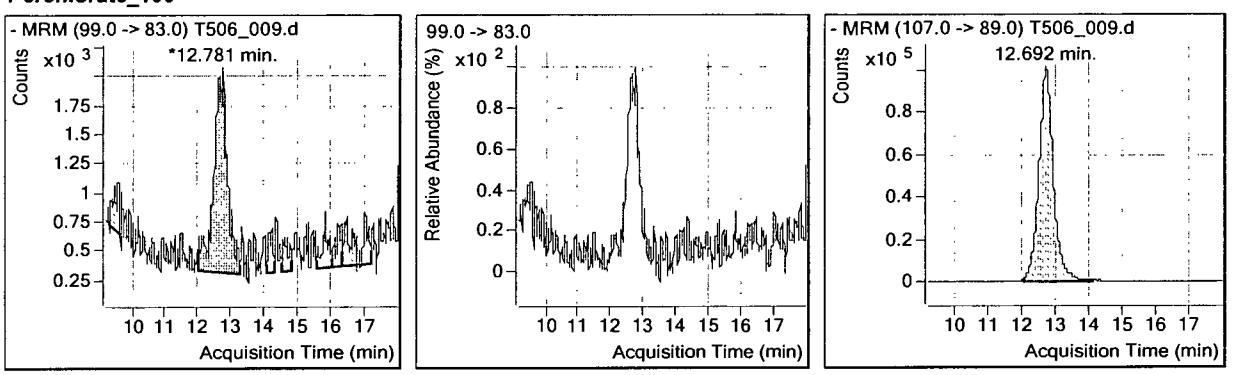
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_009.d	**Sample Name**	AZ15993_W01 1052.6 DF 05/06/15
Sample Type	Sample	**Acq_Date**	05/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	19:33
ClientID	S67-GWC4-050515	**Inj Vol**	20

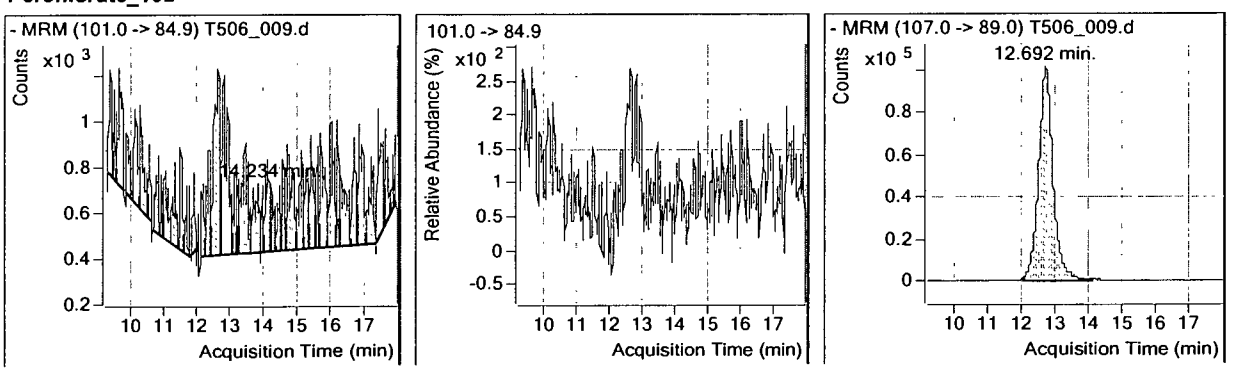


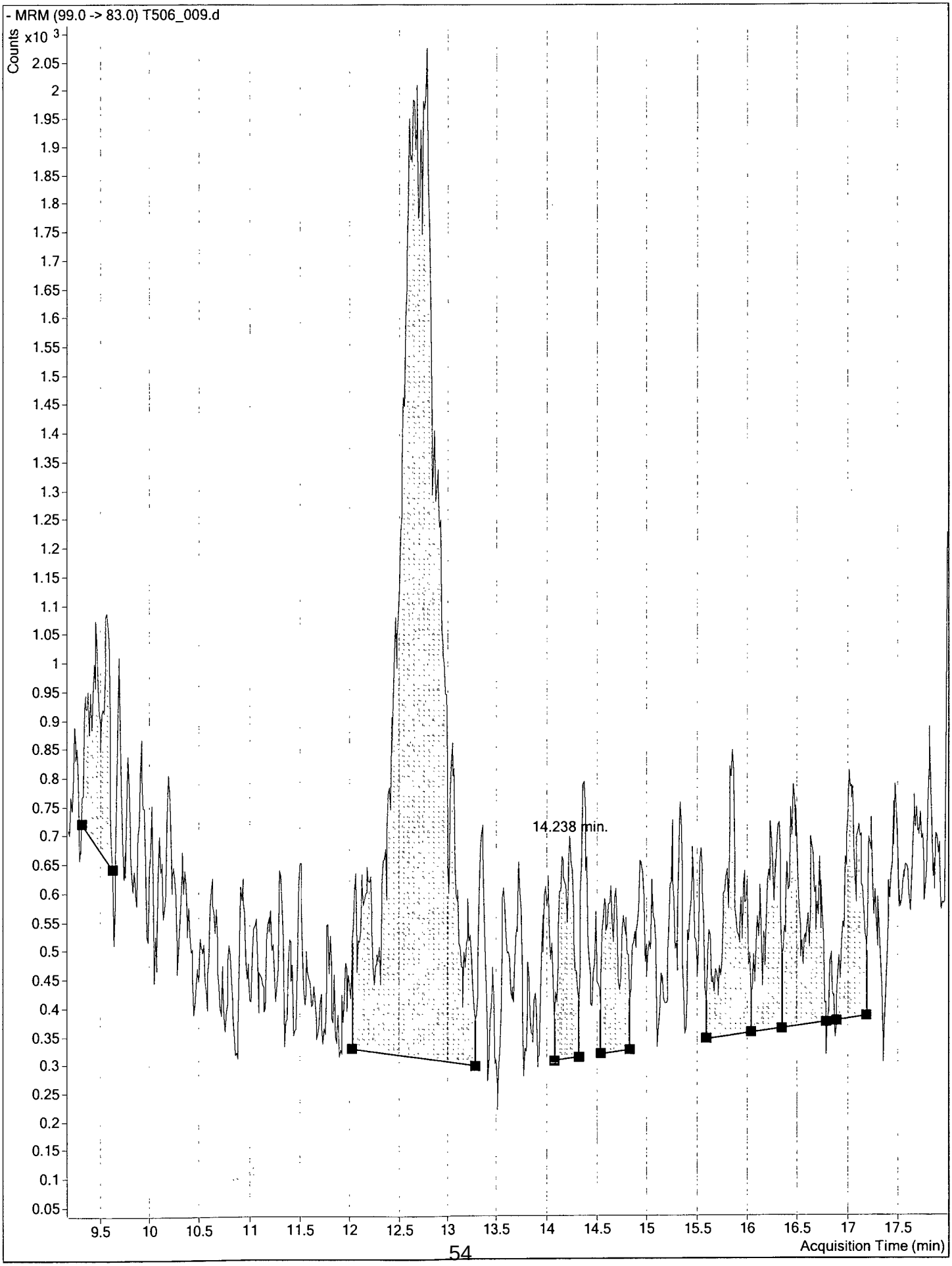
Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108	*	12.781	51091	3058047	* MANUAL INT
Perchlorate_102	PER_IS_108		14.234	1556	3058047	

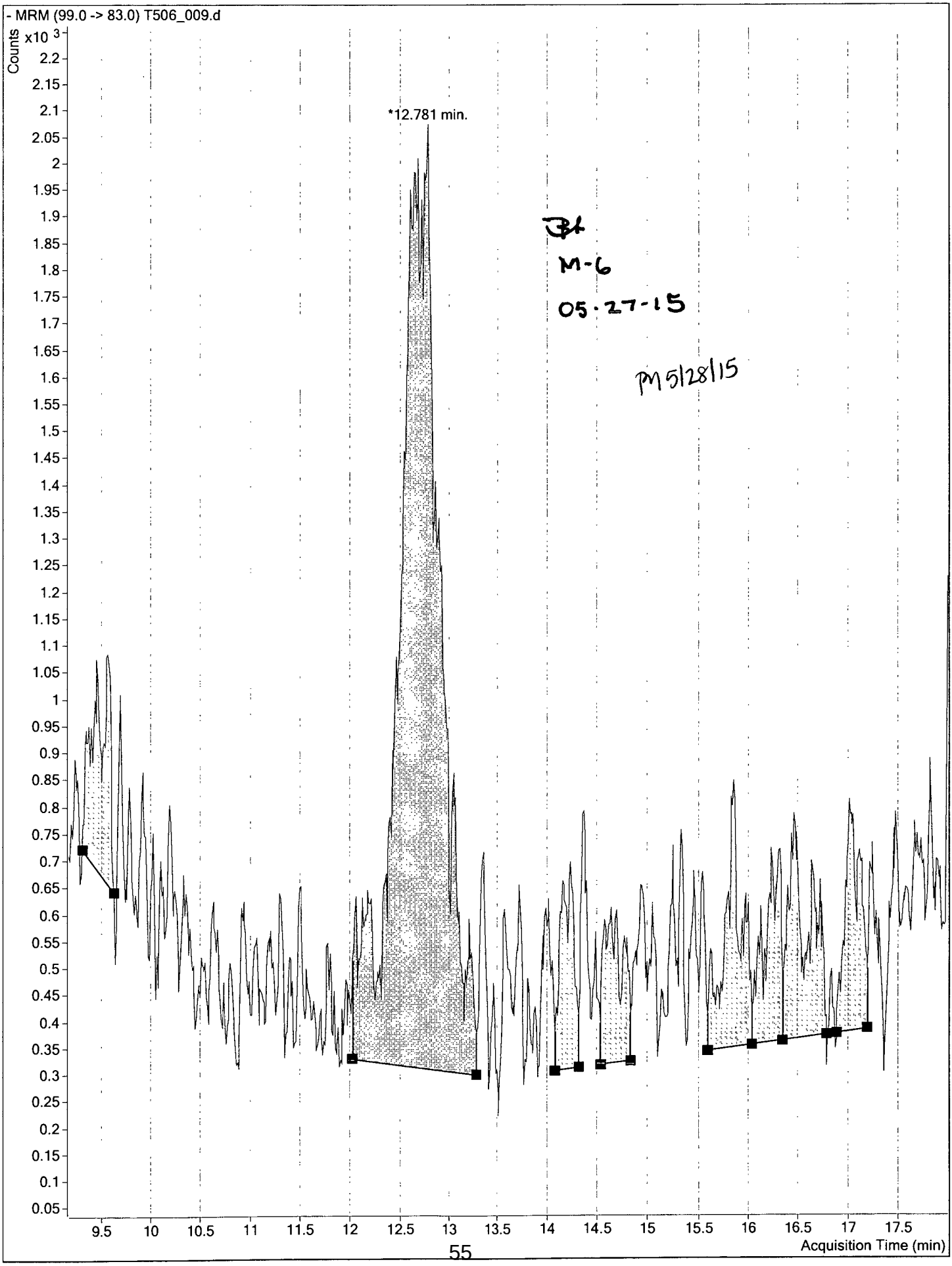
Perchlorate_100



Perchlorate_102




- MRM (99.0 -> 83.0) T506_009.d
Counts
x10 3
2.05
2
1.95
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
14.238 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)



JH
M-6
05-27-15

PM 5/28/15

Perchlorate

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

Attn: Ed Corack
Project: CTO JU11 112G02622 NSF Indian Head
Sample ID: S67-GWD4-050515
Sample Collection Date: 05/05/15

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 76338
APPL ID: AZ15994
QCG: #6850-150506A-196713

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	05/06/15	05/08/15

Quant Method:	QTLMFL2
Run #:	T507_063.D
Instrument:	AGIL_6460
Sequence:	TQ050715
Dilution Factor:	1
Initials:	MP

Printed: 05/11/15 1:20:51 PM
APPL-F1-SC-NoMC-REG MDLs

Data File ID: T507_063.d

Date Injected : 05/08/15

Time Injected : 15:26

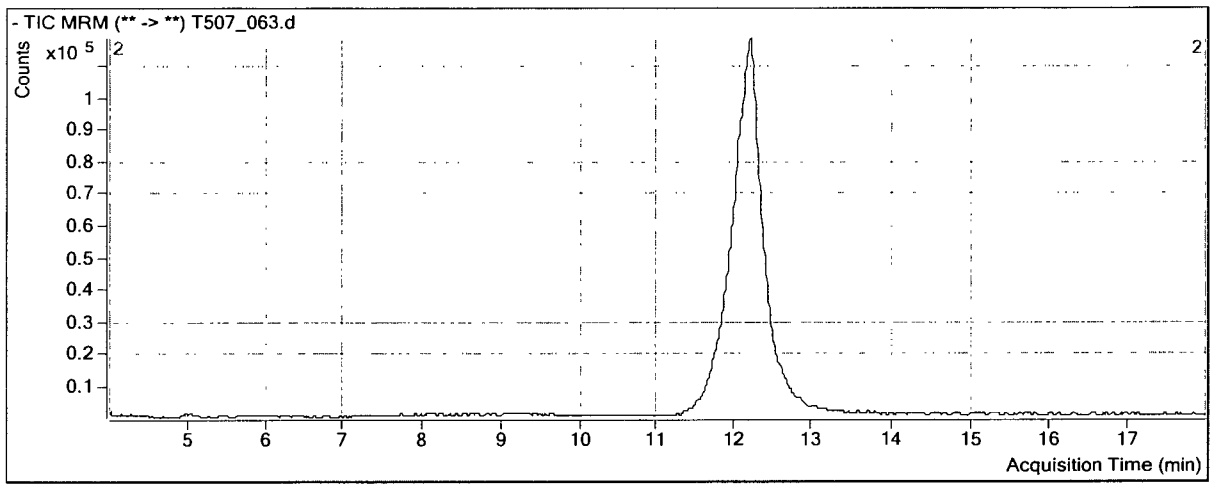
Sample ID : AZ15994_W01 1052.6 DF 05/06/15

Client ID : S67-GWD4-050515

Retention Time	Area Count Response	Compound_ID Product Ion			
12.224	3430214	PER_IS_89			
14.564	1083	Perchlorate_83	(1083 * 0.0050) / (1.27 * 3430214.00) *	1052.60 =	0.001308 ppb
14.795	3330	Perchlorate_85	(3330 * 0.0050) / (0.39 * 3430214.00) *	1052.60 =	0.013047 ppb

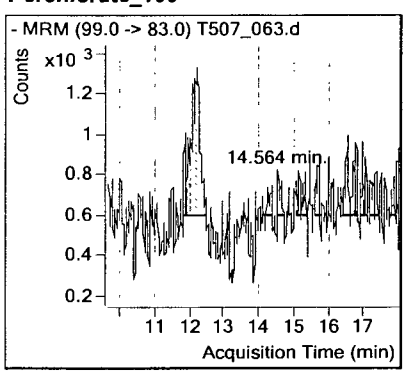
Quantitative Analysis Sample Report

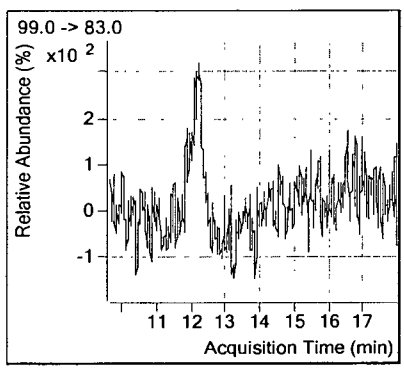
Batch Data Path	D:\MassHunter\Data\150507\QuantResults\150507_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T507_063.d	**Sample Name**	AZ15994_W01 1052.6 DF 05/06/15
Sample Type	Sample	**Acq_Date**	05/08/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	15:26
ClientID	S67-GWD4-050515	**Inj Vol**	20

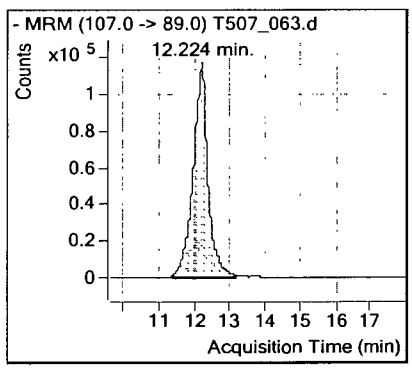


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.564	1083	3430214
Perchlorate_102	PER_IS_108	14.795	3330	3430214

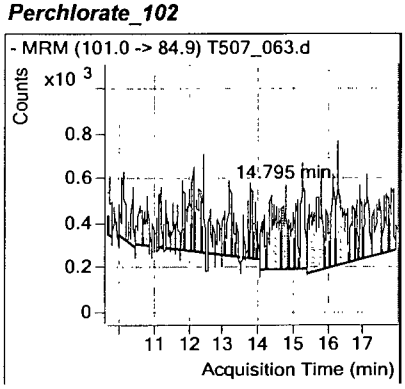
Perchlorate_100

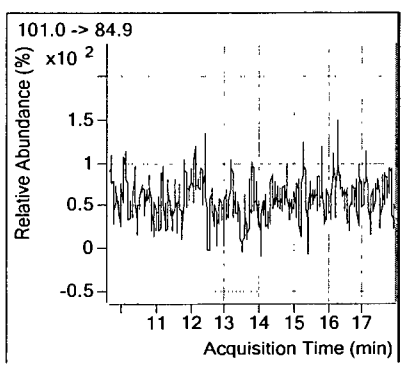


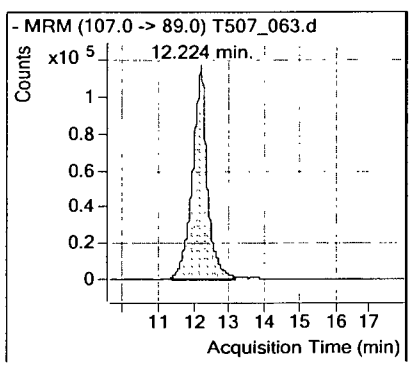




Perchlorate_102







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-GWE4-050515
Sample Collection Date: 05/05/15

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 76338
APPL ID: AZ15995
QCG: #6850-150506A-196713

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	470	60.00	40.000	20.000	ug/L	05/06/15	05/06/15

Quant Method:	QTLMFL2
Run #:	T506_012.D
Instrument:	AGIL_6460
Sequence:	TQ050615
Dilution Factor:	100
Initials:	MP

Printed: 05/07/15 5:50:19 PM
APPL-F1-SC-NoMC-REG MDLs

Data File ID: T506_012.d

Date Injected : 05/06/15

Time Injected : 20:36

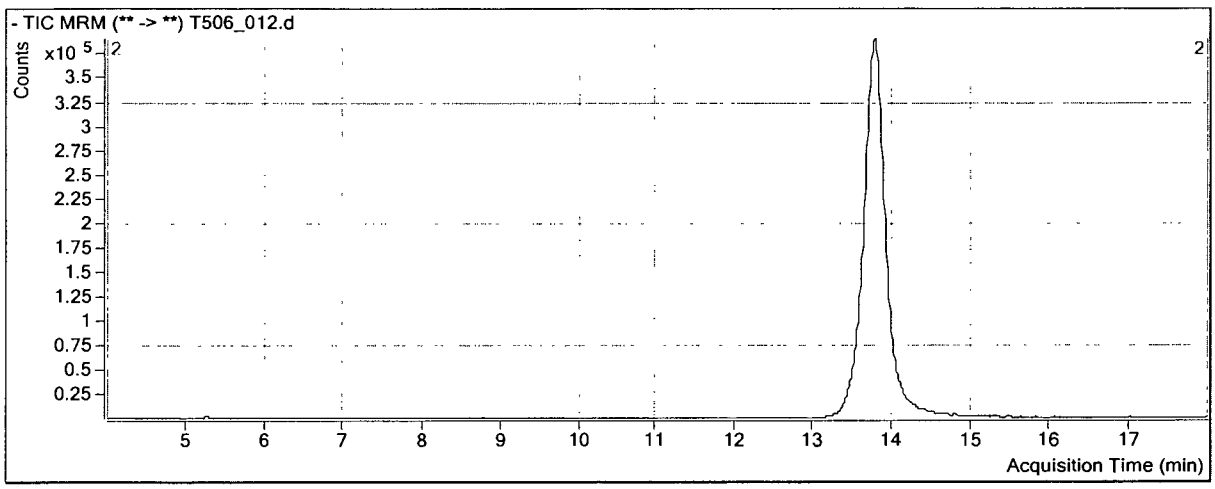
Sample ID : AZ15995_W01 105263.2 DF 05/06/15_5/06

Client ID : S67-GWE4-050515

Retention Time	Area Count Response	Compound_ID Product Ion		
13.823	3038715	PER_IS_89		
13.82	3457181	Perchlorate_83	(3457181 * 0.0050) / (1.27 * 3038715.00) * 105263.20 =	471.397974 ppb
13.817	1052622	Perchlorate_85	(1052622 * 0.0050) / (0.39 * 3038715.00) * 105263.20 =	465.565529 ppb

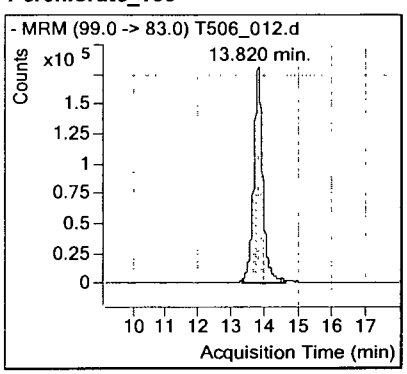
Quantitative Analysis Sample Report

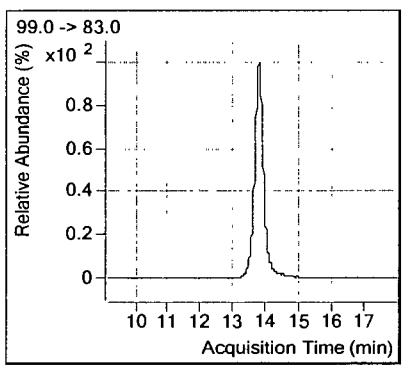
Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_012.d	**Sample Name**	AZ15995_W01 105263.2 DF 05/06/15_5/06
Sample Type	Sample	**Acq_Date**	05/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	20:36
ClientID	S67-GWE4-050515	**Inj Vol**	20

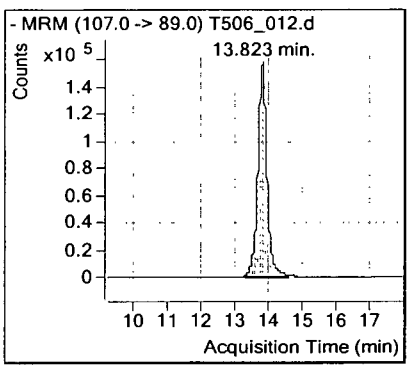


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.820	3457181	3038715
Perchlorate_102	PER_IS_108	13.817	1052622	3038715

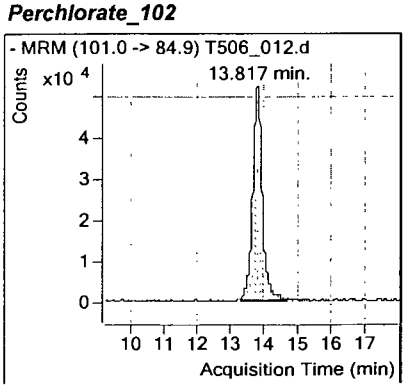
Perchlorate_100

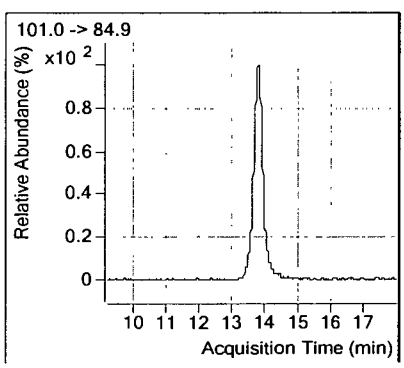


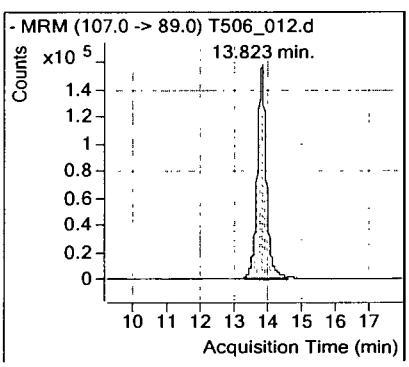




Perchlorate_102







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-GWF5-050515
Sample Collection Date: 05/05/15

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 76338
APPL ID: AZ15996
QCG: #6850-150506A-196713

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	2400	600.00	400.000	200.000	ug/L	05/06/15	05/06/15

Quant Method:	QTLMFL2
Run #:	T506_014.D
Instrument:	AGIL_6460
Sequence:	TQ050615
Dilution Factor:	1000
Initials:	MP

Printed: 05/07/15 5:50:19 PM
APPL-F1-SC-NoMC-REG MDLs

Data File ID: T506_014.d

Date Injected : 05/06/15

Time Injected : 21:13

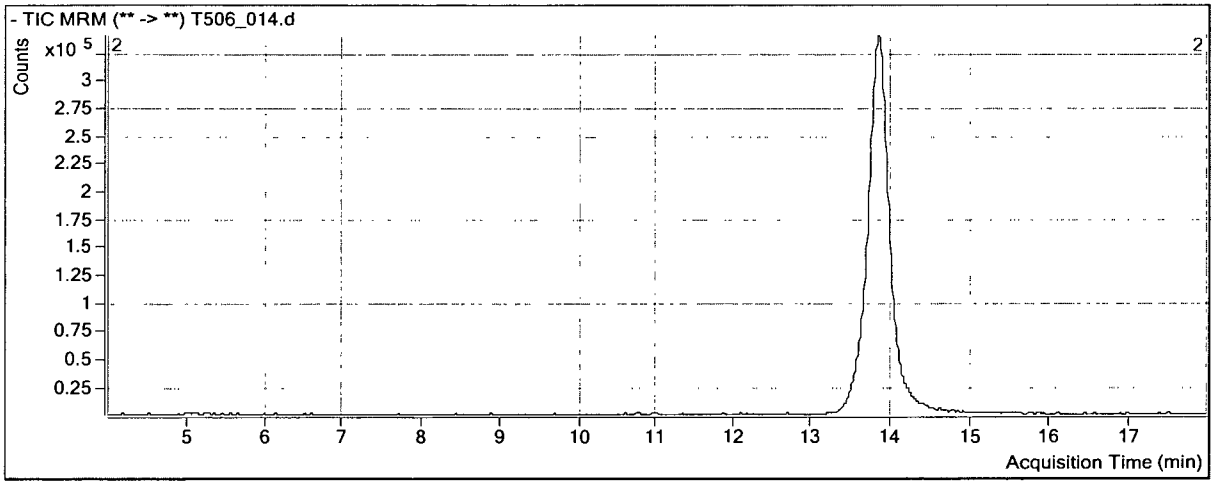
Sample ID : AZ15996_W01 1052631.6 DF 05/06/15

Client ID : S67-GWF5-050515

Retention Time	Area Count Response	Compound_ID Product Ion		
13.864	3857922	PER_IS_89		
13.871	2270504	Perchlorate_83	(2270504 * 0.0050) / (1.27 * 3857922.00) * 1052631.60 =	2438.508241 ppb
13.857	683495	Perchlorate_85	(683495 * 0.0050) / (0.39 * 3857922.00) * 1052631.60 =	2381.113398 ppb

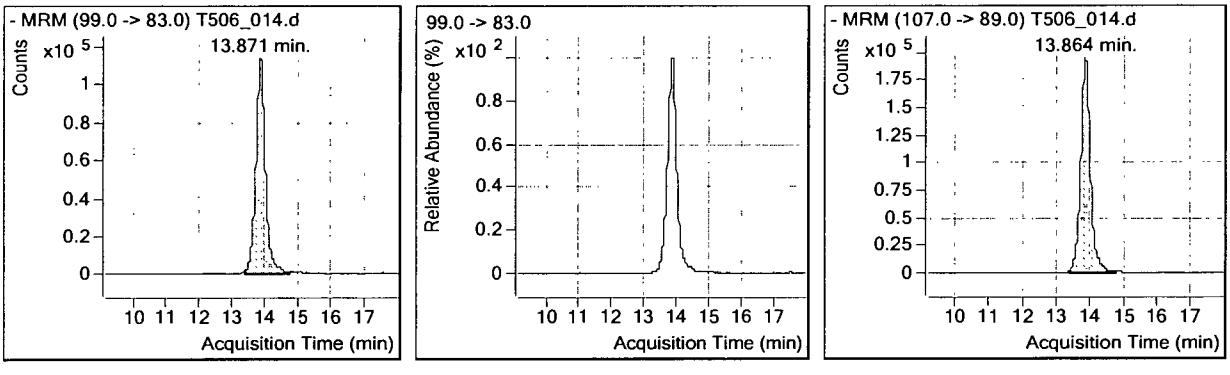
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_014.d	**Sample Name**	AZ15996_W01 1052631.6 DF 05/06/15
Sample Type	Sample	**Acq_Date**	05/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	21:13
ClientID	S67-GWF5-050515	**Inj Vol**	20

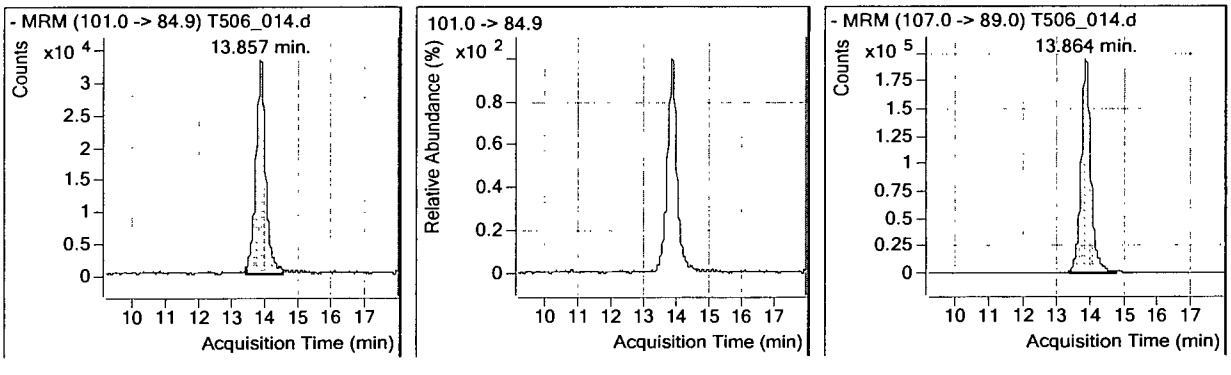


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.871	2270504	3857922
Perchlorate_102	PER_IS_108	13.857	683495	3857922

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-GWG4-050515
Sample Collection Date: 05/05/15

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 76338
APPL ID: AZ15997
QCG: #6850-150506A-196713

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	560	60.00	40.000	20.000	ug/L	05/06/15	05/06/15

Quant Method:	QTLMFL2
Run #:	T506_020.D
Instrument:	AGIL_6460
Sequence:	TQ050615
Dilution Factor:	100
Initials:	MP

Printed: 05/07/15 5:50:19 PM
APPL-F1-SC-NoMC-REG MDLs

Data File ID: T506_020.d

Date Injected : 05/06/15

Time Injected : 23:05

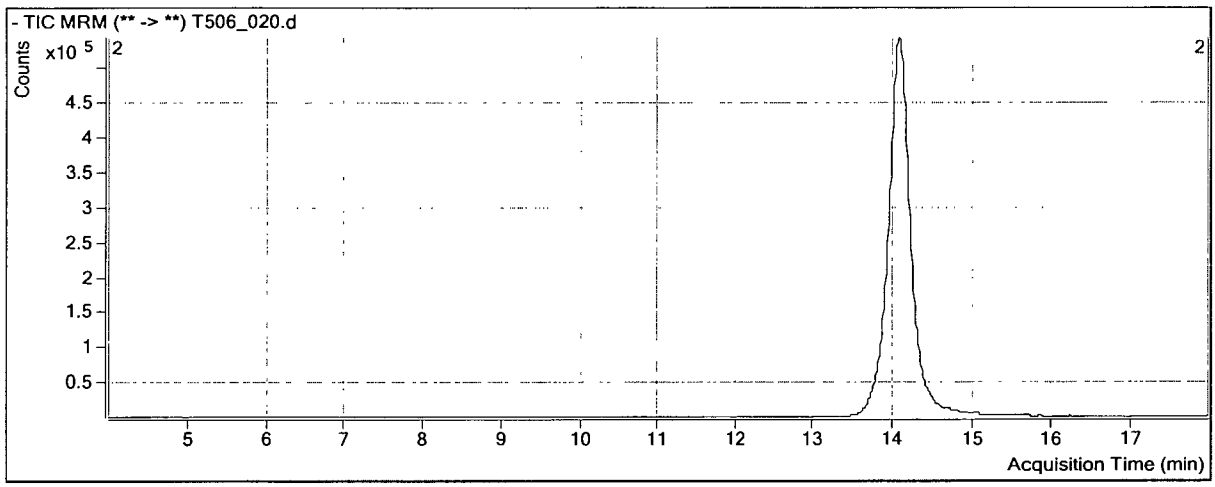
Sample ID : AZ15997_W01 105263.2 DF 05/06/15_5/06

Client ID : S67-GWG4-050515

Retention Time	Area Count Response	Compound_ID Product Ion		
14.098	3963939	PER_IS_89		
14.115	5334695	Perchlorate_83	(5334695 * 0.0050) / (1.27 * 3963939.00) * 105263.20 =	557.619813 ppb
14.102	1583648	Perchlorate_85	(1583648 * 0.0050) / (0.39 * 3963939.00) * 105263.20 =	536.945292 ppb

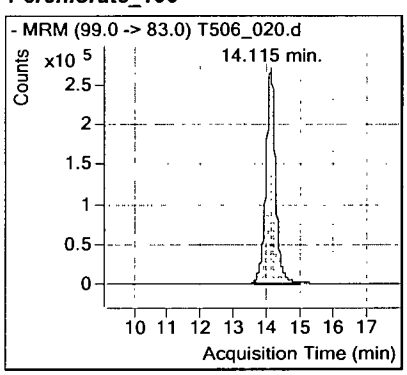
Quantitative Analysis Sample Report

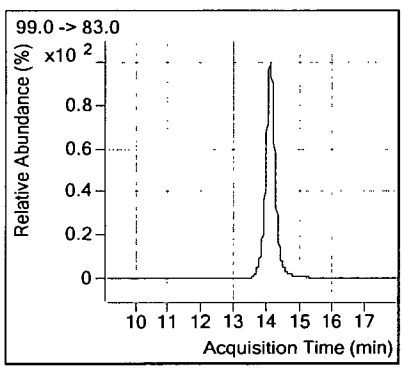
Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_020.d	**Sample Name**	AZ15997_W01 105263.2 DF 05/06/15_5/06
Sample Type	Sample	**Acq_Date**	05/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	23:05
ClientID	S67-GWG4-050515	**Inj Vol**	20

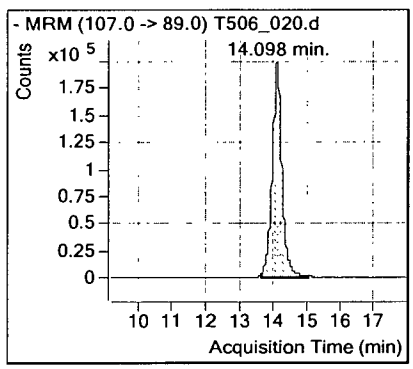


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.115	5334695	3963939
Perchlorate_102	PER_IS_108	14.102	1583648	3963939

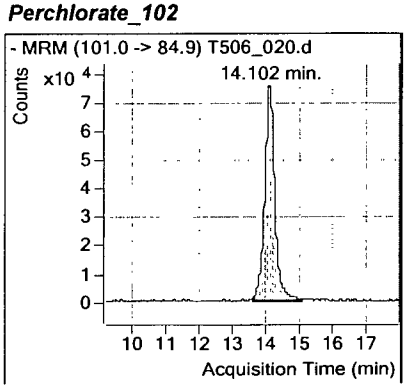
Perchlorate_100

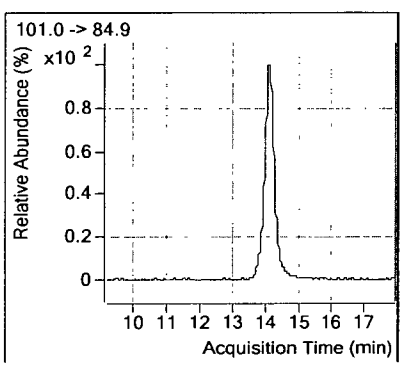


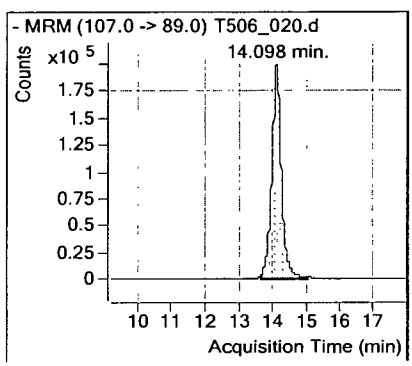




Perchlorate_102







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-GWG2-050515
Sample Collection Date: 05/05/15

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 76338
APPL ID: AZ15998
QCG: #6850-150506A-196713

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	180	60.00	40.000	20.000	ug/L	05/06/15	05/07/15

Quant Method:	QTLMFL2
Run #:	T506_055.D
Instrument:	AGIL_6460
Sequence:	TQ050615
Dilution Factor:	100
Initials:	MP

Printed: 05/07/15 5:50:19 PM
APPL-F1-SC-NoMC-REG MDLs

Data File ID: T506_055.d

Date Injected : 05/07/15

Time Injected : 10:03

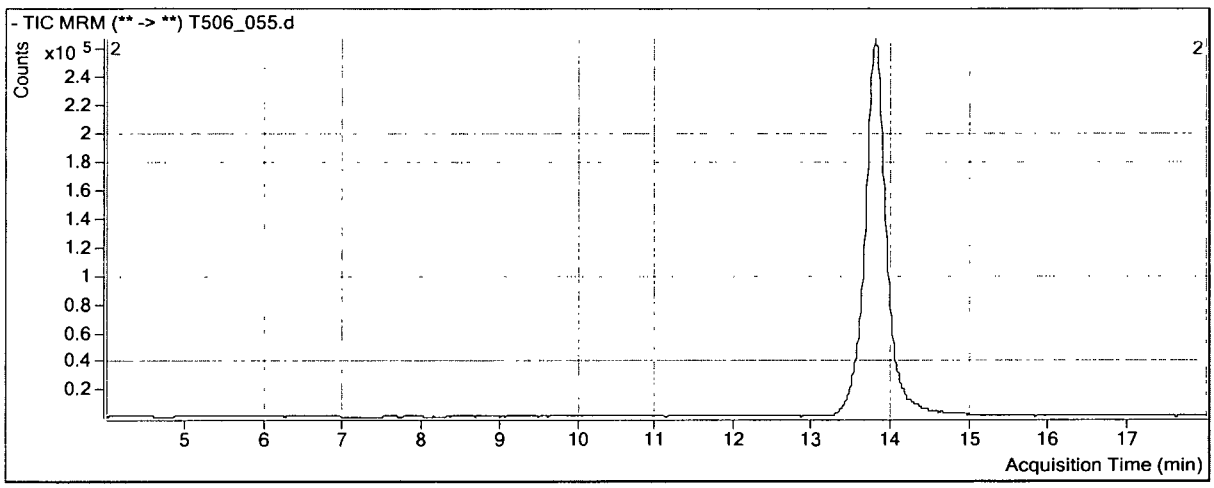
Sample ID : AZ15998_W01 105263.2 DF 05/06/15_5/6

Client ID : S67-GWG2-050515

Retention Time	Area Count Response	Compound_ID Product Ion		
13.823	3283634	PER_IS_89		
13.83	1427673	Perchlorate_83	(1427673 * 0.0050) / (1.27 * 3283634.00) * 105263.20 =	180.148050 ppb
13.817	454936	Perchlorate_85	(454936 * 0.0050) / (0.39 * 3283634.00) * 105263.20 =	186.206101 ppb

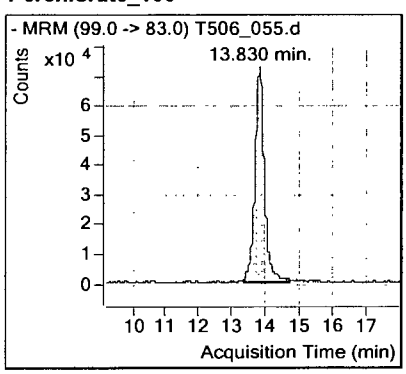
Quantitative Analysis Sample Report

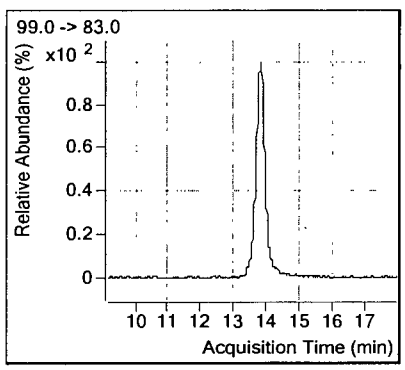
Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_055.d	**Sample Name**	AZ15998_W01 105263.2 DF 05/06/15_5/6
Sample Type	Sample	**Acq_Date**	05/07/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	10:03
ClientID	S67-GWG2-050515	**Inj Vol**	20

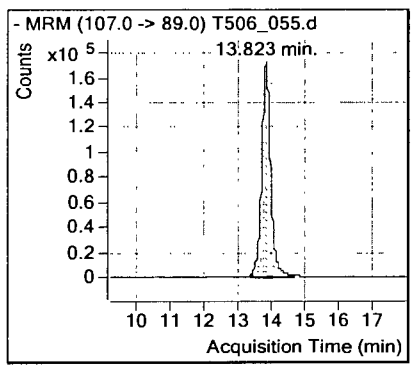


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.830	1427673	3283634
Perchlorate_102	PER_IS_108	13.817	454936	3283634

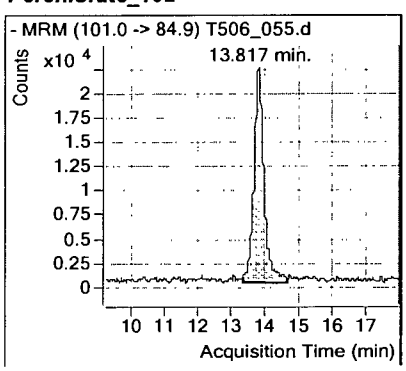
Perchlorate_100

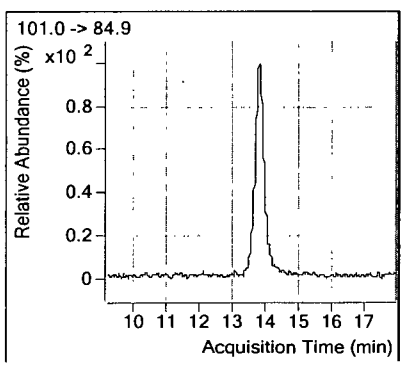


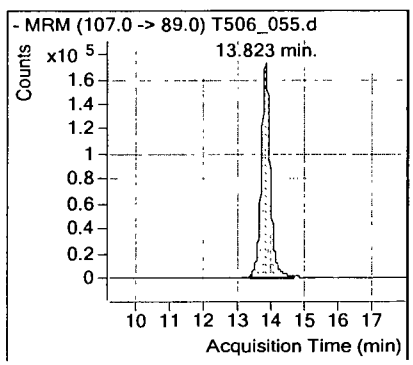




Perchlorate_102







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-GWF4-050515
Sample Collection Date: 05/05/15

ARF: 76338
APPL ID: AZ15999
QCG: #6850-150506A-196713

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 6850	PERCHLORATE	0.68	0.60	0.400	0.200	ug/L	05/06/15	05/07/15

Quant Method:	QTLMFL2
Run #:	T506_068.D
Instrument:	AGIL_6460
Sequence:	TQ050615
Dilution Factor:	1
Initials:	MP

Printed: 05/07/15 5:50:19 PM
APPL-F1-SC-NoMC-REG MDLs

Data File ID: T506_068.d

Date Injected : 05/07/15

Time Injected : 14:14

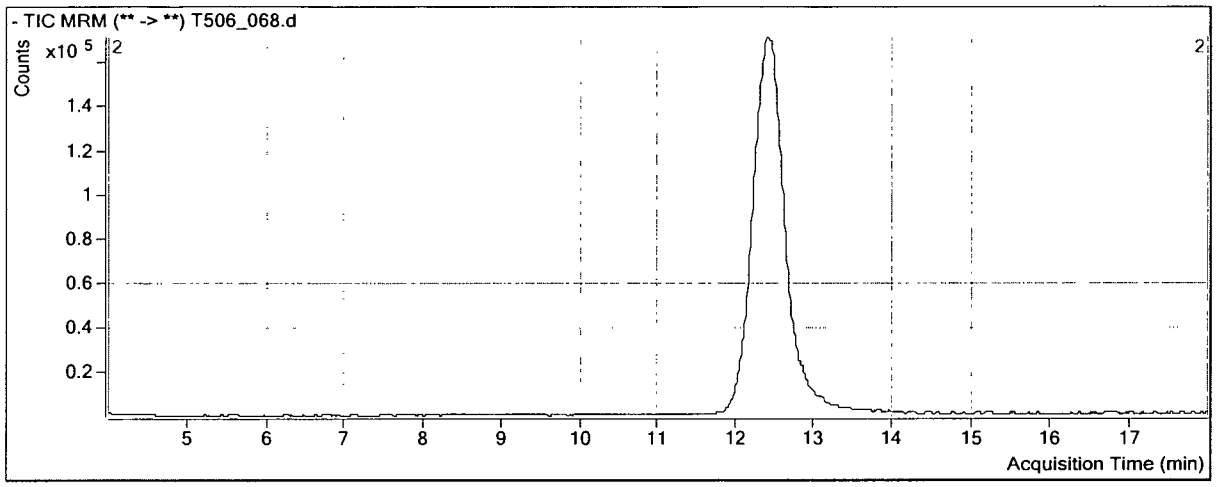
Sample ID : AZ15999_W01 1052.6 DF 05/05/15

Client ID : S67-GWF4-050515

Retention Time	Area Count Response	Compound_ID Product Ion			
12.407	4123823	PER_IS_89			
12.475	677947	Perchlorate_83	(677947 * 0.0050) / (1.27 * 4123823.00) *	1052.60 =	0.681143 ppb
12.482	247744	Perchlorate_85	(247744 * 0.0050) / (0.39 * 4123823.00) *	1052.60 =	0.807399 ppb

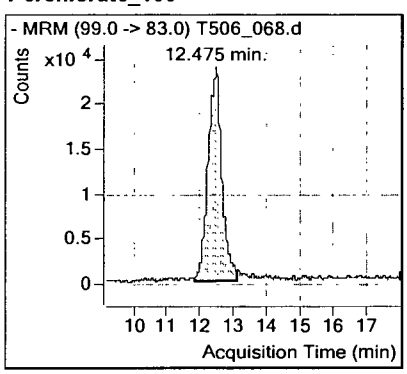
Quantitative Analysis Sample Report

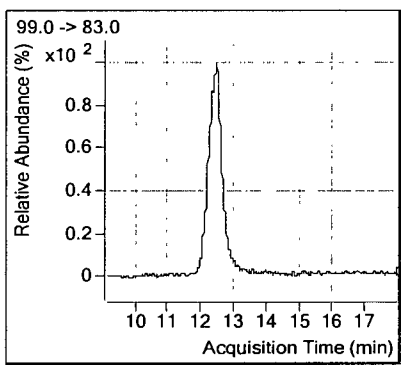
Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_068.d	**Sample Name**	AZ15999_W01 1052.6 DF 05/05/15
Sample Type	Sample	**Acq_Date**	05/07/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	14:14
ClientID	S67-GWF4-050515	**Inj Vol**	20

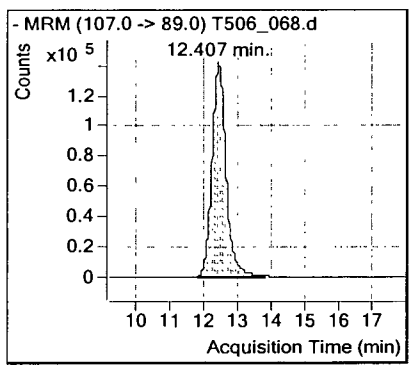


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	12.475	677947	4123823
Perchlorate_102	PER_IS_108	12.482	247744	4123823

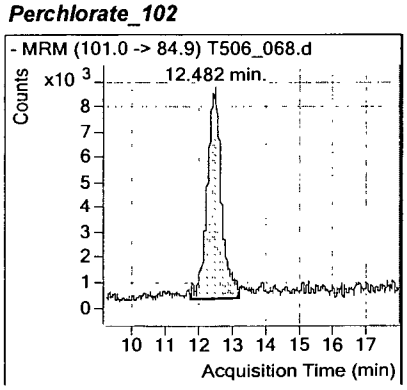
Perchlorate_100

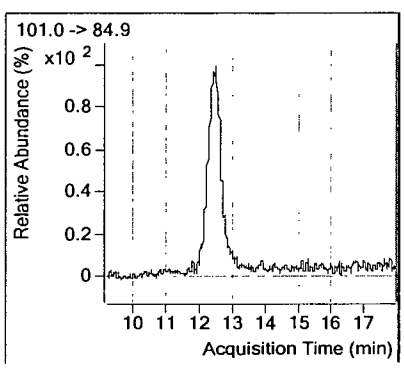


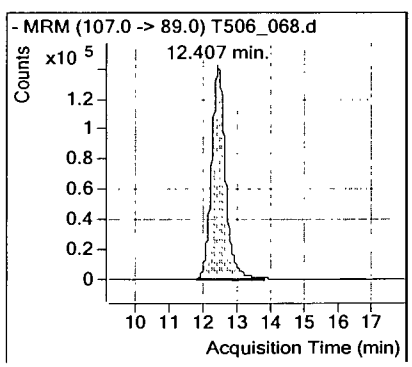




Perchlorate_102







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

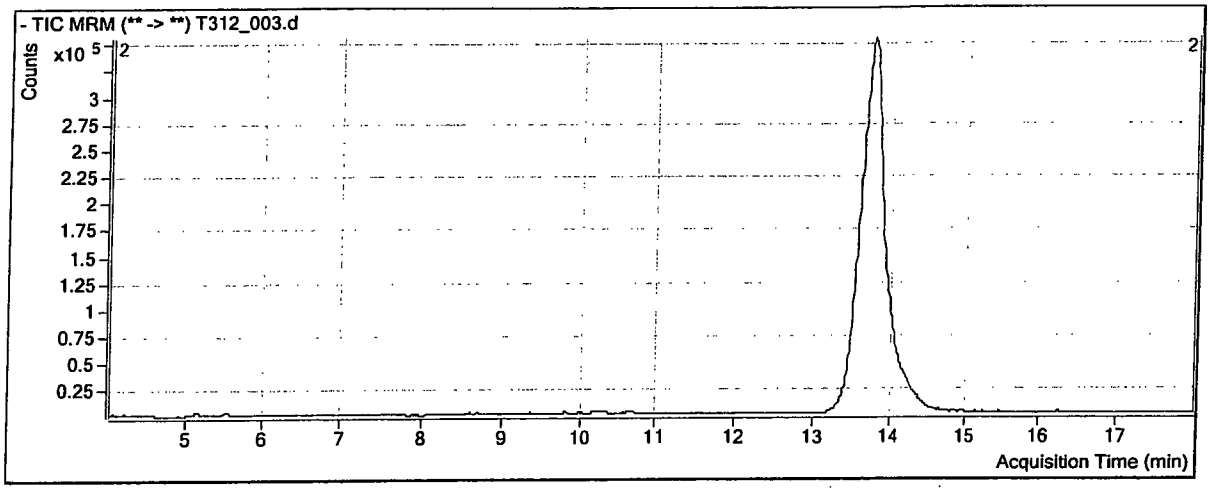
Client ID : NA

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

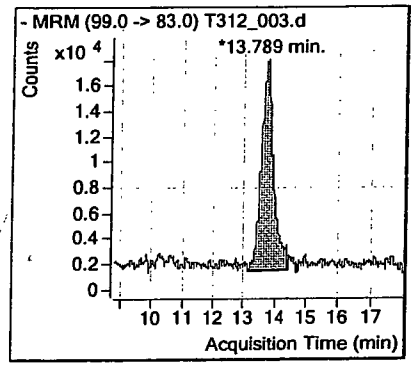
Quantitative Analysis Sample Report

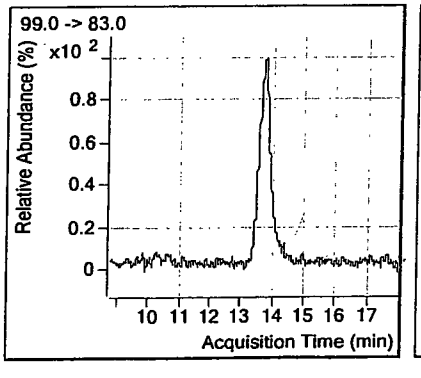
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_003.d	**Sample Name**	PERCHLORATE 0.0002 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	17:52
ClientID	NA	**Inj Vol**	20

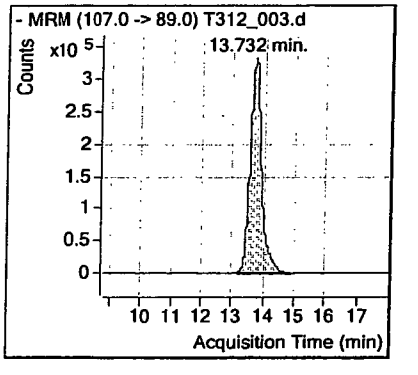


Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108	*	13.789	446712	8337058	* MANUAL INT
Perchlorate_102	PER_IS_108		13.704	144754	8337058	

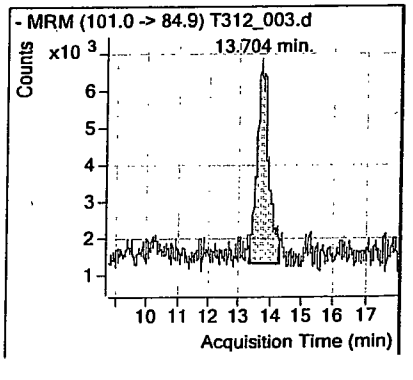
Perchlorate_100

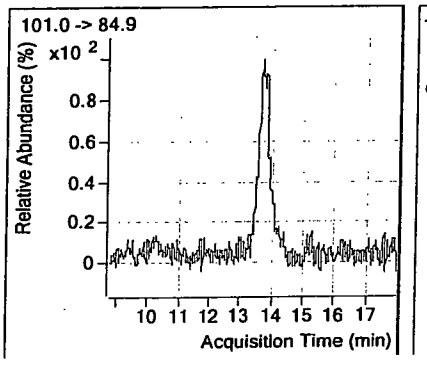


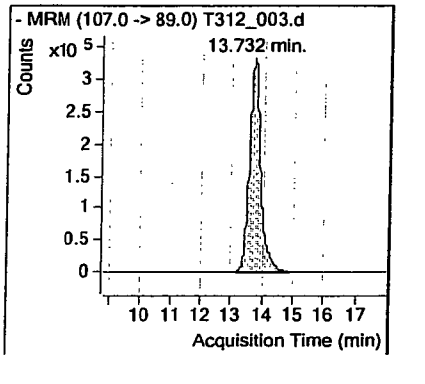


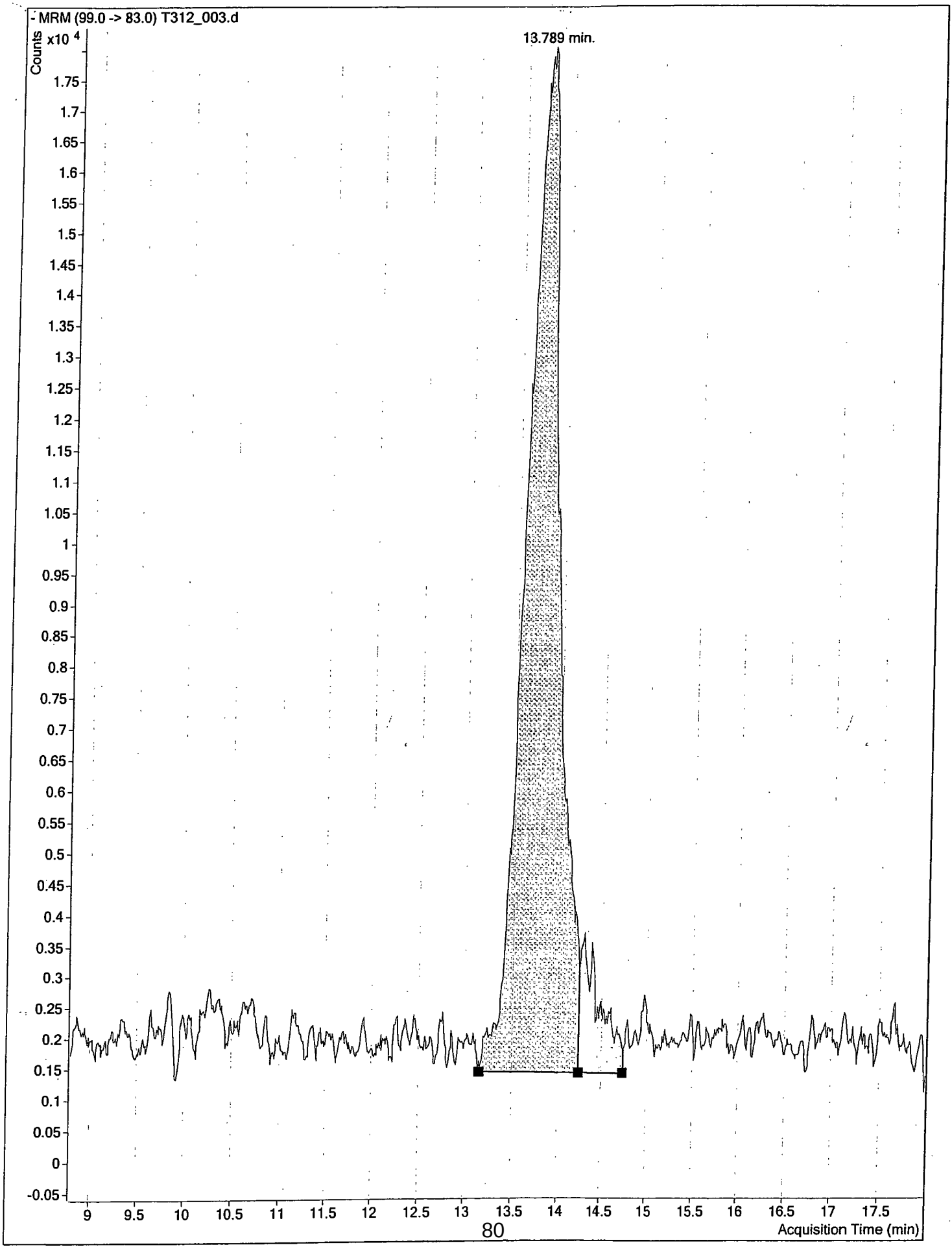


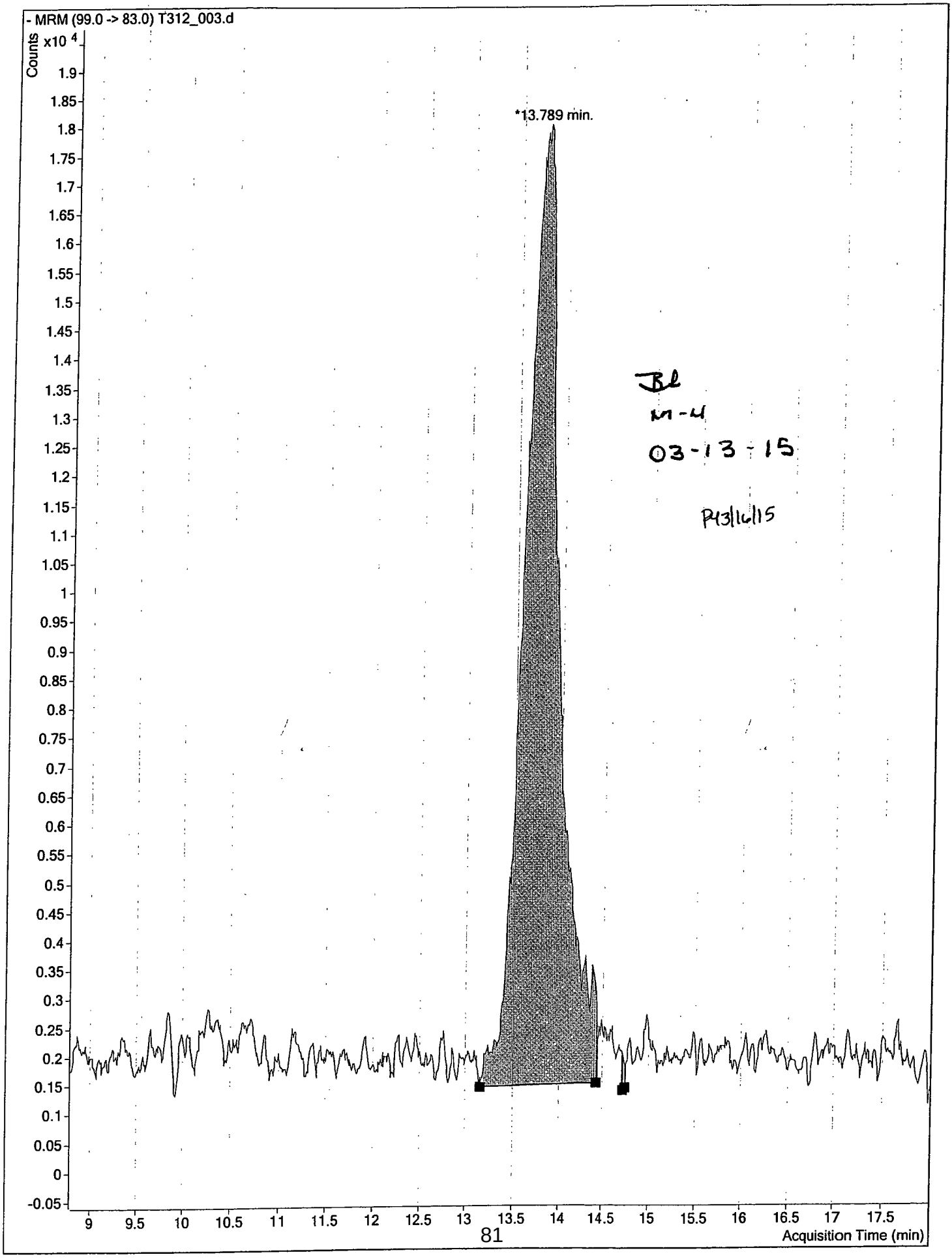
Perchlorate_102








- 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
*13.789 min.
Acquisition Time (min)
JBl
M-4
03-13-15
P13/16/15

Data File ID: T312_004.d

Date Injected : 03/12/15

Time Injected : 18:11

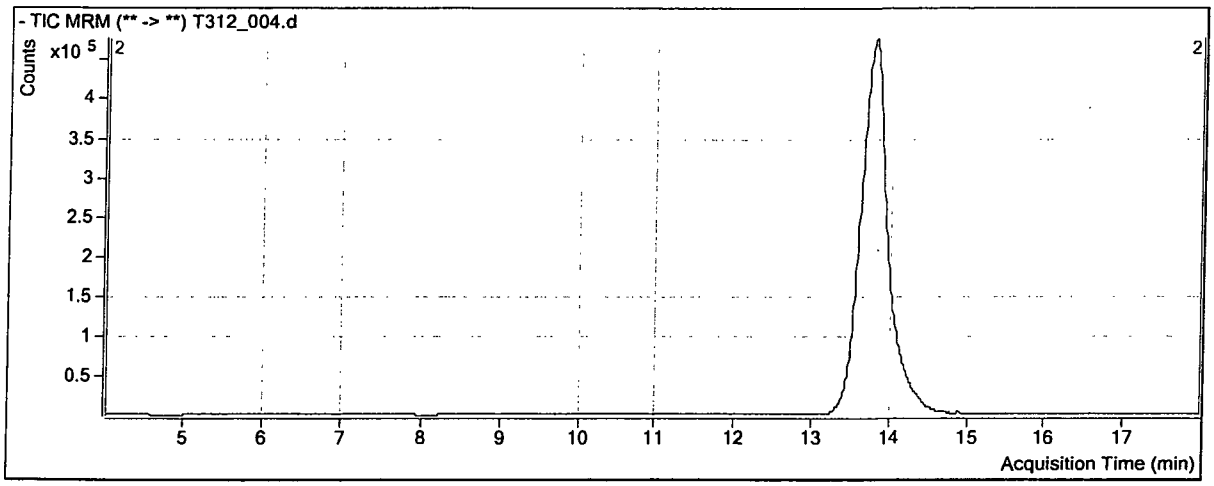
Sample ID : PERCHLORATE 0.0004 ug/ml 11/11/14

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

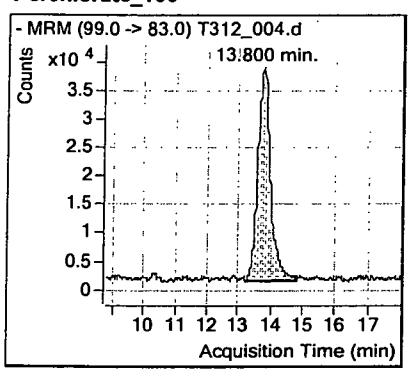
Quantitative Analysis Sample Report

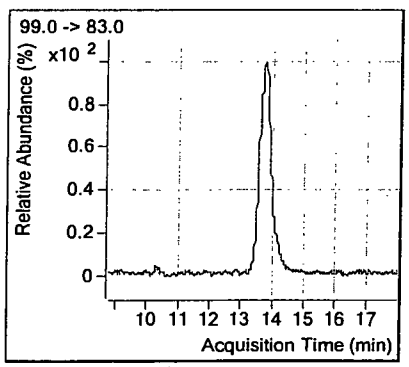
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_004.d	**Sample Name**	PERCHLORATE 0.0004 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	18:11
ClientID	NA	**Inj Vol**	20

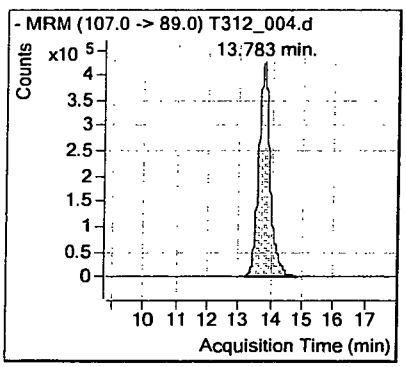


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.800	1023403	10671196
Perchlorate_102	PER_IS_108	13.827	337305	10671196

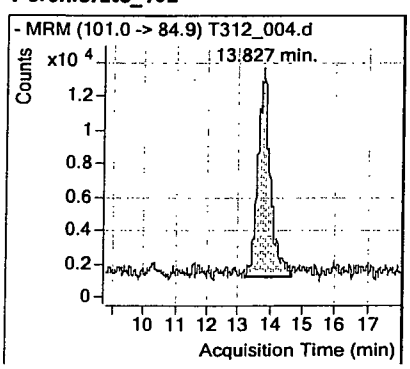
Perchlorate_100

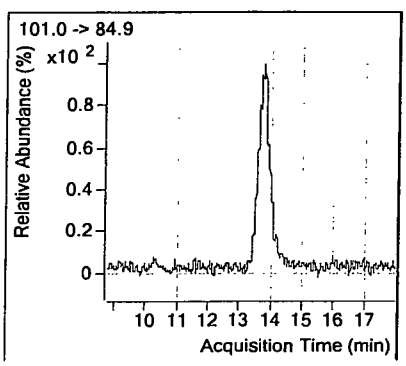


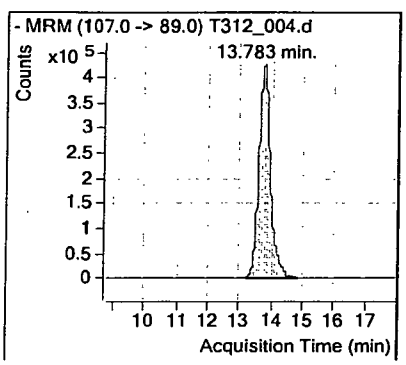




Perchlorate_102







Data File ID: T312_005.d

Date Injected : 03/12/15

Time Injected : 18:29

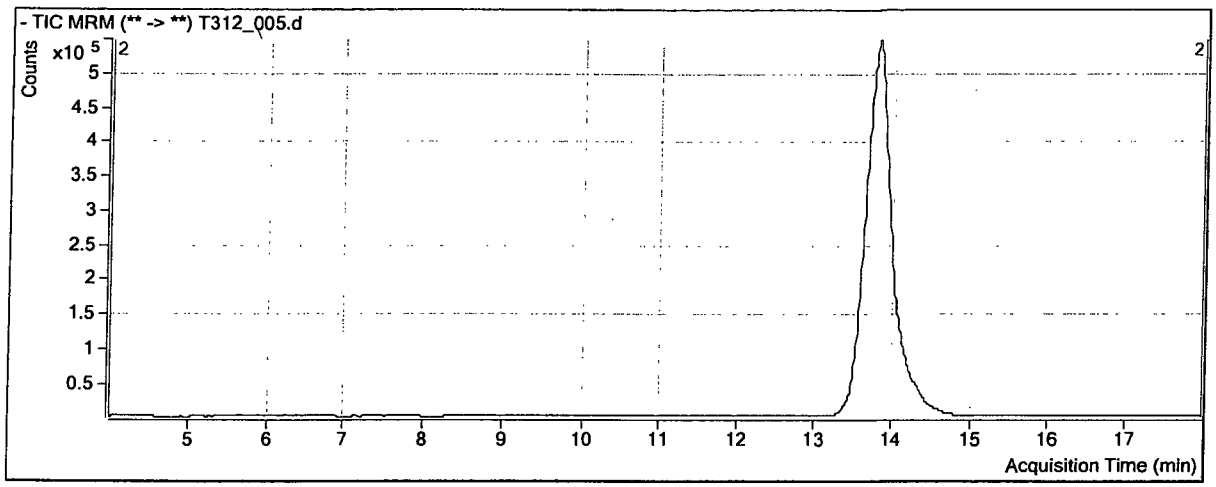
Sample ID : PERCHLORATE 0.001 ug/ml 11/11/14

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

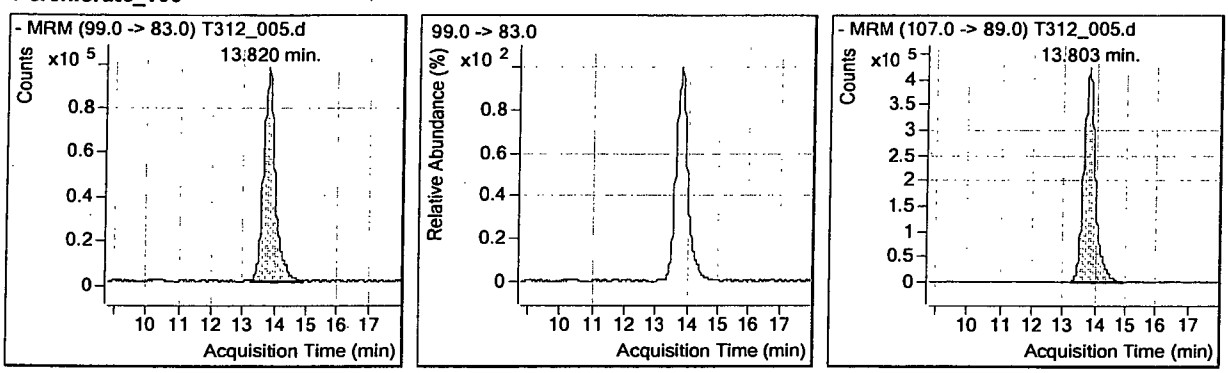
Quantitative Analysis Sample Report

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

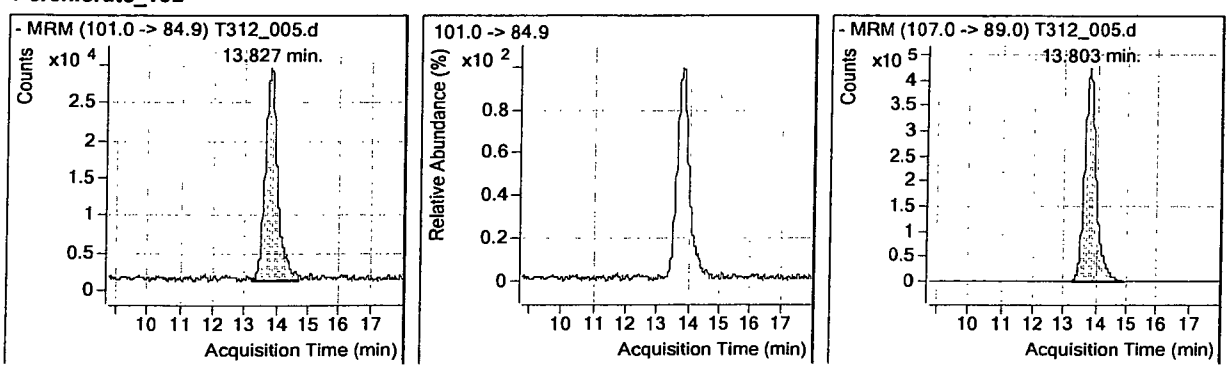


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.820	2483393	10651968
Perchlorate_102	PER_IS_108	13.827	781617	10651968

Perchlorate_100



Perchlorate_102



Data File ID: T312_006.d

Date Injected : 03/12/15

Time Injected : 18:48

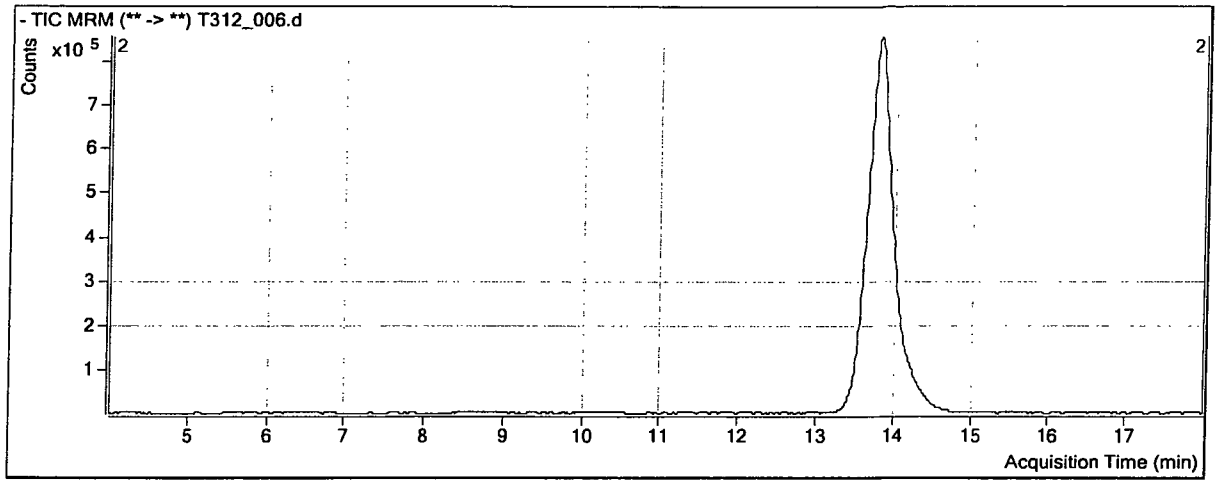
Sample ID : PERCHLORATE 0.002 ug/ml 11/11/14

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

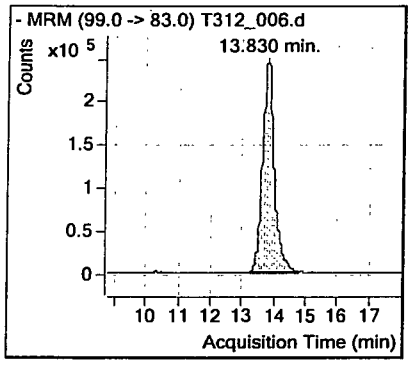
Quantitative Analysis Sample Report

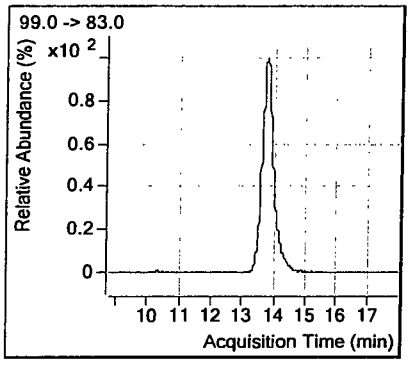
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_006.d	**Sample Name**	PERCHLORATE 0.002 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	18:48
ClientID	NA	**Inj Vol**	20

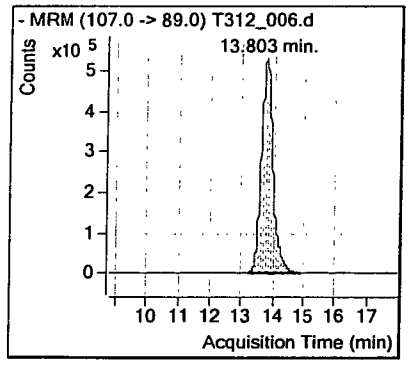


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.830	6351752	13529952
Perchlorate_102	PER_IS_108	13.817	1920912	13529952

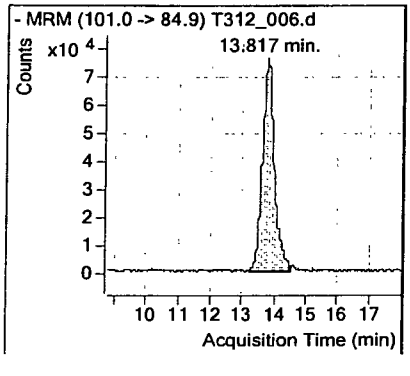
Perchlorate_100

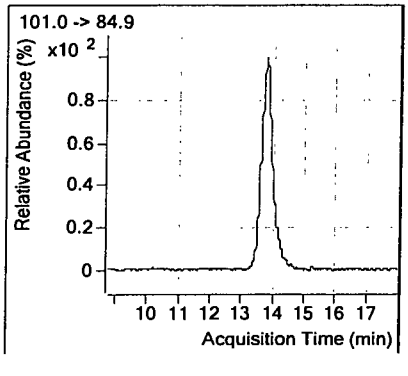


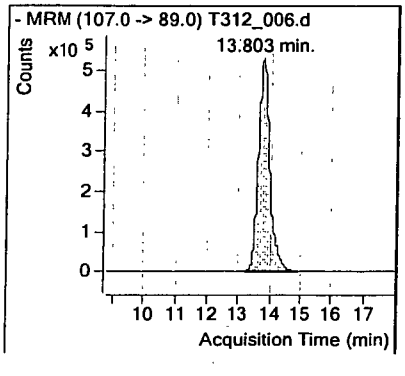




Perchlorate_102







Data File ID: T312_007.d

Date Injected : 03/12/15

Time Injected : 19:07

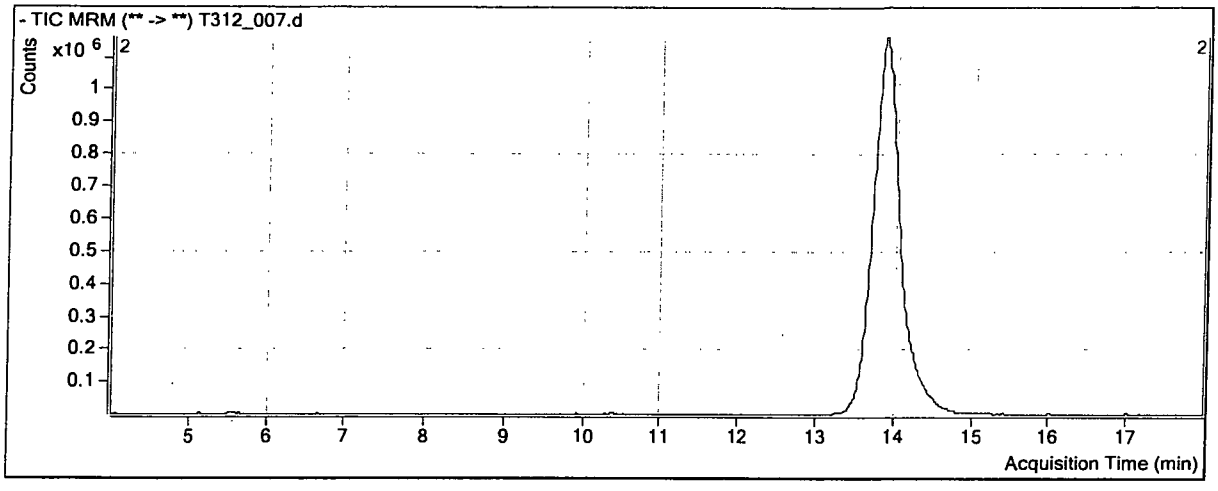
Sample ID : PERCHLORATE 0.005 ug/ml 11/11/14

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

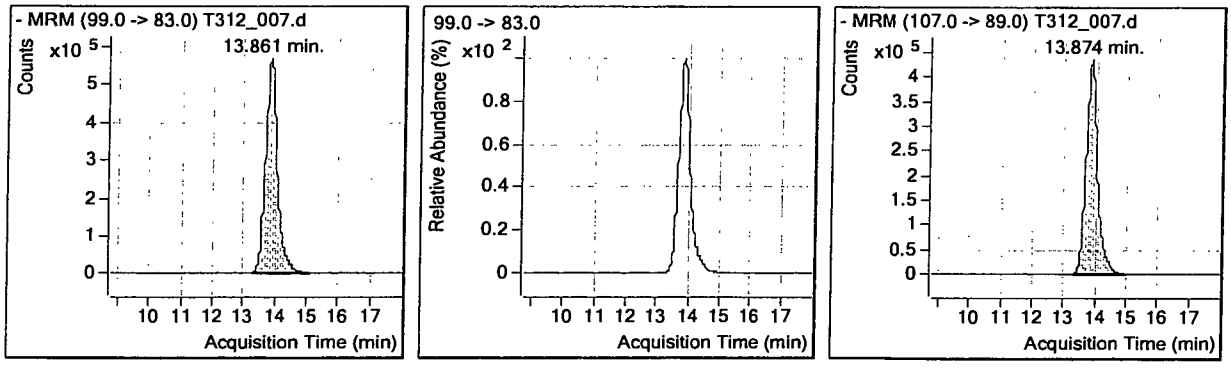
Quantitative Analysis Sample Report

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

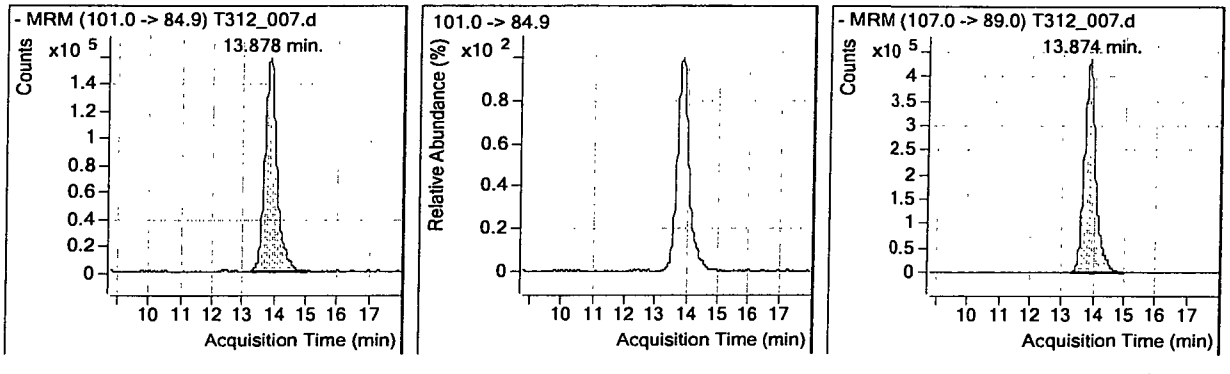


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.861	14499255	11028880
Perchlorate_102	PER_IS_108	13.878	4209044	11028880

Perchlorate_100



Perchlorate_102



Data File ID: T312_008.d

Date Injected : 03/12/15

Time Injected : 19:25

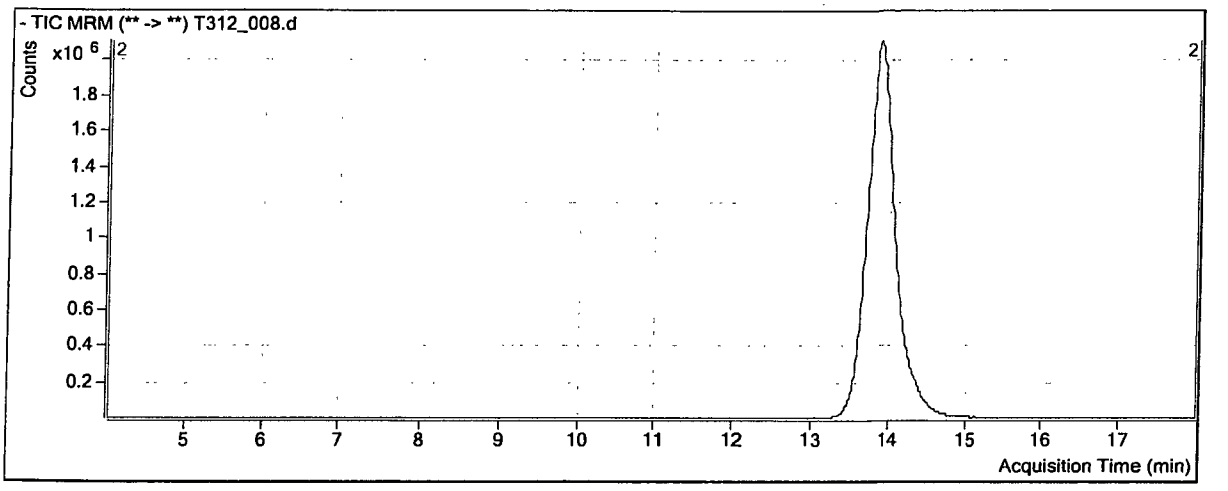
Sample ID : PERCHLORATE 0.010 ug/ml 08/27/14

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

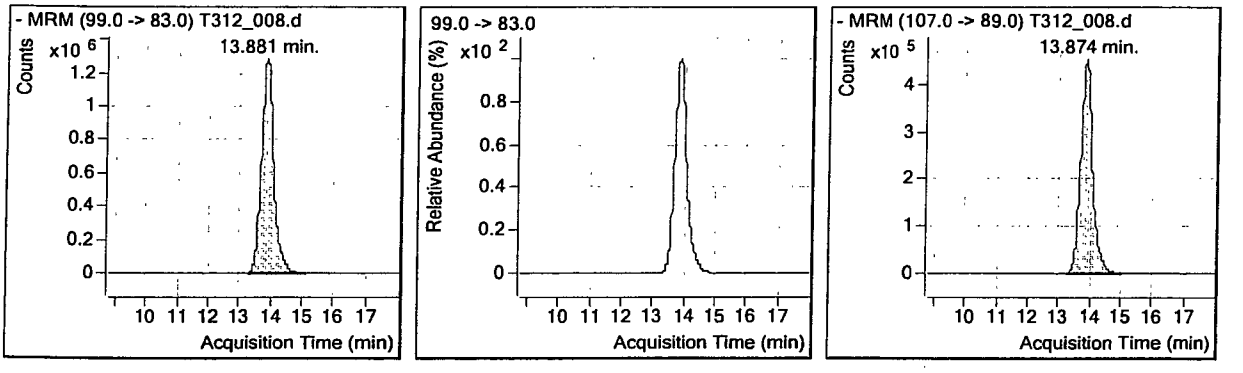
Quantitative Analysis Sample Report

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

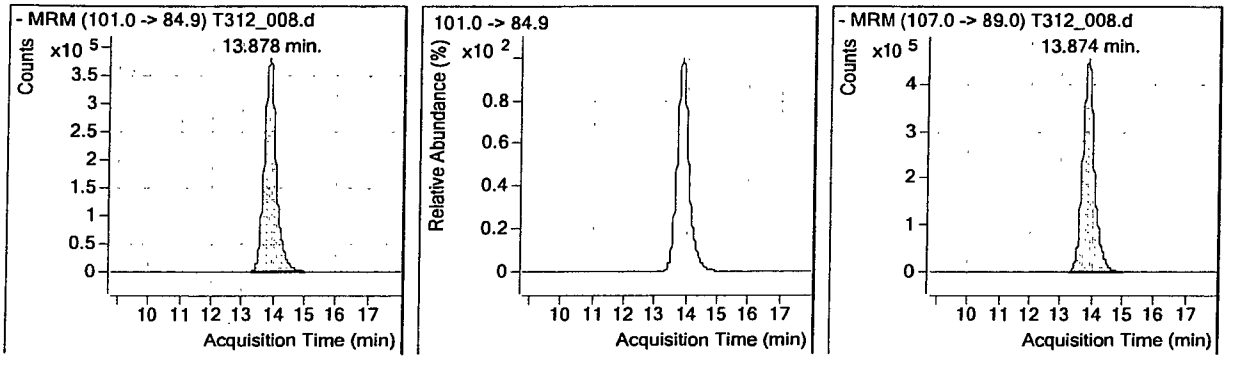


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.881	34223790	11973072
Perchlorate_102	PER_IS_108	13.878	9985270	11973072

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

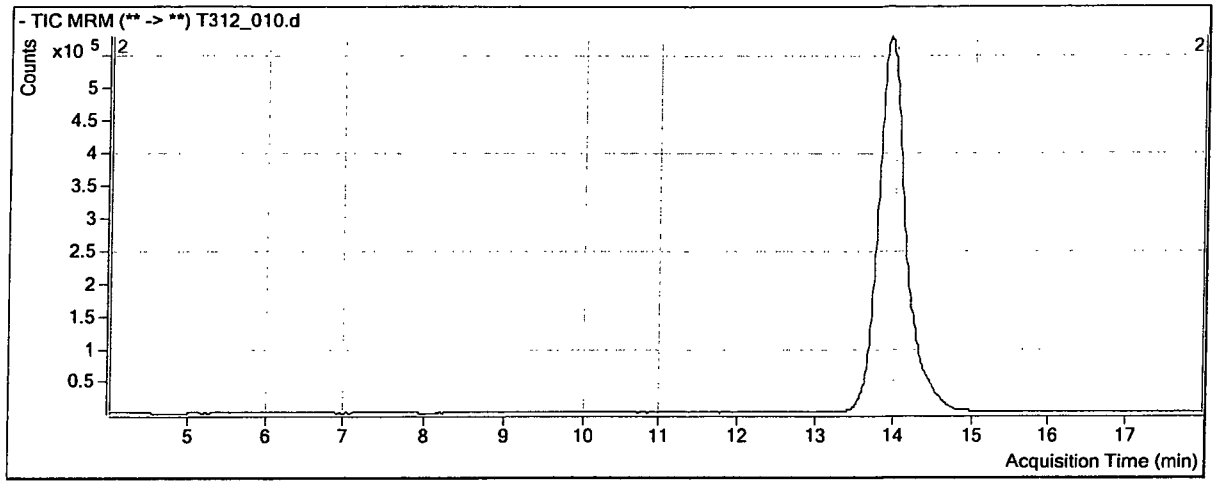
Sample ID : PER_SS 0.0004 ug/ml 11/11/14

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

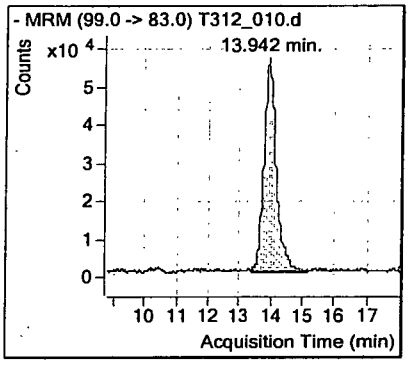
Quantitative Analysis Sample Report

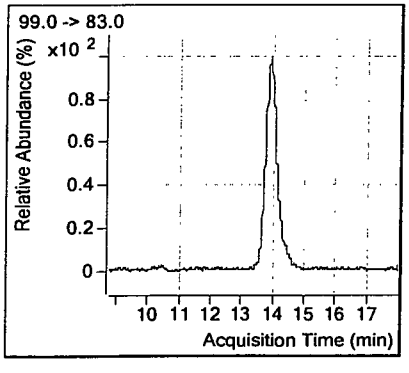
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_010.d	**Sample Name**	PER_SS 0.0004 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	20:02
ClientID	NA	**Inj Vol**	20

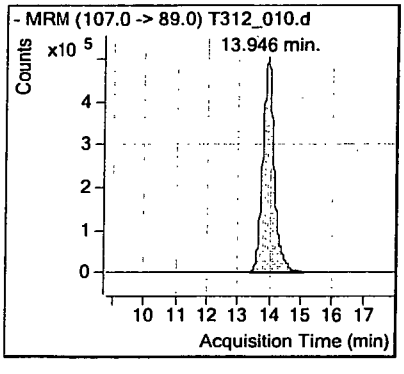


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.942	1472839	12977621
Perchlorate_102	PER_IS_108	13.959	440675	12977621

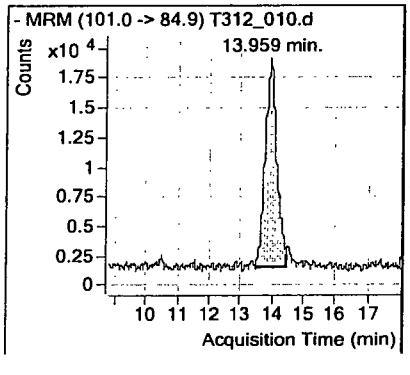
Perchlorate_100

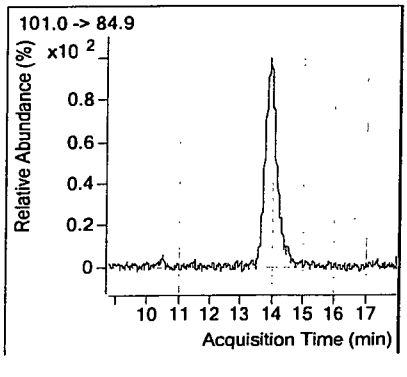


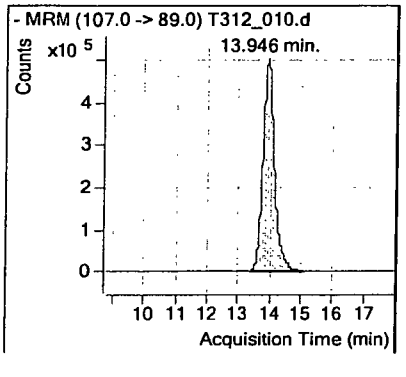




Perchlorate_102







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

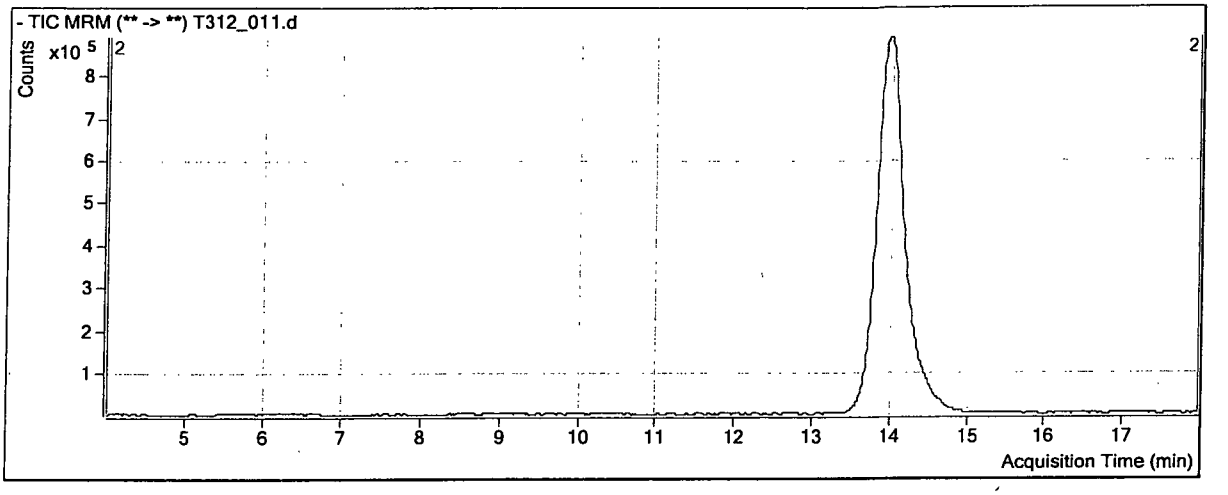
Sample ID : PER_SS 0.002 ug/ml 11/11/14

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

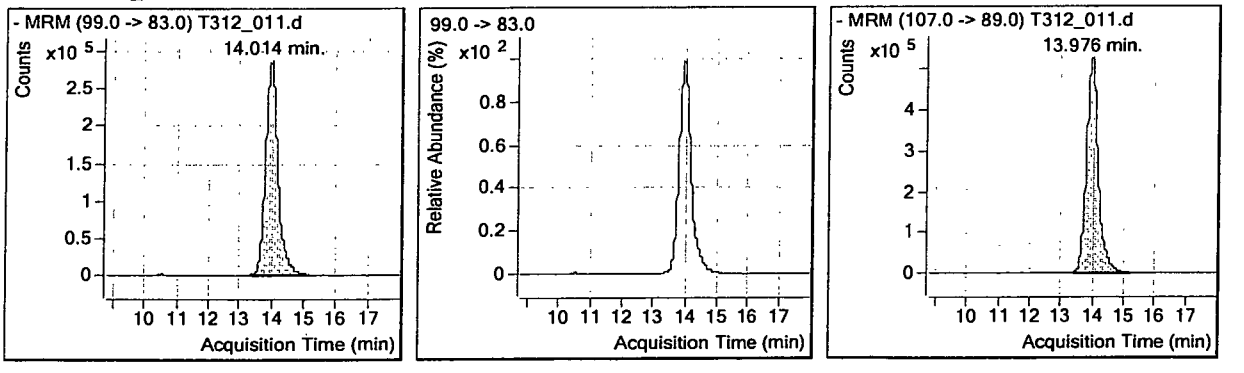
Quantitative Analysis Sample Report

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

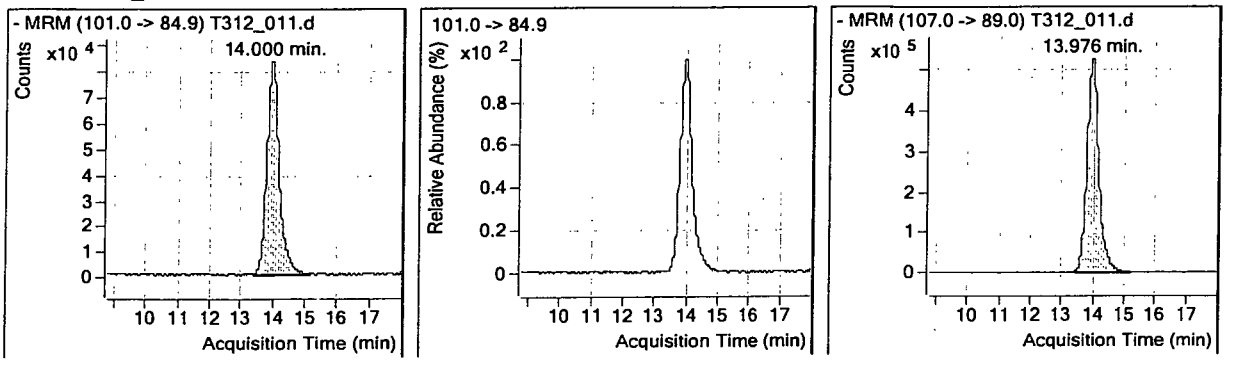


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.014	7468678	13747369
Perchlorate_102	PER_IS_108	14.000	2222387	13747369

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

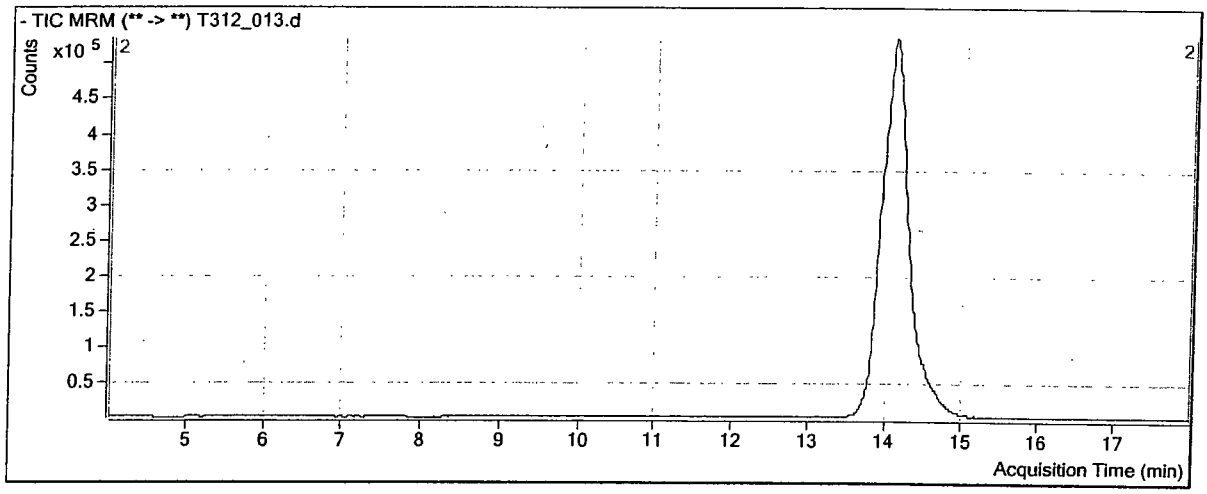
Sample ID : PER_CCV_1 0.0004 ug/ml 11/11/14

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

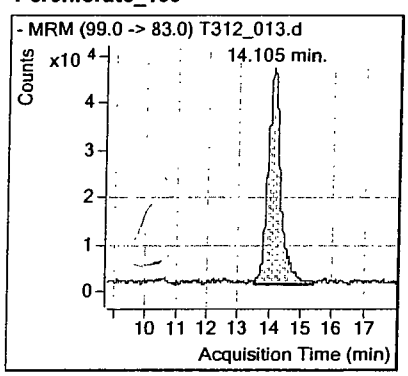
Quantitative Analysis Sample Report

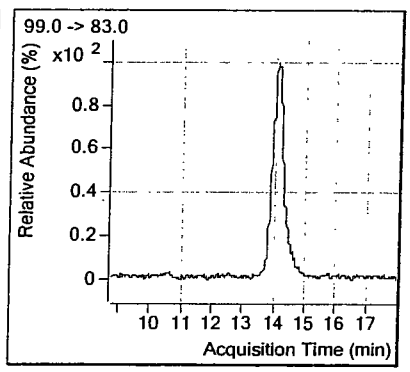
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_013.d	**Sample Name**	PER_CCV_1 0.0004 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	20:58
ClientID	NA	**Inj Vol**	20

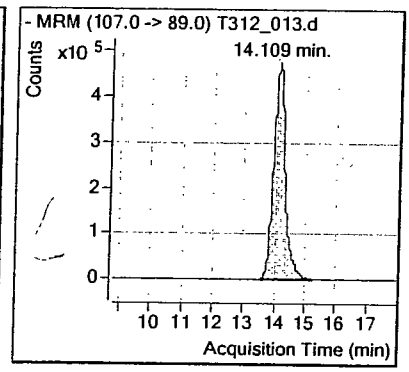


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.105	1267031	12323795
Perchlorate_102	PER_IS_108	14.143	410558	12323795

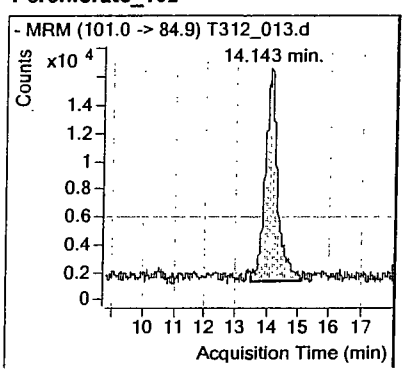
Perchlorate_100

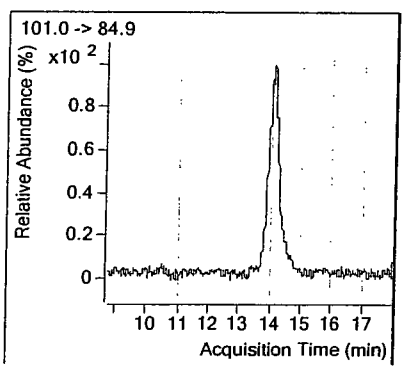


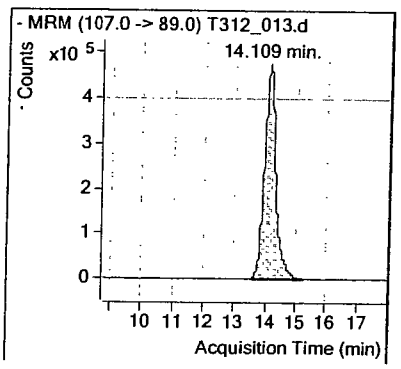




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

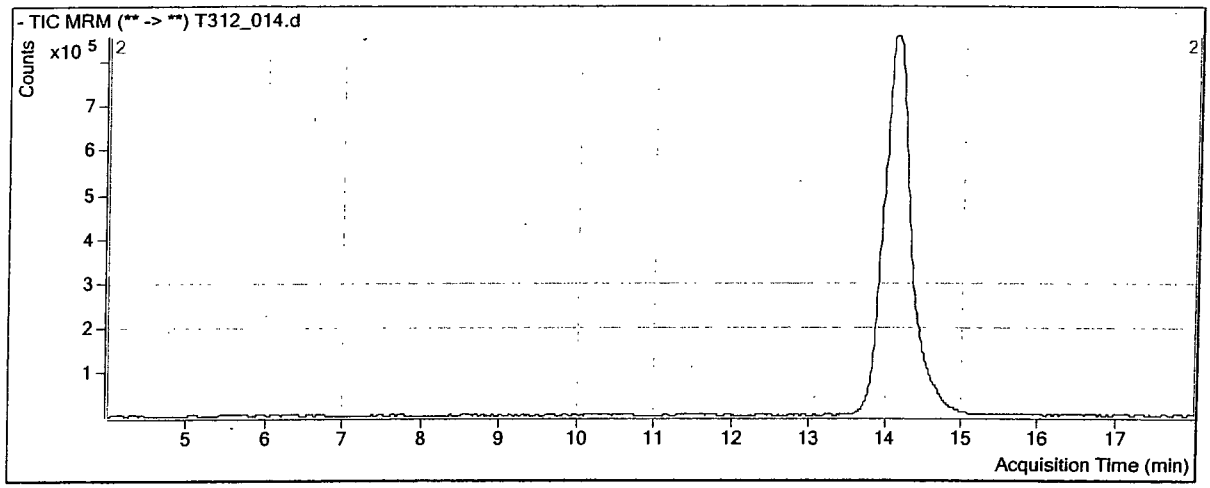
Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T312_014.d

	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

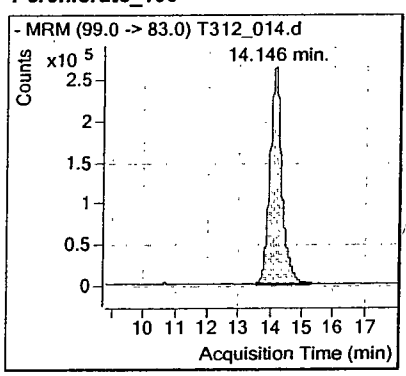
Quantitative Analysis Sample Report

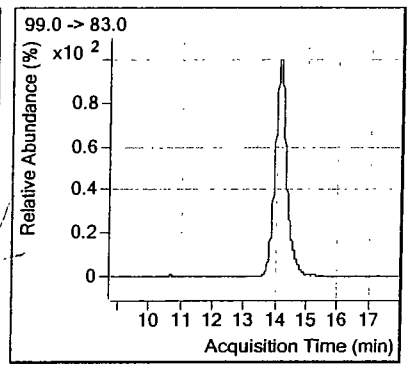
Batch Data Path	D:\MassHunter\Data\150312\QuantResults\150312_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T312_014.d	**Sample Name**	PER_CCV_1 0.002 ug/ml 11/11/14
Sample Type	Sample	**Acq_Date**	03/12/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	21:17
ClientID	NA	**Inj Vol**	20

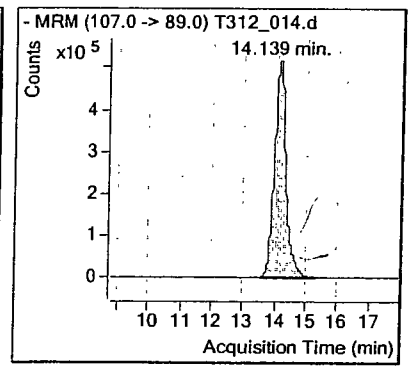


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.146	6907110	13576634
Perchlorate_102	PER_IS_108	14.122	2093567	13576634

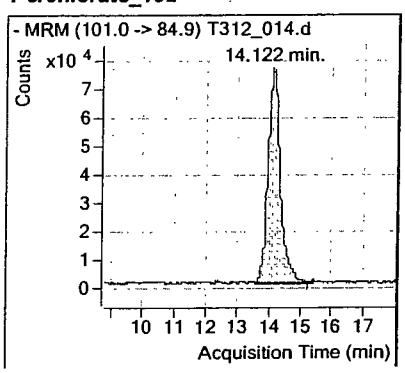
Perchlorate_100

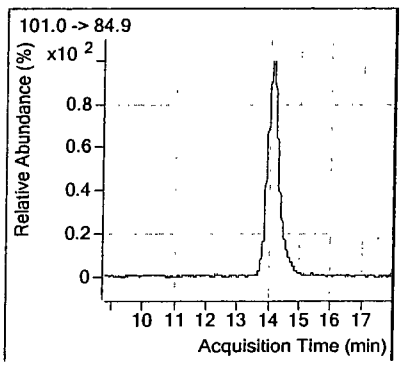


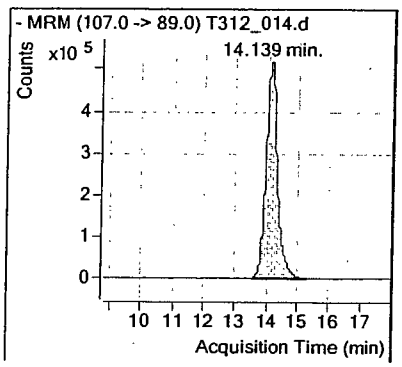




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T506_002.d

	Date (s) of Analysis From:03/12/15 To:05/06/15 Time (s) of Analysis From:17:52 To:16:11				Date of Analysis: 05/06/15 Time of Analysis: 16:29 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	14.19	1.388758	N	9.3
Perchlorate_85	13.70	13.60	13.80	0.391605	14.14	0.450599	N	15.1

FILE ID : TQCK0602.RFB

Data File ID: T506_002.d

Date Injected : 05/06/15

Time Injected : 16:29

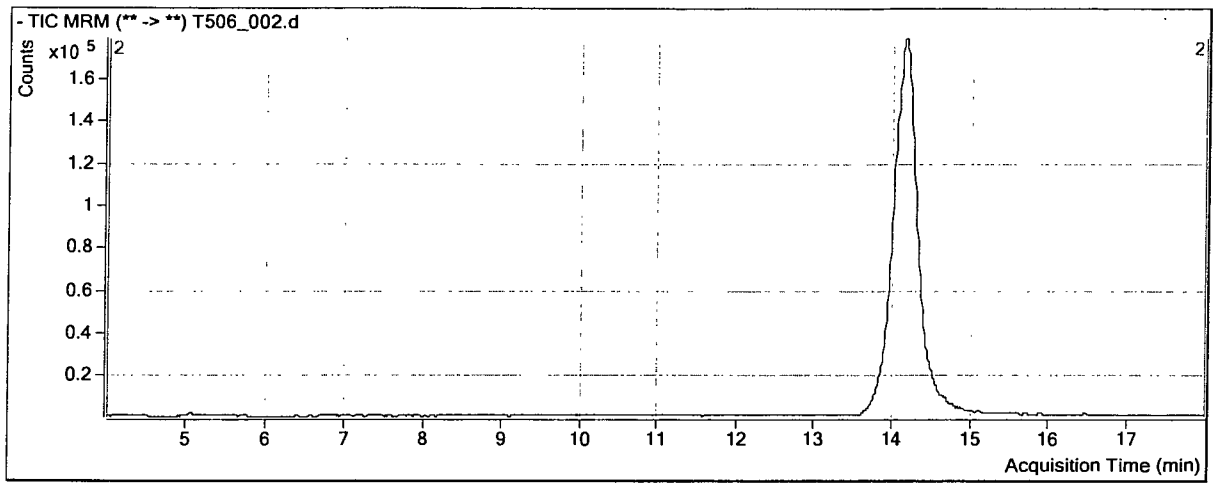
Sample ID : PER_CCV 0.0004 ug/ml 04/20/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
14.17	3464003	PER_IS_89
14.187	384853	Perchlorate_83
14.143	124870	Perchlorate_85

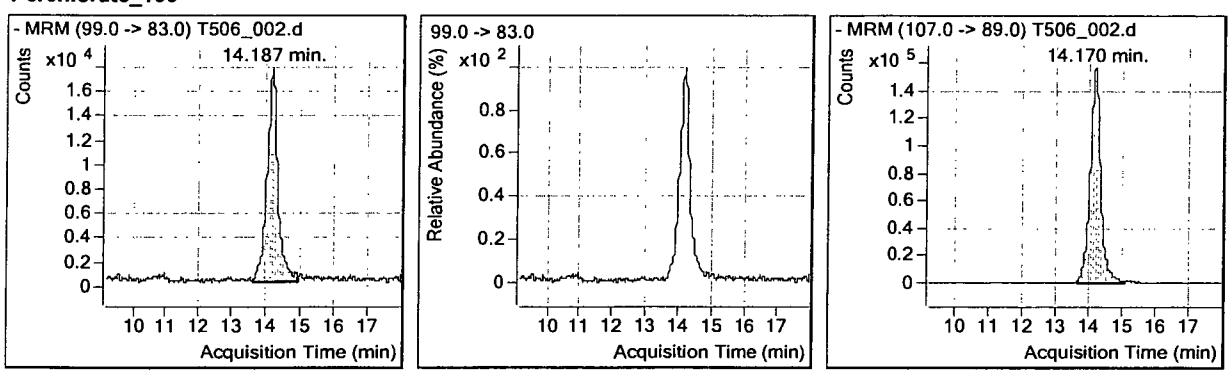
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_002.d	**Sample Name**	PER_CCV 0.0004 ug/ml 04/20/15
Sample Type	Sample	**Acq_Date**	05/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	16:29
ClientID	NA	**Inj Vol**	20

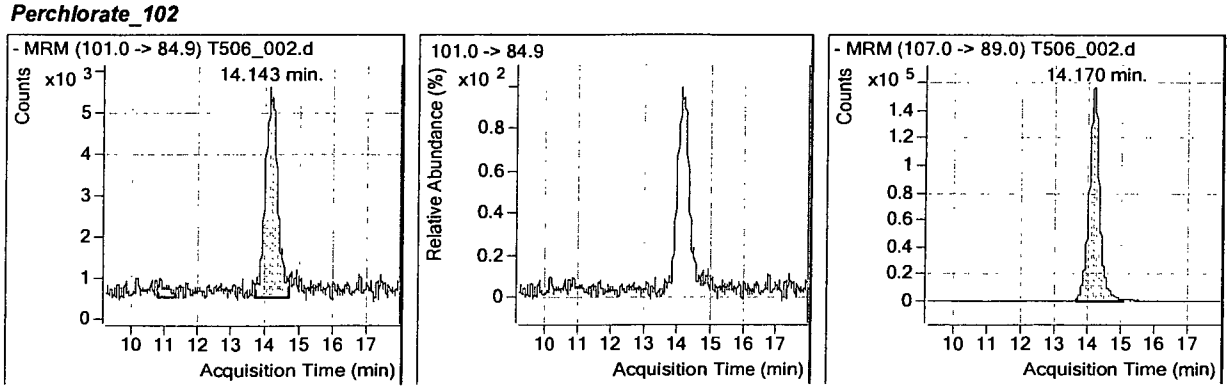


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.187	384853	3464003
Perchlorate_102	PER_IS_108	14.143	124870	3464003

Perchlorate_100



Perchlorate_102



CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T506_003.d

	Date (s) of Analysis From:03/12/15 To:05/06/15 Time (s) of Analysis From:17:52 To:16:11				Date of Analysis: 05/06/15 Time of Analysis: 16:48 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	14.16	1.177536	N	7.3
Perchlorate_85	13.70	13.60	13.80	0.391605	14.16	0.368419	N	5.9

FILE ID : TQCK0603.RFB

Data File ID: T506_003.d

Date Injected : 05/06/15

Time Injected : 16:48

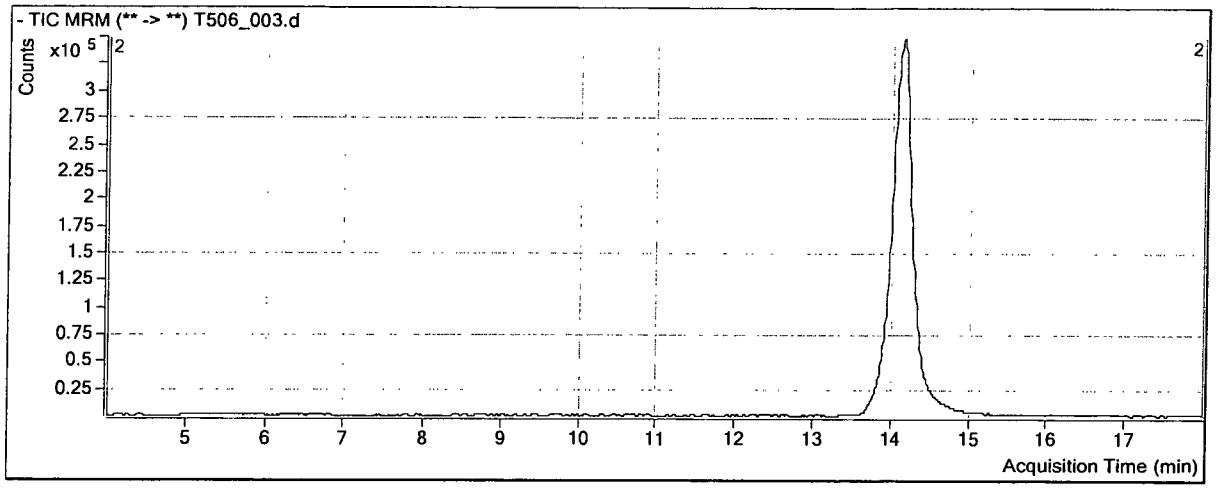
Sample ID : PER_CCV 0.002 ug/ml 04/20/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
14.139	4259453	PER_IS_89
14.156	2006264	Perchlorate_83
14.163	627706	Perchlorate_85

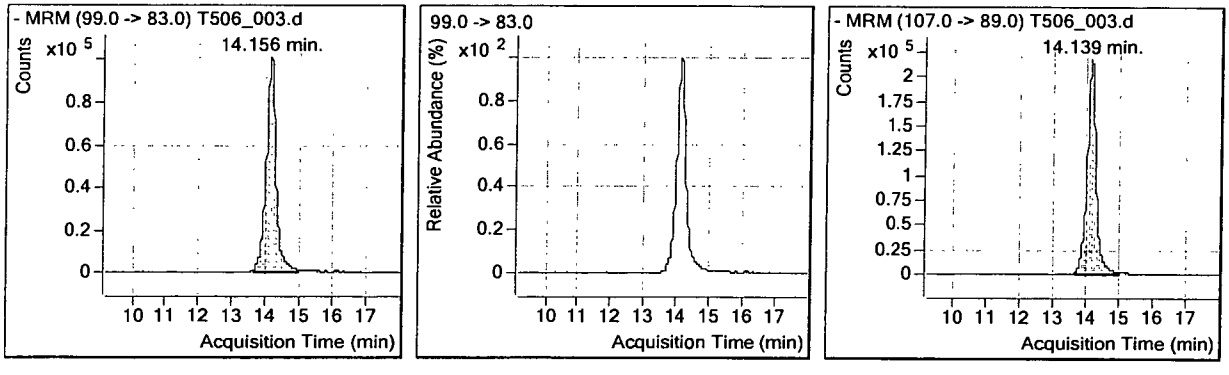
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_003.d	**Sample Name**	PER_CCV 0.002 ug/ml 04/20/15
Sample Type	Sample	**Acq_Date**	05/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	16:48
ClientID	NA	**Inj Vol**	20

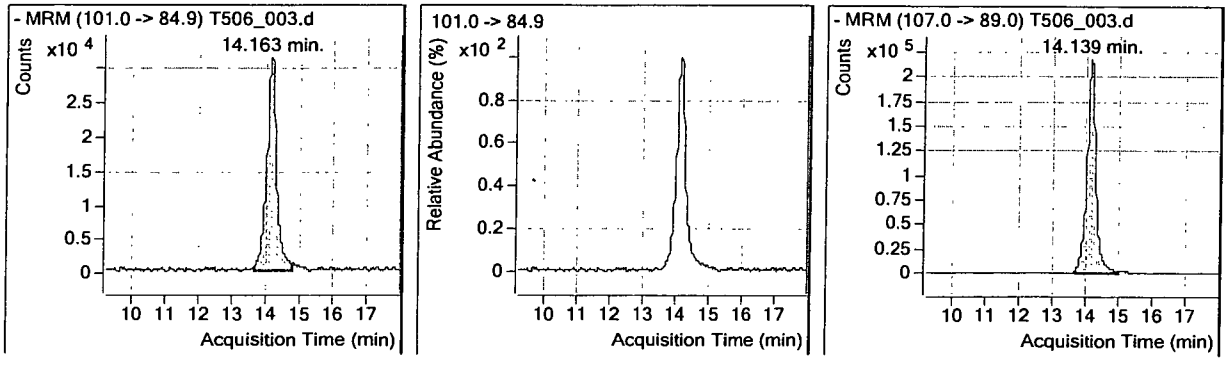


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.156	2006264	4259453
Perchlorate_102	PER_IS_108	14.163	627706	4259453

Perchlorate_100



Perchlorate_102



CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T506_016.d

	Date (s) of Analysis From:03/12/15 To:05/06/15 Time (s) of Analysis From:17:52 To:21:13				Date of Analysis: 05/06/15 Time of Analysis: 21:50 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	13.70	1.291250	N	1.7
Perchlorate_85	13.70	13.60	13.80	0.391605	13.71	0.419484	N	7.1

FILE ID : TQCK0616.RFB

Data File ID: T506_016.d

Date Injected : 05/06/15

Time Injected : 21:50

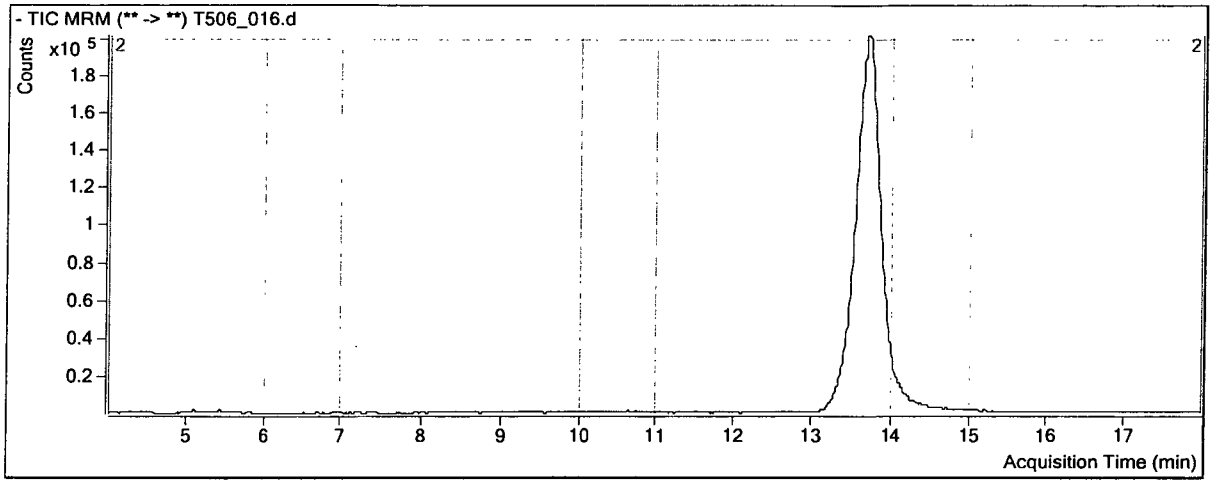
Sample ID : PER_CCV 0.0004 ug/ml 04/20/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.711	4055606	PER_IS_89
13.698	418944	Perchlorate_83
13.715	136101	Perchlorate_85

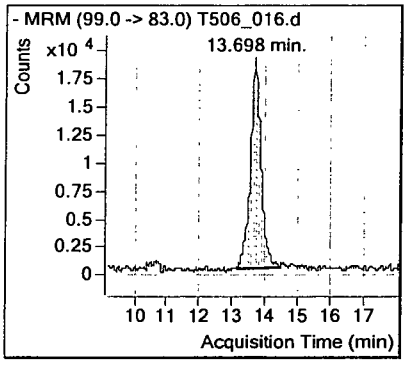
Quantitative Analysis Sample Report

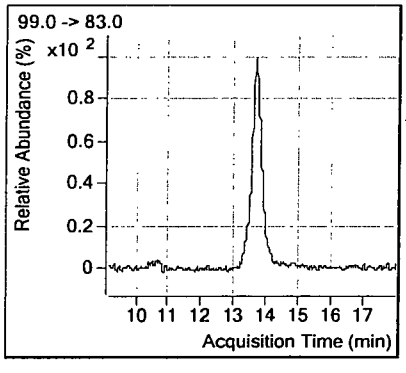
Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_016.d	**Sample Name**	PER_CCV 0.0004 ug/ml 04/20/15
Sample Type	Sample	**Acq_Date**	05/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	21:50
ClientID	NA	**Inj Vol**	20

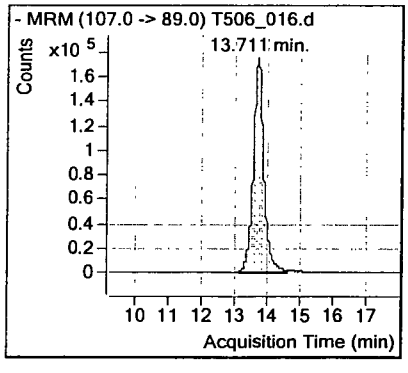


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.698	418944	4055606
Perchlorate_102	PER_IS_108	13.715	136101	4055606

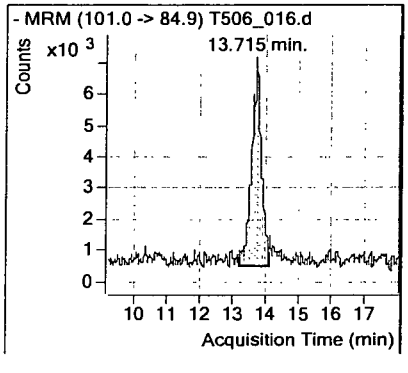
Perchlorate_100

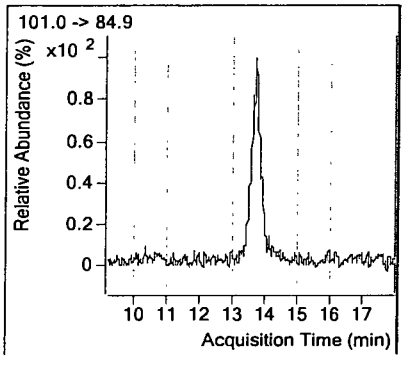


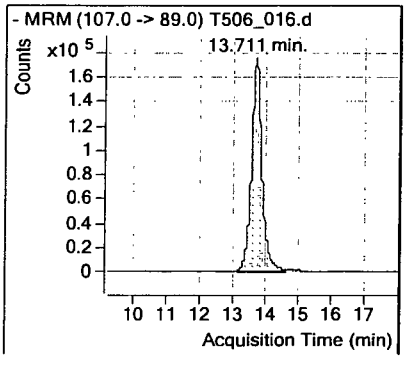




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T506_017.d

	Date (s) of Analysis From:03/12/15 To:05/06/15 Time (s) of Analysis From:17:52 To:21:13				Date of Analysis: 05/06/15 Time of Analysis: 22:09 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	1.178512	N	7.2
Perchlorate_85	13.70	13.60	13.80	0.391605	13.93	0.361321	N	7.7

FILE ID : TQCK0617.RFB

Data File ID: T506_017.d

Date Injected : 05/06/15

Time Injected : 22:09

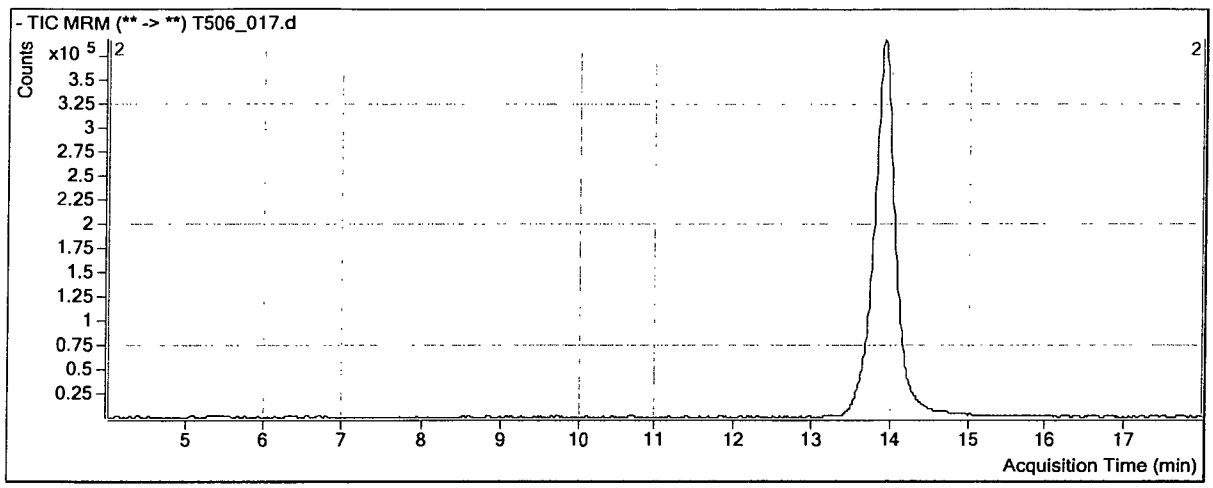
Sample ID : PER_CCV 0.002 ug/ml 04/20/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.915	4923866	PER_IS_89
13.942	2321135	Perchlorate_83
13.929	711639	Perchlorate_85

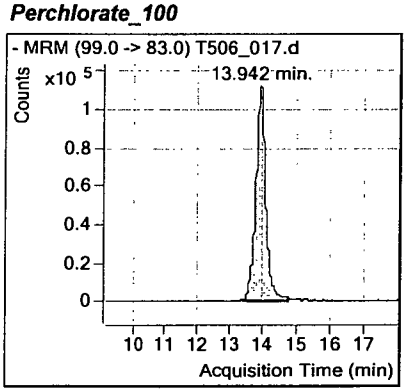
Quantitative Analysis Sample Report

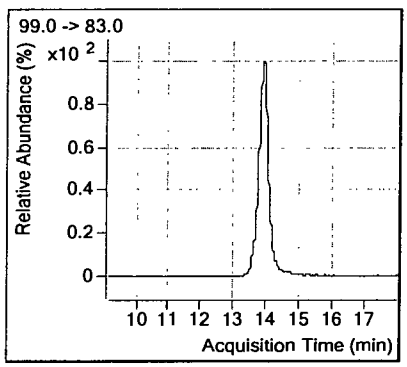
Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_017.d	**Sample Name**	PER_CCV 0.002 ug/ml 04/20/15
Sample Type	Sample	**Acq_Date**	05/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	22:09
ClientID	NA	**Inj Vol**	20

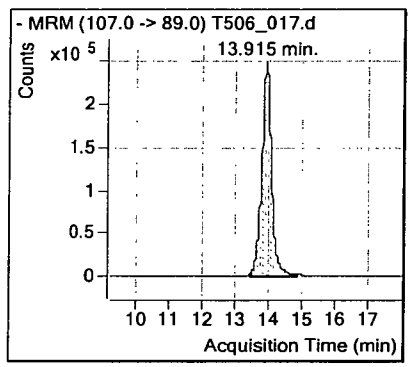


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.942	2321135	4923866
Perchlorate_102	PER_IS_108	13.929	711639	4923866

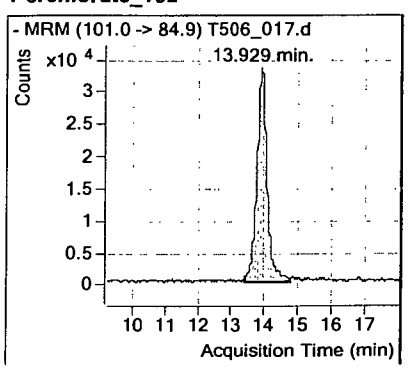
Perchlorate_100

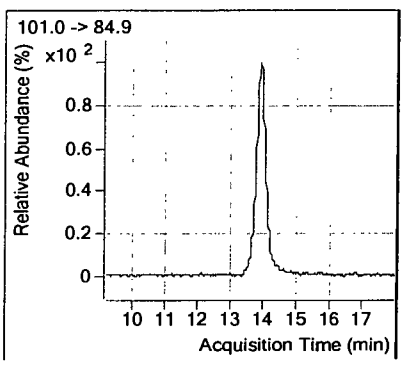


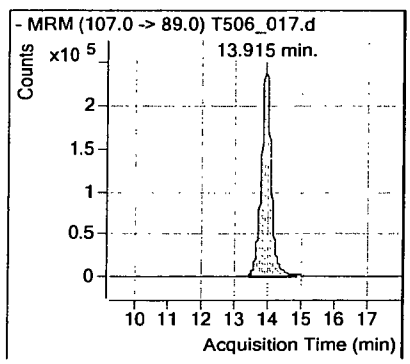




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T506_030.d

	Date (s) of Analysis From:03/12/15 To:05/07/15 Time (s) of Analysis From:17:52 To:1:34				Date of Analysis: 05/07/15 Time of Analysis: 2:11 Standard Id: PER_CCV (Standard) 0.0004ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.79	13.69	13.89	1.270255	14.16	1.353386	N	6.5
Perchlorate_85	13.70	13.60	13.80	0.391605	14.16	0.422286	N	7.8

FILE ID : TQCK0630.RFB

Data File ID: T506_030.d

Date Injected : 05/07/15

Time Injected : 2:11

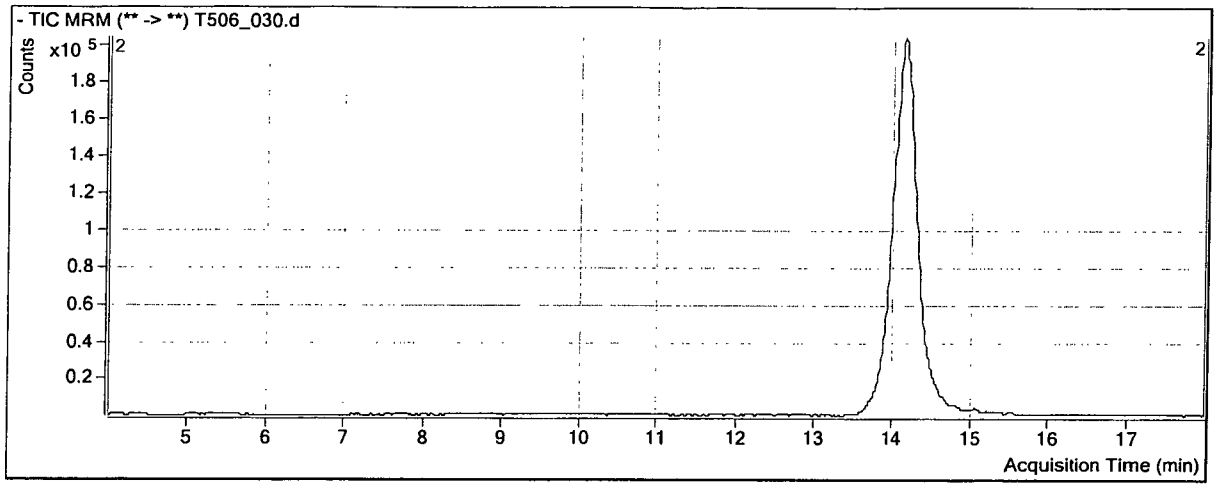
Sample ID : PER_CCV 0.0004 ug/ml 04/20/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
14.149	4118531	PER_IS_89
14.156	445917	Perchlorate_83
14.163	139136	Perchlorate_85

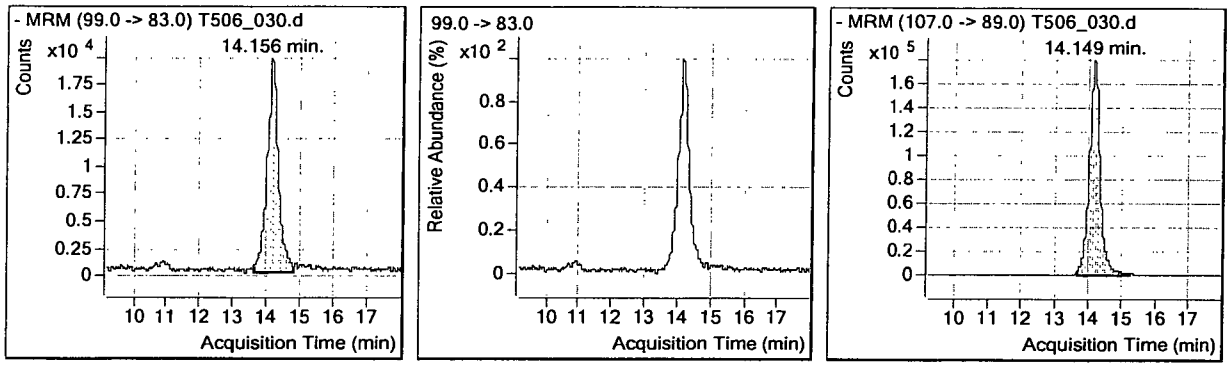
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_030.d	**Sample Name**	PER_CCV 0.0004 ug/ml 04/20/15
Sample Type	Sample	**Acq_Date**	05/07/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	2:11
ClientID	NA	**Inj Vol**	20

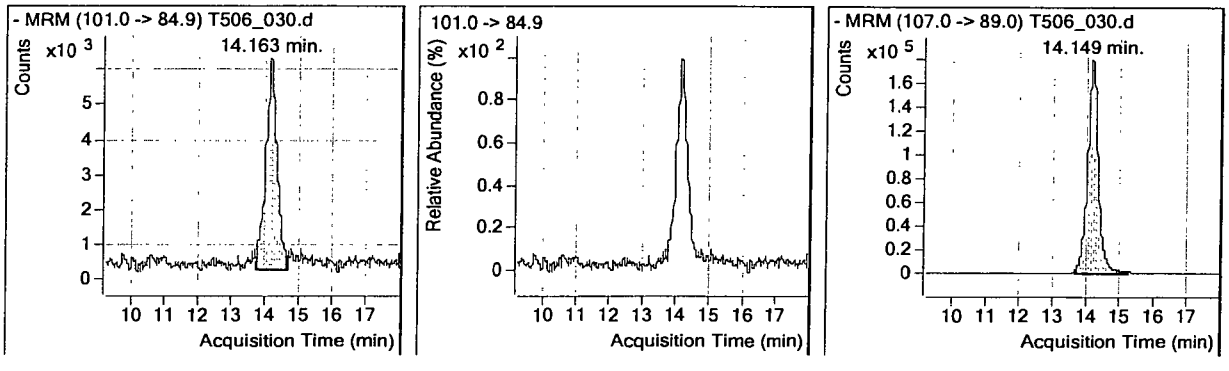


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.156	445917	4118531
Perchlorate_102	PER_IS_108	14.163	139136	4118531

Perchlorate_100



Perchlorate_102



CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T506_031.d

	Date (s) of Analysis From:03/12/15 To:05/07/15 Time (s) of Analysis From:17:52 To:1:34				Date of Analysis: 05/07/15 Time of Analysis: 2:30 Standard Id: PER_CCV (Standard) 0.002 ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.79	13.69	13.89	1.270255	14.39	1.133815	N	10.7
Perchlorate_85	13.70	13.60	13.80	0.391605	14.39	0.349068	N	10.9

FILE ID : TQCK0631.RFB

Data File ID: T506_031.d

Date Injected : 05/07/15

Time Injected : 2:30

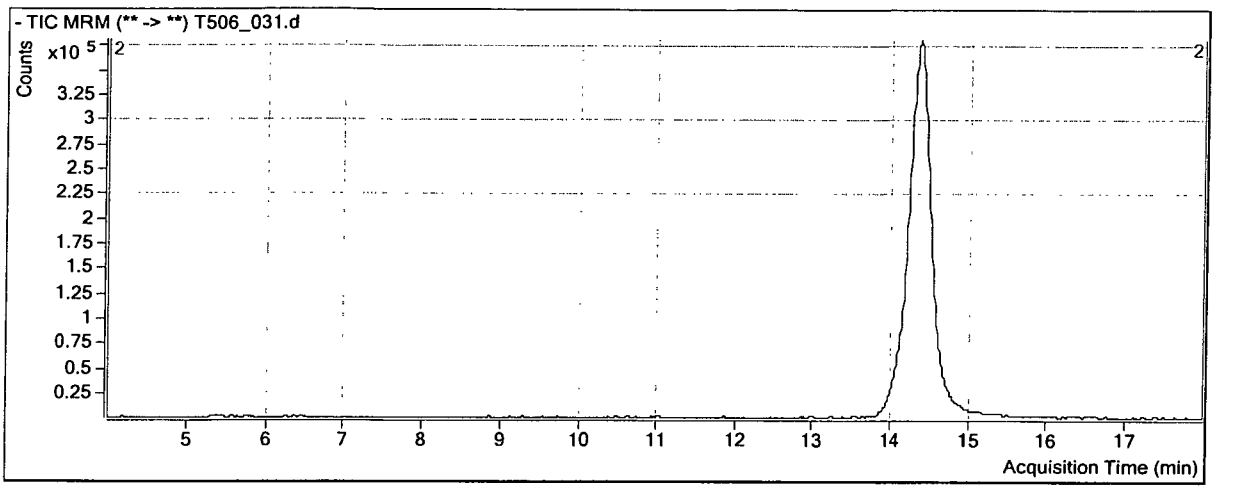
Sample ID : PER_CCV 0.002 ug/ml 04/20/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
14.374	4932867	PER_IS_89
14.391	2237183	Perchlorate_83
14.387	688762	Perchlorate_85

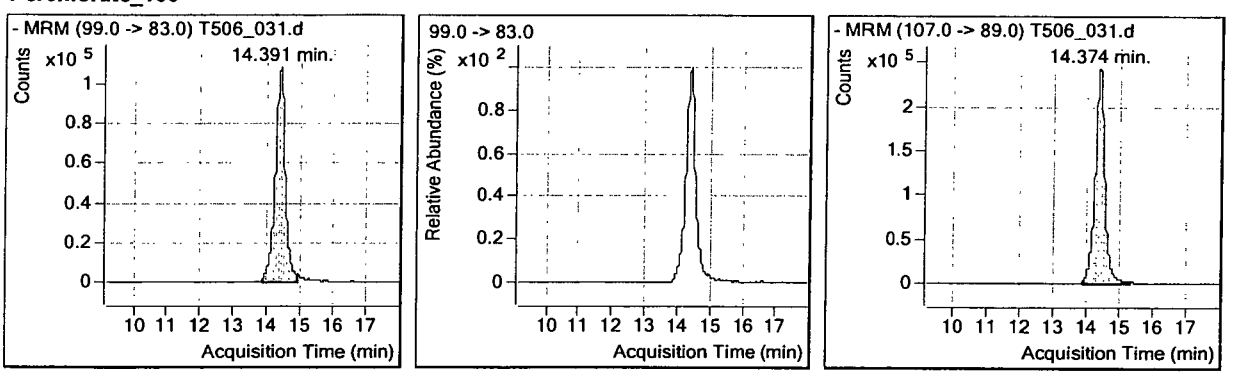
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_031.d	**Sample Name**	PER_CCV 0.002 ug/ml 04/20/15
Sample Type	Sample	**Acq_Date**	05/07/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	2:30
ClientID	NA	**Inj Vol**	20

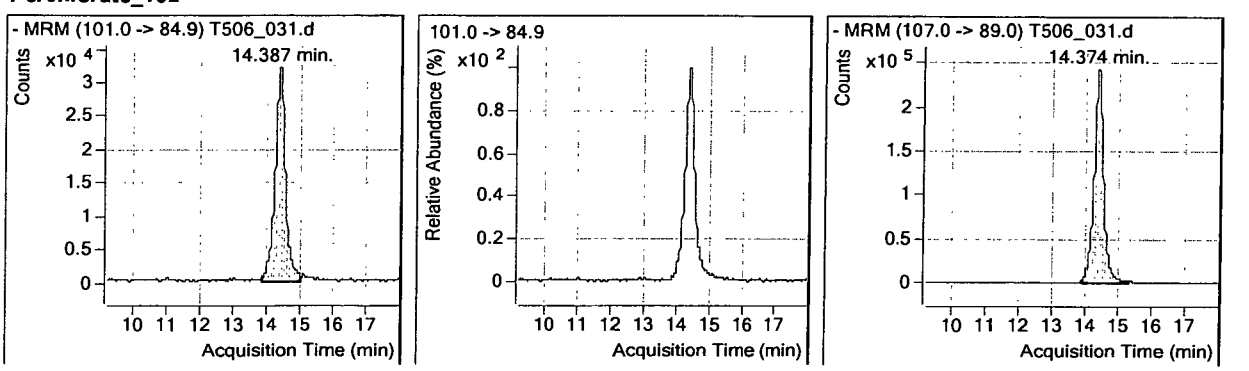


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.391	2237183	4932867
Perchlorate_102	PER_IS_108	14.387	688762	4932867

Perchlorate_100



Perchlorate_102



CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T506_044.d

	Date (s) of Analysis From:03/12/15 To:05/07/15 Time (s) of Analysis From:17:52 To:5:54				Date of Analysis: 05/07/15 Time of Analysis: 6:32 Standard Id: PER_CCV (Standard) 0.0004ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.79	13.69	13.89	1.270255	14.38	1.352011	N	6.4
Perchlorate_85	13.70	13.60	13.80	0.391605	14.35	0.453478	N	15.8

FILE ID : TQCK0644.RFB

Data File ID: T506_044.d

Date Injected : 05/07/15

Time Injected : 6:32

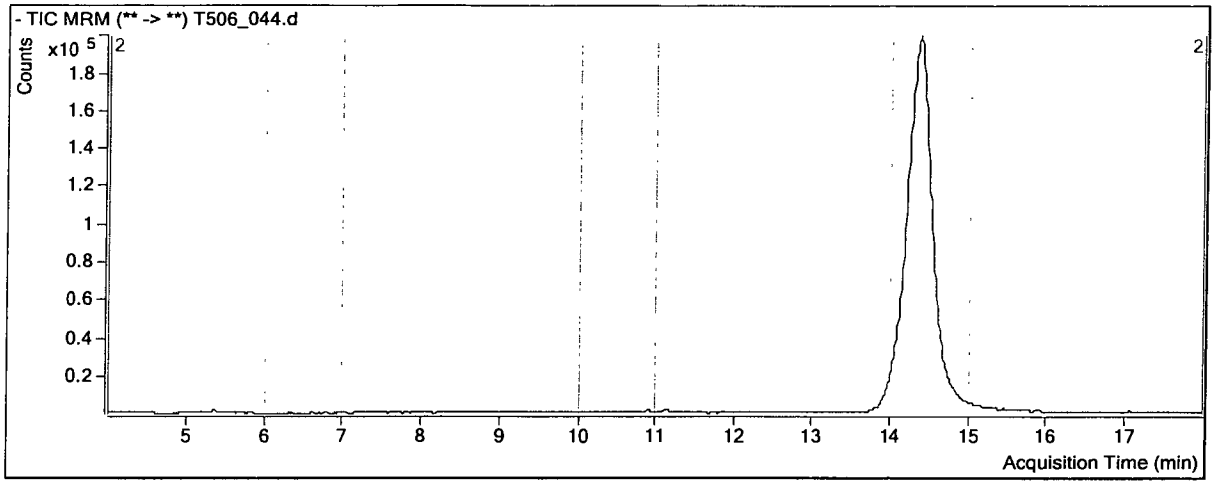
Sample ID : PER_CCV 0.0004 ug/ml 04/20/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
14.374	4075281	PER_IS_89
14.38	440786	Perchlorate_83
14.346	147844	Perchlorate_85

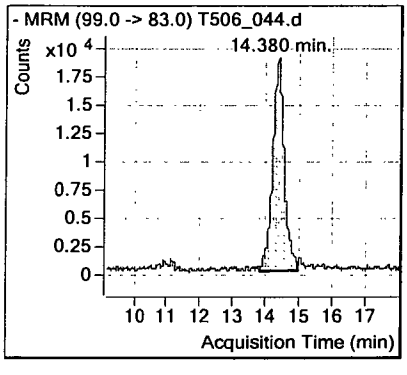
Quantitative Analysis Sample Report

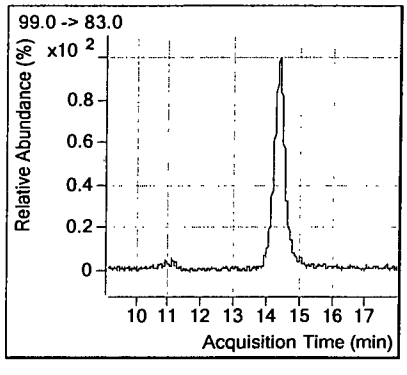
Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_044.d	**Sample Name**	PER_CCV 0.0004 ug/ml 04/20/15
Sample Type	Sample	**Acq_Date**	05/07/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	6:32
ClientID	NA	**Inj Vol**	20

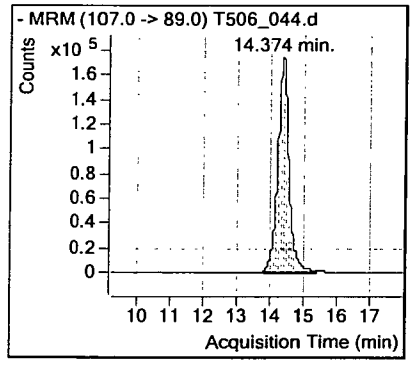


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.380	440786	4075281
Perchlorate_102	PER_IS_108	14.346	147844	4075281

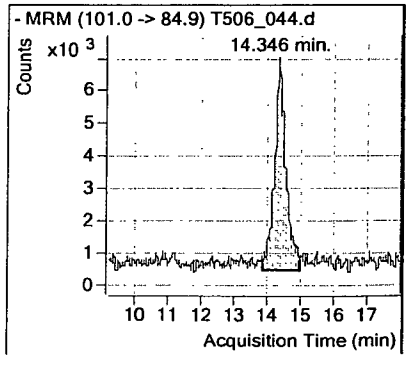
Perchlorate_100

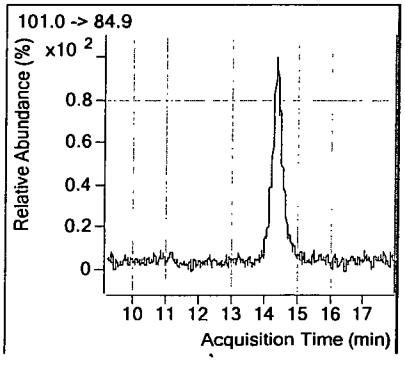


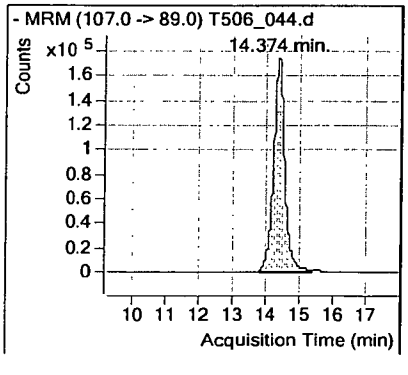




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T506_045.d

	Date (s) of Analysis From:03/12/15 To:05/07/15 Time (s) of Analysis From:17:52 To:5:54				Date of Analysis: 05/07/15 Time of Analysis: 6:50 Standard Id: PER_CCV (Standard) 0.002 ug/ml			
COMPOUND	RT	RT WINDOW FROM	TO	AVERAGE RELATIVE RESPONSE FACTOR	RT	CALCULATED RELATIVE RESPONSE FACTOR	QNT Y/N	%D
Perchlorate_83	13.79	13.69	13.89	1.270255	14.55	1.184883	N	6.7
Perchlorate_85	13.70	13.60	13.80	0.391605	14.55	0.344352	N	12.1

FILE ID : TQCK0645.RFB

Data File ID: T506_045.d

Date Injected : 05/07/15

Time Injected : 6:50

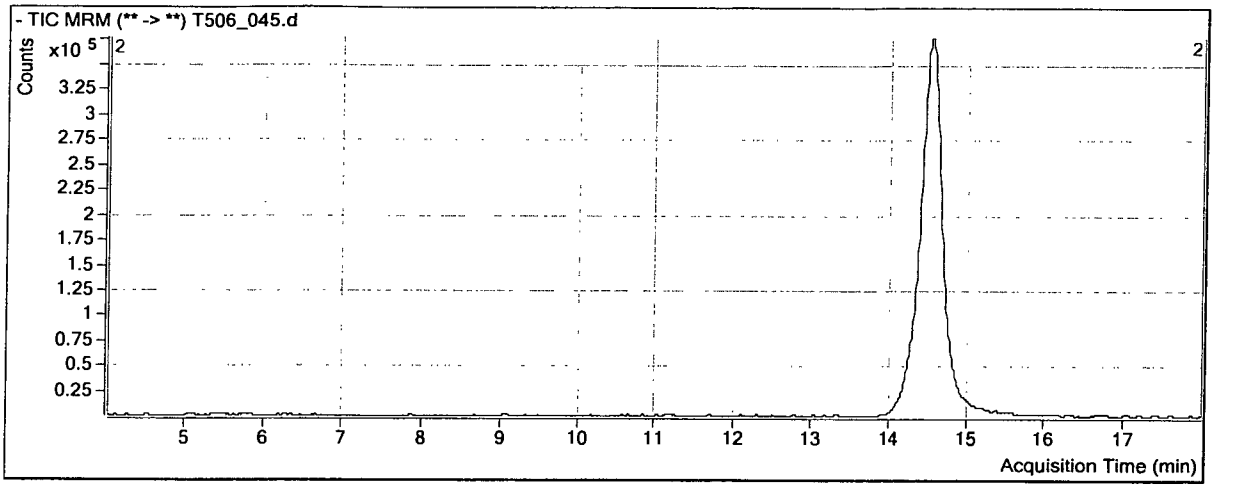
Sample ID : PER_CCV 0.002 ug/ml 04/20/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
14.526	4872353	PER_IS_89
14.554	2309267	Perchlorate_83
14.55	671122	Perchlorate_85

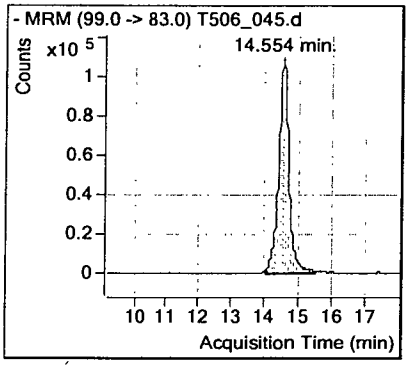
Quantitative Analysis Sample Report

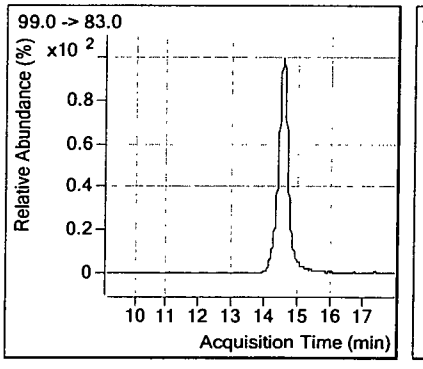
Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_045.d	**Sample Name**	PER_CCV 0.002 ug/ml 04/20/15
Sample Type	Sample	**Acq_Date**	05/07/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	6:50
ClientID	NA	**Inj Vol**	20

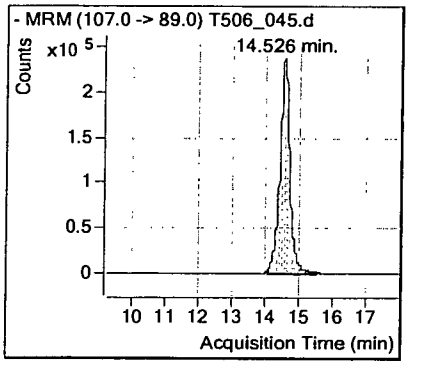


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.554	2309267	4872353
Perchlorate_102	PER_IS_108	14.550	671122	4872353

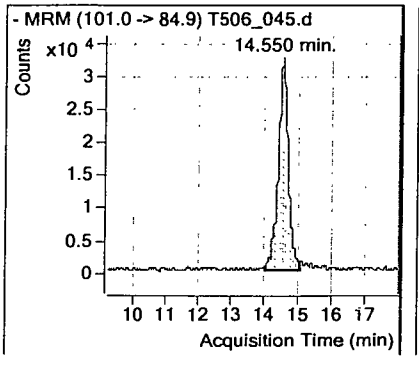
Perchlorate_100

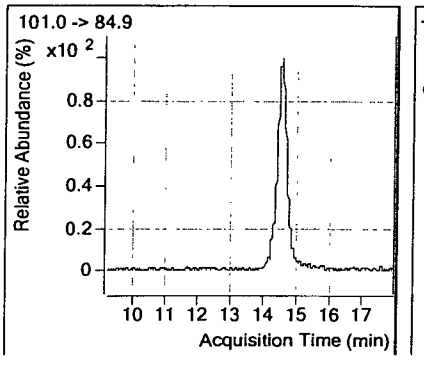


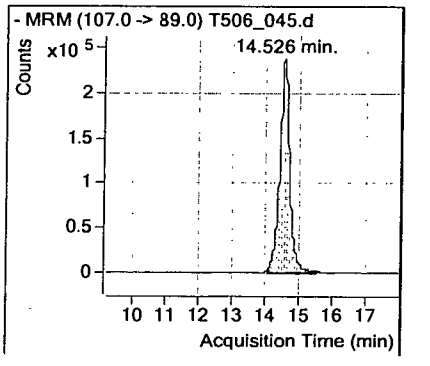




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T506_057.d

	Date (s) of Analysis From:03/12/15 To:05/07/15 Time (s) of Analysis From:17:52 To:10:03				Date of Analysis: 05/07/15 Time of Analysis: 10:41 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	13.74	1.318805	N	3.8
Perchlorate_85	13.70	13.60	13.80	0.391605	13.73	0.460711	N	17.6

FILE ID : TQCK0657.RFB

Data File ID: T506_057.d

Date Injected : 05/07/15

Time Injected : 10:41

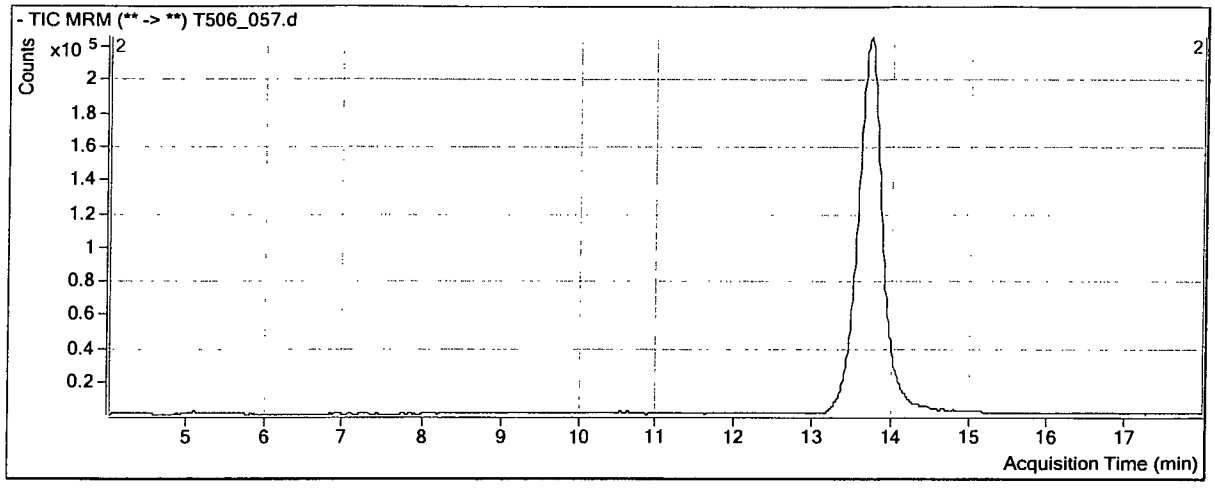
Sample ID : PER_CCV 0.0004 ug/ml 04/20/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.721	4358642	PER_IS_89
13.738	459856	Perchlorate_83
13.725	160646	Perchlorate_85

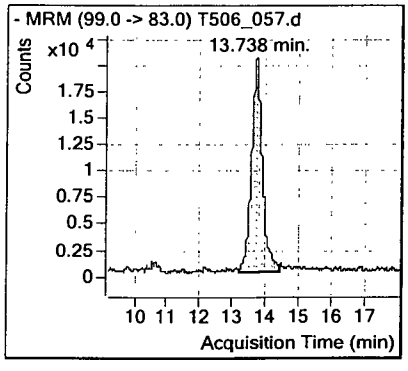
Quantitative Analysis Sample Report

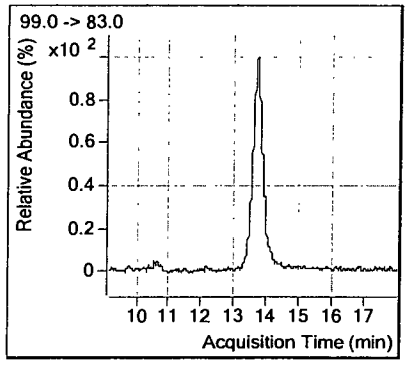
Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_057.d	**Sample Name**	PER_CCV 0.0004 ug/ml 04/20/15
Sample Type	Sample	**Acq_Date**	05/07/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	10:41
ClientID	NA	**Inj Vol**	20

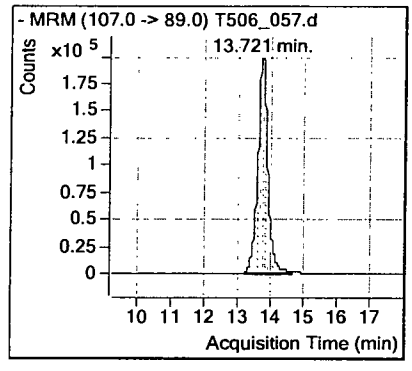


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.738	459856	4358642
Perchlorate_102	PER_IS_108	13.725	160646	4358642

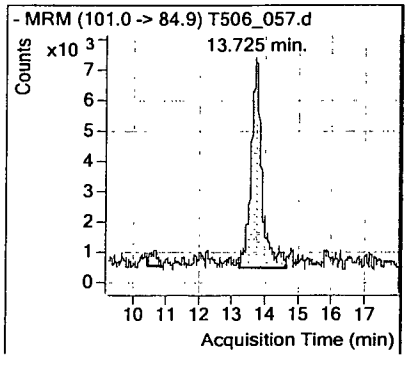
Perchlorate_100

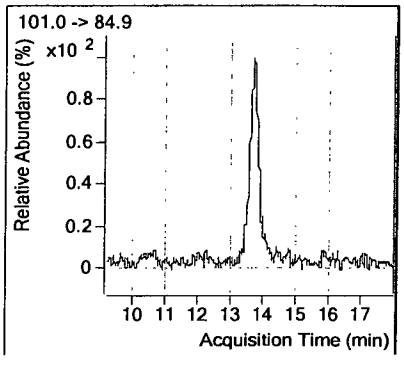


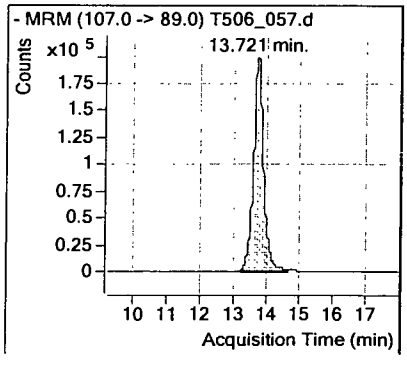




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T506_058.d

	Date (s) of Analysis From:03/12/15 To:05/07/15 Time (s) of Analysis From:17:52 To:10:03				Date of Analysis: 05/07/15 Time of Analysis: 11:00 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	13.89	1.175139	N	7.5
Perchlorate_85	13.70	13.60	13.80	0.391605	13.89	0.348164	N	11.1

FILE ID : TQCK0658.RFB

Data File ID: T506_058.d

Date Injected : 05/07/15

Time Injected : 11:00

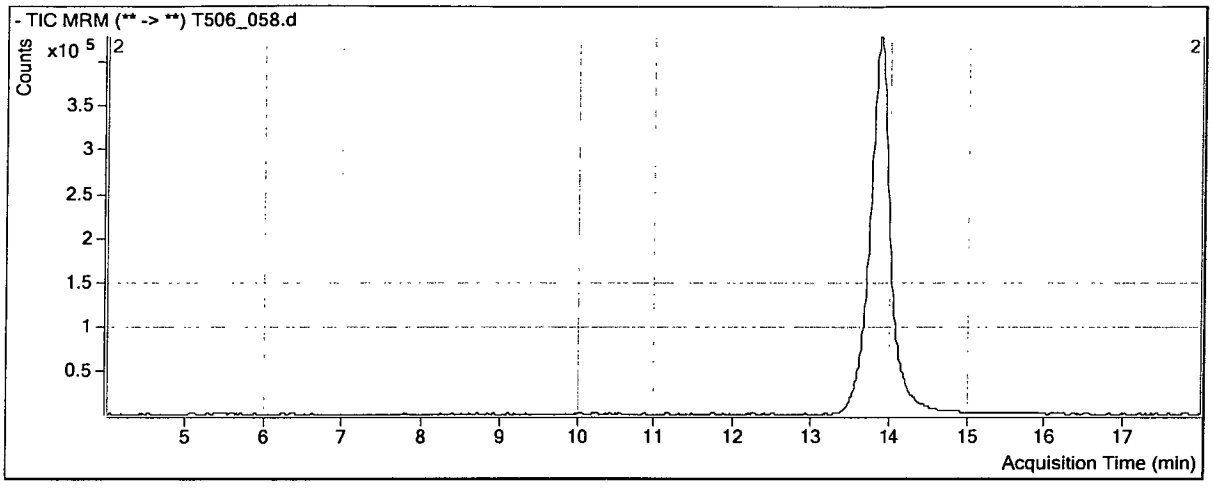
Sample ID : PER_CCV 0.002 ug/ml 04/20/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.864	5207137	PER_IS_89
13.891	2447643	Perchlorate_83
13.888	725175	Perchlorate_85

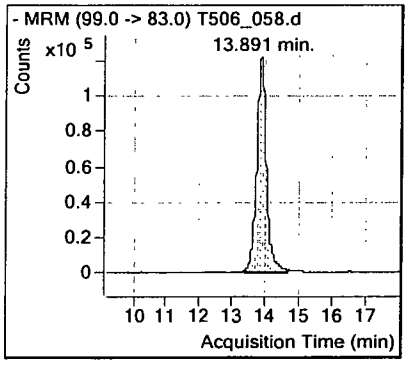
Quantitative Analysis Sample Report

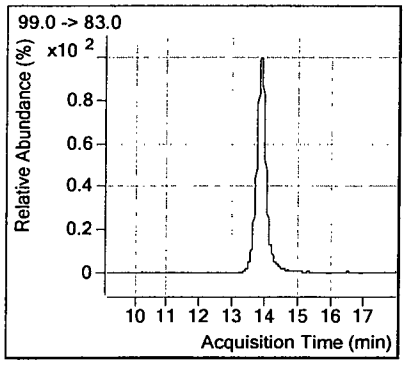
Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_058.d	**Sample Name**	PER_CCV 0.002 ug/ml 04/20/15
Sample Type	Sample	**Acq_Date**	05/07/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	11:00
ClientID	NA	**Inj Vol**	20

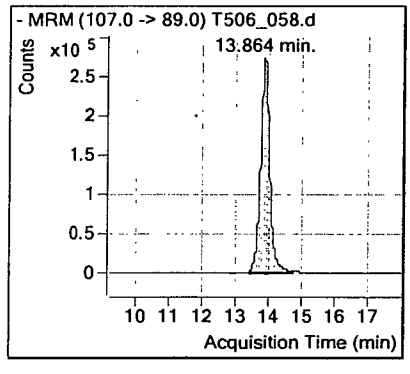


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.891	2447643	5207137
Perchlorate_102	PER_IS_108	13.888	725175	5207137

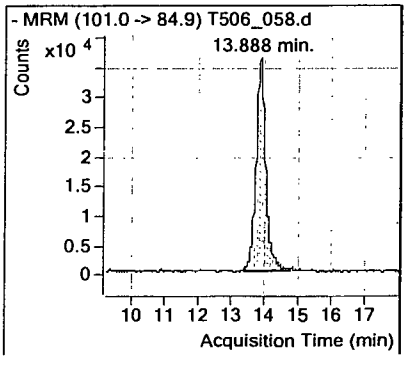
Perchlorate_100

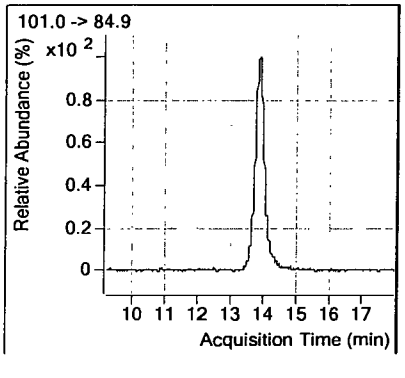


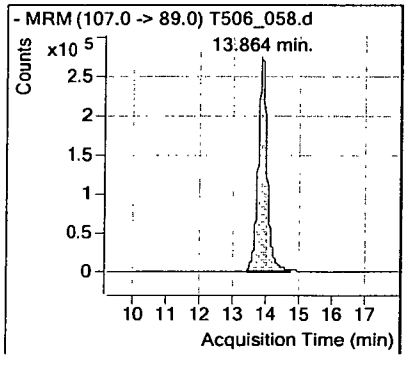




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T506_070.d

	Date (s) of Analysis From:03/12/15 To:05/07/15 Time (s) of Analysis From:17:52 To:14:14				Date of Analysis: 05/07/15 Time of Analysis: 14:51 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	13.47	1.367041	N	7.6
Perchlorate_85	13.70	13.60	13.80	0.391605	13.48	0.431768	N	10.3

FILE ID : TQCK0670.RFB

Data File ID: T506_070.d

Date Injected : 05/07/15

Time Injected : 14:51

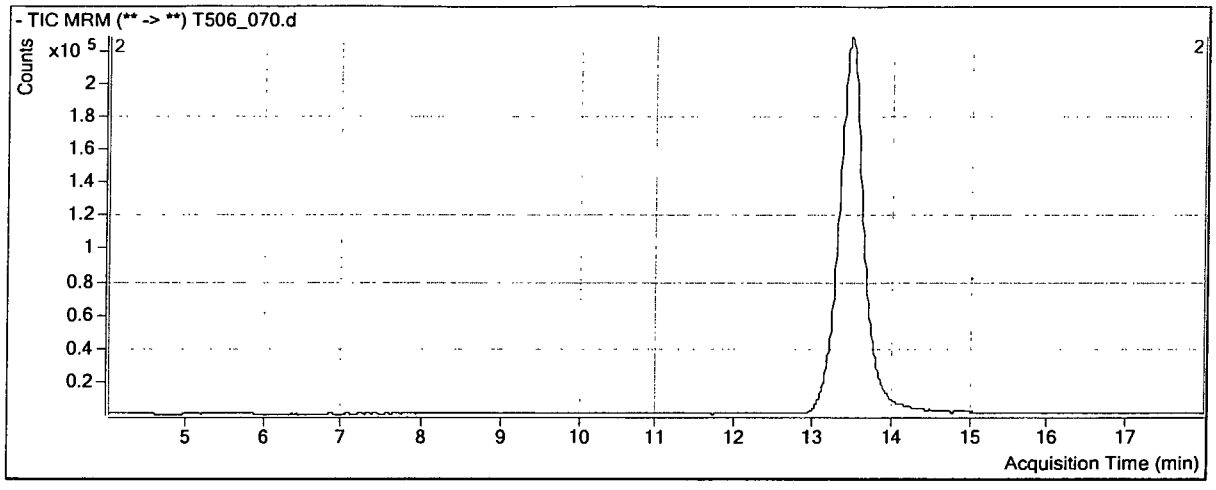
Sample ID : PER_CCV 0.0004 ug/ml 04/20/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.467	4367215	PER_IS_89
13.474	477613	Perchlorate_83
13.48	150850	Perchlorate_85

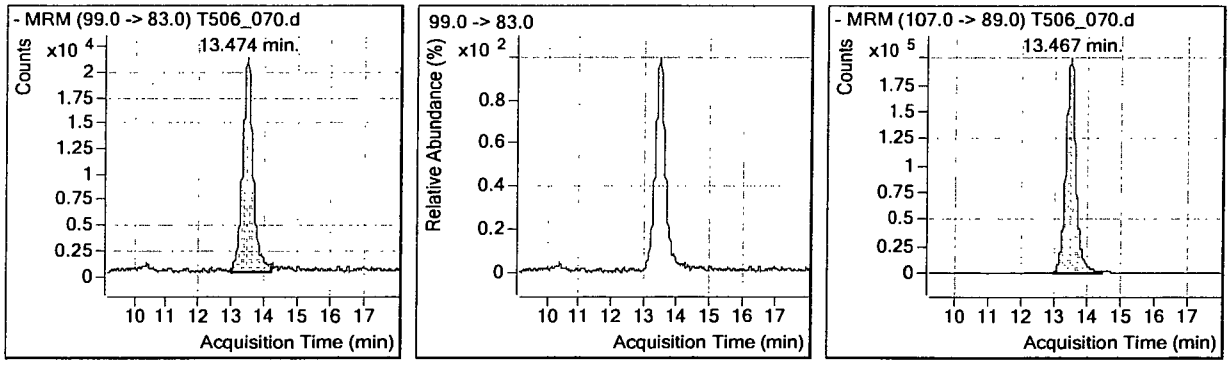
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_070.d	**Sample Name**	PER_CCV 0.0004 ug/ml 04/20/15
Sample Type	Sample	**Acq_Date**	05/07/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	14:51
ClientID	NA	**Inj Vol**	20

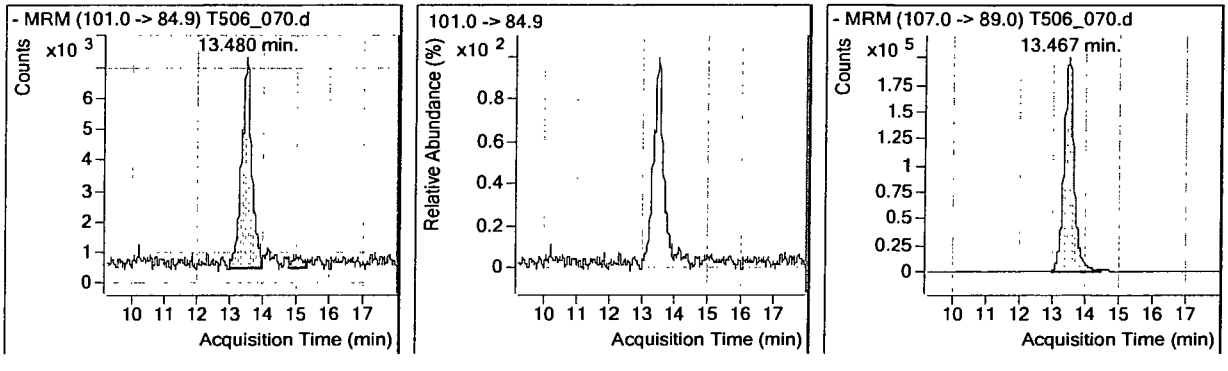


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.474	477613	4367215
Perchlorate_102	PER_IS_108	13.480	150850	4367215

Perchlorate_100



Perchlorate_102



CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T506_071.d

	Date (s) of Analysis From:03/12/15 To:05/07/15 Time (s) of Analysis From:17:52 To:14:14				Date of Analysis: 05/07/15 Time of Analysis: 15:15 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	13.69	1.174083	N	7.6
Perchlorate_85	13.70	13.60	13.80	0.391605	13.67	0.357339	N	8.8

FILE ID : TQCK0671.RFB

Data File ID: T506_071.d

Date Injected : 05/07/15

Time Injected : 15:15

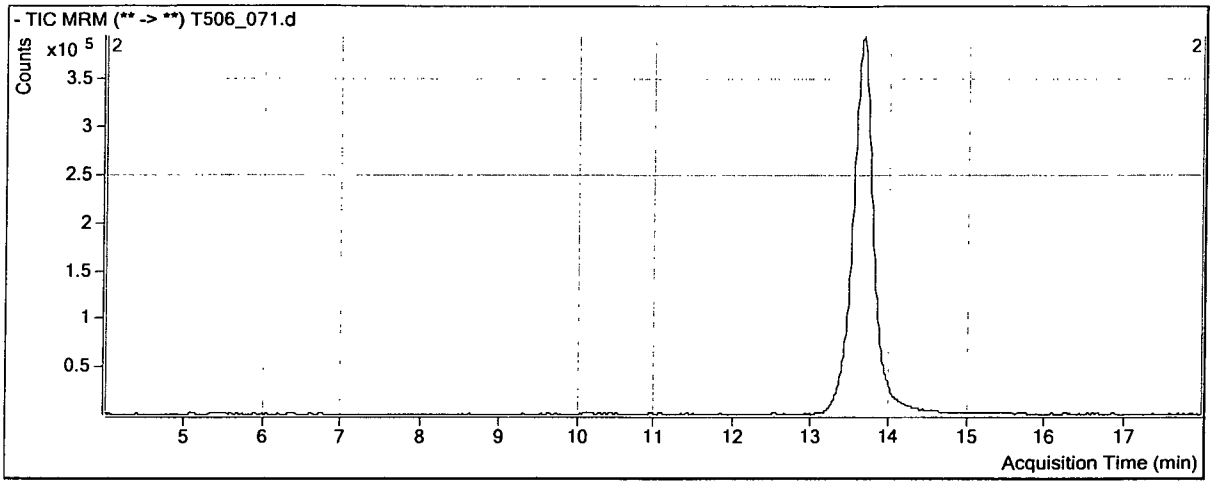
Sample ID : PER_CCV 0.002 ug/ml 04/20/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.671	4602926	PER_IS_89
13.688	2161686	Perchlorate_83
13.674	657922	Perchlorate_85

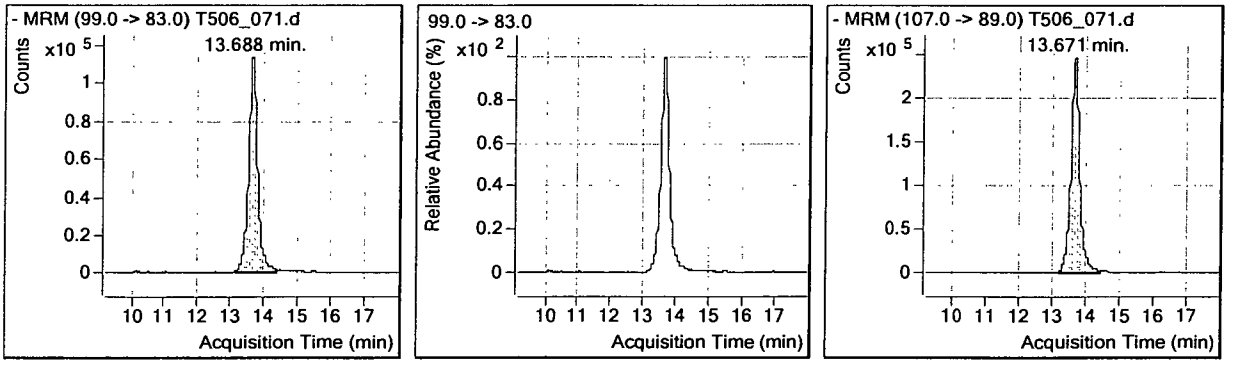
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A2_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_071.d	**Sample Name**	PER_CCV 0.002 ug/ml 04/20/15
Sample Type	Sample	**Acq_Date**	05/07/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	15:15
ClientID	NA	**Inj Vol**	20

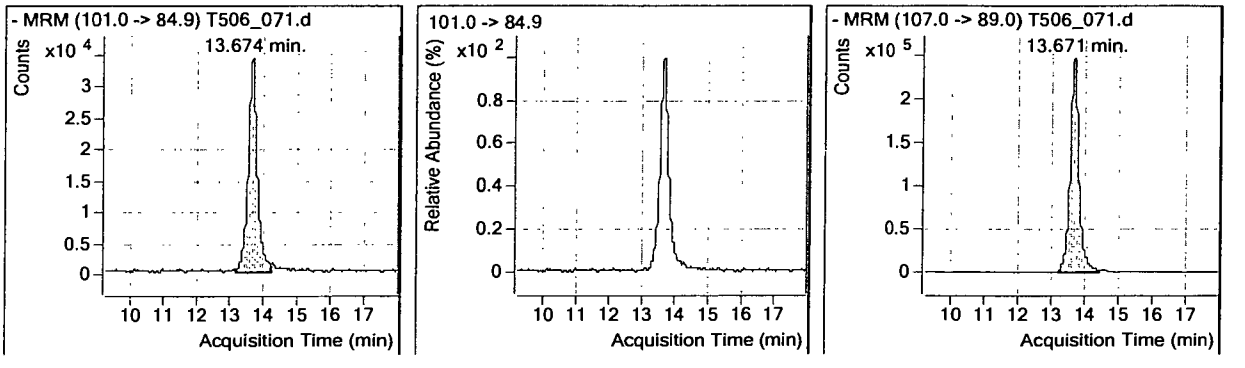


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.688	2161686	4602926
Perchlorate_102	PER_IS_108	13.674	657922	4602926

Perchlorate_100



Perchlorate_102



CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T507_059.d

	Date (s) of Analysis From:03/12/15 To:05/08/15 Time (s) of Analysis From:17:52 To:13:30				Date of Analysis: 05/08/15 Time of Analysis: 14:07 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	13.45	1.505112	N	18.5
Perchlorate_85	13.70	13.60	13.80	0.391605	13.44	0.484356	N	23.7

FILE ID : TQCK0759.RFB

Data File ID: T507_059.d

Date Injected : 05/08/15

Time Injected : 14:07

Sample ID : PER_CCV 0.0004 ug/ml 05/07/15

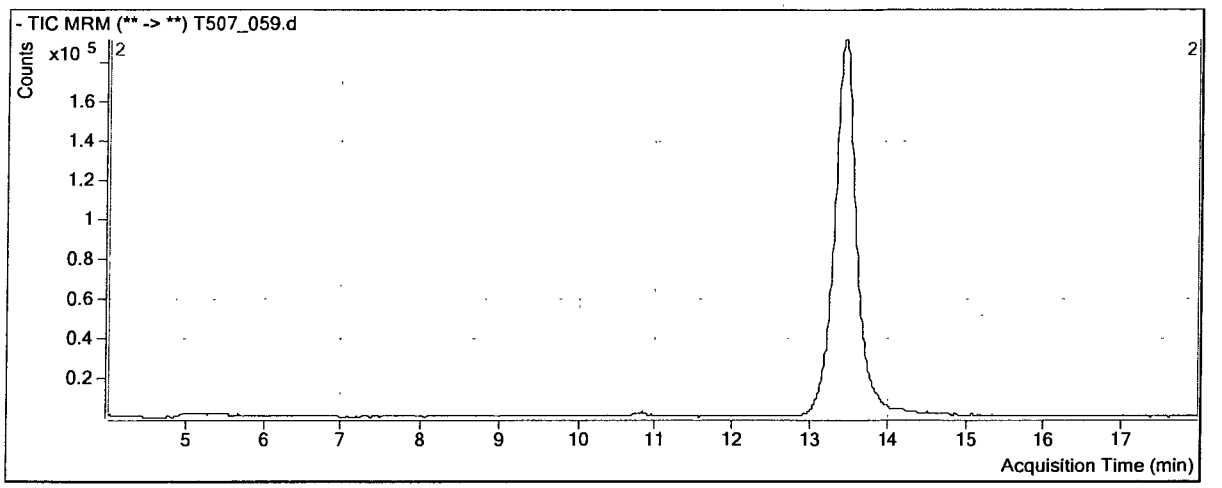
Client ID : NA

Retention Time		Area Count Response	Compound_ID Product Ion
13.436		3275330	PER_IS_89
13.453	*	394379	Perchlorate_83
13.44		126914	Perchlorate_85

* MANUAL INTEGRAION

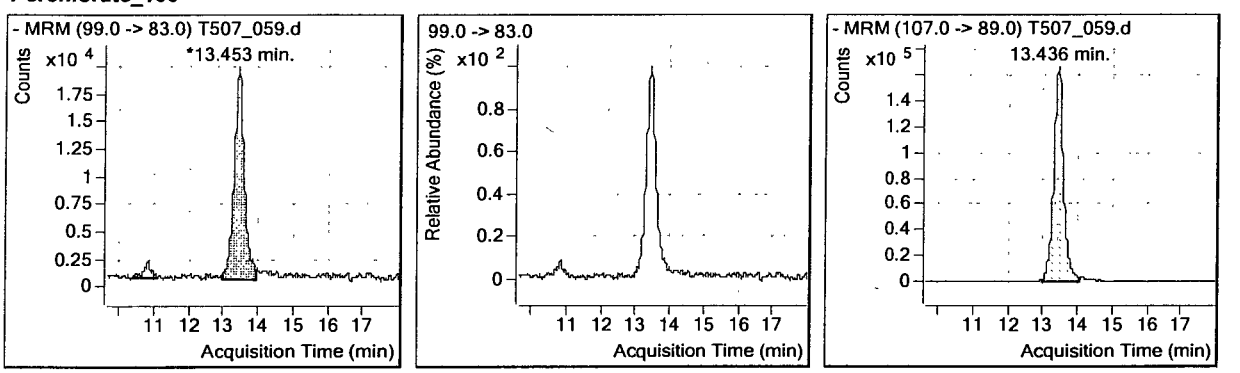
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150507\QuantResults\150507_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T507_059.d	**Sample Name**	PER_CCV 0.0004 ug/ml 05/07/15
Sample Type	Sample	**Acq_Date**	05/08/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	14:07
ClientID	NA	**Inj Vol**	20

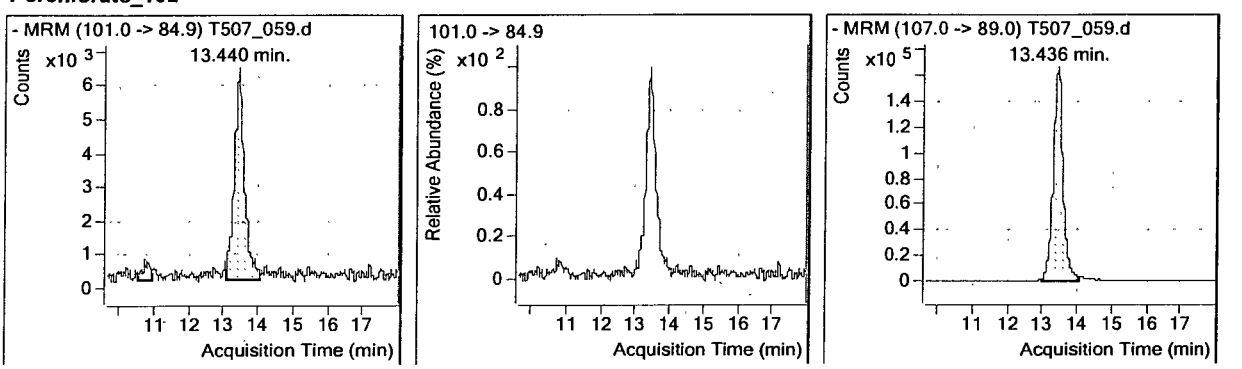


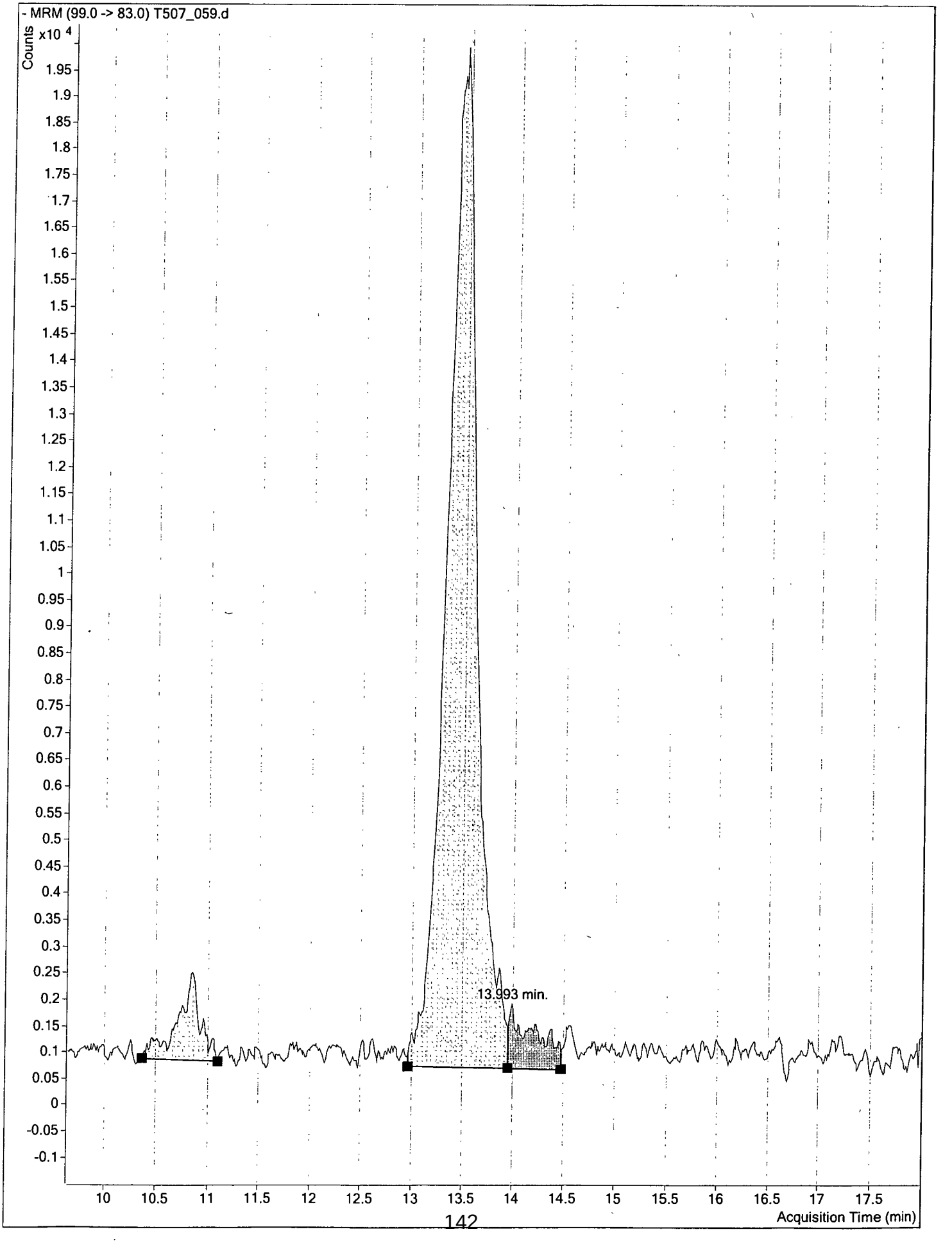
Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108	*	13.453	394379	3275330	* MANUAL INT
Perchlorate_102	PER_IS_108		13.440	126914	3275330	

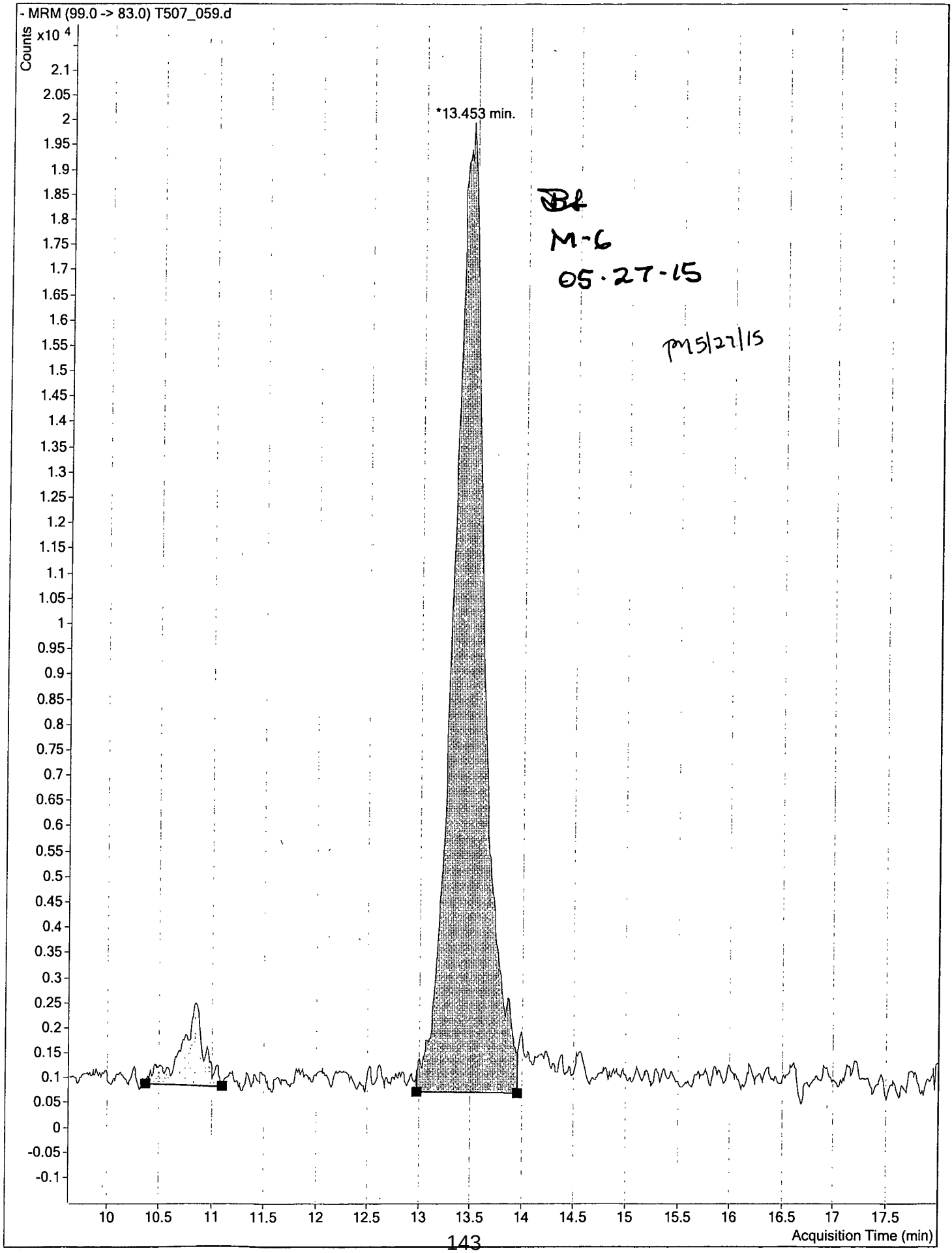
Perchlorate_100



Perchlorate_102




- MRM (99.0 -> 83.0) T507_059.d
Counts
x10 4
1.95
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
-0.1
13.993 min.
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)



Blk
M-6
05.27.15

PM 5/27/15

CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T507_060.d

	Date (s) of Analysis From:03/12/15 To:05/08/15 Time (s) of Analysis From:17:52 To:13:30				Date of Analysis: 05/08/15 Time of Analysis: 14:26 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	1.165534	N	8.2
Perchlorate_85	13.70	13.60	13.80	0.391605	13.50	0.362654	N	7.4

FILE ID : TQCK0760.RFB

Data File ID: T507_060.d

Date Injected : 05/08/15

Time Injected : 14:26

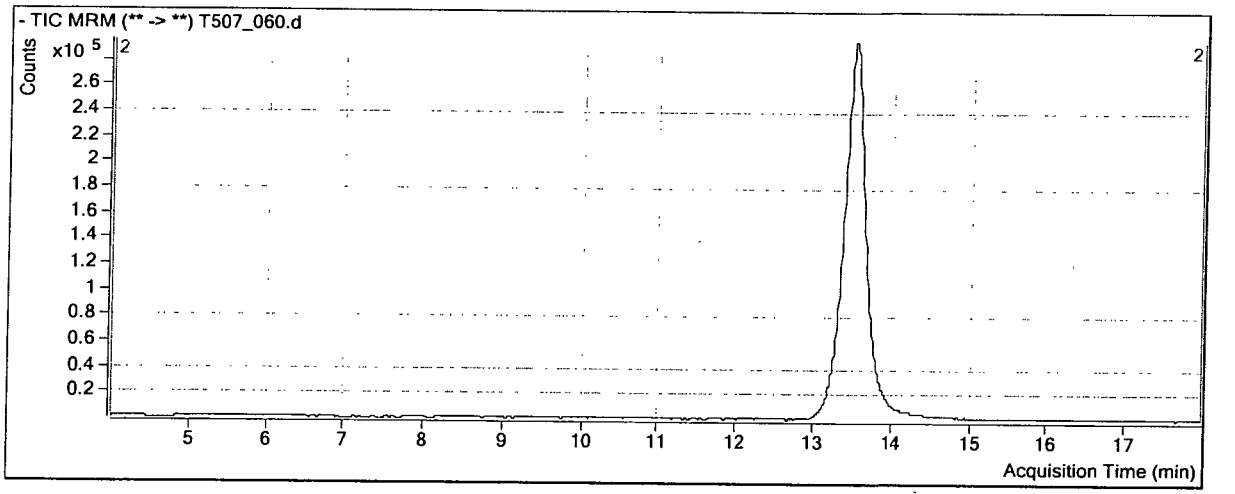
Sample ID : PER_CCV 0.002 ug/ml 05/07/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.507	3677642	PER_IS_89
13.504	1714567	Perchlorate_83
13.501	533485	Perchlorate_85

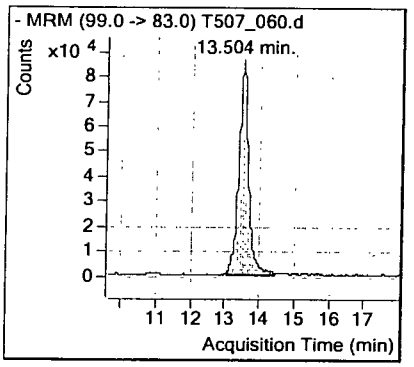
Quantitative Analysis Sample Report

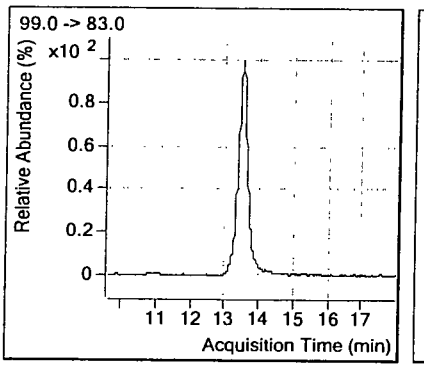
Batch Data Path	D:\MassHunter\Data\150507\QuantResults\150507_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T507_060.d	**Sample Name**	PER_CCV 0.002 ug/ml 05/07/15
Sample Type	Sample	**Acq_Date**	05/08/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	14:26
ClientID	NA	**Inj Vol**	20

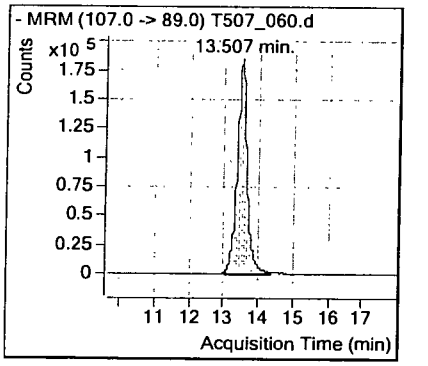


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	13.504	1714567	3677642
Perchlorate_102	PER_IS_108	13.501	533485	3677642

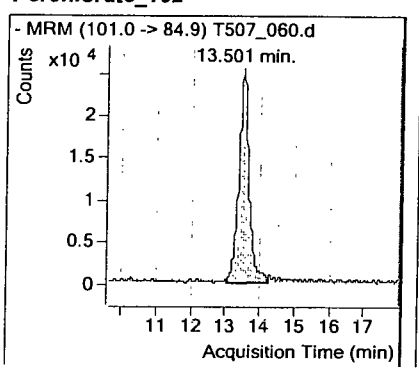
Perchlorate_100

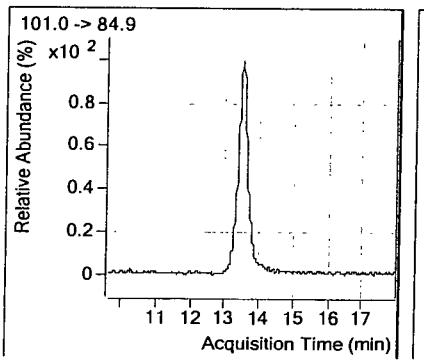


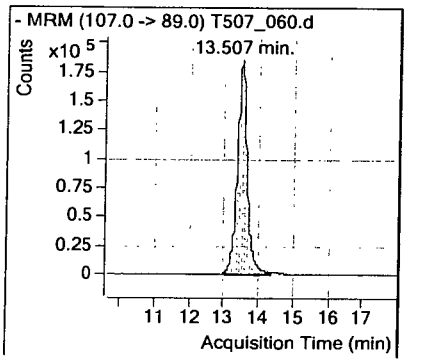




Perchlorate_102







CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T507_070.d

	Date (s) of Analysis From:03/12/15 To:05/08/15 Time (s) of Analysis From:17:52 To:17:04				Date of Analysis: 05/08/15 Time of Analysis: 17:42 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	13.68	1.425766	N	12.2
Perchlorate_85	13.70	13.60	13.80	0.391605	13.71	0.476320	N	21.6

FILE ID : TQCK0770.RFB

Data File ID: T507_070.d

Date Injected : 05/08/15

Time Injected : 17:42

Sample ID : PER_CCV 0.0004 ug/ml 05/07/15

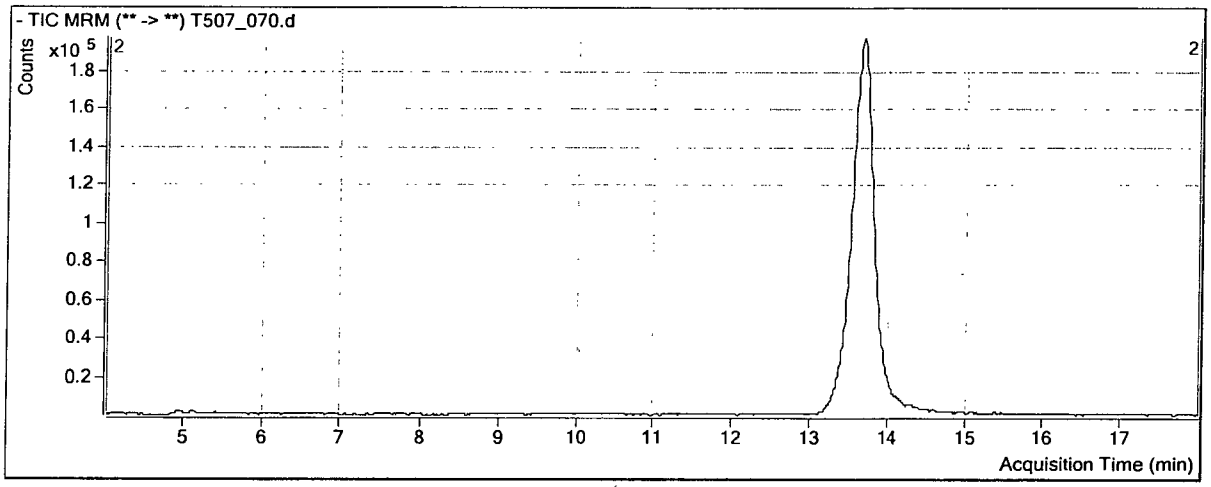
Client ID : NA

Retention Time		Area Count Response	Compound_ID Product Ion
13.681		3519327	PER_IS_89
13.677		401419	Perchlorate_83
13.715	*	134106	Perchlorate_85

* MANUAL INTEGRAION

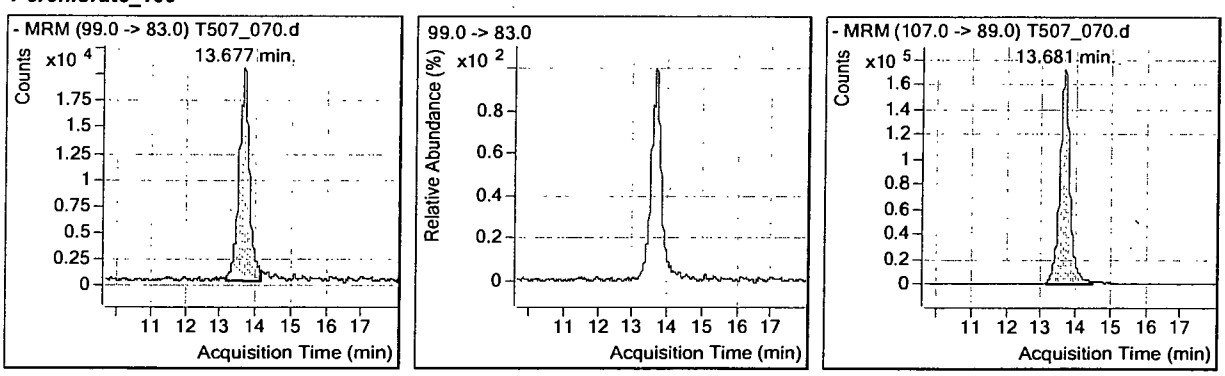
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150507\QuantResults\150507_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T507_070.d	**Sample Name**	PER_CCV 0.0004 ug/ml 05/07/15
Sample Type	Sample	**Acq_Date**	05/08/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	17:42
ClientID	NA	**Inj Vol**	20

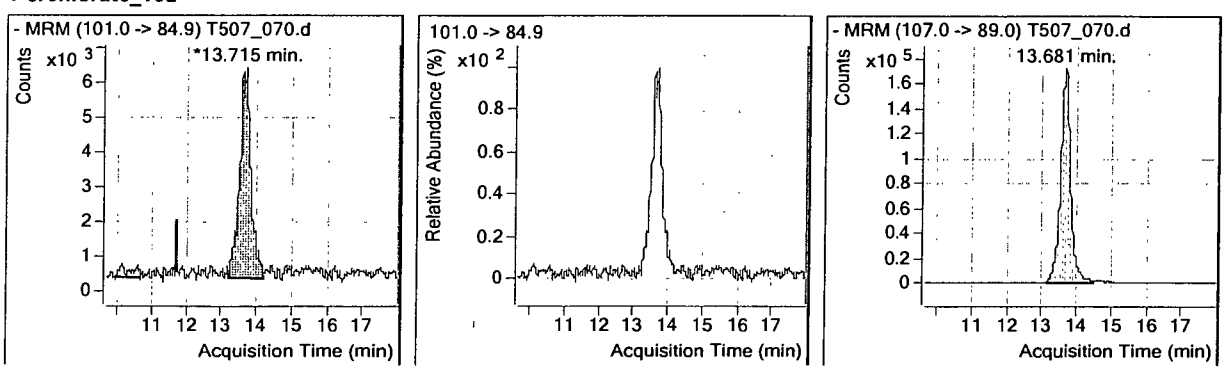


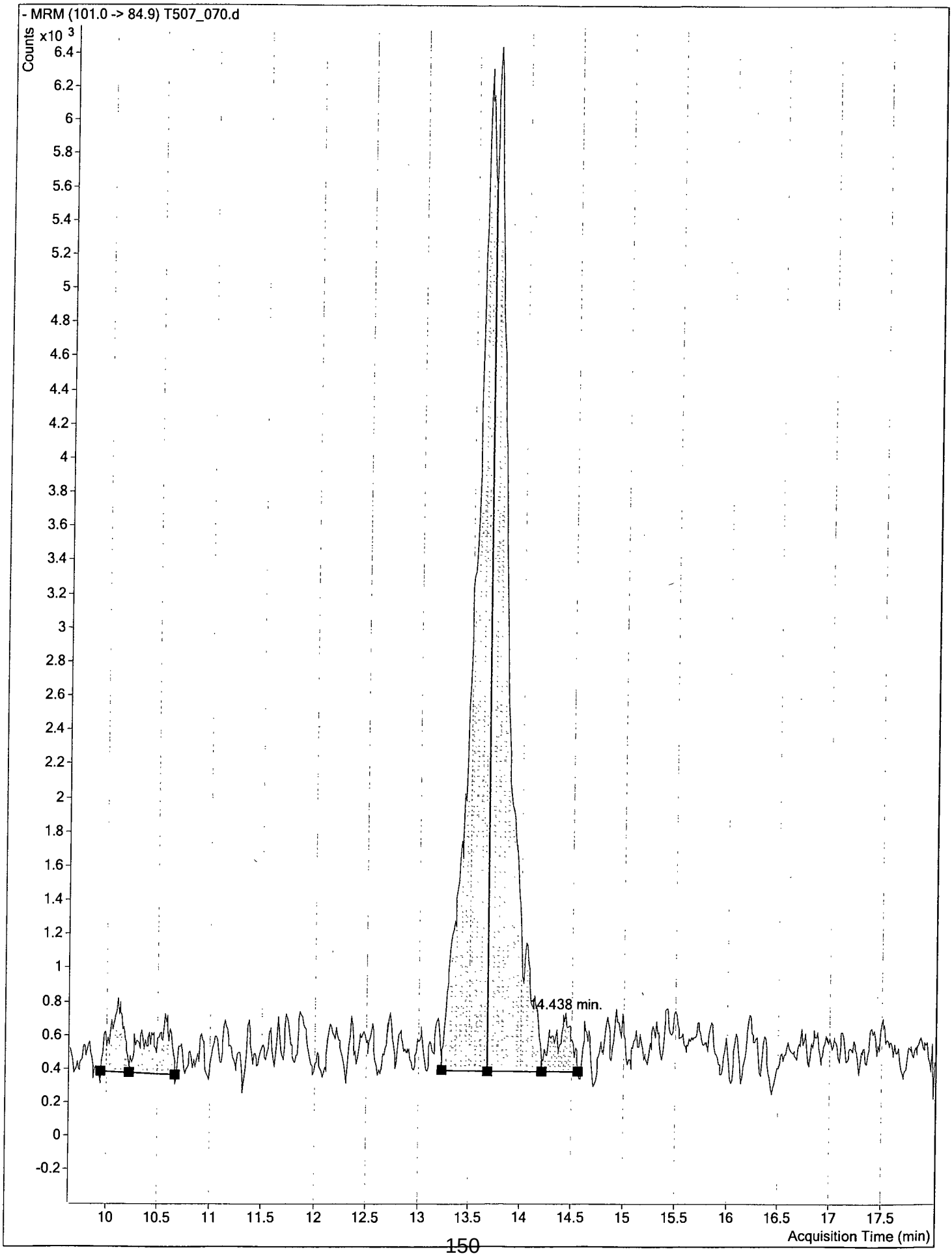
Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108		13.677	401419	3519327	
Perchlorate_102	PER_IS_108	*	13.715	134106	3519327	* MANUAL INT

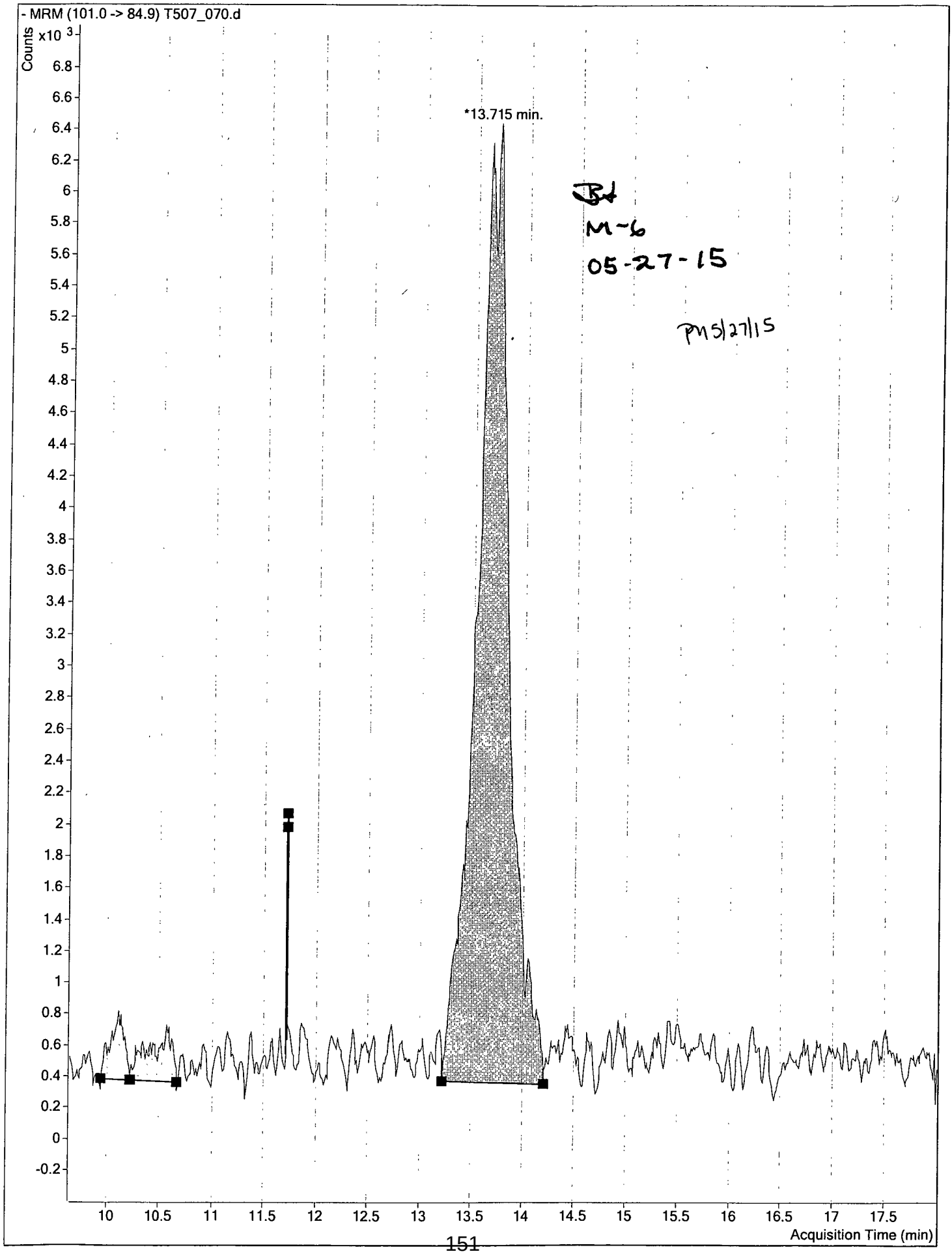
Perchlorate_100



Perchlorate_102




- MRM (101.0 -> 84.9) T507_070.d
Counts
x10 3
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
14.438 min.
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) T507_070.d
Counts
x10 3
*13.715 min.
M-6
05-27-15
PM 5/27/15
Acquisition Time (min)

CONTINUING CALIBRATION CHECK SUMMARY FORM

Lab Name: APPL Inc.

Detector ID: Agilent 6460 Triple Quad LC/MS DATA FILE ID: T507_071.d

	Date (s) of Analysis From:03/12/15 To:05/08/15 Time (s) of Analysis From:17:52 To:17:04				Date of Analysis: 05/08/15 Time of Analysis: 18:00 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	1.213030	N	4.5
Perchlorate_85	13.70	13.60	13.80	0.391605	13.83	0.379504	N	3.1

FILE ID : TQCK0771.RFB

Data File ID: T507_071.d

Date Injected : 05/08/15

Time Injected : 18:00

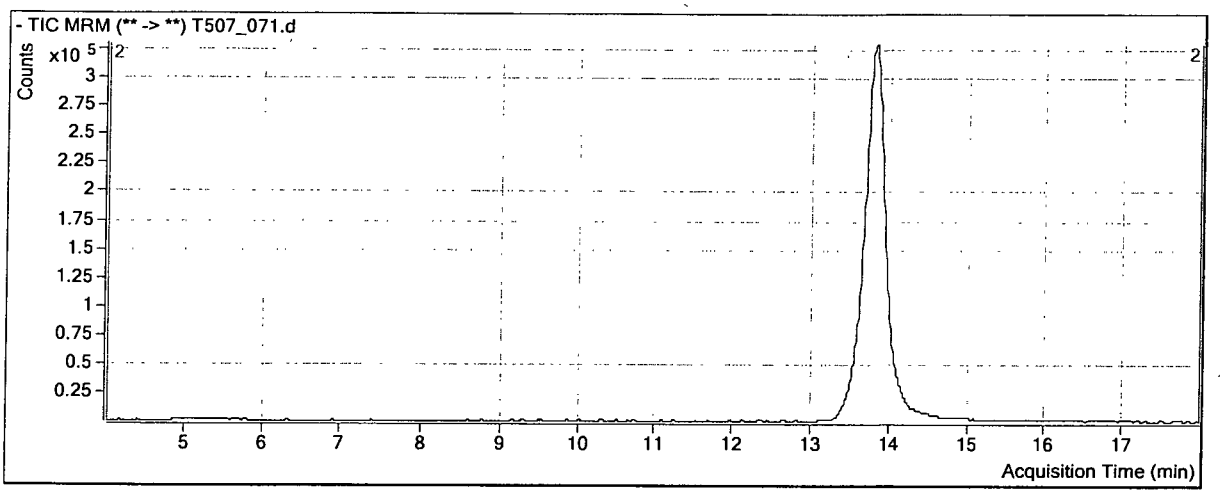
Sample ID : PER_CCV 0.002 ug/ml 05/07/15

Client ID : NA

Retention Time	Area Count Response	Compound_ID Product Ion
13.803	4130110	PER_IS_89
13.82	2003979	Perchlorate_83
13.827	626958	Perchlorate_85

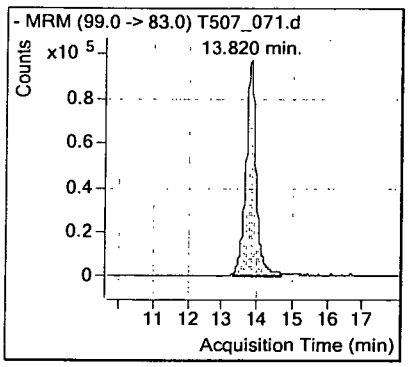
Quantitative Analysis Sample Report

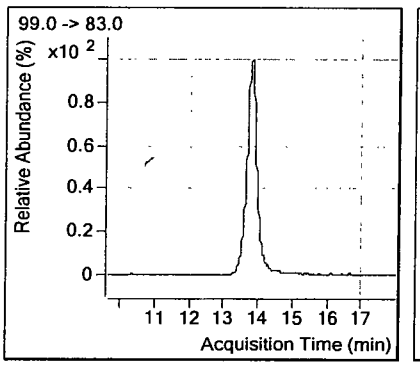
Batch Data Path	D:\MassHunter\Data\150507\QuantResults\150507_A_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T507_071.d	**Sample Name**	PER_CCV 0.002 ug/ml 05/07/15
Sample Type	Sample	**Acq_Date**	05/08/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	18:00
ClientID	NA	**Inj Vol**	20

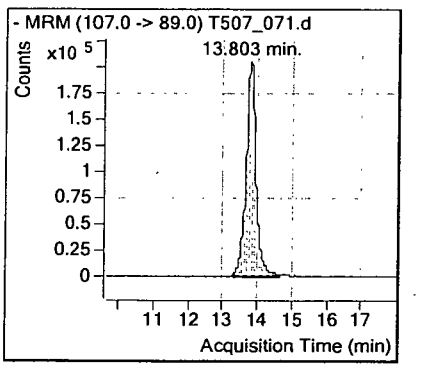


Compound	ISTD	RT	Resp	ISTD_RESP
Perchlorate_100	PER_IS_108	13.820	2003979	4130110
Perchlorate_102	PER_IS_108	13.827	626958	4130110

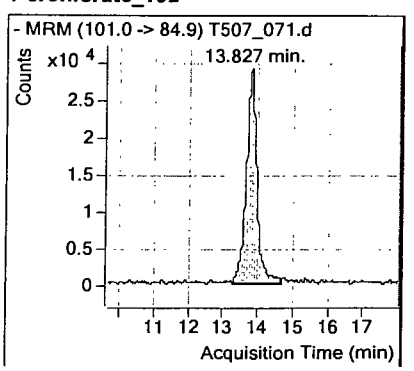
Perchlorate_100

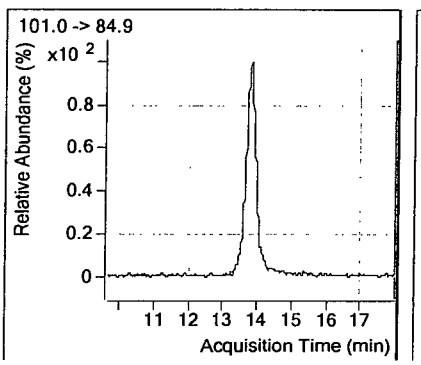


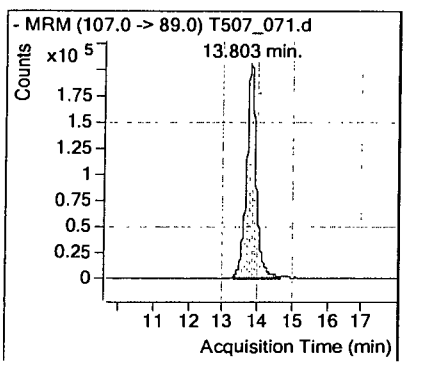




Perchlorate_102







EPA METHOD 6850
Perchlorate
LC/MS

Raw Data

APPL, INC.

Method Blank
Perchlorate

Blank Name/QCG: **150506W-15992 - 196713**
Batch ID: #6850-150506A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

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	05/06/15	05/06/15

Quant Method: QTLMFL2
Run #: T506_007.D
Instrument: AGIL_6460
Sequence: tq050615
Initials: MP

GC SC-Blank-REG MDLs
Printed: 05/07/15 5:50:18 PM

Data File ID: T506_007.d

Date Injected : 05/06/15

Time Injected : 18:47

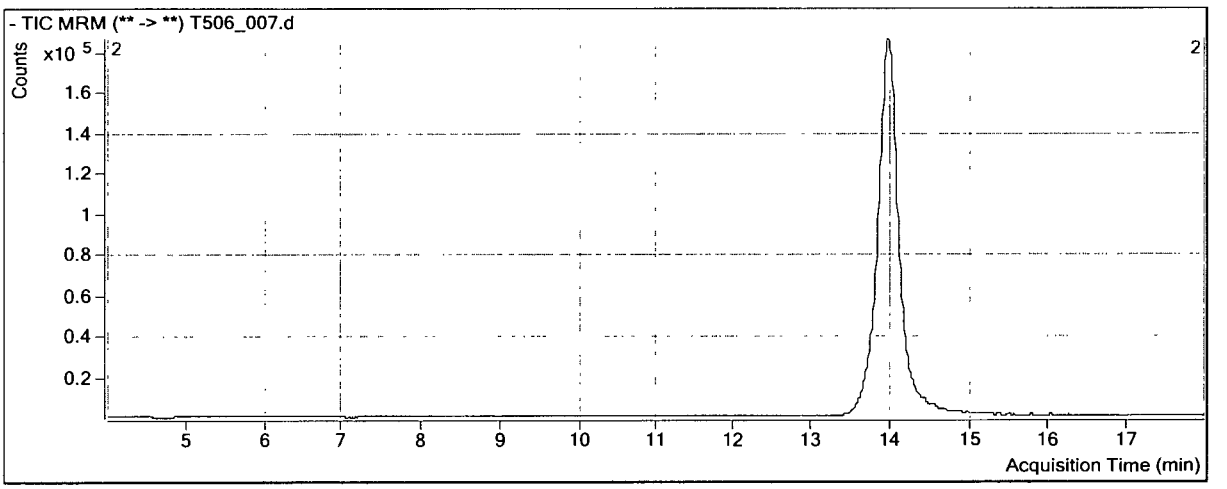
Sample ID : 150506WBLKA 1052.6 DF 05/06/15

Client ID : LAB_CNTL_W_BLKA

Retention Time	Area Count Response	Compound_ID Product Ion				
13.986	3464881	PER_IS_89				
14.095	6524	Perchlorate_83	(6524 * 0.0050) / (1.27 * 3464881.00) *	1052.60 =		0.007801 ppb
13.959	8477	Perchlorate_85	(8477 * 0.0050) / (0.39 * 3464881.00) *	1052.60 =		0.032881 ppb

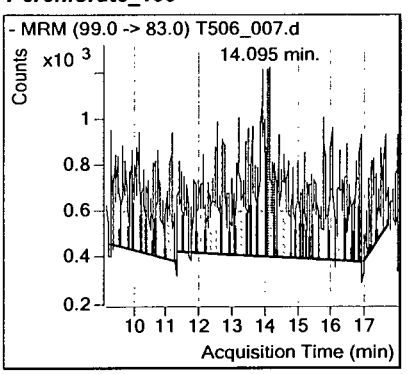
Quantitative Analysis Sample Report

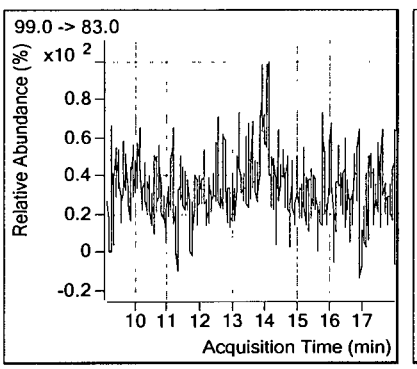
Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_007.d	**Sample Name**	150506WBLKA 1052.6 DF 05/06/15
Sample Type	Sample	**Acq_Date**	05/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	18:47
ClientID	LAB_CNTL_W_BLKA	**Inj Vol**	20

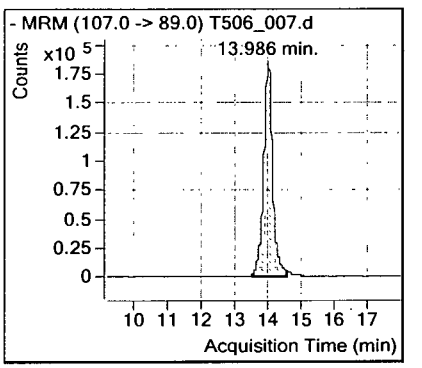


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.095	6524	3464881
Perchlorate_102	PER_IS_108	13.959	8477	3464881

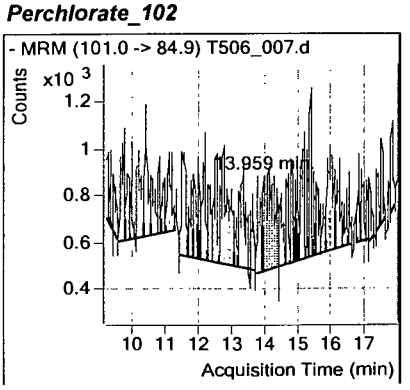
Perchlorate_100

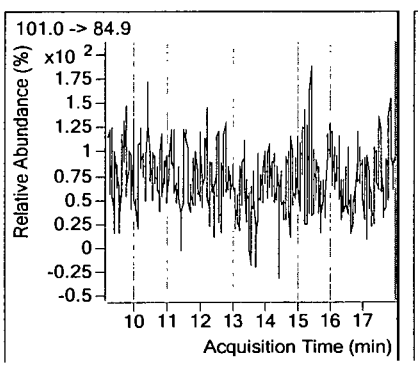


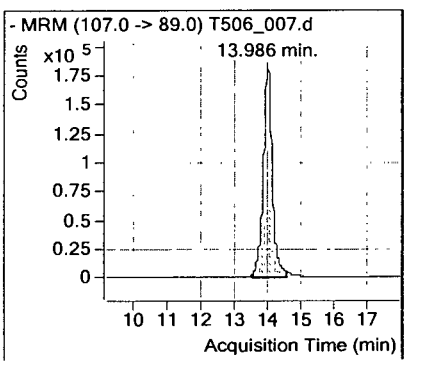




Perchlorate_102







Laboratory Control Spike Recovery
Perchlorate

APPL ID: **150506W-15992 LCS - 196713**
Batch ID: #6850-150506A

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	0.668	111	80-120

omments: _____

Primary	SPK
Quant Method :	QTLMFL2
Extraction Date :	05/06/15
Analysis Date :	05/06/15
Instrument :	AGIL_6460
Run :	T506_005.D
Initials :	MP

Printed: 05/07/15 5:49:34 PM

APPL Standard LCS

Data File ID: T506_005.d

Date Injected : 05/06/15

Time Injected : 18:07

Sample ID : 150506WA_LCS-1 1052.6 DF 05/06/15

Client ID : LAB_CNTL_W_SPKA

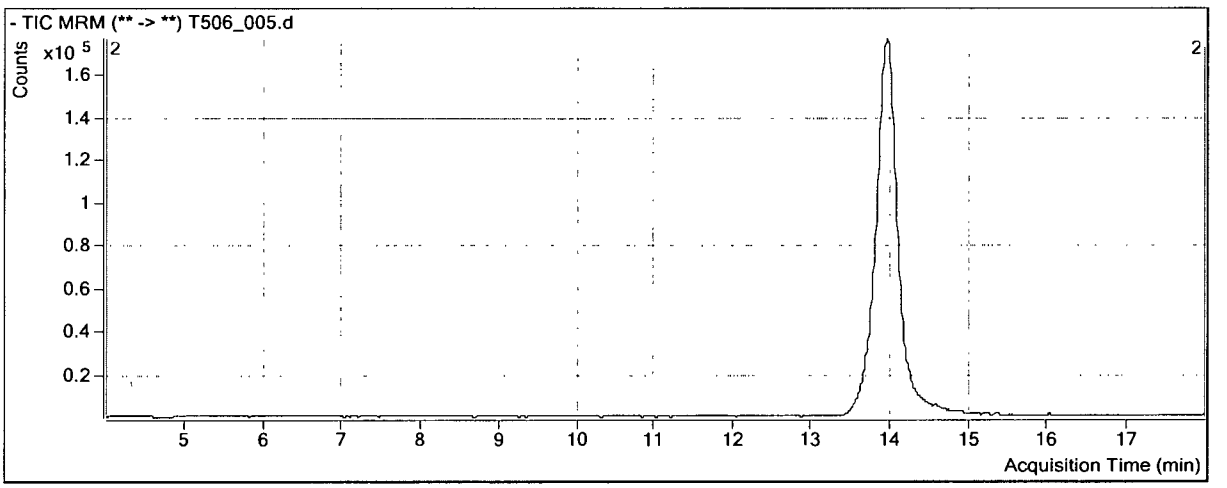
Retention Time	Area Count Response	Compound_ID Product Ion			
13.976	2869029	PER_IS_89			
14.003	462792	Perchlorate_83	(462792 * 0.0050) / (1.27 * 2869029.00) *	1052.60 =	0.668334 ppb
13.959	148512	Perchlorate_85	(148512 * 0.0050) / (0.39 * 2869029.00) *	1052.60 =	0.695684 ppb

$$\frac{(1052.6)(462792)(0.005)}{(1.270255)(2869029)} = 0.668334$$

6/2/15
BP

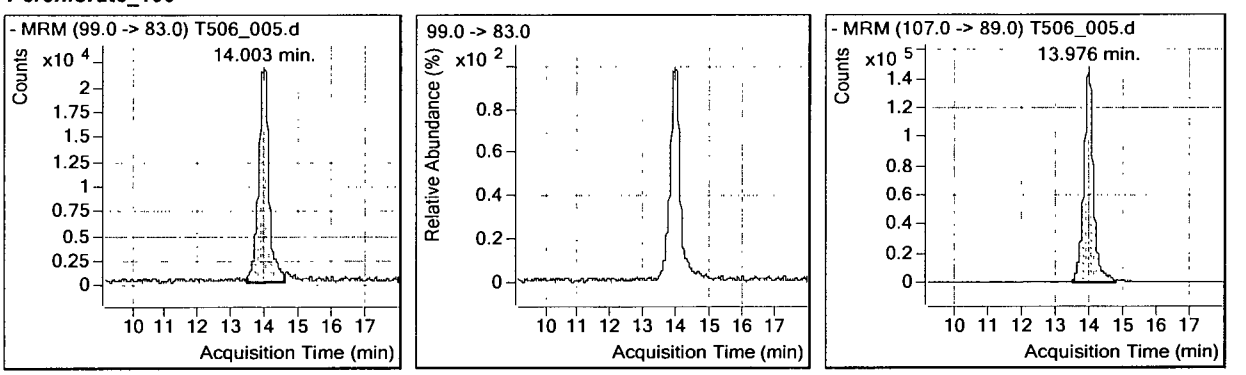
Quantitative Analysis Sample Report

Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_005.d	**Sample Name**	150506WA_LCS-1 1052.6 DF 05/06/15
Sample Type	Sample	**Acq_Date**	05/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	18:07
ClientID	LAB_CNTL_W_SPKA	**Inj Vol**	20

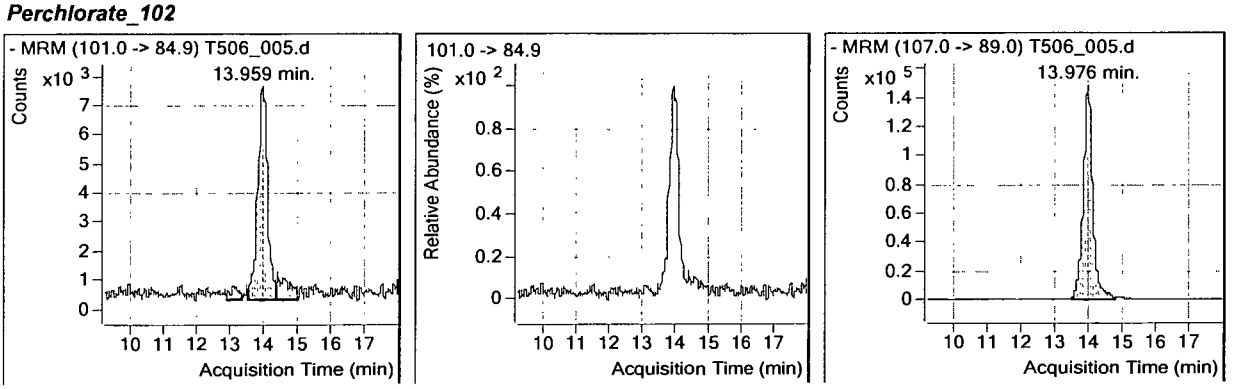


Compound	ISTD	RT	Resp	ISTD Resp
Perchlorate_100	PER_IS_108	14.003	462792	2869029
Perchlorate_102	PER_IS_108	13.959	148512	2869029

Perchlorate_100



Perchlorate_102



Interferrence Check Sample

Perchlorate EPA 6850 Water

APPL ID: 150506W-15992 ICS-196713
Batch ID: #6850-150506A

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	0.678	113.0%	70-130

Comments:

Quant Method:	QTLMFL2
Extraction Date:	05/06/15
Analysis Date:	05/06/15
Instrument:	AGIL_6560
Run:	T506_006.D
Initials:	RP

Data File ID: T506_006.d

Date Injected : 05/06/15

Time Injected : 18:28

Sample ID : 150506WA_ICSA 1052.6 DF 05/06/15

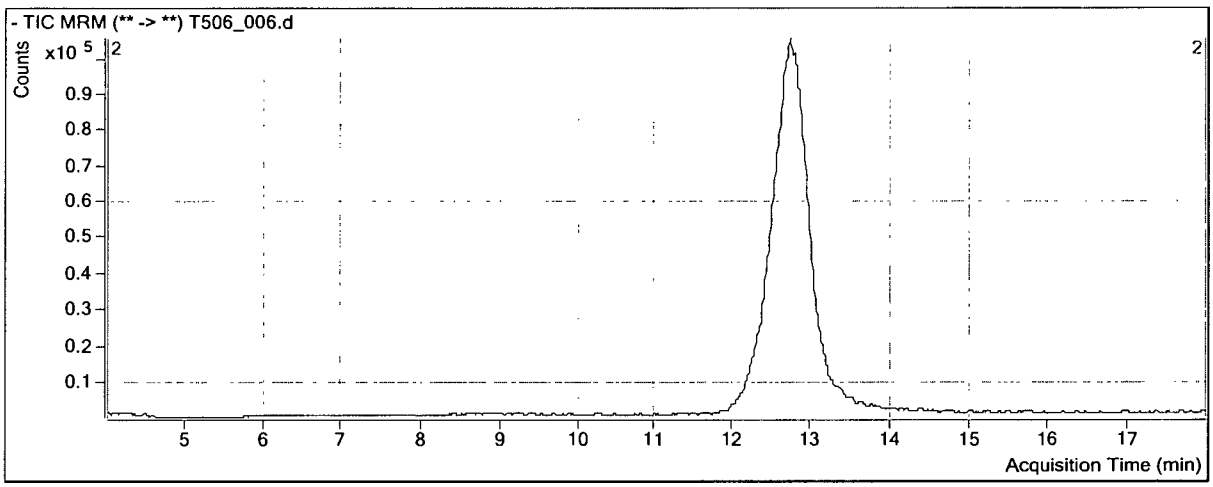
Client ID : LAB_CNTL_W_ICSA

Retention Time		Area Count Response	Compound_ID Product Ion			
12.753		2962223	PER_IS_89			
12.75		484892	Perchlorate_83	(484892 * 0.0050) / (1.27 * 2962223.00) *	1052.60 =	0.678218 ppb
12.726	*	140765	Perchlorate_85	(140765 * 0.0050) / (0.39 * 2962223.00) *	1052.60 =	0.638649 ppb

* MANUAL INTEGRAION

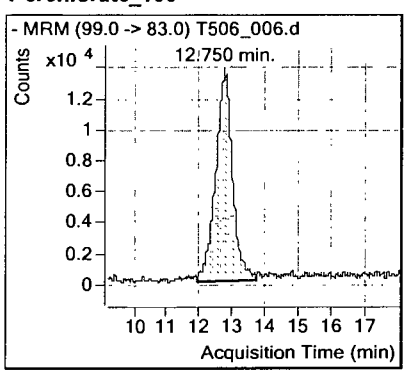
Quantitative Analysis Sample Report

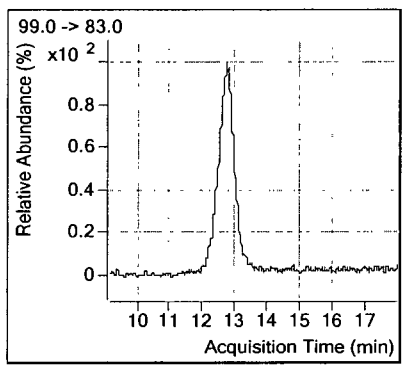
Batch Data Path	D:\MassHunter\Data\150506\QuantResults\150506_A1_MI.batch.bin		
Instrument	LCMS QQQ	**Operator**	ba
Data File	T506_006.d	**Sample Name**	150506WA_ICSA 1052.6 DF 05/06/15
Sample Type	Sample	**Acq_Date**	05/06/15
Acq Method	6460_ESI_PER_N_NEWER_K'_COLUMN.m	**Acq Time**	18:28
ClientID	LAB_CNTL_W_ICSA	**Inj Vol**	20

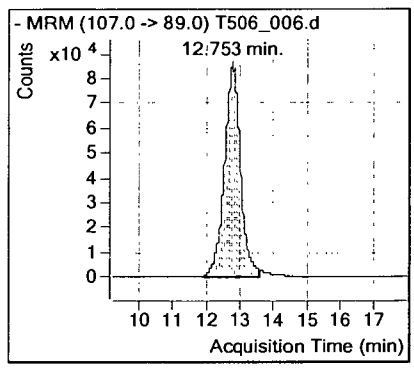


Compound	ISTD		RT	Resp	ISTD Resp	
Perchlorate_100	PER_IS_108		12.750	484892	2962223	
Perchlorate_102	PER_IS_108	*	12.726	140765	2962223	* MANUAL INT

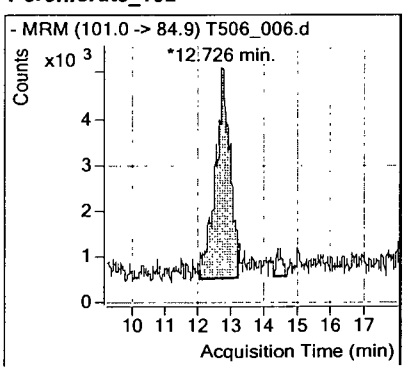
Perchlorate_100

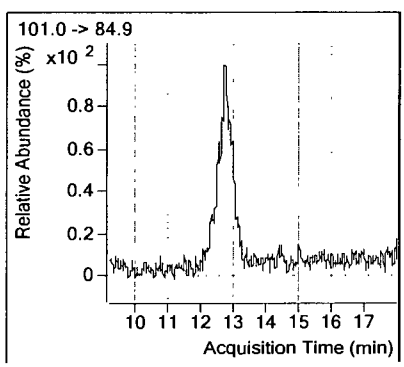


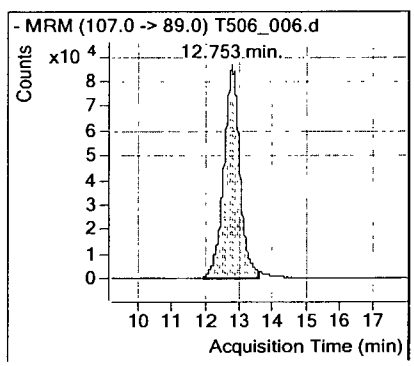


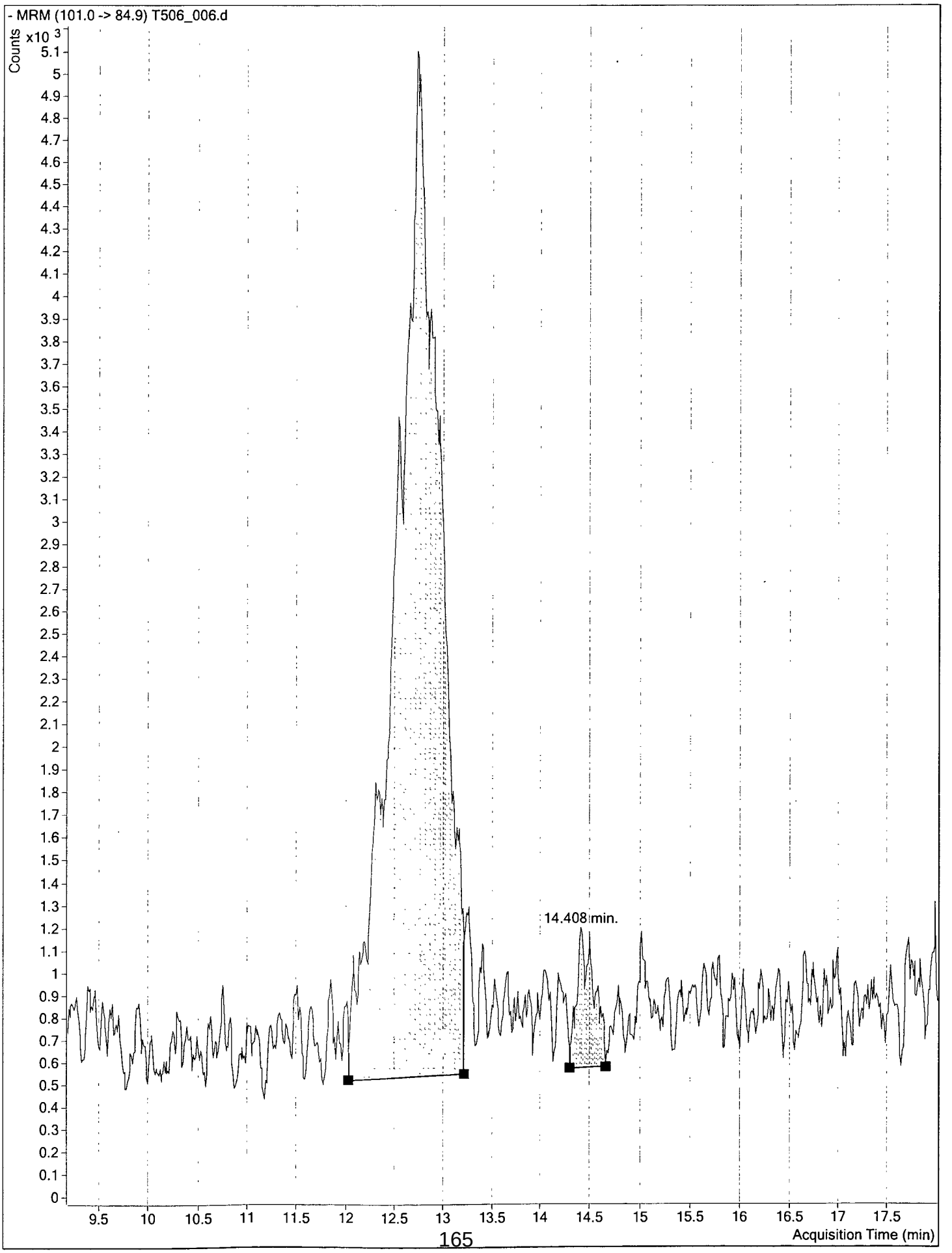


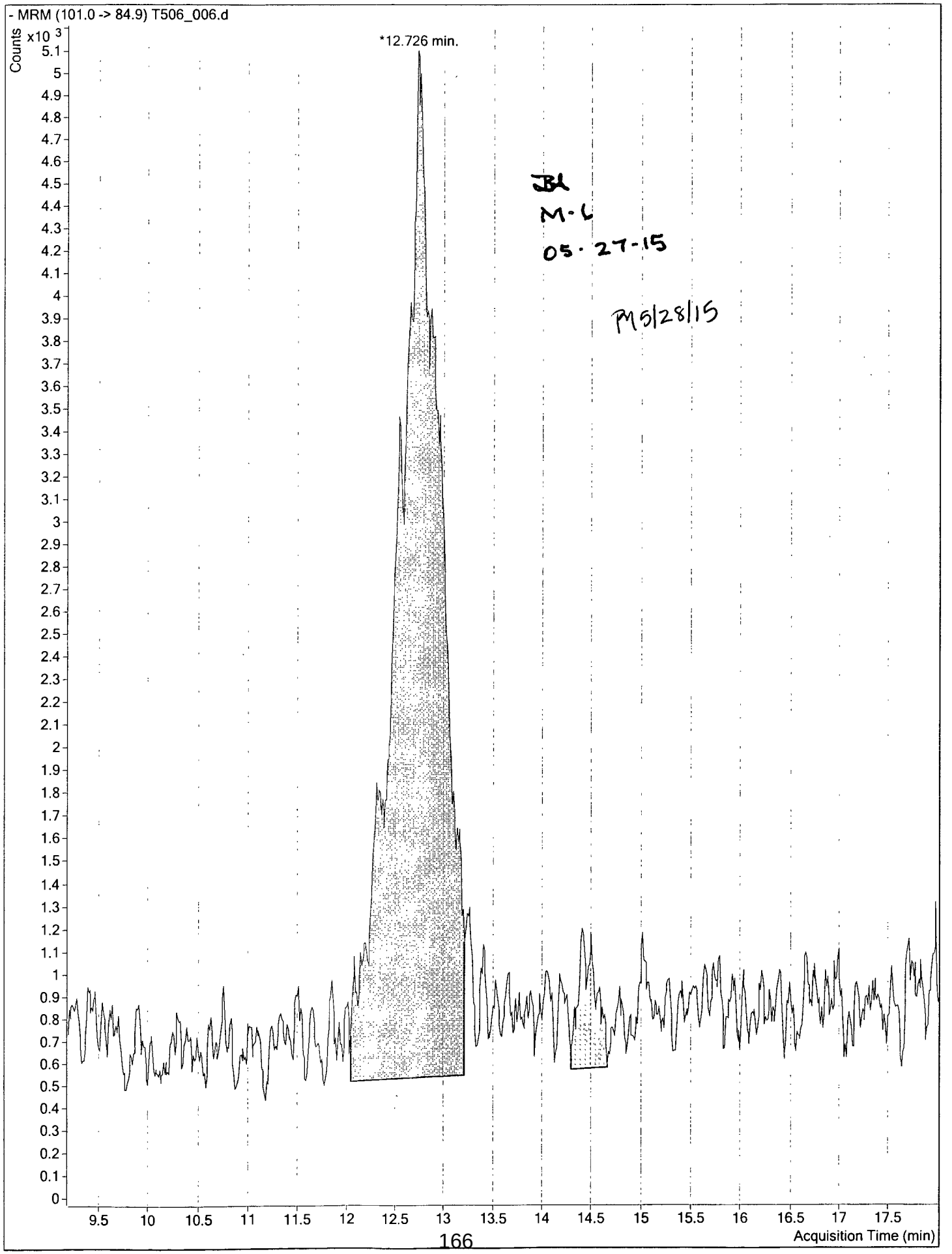
Perchlorate_102








- MRM (101.0 -> 84.9) T506_006.d
Counts
x10 3
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
14.408 min.
9.5
10
10.5
11
11.5
12
12.5
13
13.5
14
14.5
15
15.5
16
16.5
17
17.5
Acquisition Time (min)


- MRM (101.0 -> 84.9) T506_006.d
Counts
x10 3
*12.726 min.
JL
M-L
05-27-15
PM 5/28/15
Acquisition Time (min)

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

LC/MS/MS STANDARD PREP LOG# 105 PAGE 40

STANDARD	INITIAL CONC	SOURCE	DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT / LOT#	INITIALS
PER IS	0.005µg/mL		04.20.15:					JH
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. JH								

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STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #	DATE / INITIALS
Seav_spk 250 ng/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:
PER_SS 0.010 µg/mL 08-28-14
took 0.040 mL and added to
0.910 mL Laboratory Source DI-H2O
that had previously received
0.050 mL 02SI $^{18}O_4$ Perchlorate
100 µg/L lot 1059192-33479

PER_CCV 0.002 µg/mL 04-20-15:
PER_SS 0.010 µg/mL 08-28-14
took 0.200 mL and added to
0.750 mL Laboratory Source DI-H2O
that had previously received
0.050 mL 02SI $^{18}O_4$ Perchlorate
100 µg/L lot 1059192-33479

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	VOL. ENT. LOT #	DATE INITIALS

NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED: JH 05-19-15

PER. CCV 0.0004 µg/ml 05-07-15: JH 05-07-15
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 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-H2O that had previously received 0.050 ml O2SI $^{18}O_4$ Perchlorate 100 µg/L lot 1074176-35163

PER. IS 0.005 µg/ml 05-07-15:
O2SI $^{18}O_4$ Perchlorate 100 µg/L Lot 1074176-35163 took 0.050 ml and added to 0.950 ml Laboratory Source DI-H2O
NOTE: Repeated the above process four times in order to prepare 2-2 ml vials that were full.

LC/MS STANDARD PREP LOG# 105 PAGE 71

071

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N. LOT#	DATE INITIALS
Carbofuran-phenol Std Dilutions:							
Carbfrn phenol	1099	0.091	1.0	100	MeOH	55051	06-01-15 JP
Carb. phenol	100	06-01-15	0.10	1.0	10.0	MeOH/55051	6-1-15 JP
Carb phenol	10	06-01-15	0.10	1.0	1.0	MeOH/55051	6-1-15 JP
Carb phenol	100	6-1-15	0.15	0.30	50	MeOH/55051	6-1-15 JP
Carb phenol	100	6-1-15	0.20	1.0	20	MeOH/55051	6-1-15 JP
Carb phenol	10	6-1-15	0.15	0.30	5.0	MeOH/55051	6-1-15 JP
Carb phenol	10	6-1-15	0.20	1.0	2.0	MeOH/55051	6-1-15 JP

NOTE: THE FOLLOWING DOCUMENTATION JP
WAS PERFORMED AS DATED JP 06-01-15 06-01-15

PER_IS 0.005 µg/mL 05-06-15: JP
TO 0.950 ML LABORATORY SOURCE 05-06-15
DI-H2O 0.050 mL OF 0251 $^{18}O_4$
Perchlorate 100 µg/L lot
1074176-35163 WAS ADDED.
NOTE: THE ABOVE PROCESS WAS
PERFORMED ON AN AS NEEDED
BASIS IN ORDER TO ~~APPRORE~~ JP 06-01-15
APPROPRIATELY DILUTE SAMPLES.

AZ15935_W01 10526.3 DF 05-05-15_6/6:
AZ15935_W01 1052.6 DF 05-05-15
TOOK 0.050 ML AND ADDED TO
0.450 ML PER_IS 0.005 µg/mL
05-06-15

AZ15935_W01 105263.2 DF 05-05-15_5/6:
AZ15935_W01 10526.3 DF 05-05-15_5/6
TOOK 0.050 ML AND ADDED TO
0.450 ML PER_IS 0.005 µg/mL 05-06-15

072

LC/MS STANDARD PREP LOG# 105 PAGE# 72

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	LOT #	INITIALS
NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED: JK 06-01-15							DH 06-01-15
AZ15935_W01 10526316 DF 05-05-15_5/6: AZ15935_W01 105263.2 DF 05-05-15_5/6 TOOK 0.050 ML AND ADDED TO 0.450 ML PER_IS 0.005 µg/ml 05-06-15							BF 05-06-15
AZ15935_W01 10526315.8 DF 05-05-15_5/6: AZ15935_W01 10526316 DF 05-05-15_5/6 TOOK 0.050 ML AND ADDED TO 0.450 ML PER_IS 0.005 µg/ml 05-06-15.							
AZ15995_W01 10526.3 DF 05-06-15_5/6: AZ15995_W01 1052.6 DF 05-06-15 TOOK 0.050 ML AND ADDED TO 0.450 ML PER_IS 0.005 µg/ml 05-06-15							BF 15
AZ15995_W01 105263.2 DF 05-06-15_5/6 AZ15995_W01 10526.3 DF 05-06-15_5/6 TOOK 0.050 ml and ADDED TO 0.450 ml PER_IS 0.005 µg/ml 05-06-15							

LCMS STANDARD PREP LOG# 105, page 73

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	NOL EN073 LOT#	Date INITIALS

NOTE: THE FOLLOWING DOCUMENTATION JI
WAS PERFORMED AS DATED: JI 06.01.15 06.01.15

AZ15995_W01 1052631.6 DF 05.06.15_5/6: JI
AZ15995_W01 105263.2 DF 05.06.15_5/6 05.06.15
TOOK 0.050 ml AND ADDED TO 0.450
ml PER_IS 0.005 µg/ml 05.06.15

AZ15996_W01 10526.3 DF 05.06.15_5/6:
AZ15996_W01 1052.6 DF 05.06.15
TOOK 0.050 ml and ADDED TO 0.450
ml PER_IS 0.005 µg/ml 05.06.15

AZ15996_W01 105263.2 DF 05.06.15_5/6:
AZ15996_W01 10526.3 DF 05.06.15_5/6
TOOK 0.050 ml AND ADDED TO 0.450
ml PER_IS 0.005 µg/ml 05.06.15

AZ15996_W01 1052631.6 DF 05.06.15_5/6:
AZ15996_W01 105263.2 DF 05.06.15_5/6
TOOK 0.050 ml AND ADDED TO 0.450
ml PER_IS 0.005 µg/ml 05.06.15

AZ15997_W01 10526.3 DF 05.06.15.5/6:
AZ15997_W01 1052.6 DF 05.06.15 TOOK
0.050 ml AND ADDED TO 0.450 ml
PER_IS 0.005 µg/ml 05.06.15

074

LCMS STANDARD PREP LOG# 105 PAGE 74

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOL'N. LOT #	DATE/ INITIALS
NOTE: THE FOLLOWING DOCUMENTATION WAS PERFORMED AS DATED: JL 06-01-15							JL 06-06-15
AZ15997_W01 105263.2 DF 05-06-15_5/6: AZ15997_W01 10526.3 DF 05-06-15_5/6 TOOK 0.050 ml AND ADDED TO 0.450 ml DER_IS 0.005 µg/ml							JL 05-06-15
AZ15997_W01 1052631.6 DF 05-06-15_5/6: AZ15997_W01 105263.2 DF 05-06-15_5/6 TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS 0.005 µg/ml							05-06-15
AZ15999_W01 10526.3 DF 05-06-15_5/6: AZ15999_W01 1052.6 DF 05-06-15_5/6 TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS 0.005 µg/ml							05-06-15
AZ15999_W01 105263.2 DF 05-06-15_5/6: AZ15999_W01 10526.3 DF 05-06-15_5/6 TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS 0.005 µg/ml							05-06-15
AZ15999_W01 1052631.6 DF 05-06-15_5/6: AZ15999_W01 105263.2 DF 05-06-15_5/6 TOOK 0.050 ml AND ADDED TO 0.450 ml PER_IS 0.005 µg/ml							05-06-15

LC/MS STANDARD PREP LOG# 105 PAGE 75

STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	NOL EN. 075 LOT #	DATE INITIALS

NOTE: THE FOLLOWING DOCUMENTATION JR
WAS PERFORMED AS DATED: ~~JR~~ ~~05-06-15~~ 06-01-15 JR 06-DC-15

AZ15998_W01 10526.3 DF 05-06-15_5/6: JR
AZ15998_W01 1052.6 DF 05-06-15 05-06-15
TOOK 0.050 ml AND ADDED TO 0.450
ml PER_IS 0.005 µg/ml 05-06-15

AZ15998_W01 105263.2 DF 05-06-15_5/6:
AZ15998_W01 10526.3 DF 05-06-15_5/6
TOOK 0.050 ml AND ADDED TO 0.450
ml PER_IS 0.005 µg/ml 05-06-15

AZ15998_W01 105263 1.6 DF 05-06-15_5/6:
AZ15998_W01 105263.2 DF 05-06-15_5/6
TOOK 0.050 ml AND ADDED TO 0.450
ml PER_IS 0.005 µg/ml 05-06-15

AZ15994_W01 10526.3 DF 05-06-15_5/6:
AZ15994_W01 1052.6 DF 05-06-15_5/6:
TOOK 0.050 ml AND ADDED TO 0.450
ml PER_IS 0.005 µg/ml 05-06-15

AZ15994_W01 105263.2 DF 05-06-15_5/6:
AZ15994_W01 10526.3 DF 05-06-15_5/6
TOOK 0.050 ml AND ADDED TO
0.450 ml PER_IS 0.005 µg/ml
05-06-15

_HPL6850

Organic Extraction Worksheet

Method	EPA 6850 HPLC Perchlorate Extraction	Extraction Set	150506A	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:	05/06/15 13:26	
Spiked ID 8			Ext. End Time:	05/06/15 13:29	
			GC Requires Extract By:		

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: CFM **Date** 05/06/15 1:24:00 PM **Witnessed By:** DL **Date** 05/06/15 1:24:00 PM

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	150506A Blk				NA	NA equip	5ML	5ML	NA	05/06/15 13:26	
2	150506A LCS-1		0.030	1	NA	NA equip	5ML	5ML	NA	05/06/15 13:26	
3	150506A ICS		0.030/0.060	1/2	NA	NA equip	5ML	5ML	NA	05/06/15 13:26	
4	AZ15992	AZ15992W01			NA	NA equip	5ML	5ML	NA	05/06/15 13:26	76338 - 24 HOURS RUSH
5	AZ15993	AZ15993W01			NA	NA equip	5ML	5ML	NA	05/06/15 13:26	76338 - 24 HOURS RUSH
6	AZ15994	AZ15994W01			NA	NA equip	5ML	5ML	NA	05/06/15 13:26	76338 - 24 HOURS RUSH
7	AZ15995	AZ15995W01			NA	NA equip	5ML	5ML	NA	05/06/15 13:26	76338 - 24 HOURS RUSH
8	AZ15996	AZ15996W01			NA	NA equip	5ML	5ML	NA	05/06/15 13:26	76338 - 24 HOURS RUSH
9	AZ15997	AZ15997W01			NA	NA equip	5ML	5ML	NA	05/06/15 13:26	76338 - 24 HOURS RUSH
10	AZ15998	AZ15998W01			NA	NA equip	5ML	5ML	NA	05/06/15 13:26	76338 - 24 HOURS RUSH
11	AZ15999	AZ15999W01			NA	NA equip	5ML	5ML	NA	05/06/15 13:26	76338 - 24 HOURS RUSH

PM 5/6/15

olvent and Lot#	
1illipore Water	5-6-15

Extraction COC Transfer	
Extraction lab employee Initials	CFM
GC analyst's initials	PM
Date	5/6/15
Time	14:30
Refrigerator	NA

	Technician's Initials
Scanned By	CFM
Sample Preparation	CFM
Extraction	CFM
Concentration	----------

Modified	05/06/15 1:31:01 PM

Reviewed By: PM **Date** 5/6/15

5/06/15 1:31:20 PM

Ext_ID 178 47655

METHOD 6850 INJECTION LOG: 03/12/15, 05/06/15, 05/07/15

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 04/20/15	T506_002.d	05/06/15 16:29
PER_CCV 0.002 ug/ml 04/20/15	T506_003.d	05/06/15 16:48
150506WA_LCS-1 1052.6 DF 05/06/15	T506_005.d	05/06/15 18:07
150506WA_ICSA 1052.6 DF 05/06/15	T506_006.d	05/06/15 18:28
150506WBLKA 1052.6 DF 05/06/15	T506_007.d	05/06/15 18:47
AZ15992_W01 1052.6 DF 05/06/15	T506_008.d	05/06/15 19:07
AZ15993_W01 1052.6 DF 05/06/15	T506_009.d	05/06/15 19:33
AZ15995_W01 105263.2 DF 05/06/15_5/06	T506_012.d	05/06/15 20:36
AZ15996_W01 1052631.6 DF 05/06/15	T506_014.d	05/06/15 21:13
PER_CCV 0.0004 ug/ml 04/20/15	T506_016.d	05/06/15 21:50
PER_CCV 0.002 ug/ml 04/20/15	T506_017.d	05/06/15 22:09
AZ15997_W01 105263.2 DF 05/06/15_5/06	T506_020.d	05/06/15 23:05
PER_CCV 0.0004 ug/ml 04/20/15	T506_030.d	05/07/15 2:11
PER_CCV 0.002 ug/ml 04/20/15	T506_031.d	05/07/15 2:30
PER_CCV 0.0004 ug/ml 04/20/15	T506_044.d	05/07/15 6:32
PER_CCV 0.002 ug/ml 04/20/15	T506_045.d	05/07/15 6:50
AZ15998_W01 105263.2 DF 05/06/15_5/6	T506_055.d	05/07/15 10:03
PER_CCV 0.0004 ug/ml 04/20/15	T506_057.d	05/07/15 10:41
PER_CCV 0.002 ug/ml 04/20/15	T506_058.d	05/07/15 11:00
AZ15999_W01 1052.6 DF 05/05/15	T506_068.d	05/07/15 14:14
PER_CCV 0.0004 ug/ml 04/20/15	T506_070.d	05/07/15 14:51
PER_CCV 0.002 ug/ml 04/20/15	T506_071.d	05/07/15 15:15
PER_CCV 0.0004 ug/ml 05/07/15	T507_059.d	05/08/15 14:07
PER_CCV 0.002 ug/ml 05/07/15	T507_060.d	05/08/15 14:26
AZ15994_W01 1052.6 DF 05/06/15	T507_063.d	05/08/15 15:26
PER_CCV 0.0004 ug/ml 05/07/15	T507_070.d	05/08/15 17:42
PER_CCV 0.002 ug/ml 05/07/15	T507_071.d	05/08/15 18:00