Draft

Monitoring Well Installation Report

RED HILL BULK FUEL STORAGE FACILITY
JOINT BASE PEARL HARBOR-HICKAM, HAWAII

DOH FACILITY ID: 9-102271
DOH RELEASE ID: 990051, 010011, 020028, 140010

March 2015

Department of the Navy
Naval Facilities Engineering Command, Hawaii
400 Marshall Road
JBPHH, HI 96860-3139

Contract No. N62583-11-D-0515, Contract Task Order No. KB01

APPENDIX C

CHAIN-OF-CUSTODY FORMS, LABORATORY ANALYTICAL DATA REPORTS, DATA QUALITY ASSESSMENT REPORT

CHAIN-OF-CUSTODY FORMS

74672

2.5

YL 10/21/14

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

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

CHAIN OF CUSTODY RECORD

C.O.C. 44316

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: Battelle / Parsons Phone: 801 553-3317	Company Name: Phone:
Address: Fax:	Address: Fax:
Attn: Gene Wright	Attn:

Project Name/Number	Sampler (Print)	Date Shipped: 10/20/14
749435	Jim Terry / Environet	Carrier: FedEx
Purchase Order Number	Sampler (Signature)	Waybill No.: 8033 9937 1525
		Comments: drilling foam in water

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil		Analysis Requested/Method Number: VOCs	EDB	Trimethane	TALK/SO4	Total N	Lead									Comments
RHMW07-GW-01	Red Hill, HI	10/20/14	1106	HI	12	/				3	3	3	X	1	1									e.g. ethylglycolester
RHMW07-GW-01FD	Red Hill, HI	10/20/14	1100	HI	12	/				3	3	3	1	1	1									VOCs
TB 102014	" "	" "	" "	"	2	/				2														Lead filtered

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:
	10/20/14	1530					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					10/21/14	09:40	

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

See reverse side for Container Preservative and Sampling Information

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

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

CHAIN OF CUSTODY RECORD

C.O.C. 44313

2.5
7401

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: Battelle c/o Parsons Phone: 801 553 3317	Company Name: Phone:
Address: Fax:	Address: Fax:
Attn: Gene Wright	Attn:

Project Name/Number	Sampler (Print)
749435	Jim Terry / Environet
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: VOCs	EDB	Methane	Alk / SO4	NH3 N	Lead	Date Shipped: / Carrier: / Waybill No.: / Comments:
RHMW06-GW-01	Red Hill, HI	10/21/14	1100	HI	12	✓			3	3	3	1	1	1	lead filtered
RHMW06-GW-01MS	" "	"	1100		12				3	3	3	1	1	1	in field
RHMW06-GW-01MSD	" "	"	1100		12				3	3	3	1	1	1	
TB102114	" "	"	1100		1	✓			1						

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:
	10/21/14	1530					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					10/22/14	1020	

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

See reverse side for Container Preservative and Sampling Information

74924
4.0

APPL LABS

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

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

CHAIN OF CUSTODY RECORD

C.O.C. 47921

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: Battelle	Company Name: Battelle
Phone: 215-504-5003	Phone: 215-504-5003
Address: 301 South State St., Ste. N001 Newtown, PA 18940	Address: 301 South State St., Ste. N001 Newtown, PA 18940
Fax: 614-458-6620	Fax: 614-458-6620
Attn: Carolyn Scala	Attn: Carolyn Scala

Project Name/Number	Sampler (Print)	Date Shipped: 11/12/14
Red Hill Phase 1b	James Terry	Carrier: FEDEX
Purchase Order Number	Sampler (Signature)	Waybill No.:
	James Terry	Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	Analysis Requested/Method Number: VOCs (SW 8260)	EDB (SW8011)	Methane (RSK 175)	Alkalinity and Sulfate	Nitrate/Nitrite as N (EPA 353.2)	Dissolved Lead (SW6020)	Comments
TRIP111214		11/12/14	0930	Hi	3	X			X						dissolved lead
HW111214-01	99-048 Kaala Way Fire Hydrant	↓	1000	↓	11	X			X	X	X	X	X	X	sample not field
HW111214-02	↓	↓	1015	↓	11	X			X	X	X	X	X	X	filtered.

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:
James Terry/James Terry	11/12/14	1400					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					11/13/14	10:20	Yang

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

See reverse side for Container Preservative and Sampling Information

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
1835 W. 205th Street, Torrance, CA 90501
Tel #: 310-618-8889 Fax #: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER:
SAMPLE STORAGE
EMAX CONTROL NO. * 14J130
PROJECT CODE:

CLIENT Battelle / Parsons
PROJECT 749435
COORDINATOR Mitch Jansen
TEL 801 380 1375 FAX EMAIL
SEND REPORT TO Gene Wright 801 553 3317
COMPANY Parsons
ADDRESS
EMAX PM not known

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O=	

ANALYSIS REQUIRED: TPH - GRO; TPH - DRO/ORO; PAHs

TAT
- ☐ Rush ____ hrs.
- ☐ Rush ____ days
- ☐ 7 days
- ☐ 14 days
- ☐ 21 days
- ☐ 30 days
- ☐ ____ days
- ☐

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	SIZE	TYPE	MATRIX CODE	QC	PRESERVATIVE CODE	COMMENTS
* 1	RHMW07-GW-01	Hawaii	10/20/14	1100	7			GW		3 2 2	no preservative
* 2	RHMW07-GW-01FD	" "	10/20/14	1100	7			GW		3 2 2	no preservative
* 3											
* 4											note: water has drilling
* 5											foam i.e ethyl glycol ether
* 6											
* 7											
* 8											
* 9											
* 0											

Instructions

Cooler #	Temp. (°C)	Sample #s
1	5.7°	

SAMPLER
COURIER/AIRBILL Fedex 4033 6937 1554

RELINQUISHED BY	Date	Time	RECEIVED BY
	10/20/14	1530	
	10/21/14	09:15	

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
1835 W. 205th Street, Torrance, CA 90501
Tel #: 310-618-8889 Fax #: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER:

SAMPLE STORAGE

EMAX CONTROL NO. * 14J144

PROJECT CODE:

CLIENT: Battelle c/o Parsons
PROJECT: Red Hill 749435
COORDINATOR: Mitch Jenser
TEL: 801 380-1375 FAX: EMAIL:
SEND REPORT TO: Gene Wright
COMPANY: Parsons
ADDRESS:
EMAX PM: T

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O=	

ANALYSIS REQUIRED: TPH - GRO; TPH - DRO, REO; PAHs

TAT:
- ☐ Rush ____hrs.
- ☐ Rush ____days
- ☐ 7 days
- ☐ 14 days
- ☐ 21 days
- ☐ 30 days
- ☐ ____days
- ☐

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	SIZE	TYPE	MATRIX CODE	QC	PRESERVATIVE CODE	COMMENTS
1	RHMW06-GW-01	Hawaii	10/21/14	1101	7			GW		3 2 2	no preservation
2	RHMW06-GW-01MS	"	10/21/14	1100	7			GW		3 2 2	" "
3	RHMW06-GW-01MSD	"	10/21/14	1100	7			GW		3 2 2	" "
4	TB102114	"	10/21/14	1100	1				✓	1	" "
5											
6											
7											
8											
9											
10											

1
2

Instructions: per contract w/ Battelle

Cooler #	Temp. (°C)	Sample #s
1	4.0°	
2	5.7°	

SAMPLER: Tim Terry / Environet

COURIER/AIRBILL: Fedex

RELINQUISHED BY	Date	Time	RECEIVED BY
	10/21/14	1530	
	10/22/14	09:15	

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
1835 W. 205th Street, Torrance, CA 90501
Tel #: 310-618-8889 Fax #: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER:
SAMPLE STORAGE

EMAX CONTROL NO. *14 J206

PROJECT CODE:

CLIENT: Battelle c/o Parsons
PROJECT: Red Hill
COORDINATOR: Mitch Jensen 801 380 1375
TEL. FAX EMAIL: Gene.Wright@parsons.com
SEND REPORT TO: Gene Wright 801 553 3317
COMPANY: Parsons
ADDRESS: 10235 S. Jordan Gateway #300, South Jordan, Utah 84095
EMAX PM: Nguyen

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O=	

ANALYSIS REQUIRED: TPH-GRO

TAT:
- ☐ Rush ____hrs.
- ☐ Rush ____days
- ☐ 7 days
- ☐ 14 days
- ☐ 21 days
- ☐ 30 days
- ☐ ____days
- ☑ per contract / QAPP

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	SIZE	TYPE	MATRIX CODE	QC	PRESERVATIVE CODE	COMMENTS
1	RHMW07-GW-01	Oahu, HI	10/27/14	0900	3	40ml	VOA	GW		IC	unpreserved
2	RHMW07-GW-01FD		10/27/14	0900	3	"	"	GW		IC	" "
3	TB102714		10/27/14	0900	2	"	"		X	IC	" "
4											
5											
6											
7											
8											
9											
0											

Instructions

Cooler #	Temp. (°C)	Sample #s
1	3.3	

SAMPLER

COURIER/AIRBILL: Fedex

RELINQUISHED BY	Date	Time	RECEIVED BY	Date	Time
	10/27/14	1030		10/28/14	08:15

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
1835 W. 205th Street, Torrance, CA 90501
Tel #: 310-618-8889 Fax #: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER:
SAMPLE STORAGE

EMAX CONTROL NO. * 14K089
PROJECT CODE:

CLIENT: Battelle
PROJECT: Red Hill Phase 1b
COORDINATOR: Carolyn Scala
TEL: 215-504-5003 FAX: 614-458-6620 EMAIL: scalac@battelle.com
SEND REPORT TO: Carolyn Scala
COMPANY: Battelle
ADDRESS: 301 South State St., Ste. N001, Newtown, PA 18940
EMAX PM: Andy Mai

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O=	

ANALYSIS REQUIRED: PAHs (sw8270C); TPH-GRO (EPA 8015B-P); TPH-DRO HBO (EPA 8015Bm-E)

TAT:
- ☐ Rush ____hrs.
- ☐ Rush ____days
- ☐ 7 days
- ☐ 14 days
- ☒ 21 days
- ☐ 30 days
- ☐ ____days
- ☐

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	CONTAINER SIZE	CONTAINER TYPE	MATRIX CODE	QC	PRESERVATIVE CODE IC	HC	HC	COMMENTS
1	TRIP111214		11/12/14	0930	3	40 mL	VOA	O	X		X		
2	HW111214-01	99-one Kealia Way		1000	7	40 mL 1-L	VOA + Amber	O		X	X	X	
3	HW111214-02	↓	↓	1015	7	↓	↓	O		X	X	X	
4													
5													
6													
7													
8													
9													
10													

Instructions

Cooler #	Temp. (°C)	Sample #s
1	5.4	

SAMPLER: James Terry / James Terry

COURIER/AIRBILL

RELINQUISHED BY	Date	Time	RECEIVED BY
James Terry / James Terry	11/12/14	1400	
	11-13-14	0930	Stellamara

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

LABORATORY ANALYTICAL DATA REPORTS

APPL

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

Data Validatable Report

December 2, 2014

Parsons
10235 South Jordan Gateway, Suite 300
South Jordan, Utah 84095

Attn: Gene Wright

Title: Report of Data: Case 74672

Project: 749435 Red Hill TO 0068, Hawaii

Contract #: Prime contract for DoD: ESAT Contract N62583-11-D-0515 TO 0068
Battelle Purchase Order # US001-0000434917

Dear Mr Wright:

Three water samples were received October 21, 2014, in good condition. Written results for the requested analyses are provided on this December 3, 2014.

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, Diane Anderson, danderson@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 v4.2. 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/cm
Enclosure
cc: File

Number of pages in this report: ____

Data Validation Package
for
749435 Red Hill TO 0068
ARF 74672
TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

SAMPLE RECEIPT INFORMATION

Sample Receipt Information

ARF: 74672

Project: 749435 Red Hill TO 0068

State Certification Number: CA1312 (DW & WW)

NELAP Certification number: CA00046 (HW)

DoD-ELAP Certificate number: 74807

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.

Sample Receipt Information:

The water samples were received October 21, 2014, at 2.5°C. The samples were assigned Analytical Request Form (ARF) number 74672. The sample numbers and requested analyses were compared to the chain of custody. No exception was noted.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
RHMW07-GW-01	AZ05388	WATER	10/20/14	10/21/14
RHMW07-GW-01FD	AZ05389	WATER	10/20/14	10/21/14
TB102014	AZ05390	WATER	10/20/14	10/21/14

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

APPL's laboratory control limits generated in house statistically do not meet the control limits listed in DoD QSM 4.2 for all analytes. Laboratory control spike recoveries 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 8011

Sample Preparation:

The water samples were extracted according to EPA method 8011. All holding times were met.

Sample Analysis Information:

The samples were analyzed according to the method using an Agilent Gas Chromatograph with a flame ionization detector.

Quality Control/Assurance

Calibrations:

Initial and continuing calibrations were performed according to the method. All calibration criteria were met.

Blanks:

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

Spikes:

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

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

Surrogates

The surrogate recoveries are summarized in the Form 2 & 8. All surrogate recoveries were within the control limits.

Summary:

No problem was encountered.

AMENDED PAGE

EPA Method 8260C
Volatile Organic Compounds

Sample Preparation:

The water samples were purged according to EPA method 5030B. All holding times were met.

Sample Analysis Information:

The samples were analyzed according to EPA method 8260C using an Agilent Gas Chromatograph with a mass spectrometer detector. The samples were received in unpreserved vials and were analyzed within seven days of collection. All holding times were met.

Quality Control/Assurance:

Spike Recovery:

A Laboratory Control Spike (LCS) was used for quality assurance. A second-source standard was used for the LCS. All LCS recoveries were acceptable.

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

Surrogates:

The surrogate recoveries are summarized in the Form 2 & 8. All surrogate recoveries were within the control limits.

Method blanks:

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

Calibration:

Initial and continuing calibrations were analyzed according to the method. All calibration criteria were met.

Tuning:

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

Internal Standards:

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

Summary:

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

AMENDED PAGE

Dissolved Methane
RSK-175

Sample Preparation and Analysis

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

Quality Control/Assurance

Spike Recovery

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

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

Method blanks

The blank contained no target analyte above one-half the limit of quantitation (LOQ.

Calibration

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

Summary:

No analytical exception is noted.

EPA Methods 6020A
Metals

Sample Preparation Information

The water samples were digested according to EPA methods 3015. No exception was encountered. All holding times were met.

Analysis Information:

Samples:

The samples were analyzed for dissolved lead according to EPA method 6020A using an Agilent 7700X ICP-MS. Due to the high sodium content in the samples, they were analyzed at a DF5. The reporting limit was raised (DF2) to the level supported by the calibration.

Calibrations:

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

Blanks:

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

Spikes:

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

No sample was designated by the client for MS/MSD analysis. Sample RHMW06-GW-01, from APPL SDG 74701, was selected by the laboratory as the QC sample for the analytical batch. The MS/MSD, serial dilution test, and post digestion spike will be reported in APPL report 74701.

Internal Standards:

All method criteria were met for the internal standards.

Summary:

No analytical exception is noted. All data are acceptable.

AMENDED PAGE

EPA Methods 353.2, 9056 and SM 2320B

Nitrate-Nitrite-N, Anions, and Alkalinity

Sample Preparation Information:

The water samples were prepared according to the methods.

Analysis Information:

Samples:

The samples were analyzed according to the methods. A Dionex DX500 ion chromatograph was used for the EPA 9056 analysis. A Lachat was used for the EPA 353.2 analysis. All holding times were met.

Calibrations:

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

Blanks:

No target analyte was detected above one-half the LOQ in the method blanks.

Spikes:

Laboratory Control Spikes (LCS and/or LCS/LCSD) were used for quality assurance. All recoveries were within acceptance limits.

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

Summary:

No analytical exception is noted. All data are acceptable.

AMENDED PAGE

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 74672

Client: Parsons
Address: 10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095
Attn: Gene Wright
Phone: 801-553-3317 Fax:
Job: 749435 Red Hill TO 0068
PO #: PO#434917
Chain of Custody (Y/N): Y # 44316
RAD Screen (Y/N): Y pH (Y/N): Y
Turn Around Type: 2 WEEKS

Received by: CM
Date Received: 10/21/14 Time: 09:40
Delivered by: FED EX
Shuttle Custody Seals (Y/N): N Time Zone: -10
Chest Temp(s): 2.5°C
Color: VOA/D-YELL/O-ORGGRN
Samples Chilled until Placed in Refrig/Freezer: Y
Project Manager: Diane Anderson
QC Report Type: DVP4/NEDD/NIRIS/HI
Due Date: 11/04/14

Comments:
pdf ARF and prelims to gene.wright@parsons.com & scalac@battelle.org
10 business days for form 1s; 21 calendar days for final DVP with Internal COC.
send 1 hardcopy DVP4 and PDF bookmarked on CD to Gene;
pdf via email or ftp to scalac@battelle.org
Guidance: DoD QSMv4.2; DoD forms U flag at LOD, LOD database
EDD: NEDD/NIRIS to gene.wright@parsons.com & scalac@battelle.org
8011 = EDB & DBCP only; RSK = Methane only
add chloride to 9056 anlaysis per 11/3 email (chc)

Sample Distribution:
GC: 2-$8011
Extractions: 2-_MWE012
VOA: 3-$86CREDW, 2-$RSK50
Metals: 2-$62A14WD(Pb)
Wetlab: 2-$232W(ALK), 2-$35OF(TOXN), 1-$9056DOD(CL,SO4), 1-$9056DOD(SO4)
Other: 2-_M3015F

Charges:

Invoice To:
BATTELLE MEMORIAL INSTITUTE
accountspayable@battelle.org
505 King Ave
Columbus OH 43201-2696

	Client ID	APPL ID	Sampled	Analyses Requested
1.	RHMW07-GW-01	AZ05388W	10/20/14 11:00	$232W(ALK), $35OF(TOXN), $62A14WD(Pb), $8011, $86CREDW, $9056DOD(CL,SO4), $RSK50 -- unpreserved VOA 7day HT; LL VOCs
2.	RHMW07-GW-01FD	AZ05389W	10/20/14 11:00	$232W(ALK), $35OF(TOXN), $62A14WD(Pb), $8011, $86CREDW, $9056DOD(SO4), $RSK50 -- unpreserved VOA 7day HT; LL VOCs
3.	TB102014	AZ05390W	10/20/14 11:00	$86CREDW -- unpreserved VOA 7day HT; LL VOCs

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC

APPL Sample Receipt Form

ARF# **74672**

Sample	Container Type	Count	pH
AZ05388	[2] PL 500mL	1	NA
	[7] PL 250mL - HNO3	1	1.7
	[29] PL 125mL - H2SO4	1	1.7
	[15] VOAs - NP	9	NA
AZ05389	[2] PL 500mL	1	NA
	[7] PL 250mL - HNO3	1	1.7
	[29] PL 125mL - H2SO4	1	1.7
	[15] VOAs - NP	9	NA
AZ05390	[15] VOAs - NP	2	NA

Sample	Container Type	Count	pH

74672

2.5

YL 10/21/14

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

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

CHAIN OF CUSTODY RECORD

C.O.C. 44316

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: Battelle / Parsons Phone: 801 553-3317	Company Name: Phone:
Address: Fax:	Address: Fax:
Attn: Gene Wright	Attn:

Project Name/Number	Sampler (Print)
749435	Jim Terry / Environet
Purchase Order Number	Sampler (Signature)

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Sed.	Soil	VOCs	EDB	methane	Alk/SO4	Total N	Lead	Comments
RHMW07-GW-01	Red Hill, HI	10/20/14	1106	HI	12	/			3	3	3	X	1	1	drilling foam in water e.g. ethylglycol ester
RHMW02-GW-01FD	Red Hill, HI	10/20/14	1100	HI	12	/			3	3	3	1	1	1	VOCs
TB 102014	" "	" "	" "	"	2	/			2						Lead filtered

Date Shipped: 10/20/14
Carrier: Fedex
Waybill No.: 8033 9137 1525
Comments:

Analysis Requested/Method Number

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:
Jim Terry	10/20/14	1530					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					10/21/14	09:40	Yong Zu

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

See reverse side for Container Preservative and Sampling Information

COOLER RECEIPT FORM **ARF: 74672**

1) Project: 749435 Red Hill TO 0068 Date Received: 10/21/14

2) Coolers: Number of Coolers: 1

3) No Were custody seals present and intact?
How many? 0 Name/Date on seal?

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

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

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use A39267

8) Cooler temp(s): In °C
1: 2.5 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) Yes Was the pH taken of all non-VOA preserved samples and written on the sample container?

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

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

22) Yes Were unpreserved VOA Vials received?

23) Yes Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF? 10/22/14 10:30
pH strip lot number: 90B04
Lab notified if pH was not adequate:

Notes/Deficiencies:

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

Chain of Custody

ARF: 74672

Client: Parsons
ATTN: Gene Wright
Project: 749435 Red Hill TO 0068
PO: PO#434917

Container	Moved To	Date - Time	User Name	Reason For Move
Sample Number: AZ05388	**Client ID: RHMW07-GW-01**			
W01	VOA_Frig	10/21/2014 09:40:00	Moua, Chue	Container Received
	VOA-LOKI	10/24/2014 11:26:31	Saldana, Regina	VOA Key -> Regina Saldana
W02	VOA_Frig	10/21/2014 09:40:00	Moua, Chue	Container Received
	VOA-LOKI	10/26/2014 12:53:19	Gokal, Dipti	VOA Key -> Dipti Gokal
W03	VOA_Frig	10/21/2014 09:40:00	Moua, Chue	Container Received
W04	VOA_Frig	10/21/2014 09:40:00	Moua, Chue	Container Received
	VOA-FRODO	10/22/2014 20:49:46	Fong, Leonard	VOA Key -> Leonard Fong
	pH_Test	10/28/2014 16:28:09	Saldana, Regina	pH Verification: pH = 6 (lot HC412469)
W05	VOA_Frig	10/21/2014 09:40:00	Moua, Chue	Container Received
W06	VOA_Frig	10/21/2014 09:40:00	Moua, Chue	Container Received
W07	D-Yellow	10/21/2014 09:40:00	Moua, Chue	Container Received
	Extraction	10/27/2014 13:34:52	Yang, Kia	Key #3 -> Kia Yang Extraction/Spent
	Extraction	10/27/2014 15:22:38	Caballero, Irvin	Key #3 -> Irvin Caballero Extraction/Spen
W08	D-Yellow	10/21/2014 09:40:00	Moua, Chue	Container Received
W09	D-Yellow	10/21/2014 09:40:00	Moua, Chue	Container Received
W10	D-Yellow	10/21/2014 09:40:00	Moua, Chue	Container Received
	Wetlab	10/22/2014 11:00:00	Mehlman, Moriah	Key #7 -> Moriah Mehlman
	D - Yellow	10/22/2014 15:29:05	Mehlman, Moriah	Moriah Mehlman -> Key #7
	Wetlab	11/03/2014 08:36:17	Bulnes, Briana	Key #7 -> Briana Bulnes
	D - Yellow	11/03/2014 14:54:07	Bulnes, Briana	Briana Bulnes -> Key #7
W11	D-Yellow	10/21/2014 09:40:00	Moua, Chue	Container Received
	Wetlab	11/04/2014 12:17:20	Parmeter, Aileen	Key #7 -> Aileen Parmeter
	D - Yellow	11/04/2014 13:36:30	Parmeter, Aileen	Aileen Parmeter -> Key #7
	Wetlab	11/05/2014 11:23:02	Parmeter, Aileen	Key #7 -> Aileen Parmeter
	D - Yellow	11/05/2014 15:18:03	Parmeter, Aileen	Aileen Parmeter -> Key #7
W12	O-OrangeGreen	10/21/2014 09:40:00	Moua, Chue	Container Received
	Metals	11/05/2014 10:42:39	Moreyda, Nick	Key #2 -> Nick Moreyda
	O - OrangeGree	11/05/2014 12:04:52	Moreyda, Nick	Nick Moreyda -> Key #2

Chain of Custody

ARF: 74672

Client: Parsons
ATTN: Gene Wright
Project: 749435 Red Hill TO 0068
PO: PO#434917

Container	Moved To	Date - Time	User Name	Reason For Move
Sample Number: AZ05389		Client ID: RHMW07-GW-01FD		
W01	VOA_Frig	10/21/2014 09:40:00	Moua, Chue	Container Received
	VOA-LOKI	10/24/2014 11:26:33	Saldana, Regina	VOA Key -> Regina Saldana
W02	VOA_Frig	10/21/2014 09:40:00	Moua, Chue	Container Received
	VOA-LOKI	10/26/2014 12:53:18	Gokal, Dipti	VOA Key -> Dipti Gokal
W03	VOA_Frig	10/21/2014 09:40:00	Moua, Chue	Container Received
W04	VOA_Frig	10/21/2014 09:40:00	Moua, Chue	Container Received
	VOA-FRODO	10/22/2014 20:49:49	Fong, Leonard	VOA Key -> Leonard Fong
	pH_Test	10/28/2014 16:28:12	Saldana, Regina	pH Verification: pH = 6 (lot HC412469)
W05	VOA_Frig	10/21/2014 09:40:00	Moua, Chue	Container Received
W06	VOA_Frig	10/21/2014 09:40:00	Moua, Chue	Container Received
W07	D-Yellow	10/21/2014 09:40:00	Moua, Chue	Container Received
W08	D-Yellow	10/21/2014 09:40:00	Moua, Chue	Container Received
	Extraction	10/27/2014 13:34:49	Yang, Kia	Key #3 -> Kia Yang Extraction/Spent
	Extraction	10/27/2014 13:34:55	Yang, Kia	Key #3 -> Kia Yang Extraction/Spent
	Extraction	10/27/2014 15:22:38	Caballero, Irvin	Key #3 -> Irvin Caballero Extraction/Spen
W09	D-Yellow	10/21/2014 09:40:00	Moua, Chue	Container Received
W10	D-Yellow	10/21/2014 09:40:00	Moua, Chue	Container Received
	Wetlab	10/22/2014 11:00:02	Mehlman, Moriah	Key #7 -> Moriah Mehlman
	D - Yellow	10/22/2014 15:29:07	Mehlman, Moriah	Moriah Mehlman -> Key #7
	Wetlab	11/03/2014 08:36:22	Bulnes, Briana	Key #7 -> Briana Bulnes
	D - Yellow	11/03/2014 14:54:10	Bulnes, Briana	Briana Bulnes -> Key #7
W11	D-Yellow	10/21/2014 09:40:00	Moua, Chue	Container Received
	Wetlab	11/04/2014 12:17:14	Parmeter, Aileen	Key #7 -> Aileen Parmeter
	D - Yellow	11/04/2014 13:36:32	Parmeter, Aileen	Aileen Parmeter -> Key #7
	Wetlab	11/05/2014 11:23:06	Parmeter, Aileen	Key #7 -> Aileen Parmeter
	D - Yellow	11/05/2014 15:18:11	Parmeter, Aileen	Aileen Parmeter -> Key #7
W12	O-OrangeGreen	10/21/2014 09:40:00	Moua, Chue	Container Received
	Metals	11/05/2014 10:42:38	Moreyda, Nick	Key #2 -> Nick Moreyda
	O - OrangeGree	11/05/2014 12:04:50	Moreyda, Nick	Nick Moreyda -> Key #2

Chain of Custody

ARF: 74672

Client: Parsons
ATTN: Gene Wright
Project: 749435 Red Hill TO 0068
PO: PO#434917

Container	Moved To	Date - Time	User Name	Reason For Move
Sample Number: AZ05390	**Client ID: TB102014**			
W01	VOA_Frig	10/21/2014 09:40:00	Moua, Chue	Container Received
	VOA-LOKI	10/24/2014 11:25:19	Saldana, Regina	VOA Key -> Regina Saldana
	pH_Test	11/12/2014 10:23:43	Gokal, Dipti	pH Verification: pH = 6 (lot HC421273)
W02	VOA_Frig	10/21/2014 09:40:00	Moua, Chue	Container Received
	VOA-LOKI	10/26/2014 12:53:15	Gokal, Dipti	VOA Key -> Dipti Gokal

8011
for
DBCP & EDB Fumigants

APPL, INC.

8011
for
DBCP & EDB Fumigants
QC Summary

APPL, INC.

Method Blank
EPA 8011

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **141027W-05593 - 191515**
Batch ID: #8011-141027A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DBCP	0.019 U	0.02	0.019	0.007	ug/L	10/27/14	10/30/14
BLANK	EDB	0.020 U	0.02	0.020	0.010	ug/L	10/27/14	10/30/14
BLANK	SURROGATE: 1,3-DIBROMOPRO	99.0	70-132			%	10/27/14	10/30/14

Quant Method:80111027.M
Run #:1022112
Instrument:Herbie
Sequence:141022
Initials:MA

GC SC-Blank-REG MDLs
Printed: 11/14/14 2:56:49 PM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 74672

Case No: 74672 Date Analyzed: 10/30/14

Matrix: WATER Instrument: Herbie

APPL ID.	Client Sample No.	SURROGATE: 1,3-DIBROMOPROPANE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
141027A-BLK	Blank	70-132	99.0				
141027A-LCS	Lab Control Spike	70-132	104				
AZ05388	RHMW07-GW-01	70-132	99.2				
AZ05389	RHMW07-GW-01FD	70-132	90.5				

Comments: Batch: #8011-141027A

Laboratory Control Spike Recovery
EPA 8011

APPL ID: **141027W-05593 LCS - 191515**
Batch ID: #8011-141027A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DBCP	0.482	0.507	105	60-140
EDB	0.482	0.491	102	60-140
SURROGATE: 1,3-DIBROMOPROPANE (	0.350	0.364	104	70-132

Comments: _____

Primary	SPK
Quant Method :	80111027.M
Extraction Date :	10/27/14
Analysis Date :	10/30/14
Instrument :	Herbie
Run :	1022114
Initials :	MA

Printed: 11/14/14 2:56:51 PM
APPL Standard LCS

8011

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 74672

Case No: 74672 Date Analyzed: 10/30/14

Matrix: WATER Instrument: Herbie

Blank ID: 141027A-BLK Time Analyzed: 1235

APPL ID.	Client Sample No.	File ID.	Date Analyzed
141027A-BLK	Blank	1022112	10/30/14 1235
141027A-LCS	Lab Control Spike	1022114	10/30/14 1316
AZ05388	RHMW07-GW-01	1022115	10/30/14 1336
AZ05389	RHMW07-GW-01FD	1022116	10/30/14 1357

Comments: Batch: #8011-141027A

8011
for
DBCP & EDB Fumigants
Sample Data

APPL, INC.

EPA 8011

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: 749435 Red Hill TO 0068

ARF: 74672

Sample ID: RHMW07-GW-01

APPL ID: AZ05388

Sample Collection Date: 10/20/14

QCG: #8011-141027A-191515

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	DBCP	0.019 U	0.02	0.019	0.007	ug/L	10/27/14	10/30/14
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	10/27/14	10/30/14
8011	SURROGATE: 1,3-DIBROMOPROPANE	99.2	70-132			%	10/27/14	10/30/14

Quant Method: 80111027.M
Run #: 1022115
Instrument: Herbie
Sequence: 141022
Dilution Factor: 1
Initials: MA

Printed: 11/14/14 2:57:08 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022115.D\ECD1A.CH Vial: 15
Signal #2 : G:\HERBIE\DATA\141022\1022115.D\ECD2B.CH
Acq On : 10-30-14 13:36:53 Operator: MA
Sample : AZ05388W07 2/34.03G Inst : Herbie
Misc : soil Multiplr: 1.03
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

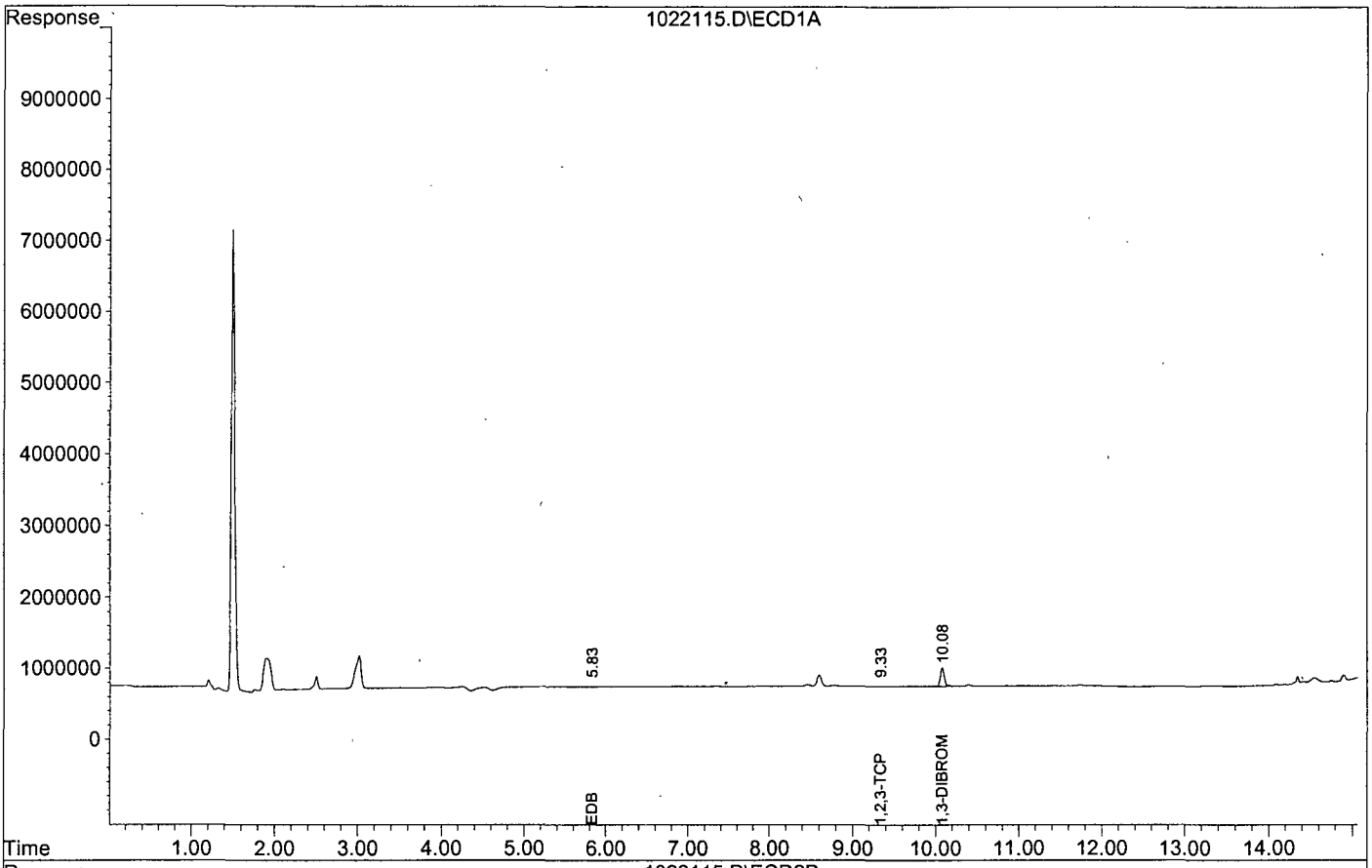
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.11	261792	334382	0.357	0.344
Spiked Amount	0.360			Recovery	=	99.17%	95.56%
	Target Compounds						
1) TM	EDB	5.83	7.31	1054	1296	0.001	0.001
2) TM	1,2,3-TCP	9.33	0.00	1047	0	0.006	N.D. #
	Target Compounds						
4) TM	DBCP	0.00	0.00	0	0	N.D.	N.D.

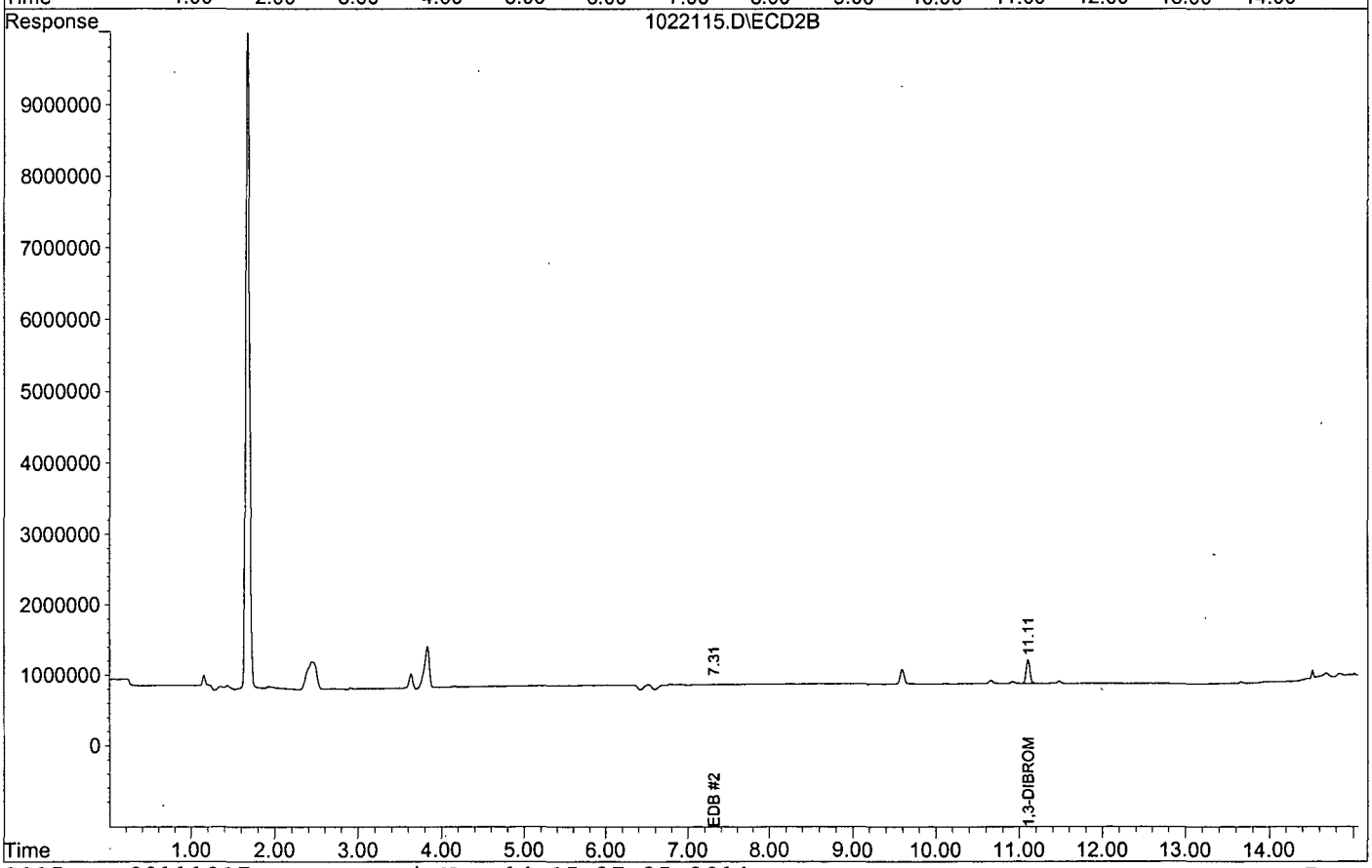
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022115.D
Acq On : 10-30-14 13:36:53
Sample : AZ05388W07 2/34.03G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 15
Operator: MA
Inst : Herbie
Multiplr: 1.03





EPA 8011

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

Project: 749435 Red Hill TO 0068

Sample ID: RHMW07-GW-01FD

Sample Collection Date: 10/20/14

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 74672

APPL ID: AZ05389

QCG: #8011-141027A-191515

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	DBCP	0.019 U	0.02	0.019	0.007	ug/L	10/27/14	10/30/14
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	10/27/14	10/30/14
8011	SURROGATE: 1,3-DIBROMOPROPANE	90.5	70-132			%	10/27/14	10/30/14

Quant Method: 80111027.M
Run #: 1022116
Instrument: Herbie
Sequence: 141022
Dilution Factor: 1
Initials: MA

Printed: 11/14/14 2:57:08 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022116.D\ECD1A.CH Vial: 16
Signal #2 : G:\HERBIE\DATA\141022\1022116.D\ECD2B.CH
Acq On : 10-30-14 13:57:13 Operator: MA
Sample : AZ05389W08 2/34.63G Inst : Herbie
Misc : soil Multiplr: 1.01
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	System Monitoring Compounds							
3) S	1,3-DIBROMOPROPA	10.08	11.11	238977	315981	0.320	0.319	
Spiked Amount	0.354			Recovery	=	90.46%	90.18%	
	Target Compounds							
1) TM	EDB	5.91f	7.38f	1264	1261	0.001	0.001	#
2) TM	1,2,3-TCP	9.27	10.43f	748	1802	0.004	0.007	#
4) TM	DBCP	13.36	14.14	933	1325	0.000	0.000	

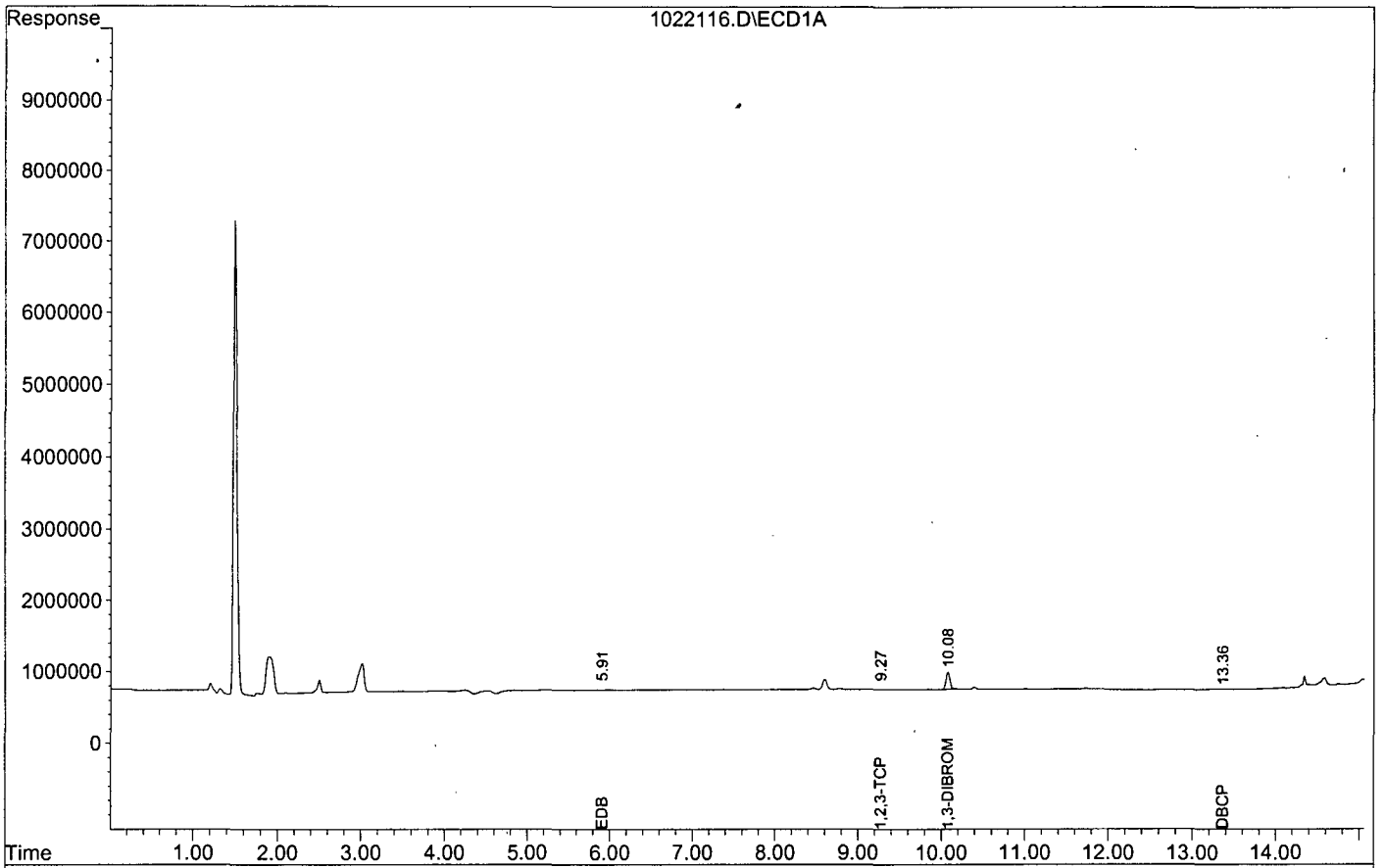
Target Compounds

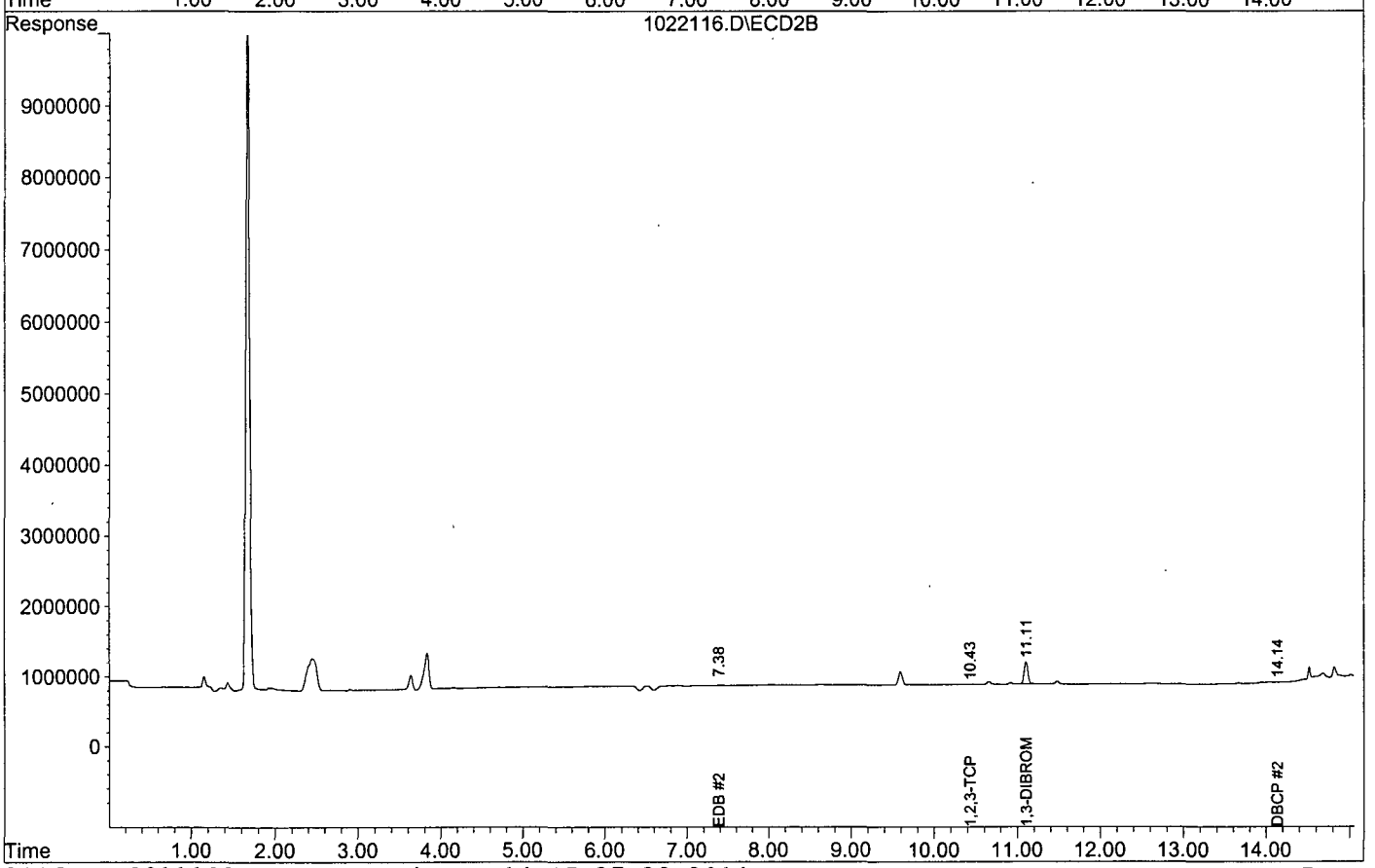
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022116.D
Acq On : 10-30-14 13:57:13
Sample : AZ05389W08 2/34.63G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 16
Operator: MA
Inst : Herbie
Multiplr: 1.01





8011
for
DBCP & EDB Fumigants
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 74672
Case No: Initial Cal. Date: 10/30/14
Matrix: Soil Instrument: Herbie Initials: MA

1022106.D 1022107.D 1022108.D 1022109.D 1022110.D 1022111 D

		Compound	1	2	3	4	5	6					Avg	%RSD		
1	TM	EDB	595765	547208	481543	479920	452904	437705					499174	12	TM	
2	TM	1,2,3-TCP	47118	112491	102571	104225	102452	98076					94489	25	TM	NT
3	S	1,3-DIBROMOPROPANE(S)	432382	417897	364507	363434	348947	334319					376914	10	S	
4	TM	DBCP	1446588	1276064	1188817	1204223	1179283	1158534					1242251	8.7	TM	
5		Signal #2														
6	TM	EDB #2	855176	796248	727444	754469	723203	700367					759485	7.5	TM	
7	TM	1,2,3-TCP #2	33412	152616	139687	139903	135633	130487					121956	36	TM	NT
8	S	1,3-DIBROMOPROPANE(S) #2	519235	542629	489701	494323	486242	466663					499799	5.4	S	
9	TM	DBCP #2	2186294	2340950	2153601	2312769	2302967	2293735					2265053	3.4	TM	
10																
11																
12																
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3.1029252

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022106.D\ECD1A.CH Vial: 6
Signal #2 : G:\HERBIE\DATA\141022\1022106.D\ECD2B.CH
Acq On : 10-30-14 10:34:12 Operator: MA
Sample : 8011-1 10/27/14 2/33.04G Inst : Herbie
Misc : soil Multip1r: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:32 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

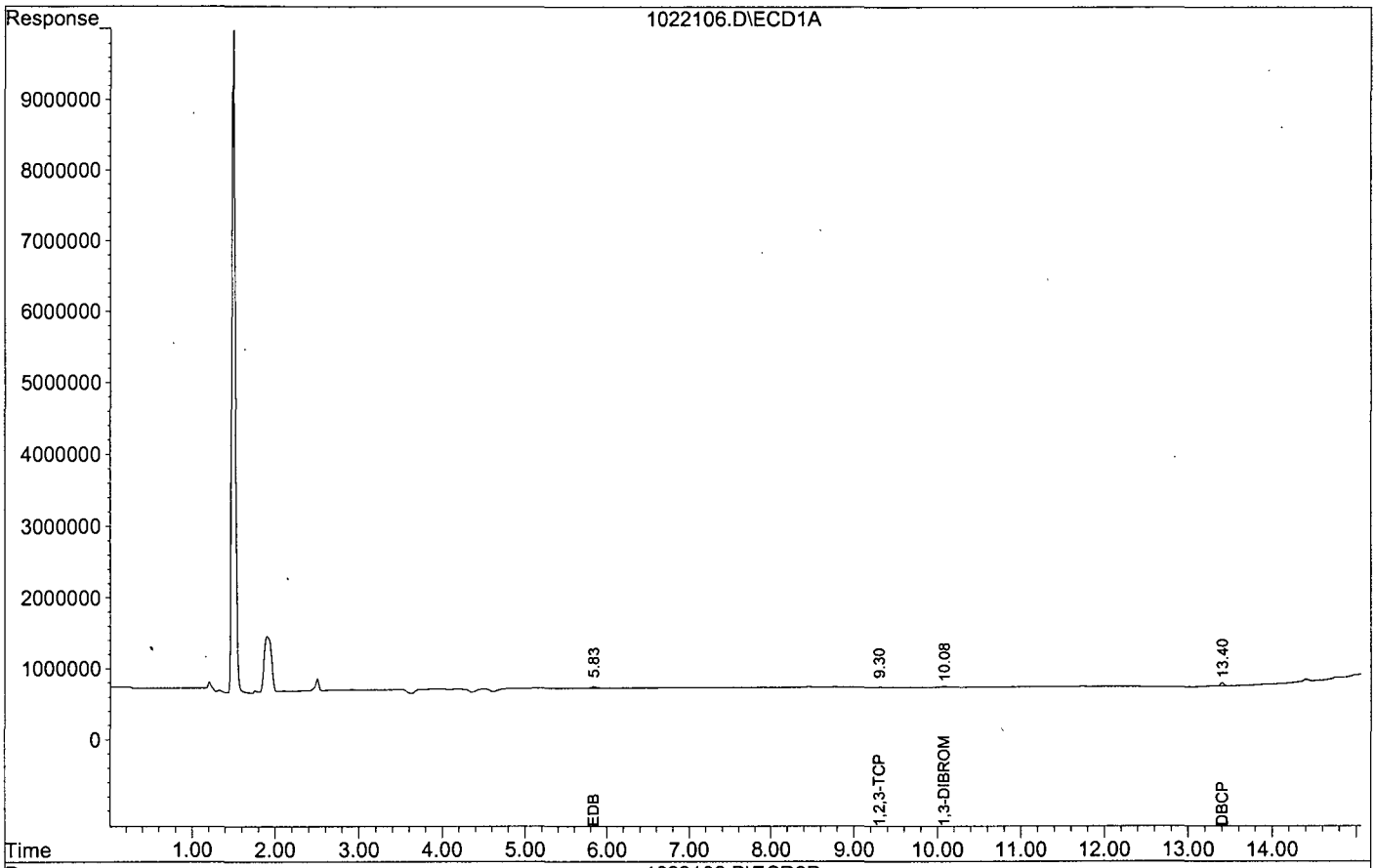
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	System Monitoring Compounds							
3) S	1,3-DIBROMOPROPA	10.08	11.11	14701	17654	0.020	0.018	
Spiked Amount	0.350			Recovery	=	5.71%	5.14%	
	Target Compounds							
1) TM	EDB	5.83	7.28	20256	29076	0.020	0.019	
2) TM	1,2,3-TCP	9.30	10.51	1602	1136	0.008	0.005	#
4) TM	DBCP	13.40	14.13	49184	74334	0.020	0.016	

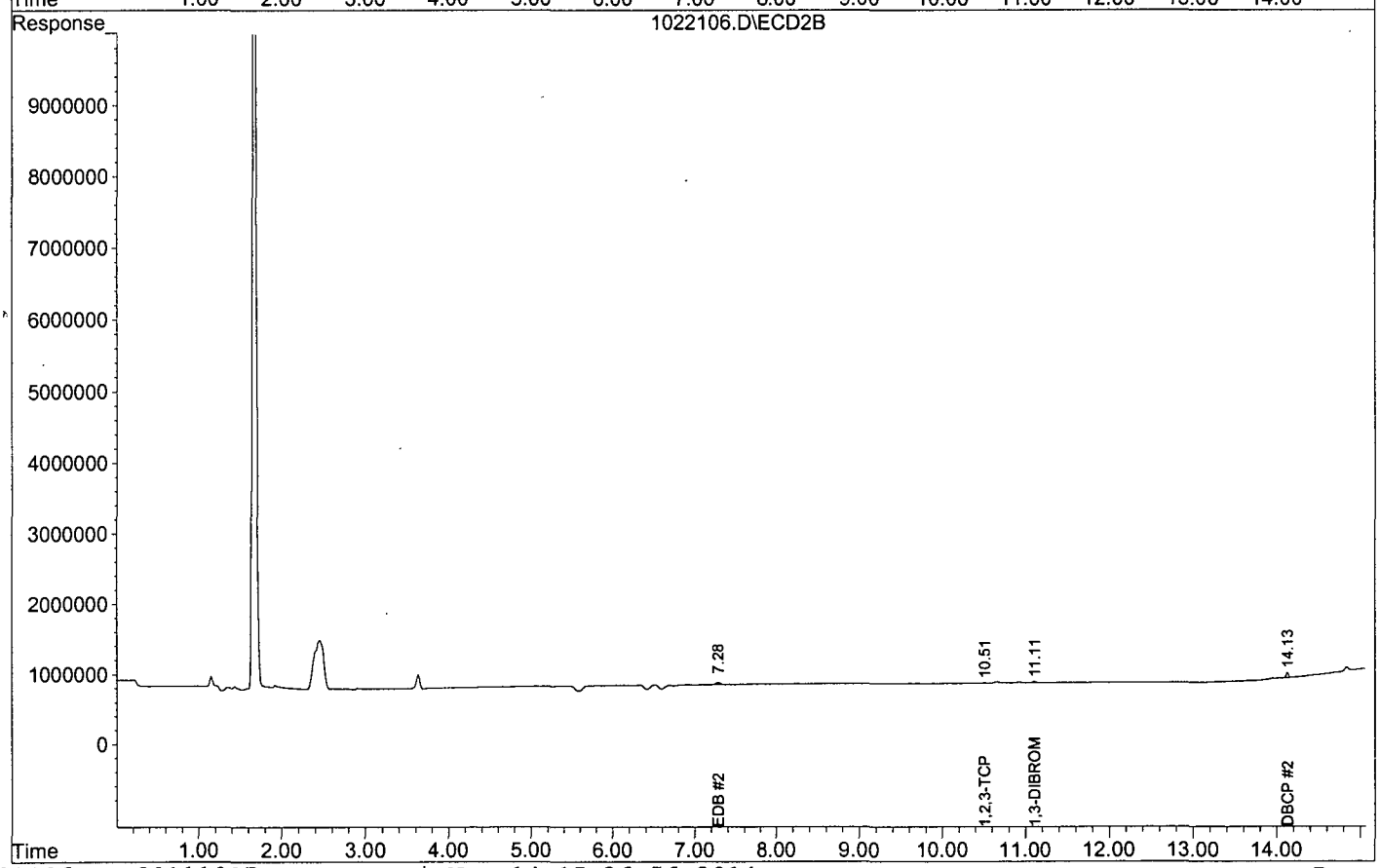
Target Compounds

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022106.D Vial: 6
Acq On : 10-30-14 10:34:12 Operator: MA
Sample : 8011-1 10/27/14 2/33.04G Inst : Herbie
Misc : soil Multiplr: 1.00
Quant Method : G:\HERBIE\DATA\141022\80111027.M





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022107.D\ECD1A.CH Vial: 7
Signal #2 : G:\HERBIE\DATA\141022\1022107.D\ECD2B.CH
Acq On : 10-30-14 10:54:24 Operator: MA
Sample : 8011-2 10/27/14 2/33.31G Inst : Herbie
Misc : soil Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:32 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.10	190561	247439	0.253	0.248
Spiked Amount	0.350			Recovery	=	72.29%	70.86%
	Target Compounds						
1) TM	EDB	5.84	7.28	249527	363089	0.250	0.239
2) TM	1,2,3-TCP	9.31	10.51	51296	69593	0.271	0.285
4) TM	DBCP	13.40	14.13	581885	1067473	0.234	0.236

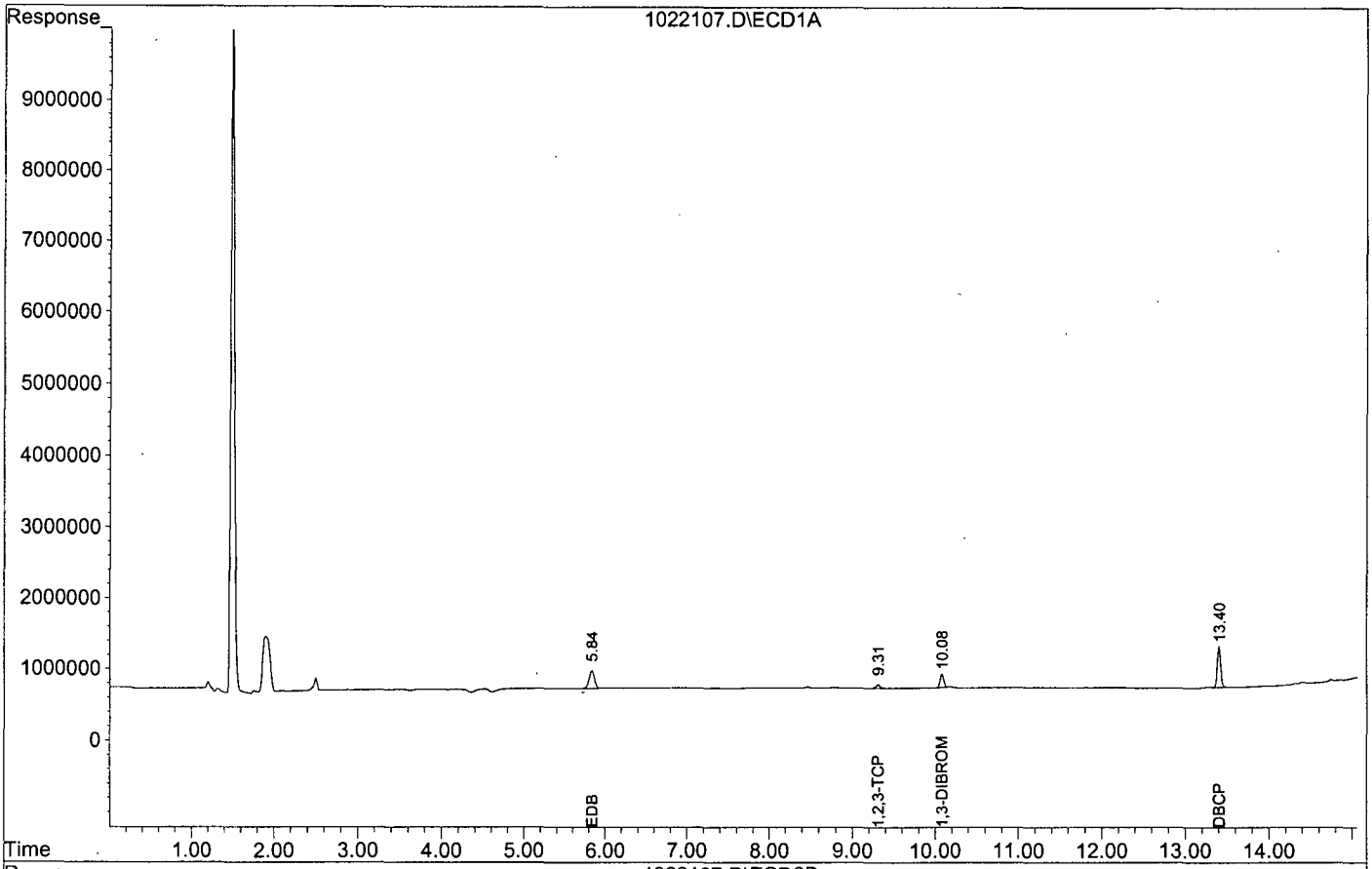
Target Compounds

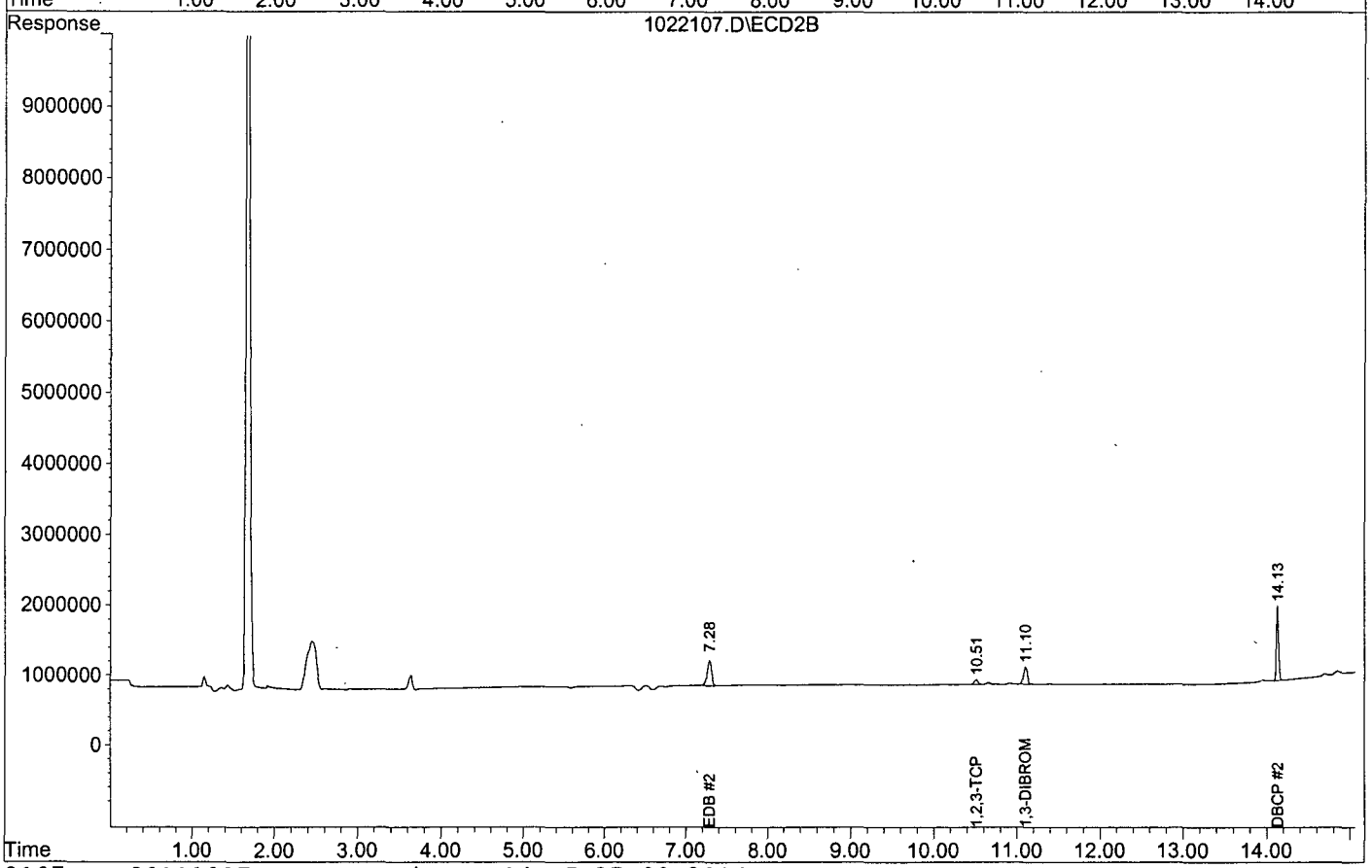
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022107.D
Acq On : 10-30-14 10:54:24
Sample : 8011-2 10/27/14 2/33.31G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 7
Operator: MA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022108.D\ECD1A.CH Vial: 8
Signal #2 : G:\HERBIE\DATA\141022\1022108.D\ECD2B.CH
Acq On : 10-30-14 11:14:47 Operator: MA
Sample : 8011-3 10/27/14 2/32.25G Inst : Herbie
Misc : soil Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

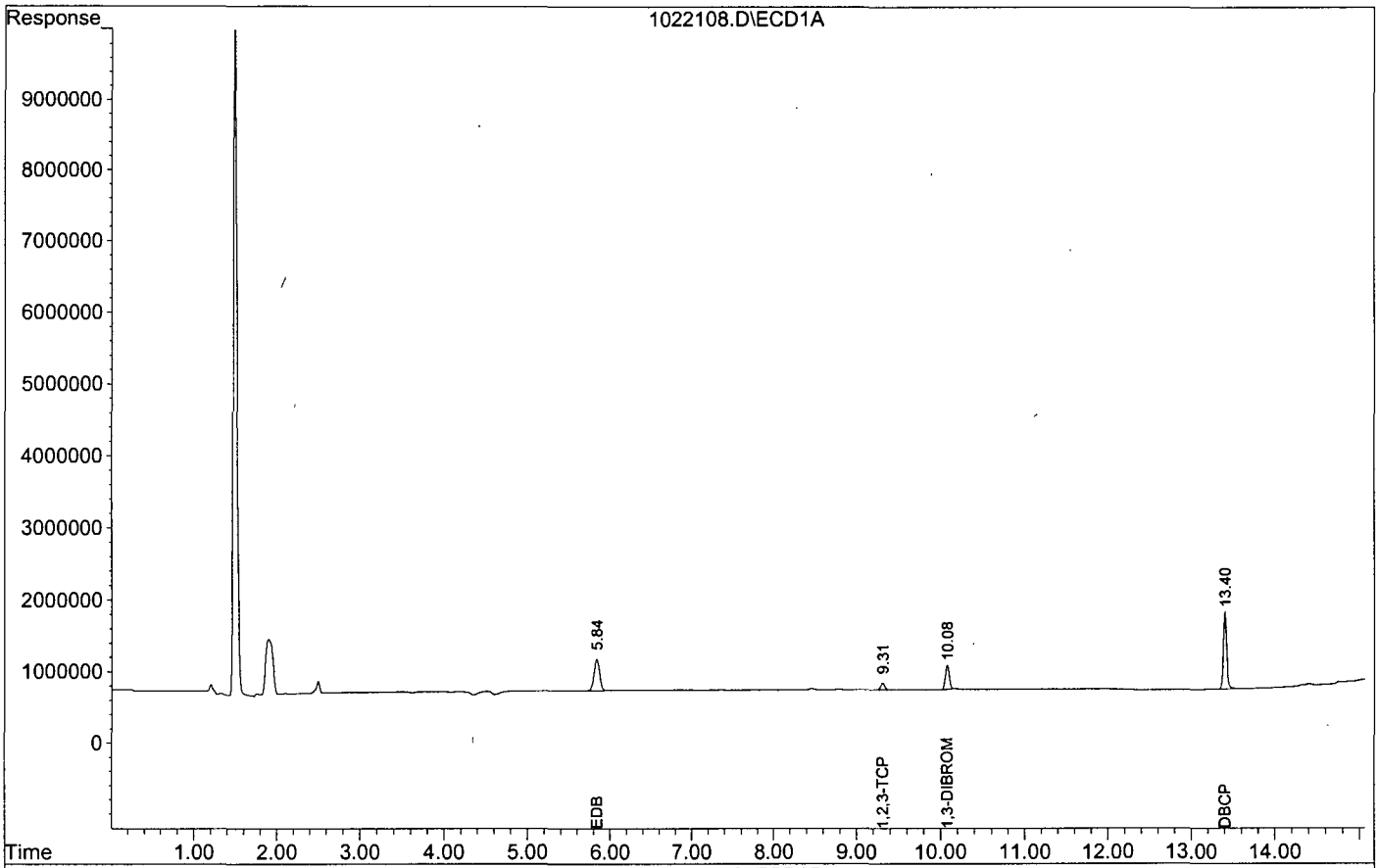
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.11	333159	447587	0.442	0.448
Spiked Amount	0.350			Recovery	=	126.29%	128.00%
	Target Compounds						
1) TM	EDB	5.84	7.29	440130	664884	0.441	0.438
2) TM	1,2,3-TCP	9.31	10.51	93750	127674	0.496	0.523
4) TM	DBCP	13.40	14.13	1086579	1968391	0.437	0.435
	Target Compounds						

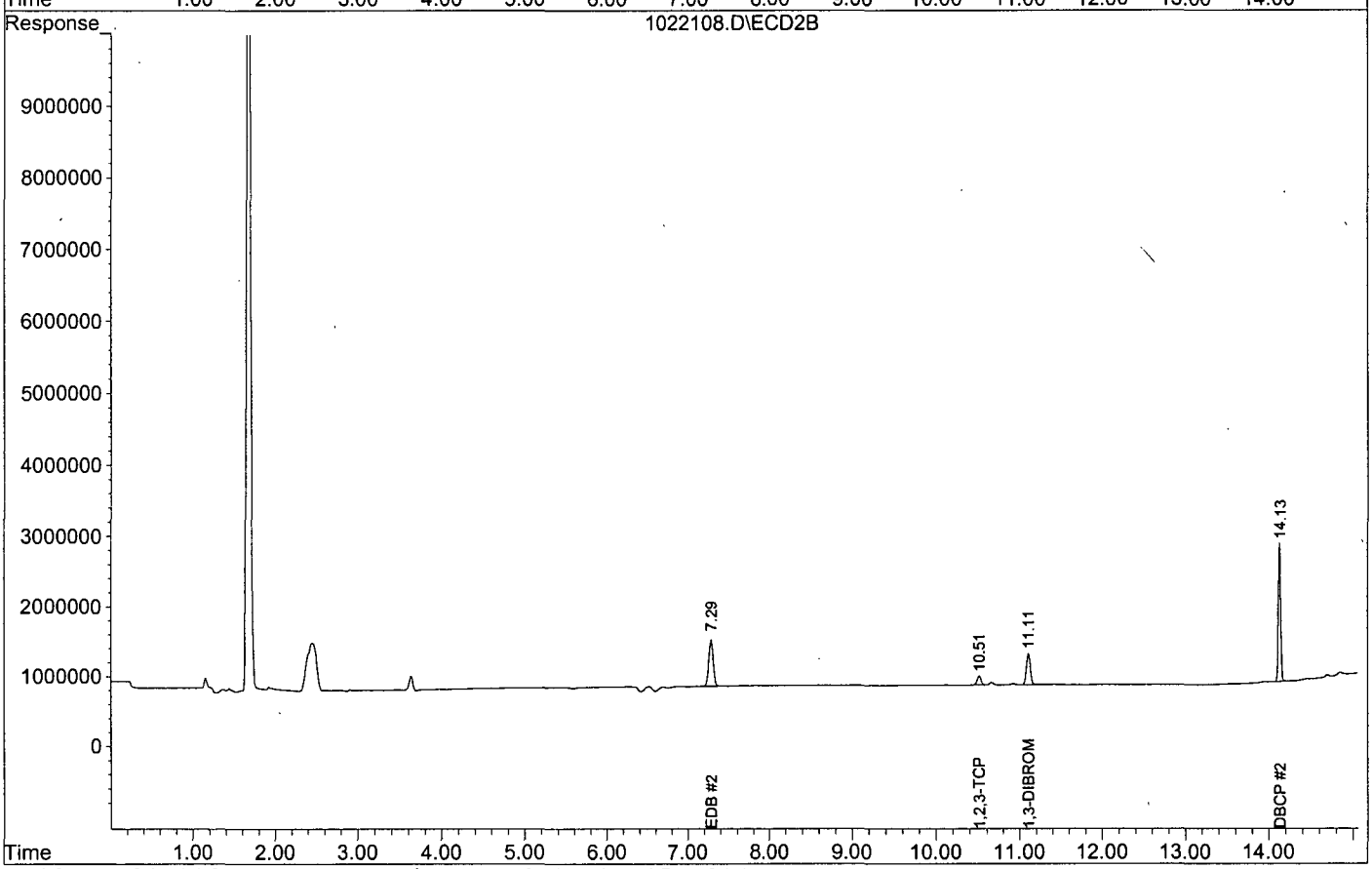
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022108.D
Acq On : 10-30-14 11:14:47
Sample : 8011-3 10/27/14 2/32.25G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 8
Operator: MA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022109.D\ECD1A.CH Vial: 9
Signal #2 : G:\HERBIE\DATA\141022\1022109.D\ECD2B.CH
Acq On : 10-30-14 11:35:01 Operator: MA
Sample : 8011-4 10/27/14 2/32.52G Inst : Herbie
Misc : soil Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

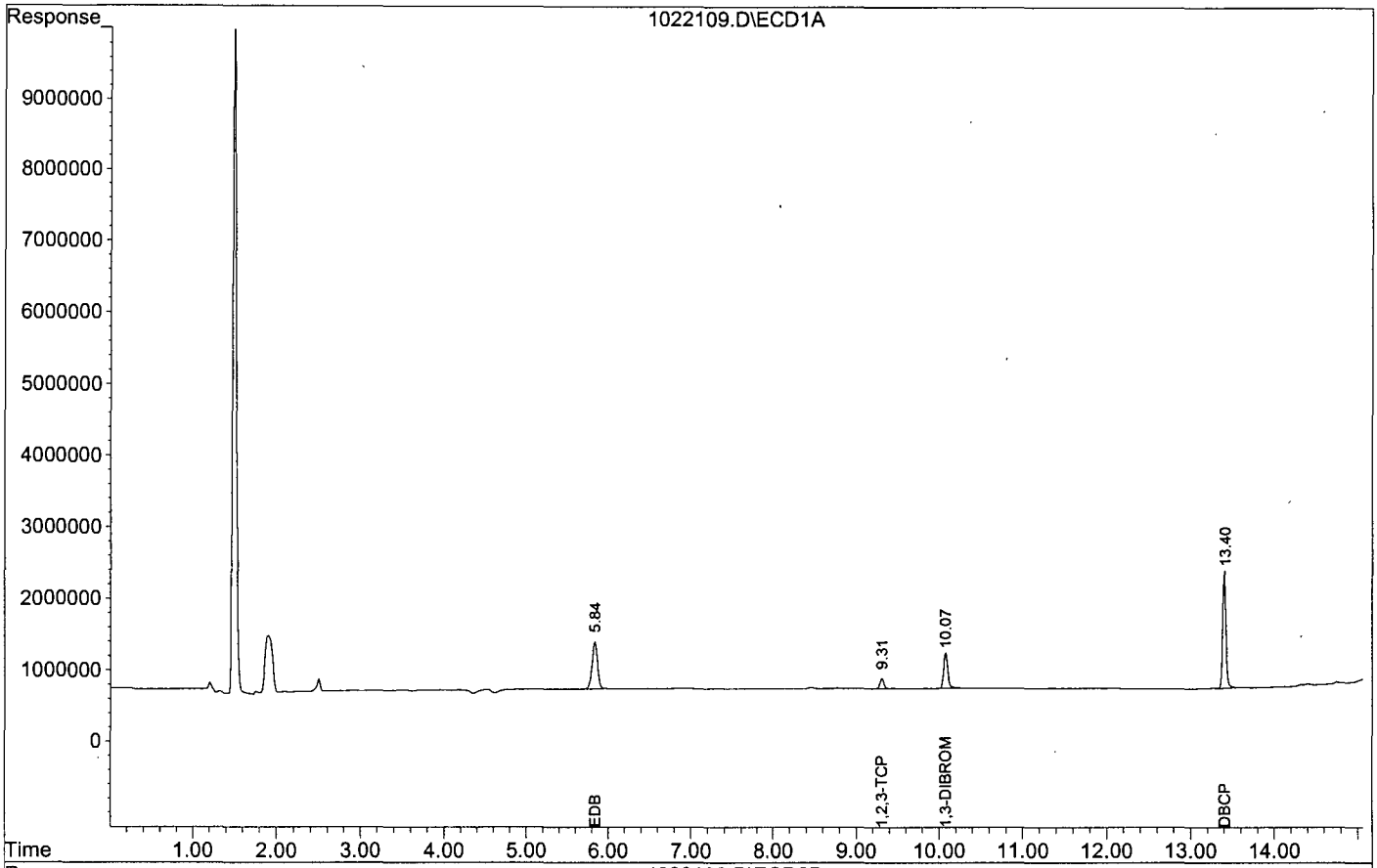
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.07	11.10	497904	677222	0.661	0.677
Spiked Amount	0.350			Recovery	=	188.86%	193.43%
	Target Compounds						
1) TM	EDB	5.84	7.28	657490	1033623	0.659	0.680
2) TM	1,2,3-TCP	9.31	10.51	142788	191667	0.756	0.786
4) TM	DBCP	13.40	14.13	1649785	3168494	0.664	0.699
	Target Compounds						

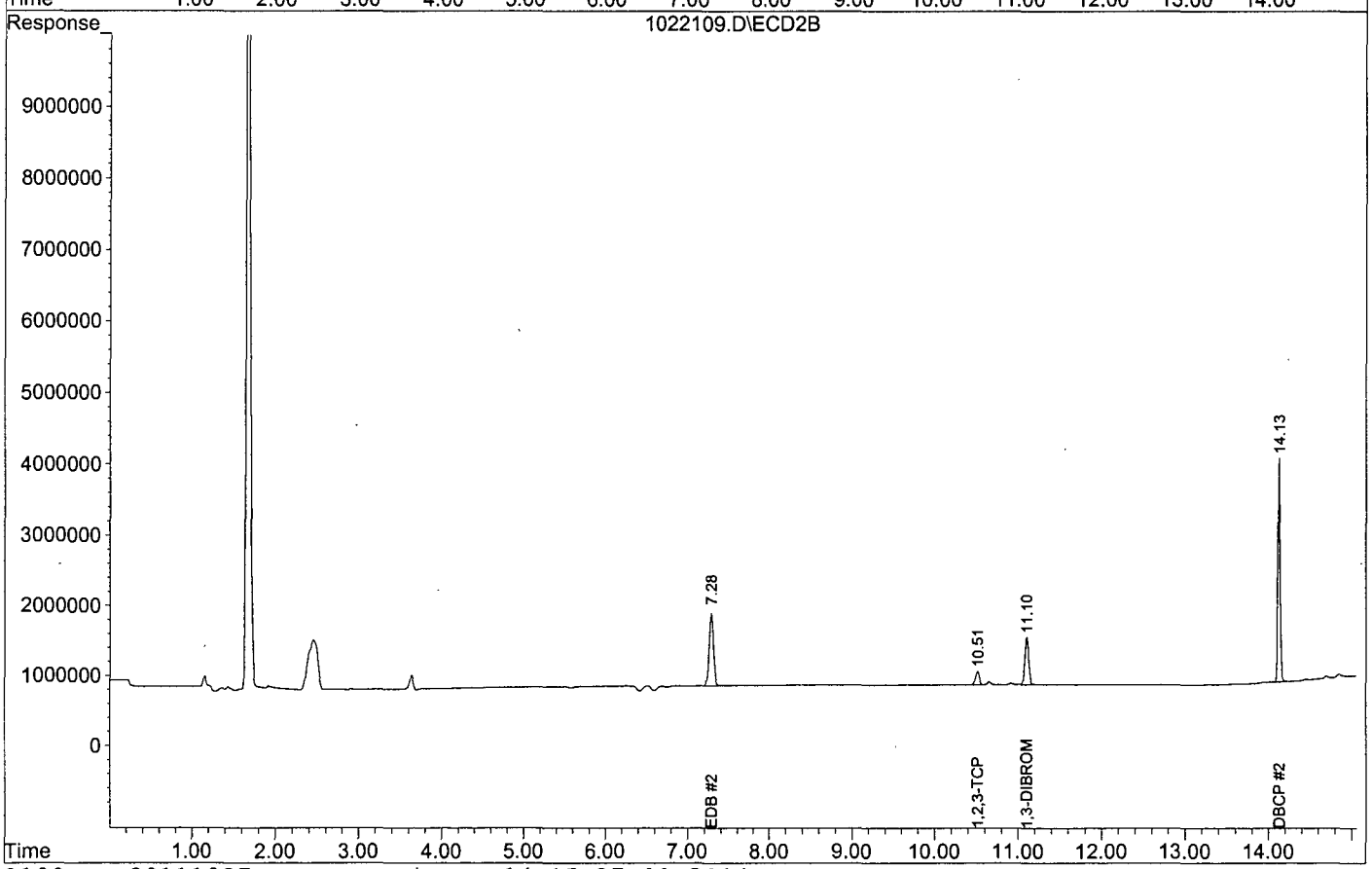
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022109.D
Acq On : 10-30-14 11:35:01
Sample : 8011-4 10/27/14 2/32.52G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 9
Operator: MA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022110.D\ECD1A.CH Vial: 10
Signal #2 : G:\HERBIE\DATA\141022\1022110.D\ECD2B.CH
Acq On : 10-30-14 11:55:17 Operator: MA
Sample : 8011-5 10/27/14 2/33.63G Inst : Herbie
Misc : soil Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

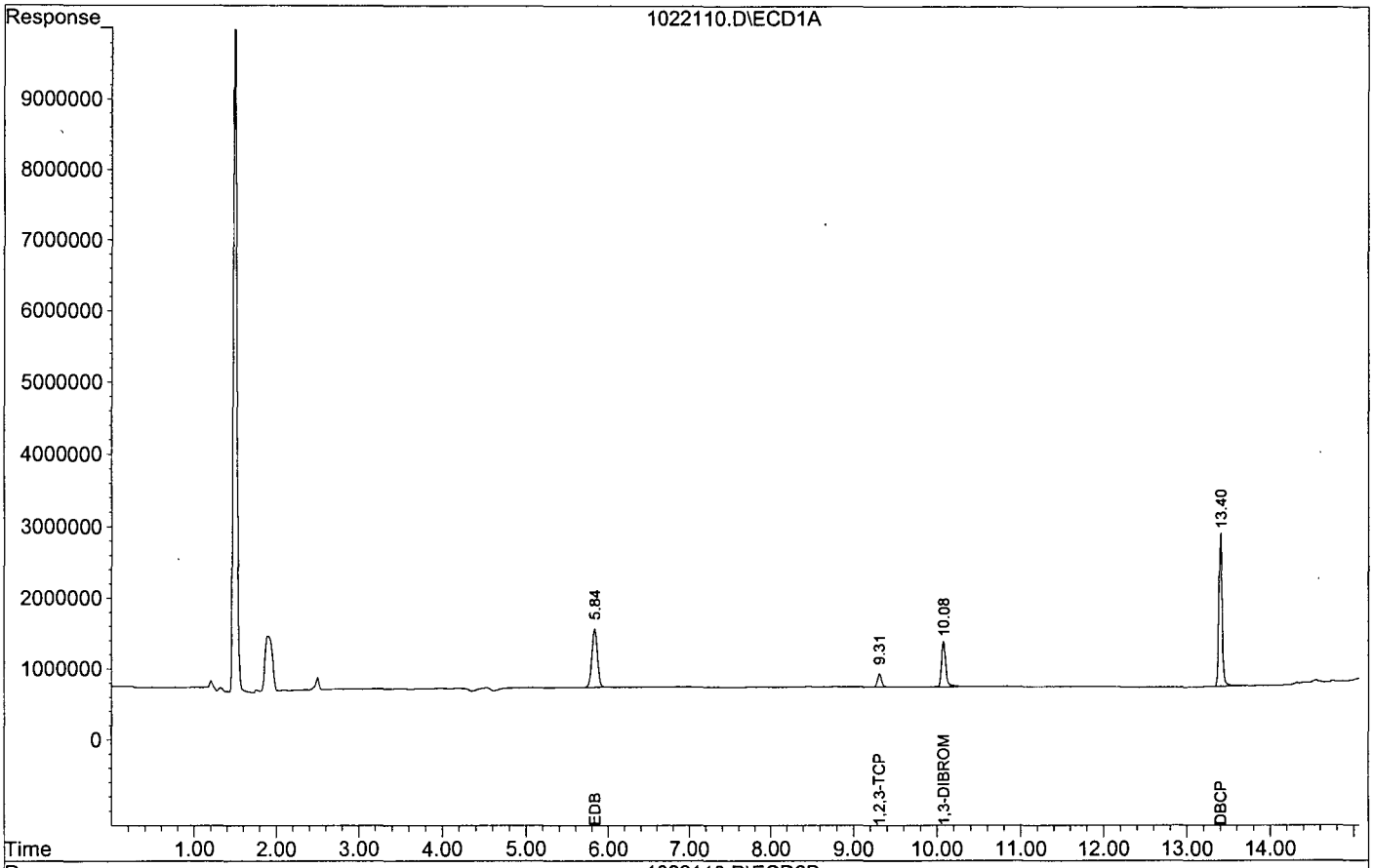
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.10	637875	888851	0.846	0.889
Spiked Amount	0.350			Recovery	=	241.71%	254.00%
	Target Compounds						
1) TM	EDB	5.84	7.28	827908	1322015	0.829	0.870
2) TM	1,2,3-TCP	9.31	10.51	187282	247937	0.991	1.016
4) TM	DBCP	13.40	14.13	2155730	4209824	0.868	0.929
	Target Compounds						

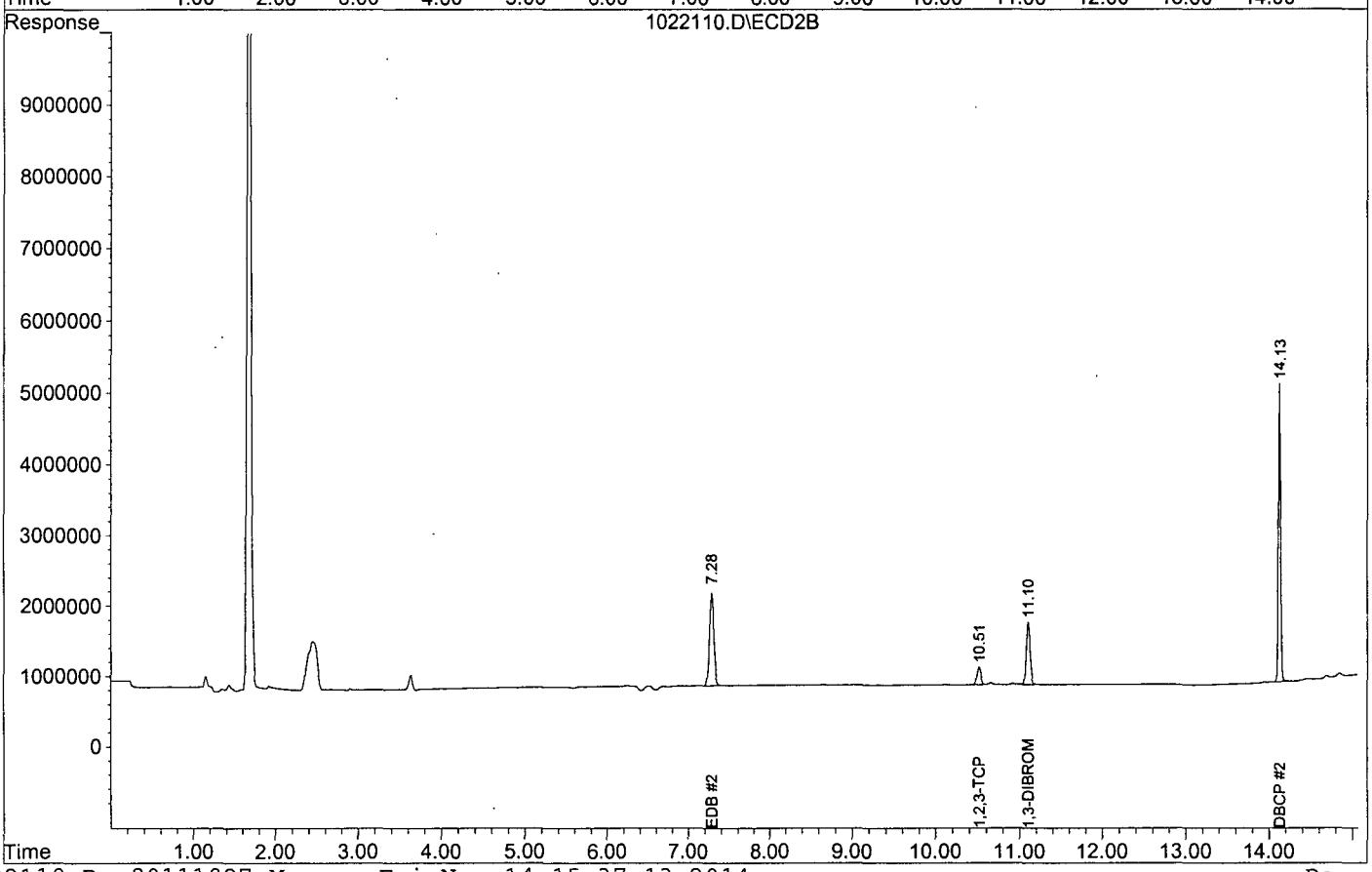
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022110.D
Acq On : 10-30-14 11:55:17
Sample : 8011-5 10/27/14 2/33.63G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 10
Operator: MA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022111.D\ECD1A.CH Vial: 11
Signal #2 : G:\HERBIE\DATA\141022\1022111.D\ECD2B.CH
Acq On : 10-30-14 12:15:39 Operator: MA
Sample : 8011-6 10/27/14 2/31.65G Inst : Herbie
Misc : soil Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

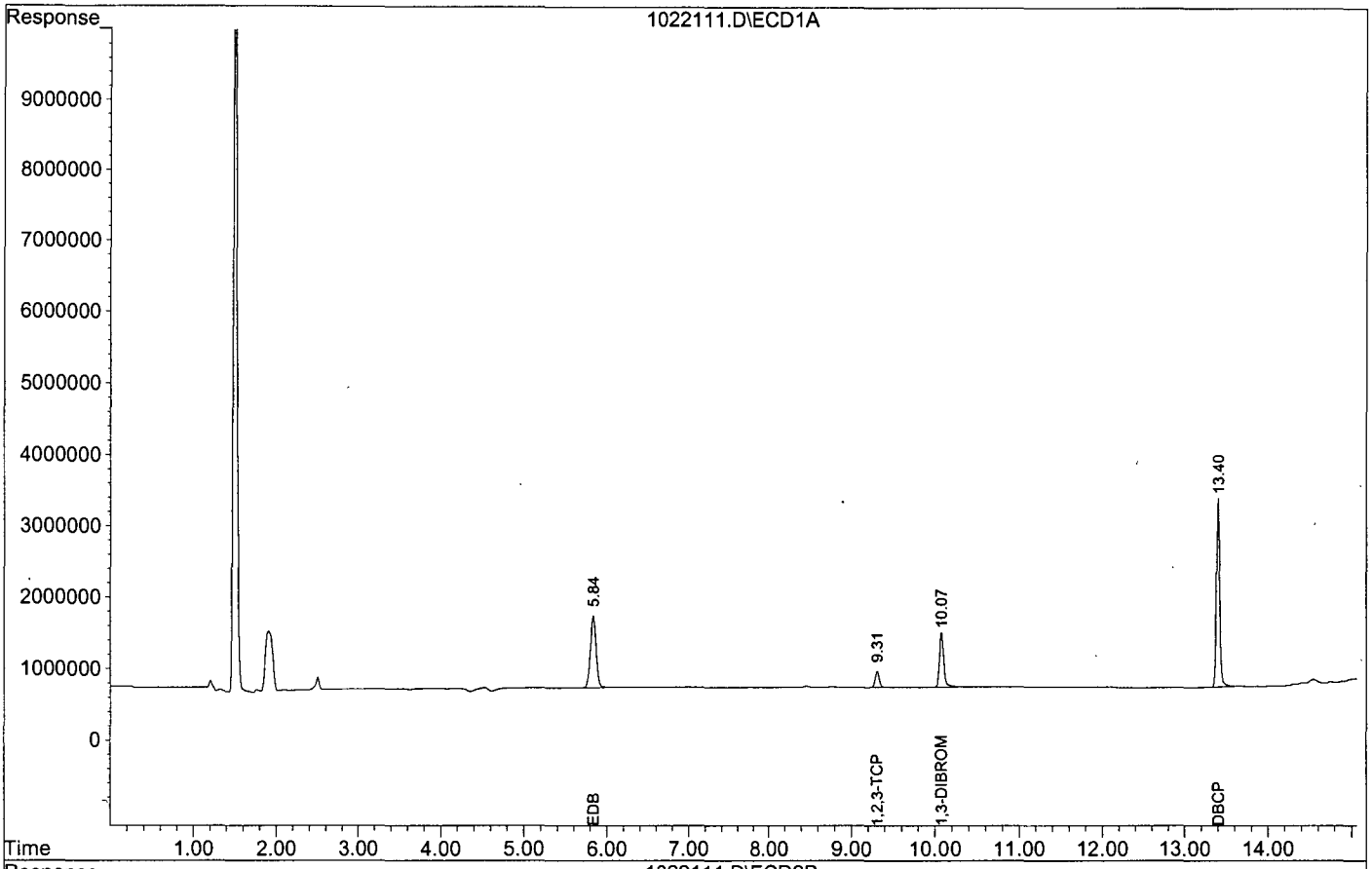
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.07	11.10	763585	1065858	1.013	1.066
Spiked Amount	0.350			Recovery	=	289.43%	304.57%
	Target Compounds						
1) TM	EDB	5.84	7.28	999718	1599638	1.001	1.053
2) TM	1,2,3-TCP	9.31	10.51	224005	298032	1.185	1.222
4) TM	DBCP	13.40	14.13	2646091	5238891	1.065	1.156
	Target Compounds						

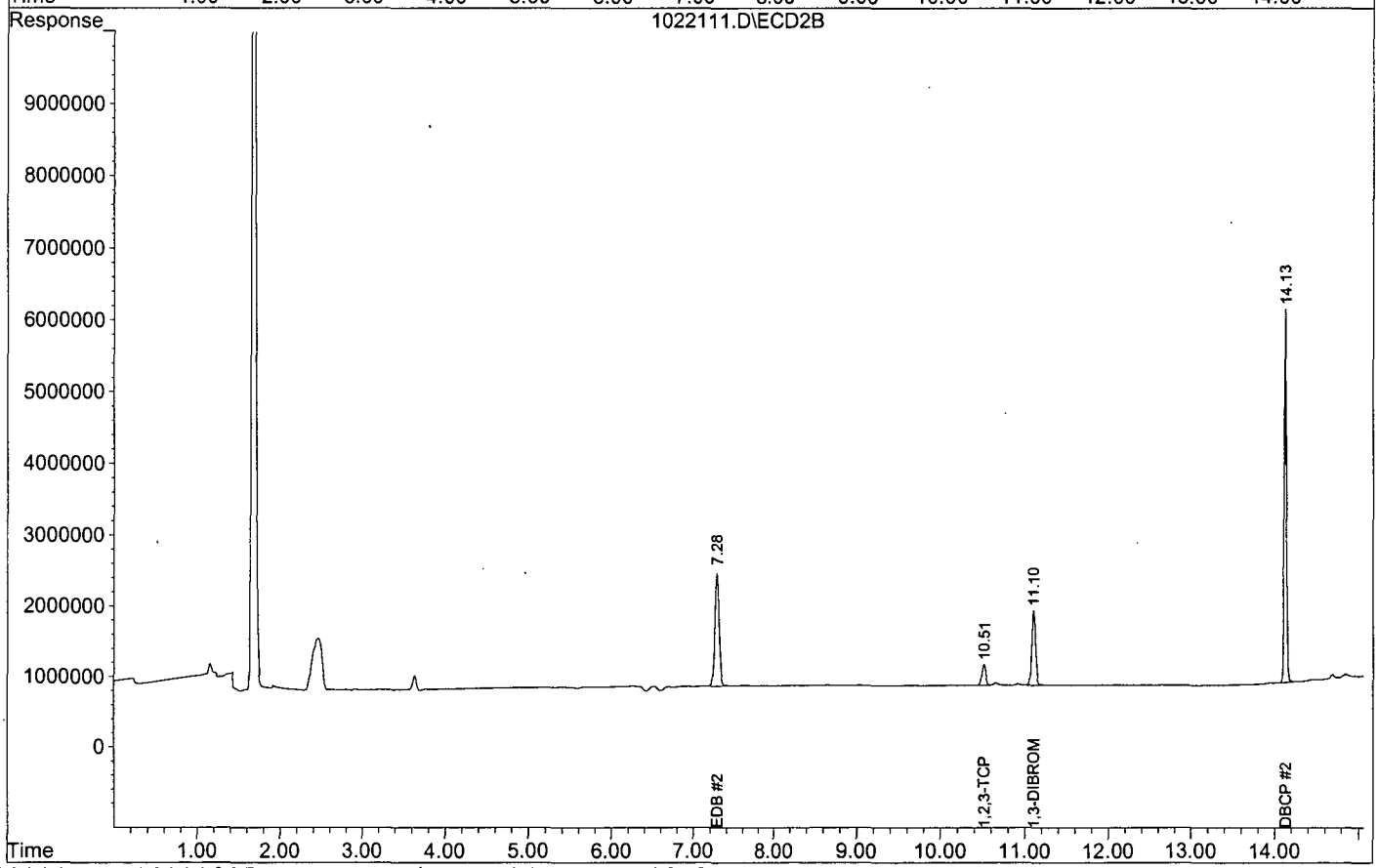
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022111.D
Acq On : 10-30-14 12:15:39
Sample : 8011-6 10/27/14 2/31.65G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 11
Operator: MA
Inst : Herbie
Multiplr: 1.00





DBCP/EDB/1,2,3-TCP Analysis by
8011 1027

Form 7

Second Source Calibration

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

SDG No: 74672
Date Analyzed: 10/30/14
Instrument: Herbie
Initial Cal. Date: 10/30/14
Data File: 1022114.D

		Compound	MEAN	CCRF	%D	%Drift		
1	TM	EDB	499174	505257	1.2	TM		
2	TM	1,2,3-TCP	94489	112004	19	TM		
	TM	DBCP	1242250	1297130	4.4	TM		
1	signal #2							
2	TM	EDB	759485	777221	2.3	TM		
3	TM	1,2,3-TCP	121956	151336	24	TM		*NT
4	TM	DBCP	2265050	2423580	7.0	TM		
5								
6								
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36								
37								
		Average			11.6			

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022114.D\ECD1A.CH Vial: 14
Signal #2 : G:\HERBIE\DATA\141022\1022114.D\ECD2B.CH
Acq On : 10-30-14 13:16:33 Operator: MA
Sample : 141027A LCS-2 2/32.96G Inst : Herbie
Misc : soil Multiplr: 1.06
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.11	258654	346347	0.364	0.368
Spiked Amount	0.372			Recovery	=	97.94%	99.01%
	Target Compounds						
1) TM	EDB	5.84	7.29	461805	710380	0.491	0.497
2) TM	1,2,3-TCP	9.31	10.51	102372	138321	0.575	0.602
4) TM	DBCP	13.40	14.13	1185573	2215148	0.507	0.519

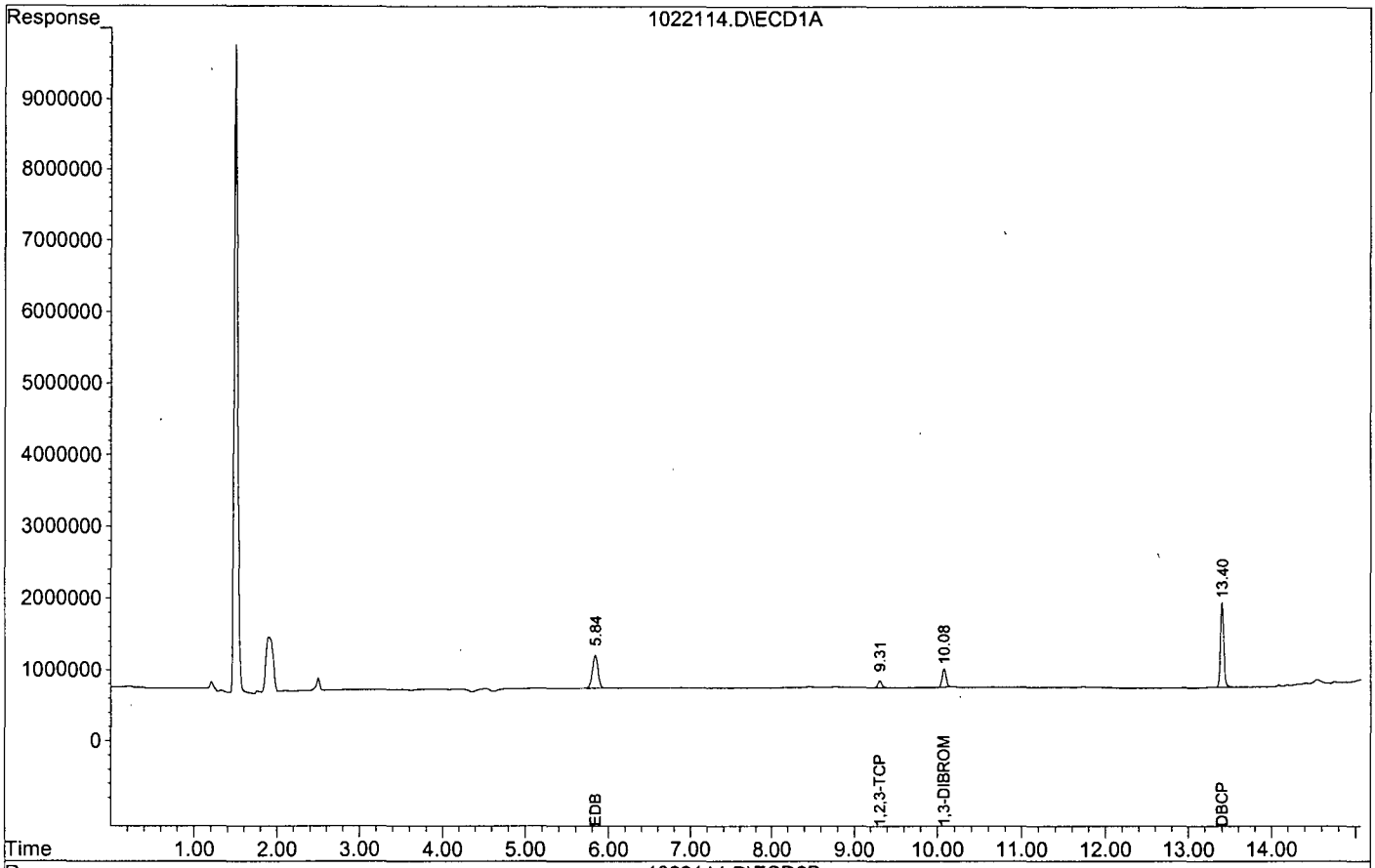
Target Compounds

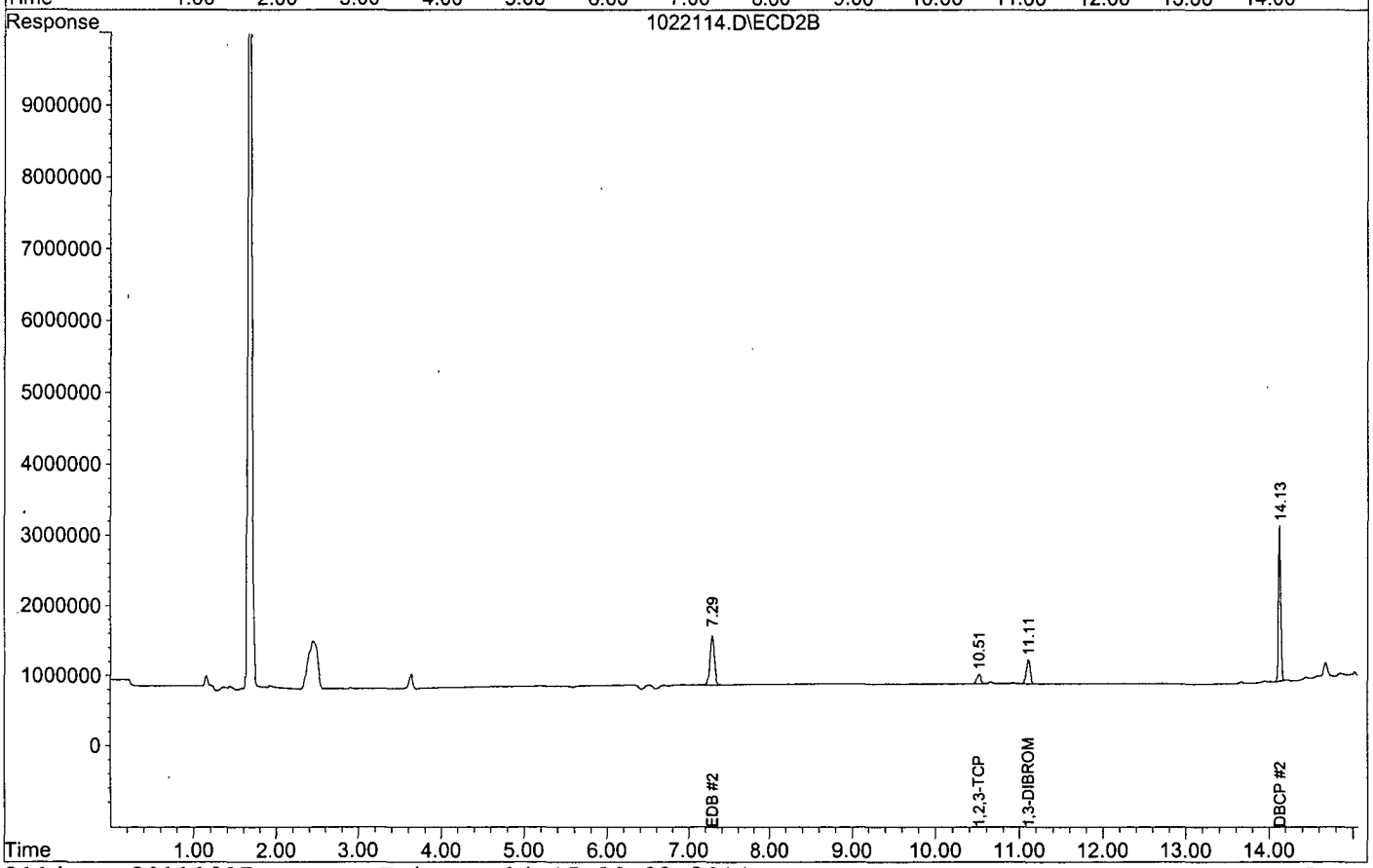
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022114.D
Acq On : 10-30-14 13:16:33
Sample : 141027A LCS-2 2/32.96G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 14
Operator: MA
Inst : Herbie
Multiplr: 1.06





DBCP/EDB/1,2,3-TCP Analysis by
8011 1027

Form 7

Continuing Calibration

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

SDG No: 74672
Date Analyzed: 10/30/14
Instrument: Herbie
Initial Cal. Date: 10/30/14
Data File: 1022124.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	EDB	499174	479218	4.0	TM	
2	TM	1,2,3-TCP	94489	104880	11	TM	
3	S	1,3-DIBROMOPROPANE(S)	376914	381358	1.2	S	
4	TM	DBCP	1242250	1220540	1.7	TM	
5	signal #2						
6	TM	EDB	759485	734601	3.3	TM	
7	TM	1,2,3-TCP	121956	142524	17	TM	
8	S	1,3-DIBROMOPROPANE(S)	499799	499646	0.03	S	
9	TM	DBCP	2265050	2257100	0.35	TM	
10							
11							
12							
13							
14							
15							
16							
17							
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36							
37							
38							
39							
40							
		Average			#REF!		

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022124.D\ECD1A.CH Vial: 24
Signal #2 : G:\HERBIE\DATA\141022\1022124.D\ECD2B.CH
Acq On : 10-30-14 16:40:41 Operator: MA
Sample : 8011-3 10/27/14 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

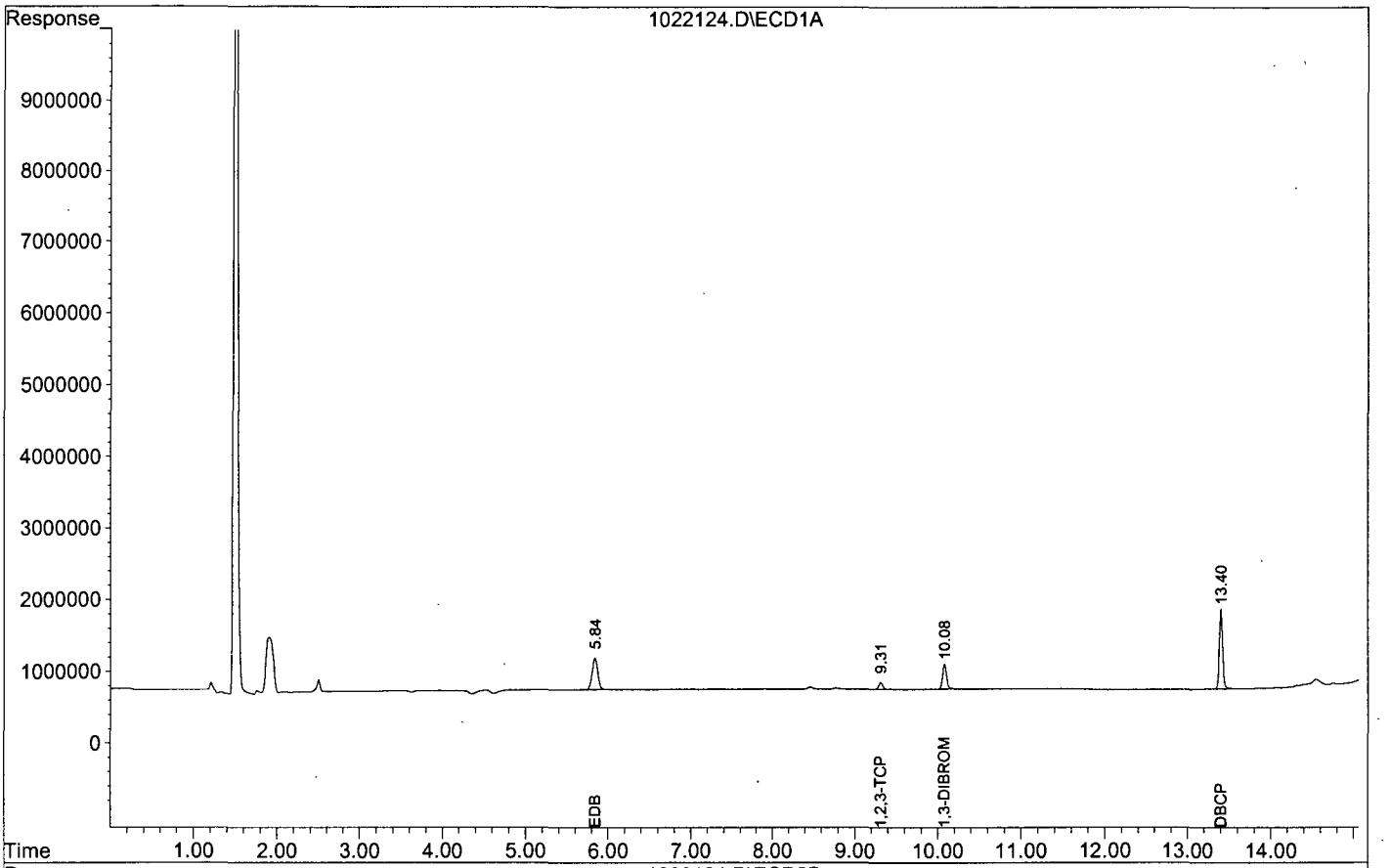
Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

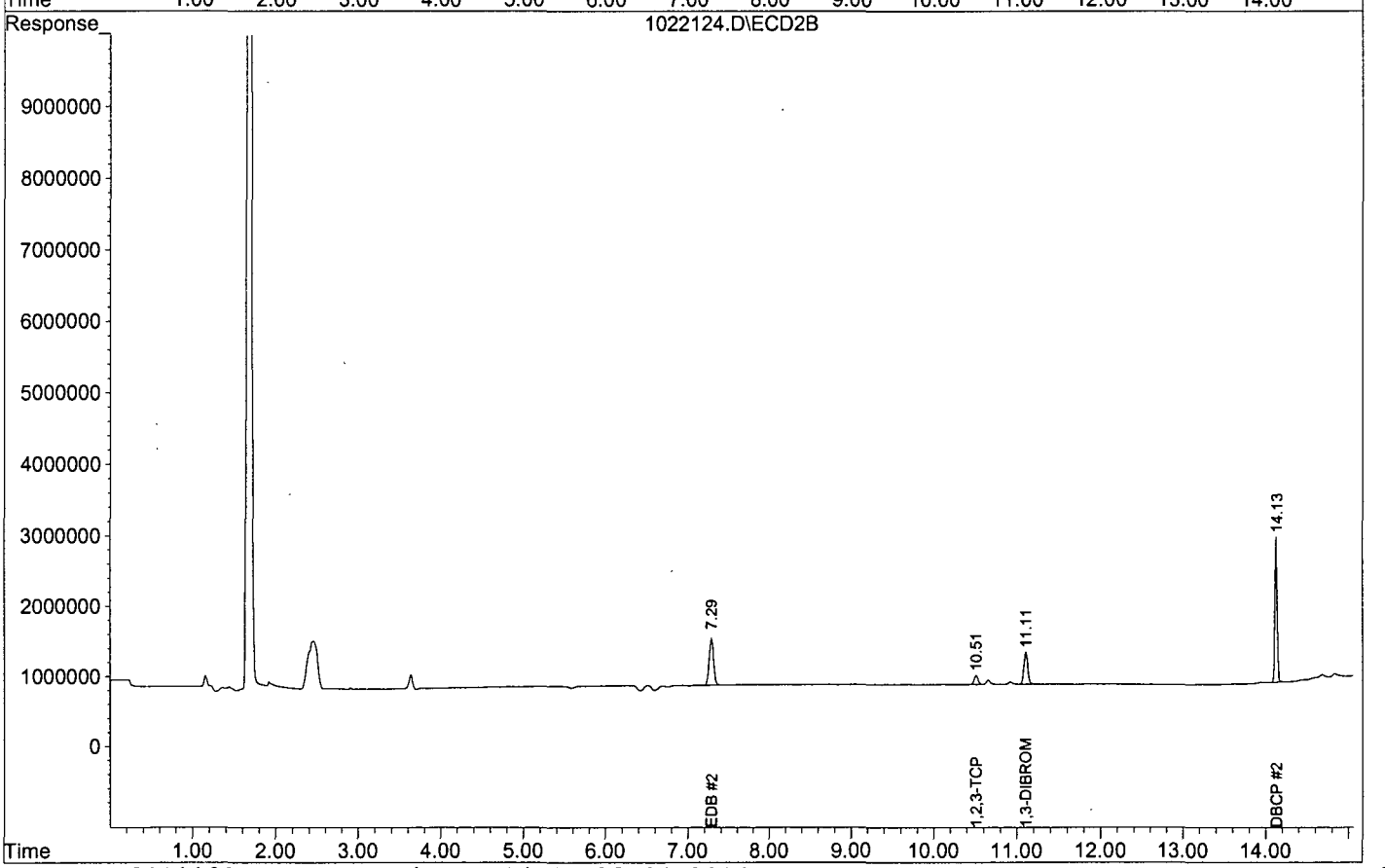
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.11	348561	456676	0.462	0.457
Spiked Amount	0.350			Recovery	=	132.00%	130.57%
	Target Compounds						
1) TM	EDB	5.84	7.29	438005	671425	0.439	0.442
2) TM	1,2,3-TCP	9.31	10.51	95860	130267	0.507	0.534
4) TM	DBCP	13.40	14.13	1115571	2062985	0.449	0.455
	Target Compounds						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022124.D Vial: 24
Acq On : 10-30-14 16:40:41 Operator: MA
Sample : 8011-3 10/27/14 Inst : Herbie
Misc : Multiplr: 1.00
Quant Method : G:\HERBIE\DATA\141022\80111027.M





8011
for
DBCP & EDB Fumigants
Raw Data

APPL, INC.

Method Blank
EPA 8011

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **141027W-05593 - 191515**
Batch ID: #8011-141027A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DBCP	0.019 U	0.02	0.019	0.007	ug/L	10/27/14	10/30/14
BLANK	EDB	0.020 U	0.02	0.020	0.010	ug/L	10/27/14	10/30/14
BLANK	SURROGATE: 1,3-DIBROMOPRO	99.0	70-132			%	10/27/14	10/30/14

Quant Method:80111027.M
Run #:1022112
Instrument:Herbie
Sequence:141022
Initials:MA

GC SC-Blank-REG MDLs
Printed: 11/14/14 2:57:13 PM

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022112.D\ECD1A.CH Vial: 12
Signal #2 : G:\HERBIE\DATA\141022\1022112.D\ECD2B.CH
Acq On : 10-30-14 12:35:52 Operator: MA
Sample : 141027A BLK 2/32.34G Inst : Herbie
Misc : soil Multiplr: 1.08
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	System Monitoring Compounds							
3) S	1,3-DIBROMOPROPA	10.08	11.11	261484	351218	0.375	0.380	
Spiked Amount	0.379			Recovery	=	99.00%	100.32%	
	Target Compounds							
1) TM	EDB	5.85	7.29	1201	1019	0.001	0.001	#
2) TM	1,2,3-TCP	9.29	10.52	772	1400	0.004	0.006	#
4) TM	DBCP	13.41	0.00	1690	0	0.001	N.D.	#

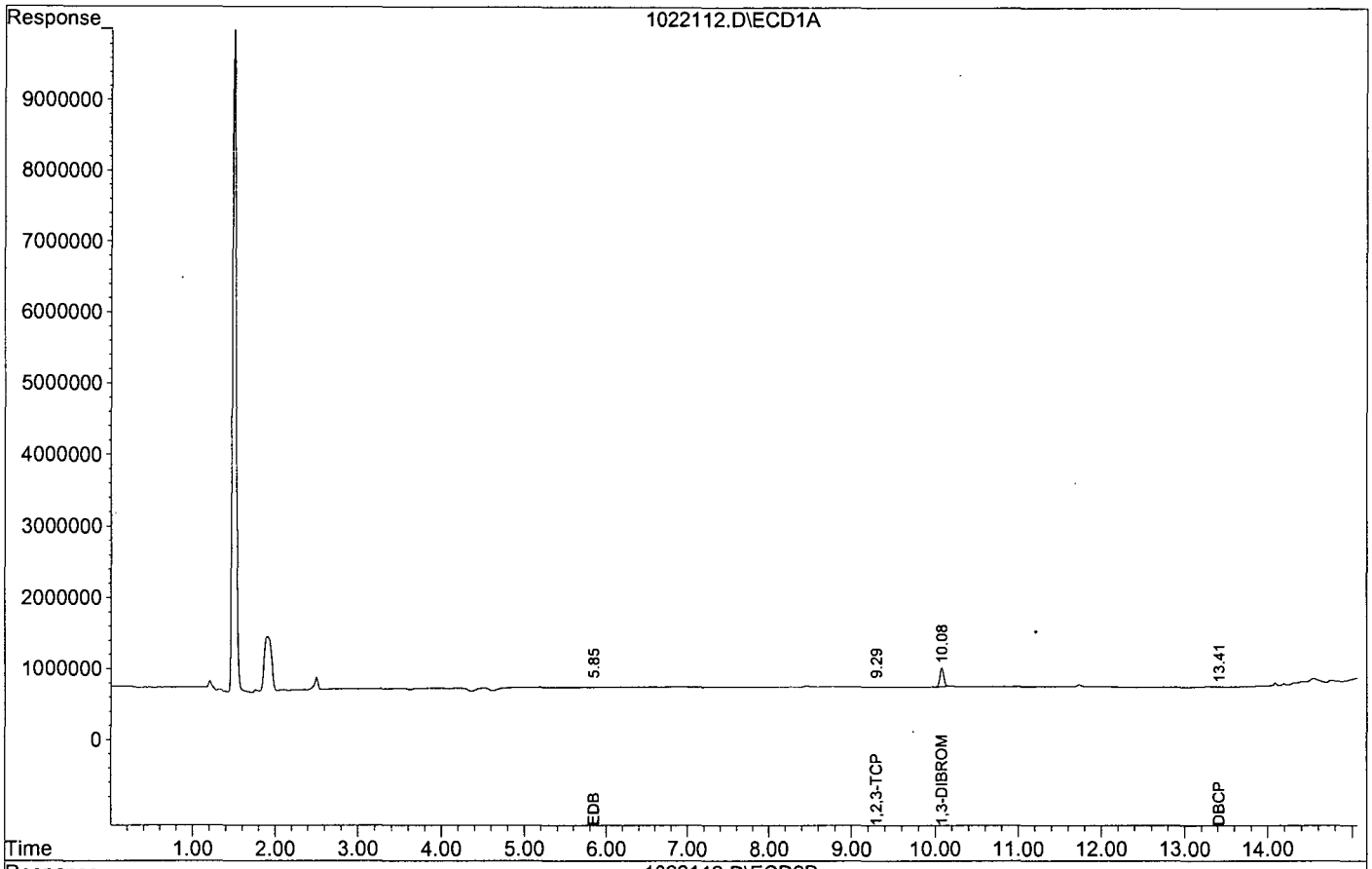
Target Compounds

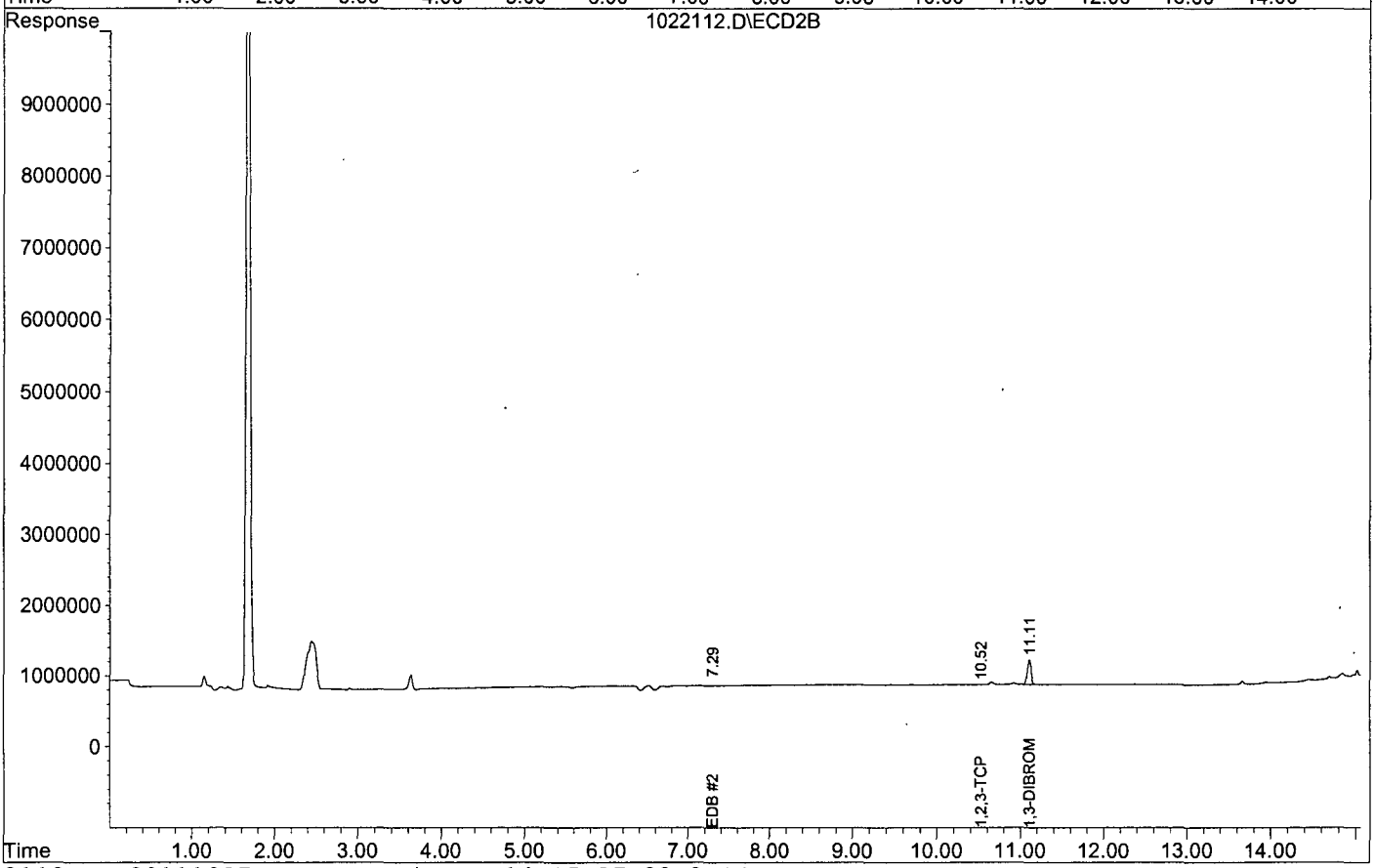
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022112.D
Acq On : 10-30-14 12:35:52
Sample : 141027A BLK 2/32.34G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 12
Operator: MA
Inst : Herbie
Multiplr: 1.08





Laboratory Control Spike Recovery
EPA 8011

APPL ID: **141027W-05593 LCS - 191515**
Batch ID: #8011-141027A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DBCP	0.482	0.507	105	60-140
EDB	0.482	0.491	102	60-140
SURROGATE: 1,3-DIBROMOPROPANE (	0.350	0.364	104	70-132

Comments: _____

Primary	SPK
Quant Method :	80111027.M
Extraction Date :	10/27/14
Analysis Date :	10/30/14
Instrument :	Herbie
Run :	1022114
Initials :	MA

Printed: 11/14/14 2:57:14 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022114.D\ECD1A.CH Vial: 14
Signal #2 : G:\HERBIE\DATA\141022\1022114.D\ECD2B.CH
Acq On : 10-30-14 13:16:33 Operator: MA
Sample : 141027A LCS-2 2/32.96G Inst : Herbie
Misc : soil Multiplr: 1.06
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.08	11.11	258654	346347	0.364	0.368
Spiked Amount 0.372			Recovery =		97.94%	99.01%
Target Compounds						
1) TM EDB	5.84	7.29	461805	710380	0.491	0.497
2) TM 1,2,3-TCP	9.31	10.51	102372	138321	0.575	0.602
4) TM DBCP	13.40	14.13	1185573	2215148	0.507	0.519

Target Compounds

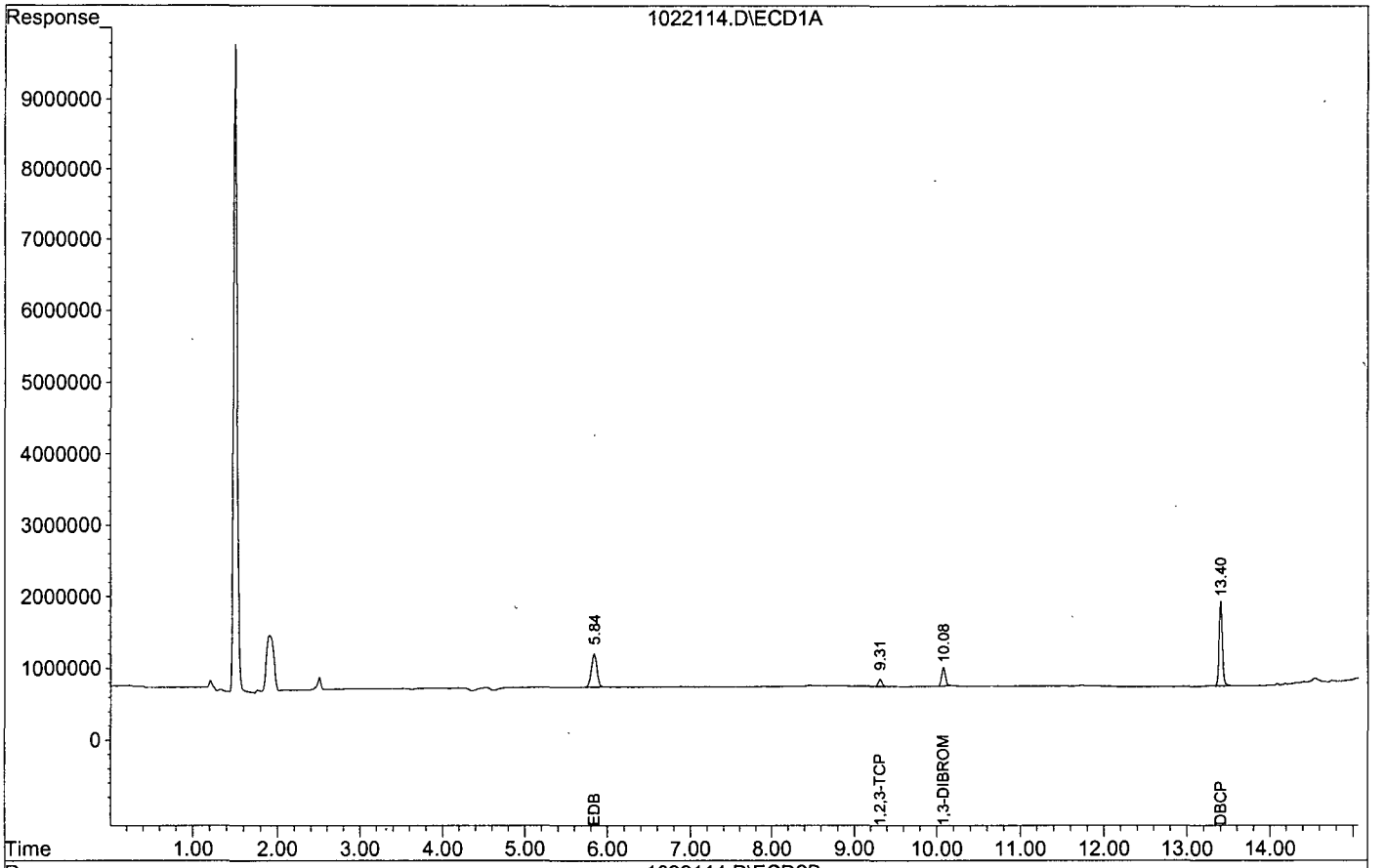
Algorithm = $\frac{461805 \times 1.06}{2 \times 499174} = 0.491$ MA 11/14/14

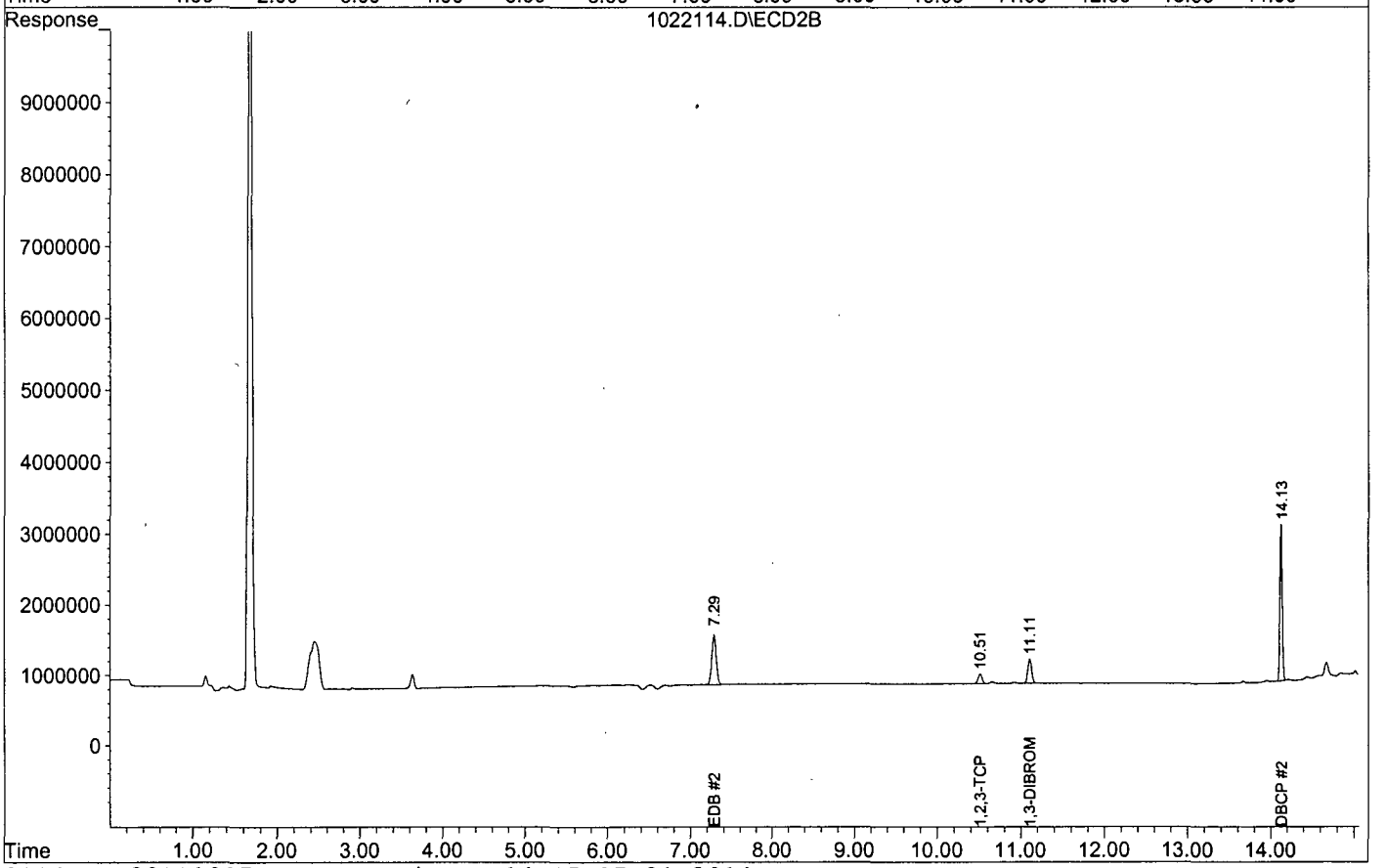
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022114.D
Acq On : 10-30-14 13:16:33
Sample : 141027A LCS-2 2/32.96G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 14
Operator: MA
Inst : Herbie
Multiplr: 1.06





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022113.D\ECD1A.CH Vial: 13
Signal #2 : G:\HERBIE\DATA\141022\1022113.D\ECD2B.CH
Acq On : 10-30-14 12:56:09 Operator: MA
Sample : 141027A LCS-1 2/32.27G Inst : Herbie
Misc : soil Multiplr: 1.08
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

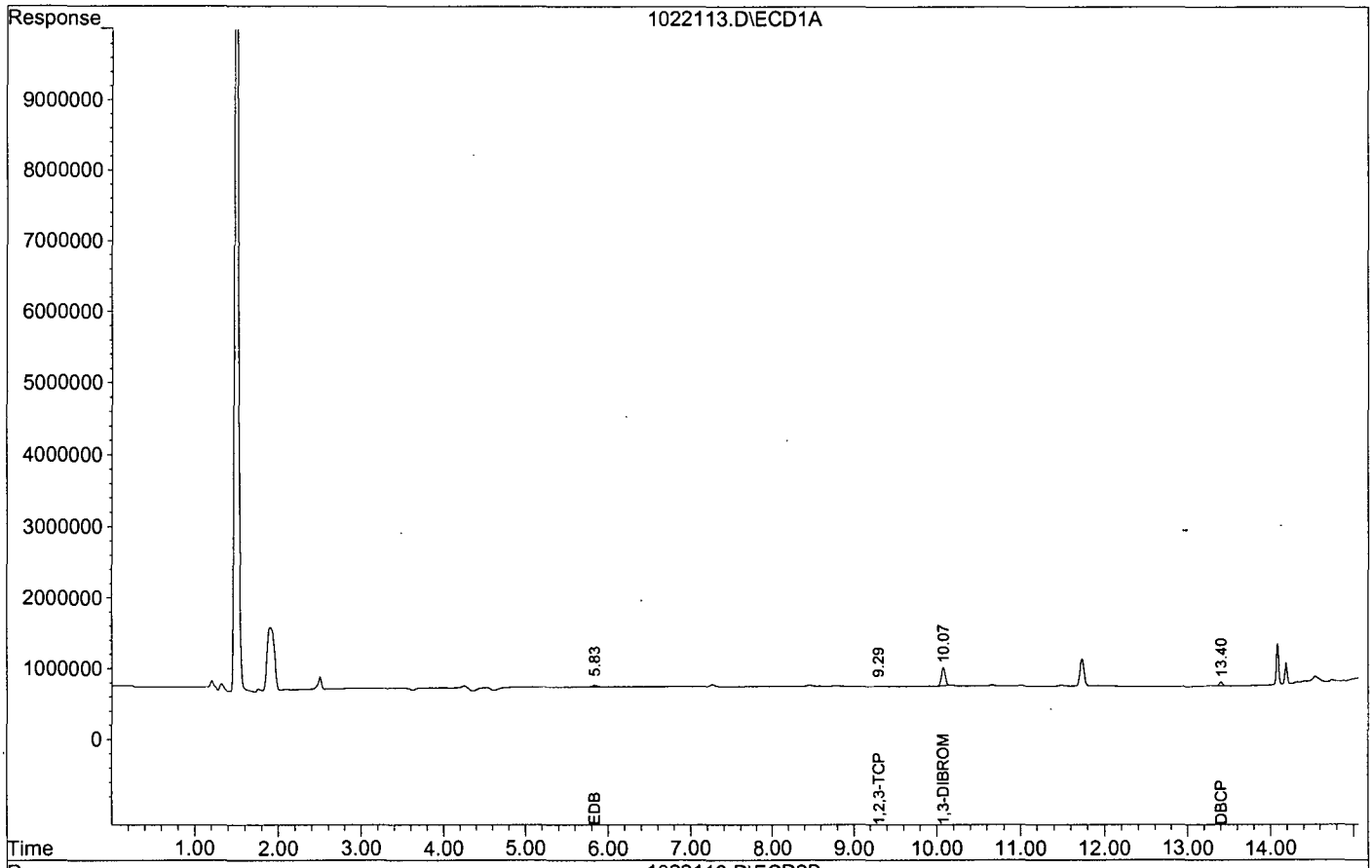
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	System Monitoring Compounds							
3)	S 1,3-DIBROMOPROPA	10.07	11.11	255831	339793	0.368	0.369	
	Spiked Amount 0.380			Recovery =		96.94%	97.21%	
	Target Compounds							
1)	TM EDB	5.83	7.29	23228	32982	0.025	0.024	
2)	TM 1,2,3-TCP	9.29	10.51	470	2585	0.003	0.011	#
4)	TM DBCP	13.40	14.13	59566	93741	0.026	0.022	
	Target Compounds							

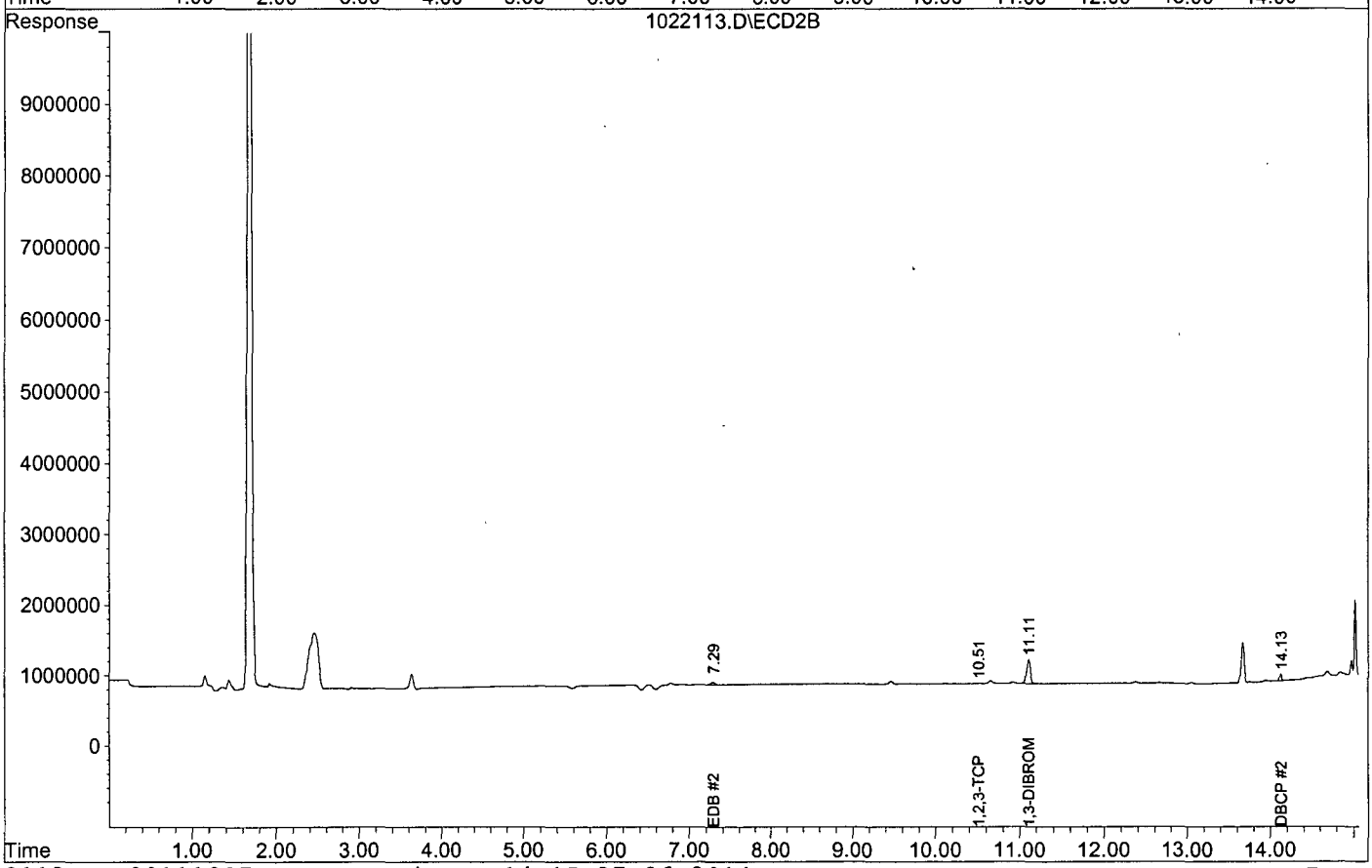
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022113.D
Acq On : 10-30-14 12:56:09
Sample : 141027A LCS-1 2/32.27G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 13
Operator: MA
Inst : Herbie
Multiplr: 1.08





STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT # 081	DATE INITIALS

LOG BOOK #41

DIESEL SPIKE

Diesel Fuel #2 Composite (Second Source), 50,000 mg/L, 2 x 5 ml
011598-01-8S
Lot # 207749 Storage ≤ -10 Degrees C Expiry 4/27/16
Solv: Methylene Chloride
Made in the USA
For R&D only, not for human consumption

Diesel Fuel #2 Composite (SS)
Lot #: 207749 - 32376
Rec: 4/25/13 MFR exp. 4/27/16

Open 7/28/14 — 7/28/14 MA
Ex 7/28/15 — Ex 7/28/15

	504/8011 SURROGATE						
	Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
*	1,3 DBP	100	1,3 DBP STOCK prep.02/17/14 exp. 02/1715	35ul	10mL	0.35ug/mL	Methanol 070913A

CA 7/28/14

1 QC on 9/4/14 — Ex 10/4/14 — CA 7/28/14 — 8/28/14

	504/8011 HIGH M STD						
	Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
*	EDB, TCP, DBCP, 1,3 DBP	20ug/mL	504/DOHS STOCK prep. 07/28/14 exp 07/28/15	500uL	25mL	0.4ug/mL	Methanol 070913A
		100ug/mL	1,3 DBP STOCK prep. 02/17/14 exp. 02/17/15	100uL			

CA 7/28/14

1 QC on 10/2/14 — Ex 11/2/14 — 1 QC on 10/30/14 — Ex 11/30/14 — CA 7/28/14 — 8/28/14

	504/8011 LOW M STD						
	Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
*	EDB, TCP, DBCP, 1,3 DBP	0.4ug/mL	504/8011 HIGH M STD prep.07/28/14 exp: 08/28/14	750uL	10mL	0.03ug/mL	Methanol 070913A

CA 7/28/14

CA 7/28/14 — 8/28/14

	504/8011 HIGH SPIKE						
	Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
*	EDB, TCP, DBCP	200ug/mL	Absolute CAT 30096 Lot 080111-30272 open 1/29/14 exp 1/29/15	30uL	25mL	0.24ug/mL	Methanol 070913A

CA 7/28/14

CA 7/28/14 — 8/28/14

	504/8011 LOW SPIKE						
	Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
*	EDB, TCP, DBCP	0.24ug/mL	504/8011 HIGH SPIKE prep. 07/28/14 Exp: 08/28/14	800uL	10mL	0.0192ug/mL	Methanol 070913A

CA 7/28/14

CA 7/28/14 — 8/28/14

PAC ECO CURVE													
						2a	1b	1	2	3	4	5	6
	ID#	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL	µL	µL
	PAC ECO CAL STD	6		06/23/14	11/09/14	2	5	10	50	20	100	70	1000
						998	995	990	950	80	100	30	N/A
	Hexane		080613A		Final VOL.	1000	1000	1000	1000	100	200	100	N/A

CA 7/28/14

CA 7/29/14 — 11/9/14

THC SURROGATE — open 7/29/14 — Kg 7/29/14
CAT: 110316-05 — Exp. 7/29/15 — EXP 7/29/15
Lot: 216091-33700

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	141027A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 Low Spike 7-28-14		Surrogate ID 1	504.1 Surrogate 7-28-14	
Spiked ID 2	504.1 High Spike 7-28-14		Surrogate ID 2		
Spiked ID 3	504.1 Low Method Standard 8-6-14		Surrogate ID 3		
Spiked ID 4	504.1 High Method Standard 7-28-14		Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	10/27/14 16:20	
Spiked ID 8			Ext. End Time:	10/28/14 16:00	
			GC Requires Extract By:	**11/04/14 0:00**	

pH1			Water Bath Temp Criteria
pH2			
pH3			

Spiked By: IC **Date** 10/27/14 **Witnessed By:** DL **Date** 10/27/14

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	141027A Blk				0.035	1 equip	32.34g	2	7	10/27/14 16:20	
2	141027A LCS-1		0.035	1	0.035	1 equip	32.27g	2	7	10/27/14 16:20	
3	141027A LCS-2		0.070	2	0.035	1 equip	32.96g	2	7	10/27/14 16:20	
4	AZ05388	AZ05388W07			0.035	1 equip	34.03g	2	7	10/27/14 16:20	74672 RUSH 2 WEEKS
5	AZ05389	AZ05389W08			0.035	1 equip	34.63g	2	7	10/27/14 16:20	74672 RUSH 2 WEEKS
6	AZ05518	AZ05518W01	0.040	3	0.035	1 equip	31.09g	2	7	10/27/14 16:20	74692 LOQ
7	AZ05593 MS-1	AZ05593W02	0.035	1	0.035	1 equip	34.53g	2	7	10/27/14 16:20	74701 RUSH 2 WEEKS
8	AZ05593 MSD-1	AZ05593W12	0.035	1	0.035	1 equip	34.37g	2	7	10/27/14 16:20	74701 RUSH 2 WEEKS
9	AZ05593 MS-2	AZ05593W13	0.070	2	0.035	1 equip	34.28g	2	7	10/27/14 16:20	74701 RUSH 2 WEEKS
10	AZ05593 MSD-2	AZ05593W07	0.070	2	0.035	1 equip	34.51g	2	7	10/27/14 16:20	74701 RUSH 2 WEEKS
11	AZ05593	AZ05593W10			0.035	1 equip	34.54g	2	7	10/27/14 16:20	74701 RUSH 2 WEEKS
12	LOD		0.020	3	NA	NA equip	33.98g	2	7	10/27/14 16:20	
13	M STD 1		0.020	3	NA	NA equip	33.04g	2	7	10/27/14 16:20	
14	M STD 2		0.020	4	NA	NA equip	33.31g	2	7	10/27/14 16:20	
15	M STD 3		0.040	4	NA	NA equip	32.25g	2	7	10/27/14 16:20	
16	M STD 4		0.060	4	NA	NA equip	32.52g	2	7	10/27/14 16:20	

Solvent and Lot#	
GC2 Hexane	DH772
NaCL	WJ11D
Sod. Thiosulfate	H15584

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	LH
Date	10/29/14
Time	1:01
Refrigerator	Hobart

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

Modified	10/28/14 5:36:48 PM

Reviewed By: **Date**

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	141027A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 Low Spike 7-28-14		Surrogate ID 1	504.1 Surrogate 7-28-14	
Spiked ID 2	504.1 High Spike 7-28-14		Surrogate ID 2		
Spiked ID 3	504.1 Low Method Standard 8-6-14		Surrogate ID 3		
Spiked ID 4	504.1 High Method Standard 7-28-14		Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	10/27/14 16:20	
Spiked ID 8			Ext. End Time:	10/28/14 16:00	
			GC Requires Extract By:	**11/04/14 0:00**	

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: IC **Date** 10/27/14 **Witnessed By:** DL **Date** 10/27/14

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	M STD 5		0.080	4	NA	NA	33.63g	2	7	10/27/14 16:20	
						equip					
18	M STD 6		0.100	4	NA	NA	31.65g	2	7	10/27/14 16:20	
						equip					

LH 10/28/14

Solvent and Lot#	
GC2 Hexane	DH772
NaCL	WJ11D
Sod. Thiosulfate	H15584

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	LH
Date	10/29/14
Time	1:01
Refrigerator	Hobart

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

Modified	10/28/14 5:36:48 PM

Reviewed By: LH **Date** 10/28/14

Injection Log

Directory: G:\HERBIE\DATA\141022\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	6	1022106.D	1	8011-1 10/27/14 2/33.04G	soil	10-30-14 10:34:12
2	7	1022107.D	1	8011-2 10/27/14 2/33.31G	soil	10-30-14 10:54:24
3	8	1022108.D	1	8011-3 10/27/14 2/32.25G	soil	10-30-14 11:14:47
4	9	1022109.D	1	8011-4 10/27/14 2/32.52G	soil	10-30-14 11:35:01
5	10	1022110.D	1	8011-5 10/27/14 2/33.63G	soil	10-30-14 11:55:17
6	11	1022111.D	1	8011-6 10/27/14 2/31.65G	soil	10-30-14 12:15:39
7	12	1022112.D	1.08225	141027A BLK 2/32.34G	soil	10-30-14 12:35:52
8	13	1022113.D	1.0846	141027A LCS-1 2/32.27G	soil	10-30-14 12:56:09
9	14	1022114.D	1.06189	141027A LCS-2 2/32.96G	soil	10-30-14 13:16:33
10	15	1022115.D	1.0285	AZ05388W07 2/34.03G	soil	10-30-14 13:36:53
11	16	1022116.D	1.01068	AZ05389W08 2/34.63G	soil	10-30-14 13:57:13
17	24	1022124.D	1	8011-3 10/27/14		10-30-14 16:40:41

EPA METHOD 8260C
Volatile Organic Compounds

APPL, INC.

EPA METHOD 8260C
Volatile Organic Compounds
QC Summary

APPL, INC.

Method Blank
EPA 8260C WATER

Blank Name/QCG: **141026W-05593 - 191309**
Batch ID: #86CRE-141026AL

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	10/26/14	10/26/14
BLANK	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	10/26/14	10/26/14
BLANK	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	10/26/14	10/26/14
BLANK	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	10/26/14	10/26/14
BLANK	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
BLANK	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	10/26/14	10/26/14
BLANK	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	10/26/14	10/26/14
BLANK	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	10/26/14	10/26/14
BLANK	1,2-DIBROMO-3-CHLOROPROPA	1.00 U	2.0	1.00	0.76	ug/L	10/26/14	10/26/14
BLANK	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	10/26/14	10/26/14
BLANK	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	10/26/14	10/26/14
BLANK	1,2-DICHLOROETHANE	0.100 U	0.10	0.100	0.030	ug/L	10/26/14	10/26/14
BLANK	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	10/26/14	10/26/14
BLANK	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	10/26/14	10/26/14
BLANK	1,3-DICHLOROPROPENE (TOTA	0.30 U	1.0	0.30	0.18	ug/L	10/26/14	10/26/14
BLANK	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
BLANK	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	10/26/14	10/26/14
BLANK	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	10/26/14	10/26/14
BLANK	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	10/26/14	10/26/14
BLANK	BENZENE	0.200 U	0.20	0.200	0.060	ug/L	10/26/14	10/26/14
BLANK	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	10/26/14	10/26/14
BLANK	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	10/26/14	10/26/14
BLANK	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	10/26/14	10/26/14
BLANK	CARBON TETRACHLORIDE	0.100 U	0.10	0.100	0.030	ug/L	10/26/14	10/26/14
BLANK	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	10/26/14	10/26/14
BLANK	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	10/26/14	10/26/14
BLANK	CHLOROFORM	0.20 U	0.2	0.20	0.06	ug/L	10/26/14	10/26/14
BLANK	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	10/26/14	10/26/14
BLANK	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	10/26/14	10/26/14
BLANK	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	10/26/14	10/26/14
BLANK	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
BLANK	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	10/26/14	10/26/14
BLANK	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	10/26/14	10/26/14

Quant Method: LALLW2.M
Run #: 1026L10
Instrument: Loki
Sequence: 141024
Initials: SV

GC SC-Blank-REG MDLs
Printed: 10/29/14 4:48:01 PM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **141026W-05593 - 191309**
Batch ID: #86CRE-141026AL

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	10/26/14	10/26/14
BLANK	TETRACHLOROETHENE	0.30 U	0.3	0.30	0.08	ug/L	10/26/14	10/26/14
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	10/26/14	10/26/14
BLANK	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
BLANK	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	10/26/14	10/26/14
BLANK	VINYL CHLORIDE	0.10 U	0.1	0.10	0.03	ug/L	10/26/14	10/26/14
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	10/26/14	10/26/14
BLANK	SURROGATE: 1,2-DICHLOROET	104	70-120			%	10/26/14	10/26/14
BLANK	SURROGATE: 4-BROMOFLUOR	99.4	75-120			%	10/26/14	10/26/14
BLANK	SURROGATE: DIBROMOFLUOR	104	85-115			%	10/26/14	10/26/14
BLANK	SURROGATE: TOLUENE-D8 (S)	98.2	85-120			%	10/26/14	10/26/14

Quant Method: LALLW2.M
Run #: 1026L10
Instrument: Loki
Sequence: 141024
Initials: SV

GC SC-Blank-REG MDLs
Printed: 10/29/14 4:48:01 PM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 74672

Case No: 74672 Date Analyzed: 10/26/14

Matrix: WATER Instrument: Loki

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
141026AL-LCS	Lab Control Spike	70-120	87.7		75-120	119	
141026AL-BLK	Blank	70-120	104		75-120	99.4	
AZ05390	TB102014	70-120	99.5		75-120	102	
AZ05389	RHMW07-GW-01FD	70-120	106		75-120	102	
AZ05388	RHMW07-GW-01	70-120	104		75-120	96.2	

Comments: Batch: #86CRE-141026AL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 74672

Case No: 74672 Date Analyzed: 10/26/14

Matrix: WATER Instrument: Loki

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
141026AL-LCS	Lab Control Spike	85-115	88.0		85-120	106	
141026AL-BLK	Blank	85-115	104		85-120	98.2	
AZ05390	TB102014	85-115	103		85-120	102	
AZ05389	RHMW07-GW-01FD	85-115	105		85-120	100	
AZ05388	RHMW07-GW-01	85-115	102		85-120	96.3	

Comments: Batch: #86CRE-141026AL

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **141026W-05593 LCS - 191309**
Batch ID: #86CRE-141026AL

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,1,1,2-TETRACHLOROETHANE	10.00	9.15	91.5	80-130
1,1,1-TRICHLOROETHANE	10.00	9.54	95.4	65-130
1,1,2,2-TETRACHLOROETHANE	10.00	10.9	109	65-130
1,1,2-TRICHLOROETHANE	10.00	9.15	91.5	75-125
1,1-DICHLOROETHANE	10.00	8.64	86.4	70-135
1,1-DICHLOROETHENE	10.00	9.46	94.6	70-130
1,2,3-TRICHLOROPROPANE	10.00	9.50	95.0	75-125
1,2,4-TRICHLOROBENZENE	10.00	8.72	87.2	65-135
1,2-DIBROMO-3-CHLOROPROPANE	10.00	10.6	106	50-130
1,2-DIBROMOETHANE	10.00	9.54	95.4	80-120
1,2-DICHLOROBENZENE	10.00	10.0	100	70-120
1,2-DICHLOROETHANE	10.00	10.2	102	70-130
1,2-DICHLOROPROPANE	10.00	9.39	93.9	75-125
1,3-DICHLOROBENZENE	10.00	10.7	107	75-125
1,3-DICHLOROPROPENE (TOTAL)	20.0	18.4	92.0	55-140
1,4-DICHLOROBENZENE	10.00	10.4	104	75-125
2-BUTANONE	10.00	9.58	95.8	30-150
4-METHYL-2-PENTANONE	10.00	8.53	85.3	60-135
ACETONE	10.00	9.06	90.6	40-140
BENZENE	10.00	10.2	102	80-120
BROMODICHLOROMETHANE	10.00	9.43	94.3	75-120
BROMOFORM	10.00	8.95	89.5	70-130
BROMOMETHANE	10.00	11.0	110	30-145
CARBON TETRACHLORIDE	10.00	10.3	103	65-140
CHLOROBENZENE	10.00	9.77	97.7	80-120
CHLOROETHANE	10.00	11.4	114	60-135
CHLOROFORM	10.00	8.92	89.2	65-135
CHLOROMETHANE	10.00	8.91	89.1	40-125
CIS-1,2-DICHLOROETHENE	10.00	9.83	98.3	70-125
DIBROMOCHLOROMETHANE	10.00	9.40	94.0	60-135
ETHYLBENZENE	10.00	10.4	104	75-125

Primary	SPK
Quant Method :	LALLW2.M
Extraction Date :	10/26/14
Analysis Date :	10/26/14
Instrument :	Loki
Run :	1026L05
Initials :	SV

Comments: _____

Printed: 10/29/14 4:48:06 PM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **141026W-05593 LCS - 191309**
Batch ID: #86CRE-141026AL

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
HEXACHLOROBUTADIENE	10.00	9.79	97.9	50-140
METHYL TERT-BUTYL ETHER	10.00	9.21	92.1	65-125
METHYLENE CHLORIDE	10.00	9.94	99.4	55-140
STYRENE	10.00	11.1	111	65-135
TETRACHLOROETHENE	10.00	9.14	91.4	45-150
TOLUENE	10.00	10.5	105	75-120
TRANS-1,2-DICHLOROETHENE	10.00	9.32	93.2	60-140
TRICHLOROETHENE	10.00	9.30	93.0	70-125
VINYL CHLORIDE	10.00	7.75	77.5	50-145
XYLENES (TOTAL)	30.0	31.3	104	75-130
SURROGATE: 1,2-DICHLOROETHANE-	27.7	24.3	87.7	70-120
SURROGATE: 4-BROMOFLUOROBENZ	22.2	26.5	119	75-120
SURROGATE: DIBROMOFLUOROMETH	27.2	23.9	88.0	85-115
SURROGATE: TOLUENE-D8 (S)	26.2	27.6	106	85-120

Comments: _____

Primary	SPK
Quant Method :	LALLW2.M
Extraction Date :	10/26/14
Analysis Date :	10/26/14
Instrument :	Loki
Run :	1026L05
Initials :	SV

Printed: 10/29/14 4:48:07 PM
APPL Standard LCS

EPA 8260C^LL

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 74672

Case No: 74672 Date Analyzed: 10/26/14

Matrix: WATER Instrument: Loki

Blank ID: 141026AL-BLK Time Analyzed: 1457

APPL ID.	Client Sample No.	File ID.	Date Analyzed
141026AL-LCS	Lab Control Spike	1026L05	10/26/14 1235
141026AL-BLK	Blank	1026L10	10/26/14 1457
AZ05390	TB102014	1026L12	10/26/14 1553
AZ05389	RHMW07-GW-01FD	1026L16	10/26/14 1746
AZ05388	RHMW07-GW-01	1026L17	10/26/14 1815

Comments: Batch: #86CRE-141026AL

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: ~~1024L01.D~~ 74672
Matrix: Water rp 11-17-14
ID: 25ug/mL BFB Std 09-30-14

rp 11-17-14
SDG No: ~~Loki~~ 74672
Date Analyzed: 10/24/2014
Instrument: Loki
Time Analyzed: 10:32

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.1ug/L Vol Std 10-2	1024L05.D	10/24/2014 12:19
2		0.3ug/L Vol Std 10-2	1024L06.D	10/24/2014 12:47
3		0.5ug/L Vol Std 10-2	1024L07.D	10/24/2014 13:16
4		1.0ug/L Vol Std 10-2	1024L08.D	10/24/2014 13:44
5		5.0ug/L Vol Std 10-2	1024L09.D	10/24/2014 14:12
6		10ug/L Vol Std 10-24	1024L10.D	10/24/2014 14:41
7		20ug/L Vol Std 10-24	1024L11.D	10/24/2014 15:09
8		40ug/L Vol Std 10-24	1024L12.D	10/24/2014 15:37
9		100ug/L Vol Std 10-2	1024L13.D	10/24/2014 16:05
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	16.4
75	30 - 60% of mass 95	48.1
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.7
173	0 - 2.09% of mass 174	0.0
174	50 - 100% of mass 95	96.2
175	5 - 9% of mass 174	7.7
176	94.9 - 101% of mass 174	96.1
177	5 - 9% of mass 176	6.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: ~~1024L16.D~~ 74672
Matrix: Water mp 11-17-14
ID: 25ug/mL BFB Std 09-30-14

mp 11-17-14
SDG No: ~~Loki~~ 74672
Date Analyzed: 10/24/2014
Instrument: Loki
Time Analyzed: 17:30

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		10ug/L Std 10-24-14(	1024L18.D	10/24/2014 18:27
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	18.7
75	30 - 60% of mass 95	49.6
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.2
173	0 - 2.09% of mass 174	2.0
174	50 - 100% of mass 95	94.1
175	5 - 9% of mass 174	7.5
176	94.9 - 101% of mass 174	98.5
177	5 - 9% of mass 176	5.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 74672
Matrix: Water
ID: 10ug/L Std 10-26-14(CCV)

SDG No: 74672
Date Analyzed: 10/26/2014
Instrument: Loki
Time Analyzed: 12:07

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		10ug/L Std 10-26-14(	1026L04.D	10/26/2014 12:07
2	Lab Control Spike	141026A LCS-1WL	1026L05.D	10/26/2014 12:35
3	Blank	141026A BLK-1WL	1026L10.D	10/26/2014 14:57
4	TB102014	AZ05390W02	1026L12.D	10/26/2014 15:53
5	RHMW07-GW-01FD	AZ05389W02	1026L16.D	10/26/2014 17:46
6	RHMW07-GW-01	AZ05388W02	1026L17.D	10/26/2014 18:15
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	18.3
75	30 - 60% of mass 95	49.1
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.4
173	0 - 2.09% of mass 174	1.9
174	50 - 100% of mass 95	91.2
175	5 - 9% of mass 174	7.6
176	94.9 - 101% of mass 174	95.7
177	5 - 9% of mass 176	6.7

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: _____ SDG No.: 74672

Lab File ID (Standard): 1024L11.D Date Analyzed: 10/24/14

Instrument ID: Loki Time Analyzed: 15:09

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

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	423488	5.95	363136	9.18	248000	11.51
	UPPER LIMIT	846976	6.45	726272	9.68	496000	12.01
	LOWER LIMIT	211744	5.45	181568	8.68	124000	11.01
	SAMPLE NO.						
01	10ug/L Std 10-26-14(CC	397248	5.95	332288	9.18	219840	11.51
02	141026A LCS-1WL	395328	5.95	342336	9.18	219328	11.51
03	141026A BLK-1WL	333440	5.95	314944	9.18	147328	11.51
04	AZ05390W02	316608	5.95	286272	9.18	147840	11.51
05	AZ05389W02	310592	5.95	294016	9.18	144000	11.51
06	AZ05388W02	314432	5.95	298688	9.18	147264	11.51
07							
08							
09							
10							
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14							
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16							
17							
18							
19							
20							
21							
22							

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

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

EPA METHOD 8260C
Volatile Organic Compounds
Sample Data

APPL, INC.

EPA 8260C WATER

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright
Project: 749435 Red Hill TO 0068
Sample ID: RHMW07-GW-01
Sample Collection Date: 10/20/14

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 74672
APPL ID: AZ05388
QCG: #86CRE-141026AL-191309

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	10/26/14	10/26/14
EPA 8260C	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	10/26/14	10/26/14
EPA 8260C	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	10/26/14	10/26/14
EPA 8260C	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	10/26/14	10/26/14
EPA 8260C	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
EPA 8260C	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	10/26/14	10/26/14
EPA 8260C	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	10/26/14	10/26/14
EPA 8260C	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	10/26/14	10/26/14
EPA 8260C	1,2-DIBROMO-3-CHLOROPROPANE	1.00 U	2.0	1.00	0.76	ug/L	10/26/14	10/26/14
EPA 8260C	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	10/26/14	10/26/14
EPA 8260C	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	10/26/14	10/26/14
EPA 8260C	1,2-DICHLOROETHANE	0.100 U	0.10	0.100	0.030	ug/L	10/26/14	10/26/14
EPA 8260C	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	10/26/14	10/26/14
EPA 8260C	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	10/26/14	10/26/14
EPA 8260C	1,3-DICHLOROPROPENE (TOTAL)	0.30 U	1.0	0.30	0.18	ug/L	10/26/14	10/26/14
EPA 8260C	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
EPA 8260C	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	10/26/14	10/26/14
EPA 8260C	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	10/26/14	10/26/14
EPA 8260C	ACETONE	1.9 J	10.0	2.00	0.95	ug/L	10/26/14	10/26/14
EPA 8260C	BENZENE	0.200 U	0.20	0.200	0.060	ug/L	10/26/14	10/26/14
EPA 8260C	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	10/26/14	10/26/14
EPA 8260C	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	10/26/14	10/26/14
EPA 8260C	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	10/26/14	10/26/14
EPA 8260C	CARBON TETRACHLORIDE	0.100 U	0.10	0.100	0.030	ug/L	10/26/14	10/26/14
EPA 8260C	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	10/26/14	10/26/14
EPA 8260C	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	10/26/14	10/26/14
EPA 8260C	CHLOROFORM	0.20 U	0.2	0.20	0.06	ug/L	10/26/14	10/26/14
EPA 8260C	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	10/26/14	10/26/14
EPA 8260C	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	10/26/14	10/26/14
EPA 8260C	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
EPA 8260C	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	10/26/14	10/26/14
EPA 8260C	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
EPA 8260C	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	10/26/14	10/26/14
EPA 8260C	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	10/26/14	10/26/14
EPA 8260C	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	10/26/14	10/26/14

J = Estimated value.

Quant Method: LALLW2.M
Run #: 1026L17
Instrument: Loki
Sequence: 141024
Dilution Factor: 1
Initials: SV

Printed: 10/29/14 4:48:10 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 8260C WATER

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

Project: 749435 Red Hill TO 0068

Sample ID: RHMW07-GW-01

Sample Collection Date: 10/20/14

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 74672

APPL ID: AZ05388

QCG: #86CRE-141026AL-191309

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	TETRACHLOROETHENE	0.30 U	0.3	0.30	0.08	ug/L	10/26/14	10/26/14
EPA 8260C	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	10/26/14	10/26/14
EPA 8260C	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
EPA 8260C	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	10/26/14	10/26/14
EPA 8260C	VINYL CHLORIDE	0.10 U	0.1	0.10	0.03	ug/L	10/26/14	10/26/14
EPA 8260C	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	10/26/14	10/26/14
EPA 8260C	SURROGATE: 1,2-DICHLOROETHANE	104	70-120			%	10/26/14	10/26/14
EPA 8260C	SURROGATE: 4-BROMOFLUOROBEN	96.2	75-120			%	10/26/14	10/26/14
EPA 8260C	SURROGATE: DIBROMOFLUOROMET	102	85-115			%	10/26/14	10/26/14
EPA 8260C	SURROGATE: TOLUENE-D8 (S)	96.3	85-120			%	10/26/14	10/26/14

J = Estimated value.

Quant Method: LALLW2.M
Run #: 1026L17
Instrument: Loki
Sequence: 141024
Dilution Factor: 1
Initials: SV

Printed: 10/29/14 4:48:10 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\141024\1026L17.D Vial: 16
Acq On : 26 Oct 14 18:15 Operator: DG,SV,RS
Sample : AZ05388W02 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 29 16:15 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	314432	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	298688	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	147264	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.11	111	190123	27.75191 ppb	0.00
Spiked Amount 27.165			Recovery = 102.161%		
38) 1,2-DCA-D4(S)	5.52	65	208131	28.68094 ppb	0.00
Spiked Amount 27.695			Recovery = 103.559%		
58) Toluene-D8(S)	7.71	98	533051	25.18052 ppb	0.00
Spiked Amount 26.150			Recovery = 96.293%		
66) 4-Bromofluorobenzene(S)	10.36	95	172492	21.37698 ppb	0.00
Spiked Amount 22.231			Recovery = 96.159%		
Target Compounds					Qvalue
11) Acetone	2.25	43	4627	1.90335 ppb	# 83

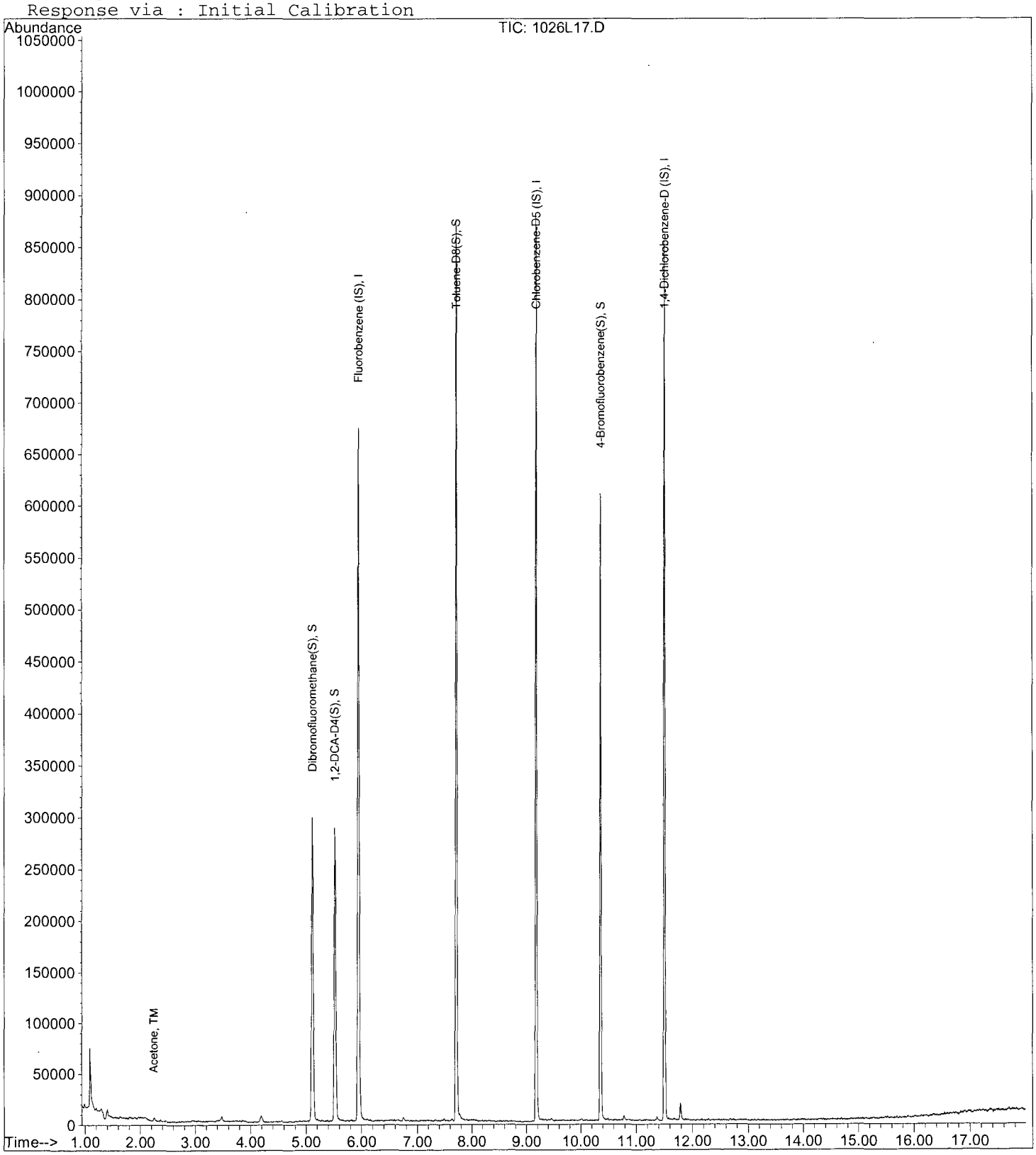
(#) = qualifier out of range (m) = manual integration

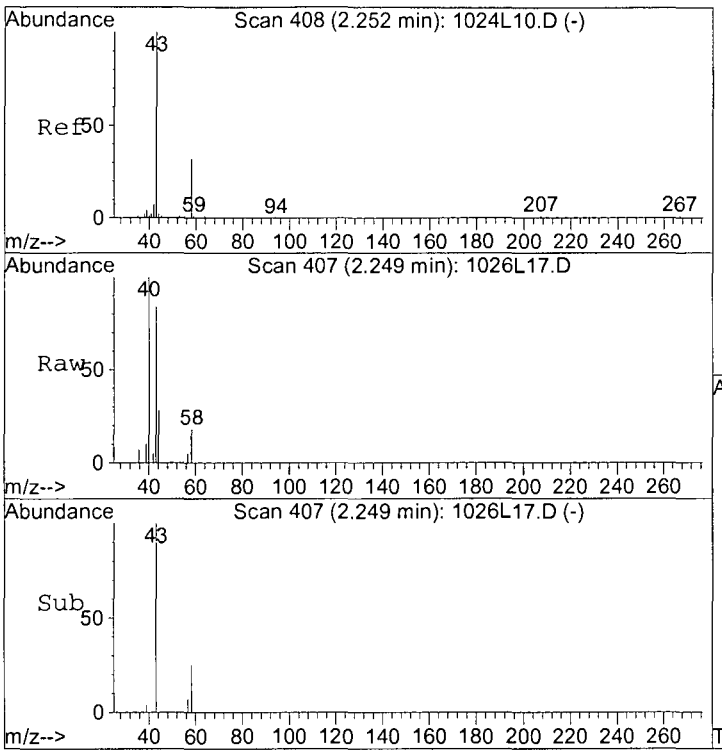
Quantitation Report

Data File : M:\LOKI\DATA\141024\1026L17.D Vial: 16
Acq On : 26 Oct 14 18:15 Operator: DG,SV,RS
Sample : AZ05388W02 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 29 16:15 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration

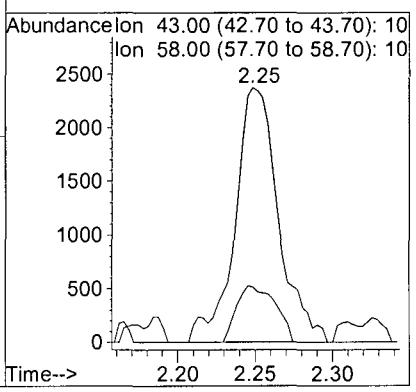




#11
Acetone
Concen: 1.90335 ppb
RT: 2.25 min Scan# 407
Delta R.T. -0.00 min
Lab File: 1026L17.D
Acq: 26 Oct 14 18:15

Tgt Ion: 43 Resp: 4627

Ion	Ratio	Lower	Upper
43	100		
58	21.8	21.9	40.7#



EPA 8260C WATER

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

Project: 749435 Red Hill TO 0068

Sample ID: RHMW07-GW-01FD

Sample Collection Date: 10/20/14

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 74672

APPL ID: AZ05389

QCG: #86CRE-141026AL-191309

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	10/26/14	10/26/14
EPA 8260C	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	10/26/14	10/26/14
EPA 8260C	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	10/26/14	10/26/14
EPA 8260C	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	10/26/14	10/26/14
EPA 8260C	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
EPA 8260C	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	10/26/14	10/26/14
EPA 8260C	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	10/26/14	10/26/14
EPA 8260C	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	10/26/14	10/26/14
EPA 8260C	1,2-DIBROMO-3-CHLOROPROPANE	1.00 U	2.0	1.00	0.76	ug/L	10/26/14	10/26/14
EPA 8260C	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	10/26/14	10/26/14
EPA 8260C	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	10/26/14	10/26/14
EPA 8260C	1,2-DICHLOROETHANE	0.100 U	0.10	0.100	0.030	ug/L	10/26/14	10/26/14
EPA 8260C	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	10/26/14	10/26/14
EPA 8260C	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	10/26/14	10/26/14
EPA 8260C	1,3-DICHLOROPROPENE (TOTAL)	0.30 U	1.0	0.30	0.18	ug/L	10/26/14	10/26/14
EPA 8260C	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
EPA 8260C	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	10/26/14	10/26/14
EPA 8260C	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	10/26/14	10/26/14
EPA 8260C	ACETONE	1.7 J	10.0	2.00	0.95	ug/L	10/26/14	10/26/14
EPA 8260C	BENZENE	0.200 U	0.20	0.200	0.060	ug/L	10/26/14	10/26/14
EPA 8260C	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	10/26/14	10/26/14
EPA 8260C	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	10/26/14	10/26/14
EPA 8260C	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	10/26/14	10/26/14
EPA 8260C	CARBON TETRACHLORIDE	0.100 U	0.10	0.100	0.030	ug/L	10/26/14	10/26/14
EPA 8260C	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	10/26/14	10/26/14
EPA 8260C	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	10/26/14	10/26/14
EPA 8260C	CHLOROFORM	0.20 U	0.2	0.20	0.06	ug/L	10/26/14	10/26/14
EPA 8260C	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	10/26/14	10/26/14
EPA 8260C	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	10/26/14	10/26/14
EPA 8260C	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
EPA 8260C	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	10/26/14	10/26/14
EPA 8260C	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
EPA 8260C	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	10/26/14	10/26/14
EPA 8260C	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	10/26/14	10/26/14
EPA 8260C	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	10/26/14	10/26/14

J = Estimated value.

Quant Method: LALLW2.M
Run #: 1026L16
Instrument: Loki
Sequence: 141024
Dilution Factor: 1
Initials: SV

Printed: 10/29/14 4:48:10 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 8260C WATER

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

Project: 749435 Red Hill TO 0068

Sample ID: RHMW07-GW-01FD

Sample Collection Date: 10/20/14

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 74672

APPL ID: AZ05389

QCG: #86CRE-141026AL-191309

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	TETRACHLOROETHENE	0.30 U	0.3	0.30	0.08	ug/L	10/26/14	10/26/14
EPA 8260C	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	10/26/14	10/26/14
EPA 8260C	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
EPA 8260C	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	10/26/14	10/26/14
EPA 8260C	VINYL CHLORIDE	0.10 U	0.1	0.10	0.03	ug/L	10/26/14	10/26/14
EPA 8260C	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	10/26/14	10/26/14
EPA 8260C	SURROGATE: 1,2-DICHLOROETHANE	106	70-120			%	10/26/14	10/26/14
EPA 8260C	SURROGATE: 4-BROMOFLUOROBEN	102	75-120			%	10/26/14	10/26/14
EPA 8260C	SURROGATE: DIBROMOFLUOROMET	105	85-115			%	10/26/14	10/26/14
EPA 8260C	SURROGATE: TOLUENE-D8 (S)	100	85-120			%	10/26/14	10/26/14

J = Estimated value.

Quant Method:	LALLW2.M
Run #:	1026L16
Instrument:	Loki
Sequence:	141024
Dilution Factor:	1
Initials:	SV

Printed: 10/29/14 4:48:11 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\141024\1026L16.D Vial: 15
Acq On : 26 Oct 14 17:46 Operator: DG,SV,RS
Sample : AZ05389W02 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 29 16:13 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	310592	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	294016	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	144000	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.11	111	193413	28.58119 ppb	0.00
Spiked Amount 27.165			Recovery = 105.213%		
38) 1,2-DCA-D4(S)	5.53	65	211106	29.45056 ppb	0.00
Spiked Amount 27.695			Recovery = 106.339%		
58) Toluene-D8(S)	7.71	98	544979	26.15306 ppb	0.00
Spiked Amount 26.150			Recovery = 100.010%		
66) 4-Bromofluorobenzene(S)	10.36	95	179735	22.62856 ppb	0.00
Spiked Amount 22.231			Recovery = 101.790%		
Target Compounds					Qvalue
11) Acetone	2.26	43	4262	1.70105 ppb	89

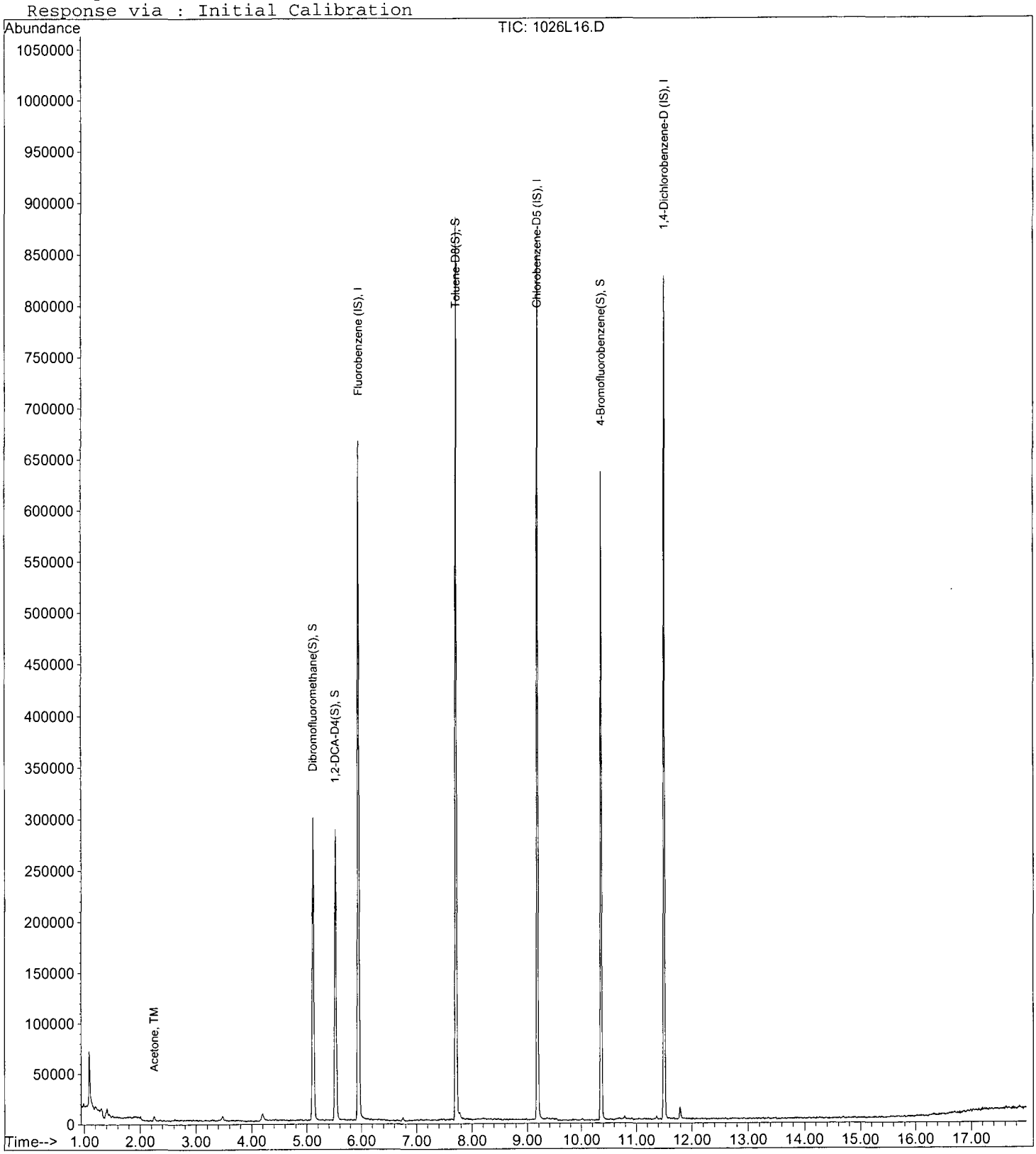
(#) = qualifier out of range (m) = manual integration

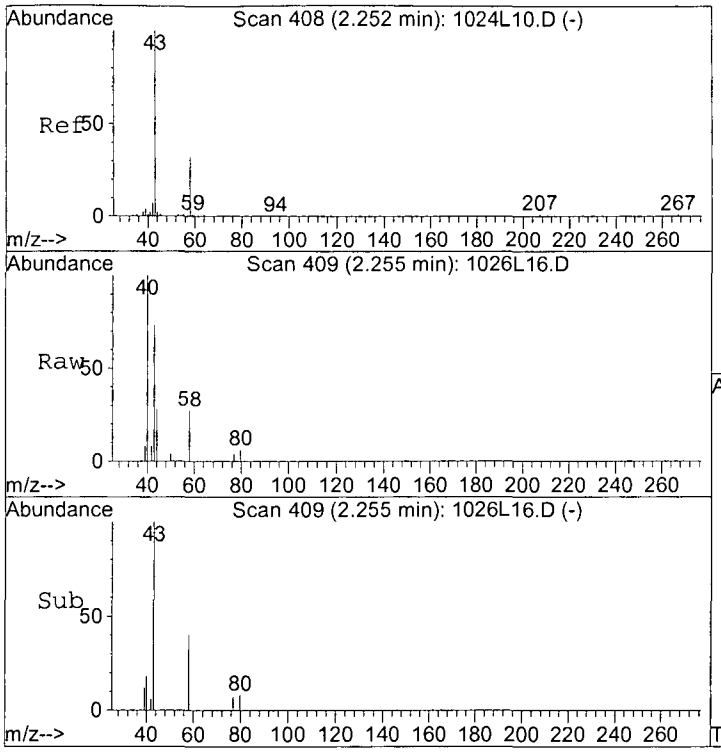
Quantitation Report

Data File : M:\LOKI\DATA\141024\1026L16.D Vial: 15
Acq On : 26 Oct 14 17:46 Operator: DG,SV,RS
Sample : AZ05389W02 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 29 16:13 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration

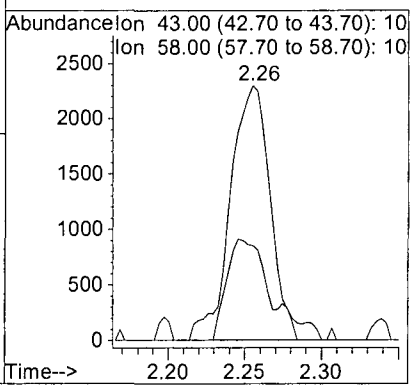




#11
Acetone
Concen: 1.70105 ppb
RT: 2.26 min Scan# 409
Delta R.T. 0.00 min
Lab File: 1026L16.D
Acq: 26 Oct 14 17:46

Tgt Ion: 43 Resp: 4262

Ion	Ratio	Lower	Upper
43	100		
58	37.1	21.9	40.7



EPA 8260C WATER

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: 749435 Red Hill TO 0068

ARF: 74672

Sample ID: TB102014

APPL ID: AZ05390

Sample Collection Date: 10/20/14

QCG: #86CRE-141026AL-191309

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	10/26/14	10/26/14
EPA 8260C	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	10/26/14	10/26/14
EPA 8260C	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	10/26/14	10/26/14
EPA 8260C	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	10/26/14	10/26/14
EPA 8260C	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
EPA 8260C	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	10/26/14	10/26/14
EPA 8260C	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	10/26/14	10/26/14
EPA 8260C	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	10/26/14	10/26/14
EPA 8260C	1,2-DIBROMO-3-CHLOROPROPANE	1.00 U	2.0	1.00	0.76	ug/L	10/26/14	10/26/14
EPA 8260C	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	10/26/14	10/26/14
EPA 8260C	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	10/26/14	10/26/14
EPA 8260C	1,2-DICHLOROETHANE	0.100 U	0.10	0.100	0.030	ug/L	10/26/14	10/26/14
EPA 8260C	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	10/26/14	10/26/14
EPA 8260C	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	10/26/14	10/26/14
EPA 8260C	1,3-DICHLOROPROPENE (TOTAL)	0.30 U	1.0	0.30	0.18	ug/L	10/26/14	10/26/14
EPA 8260C	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
EPA 8260C	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	10/26/14	10/26/14
EPA 8260C	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	10/26/14	10/26/14
EPA 8260C	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	10/26/14	10/26/14
EPA 8260C	BENZENE	0.200 U	0.20	0.200	0.060	ug/L	10/26/14	10/26/14
EPA 8260C	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	10/26/14	10/26/14
EPA 8260C	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	10/26/14	10/26/14
EPA 8260C	BROMOMETHANE	1.5 J	2.0	0.50	0.24	ug/L	10/26/14	10/26/14
EPA 8260C	CARBON TETRACHLORIDE	0.100 U	0.10	0.100	0.030	ug/L	10/26/14	10/26/14
EPA 8260C	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	10/26/14	10/26/14
EPA 8260C	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	10/26/14	10/26/14
EPA 8260C	CHLOROFORM	0.20 U	0.2	0.20	0.06	ug/L	10/26/14	10/26/14
EPA 8260C	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	10/26/14	10/26/14
EPA 8260C	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	10/26/14	10/26/14
EPA 8260C	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
EPA 8260C	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	10/26/14	10/26/14
EPA 8260C	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
EPA 8260C	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	10/26/14	10/26/14
EPA 8260C	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	10/26/14	10/26/14
EPA 8260C	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	10/26/14	10/26/14

J = Estimated value.

Quant Method: LALLW2.M
Run #: 1026L12
Instrument: Loki
Sequence: 141024
Dilution Factor: 1
Initials: SV

Printed: 10/29/14 4:48:11 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 8260C WATER

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

Project: 749435 Red Hill TO 0068

Sample ID: TB102014

Sample Collection Date: 10/20/14

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 74672

APPL ID: AZ05390

QCG: #86CRE-141026AL-191309

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	TETRACHLOROETHENE	0.30 U	0.3	0.30	0.08	ug/L	10/26/14	10/26/14
EPA 8260C	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	10/26/14	10/26/14
EPA 8260C	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
EPA 8260C	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	10/26/14	10/26/14
EPA 8260C	VINYL CHLORIDE	0.10 U	0.1	0.10	0.03	ug/L	10/26/14	10/26/14
EPA 8260C	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	10/26/14	10/26/14
EPA 8260C	SURROGATE: 1,2-DICHLOROETHANE	99.5	70-120			%	10/26/14	10/26/14
EPA 8260C	SURROGATE: 4-BROMOFLUOROBEN	102	75-120			%	10/26/14	10/26/14
EPA 8260C	SURROGATE: DIBROMOFLUOROMET	103	85-115			%	10/26/14	10/26/14
EPA 8260C	SURROGATE: TOLUENE-D8 (S)	102	85-120			%	10/26/14	10/26/14

J = Estimated value.

Quant Method: LALLW2.M
Run #: 1026L12
Instrument: Loki
Sequence: 141024
Dilution Factor: 1
Initials: SV

Printed: 10/29/14 4:48:11 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\141024\1026L12.D Vial: 11
Acq On : 26 Oct 14 15:53 Operator: DG,SV,RS
Sample : AZ05390W02 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 29 16:10 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	316608	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	286272	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	147840	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.12	111	193431	28.04072 ppb	0.00
Spiked Amount 27.165			Recovery = 103.225%		
38) 1,2-DCA-D4(S)	5.52	65	201320	27.55170 ppb	0.00
Spiked Amount 27.695			Recovery = 99.483%		
58) Toluene-D8(S)	7.71	98	543766	26.80075 ppb	0.00
Spiked Amount 26.150			Recovery = 102.488%		
66) 4-Bromofluorobenzene(S)	10.36	95	175478	22.69023 ppb	0.00
Spiked Amount 22.231			Recovery = 102.065%		
Target Compounds					Qvalue
6) Bromomethane	1.45	94	7885	1.52887 ppb	93

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

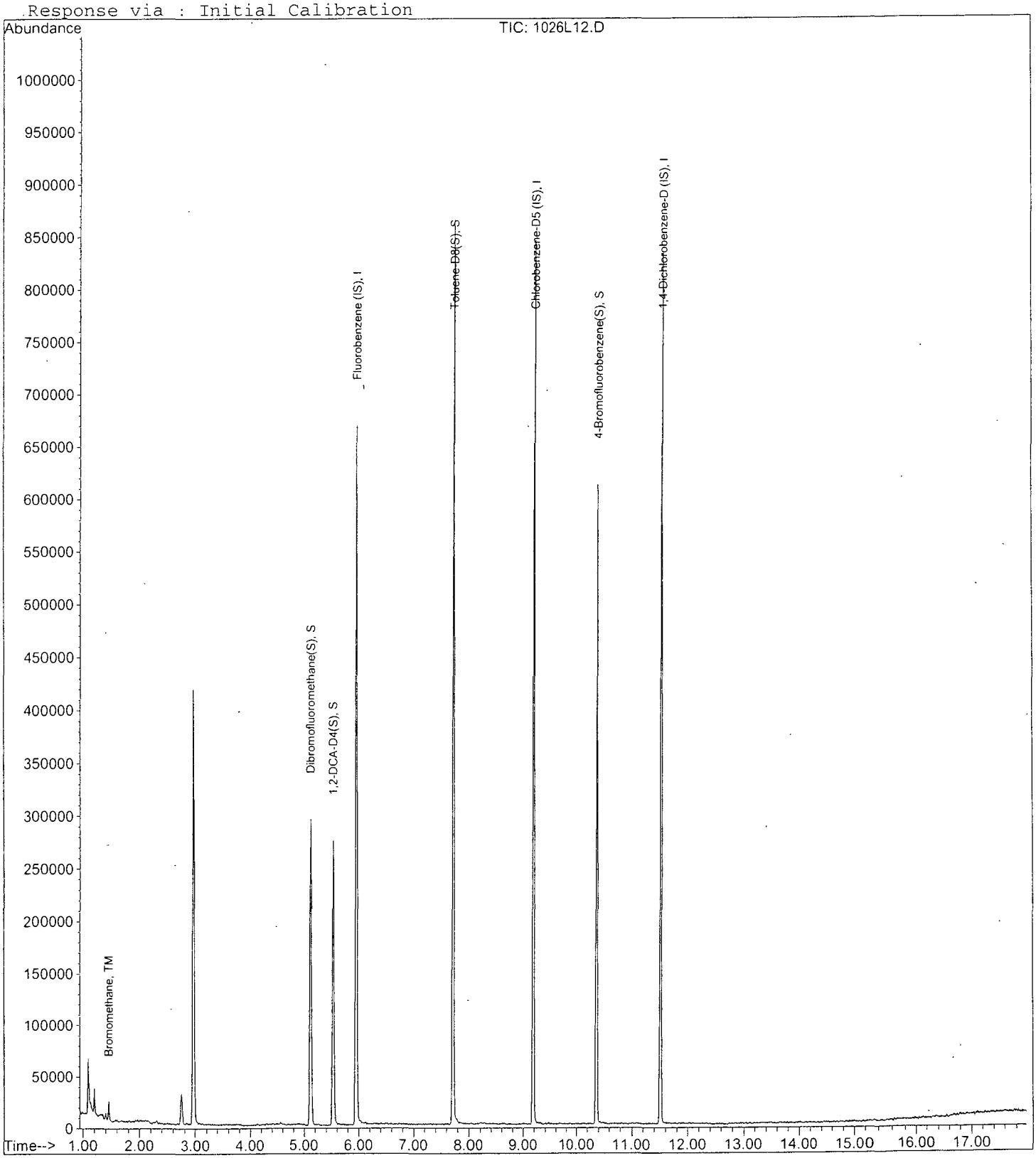
Quantitation Report

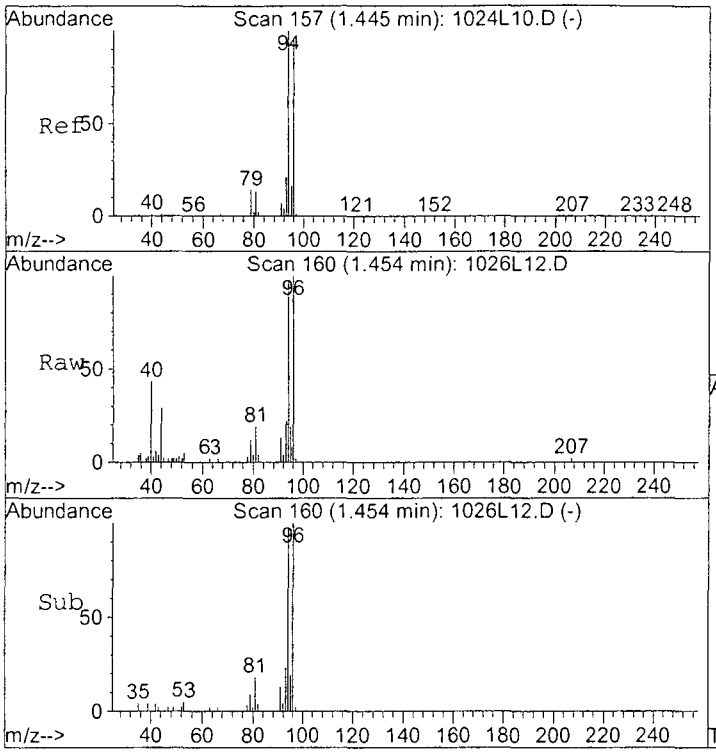
Data File : M:\LOKI\DATA\141024\1026L12.D
Acq On : 26 Oct 14 15:53
Sample : AZ05390W02
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 11
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Quant Time: Oct 29 16:10 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration

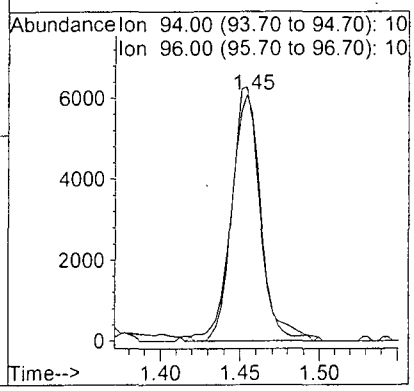




#6
Bromomethane
Concen: 1.52887 ppb
RT: 1.45 min Scan# 160
Delta R.T. 0.01 min
Lab File: 1026L12.D
Acq: 26 Oct 14 15:53

Tgt Ion: 94 Resp: 7885

Ion	Ratio	Lower	Upper
94	100		
96	103.4	67.5	125.3



EPA METHOD 8260C
Volatile Organic Compounds
Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc SDG No:
Case No: Initial Cal Date: 10/24/14
Matrix Instrument. Loki Initials.

		Compound	0.1	0.3	0.5	1	5	10	20	40	100		Avg	%RSD		
			1025L03.D	1024L06.D	1024L07.D	1024L08.D	1024L09 D	1024L10.D	1024L11.D	1024L12 D	1024L13.D					
1	I	Fluorobenzene (IS)	ISTD													
2	TML	Dichlorodifluoromethane		0.4471	0.5328	0.4546	0.3066	0.3043	0.3185	0.3013	0.3216		0.37	24	TML	0.999
3	TM	Freon 114		0.3222	0.3065	0.3512	0.2548	0.2555	0.2452	0.2611	0.2757		0.28	13	TM	
4	TM**L	Chloromethane		1.011	0.8594	0.8542	0.5506	0.5124	0 4798	0.4802	0.4862		0.65	33	TM**L	1.000
5	TM*	Vinyl chloride	0.9435	0.7441	0.7516	0.6763	0.5030	0.4891	0.4716	0.4720	0.4860		0.62	28	TM*	
6	TML	Bromomethane		0.6825	0.5298	0.5059	0.3505	0.3257					0.48	30	TML	0.999
7	TML	Chloroethane			0.3590	0.3710	0.2615	0.2390	0.2267	0.2277			0.28	24	TML	1 000
8	TM	Dichlorofluoromethane			1.267	1.134	1.013	0.9407	0.8410	0.9197	0.9142		1.0	15	TM	
9	TM	Trichlorofluoromethane			0.9130	0.8977	0.6819	0.6851	0.6637	0.6887	0.6972		0.75	15	TM	
10	TM	Acrolein		0.0585	0.0601	0.0629	0.0561	0.0551	0.0526	0.0494	0.0538		0.06	7.7	TM	
11	TML	Acetone			0.4654	0.2575	0.1663	0.1460	0.1257	0.1201	0.1251		0.20	63	TML	0.999
12	TM	Freon-113		0 4213	0.5234	0.5107	0.4182	0.3871	0.3730	0.4021	0.4080		0.43	13	TM	
13	TM*	1,1-DCE		0.7980	0.8367	0.8094	0 6327	0.6356	0.5990	0.6261	0.6637		0.70	14	TM*	
14	TM	t-Butanol		0.0194	0.0173	0.0161	0.0139	0.0146	0.0138	0.0143	0.0137		0.02	13	TM	
15	TM	Acetonitrile			0.0750	0.0734	0.0656	0.0606	0.0566	0.0502	0.0594		0.06	14	TM	
16	TML	Methyl Acetate		0.7286	0.5852	0.4859	0.4406	0.4141	0.3787	0 3709			0.49	27	TML	0 999
17	TM	Iodomethane			0.1706	0 1688	0.1397	0.1374	0.1406	0.1630			0.15	10	TM	
18	TM	Acrylonitrile			0 1516	0.1583	0.1321	0.1220	0.1178	0.1272	0 1263		0.13	11	TM	
19	TML	Methylene chloride			0.7472	0.6765	0.5715	0.5373	0.4680	0.5002	0.4929		0.57	18	TML	1.000
20	TML	Carbon disulfide			1.596	1 478	1.230	1.150	1.059	1.126	1.166		1.3	16	TML	0.999
21	TM	Methyl t-butyl ether (MtBE)		1.135	1.203	1.090	1.044	1.027	1.008	1.151	1.247		1.1	7.7	TM	
22	TM	Trans-1,2-DCE		0.5930	0.5610	0.5408	0.4659	0.4307	0 4066	0.4383	0 4685		0 49	14	TM	
23	TM	Diisopropyl Ether		1.379	1.265	1.271	1.125	1.205	1 219	1.437	1 544		1.3	11	TM	
24	TM**	1,1-DCA		1.198	1.004	1.022	0.9069	0.8656	0.7992	0.8326	0.8273		0.93	14	TM**	
25	TM	Hexane		0.3855	0.3701	0.3755	0.3006	0.3256	0.3249	0.3947	0 4653		0.37	14	TM	
26	TM	Vinyl Acetate			0.3498	0.3228	0.2685	0.2674	0.2505	0.2778	0.2802		0.29	12	TM	
27	TM	Ethyl tert Butyl Ether		1.101	1.022	1.006	1.037	1.030	1.041	1.228	1.342		1.1	11	TM	
28	TML	MEK (2-Butanone)			0.2722	0.2008	0.1932	0.1834	0.1541	0.1755	0.1710		0.19	20	TML	0.999
29	TM	Cis-1,2-DCE		0.5438	0.6042	0.5454	0.4926	0.5008	0.4877	0.5296	0.5447		0.53	7.2	TM	
30	TML	2,2-Dichloropropane		0.2796	0.3160	0.3120	0.2420	0.2323	0.2125	0.2210	0.2234		0 25	16	TML	1.000
31	TM*	Chloroform	1.424	1.080	1.078	1.053	0.9639	0.8868	0.8011	0.8486	0 8284		1.00	19	TM*	
32	TM	Bromochloromethane		0.2676	0.2986	0.3428	0.2848	0.2673	0.2410	0.2417	0.2496		0.27	13	TM	
33	S	Dibromofluoromethane(S)		0.6168	0.6345	0.5864	0.5496	0.5138	0.4905	0.4792	0 4869		0.54	11	S	
34	TM	1,1,1-TCA			0.8275	0.9792	0.8022	0.7439	0.6882	0.7214	0.7264		0.78	13	TM	
35	TM	Cyclohexane			0.3592	0.3563	0.2952	0.2948	0.2926	0.3564	0.3435		0.33	9.8	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No. _____
Case No: _____ Initial Cal. Date: 10/24/14
Matrix. _____ Instrument: Loki Initials: _____

		Compound	0 1	0.3	0.5	1	5	10	20	40	100		Avg	%RSD		
36	TM	1,1-Dichloropropene		0.5655	0.5273	0.5390	0.5148	0 5321	0.5277	0.5843	0.6062		0.55	5.9	TM	
37	TM	2,2,4-Trimethylpentane		0.9469	0.9480	0.9068	0.8650	0.9673	1.007	1.116	1.321		1.0	14	TM	
38	S	1,2-DCA-D4(S)		0.7002	0.6504	0.6260	0.5578	0.5478	0.5104	0.5059	0.5173		0.58	13	S	
39	TM	Carbon Tetrachloride	0.5815	0.5328	0.6540	0.6704	0.6583	0.6413	0.6041	0.6687	0 6697		0.63	7 7	TM	
40	TM	Tert Amyl Methyl Ether		1.035	1.026	0.9848	1.013	1.083	1.074	1.217	1.297		1.1	10 0	TM	
41	TML	1,2-DCA	1.184	0.8783	0.7379	0.7476	0.7024	0.6807	0.6105	0.6285	0.6288		0.76	24	TML	1.000
42	TML	Benzene	3.008	1.989	1.958	1.858	1.796	1 782	1.699	1.826	1 868		2.0	20	TML	1.000
43	TM	TCE		0.5172	0.5351	0.5497	0.4909	0.4807	0.4354	0.4764	0.4927		0.50	7.3	TM	
44	TM	2-Pentanone			0.2792	0.3155	0.3135	0.3205	0.3189	0.3453	0.3433		0.32	6.9	TM	
45	TM*	1,2-Dichloropropane		0.6994	0.6284	0.6508	0.5475	0.5118	0.4810	0.5318	0.5195		0.57	14	TM*	
46	TM	Bromodichloromethane		0.8199	0.8303	0.8258	0.7404	0.6856	0.6095	0.6686	0.6600		0.73	12	TM	
47	TM	Methyl Cyclohexane		0.5411	0.5729	0.5064	0.4599	0.4855	0.5148	0.6208	0.7092		0.55	15	TM	
48	TM	Dibromomethane		0 4072	0.3839	0.3689	0.3498	0 3293	0.2879	0.3082	0.2874		0.34	13	TM	
49	TM	2-Chloroethyl vinyl ether			0.0508	0.0509	0.0482	0.0404	0.0459	0.0525	0.0640		0.05	14	TM	
50	TM	MIBK (methyl isobutyl ketone)			0.3892	0.4766	0.3567	0.3338	0.3334	0.3638	0 4040		0.38	13	TM	
51	TM	1-Bromo-2-chloroethane		0.5255	0 4672	0.4584	0.4032	0.3992	0.3579	0.3980	0.4025		0.43	12	TM	
52	TM	Cis-1,3-Dichloropropene		0.9231	0 8823	0.8423	0.7133	0.7161	0 6855	0 7864	0.8235		0.80	11	TM	
53	TM*	Toluene		1.812	1.708	1.711	1.814	1.917	1.869	2 054	2 055		1.9	7.3	TM*	
54	TM	Trans-1,3-Dichloropropene		0.8491	0 7567	0.6847	0.6591	0.6379	0.6026	0.6819	0.7137		0.70	11	TM	
55	TM	1,1,2-TCA		0.4240	0.4913	0.4506	0.4064	0.3819	0.3421	0 3686	0.3652		0.40	12	TM	
56	TM	2-Hexanone		0.2767	0.2304	0.2409	0.2327	0.2144	0.2220	0 2449	0.2814		0.24	10	TM	
57	I	Chlorobenzene-D5 (IS)	ISTD													
58	S	Toluene-D8(S)		1.544	1.775	1.666	1.693	1.839	1.831	1 904	1.922		1.8	7 3	S	
59	TM	1,2-EDB		0 5575	0.5317	0.5088	0.5320	0.5138	0.4655	0.5044	0.4982		0.51	5.3	TM	
60	TM	Tetrachloroethene	0.8838	0.8054	0.7968	0.7962	0.7160	0.7169	0.6403	0.6469	0.6287		0.74	12	TM	
61	TM	1-Chlorohexane			0.4845	0.4915	0.5154	0.5254	0.5538	0.6653	0.6973		0.56	15	TM	
62	TM	1,1,1,2-Tetrachloroethane		0.8505	0.7306	0.6793	0.7075	0.6677	0.5984	0.6183	0.5925		0.68	13	TM	
63	TM	m&p-Xylene		0.7886	0.7504	0.7124	0.8456	0.9248	0.9319	1.025	1.013		0.87	14	TM	
64	TM	o-Xylene		0.7206	0.7081	0.7428	0.7747	0 8390	0.8401	0.9408	0 9926		0.82	13	TM	
65	TM	Styrene		1.125	1.147	1.150	1.313	1.491	1.543				1.3	14	TM	
66	S	4-Bromofluorobenzene(S)		0.6140	0.6086	0.5677	0.6356	0.7143	0.7244	0.7553	0.7832		0.68	12	S	
67	TM	1,3-Dichloropropane		0.9831	0.7780	0.8244	0.8934	0.8643	0.7762	0.8472	0.8440		0.85	7.8	TM	
68	TM	Dibromochloromethane		0.5850	0.6678	0.6693	0.6806	0.6488	0.6007	0.6223	0.6153		0.64	5.6	TM	
69	TM**	Chlorobenzene		1.807	1.586	1.496	1.624	1.600	1.459	1.570	1.555		1.6	6.6	TM**	
70	TM*	Ethylbenzene		1.956	1.948	2.006	2.175	2 305	2.295	2.576	2.532		2.2	11	TM*	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No.
Case No: Initial Cal. Date 10/24/14
Matrix: Instrument Loki Initials:

		Compound	0.1	0.3	0.5	1	5	10	20	40	100		Avg	%RSD		
71	TM**	Bromoform		0.3933	0.4621	0.5080	0.5025	0.4793	0.4310	0.4367	0.4637		0.46	8.4	TM**	
72	I	1,4-Dichlorobenzene-D (IS)	ISTD													
73	TM	Isopropylbenzene		3.319	3.101	2.937	2.981	2 878	2.991	3.514	3.649		3.2	9.1	TM	
74	TM**L	1,1,2,2-Tetrachloroethane			1.480	1 350	1.162	1 035	0.9182	0.9731	0.9665		1 1	19	TM**L	1.000
75	TM	1,2,3-Trichloropropane			0.3347	0.3857	0.3408	0.3138	0.2897	0.3029	0.2995		0.32	10	TM	
76	TM	t-1,4-Dichloro-2-Butene			0.2298	0 1928	0.1875	0.2034	0.1755	0.2022	0.2097		0.20	8.7	TM	
77	TM	Bromobenzene		1.144	1.102	1.097	1.108	1.066	1.008	1.067	1.052		1.1	3.8	TM	
78	TM	n-Propylbenzene		3.878	3.694	3.393	3.539	3.773	3.877	4.463	4.428		3.9	9 9	TM	
79	TM	4-Ethyltoluene		3.357	3.189	2.796	3.086	3.412	3.544	3.972	3.917		3 4	12	TM	
80	TM	2-Chlorotoluene		2.588	2.513	2.118	2.351	2.508	2.468	2.731	2 642		2.5	7.6	TM	
81	TM	1,3,5-Trimethylbenzene		2.947	2.572	2.401	2.877	3 201	3.147	3.438	3.344		3.0	12	TM	
82	TM	4-Chlorotoluene		2.950	2.614	2.644	2.964	3 103	3.017	3.240	3.152		3.0	7.6	TM	
83	TM	Tert-Butylbenzene		2.384	2.333	2.166	2.293	2.255	2.284	2.677	2.788		2.4	9.1	TM	
84	TM	1,2,4-Trimethylbenzene		2.750	2.499	2.389	2.667	2 888	3.049	3.467	3 448		2.9	14	TM	
85	TM	Sec-Butylbenzene		3.563	3.122	3.065	3.313	3 515	3.545	4.009	4.144		3.5	11	TM	
86	TM	p-Isopropyltoluene		2.715	2.617	2.700	2.962	2.987	3.129	3.514	3.634		3 0	12	TM	
87	TM	Benzyl Chloride		1.762	1 525	1.544	1.414	1.329	1 218	1.261	1 410		1.4	12	TM	
88	TM	1,3-DCB		2.364	2.050	1.990	2 205	2.092	1.968	2.040	2.066		2.1	6.2	TM	
89	TM	1,4-DCB		2.664	2.248	2.280	2.401	2 212	2.068	2.104	2.144		2.3	8.5	TM	
90	TM	n-Butylbenzene		2.462	2 605	2.528	2.571	2.683	2.715	3.326	3.496		2.8	14	TM	
91	TM	1,2-DCB		2.305	2.143	2.175	2 113	1.911	1.831	1.909	2.072		2.1	7.8	TM	
92	TML	Hexachloroethane		0.9871	0.8350	0.9429	0.7460	0.6848	0.6049	0.6336	0.6600		0.76	19	TML	0.999
93	TML	1,2-Dibromo-3-chloropropane			0.1752	0.1865	0.1491	0.1319	0.1290	0.1271			0.15	17	TML	1.000
94	TM	1,2,4-Trichlorobenzene		1.695	1.495	1.322	1.261	1.210	1.150	1.384	1.633		1 4	14	TM	
95	TM	Hexachlorobutadiene			0.9785	0.9462	0.8644	0.7818	0.7054	0 7638	0.8589		0.84	12	TM	
96	TM	Naphthalene		1.639	1.511	1.338	1.441	1.413	1.441	1.968			1.5	14	TM	
97	TM	1,2,3-Trichlorobenzene		1.505	1.470	1.323	1 239	1.245	1 192	1.468	1 567		1.4	10	TM	
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L06.D Vial: 5
Acq On : 24 Oct 14 12:47 Operator: DG,SV,RS
Sample : 0.3ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	311104	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	284736	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	147904	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.12	111	4605	0.67937 ppb		0.00
Spiked Amount 27.165			Recovery	= 2.500%		
38) 1,2-DCA-D4(S)	5.53	65	5228	0.72814 ppb		0.00
Spiked Amount 27.695			Recovery	= 2.629%		
58) Toluene-D8(S)	7.71	98	10552	0.52288 ppb		0.00
Spiked Amount 26.150			Recovery	= 2.000%		
66) 4-Bromofluorobenzene(S)	10.36	95	4196	0.54549 ppb		0.00
Spiked Amount 22.231			Recovery	= 2.452%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	1669	0.60722 ppb		95
3) Freon 114	1.10	85	1203	0.34037 ppb		96
4) Chloromethane	1.14	50	3773	0.23216 ppb		86
5) Vinyl chloride	1.22	62	2778	0.36284 ppb		84
6) Bromomethane	1.45	94	2548	0.19666 ppb		91
8) Dichlorofluoromethane	1.70	67	5162	0.41303 ppb		99
9) Trichlorofluoromethane	1.74	101	3516	0.37836 ppb		98
10) Acrolein	2.10	56	7281	10.43707 ppb	#	85
11) Acetone	2.26	43	2814	0.74847 ppb		87
12) Freon-113	2.20	101	1573	0.29363 ppb	#	68
13) 1,1-DCE	2.18	61	2979	0.34191 ppb		88
14) t-Butanol	2.88	59	2408	12.56949 ppb		96
15) Acetonitrile	2.52	41	9816	12.52423 ppb	#	1
17) Iodomethane	2.30	142	730	0.38255 ppb	#	55
18) Acrylonitrile	2.96	52	541	0.32538 ppb	#	64
19) Methylene chloride	2.68	84	3329	0.16838 ppb		98
20) Carbon disulfide	2.37	76	5939	0.70119 ppb		95
21) Methyl t-butyl ether (MtBE	3.01	73	4239	0.30599 ppb	#	89
22) Trans-1,2-DCE	2.99	96	2214	0.36450 ppb		90
23) Diisopropyl Ether	3.71	45	5150	0.31695 ppb	#	83
24) 1,1-DCA	3.53	63	4471	0.38553 ppb	#	80
25) Hexane	3.37	57	1439	0.31442 ppb	#	70
26) Vinyl Acetate	3.70	43	1266	0.35305 ppb	#	73
27) Ethyl tert Butyl Ether	4.28	59	4109	0.29995 ppb	#	88
28) MEK (2-Butanone)	4.51	43	1072	0.33949 ppb	#	47
29) Cis-1,2-DCE	4.43	96	2030	0.30715 ppb		94
30) 2,2-Dichloropropane	4.40	77	1044	0.27854 ppb		91
31) Chloroform	4.90	83	4032	0.32531 ppb		95
32) Bromochloromethane	4.76	128	999	0.29281 ppb		86
34) 1,1,1-TCA	5.10	97	3994	0.40932 ppb		95
35) Cyclohexane	5.16	41	1558	0.38137 ppb	#	58
36) 1,1-Dichloropropene	5.33	75	2111	0.30865 ppb	#	86
37) 2,2,4-Trimethylpentane	5.73	57	3535	0.28132 ppb	#	19
39) Carbon Tetrachloride	5.32	117	1989	0.25322 ppb		90
40) Tert Amyl Methyl Ether	5.80	73	3865	0.28463 ppb	#	90
41) 1,2-DCA	5.63	62	3279	0.21582 ppb	#	71
42) Benzene	5.58	78	7425	0.65406 ppb		93
43) TCE	6.37	95	1931	0.31205 ppb		95
44) 2-Pentanone	6.64	43	37032	9.31564 ppb		91

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L06.D Vial: 5
Acq On : 24 Oct 14 12:47 Operator: DG,SV,RS
Sample : 0.3ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

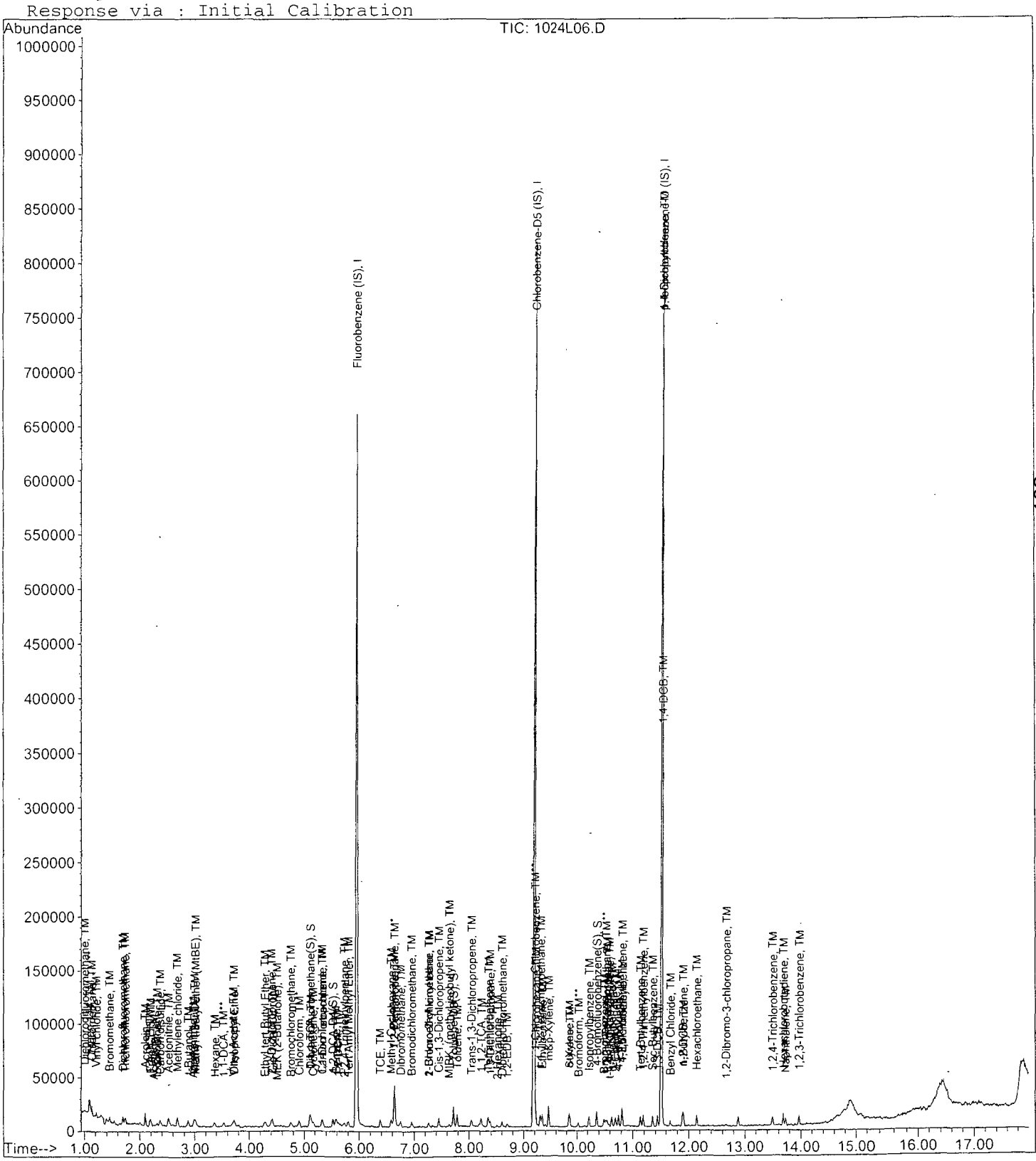
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloropropane	6.62	63	2611	0.36728	ppb	#	86
46)	Bromodichloromethane	6.95	83	3061	0.33695	ppb	#	92
47)	Methyl Cyclohexane	6.57	83	2020	0.29442	ppb	#	68
48)	Dibromomethane	6.75	93	1520	0.35892	ppb	#	85
49)	2-Chloroethyl vinyl ether	7.26	106	150	0.23923	ppb	#	1
50)	MIBK (methyl isobutyl ket	7.64	43	1698	0.35943	ppb	#	85
51)	1-Bromo-2-chloroethane	7.26	63	1962	0.36967	ppb		87
52)	Cis-1,3-Dichloropropene	7.45	75	3446	0.34764	ppb	#	66
53)	Toluene	7.79	91	6766	0.29114	ppb		81
54)	Trans-1,3-Dichloropropene	8.04	75	3170	0.36485	ppb		85
55)	1,1,2-TCA	8.22	83	1583	0.31504	ppb		97
56)	2-Hexanone	8.51	43	1033	0.34171	ppb		93
59)	1,2-EDB	8.69	107	1905	0.32542	ppb		95
60)	Tetrachloroethene	8.34	166	2752	0.32795	ppb		85
61)	1-Chlorohexane	9.22	91	1557	0.24330	ppb		89
62)	1,1,1,2-Tetrachloroethane	9.30	131	2906	0.37489	ppb		90
63)	m&p-Xylene	9.46	106	5389	0.54140	ppb		100
64)	o-Xylene	9.85	106	2462	0.26367	ppb		74
65)	Styrene	9.87	104	3845	0.26067	ppb		99
67)	1,3-Dichloropropane	8.38	76	3359	0.34643	ppb	#	80
68)	Dibromochloromethane	8.60	129	1999	0.27587	ppb		86
69)	Chlorobenzene	9.21	112	6175	0.34161	ppb		87
70)	Ethylbenzene	9.34	91	6685	0.26389	ppb		99
71)	Bromoform	10.02	173	1344	0.25677	ppb	#	79
73)	Isopropylbenzene	10.22	105	5891	0.31397	ppb		91
74)	1,1,2,2-Tetrachloroethane	10.52	83	2759	0.12115	ppb	#	78
75)	1,2,3-Trichloropropane	10.55	110	774	0.40396	ppb		82
76)	t-1,4-Dichloro-2-Butene	10.58	53	490	0.41382	ppb	#	21
77)	Bromobenzene	10.50	156	2030	0.31762	ppb		93
78)	n-Propylbenzene	10.63	91	6883	0.29981	ppb		100
79)	4-Ethyltoluene	10.75	105	5959	0.29545	ppb		92
80)	2-Chlorotoluene	10.70	91	4594	0.31186	ppb		96
81)	1,3,5-Trimethylbenzene	10.82	105	5230	0.29557	ppb		91
82)	4-Chlorotoluene	10.81	91	5236	0.29895	ppb		99
83)	Tert-Butylbenzene	11.13	119	4231	0.29830	ppb		85
84)	1,2,4-Trimethylbenzene	11.18	105	4881	0.28502	ppb		96
85)	Sec-Butylbenzene	11.35	105	6324	0.30242	ppb		91
86)	p-Isopropyltoluene	11.51	119	4818	0.26857	ppb	#	80
87)	Benzyl Chloride	11.67	91	3128	0.36897	ppb		90
88)	1,3-DCB	11.44	146	4195	0.33816	ppb		94
89)	1,4-DCB	11.53	146	4729	0.35287	ppb		96
90)	n-Butylbenzene	11.91	91	4370	0.26397	ppb		90
91)	1,2-DCB	11.89	146	4091	0.33610	ppb		83
92)	Hexachloroethane	12.15	117	1752	0.49339	ppb		91
93)	1,2-Dibromo-3-chloropropan	12.66	157	439	0.07042	ppb	#	61
94)	1,2,4-Trichlorobenzene	13.49	180	3009	0.36493	ppb		82
95)	Hexachlorobutadiene	13.68	225	2132	0.42763	ppb		93
96)	Naphthalene	13.72	128	2909	0.32013	ppb		95
97)	1,2,3-Trichlorobenzene	13.97	180	2671	0.32805	ppb	#	84

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

Data File : M:\LOKI\DATA\141024\1024L06.D Vial: 5
Acq On : 24 Oct 14 12:47 Operator: DG,SV,RS
Sample : 0.3ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L07.D Vial: 6
Acq On : 24 Oct 14 13:16 Operator: DG,SV,RS
Sample : 0.5ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	330048	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	295360	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	156416	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	8376	1.16478 ppb		0.00
Spiked Amount 27.165			Recovery =	4.289%		
38) 1,2-DCA-D4(S)	5.52	65	8586	1.12719 ppb		0.00
Spiked Amount 27.695			Recovery =	4.069%		
58) Toluene-D8(S)	7.71	98	20972	1.00185 ppb		0.00
Spiked Amount 26.150			Recovery =	3.832%		
66) 4-Bromofluorobenzene(S)	10.36	95	7190	0.90110 ppb		0.00
Spiked Amount 22.231			Recovery =	4.053%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	3517	1.02121 ppb		83
3) Freon 114	1.10	85	2023	0.53953 ppb		93
4) Chloromethane	1.14	50	5673	0.49421 ppb		91
5) Vinyl chloride	1.21	62	4961	0.61078 ppb		98
6) Bromomethane	1.45	94	3497	0.38837 ppb		88
7) Chloroethane	1.53	64	2370	0.24053 ppb		89
8) Dichlorofluoromethane	1.70	67	8364	0.63083 ppb		94
9) Trichlorofluoromethane	1.74	101	6027	0.61134 ppb		95
10) Acrolein	2.10	56	19851	26.82244 ppb	#	95
11) Acetone	2.25	43	3072	0.80194 ppb		95
12) Freon-113	2.20	101	3455	0.60793 ppb		94
13) 1,1-DCE	2.18	61	5523	0.59752 ppb		96
14) t-Butanol	2.88	59	5707	28.08004 ppb		100
15) Acetonitrile	2.52	41	24765	29.78401 ppb	#	62
16) Methyl Acetate	2.60	43	3863	0.19895 ppb		86
17) Iodomethane	2.30	142	1126	0.55620 ppb		89
18) Acrylonitrile	2.96	52	1001	0.56748 ppb		79
19) Methylene chloride	2.68	84	4932	0.38444 ppb		88
20) Carbon disulfide	2.36	76	10537	0.97729 ppb		99
21) Methyl t-butyl ether (MtBE	3.01	73	7938	0.54011 ppb		97
22) Trans-1,2-DCE	2.99	96	3703	0.57464 ppb		94
23) Diisopropyl Ether	3.72	45	8347	0.48421 ppb	#	85
24) 1,1-DCA	3.53	63	6630	0.53889 ppb	#	90
25) Hexane	3.37	57	2443	0.50316 ppb	#	73
26) Vinyl Acetate	3.72	43	2309	0.60695 ppb	#	97
27) Ethyl tert Butyl Ether	4.29	59	6748	0.46433 ppb		98
28) MEK (2-Butanone)	4.51	43	1797	0.63206 ppb	#	83
29) Cis-1,2-DCE	4.43	96	3988	0.56878 ppb		90
30) 2,2-Dichloropropane	4.41	77	2086	0.61158 ppb		96
31) Chloroform	4.90	83	7118	0.54134 ppb		92
32) Bromochloromethane	4.76	128	1971	0.54455 ppb		67
34) 1,1,1-TCA	5.11	97	5462	0.52763 ppb		98
35) Cyclohexane	5.16	41	2371	0.54706 ppb		79
36) 1,1-Dichloropropene	5.34	75	3481	0.47975 ppb		95
37) 2,2,4-Trimethylpentane	5.72	57	6258	0.46944 ppb	#	89
39) Carbon Tetrachloride	5.32	117	4317	0.51806 ppb	#	73
40) Tert Amyl Methyl Ether	5.79	73	6770	0.46995 ppb	#	90
41) 1,2-DCA	5.62	62	4871	0.38407 ppb	#	86
42) Benzene	5.58	78	12924	0.85898 ppb		92

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L07.D Vial: 6
Acq On : 24 Oct 14 13:16 Operator: DG,SV,RS
Sample : 0.5ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.39	95	3532	0.53801	ppb		89
44)	2-Pentanone	6.64	43	92144	21.84897	ppb		99
45)	1,2-Dichloropropane	6.62	63	4148	0.55000	ppb	#	91
46)	Bromodichloromethane	6.95	83	5481	0.56870	ppb	#	96
47)	Methyl Cyclohexane	6.58	83	3782	0.51960	ppb		96
48)	Dibromomethane	6.75	93	2534	0.56402	ppb		89
49)	2-Chloroethyl vinyl ether	7.33	106	335	0.50361	ppb	#	36
50)	MIBK (methyl isobutyl ket	7.64	43	2569	0.51259	ppb	#	85
51)	1-Bromo-2-chloroethane	7.26	63	3084	0.54772	ppb		98
52)	Cis-1,3-Dichloropropene	7.45	75	5824	0.55381	ppb	#	84
53)	Toluene	7.78	91	11272	0.45719	ppb		97
54)	Trans-1,3-Dichloropropene	8.04	75	4995	0.54190	ppb		89
55)	1,1,2-TCA	8.21	83	3243	0.60837	ppb		78
56)	2-Hexanone	8.51	43	1521	0.47426	ppb	#	84
59)	1,2-EDB	8.70	107	3141	0.51725	ppb	#	76
60)	Tetrachloroethene	8.34	166	4707	0.54074	ppb		89
61)	1-Chlorohexane	9.22	91	2862	0.43114	ppb		98
62)	1,1,1,2-Tetrachloroethane	9.30	131	4316	0.53676	ppb		80
63)	m&p-Xylene	9.46	106	8866	0.85867	ppb		92
64)	o-Xylene	9.85	106	4183	0.43187	ppb		86
65)	Styrene	9.87	104	6778	0.44299	ppb	#	88
67)	1,3-Dichloropropane	8.38	76	4596	0.45696	ppb		89
68)	Dibromochloromethane	8.60	129	3945	0.52484	ppb		80
69)	Chlorobenzene	9.21	112	9367	0.49955	ppb		96
70)	Ethylbenzene	9.34	91	11506	0.43787	ppb		93
71)	Bromoform	10.02	173	2730	0.50279	ppb		88
73)	Isopropylbenzene	10.22	105	9702	0.48895	ppb		90
74)	1,1,2,2-Tetrachloroethane	10.52	83	4629	0.40555	ppb	#	94
75)	1,2,3-Trichloropropane	10.55	110	1047	0.51671	ppb		90
76)	t-1,4-Dichloro-2-Butene	10.59	53	719	0.57417	ppb		92
77)	Bromobenzene	10.49	156	3448	0.51012	ppb		91
78)	n-Propylbenzene	10.63	91	11556	0.47597	ppb		99
79)	4-Ethyltoluene	10.75	105	9976	0.46770	ppb		88
80)	2-Chlorotoluene	10.70	91	7861	0.50460	ppb		100
81)	1,3,5-Trimethylbenzene	10.82	105	8046	0.42997	ppb		98
82)	4-Chlorotoluene	10.81	91	8178	0.44151	ppb		89
83)	Tert-Butylbenzene	11.13	119	7297	0.48647	ppb		91
84)	1,2,4-Trimethylbenzene	11.18	105	7819	0.43173	ppb		100
85)	Sec-Butylbenzene	11.35	105	9766	0.44161	ppb		90
86)	p-Isopropyltoluene	11.51	119	8188	0.43158	ppb		94
87)	Benzyl Chloride	11.67	91	4770	0.53204	ppb		90
88)	1,3-DCB	11.44	146	6414	0.48890	ppb		97
89)	1,4-DCB	11.53	146	7033	0.49623	ppb		91
90)	n-Butylbenzene	11.91	91	8148	0.46539	ppb		90
91)	1,2-DCB	11.89	146	6703	0.52072	ppb		88
92)	Hexachloroethane	12.14	117	2612	0.67849	ppb		96
93)	1,2-Dibromo-3-chloropropan	12.66	157	548	0.17693	ppb		93
94)	1,2,4-Trichlorobenzene	13.49	180	4676	0.53625	ppb		92
95)	Hexachlorobutadiene	13.68	225	3061	0.58056	ppb		89
96)	Naphthalene	13.72	128	4728	0.49199	ppb		93
97)	1,2,3-Trichlorobenzene	13.97	180	4599	0.53411	ppb		95

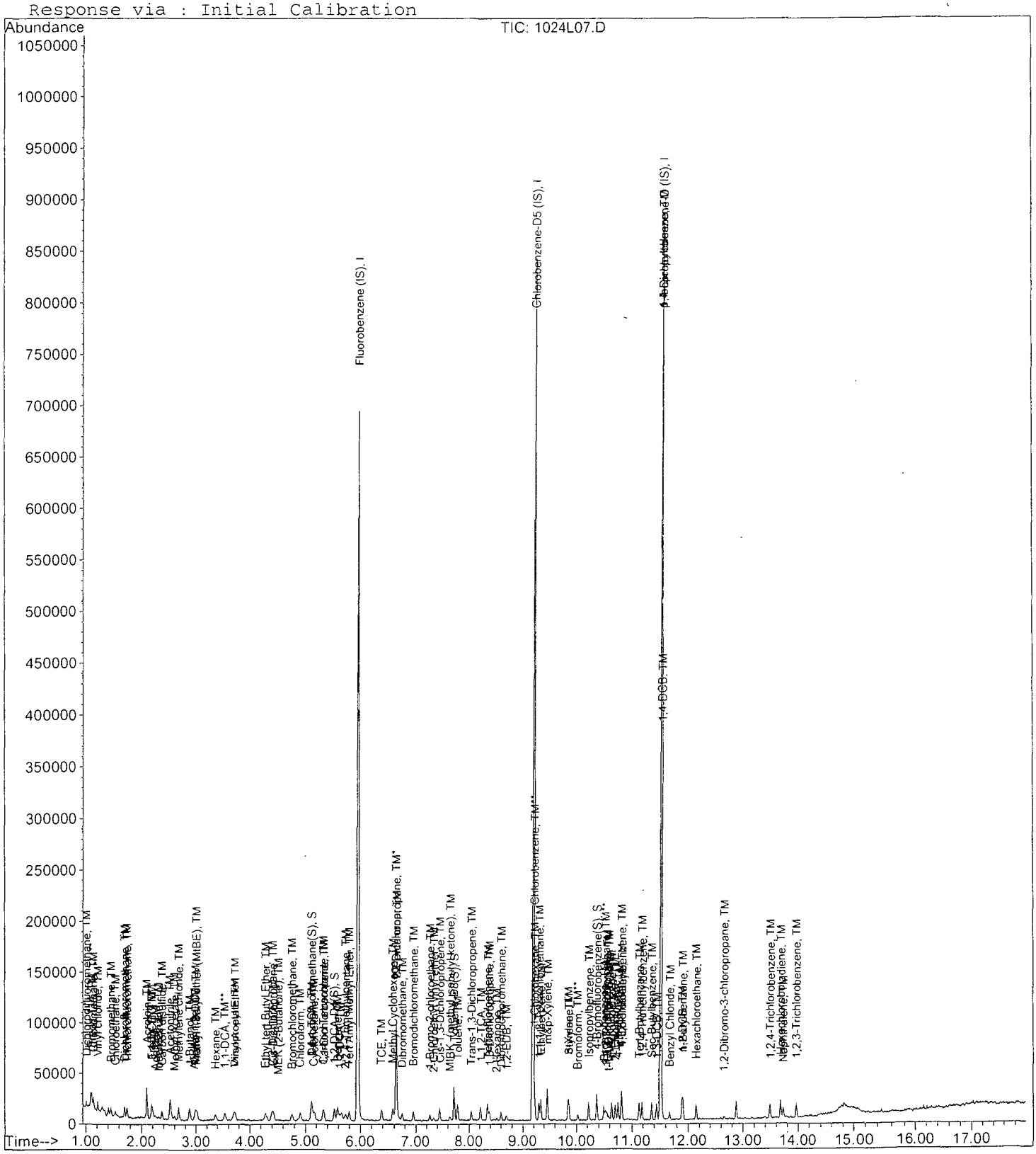
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141024\1024L07.D Vial: 6
Acq On : 24 Oct 14 13:16 Operator: DG,SV,RS
Sample : 0.5ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L08.D Vial: 7
Acq On : 24 Oct 14 13:44 Operator: DG,SV,RS
Sample : 1.0ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	324928	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	295232	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	165952	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.12	111	15242	2.15298 ppb		0.00
Spiked Amount 27.165			Recovery =	7.926%		
38) 1,2-DCA-D4(S)	5.53	65	16273	2.17002 ppb		0.00
Spiked Amount 27.695			Recovery =	7.835%		
58) Toluene-D8(S)	7.71	98	39353	1.88074 ppb		0.00
Spiked Amount 26.150			Recovery =	7.193%		
66) 4-Bromofluorobenzene(S)	10.36	95	13408	1.68111 ppb		0.00
Spiked Amount 22.231			Recovery =	7.562%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	5908	1.61009 ppb		95
3) Freon 114	1.10	85	4564	1.23639 ppb		86
4) Chloromethane	1.14	50	11102	1.37343 ppb		97
5) Vinyl chloride	1.21	62	8790	1.09924 ppb		99
6) Bromomethane	1.45	94	6575	1.15670 ppb		95
7) Chloroethane	1.53	64	4822	1.09542 ppb		97
8) Dichlorofluoromethane	1.70	67	14740	1.12923 ppb		99
9) Trichlorofluoromethane	1.74	101	11668	1.20218 ppb		95
10) Acrolein	2.10	56	40856	56.07402 ppb	#	87
11) Acetone	2.25	43	3347	1.00419 ppb		84
12) Freon-113	2.20	101	6637	1.18622 ppb		85
13) 1,1-DCE	2.18	61	10520	1.15606 ppb		92
14) t-Butanol	2.88	59	10458	52.26710 ppb		97
15) Acetonitrile	2.52	41	47693	58.26254 ppb		91
16) Methyl Acetate	2.60	43	6315	0.72503 ppb	#	82
17) Iodomethane	2.31	142	2194	1.10082 ppb		90
18) Acrylonitrile	2.97	52	2057	1.18452 ppb		73
19) Methylene chloride	2.67	84	8793	1.00158 ppb	#	71
20) Carbon disulfide	2.36	76	19209	1.56220 ppb		95
21) Methyl t-butyl ether (MtBE	3.02	73	14170	0.97934 ppb		96
22) Trans-1,2-DCE	2.99	96	7029	1.10797 ppb		94
23) Diisopropyl Ether	3.72	45	16521	0.97349 ppb	#	93
24) 1,1-DCA	3.53	63	13280	1.09641 ppb		96
25) Hexane	3.36	57	4880	1.02092 ppb		99
26) Vinyl Acetate	3.71	43	4196	1.12035 ppb	#	97
27) Ethyl tert Butyl Ether	4.28	59	13071	0.91358 ppb		91
28) MEK (2-Butanone)	4.51	43	2610	1.01085 ppb		94
29) Cis-1,2-DCE	4.42	96	7089	1.02698 ppb		96
30) 2,2-Dichloropropane	4.40	77	4055	1.30354 ppb	#	86
31) Chloroform	4.91	83	13688	1.05740 ppb		98
32) Bromochloromethane	4.76	128	4455	1.25023 ppb		87
34) 1,1,1-TCA	5.10	97	12727	1.24880 ppb		88
35) Cyclohexane	5.17	41	4631	1.08534 ppb		84
36) 1,1-Dichloropropene	5.33	75	7005	0.98063 ppb		88
37) 2,2,4-Trimethylpentane	5.73	57	11786	0.89806 ppb	#	70
39) Carbon Tetrachloride	5.33	117	8713	1.06207 ppb		92
40) Tert Amyl Methyl Ether	5.80	73	12800	0.90254 ppb	#	96
41) 1,2-DCA	5.62	62	9716	0.98803 ppb		95
42) Benzene	5.58	78	24143	1.32994 ppb		99

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L08.D Vial: 7
Acq On : 24 Oct 14 13:44 Operator: DG,SV,RS
Sample : 1.0ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.38	95	7145	1.10551	ppb		95
44)	2-Pentanone	6.64	43	205042	49.38519	ppb		99
45)	1,2-Dichloropropane	6.62	63	8458	1.13914	ppb	#	86
46)	Bromodichloromethane	6.95	83	10733	1.13119	ppb	#	97
47)	Methyl Cyclohexane	6.57	83	6582	0.91854	ppb		95
48)	Dibromomethane	6.74	93	4795	1.08409	ppb		91
49)	2-Chloroethyl vinyl ether	7.33	106	662	1.01087	ppb	#	37
50)	MIBK (methyl isobutyl ket	7.63	43	6194	1.25535	ppb	#	92
51)	1-Bromo-2-chloroethane	7.26	63	5958	1.07481	ppb		99
52)	Cis-1,3-Dichloropropene	7.44	75	10948	1.05747	ppb		95
53)	Toluene	7.78	91	22241	0.91631	ppb		93
54)	Trans-1,3-Dichloropropene	8.04	75	8899	0.98065	ppb		92
55)	1,1,2-TCA	8.22	83	5857	1.11605	ppb		89
56)	2-Hexanone	8.51	43	3131	0.99166	ppb		96
59)	1,2-EDB	8.69	107	6009	0.98998	ppb		82
60)	Tetrachloroethene	8.34	166	9403	1.08069	ppb		96
61)	1-Chlorohexane	9.22	91	5804	0.87471	ppb		96
62)	1,1,1,2-Tetrachloroethane	9.30	131	8022	0.99809	ppb		93
63)	m&p-Xylene	9.46	106	16826	1.63031	ppb		90
64)	o-Xylene	9.84	106	8772	0.90604	ppb		83
65)	Styrene	9.86	104	13584	0.88819	ppb	#	96
67)	1,3-Dichloropropane	8.38	76	9735	0.96832	ppb		96
68)	Dibromochloromethane	8.60	129	7904	1.05199	ppb		96
69)	Chlorobenzene	9.21	112	17667	0.94260	ppb	#	82
70)	Ethylbenzene	9.34	91	23694	0.90208	ppb		95
71)	Bromoform	10.03	173	5999	1.10534	ppb		88
73)	Isopropylbenzene	10.23	105	19495	0.92603	ppb		98
74)	1,1,2,2-Tetrachloroethane	10.52	83	8961	1.03995	ppb		84
75)	1,2,3-Trichloropropane	10.55	110	2560	1.19080	ppb		88
76)	t-1,4-Dichloro-2-Butene	10.59	53	1280	0.96343	ppb		84
77)	Bromobenzene	10.50	156	7281	1.01531	ppb		95
78)	n-Propylbenzene	10.63	91	22522	0.87433	ppb		93
79)	4-Ethyltoluene	10.75	105	18559	0.82010	ppb		89
80)	2-Chlorotoluene	10.70	91	14060	0.85066	ppb		89
81)	1,3,5-Trimethylbenzene	10.82	105	15940	0.80287	ppb		97
82)	4-Chlorotoluene	10.81	91	17550	0.89304	ppb		96
83)	Tert-Butylbenzene	11.13	119	14379	0.90353	ppb		92
84)	1,2,4-Trimethylbenzene	11.18	105	15858	0.82529	ppb		93
85)	Sec-Butylbenzene	11.35	105	20348	0.86724	ppb		96
86)	p-Isopropyltoluene	11.50	119	17925	0.89052	ppb	#	89
87)	Benzyl Chloride	11.67	91	10248	1.07736	ppb	#	89
88)	1,3-DCB	11.44	146	13211	0.94912	ppb		99
89)	1,4-DCB	11.53	146	15132	1.00633	ppb		88
90)	n-Butylbenzene	11.91	91	16779	0.90329	ppb		90
91)	1,2-DCB	11.89	146	14439	1.05724	ppb		96
92)	Hexachloroethane	12.14	117	6259	1.48003	ppb		91
93)	1,2-Dibromo-3-chloropropan	12.66	157	1238	0.96415	ppb	#	78
94)	1,2,4-Trichlorobenzene	13.49	180	8774	0.94839	ppb		93
95)	Hexachlorobutadiene	13.68	225	6281	1.12282	ppb		85
96)	Naphthalene	13.72	128	8881	0.87104	ppb		93
97)	1,2,3-Trichlorobenzene	13.97	180	8784	0.96151	ppb		94

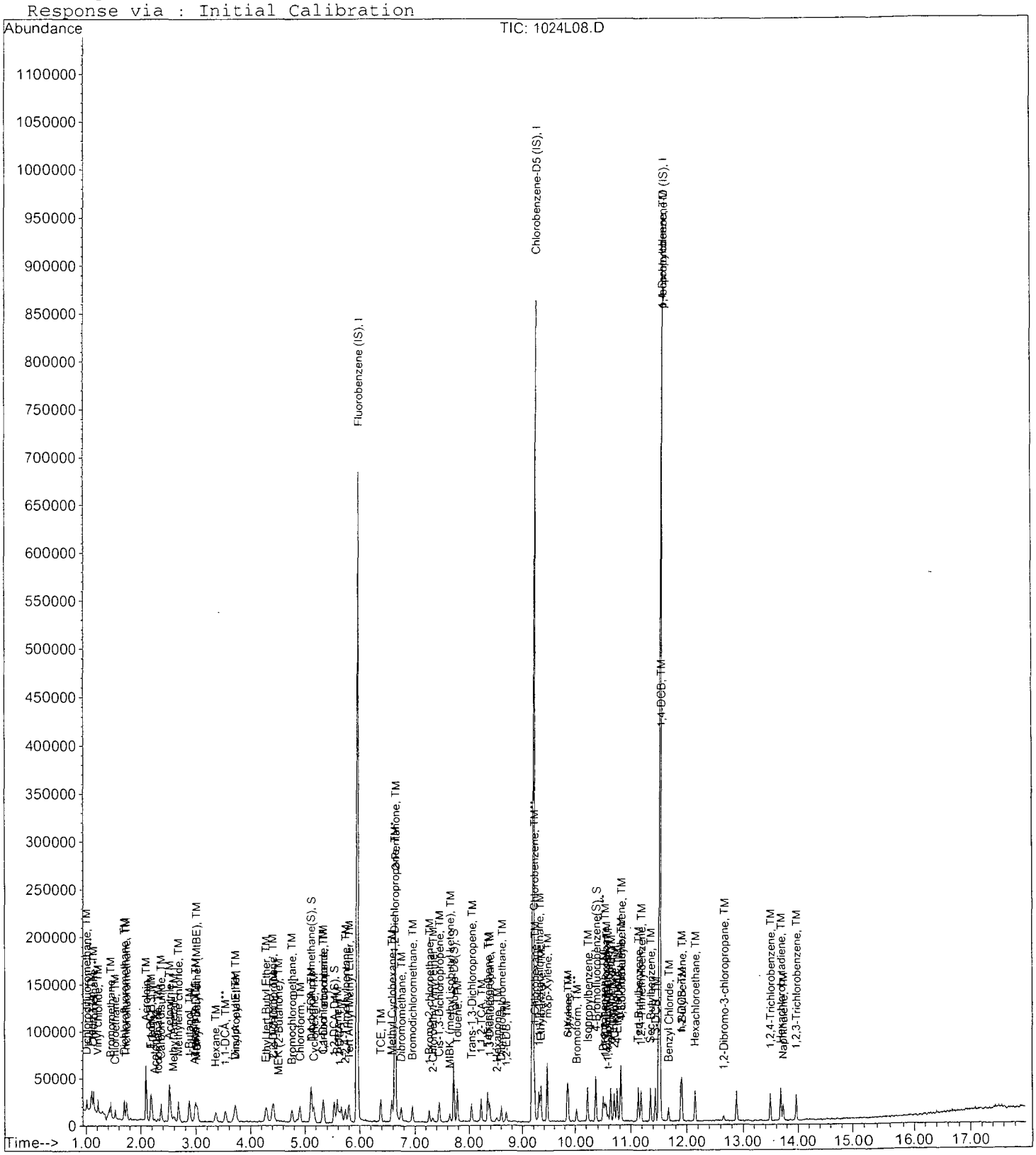
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141024\1024L08.D Vial: 7
Acq On : 24 Oct 14 13:44 Operator: DG,SV,RS
Sample : 1.0ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L09.D Vial: 8
Acq On : 24 Oct 14 14:12 Operator: DG,SV,RS
Sample : 5.0ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	363648	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	308544	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	200320	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	79943	10.08984 ppb		0.00
Spiked Amount 27.165			Recovery = 37.144%			
38) 1,2-DCA-D4(S)	5.52	65	81143	9.66837 ppb		0.00
Spiked Amount 27.695			Recovery = 34.908%			
58) Toluene-D8(S)	7.71	98	208916	9.55363 ppb		0.00
Spiked Amount 26.150			Recovery = 36.535%			
66) 4-Bromofluorobenzene(S)	10.36	95	78439	9.41044 ppb		0.00
Spiked Amount 22.231			Recovery = 42.328%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	22298	4.98502 ppb		94
3) Freon 114	1.10	85	18532	4.48578 ppb		93
4) Chloromethane	1.14	50	40042	5.30598 ppb		97
5) Vinyl chloride	1.21	62	36583	4.08779 ppb		98
6) Bromomethane	1.45	94	25489	5.13051 ppb		94
7) Chloroethane	1.53	64	19016	5.27556 ppb		99
8) Dichlorofluoromethane	1.70	67	73699	5.04492 ppb		96
9) Trichlorofluoromethane	1.74	101	49593	4.56561 ppb		94
10) Acrolein	2.10	56	81570	100.03276 ppb	#	95
11) Acetone	2.25	43	12098	5.68212 ppb		89
12) Freon-113	2.20	101	30418	4.85770 ppb		98
13) 1,1-DCE	2.18	61	46018	4.51854 ppb		97
14) t-Butanol	2.88	59	20272	90.52788 ppb		99
15) Acetonitrile	2.52	41	95445	104.18229 ppb		95
16) Methyl Acetate	2.60	43	32045	5.39912 ppb		96
17) Iodomethane	2.31	142	10158	4.55401 ppb		97
18) Acrylonitrile	2.97	52	9610	4.94468 ppb		88
19) Methylene chloride	2.67	84	41566	5.44452 ppb		98
20) Carbon disulfide	2.36	76	89461	5.58229 ppb		100
21) Methyl t-butyl ether (MtBE	3.02	73	75946	4.69001 ppb		97
22) Trans-1,2-DCE	2.99	96	33887	4.77281 ppb		96
23) Diisopropyl Ether	3.71	45	81850	4.30945 ppb		97
24) 1,1-DCA	3.53	63	65962	4.86604 ppb		97
25) Hexane	3.36	57	21861	4.08645 ppb	#	97
26) Vinyl Acetate	3.71	43	19528	4.65889 ppb	#	98
27) Ethyl tert Butyl Ether	4.29	59	75430	4.71073 ppb		98
28) MEK (2-Butanone)	4.50	43	14051	5.49070 ppb		87
29) Cis-1,2-DCE	4.42	96	35829	4.63786 ppb		94
30) 2,2-Dichloropropane	4.40	77	17600	5.33876 ppb		98
31) Chloroform	4.90	83	70107	4.83912 ppb		94
32) Bromochloromethane	4.75	128	20714	5.19411 ppb		96
34) 1,1,1-TCA	5.10	97	58343	5.11520 ppb		100
35) Cyclohexane	5.16	41	21473	4.49667 ppb		88
36) 1,1-Dichloropropene	5.33	75	37438	4.68293 ppb		97
37) 2,2,4-Trimethylpentane	5.73	57	62913	4.28335 ppb		95
39) Carbon Tetrachloride	5.32	117	47875	5.21436 ppb		98
40) Tert Amyl Methyl Ether	5.79	73	73698	4.64320 ppb	#	95
41) 1,2-DCA	5.62	62	51085	5.39815 ppb		97
42) Benzene	5.58	78	130596	5.14682 ppb		100

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L09.D Vial: 8
Acq On : 24 Oct 14 14:12 Operator: DG,SV,RS
Sample : 5.0ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.38	95	35702	4.93583	ppb		94
44)	2-Pentanone	6.63	43	455993	98.13366	ppb		99
45)	1,2-Dichloropropane	6.62	63	39822	4.79225	ppb	#	96
46)	Bromodichloromethane	6.95	83	53847	5.07087	ppb		98
47)	Methyl Cyclohexane	6.58	83	33448	4.17077	ppb		96
48)	Dibromomethane	6.75	93	25442	5.13966	ppb		97
49)	2-Chloroethyl vinyl ether	7.33	106	3508	4.78634	ppb	#	51
50)	MIBK (methyl isobutyl ket	7.64	43	25943	4.69805	ppb		100
51)	1-Bromo-2-chloroethane	7.26	63	29328	4.72738	ppb		96
52)	Cis-1,3-Dichloropropene	7.44	75	51878	4.47736	ppb		95
53)	Toluene	7.78	91	131931	4.85671	ppb		99
54)	Trans-1,3-Dichloropropene	8.04	75	47937	4.72007	ppb		96
55)	1,1,2-TCA	8.21	83	29559	5.03274	ppb		96
56)	2-Hexanone	8.51	43	16923	4.78922	ppb		94
59)	1,2-EDB	8.69	107	32831	5.17551	ppb		94
60)	Tetrachloroethene	8.34	166	44183	4.85888	ppb		95
61)	1-Chlorohexane	9.22	91	31806	4.58664	ppb		97
62)	1,1,1,2-Tetrachloroethane	9.30	131	43658	5.19755	ppb		96
63)	m&p-Xylene	9.46	106	104356	9.67504	ppb		98
64)	o-Xylene	9.85	106	47808	4.72494	ppb		100
65)	Styrene	9.86	104	81050	5.07083	ppb		98
67)	1,3-Dichloropropane	8.38	76	55129	5.24700	ppb		93
68)	Dibromochloromethane	8.60	129	41998	5.34860	ppb		99
69)	Chlorobenzene	9.21	112	100193	5.11506	ppb		98
70)	Ethylbenzene	9.34	91	134211	4.88922	ppb		98
71)	Bromoform	10.02	173	31006	5.46649	ppb		99
73)	Isopropylbenzene	10.23	105	119443	4.70022	ppb		96
74)	1,1,2,2-Tetrachloroethane	10.52	83	46540	5.67591	ppb		91
75)	1,2,3-Trichloropropane	10.55	110	13654	5.26160	ppb		86
76)	t-1,4-Dichloro-2-Butene	10.58	53	7512	4.68406	ppb		98
77)	Bromobenzene	10.50	156	44379	5.12674	ppb		99
78)	n-Propylbenzene	10.63	91	141780	4.55975	ppb		99
79)	4-Ethyltoluene	10.75	105	123639	4.52611	ppb		96
80)	2-Chlorotoluene	10.70	91	94209	4.72194	ppb		96
81)	1,3,5-Trimethylbenzene	10.82	105	115248	4.80896	ppb		96
82)	4-Chlorotoluene	10.81	91	118744	5.00568	ppb		99
83)	Tert-Butylbenzene	11.13	119	91873	4.78254	ppb		97
84)	1,2,4-Trimethylbenzene	11.18	105	106855	4.60693	ppb		96
85)	Sec-Butylbenzene	11.35	105	132752	4.68725	ppb		99
86)	p-Isopropyltoluene	11.51	119	118676	4.88432	ppb		96
87)	Benzyl Chloride	11.67	91	56667	4.93528	ppb		98
88)	1,3-DCB	11.44	146	88350	5.25838	ppb		98
89)	1,4-DCB	11.53	146	96202	5.30014	ppb		99
90)	n-Butylbenzene	11.91	91	103016	4.59437	ppb		100
91)	1,2-DCB	11.89	146	84662	5.13550	ppb		98
92)	Hexachloroethane	12.14	117	29889	5.73210	ppb		93
93)	1,2-Dibromo-3-chloropropan	12.66	157	5972	5.41155	ppb		95
94)	1,2,4-Trichlorobenzene	13.49	180	50506	4.52261	ppb		95
95)	Hexachlorobutadiene	13.68	225	34630	5.12853	ppb		95
96)	Naphthalene	13.72	128	57752	4.69245	ppb		97
97)	1,2,3-Trichlorobenzene	13.96	180	49658	4.50308	ppb		94

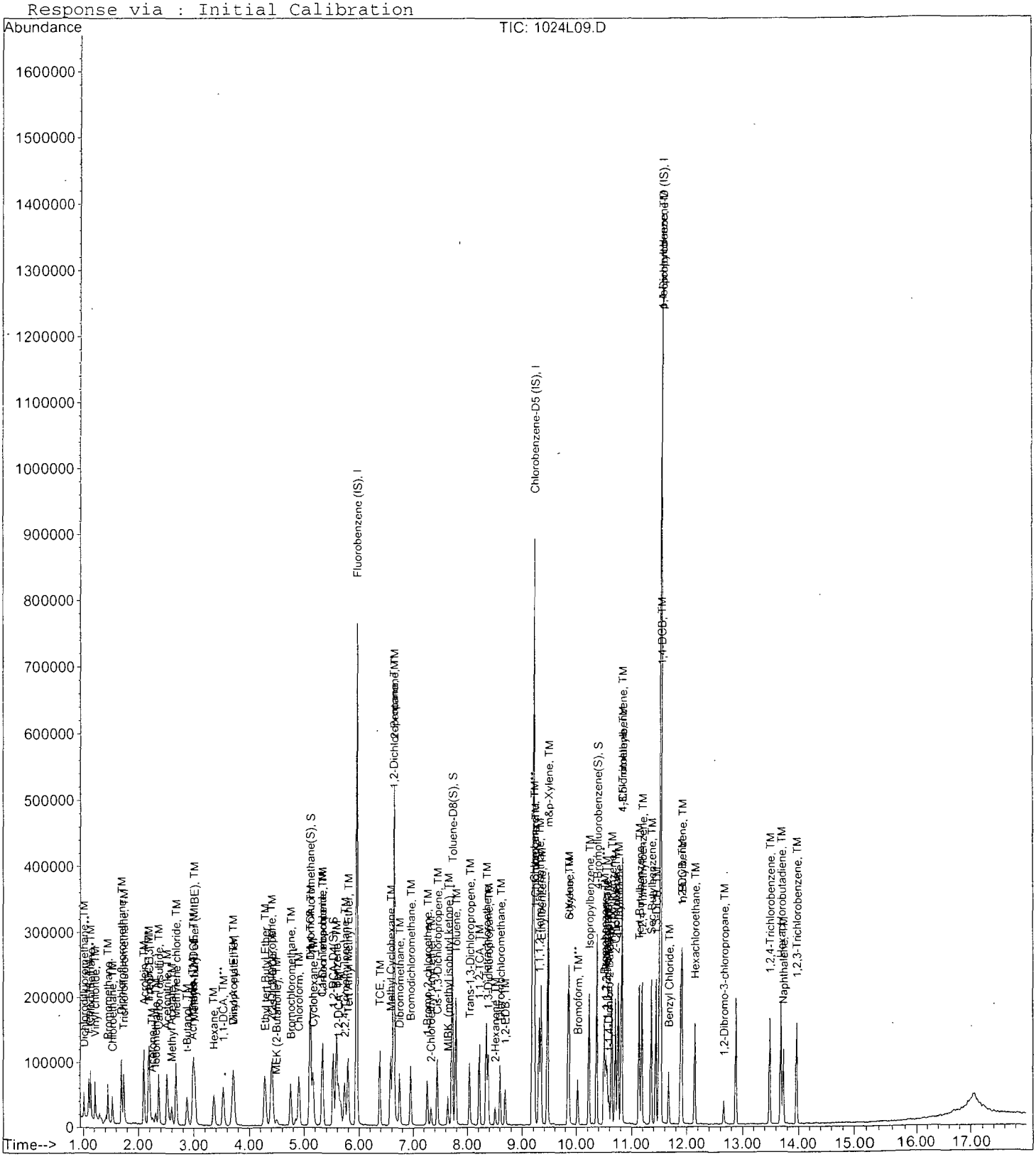
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141024\1024L09.D Vial: 8
Acq On : 24 Oct 14 14:12 Operator: DG,SV,RS
Sample : 5.0ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L10.D Vial: 9
Acq On : 24 Oct 14 14:41 Operator: DG,SV,RS
Sample : 10ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	389312	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	329920	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	225088	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.11	111	200030	23.58209 ppb	0.00
Spiked Amount 27.165			Recovery = 86.811%		
38) 1,2-DCA-D4(S)	5.52	65	213255	23.73475 ppb	0.00
Spiked Amount 27.695			Recovery = 85.700%		
58) Toluene-D8(S)	7.71	98	606847	25.95281 ppb	0.00
Spiked Amount 26.150			Recovery = 99.246%		
66) 4-Bromofluorobenzene(S)	10.36	95	235657	26.44033 ppb	0.00
Spiked Amount 22.231			Recovery = 118.933%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.01	85	47382	9.70995 ppb	100
3) Freon 114	1.10	85	39788	8.99604 ppb	100
4) Chloromethane	1.14	50	79794	10.21748 ppb	100
5) Vinyl chloride	1.21	62	76161	7.94923 ppb	100
6) Bromomethane	1.44	94	50720	9.92776 ppb	100
7) Chloroethane	1.53	64	37216	10.10862 ppb	100
8) Dichlorofluoromethane	1.70	67	146492	9.36677 ppb	100
9) Trichlorofluoromethane	1.74	101	106683	9.17396 ppb	100
10) Acrolein	2.10	56	107276	122.88469 ppb	100
11) Acetone	2.25	43	22731	10.79825 ppb	100
12) Freon-113	2.20	101	60285	8.99276 ppb	100
13) 1,1-DCE	2.18	61	98975	9.07778 ppb	100
14) t-Butanol	2.87	59	28496	118.86474 ppb	100
15) Acetonitrile	2.52	41	117988	120.29899 ppb	100
16) Methyl Acetate	2.60	43	64492	10.67542 ppb	100
17) Iodomethane	2.31	142	21400	8.96155 ppb	100
18) Acrylonitrile	2.97	52	18992	9.12785 ppb	100
19) Methylene chloride	2.67	84	83670	10.56852 ppb	100
20) Carbon disulfide	2.36	76	179100	10.18618 ppb	100
21) Methyl t-butyl ether (MtBE	3.02	73	159872	9.22199 ppb	100
22) Trans-1,2-DCE	2.99	96	67064	8.82296 ppb	100
23) Diisopropyl Ether	3.71	45	187660	9.22908 ppb	100
24) 1,1-DCA	3.53	63	134789	9.28794 ppb	100
25) Hexane	3.36	57	50710	8.85429 ppb	100
26) Vinyl Acetate	3.71	43	41640	9.27937 ppb	100
27) Ethyl tert Butyl Ether	4.28	59	160384	9.35595 ppb	100
28) MEK (2-Butanone)	4.50	43	28566	10.57507 ppb	100
29) Cis-1,2-DCE	4.43	96	77981	9.42878 ppb	100
30) 2,2-Dichloropropane	4.40	77	36176	10.34078 ppb	100
31) Chloroform	4.90	83	138104	8.90420 ppb	100
32) Bromochloromethane	4.75	128	41625	9.74956 ppb	100
34) 1,1,1-TCA	5.10	97	115841	9.48680 ppb	100
35) Cyclohexane	5.16	41	45902	8.97869 ppb	100
36) 1,1-Dichloropropene	5.33	75	82854	9.68059 ppb	100
37) 2,2,4-Trimethylpentane	5.73	57	150636	9.57977 ppb	100
39) Carbon Tetrachloride	5.32	117	99874	10.16081 ppb	100
40) Tert Amyl Methyl Ether	5.80	73	168641	9.92448 ppb	100
41) 1,2-DCA	5.62	62	105999	10.65442 ppb	100
42) Benzene	5.58	78	277473	9.88533 ppb	100

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L10.D Vial: 9
Acq On : 24 Oct 14 14:41 Operator: DG,SV,RS
Sample : 10ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	TCE	6.38	95	74854	9.66643	ppb	100
44)	2-Pentanone	6.63	43	623814	125.40024	ppb	100
45)	1,2-Dichloropropane	6.62	63	79705	8.95953	ppb	100
46)	Bromodichloromethane	6.95	83	106770	9.39190	ppb	100
47)	Methyl Cyclohexane	6.58	83	75611	8.80673	ppb	100
48)	Dibromomethane	6.75	93	51278	9.67604	ppb	100
49)	2-Chloroethyl vinyl ether	7.33	106	6292	8.01893	ppb	100
50)	MIBK (methyl isobutyl ket	7.63	43	51978	8.79227	ppb	100
51)	1-Bromo-2-chloroethane	7.26	63	62160	9.35906	ppb	100
52)	Cis-1,3-Dichloropropene	7.44	75	111511	8.98960	ppb	100
53)	Toluene	7.78	91	298493	10.26391	ppb	100
54)	Trans-1,3-Dichloropropene	8.04	75	99332	9.13588	ppb	100
55)	1,1,2-TCA	8.21	83	59472	9.45824	ppb	100
56)	2-Hexanone	8.50	43	33386	8.82542	ppb	100
59)	1,2-EDB	8.69	107	67800	9.99557	ppb	100
60)	Tetrachloroethene	8.34	166	94607	9.72999	ppb	100
61)	1-Chlorohexane	9.22	91	69330	9.35007	ppb	100
62)	1,1,1,2-Tetrachloroethane	9.30	131	88112	9.81021	ppb	100
63)	m&p-Xylene	9.46	106	244095	21.16423	ppb	100
64)	o-Xylene	9.85	106	110715	10.23318	ppb	100
65)	Styrene	9.86	104	196730	11.51079	ppb	100
67)	1,3-Dichloropropane	8.38	76	114058	10.15232	ppb	100
68)	Dibromochloromethane	8.60	129	85617	10.19718	ppb	100
69)	Chlorobenzene	9.21	112	211163	10.08183	ppb	100
70)	Ethylbenzene	9.34	91	304196	10.36367	ppb	100
71)	Bromoform	10.02	173	63247	10.42824	ppb	100
73)	Isopropylbenzene	10.22	105	259151	9.07575	ppb	100
74)	1,1,2,2-Tetrachloroethane	10.52	83	93196	10.39983	ppb	100
75)	1,2,3-Trichloropropane	10.55	110	28255	9.69003	ppb	100
76)	t-1,4-Dichloro-2-Butene	10.58	53	18313	10.16245	ppb	100
77)	Bromobenzene	10.49	156	95934	9.86298	ppb	100
78)	n-Propylbenzene	10.63	91	339693	9.72265	ppb	100
79)	4-Ethyltoluene	10.75	105	307221	10.00904	ppb	100
80)	2-Chlorotoluene	10.70	91	225832	10.07362	ppb	100
81)	1,3,5-Trimethylbenzene	10.82	105	288244	10.70409	ppb	100
82)	4-Chlorotoluene	10.81	91	279352	10.48034	ppb	100
83)	Tert-Butylbenzene	11.13	119	203064	9.40752	ppb	100
84)	1,2,4-Trimethylbenzene	11.18	105	260036	9.97752	ppb	100
85)	Sec-Butylbenzene	11.35	105	316493	9.94519	ppb	100
86)	p-Isopropyltoluene	11.51	119	268893	9.84900	ppb	100
87)	Benzyl Chloride	11.67	91	119641	9.27329	ppb	100
88)	1,3-DCB	11.44	146	188321	9.97507	ppb	100
89)	1,4-DCB	11.53	146	199125	9.76341	ppb	100
90)	n-Butylbenzene	11.91	91	241590	9.58897	ppb	100
91)	1,2-DCB	11.89	146	172076	9.28937	ppb	100
92)	Hexachloroethane	12.14	117	61656	10.48845	ppb	100
93)	1,2-Dibromo-3-chloropropan	12.66	157	11878	9.97950	ppb	100
94)	1,2,4-Trichlorobenzene	13.49	180	108949	8.68244	ppb	100
95)	Hexachlorobutadiene	13.68	225	70391	9.27747	ppb	100
96)	Naphthalene	13.72	128	127208	9.19855	ppb	100
97)	1,2,3-Trichlorobenzene	13.96	180	112084	9.04558	ppb	100

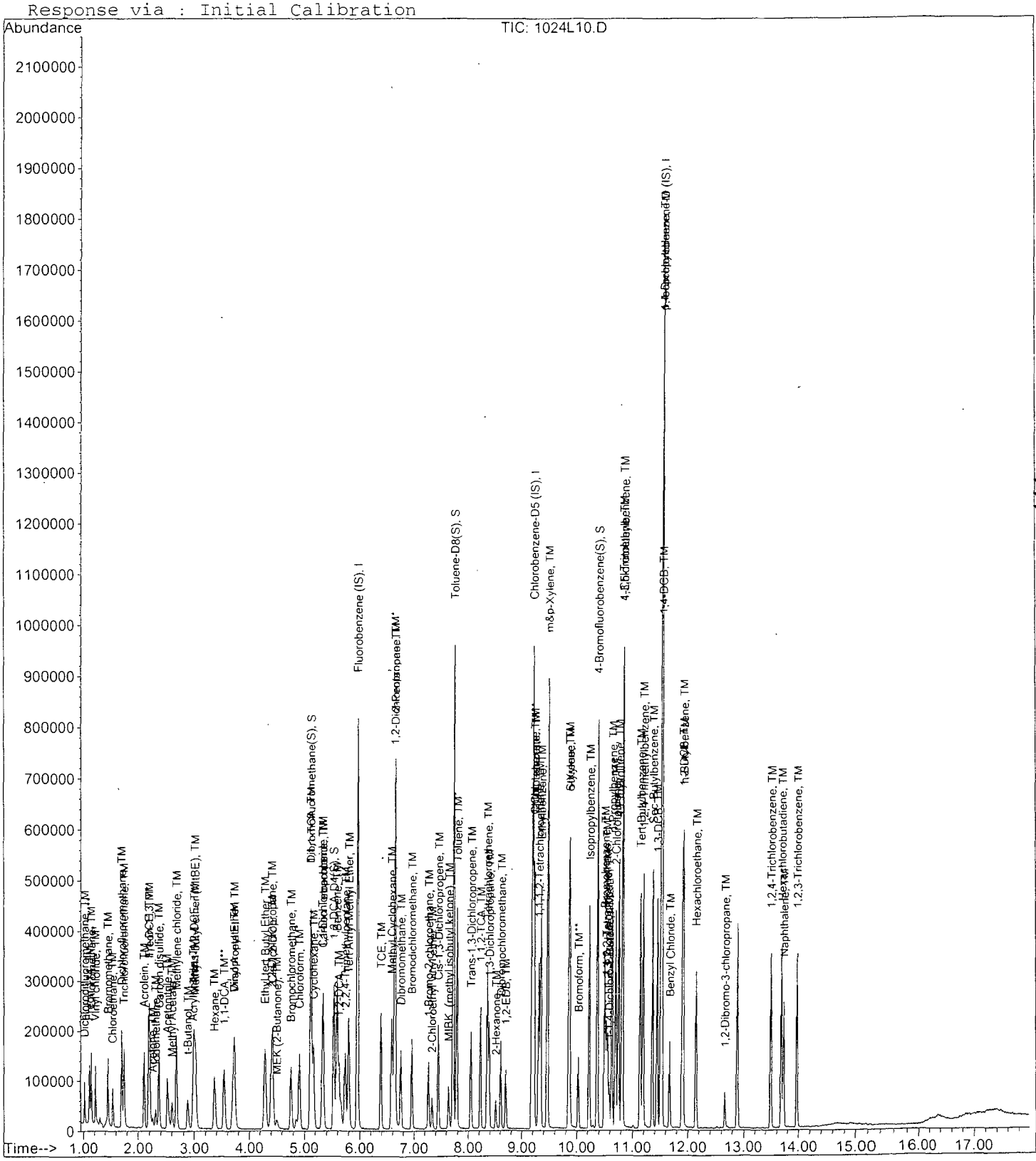
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141024\1024L10.D Vial: 9
Acq On : 24 Oct 14 14:41 Operator: DG,SV,RS
Sample : 10ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L11.D Vial: 10
Acq On : 24 Oct 14 15:09 Operator: DG,SV,RS
Sample : 20ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	423488	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	363136	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	248000	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.12	111	332363	36.02106 ppb		0.00
Spiked Amount 27.165			Recovery = 132.601%			
38) 1,2-DCA-D4(S)	5.53	65	345862	35.38711 ppb		0.00
Spiked Amount 27.695			Recovery = 127.773%			
58) Toluene-D8(S)	7.71	98	1063658	41.32820 ppb		0.00
Spiked Amount 26.150			Recovery = 158.040%			
66) 4-Bromofluorobenzene(S)	10.36	95	420905	42.90520 ppb		0.00
Spiked Amount 22.231			Recovery = 192.996%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	107916	20.12535 ppb		94
3) Freon 114	1.10	85	83055	17.26322 ppb		99
4) Chloromethane	1.14	50	162541	19.47887 ppb		99
5) Vinyl chloride	1.22	62	159785	15.33151 ppb		98
6) Bromomethane	1.44	94	97171	17.83220 ppb		97
7) Chloroethane	1.53	64	76804	19.68123 ppb		93
8) Dichlorofluoromethane	1.70	67	284812	16.74137 ppb		95
9) Trichlorofluoromethane	1.74	101	224845	17.77467 ppb		98
10) Acrolein	2.10	56	133758	140.85480 ppb		93
11) Acetone	2.25	43	42580	19.38481 ppb		96
12) Freon-113	2.20	101	126371	17.32957 ppb		95
13) 1,1-DCE	2.18	61	202921	17.10952 ppb		98
14) t-Butanol	2.88	59	35056	134.42752 ppb		96
15) Acetonitrile	2.52	41	143899	134.87721 ppb		92
16) Methyl Acetate	2.60	43	128305	20.01978 ppb		98
17) Iodomethane	2.31	142	47648	18.34301 ppb		96
18) Acrylonitrile	2.97	52	39902	17.62987 ppb		92
19) Methylene chloride	2.67	84	158553	18.69036 ppb		96
20) Carbon disulfide	2.36	76	358837	18.51697 ppb		100
21) Methyl t-butyl ether (MtBE	3.02	73	341621	18.11563 ppb		99
22) Trans-1,2-DCE	2.99	96	137757	16.66077 ppb		97
23) Diisopropyl Ether	3.72	45	412993	18.67180 ppb		93
24) 1,1-DCA	3.53	63	270752	17.15116 ppb		98
25) Hexane	3.36	57	110073	17.66841 ppb		97
26) Vinyl Acetate	3.71	43	84876	17.38800 ppb		100
27) Ethyl tert Butyl Ether	4.29	59	352823	18.92085 ppb		97
28) MEK (2-Butanone)	4.50	43	52221	17.88417 ppb		93
29) Cis-1,2-DCE	4.43	96	165237	18.36667 ppb		97
30) 2,2-Dichloropropane	4.40	77	71999	19.00145 ppb		96
31) Chloroform	4.91	83	271413	16.08704 ppb		99
32) Bromochloromethane	4.76	128	81642	17.57929 ppb		100
34) 1,1,1-TCA	5.11	97	233171	17.55451 ppb		99
35) Cyclohexane	5.17	41	99145	17.82825 ppb		97
36) 1,1-Dichloropropene	5.33	75	178787	19.20353 ppb		99
37) 2,2,4-Trimethylpentane	5.73	57	341331	19.95533 ppb	#	87
39) Carbon Tetrachloride	5.32	117	204666	19.14160 ppb		98
40) Tert Amyl Methyl Ether	5.80	73	363843	19.68409 ppb		98
41) 1,2-DCA	5.62	62	206847	19.27560 ppb		94
42) Benzene	5.58	78	575501	18.54530 ppb		98

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L11.D Vial: 10
Acq On : 24 Oct 14 15:09 Operator: DG,SV,RS
Sample : 20ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

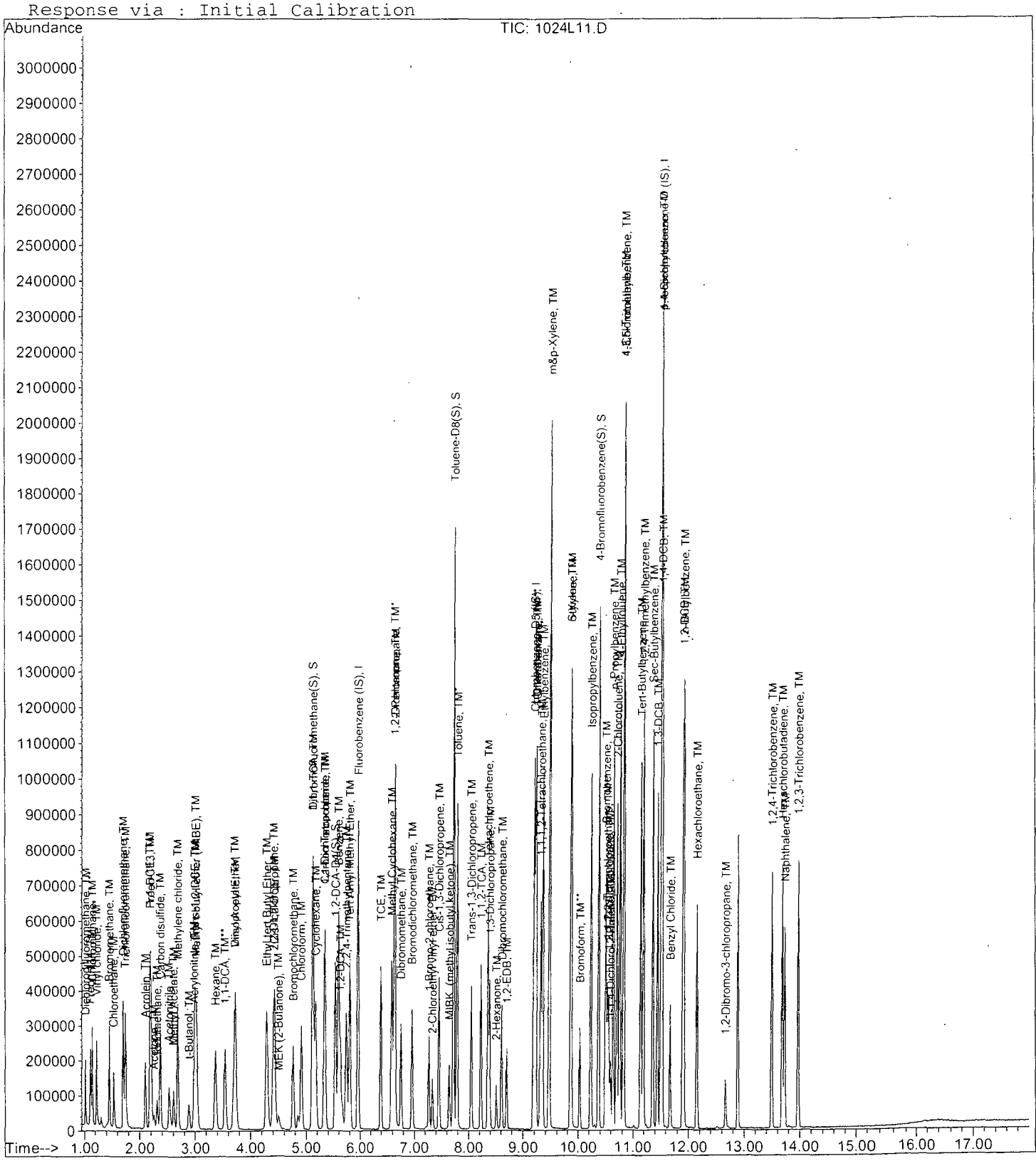
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	TCE	6.38	95	147496	17.51008	ppb	93
44)	2-Pentanone	6.63	43	810243	149.73220	ppb	100
45)	1,2-Dichloropropane	6.62	63	162962	16.84002	ppb	100
46)	Bromodichloromethane	6.95	83	206503	16.69887	ppb	98
47)	Methyl Cyclohexane	6.58	83	174412	18.67509	ppb	97
48)	Dibromomethane	6.75	93	97533	16.91901	ppb	97
49)	2-Chloroethyl vinyl ether	7.33	106	15546	18.21391	ppb	82
50)	MIBK (methyl isobutyl ket	7.64	43	112865	17.55081	ppb	96
51)	1-Bromo-2-chloroethane	7.26	63	121248	16.78234	ppb	100
52)	Cis-1,3-Dichloropropene	7.44	75	232231	17.21074	ppb	96
53)	Toluene	7.78	91	633135	20.01390	ppb	99
54)	Trans-1,3-Dichloropropene	8.04	75	204144	17.26055	ppb	97
55)	1,1,2-TCA	8.21	83	115896	16.94427	ppb	99
56)	2-Hexanone	8.50	43	75222	18.27985	ppb	92
59)	1,2-EDB	8.69	107	135222	18.11192	ppb	94
60)	Tetrachloroethene	8.34	166	186005	17.38014	ppb	98
61)	1-Chlorohexane	9.22	91	160887	19.71305	ppb	92
62)	1,1,1,2-Tetrachloroethane	9.30	131	173827	17.58327	ppb	94
63)	m&p-Xylene	9.46	106	541422	42.64999	ppb	96
64)	o-Xylene	9.85	106	244069	20.49539	ppb	97
65)	Styrene	9.86	104	448346	23.83346	ppb	99
67)	1,3-Dichloropropane	8.38	76	225496	18.23551	ppb	96
68)	Dibromochloromethane	8.60	129	174498	18.88208	ppb	98
69)	Chlorobenzene	9.21	112	423758	18.38141	ppb	99
70)	Ethylbenzene	9.34	91	666722	20.63690	ppb	99
71)	Bromoform	10.02	173	125221	18.75804	ppb	95
73)	Isopropylbenzene	10.23	105	593458	18.86342	ppb	99
74)	1,1,2,2-Tetrachloroethane	10.52	83	182174	18.73246	ppb	96
75)	1,2,3-Trichloropropane	10.55	110	57474	17.88965	ppb	96
76)	t-1,4-Dichloro-2-Butene	10.58	53	34815	17.53501	ppb	95
77)	Bromobenzene	10.49	156	199979	18.66040	ppb	98
78)	n-Propylbenzene	10.63	91	769113	19.97970	ppb	99
79)	4-Ethyltoluene	10.75	105	703050	20.78875	ppb	98
80)	2-Chlorotoluene	10.70	91	489636	19.82322	ppb	100
81)	1,3,5-Trimethylbenzene	10.82	105	624420	21.04587	ppb	95
82)	4-Chlorotoluene	10.81	91	598641	20.38406	ppb	98
83)	Tert-Butylbenzene	11.13	119	453143	19.05365	ppb	99
84)	1,2,4-Trimethylbenzene	11.18	105	604853	21.06394	ppb	97
85)	Sec-Butylbenzene	11.35	105	703296	20.05801	ppb	98
86)	p-Isopropyltoluene	11.50	119	620880	20.64054	ppb	99
87)	Benzyl Chloride	11.67	91	241646	16.99941	ppb	99
88)	1,3-DCB	11.44	146	390441	18.77038	ppb	96
89)	1,4-DCB	11.53	146	410308	18.25939	ppb	98
90)	n-Butylbenzene	11.91	91	538677	19.40537	ppb	96
91)	1,2-DCB	11.89	146	363212	17.79618	ppb	98
92)	Hexachloroethane	12.14	117	120014	18.49780	ppb	93
93)	1,2-Dibromo-3-chloropropan	12.66	157	25600	20.01850	ppb	87
94)	1,2,4-Trichlorobenzene	13.49	180	228074	16.49661	ppb	95
95)	Hexachlorobutadiene	13.68	225	139943	16.74034	ppb	94
96)	Naphthalene	13.72	128	285952	18.76717	ppb	99
97)	1,2,3-Trichlorobenzene	13.96	180	236546	17.32643	ppb	98

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

Data File : M:\LOKI\DATA\141024\1024L11.D Vial: 10
Acq On : 24 Oct 14 15:09 Operator: DG,SV,RS
Sample : 20ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L12.D Vial: 11
Acq On : 24 Oct 14 15:37 Operator: DG,SV,RS
Sample : 40ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	419648	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	366784	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	246336	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	643513	70.38128 ppb		0.00
Spiked Amount 27.165			Recovery = 259.088%			
38) 1,2-DCA-D4(S)	5.52	65	679334	70.14254 ppb		0.00
Spiked Amount 27.695			Recovery = 253.267%			
58) Toluene-D8(S)	7.71	98	2235138	85.98204 ppb		0.00
Spiked Amount 26.150			Recovery = 328.799%			
66) 4-Bromofluorobenzene(S)	10.36	95	886475	89.46461 ppb		0.00
Spiked Amount 22.231			Recovery = 402.434%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	202327	37.91019 ppb		98
3) Freon 114	1.10	85	175330	36.77632 ppb		97
4) Chloromethane	1.14	50	322432	39.39031 ppb		98
5) Vinyl chloride	1.22	62	316941	30.68904 ppb		98
6) Bromomethane	1.44	94	188291	35.30595 ppb		100
7) Chloroethane	1.52	64	152874	40.09864 ppb		93
8) Dichlorofluoromethane	1.70	67	617525	36.63052 ppb		97
9) Trichlorofluoromethane	1.73	101	462405	36.88900 ppb		99
10) Acrolein	2.10	56	144994	154.08411 ppb	#	93
11) Acetone	2.25	43	80621	38.03522 ppb		98
12) Freon-113	2.19	101	270007	37.36555 ppb		97
13) 1,1-DCE	2.18	61	420381	35.76926 ppb		94
14) t-Butanol	2.89	59	42152	163.11728 ppb		98
15) Acetonitrile	2.52	41	147368	139.39267 ppb		89
16) Methyl Acetate	2.60	43	249024	39.78427 ppb		98
17) Iodomethane	2.30	142	109416	42.50721 ppb		100
18) Acrylonitrile	2.96	52	85379	38.06813 ppb		92
19) Methylene chloride	2.67	84	335831	40.37862 ppb		96
20) Carbon disulfide	2.36	76	756304	39.05703 ppb		100
21) Methyl t-butyl ether (MtBE	3.02	73	772883	41.35982 ppb		98
22) Trans-1,2-DCE	2.99	96	294308	35.92026 ppb		97
23) Diisopropyl Ether	3.71	45	965157	44.03493 ppb		92
24) 1,1-DCA	3.53	63	559018	35.73580 ppb		98
25) Hexane	3.36	57	265032	42.93098 ppb		91
26) Vinyl Acetate	3.71	43	186549	38.56680 ppb		100
27) Ethyl tert Butyl Ether	4.29	59	824317	44.61018 ppb		98
28) MEK (2-Butanone)	4.49	43	117863	40.94466 ppb		98
29) Cis-1,2-DCE	4.43	96	355596	39.88742 ppb		97
30) 2,2-Dichloropropane	4.40	77	148416	39.63364 ppb		96
31) Chloroform	4.90	83	569748	34.07880 ppb		100
32) Bromochloromethane	4.75	128	162291	35.26452 ppb		99
34) 1,1,1-TCA	5.10	97	484394	36.80178 ppb		99
35) Cyclohexane	5.16	41	239294	43.42360 ppb		100
36) 1,1-Dichloropropene	5.33	75	392336	42.52645 ppb		99
37) 2,2,4-Trimethylpentane	5.73	57	749001	44.18975 ppb	#	89
39) Carbon Tetrachloride	5.32	117	449017	42.37905 ppb		99
40) Tert Amyl Methyl Ether	5.79	73	817029	44.60615 ppb		94
41) 1,2-DCA	5.62	62	421965	39.89832 ppb		98
42) Benzene	5.58	78	1226253	39.49268 ppb		97

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L12.D Vial: 11
Acq On : 24 Oct 14 15:37 Operator: DG,SV,RS
Sample : 40ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	TCE	6.38	95	319899	38.32452	ppb	95
44)	2-Pentanone	6.63	43	1014403	189.17615	ppb	98
45)	1,2-Dichloropropane	6.62	63	357044	37.23350	ppb	99
46)	Bromodichloromethane	6.95	83	448927	36.63468	ppb	98
47)	Methyl Cyclohexane	6.58	83	416804	45.03750	ppb	95
48)	Dibromomethane	6.75	93	206915	36.22191	ppb	94
49)	2-Chloroethyl vinyl ether	7.33	106	35247	41.67375	ppb	95
50)	MIBK (methyl isobutyl ket	7.64	43	244280	38.33380	ppb	97
51)	1-Bromo-2-chloroethane	7.26	63	267264	37.33140	ppb	98
52)	Cis-1,3-Dichloropropene	7.44	75	528032	39.49075	ppb	95
53)	Toluene	7.78	91	1379210	43.99686	ppb	100
54)	Trans-1,3-Dichloropropene	8.04	75	457845	39.06541	ppb	97
55)	1,1,2-TCA	8.21	83	247503	36.51665	ppb	98
56)	2-Hexanone	8.50	43	164406	40.31823	ppb	93
59)	1,2-EDB	8.69	107	296007	39.25348	ppb	95
60)	Tetrachloroethene	8.34	166	379634	35.11984	ppb	97
61)	1-Chlorohexane	9.22	91	390431	47.36267	ppb	91
62)	1,1,1,2-Tetrachloroethane	9.30	131	362844	36.33802	ppb	94
63)	m&p-Xylene	9.46	106	1202949	93.81864	ppb	96
64)	o-Xylene	9.85	106	552117	45.90222	ppb	97
65)	Styrene	9.86	104	1017870	53.57041	ppb	100
67)	1,3-Dichloropropane	8.38	76	497162	39.80484	ppb	96
68)	Dibromochloromethane	8.60	129	365224	39.12709	ppb	99
69)	Chlorobenzene	9.21	112	921644	39.58067	ppb	97
70)	Ethylbenzene	9.34	91	1511890	46.33175	ppb	99
71)	Bromoform	10.02	173	256270	38.00729	ppb	94
73)	Isopropylbenzene	10.23	105	1385171	44.32590	ppb	99
74)	1,1,2,2-Tetrachloroethane	10.52	83	383528	40.11081	ppb	96
75)	1,2,3-Trichloropropane	10.55	110	119373	37.40764	ppb	94
76)	t-1,4-Dichloro-2-Butene	10.58	53	79710	40.41812	ppb	94
77)	Bromobenzene	10.49	156	420428	39.49589	ppb	98
78)	n-Propylbenzene	10.63	91	1759068	46.00502	ppb	99
79)	4-Ethyltoluene	10.75	105	1565615	46.60697	ppb	99
80)	2-Chlorotoluene	10.70	91	1076232	43.86625	ppb	100
81)	1,3,5-Trimethylbenzene	10.82	105	1355063	45.98046	ppb	95
82)	4-Chlorotoluene	10.81	91	1277007	43.77652	ppb	100
83)	Tert-Butylbenzene	11.13	119	1054924	44.65683	ppb	99
84)	1,2,4-Trimethylbenzene	11.18	105	1366317	47.90326	ppb	98
85)	Sec-Butylbenzene	11.35	105	1580211	45.37207	ppb	99
86)	p-Isopropyltoluene	11.50	119	1385087	46.35689	ppb	99
87)	Benzyl Chloride	11.67	91	497080	35.20500	ppb	99
88)	1,3-DCB	11.44	146	803976	38.91210	ppb	98
89)	1,4-DCB	11.53	146	829457	37.16155	ppb	97
90)	n-Butylbenzene	11.91	91	1310935	47.54431	ppb	96
91)	1,2-DCB	11.89	146	752590	37.12349	ppb	99
92)	Hexachloroethane	12.15	117	249706	38.70170	ppb	96
93)	1,2-Dibromo-3-chloropropan	12.66	157	50104	39.94937	ppb	95
94)	1,2,4-Trichlorobenzene	13.49	180	545532	39.72492	ppb	98
95)	Hexachlorobutadiene	13.68	225	301028	36.25298	ppb	96
96)	Naphthalene	13.72	128	775616	51.24791	ppb	99
97)	1,2,3-Trichlorobenzene	13.97	180	578634	42.66985	ppb	95

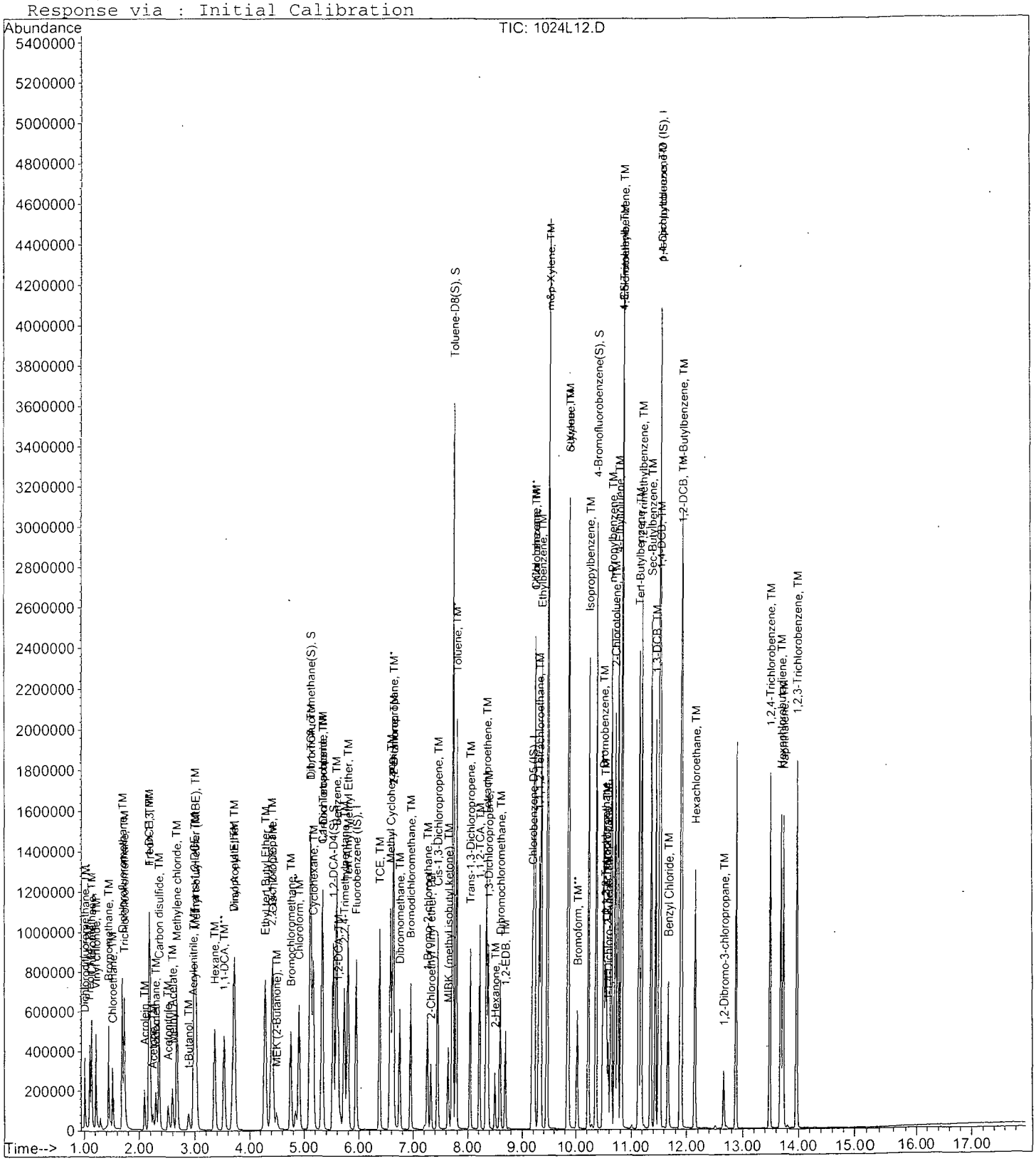
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141024\1024L12.D Vial: 11
Acq On : 24 Oct 14 15:37 Operator: DG,SV,RS
Sample : 40ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L13.D Vial: 12
Acq On : 24 Oct 14 16:05 Operator: DG,SV,RS
Sample : 100ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	422272	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	373568	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	259840	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.12	111	822405	89.38784 ppb		0.00
Spiked Amount 27.165			Recovery = 329.057%			
38) 1,2-DCA-D4(S)	5.52	65	873744	89.65515 ppb		0.00
Spiked Amount 27.695			Recovery = 323.719%			
58) Toluene-D8(S)	7.71	98	2872279	108.48526 ppb		0.00
Spiked Amount 26.150			Recovery = 414.852%			
66) 4-Bromofluorobenzene(S)	10.36	95	1170260	115.95990 ppb		0.00
Spiked Amount 22.231			Recovery = 521.614%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	543180	100.83098 ppb		98
3) Freon 114	1.10	85	465641	97.06355 ppb		94
4) Chloromethane	1.13	50	821216	100.30755 ppb		100
5) Vinyl chloride	1.22	62	820847	78.98778 ppb		96
6) Bromomethane	1.44	94	448832	84.26073 ppb		97
7) Chloroethane	1.52	64	293651	77.05548 ppb		95
8) Dichlorofluoromethane	1.69	67	1544246	91.03280 ppb		97
9) Trichlorofluoromethane	1.72	101	1177668	93.36629 ppb		98
10) Acrolein	2.10	56	181613	191.79957 ppb	#	97
11) Acetone	2.26	43	211240	100.79347 ppb		99
12) Freon-113	2.19	101	689106	94.77097 ppb		98
13) 1,1-DCE	2.17	61	1121109	94.79983 ppb		99
14) t-Butanol	2.91	59	46287	178.00561 ppb		96
15) Acetonitrile	2.53	41	200736	188.69261 ppb		92
16) Methyl Acetate	2.60	43	721054	115.60221 ppb		99
17) Iodomethane	2.30	142	278528	107.53343 ppb		98
18) Acrylonitrile	2.97	52	213404	94.55966 ppb		94
19) Methylene chloride	2.67	84	832560	100.03196 ppb		95
20) Carbon disulfide	2.35	76	1969551	100.61805 ppb		100
21) Methyl t-butyl ether (MtBE	3.02	73	2106933	112.04912 ppb		96
22) Trans-1,2-DCE	2.99	96	791352	95.98426 ppb		94
23) Diisopropyl Ether	3.72	45	2607623	118.23255 ppb		88
24) 1,1-DCA	3.53	63	1397389	88.77443 ppb		98
25) Hexane	3.36	57	785998	126.52806 ppb		88
26) Vinyl Acetate	3.72	43	473326	97.24647 ppb	#	99
27) Ethyl tert Butyl Ether	4.29	59	2266362	121.88826 ppb		98
28) MEK (2-Butanone)	4.50	43	288865	99.96249 ppb		98
29) Cis-1,2-DCE	4.43	96	920086	102.56529 ppb		99
30) 2,2-Dichloropropane	4.40	77	377344	100.29171 ppb		99
31) Chloroform	4.90	83	1399239	83.17374 ppb		100
32) Bromochloromethane	4.75	128	421537	91.02741 ppb		99
34) 1,1,1-TCA	5.10	97	1227034	92.64449 ppb		99
35) Cyclohexane	5.16	41	580209	104.63363 ppb		88
36) 1,1-Dichloropropene	5.33	75	1024001	110.30476 ppb		99
37) 2,2,4-Trimethylpentane	5.73	57	2231134	130.81504 ppb		96
39) Carbon Tetrachloride	5.32	117	1131153	106.09690 ppb		100
40) Tert Amyl Methyl Ether	5.80	73	2190221	118.83328 ppb	#	90
41) 1,2-DCA	5.62	62	1062024	100.10127 ppb		96
42) Benzene	5.58	78	3156050	100.49144 ppb		97

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L13.D Vial: 12
Acq On : 24 Oct 14 16:05 Operator: DG,SV,RS
Sample : 100ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

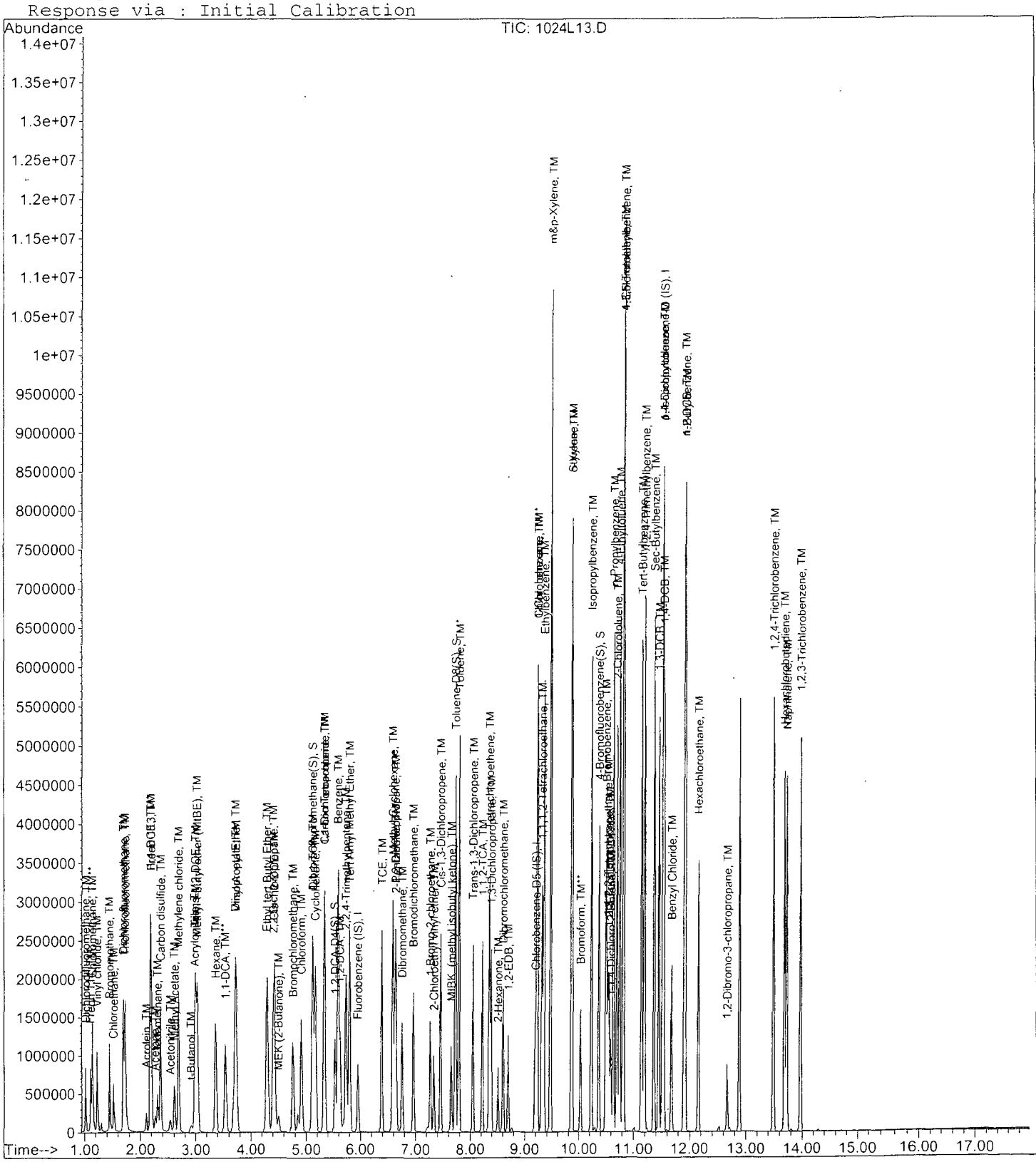
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	TCE	6.38	95	832256	99.08632	ppb	95
44)	2-Pentanone	6.64	43	1159629	214.91553	ppb	100
45)	1,2-Dichloropropane	6.62	63	877465	90.93577	ppb	99
46)	Bromodichloromethane	6.95	83	1114801	90.40802	ppb	99
47)	Methyl Cyclohexane	6.58	83	1197881	128.63197	ppb	91
48)	Dibromomethane	6.75	93	485386	84.44218	ppb	95
49)	2-Chloroethyl vinyl ether	7.33	106	108104	127.02086	ppb	91
50)	MIBK (methyl isobutyl ket	7.64	43	682367	106.41548	ppb	98
51)	1-Bromo-2-chloroethane	7.26	63	679872	94.37432	ppb	99
52)	Cis-1,3-Dichloropropene	7.44	75	1391023	103.38615	ppb	96
53)	Toluene	7.78	91	3471351	110.04814	ppb	99
54)	Trans-1,3-Dichloropropene	8.04	75	1205420	102.21279	ppb	98
55)	1,1,2-TCA	8.21	83	616934	90.45696	ppb	98
56)	2-Hexanone	8.51	43	475324	115.84209	ppb	90
59)	1,2-EDB	8.69	107	744386	96.92037	ppb	96
60)	Tetrachloroethene	8.34	166	939508	85.33529	ppb	97
61)	1-Chlorohexane	9.22	91	1041888	124.09482	ppb	85
62)	1,1,1,2-Tetrachloroethane	9.30	131	885397	87.06029	ppb	93
63)	m&p-Xylene	9.46	106	3027496	231.82817	ppb	96
64)	o-Xylene	9.85	106	1483177	121.06991	ppb	99
65)	Styrene	9.86	104	2609390	134.83802	ppb	99
67)	1,3-Dichloropropane	8.38	76	1261238	99.14612	ppb	95
68)	Dibromochloromethane	8.60	129	919381	96.70623	ppb	99
69)	Chlorobenzene	9.21	112	2323747	97.98272	ppb	99
70)	Ethylbenzene	9.34	91	3782836	113.81952	ppb	99
71)	Bromoform	10.02	173	692906	100.89838	ppb	96
73)	Isopropylbenzene	10.23	105	3792590	115.05672	ppb	99
74)	1,1,2,2-Tetrachloroethane	10.52	83	1004513	100.13548	ppb	98
75)	1,2,3-Trichloropropane	10.55	110	311288	92.47801	ppb	95
76)	t-1,4-Dichloro-2-Butene	10.59	53	218005	104.79768	ppb	98
77)	Bromobenzene	10.49	156	1093267	97.36623	ppb	97
78)	n-Propylbenzene	10.63	91	4602104	114.10400	ppb	98
79)	4-Ethyltoluene	10.75	105	4071009	114.89202	ppb	99
80)	2-Chlorotoluene	10.70	91	2745871	106.10274	ppb	100
81)	1,3,5-Trimethylbenzene	10.82	105	3475213	111.79364	ppb	94
82)	4-Chlorotoluene	10.81	91	3275976	106.46591	ppb	99
83)	Tert-Butylbenzene	11.13	119	2897512	116.28236	ppb	98
84)	1,2,4-Trimethylbenzene	11.18	105	3584073	119.12759	ppb	97
85)	Sec-Butylbenzene	11.35	105	4306678	117.22972	ppb	98
86)	p-Isopropyltoluene	11.50	119	3776924	119.83878	ppb	99
87)	Benzyl Chloride	11.67	91	1465789	98.41729	ppb	100
88)	1,3-DCB	11.44	146	2147538	98.53812	ppb	98
89)	1,4-DCB	11.53	146	2228616	94.65795	ppb	97
90)	n-Butylbenzene	11.91	91	3633812	124.94005	ppb	95
91)	1,2-DCB	11.89	146	2153475	100.70525	ppb	100
92)	Hexachloroethane	12.15	117	685986	100.72804	ppb	95
93)	1,2-Dibromo-3-chloropropan	12.66	157	163072	124.34950	ppb	88
94)	1,2,4-Trichlorobenzene	13.49	180	1697647	117.19581	ppb	97
95)	Hexachlorobutadiene	13.68	225	892746	101.92639	ppb	96
96)	Naphthalene	13.72	128	2347008	147.01642	ppb	97
97)	1,2,3-Trichlorobenzene	13.97	180	1628576	113.85368	ppb	96

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

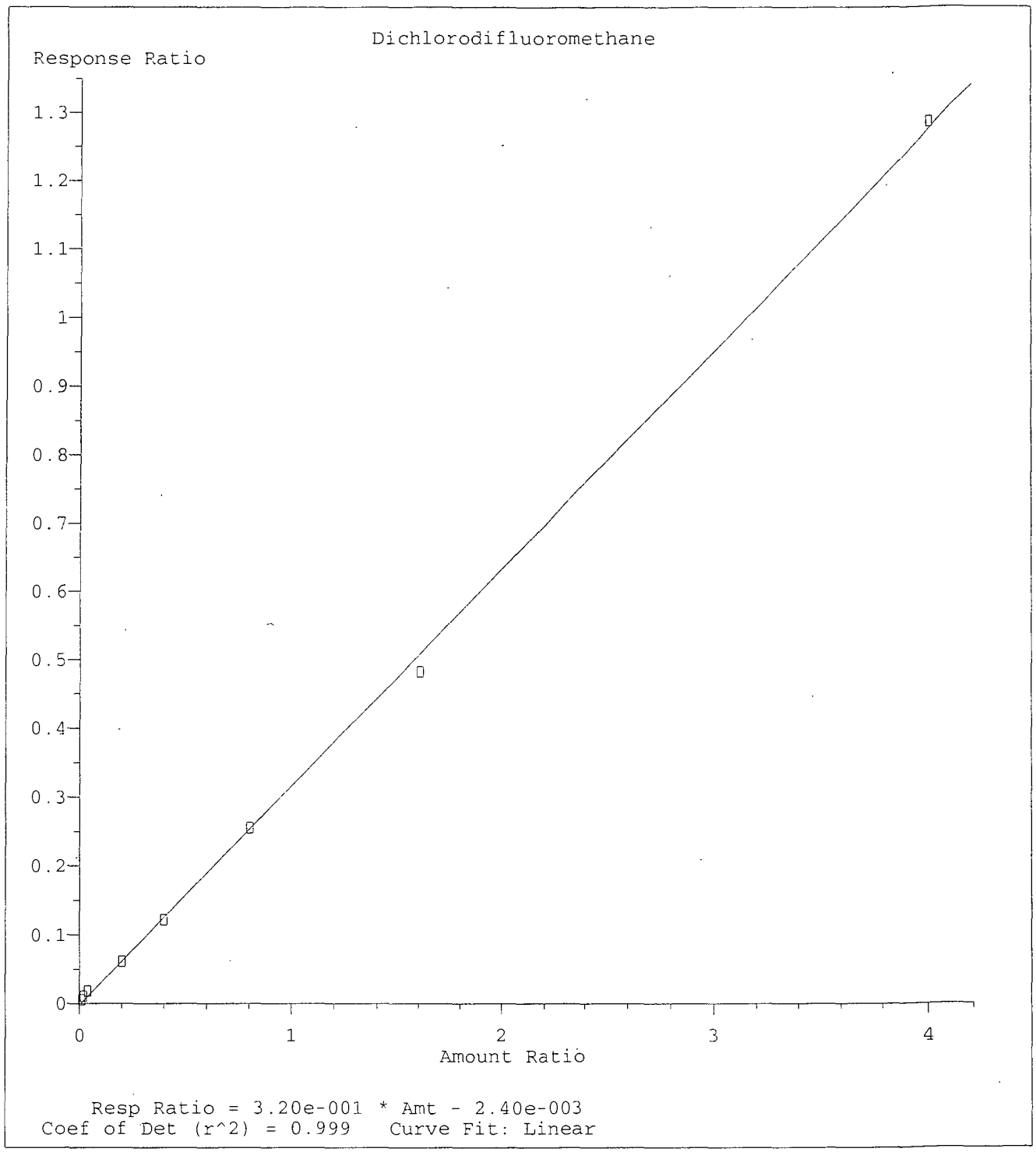
Data File : M:\LOKI\DATA\141024\1024L13.D Vial: 12
Acq On : 24 Oct 14 16:05 Operator: DG,SV,RS
Sample : 100ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

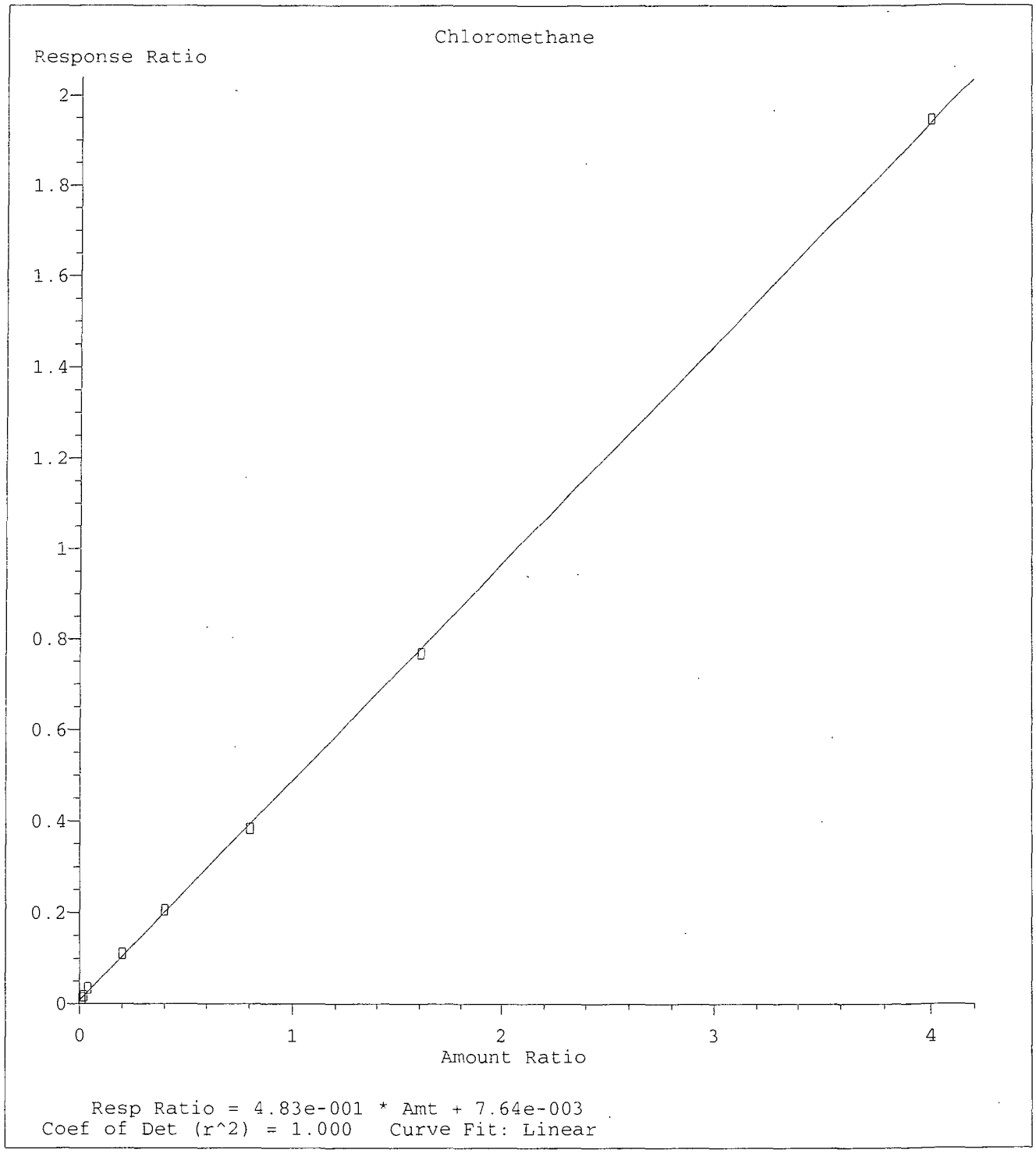
Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration



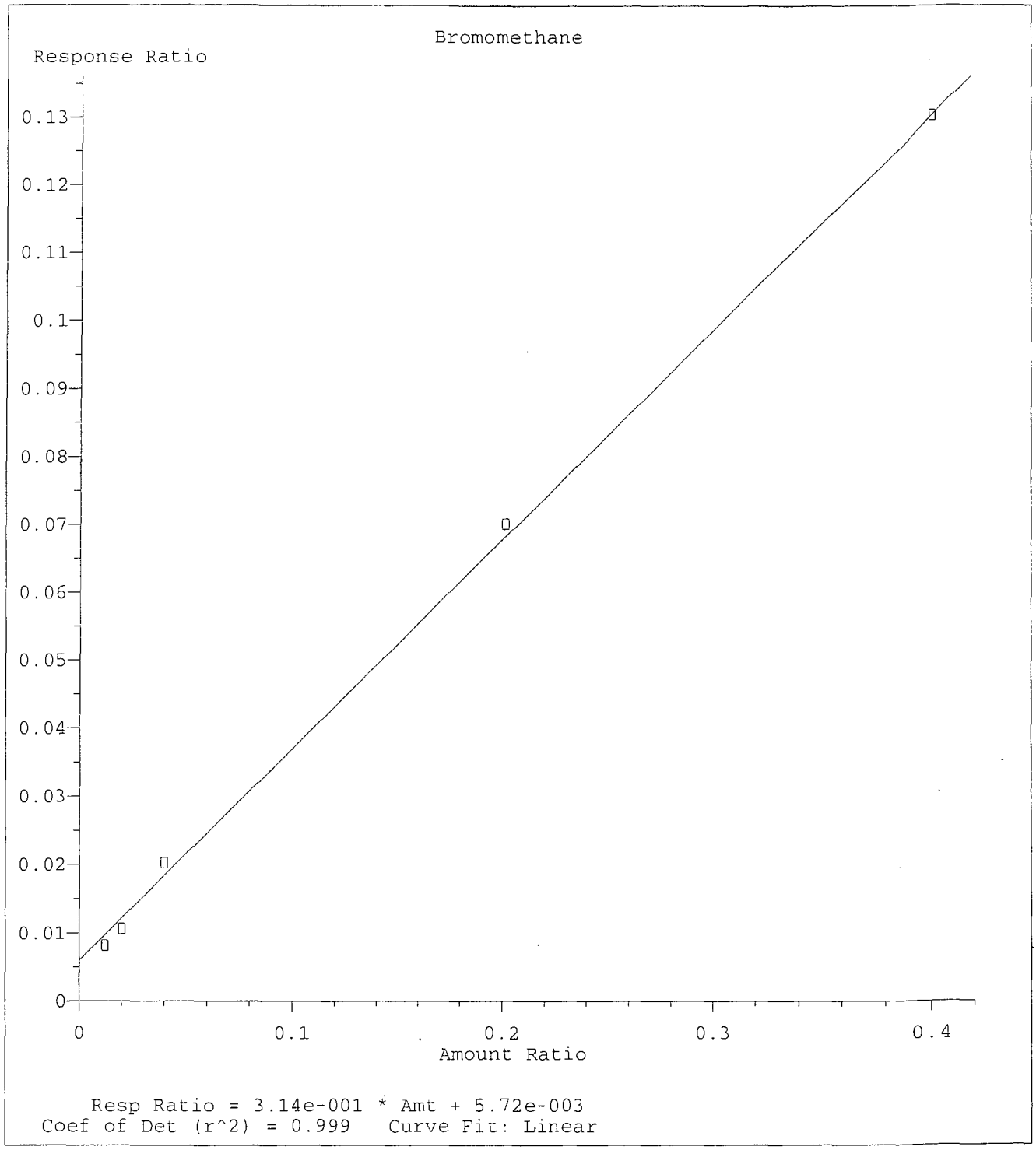
123



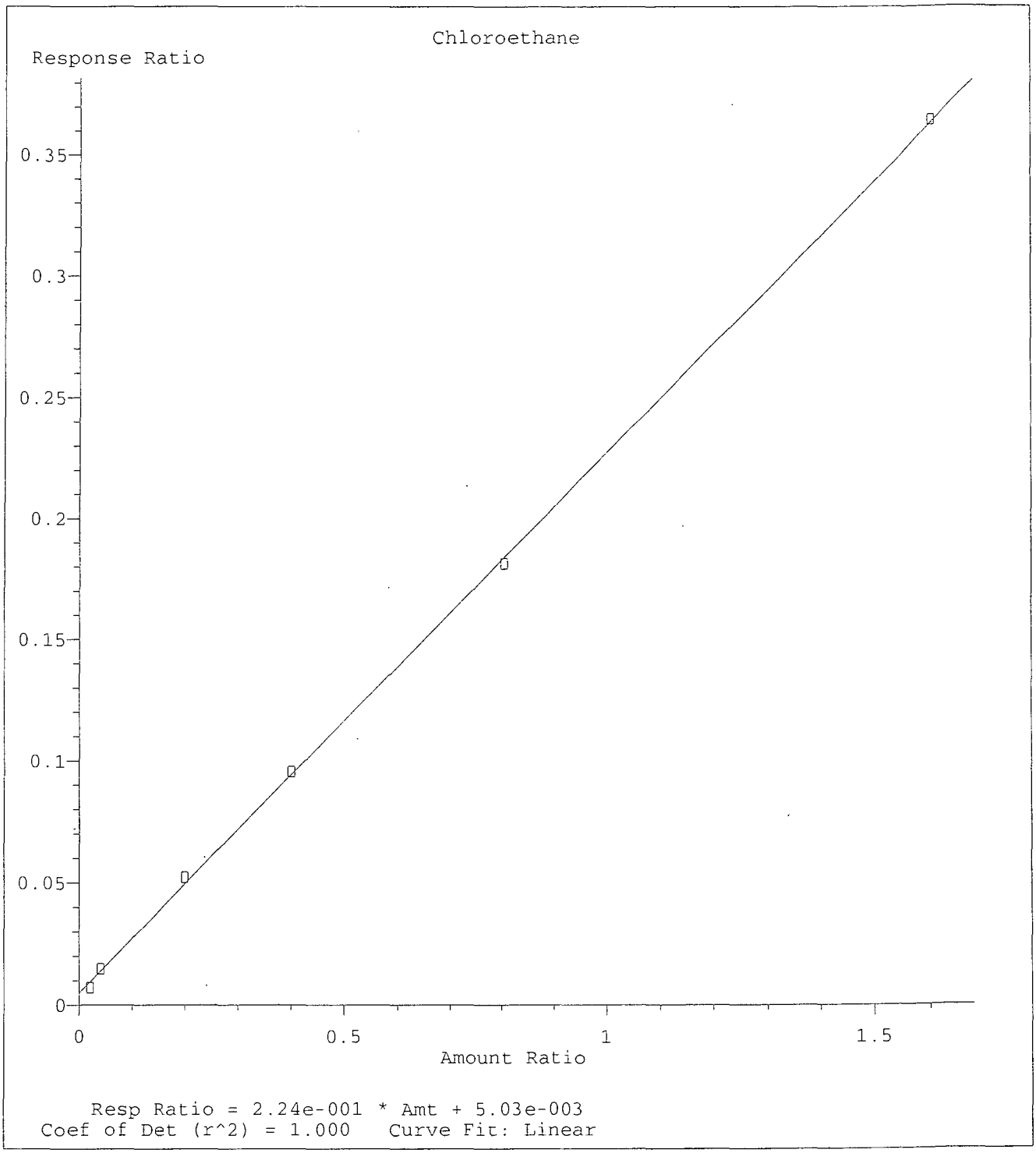
Method Name: M:\LOKI\DATA\141024\LALLW2.M
Calibration Table Last Updated: Mon Oct 27 15:42:00 2014



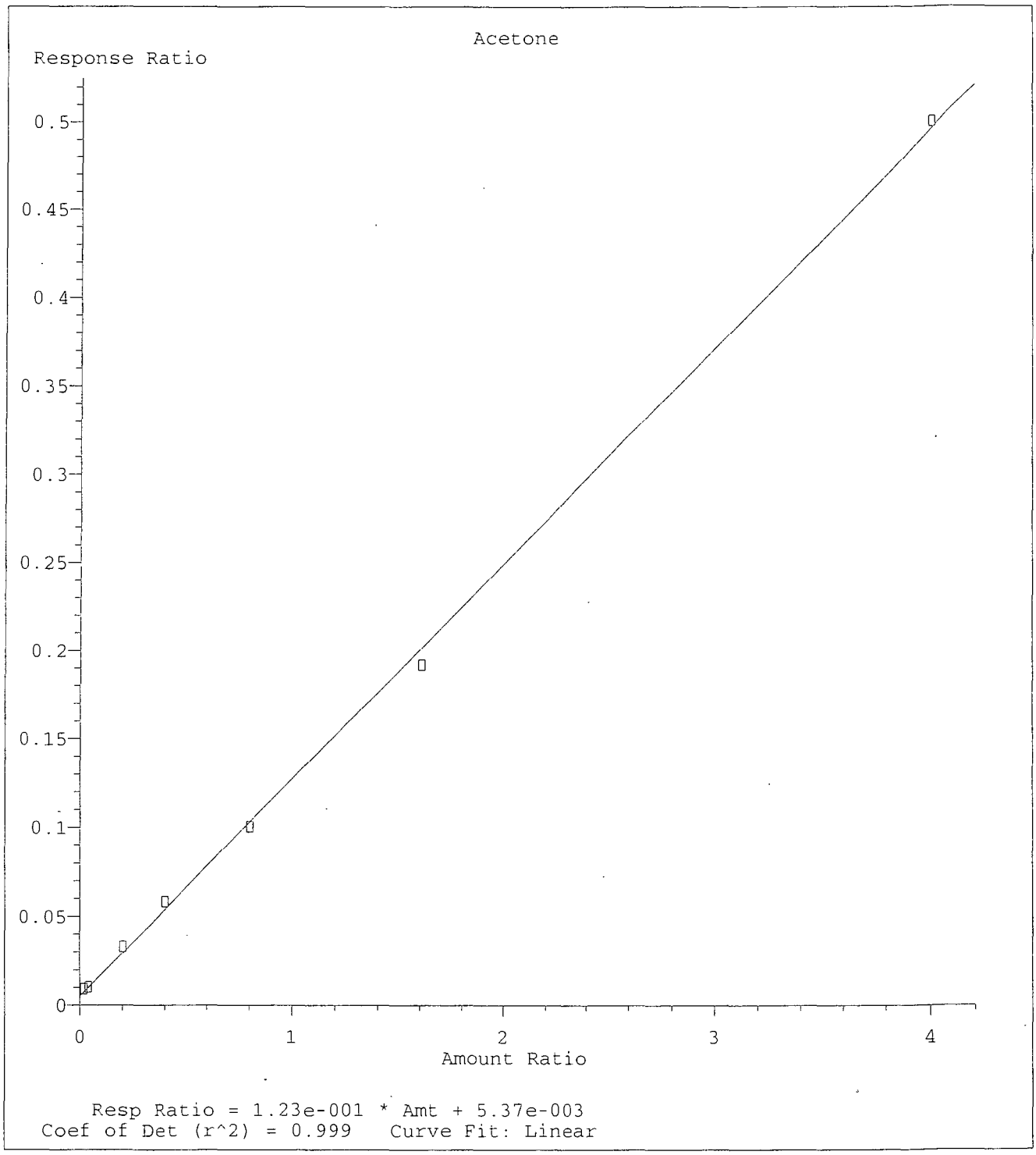
Method Name: M:\LOKI\DATA\141024\LALLW2.M
Calibration Table Last Updated: Mon Oct 27 15:42:00 2014



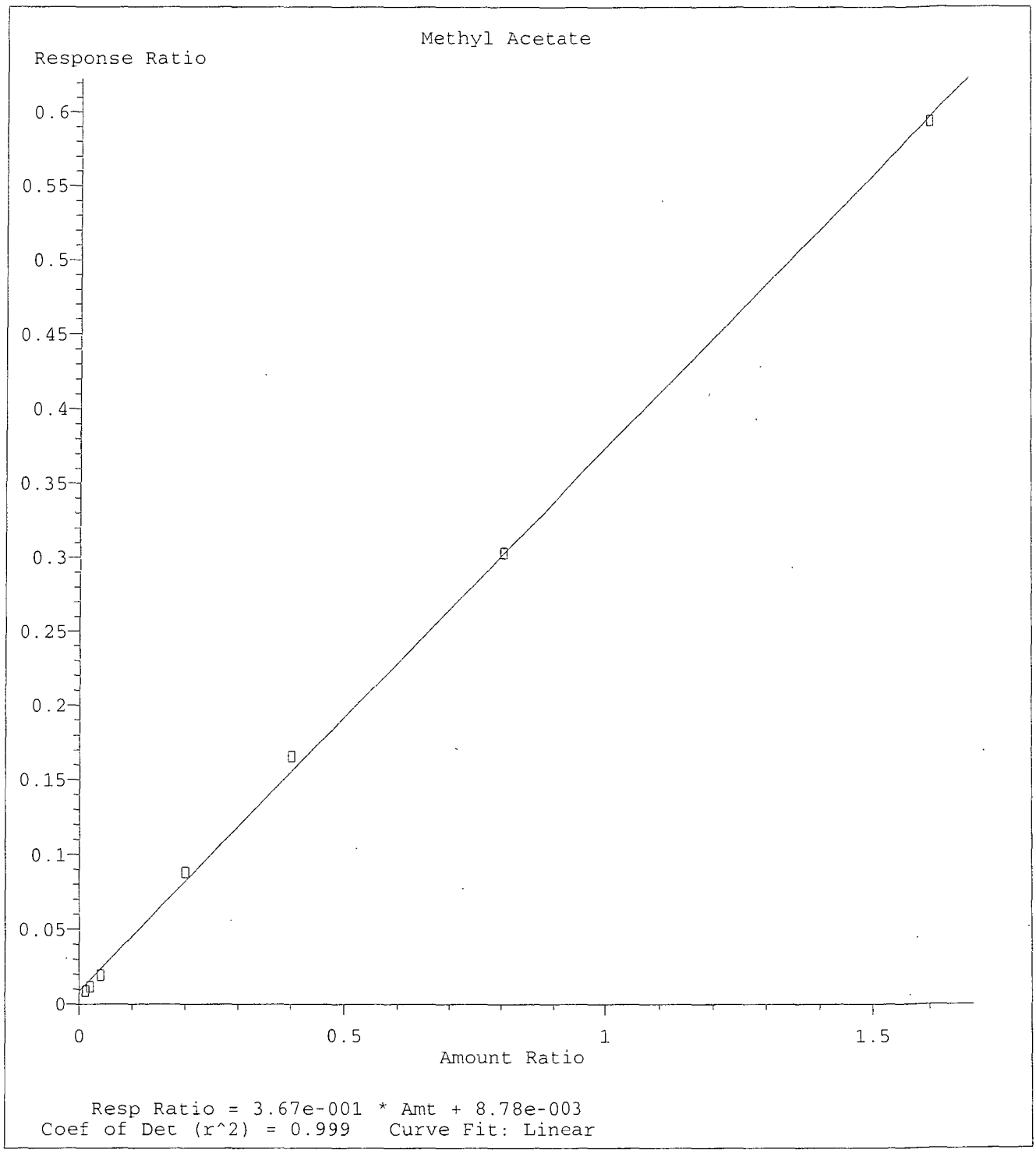
Method Name: M:\LOKI\DATA\141024\LALLW2.M
Calibration Table Last Updated: Mon Oct 27 15:42:00 2014



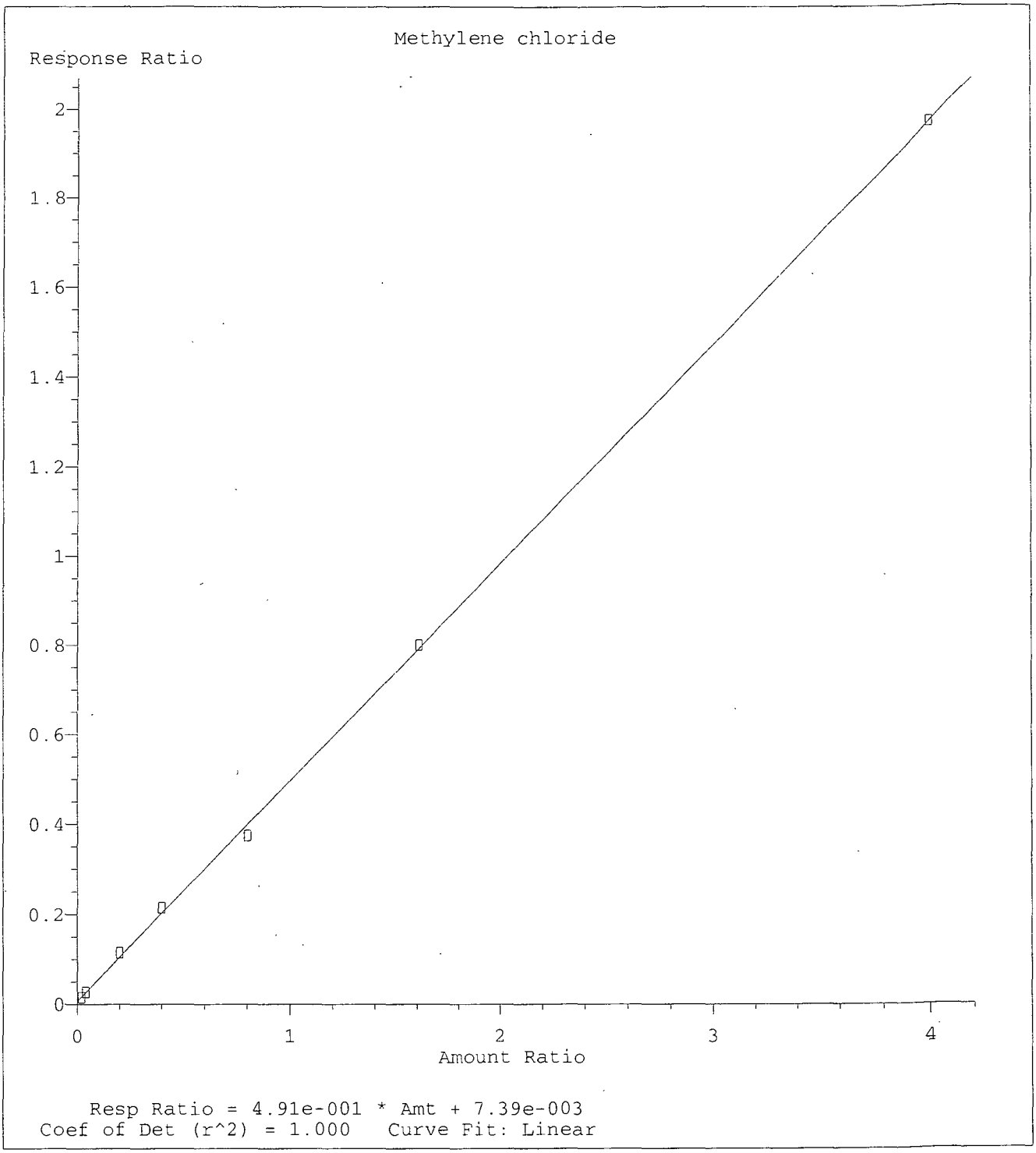
Method Name: M:\LOKI\DATA\141024\LALLW2.M
Calibration Table Last Updated: Mon Oct 27 15:42:00 2014



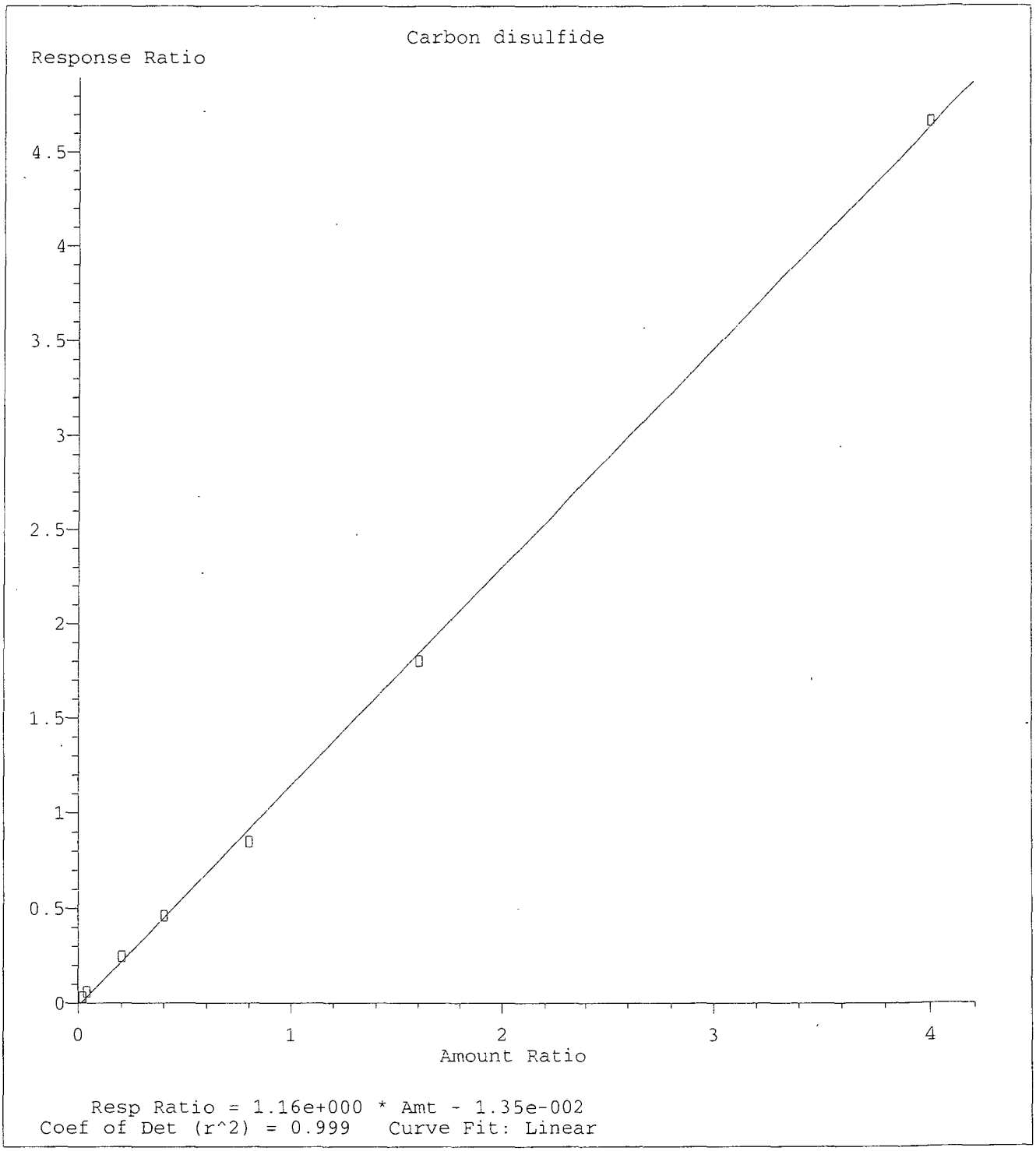
Method Name: M:\LOKI\DATA\141024\LALLW2.M
Calibration Table Last Updated: Mon Oct 27 15:42:00 2014



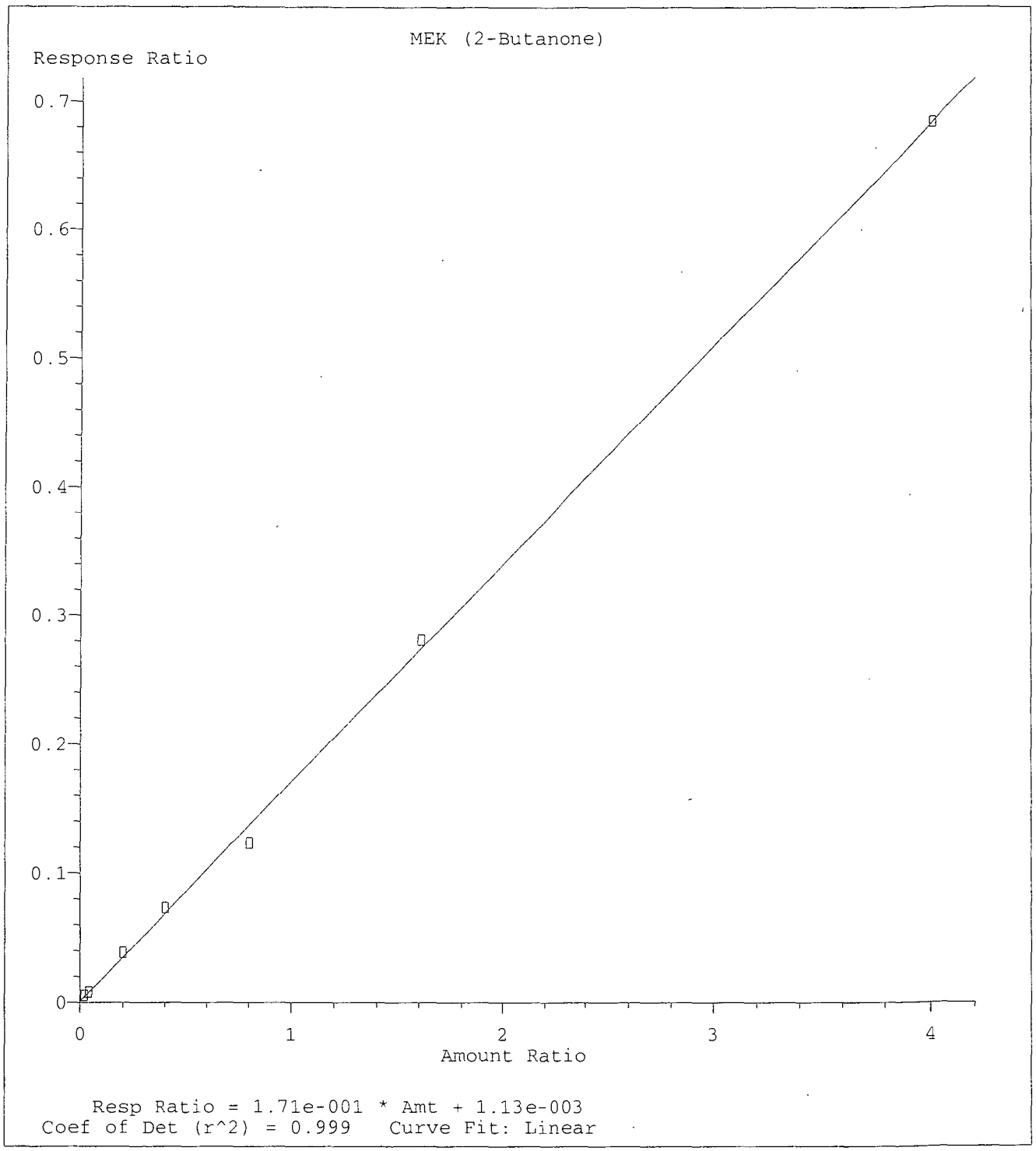
Method Name: M:\LOKI\DATA\141024\LALLW2.M
Calibration Table Last Updated: Mon Oct 27 15:42:00 2014



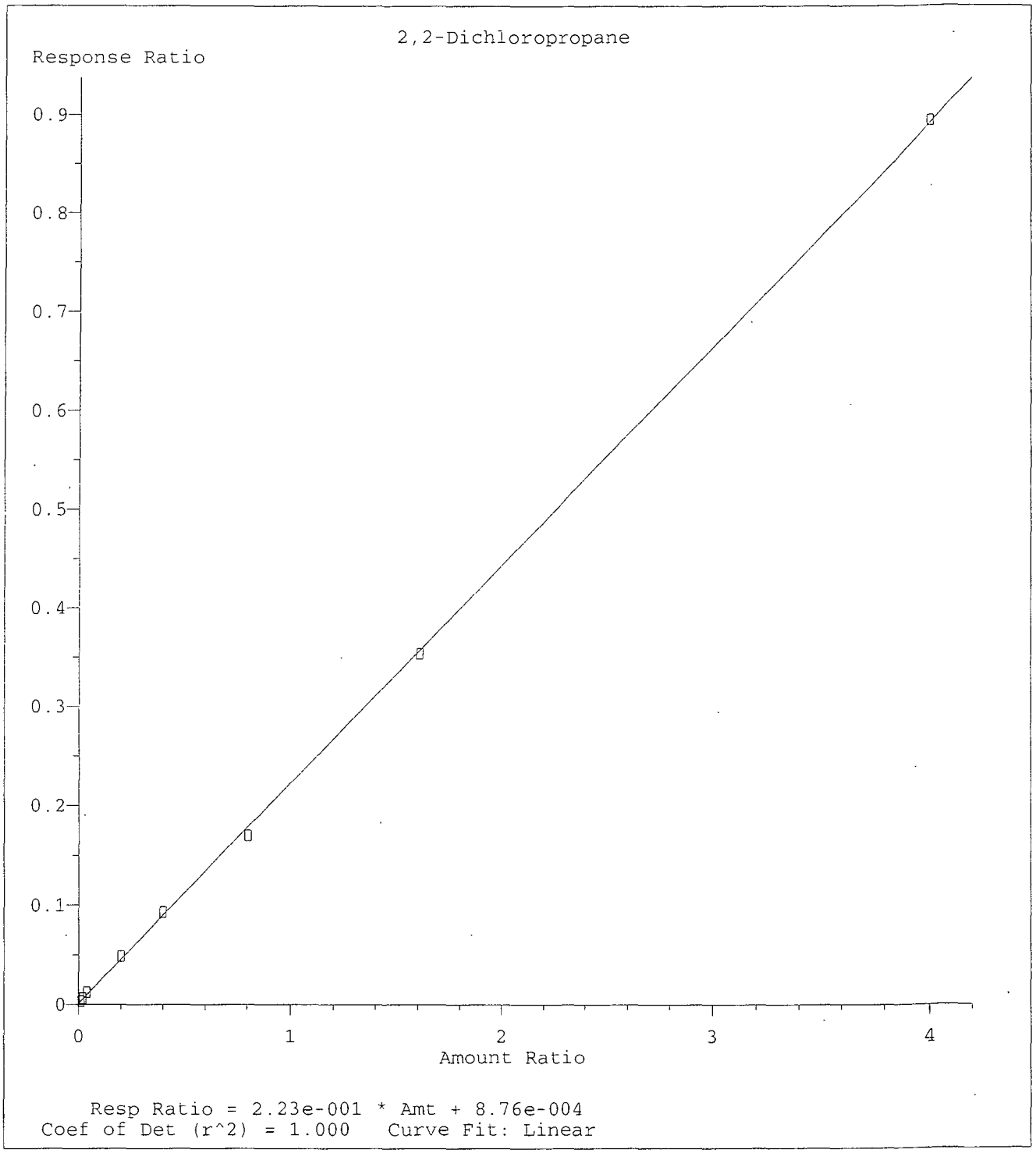
Method Name: M:\LOKI\DATA\141024\LALLW2.M
Calibration Table Last Updated: Mon Oct 27 15:42:00 2014



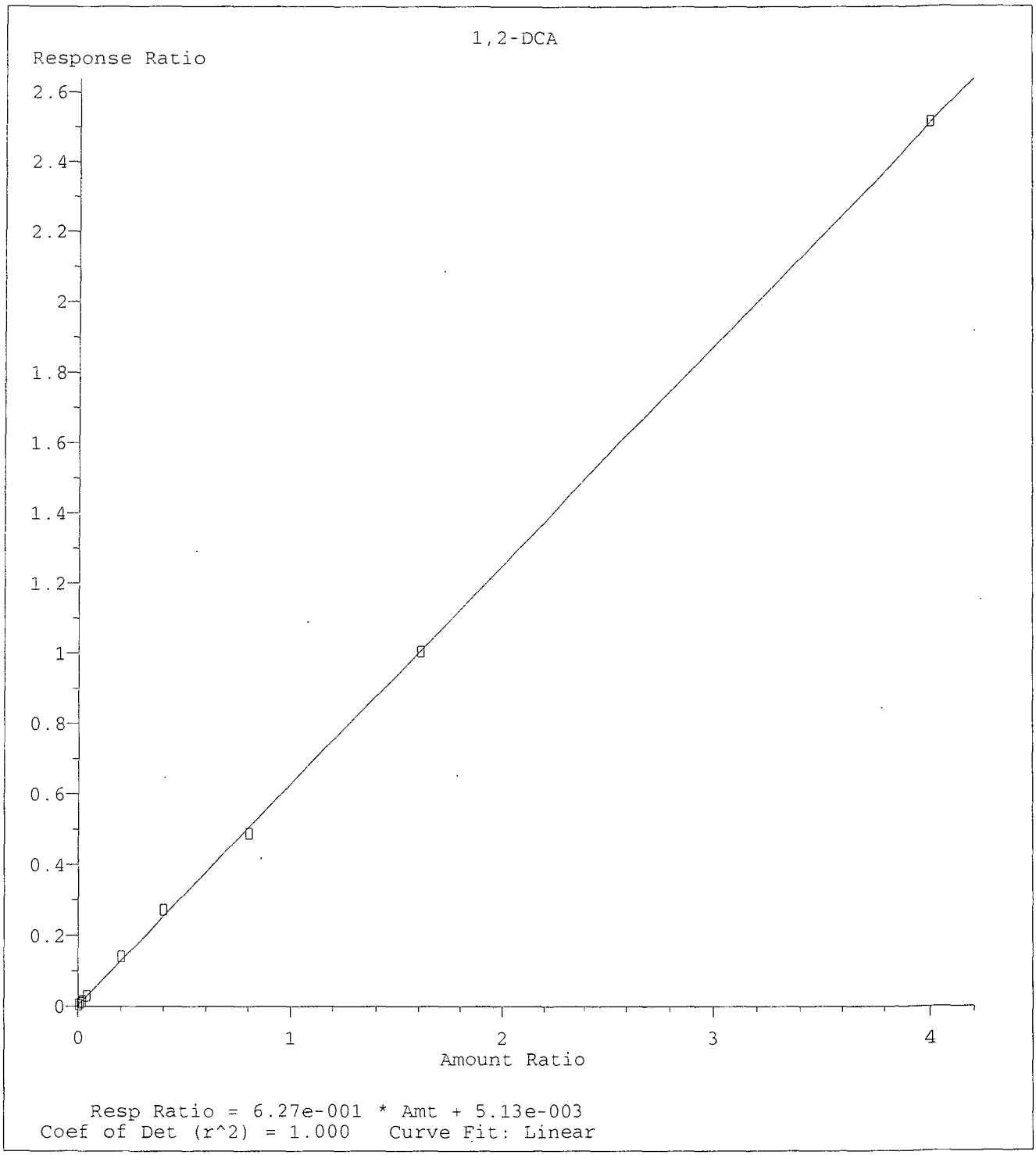
Method Name: M:\LOKI\DATA\141024\LALLW2.M
Calibration Table Last Updated: Mon Oct 27 15:42:00 2014



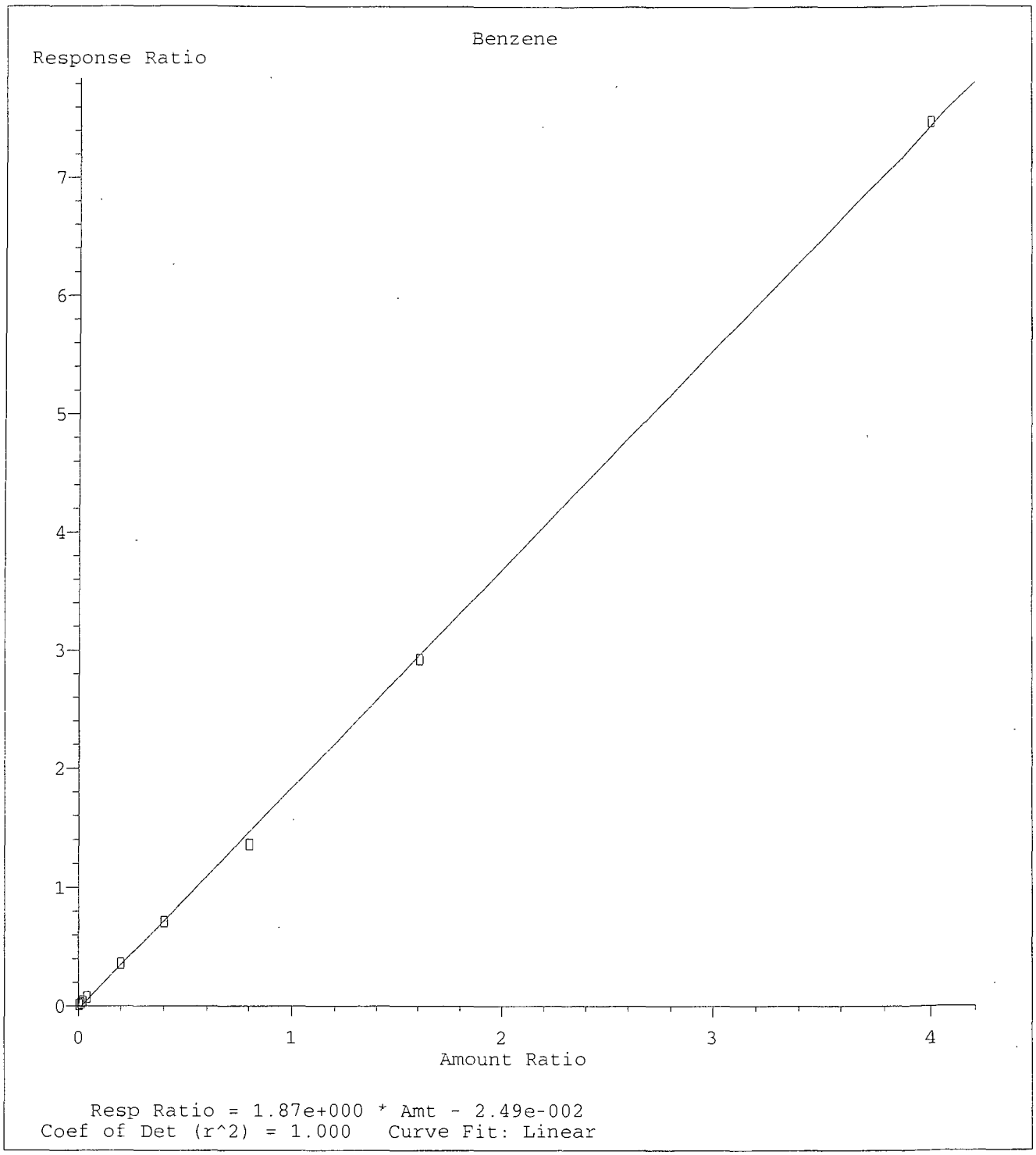
Method Name: M:\LOKI\DATA\141024\LALLW2.M
Calibration Table Last Updated: Mon Oct 27 15:42:00 2014



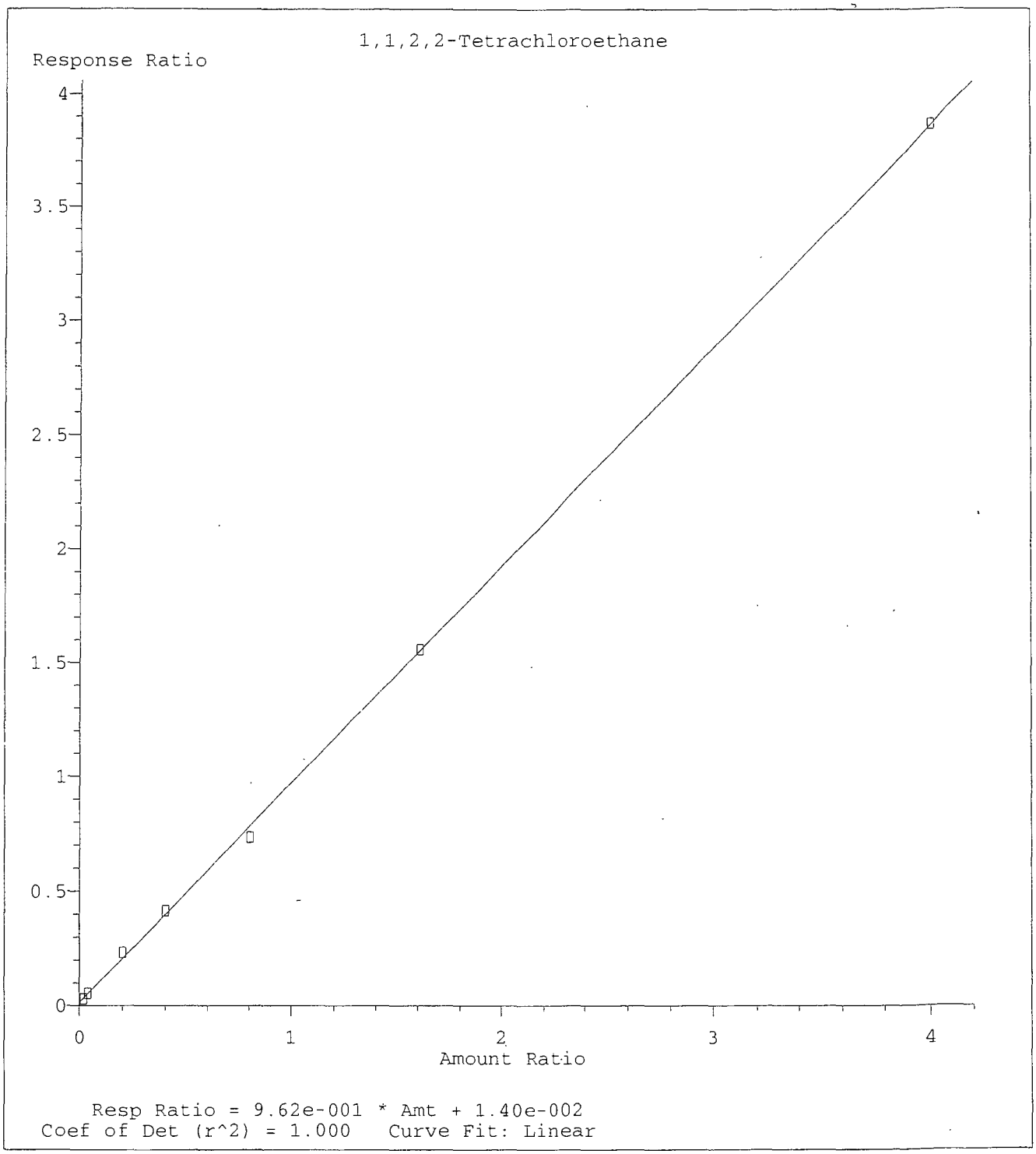
Method Name: M:\LOKI\DATA\141024\LALLW2.M
Calibration Table Last Updated: Mon Oct 27 15:42:00 2014



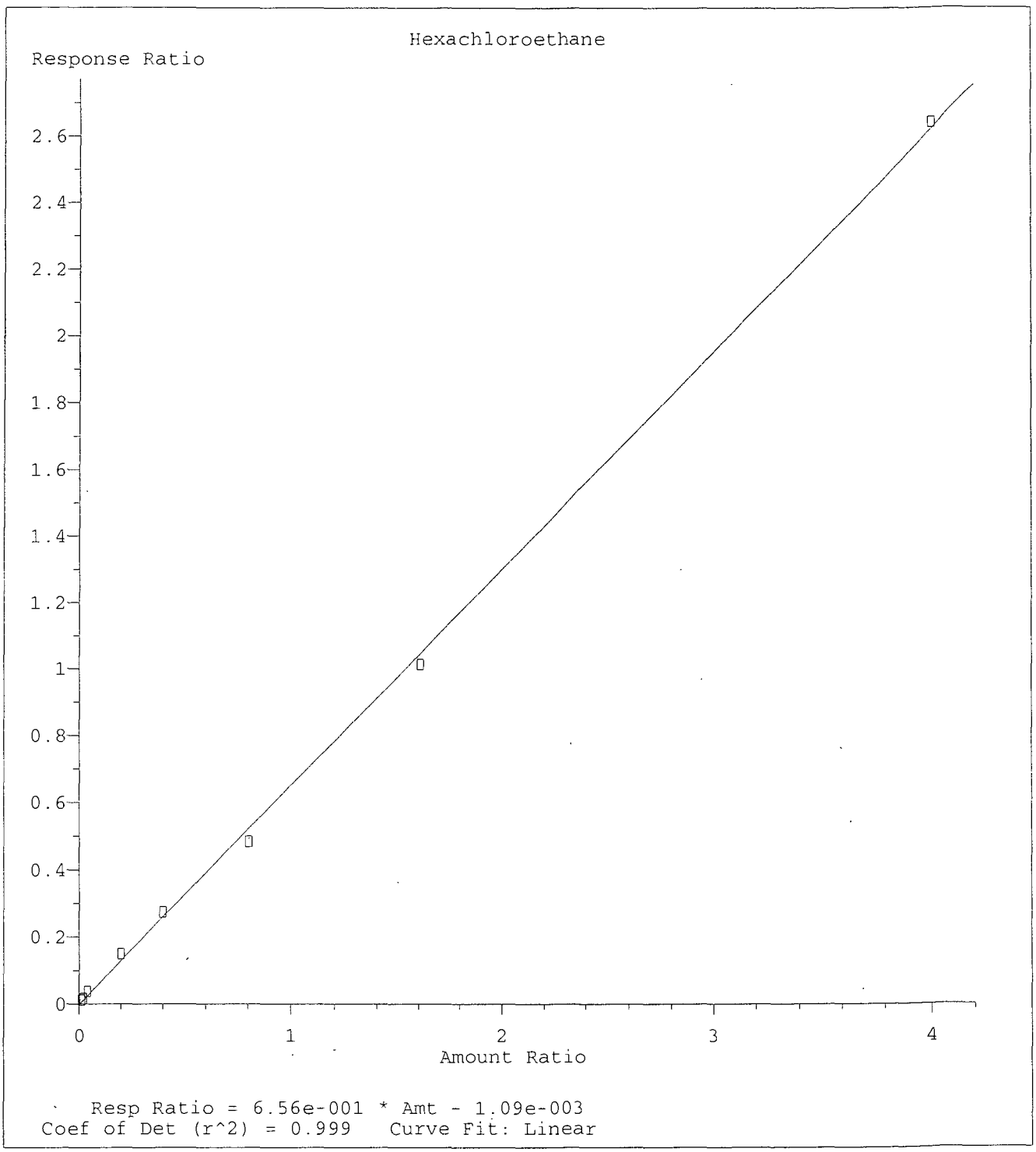
Method Name: M:\LOKI\DATA\141024\LALLW2.M
Calibration Table Last Updated: Mon Oct 27 15:42:00 2014



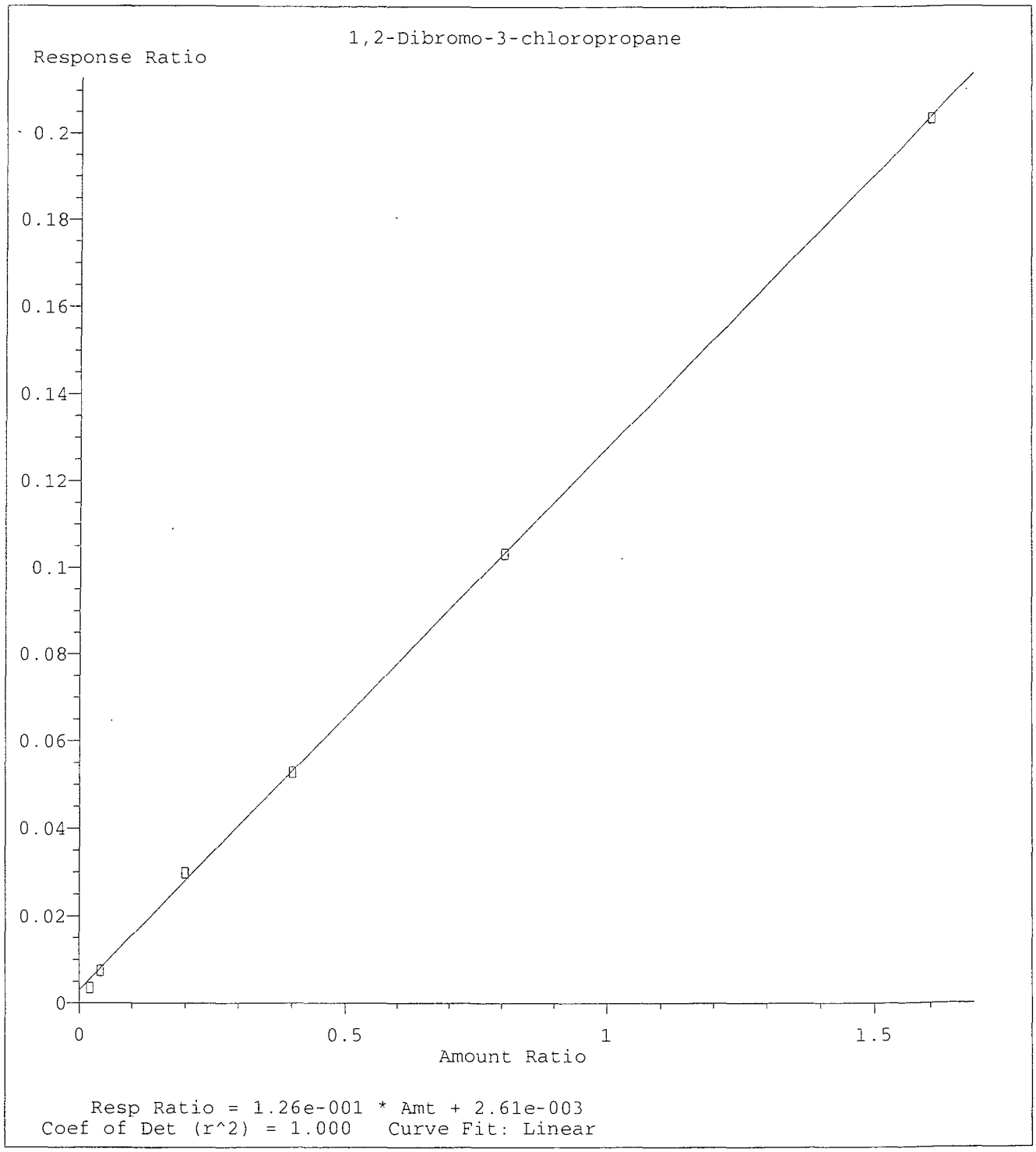
Method Name: M:\LOKI\DATA\141024\LALLW2.M
Calibration Table Last Updated: Mon Oct 27 15:42:00 2014



Method Name: M:\LOKI\DATA\141024\LALLW2.M
Calibration Table Last Updated: Mon Oct 27 15:42:00 2014



Method Name: M:\LOKI\DATA\141024\LALLW2.M
Calibration Table Last Updated: Mon Oct 27 15:42:00 2014



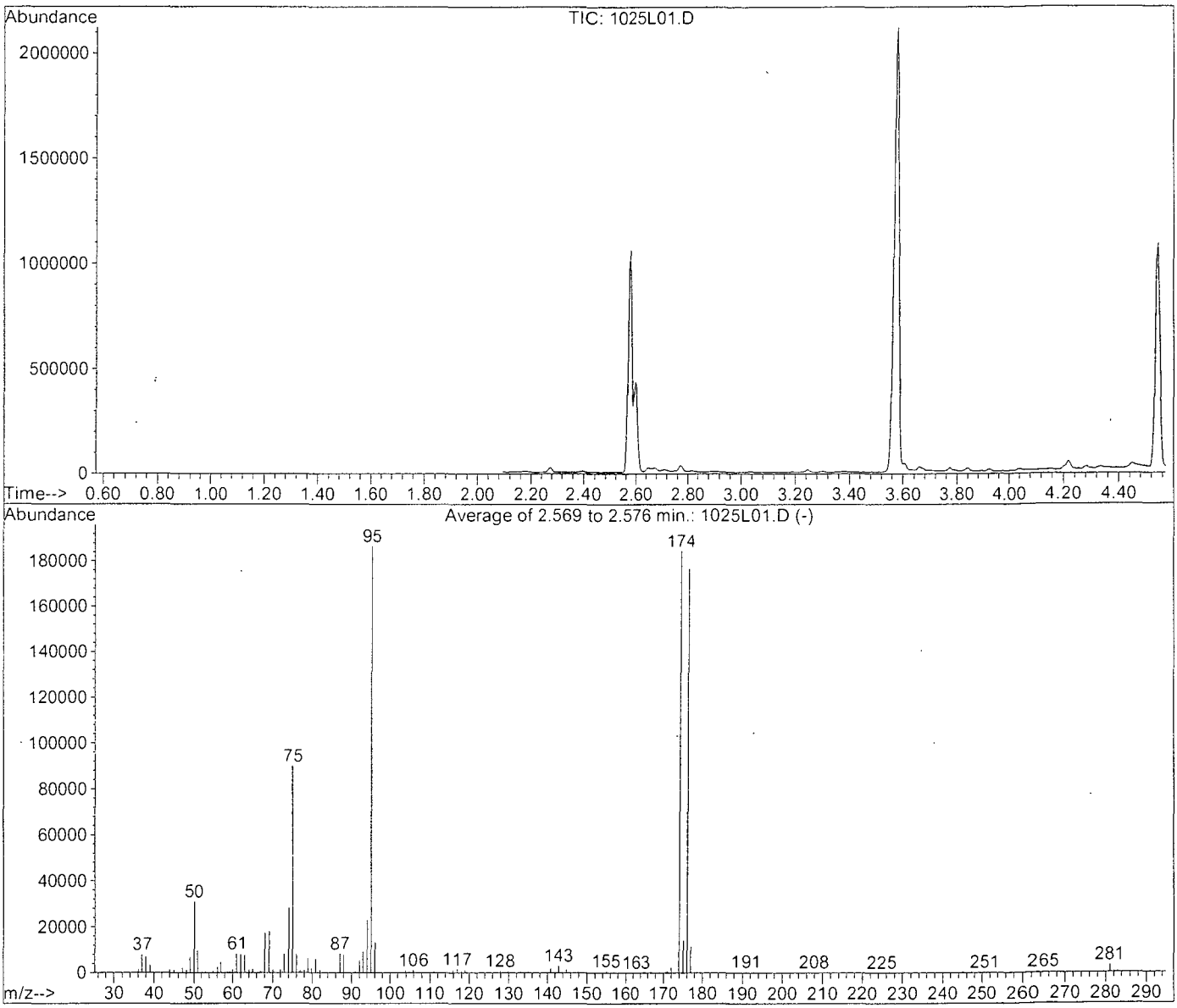
Method Name: M:\LOKI\DATA\141024\LALLW2.M
Calibration Table Last Updated: Mon Oct 27 15:42:00 2014

BFB

Data File : M:\LOKI\DATA\141024\1025L01.D
Acq On : 25 Oct 14 10:26
Sample : 25ug/mL BFB Std 09-30-14
Misc : 2uL

Vial: 1
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B



AutoFind: Scans 149, 150, 151; Background Corrected with Scan 139

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.6	31012	PASS
75	95	30	60	48.3	90103	PASS
95	95	100	100	100.0	186517	PASS
96	95	5	9	7.1	13160	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	98.9	184427	PASS
175	174	5	9	7.6	14060	PASS
176	174	95	101	95.7	176512	PASS
177	176	5	9	6.4	11382	PASS

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

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

SDG No:
Date Analyzed: 10/25/14
Instrument: Loki
Initial Cal. Date: 10/24/14
Data File: 1025L05.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TML	Dichlorodifluoromethane	0.3733	0.3474	7.0	TML	11
3	TM	Freon 114	0.2840	0.2570	9.5	TM	
4	TM**L	Chloromethane	0.6542	0.4705	28	TM**L	6.5
5	TM*	Vinyl chloride	0.6152	0.5346	13	TM*	
6	TML	Bromomethane	0.4789	0.3698	23	TML	13
7	TML	Chloroethane	0.2808	0.2644	5.9	TML	12
8	TM	Dichlorofluoromethane	1.004	0.9926	1.2	TM	
9	TM	Trichlorofluoromethane	0.7468	0.7200	3.6	TM	
10	TM	Acrolein	0.0561	0.0541	3.6	TM	
11	TML	Acetone	0.2009	0.1229	39	TML	11
12	TM	Freon-113	0.4305	0.3874	10	TM	
13	TM*	1,1-DCE	0.7001	0.6297	10	TM*	
14	TM	t-Butanol	0.0154	0.0157	1.7	TM	
15	TM	Acetonitrile	0.0630	0.0528	16	TM	
16	TML	Methyl Acetate	0.4863	0.3933	19	TML	1.1
17	TM	Iodomethane	0.1533	0.1701	11	TM	
18	TM	Acrylonitrile	0.1336	0.1272	4.8	TM	
19	TML	Methylene chloride	0.5705	0.5487	3.8	TML	8.0
20	TML	Carbon disulfide	1.258	1.148	8.8	TML	1.6
21	TM	Methyl t-butyl ether (MtBE)	1.113	1.069	4.0	TM	
22	TM	Trans-1,2-DCE	0.4881	0.4537	7.0	TM	
23	TM	Diisopropyl Ether	1.306	1.242	4.9	TM	
24	TM**	1,1-DCA	0.9319	0.8895	4.6	TM**	
25	TM	Hexane	0.3678	0.3571	2.9	TM	
26	TM	Vinyl Acetate	0.2882	0.2783	3.4	TM	
27	TM	Ethyl tert Butyl Ether	1.101	1.102	0.12	TM	
28	TML	MEK (2-Butanone)	0.1929	0.1871	3.0	TML	7.9
29	TM	Cis-1,2-DCE	0.5311	0.4956	6.7	TM	
30	TML	2,2-Dichloropropane	0.2549	0.2427	4.8	TML	8.1
31	TM*	Chloroform	0.9960	0.9235	7.3	TM*	
32	TM	Bromochloromethane	0.2742	0.2583	5.8	TM	
33	S	Dibromofluoromethane(S)	0.5447	0.5243	3.7	S	
34	TM	1,1,1-TCA	0.7841	0.7448	5.0	TM	
35	TM	Cyclohexane	0.3283	0.3145	4.2	TM	
36	TM	1,1-Dichloropropene	0.5496	0.5518	0.40	TM	
37	TM	2,2,4-Trimethylpentane	1.010	1.012	0.20	TM	
38	S	1,2-DCA-D4(S)	0.5770	0.5833	1.1	S	
39	TM	Carbon Tetrachloride	0.6312	0.6201	1.8	TM	
40	TM	Tert Amyl Methyl Ether	1.091	1.077	1.3	TM	
		Average			7.5		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 10/25/14
Instrument: Loki
Cal. Date: 10/24/14
Data File: 1025L05.D

		Compound	MEAN	CCRF	%D		%Drift
41	TML	1,2-DCA	0.7554	0.6767	10	TML	5.9
42	TML	Benzene	1.976	1.832	7.3	TML	1.6
43	TM	TCE	0.4973	0.4600	7.5	TM	
44	TM	2-Pentanone	0.3194	0.3452	8.1	TM	
45	TM*	1,2-Dichloropropane	0.5713	0.5562	2.6	TM*	
46	TM	Bromodichloromethane	0.7300	0.7013	3.9	TM	
47	TM	Methyl Cyclohexane	0.5513	0.4995	9.4	TM	
48	TM	Dibromomethane	0.3403	0.3179	6.6	TM	
49	TM	2-Chloroethyl vinyl ether	0.0504	0.0435	14	TM	
50	TM	MIBK (methyl isobutyl ketone)	0.3796	0.3738	1.5	TM	
51	TM	1-Bromo-2-chloroethane	0.4265	0.3918	8.1	TM	
52	TM	Cis-1,3-Dichloropropene	0.7966	0.7428	6.7	TM	
53	TM*	Toluene	1.868	1.945	4.1	TM*	
54	TM	Trans-1,3-Dichloropropene	0.6982	0.6563	6.0	TM	
55	TM	1,1,2-TCA	0.4038	0.3851	4.6	TM	
56	TM	2-Hexanone	0.2429	0.2370	2.4	TM	
57	I	Chlorobenzene-D5 (IS)	ISTD			I	
58	S	Toluene-D8(S)	1.772	1.962	11	S	
59	TM	1,2-EDB	0.5140	0.4922	4.2	TM	
60	TM	Tetrachloroethene	0.7368	0.6401	13	TM	
61	TM	1-Chlorohexane	0.5619	0.5787	3.0	TM	
62	TM	1,1,1,2-Tetrachloroethane	0.6806	0.6390	6.1	TM	
63	TM	m&p-Xylene	0.8740	0.9464	8.3	TM	
64	TM	o-Xylene	0.8198	0.7975	2.7	TM	
65	TM	Styrene	1.295	1.472	14	TM	
66	S	4-Bromofluorobenzene(S)	0.6754	0.7022	4.0	S	
67	TM	1,3-Dichloropropane	0.8513	0.8307	2.4	TM	
68	TM	Dibromochloromethane	0.6362	0.6056	4.8	TM	
69	TM**	Chlorobenzene	1.587	1.571	1.0	TM**	
70	TM*	Ethylbenzene	2.224	2.386	7.3	TM*	
71	TM**	Bromoform	0.4596	0.4359	5.2	TM**	
72	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
73	TM	Isopropylbenzene	3.171	3.184	0.40	TM	
74	TM**L	1,1,2,2-Tetrachloroethane	1.126	1.141	1.3	TM**L	15
75	TM	1,2,3-Trichloropropane	0.3239	0.3142	3.0	TM	
76	TM	t-1,4-Dichloro-2-Butene	0.2001	0.2144	7.1	TM	
77	TM	Bromobenzene	1.080	1.093	1.1	TM	
78	TM	n-Propylbenzene	3.881	4.130	6.4	TM	
79	TM	4-Ethyltoluene	3.409	3.683	8.0	TM	
80	TM	2-Chlorotoluene	2.490	2.693	8.2	TM	
		Average			5.9		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 10/25/14
Instrument: Loki
Cal. Date: 10/24/14
Data File: 1025L05.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,3,5-Trimethylbenzene	2.991	3.372	13	TM	
82	TM	4-Chlorotoluene	2.960	3.302	12	TM	
83	TM	Tert-Butylbenzene	2.397	2.427	1.2	TM	
84	TM	1,2,4-Trimethylbenzene	2.895	3.065	5.9	TM	
85	TM	Sec-Butylbenzene	3.535	3.732	5.6	TM	
86	TM	p-Isopropyltoluene	3.032	3.274	8.0	TM	
87	TM	Benzyl Chloride	1.433	1.541	7.5	TM	
88	TM	1,3-DCB	2.097	2.149	2.5	TM	
89	TM	1,4-DCB	2.265	2.260	0.24	TM	
90	TM	n-Butylbenzene	2.798	2.999	7.2	TM	
91	TM	1,2-DCB	2.057	1.978	3.8	TM	
92	TML	Hexachloroethane	0.7618	0.7188	5.6	TML	10
93	TML	1,2-Dibromo-3-chloropropane	0.1498	0.1445	3.6	TML	9.8
94	TM	1,2,4-Trichlorobenzene	1.394	1.262	9.5	TM	
95	TM	Hexachlorobutadiene	0.8427	0.8200	2.7	TM	
96	TM	Naphthalene	1.536	1.511	1.6	TM	
97	TM	1,2,3-Trichlorobenzene	1.376	1.284	6.7	TM	
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			5.7		

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1025L05.D
Acq On : 25 Oct 14 12:14
Sample : 10ug/L Std 10-25-14 (SS)
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 4
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Quant Time: Oct 27 15:44 2014

Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

$\frac{81129 \times 25}{379392 \times 0.6152} = 8.689$

SV 10/29/14

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	379392	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	328192	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	207232	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	198913	24.06357 ppb		0.00
Spiked Amount 27.165			Recovery = 88.585%			
38) 1,2-DCA-D4(S)	5.52	65	221282	25.27209 ppb		0.00
Spiked Amount 27.695			Recovery = 91.250%			
58) Toluene-D8(S)	7.71	98	644007	27.68703 ppb		0.00
Spiked Amount 26.150			Recovery = 105.876%			
66) 4-Bromofluorobenzene(S)	10.36	95	230452	25.99248 ppb		0.00
Spiked Amount 22.231			Recovery = 116.918%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	52719	11.05957 ppb		95
3) Freon 114	1.10	85	38999	9.04821 ppb		91
4) Chloromethane	1.14	50	71400	9.34932 ppb		98
5) Vinyl chloride	1.21	62	81129	8.68916 ppb		100
6) Bromomethane	1.44	94	56119	11.33350 ppb		98
7) Chloroethane	1.53	64	40120	11.24192 ppb		93
8) Dichlorofluoromethane	1.70	67	150635	9.88351 ppb		97
9) Trichlorofluoromethane	1.74	101	109271	9.64220 ppb		99
10) Acrolein	2.10	56	102559	120.55316 ppb		97
11) Acetone	2.25	43	18647	8.91672 ppb		99
12) Freon-113	2.20	101	58793	8.99951 ppb		97
13) 1,1-DCE	2.18	61	95561	8.99383 ppb		96
14) t-Butanol	2.88	59	29688	127.07488 ppb		97
15) Acetonitrile	2.52	41	100200	104.83383 ppb		96
16) Methyl Acetate	2.60	43	59686	10.10814 ppb		94
17) Iodomethane	2.31	142	25816	11.09348 ppb		97
18) Acrylonitrile	2.97	52	19299	9.51792 ppb		98
19) Methylene chloride	2.67	84	83268	10.80074 ppb		100
20) Carbon disulfide	2.36	76	174141	10.16376 ppb		100
21) Methyl t-butyl ether (MtBE	3.02	73	162265	9.60476 ppb		96
22) Trans-1,2-DCE	2.99	96	68857	9.29571 ppb		93
23) Diisopropyl Ether	3.71	45	188520	9.51380 ppb		98
24) 1,1-DCA	3.53	63	134988	9.54487 ppb		96
25) Hexane	3.36	57	54198	9.71075 ppb		97
26) Vinyl Acetate	3.71	43	42240	9.65921 ppb		99
27) Ethyl tert Butyl Ether	4.29	59	167257	10.01200 ppb		95
28) MEK (2-Butanone)	4.50	43	28389	10.78760 ppb		96
29) Cis-1,2-DCE	4.43	96	75205	9.33088 ppb		96
30) 2,2-Dichloropropane	4.40	77	36832	10.80798 ppb		98
31) Chloroform	4.90	83	140155	9.27272 ppb		99
32) Bromochloromethane	4.75	128	39203	9.42236 ppb		92
34) 1,1,1-TCA	5.10	97	113029	9.49854 ppb		95
35) Cyclohexane	5.16	41	47729	9.58017 ppb		90
36) 1,1-Dichloropropene	5.33	75	83739	10.03982 ppb		96
37) 2,2,4-Trimethylpentane	5.73	57	153545	10.02009 ppb	#	87
39) Carbon Tetrachloride	5.32	117	94110	9.82474 ppb		96
40) Tert Amyl Methyl Ether	5.79	73	163492	9.87304 ppb		96
41) 1,2-DCA	5.62	62	102687	10.59018 ppb		97
42) Benzene	5.58	78	278083	10.15661 ppb		98

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1025L05.D Vial: 4
Acq On : 25 Oct 14 12:14 Operator: DG,SV,RS
Sample : 10ug/L Std 10-25-14 (SS) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

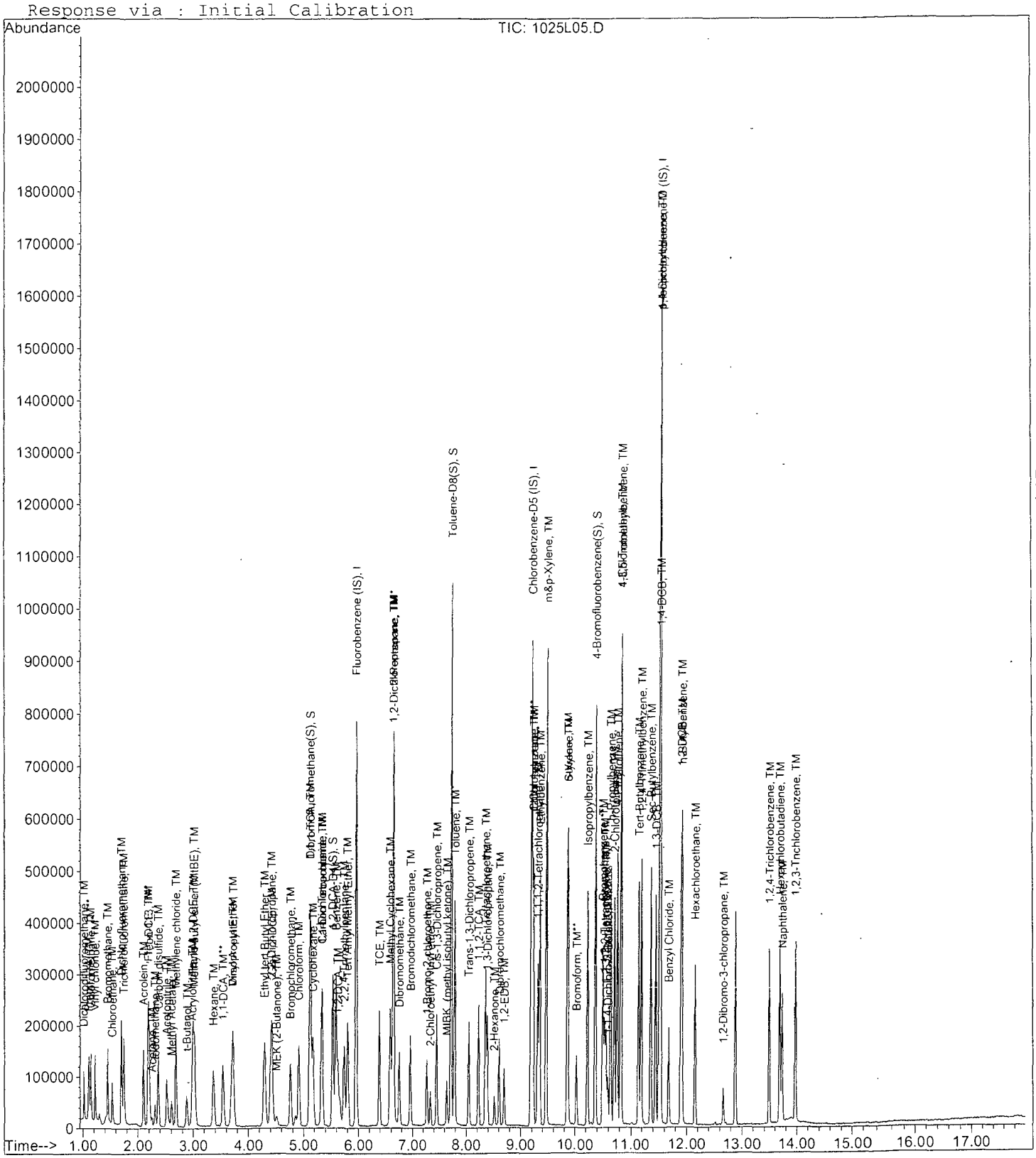
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	TCE	6.38	95	69808	9.25052	ppb	94
44)	2-Pentanone	6.63	43	654920	135.09557	ppb	96
45)	1,2-Dichloropropane	6.62	63	84402	9.73558	ppb	99
46)	Bromodichloromethane	6.95	83	106420	9.60588	ppb	98
47)	Methyl Cyclohexane	6.58	83	75802	9.05983	ppb	98
48)	Dibromomethane	6.75	93	48250	9.34273	ppb	91
49)	2-Chloroethyl vinyl ether	7.33	106	6605	8.63794	ppb	82
50)	MIBK (methyl isobutyl ket	7.63	43	56726	9.84630	ppb	98
51)	1-Bromo-2-chloroethane	7.26	63	59456	9.18600	ppb	100
52)	Cis-1,3-Dichloropropene	7.44	75	112725	9.32508	ppb	93
53)	Toluene	7.78	91	295152	10.41439	ppb	98
54)	Trans-1,3-Dichloropropene	8.04	75	99600	9.40005	ppb	97
55)	1,1,2-TCA	8.21	83	58441	9.53729	ppb	96
56)	2-Hexanone	8.50	43	35972	9.75765	ppb	93
59)	1,2-EDB	8.69	107	64618	9.57662	ppb	100
60)	Tetrachloroethene	8.34	166	84025	8.68717	ppb	92
61)	1-Chlorohexane	9.22	91	75969	10.29937	ppb	94
62)	1,1,1,2-Tetrachloroethane	9.30	131	83880	9.38820	ppb	99
63)	m&p-Xylene	9.46	106	248492	21.65892	ppb	96
64)	o-Xylene	9.85	106	104691	9.72734	ppb	93
65)	Styrene	9.86	104	193286	11.36882	ppb	98
67)	1,3-Dichloropropane	8.38	76	109048	9.75749	ppb	99
68)	Dibromochloromethane	8.60	129	79502	9.51872	ppb	99
69)	Chlorobenzene	9.20	112	206186	9.89604	ppb	99
70)	Ethylbenzene	9.34	91	313287	10.72959	ppb	99
71)	Bromoform	10.02	173	57224	9.48483	ppb	99
73)	Isopropylbenzene	10.22	105	263934	10.03970	ppb	99
74)	1,1,2,2-Tetrachloroethane	10.52	83	94560	11.49838	ppb	97
75)	1,2,3-Trichloropropane	10.55	110	26048	9.70286	ppb	84
76)	t-1,4-Dichloro-2-Butene	10.58	53	17772	10.71200	ppb	87
77)	Bromobenzene	10.49	156	90567	10.11350	ppb	100
78)	n-Propylbenzene	10.63	91	342342	10.64275	ppb	99
79)	4-Ethyltoluene	10.75	105	305303	10.80359	ppb	100
80)	2-Chlorotoluene	10.70	91	223222	10.81515	ppb	98
81)	1,3,5-Trimethylbenzene	10.82	105	279487	11.27318	ppb	96
82)	4-Chlorotoluene	10.81	91	273705	11.15326	ppb	100
83)	Tert-Butylbenzene	11.13	119	201152	10.12190	ppb	98
84)	1,2,4-Trimethylbenzene	11.18	105	254075	10.58880	ppb	96
85)	Sec-Butylbenzene	11.35	105	309351	10.55835	ppb	100
86)	p-Isopropyltoluene	11.50	119	271402	10.79745	ppb	98
87)	Benzyl Chloride	11.67	91	127718	10.75230	ppb	97
88)	1,3-DCB	11.44	146	178177	10.25095	ppb	99
89)	1,4-DCB	11.53	146	187327	9.97634	ppb	95
90)	n-Butylbenzene	11.91	91	248581	10.71658	ppb	97
91)	1,2-DCB	11.89	146	164003	9.61642	ppb	98
92)	Hexachloroethane	12.14	117	59582	11.00690	ppb	93
93)	1,2-Dibromo-3-chloropropan	12.66	157	11974	10.97636	ppb	92
94)	1,2,4-Trichlorobenzene	13.49	180	104581	9.05246	ppb	98
95)	Hexachlorobutadiene	13.68	225	67970	9.73028	ppb	94
96)	Naphthalene	13.72	128	125256	9.83782	ppb	97
97)	1,2,3-Trichlorobenzene	13.96	180	106401	9.32683	ppb	95

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

Data File : M:\LOKI\DATA\141024\1025L05.D Vial: 4
Acq On : 25 Oct 14 12:14 Operator: DG,SV,RS
Sample : 10ug/L Std 10-25-14 (SS) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration



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VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

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

SDG No:
Date Analyzed: 10/26/14
Instrument: Loki
Initial Cal. Date: 10/24/14
Data File: 1026L04.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TML	Dichlorodifluoromethane	0.3733	0.3052	18	TML	2.6
3	TM	Freon 114	0.2840	0.2760	2.8	TM	
4	TM**L	Chloromethane	0.6542	0.4448	32	TM**L	12
5	TM*	Vinyl chloride	0.6152	0.5058	18	TM*	
6	TML	Bromomethane	0.4789	0.3677	23	TML	13
7	TML	Chloroethane	0.2808	0.2590	7.8	TML	10
8	TM	Dichlorofluoromethane	1.004	0.9722	3.2	TM	
9	TM	Trichlorofluoromethane	0.7468	0.6926	7.3	TM	
10	TM	Acrolein	0.0561	0.0533	4.9	TM	
11	TML	Acetone	0.2009	0.1279	36	TML	6.7
12	TM	Freon-113	0.4305	0.4346	0.95	TM	
13	TM*	1,1-DCE	0.7001	0.6428	8.2	TM*	
14	TM	t-Butanol	0.0154	0.0136	12	TM	
15	TM	Acetonitrile	0.0630	0.0554	12	TM	
16	TML	Methyl Acetate	0.4863	0.3900	20	TML	0.18
17	TM	Iodomethane	0.1533	0.1817	19	TM	
18	TM	Acrylonitrile	0.1336	0.1176	12	TM	
19	TML	Methylene chloride	0.5705	0.5261	7.8	TML	3.4
20	TML	Carbon disulfide	1.258	1.175	6.6	TML	4.0
21	TM	Methyl t-butyl ether (MtBE)	1.113	1.005	9.7	TM	
22	TM	Trans-1,2-DCE	0.4881	0.4482	8.2	TM	
23	TM	Diisopropyl Ether	1.306	1.288	1.4	TM	
24	TM**	1,1-DCA	0.9319	0.8584	7.9	TM**	
25	TM	Hexane	0.3678	0.3791	3.1	TM	
26	TM	Vinyl Acetate	0.2882	0.2962	2.8	TM	
27	TM	Ethyl tert Butyl Ether	1.101	1.057	4.0	TM	
28	TML	MEK (2-Butanone)	0.1929	0.1633	15	TML	6.1
29	TM	Cis-1,2-DCE	0.5311	0.5243	1.3	TM	
30	TML	2,2-Dichloropropane	0.2549	0.2649	3.9	TML	18
31	TM*	Chloroform	0.9960	0.9063	9.0	TM*	
32	TM	Bromochloromethane	0.2742	0.2723	0.68	TM	
33	S	Dibromofluoromethane(S)	0.5447	0.5195	4.6	S	
34	TM	1,1,1-TCA	0.7841	0.7426	5.3	TM	
35	TM	Cyclohexane	0.3283	0.3388	3.2	TM	
36	TM	1,1-Dichloropropene	0.5496	0.5604	2.0	TM	
37	TM	2,2,4-Trimethylpentane	1.010	1.168	16	TM	
38	S	1,2-DCA-D4(S)	0.5770	0.5694	1.3	S	
39	TM	Carbon Tetrachloride	0.6312	0.6598	4.5	TM	
40	TM	Tert Amyl Methyl Ether	1.091	1.050	3.8	TM	
		Average			9.2		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 10/26/14
Matrix: 0 Instrument: Loki
Cal. Date: 10/24/14
Data File: 1026L04.D

		Compound	MEAN	CCRF	%D		%Drift	
41	TML	1,2-DCA	0.7554	0.6667	12	TML	4.3	
42	TML	Benzene	1.976	1.816	8.1	TML	0.67	
43	TM	TCE	0.4973	0.4558	8.3	TM		
44	TM	2-Pentanone	0.3194	0.3001	6.1	TM		
45	TM*	1,2-Dichloropropane	0.5713	0.5198	9.0	TM*		
46	TM	Bromodichloromethane	0.7300	0.6787	7.0	TM		
47	TM	Methyl Cyclohexane	0.5513	0.5557	0.80	TM		
48	TM	Dibromomethane	0.3403	0.3254	4.4	TM		
49	TM	2-Chloroethyl vinyl ether	0.0504	0.0359	29	TM		nt
50	TM	MIBK (methyl isobutyl ketone)	0.3796	0.3106	18	TM		
51	TM	1-Bromo-2-chloroethane	0.4265	0.3977	6.7	TM		
52	TM	Cis-1,3-Dichloropropene	0.7966	0.7182	9.8	TM		
53	TM*	Toluene	1.868	1.951	4.5	TM*		
54	TM	Trans-1,3-Dichloropropene	0.6982	0.6318	9.5	TM		
55	TM	1,1,2-TCA	0.4038	0.3503	13	TM		
56	TM	2-Hexanone	0.2429	0.2062	15	TM		
57	I	Chlorobenzene-D5 (IS)	ISTD			I		
58	S	Toluene-D8(S)	1.772	2.060	16	S		
59	TM	1,2-EDB	0.5140	0.4808	6.5	TM		
60	TM	Tetrachloroethene	0.7368	0.7314	0.74	TM		
61	TM	1-Chlorohexane	0.5619	0.5842	4.0	TM		
62	TM	1,1,1,2-Tetrachloroethane	0.6806	0.6400	6.0	TM		
63	TM	m&p-Xylene	0.8740	0.9419	7.8	TM		
64	TM	o-Xylene	0.8198	0.8556	4.4	TM		
65	TM	Styrene	1.295	1.497	16	TM		
66	S	4-Bromofluorobenzene(S)	0.6754	0.7374	9.2	S		
67	TM	1,3-Dichloropropane	0.8513	0.8279	2.8	TM		
68	TM	Dibromochloromethane	0.6362	0.5988	5.9	TM		
69	TM**	Chlorobenzene	1.587	1.600	0.79	TM**		
70	TM*	Ethylbenzene	2.224	2.381	7.1	TM*		
71	TM**	Bromoform	0.4596	0.4321	6.0	TM**		
72	I	1,4-Dichlorobenzene-D (IS)	ISTD			I		
73	TM	Isopropylbenzene	3.171	3.083	2.8	TM		
74	TM**L	1,1,2,2-Tetrachloroethane	1.126	1.079	4.2	TM**L	8.6	
75	TM	1,2,3-Trichloropropane	0.3239	0.3028	6.5	TM		
76	TM	t-1,4-Dichloro-2-Butene	0.2001	0.2115	5.7	TM		
77	TM	Bromobenzene	1.080	1.063	1.6	TM		
78	TM	n-Propylbenzene	3.881	4.050	4.4	TM		
79	TM	4-Ethyltoluene	3.409	3.665	7.5	TM		
80	TM	2-Chlorotoluene	2.490	2.623	5.4	TM		
		Average			7.7			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 10/26/14
Instrument: Loki
Cal. Date: 10/24/14
Data File: 1026L04.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,3,5-Trimethylbenzene	2.991	3.300	10	TM	
82	TM	4-Chlorotoluene	2.960	3.275	11	TM	
83	TM	Tert-Butylbenzene	2.397	2.417	0.83	TM	
84	TM	1,2,4-Trimethylbenzene	2.895	2.988	3.2	TM	
85	TM	Sec-Butylbenzene	3.535	3.743	5.9	TM	
86	TM	p-Isopropyltoluene	3.032	3.236	6.7	TM	
87	TM	Benzyl Chloride	1.433	1.492	4.2	TM	
88	TM	1,3-DCB	2.097	2.085	0.56	TM	
89	TM	1,4-DCB	2.265	2.226	1.7	TM	
90	TM	n-Butylbenzene	2.798	2.923	4.4	TM	
91	TM	1,2-DCB	2.057	2.026	1.5	TM	
92	TML	Hexachloroethane	0.7618	0.7085	7.0	TML	8.5
93	TML	1,2-Dibromo-3-chloropropane	0.1498	0.1288	14	TML	2.7
94	TM	1,2,4-Trichlorobenzene	1.394	1.202	14	TM	
95	TM	Hexachlorobutadiene	0.8427	0.8206	2.6	TM	
96	TM	Naphthalene	1.536	1.341	13	TM	
97	TM	1,2,3-Trichlorobenzene	1.376	1.192	13	TM	
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			6.7		

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1026L04.D Vial: 3
Acq On : 26 Oct 14 12:07 Operator: DG,SV,RS
Sample : 10ug/L Std 10-26-14(CCV) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	397248	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	332288	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	219840	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	206369	23.84337 ppb		0.00
Spiked Amount 27.165			Recovery = 87.771%			
38) 1,2-DCA-D4(S)	5.52	65	226191	24.67158 ppb		0.00
Spiked Amount 27.695			Recovery = 89.084%			
58) Toluene-D8(S)	7.71	98	684409	29.06129 ppb		0.00
Spiked Amount 26.150			Recovery = 111.131%			
66) 4-Bromofluorobenzene(S)	10.36	95	245025	27.29549 ppb		0.00
Spiked Amount 22.231			Recovery = 122.779%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	48497	9.73932 ppb		96
3) Freon 114	1.10	85	43862	9.71905 ppb		89
4) Chloromethane	1.14	50	70671	8.81626 ppb		97
5) Vinyl chloride	1.22	62	80364	8.22034 ppb		98
6) Bromomethane	1.44	94	58427	11.26664 ppb		97
7) Chloroethane	1.53	64	41160	11.00359 ppb		91
8) Dichlorofluoromethane	1.70	67	154479	9.68014 ppb		96
9) Trichlorofluoromethane	1.74	101	110051	9.27453 ppb		96
10) Acrolein	2.10	56	105866	118.84687 ppb		95
11) Acetone	2.25	43	20323	9.32606 ppb		93
12) Freon-113	2.20	101	69052	10.09476 ppb		98
13) 1,1-DCE	2.18	61	102139	9.18083 ppb		97
14) t-Butanol	2.88	59	27024	110.47267 ppb		99
15) Acetonitrile	2.52	41	110094	110.00789 ppb		96
16) Methyl Acetate	2.60	43	61968	10.01784 ppb		92
17) Iodomethane	2.31	142	28880	11.85229 ppb		100
18) Acrylonitrile	2.97	52	18692	8.80420 ppb		85
19) Methylene chloride	2.67	84	83600	10.34089 ppb		95
20) Carbon disulfide	2.36	76	186706	10.40034 ppb		97
21) Methyl t-butyl ether (MtBE	3.02	73	159653	9.02538 ppb		99
22) Trans-1,2-DCE	2.99	96	71214	9.18177 ppb		94
23) Diisopropyl Ether	3.71	45	204590	9.86069 ppb		97
24) 1,1-DCA	3.53	63	136393	9.21071 ppb		97
25) Hexane	3.36	57	60239	10.30798 ppb	#	96
26) Vinyl Acetate	3.71	43	47072	10.28032 ppb	#	99
27) Ethyl tert Butyl Ether	4.29	59	167915	9.59959 ppb		98
28) MEK (2-Butanone)	4.50	43	25943	9.39405 ppb		98
29) Cis-1,2-DCE	4.43	96	83309	9.87176 ppb		98
30) 2,2-Dichloropropane	4.40	77	42096	11.80642 ppb		100
31) Chloroform	4.90	83	144005	9.09918 ppb		98
32) Bromochloromethane	4.76	128	43267	9.93171 ppb		100
34) 1,1,1-TCA	5.11	97	117992	9.46992 ppb		98
35) Cyclohexane	5.16	41	53833	10.31967 ppb		95
36) 1,1-Dichloropropene	5.33	75	89043	10.19587 ppb		97
37) 2,2,4-Trimethylpentane	5.73	57	185647	11.57046 ppb		98
39) Carbon Tetrachloride	5.32	117	104846	10.45355 ppb		98
40) Tert Amyl Methyl Ether	5.80	73	166772	9.61842 ppb		99
41) 1,2-DCA	5.62	62	105940	10.43156 ppb		94
42) Benzene	5.58	78	288506	10.06671 ppb		97

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1026L04.D Vial: 3
Acq On : 26 Oct 14 12:07 Operator: DG,SV,RS
Sample : 10ug/L Std 10-26-14(CCV) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

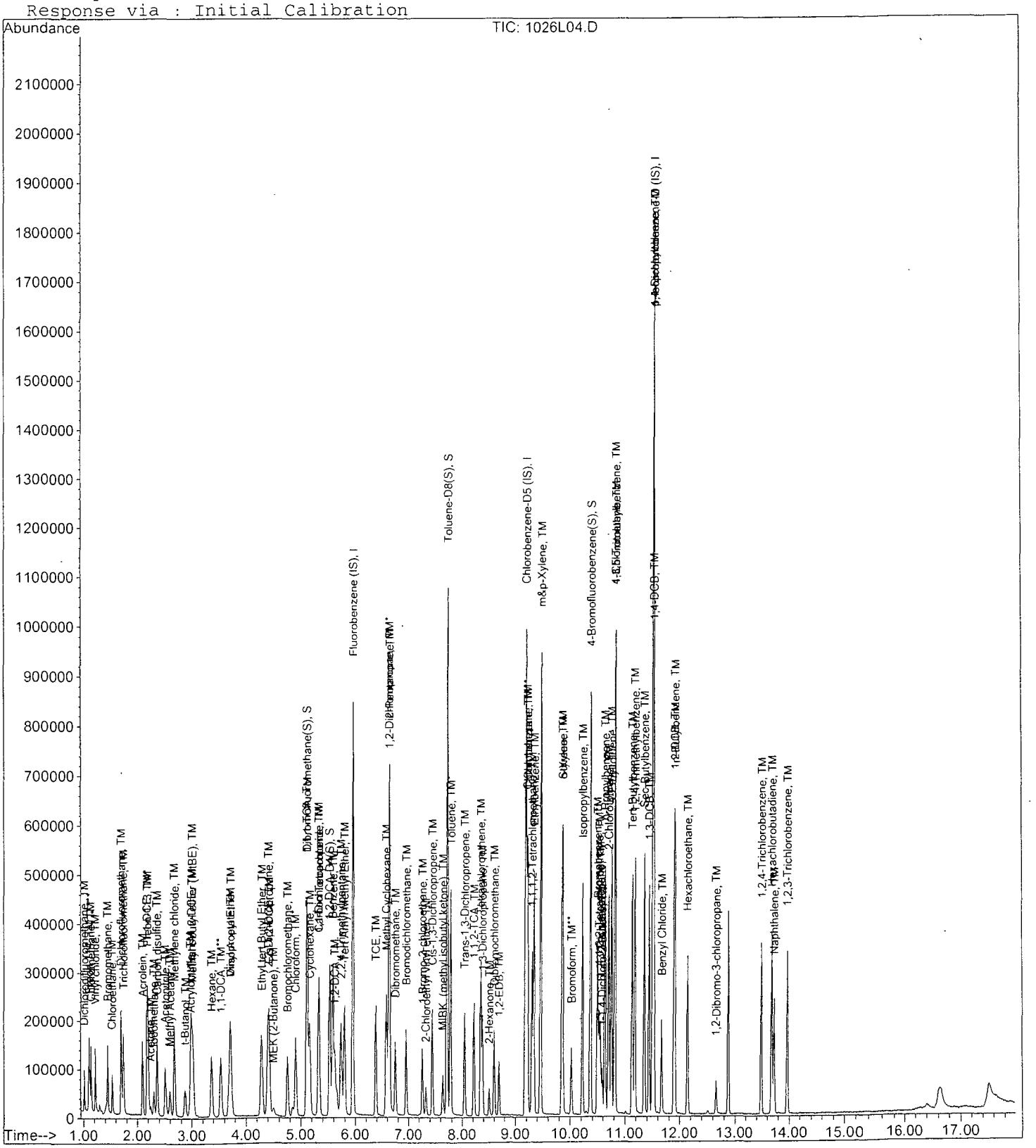
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.38	95	72427	9.16617	ppb		99
44)	2-Pentanone	6.63	43	596028	117.42105	ppb		99
45)	1,2-Dichloropropane	6.62	63	82599	9.09935	ppb		99
46)	Bromodichloromethane	6.95	83	107842	9.29668	ppb		97
47)	Methyl Cyclohexane	6.58	83	88305	10.07978	ppb		97
48)	Dibromomethane	6.75	93	51704	9.56152	ppb		90
49)	2-Chloroethyl vinyl ether	7.33	106	5706	7.12682	ppb		95
50)	MIBK (methyl isobutyl ket	7.64	43	49362	8.18295	ppb		99
51)	1-Bromo-2-chloroethane	7.26	63	63200	9.32555	ppb		97
52)	Cis-1,3-Dichloropropene	7.44	75	114121	9.01621	ppb		93
53)	Toluene	7.78	91	310067	10.44889	ppb		99
54)	Trans-1,3-Dichloropropene	8.04	75	100396	9.04928	ppb		95
55)	1,1,2-TCA	8.21	83	55665	8.67593	ppb		96
56)	2-Hexanone	8.50	43	32764	8.48798	ppb	#	93
59)	1,2-EDB	8.69	107	63910	9.35493	ppb		96
60)	Tetrachloroethene	8.34	166	97210	9.92645	ppb		98
61)	1-Chlorohexane	9.22	91	77645	10.39683	ppb		98
62)	1,1,1,2-Tetrachloroethane	9.30	131	85065	9.40347	ppb		97
63)	m&p-Xylene	9.46	106	250396	21.55584	ppb		94
64)	o-Xylene	9.85	106	113727	10.43667	ppb		96
65)	Styrene	9.86	104	198982	11.55958	ppb		96
67)	1,3-Dichloropropane	8.38	76	110038	9.72470	ppb		93
68)	Dibromochloromethane	8.60	129	79596	9.41250	ppb		93
69)	Chlorobenzene	9.21	112	212624	10.07924	ppb		96
70)	Ethylbenzene	9.34	91	316495	10.70585	ppb		100
71)	Bromoform	10.02	173	57436	9.40262	ppb		94
73)	Isopropylbenzene	10.22	105	271082	9.72022	ppb		99
74)	1,1,2,2-Tetrachloroethane	10.52	83	94918	10.86041	ppb		93
75)	1,2,3-Trichloropropane	10.55	110	26631	9.35110	ppb		96
76)	t-1,4-Dichloro-2-Butene	10.58	53	18595	10.56527	ppb		92
77)	Bromobenzene	10.49	156	93515	9.84380	ppb		92
78)	n-Propylbenzene	10.63	91	356178	10.43784	ppb		100
79)	4-Ethyltoluene	10.75	105	322309	10.75126	ppb		99
80)	2-Chlorotoluene	10.70	91	230693	10.53611	ppb		99
81)	1,3,5-Trimethylbenzene	10.82	105	290147	11.03197	ppb		99
82)	4-Chlorotoluene	10.81	91	287961	11.06121	ppb		97
83)	Tert-Butylbenzene	11.13	119	212567	10.08286	ppb		98
84)	1,2,4-Trimethylbenzene	11.18	105	262784	10.32366	ppb		98
85)	Sec-Butylbenzene	11.35	105	329152	10.58988	ppb		98
86)	p-Isopropyltoluene	11.50	119	284575	10.67223	ppb		98
87)	Benzyl Chloride	11.67	91	131244	10.41547	ppb		98
88)	1,3-DCB	11.44	146	183360	9.94414	ppb		96
89)	1,4-DCB	11.53	146	195723	9.82569	ppb		98
90)	n-Butylbenzene	11.91	91	257003	10.44424	ppb		99
91)	1,2-DCB	11.89	146	178186	9.84884	ppb		98
92)	Hexachloroethane	12.14	117	62307	10.85077	ppb		96
93)	1,2-Dibromo-3-chloropropan	12.66	157	11324	9.72874	ppb		94
94)	1,2,4-Trichlorobenzene	13.49	180	105700	8.62460	ppb		97
95)	Hexachlorobutadiene	13.68	225	72159	9.73752	ppb		95
96)	Naphthalene	13.72	128	117896	8.72870	ppb		100
97)	1,2,3-Trichlorobenzene	13.97	180	104835	8.66253	ppb		96

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

Data File : M:\LOKI\DATA\141024\1026L04.D Vial: 3
Acq On : 26 Oct 14 12:07 Operator: DG,SV,RS
Sample : 10ug/L Std 10-26-14(CCV) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration



EPA METHOD 8260C
Volatile Organic Compounds
Raw Data

APPL, INC.

Method Blank
EPA 8260C WATER

Blank Name/QCG: **141026W-05593 - 191309**
Batch ID: #86CRE-141026AL

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	10/26/14	10/26/14
BLANK	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	10/26/14	10/26/14
BLANK	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	10/26/14	10/26/14
BLANK	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	10/26/14	10/26/14
BLANK	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
BLANK	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	10/26/14	10/26/14
BLANK	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	10/26/14	10/26/14
BLANK	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	10/26/14	10/26/14
BLANK	1,2-DIBROMO-3-CHLOROPROPA	1.00 U	2.0	1.00	0.76	ug/L	10/26/14	10/26/14
BLANK	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	10/26/14	10/26/14
BLANK	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	10/26/14	10/26/14
BLANK	1,2-DICHLOROETHANE	0.100 U	0.10	0.100	0.030	ug/L	10/26/14	10/26/14
BLANK	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	10/26/14	10/26/14
BLANK	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	10/26/14	10/26/14
BLANK	1,3-DICHLOROPROPENE (TOTA	0.30 U	1.0	0.30	0.18	ug/L	10/26/14	10/26/14
BLANK	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
BLANK	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	10/26/14	10/26/14
BLANK	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	10/26/14	10/26/14
BLANK	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	10/26/14	10/26/14
BLANK	BENZENE	0.200 U	0.20	0.200	0.060	ug/L	10/26/14	10/26/14
BLANK	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	10/26/14	10/26/14
BLANK	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	10/26/14	10/26/14
BLANK	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	10/26/14	10/26/14
BLANK	CARBON TETRACHLORIDE	0.100 U	0.10	0.100	0.030	ug/L	10/26/14	10/26/14
BLANK	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	10/26/14	10/26/14
BLANK	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	10/26/14	10/26/14
BLANK	CHLOROFORM	0.20 U	0.2	0.20	0.06	ug/L	10/26/14	10/26/14
BLANK	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	10/26/14	10/26/14
BLANK	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	10/26/14	10/26/14
BLANK	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	10/26/14	10/26/14
BLANK	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
BLANK	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	10/26/14	10/26/14
BLANK	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	10/26/14	10/26/14

Quant Method: LALLW2.M
Run #: 1026L10
Instrument: Loki
Sequence: 141024
Initials: SV

GC SC-Blank-REG MDLs
Printed: 10/29/14 4:48:16 PM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **141026W-05593 - 191309**
Batch ID: #86CRE-141026AL

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	10/26/14	10/26/14
BLANK	TETRACHLOROETHENE	0.30 U	0.3	0.30	0.08	ug/L	10/26/14	10/26/14
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	10/26/14	10/26/14
BLANK	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/14	10/26/14
BLANK	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	10/26/14	10/26/14
BLANK	VINYL CHLORIDE	0.10 U	0.1	0.10	0.03	ug/L	10/26/14	10/26/14
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	10/26/14	10/26/14
BLANK	SURROGATE: 1,2-DICHLOROET	104	70-120			%	10/26/14	10/26/14
BLANK	SURROGATE: 4-BROMOFLUOR	99.4	75-120			%	10/26/14	10/26/14
BLANK	SURROGATE: DIBROMOFLUOR	104	85-115			%	10/26/14	10/26/14
BLANK	SURROGATE: TOLUENE-D8 (S)	98.2	85-120			%	10/26/14	10/26/14

Quant Method: LALLW2.M
Run #: 1026L10
Instrument: Loki
Sequence: 141024
Initials: SV

GC SC-Blank-REG MDLs
Printed: 10/29/14 4:48:17 PM

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\141024\1026L10.D Vial: 9
Acq On : 26 Oct 14 14:57 Operator: DG,SV,RS
Sample : 141026A BLK-1WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 29 16:08 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	333440	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	314944	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	147328	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.11	111	204259	28.11567 ppb	0.00
Spiked Amount 27.165			Recovery = 103.501%		
38) 1,2-DCA-D4(S)	5.52	65	220891	28.70408 ppb	0.00
Spiked Amount 27.695			Recovery = 103.642%		
58) Toluene-D8(S)	7.71	98	573395	25.68824 ppb	0.00
Spiked Amount 26.150			Recovery = 98.232%		
66) 4-Bromofluorobenzene(S)	10.36	95	188032	22.10007 ppb	0.00
Spiked Amount 22.231			Recovery = 99.411%		

Target Compounds Qvalue

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

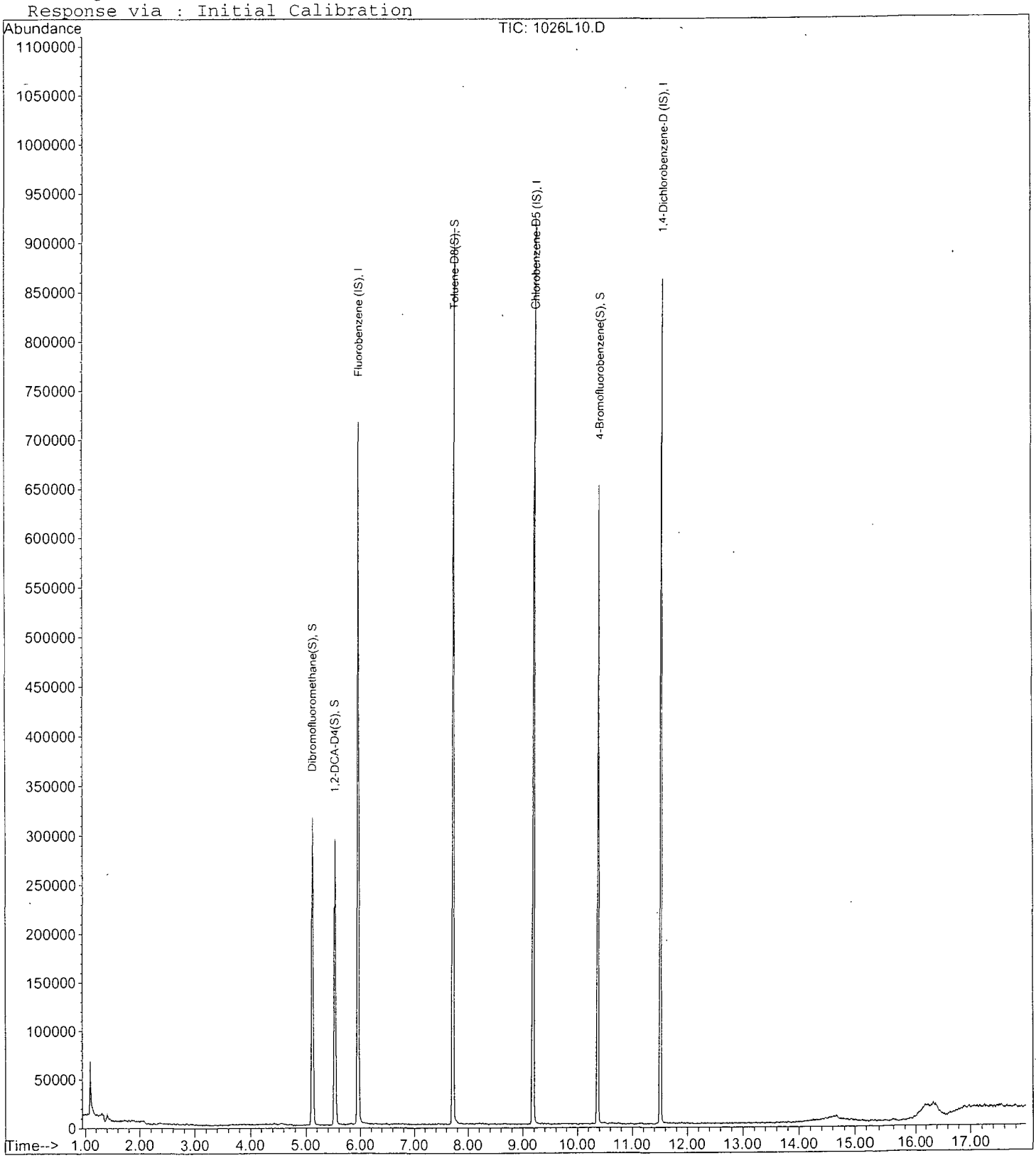
Quantitation Report

Data File : M:\LOKI\DATA\141024\1026L10.D
Acq On : 26 Oct 14 14:57
Sample : 141026A BLK-1WL
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 9
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Quant Time: Oct 29 16:08 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **141026W-05593 LCS - 191309**
Batch ID: #86CRE-141026AL

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,1,1,2-TETRACHLOROETHANE	10.00	9.15	91.5	80-130
1,1,1-TRICHLOROETHANE	10.00	9.54	95.4	65-130
1,1,2,2-TETRACHLOROETHANE	10.00	10.9	109	65-130
1,1,2-TRICHLOROETHANE	10.00	9.15	91.5	75-125
1,1-DICHLOROETHANE	10.00	8.64	86.4	70-135
1,1-DICHLOROETHENE	10.00	9.46	94.6	70-130
1,2,3-TRICHLOROPROPANE	10.00	9.50	95.0	75-125
1,2,4-TRICHLOROBENZENE	10.00	8.72	87.2	65-135
1,2-DIBROMO-3-CHLOROPROPANE	10.00	10.6	106	50-130
1,2-DIBROMOETHANE	10.00	9.54	95.4	80-120
1,2-DICHLOROBENZENE	10.00	10.0	100	70-120
1,2-DICHLOROETHANE	10.00	10.2	102	70-130
1,2-DICHLOROPROPANE	10.00	9.39	93.9	75-125
1,3-DICHLOROBENZENE	10.00	10.7	107	75-125
1,3-DICHLOROPROPENE (TOTAL)	20.0	18.4	92.0	55-140
1,4-DICHLOROBENZENE	10.00	10.4	104	75-125
2-BUTANONE	10.00	9.58	95.8	30-150
4-METHYL-2-PENTANONE	10.00	8.53	85.3	60-135
ACETONE	10.00	9.06	90.6	40-140
BENZENE	10.00	10.2	102	80-120
BROMODICHLOROMETHANE	10.00	9.43	94.3	75-120
BROMOFORM	10.00	8.95	89.5	70-130
BROMOMETHANE	10.00	11.0	110	30-145
CARBON TETRACHLORIDE	10.00	10.3	103	65-140
CHLOROBENZENE	10.00	9.77	97.7	80-120
CHLOROETHANE	10.00	11.4	114	60-135
CHLOROFORM	10.00	8.92	89.2	65-135
CHLOROMETHANE	10.00	8.91	89.1	40-125
CIS-1,2-DICHLOROETHENE	10.00	9.83	98.3	70-125
DIBROMOCHLOROMETHANE	10.00	9.40	94.0	60-135
ETHYLBENZENE	10.00	10.4	104	75-125

Comments:

Primary	SPK
Quant Method :	LALLW2.M
Extraction Date :	10/26/14
Analysis Date :	10/26/14
Instrument :	Loki
Run :	1026L05
Initials :	SV

Printed: 10/29/14 4:48:20 PM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **141026W-05593 LCS - 191309**
Batch ID: #86CRE-141026AL

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
HEXACHLOROBUTADIENE	10.00	9.79	97.9	50-140
METHYL TERT-BUTYL ETHER	10.00	9.21	92.1	65-125
METHYLENE CHLORIDE	10.00	9.94	99.4	55-140
STYRENE	10.00	11.1	111	65-135
TETRACHLOROETHENE	10.00	9.14	91.4	45-150
TOLUENE	10.00	10.5	105	75-120
TRANS-1,2-DICHLOROETHENE	10.00	9.32	93.2	60-140
TRICHLOROETHENE	10.00	9.30	93.0	70-125
VINYL CHLORIDE	10.00	7.75	77.5	50-145
XYLENES (TOTAL)	30.0	31.3	104	75-130
SURROGATE: 1,2-DICHLOROETHANE-	27.7	24.3	87.7	70-120
SURROGATE: 4-BROMOFLUOROBENZ	22.2	26.5	119	75-120
SURROGATE: DIBROMOFLUOROMETH	27.2	23.9	88.0	85-115
SURROGATE: TOLUENE-D8 (S)	26.2	27.6	106	85-120

Comments: _____

Primary	SPK
Quant Method :	LALLW2.M
Extraction Date :	10/26/14
Analysis Date :	10/26/14
Instrument :	Loki
Run :	1026L05
Initials :	SV

Printed: 10/29/14 4:48:20 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1026L05.D Vial: 4
Acq On : 26 Oct 14 12:35 Operator: DG,SV,RS
Sample : 141026A LCS-1WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	395328	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	342336	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	219328	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	205484	23.85643 ppb		0.00
Spiked Amount 27.165			Recovery = 87.819%			
38) 1,2-DCA-D4(S)	5.52	65	221268	24.25182 ppb		0.00
Spiked Amount 27.695			Recovery = 87.567%			
58) Toluene-D8(S)	7.71	98	669448	27.59167 ppb		0.00
Spiked Amount 26.150			Recovery = 105.513%			
66) 4-Bromofluorobenzene(S)	10.36	95	245134	26.50612 ppb		0.00
Spiked Amount 22.231			Recovery = 119.230%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	41407	8.38250 ppb		95
3) Freon 114	1.10	85	42122	9.37883 ppb		100
4) Chloromethane	1.14	50	71040	8.90933 ppb		98
5) Vinyl chloride	1.22	62	75437	7.75384 ppb		97
6) Bromomethane	1.45	94	56885	11.01269 ppb		95
7) Chloroethane	1.53	64	42336	11.39178 ppb		94
8) Dichlorofluoromethane	1.70	67	157465	9.91517 ppb		96
9) Trichlorofluoromethane	1.74	101	102283	8.66175 ppb		100
10) Acrolein	2.10	56	108940	122.89176 ppb		92
11) Acetone	2.25	43	19700	9.05570 ppb		97
12) Freon-113	2.20	101	67673	9.94121 ppb		98
13) 1,1-DCE	2.18	61	104697	9.45646 ppb		99
14) t-Butanol	2.87	59	27756	114.01611 ppb		99
15) Acetonitrile	2.52	41	110531	110.98095 ppb		94
16) Methyl Acetate	2.59	43	60984	9.90002 ppb		99
17) Iodomethane	2.31	142	27784	11.45788 ppb		92
18) Acrylonitrile	2.96	52	18857	8.92505 ppb		87
19) Methylene chloride	2.67	84	80079	9.93936 ppb		93
20) Carbon disulfide	2.36	76	184431	10.32565 ppb		98
21) Methyl t-butyl ether (MtBE	3.02	73	162171	9.21225 ppb		97
22) Trans-1,2-DCE	2.99	96	71924	9.31835 ppb		96
23) Diisopropyl Ether	3.71	45	191840	9.29108 ppb		98
24) 1,1-DCA	3.53	63	127377	8.64363 ppb		98
25) Hexane	3.36	57	59485	10.22840 ppb		95
26) Vinyl Acetate	3.71	43	42048	9.22770 ppb		99
27) Ethyl tert Butyl Ether	4.29	59	173049	9.94114 ppb		98
28) MEK (2-Butanone)	4.50	43	26317	9.57894 ppb		97
29) Cis-1,2-DCE	4.43	96	82543	9.82849 ppb		94
30) 2,2-Dichloropropane	4.40	77	41448	11.68009 ppb		100
31) Chloroform	4.90	83	140419	8.91569 ppb		98
32) Bromochloromethane	4.75	128	40978	9.45196 ppb		98
34) 1,1,1-TCA	5.10	97	118260	9.53752 ppb		95
35) Cyclohexane	5.16	41	52421	10.09780 ppb		89
36) 1,1-Dichloropropene	5.34	75	90766	10.44364 ppb		94
37) 2,2,4-Trimethylpentane	5.73	57	183117	11.46820 ppb	#	88
39) Carbon Tetrachloride	5.32	117	102773	10.29663 ppb		98
40) Tert Amyl Methyl Ether	5.79	73	172309	9.98603 ppb		98
41) 1,2-DCA	5.62	62	103352	10.22212 ppb		94
42) Benzene	5.58	78	292495	10.24920 ppb		98

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1026L05.D Vial: 4
Acq On : 26 Oct 14 12:35 Operator: DG,SV,RS
Sample : 141026A LCS-1WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

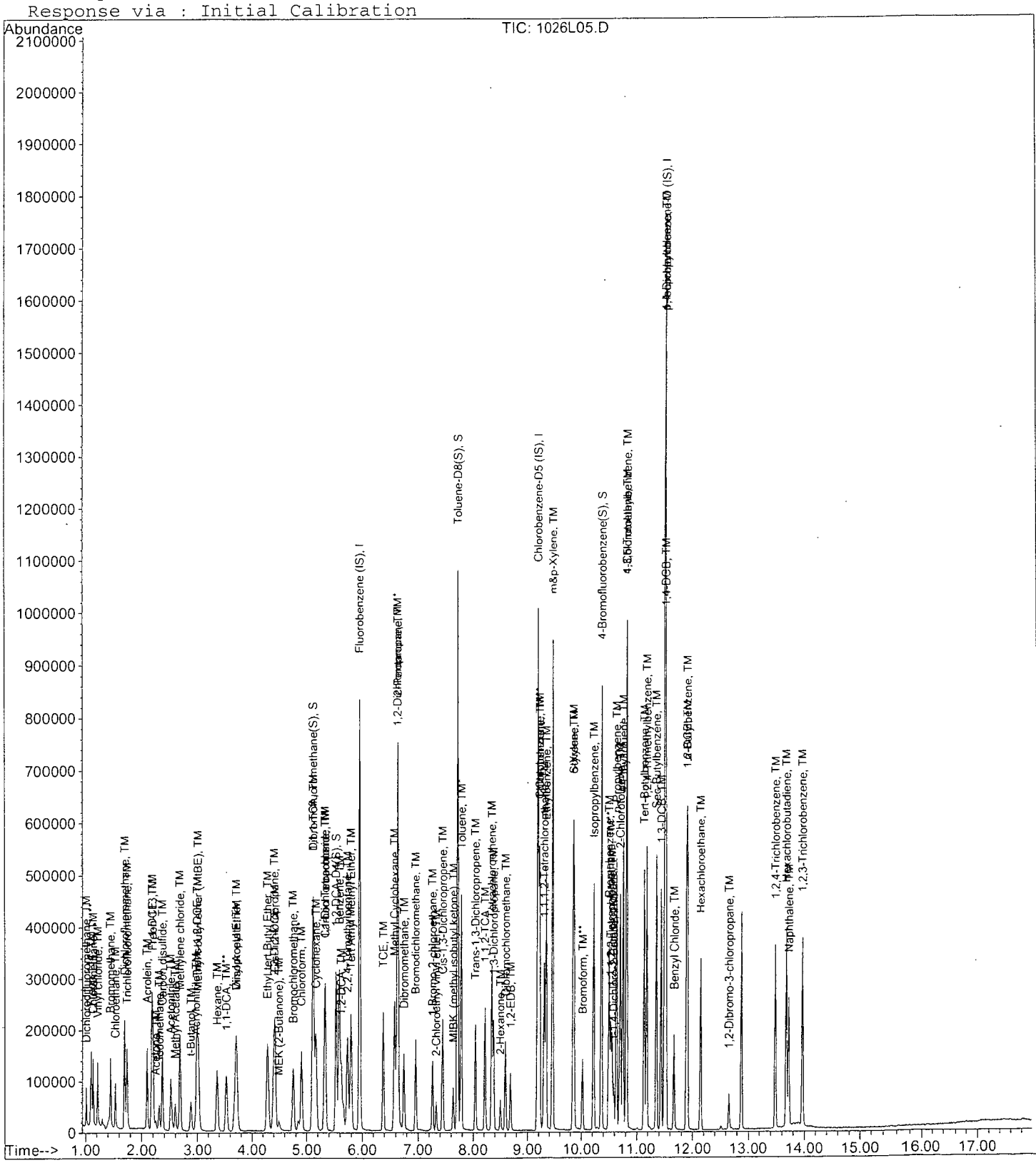
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.38	95	73100	9.29627	ppb		96
44)	2-Pentanone	6.63	43	626443	124.01237	ppb		99
45)	1,2-Dichloropropane	6.62	63	84864	9.39427	ppb		98
46)	Bromodichloromethane	6.95	83	108807	9.42543	ppb	#	99
47)	Methyl Cyclohexane	6.58	83	87477	10.03376	ppb		94
48)	Dibromomethane	6.75	93	49174	9.13782	ppb		94
49)	2-Chloroethyl vinyl ether	7.33	106	5800	7.27941	ppb		90
50)	MIBK (methyl isobutyl ket	7.63	43	51189	8.52704	ppb		97
51)	1-Bromo-2-chloroethane	7.26	63	62160	9.21664	ppb		99
52)	Cis-1,3-Dichloropropene	7.44	75	114168	9.06373	ppb		93
53)	Toluene	7.78	91	311052	10.53300	ppb		100
54)	Trans-1,3-Dichloropropene	8.04	75	102943	9.32392	ppb		94
55)	1,1,2-TCA	8.21	83	58442	9.15299	ppb		96
56)	2-Hexanone	8.50	43	33402	8.69529	ppb	#	87
59)	1,2-EDB	8.69	107	67116	9.53586	ppb		88
60)	Tetrachloroethene	8.34	166	92261	9.14457	ppb		98
61)	1-Chlorohexane	9.22	91	79024	10.27091	ppb		98
62)	1,1,1,2-Tetrachloroethane	9.30	131	85284	9.15096	ppb		91
63)	m&p-Xylene	9.46	106	253746	21.20308	ppb		95
64)	o-Xylene	9.85	106	112848	10.05204	ppb		95
65)	Styrene	9.86	104	197591	11.14186	ppb		97
67)	1,3-Dichloropropane	8.38	76	111502	9.56486	ppb		94
68)	Dibromochloromethane	8.60	129	81891	9.39966	ppb		95
69)	Chlorobenzene	9.21	112	212406	9.77337	ppb		96
70)	Ethylbenzene	9.34	91	317226	10.41562	ppb		99
71)	Bromoform	10.02	173	56319	8.94915	ppb		91
73)	Isopropylbenzene	10.22	105	282426	10.15062	ppb		99
74)	1,1,2,2-Tetrachloroethane	10.52	83	95110	10.90937	ppb		96
75)	1,2,3-Trichloropropane	10.55	110	26982	9.49647	ppb		97
76)	t-1,4-Dichloro-2-Butene	10.58	53	17486	9.95836	ppb		92
77)	Bromobenzene	10.49	156	96604	10.19270	ppb		99
78)	n-Propylbenzene	10.63	91	354576	10.41515	ppb		98
79)	4-Ethyltoluene	10.75	105	325167	10.87192	ppb		98
80)	2-Chlorotoluene	10.70	91	240297	11.00036	ppb		100
81)	1,3,5-Trimethylbenzene	10.82	105	293984	11.20395	ppb		92
82)	4-Chlorotoluene	10.81	91	288723	11.11637	ppb		100
83)	Tert-Butylbenzene	11.13	119	219351	10.42894	ppb		100
84)	1,2,4-Trimethylbenzene	11.18	105	273459	10.76811	ppb		95
85)	Sec-Butylbenzene	11.35	105	332725	10.72983	ppb		99
86)	p-Isopropyltoluene	11.51	119	289073	10.86622	ppb		98
87)	Benzyl Chloride	11.67	91	127262	10.12303	ppb		99
88)	1,3-DCB	11.44	146	197395	10.73029	ppb		97
89)	1,4-DCB	11.53	146	206895	10.41079	ppb		98
90)	n-Butylbenzene	11.91	91	258804	10.54198	ppb		99
91)	1,2-DCB	11.89	146	181383	10.04895	ppb		98
92)	Hexachloroethane	12.14	117	61810	10.78959	ppb		94
93)	1,2-Dibromo-3-chloropropan	12.66	157	12280	10.61992	ppb		94
94)	1,2,4-Trichlorobenzene	13.49	180	106615	8.71957	ppb		99
95)	Hexachlorobutadiene	13.68	225	72414	9.79475	ppb		94
96)	Naphthalene	13.72	128	123488	9.16406	ppb		98
97)	1,2,3-Trichlorobenzene	13.96	180	110689	9.16760	ppb		95

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

Data File : M:\LOKI\DATA\141024\1026L05.D Vial: 4
Acq On : 26 Oct 14 12:35 Operator: DG,SV,RS
Sample : 141026A LCS-1WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

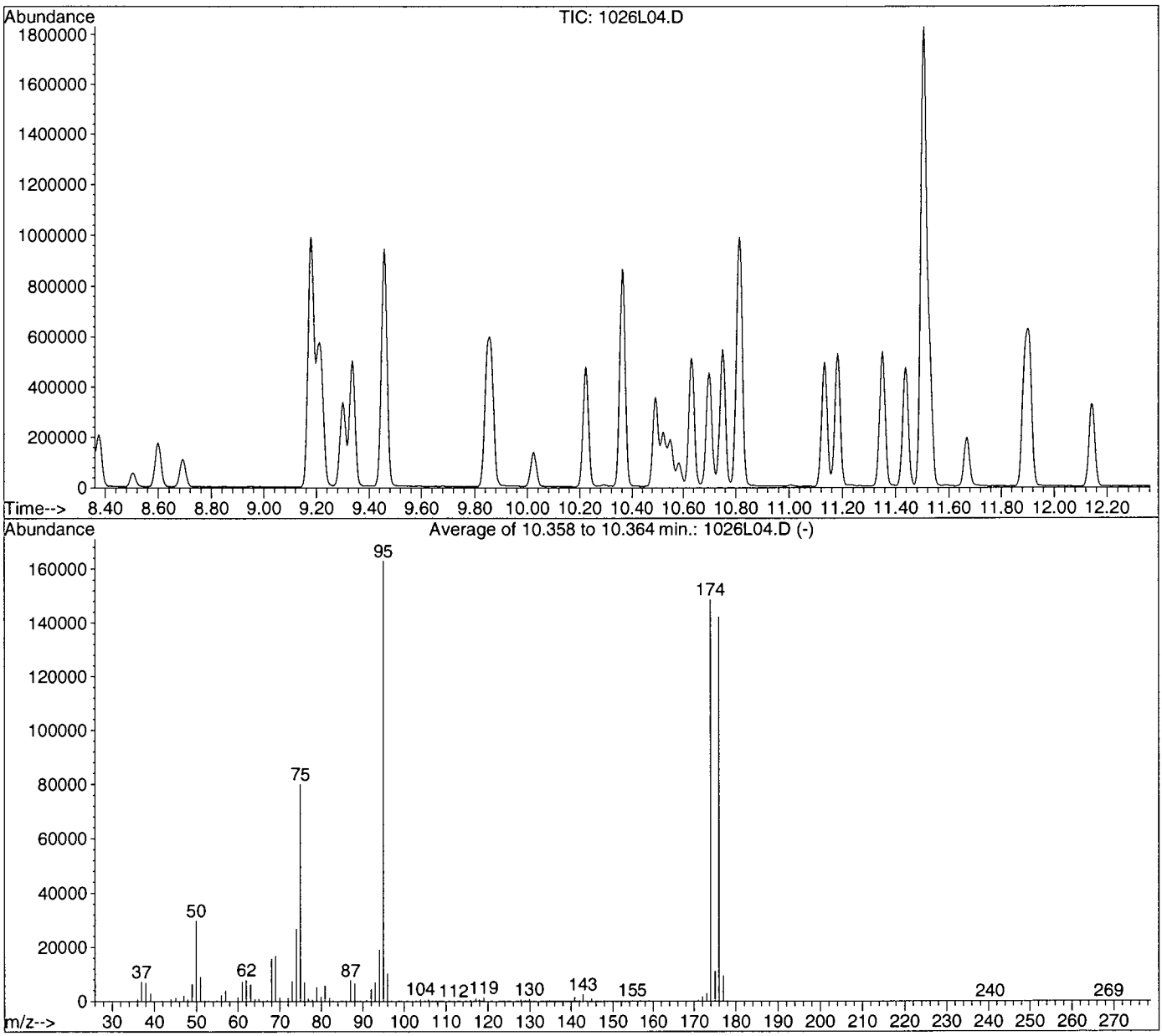
Quant Time: Oct 27 15:44 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration



Data File : M:\LOKI\DATA\141024\1026L04.D Vial: 3
Acq On : 26 Oct 14 12:07 Operator: DG,SV,RS
Sample : 10ug/L Std 10-26-14(CCV) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B



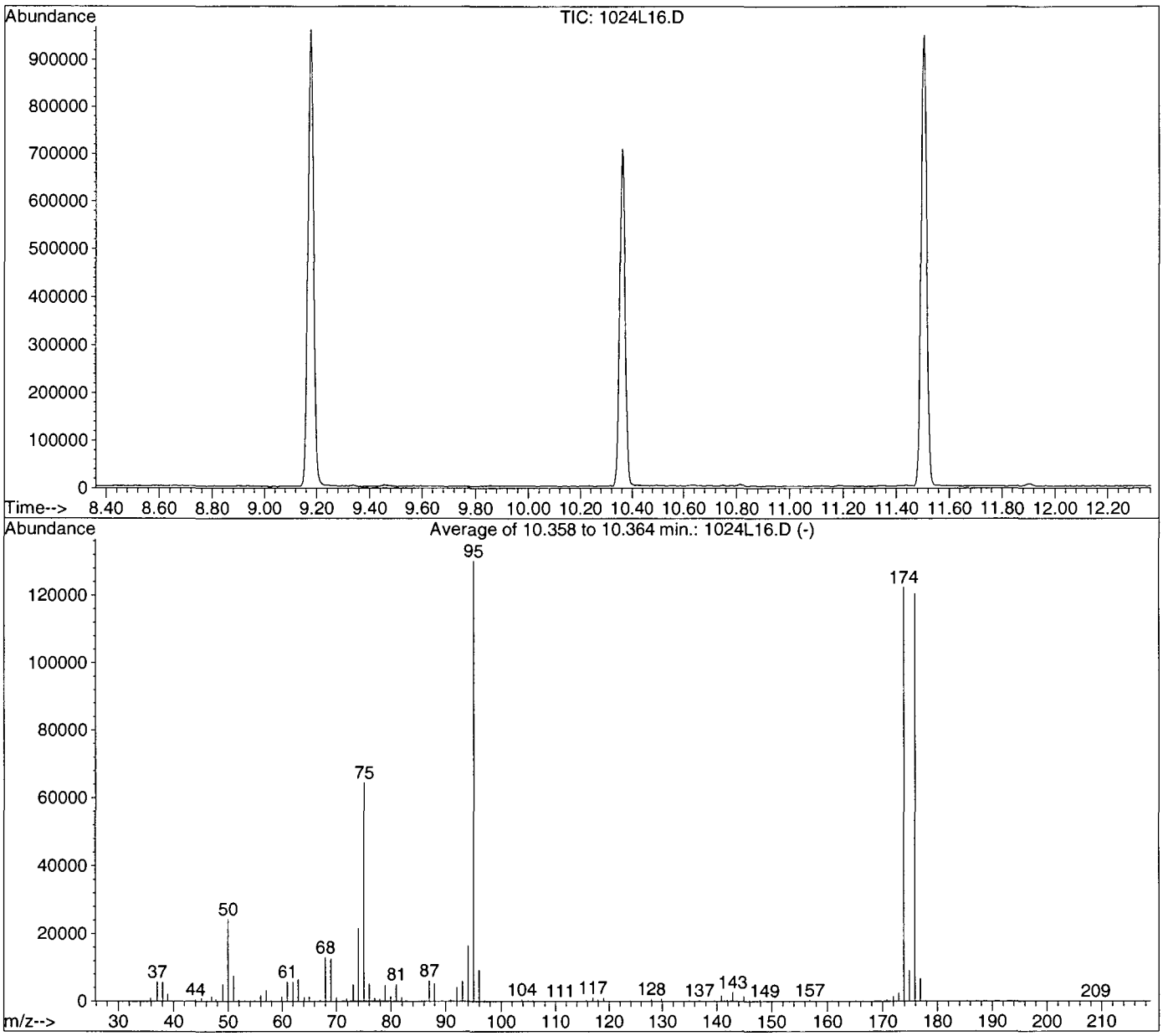
AutoFind: Scans 2929, 2930, 2931; Background Corrected with Scan 2916

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.3	29760	PASS
75	95	30	60	49.1	79973	PASS
95	95	100	100	100.0	162901	PASS
96	95	5	9	6.4	10350	PASS
173	174	0.00	2	1.9	2818	PASS
174	95	50	100	91.2	148608	PASS
175	174	5	9	7.6	11258	PASS
176	174	95	101	95.7	142229	PASS
177	176	5	9	6.7	9514	PASS

Data File : M:\LOKI\DATA\141024\1024L16.D
Acq On : 24 Oct 14 17:30
Sample : 25ug/mL BFB Std 09-30-14
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 15
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B



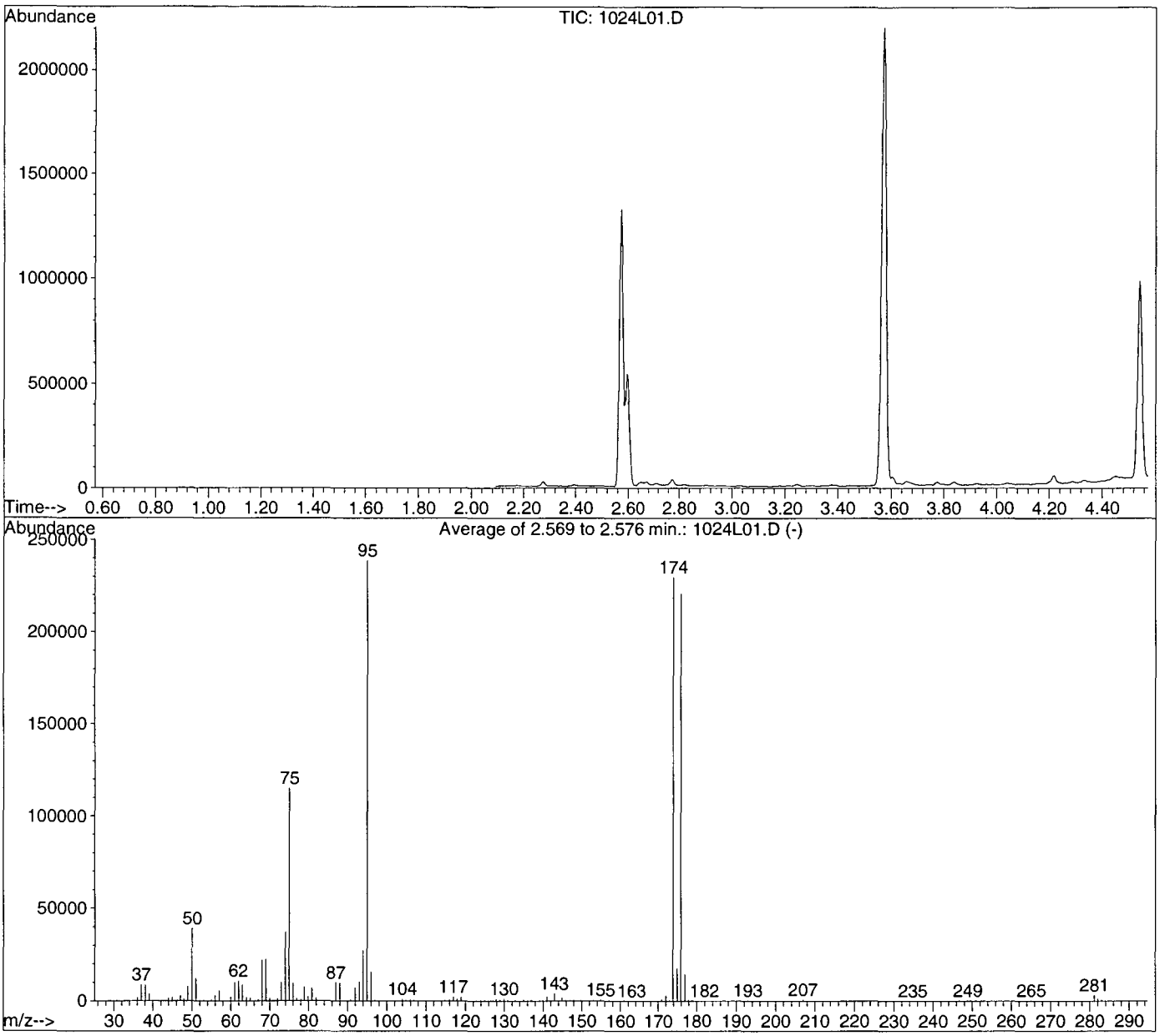
AutoFind: Scans 2929, 2930, 2931; Background Corrected with Scan 2916

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.7	24299	PASS
75	95	30	60	49.6	64541	PASS
95	95	100	100	100.0	130128	PASS
96	95	5	9	7.2	9314	PASS
173	174	0.00	2	2.0	2467	PASS
174	95	50	100	94.1	122392	PASS
175	174	5	9	7.5	9131	PASS
176	174	95	101	98.5	120525	PASS
177	176	5	9	5.6	6711	PASS

Data File : M:\LOKI\DATA\141024\1024L01.D
Acq On : 24 Oct 14 10:32
Sample : 25ug/mL BFB Std 09-30-14
Misc : 2uL

Vial: 1
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B



AutoFind: Scans 149, 150, 151; Background Corrected with Scan 140

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.4	39154	PASS
75	95	30	60	48.1	114891	PASS
95	95	100	100	100.0	238635	PASS
96	95	5	9	6.7	15881	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	96.2	229525	PASS
175	174	5	9	7.7	17629	PASS
176	174	95	101	96.1	220501	PASS
177	176	5	9	6.6	14538	PASS

09/26/14U							
50ug/ml VOC Std#5							
Exp:10/26/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120016-03-SS	8260 Gases(SS)	2000	220940-33548	09/15/14F	04/15/17	50
O2SI	020145-02-02-S	2-CEVE	2000	219465-33222	09/26/14F	12/16/15	50
J&T Brand		Purge & Trap MeOH		49909-00765	09/25/14	07/09/18	1900
09/26/14V							
50ug/ml VOC Std#6							
Exp:10/26/14							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120023-03-SS	VOC'S 54 COMP.	2000	208329-32741	09/26/14G	05/02/15	50
O2SI	120296-01-SS	Custom 8260 Solution	2000	212199-32960	09/26/14H	01/23/15	50
O2SI	020232-02-SS	Vinyl Acetate(SS)	2000	232116-33844	09/15/14G	10/08/14	50
O2SI	020620-02-SS	n-Hexane	1000	205203-33678	09/26/14I	03/12/15	100
O2SI	020049-02-SS	HEXACHLOROETHANE	1000	226063-33531	09/26/14J	04/07/16	100
J&T Brand		Purge & Trap MeOH		49909-00765	09/25/14	07/09/18	1650
09/26/14W							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:10/26/14			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	120166-01-SS	VOC Mix 4-3 (SS).	2000	189667-33305	09/03/14K	05/18/15	250
O2SI	020229-09-SS	Acrolein SOLUTION (SS) -	10000	234095-33910	09/03/14L	08/25/14	50
J&T Brand		Purge & Trap MeOH		49909-00765	09/25/14	07/09/18	1700

9/26/14 RS

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-LOKI

Exp. Date	09/30/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc	09-26-14O	09-26-14P	09-26-14Q	09-26-14S	09-26-14K	09-26-14M	09-26-14L	09-26-14N	09-26-14R	09-26-14T	w/P&T H2O
Date/code	µg/L	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	mL
09-29-14A	0.1	1	1	1	2	n/a	n/a	n/a	n/a	n/a	1	50
09-29-14B	0.3	3	3	3	6	n/a	n/a	n/a	n/a	n/a	2	50
09-29-14C	0.5	5	5	5	10	n/a	n/a	n/a	n/a	n/a	5	50
09-29-14D	1	10	10	10	20	n/a	n/a	n/a	n/a	n/a	10	50
09-29-14E	5	n/a	n/a	n/a	n/a	5	5	5	5	10	20	50
09-29-14F	10	n/a	n/a	n/a	n/a	10	10	10	10	25	25	50
09-29-14G	20	n/a	n/a	n/a	n/a	20	20	20	20	40	30	50
09-29-14H	40	n/a	n/a	n/a	n/a	40	40	40	40	80	35	50
09-29-14I	100	n/a	n/a	n/a	n/a	100	100	100	100	100	40	50

9/29/14 RS

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-THOR

Exp. Date	09/30/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc	09-26-14O	09-26-14P	09-26-14Q	09-26-14S	09-26-14K	09-26-14M	09-26-14L	09-26-14N	09-26-14R	09-26-14T	w/P&T H2O
Date/code	µg/L	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	mL
09-29-14J	2	2	2	2	2	n/a	n/a	n/a	n/a	n/a	1	5
09-29-14K	5	5	5	5	5	n/a	n/a	n/a	n/a	n/a	2	5
09-29-14L	10	10	10	10	10	n/a	n/a	n/a	n/a	n/a	3	5
09-29-14M	20	20	20	20	20	n/a	n/a	n/a	n/a	n/a	4	5
09-29-14N	50	n/a	n/a	n/a	n/a	5	5	5	5	5	5	5
09-29-14O	100	n/a	n/a	n/a	n/a	10	10	10	10	10	6	5
09-29-14P	150	n/a	n/a	n/a	n/a	15	15	15	15	15	7	5
09-29-14Q	200	n/a	n/a	n/a	n/a	20	20	20	20	20	8	5

9/30/14 RS

250ug/ml BFB STD			Conc.		Date	Exp.	
Exp: 10/10/14			ug/ml	Lot#	CODE	Date	uL
O2SI	020133-03	4-Bromofluorobenzene	2500	195-08-14A1	04/28/14A	09/15/19	20
J&T Brand		Purge & Trap MeOH		49909-00765	09/25/14	07/09/18	1700

9/30/14 RS

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-THOR

Exp. Date:	10/01/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc	09-26-14O	09-26-14P	09-26-14Q	09-26-14S	09-26-14K	09-26-14M	09-26-14L	09-26-14N	09-26-14R	09-26-14T	w/P&T H2O
Date/code	µg/L	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	mL
09-30-14B	2	2	2	2	2	n/a	n/a	n/a	n/a	n/a	1	5
09-30-14C	5	5	5	5	5	n/a	n/a	n/a	n/a	n/a	2	5
09-30-14D	10	10	10	10	10	n/a	n/a	n/a	n/a	n/a	3	5
09-30-14E	20	20	20	20	20	n/a	n/a	n/a	n/a	n/a	4	5
09-30-14F	50	n/a	n/a	n/a	n/a	5	5	5	5	5	5	5
09-30-14G	100	n/a	n/a	n/a	n/a	10	10	10	10	10	6	5
09-30-14H	150	n/a	n/a	n/a	n/a	15	15	15	15	15	7	5
09-30-14I	200	n/a	n/a	n/a	n/a	20	20	20	20	20	8	5

9/30/14 RS

GC/MS STANDARD PREPARATION BOOK # 63 PAGE # 5

10/08/14 C-
RS

VOC Mix 4-3, 2,000 mg/L, 1 mL
120166-01
Lot # 229587 Storage ≤ 6 Degrees C Expiry 29/May/2016
Solvt P/T Methanol

VOC Mix 4-3, 2000mg/L
Lot #: 229587 - 33670
Rec: 6/3/14 MFR exp. 5/29/16
RS

10/08/14D							
50ug/ml Vol Work Std #7							
Exp:11/08/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	231710-33814	10/08/14A	03/30/17	100
02SI	020049-02	HEXACHLOROETHANE	1000	234821-33990	09/03/14B	08/26/16	200
02SI	020228-02	Benzyl Chloride	1000	200704-33538	09/15/13B	12/10/14	200
J&T Brand		Purge & Trap MeOH		49909-00766	10/03/14	07/09/18	3500
10/08/14E							
50ug/ml Vol Work Std #1							
Exp:11/08/14					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	229586-33689	09/26/14D	06/03/17	50
J&T Brand		Purge & Trap MeOH		49909-00766	10/03/14	07/09/18	1950
10/08/14F							
50ug/ml Vol Work Std #8							
Exp:11/08/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	210086-32534	09/26/14B	06/06/15	100
02SI	120023-03	VOC'S-54 COMP	2000	216122-32921	10/08/14B	10/11/15	100
02SI	020232-02	Vinyl Acetate	2000	229682-33659	09/03/14E	08/28/14	100
02SI	020620-02	n-Hexane	1000	195505-33674	09/26/13C	09/09/17	200
J&T Brand		Purge & Trap MeOH		49909-00766	10/03/14	07/09/18	3500
10/08/14G							
50ug/ml Vol Work Std #2							
Exp:11/08/14							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	232379-33883	09/26/14E	10/10/14	100
J&T Brand		Purge & Trap MeOH		49909-00766	10/03/14	07/09/18	3900
		10/08/14H					
		5ug/ml Vol Work Std #9					
		SOURCES	Lot	APPL Code	APPL Exp Date	ul	
		50ug/ml Vol Work Std #7		10/08/14D	11/08/14	200	
		50ug/ml Vol Work Std #8		10/08/14F	11/08/14	200	
		J&T Brand		09/25/14	07/09/18	1600	
		10/08/14I					
		5ug/ml Vol Work Std #10					
		SOURCES	Lot	APPL Code	APPL Exp Date	ul	
		50ug/ml Vol Work Std #1		10/08/14E	11/08/14	200	
		J&T Brand		09/25/14	07/09/18	1800	
		10/08/14J					
		5ug/ml Vol Work Std #12					
		SOURCES	Lot	APPL Code	APPL Exp Date	ul	
		50ug/ml Vol Work Std #2		10/08/14G	11/08/14	200	
		J&T Brand		09/25/14	07/09/18	1800	
10/08/14K							
50ug/ml 8260 Surrogate			Conc.		Date	Exp.	
Exp:11/08/14			ug/ml	Lot #	Code	Date	ul
02SI	120002-01	8260B Surr Solution	2000	185763-33556	10/06/14B	02/19/15	100
J&T Brand		Purge & Trap MeOH		49909-00766	10/03/14	07/09/18	3900
10/08/14L							
5.0ug/ml 8260 Surrogate			Lot	APPL Code	APPL Exp Date	ul	
		50ug/ml 8260 Surrogate		10/08/14K	11/08/14	200	
J&T Brand		Purge & Trap MeOH		09/25/14	07/09/18	1800	
10/08/14M							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:11/08/14			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	ul
02SI	120166-01	Volatile Mix 4-3	2000	229254-33670	10/08/14C	05/29/16	1500
02SI	020229-09	Acrolein	10000	235659-34043	09/15/14E	10/20/14	100
J&T Brand		Purge & Trap MeOH		49909-00766	10/03/14	07/09/18	3400

10/08/14
RS

10/08/14N							
50ug/ml VOC Std#5							
Exp:11/08/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120016-03-SS	8260 Gases(SS)	2000	220940 33548	09/15/14F	04/15/17	50
O2SI	020145-02-02-S	2-CEVE	2000	219465-33222	09/26/14F	12/16/15	50
J&T Brand		Purge & Trap MeOH		49909-00766	10/03/14	07/09/18	1900
10/08/14O							
50ug/ml VOC Std#6							
Exp:11/08/14							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120023-03-SS	VOC'S 54 COMP.	2000	208329-32741	09/26/14G	05/02/15	50
O2SI	120296-01-SS	Custom 8260 Solution	2000	212199-32960	09/26/14H	01/23/15	50
O2SI	020232-02-SS	Vinyl Acetate(SS)	2000	232116-33844	09/15/14G	10/08/14	50
O2SI	020620-02-SS	n-Hexane	1000	205203-33678	09/26/14I	03/12/15	100
O2SI	020049-02-SS	HEXACHLOROETHANE	1000	226063-33531	09/26/14J	04/07/16	100
J&T Brand		Purge & Trap MeOH		49909-00766	10/03/14	07/09/18	1650
10/08/14P							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:11/08/14			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	189667-33305	09/03/14K	05/18/15	250
O2SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	234095-33910	09/03/14L	08/25/14	50
J&T Brand		Purge & Trap MeOH		49909-00766	10/03/14	07/09/18	1700

10/08/14 RS

See Thor 10/8/14 Soil curve on page 112 - DNB 10/21/14

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX

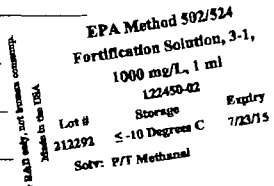
Exp: Date:	10/11/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	10-08-14H	10-08-14I	10-08-14J	10-08-14L	10-08-14D	10-08-14F	10-08-14E	10-08-14G	10-08-14K	10-08-14M	w/P&T H2O
Date/code	µg/L	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	mL
10-10-14A	0.1	1	1	1	2	n/a	n/a	n/a	n/a	n/a	1	50
10-10-14B	0.3	3	3	3	6	n/a	n/a	n/a	n/a	n/a	2	50
10-10-14C	0.5	5	5	5	10	n/a	n/a	n/a	n/a	n/a	5	50
10-10-14D	1	10	10	10	20	n/a	n/a	n/a	n/a	n/a	10	50
10-10-14E	5	n/a	n/a	n/a	n/a	5	5	5	5	10	20	50
10-10-14F	10	n/a	n/a	n/a	n/a	10	10	10	10	25	25	50
10-10-14G	20	n/a	n/a	n/a	n/a	20	20	20	20	40	30	50
10-10-14H	40	n/a	n/a	n/a	n/a	40	40	40	40	80	35	50
10-10-14I	100	n/a	n/a	n/a	n/a	100	100	100	100	100	40	50

10/10/14 RS

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-THOR

Exp: Date:	10/11/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc	10-08-14H	10-08-14I	10-08-14J	10-08-14L	10-08-14D	10-08-14F	10-08-14E	10-08-14G	10-08-14K	10-08-14M	w/P&T H2O
Date/code	µg/L	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	mL
10-10-14J	0.1	1	1	1	2	n/a	n/a	n/a	n/a	n/a	1	50
10-10-14K	0.3	3	3	3	6	n/a	n/a	n/a	n/a	n/a	2	50
10-10-14L	0.5	5	5	5	10	n/a	n/a	n/a	n/a	n/a	5	50
10-10-14M	1	10	10	10	20	n/a	n/a	n/a	n/a	n/a	10	50
10-10-14N	5	n/a	n/a	n/a	n/a	5	5	5	5	10	20	50
10-10-14O	10	n/a	n/a	n/a	n/a	10	10	10	10	25	25	50
10-10-14P	20	n/a	n/a	n/a	n/a	20	20	20	20	40	30	50
10-10-14Q	40	n/a	n/a	n/a	n/a	40	40	40	40	80	35	50
10-10-14R	100	n/a	n/a	n/a	n/a	100	100	100	100	100	40	50

10/10/14 RS



EPA Method 502/524 Fortification
Lot #: 212292 - 32765
Rec: 7/25/13 MFG exp 7/23/15

10/13/14 RS A-

RS

GC/MS STANDARD PREPARATION BOOK # 163 PAGE #

10-8-14

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-THOR

Exp: Date:	10/09/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	10-08-14H	10-08-14I	10-08-14J	10-08-14L	10-08-14D	10-08-14F	10-08-14E	10-08-14G	10-08-14K	10-08-14P	w/P&T H2O
Date/code	µg/L	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	mL
10-08-14Q	2	2	2	2	2	n/a	n/a	n/a	n/a	n/a	1	5
10-08-14R	5	5	5	5	5	n/a	n/a	n/a	n/a	n/a	2	5
10-08-14S	10	10	10	10	10	n/a	n/a	n/a	n/a	n/a	3	5
10-08-14T	20	20	20	20	20	n/a	n/a	n/a	n/a	n/a	4	5
10-08-14U	50	n/a	n/a	n/a	n/a	5	5	5	5	5	5	5
10-08-14V	100	n/a	n/a	n/a	n/a	10	10	10	10	10	6	5
10-08-14W	150	n/a	n/a	n/a	n/a	15	15	15	15	15	7	5
10-08-14X	200	n/a	n/a	n/a	n/a	20	20	20	20	20	8	5

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-LOKI

Exp: Date:	10/22/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	10-08-14H	10-08-14I	10-08-14J	10-08-14L	10-08-14D	10-08-14F	10-08-14E	10-08-14G	10-08-14K	10-08-14P	w/P&T H2O
Date/code	µg/L	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp.11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	mL
10-21-14A	2	2	2	2	2	n/a	n/a	n/a	n/a	n/a	1	5
10-21-14B	5	5	5	5	5	n/a	n/a	n/a	n/a	n/a	2	5
10-21-14C	10	10	10	10	10	n/a	n/a	n/a	n/a	n/a	3	5
10-21-14D	20	20	20	20	20	n/a	n/a	n/a	n/a	n/a	4	5
10-21-14E	50	n/a	n/a	n/a	n/a	5	5	5	5	5	5	5
10-21-14F	100	n/a	n/a	n/a	n/a	10	10	10	10	10	6	5
10-21-14G	150	n/a	n/a	n/a	n/a	15	15	15	15	15	7	5
10-21-14H	200	n/a	n/a	n/a	n/a	20	20	20	20	20	8	5

10/21/14
RS

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-LOKI

Exp: Date:	10/24/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	10-08-14H	10-08-14I	10-08-14J	10-08-14L	10-08-14D	10-08-14F	10-08-14E	10-08-14G	10-08-14K	10-08-14P	w/P&T H2O
Date/code	µg/L	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp.11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	mL
10-23-14A	2	2	2	2	2	n/a	n/a	n/a	n/a	n/a	1	5
10-23-14B	5	5	5	5	5	n/a	n/a	n/a	n/a	n/a	2	5
10-23-14C	10	10	10	10	10	n/a	n/a	n/a	n/a	n/a	3	5
10-23-14D	20	20	20	20	20	n/a	n/a	n/a	n/a	n/a	4	5
10-23-14E	50	n/a	n/a	n/a	n/a	5	5	5	5	5	5	5
10-23-14F	100	n/a	n/a	n/a	n/a	10	10	10	10	10	6	5
10-23-14G	150	n/a	n/a	n/a	n/a	15	15	15	15	15	7	5
10-23-14H	200	n/a	n/a	n/a	n/a	20	20	20	20	20	8	5

10/23/14
RS

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-LOKI

Exp: Date:	10/25/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	10-08-14H	10-08-14I	10-08-14J	10-08-14L	10-08-14D	10-08-14F	10-08-14E	10-08-14G	10-08-14K	10-08-14M	w/P&T H2O
Date/code	µg/L	Exp 11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp.11-08-14	Exp:11-08-14	Exp:11-08-14	mL
10-24-14A	0.1	1	1	1	2	n/a	n/a	n/a	n/a	n/a	1	50
10-24-14B	0.3	3	3	3	6	n/a	n/a	n/a	n/a	n/a	2	50
10-24-14C	0.5	5	5	5	10	n/a	n/a	n/a	n/a	n/a	5	50
10-24-14D	1	10	10	10	20	n/a	n/a	n/a	n/a	n/a	10	50
10-24-14E	5	n/a	n/a	n/a	n/a	5	5	5	5	10	20	50
10-24-14F	10	n/a	n/a	n/a	n/a	10	10	10	10	25	25	50
10-24-14G	20	n/a	n/a	n/a	n/a	20	20	20	20	40	30	50
10-24-14H	40	n/a	n/a	n/a	n/a	40	40	40	40	80	35	50
10-24-14I	100	n/a	n/a	n/a	n/a	100	100	100	100	100	40	50

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX

Exp: Date:	10/25/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	10-08-14H	10-08-14I	10-08-14J	10-08-14L	10-08-14D	10-08-14F	10-08-14E	10-08-14G	10-08-14K	10-08-14M	w/P&T H2O
Date/code	µg/L	Exp 11-08-14	Exp:11-08-14	Exp:11-08-14	Exp 11-08-14	Exp 11-08-14	Exp.11-08-14	Exp 11-08-14	Exp.11-08-14	Exp:11-08-14	Exp:11-08-14	mL
10-24-14J	0.1	1	1	1	2	n/a	n/a	n/a	n/a	n/a	1	50
10-24-14K	0.3	3	3	3	6	n/a	n/a	n/a	n/a	n/a	2	50
10-24-14L	0.5	5	5	5	10	n/a	n/a	n/a	n/a	n/a	5	50
10-24-14M	1	10	10	10	20	n/a	n/a	n/a	n/a	n/a	10	50
10-24-14N	5	n/a	n/a	n/a	n/a	5	5	5	5	10	20	50
10-24-14O	10	n/a	n/a	n/a	n/a	10	10	10	10	25	25	50
10-24-14P	20	n/a	n/a	n/a	n/a	20	20	20	20	40	30	50
10-24-14Q	40	n/a	n/a	n/a	n/a	40	40	40	40	80	35	50
10-24-14R	100	n/a	n/a	n/a	n/a	100	100	100	100	100	40	50

10/24/14
RS

*10/27/14 Max water curve on pg. 118 RS 11/04/14

Injection Log

Directory: M:\LOKI\DATA\141024\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	1024L01.D	1	25ug/mL BFB Std 09-30-14	2uL	24 Oct 14 10:32
2	4	1024L05.D	1	0.1ug/L Vol Std 10-24-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 12:19
3	5	1024L06.D	1	0.3ug/L Vol Std 10-24-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 12:47
4	6	1024L07.D	1	0.5ug/L Vol Std 10-24-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 13:16
5	7	1024L08.D	1	1.0ug/L Vol Std 10-24-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 13:44
6	8	1024L09.D	1	5.0ug/L Vol Std 10-24-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 14:12
7	9	1024L10.D	1	10ug/L Vol Std 10-24-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 14:41
8	10	1024L11.D	1	20ug/L Vol Std 10-24-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 15:09
9	11	1024L12.D	1	40ug/L Vol Std 10-24-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 15:37
10	12	1024L13.D	1	100ug/L Vol Std 10-24-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 16:05
11	15	1024L16.D	1	25ug/mL BFB Std 09-30-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 17:30
12	17	1024L18.D	1	10ug/L Std 10-24-14(SS)	10mL w/5uL IS&S:10-06-14	24 Oct 14 18:27
13	1	1026L01.D	1	25ug/mL BFB Std 09-30-14	2uL	26 Oct 14 10:43
14	3	1026L04.D	1	10ug/L Std 10-26-14(CCV)	10mL w/5uL IS&S:10-06-14	26 Oct 14 12:07
15	4	1026L05.D	1	141026A LCS-1WL	10mL w/5uL IS&S:10-06-14	26 Oct 14 12:35
16	9	1026L10.D	1	141026A BLK-1WL	10mL w/5uL IS&S:10-06-14	26 Oct 14 14:57
17	11	1026L12.D	1	AZ05390W02	10mL w/5uL IS&S:10-06-14	26 Oct 14 15:53
18	15	1026L16.D	1	AZ05389W02	10mL w/5uL IS&S:10-06-14	26 Oct 14 17:46
19	16	1026L17.D	1	AZ05388W02	10mL w/5uL IS&S:10-06-14	26 Oct 14 18:15

74672

RSK-175

APPL, INC.

RSK-175
QC Summary

APPL, INC.

Method Blank

MEE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **141022W-05388 - 191410**
Batch ID: #RSK50-141022A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	0.45 U	1.0	0.45	0.25	ug/L	10/22/14	10/22/14

Quant Method: RSK175Q.M
Run #: 1022F004
Instrument: Frodo
Sequence: 140305
Initials: LF

GC SC-Blank-REG MDLs
Printed: 11/02/14 9:29:06 PM

Laboratory Control Spike Recoveries

MEE

APPL ID: **141022W-05388 LCS - 191410**
Batch ID: #RSK50-141022A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	26.7	26.5	25.7	99.3	96.3	72-125	3.1	30

Comments:

Primary	SPK	DUP
Quant Method :	RSK175Q.M	RSK175Q.M
Extraction Date :	10/22/14	10/22/14
Analysis Date :	10/22/14	10/22/14
Instrument :	Frodo	Frodo
Run :	1022F002	1022F003
Initials :	LF	

Printed: 11/02/14 9:29:08 PM
APPL Standard LCSD

RSK 175

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 74672

Case No: 74672 Date Analyzed: 10/22/14

Matrix: WATER Instrument: Frodo

Blank ID: 141022A-BLK Time Analyzed: 2014

APPL ID.	Client Sample No.	File ID.	Date Analyzed
141022A-LCS	Lab Control Spike	1022F002	10/22/14 2005
141022A-LCSD	Lab Control SpikeD	1022F003	10/22/14 2010
141022A-BLK	Blank	1022F004	10/22/14 2014
AZ05388	RHMW07-GW-01	1022F012	10/22/14 2118
AZ05389	RHMW07-GW-01FD	1022F013	10/22/14 2122

Comments: Batch: #RSK50-141022A

Printed: 11/02/14 9:29:10 PM
Form 4, Blank Summary

RSK-175
Sample Data

APPL, INC.

MEE

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

Project: 749435 Red Hill TO 0068

Sample ID: RHMW07-GW-01

Sample Collection Date: 10/20/14

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 74672

APPL ID: AZ05388

QCG: #RSK50-141022A-191410

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.9	1.0	0.45	0.25	ug/L	10/22/14	10/22/14

Quant Method:	RSK175Q.M
Run #:	1022F012
Instrument:	Frodo
Sequence:	140305
Dilution Factor:	1
Initials:	LF

Printed: 11/20/14 6:10:07 PM

APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\140305\1022F012.D Vial: 12
Acq On : 22 Oct 2014 21:18 Operator: lsf
Sample : AZ05388W04 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Nov 20 17:40 2014 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
1) ATM Methane	1.88	1101	1.920	ppb	m

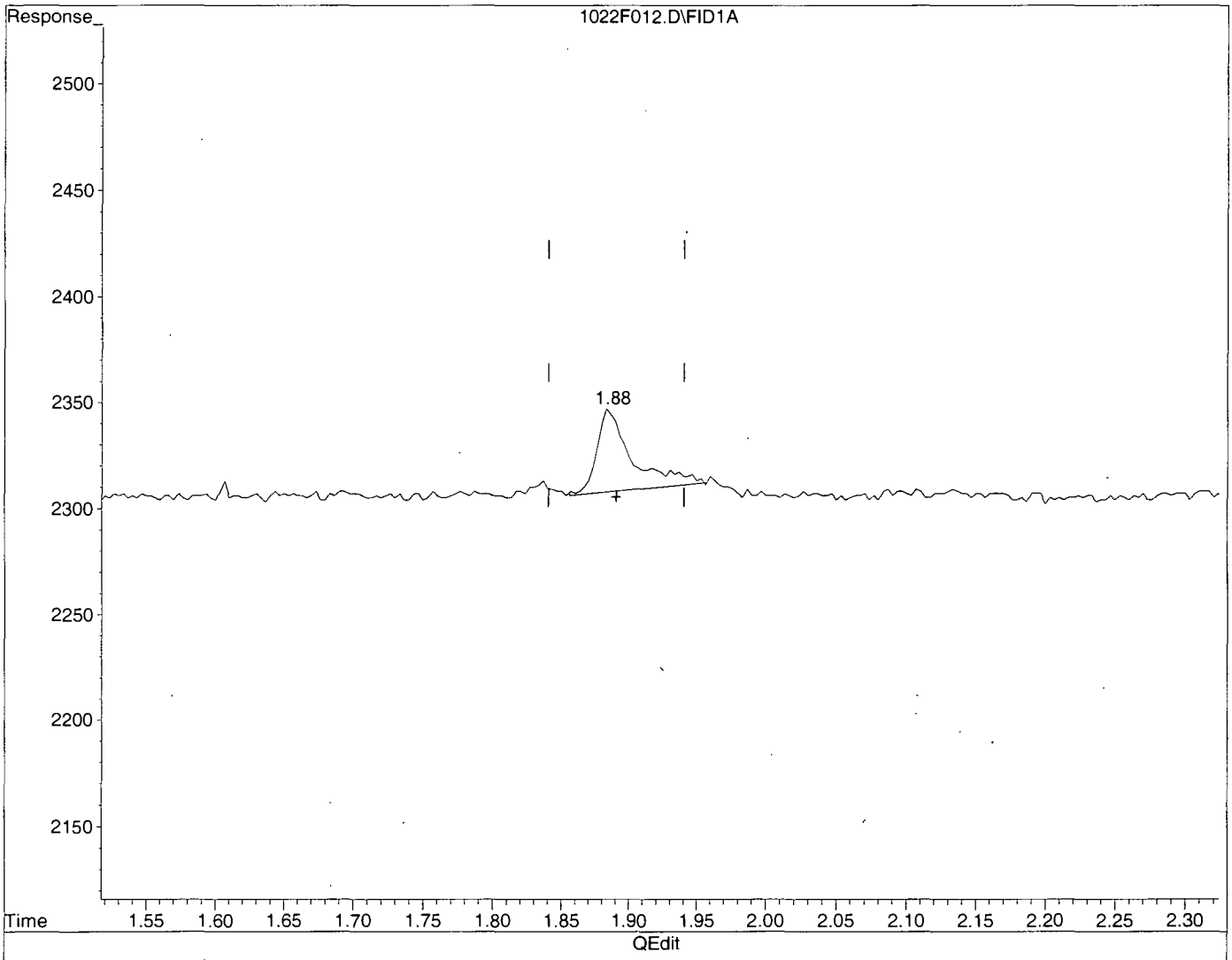
Quantitation Report

Data File : V:\FRODO\DATA\140305\1022F012.D Vial: 12
Acq On : 22 Oct 2014 21:18 Operator: lsf
Sample : AZ05388W04 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 22 20:23 2014 Quant Results File: RSK175Q.RES

Before M.I.

JR 11-25-14

Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration



(1) Methane (ATM)

1.89min 0.753ppb

response 685

AMENDED PAGE

(+) = Expected Retention Time

1022F012.D RSK175Q.M Thu Nov 20 17:36:56 2014

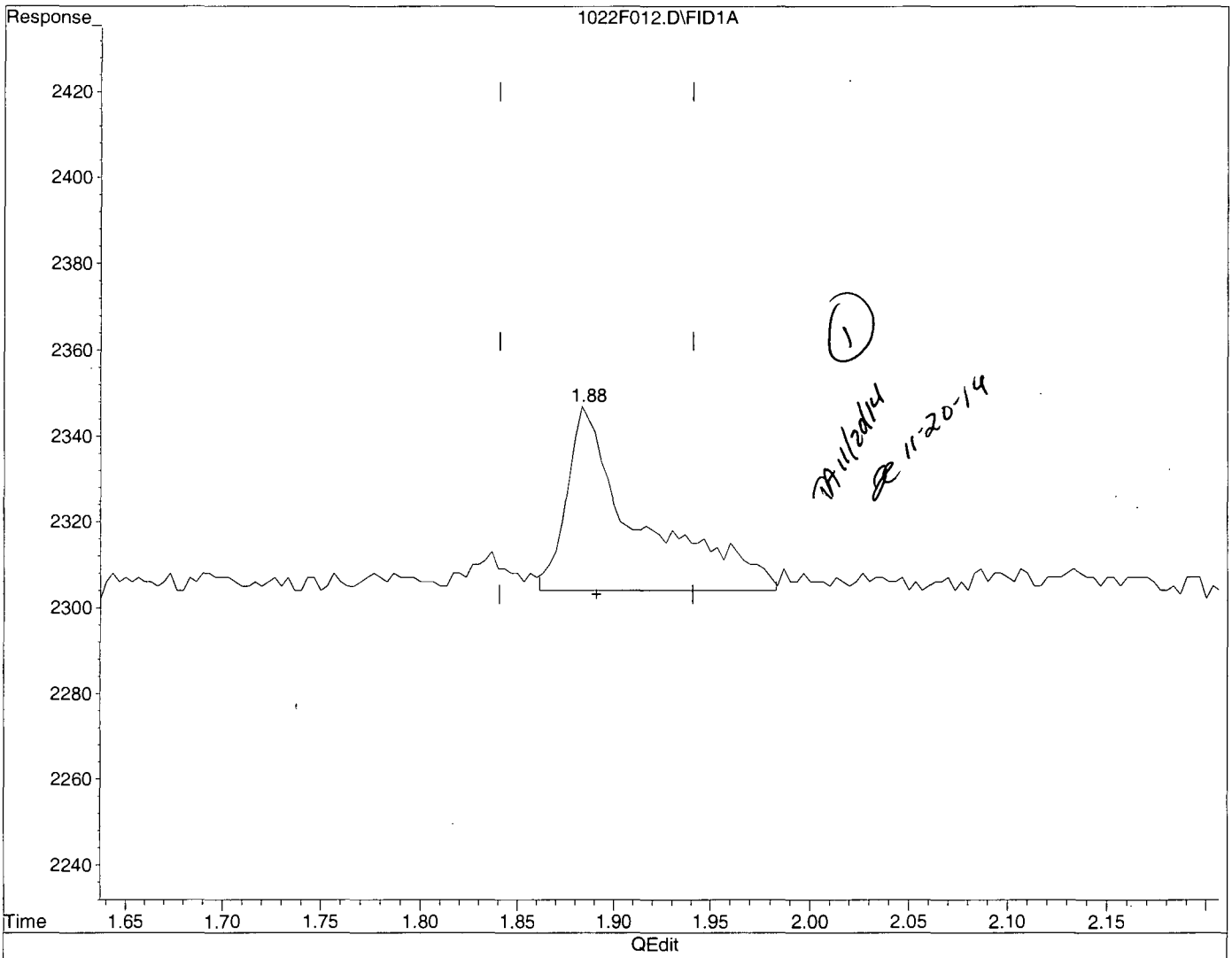
Quantitation Report

Data File : V:\FRODO\DATA\140305\1022F012.D Vial: 12
Acq On : 22 Oct 2014 21:18 Operator: lsf
Sample : AZ05388W04 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 22 20:23 2014 Quant Results File: RSK175Q.RES

After MI

JE 11-25-14

Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration



(1) Methane (ATM)

1.88min 1.920ppb m

response 1101

ADDED PAGE

(+) = Expected Retention Time

1022F012.D RSK175Q.M Thu Nov 20 17:40:56 2014

MEE

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: 749435 Red Hill TO 0068

ARF: 74672

Sample ID: RHMW07-GW-01FD

APPL ID: AZ05389

Sample Collection Date: 10/20/14

QCG: #RSK50-141022A-191410

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	2.8	1.0	0.45	0.25	ug/L	10/22/14	10/22/14

Quant Method:	RSK175Q.M
Run #:	1022F013
Instrument:	Frodo
Sequence:	140305
Dilution Factor:	1
Initials:	LF

Printed: 11/20/14 6:10:07 PM

APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\140305\1022F013.D Vial: 13
Acq On : 22 Oct 2014 21:22 Operator: lsf
Sample : AZ05389W04 Inst : Frodo
Misc : Water Multip1r: 1.00
IntFile : events.e
Quant Time: Nov 20 17:40 2014 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

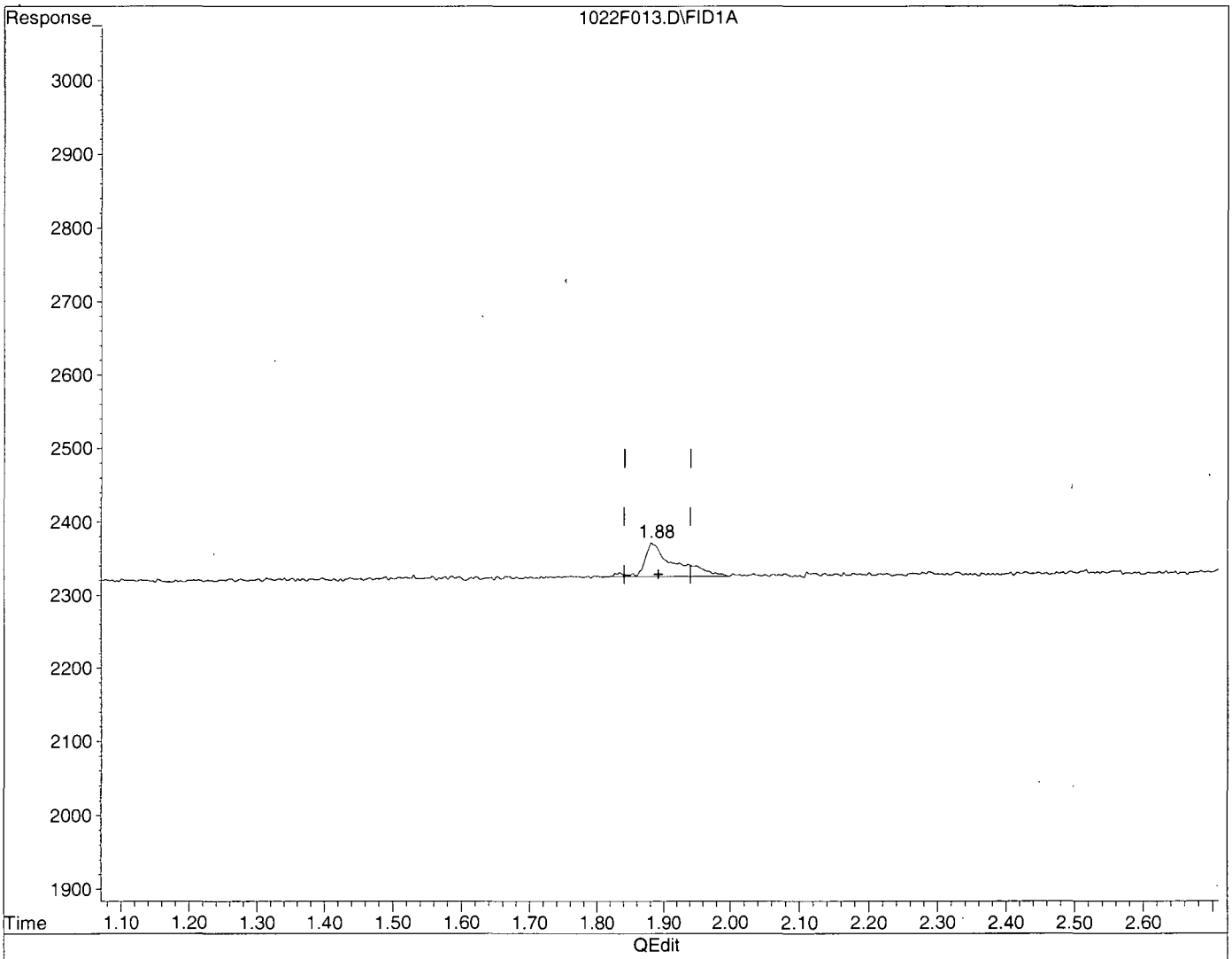
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units	
Target Compounds					
1) ATM Methane	1.88	1399	2.757	ppb	m

Quantitation Report

Data File : V:\FRODO\DATA\140305\1022F013.D Vial: 13
Acq On : 22 Oct 2014 21:22 Operator: lsf
Sample : AZ05389W04 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 22 20:27 2014 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration



(1) Methane (ATM)

1.88min 2.903ppb

response 1451

AMENDED PAGE

(+) = Expected Retention Time

1022F013.D RSK175Q.M Tue Nov 18 14:28:55 2014

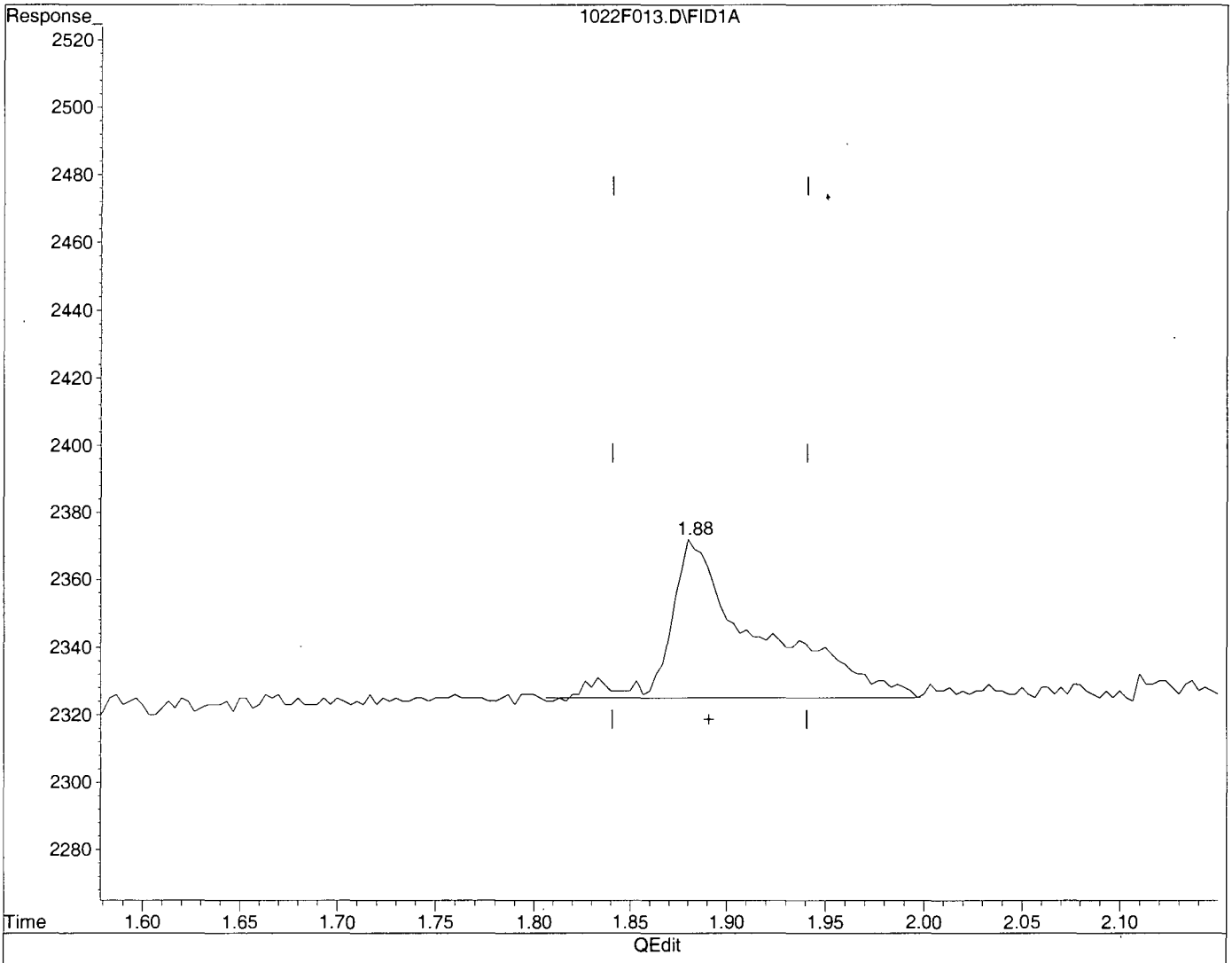
Quantitation Report

Data File : V:\FRODO\DATA\140305\1022F013.D Vial: 13
Acq On : 22 Oct 2014 21:22 Operator: lsf
Sample : AZ05389W04 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 22 20:27 2014 Quant Results File: RSK175Q.RES

Before M.I.

JE 11-25-14

Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration



(1) Methane (ATM)

1.88min 2.903ppb

response 1451

AMENDED PAGE

(+) = Expected Retention Time

1022F013.D RSK175Q.M Thu Nov 20 17:39:58 2014

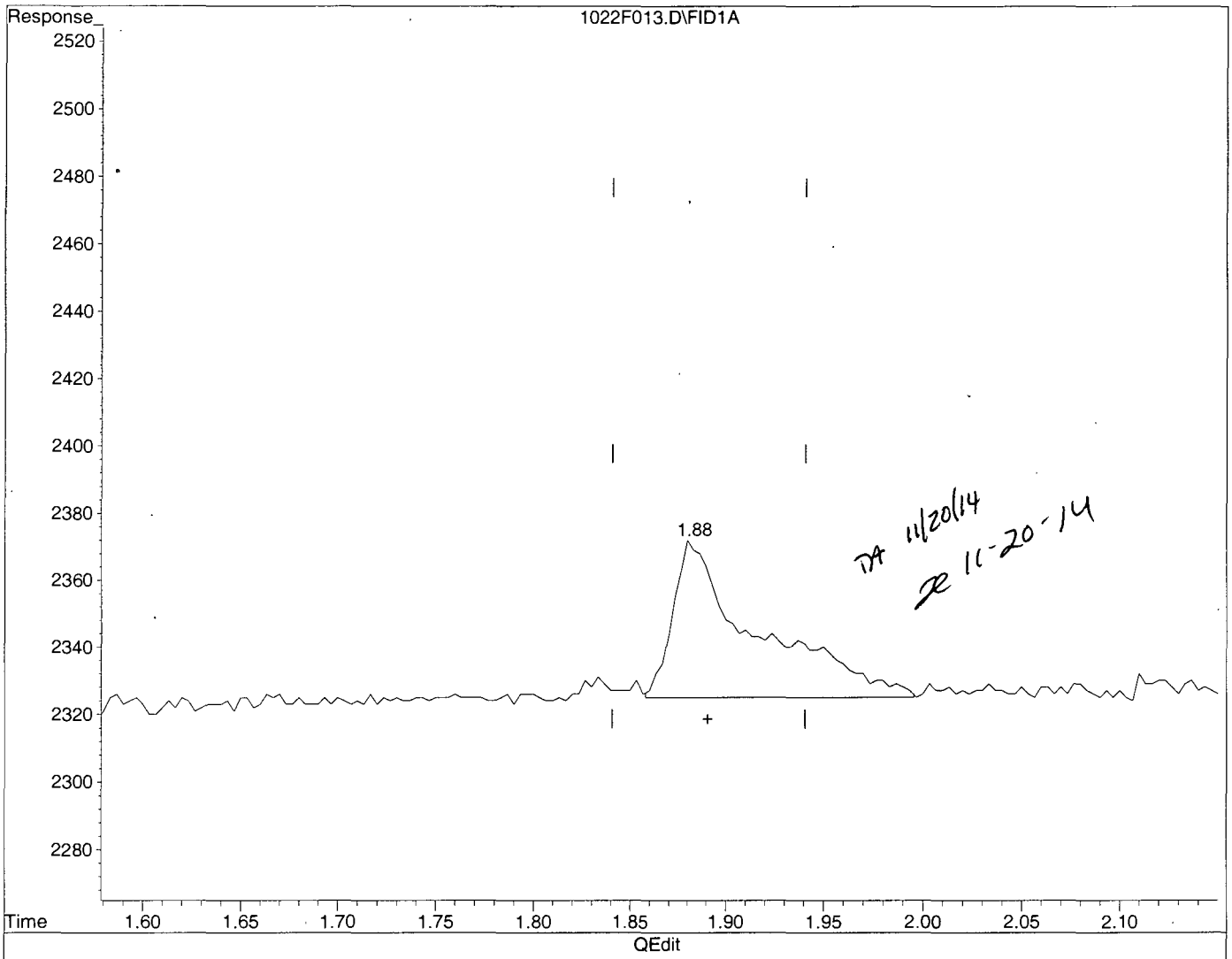
Quantitation Report

Data File : V:\FRODO\DATA\140305\1022F013.D Vial: 13
Acq On : 22 Oct 2014 21:22 Operator: lsf
Sample : AZ05389W04 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 22 20:27 2014 Quant Results File: RSK175Q.RES

After M.I.

JE 11.24.14

Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration



JA 11/20/14
JE 11-20-14

(1) Methane (ATM)

1.88min 2.757ppb m

response 1399

ADDED PAGE

(+) = Expected Retention Time

1022F013.D RSK175Q.M Thu Nov 20 17:40:11 2014

RSK-175
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 03/06/13
Matrix: Water Instrument: Frodo Initials:

0306F001.D 0306F002.D 0306F003 D 0306F004.D 0306F005.D

		Compound	1	2	3	4	5						Avg	%RSD		r^2
1	ATML	Methane	1275	462	373	359	357						565	71	ATML	1.00
2	ATM	Ethane	304	260	315	313	369						312	12	ATM	
3	ATM	Ethene	351	249	326	328	387						328	15	ATM	
4																
5																
6																
7																
8																
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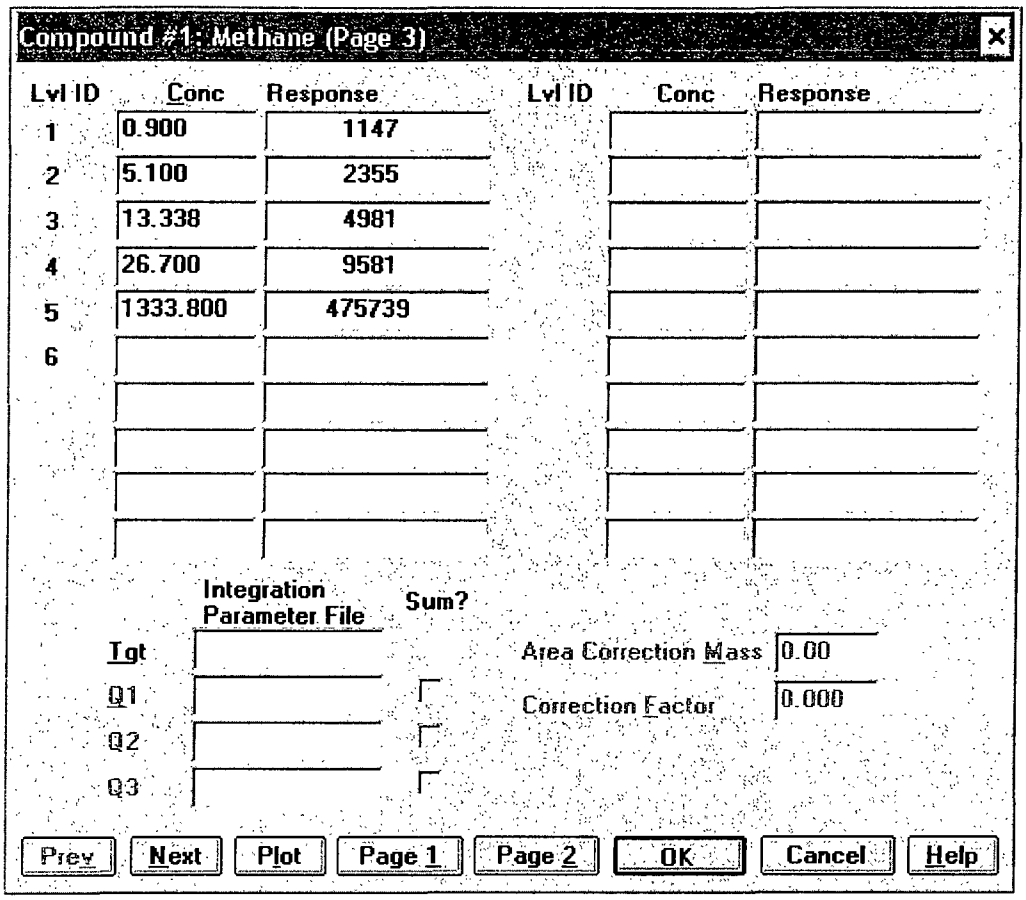
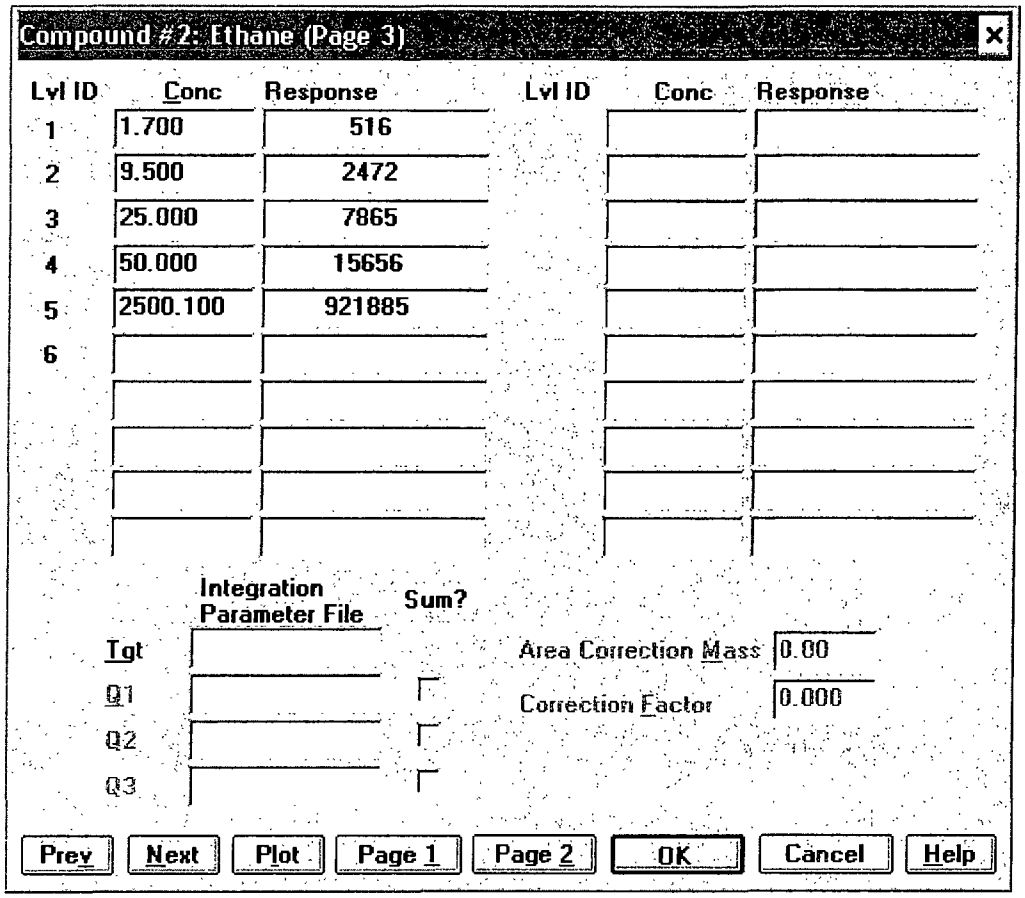
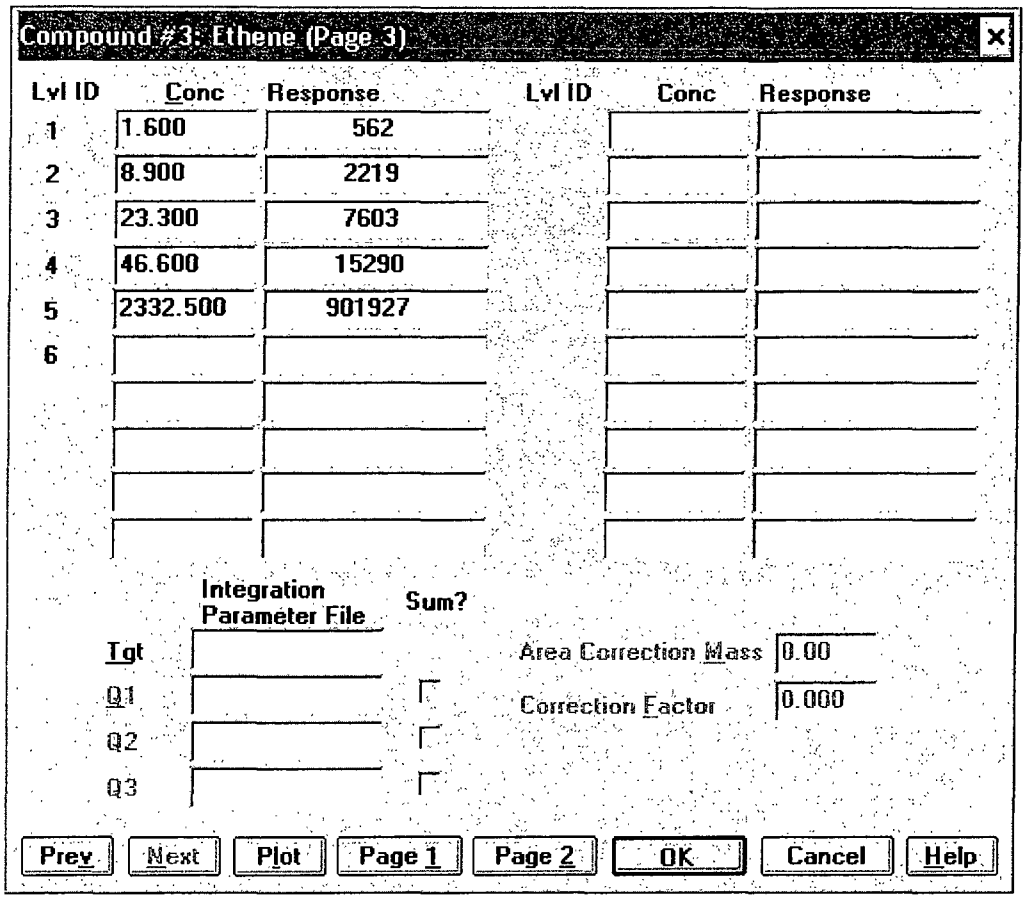
35																

2.8106706


Compound #1: Methane (Page 3)
Lvl ID
Conc
Response
1 0.900 1147
2 5.100 2355
3 13.338 4981
4 26.700 9581
5 1333.800 475739
6
Lvl ID
Conc
Response
Integration Parameter File
Sum?
Tgt
Q1
Q2
Q3
Area Correction Mass 0.00
Correction Factor 0.000
Prev
Next
Plot
Page 1
Page 2
OK
Cancel
Help


Compound #2: Ethane (Page 3)
Lvl ID
Conc
Response
1
1.700
516
2
9.500
2472
3
25.000
7865
4
50.000
15656
5
2500.100
921885
6
Lvl ID
Conc
Response
Integration Parameter File
Sum?
Tgt
Q1
Q2
Q3
Area Correction Mass
0.00
Correction Factor
0.000
Prev
Next
Plot
Page 1
Page 2
OK
Cancel
Help


Compound #3: Ethene (Page 3)
Lvl ID
Conc
Response
Lvl ID
Conc
Response
1
1.600
562
2
8.900
2219
3
23.300
7603
4
46.600
15290
5
2332.500
901927
6
Integration Parameter File
Sum?
Tgt
Q1
Q2
Q3
Area Correction Mass
0.00
Correction Factor
0.000
Prev
Next
Plot
Page 1
Page 2
OK
Cancel
Help

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\130306\0306F001.D Vial: 1
Acq On : 6 Mar 2013 10:46 Operator: lsf
Sample : RSK L-1 03-06-13 LF Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 7 13:31 2013 Quant Results File: RSK175Q.RES

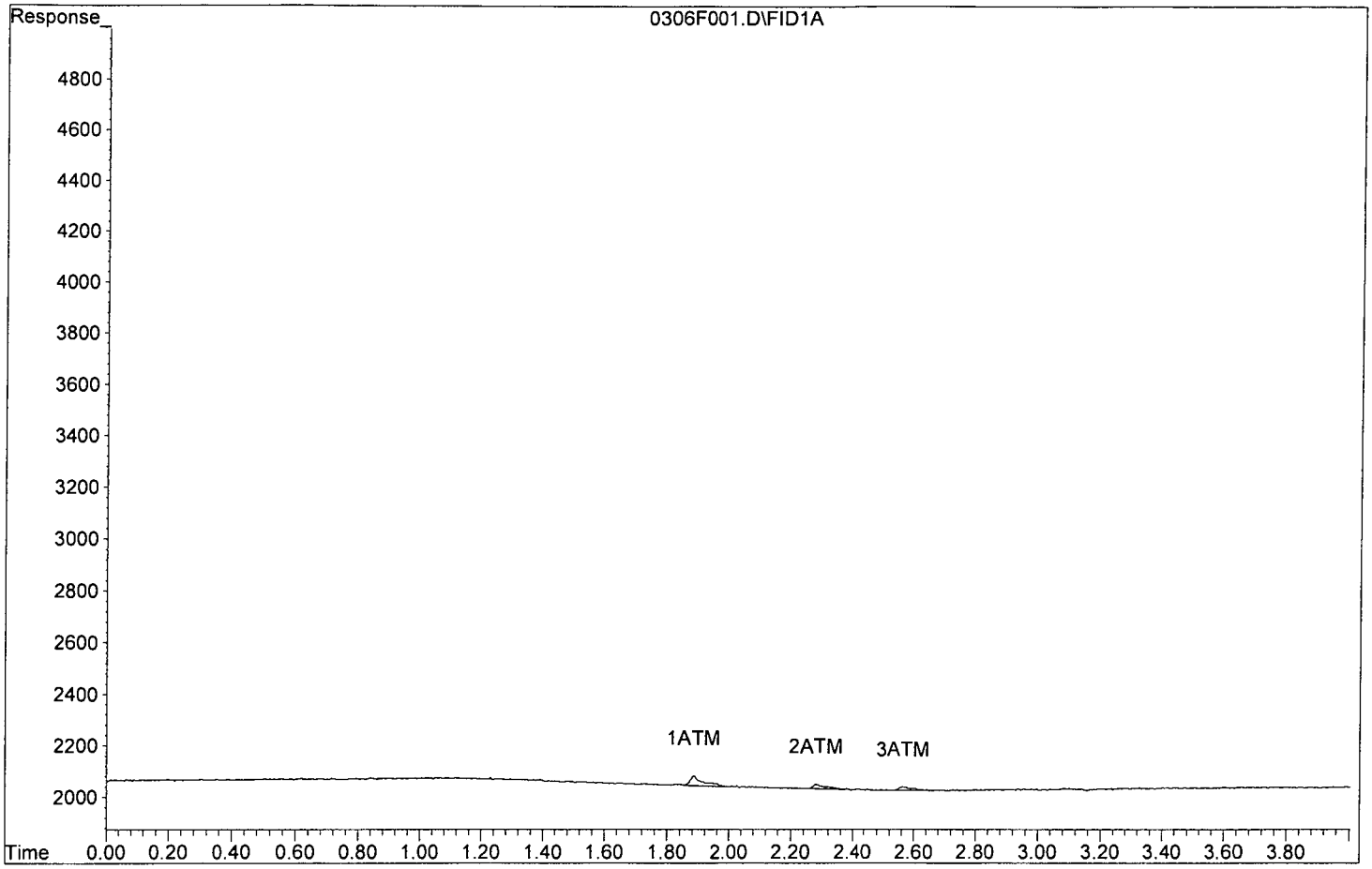
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 07 13:29:20 2013
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.89	1147	2.051 ppb
2) ATM Ethane	2.28	516	1.654 ppb
3) ATM Ethene	2.57	562	1.711 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\130306\0306F001.D
Sample : RSK L-1 03-06-13 LF



Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\130306\0306F002.D Vial: 2
Acq On : 6 Mar 2013 10:55 Operator: lsf
Sample : RSK L-2 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:00 2013 Quant Results File: RSK175Q.RES

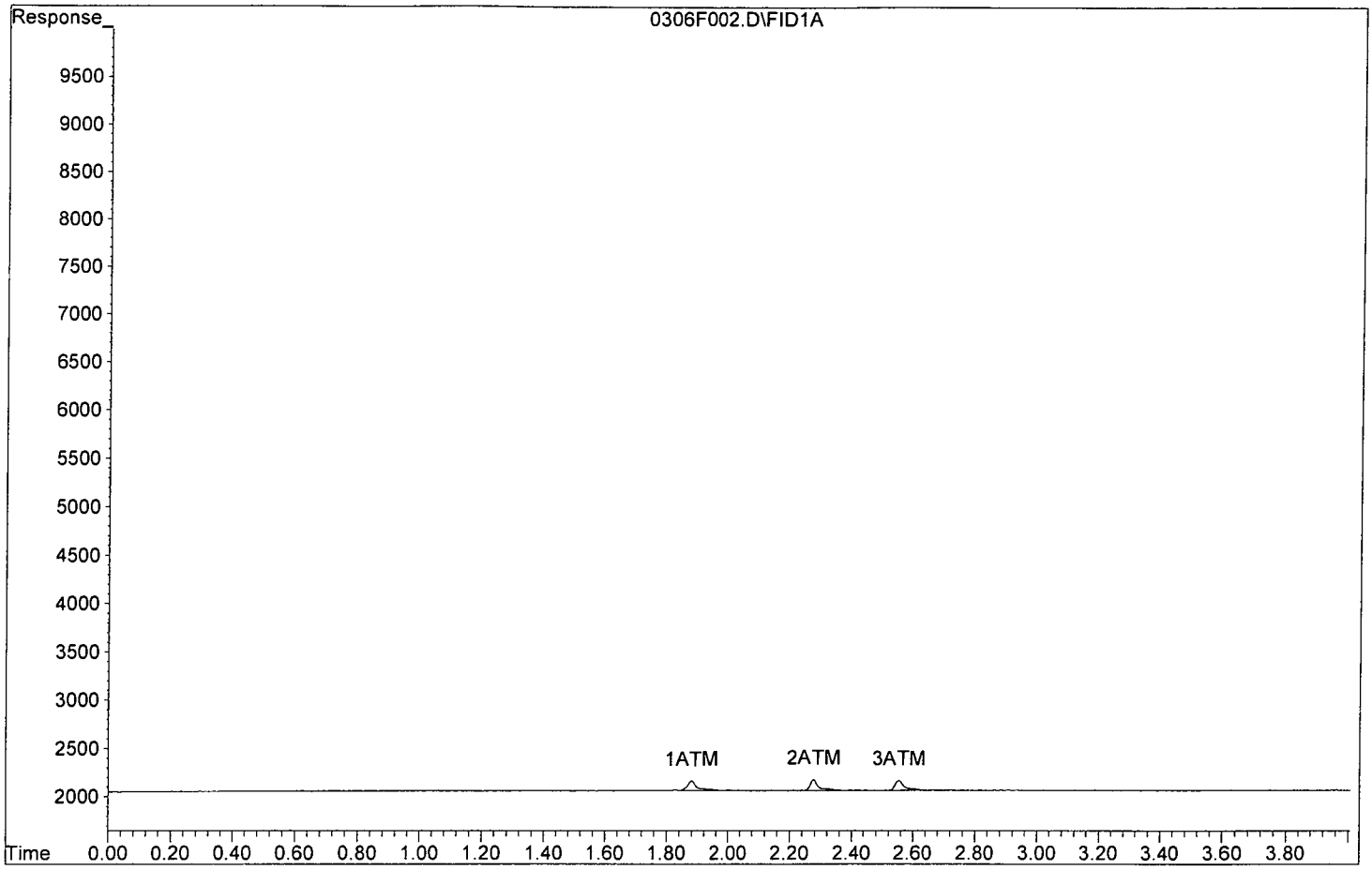
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Mar 06 11:30:47 2013
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.88	2355	1.146 ppb
2) ATM Ethane	2.28	2472	3.396 ppb
3) ATM Ethene	2.55	2219	3.381 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\130306\0306F002.D
Sample : RSK L-2



Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\130306\0306F003.D Vial: 3
Acq On : 6 Mar 2013 11:00 Operator: lsf
Sample : RSK L-3 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:05 2013 Quant Results File: RSK175Q.RES

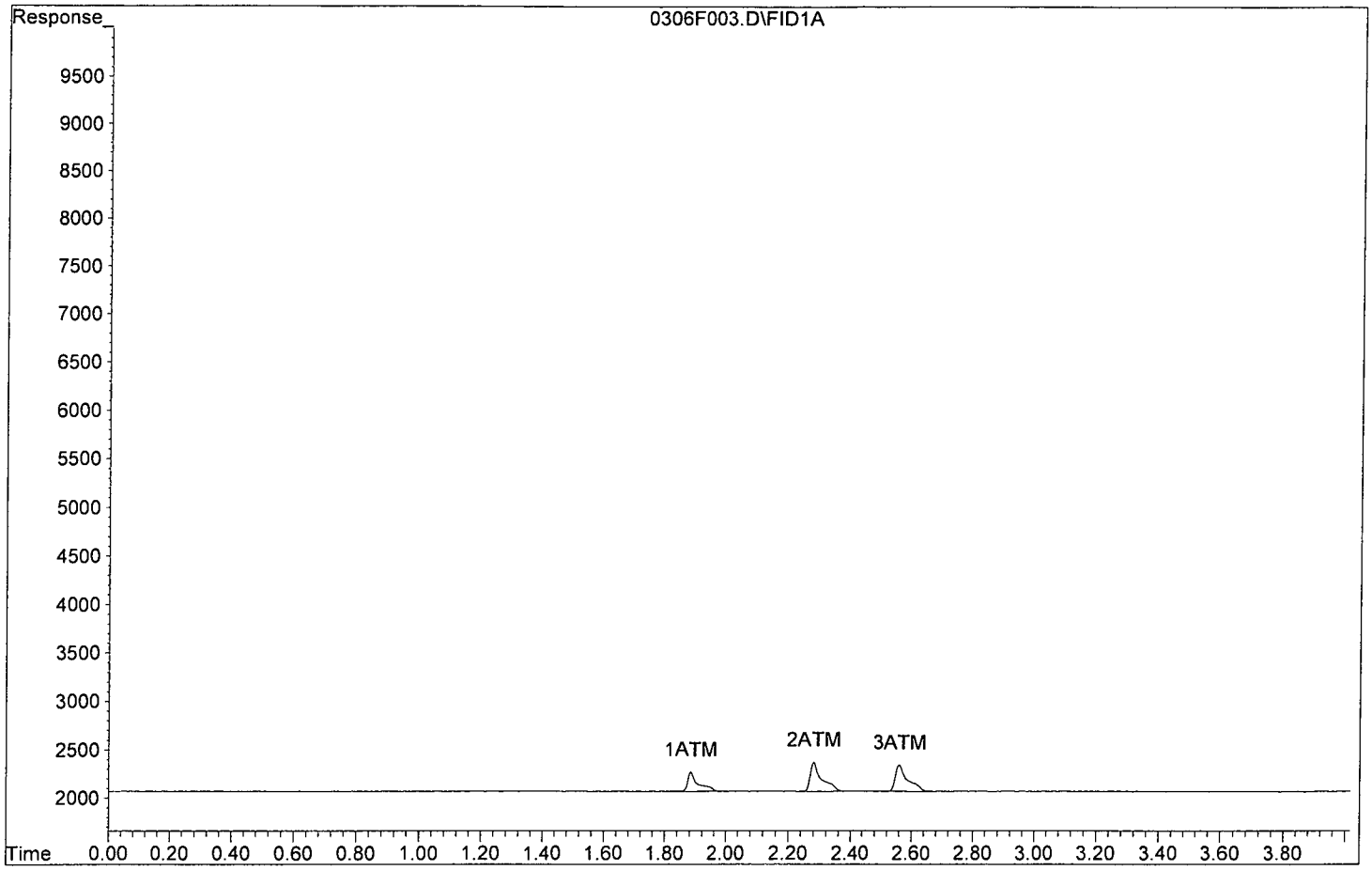
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Mar 06 11:30:47 2013
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.88	4981	4.212 ppb
2) ATM Ethane	2.28	7865	20.444 ppb
3) ATM Ethene	2.56	7603	20.362 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\130306\0306F003.D
Sample : RSK L-3



Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\130306\0306F004.D Vial: 4
Acq On : 6 Mar 2013 11:05 Operator: lsf
Sample : RSK L-4 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 7 13:25 2013 Quant Results File: RSK175Q.RES

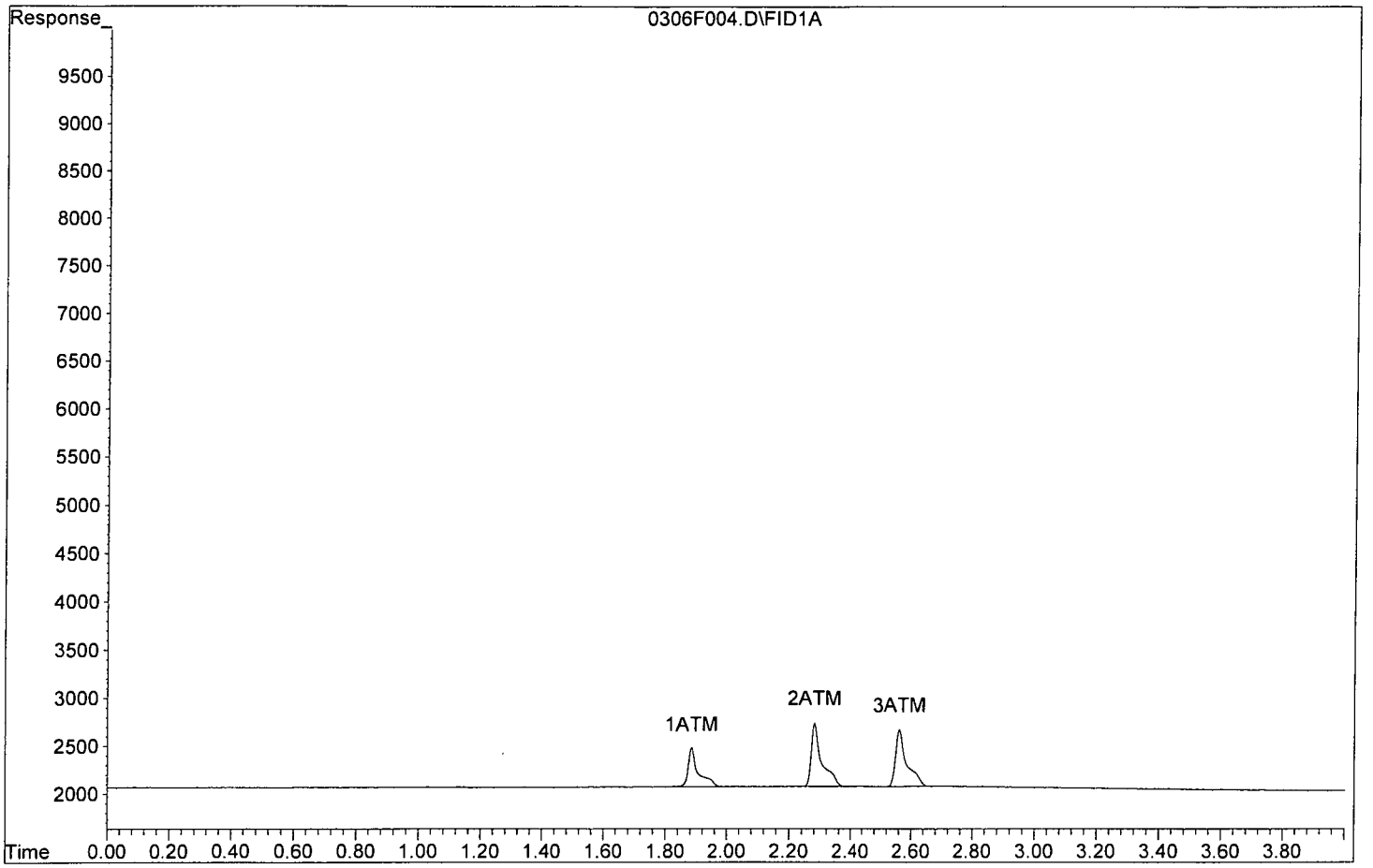
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Mar 06 11:30:47 2013
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.88	9581	25.717 ppb
2) ATM Ethane	2.28	15656	45.982 ppb
3) ATM Ethene	2.56	15290	42.993 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\130306\0306F004.D
Sample : RSK L-4



Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\130306\0306F005.D Vial: 5
Acq On : 6 Mar 2013 11:09 Operator: lsf
Sample : RSK L-5 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:15 2013 Quant Results File: RSK175Q.RES

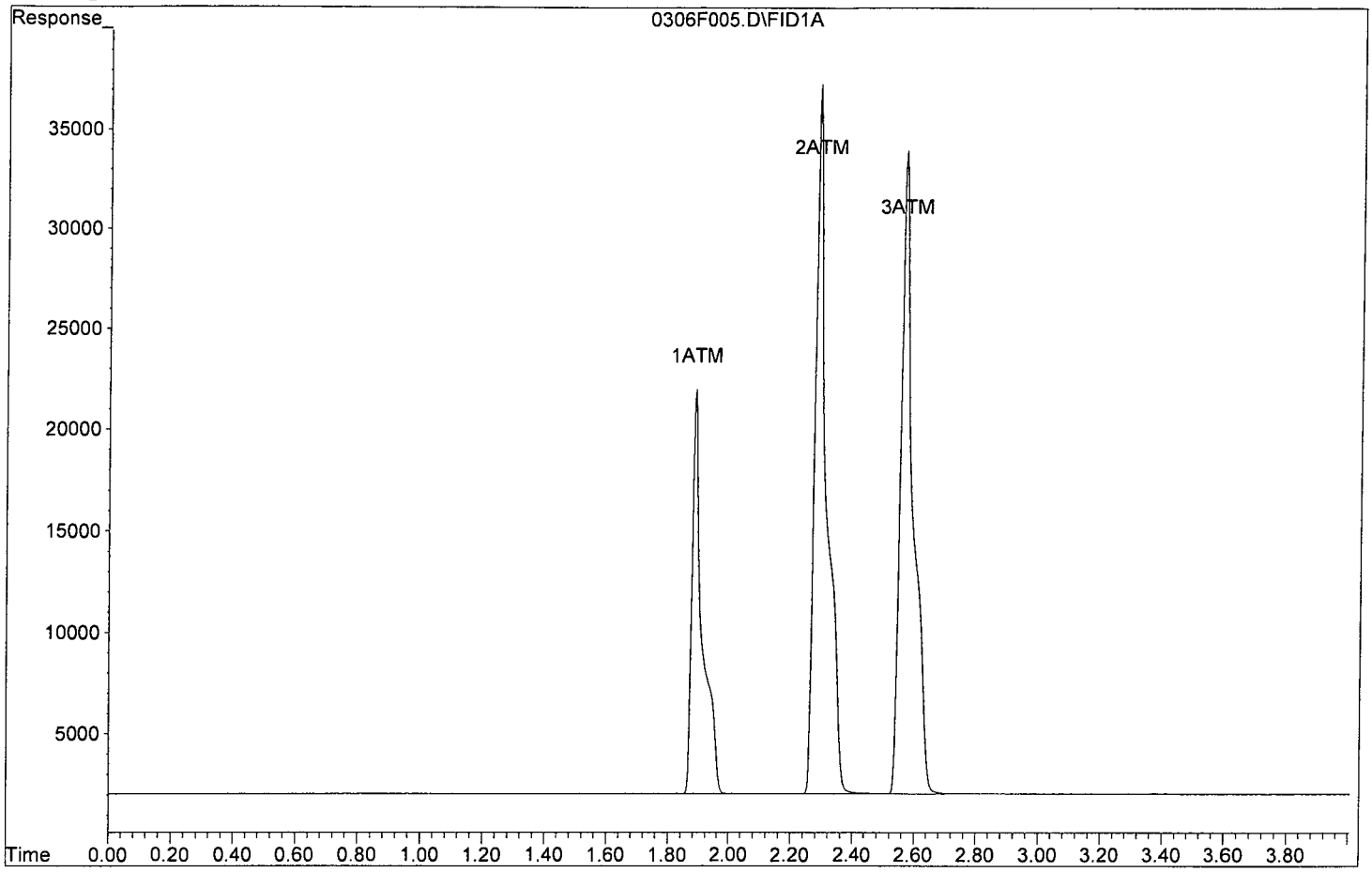
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 07 13:29:20 2013
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.88	475739	614.401 ppb
2) ATM Ethane	2.28	921885	2639.481 ppb
3) ATM Ethene	2.56	901927	2574.780 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\130306\0306F005.D
Sample : RSK L-5



Form 7

Second Source Calibration

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

SDG No:
Date Analyzed: 6 Mar 2013 11:53
Instrument: Frodo
Initial Cal. Date: 03/06/13
Data File: 0306F008.D

		Compound	MEAN	CCRF	%D	%Drift	
1	ATML	Methane	565	323	43	ATML	14
2	ATM	Ethane	312	308	1.2	ATM	
3	ATM	Ethene	328	321	2.4	ATM	
4							
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33							
34							
35							
36							
37							
38							
39							
40							
		Average			15.5		

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\130306\0306F008.D Vial: 8
Acq On : 6 Mar 2013 11:53 Operator: lsf
Sample : 130306A LCS-1 (SS) Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 7 13:33 2013 Quant Results File: RSK175Q.RES

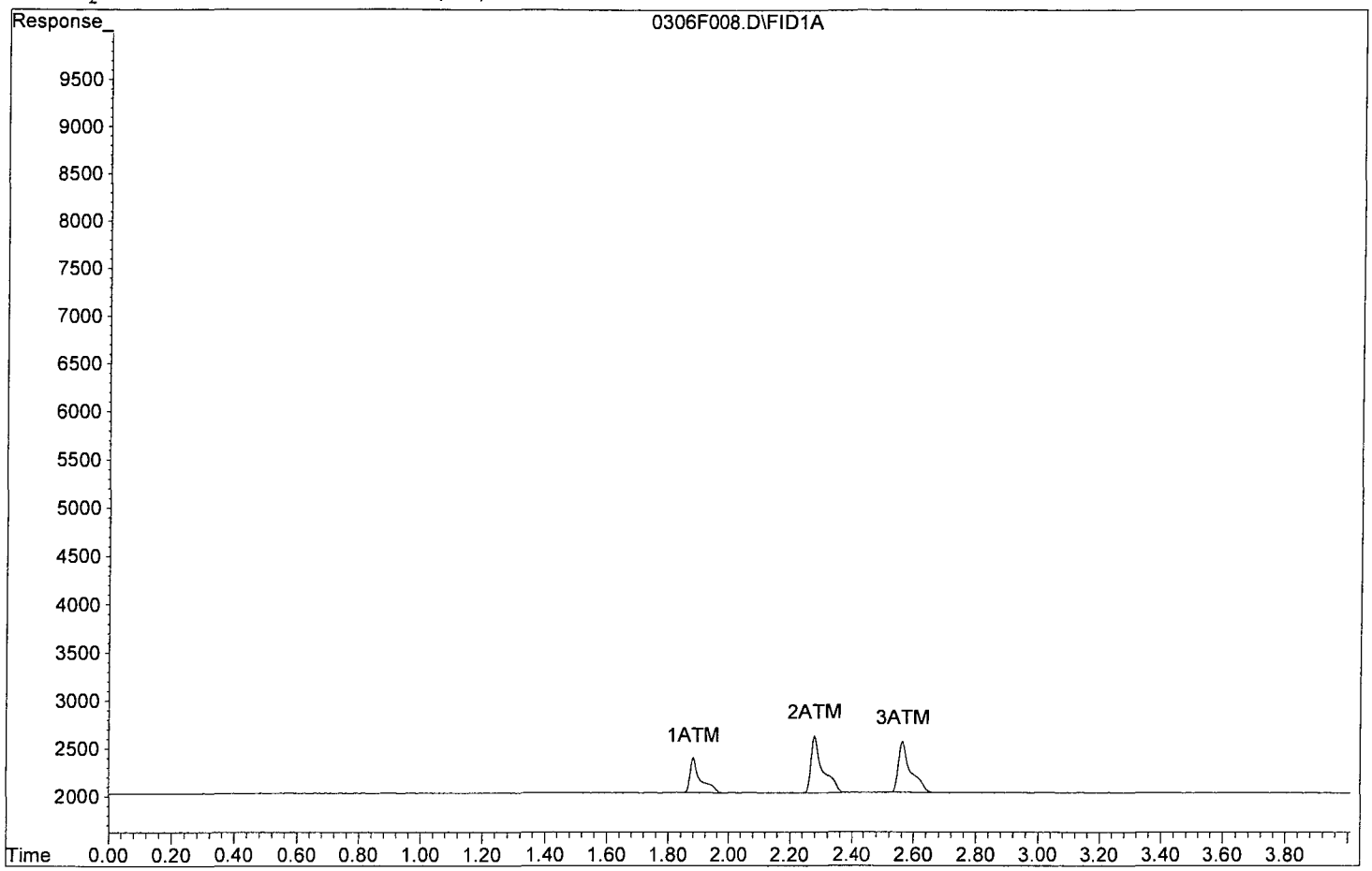
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 07 13:29:20 2013
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.88	8635	23.062 ppb
2) ATM Ethane	2.28	15416	49.407 ppb
3) ATM Ethene	2.56	14936	45.493 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\130306\0306F008.D
Sample : 130306A LCS-1 (SS)



Form 7

Continuing Calibration

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

SDG No:
Date Analyzed: 10/22/14
Instrument: Frodo
Initial Cal. Date: 03/05/14
Data File: 1022F001.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	565	395	30	ATML	6.4
2	ATM	Ethane	312	366	17	ATM	
3	ATM	Ethene	328	384	17	ATM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
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19							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			21.3		

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\140305\1022F001.D Vial: 1
Acq On : 22 Oct 2014 20:00 Operator: lsf
Sample : RSK L-4 10-22-14 LF Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 22 19:04 2014 Quant Results File: RSK175Q.RES

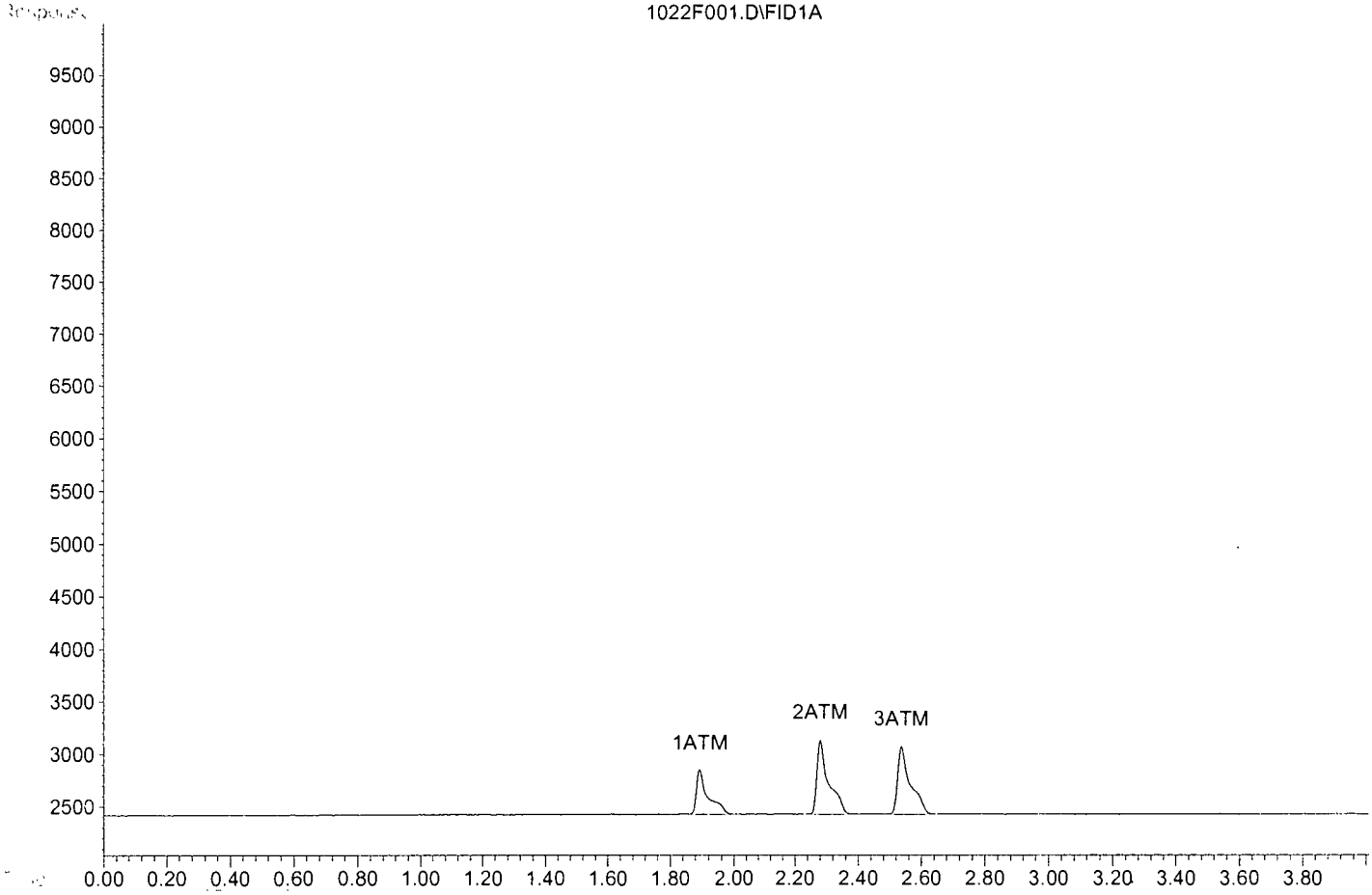
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.89	10541	28.409 ppb
2) ATM Ethane	2.28	18284	58.598 ppb
3) ATM Ethene	2.54	17906	54.540 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\140305\1022F001.D
Sample : RSK L-4 10-22-14 LF



Form 7

Continuing Calibration

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

SDG No:
Date Analyzed: 10/22/14
Instrument: Frodo
Initial Cal. Date: 03/05/14
Data File: 1022F011.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	565	300	47	ATML	20
2	ATM	Ethane	312	273	13	ATM	
3	ATM	Ethene	328	281	14	ATM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
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28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			24.7		

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\140305\1022F011.D Vial: 11
Acq On : 22 Oct 2014 20:56 Operator: lsf
Sample : RSK L-4 10-22-14 LF Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 22 20:10 2014 Quant Results File: RSK175Q.RES

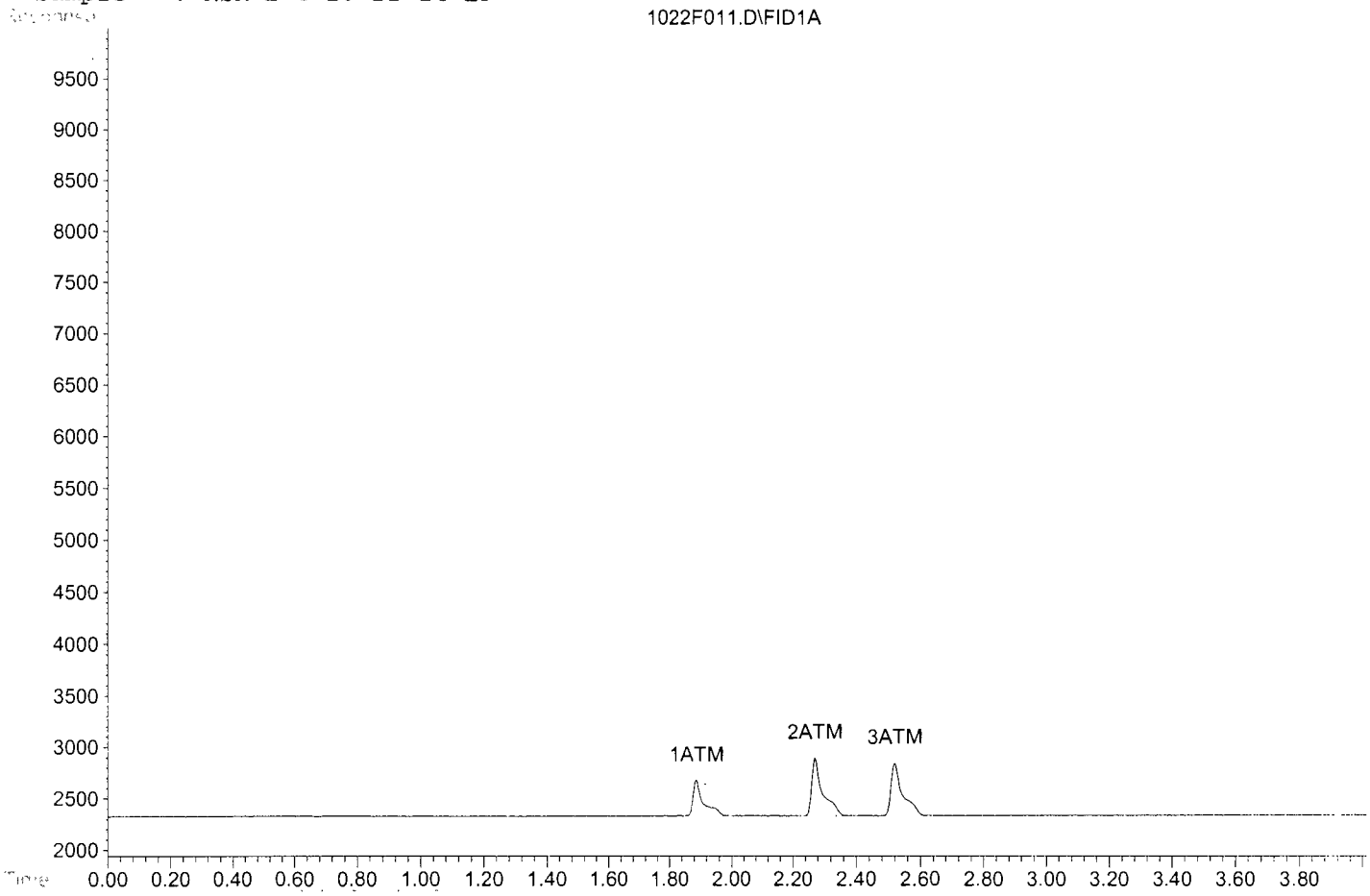
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.89	8011	21.310 ppb
2) ATM Ethane	2.27	13630	43.681 ppb
3) ATM Ethene	2.52f	13099	39.898 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\140305\1022F011.D
Sample : RSK L-4 10-22-14 LF



Form 7

Continuing Calibration

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

SDG No:
Date Analyzed: 10/22/14
Instrument: Frodo
Initial Cal. Date: 03/05/14
Data File: 1022F014.D

		Compound	MEAN	CCRF	%D	%Drift	
1	ATML	Methane	565	357	37	ATML	4.2
2	ATM	Ethane	312	323	3.5	ATM	
3	ATM	Ethene	328	338	3.0	ATM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
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30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			14.5		

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\140305\1022F014.D Vial: 14
Acq On : 22 Oct 2014 21:37 Operator: lsf
Sample : RSK L-4 10-22-14 LF Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 22 20:42 2014 Quant Results File: RSK175Q.RES

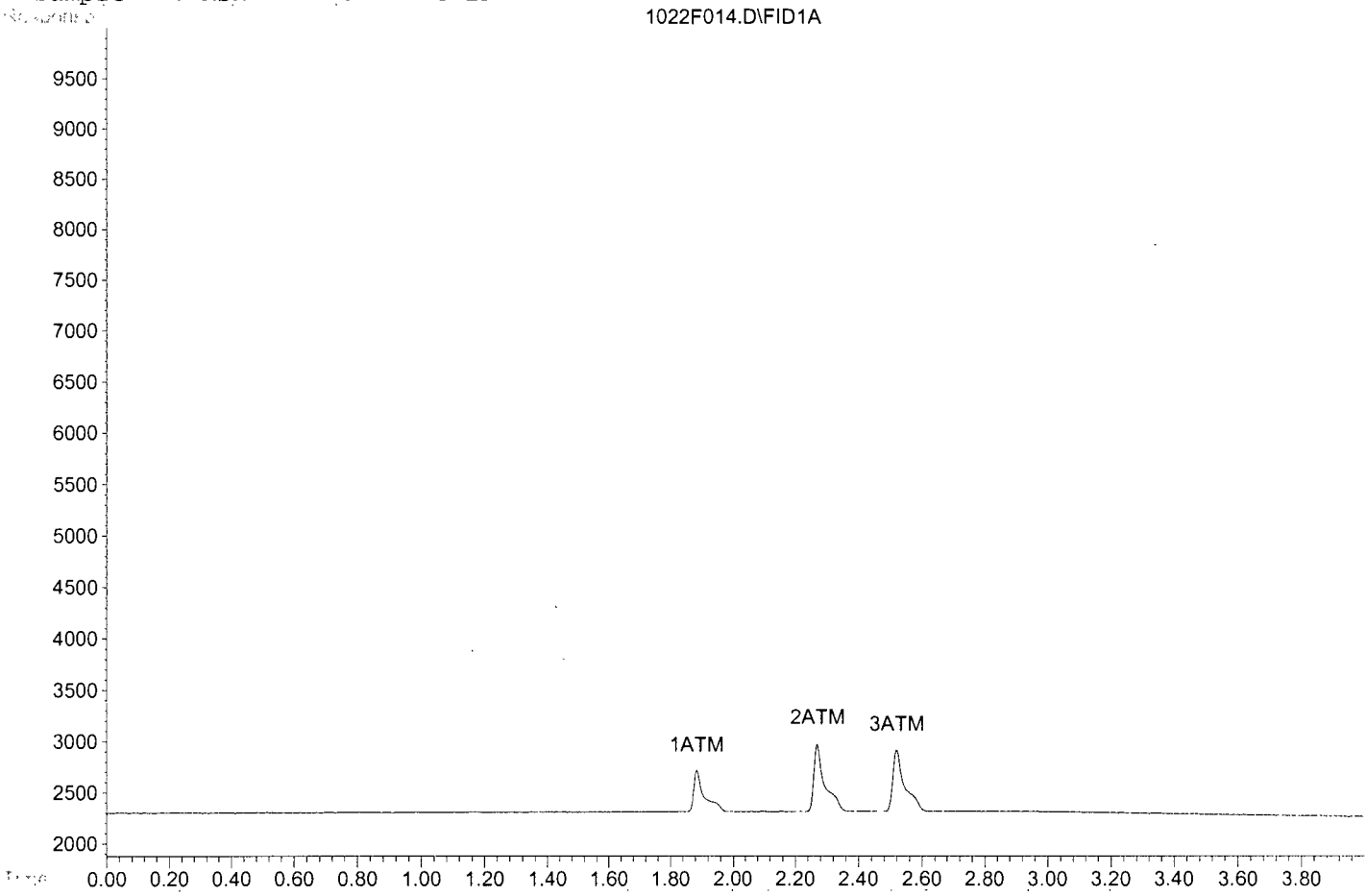
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.89	9530	25.572 ppb
2) ATM Ethane	2.27	16148	51.753 ppb
3) ATM Ethene	2.52f	15756	47.990 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\140305\1022F014.D
Sample : RSK L-4 10-22-14 LF



RSK-175
Raw Data

APPL, INC.

Method Blank

MEE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **141022W-05388 - 191410**
Batch ID: #RSK50-141022A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	0.45 U	1.0	0.45	0.25	ug/L	10/22/14	10/22/14

Quant Method: RSK175Q.M
Run #: 1022F004
Instrument: Frodo
Sequence: 140305
Initials: LF

GC SC-Blank-REG MDLs
Printed: 11/02/14 9:29:16 PM

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\140305\1022F004.D Vial: 4
Acq On : 22 Oct 2014 20:14 Operator: lsf
Sample : 141022A BLK-1 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 22 19:32 2014 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

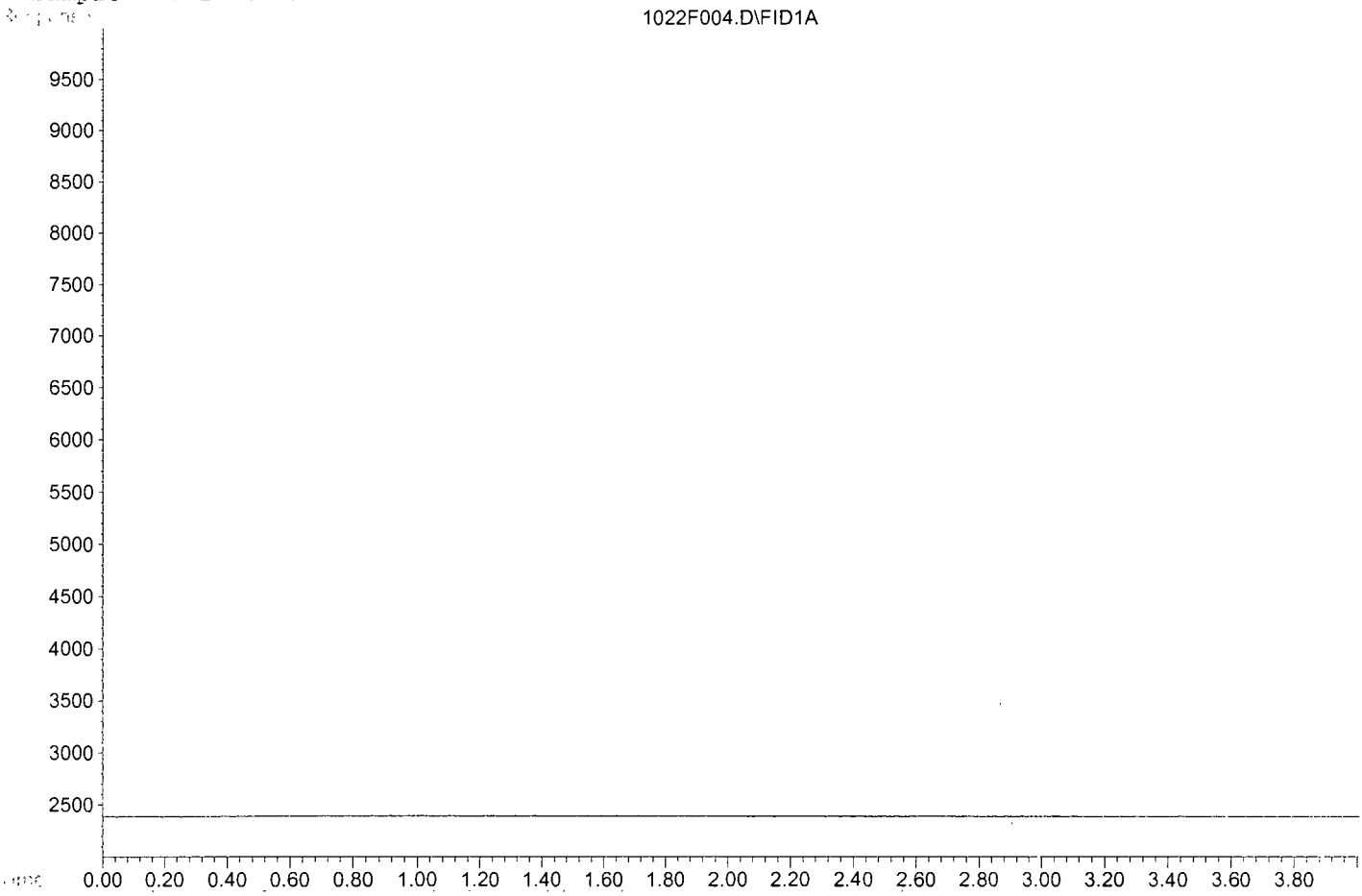
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\140305\1022F004.D
Sample : 141022A BLK-1



Laboratory Control Spike Recoveries

MEE

APPL ID: **141022W-05388 LCS - 191410**
Batch ID: #RSK50-141022A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	26.7	26.5	25.7	99.3	96.3	72-125	3.1	30

Comments:

Primary	SPK	DUP
Quant Method :	RSK175Q.M	RSK175Q.M
Extraction Date :	10/22/14	10/22/14
Analysis Date :	10/22/14	10/22/14
Instrument :	Frodo	Frodo
Run :	1022F002	1022F003
Initials :	LF	

Printed: 11/02/14 9:29:08 PM
APPL Standard LCSD

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\140305\1022F002.D Vial: 2
Acq On : 22 Oct 2014 20:05 Operator: lsf
Sample : 141022A LCS-1 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 22 19:09 2014 Quant Results File: RSK175Q.RES

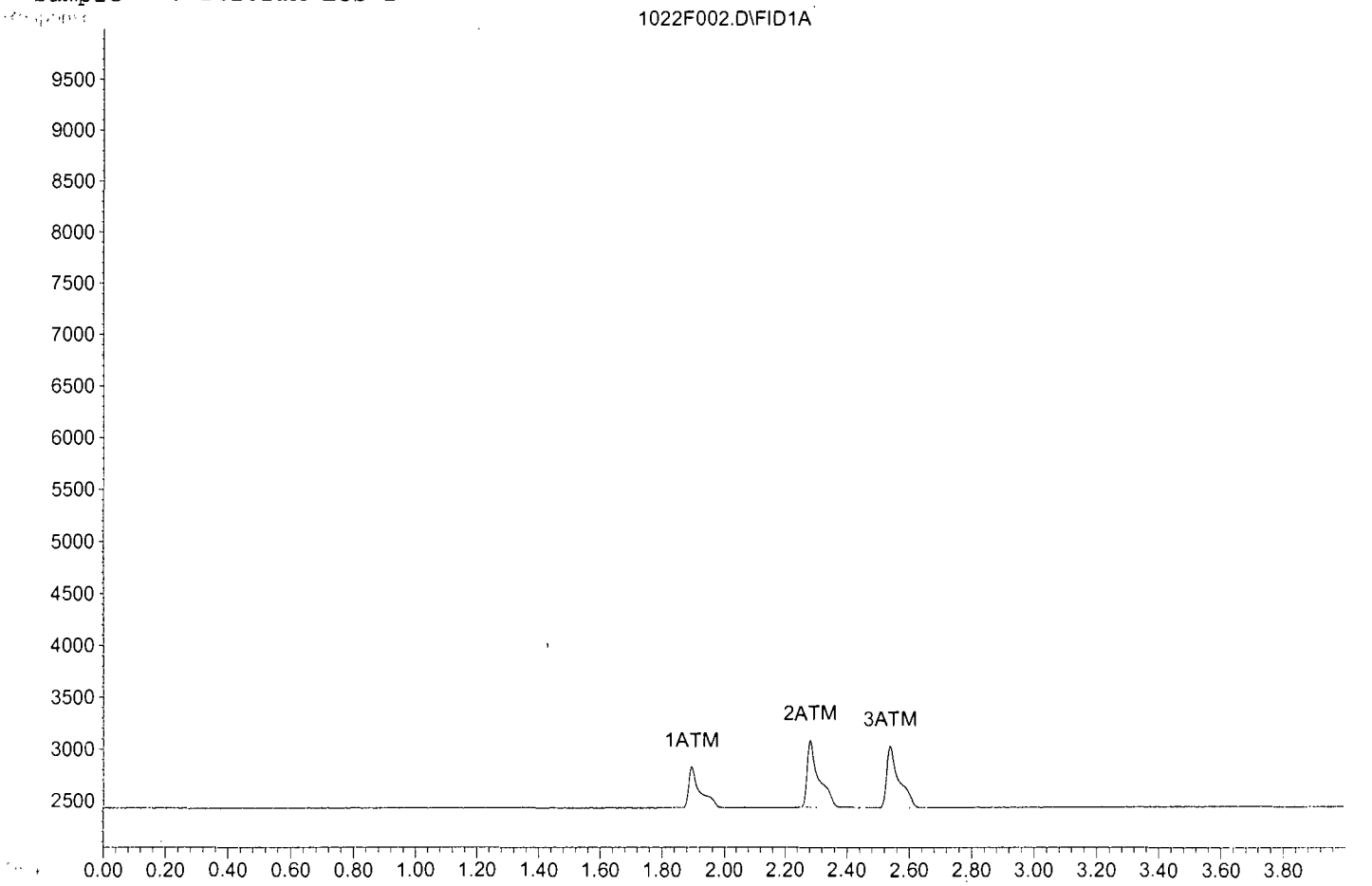
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.90	9859	26.496 ppb
2) ATM Ethane	2.28	17060	54.673 ppb
3) ATM Ethene	2.54	16799	51.170 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\140305\1022F002.D
Sample : 141022A LCS-1



Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\140305\1022F003.D Vial: 3
Acq On : 22 Oct 2014 20:10 Operator: lsf
Sample : 141022A LCSD-1 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 22 19:14 2014 Quant Results File: RSK175Q.RES

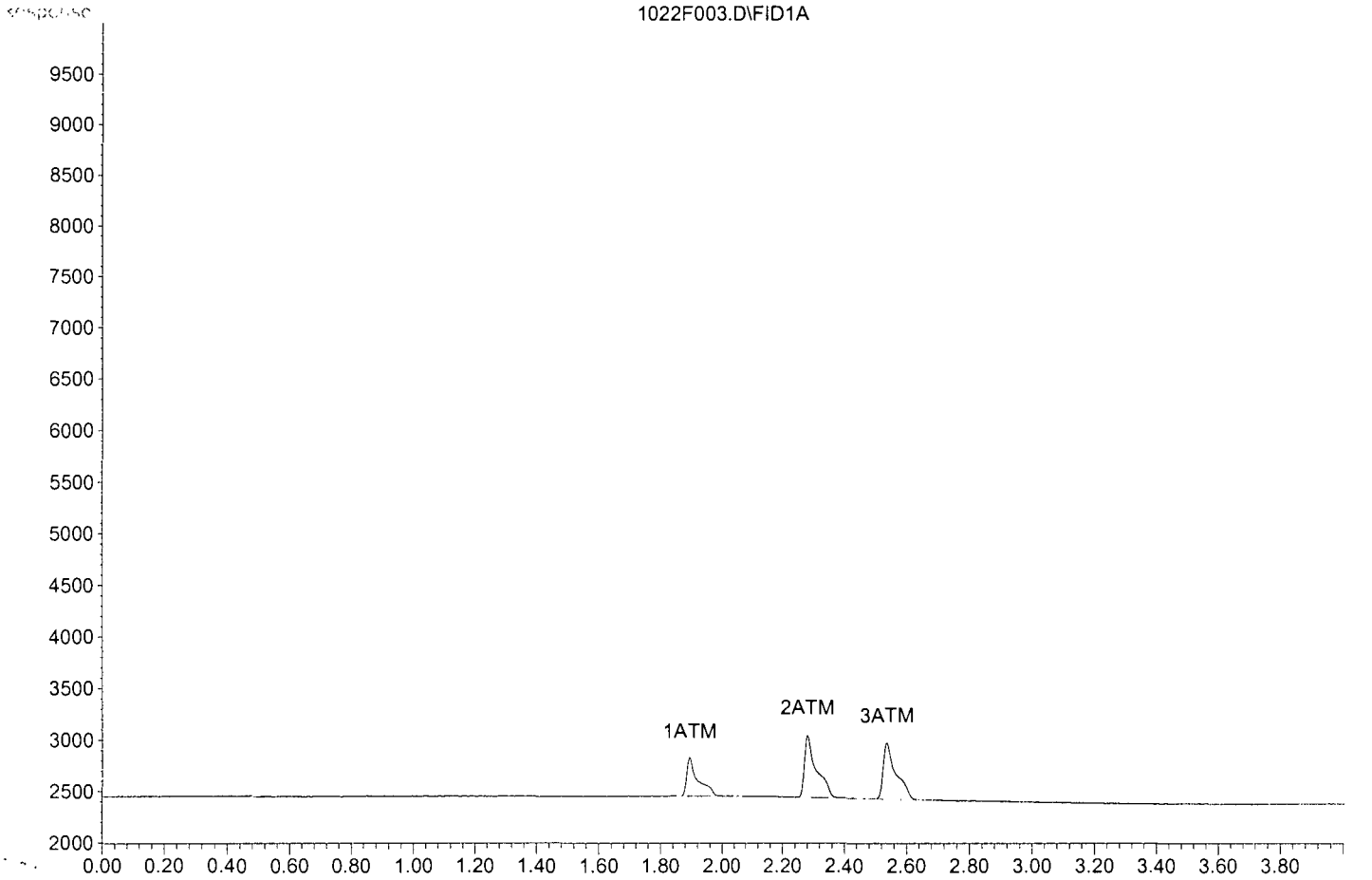
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.89	9558	25.652 ppb
2) ATM Ethane	2.28	16380	52.496 ppb
3) ATM Ethene	2.54	15864	48.321 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\140305\1022F003.D
Sample : 141022A LCSD-1



Injection Log

Directory: V:\FRODO\DATA\130306\
V:\FRODO\DATA\140305\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0306F001.D	1	RSK L-1 03-06-13 LF	Water	6 Mar 2013 10:46
2	2	0306F002.D	1	RSK L-2	Water	6 Mar 2013 10:55
3	3	0306F003.D	1	RSK L-3	Water	6 Mar 2013 11:00
4	4	0306F004.D	1	RSK L-4	Water	6 Mar 2013 11:05
5	5	0306F005.D	1	RSK L-5	Water	6 Mar 2013 11:09
6	8	0306F008.D	1	130306A LCS-1 (SS)	Water	6 Mar 2013 11:53
7	1	1022F001.D	1	RSK L-4 10-22-14 LF	Water	22 Oct 2014 20:00
8	2	1022F002.D	1	141022A LCS-1	Water	22 Oct 2014 20:05
9	3	1022F003.D	1	141022A LCSD-1	Water	22 Oct 2014 20:10
10	4	1022F004.D	1	141022A BLK-1	Water	22 Oct 2014 20:14
11	11	1022F011.D	1	RSK L-4 10-22-14 LF	Water	22 Oct 2014 20:56
12	12	1022F012.D	1	AZ05388W04	Water	22 Oct 2014 21:18
13	13	1022F013.D	1	AZ05389W04	Water	22 Oct 2014 21:22
14	14	1022F014.D	1	RSK L-4 10-22-14 LF	Water	22 Oct 2014 21:37

METALS

APPL, INC.

METALS

QC Summary

APPL, INC.

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
6020A	LEAD (PB) (DISSOL	0.40 U	3.0	0.40	0.19	ug/L	11/05/14	11/05/14	#62A14-141105A-AZ05388

Metals SC-Blank-REG MDLs
Printed: 11/12/14 9:53:09 AM

Laboratory Control Spike Recovery

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6020A	LEAD (PB) (DISSOLVED)	50.0	44.4	88.8	80-120	11/05/14	11/05/14	#62A14-141105A-AZ05388

Comments: _____

METALS

Sample Data

APPL, INC.

Metals Analysis

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

Project: 749435 Red Hill TO 0068

Sample ID: RHMW07-GW-01

Sample Collection Date: 10/20/14

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 74672

APPL ID: AZ05388

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6020A/3015^	LEAD (PB) (DISSOLVED)	0.80 U	6.0	0.80	0.38	ug/L	2	11/05/14	11/05/14

Printed: 11/12/14 11:46:07 AM

APPL-F1-SC-NoMC-REG MDLs

Sample Report

Sample Table

Sample Name	AZ05388W12 1/5
Data File Name	110SMPL.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T21:41:55-08:00
Sample Type	Sample
Dilution	5.555555556
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	-0.032	-0.177	-4.89	3	173.21	10000	
B	11	45	NoGas	357.487	1986.036	0.21	797697	0.76	10000	
Na	23	45	He	29155.617	161975.651	0.89	36959314	0.76	1000000	
Mg	24	45	He	9868.213	54823.404	0.94	6789804	1.12	1000000	
Al	27	45	He	1.081	6.006	8.49	1158	2.66	1000000	
K	39	45	He	1334.485	7413.803	0.19	856136	0.43	500000	
Ca	44	45	He	7542.015	41900.081	0.39	246647	0.47	500000	
Ti	47	45	He	0.041	0.226	142.59	23	51.50	10000	
V	51	45	He	0.785	4.360	2.46	6581	1.86	10000	
Cr	52	45	He	0.047	0.262	17.65	1617	4.23	10000	
Mn	55	45	He	50.164	278.691	0.92	242802	1.05	50000	
Fe	56	45	He	1.505	8.361	10.16	30126	3.73	1000000	
Co	59	45	He	0.154	0.858	4.81	2168	4.48	10000	
Ni	60	45	He	0.551	3.063	1.12	2269	1.04	10000	
Cu	63	45	He	0.145	0.803	3.87	1989	2.78	10000	
Zn	66	115	He	8.183	45.460	1.91	14093	1.86	50000	
As	75	115	He	0.542	3.013	2.86	568	2.44	2000	
Se	78	115	H2	0.085	0.474	30.86	30	22.23	10000	
Se	78	115	He	0.361	2.008	103.11	104	24.37	10000	
Sr	88	115	NoGas	62.876	349.313	1.29	2287882	0.16	50000	
Mo	95	115	NoGas	0.617	3.430	6.59	6051	4.01	10000	
Ag	107	115	NoGas	0.001	0.008	141.49	50	69.28	5000	
Cd	111	115	He	0.002	0.010	89.77	6	57.74	10000	
Sn	118	115	He	-0.494	-2.743	-3.51	556	14.18	10000	
Sn	118	115	NoGas	-0.478	-2.655	-0.87	1320	3.77	10000	
Sb	121	115	NoGas	0.020	0.113	19.02	3064	0.50	10000	
Ba	137	165	NoGas	3.471	19.285	1.45	17710	1.34	50000	
Tl	205	165	NoGas	0.003	0.015	56.29	469	10.66	5000	
Pb	208	165	NoGas	-0.042	-0.232	-5.67	590	16.69	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	436714	0.14	349963	124.79	70	120	ISTD Failed
Sc	45	H2	513654	0.62	475873	107.94	70	120	
Sc	45	He	206425	0.28	199736	103.35	70	120	
Sc	45	NoGas	2462994	0.67	2096637	117.47	70	120	
Ge	72	H2	138066	0.38	122394	112.80	70	120	
Ge	72	He	129941	1.20	123228	105.45	70	120	
Ge	72	NoGas	538693	1.69	485769	110.89	70	120	
In	115	H2	2928393	0.46	2822980	103.73	70	120	
In	115	He	1172747	0.15	1094773	107.12	70	120	
In	115	NoGas	3514390	1.45	3222140	109.07	70	120	
Tb	159	H2	5472872	0.38	5338807	102.51	70	120	
Tb	159	He	3434444	0.71	3232159	106.26	70	120	
Tb	159	NoGas	4626962	2.08	4336564	106.70	70	120	
Ho	165	H2	5147335	0.47	5094749	101.03	70	120	
Ho	165	He	3362223	0.42	3120127	107.76	70	120	
Ho	165	NoGas	4475135	0.70	4144894	107.97	70	120	

Metals Analysis

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

Project: 749435 Red Hill TO 0068

Sample ID: RHMW07-GW-01FD

Sample Collection Date: 10/20/14

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 74672

APPL ID: AZ05389

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6020A/3015^	LEAD (PB) (DISSOLVED)	0.80 U	6.0	0.80	0.38	ug/L	2	11/05/14	11/05/14

Printed: 11/12/14 11:46:07 AM

APPL-F1-SC-NoMC-REG MDLs

Sample Report

Sample Table

Sample Name	AZ05389W12 1/5
Data File Name	111SMPL.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T21:47:55-08:00
Sample Type	Sample
Dilution	5.555555556
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	-0.030	-0.167	-9.27	10	100.00	10000	
B	11	45	NoGas	346.385	1924.362	1.92	760810	0.93	10000	
Na	23	45	He	28012.522	155625.121	0.51	35623392	0.75	1000000	
Mg	24	45	He	9312.068	51733.711	0.61	6426756	0.54	1000000	
Al	27	45	He	-0.735	-4.082	-12.91	613	4.25	1000000	
K	39	45	He	1268.896	7049.422	1.23	820075	0.50	500000	
Ca	44	45	He	7143.501	39686.116	0.64	234349	0.75	500000	
Ti	47	45	He	0.019	0.106	178.03	19	36.75	10000	
V	51	45	He	0.771	4.281	3.80	6509	2.76	10000	
Cr	52	45	He	0.040	0.224	6.85	1568	0.86	10000	
Mn	55	45	He	47.976	266.531	0.77	233074	0.88	50000	
Fe	56	45	He	0.812	4.512	7.22	25373	1.29	1000000	
Co	59	45	He	0.148	0.824	7.58	2100	6.69	10000	
Ni	60	45	He	0.552	3.066	4.14	2278	3.40	10000	
Cu	63	45	He	0.100	0.557	19.77	1591	11.96	10000	
Zn	66	115	He	7.341	40.783	2.84	12736	2.54	50000	
As	75	115	He	0.506	2.814	4.58	532	3.67	2000	
Se	78	115	H2	0.100	0.555	45.11	34	34.00	10000	
Se	78	115	He	0.185	1.030	184.13	92	25.64	10000	
Sr	88	115	NoGas	60.909	338.383	1.77	2191665	0.73	50000	
Mo	95	115	NoGas	0.551	3.059	9.14	5524	5.30	10000	
Ag	107	115	NoGas	0.000	-0.001	-1168.55	23	89.21	5000	
Cd	111	115	He	0.002	0.009	71.48	5	43.30	10000	
Sn	118	115	He	-0.497	-2.762	-1.76	539	7.73	10000	
Sn	118	115	NoGas	-0.476	-2.644	-1.42	1326	5.22	10000	
Sb	121	115	NoGas	-0.048	-0.266	-41.23	2134	11.12	10000	
Ba	137	165	NoGas	3.313	18.406	2.57	16759	3.28	50000	
Tl	205	165	NoGas	0.001	0.004	187.74	403	11.98	5000	
Pb	208	165	NoGas	-0.043	-0.241	-3.94	510	13.73	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	432668	0.86	349963	123.63	70	120	ISTD Failed
Sc	45	H2	517555	0.79	475873	108.76	70	120	
Sc	45	He	207060	0.68	199736	103.67	70	120	
Sc	45	NoGas	2422756	0.97	2096637	115.55	70	120	
Ge	72	H2	137636	0.66	122394	112.45	70	120	
Ge	72	He	129813	0.62	123228	105.34	70	120	
Ge	72	NoGas	534674	0.62	485769	110.07	70	120	
In	115	H2	2987472	1.07	2822980	105.83	70	120	
In	115	He	1169582	0.47	1094773	106.83	70	120	
In	115	NoGas	3475324	1.09	3222140	107.86	70	120	
Tb	159	H2	5428888	0.80	5338807	101.69	70	120	
Tb	159	He	3459885	1.70	3232159	107.05	70	120	
Tb	159	NoGas	4588207	1.13	4336564	105.80	70	120	
Ho	165	H2	5155861	0.72	5094749	101.20	70	120	
Ho	165	He	3367035	1.69	3120127	107.91	70	120	
Ho	165	NoGas	4434919	0.73	4144894	107.00	70	120	

METALS

Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons
ARF No: 74672 SDG: 74672
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 11/05/14 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 11:27	%R(1)	True CCV1	Found 12:08	%R(1)	True CCV1	Found 21:06	%R(1)	
Lead (Pb)	100	97.3657	97.4	50	48.7956	97.6	50	47.1295	94.3	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 74672 SDG: 74672

Initial Calibration Source: CPI

Continuing Calibration Source: Environmental Express

Analysis Date: 11/05/14 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 11:27	%R(1)	True CCV1	Found 22:23	%R(1)	True	Found	%R(1)	
Lead (Pb)	100	97.3657	97.4	50	46.8780	93.8				P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 74672 SDG: 74672

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analysis Date: 11/05/14

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)								Preparation Blank		M
		C	1	C	2	C	3	C		C			
	11:44		12:20		21:17		22:35				21:23		
Lead (Pb)	3.00	U	3.00	U	3.00	U	3.00	U			3.00	U	P

A.P.P.L. INC.
4
ICP INTERFERENCE CHECK SAMPLE

Lab Name:	A.P.P.L. INC.	Contract:	Parsons
ARF No.:	74672	SDG:	74672
ICP ID Number:	Megatron	ICS Source:	Environmental Express

Analysis Date: 11/05/14 Concentration Units: ug/L

Analyte	True		Initial Found		
	Sol A	Sol AB	Sol A 12:26	Sol AB 13:08	%R(1)
Lead (Pb)		100	0.021032	102.443625	102

(1) Control Limits: Metals 80-120

A.P.P.L. INC.
9
ICP SERIAL DILUTION

CLIENT SAMPLE NO.
RHMW06-GW-01

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 74701 SDG: 74701

Matrix: water

Analysis Date: 11/05/14 Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	%D	Q	M
Lead (Pb)	-0.194921		-0.991737		NA		

Comments:

11/05/14 21:53 AZ05593W35 1/5

11/05/14 22:17 AZ05593W35 1/25

A.P.P.L. INC.

5B

POST DIGEST SPIKE SAMPLE RECOVERY

CLIENT SAMPLE NO.

RHMW06-GW-01

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 74701 SDG: 74701

Analysis Date: 11/05/14 Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead (Pb)	75-125	1305.352529		-0.194921		1250.000	104		

Comments:

11/05/14 21:53 AZ05593W35 1/5

11/05/14 22:11 AZ05593W35-A 1/5

Calibration Blank Report

Sample Table

Sample Name	Calibration Blank
Data File Name	002CALB.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T10:57:03-08:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD
Be	9	45	NoGas	103	43.64
B	11	45	NoGas	16828	4.09
Na	23	45	He	92021	0.42
Mg	24	45	He	1327	15.10
Al	27	45	He	806	6.44
K	39	45	He	69788	3.41
Ca	44	45	He	320	6.51
Ti	47	45	He	14	35.26
V	51	45	He	1466	7.69
Cr	52	45	He	1208	4.49
Mn	55	45	He	3437	5.24
Fe	56	45	He	19001	1.92
Co	59	45	He	263	7.70
Ni	60	45	He	419	23.64
Cu	63	45	He	651	12.39
Zn	66	115	He	1151	5.54
As	75	115	He	49	27.55
Se	78	115	H2	8	107.84
Se	78	115	He	74	21.16
Sr	88	115	NoGas	323	25.94
Mo	95	115	NoGas	1617	17.50
Ag	107	115	NoGas	23	49.49
Cd	111	115	He	2	100.00
Sn	118	115	He	2592	1.67
Sn	118	115	NoGas	5867	2.03
Sb	121	115	NoGas	2562	7.16
Ba	137	165	NoGas	117	17.85
Tl	205	165	NoGas	353	12.52
[Pb]	206	165	NoGas	600	12.58
[Pb]	207	165	NoGas	487	5.93
Pb	208	165	NoGas	2197	5.18

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD
Li	6	NoGas	349963	1.37
Sc	45	H2	475873	0.63
Sc	45	He	199736	0.32
Sc	45	NoGas	2096637	1.45
Ge	72	H2	122394	0.29
Ge	72	He	123228	0.40
Ge	72	NoGas	485769	0.09
In	115	H2	2822980	0.43
In	115	He	1094773	0.17
In	115	NoGas	3222140	0.69
Tb	159	H2	5338807	1.00
Tb	159	He	3232159	1.90
Tb	159	NoGas	4336564	1.26
Ho	165	H2	5094749	0.73
Ho	165	He	3120127	1.11
Ho	165	NoGas	4144894	0.83

Calibration Standard Report

Sample Table

Sample Name	Standard 1
Data File Name	003CALS.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T11:03:02-08:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD	Cal Coef
Be	9	45	NoGas	390	11.75	1.0000
B	11	45	NoGas	16771	3.00	-1.0000
Na	23	45	He	84730	0.74	-1.0000
Mg	24	45	He	3627	1.26	1.0000
Al	27	45	He	811	4.94	1.0000
K	39	45	He	74010	4.14	1.0000
Ca	44	45	He	450	10.91	1.0000
Ti	47	45	He	26	15.07	1.0000
V	51	45	He	2101	4.05	1.0000
Cr	52	45	He	1819	3.30	1.0000
Mn	55	45	He	3565	7.90	1.0000
Fe	56	45	He	19366	1.18	1.0000
Co	59	45	He	1221	7.76	1.0000
Ni	60	45	He	600	6.83	1.0000
Cu	63	45	He	1450	3.16	1.0000
Zn	66	115	He	1278	5.58	1.0000
As	75	115	He	144	41.04	1.0000
Se	78	115	H2	28	24.98	1.0000
Se	78	115	He	76	49.20	1.0000
Sr	88	115	NoGas	3501	2.73	1.0000
Mo	95	115	NoGas	1630	5.92	1.0000
Ag	107	115	NoGas	907	16.56	1.0000
Cd	111	115	He	181	24.16	1.0000
Sn	118	115	He	2742	2.86	1.0000
Sn	118	115	NoGas	6539	3.02	1.0000
Sb	121	115	NoGas	2824	7.52	1.0000
Ba	137	165	NoGas	573	20.07	1.0000
Tl	205	165	NoGas	3076	7.20	1.0000
[Pb]	206	165	NoGas	1147	16.92	
[Pb]	207	165	NoGas	1237	4.74	
Pb	208	165	NoGas	5051	11.84	1.0000

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	356364	0.96	349963	101.83	70	120	
Sc	45	H2	473911	0.14	475873	99.59	70	120	
Sc	45	He	199283	0.97	199736	99.77	70	120	
Sc	45	NoGas	2154011	1.23	2096637	102.74	70	120	
Ge	72	H2	122797	0.62	122394	100.33	70	120	
Ge	72	He	121257	0.45	123228	98.40	70	120	
Ge	72	NoGas	485356	0.91	485769	99.91	70	120	
In	115	H2	2818009	0.91	2822980	99.82	70	120	
In	115	He	1096867	0.66	1094773	100.19	70	120	
In	115	NoGas	3215026	1.40	3222140	99.78	70	120	
Tb	159	H2	5346818	1.98	5338807	100.15	70	120	
Tb	159	He	3200725	1.03	3232159	99.03	70	120	
Tb	159	NoGas	4297779	1.30	4336564	99.11	70	120	
Ho	165	H2	5070074	0.84	5094749	99.52	70	120	
Ho	165	He	3124303	0.40	3120127	100.13	70	120	
Ho	165	NoGas	4142641	1.12	4144894	99.95	70	120	

Calibration Standard Report

Sample Table

Sample Name	Standard 2
Data File Name	004CALS.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T11:09:00-08:00
Sample Type	Cal5td
Level	3
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD	Cal Coef
Be	9	45	NoGas	3217	6.90	1.0000
B	11	45	NoGas	17972	4.42	0.8365
Na	23	45	He	108357	0.83	0.9244
Mg	24	45	He	33017	1.50	0.9997
Al	27	45	He	6020	5.35	0.9960
K	39	45	He	78752	4.66	0.9111
Ca	44	45	He	1928	5.83	0.9998
Ti	47	45	He	190	12.28	0.9994
V	51	45	He	7765	0.95	1.0000
Cr	52	45	He	8477	3.83	0.9999
Mn	55	45	He	7770	1.48	0.9980
Fe	56	45	He	139631	1.50	0.9961
Co	59	45	He	12153	0.70	0.9998
Ni	60	45	He	3470	3.33	0.9993
Cu	63	45	He	9574	0.86	1.0000
Zn	66	115	He	2281	6.51	0.9999
As	75	115	He	920	4.75	0.9999
Se	78	115	H2	256	9.16	0.9998
Se	78	115	He	136	26.29	0.9972
Sr	88	115	NoGas	33045	3.06	1.0000
Mo	95	115	NoGas	6865	7.94	0.9961
Ag	107	115	NoGas	8102	2.83	1.0000
Cd	111	115	He	1983	5.59	1.0000
Sn	118	115	He	6589	0.84	0.9983
Sn	118	115	NoGas	14983	3.78	0.9997
Sb	121	115	NoGas	9530	7.59	0.9984
Ba	137	165	NoGas	4931	3.61	1.0000
Tl	205	165	NoGas	28432	2.32	1.0000
[Pb]	206	165	NoGas	10300	2.82	
[Pb]	207	165	NoGas	8736	7.05	
Pb	208	165	NoGas	40712	1.78	0.9997

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	360691	1.84	349963	103.07	70	120	
Sc	45	H2	474722	1.18	475873	99.76	70	120	
Sc	45	He	199841	0.84	199736	100.05	70	120	
Sc	45	NoGas	2164503	0.91	2096637	103.24	70	120	
Ge	72	H2	122944	1.58	122394	100.45	70	120	
Ge	72	He	120974	0.66	123228	98.17	70	120	
Ge	72	NoGas	484419	1.01	485769	99.72	70	120	
In	115	H2	2828071	0.22	2822980	100.18	70	120	
In	115	He	1103743	1.08	1094773	100.82	70	120	
In	115	NoGas	3239990	1.29	3222140	100.55	70	120	
Tb	159	H2	5294843	0.85	5338807	99.18	70	120	
Tb	159	He	3278385	1.17	3232159	101.43	70	120	
Tb	159	NoGas	4375209	1.41	4336564	100.89	70	120	
Ho	165	H2	5083483	0.27	5094749	99.78	70	120	
Ho	165	He	3146443	0.61	3120127	100.84	70	120	
Ho	165	NoGas	4181889	1.21	4144894	100.89	70	120	

Calibration Standard Report

Sample Table

Sample Name	Standard 3
Data File Name	005CALS.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T11:14:58-08:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD	Cal Coef
Be	9	45	NoGas	160759	0.64	1.0000
B	11	45	NoGas	109028	0.43	0.9999
Na	23	45	He	1653811	1.16	1.0000
Mg	24	45	He	1710150	1.72	1.0000
Al	27	45	He	293321	1.20	1.0000
K	39	45	He	640179	0.26	1.0000
Ca	44	45	He	80443	1.69	1.0000
Ti	47	45	He	9961	3.22	1.0000
V	51	45	He	314741	0.93	1.0000
Cr	52	45	He	382043	0.51	1.0000
Mn	55	45	He	236339	1.16	1.0000
Fe	56	45	He	6821525	2.05	1.0000
Co	59	45	He	600235	0.61	1.0000
Ni	60	45	He	164441	0.44	1.0000
Cu	63	45	He	442976	0.24	1.0000
Zn	66	115	He	74776	0.51	1.0000
As	75	115	He	44314	0.74	1.0000
Se	78	115	H2	12623	0.77	1.0000
Se	78	115	He	3379	6.17	1.0000
Sr	88	115	NoGas	1663074	0.64	1.0000
Mo	95	115	NoGas	315689	1.47	1.0000
Ag	107	115	NoGas	406829	0.13	1.0000
Cd	111	115	He	95573	0.37	1.0000
Sn	118	115	He	212691	1.32	1.0000
Sn	118	115	NoGas	491627	0.33	1.0000
Sb	121	115	NoGas	608639	0.65	1.0000
Ba	137	165	NoGas	236766	0.41	1.0000
Tl	205	165	NoGas	1407913	0.71	1.0000
[Pb]	206	165	NoGas	495625	0.46	
[Pb]	207	165	NoGas	427409	0.71	
Pb	208	165	NoGas	1968219	0.70	1.0000

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	370351	0.60	349963	105.83	70	120	
Sc	45	H2	486172	0.45	475873	102.16	70	120	
Sc	45	He	200563	1.25	199736	100.41	70	120	
Sc	45	NoGas	2187098	2.48	2096637	104.31	70	120	
Ge	72	H2	122822	0.81	122394	100.35	70	120	
Ge	72	He	121635	1.20	123228	98.71	70	120	
Ge	72	NoGas	483004	0.41	485769	99.43	70	120	
In	115	H2	2853125	0.66	2822980	101.07	70	120	
In	115	He	1099190	1.39	1094773	100.40	70	120	
In	115	NoGas	3219483	1.44	3222140	99.92	70	120	
Tb	159	H2	5424652	0.54	5338807	101.61	70	120	
Tb	159	He	3266843	1.48	3232159	101.07	70	120	
Tb	159	NoGas	4439319	1.78	4336564	102.37	70	120	
Ho	165	H2	5167503	0.12	5094749	101.43	70	120	
Ho	165	He	3145781	1.03	3120127	100.82	70	120	
Ho	165	NoGas	4148593	1.12	4144894	100.09	70	120	

Calibration Standard Report

Sample Table

Sample Name	Standard 4
Data File Name	006CALS.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T11:20:59-08:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD	Cal Coef
Be	9	45	NoGas	328097	0.98	0.9999
B	11	45	NoGas	212372	0.60	0.9995
Na	23	45	He	3158915	0.86	0.9999
Mg	24	45	He	3332541	0.66	0.9999
Al	27	45	He	586722	0.84	1.0000
K	39	45	He	1215106	0.26	1.0000
Ca	44	45	He	158983	0.71	1.0000
Ti	47	45	He	20190	0.87	1.0000
V	51	45	He	630439	0.32	1.0000
Cr	52	45	He	761143	0.63	1.0000
Mn	55	45	He	467418	0.35	1.0000
Fe	56	45	He	13577724	0.57	1.0000
Co	59	45	He	1194102	0.51	1.0000
Ni	60	45	He	323766	0.53	1.0000
Cu	63	45	He	887773	0.55	1.0000
Zn	66	115	He	147380	0.25	1.0000
As	75	115	He	88615	1.20	1.0000
Se	78	115	H2	25273	2.48	1.0000
Se	78	115	He	6390	3.12	0.9998
Sr	88	115	NoGas	3333818	0.24	1.0000
Mo	95	115	NoGas	639925	0.61	1.0000
Ag	107	115	NoGas	810678	0.52	1.0000
Cd	111	115	He	191641	0.65	1.0000
Sn	118	115	He	421664	0.46	1.0000
Sn	118	115	NoGas	979477	0.52	1.0000
Sb	121	115	NoGas	1217764	0.87	1.0000
Ba	137	165	NoGas	470209	0.59	1.0000
Tl	205	165	NoGas	2986053	0.90	0.9997
[Pb]	206	165	NoGas	972238	1.42	
[Pb]	207	165	NoGas	852769	0.66	
Pb	208	165	NoGas	3982316	0.60	1.0000

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	375630	1.04	349963	107.33	70	120	
Sc	45	H2	482607	0.61	475873	101.41	70	120	
Sc	45	He	201076	0.90	199736	100.67	70	120	
Sc	45	NoGas	2177578	1.78	2096637	103.86	70	120	
Ge	72	H2	122796	0.41	122394	100.33	70	120	
Ge	72	He	119744	0.27	123228	97.17	70	120	
Ge	72	NoGas	485339	1.41	485769	99.91	70	120	
In	115	H2	2876756	1.18	2822980	101.90	70	120	
In	115	He	1091109	0.24	1094773	99.67	70	120	
In	115	NoGas	3218039	0.70	3222140	99.87	70	120	
Tb	159	H2	5423029	0.85	5338807	101.58	70	120	
Tb	159	He	3263922	0.60	3232159	100.98	70	120	
Tb	159	NoGas	4333812	2.16	4336564	99.94	70	120	
Ho	165	H2	5125827	0.64	5094749	100.61	70	120	
Ho	165	He	3172578	0.67	3120127	101.68	70	120	
Ho	165	NoGas	4161409	0.69	4144894	100.40	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	007_ICV.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T11:27:00-08:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	45	NoGas	98.780	0.338	326807	0.38	100	98.8	89.6	110.4	
B	11	45	NoGas	109.509	0.836	231185	0.62	100	109.5	89.6	110.4	
Na	23	45	He	2431.900	1.185	3065754	0.96	2500	97.3	89.6	110.4	
Mg	24	45	He	2462.072	1.473	1639246	1.00	2500	98.5	89.6	110.4	
Al	27	45	He	2460.110	0.734	716492	0.42	2500	98.4	89.6	110.4	
K	39	45	He	2556.000	0.852	1522083	1.30	2500	102.2	89.6	110.4	
Ca	44	45	He	2656.688	0.520	84234	0.92	2500	106.3	89.6	110.4	
Ti	47	45	He	99.917	4.019	19983	3.55	100	99.9	89.6	110.4	
V	51	45	He	98.798	0.540	618282	0.42	100	98.8	89.6	110.4	
Cr	52	45	He	97.913	0.676	740705	0.49	100	97.9	89.6	110.4	
Mn	55	45	He	97.682	0.155	453998	0.58	100	97.7	89.6	110.4	
Fe	56	45	He	2465.244	1.123	16631614	0.67	2500	98.6	89.6	110.4	
Co	59	45	He	98.013	0.504	1163822	0.21	100	98.0	89.6	110.4	
Ni	60	45	He	98.420	0.144	317473	0.43	100	98.4	89.6	110.4	
Cu	63	45	He	98.278	0.737	866241	0.44	100	98.3	89.6	110.4	
Zn	66	115	He	93.088	1.045	138913	1.41	100	93.1	89.6	110.4	
As	75	115	He	82.975	0.705	74305	0.96	100	83.0	89.6	110.4	>+\- 10%
Se	78	115	H2	97.951	1.341	24402	2.04	100	98.0	89.6	110.4	
Se	78	115	He	95.979	1.151	6257	1.55	100	96.0	89.6	110.4	
Sr	88	115	NoGas	96.151	1.497	3264784	1.38	100	96.2	89.6	110.4	
Mo	95	115	NoGas	98.137	0.857	637913	0.55	100	98.1	89.6	110.4	
Ag	107	115	NoGas	49.397	0.422	816705	0.41	50	98.8	89.6	110.4	
Cd	111	115	He	97.583	0.853	188880	0.23	100	97.6	89.6	110.4	
Sn	118	115	He	49.827	0.604	213736	0.61	100	49.8	89.6	110.4	>+\- 10%
Sn	118	115	NoGas	49.264	0.589	494506	0.47	100	49.3	89.6	110.4	>+\- 10%
Sb	121	115	NoGas	109.245	1.915	1354564	1.61	100	109.2	89.6	110.4	
Ba	137	165	NoGas	97.245	1.651	465789	0.55	100	97.2	89.6	110.4	
Tl	205	165	NoGas	98.332	2.908	2952129	1.17	100	98.3	89.6	110.4	
Pb	208	165	NoGas	97.366	1.613	3934709	0.28	100	97.4	89.6	110.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	383213	0.93	349963	109.50	70	120	
Sc	45	H2	482847	0.39	475873	101.47	70	120	
Sc	45	He	199640	0.49	199736	99.95	70	120	
Sc	45	NoGas	2206365	0.21	2096637	105.23	70	120	
Ge	72	H2	122827	0.17	122394	100.35	70	120	
Ge	72	He	120732	0.98	123228	97.97	70	120	
Ge	72	NoGas	489201	0.52	485769	100.71	70	120	
In	115	H2	2830949	0.76	2822980	100.28	70	120	
In	115	He	1104220	0.64	1094773	100.86	70	120	
In	115	NoGas	3279275	0.31	3222140	101.77	70	120	
Tb	159	H2	5493488	0.44	5338807	102.90	70	120	
Tb	159	He	3295181	0.89	3232159	101.95	70	120	
Tb	159	NoGas	4415602	0.92	4336564	101.82	70	120	
Ho	165	H2	5108991	0.40	5094749	100.28	70	120	
Ho	165	He	3212318	1.17	3120127	102.95	70	120	
Ho	165	NoGas	4231248	1.79	4144894	102.08	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	010_ICB.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T11:44:58-08:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	45	NoGas	-0.010	-71.9	77	32.8	0.1	
B	11	45	NoGas	0.231	111.0	18533	2.7	8	
Na	23	45	He	-16.723	-5.5	71045	1.0	50	
Mg	24	45	He	-1.259	-2.6	486	5.2	20	
Al	27	45	He	-1.200	-16.7	453	13.5	10	
K	39	45	He	-1.804	-344.3	68262	4.7	40	
Ca	44	45	He	-1.064	-97.8	284	12.2	150	
Ti	47	45	He	-0.022	-230.8	10	100.0	0.5	
V	51	45	He	-0.061	-11.5	1080	3.6	0.4	
Cr	52	45	He	-0.010	-85.2	1124	5.9	0.2	
Mn	55	45	He	-0.230	-15.1	2356	6.1	0.3	
Fe	56	45	He	-1.386	-2.5	9587	1.7	30	
Co	59	45	He	-0.017	-9.2	59	31.2	0.4	
Ni	60	45	He	-0.067	-26.2	202	28.1	0.4	
Cu	63	45	He	-0.001	-671.7	634	12.1	0.4	
Zn	66	115	He	-0.106	-40.9	1010	6.5	15	
As	75	115	He	0.135	25.9	171	18.5	0.2	
Se	78	115	H2	0.062	42.9	23	28.6	0.4	
Se	78	115	He	-0.153	-140.6	66	20.6	0.4	
Sr	88	115	NoGas	-0.001	-72.0	287	10.1	0.1	
Mo	95	115	NoGas	-0.072	-13.7	1163	5.7	0.3	
Ag	107	115	NoGas	0.003	56.4	70	37.8	0.1	
Cd	111	115	He	0.000	-9019.7	2	173.2	0.1	
Sn	118	115	He	-0.020	-135.7	2545	4.6	0.1	
Sn	118	115	NoGas	0.032	46.6	6211	2.6	0.1	
Sb	121	115	NoGas	0.161	10.4	4537	4.1	0.5	
Ba	137	165	NoGas	0.004	145.3	137	18.4	0.4	
Tl	205	165	NoGas	0.008	38.8	593	15.5	0.2	
Pb	208	165	NoGas	-0.029	-1.6	1070	0.0	0.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	395897	0.86	349963	113.13	70	120	
Sc	45	H2	481549	0.58	475873	101.19	70	120	
Sc	45	He	198304	0.75	199736	99.28	70	120	
Sc	45	NoGas	2250975	1.79	2096637	107.36	70	120	
Ge	72	H2	125702	1.24	122394	102.70	70	120	
Ge	72	He	121309	0.06	123228	98.44	70	120	
Ge	72	NoGas	497038	0.72	485769	102.32	70	120	
In	115	H2	2839870	0.95	2822980	100.60	70	120	
In	115	He	1110286	0.61	1094773	101.42	70	120	
In	115	NoGas	3238768	0.42	3222140	100.52	70	120	
Tb	159	H2	5366055	0.81	5338807	100.51	70	120	
Tb	159	He	3295345	0.85	3232159	101.95	70	120	
Tb	159	NoGas	4359892	0.44	4336564	100.54	70	120	
Ho	165	H2	5086123	0.91	5094749	99.83	70	120	
Ho	165	He	3179107	0.98	3120127	101.89	70	120	
Ho	165	NoGas	4192437	1.74	4144894	101.15	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	014_CCV.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T12:08:56-08:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	45	NoGas	51.609	1.223	177901	1.34	50	103.2	89.6	110.4	
B	11	45	NoGas	48.726	2.919	117385	2.35	50	97.5	89.6	110.4	
Na	23	45	He	1268.239	1.967	1675483	1.41	1250	101.5	89.6	110.4	
Mg	24	45	He	2553.993	0.899	1734309	0.27	2500	102.2	89.6	110.4	
Al	27	45	He	1011.066	0.980	300825	1.10	1000	101.1	89.6	110.4	
K	39	45	He	997.843	0.564	649404	0.58	1000	99.8	89.6	110.4	
Ca	44	45	He	2518.069	0.817	81444	0.29	2500	100.7	89.6	110.4	
Ti	47	45	He	50.849	2.028	10380	1.00	50	101.7	89.6	110.4	
V	51	45	He	49.638	1.007	317570	0.86	50	99.3	89.6	110.4	
Cr	52	45	He	49.925	1.524	385791	0.81	50	99.8	89.6	110.4	
Mn	55	45	He	50.146	0.630	239417	1.05	50	100.3	89.6	110.4	
Fe	56	45	He	1015.202	0.388	6997151	0.70	1000	101.5	89.6	110.4	
Co	59	45	He	50.301	1.276	609286	0.35	50	100.6	89.6	110.4	
Ni	60	45	He	50.486	1.424	166305	1.38	50	101.0	89.6	110.4	
Cu	63	45	He	50.160	1.234	451246	0.62	50	100.3	89.6	110.4	
Zn	66	115	He	48.936	0.466	75233	0.25	50	97.9	89.6	110.4	
As	75	115	He	49.730	1.349	45561	2.01	50	99.5	89.6	110.4	
Se	78	115	H2	51.259	1.744	12935	2.62	50	102.5	89.6	110.4	
Se	78	115	He	49.652	3.959	3347	4.26	50	99.3	89.6	110.4	
Sr	88	115	NoGas	50.495	2.564	1742333	1.05	50	101.0	89.6	110.4	
Mo	95	115	NoGas	49.233	0.434	326108	1.64	50	98.5	89.6	110.4	
Ag	107	115	NoGas	24.823	1.782	417066	0.69	25	99.3	89.6	110.4	
Cd	111	115	He	49.646	0.436	98267	1.00	50	99.3	89.6	110.4	
Sn	118	115	He	49.152	0.852	215634	0.99	50	98.3	89.6	110.4	
Sn	118	115	NoGas	48.940	1.572	499270	0.77	50	97.9	89.6	110.4	
Sb	121	115	NoGas	48.630	1.873	614272	1.45	50	97.3	89.6	110.4	
Ba	137	165	NoGas	49.488	1.523	242553	0.76	50	99.0	89.6	110.4	
Tl	205	165	NoGas	48.624	1.332	1493834	0.59	50	97.2	89.6	110.4	
Pb	208	165	NoGas	48.796	1.715	2018369	0.23	50	97.6	89.6	110.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	414132	0.58	349963	118.34	70	120	
Sc	45	H2	496800	0.18	475873	104.40	70	120	
Sc	45	He	203625	1.08	199736	101.95	70	120	
Sc	45	NoGas	2298120	0.12	2096637	109.61	70	120	
Ge	72	H2	126263	0.34	122394	103.16	70	120	
Ge	72	He	122796	0.70	123228	99.65	70	120	
Ge	72	NoGas	501401	0.87	485769	103.22	70	120	
In	115	H2	2866740	1.80	2822980	101.55	70	120	
In	115	He	1129128	0.70	1094773	103.14	70	120	
In	115	NoGas	3333081	1.79	3222140	103.44	70	120	
Tb	159	H2	5459322	1.38	5338807	102.26	70	120	
Tb	159	He	3374059	1.37	3232159	104.39	70	120	
Tb	159	NoGas	4482729	1.64	4336564	103.37	70	120	
Ho	165	H2	5164874	0.92	5094749	101.38	70	120	
Ho	165	He	3263213	1.93	3120127	104.59	70	120	
Ho	165	NoGas	4328392	1.50	4144894	104.43	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	016_CCB.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T12:20:52-08:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	45	NoGas	-0.016	-36.1	60	33.3	0.1	
B	11	45	NoGas	-1.613	-25.0	15584	5.3	8	
Na	23	45	He	-21.641	-6.1	66821	2.4	50	
Mg	24	45	He	-1.329	-1.8	451	3.5	20	
Al	27	45	He	-1.237	-18.2	454	15.0	10	
K	39	45	He	-6.732	-33.1	67248	2.1	40	
Ca	44	45	He	-2.606	-16.4	242	5.2	150	
Ti	47	45	He	-0.029	-215.5	9	142.0	0.5	
V	51	45	He	0.011	150.8	1561	6.3	0.4	
Cr	52	45	He	-0.028	-20.6	1019	4.2	0.2	
Mn	55	45	He	-0.309	-4.3	2049	3.5	0.3	
Fe	56	45	He	-1.417	-1.8	9630	1.4	30	
Co	59	45	He	-0.014	-5.1	102	8.2	0.4	
Ni	60	45	He	-0.079	-17.3	168	26.5	0.4	
Cu	63	45	He	-0.007	-36.0	599	4.0	0.4	
Zn	66	115	He	-0.054	-118.8	1102	9.3	15	
As	75	115	He	0.040	69.1	87	29.0	0.2	
Se	78	115	H2	0.030	177.1	16	86.6	0.4	
Se	78	115	He	-0.201	-215.4	63	45.0	0.4	
Sr	88	115	NoGas	-0.001	-267.6	313	20.5	0.1	
Mo	95	115	NoGas	-0.096	-12.0	1050	6.7	0.3	
Ag	107	115	NoGas	0.000	-146.9	17	69.3	0.1	
Cd	111	115	He	0.000	-24.5	2	0.0	0.1	
Sn	118	115	He	0.004	241.0	2684	0.9	0.1	
Sn	118	115	NoGas	0.008	259.1	6205	3.3	0.1	
Sb	121	115	NoGas	0.208	6.0	5318	3.6	0.5	
Ba	137	165	NoGas	0.015	87.3	197	33.9	0.4	
Tl	205	165	NoGas	0.002	40.2	444	7.0	0.2	
Pb	208	165	NoGas	-0.037	-2.5	763	5.3	0.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	417099	1.66	349963	119.18	70	120	
Sc	45	H2	496411	0.59	475873	104.32	70	120	
Sc	45	He	203623	0.45	199736	101.95	70	120	
Sc	45	NoGas	2359597	0.79	2096637	112.54	70	120	
Ge	72	H2	130074	1.48	122394	106.28	70	120	
Ge	72	He	124419	1.35	123228	100.97	70	120	
Ge	72	NoGas	510289	0.84	485769	105.05	70	120	
In	115	H2	2894430	0.72	2822980	102.53	70	120	
In	115	He	1125688	0.71	1094773	102.82	70	120	
In	115	NoGas	3364488	0.65	3222140	104.42	70	120	
Tb	159	H2	5401539	1.67	5338807	101.18	70	120	
Tb	159	He	3348764	1.42	3232159	103.61	70	120	
Tb	159	NoGas	4508654	0.63	4336564	103.97	70	120	
Ho	165	H2	5118024	0.46	5094749	100.46	70	120	
Ho	165	He	3236435	0.35	3120127	103.73	70	120	
Ho	165	NoGas	4323444	1.69	4144894	104.31	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	104_CCV.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T21:06:02-08:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	45	NoGas	48.005	0.492	174481	0.34	50	96.0	89.6	110.4	
B	11	45	NoGas	455.035	2.500	993579	2.32	50	910.1	89.6	110.4	>+/- 10%
Na	23	45	He	1393.593	2.088	1870391	1.24	1250	111.5	89.6	110.4	>+/- 10%
Mg	24	45	He	2468.619	3.545	1711477	2.71	2500	98.7	89.6	110.4	
Al	27	45	He	981.014	0.900	298057	0.59	1000	98.1	89.6	110.4	
K	39	45	He	987.784	1.650	657111	0.76	1000	98.8	89.6	110.4	
Ca	44	45	He	2453.506	1.735	81034	0.88	2500	98.1	89.6	110.4	
Ti	47	45	He	48.212	1.228	10051	0.83	50	96.4	89.6	110.4	
V	51	45	He	48.833	1.014	319025	0.48	50	97.7	89.6	110.4	
Cr	52	45	He	47.796	0.563	377217	1.06	50	95.6	89.6	110.4	
Mn	55	45	He	48.189	0.841	235061	0.88	50	96.4	89.6	110.4	
Fe	56	45	He	962.175	1.504	6772094	0.73	1000	96.2	89.6	110.4	
Co	59	45	He	47.855	0.748	591935	0.88	50	95.7	89.6	110.4	
Ni	60	45	He	46.809	0.998	157473	0.41	50	93.6	89.6	110.4	
Cu	63	45	He	47.193	0.481	433565	0.40	50	94.4	89.6	110.4	
Zn	66	115	He	46.236	0.836	73896	0.83	50	92.5	89.6	110.4	
As	75	115	He	48.575	0.725	46218	0.46	50	97.1	89.6	110.4	
Se	78	115	H2	50.799	2.557	13231	1.46	50	101.6	89.6	110.4	
Se	78	115	He	49.311	4.468	3453	4.41	50	98.6	89.6	110.4	
Sr	88	115	NoGas	49.703	1.123	1813364	1.31	50	99.4	89.6	110.4	
Mo	95	115	NoGas	47.493	1.910	332553	0.48	50	95.0	89.6	110.4	
Ag	107	115	NoGas	23.983	0.405	426030	1.03	25	95.9	89.6	110.4	
Cd	111	115	He	47.599	0.105	97849	0.22	50	95.2	89.6	110.4	
Sn	118	115	He	49.591	0.130	225930	0.16	50	99.2	89.6	110.4	
Sn	118	115	NoGas	48.852	2.038	526823	0.63	50	97.7	89.6	110.4	
Sb	121	115	NoGas	47.969	2.732	640488	1.38	50	95.9	89.6	110.4	
Ba	137	165	NoGas	49.087	0.762	252435	0.49	50	98.2	89.6	110.4	
Tl	205	165	NoGas	48.587	1.275	1566403	2.37	50	97.2	89.6	110.4	
Pb	208	165	NoGas	47.130	0.707	2045625	0.64	50	94.3	89.6	110.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	431423	1.25	349963	123.28	70	120	ISTD Failed
Sc	45	H2	512128	0.36	475873	107.62	70	120	
Sc	45	He	207916	0.85	199736	104.10	70	120	
Sc	45	NoGas	2423081	0.17	2096637	115.57	70	120	
Ge	72	H2	132313	0.85	122394	108.10	70	120	
Ge	72	He	127968	1.38	123228	103.85	70	120	
Ge	72	NoGas	523424	0.87	485769	107.75	70	120	
In	115	H2	2959494	1.37	2822980	104.84	70	120	
In	115	He	1172702	0.28	1094773	107.12	70	120	
In	115	NoGas	3523345	1.43	3222140	109.35	70	120	
Tb	159	H2	5593517	0.62	5338807	104.77	70	120	
Tb	159	He	3490319	0.94	3232159	107.99	70	120	
Tb	159	NoGas	4661851	0.74	4336564	107.50	70	120	
Ho	165	H2	5340458	0.86	5094749	104.82	70	120	
Ho	165	He	3397838	0.25	3120127	108.90	70	120	
Ho	165	NoGas	4541191	1.18	4144894	109.56	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	106_CCB.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T21:17:57-08:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	45	NoGas	-0.031	-10.2	7	173.2	0.1	
B	11	45	NoGas	373.808	1.4	834951	1.2	8	>LOD
Na	23	45	He	101.669	1.1	225580	0.6	50	>LOD
Mg	24	45	He	-1.103	-6.7	618	7.7	20	
Al	27	45	He	-0.813	-11.8	593	5.5	10	
K	39	45	He	5.515	88.7	76030	4.5	40	
Ca	44	45	He	-2.337	-29.0	257	9.4	150	
Ti	47	45	He	-0.040	-69.3	7	86.6	0.5	
V	51	45	He	0.057	29.4	1899	5.2	0.4	
Cr	52	45	He	-0.052	-14.6	848	6.5	0.2	
Mn	55	45	He	-0.503	-6.2	1165	12.3	0.3	
Fe	56	45	He	-1.305	-1.6	10638	2.0	30	
Co	59	45	He	-0.016	-25.5	80	62.9	0.4	
Ni	60	45	He	-0.094	-3.7	122	10.3	0.4	
Cu	63	45	He	0.146	12.2	2021	8.6	0.4	
Zn	66	115	He	-0.146	-19.9	1020	4.4	15	
As	75	115	He	0.037	78.3	89	31.2	0.2	
Se	78	115	H2	0.010	141.9	11	34.6	0.4	
Se	78	115	He	0.592	51.9	122	17.3	0.4	>LOD
Sr	88	115	NoGas	0.006	17.4	577	7.2	0.1	
Mo	95	115	NoGas	-0.085	-11.0	1190	5.1	0.3	
Ag	107	115	NoGas	0.002	81.6	57	44.4	0.1	
Cd	111	115	He	0.002	44.9	7	31.5	0.1	
Sn	118	115	He	0.001	4427.0	2827	4.5	0.1	
Sn	118	115	NoGas	-0.002	-2476.2	6478	6.0	0.1	
Sb	121	115	NoGas	0.060	20.2	3647	4.4	0.5	
Ba	137	165	NoGas	0.011	115.6	183	33.3	0.4	
Tl	205	165	NoGas	0.003	3.0	471	1.3	0.2	
Pb	208	165	NoGas	-0.041	-3.6	620	9.8	0.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	445135	0.54	349963	127.19	70	120	ISTD Failed
Sc	45	H2	519347	0.76	475873	109.14	70	120	
Sc	45	He	208205	0.66	199736	104.24	70	120	
Sc	45	NoGas	2468292	1.21	2096637	117.73	70	120	
Ge	72	H2	135719	1.56	122394	110.89	70	120	
Ge	72	He	131154	1.41	123228	106.43	70	120	
Ge	72	NoGas	543881	1.30	485769	111.96	70	120	
In	115	H2	3073457	1.62	2822980	108.87	70	120	
In	115	He	1192588	0.20	1094773	108.93	70	120	
In	115	NoGas	3568524	0.70	3222140	110.75	70	120	
Tb	159	H2	5588457	2.18	5338807	104.68	70	120	
Tb	159	He	3499888	0.46	3232159	108.28	70	120	
Tb	159	NoGas	4692811	1.83	4336564	108.21	70	120	
Ho	165	H2	5331455	1.06	5094749	104.65	70	120	
Ho	165	He	3436052	2.50	3120127	110.13	70	120	
Ho	165	NoGas	4544829	1.83	4144894	109.65	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	117_CCV.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T22:23:52-08:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	45	NoGas	49.292	1.252	182253	0.67	50	98.6	89.6	110.4	
B	11	45	NoGas	323.729	1.554	724830	1.42	50	647.5	89.6	110.4	>+/- 10%
Na	23	45	He	1287.113	0.684	1737020	0.32	1250	103.0	89.6	110.4	
Mg	24	45	He	2458.487	0.728	1706801	0.47	2500	98.3	89.6	110.4	
Al	27	45	He	984.368	0.914	299443	1.08	1000	98.4	89.6	110.4	
K	39	45	He	991.505	0.361	660145	0.35	1000	99.2	89.6	110.4	
Ca	44	45	He	2463.129	0.755	81454	0.64	2500	98.5	89.6	110.4	
Ti	47	45	He	48.592	2.977	10143	3.34	50	97.2	89.6	110.4	
V	51	45	He	48.482	0.282	317135	0.35	50	97.0	89.6	110.4	
Cr	52	45	He	47.448	0.446	374917	0.45	50	94.9	89.6	110.4	
Mn	55	45	He	48.232	0.546	235555	0.77	50	96.5	89.6	110.4	
Fe	56	45	He	958.437	0.225	6754485	0.60	1000	95.8	89.6	110.4	
Co	59	45	He	47.984	0.555	594241	0.26	50	96.0	89.6	110.4	
Ni	60	45	He	46.799	0.716	157633	0.39	50	93.6	89.6	110.4	
Cu	63	45	He	46.555	0.308	428230	0.28	50	93.1	89.6	110.4	
Zn	66	115	He	46.343	1.742	74312	1.28	50	92.7	89.6	110.4	
As	75	115	He	47.722	0.773	45562	0.28	50	95.4	89.6	110.4	
Se	78	115	H2	49.220	1.185	13167	1.28	50	98.4	89.6	110.4	
Se	78	115	He	47.260	4.267	3324	4.36	50	94.5	89.6	110.4	
Sr	88	115	NoGas	49.093	1.956	1796820	1.56	50	98.2	89.6	110.4	
Mo	95	115	NoGas	47.595	0.678	334389	0.98	50	95.2	89.6	110.4	
Ag	107	115	NoGas	23.894	0.466	425817	0.67	25	95.6	89.6	110.4	
Cd	111	115	He	47.370	0.460	97711	0.53	50	94.7	89.6	110.4	
Sn	118	115	He	49.232	0.373	225082	0.53	50	98.5	89.6	110.4	
Sn	118	115	NoGas	48.201	1.035	521655	1.29	50	96.4	89.6	110.4	
Sb	121	115	NoGas	48.503	1.847	649824	2.05	50	97.0	89.6	110.4	
Ba	137	165	NoGas	48.575	0.486	250474	0.12	50	97.1	89.6	110.4	
Tl	205	165	NoGas	48.189	1.723	1557472	1.48	50	96.4	89.6	110.4	
Pb	208	165	NoGas	46.878	1.183	2040097	0.63	50	93.8	89.6	110.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	447026	1.31	349963	127.74	70	120	ISTD Failed
Sc	45	H2	526619	1.09	475873	110.66	70	120	
Sc	45	He	208164	0.40	199736	104.22	70	120	
Sc	45	NoGas	2465184	1.38	2096637	117.58	70	120	
Ge	72	H2	139323	0.73	122394	113.83	70	120	
Ge	72	He	129089	1.42	123228	104.76	70	120	
Ge	72	NoGas	530577	1.80	485769	109.22	70	120	
In	115	H2	3039242	1.15	2822980	107.66	70	120	
In	115	He	1176706	0.59	1094773	107.48	70	120	
In	115	NoGas	3534593	0.49	3222140	109.70	70	120	
Tb	159	H2	5493028	0.59	5338807	102.89	70	120	
Tb	159	He	3446730	1.04	3232159	106.64	70	120	
Tb	159	NoGas	4725118	0.80	4336564	108.96	70	120	
Ho	165	H2	5350218	0.90	5094749	105.01	70	120	
Ho	165	He	3381774	2.11	3120127	108.39	70	120	
Ho	165	NoGas	4553169	0.61	4144894	109.85	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	119_CCB.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T22:35:48-08:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	45	NoGas	-0.032	-4.8	3	173.2	0.1	
B	11	45	NoGas	257.912	1.4	586365	0.6	8	>LOD
Na	23	45	He	40.268	32.1	149237	11.3	50	
Mg	24	45	He	-1.189	-20.6	566	30.6	20	
Al	27	45	He	-0.917	-9.0	569	4.4	10	
K	39	45	He	4.653	116.6	76505	4.2	40	
Ca	44	45	He	-1.507	-128.3	288	22.6	150	
Ti	47	45	He	-0.035	-92.5	8	89.2	0.5	
V	51	45	He	0.037	46.3	1793	6.0	0.4	
Cr	52	45	He	-0.051	-17.4	868	8.2	0.2	
Mn	55	45	He	-0.496	-2.8	1212	5.5	0.3	
Fe	56	45	He	-1.360	-0.3	10383	0.5	30	
Co	59	45	He	-0.016	-4.0	74	11.3	0.4	
Ni	60	45	He	-0.098	-9.6	110	28.9	0.4	
Cu	63	45	He	0.025	31.7	917	7.6	0.4	
Zn	66	115	He	-0.133	-26.7	1041	5.6	15	
As	75	115	He	0.051	44.9	102	21.7	0.2	
Se	78	115	H2	0.043	46.6	20	28.9	0.4	
Se	78	115	He	0.098	273.5	88	20.9	0.4	
Sr	88	115	NoGas	0.002	136.4	437	24.5	0.1	
Mo	95	115	NoGas	-0.126	-27.6	897	27.8	0.3	
Ag	107	115	NoGas	0.000	201.2	33	45.8	0.1	
Cd	111	115	He	0.002	52.3	6	33.3	0.1	
Sn	118	115	He	0.008	282.6	2856	3.2	0.1	
Sn	118	115	NoGas	-0.023	-91.4	6196	2.6	0.1	
Sb	121	115	NoGas	0.308	9.6	6922	5.2	0.5	
Ba	137	165	NoGas	0.025	25.9	253	13.9	0.4	
Tl	205	165	NoGas	0.004	23.5	499	6.0	0.2	
Pb	208	165	NoGas	-0.040	-9.3	650	25.9	0.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	453243	1.29	349963	129.51	70	120	ISTD Failed
Sc	45	H2	524503	1.02	475873	110.22	70	120	
Sc	45	He	210966	0.40	199736	105.62	70	120	
Sc	45	NoGas	2485856	0.79	2096637	118.56	70	120	
Ge	72	H2	138722	1.00	122394	113.34	70	120	
Ge	72	He	130833	0.93	123228	106.17	70	120	
Ge	72	NoGas	543815	0.55	485769	111.95	70	120	
In	115	H2	3054890	2.01	2822980	108.22	70	120	
In	115	He	1191504	0.37	1094773	108.84	70	120	
In	115	NoGas	3537075	1.46	3222140	109.77	70	120	
Tb	159	H2	5578025	1.40	5338807	104.48	70	120	
Tb	159	He	3485165	1.01	3232159	107.83	70	120	
Tb	159	NoGas	4692950	1.17	4336564	108.22	70	120	
Ho	165	H2	5319296	1.83	5094749	104.41	70	120	
Ho	165	He	3387625	0.48	3120127	108.57	70	120	
Ho	165	NoGas	4525203	1.00	4144894	109.18	70	120	

METALS

Raw Data

APPL, INC.

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
6020A	LEAD (PB) (DISSOL	0.40 U	3.0	0.40	0.19	ug/L	11/05/14	11/05/14	#62A14-141105A-AZ05388

Metals SC-Blank-REG MDLs
Printed: 11/12/14 9:53:09 AM

Sample Report

Sample Table

Sample Name	141105A BLK
Data File Name	107SMPL.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T21:23:57-08:00
Sample Type	Sample
Dilution	1.111111111
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	-0.031	-0.034	-10.12	7	173.21	10000	
B	11	45	NoGas	375.005	416.672	1.09	845713	0.90	10000	
Na	23	45	He	108.402	120.447	1.24	234430	0.73	1000000	
Mg	24	45	He	-0.323	-0.359	-50.04	1160	9.50	1000000	
Al	27	45	He	0.177	0.196	87.01	894	5.61	1000000	
K	39	45	He	4.663	5.181	136.21	75589	4.69	500000	
Ca	44	45	He	3.722	4.136	0.92	457	0.73	500000	
Ti	47	45	He	0.050	0.056	49.42	26	19.92	10000	
V	51	45	He	-0.150	-0.167	-9.65	549	16.76	10000	
Cr	52	45	He	0.203	0.226	10.15	2862	6.20	10000	
Mn	55	45	He	-0.453	-0.503	-5.87	1406	8.72	50000	
Fe	56	45	He	-0.241	-0.268	-379.03	18158	36.00	1000000	
Co	59	45	He	-0.017	-0.019	-3.92	61	13.73	10000	
Ni	60	45	He	0.094	0.104	14.04	753	6.43	10000	
Cu	63	45	He	0.141	0.157	10.14	1975	6.63	10000	
Zn	66	115	He	-0.012	-0.013	-423.51	1212	6.37	50000	
As	75	115	He	-0.002	-0.003	-377.48	50	17.64	2000	
Se	78	115	H2	0.102	0.114	47.30	34	36.64	10000	
Se	78	115	He	0.526	0.585	34.83	116	10.92	10000	
Sr	88	115	NoGas	0.024	0.027	24.34	1224	18.30	50000	
Mo	95	115	NoGas	-0.048	-0.053	-44.57	1403	10.51	10000	
Ag	107	115	NoGas	0.001	0.001	198.25	37	62.98	5000	
Cd	111	115	He	0.000	0.000	-285.07	1	173.21	10000	
Sn	118	115	He	-0.499	-0.555	-0.67	530	2.74	10000	
Sn	118	115	NoGas	-0.487	-0.541	-0.44	1207	2.72	10000	
Sb	121	115	NoGas	-0.034	-0.038	-3.01	2297	1.26	10000	
Ba	137	165	NoGas	0.038	0.042	42.04	313	24.79	50000	
Tl	205	165	NoGas	0.050	0.055	9.23	1925	7.20	5000	
Pb	208	165	NoGas	-0.041	-0.045	-10.24	613	28.07	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	459666	0.57	349963	131.35	70	120	ISTD Failed
Sc	45	H2	513778	0.95	475873	107.97	70	120	
Sc	45	He	208438	0.54	199736	104.36	70	120	
Sc	45	NoGas	2492311	1.25	2096637	118.87	70	120	
Ge	72	H2	135214	0.92	122394	110.47	70	120	
Ge	72	He	130814	0.47	123228	106.16	70	120	
Ge	72	NoGas	531266	0.97	485769	109.37	70	120	
In	115	H2	2924241	0.56	2822980	103.59	70	120	
In	115	He	1170758	0.23	1094773	106.94	70	120	
In	115	NoGas	3452730	0.94	3222140	107.16	70	120	
Tb	159	H2	5318196	0.58	5338807	99.61	70	120	
Tb	159	He	3399050	1.66	3232159	105.16	70	120	
Tb	159	NoGas	4546700	0.42	4336564	104.85	70	120	
Ho	165	H2	5061784	0.19	5094749	99.35	70	120	
Ho	165	He	3336740	1.13	3120127	106.94	70	120	
Ho	165	NoGas	4392630	0.82	4144894	105.98	70	120	

Laboratory Control Spike Recovery

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6020A	LEAD (PB) (DISSOLVED)	50.0	44.4	88.8	80-120	11/05/14	11/05/14	#62A14-141105A-AZ05388

Comments: _____

Sample Report

Sample Table

Sample Name	141105A LCS
Data File Name	108SMPL.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T21:29:56-08:00
Sample Type	Sample
Dilution	1.111111111
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	8.737	9.707	0.61	32896	0.89	10000	
B	11	45	NoGas	389.158	432.398	1.42	880460	0.13	10000	
Na	23	45	He	4260.955	4734.395	0.60	5561159	0.61	1000000	
Mg	24	45	He	4207.189	4674.655	0.35	2936941	0.25	1000000	
Al	27	45	He	351.015	390.017	0.13	107945	0.19	1000000	
K	39	45	He	869.441	966.046	0.44	591263	0.28	500000	
Ca	44	45	He	4165.902	4628.780	0.41	138338	0.47	500000	
Ti	47	45	He	43.174	47.971	3.26	9066	3.27	10000	
V	51	45	He	43.685	48.539	0.49	287582	0.58	10000	
Cr	52	45	He	41.416	46.018	0.38	329335	0.48	10000	
Mn	55	45	He	41.128	45.698	0.88	202562	0.97	50000	
Fe	56	45	He	161.034	178.927	0.43	1158067	0.53	1000000	
Co	59	45	He	41.301	45.890	0.24	514510	0.19	10000	
Ni	60	45	He	39.729	44.143	0.91	134668	1.00	10000	
Cu	63	45	He	38.901	43.223	0.43	360030	0.48	10000	
Zn	66	115	He	75.305	83.672	0.80	119467	0.46	50000	
As	75	115	He	39.417	43.796	1.94	37480	1.97	2000	
Se	78	115	H2	40.121	44.579	2.18	10352	2.89	10000	
Se	78	115	He	38.512	42.791	7.80	2711	7.52	10000	
Sr	88	115	NoGas	43.620	48.467	0.93	1552559	0.68	50000	
Mo	95	115	NoGas	43.771	48.634	0.63	299168	0.62	10000	
Ag	107	115	NoGas	17.226	19.139	0.89	298517	0.92	5000	
Cd	111	115	He	7.810	8.677	1.33	16041	1.38	10000	
Sn	118	115	He	43.911	48.791	0.34	200189	0.18	10000	
Sn	118	115	NoGas	43.589	48.432	0.91	459301	0.51	10000	
Sb	121	115	NoGas	45.164	50.182	1.03	588595	1.53	10000	
Ba	137	165	NoGas	43.155	47.950	3.23	216060	1.87	50000	
Tl	205	165	NoGas	38.963	43.292	0.93	1222977	0.59	5000	
Pb	208	165	NoGas	39.984	44.427	1.07	1690131	0.58	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	469498	0.59	349963	134.16	70	120	ISTD Failed
Sc	45	H2	512702	0.60	475873	107.74	70	120	
Sc	45	He	209379	0.10	199736	104.83	70	120	
Sc	45	NoGas	2502677	1.45	2096637	119.37	70	120	
Ge	72	H2	136059	0.78	122394	111.17	70	120	
Ge	72	He	130917	0.48	123228	106.24	70	120	
Ge	72	NoGas	531783	0.96	485769	109.47	70	120	
In	115	H2	2930528	0.86	2822980	103.81	70	120	
In	115	He	1171624	0.34	1094773	107.02	70	120	
In	115	NoGas	3437218	1.19	3222140	106.67	70	120	
Tb	159	H2	5302100	0.84	5338807	99.31	70	120	
Tb	159	He	3389941	0.98	3232159	104.88	70	120	
Tb	159	NoGas	4583283	0.70	4336564	105.69	70	120	
Ho	165	H2	5062441	1.09	5094749	99.37	70	120	
Ho	165	He	3324787	1.09	3120127	106.56	70	120	
Ho	165	NoGas	4421847	1.49	4144894	106.68	70	120	

US EPA Tune Check Sample Report

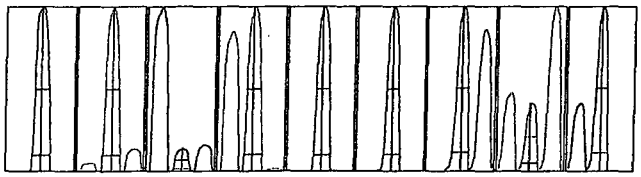
Batch Folder D:\DATA\Agilent Test.b
Report Comment C:\Agilent\ICPMH\Report Templates\en\Letter\Tune Report\New and Improved 200_8TuneCheckSampleReport.xltx
Instrument Name G3281A JP12101628

[NoGas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	5320103	0.36	5.00	
24	20275605	0.50	5.00	
25	2773927	0.21	5.00	
26	3248884	0.50	5.00	
59	37346214	0.22	5.00	
115	51997937	0.86	5.00	
206	11917073	0.56	5.00	
207	10568943	0.38	5.00	
208	25044538	0.81	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	5317560	5323673	5302166	5306036	5351077
24	20212444	20131546	20348679	20307342	20378013
25	2763696	2775360	2778239	2775842	2776499
26	3228315	3234695	3257767	3259145	3264497
59	37211212	37387118	37407556	37320587	37404598
115	51772596	51404189	52602684	52141066	52069152
206	11855366	11852906	12011898	11925427	11939770
207	10512196	10603973	10544261	10607516	10576770
208	24809791	25159675	24848403	25140665	25264154

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	845064	9.05	8.9 - 9.1		0.771	0.900	
24	3307675	24.10	23.9 - 24.1		0.766	0.900	
25	451701	25.10	24.9 - 25.1		0.752	0.900	
26	531326	26.05	25.9 - 26.1		0.765	0.900	
59	6214844	59.05	58.9 - 59.1		0.729	0.900	
115	9407439	115.10	114.9 - 115.1		0.713	0.900	
206	2248474	206.05	205.9 - 206.1		0.727	0.900	
207	1946016	207.00	206.9 - 207.1		0.724	0.900	
208	4696037	208.05	207.9 - 208.1		0.739	0.900	

X% = 10 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 235 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1600	W	Carrier Gas	0.41	L/min			
RF Matching	2.22	V	Option Gas	0.0	%			
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps			
S/C Temp	2	°C						

Lenses Parameters

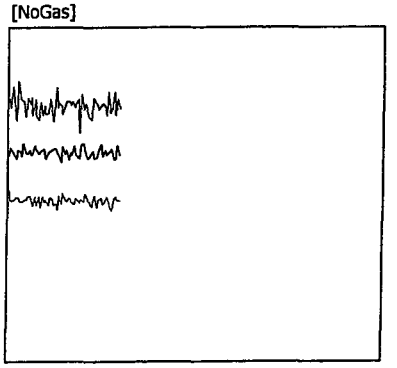
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	8.7	V			
Extract 2	-145.0	V	Cell Entrance	-30	V			
Omega Bias	-70	V	Cell Exit	-30	V			
Deflect	11.8	V						

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	false		3rd Gas Flow	0	%			
He Flow	0.0	mL/min	OctP Bias	-8.0	V			
H2 Flow	0.0	mL/min	OctP RF	170	V			
Energy Discrimination	5.1	V						

Current Signal

[NoGas]



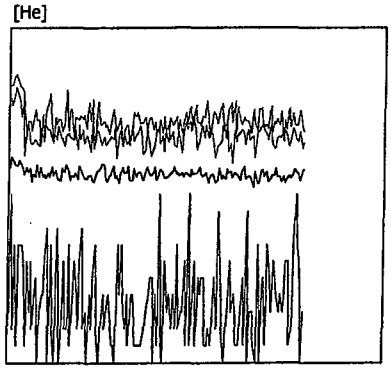
Mass	Range	Count	Avg. Count	RSD [%]
7	2000	1516	1528.1	3.78
59	5000	3025	3149.9	3.48
89	10000	4753	4768.1	2.69
140	10000	4648	4647.4	2.48
205	10000	6159	6220.1	2.11
156/140	1	0.452 %	0.417 %	34.04
70/140	5	2.775 %	2.737 %	10.99
Integration Time [sec]		0.10		

## Plasma Parameters ##					
RF Power	1600	W	Carrier Gas	0.41	L/min
RF Matching	2.22	V	Option Gas	0.0	%
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps
S/C Temp	2	°C			
## Lenses Parameters ##					
Extract 1	0.0	V	Omega Lens	8.7	V
Extract 2	-145.0	V	Cell Entrance	-30	V
Omega Bias	-70	V	Cell Exit	-30	V
Deflect	11.8	V			
## Cell Parameters ##					
Use Gas	false		3rd Gas Flow	0	%
He Flow	0.0	mL/min	OctP Bias	-8.0	V
H2 Flow	0.0	mL/min	OctP RF	170	V
Energy Discrimination	5.1	V			

Meters					
IF/BK Press	2.62E+2	Pa	S/C Temp (L)	2.0	°C
Analyzer Press	2.57E-4	Pa	Reflected Power	7	W
Forward Power	1601	W			

Current Signal

[He]



Mass	Range	Count	Avg. Count	RSD [%]
59	2000	1378	1448.2	4.74
89	2000	1311	1362.0	6.48
140	5000	3158	3134.1	3.75
205	10000	5766	5627.8	2.72
156/140	1	0.253 %	0.225 %	53.29
75	20	3	3.6	69.82
78	50	10	9.6	46.66
Integration Time [sec]		0.10		

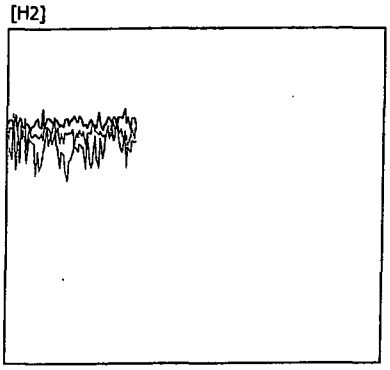
## Plasma Parameters ##					
RF Power	1600	W	Carrier Gas	0.41	L/min
RF Matching	2.22	V	Option Gas	0.0	%
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps
S/C Temp	2	°C			
## Lenses Parameters ##					
Extract 1	0.0	V	Omega Lens	8.7	V
Extract 2	-145.0	V	Cell Entrance	-40	V
Omega Bias	-70	V	Cell Exit	-60	V
Deflect	0.8	V			
## Cell Parameters ##					
Use Gas	true		3rd Gas Flow	0	%
He Flow	3.7	mL/min	OctP Bias	-19.0	V
H2 Flow	0.0	mL/min	OctP RF	170	V
Energy Discrimination	5.0	V			

Meters

IF/BK Press	2.62E+2	Pa	S/C Temp (L)	1.9	°C
Analyzer Press	3.59E-4	Pa	Reflected Power	7	W
Forward Power	1599	W			

Current Signal

[H2]



Mass	Range	Count	Avg. Count	RSD [%]
59	500	331	321.0	6.91
89	5000	3534	3427.3	2.79
140	2000	1287	1270.5	5.25
205	10000	7145	7213.0	1.95
56	10000	5637	5967.9	8.99
78	20	2	1.1	107.65
80	50	15	14.5	32.91
Integration Time [sec]			0.10	

## Plasma Parameters ##					
RF Power	1600	W	Carrier Gas	0.41	L/min
RF Matching	2.22	V	Option Gas	0.0	%
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps
S/C Temp	2	°C			
## Lenses Parameters ##					
Extract 1	0.0	V	Omega Lens	8.7	V
Extract 2	-145.0	V	Cell Entrance	-30	V
Omega Bias	-70	V	Cell Exit	-60	V
Deflect	-2.4	V			

## Cell Parameters ##					
Use Gas	true		3rd Gas Flow	0	%
He Flow	0.0	mL/min	OctP Bias	-18.0	V
H2 Flow	6.0	mL/min	OctP RF	170	V
Energy Discrimination	3.0	V			

Meters					
IF/BK Press	2.67E+2	Pa	S/C Temp (L)	2.0	°C
Analyzer Press	1.45E-3	Pa	Reflected Power	7	W
Forward Power	1599	W			

Metals Digestion Worksheet

Method Name 3015 Digestion **Prep Method** M3015 **Set** 141105A **Units** mL

Spikes	
Spiked ID 1	LCSW LOT#1066596-34172
Spiked ID 2	LCSW LOT#1066556-34173
Spiked ID 3	
Spiked ID 4	
Spiked By	NM Date: 11/05/14 11:00:00 AM
Witnessed By	SJH Date: 11/05/14 11:00:00 AM

Starting Temp:	19 c
Ending Temp:	170 c
Temperature Type:	Microwave
Sufficient Vol for Matrix QC:	Yes
End Date/Time	11/05/14 12:30

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	141105A Blk				45mL	50mL	11/05/14 11:00	equip: MultiWave
2	141105A LCS		90uL	1+2	45mL	50mL	11/05/14 11:00	equip: MultiWave
3	AZ05388	AZ05388W12			45mL	50mL	11/05/14 11:00	equip: MultiWave Field Filtered
4	AZ05389	AZ05389W12			45mL	50mL	11/05/14 11:00	equip: MultiWave Field Filtered
5	AZ05513	AZ05513W10			45mL	50mL	11/05/14 11:00	equip: MultiWave
6	AZ05514	AZ05514W10			45mL	50mL	11/05/14 11:00	equip: MultiWave
7	AZ05515	AZ05515W10			45mL	50mL	11/05/14 11:00	equip: MultiWave
8	AZ05516	AZ05516W10			45mL	50mL	11/05/14 11:00	equip: MultiWave
9	AZ05516 DUP	AZ05516W10			45mL	50mL	11/05/14 11:00	equip: MultiWave
10	AZ05516 MS	AZ05516W10	90uL	1+2	45mL	50mL	11/05/14 11:00	equip: MultiWave
11	AZ05593	AZ05593W35			45mL	50mL	11/05/14 11:00	equip: MultiWave Field Filtered
12	AZ05593 MS	AZ05593W35	90uL	1+2	45mL	50mL	11/05/14 11:00	equip: MultiWave Field Filtered
13	AZ05593 MSD	AZ05593W35	90uL	1+2	45mL	50mL	11/05/14 11:00	equip: MultiWave Field Filtered

Solvent and Lot#
HNO3 J.T.B #74185 1839

Sample COC Transfer	
Sample prep employee Initials	nm
Analyst's initials	SJH
Date	11/05/14
Time	15:01
Moved to	metals

Technician's Initials	
Scanned By	nm
Sample Preparation	nm
Digestion	nm
Bring up to volume	nm
Modified	11/05/14 10:41:45 AM

Reviewed By: SJH **Date:** 11/05/14

6020/200.8 Injection Log

Directory: K:\ICP-MS Megatron\raw data output csv\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	05 Nov 2014	10:57	Calibration Blank		141105A	1.
2	05 Nov 2014	11:03	Standard 1		141105A	1.
3	05 Nov 2014	11:09	Standard 2		141105A	1.
4	05 Nov 2014	11:14	Standard 3		141105A	1.
5	05 Nov 2014	11:20	Standard 4		141105A	1.
6	05 Nov 2014	11:27	ICV		141105A	1.
8	05 Nov 2014	11:44	ICB		141105A	1.
12	05 Nov 2014	12:08	CCV		141105A	1.
13	05 Nov 2014	12:20	CCB		141105A	1.
14	05 Nov 2014	12:26	ICSA		141105A	1.
15	05 Nov 2014	13:08	ICSAB		141105A	1.
82	05 Nov 2014	21:06	CCV		141105A	1.
83	05 Nov 2014	21:17	CCB		141105A	1.
84	05 Nov 2014	21:23	141105A BLK		141105A	1.
85	05 Nov 2014	21:29	141105A LCS		141105A	1.
86	05 Nov 2014	21:41	AZ05388W12 1/5		141105A	5.
87	05 Nov 2014	21:47	AZ05389W12 1/5		141105A	5.
93	05 Nov 2014	22:23	CCV		141105A	1.
94	05 Nov 2014	22:35	CCB		141105A	1.

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	TOTAL ALKALINITY	1.70 U	2.0	1.70	0.85	mg/L	11/03/14	11/03/14	#232W-A141103-AZ05593
EPA 353.2	NITRATE-NITRITE-	0.100 U	0.10	0.100	0.028	mg/L	11/05/14	11/05/14	#35OF-141105A-AZ05593
EPA 9056	SULFATE	0.198 U	1.00	0.198	0.090	mg/L	10/22/14	10/22/14	#9056D-141022A-AZ05388
EPA 9056	CHLORIDE	0.200 U	1.00	0.200	0.080	mg/L	10/22/14	10/22/14	#9056D-141022B-AZ05388

Wetlab SC-Blank-REG MDLs
Printed: 11/19/14 10:44:16 AM

AMENDED PAGE

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 9056	CHLORIDE	20.0	19.0	95.0	80-120	10/22/14	10/22/14	#9056D-141022B-AZ05388
EPA 9056	SULFATE	20.0	18.3	91.5	80-120	10/22/14	10/22/14	#9056D-141022A-AZ05388

Comments: _____

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 353.2	NITRATE-NITRITE-N	5.00	4.83	4.76	96.6	95.2	1.5	20	90-110	11/05/14	11/05/14	11/05/14	11/05/14	#35OF-141105A-AZ05593
SM 2320B	TOTAL ALKALINITY AS CA	250	253	254	101	102	0.39	20	90-110	11/03/14	11/03/14	11/03/14	11/03/14	#232W-A141103-AZ05593

Comments: _____

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gene Wright

Project: 749435 Red Hill TO 0068

Sample ID: RHMW07-GW-01
Sample Collection Date: 10/20/14

APPL ID: AZ05388
ARF: 74672

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	0.063 J	0.10	0.100	0.028	mg/L	1	11/05/14	11/05/14
EPA 9056	CHLORIDE	362	10.00	2.000	0.800	mg/L	10	10/22/14	10/22/14
EPA 9056	SULFATE	63.5	2.00	0.396	0.180	mg/L	2	10/22/14	10/22/14
SM 2320B	TOTAL ALKALINITY AS CACO	177	2.0	1.70	0.85	mg/L	1	11/03/14	11/03/14

J = Estimated value.

Printed: 11/19/14 10:44:14 AM

AMENDED PAGE

APPL-F1-SC-NoMC-REG MDLs

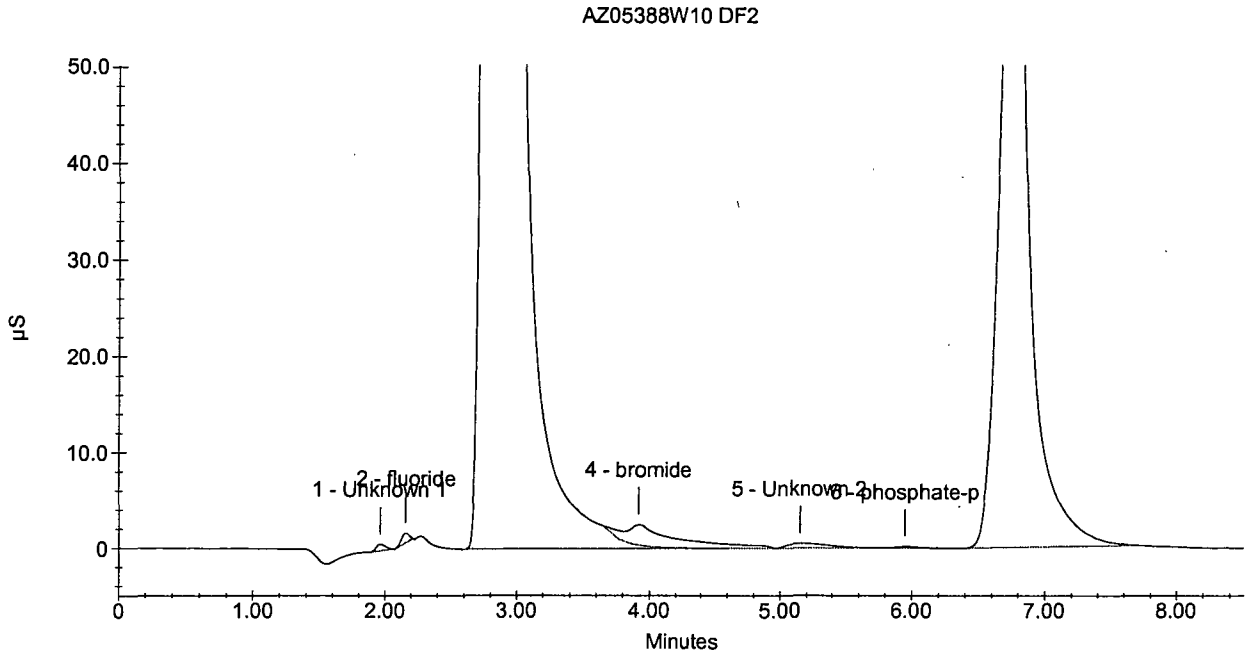
Sample Analysis Report

Sample Name : AZ05388W10 DF2
Data File Name : I:\DIONEX\D1ANIONS\DATA\141022A\141022a_007.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 10/22/14 11:32:03
System Operator : mm
Injection Number : 7
Multiplier : 2.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.96	Unknown 1	0.0000	32031	6817
2	2.16	fluoride	0.2467	41970	9840
3	2.85	chloride	401.6458	115963139	15130783
4	3.92	bromide	5.3991	566363	21679
5	5.15	Unknown 2	0.0000	101097	4923
6	5.95	phosphate-p	0.2571	19375	1509
7	6.75	sulfate	63.5253	11953448	827526



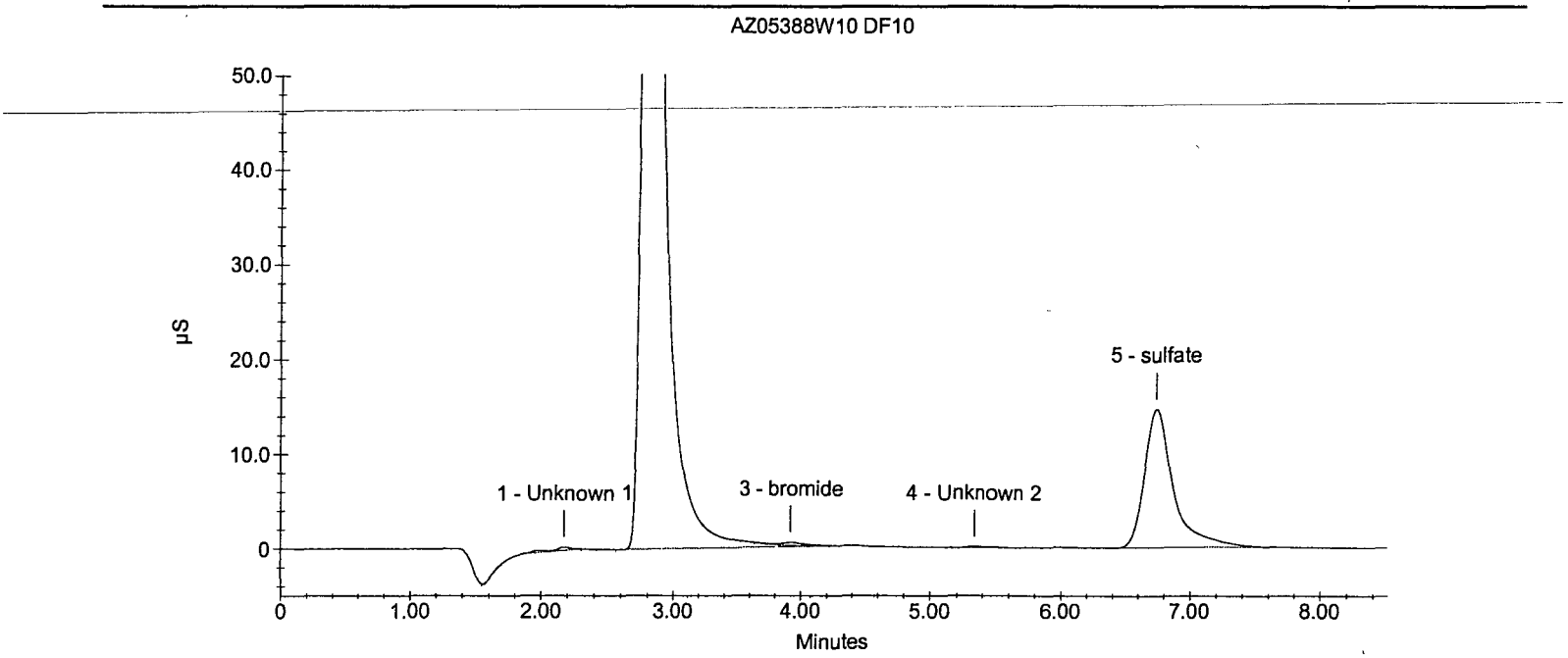
Sample Analysis Report

Sample Name : AZ05388W10 DF10
Data File Name : I:\DIONEX\D1ANIONS\DATA\141022A\141022a_031.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 10/22/14 16:34:38
System Operator : mm
Injection Number : 31
Multiplier : 10.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	2.17	Unknown 1	0.0000	36915	3521
2	2.80	chloride	362.2814	20387430	2789484
3	3.92	bromide	4.0379	40021	3304
4	5.33	Unknown 2	0.0000	13131	978
5	6.73	sulfate	67.0570	2248932	146087



Wet Lab Analysis

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gene Wright

Project: 749435 Red Hill TO 0068

Sample ID: RHMW07-GW-01FD

Sample Collection Date: 10/20/14

APPL ID: AZ05389

ARF: 74672

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	0.055 J	0.10	0.100	0.028	mg/L	1	11/05/14	11/05/14
EPA 9056	SULFATE	64.2	2.00	0.396	0.180	mg/L	2	10/22/14	10/22/14
SM 2320B	TOTAL ALKALINITY AS CACO3	184	2.0	1.70	0.85	mg/L	1	11/03/14	11/03/14

J = Estimated value.

Printed: 11/07/14 9:38:21 AM

APPL-F1-SC-NoMC-REG MDLs

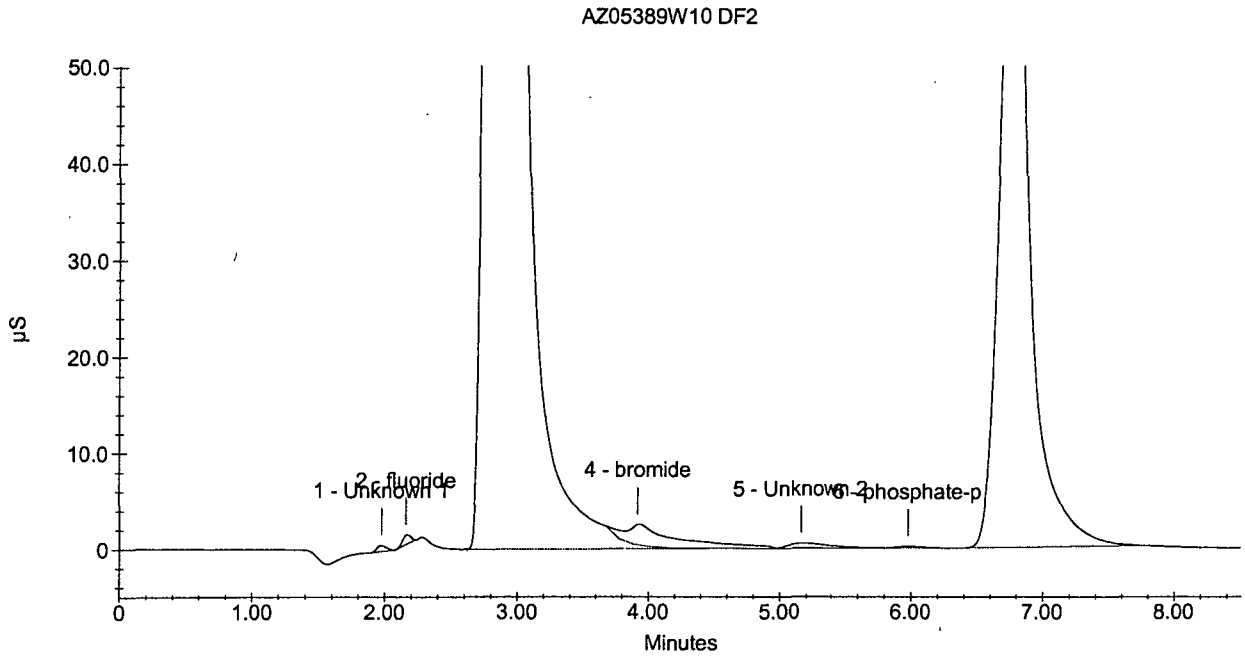
Sample Analysis Report

Sample Name : AZ05389W10 DF2
Data File Name : I:\DIONEX\D1ANIONS\DATA\141022A\141022a_008.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 10/22/14 11:43:20
System Operator : mm
Injection Number : 8
Multiplier : 2.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.97	Unknown 1	0.0000	30425	6364
2	2.16	fluoride	0.2419	40248	9699
3	2.85	chloride	407.8198	117755685	14561144
4	3.92	bromide	5.5172	579901	21552
5	5.16	Unknown 2	0.0000	114967	5167
6	5.97	phosphate-p	0.2869	25677	1809
7	6.76	sulfate	64.2232	12088592	836691



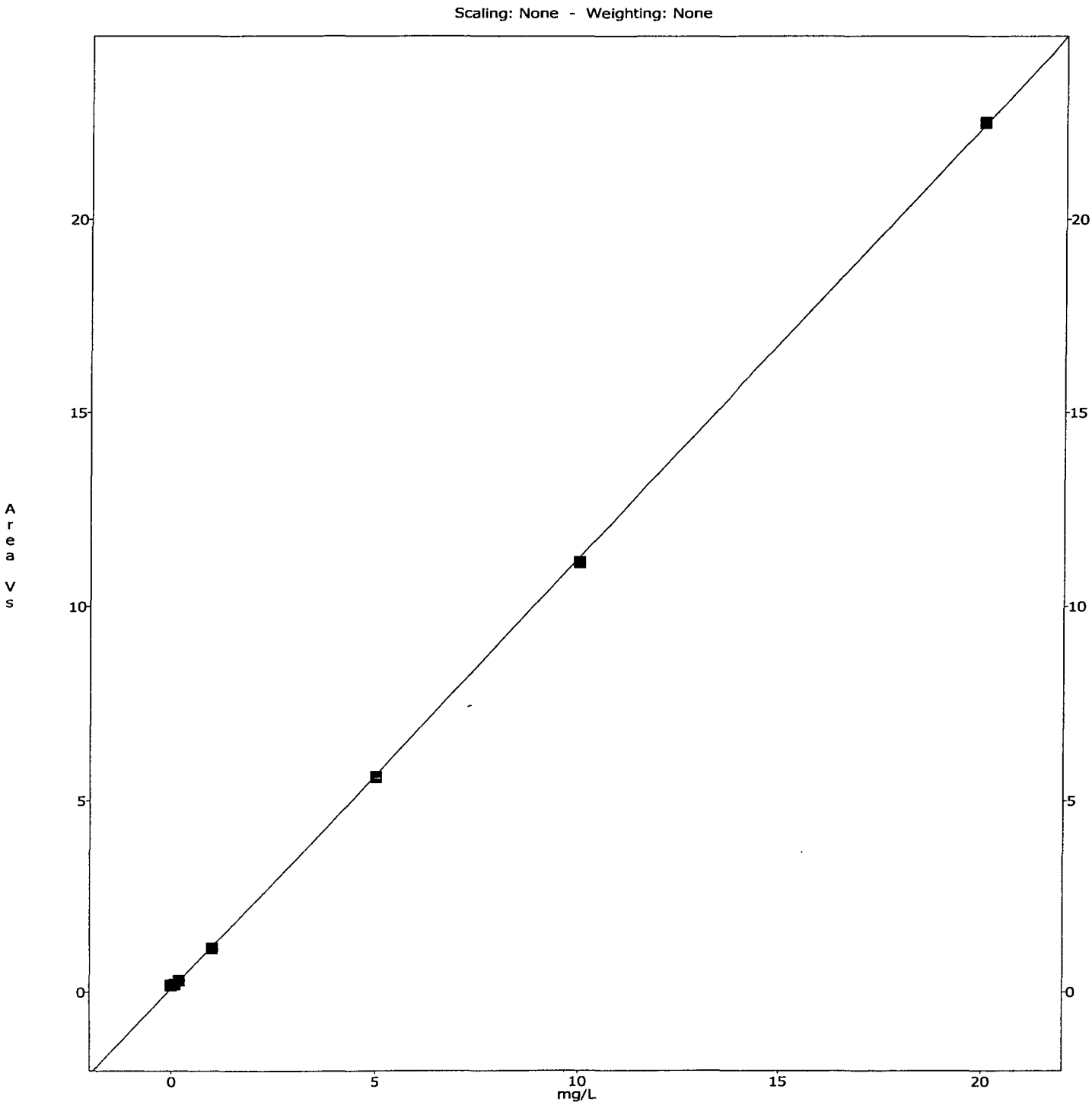
INORGANIC ANALYSIS
Calibration Data

APPL, INC.

TOTOXN

Lvl	Area	mg/L	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Replic STD	Replic % RSD	Residual 1st Poly
1	22500902	20.0	22500902					0.0	0.0	-0.3
2	11133735	10.0	11133735					0.0	0.0	1.1
3	5613850	5.0	5613850					0.0	0.0	0.9
4	1163898	1.0	1163898					0.0	0.0	2.9
5	313312	0.2	313312					0.0	0.0	-4.9
6	207821	0.1	207821					0.0	0.0	-15.4
7	182182	0.0	182182					0.0	0.0	

1st Order Poly
Conc = 8.949e-007 Area - 7.054e-002
r = 1.0000



Printed: Wednesday, November 05, 2014 - 03:07 PM

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons
ARF No: 74672 SDG: 74672
Initial Calibration Source: CPI
Continuing Calibration Source: O2SI
Analysis Date: 11/05/14

Analyte	Calibration Verification									M
	True CCV1	Found 14:41	%R(1)	True ICV	Found 14:44	%R(1)	True CCV1	Found 15:00	%R(1)	
TOXN	5	4.92496	98.5	5	4.89567	97.9	5	4.91904	98.4	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 74672 SDG: 74672

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 11/05/14 14:42	C	ICB 11/05/14 14:45	C	CCB 11/05/14 15:02	C		C		C	
TOXN	.100	U	.100	U	.100	U					

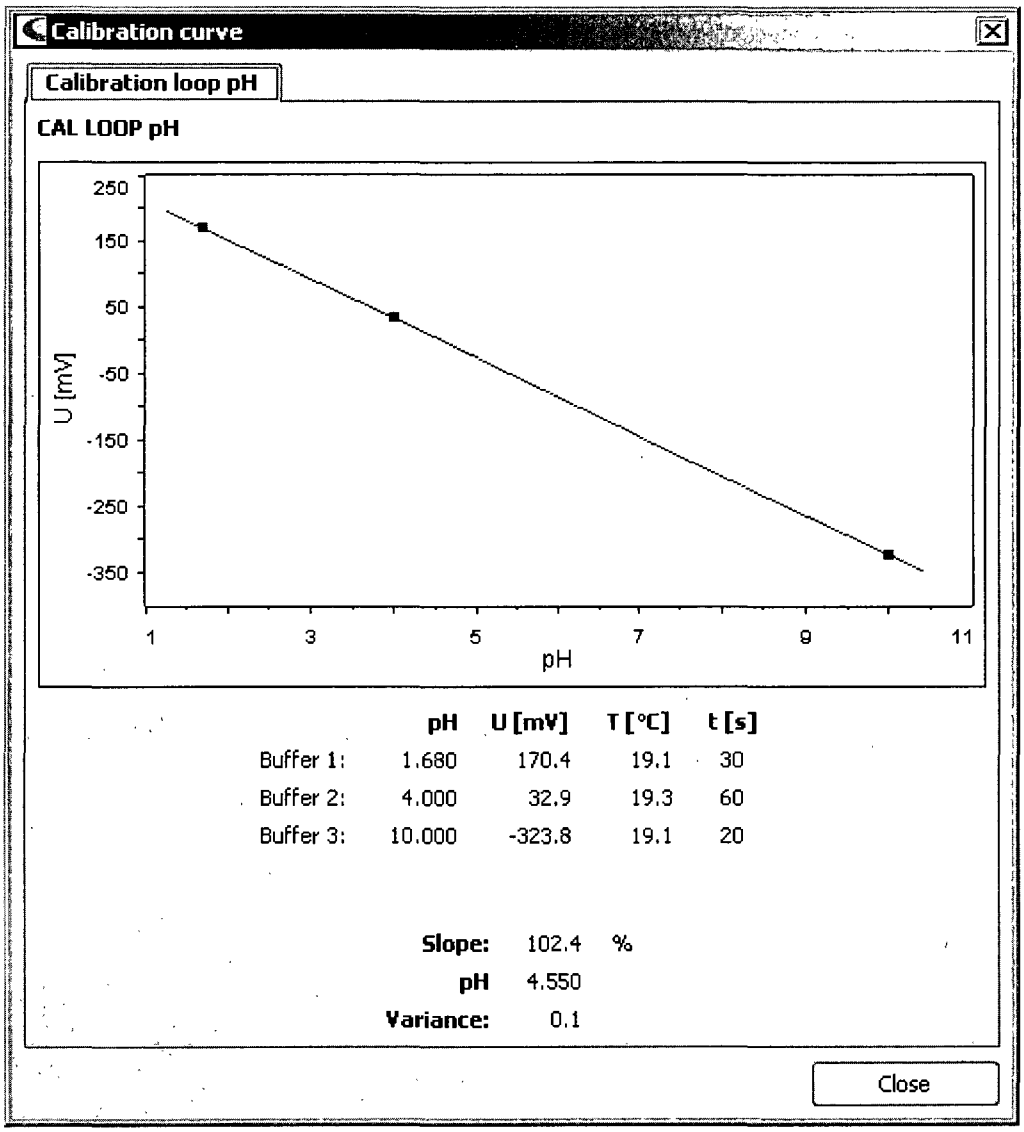
OPERATOR: Aileen
ACQ. TIME: Nov 5, 2014 14:29:17
DATA FILENAME: I:\LACHAT\OMNION\141105NB.FDT
METHOD FILENAME: I:\LACHAT\METHODS\TOTOXN1.MET
TRAY FILENAME: I:\LACHAT\TRAYS\141105NA.TRA

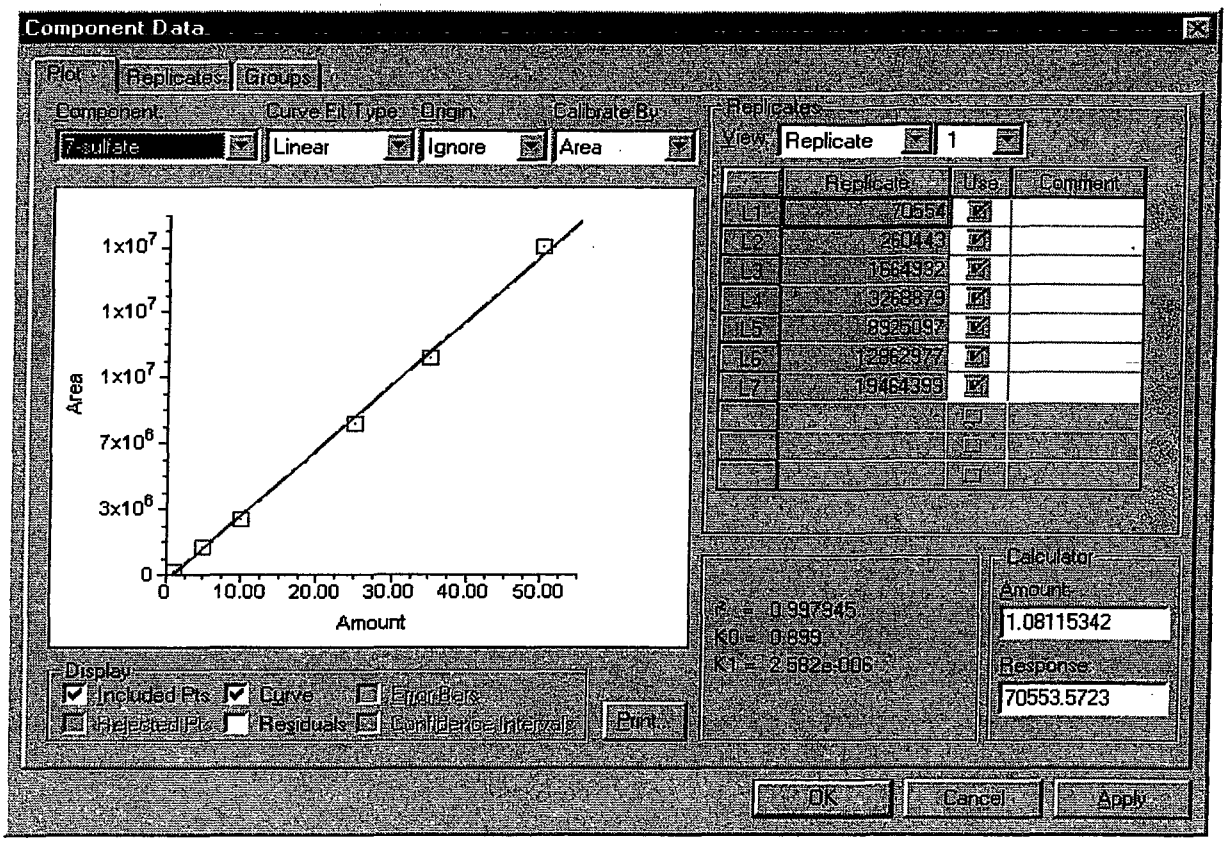
TRAY DESCRIPTION:
Created: Nov 5, 2014 13:05:03
Modified: Nov 5, 2014 14:29:48
NO3/TOTOXN 141105NA
DATA DESCRIPTION:
Created: Nov 5, 2014 14:29:17
Modified: Nov 5, 2014 14:29:17

Multi-Channel Table
Type: DQM
Channel Range: 1 to 8 -- Cup Range: 1 to 50

Cup	Sample ID	Sample Type	Sampling Time	# of Reps	TOTOXN (mg/L)
6	CCB	Blank	14:42:55	1	-0.0080
6	ICB	Blank	14:45:56	1	-0.0061
6	CCB	Blank	15:02:28	1	-0.0082
7	ICV	RelChkStd	14:44:26	1	4.8957
			Known Concentration:		5.0000
			% Difference:		-2.0864
15	CCV	RelChkStd	14:41:24	1	4.9250
			Known Concentration:		5.0000
			% Difference:		-1.5006
15	CCV	RelChkStd	15:00:57	1	4.9190
			Known Concentration:		5.0000
			% Difference:		-1.6191

11/3/14 Tiamo Calibration Curve




Component Data
Plot
Replicates
Groups
Component:
Curve Fit Type:
Origin:
Calibrate By:
Resultate
Linear
Ignore
Area
1x10^7
1x10^7
1x10^7
7x10^6
3x10^6
0
Area
0
10.00
20.00
30.00
40.00
50.00
Amount
Replicates
View:
Replicate
1
Replicate
Use
Comment
L1
70554
L2
260443
L3
1664932
L4
3268879
L5
8925092
L6
12862977
L7
19464399
r2 = 0.997945
K0 = 0.699
K1 = 2.582e-006
Calculator
Amount:
1.08115342
Response:
70553.5723
Display
Included Pts
Curve
Error Bars
Rejected Pts
Residuals
Confidence Intervals
Print...
OK
Cancel
Apply

INORGANIC ANALYSES
AUTO CALIBRATION

Analytical Method: 300/9056A

Lab Name: APPL, Inc.

Instrument ID: Dionex

Autocal ID: 140916a

Concentration Units (mg/L or mg/kg): mg/L

Analyte	1	2	3	4	5	6	7
	Autocal 13:01	Autocal 13:12	Autocal 13:23	Autocal 13:35	Autocal 13:46	Autocal 13:57	Autocal 14:08
Bromide	16482	110811	530269	1040423	2811782	3853149	5758749
Chloride	105181	469930	2266776	4619999	13083991	19156002	29150289
Fluoride	ND	65241	295885	665047	1822387	2347304	3619418
Nitrate-N	42537	207636	1096945	2181530	5982651	8679959	13214287
Nitrite-N	9360	82285	427556	866240	2398640	3309962	4979067
Phosphate-P	37335	77961	423664	767089	2009102	2861951	4282289
Sulfate	70553	260443	1664932	3268878	8925096	12862977	19464398

Comments:

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Calibration
ARF No: SDG:
Initial Calibration Source: o2si
Continuing Calibration Source: o2si
Analysis Date: 09/16/14

Analyte	Calibration Verification									M
	True ICV	Found 14:20	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
bromide	12.5	12.1534	97.2							
chloride	20	18.9785	94.9							
fluoride	2.5	2.39410	95.8							
Nitrate(NO3)-N	5	4.85672	97.1							
Nitrite(NO2)-N	3.04	2.92650	96.3							
phosphate-p	5	4.91730	98.3							
sulfate	20	19.3370	96.7							

(1) Control Limits: 90-110

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Calibration

ARF No.: SDG:

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 09/16/14 14:31	C		C		C		C		C	
bromide	.500	U									
chloride	1.000	U									
fluoride	1.000	U									
Nitrate(NO3)-N	.200	U									
Nitrite(NO2)-N	.200	U									
phosphate-p	1.000	U									
sulfate	1.000	U									

Calibration Update Report

Sample Name : CAL STD #1 9/16/14
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_012.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 13:01:17

Calibration Date : 9/16/14 13:12:12
System Operator : mm
Injection Number : 12

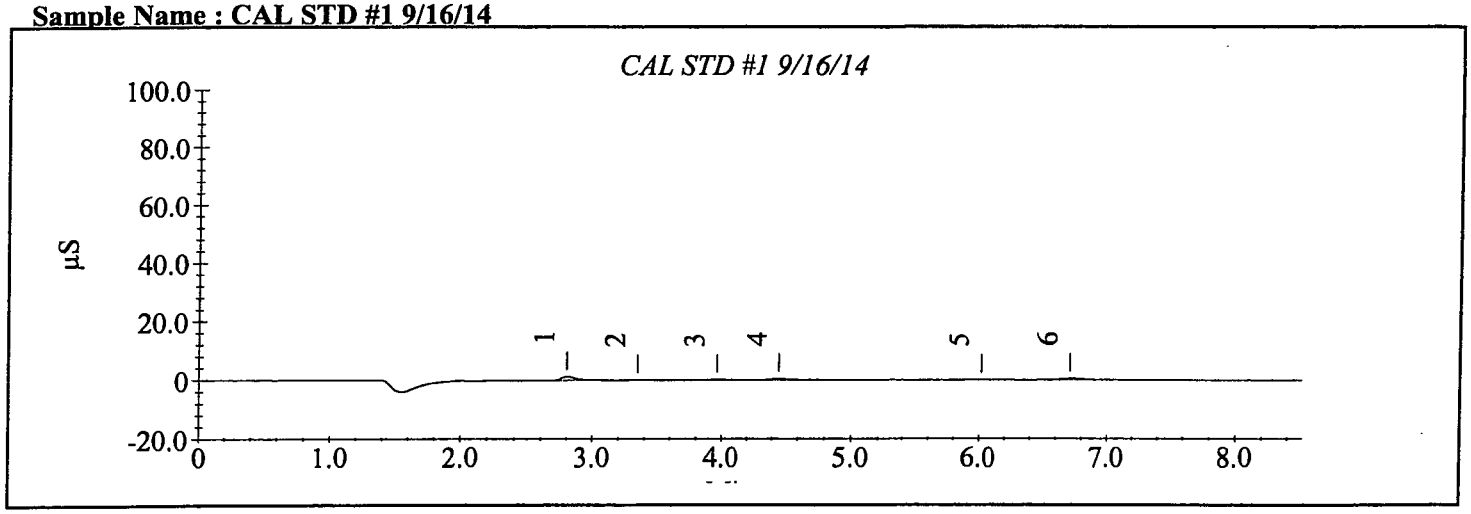
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	2.80	chloride	80668	105182	105182
2	3.35	nitrite-n	14520	9360	9360
3	3.96	bromide	17978	16482	16482
4	4.45	nitrate-n	38967	42537	42537
5	6.01	phosphate-p	17719	37336	37336
6	6.71	sulfate	39183	70554	70554

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	2.80	chloride	0.40	105182	12275	-
2	3.35	nitrite-n	0.04	9360	1262	-
3	3.96	bromide	0.20	16482	1928	-
4	4.45	nitrate-n	0.08	42537	4453	-
5	6.01	phosphate-p	0.08	37336	1580	-
6	6.71	sulfate	0.40	70554	4720	-

Sample Name : CAL STD #1 9/16/14



Calibration Update Report

Sample Name : CAL STD #2
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_013.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 13:12:31

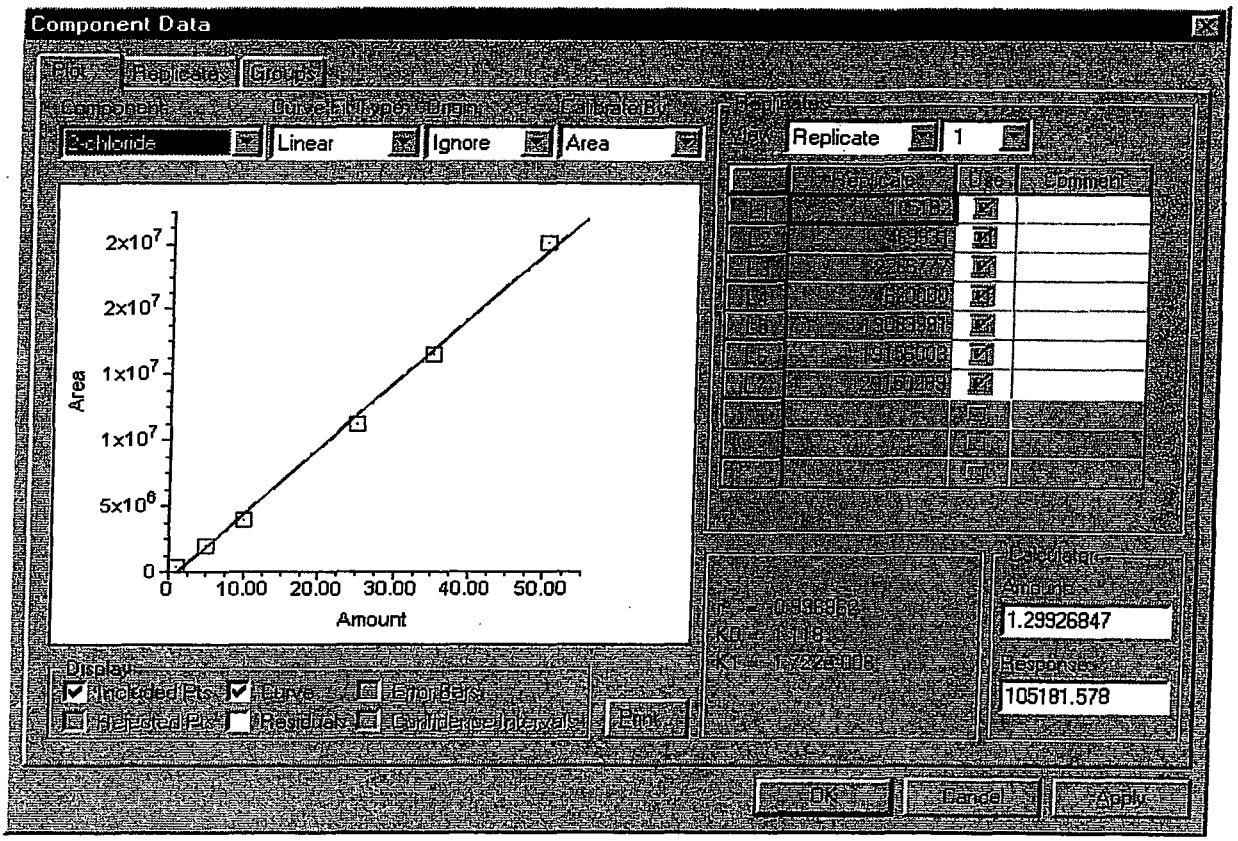
Calibration Date : 9/16/14 13:23:26
System Operator : mm
Injection Number : 13

Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.97	fluoride	59909	65241	65241
2	2.79	chloride	419030	469931	469931
3	3.33	nitrite-n	59671	82285	82285
4	3.93	bromide	89803	110811	110811
5	4.43	nitrate-n	201320	207637	207637
6	5.99	phosphate-p	67899	77961	77961
7	6.68	sulfate	264624	260443	260443

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.97	fluoride	0.10	65241	8911	
2	2.79	chloride	1.00	469931	54508	
3	3.33	nitrite-n	0.10	82285	7802	
4	3.93	bromide	0.50	110811	9252	
5	4.43	nitrate-n	0.20	207637	18419	
6	5.99	phosphate-p	0.20	77961	5299	
7	6.68	sulfate	1.00	260443	19470	


Component Data
Plot
Replicates
Groups
Component
Curve Type
Origin
Calibration
2-chloride
Linear
Ignore
Area
Replicate
1
Use
Comment
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2x10^7
1x10^7
1x10^7
5x10^6
0
Area
0
10.00
20.00
30.00
40.00
50.00
Amount
Display
Included Pts
Curve
Error Bars
Rejected Pts
Residuals
Confidence Intervals
Print...
Calculated
Amount
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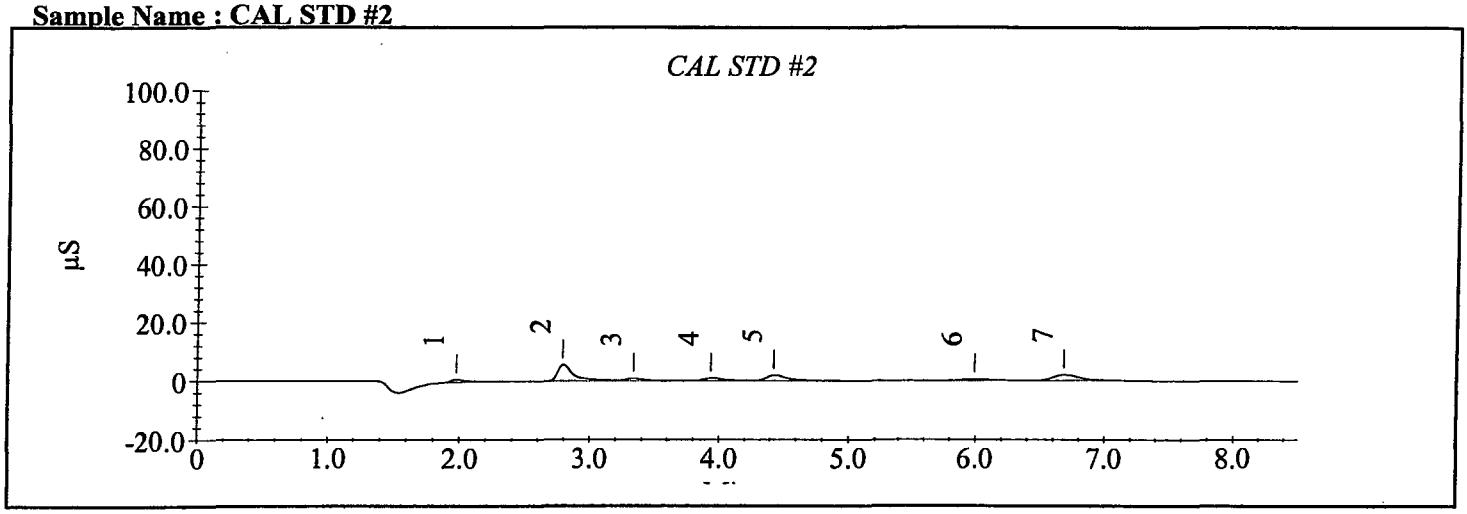
Response
105181.578
OK
Cancel
Apply

Sample Name : CAL STD #2



Calibration Update Report

Sample Name : CAL STD #3
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_014.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 13:23:49

Calibration Date : 9/16/14 13:34:44
System Operator : mm
Injection Number : 14

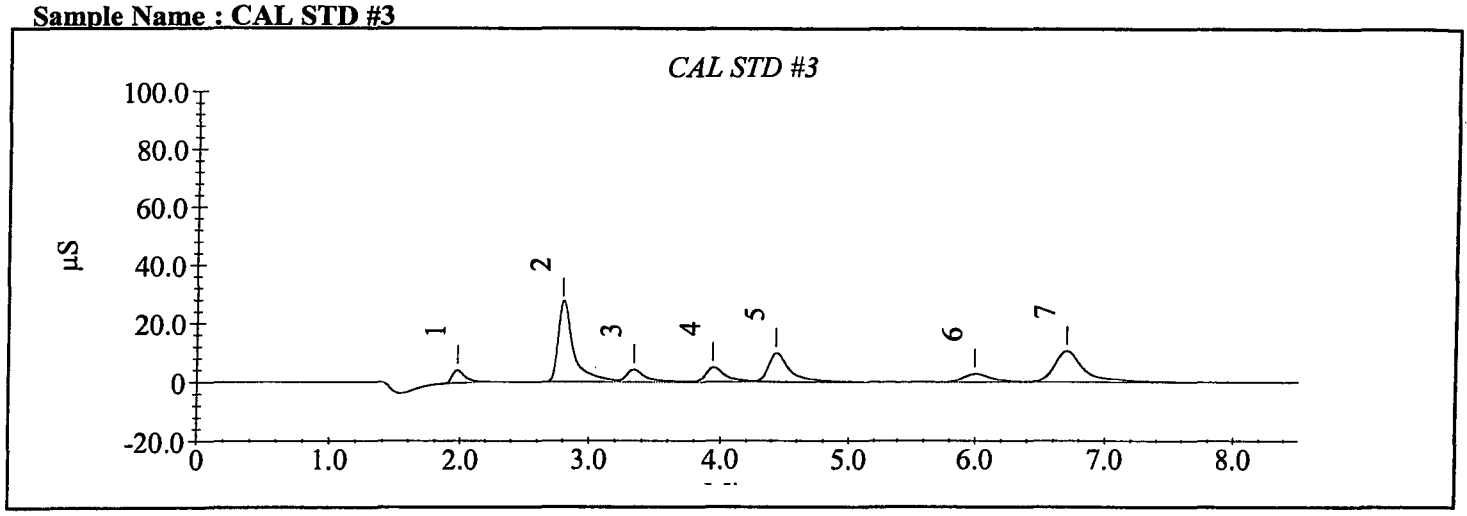
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.97	fluoride	309108	295885	295885
2	2.79	chloride	2276954	2266777	2266777
3	3.33	nitrite-n	436460	427557	427557
4	3.93	bromide	523251	530269	530269
5	4.43	nitrate-n	1108037	1096946	1096946
6	5.99	phosphate-p	384060	423665	423665
7	6.69	sulfate	1603379	1664932	1664932

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.97	fluoride	0.50	295885	42704	
2	2.79	chloride	5.00	2266777	269443	
3	3.33	nitrite-n	0.50	427557	41736	
4	3.93	bromide	2.50	530269	48100	
5	4.43	nitrate-n	1.00	1096946	96641	
6	5.99	phosphate-p	1.00	423665	27488	
7	6.69	sulfate	5.00	1664932	104763	

Sample Name : CAL STD #3



Calibration Update Report

Sample Name : CAL STD #4
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_015.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 13:35:06

Calibration Date : 9/16/14 13:46:01
System Operator : mm
Injection Number : 15

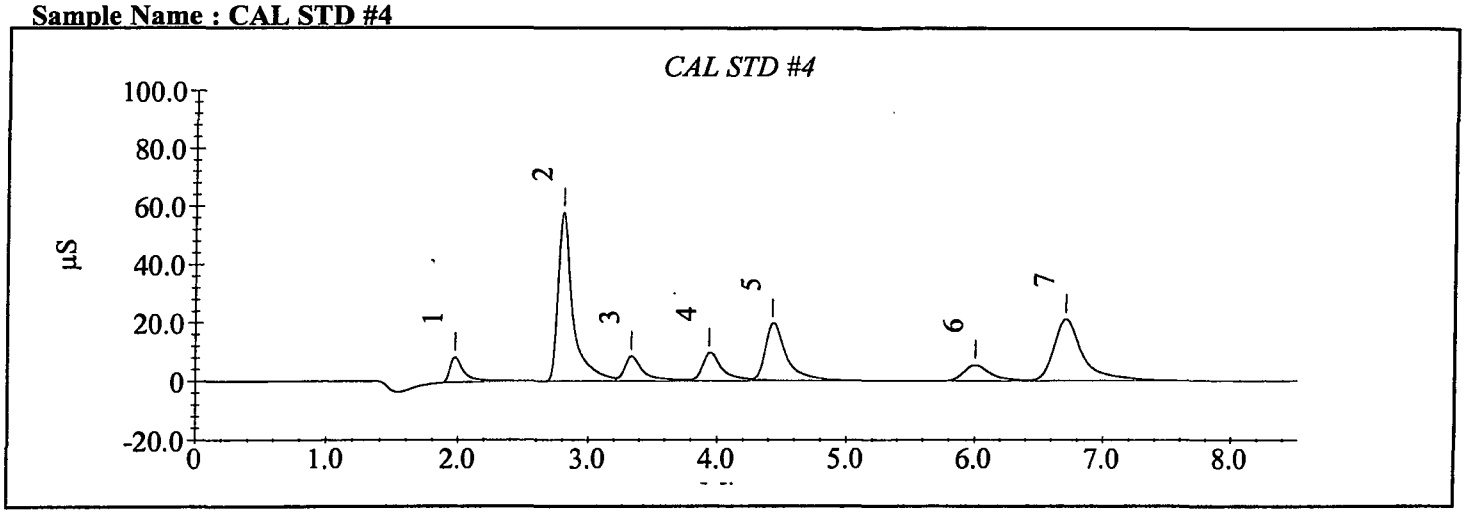
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.97	fluoride	607569	665048	665048
2	2.80	chloride	4779793	4620000	4620000
3	3.33	nitrite-n	906480	866241	866241
4	3.93	bromide	1053126	1040424	1040424
5	4.43	nitrate-n	2237044	2181530	2181530
6	6.00	phosphate-p	769425	767090	767090
7	6.71	sulfate	3360946	3268879	3268879

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.97	fluoride	1.00	665048	85001	
2	2.80	chloride	10.00	4620000	578025	
3	3.33	nitrite-n	1.00	866241	85227	
4	3.93	bromide	5.00	1040424	94837	
5	4.43	nitrate-n	2.00	2181530	194223	
6	6.00	phosphate-p	2.00	767090	53648	
7	6.71	sulfate	10.00	3268879	210711	

Sample Name : CAL STD #4



Calibration Update Report

Sample Name : CAL STD #5
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_016.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 13:46:24

Calibration Date : 9/16/14 13:57:19
System Operator : mm
Injection Number : 16

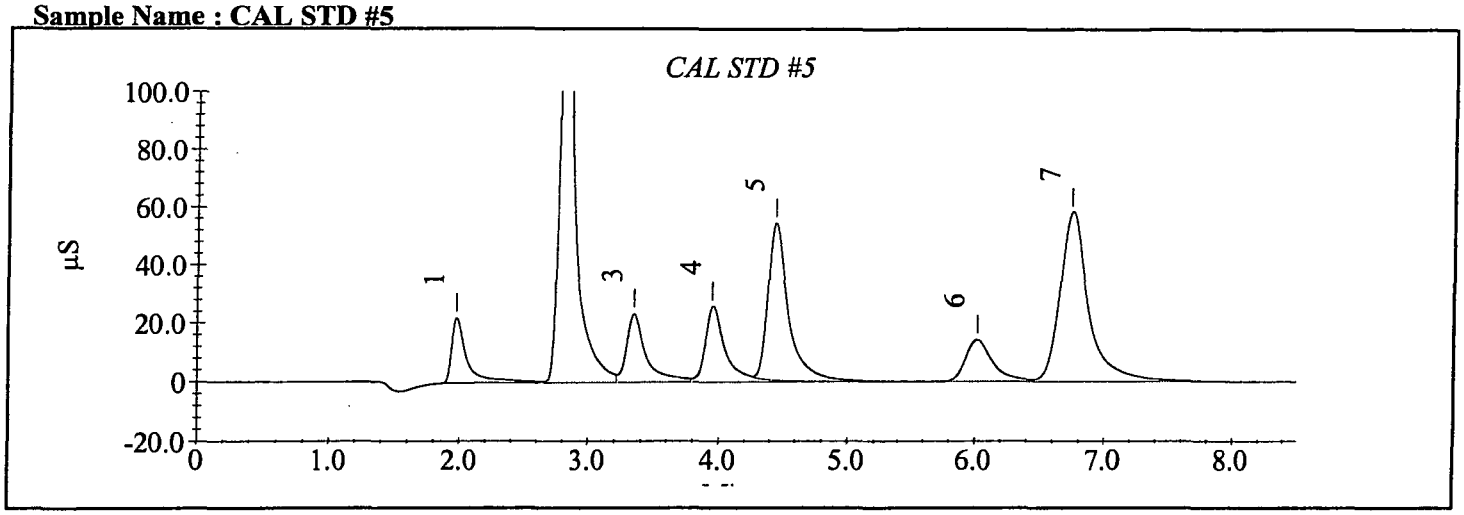
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.97	fluoride	1882150	1822387	1822387
2	2.80	chloride	13726063	13083991	13083991
3	3.35	nitrite-n	2428096	2398640	2398640
4	3.95	bromide	2795303	2811783	2811783
5	4.44	nitrate-n	6075372	5982651	5982651
6	6.01	phosphate-p	2015049	2009102	2009102
7	6.73	sulfate	9158418	8925097	8925097

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.97	fluoride	2.50	1822387	220513	
2	2.80	chloride	25.00	13083991	1634673	
3	3.35	nitrite-n	2.50	2398640	232992	
4	3.95	bromide	12.50	2811783	257207	
5	4.44	nitrate-n	5.00	5982651	539495	
6	6.01	phosphate-p	5.00	2009102	141469	
7	6.73	sulfate	25.00	8925097	579552	

Sample Name : CAL STD #5



Calibration Update Report

Sample Name : CAL STD #6
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_017.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 13:57:42

Calibration Date : 9/16/14 14:08:37
System Operator : mm
Injection Number : 17

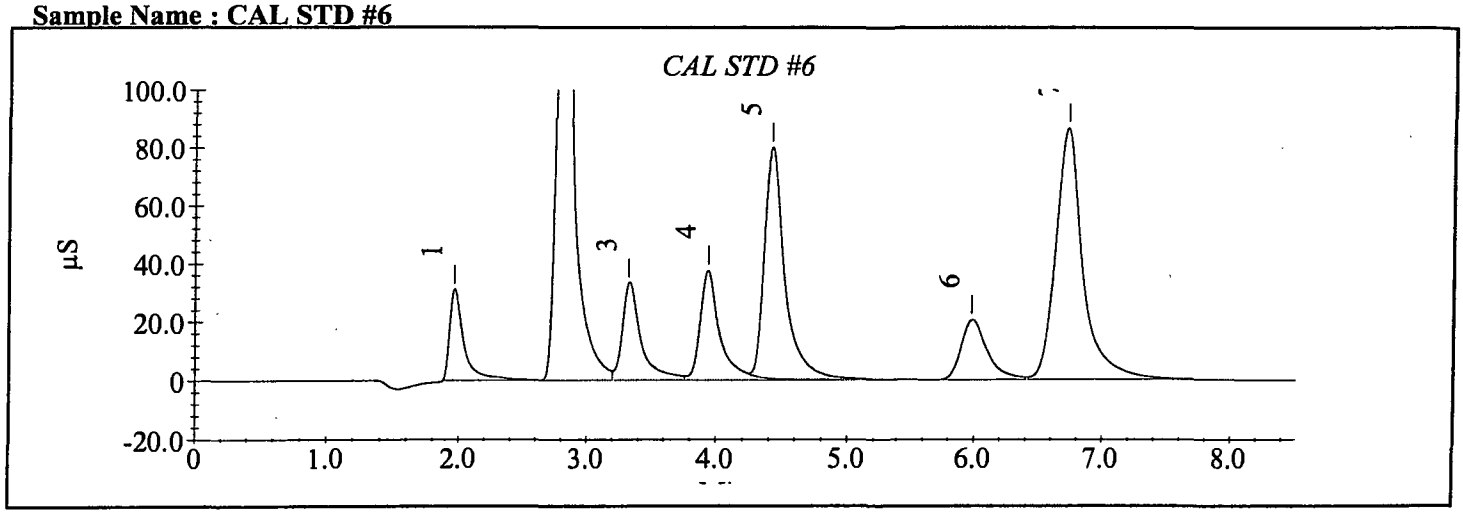
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.96	fluoride	2634975	2347305	2347305
2	2.80	chloride	20199844	19156003	19156003
3	3.32	nitrite-n	3487460	3309962	3309962
4	3.93	bromide	3964452	3853149	3853149
5	4.41	nitrate-n	8962096	8679959	8679959
6	5.97	phosphate-p	2892007	2861951	2861951
7	6.72	sulfate	13323218	12862977	12862977

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.96	fluoride	3.50	2347305	307863	
2	2.80	chloride	35.00	19156003	2543383	
3	3.32	nitrite-n	3.50	3309962	329466	
4	3.93	bromide	17.50	3853149	373363	
5	4.41	nitrate-n	7.00	8679959	793777	
6	5.97	phosphate-p	7.00	2861951	202999	
7	6.72	sulfate	35.00	12862977	864005	

Sample Name : CAL STD #6



Calibration Update Report

Sample Name : CAL STD #7
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_018.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 14:08:59

Calibration Date : 9/16/14 14:19:53
System Operator : mm
Injection Number : 18

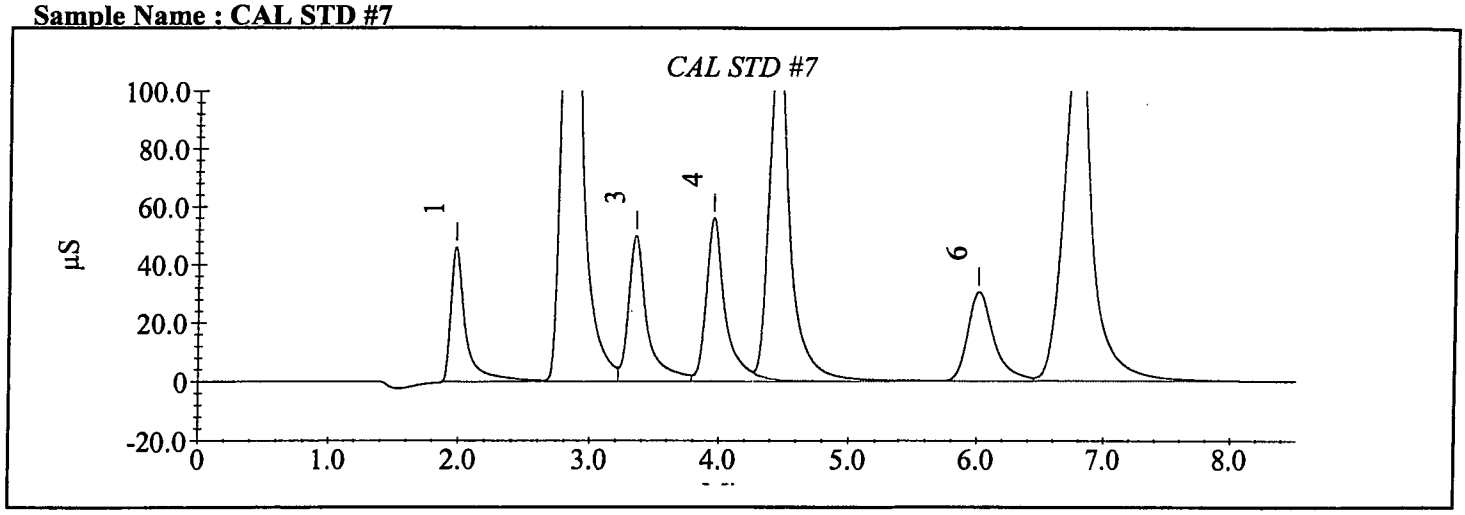
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.97	fluoride	3720726	3619418	3619418
2	2.81	chloride	29858639	29150289	29150289
3	3.35	nitrite-n	4999120	4979068	4979068
4	3.95	bromide	5710221	5758749	5758749
5	4.43	nitrate-n	13261972	13214288	13214288
6	6.00	phosphate-p	4245709	4282289	4282289
7	6.76	sulfate	19824829	19464399	19464399

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.97	fluoride	5.00	3619418	459676	
2	2.81	chloride	50.00	29150289	3850058	
3	3.35	nitrite-n	5.00	4979068	498763	
4	3.95	bromide	25.00	5758749	558971	
5	4.43	nitrate-n	10.00	13214288	1198703	
6	6.00	phosphate-p	10.00	4282289	303155	
7	6.76	sulfate	50.00	19464399	1318317	

Sample Name : CAL STD #7



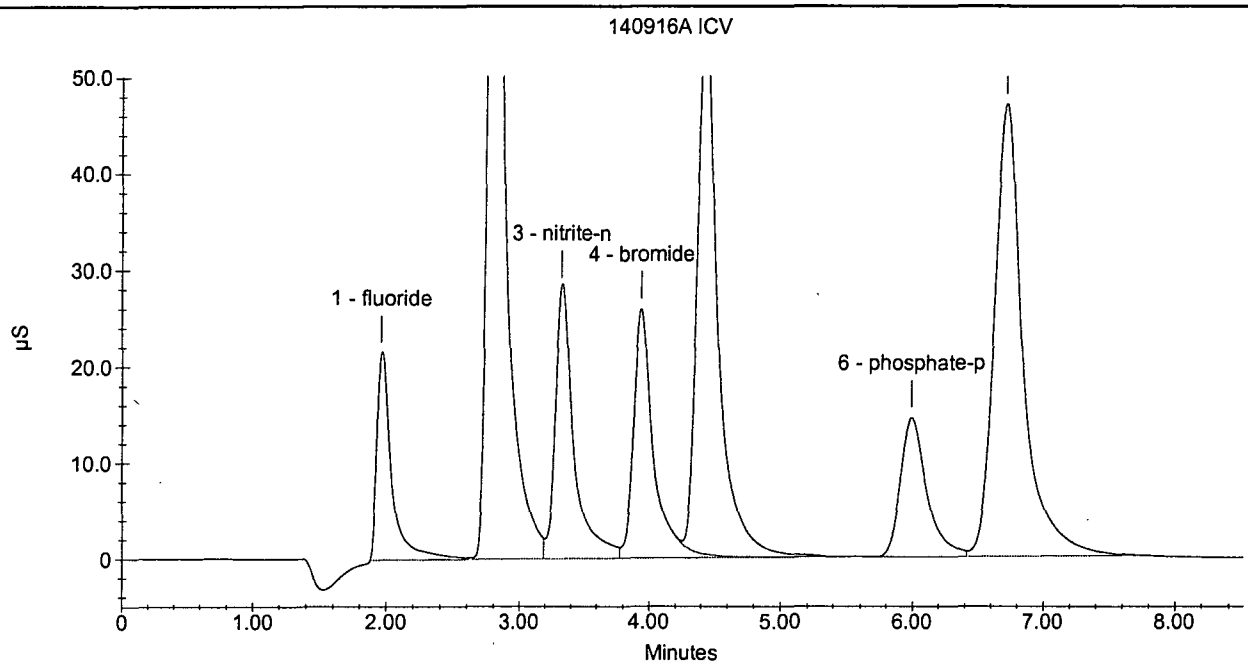
Sample Analysis Report

Sample Name : 140916A ICV
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_019.DXD

Method File Name : I:\DIONEX\D1ANIONS\METHODS\ANIONS 140916A.met
Date Time Collected : 9/16/14 14:20:16
System Operator : mm
Injection Number : 19
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height	Limit Exceed
1	1.96	fluoride	2.3941	1681572	214873	2.
2	2.79	chloride	18.9786	10371065	1320844	1
3	3.32	nitrite-n	2.9265	2837943	280321	2.
4	3.93	bromide	12.1534	2733797	258190	1
5	4.41	nitrate-n	4.8567	6121479	548928	4.
6	5.99	phosphate-p	4.9173	2047176	144494	4.
7	6.71	sulfate	19.3371	7141046	468012	1



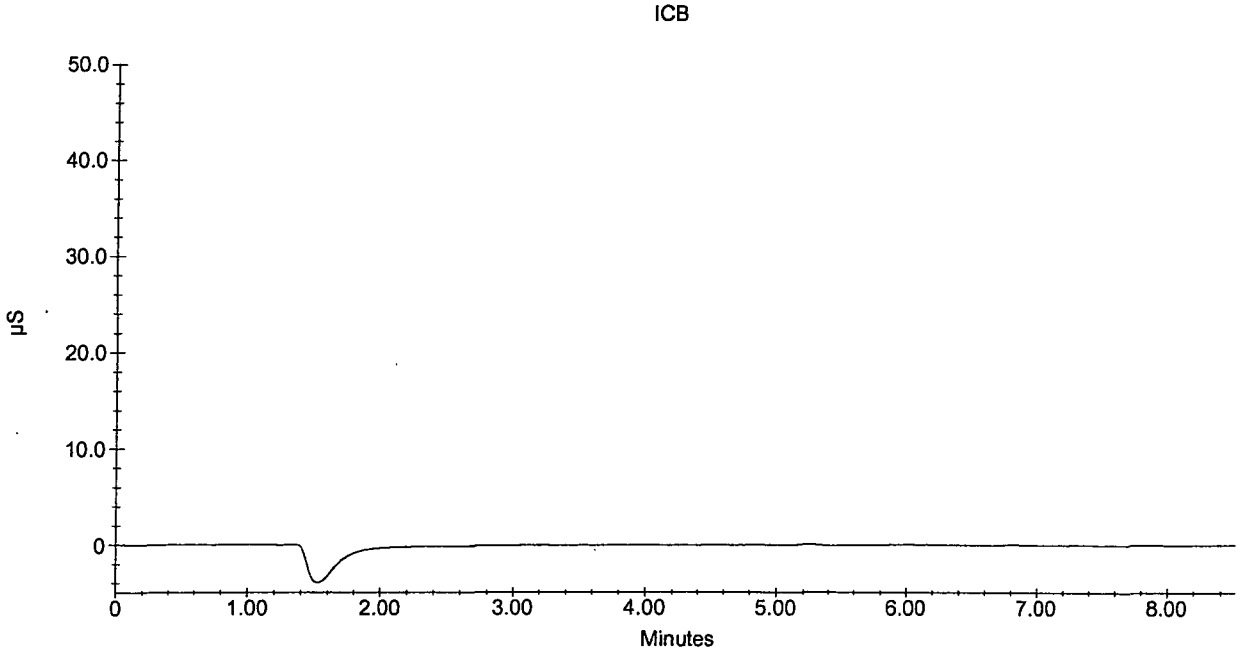
Sample Analysis Report

Sample Name : ICB
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916A_020.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 9/16/14 14:31:36
System Operator : mm
Injection Number : 20
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height	Limit Exceed



APPL, Inc.

Current Date : 9/16/14
Current Time : 14:43:32

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 74672 SDG: 74672

Initial Calibration Source: o2si

Continuing Calibration Source: o2si

Analysis Date: 10/22/14

Analyte	Calibration Verification									M
	True CCV1	Found 8:18	%R(1)	True CCV1	Found 12:05	%R(1)	True CCV1	Found 13:57	%R(1)	
chloride	25	22.7571	91.0	25	24.0120	96.0	25	23.9258	95.7	
sulfate	25	22.8521	91.4	25	23.9119	95.6	25	23.8536	95.4	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 74672 SDG: 74672

Initial Calibration Source: o2si

Continuing Calibration Source: o2si

Analysis Date: 10/22/14

Analyte	Calibration Verification									M
	True CCV1	Found 16:01	%R(1)	True CCV1	Found 18:03	%R(1)	True	Found	%R(1)	
chloride	25	24.0234	96.1	25	24.1287	96.5				
sulfate	25	24.0701	96.3	25	24.1029	96.4				

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 74672 SDG: 74672

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 10/22/14 08:29	C	CCB 10/22/14 12:17	C	CCB 10/22/14 14:08	C	CCB 10/22/14 16:12	C	CCB 10/22/14 18:15	C	
chloride	1.000	U	1.000	U	1.000	U	1.000	U	1.0000	U	
sulfate	1.000	U	1.000	U	1.000	U	1.000	U	1.0000	U	

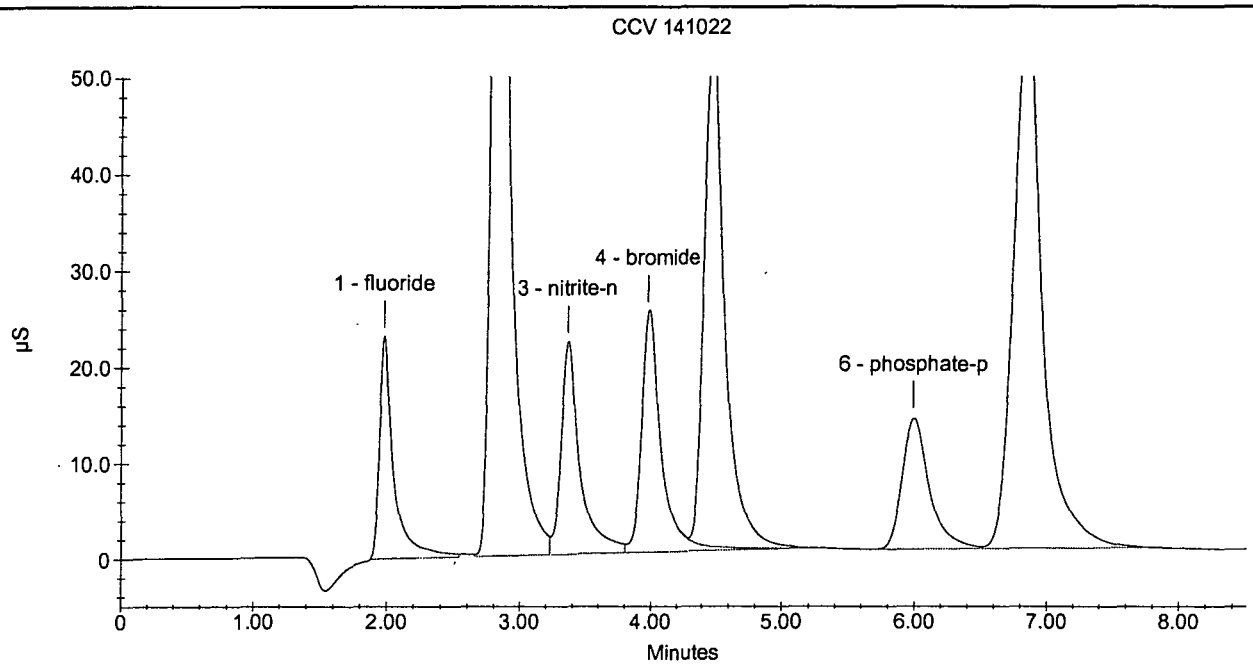
Sample Analysis Report

Sample Name : CCV 141022
Data File Name : I:\DIONEX\D1ANIONS\DATA\141022A\141022a_001.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 10/22/14 08:18:21
System Operator : mm
Injection Number : 1
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.97	fluoride	2.4568	1726817	229816
2	2.81	chloride	22.7572	12565194	1657795
3	3.36	nitrite-n	2.2872	2202996	219771
4	3.97	bromide	11.7058	2631184	249071
5	4.47	nitrate-n	4.5501	5718893	534016
6	5.99	phosphate-p	4.6721	1943323	136066
7	6.83	sulfate	22.8522	8502427	563989



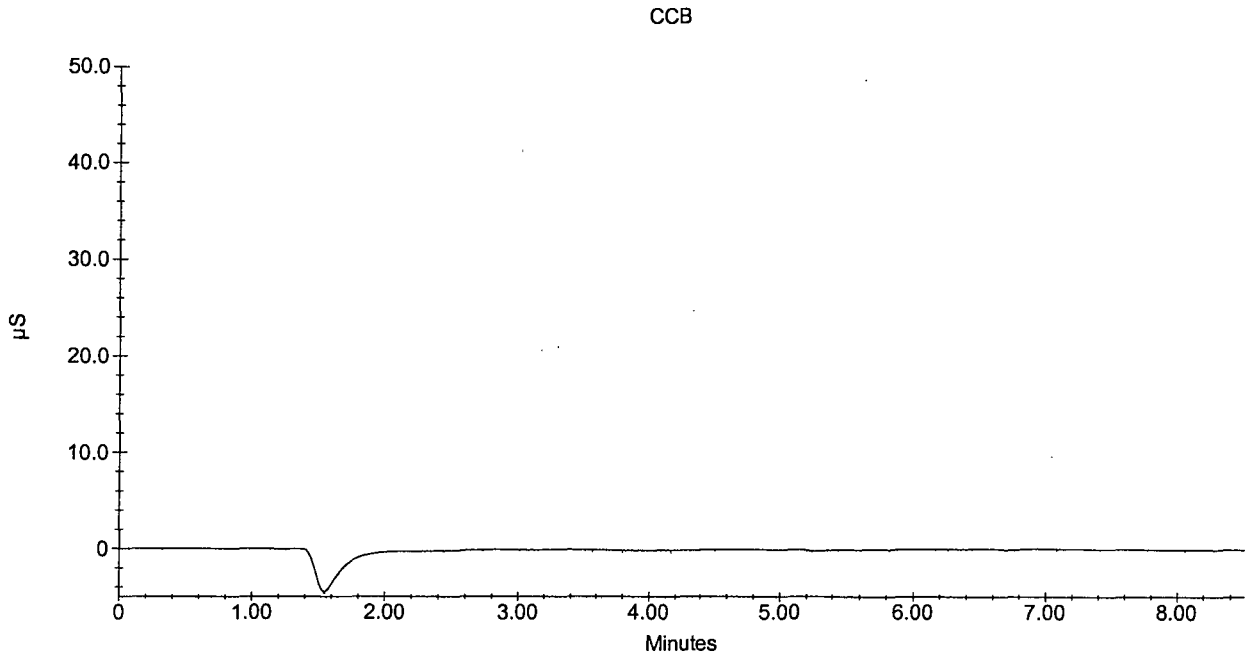
Sample Analysis Report

Sample Name : CCB
Data File Name : I:\DIONEX\D1ANIONS\DATA\141022A\141022A_002.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 10/22/14 08:29:44
System Operator : mm
Injection Number : 2
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height



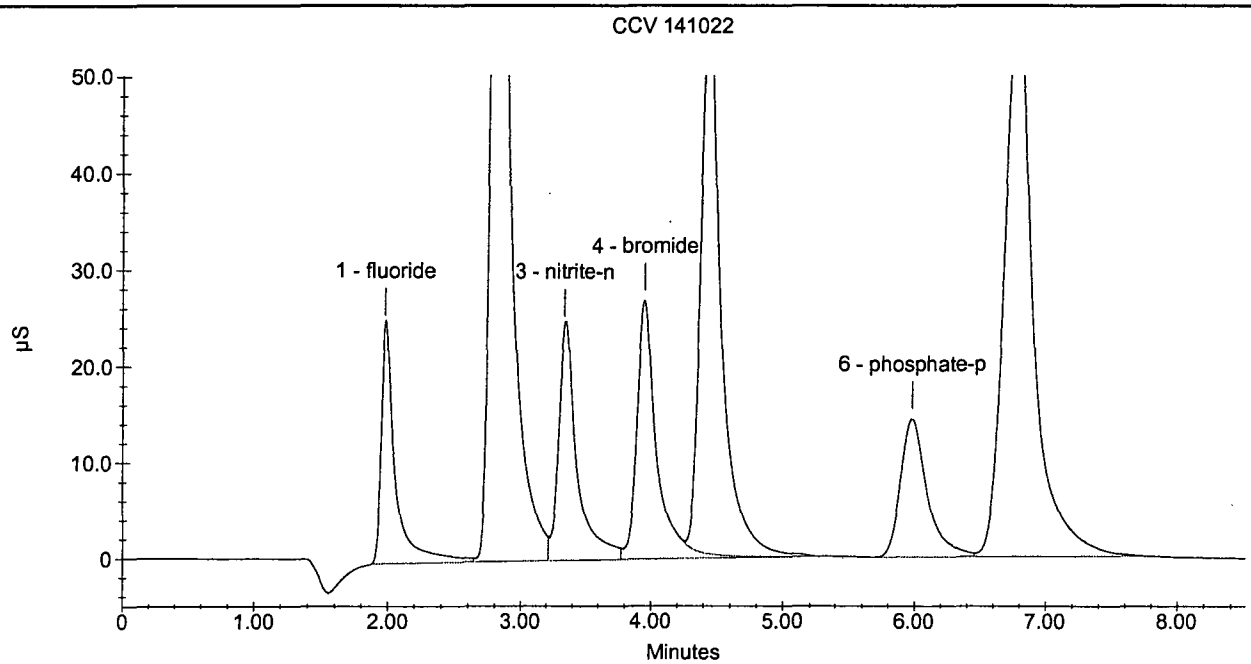
Sample Analysis Report

Sample Name : CCV 141022
Data File Name : I:\DIONEX\D1ANIONS\DATA\141022A\141022a_010.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 10/22/14 12:05:45
System Operator : mm
Injection Number : 10
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.97	fluoride	2.6527	1868316	247208
2	2.80	chloride	24.0121	13293891	1751132
3	3.33	nitrite-n	2.5172	2431380	243005
4	3.95	bromide	12.4812	2808945	268313
5	4.43	nitrate-n	4.8532	6116809	570369
6	5.97	phosphate-p	4.9031	2041167	144044
7	6.76	sulfate	23.9120	8912883	587664



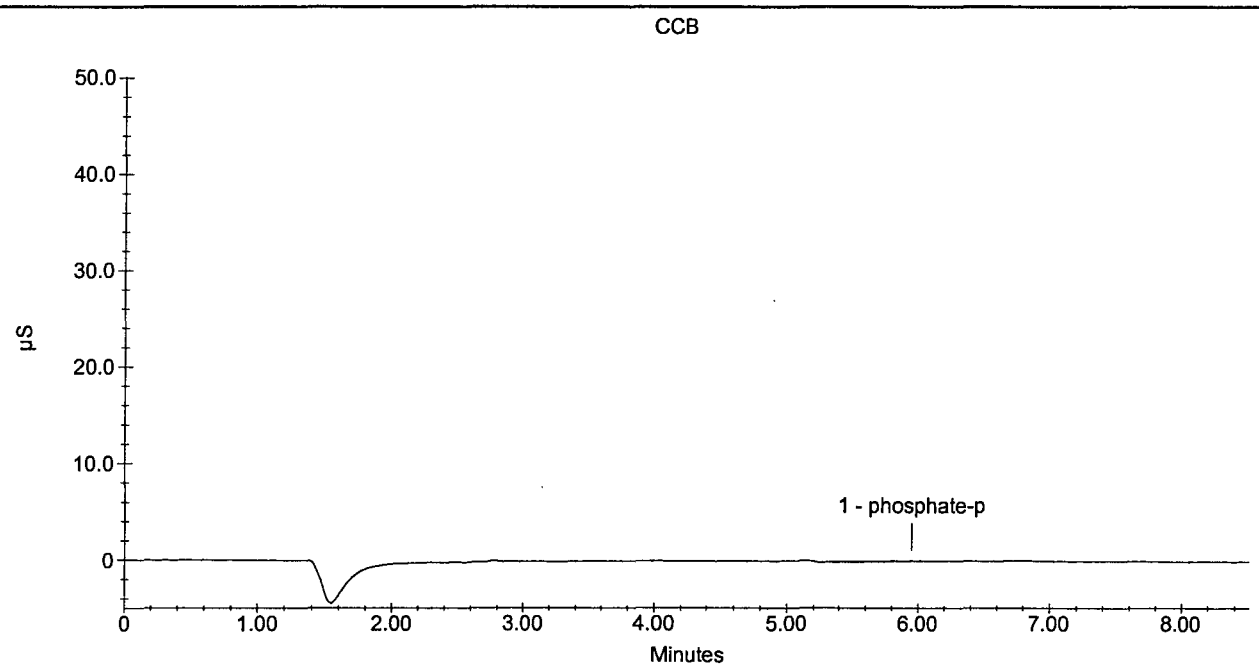
Sample Analysis Report

Sample Name : CCB
Data File Name : I:\DIONEX\D1ANIONS\DATA\141022A\141022a_011.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 10/22/14 12:17:02
System Operator : mm
Injection Number : 11
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	5.95	phosphate-p	0.1509	28831	669



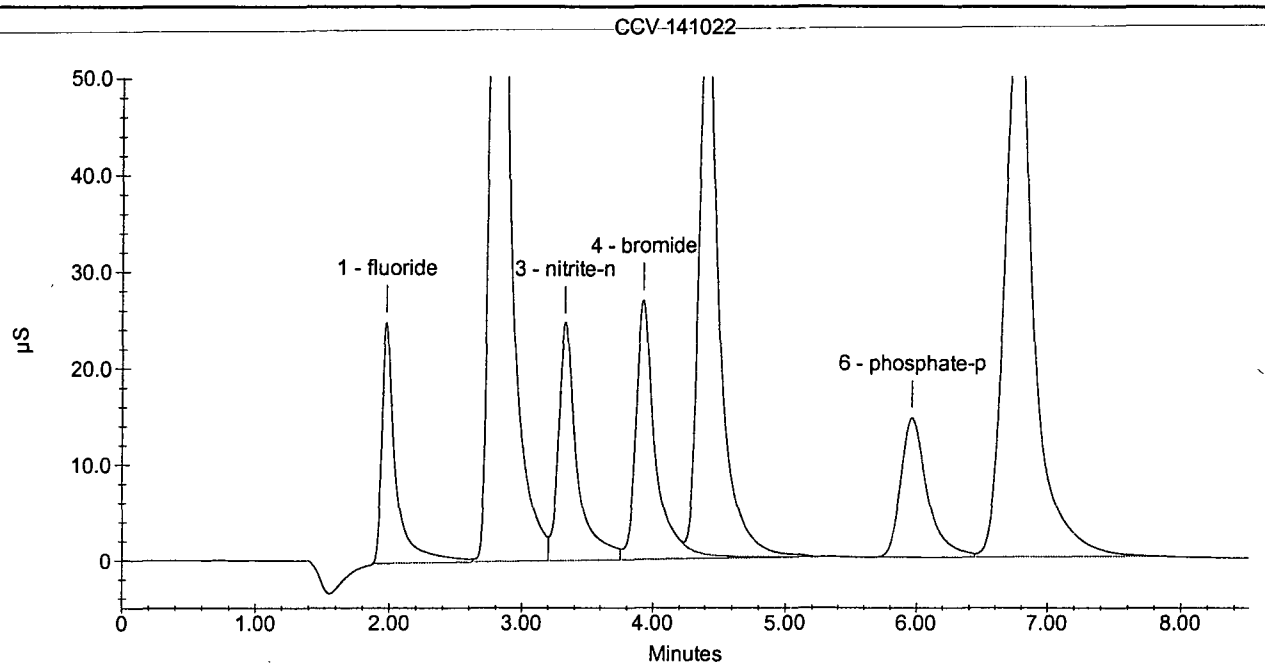
Sample Analysis Report

Sample Name : CCV 141022
Data File Name : I:\DIONEX\D1ANIONS\DATA\141022A\141022a_028.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 10/22/14 16:01:01
System Operator : mm
Injection Number : 28
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.97	fluoride	2.5952	1826754	250007
2	2.79	chloride	24.0234	13300485	1745270
3	3.32	nitrite-n	2.4844	2398797	245814
4	3.92	bromide	12.4062	2791748	268920
5	4.40	nitrate-n	4.8588	6124160	572763
6	5.96	phosphate-p	4.9198	2048235	144675
7	6.75	sulfate	24.0702	8974159	591796



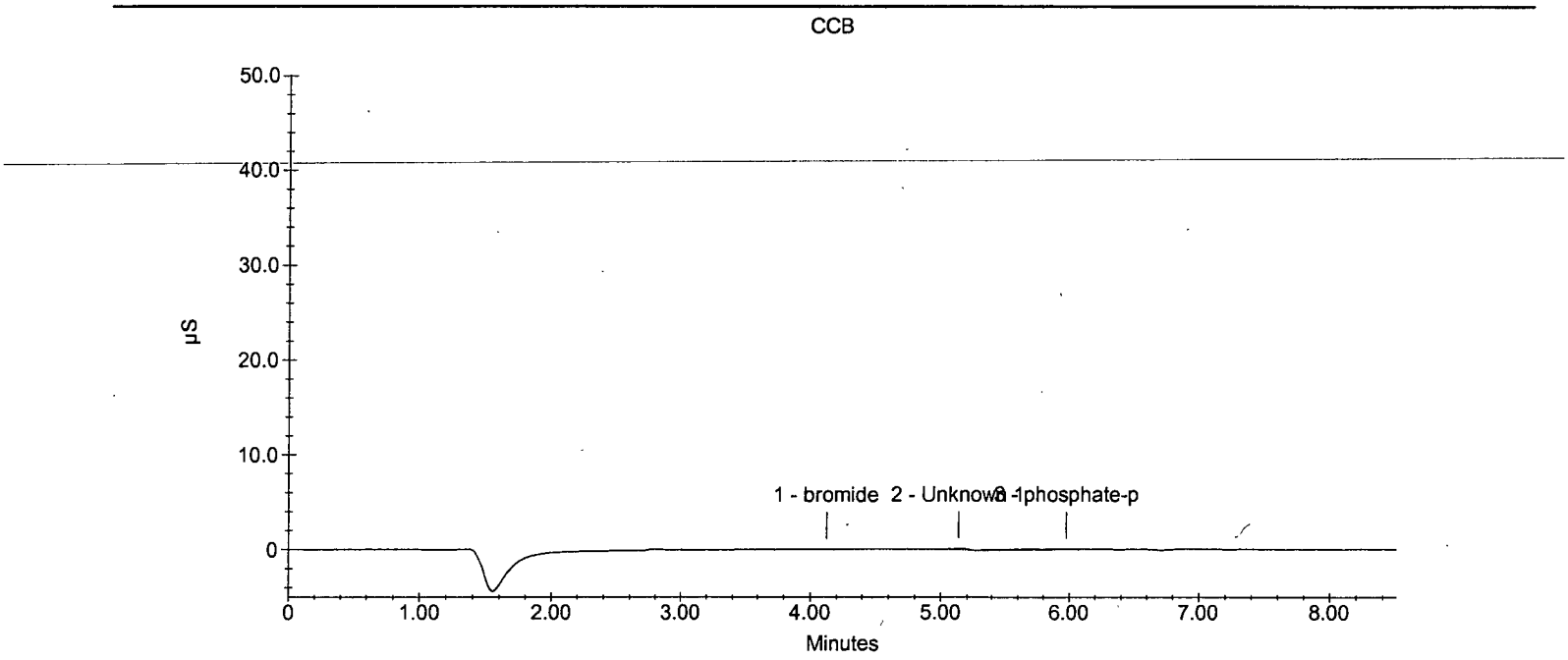
Sample Analysis Report

Sample Name : CCB
Data File Name : I:\DIONEX\D1ANIONS\DATA\141022A\141022a_029.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 10/22/14 16:12:19
System Operator : mm
Injection Number : 29
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	4.12	bromide	0.3093	18359	364
2	5.13	Unknown 1	0.0000	11810	1274
3	5.97	phosphate-p	0.1661	35287	709



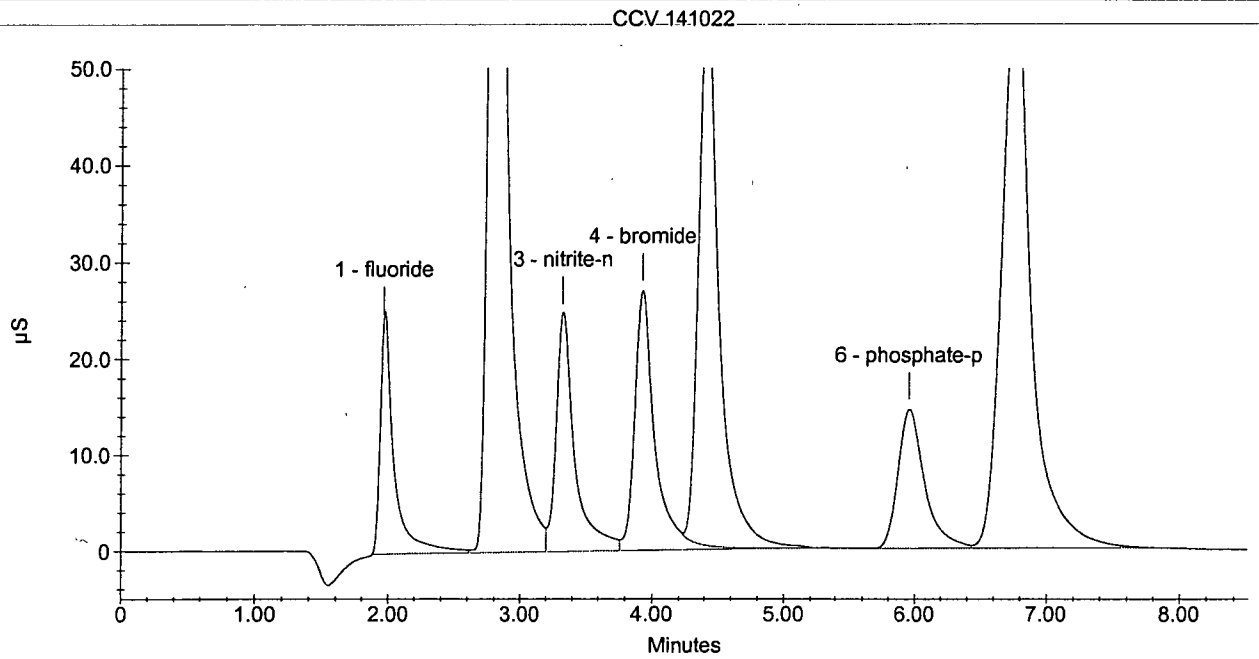
Sample Analysis Report

Sample Name : CCV 141022
Data File Name : I:\DIONEX\D1ANIONS\DATA\141022A\141022a_039.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 10/22/14 18:03:54
System Operator : mm
Injection Number : 39
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.96	fluoride	2.5934	1825493	238685
2	2.79	chloride	24.1288	13361650	1769878
3	3.32	nitrite-n	2.4981	2412408	246753
4	3.92	bromide	12.4054	2791569	269362
5	4.40	nitrate-n	4.8765	6147448	574893
6	5.95	phosphate-p	4.9038	2041467	144158
7	6.73	sulfate	24.1029	8986838	592408



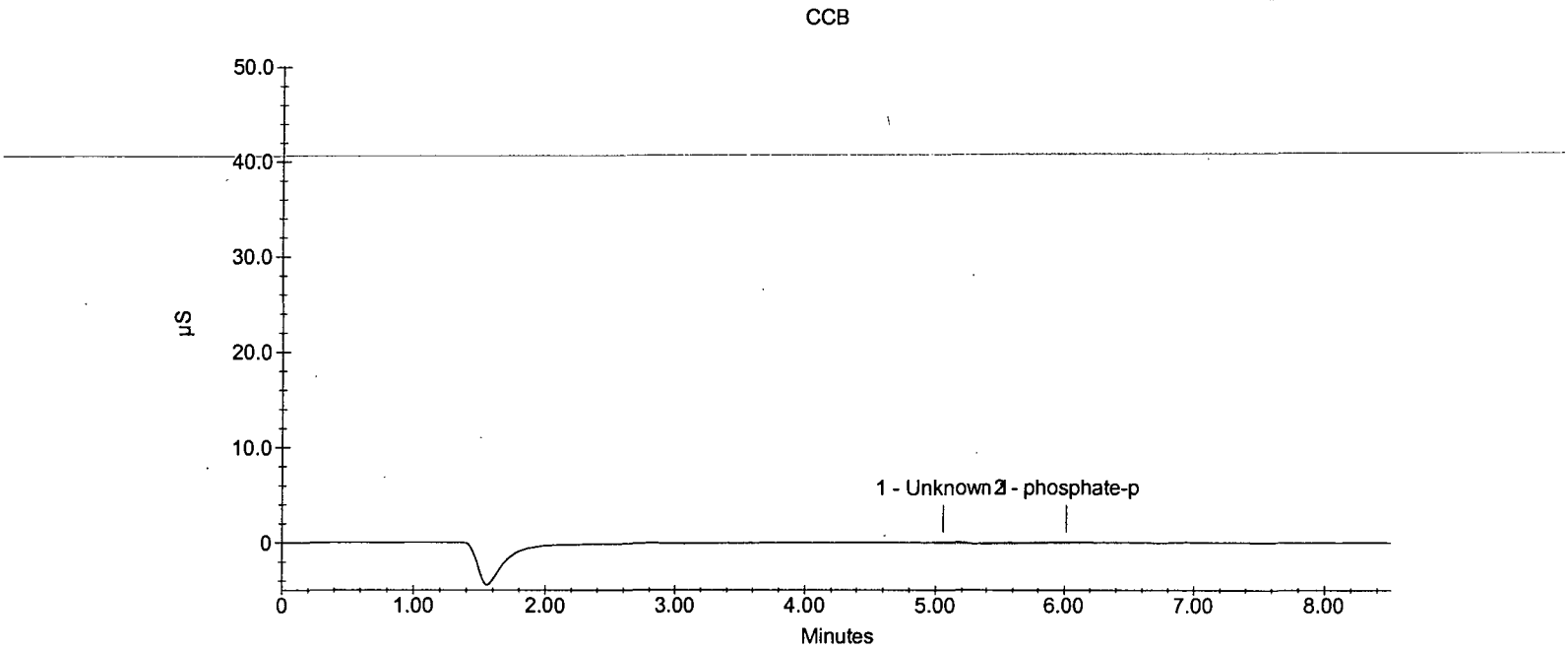
Sample Analysis Report

Sample Name : CCB
Data File Name : I:\DIONEX\D1ANIONS\DATA\141022A\141022a_040.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 10/22/14 18:15:10
System Operator : mm
Injection Number : 40
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	5.05	Unknown 1	0.0000	18389	1011
2	6.01	phosphate-p	0.1941	47125	922



INORGANICS

Raw Data

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	TOTAL ALKALINITY	1.70 U	2.0	1.70	0.85	mg/L	11/03/14	11/03/14	#232W-A141103-AZ05593
EPA 353.2	NITRATE-NITRITE-	0.100 U	0.10	0.100	0.028	mg/L	11/05/14	11/05/14	#35OF-141105A-AZ05593
EPA 9056	SULFATE	0.198 U	1.00	0.198	0.090	mg/L	10/22/14	10/22/14	#9056D-141022A-AZ05388
EPA 9056	CHLORIDE	0.200 U	1.00	0.200	0.080	mg/L	10/22/14	10/22/14	#9056D-141022B-AZ05388

Wetlab SC-Blank-REG MDLs
Printed: 11/19/14 10:44:17 AM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 9056	CHLORIDE	20.0	19.0	95.0	80-120	10/22/14	10/22/14	#9056D-141022B-AZ05388
EPA 9056	SULFATE	20.0	18.3	91.5	80-120	10/22/14	10/22/14	#9056D-141022A-AZ05388

Comments: _____

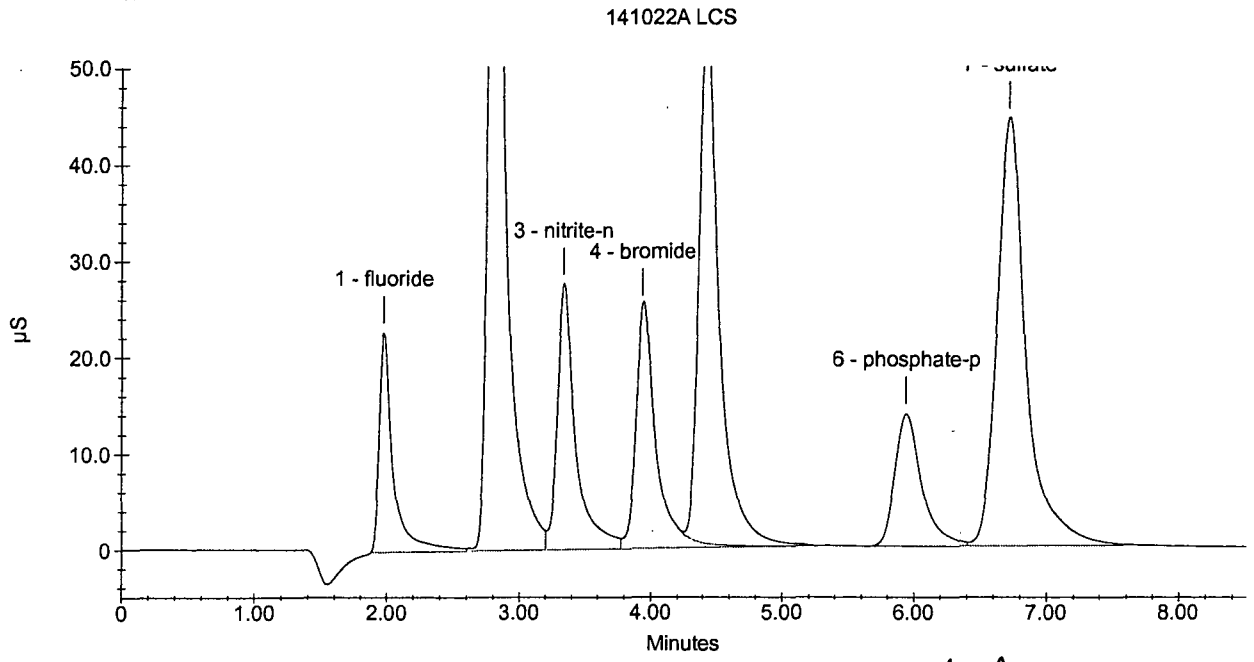
Sample Analysis Report

Sample Name : 141022A LCS
Data File Name : I:\DIONEX\D1ANIONS\DATA\141022A\141022a_003.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 10/22/14 08:40:49
System Operator : mm
Injection Number : 3
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.97	fluoride	2.4045	1689047	227238
2	2.80	chloride	18.2007	9919396	1332175
3	3.33	nitrite-n	2.7588	2671395	274014
4	3.93	bromide	11.8453	2663169	251338
5	4.41	nitrate-n	4.6599	5863029	539429
6	5.93	phosphate-p	4.6849	1948756	137086
7	6.71	sulfate	18.3083	6742612	442222



Algorithm Check
$(6742612)\,2.582\times10^{-6} + 0.899 = 18.31$ ✓
MM 10/28/14

APPL, Inc.

Current Date : 10/22/14
Current Time : 08:52:01

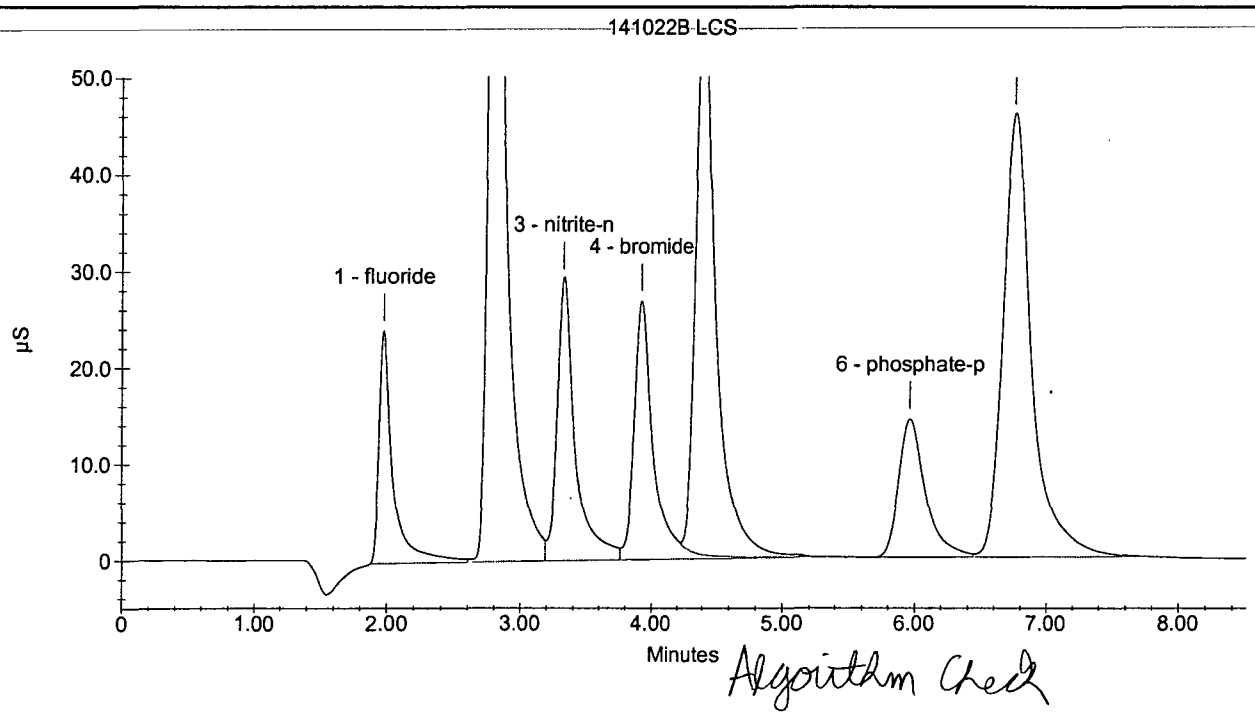
Sample Analysis Report

Sample Name : 141022B LCS
Data File Name : I:\DIONEX\D1ANIONS\DATA\141022A\141022a_019.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 10/22/14 14:20:04
System Operator : mm
Injection Number : 19
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.97	fluoride	2.4993	1757509	241081
2	2.79	chloride	19.0405	10407017	1380361
3	3.32	nitrite-n	2.8987	2810300	291469
4	3.92	bromide	12.3354	2775519	267877
5	4.40	nitrate-n	4.8682	6136490	575392
6	5.96	phosphate-p	4.8627	2024055	143389
7	6.75	sulfate	18.9071	6974524	457402



Algorithm Check
10407017 (1.722x10⁻⁶) + 1.118 = 19.04 ✓
MM 11/17/14

APPL, Inc.

Current Date : 10/22/14
Current Time : 14:31:16

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 353.2	NITRATE-NITRITE-N	5.00	4.83	4.76	96.6	95.2	1.5	20	90-110	11/05/14	11/05/14	11/05/14	11/05/14	#35OF-141105A-AZ05593
SM 2320B	TOTAL ALKALINITY AS CA	250	253	254	101	102	0.39	20	90-110	11/03/14	11/03/14	11/03/14	11/03/14	#232W-A141103-AZ05593

Comments: _____

Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
AZ05389W10	2014-11-03 13:06:51 UTC-8	Alkalinity	0.000	4.330	0.00	0.00	183.59	183.59	mg/L	25 mL	0.0212	a141103	bb
AZ05388W10	2014-11-03 12:57:47 UTC-8	Alkalinity	0.000	4.182	0.00	0.00	177.32	177.32	mg/L	25 mL	0.0212	a141103	bb
141103a lcsd	2014-11-03 12:42:19 UTC-8	Alkalinity	0.248	5.998	0.00	21.03	233.28	254.32	mg/L	25 mL	0.0212	a141103	bb
141103a lcs	2014-11-03 12:31:00 UTC-8	Alkalinity	0.246	5.960	0.00	20.86	231.84	252.70	mg/L	25 mL	0.0212	a141103	bb
141103a blk	2014-11-03 12:13:54 UTC-8	Alkalinity	0.000	0.000	0.00	0.00	0.00	0.00	mg/L	25 mL	0.0212	a141103	bb

OPERATOR: Aileen
ACQ. TIME: Nov 5, 2014 14:29:17
DATA FILENAME: I:\LACHAT\OMNION\141105NB.FDT
METHOD FILENAME: I:\LACHAT\METHODS\TOTOXN1.MET
TRAY FILENAME: I:\LACHAT\TRAYS\141105NA.TRA

TRAY DESCRIPTION:
Created: Nov 5, 2014 13:05:03
Modified: Nov 5, 2014 14:29:48
NO3/TOTOXN 141105NA
DATA DESCRIPTION:
Created: Nov 5, 2014 14:29:17
Modified: Nov 5, 2014 14:29:17

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 1 to 40

Cup	Sample ID	Sampling Time	# of Reps	TOTOXN (mg/L)	Man Dil Factor
1	141105A BLK	14:47:32	1	0.0006	1.0
4	141105A LCS	14:49:00	1	4.8320	1.0
5	141105A LCSD	14:50:29	1	4.7626	1.0
6	AZ05388W11	14:51:57	1	0.0627	1.0
7	AZ05389W11	14:53:26	1	0.0554	1.0
8	AZ05593W28	14:54:54	1	0.5341	1.0
9	AZ05593W28MS	14:56:21	1	5.6537	1.0
10	AZ05593W28MSD	14:57:49	1	5.5746	1.0

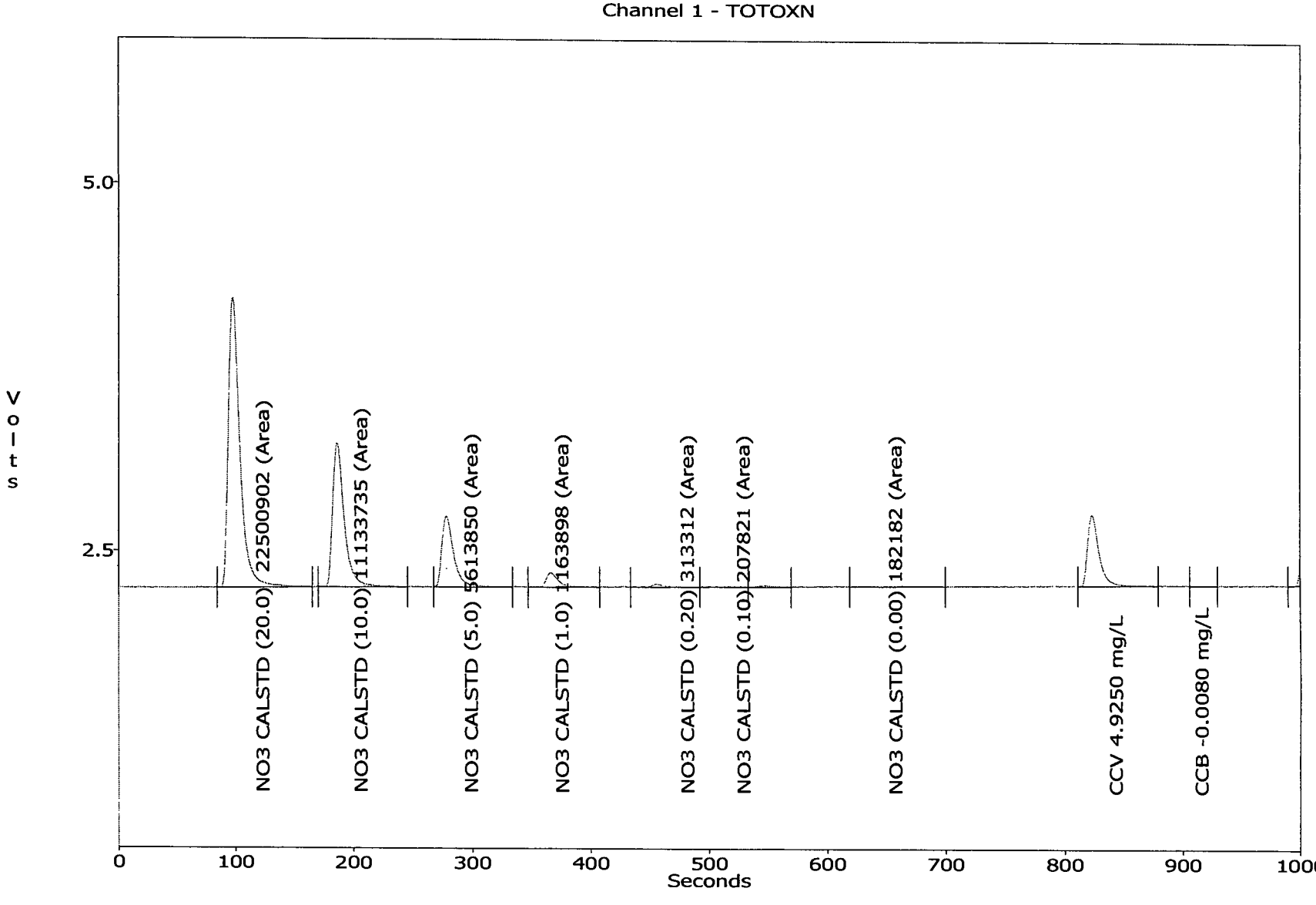
INSTRUMENT: Flow Injection Analysis
TRAY: 141105NA.TRA METHOD: TOTOXN1.MET DATAFILE: 141105NB.FDT
DATE/TIME: Wed Nov 05 14:29:18 2014 OPERATOR: Aileen

*** Begin Calibration ***
Cup# 1 Sample: NO3 CALSTD (20.0) Type: CalStd Level: 1 Rep# 1/1
Ch 1: TOTOXN Peak Area = 22500902.0 µv-s
Cup# 2 Sample: NO3 CALSTD (10.0) Type: CalStd Level: 2 Rep# 1/1
Ch 1: TOTOXN Peak Area = 11133735.0 µv-s
Cup# 15 Sample: NO3 CALSTD (5.0) Type: CalStd Level: 3 Rep# 1/1
Ch 1: TOTOXN Peak Area = 5613850.0 µv-s
Cup# 3 Sample: NO3 CALSTD (1.0) Type: CalStd Level: 4 Rep# 1/1
Ch 1: TOTOXN Peak Area = 1163898.0 µv-s
Cup# 4 Sample: NO3 CALSTD (0.20) Type: CalStd Level: 5 Rep# 1/1
Ch 1: TOTOXN Peak Area = 313312.0 µv-s
Cup# 5 Sample: NO3 CALSTD (0.10) Type: CalStd Level: 6 Rep# 1/1
Ch 1: TOTOXN Peak Area = 207821.0 µv-s
Cup# 6 Sample: NO3 CALSTD (0.00) Type: CalStd Level: 7 Rep# 1/1
Ch 1: TOTOXN Peak Area = 182182.0 µv-s
*** Updated Calibration ***
Ch 1: TOTOXN
** 1st Order Poly Calibration **
C[0] = 8.94884e-007
C[1] = -0.0705413
r = 1.0000
*** End Calibration Block ***
*** Calibration Passed ***
***** Auto DQM Begin *****
*** Starting DQM Set CONTINUING ***
Cup# 15 Sample: CCV Type: RelChkStd Rep# 1/1
Ch 1: TOTOXN = 4.9250 mg/L
DQM Sample Results: CCV
Ch 1: TOTOXN = 4.9250 mg/L
Known Conc = 5.0000 mg/L - %Diff from Known = -1.5006%
Test 1: Passed
Cup# 6 Sample: CCB Type: Blank Rep# 1/1
Ch 1: TOTOXN = -0.0080 mg/L
DQM Sample Results: CCB
Ch 1: TOTOXN
Determined Conc = -0.0080 mg/L
Test 1: Passed
*** End of DQM Set CONTINUING - Set Passed ***
*** Starting DQM Set INITIAL ***
Cup# 7 Sample: ICV Type: RelChkStd Rep# 1/1
Ch 1: TOTOXN = 4.8957 mg/L
DQM Sample Results: ICV
Ch 1: TOTOXN = 4.8957 mg/L
Known Conc = 5.0000 mg/L - %Diff from Known = -2.0864%
Test 1: Passed
Cup# 6 Sample: ICB Type: Blank Rep# 1/1
Ch 1: TOTOXN = -0.0061 mg/L
DQM Sample Results: ICB
Ch 1: TOTOXN
Determined Conc = -0.0061 mg/L
Test 1: Passed
*** End of DQM Set INITIAL - Set Passed ***
Cup# 1 Sample: 141105A BLK Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.0006 mg/L
Cup# 4 Sample: 141105A LCS Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 4.8320 mg/L
Cup# 5 Sample: 141105A LCSD Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 4.7626 mg/L
Cup# 6 Sample: AZ05388W11 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.0627 mg/L
Cup# 7 Sample: AZ05389W11 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.0554 mg/L
Cup# 8 Sample: AZ05593W28 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.5341 mg/L

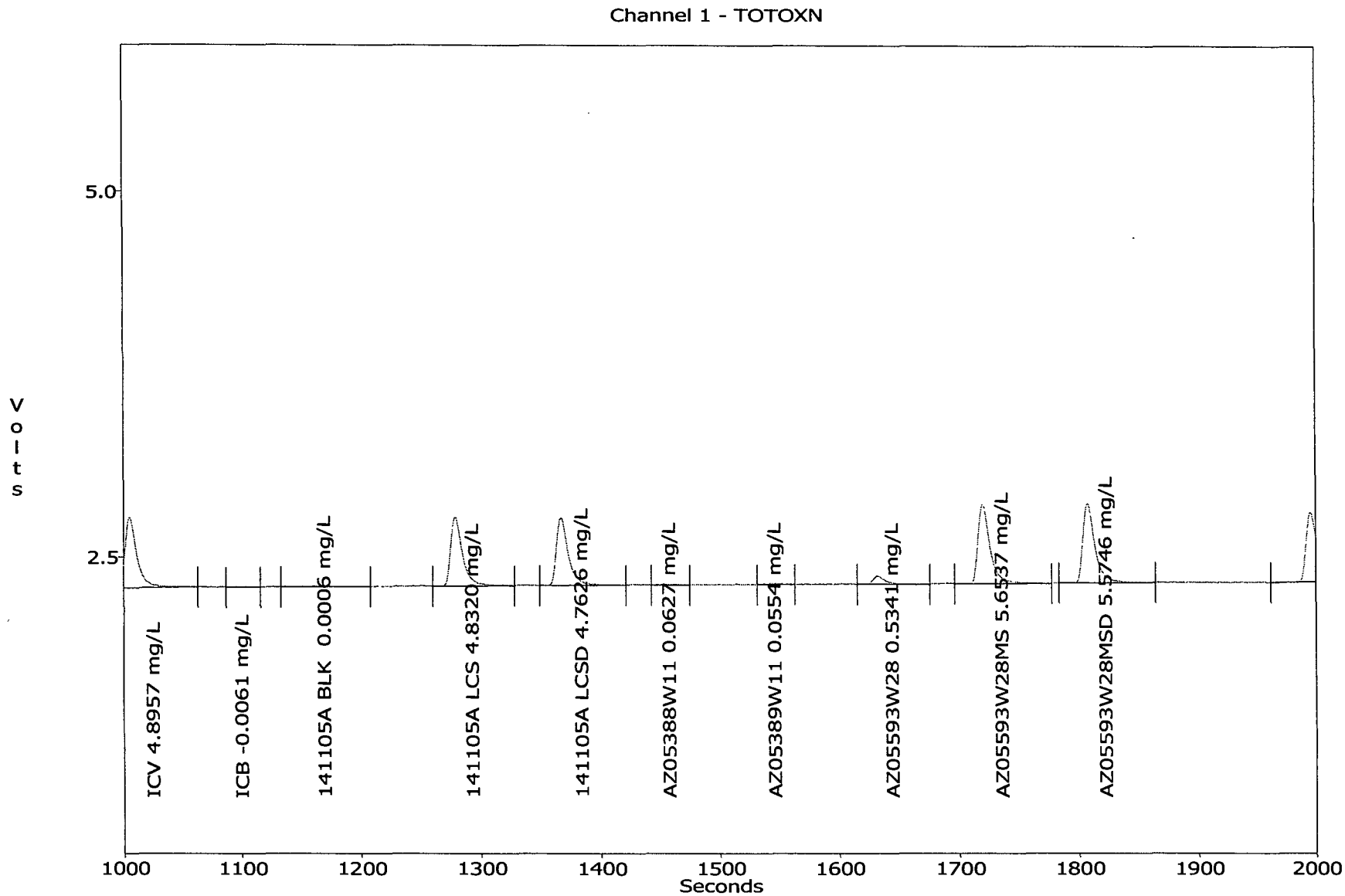
AP 11/5/14
Algorithm check on ICV ✓
$(8.94884)(5549568)(10^{-7}) - 0.0705 = 4.8957$

Cup# 9 Sample: AZ05593W28MS Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 5.6537 mg/L
Cup# 10 Sample: AZ05593W28MSD Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 5.5746 mg/L
***** Auto DQM Begin *****
*** Starting DQM Set CONTINUING ***
Cup# 15 Sample: CCV Type: RelChkStd Rep# 1/1 Repeat# 1
Ch 1: TOTOXN = 4.9190 mg/L
DQM Sample Results: CCV
Ch 1: TOTOXN = 4.9190 mg/L
Known Conc = 5.0000 mg/L - %Diff from Known = -1.6191%
Test 1: Passed
Cup# 6 Sample: CCB Type: Blank Rep# 1/1 Repeat# 1
Ch 1: TOTOXN = -0.0082 mg/L
DQM Sample Results: CCB
Ch 1: TOTOXN
Determined Conc = -0.0082 mg/L
Test 1: Passed
*** End of DQM Set CONTINUING - Set Passed ***
******* Tray Run Complete *******

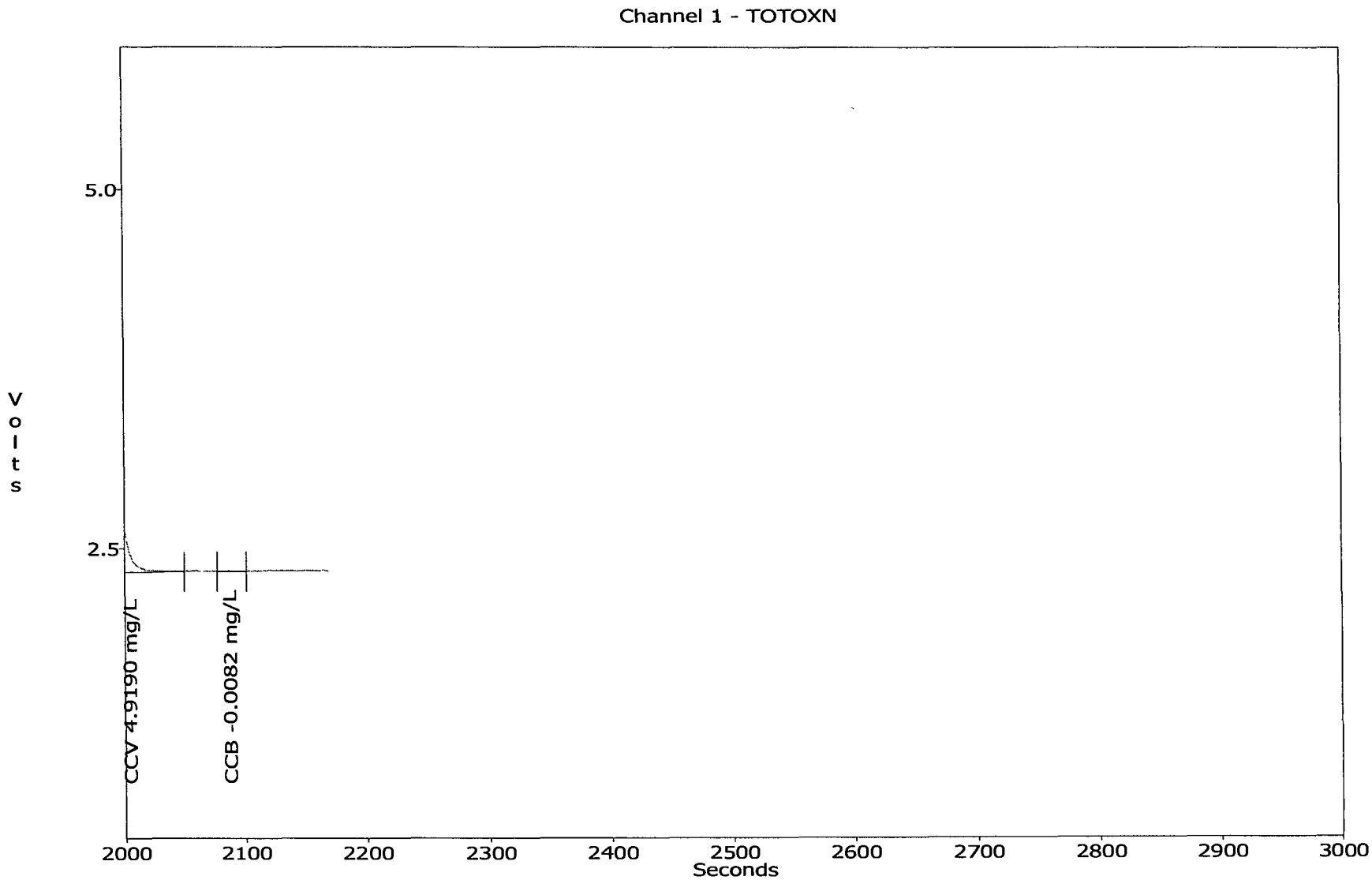
OPERATOR:	Aileen
ACQ. TIME:	Nov 5, 2014 14:29:17
DATA FILENAME:	I:\LACHAT\OMNION\141105NB.FDT
METHOD FILENAME:	I:\LACHAT\METHODS\TOTOXN1.MET
TRAY FILENAME:	I:\LACHAT\TRAYS\141105NA.TRA



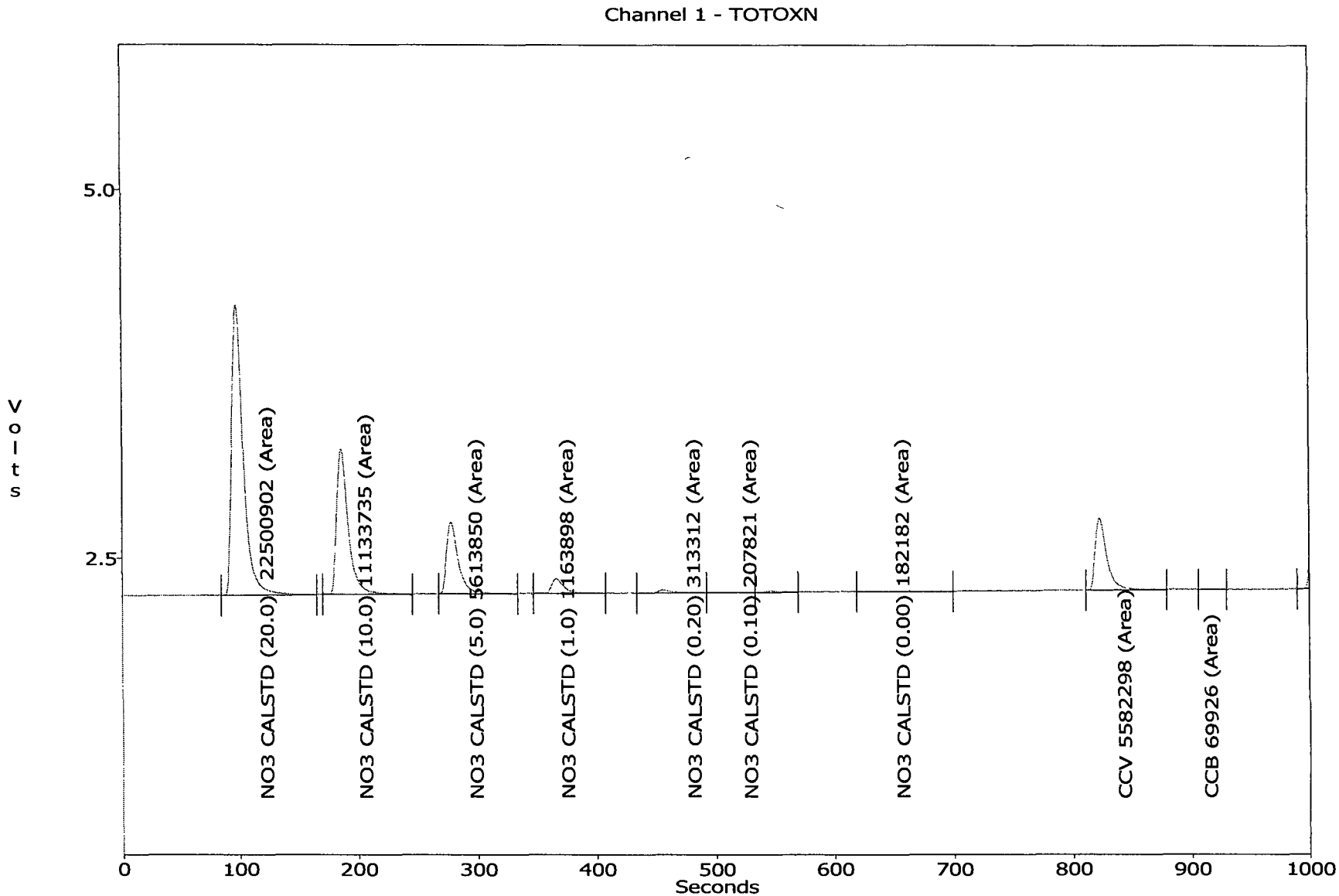
OPERATOR:	**Aileen**
ACQ. TIME:	**Nov 5, 2014 14:29:17**
DATA FILENAME:	**I:\LACHAT\OMNION\141105NB.FDT**
METHOD FILENAME:	**I:\LACHAT\METHODS\TOTOXN1.MET**
TRAY FILENAME:	**I:\LACHAT\TRAYS\141105NA.TRA**



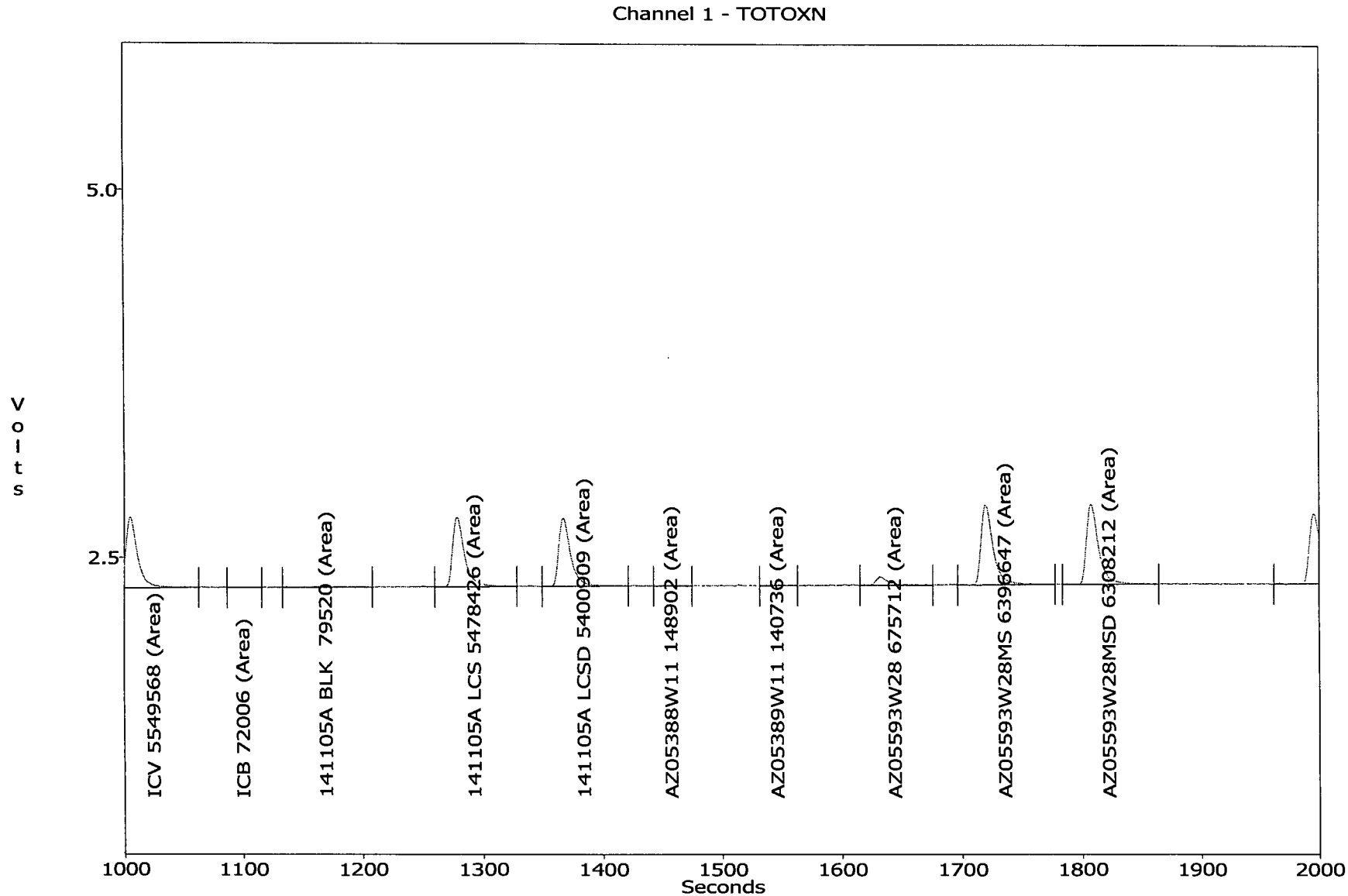
OPERATOR:	**Aileen**
ACQ. TIME:	**Nov 5, 2014 14:29:17**
DATA FILENAME:	**I:\LACHAT\OMNION\141105NB.FDT**
METHOD FILENAME:	**I:\LACHAT\METHODS\TOTOXN1.MET**
TRAY FILENAME:	**I:\LACHAT\TRAYS\141105NA.TRA**



OPERATOR: Aileen
ACQ. TIME: Nov 5, 2014 14:29:17
DATA FILENAME: I:\LACHAT\OMNION\141105NB.FDT
METHOD FILENAME: I:\LACHAT\METHODS\TOTOXN1.MET
TRAY FILENAME: I:\LACHAT\TRAYS\141105NA.TRA

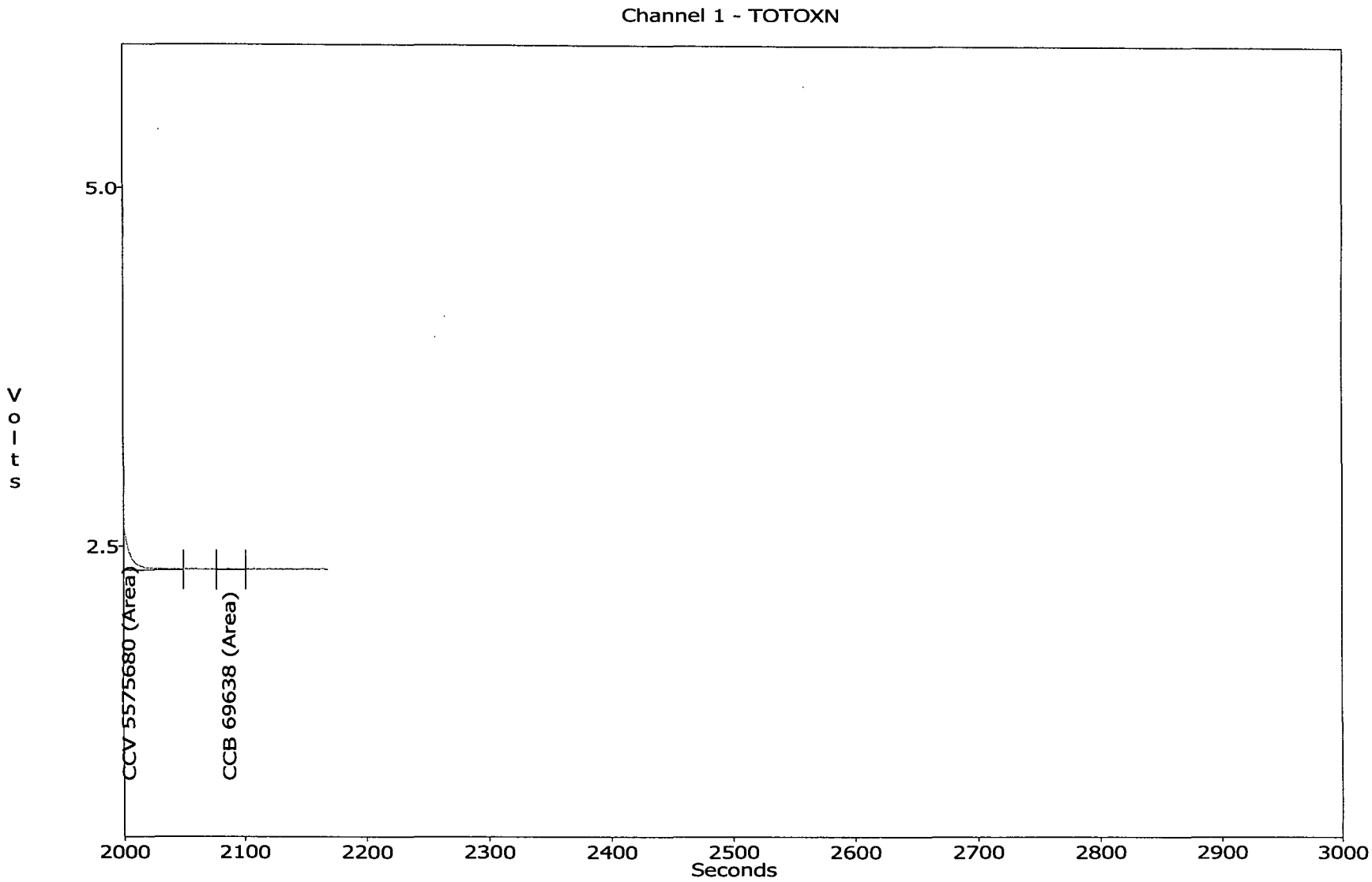


OPERATOR: Aileen
ACQ. TIME: Nov 5, 2014 14:29:17
DATA FILENAME: I:\LACHAT\OMNION\141105NB.FDT
METHOD FILENAME: I:\LACHAT\METHODS\TOTOXN1.MET
TRAY FILENAME: I:\LACHAT\TRAYS\141105NA.TRA



325

OPERATOR: Aileen
ACQ. TIME: Nov 5, 2014 14:29:17
DATA FILENAME: I:\LACHAT\OMNION\141105NB.FDT
METHOD FILENAME: I:\LACHAT\METHODS\TOTOXN1.MET
TRAY FILENAME: I:\LACHAT\TRAYS\141105NA.TRA



CKD 11-4-14

11-4-14 CK I2 0.025N Thiosulfate (for S=)
exp 3.20g I2 EMD LOT 20111121240-03046 } 1l
5-4-15 +25.0g KI BDH LOT 0273C515-03219 } DI

11-4-14 CK 0.025N Thiosulfate
exp 5-4-15 6.205g $Na_2S_2O_3 5H_2O$ Macron LOT 0000024050-03097
+9 mL NaOH 1N (7-29-14)
bring to vol 1L with DI

FINAL CONC. (mg/L)
100
0.0
0.5
1.0
5.0
10.0
20.0
5.00

11/5/14 AP
Exp 11/12/14

AP 11/5/14

NO3-N STDS	STD / STOCK	PREP DATE / LOT#	EXP.	CONC STOCK OR STD [mg/L]	STOCK OR STD (mL)	FINAL VOL. W/DI H2O (mL)	FINAL CONC. (mg/L)
100mg/L STOCK	O2S1	2/28/14	8/30/15	1000	5	50	100
		1057207					
0.1	100mg/L NO3-N STOCK	11/5/14	11/12/14		0.1	100	0.1
0.2					0.2	100	0.2
0.5							
1					1.0	100	1.0
5					5.0	100	5.0
10					10.0	100	10.0
20					20.0	100	20.0
NO3-N ICV	CPI	13L102	11/22/15	1000	0.25	50	5.00
		5/27/14					
LCS /MS /MSD	**STOCK**	**LOT# 13L102**	**EXP.**	**CONC STOCK [mg/L]**	**STD (mL)**	**FINAL VOL.**	**FINAL CONC. (mg/L)**
LCS	CPI	11/22/15	11/12/14	1000	0.25	50 mL	5
MS / MSD	CPI	11/22/15	11/12/14	1000	0.25	50 mL	5

Standards Prep Log book# 62 page #

10/31/14 AP
Exp 11/7/14

AP 10/31/14

NH4 STDS	STD / STOCK	PREP DATE / LOT	OPEN / EXP DATE	CONC STOCK OR STD [mg/L]	STOCK OR STD (mL)	FINAL VOL. DI (mL)	FINAL CONC. (mg/L)
NH3-N CCV	O2SI	6/18/13	12/8/14	1000	5	50	100
		Lot 1047250					
1	100mg/L NH4 STOCK	10/31/14	11/7/14	100	0.0	100	0.0
2							
3					0.5	100	0.5
4					1.0	100	1 0
5					5.0	100	5.0
6					10.0	100	10.0
7					20.0	100	20.0
		Lot 011714					
NH3-N ICV	Absolute	2/21/14	1/17/16	1000	0.25	50	5.00

10-31-14 AP
exp 11-1-14

MBAS

2 mL x 1000ppm LAS Absolute Stds LOT 0119 13-33718 / 200mL DI
= 10 ppm LAS
10mL x 10 ppm LAS (10-31-14) / 100mL DI = 1 ppm LAS (ckd 10-31-14)
CCV (0.8): 8mL x 1 ppm LAS (10-31-14) / 100mL DI (ckd 10-31-14)
LCS/LCSD: 5mL x 10 ppm LAS (10-31-14) / 100mL DI
MS: 5mL x 10 ppm LAS (10-31-14) / 400mL sample

11-3-14 AP
exp
11-4-14

OPO_4-P For Method SM4500PE exp 11-4-14

1mL X 1000ppm PO_4. P CPI LOT 12G005-32026 / 100mL DI → 10ppm PO_4-P
10ppm PO_4-P (11-3-14) X 10mL / 100mL DI → 1ppm PO_4-P
1ppm PO_4-P (11-3-14) X 2.5mL / 50mL → 0.05ppm PO_4-P
↓ X5mL / ↓ → 0.10ppm PO_4-P
↓ X 10mL / ↓ → 0.20ppm PO_4-P
↓ X 25mL / ↓ → 0.50ppm PO_4-P

ICV PO_4-P

1000 PO4-P O2SI Lot 1049001-32799X 1mL / 100mL DI → 10ppm PO_4-P
10ppm PO_4-P (11-3-14)X 0.75mL / 50mL DI → 0.15ppm PO_4-P
LCS: 0.75mL X 10ppm PO_4-P (11-3-14 / 50mL DI → 0.15ppm PO_4-P
MS: 0.75mL X 10ppm PO_4-P (11-3-14) / 50mL sample → 0.15ppm PO_4-

11/3/14 BB
Book rcvd 10/29/14
exp. 8/26/15

0.02N H_2SO_4 Titrant for Alkalinity
200 mL 0.1 N H_2SO_4 (rec'd 8/26/14)
Final vol 1L w/DI water

BB 10/28/14

BB 10/28/14

NORMALITY OF TITRANT (0.02 N H2SO4)

NaCO3 titrated (mL) 0.25
normality of Na2CO3 1.0
Acid used (mL) 11.83

*Begin all titrations with full buret reading 0.00
*Na2CO3 JT Baker 0000030806

Normality --> 0.02113

BB 10/30/14

BB10/30/14

NORMALITY OF TITRANT (0.02 N H2SO4)

NaCO3 titrated (mL) 0.25
normality of Na2CO3 1.0
Acid used (mL) 11.77

*Begin all titrations with full buret reading 0.00
*Na2CO3 JT Baker 0000030806

Normality --> 0.02124

9/10/14 AP
Exp 9/17/14

AP 9/10/14

NH4 STDS	STD / STOCK	PREP DATE / LOT	OPEN / EXP DATE	CONC STOCK OR STD [mg/L]	STOCK OR STD (mL)	FINAL VOL. DI (mL)	FINAL CONC. (mg/L)
NH3-N CCV	O2SI	6/18/13	12/8/14	1000	5	50	100
		Lot 1047250					
1	100mg/L NH4 STOCK	9/10/14	9/17/14	100	0.0	100	0.0
2							
3					0.5	100	0.5
4					1.0	100	1.0
5					5.0	100	5.0
6					10.0	100	10.0
7					20.0	100	20.0
		Lot 011714					
NH3-N ICV	Absolute	2/21/14	1/17/16	1000	0.25	50	5.00

9/10/14 BB
DI Exp 3/10/15

$NaHCO_3$ Inorganic Spiking Solution
7.0007g $NaHCO_3$ BDH Lot # 183064
Final Vol 1L w/ DI water

9/12/14 BB
Exp 8/14/15

0.02N H_2SO_4 Titrant for Alkalinity
200 mL 0.1N H_2SO_4 (prep 8/26/14)
Final vol 1L w/DI water

9-12-14 CK
Exp 9-13-14

7199
1mL x 100ppm Cr^{+6} (9-9-14) / 100mL DI = 1000ppb Cr^{+6}
1mL x 1000ppb Cr^{+6} (9-12-14) / 100mL DI = 10ppb Cr^{+6} (CCV)
LCS, MS: 0.25mL x 1000ppb Cr^{+6} (9-12-14) / 25mL DI or sample

9/13/14 MM
exp 9/14/14

1mL x 100ppm Cr^{6+} (9-9-14) / 100mL DI = 1000ppb Cr^{6+} Std
1mL x 1000 Cr^{6+}_{ppb} (9/13/14) / 100mL DI = 10ppb Cr^{6+} (CCV)
1mL x 100ppm Cr^{6+} (9/10/14) / 100mL DI = 1000ppb Cr^{6+} ICV
1mL x 1000ppb Cr^{6+} (9/13/14) / 100mL DI = 10ppb Cr^{6+} (LCS)
MS: 0.25mL x 1000ppb Cr^{6+} ICV (9/13/14) / 25mL sample = 10ppb

9-16-14 CK
exp 9-17-14

3060A Digestion
1mL x 100ppm Cr^{+6} 3369 (9-9-14) / 100mL DI = 1ppm Cr^{+6}

09/13/14 mm exp 09/14/14	Anion LCS, MS/MSD made as per page 48.
09/15/14 mm	Anion eluent made as per page 42
09/15/14 mm exp 09/16/14	Anion CCV, LCS, MS/MSD made as per page 48.
09/16/14 mm exp	Anion ICAL stock, curve, and ICV made as per page 47.
09/16/14 mm exp 09/17/14	Anion LCS, MS/MSD made as per page 48.

METHOD 300 / 9056		ANION STOCK				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1037642-31166	01/04/14	0.25	5
O2SI	Cl-	5,000	1045796-32404	11/08/14	0.5	50
O2SI	NO2-N	1,000	1040585-31592	04/26/14	0.25	5
Ultra Scientific	Br-	1,000	L00953-31570	09/30/14	1.25	25
O2SI	NO3-N	1,000	1040587-31591	04/26/14	0.5	10
O2SI	PO4-P	1,000	1040570-31590	04/26/14	0.5	10
Ultra Scientific	SO4	5,000	P00075-30305	02/28/14	0.5	50
Brought up with milipore water to Final Volume of:						50

METHOD 300 / 9056				ANION CAL CURVE						
				ICAL #1	ICAL#2	ICAL#3	ICAL #4	ICAL #5	ICAL #6	ICAL #7
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL	mL	mL
ANION STOCK	100			0.4	2	10	2	5	7	10
Brought up w/ Milipore Water to final volume of (mL):				100	100	100	10	10	10	na
Final Conc F (mg/L):				0.04	0.1	0.5	1	2.5	3.5	5
Final Conc Cl (mg/L):				0.4	1	5	10	25	35	50
Final Conc NO2-N (mg/L):				0.04	0.1	0.5	1	2.5	3.5	5
Final Conc Br (mg/L):				0.2	0.5	2.5	5	12.5	17.5	25
Final Conc NO3-N (mg/L):				0.08	0.2	1	2	5	7	10
Final Conc PO4-P (mg/L):				0.08	0.2	1	2	5	7	10
Final Conc SO4 (mg/L):				0.4	1	5	10	25	35	50

METHOD 300 / 9056		ANION ICV / LCS				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	12B199-30554	09/30/13	0.125	2.50
CPI	Cl-	1,000	13e314-32692	01/19/15	1.00	20.00
CPI	NO2-N	304	12g112-32702	01/19/15	0.50	3.04
CPI	Br-	1,000	12b205-32027	08/08/14	0.625	12.50
CPI	NO3-N	1,000	13b007-32700	01/19/15	0.25	5.00
CPI	PO4-P	1,000	12g005-32694	01/19/15	0.25	5.00
CPI	SO4	1,000	01/19/15	13e315-32697	1.00	20.00
Brought up with milipore water to Final Volume of:					50	

10/16/14 mm exp 10/17/14	Anion CCV, LCS, MS/MSD made as per page 48.
10/17/14 MM exp 10/18/14	Anion CCV, MS/MSD made as per page 48.
10/20/14 mm	Anion Eluent made as per page 22.
10/20/14 MM exp 10/21/14	Anion CCV, LCS, MS/MSD made as per page 48.
10/22/14 mm exp 10/23/14	Anion CCV, LCS, MS/MSD made as per page 48.
10/23/14 mm exp 10/24/14	Anion CCV, MS/MSD made as per page 48
10/24/14 mm exp 10/25/14	Anion CCV, LCS, MS/MSD made as per page 48.

048

11-11-13
exp 11-12-13

		ANION CCV				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1037642-31166	01/04/14	0.125	2.50
O2SI	Cl-	5,000	1045796-32404	11/08/14	0.25	25.0
O2SI	NO2-N	1,000	1040585-31592	04/26/14	0.125	2.5
Ultra Scientific	Br-	1,000	L00953-31570	09/30/14	0.625	12.50
O2SI	NO3-N	1,000	1040587-31591	04/26/14	0.25	5.0
O2SI	PO4-P	1,000	1040570-31590	04/26/14	0.25	5.0
Ultra Scientific	SO4	5,000	P00075-30305	02/28/14	0.25	25.0
Brought up with milipore water to Final Volume of:					50	

11-11-13

11-11-13
exp 11-12-13

METHOD 300 / 9056		ANION LCS				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	12B199-30554	09/30/13	0.125	2.50
CPI	Cl-	1,000	13e314-32692	01/19/15	1.00	20.00
CPI	NO2-N	304	12g112-32702	01/19/15	0.50	3.04
CPI	Br-	1,000	12b205-32027	08/08/14	0.63	12.50
CPI	NO3-N	1,000	13b007-32700	01/19/15	0.25	5.00
CPI	PO4-P	1,000	12g005-32694	01/19/15	0.25	5.00
CPI	SO4	1,000	01/19/15	13e315-32697	1.00	20.00
Brought up with milipore water to Final Volume of:					50	

11-11-13

11-11-13
exp 11-12-13

METHOD 300 / 9056		ANION MS/MSD				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	12B199-30554	09/30/13	0.125	2.50
CPI	Cl-	1,000	13e314-32692	01/19/15	1.00	20.00
CPI	NO2-N	304	12g112-32702	01/19/15	0.50	3.04
CPI	Br-	1,000	12b205-32027	08/08/14	0.63	12.50
CPI	NO3-N	1,000	13b007-32700	01/19/15	0.25	5.00
CPI	PO4-P	1,000	12g005-32694	01/19/15	0.25	5.00
CPI	SO4	1,000	01/19/15	13e315-32697	1.00	20.00
Final Volume of Sample: (mL)					50	

11-11-13

353.2 Injection Log

Directory: I:\Lachat\UPLOAD\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	05 Nov 2014	14:29	NO3 CALSTD (20.0)		141105NB	1.
2	05 Nov 2014	14:30	NO3 CALSTD (10.0)		141105NB	1.
3	05 Nov 2014	14:32	NO3 CALSTD (5.0)		141105NB	1.
4	05 Nov 2014	14:33	NO3 CALSTD (1.0)		141105NB	1.
5	05 Nov 2014	14:35	NO3 CALSTD (0.20)		141105NB	1.
6	05 Nov 2014	14:36	NO3 CALSTD (0.10)		141105NB	1.
7	05 Nov 2014	14:38	NO3 CALSTD (0.00)		141105NB	1.
8	05 Nov 2014	14:41	CCV		141105NB	1.
9	05 Nov 2014	14:42	CCB		141105NB	1.
10	05 Nov 2014	14:44	ICV		141105NB	1.
11	05 Nov 2014	14:45	ICB		141105NB	1.
12	05 Nov 2014	14:47	141105A BLK		141105NB	1.
13	05 Nov 2014	14:49	141105A LCS		141105NB	1.
14	05 Nov 2014	14:50	141105A LCSD		141105NB	1.
15	05 Nov 2014	14:51	AZ05388W11		141105NB	1.
16	05 Nov 2014	14:53	AZ05389W11		141105NB	1.
20	05 Nov 2014	15:00	CCV		141105NB	1.
21	05 Nov 2014	15:02	CCB		141105NB	1.

300/9056A Injection Log

Directory: I:\Dionex\D1Anions\data\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
32	16 Sep 2014	13:01	CAL STD #1 9/16/14		140916a	1.
33	16 Sep 2014	13:12	CAL STD #2		140916a	1.
34	16 Sep 2014	13:23	CAL STD #3		140916a	1.
35	16 Sep 2014	13:35	CAL STD #4		140916a	1.
36	16 Sep 2014	13:46	CAL STD #5		140916a	1.
37	16 Sep 2014	13:57	CAL STD #6		140916a	1.
38	16 Sep 2014	14:08	CAL STD #7		140916a	1.
39	16 Sep 2014	14:20	140916A ICV		140916a	1.
40	16 Sep 2014	14:31	ICB		140916a	1.

300/9056A Injection Log

Directory: I:\Dionex\D1Anions\data\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	22 Oct 2014	08:18	CCV 141022		141022a	1.
2	22 Oct 2014	08:29	CCB		141022a	1.
3	22 Oct 2014	08:40	141022A LCS		141022a	1.
7	22 Oct 2014	11:32	AZ05388W10 DF2		141022a	2.
8	22 Oct 2014	11:43	AZ05389W10 DF2		141022a	2.
10	22 Oct 2014	12:05	CCV 141022		141022a	1.
11	22 Oct 2014	12:17	CCB		141022a	1.
17	22 Oct 2014	13:57	CCV 141022		141022a	1.
18	22 Oct 2014	14:08	CCB		141022a	1.
19	22 Oct 2014	14:20	141022B LCS		141022a	1.
28	22 Oct 2014	16:01	CCV 141022		141022a	1.
29	22 Oct 2014	16:12	CCB		141022a	1.
31	22 Oct 2014	16:34	AZ05388W10 DF10		141022a	10.
39	22 Oct 2014	18:03	CCV 141022		141022a	1.
40	22 Oct 2014	18:15	CCB		141022a	1.

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

Data Validatable Report

December 2, 2014

Parsons
10235 South Jordan Gateway, Suite 300
South Jordan, Utah 84095

Attn: Gene Wright

Title: Report of Data: Case 74701

Project: 749435 Red Hill TO 0068, Hawaii

Contract #: Prime contract for DoD: ESAT Contract N62583-11-D-0515 TO 0068
Battelle Purchase Order # US001-0000434917

Dear Mr Wright:

Two water samples were received October 22, 2014, in good condition. Written results for the requested analyses are provided on this December 3, 2014.

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, Diane Anderson, danderson@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 v4.2. 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/cm
Enclosure
cc: File

Number of pages in this report: ____

Data Validation Package
for
749435 Red Hill TO 0068
ARF 74701
TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

SAMPLE RECEIPT INFORMATION

Sample Receipt Information

ARF: 74701

Project: 749435 Red Hill TO 0068

State Certification Number: CA1312 (DW & WW)

NELAP Certification number: CA00046 (HW)

DoD-ELAP Certificate number: 74807

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.

Sample Receipt Information:

The water samples were received October 22, 2014 at 2.5°C. The samples were assigned Analytical Request Form (ARF) number 74701. The sample numbers and requested analyses were compared to the chain of custody. No exception was noted.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
RHMW06-GW-01	AZ05593	WATER	10/21/14	10/22/14
TB102114	AZ05594	WATER	10/21/14	10/22/14

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

APPL's laboratory control limits generated in house statistically do not meet the control limits listed in DoD QSM 4.2 for all analytes. Laboratory control spike recoveries 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 8011

Sample Preparation:

The water samples were extracted according to EPA method 8011. All holding times were met.

Sample Analysis Information:

The samples were analyzed according to the method using an Agilent Gas Chromatograph with a flame ionization detector.

Quality Control/Assurance

Calibrations:

Initial and continuing calibrations were performed according to the method. All calibration criteria were met.

Blanks:

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

Spikes:

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

Sample RHMW06-GW-01 was designated by the client for MS/MSD analysis. All spike recoveries were acceptable.

Surrogates

The surrogate recoveries are summarized in the Form 2 & 8. All surrogate recoveries were within the control limits.

Summary:

No problem was encountered.

EPA Method 8260C

Volatile Organic Compounds

Sample Preparation:

The water samples were purged according to EPA method 5030B. All holding times were met.

Sample Analysis Information:

The samples were analyzed according to EPA method 8260C using an Agilent Gas Chromatograph with a mass spectrometer detector. The samples were received in unpreserved vials and were analyzed within seven days of collection. All holding times were met.

Quality Control/Assurance:

Spike Recovery:

A Laboratory Control Spike (LCS) was used for quality assurance. A second-source standard was used for the LCS. All LCS recoveries were acceptable.

Sample RHMW06-GW-01 was designated by the client for MS/MSD analysis. In the MS, 12 analytes recovered above their upper control limit; in the MSD, nine analytes recovered above their upper control limit. All other spike recoveries were acceptable.

Surrogates:

The surrogate recoveries are summarized in the Form 2 & 8. All surrogate recoveries were within the control limits.

Method blanks:

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

Calibration:

Initial and continuing calibrations were analyzed according to the method. All calibration criteria were met.

Tuning:

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

Internal Standards:

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

Summary:

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

Dissolved Methane
RSK-175

Sample Preparation and Analysis

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

Quality Control/Assurance

Spike Recovery

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

Sample RHMW06-GW-01 was designated by the client for MS/MSD analysis; however, the MS/MSD was not analyzed within holding time. The client was notified. No further action was required.

Method blanks

The blank contained no target analyte above one-half the limit of quantitation (LOQ).

Calibration

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

Summary:

No analytical exception is noted.

EPA Methods 6020A
Metals

Sample Preparation Information

The water samples were digested according to EPA methods 3015. No exception was encountered. All holding times were met.

Analysis Information:

Samples:

The samples were analyzed for dissolved lead according to EPA method 6020 using an Agilent 7700X ICP-MS. Due to the high sodium content in the samples, they were analyzed at a DF5. The reporting limit was raised (DF2) to the level supported by the calibration.

Calibrations:

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

Blanks:

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

Spikes:

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

Sample RHMW06-GW-01 was designated by the client for MS/MSD analysis. All MS, MSD, and PDS recoveries were acceptable. The DT was not applicable.

Internal Standards:

All method criteria were met for the internal standards.

Summary:

No analytical exception is noted. All data are acceptable.

Amended Page

EPA Methods 353.2, 9056 and SM 2320B

Nitrate-Nitrite-N, Anions, and Alkalinity

Sample Preparation Information:

The water samples were prepared according to the methods.

Analysis Information:

Samples:

The samples were analyzed according to the methods. A Dionex DX500 ion chromatograph was used for the EPA 9056 analysis. A Lachat was used for the EPA 353.2 analysis. All holding times were met.

Calibrations:

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

Blanks:

No target analyte was detected above one-half the LOQ in the method blanks.

Spikes:

Laboratory Control Spikes (LCS and/or LCS/LCSD) and matrix spikes (MS/MSD) were used for quality assurance. All recoveries were within acceptance limits in the LCS and/or LCS/LCSD.

Sample RHMW06-GW-01 was designated by the client for MS/MSD analysis. All spike recoveries were acceptable.

Summary:

No analytical exception is noted. All data are acceptable.

APPL Inc.
Abbreviations and Flags

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

CHAIN OF CUSTODY,
ARF, CRF, AND
CLIENT COMMUNICATION

APPL - Analysis Request Form 74701

Client: **Parsons**
Address: **10235 S. Jordan Gateway Ste 300**
South Jordan, UT 84095
Attn: **Gene Wright**
Phone: **801-553-3317** Fax:
Job: **749435 Red Hill TO 0068**
PO #: **PO#434917**
Chain of Custody (Y/N): **Y** # **44313**
RAD Screen (Y/N): **Y** pH (Y/N): **Y**
Turn Around Type: **2 WEEKS**

Received by: **CM**
Date Received: **10/22/14** Time: **10:00**
Delivered by: **FED EX**
Shuttle Custody Seals (Y/N): **Y** Time Zone: **-10**
Chest Temp(s): **2.5°C**
Color: **VOA/D-YELL/R-ORGYEL**
Samples Chilled until Placed in Refrig/Freezer: **Y**
Project Manager: **Diane Anderson**
QC Report Type: **DVP4/NEDD/NIRIS/HI**
Due Date: **11/05/14**

Comments:
pdf ARF and prelims to gene.wright@parsons.com & scalac@battelle.org
10 business days for form 1s; 21 calendar days for final DVP with internal COC.
send 1 hardcopy DVP4 and PDF bookmarked on CD to Gene;
pdf via email or ftp to scalac@battelle.org
Guidance: DoD QSMv4.2; DoD forms U flag at LOD, LOD database
EDD: NEDD/NIRIS to gene.wright@parsons.com & scalac@battelle.org
8011 = EDB & DBCP only; RSK = Methane only
Chloride added to 9056 analysis per 11/3 email (chc)

Sample Distribution:
GC: 1-$8011
Extractions: 1-_MWE012
VOA: 2-$86CREDW, 1-$RSK50
Metals: 1-$62A14WD(Pb)
Wetlab: 1-$232W(ALK), 1-$35OF(TOXN), 1-$9056DOD(CL,SO4)
Other: 1-_M3015F

Charges:

Invoice To:
BATTELLE MEMORIAL INSTITUTE
accountspayable@battelle.org
505 King Ave
Columbus OH 43201-2696

	Client ID		APPL ID	Sampled	Analyses Requested
1.	RHMW06-GW-01	MS/MSD	AZ05593W	10/21/14 11:00	$232W(ALK), $35OF(TOXN), $62A14WD(Pb), $8011, $86CREDW, $9056DOD(CL,SO4), $RSK50 -- unpreserved VOA 7day HT; LL VOCs
2.	TB102114		AZ05594W	10/21/14 11:00	$86CREDW -- unpreserved VOA 7day HT; LL VOCs

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC

APPL Sample Receipt Form

ARF# **74701**

Sample	Container Type	Count	pH
AZ05593	[2] PL 500mL	3	NA
	[7] PL 250mL - HNO3	3	1.7
	[29] PL 125mL - H2SO4	3	1.7
	[15] VOAs - NP	27	NA
AZ05594	[15] VOAs - NP	1	NA

Sample	Container Type	Count	pH

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

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

CHAIN OF CUSTODY RECORD

C.O.C. 44313

25
74701

Report to: PLEASE PRINT	Invoice to: PLEASE PRINT
Company Name: Battelle c/o Parsons Phone: 8015533317	Company Name: Phone:
Address: Fax:	Address: Fax:
Attn: Gene Wright	Attn:

Project Name/Number	Sampler (Print)
749435	Jim Terry / Environet
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: VOCs	EDB	methane	Alk/SO4	NH3 N	Lead								Date Shipped: / Carrier: / Waybill No.: / Comments:
RHMW06-GW-01	Red Hill, HI	10/2/14	1100	HI	12	✓				3	3	3	1	1	1								lead filtered
RHMW06-GW-01MS	" "	"	1100		12	✓				3	3	3	1	1	1								in field
RHMW06-GW-01MSD	" "	"	1100		12	✓				3	3	3	1	1	1								
TBio2114	" "	"	1100		1	✓				1													

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:
	10/2/14	1530					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					10/2/14	1000	

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

See reverse side for Container Preservative and Sampling Information

COOLER RECEIPT FORM

ARF: 74701

1) Project: 749435 Red Hill TO 0068 Date Received: 10/22/14

2) Coolers: Number of Coolers: 1

3) YES Were custody seals present and intact?
How many? 2 Name/Date on seal? See below

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

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

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use A39267

8) Cooler temp(s): In °C
1: 2.5 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) Yes Was the pH taken of all non-VOA preserved samples and written on the sample container?

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

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

22) Yes Were unpreserved VOA Vials received? RS 10/24/14

23) YES/NA Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
YL 10/24/14 pH strip lot number: ____
Lab notified if pH was not adequate: ____

Notes/Deficiencies:

CUSTODY SEAL
APPL, Inc.
(559) 275-2175
Initials SH
Date 10/24/14

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

Chain of Custody

ARF: 74701

Client: Parsons
ATTN: Gene Wright
Project: 749435 Red Hill TO 0068
PO: PO#434917

Container	Moved To	Date - Time	User Name	Reason For Move
Sample Number: AZ05593	**Client ID: RHMW06-GW-01**			
W01	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
	VOA-LOKI	10/26/2014 12:53:21	Gokal, Dipti	VOA Key -> Dipti Gokal
W02	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
	Extraction	10/27/2014 15:22:37	Caballero, Irvin	Key #3 -> Irvin Caballero Extraction/Spen
W03	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
	pH_Test	10/28/2014 16:28:13	Saldana, Regina	pH Verification: pH = 6 (lot HC412469)
W04	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
W05	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
W06	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
	pH_Test	11/12/2014 10:14:25	Gokal, Dipti	pH Verification: pH = 6 (lot HC4133032)
W07	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
	Extraction	10/27/2014 15:22:38	Caballero, Irvin	Key #3 -> Irvin Caballero Extraction/Spen
W08	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
W09	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
	pH_Test	11/12/2014 10:15:12	Gokal, Dipti	pH Verification: pH = 6 (lot HC4133032)
W10	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
	Extraction	10/27/2014 15:22:36	Caballero, Irvin	Key #3 -> Irvin Caballero Extraction/Spen
W11	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
W12	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
	Extraction	10/27/2014 15:22:33	Caballero, Irvin	Key #3 -> Irvin Caballero Extraction/Spen
W13	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
	Extraction	10/27/2014 15:22:36	Caballero, Irvin	Key #3 -> Irvin Caballero Extraction/Spen
W14	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
W15	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
	pH_Test	11/12/2014 10:13:16	Gokal, Dipti	pH Verification: pH = 2 (lot HC4133032)
W16	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
W17	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
W18	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
W19	D-Yellow	10/22/2014 10:00:00	Moua, Chue	Container Received
W20	D-Yellow	10/22/2014 10:00:00	Moua, Chue	Container Received
W21	D-Yellow	10/22/2014 10:00:00	Moua, Chue	Container Received
W22	D-Yellow	10/22/2014 10:00:00	Moua, Chue	Container Received
W23	D-Yellow	10/22/2014 10:00:00	Moua, Chue	Container Received
W24	D-Yellow	10/22/2014 10:00:00	Moua, Chue	Container Received
W25	D-Yellow	10/22/2014 10:00:00	Moua, Chue	Container Received

Chain of Custody

ARF: 74701

Client: Parsons
ATTN: Gene Wright
Project: 749435 Red Hill TO 0068
PO: PO#434917

Container	Moved To	Date - Time	User Name	Reason For Move
W26	D-Yellow	10/22/2014 10:00:00	Moua, Chue	Container Received
W27	D-Yellow	10/22/2014 10:00:00	Moua, Chue	Container Received
W28	D-Yellow	10/22/2014 10:00:00	Moua, Chue	Container Received
	Wetlab	11/04/2014 12:17:23	Parmeter, Aileen	Key #7 -> Aileen Parmeter
	D - Yellow	11/04/2014 13:36:24	Parmeter, Aileen	Aileen Parmeter -> Key #7
	Wetlab	11/05/2014 11:23:11	Parmeter, Aileen	Key #7 -> Aileen Parmeter
	Spent	11/05/2014 15:18:20	Parmeter, Aileen	Aileen Parmeter -> Key #7
W29	D-Yellow	10/22/2014 10:00:00	Moua, Chue	Container Received
	Wetlab	11/04/2014 12:17:26	Parmeter, Aileen	Key #7 -> Aileen Parmeter
	D - Yellow	11/04/2014 13:36:28	Parmeter, Aileen	Aileen Parmeter -> Key #7
	Wetlab	11/05/2014 11:23:08	Parmeter, Aileen	Key #7 -> Aileen Parmeter
	D - Yellow	11/05/2014 15:18:08	Parmeter, Aileen	Aileen Parmeter -> Key #7
W30	D-Yellow	10/22/2014 10:00:00	Moua, Chue	Container Received
W31	D-Yellow	10/22/2014 10:00:00	Moua, Chue	Container Received
W32	D-Yellow	10/22/2014 10:00:00	Moua, Chue	Container Received
	Wetlab	10/28/2014 11:19:56	Mehlman, Moriah	Key #7 -> Moriah Mehlman
	D - Yellow	10/28/2014 16:25:24	Mehlman, Moriah	Moriah Mehlman -> Key #7
	Wetlab	11/03/2014 14:09:21	Bulnes, Briana	Key #7 -> Briana Bulnes
	D - Yellow	11/03/2014 14:53:59	Bulnes, Briana	Briana Bulnes -> Key #7
W33	D-Yellow	10/22/2014 10:00:00	Moua, Chue	Container Received
	Wetlab	11/03/2014 10:58:06	Mehlman, Moriah	Key #7 -> Moriah Mehlman
	D - Yellow	11/03/2014 16:32:11	Kusumo, Cecilia	Moriah Mehlman -> Key #7
W34	R-OrangeYellow	10/22/2014 10:00:00	Moua, Chue	Container Received
W35	R-OrangeYellow	10/22/2014 10:00:00	Moua, Chue	Container Received
	Metals	11/05/2014 10:42:36	Moreyda, Nick	Key #2 -> Nick Moreyda
	R - OrangeYell	11/05/2014 12:04:40	Moreyda, Nick	Nick Moreyda -> Key #2
W36	R-OrangeYellow	10/22/2014 10:00:00	Moua, Chue	Container Received

Sample Number: AZ05594 Client ID: TB102114

W01	VOA_Frig	10/22/2014 10:00:00	Moua, Chue	Container Received
	VOA-LOKI	10/26/2014 12:53:22	Gokal, Dipti	VOA Key -> Dipti Gokal

8011
for
DBCP & EDB Fumigants

APPL, INC.

8011
for
DBCP & EDB Fumigants
QC Summary

APPL, INC.

Method Blank
EPA 8011

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **141027W-05593 - 191515**
Batch ID: #8011-141027A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DBCP	0.019 U	0.02	0.019	0.007	ug/L	10/27/14	10/30/14
BLANK	EDB	0.020 U	0.02	0.020	0.010	ug/L	10/27/14	10/30/14
BLANK	SURROGATE: 1,3-DIBROMOPRO	99.0	70-132			%	10/27/14	10/30/14

Quant Method:80111027.M
Run #:1022112
Instrument:Herbie
Sequence:141022
Initials:MA

GC SC-Blank-REG MDLs
Printed: 11/14/14 3:19:27 PM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 74701

Case No: 74701 Date Analyzed: 10/30/14

Matrix: WATER Instrument: Herbie

APPL ID.	Client Sample No.	SURROGATE: 1,3-DIBROMOPROPANE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
141027A-BLK	Blank	70-132	99.0				
141027A-LCS	Lab Control Spike	70-132	104				
AZ05593-MS	Matrix Spike	70-132	101				
AZ05593-MSD	Matrix SpikeD	70-132	101				
AZ05593	RHMW06-GW-01	70-132	97.6				

Comments: Batch: #8011-141027A

Laboratory Control Spike Recovery

EPA 8011

APPL ID: **141027W-05593 LCS - 191515**
Batch ID: #8011-141027A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DBCP	0.482	0.507	105	60-140
EDB	0.482	0.491	102	60-140
SURROGATE: 1,3-DIBROMOPROPANE (	0.350	0.364	104	70-132

Comments: _____

Primary	SPK
Quant Method :	80111027.M
Extraction Date :	10/27/14
Analysis Date :	10/30/14
Instrument :	Herbie
Run :	1022114
Initials :	MA

Printed: 11/14/14 3:19:29 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8011

APPL ID: **141027W-05593 MS - 191515**
Batch ID: #8011-141027A
Sample ID: AZ05593
Client ID: RHMW06-GW-01

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DBCP	0.482	ND	0.497	0.519	103	108	60-140	4.3	25
EDB	0.482	ND	0.470	0.486	97.5	101	60-140	3.3	25
SURROGATE: 1,3-DIBROMOPROPANE (	0.350	NA	0.353	0.352	101	101	70-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	80111027.M	80111027.M
Extraction Date :	10/27/14	10/27/14
Analysis Date :	10/30/14	10/30/14
Instrument :	Herbie	Herbie
Run :	1022120	1022121
Initials :	MA	

Printed: 11/14/14 3:19:42 PM
APPL MSD SCII

8011

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 74701

Case No: 74701 Date Analyzed: 10/30/14

Matrix: WATER Instrument: Herbie

Blank ID: 141027A-BLK Time Analyzed: 1235

APPL ID.	Client Sample No.	File ID.	Date Analyzed
141027A-BLK	Blank	1022112	10/30/14 1235
141027A-LCS	Lab Control Spike	1022114	10/30/14 1316
141027A-MS	Matrix Spike	1022120	10/30/14 1518
141027A-MSD	Matrix SpikeD	1022121	10/30/14 1539
AZ05593	RHMW06-GW-01	1022122	10/30/14 1559

Comments: Batch: #8011-141027A

Printed: 11/14/14 3:19:48 PM
Form 4, Blank Summary

8011
for
DBCP & EDB Fumigants
Sample Data

APPL, INC.

EPA 8011

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright
Project: 749435 Red Hill TO 0068
Sample ID: RHMW06-GW-01
Sample Collection Date: 10/21/14

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 74701
APPL ID: AZ05593
QCG: #8011-141027A-191515

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	DBCP	0.019 U	0.02	0.019	0.007	ug/L	10/27/14	10/30/14
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	10/27/14	10/30/14
8011	SURROGATE: 1,3-DIBROMOPROPANE	97.6	70-132			%	10/27/14	10/30/14

Quant Method: 80111027.M
Run #: 1022122
Instrument: Herbie
Sequence: 141022
Dilution Factor: 1
Initials: MA

Printed: 11/14/14 3:19:49 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022122.D\ECD1A.CH Vial: 22
Signal #2 : G:\HERBIE\DATA\141022\1022122.D\ECD2B.CH
Acq On : 10-30-14 15:59:46 Operator: MA
Sample : AZ05593W10 2/34.54G Inst : Herbie
Misc : soil Multiplr: 1.01
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

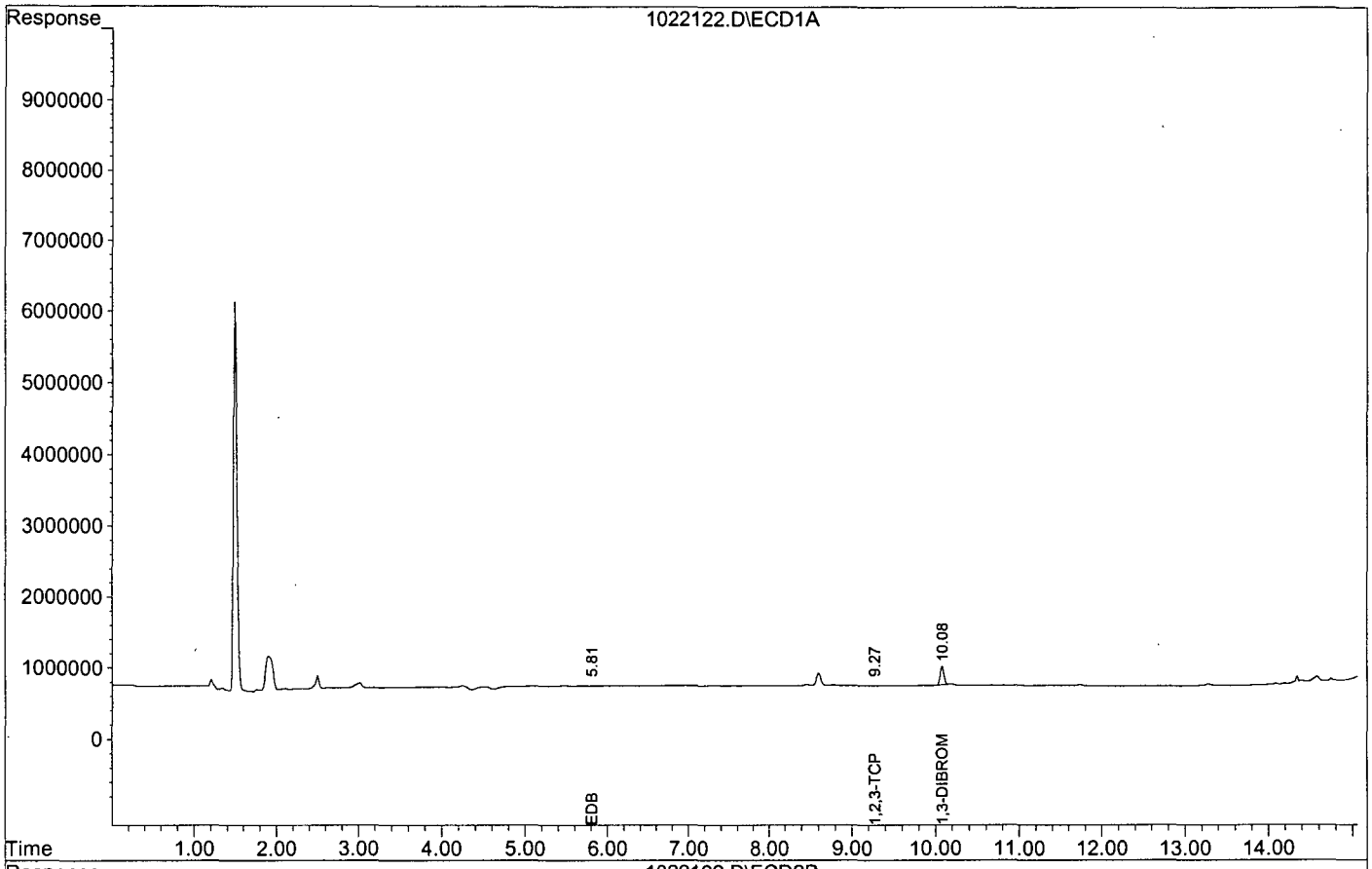
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	System Monitoring Compounds							
3) S	1,3-DIBROMOPROPA	10.08	11.11	257069	343454	0.346	0.348	
Spiked Amount	0.355			Recovery	=	97.56%	98.12%	
	Target Compounds							
1) TM	EDB	5.81	0.00	1263	0	0.001	N.D.	#
2) TM	1,2,3-TCP	9.27	0.00	483	0	0.003	N.D.	#
4) TM	DBCP	0.00	14.11	0	1682	N.D.	0.000	#

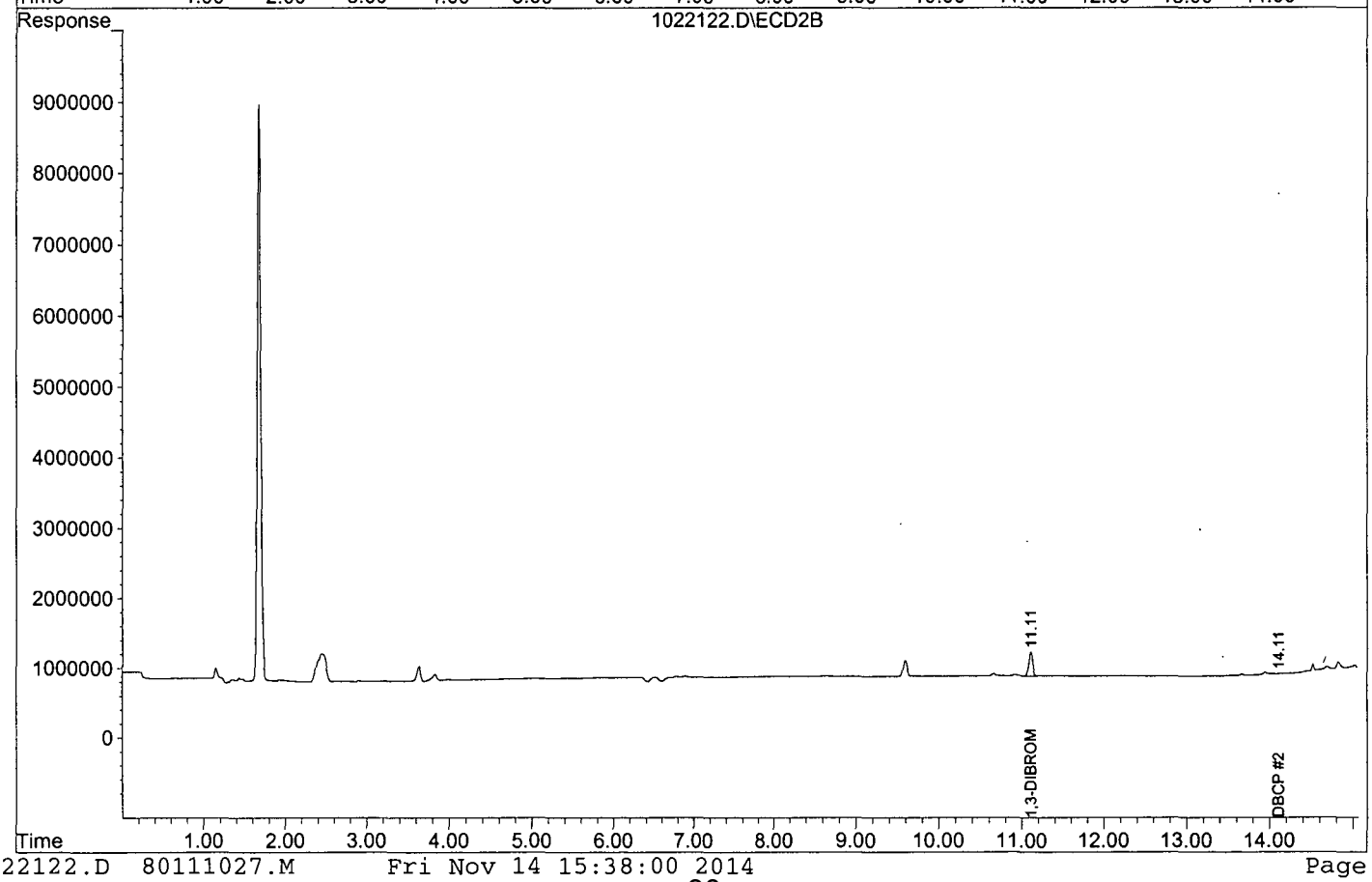
Target Compounds

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022122.D Vial: 22
Acq On : 10-30-14 15:59:46 Operator: MA
Sample : AZ05593W10 2/34.54G Inst : Herbie
Misc : soil Multiplr: 1.01
Quant Method : G:\HERBIE\DATA\141022\80111027.M





8011
for
DBCP & EDB Fumigants
Calibration Data

APPL, INC.

DBCP/EDB/1,2,3-TCP Analysis by
504 8011 1027

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 74701
Case No: Initial Cal. Date: 10/30/14
Matrix: Soil Instrument: Herbie Initials: MA

			1022106.D	1022107.D	1022108.D	1022109.D	1022110.D	1022111.D								
		Compound	1	2	3	4	5	6					Avg	%RSD		
1	TM	EDB	595765	547208	481543	479920	452904	437705					499174	12	TM	
2	TM	1,2,3-TCP	47118	112491	102571	104225	102452	98076					94489	25	TM	NT
3	S	1,3-DIBROMOPROPANE(S)	432382	417897	364507	363434	348947	334319					376914	10	S	
4	TM	DBCP	1446588	1276064	1188817	1204223	1179283	1158534					1242251	8.7	TM	
5		Signal #2														
6	TM	EDB #2	855176	796248	727444	754469	723203	700367					759485	7.5	TM	
7	TM	1,2,3-TCP #2	33412	152616	139687	139903	135633	130487					121956	36	TM	NT
8	S	1,3-DIBROMOPROPANE(S) #2	519235	542629	489701	494323	486242	466663					499799	5.4	S	
9	TM	DBCP #2	2186294	2340950	2153601	2312769	2302967	2293735					2265053	3.4	TM	
10																
11																
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3.1029252

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022106.D\ECD1A.CH Vial: 6
Signal #2 : G:\HERBIE\DATA\141022\1022106.D\ECD2B.CH
Acq On : 10-30-14 10:34:12 Operator: MA
Sample : 8011-1 10/27/14 2/33.04G Inst : Herbie
Misc : soil Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:32 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	System Monitoring Compounds							
3) S	1,3-DIBROMOPROPA	10.08	11.11	14701	17654	0.020	0.018	
Spiked Amount	0.350			Recovery	=	5.71%	5.14%	
	Target Compounds							
1) TM	EDB	5.83	7.28	20256	29076	0.020	0.019	
2) TM	1,2,3-TCP	9.30	10.51	1602	1136	0.008	0.005	#
4) TM	DBCP	13.40	14.13	49184	74334	0.020	0.016	

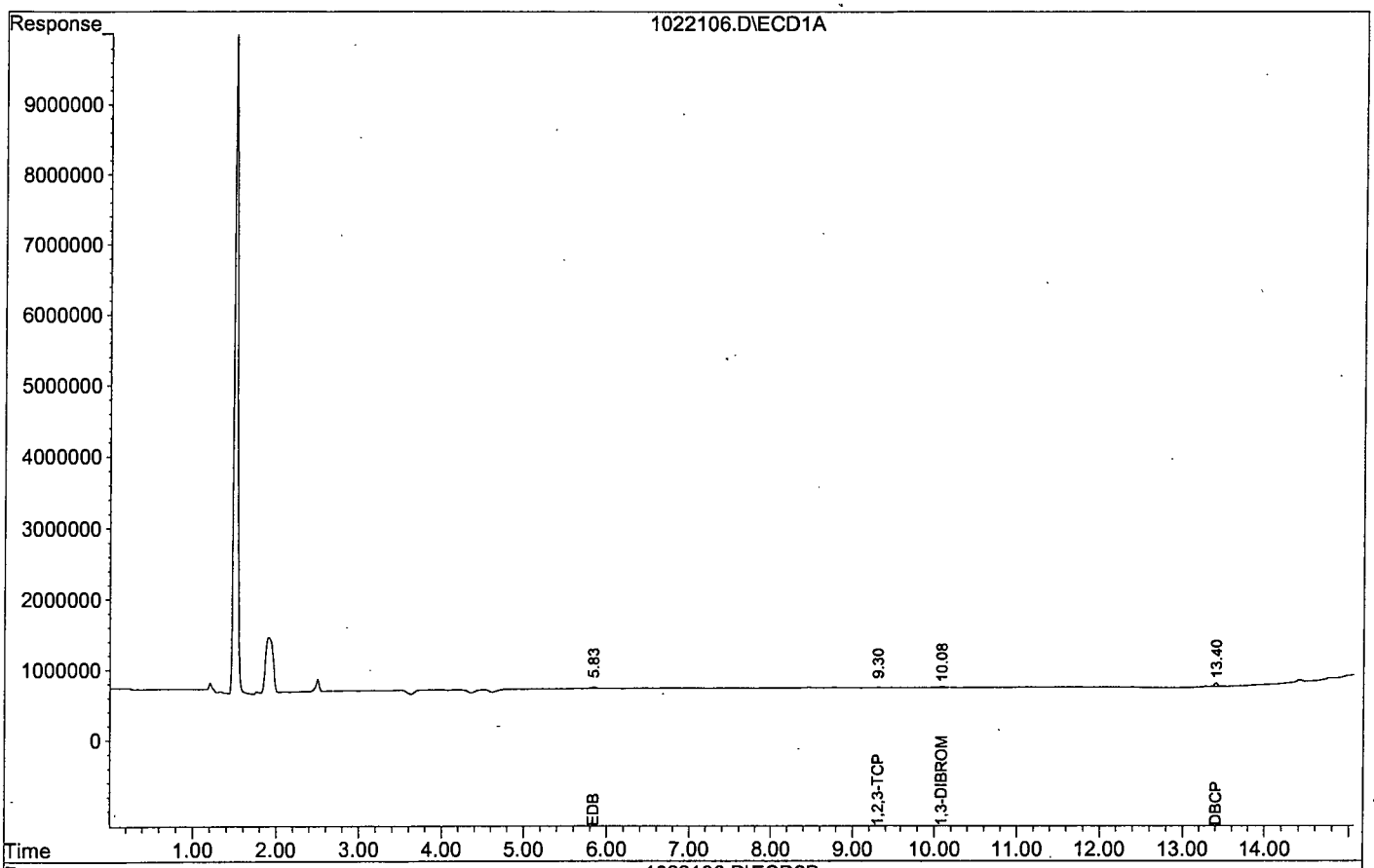
Target Compounds

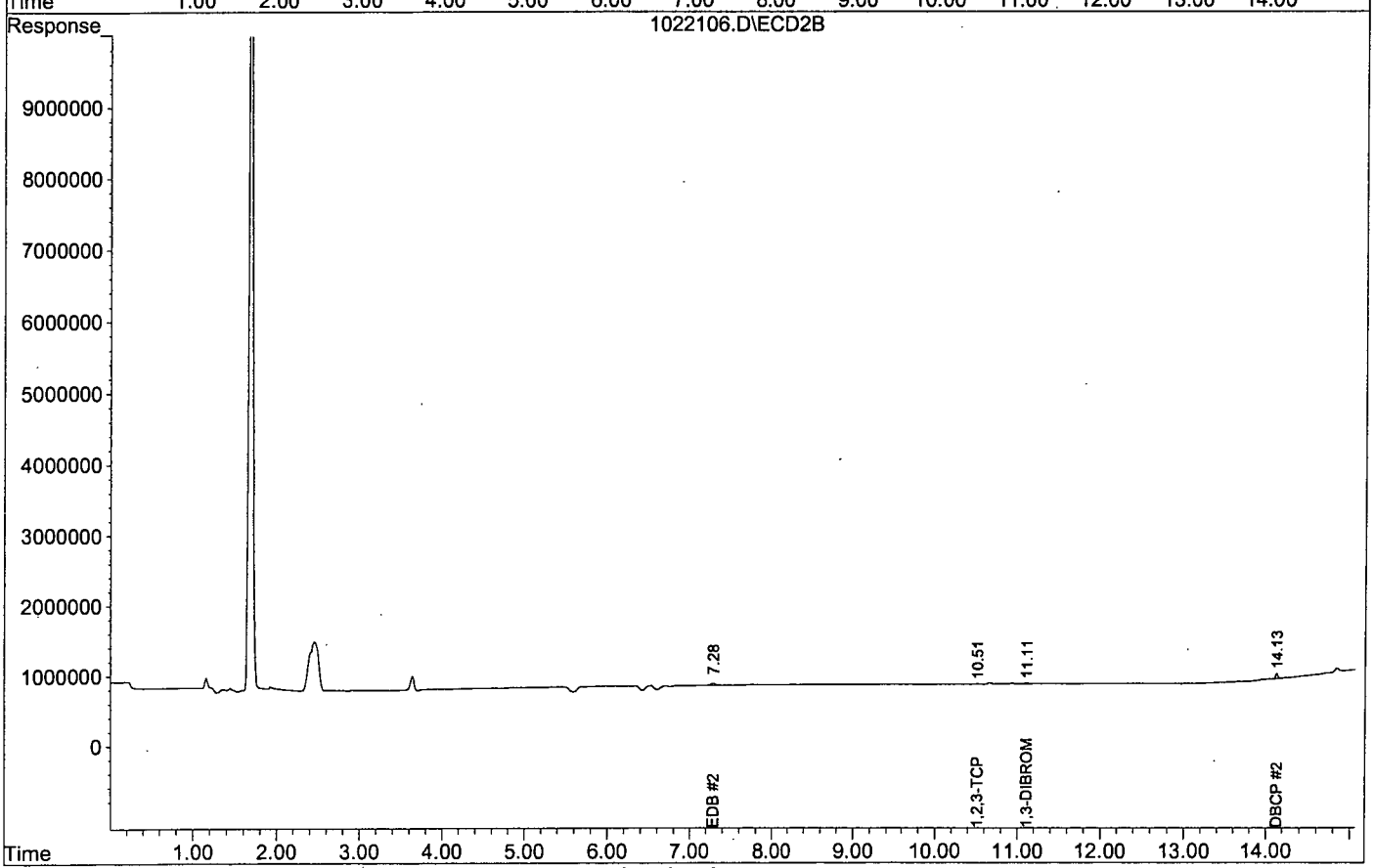
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022106.D
Acq On : 10-30-14 10:34:12
Sample : 8011-1 10/27/14 2/33.04G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 6
Operator: MA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022107.D\ECD1A.CH Vial: 7
Signal #2 : G:\HERBIE\DATA\141022\1022107.D\ECD2B.CH
Acq On : 10-30-14 10:54:24 Operator: MA
Sample : 8011-2 10/27/14 2/33.31G Inst : Herbie
Misc : soil Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:32 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

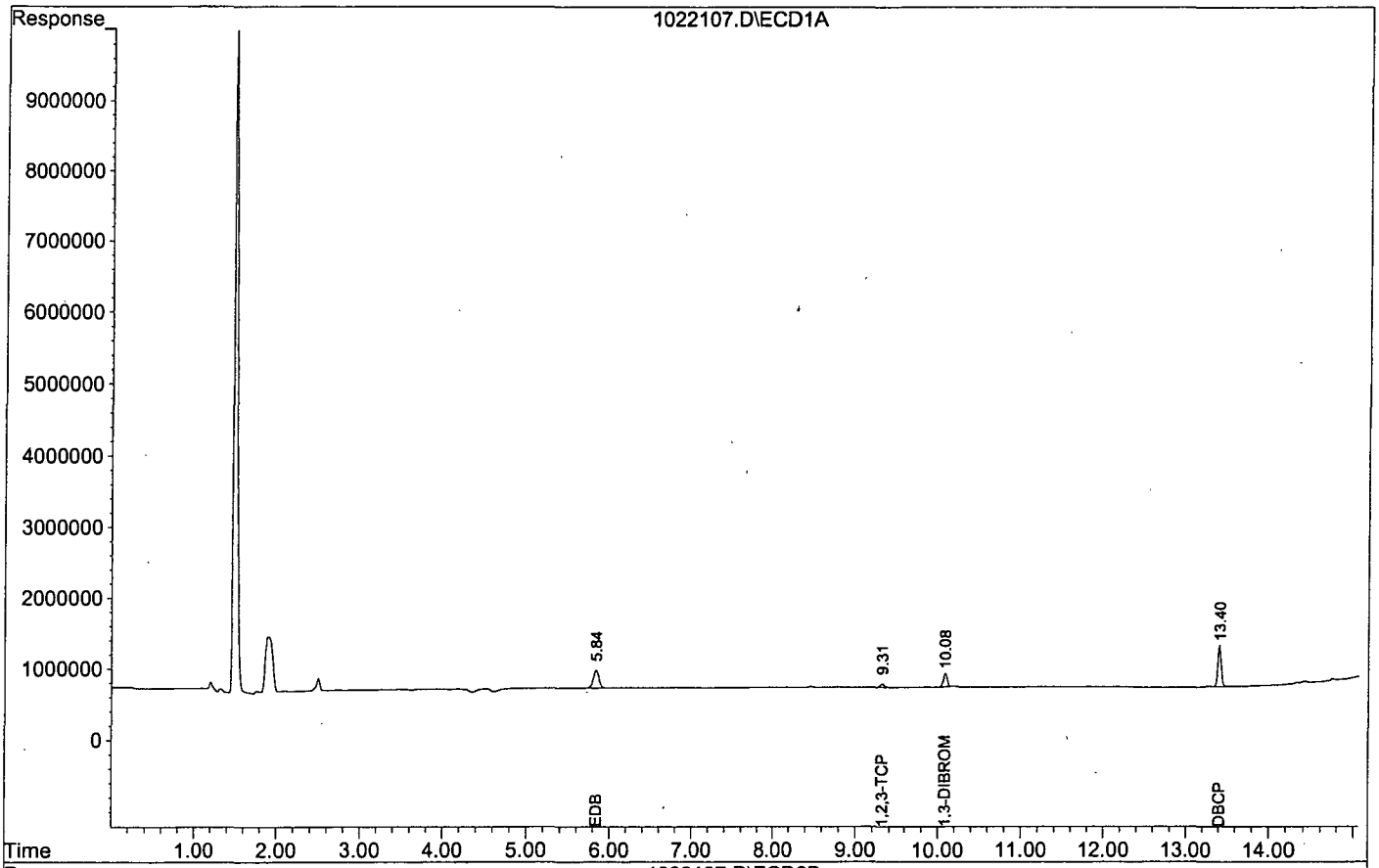
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.10	190561	247439	0.253	0.248
Spiked Amount	0.350			Recovery	=	72.29%	70.86%
	Target Compounds						
1) TM	EDB	5.84	7.28	249527	363089	0.250	0.239
2) TM	1,2,3-TCP	9.31	10.51	51296	69593	0.271	0.285
4) TM	DBCP	13.40	14.13	581885	1067473	0.234	0.236

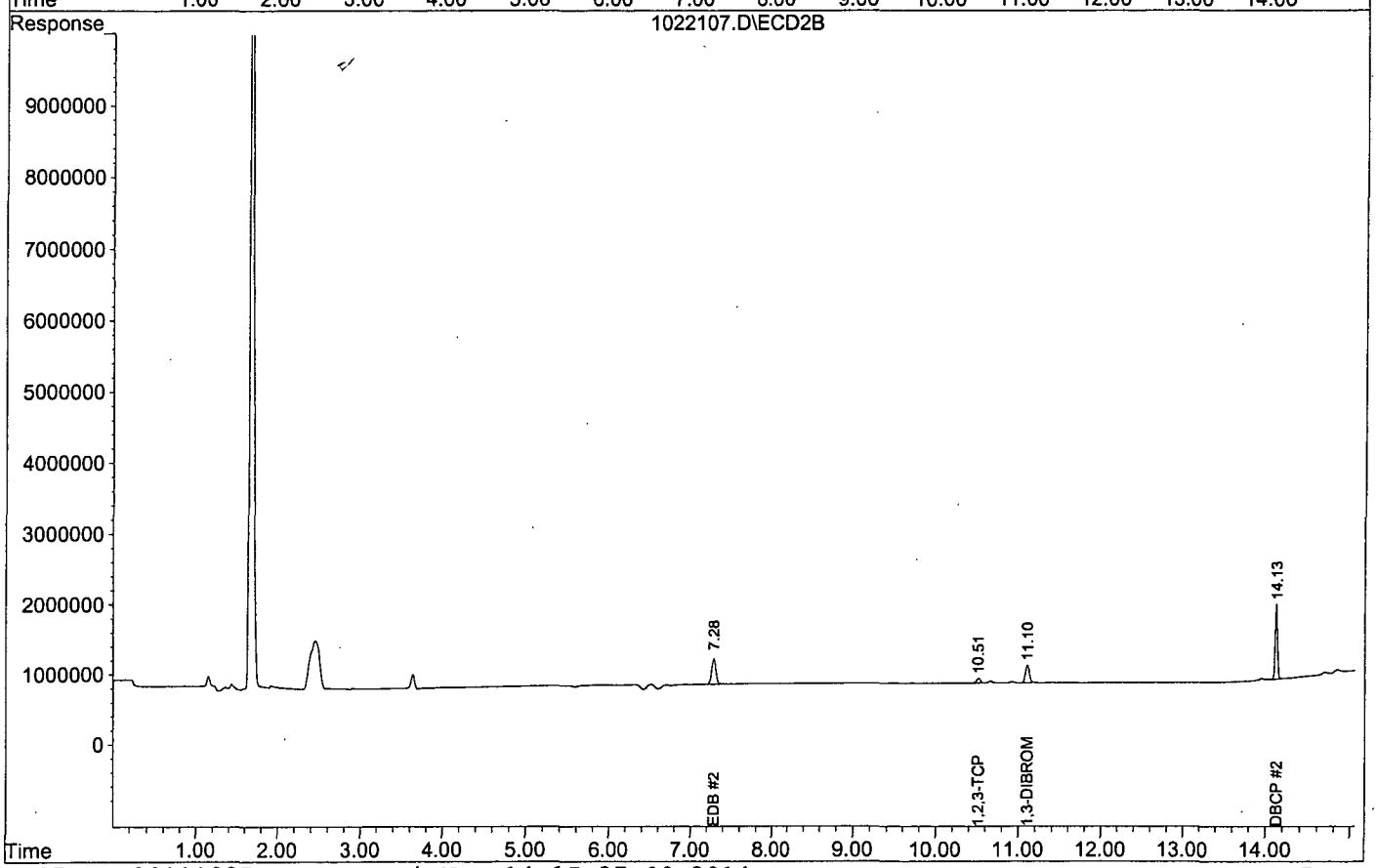
Target Compounds

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022107.D Vial: 7
Acq On : 10-30-14 10:54:24 Operator: MA
Sample : 8011-2 10/27/14 2/33.31G Inst : Herbie
Misc : soil Multiplr: 1.00
Quant Method : G:\HERBIE\DATA\141022\80111027.M





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022108.D\ECD1A.CH Vial: 8
Signal #2 : G:\HERBIE\DATA\141022\1022108.D\ECD2B.CH
Acq On : 10-30-14 11:14:47 Operator: MA
Sample : 8011-3 10/27/14 2/32.25G Inst : Herbie
Misc : soil Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.11	333159	447587	0.442	0.448
	Spiked Amount 0.350			Recovery	=	126.29%	128.00%
	Target Compounds						
1) TM	EDB	5.84	7.29	440130	664884	0.441	0.438
2) TM	1,2,3-TCP	9.31	10.51	93750	127674	0.496	0.523
4) TM	DBCP	13.40	14.13	1086579	1968391	0.437	0.435

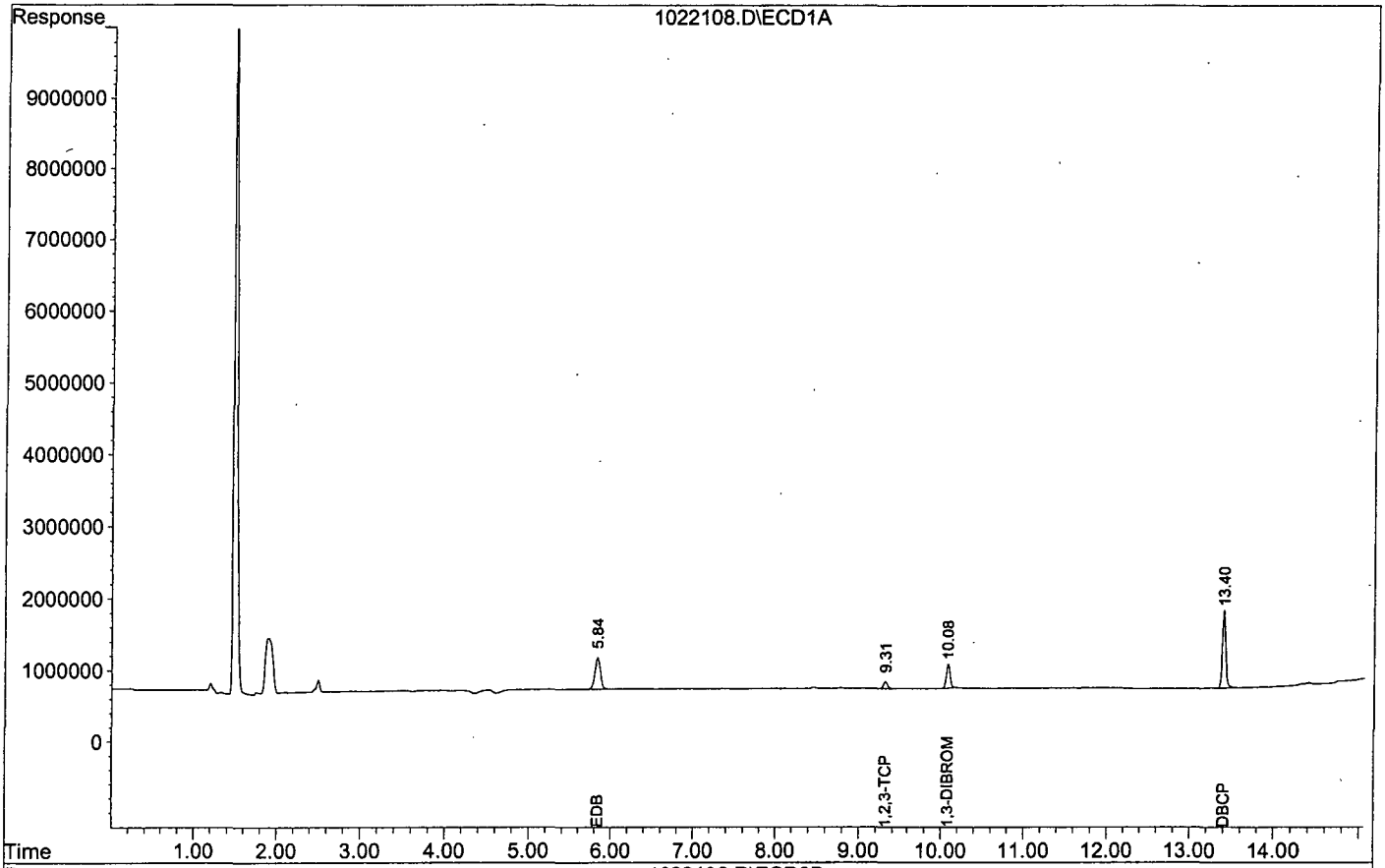
Target Compounds

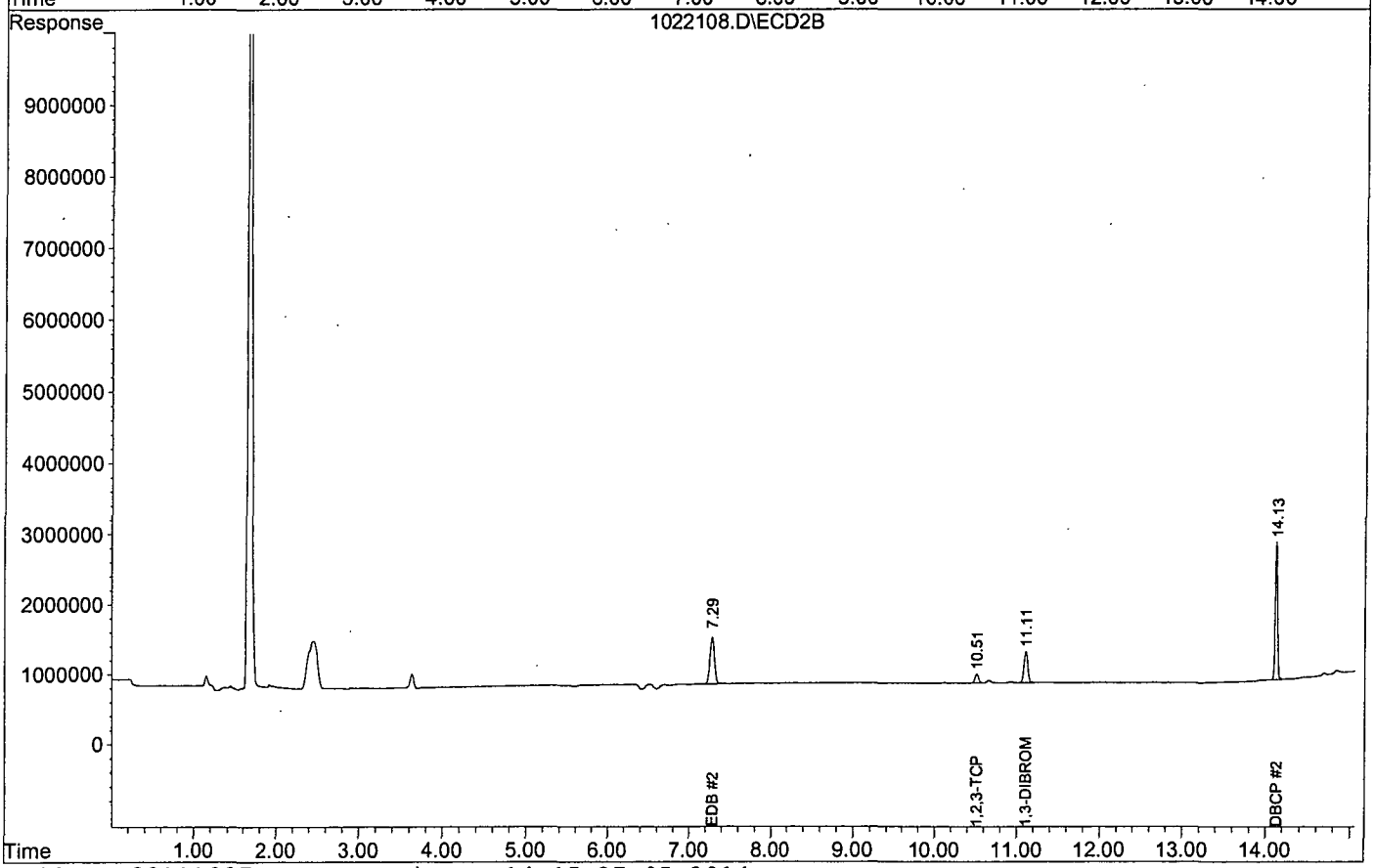
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022108.D
Acq On : 10-30-14 11:14:47
Sample : 8011-3 10/27/14 2/32.25G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 8
Operator: MA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022109.D\ECD1A.CH Vial: 9
Signal #2 : G:\HERBIE\DATA\141022\1022109.D\ECD2B.CH
Acq On : 10-30-14 11:35:01 Operator: MA
Sample : 8011-4 10/27/14 2/32.52G Inst : Herbie
Misc : soil Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

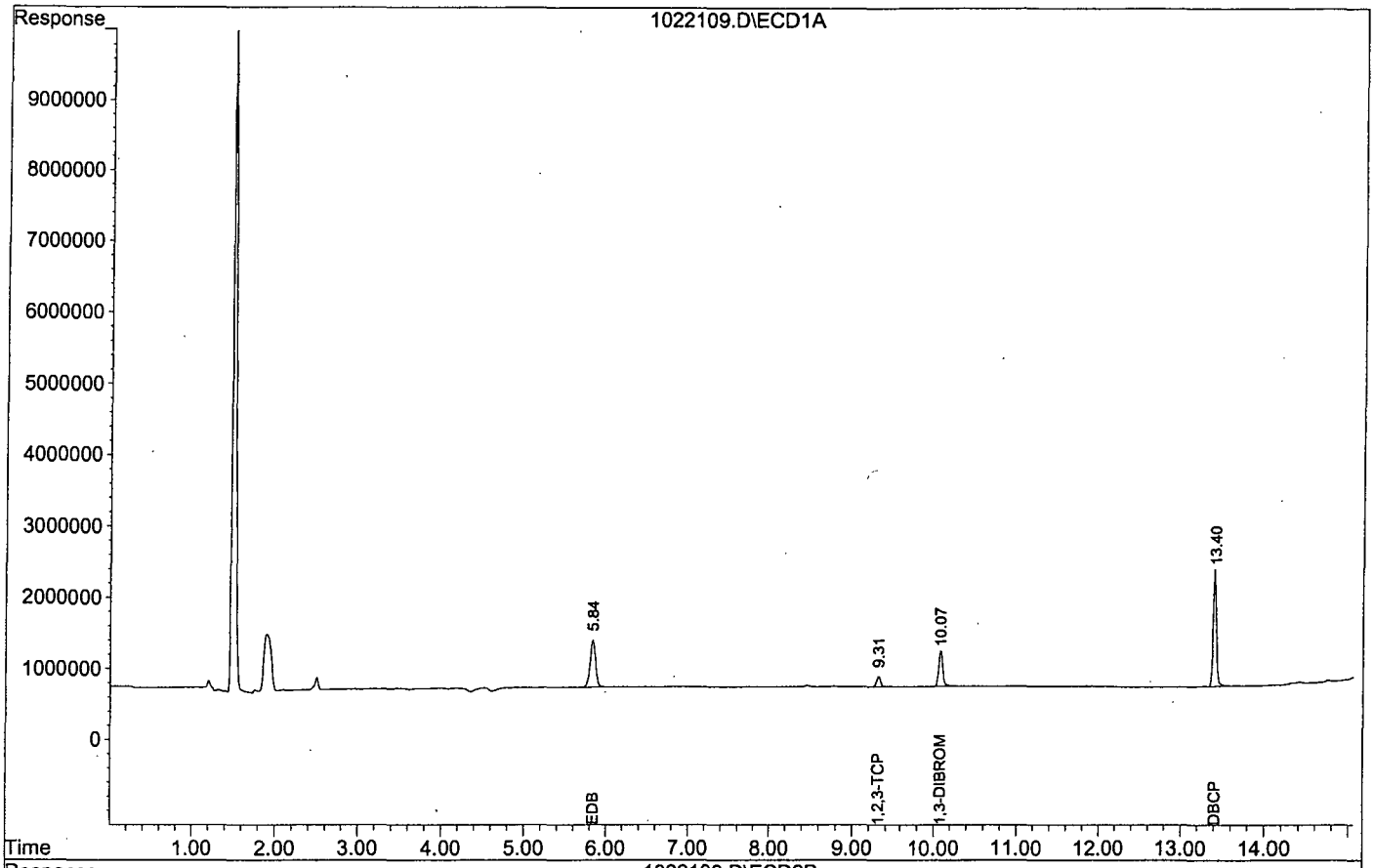
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.07	11.10	497904	677222	0.661	0.677
Spiked Amount	0.350			Recovery	=	188.86%	193.43%
	Target Compounds						
1) TM	EDB	5.84	7.28	657490	1033623	0.659	0.680
2) TM	1,2,3-TCP	9.31	10.51	142788	191667	0.756	0.786
4) TM	DBCP	13.40	14.13	1649785	3168494	0.664	0.699
	Target Compounds						

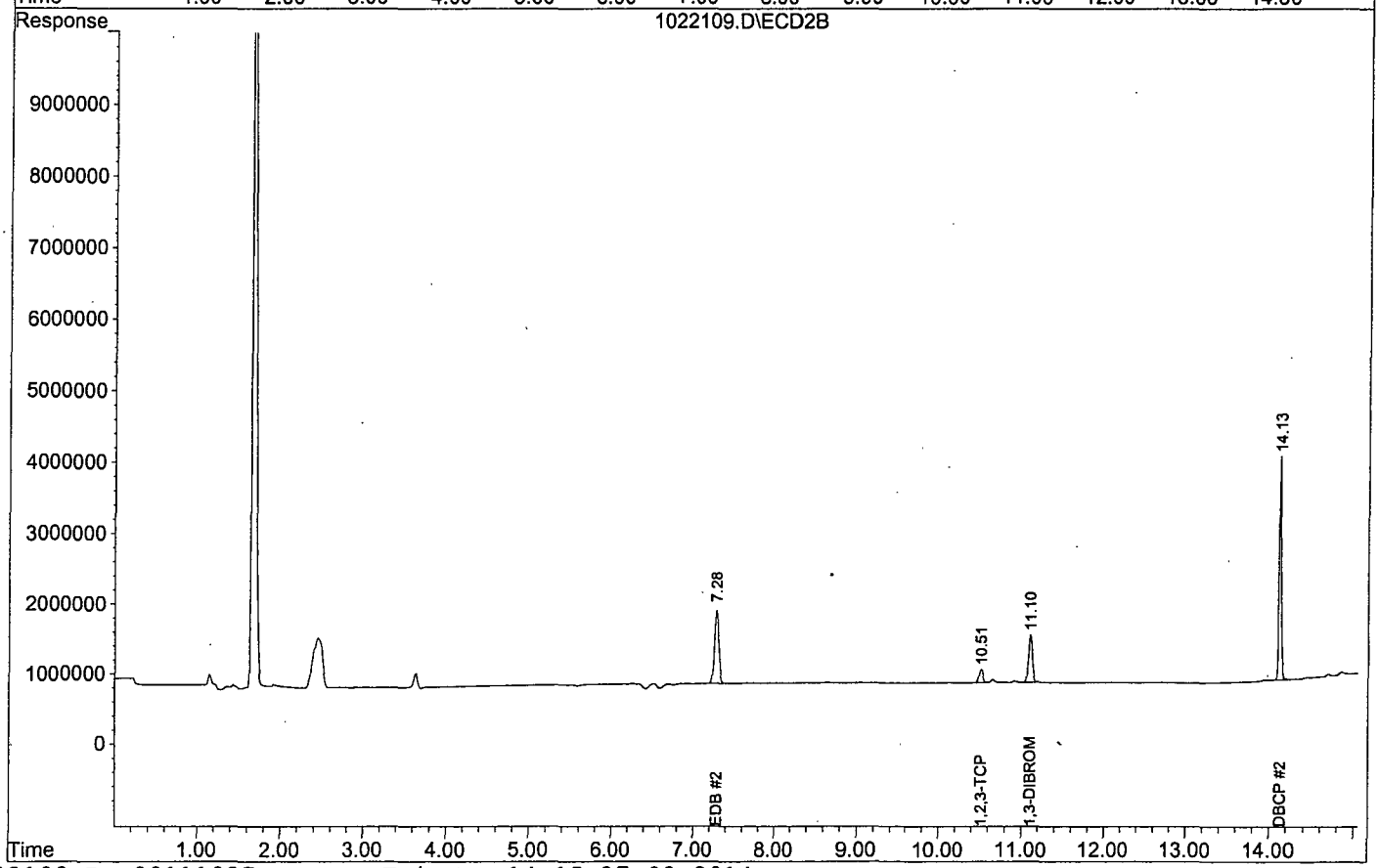
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022109.D
Acq On : 10-30-14 11:35:01
Sample : 8011-4 10/27/14 2/32.52G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 9
Operator: MA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022110.D\ECD1A.CH Vial: 10
Signal #2 : G:\HERBIE\DATA\141022\1022110.D\ECD2B.CH
Acq On : 10-30-14 11:55:17 Operator: MA
Sample : 8011-5 10/27/14 2/33.63G Inst : Herbie
Misc : soil Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.08	11.10	637875	888851	0.846	0.889
Spiked Amount 0.350			Recovery =		241.71%	254.00%
Target Compounds						
1) TM EDB	5.84	7.28	827908	1322015	0.829	0.870
2) TM 1,2,3-TCP	9.31	10.51	187282	247937	0.991	1.016
4) TM DBCP	13.40	14.13	2155730	4209824	0.868	0.929

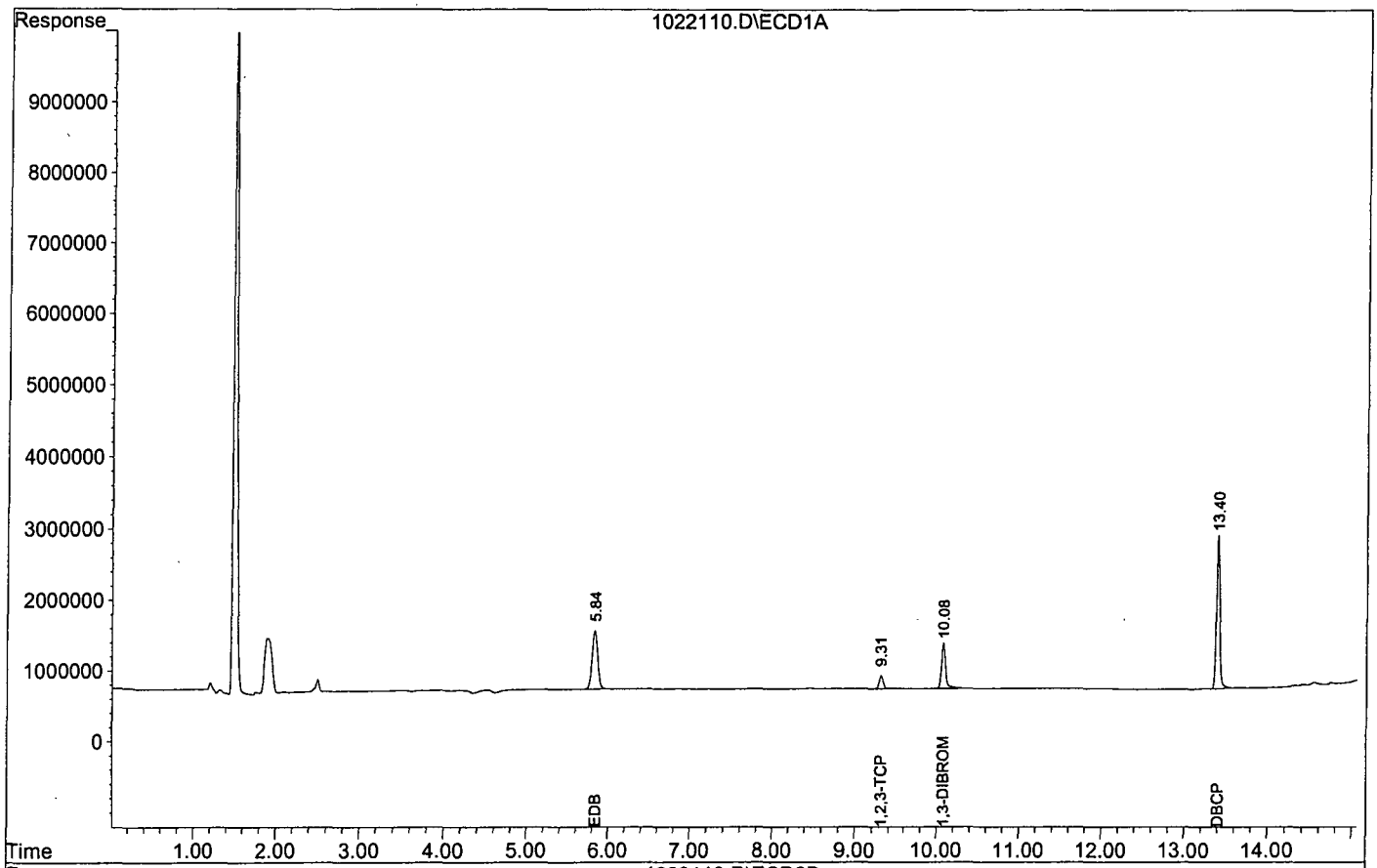
Target Compounds

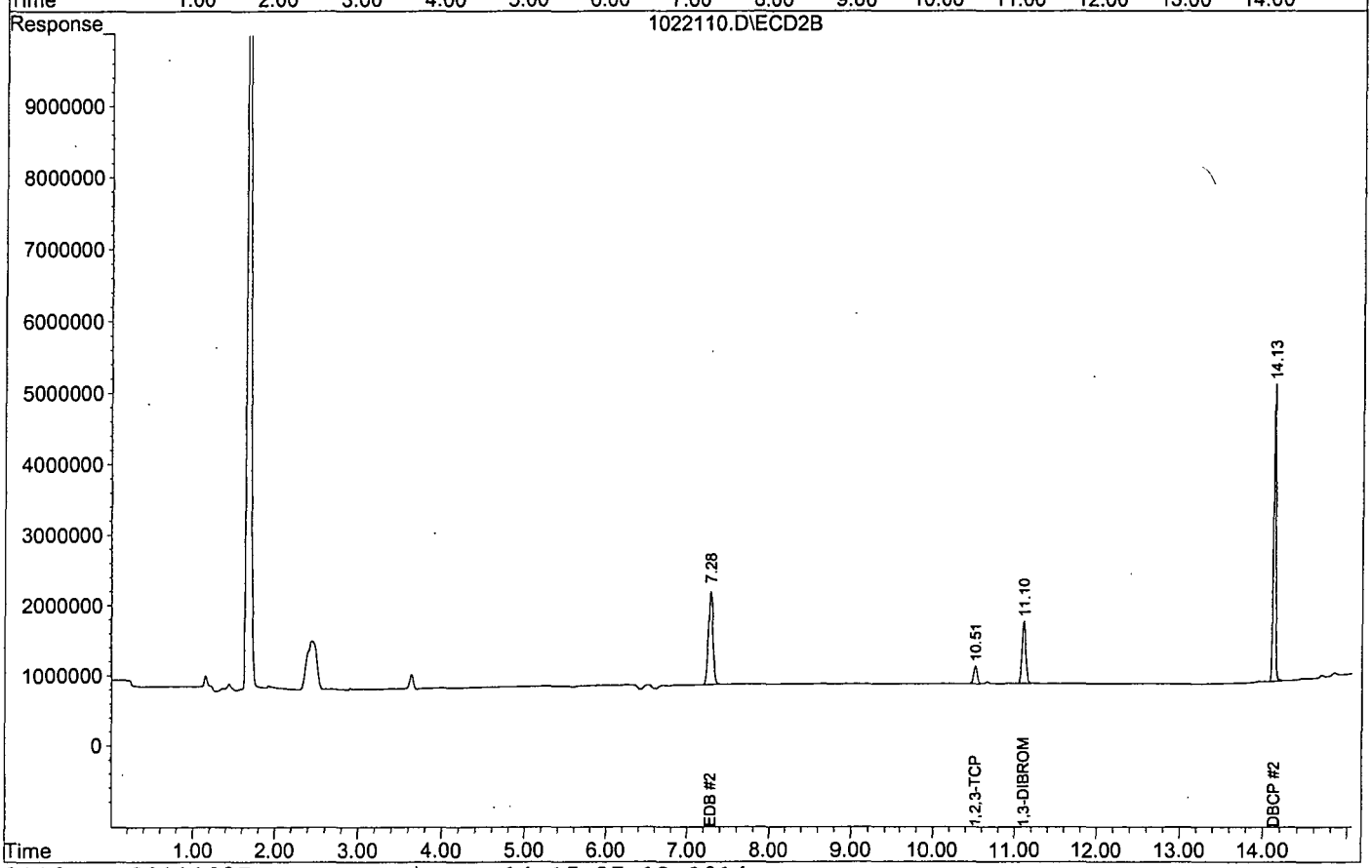
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022110.D
Acq On : 10-30-14 11:55:17
Sample : 8011-5 10/27/14 2/33.63G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 10
Operator: MA
Inst : Herbie
Multiplr: 1.00





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022111.D\ECD1A.CH Vial: 11
Signal #2 : G:\HERBIE\DATA\141022\1022111.D\ECD2B.CH
Acq On : 10-30-14 12:15:39 Operator: MA
Sample : 8011-6 10/27/14 2/31.65G Inst : Herbie
Misc : soil Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

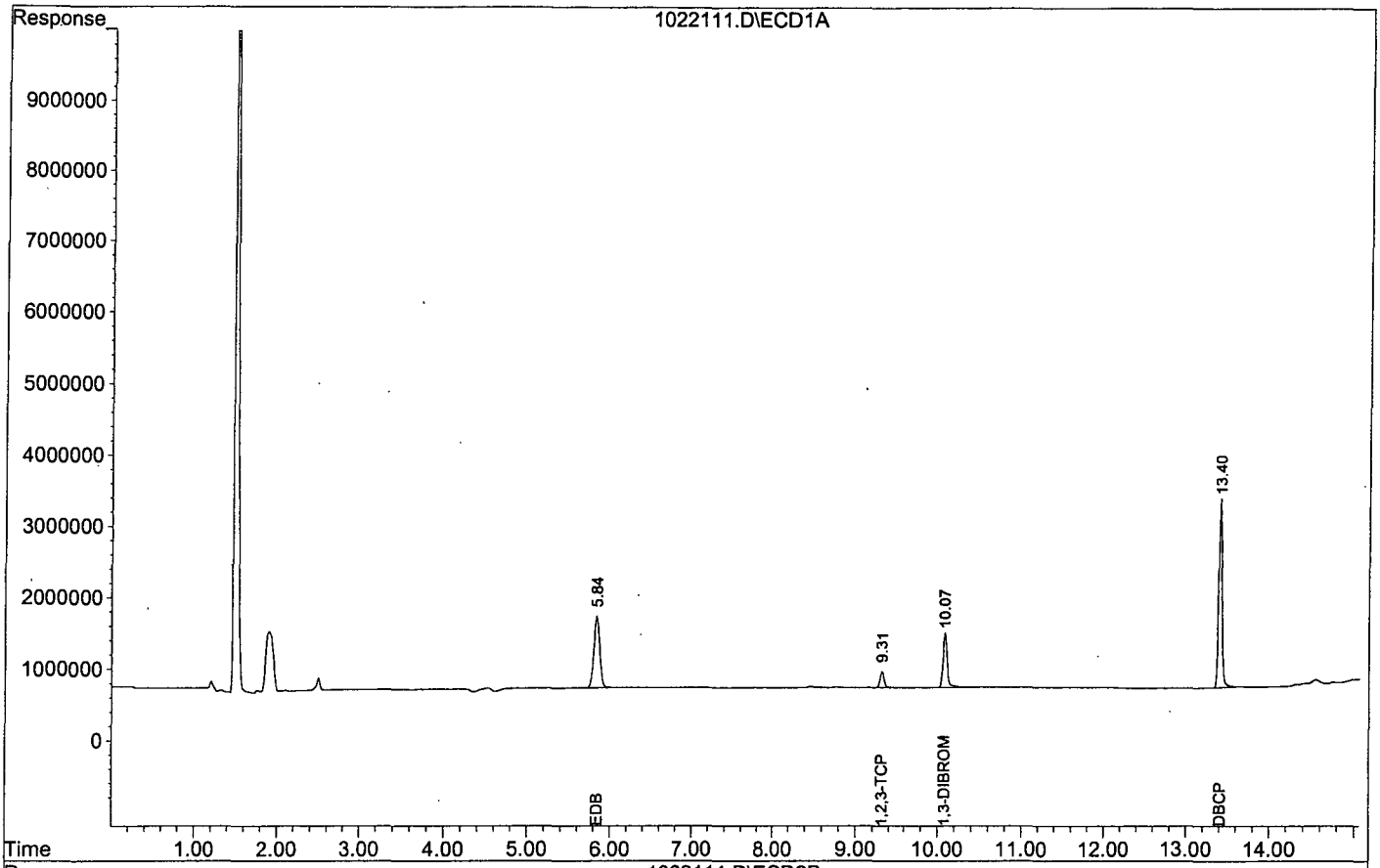
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.07	11.10	763585	1065858	1.013	1.066
	Spiked Amount 0.350			Recovery	=	289.43%	304.57%
	Target Compounds						
1) TM	EDB	5.84	7.28	999718	1599638	1.001	1.053
2) TM	1,2,3-TCP	9.31	10.51	224005	298032	1.185	1.222
4) TM	DBCP	13.40	14.13	2646091	5238891	1.065	1.156
	Target Compounds						

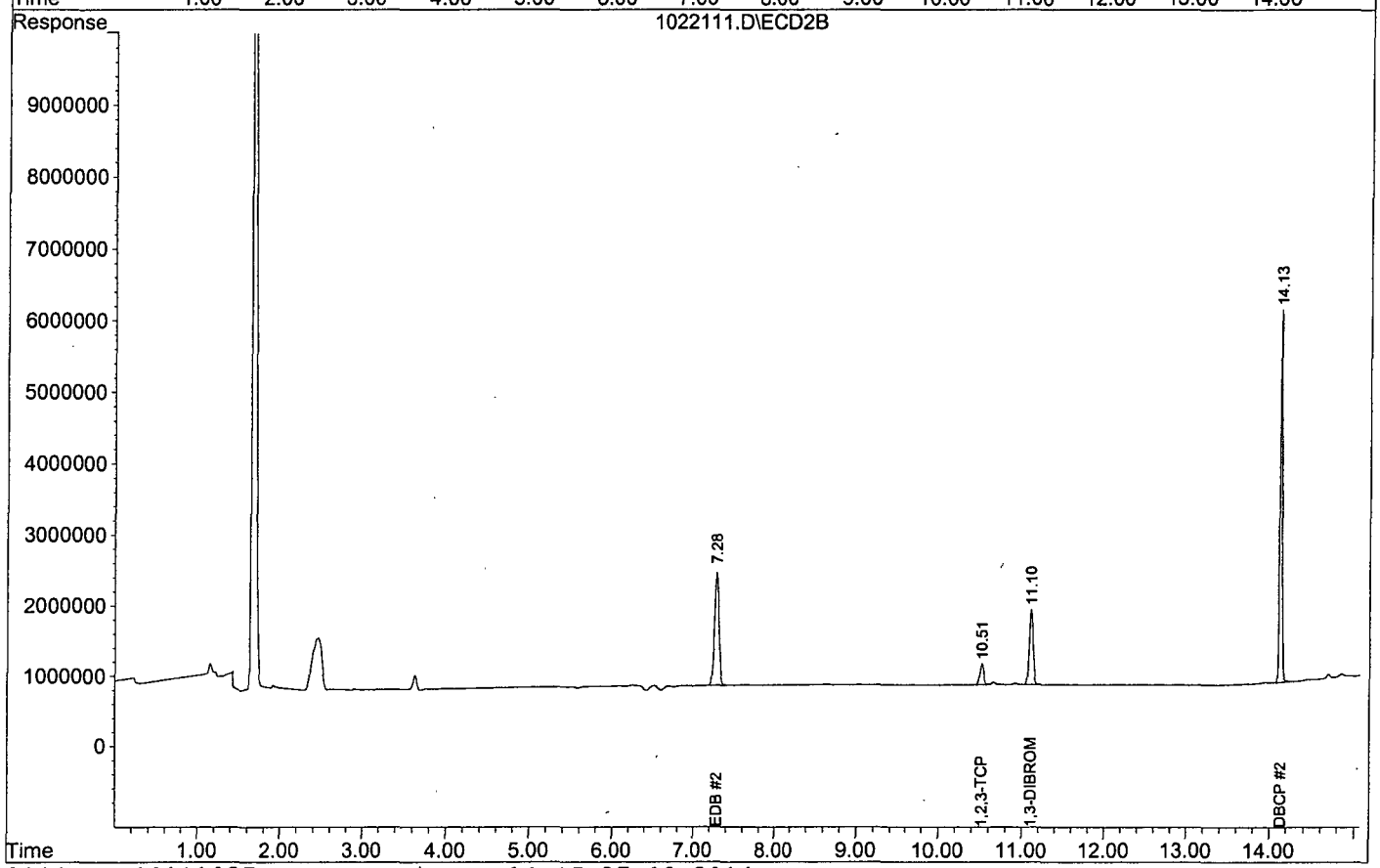
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022111.D
Acq On : 10-30-14 12:15:39
Sample : 8011-6 10/27/14 2/31.65G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 11
Operator: MA
Inst : Herbie
Multiplr: 1.00





DBCP/EDB/1,2,3-TCP Analysis by
8011 1027

Form 7

Second Source Calibration

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

SDG No: 14701
Date Analyzed: 10/30/14
Instrument: Herbie
Initial Cal. Date: 10/30/14
Data File: 1022114.D

		Compound	MEAN	CCRF	%D		%Drift	
1	TM	EDB	499174	505257	1.2	TM		
2	TM	1,2,3-TCP	94489	112004	19	TM		
	TM	DBCP	1242250	1297130	4.4	TM		
1	signal #2							
2	TM	EDB	759485	777221	2.3	TM		
3	TM	1,2,3-TCP	121956	151336	24	TM		*NT
4	TM	DBCP	2265050	2423580	7.0	TM		
5								
6								
7								
8								
9								
10								
11								
12								
13								
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22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
		Average			11.6			

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022114.D\ECD1A.CH Vial: 14
Signal #2 : G:\HERBIE\DATA\141022\1022114.D\ECD2B.CH
Acq On : 10-30-14 13:16:33 Operator: MA
Sample : 141027A LCS-2 2/32.96G Inst : Herbie
Misc : soil Multiplr: 1.06
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.11	258654	346347	0.364	0.368
Spiked Amount	0.372			Recovery	=	97.94%	99.01%
	Target Compounds						
1) TM	EDB	5.84	7.29	461805	710380	0.491	0.497
2) TM	1,2,3-TCP	9.31	10.51	102372	138321	0.575	0.602
4) TM	DBCP	13.40	14.13	1185573	2215148	0.507	0.519

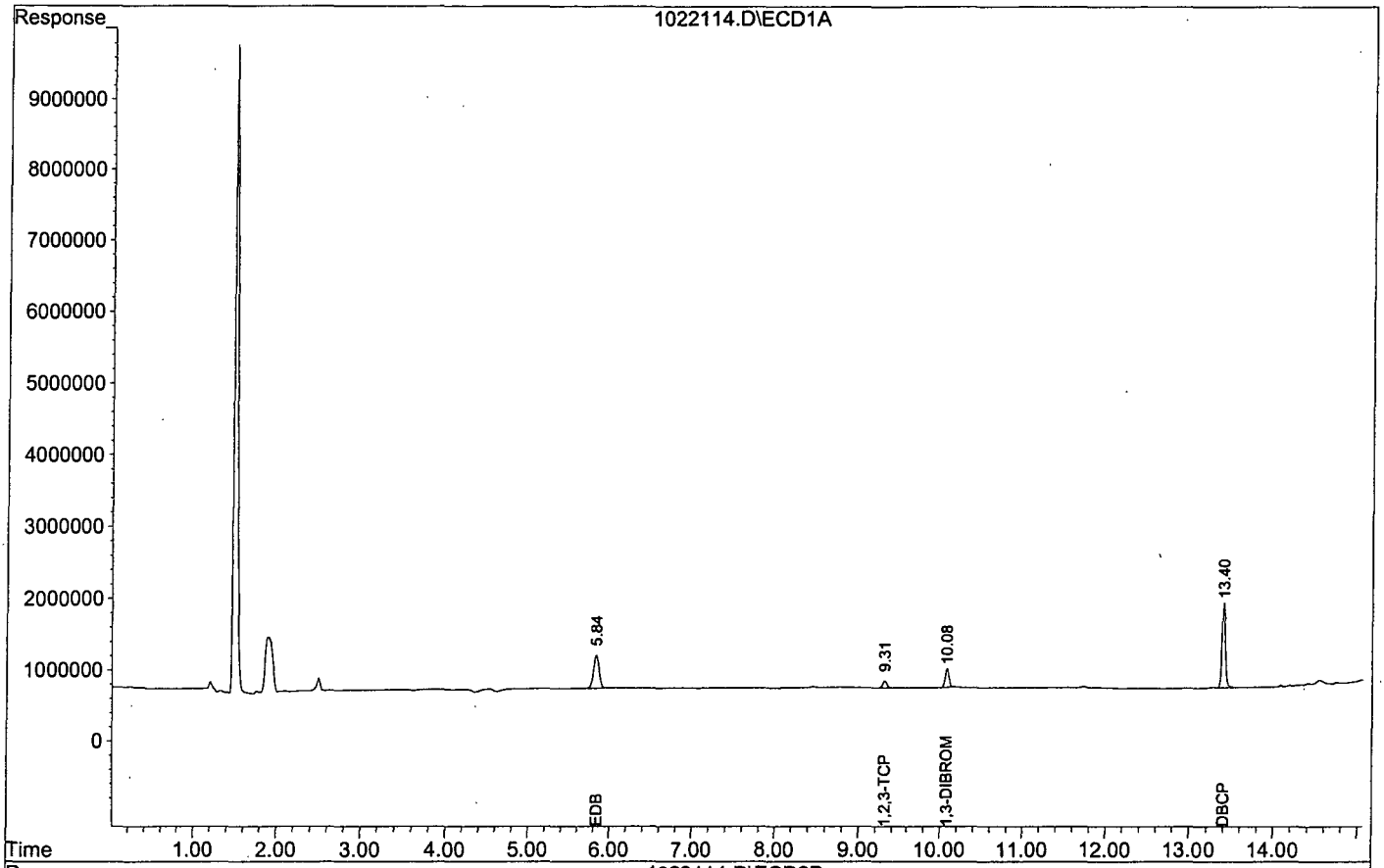
Target Compounds

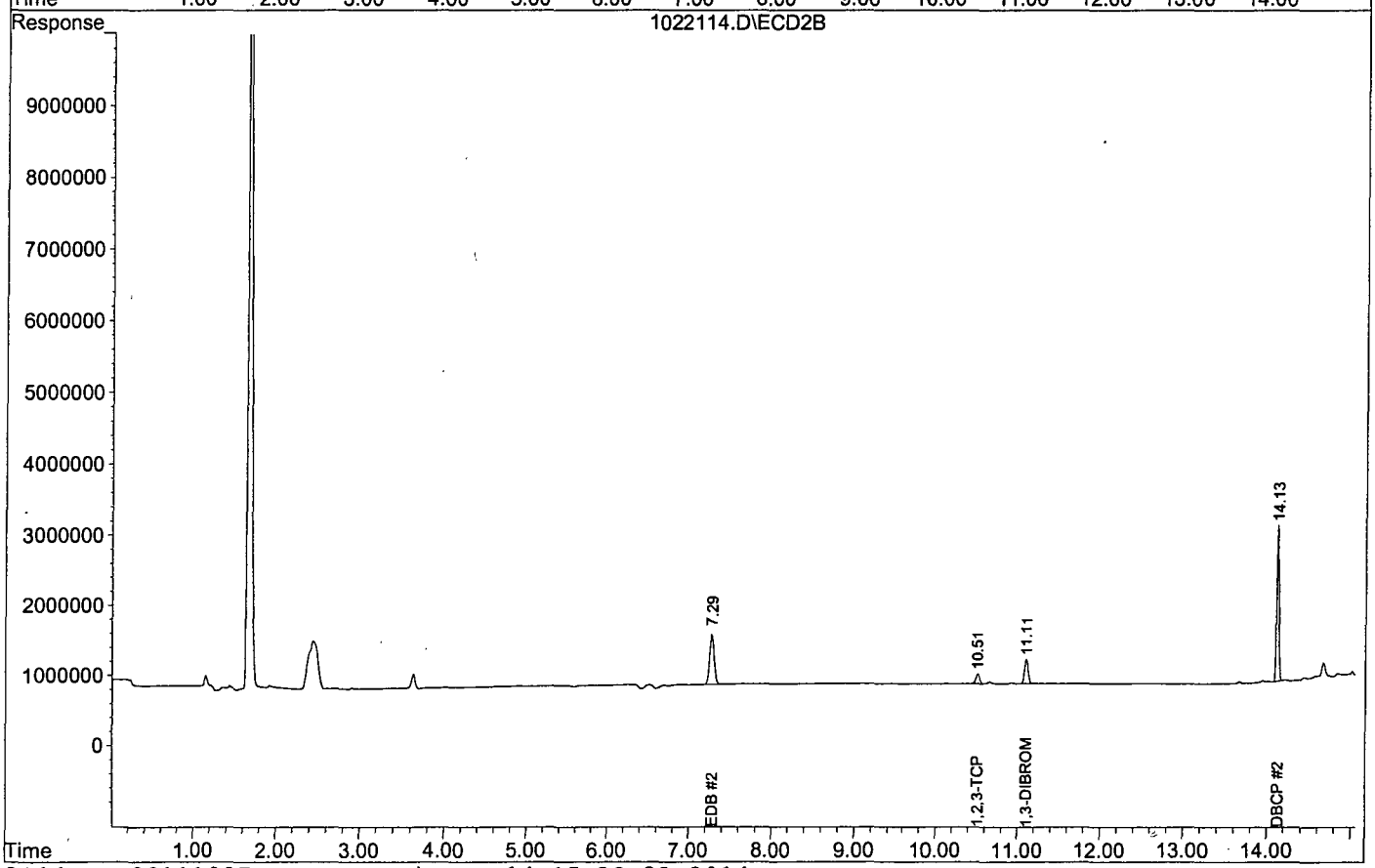
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022114.D
Acq On : 10-30-14 13:16:33
Sample : 141027A LCS-2 2/32.96G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 14
Operator: MA
Inst : Herbie
Multiplr: 1.06





DBCP/EDB/1,2,3-TCP Analysis by
8011 1027

Form 7

Continuing Calibration

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

SDG No: 74701
Date Analyzed: 10/30/14
Instrument: Herbie
Initial Cal. Date: 10/30/14
Data File: 1022124.D

		Compound	MEAN	CCRF	%D	%Drift	
1	TM	EDB	499174	479218	4.0	TM	
2	TM	1,2,3-TCP	94489	104880	11	TM	
3	S	1,3-DIBROMOPROPANE(S)	376914	381358	1.2	S	
4	TM	DBCP	1242250	1220540	1.7	TM	
5	signal #2						
6	TM	EDB	759485	734601	3.3	TM	
7	TM	1,2,3-TCP	121956	142524	17	TM	
8	S	1,3-DIBROMOPROPANE(S)	499799	499646	0.03	S	
9	TM	DBCP	2265050	2257100	0.35	TM	
10							
11							
12							
13							
14							
15							
16							
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35							
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37							
38							
39							
40							
		Average			#REF!		

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022124.D\ECD1A.CH Vial: 24
Signal #2 : G:\HERBIE\DATA\141022\1022124.D\ECD2B.CH
Acq On : 10-30-14 16:40:41 Operator: MA
Sample : 8011-3 10/27/14 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

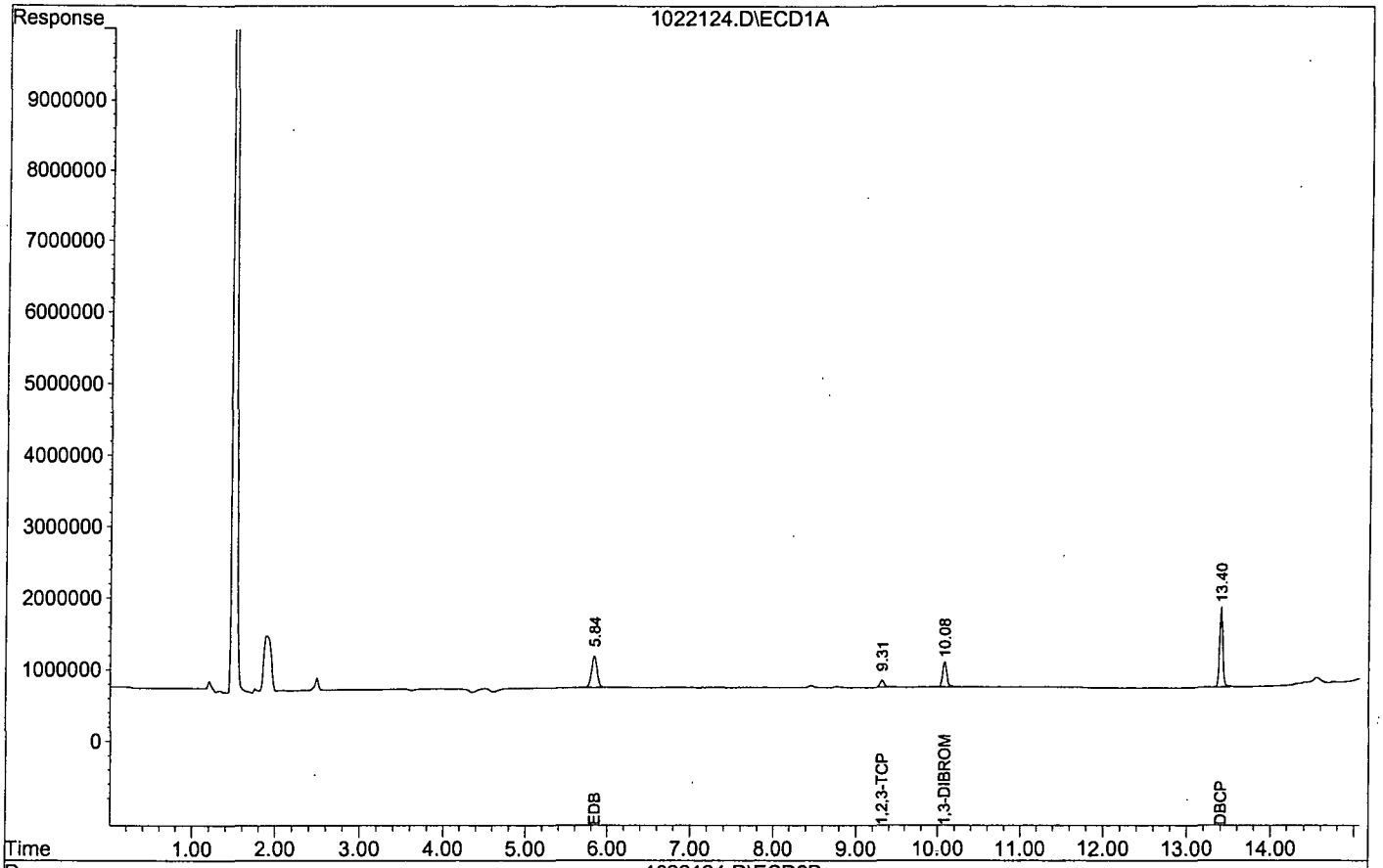
Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

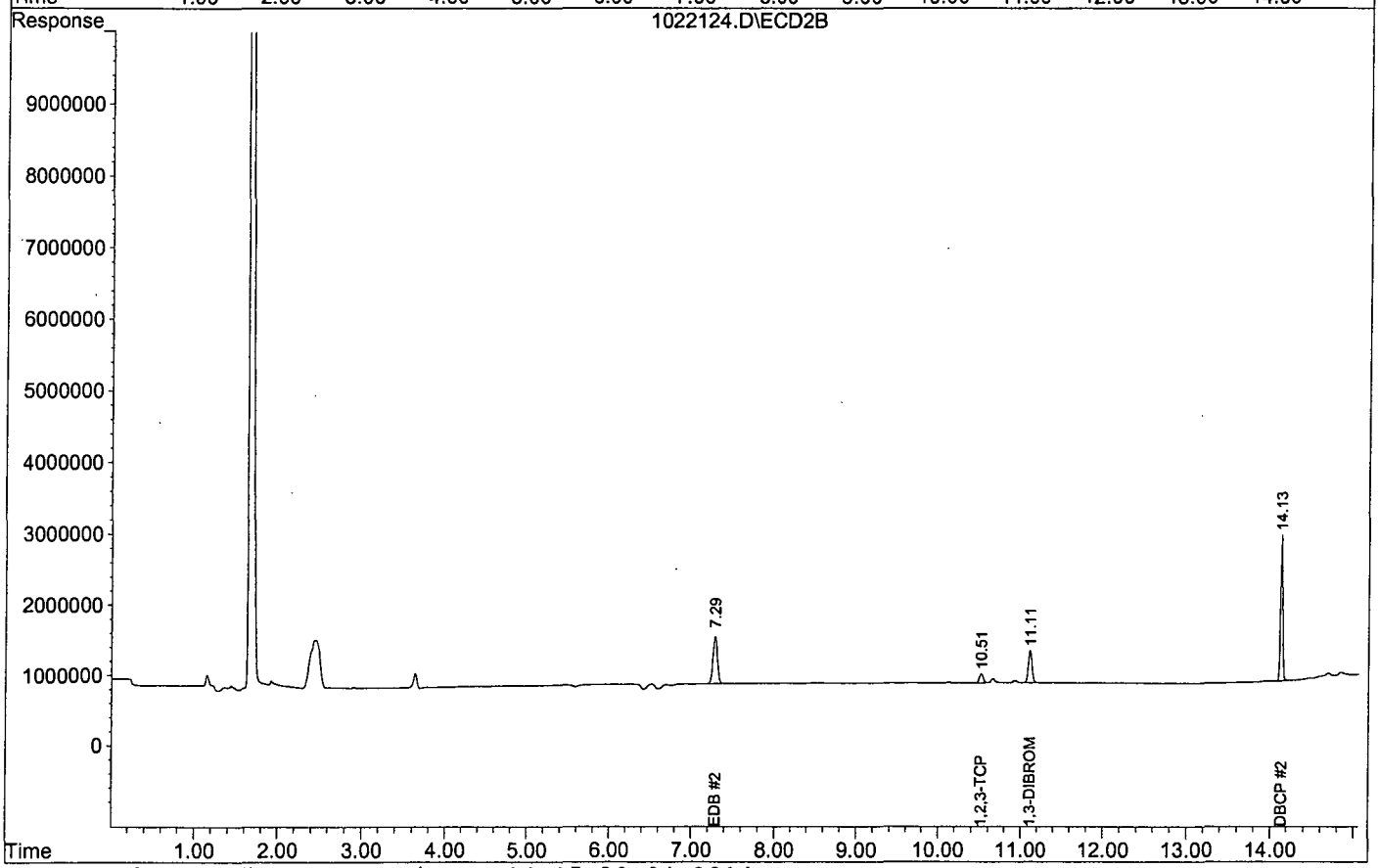
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.11	348561	456676	0.462	0.457
Spiked Amount	0.350			Recovery	=	132.00%	130.57%
	Target Compounds						
1) TM	EDB	5.84	7.29	438005	671425	0.439	0.442
2) TM	1,2,3-TCP	9.31	10.51	95860	130267	0.507	0.534
4) TM	DBCP	13.40	14.13	1115571	2062985	0.449	0.455
	Target Compounds						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022124.D Vial: 24
Acq On : 10-30-14 16:40:41 Operator: MA
Sample : 8011-3 10/27/14 Inst : Herbie
Misc : Multiplr: 1.00
Quant Method : G:\HERBIE\DATA\141022\80111027.M





8011
for
DBCP & EDB Fumigants
Raw Data

APPL, INC.

Method Blank
EPA 8011

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **141027W-05593 - 191515**
Batch ID: #8011-141027A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DBCP	0.019 U	0.02	0.019	0.007	ug/L	10/27/14	10/30/14
BLANK	EDB	0.020 U	0.02	0.020	0.010	ug/L	10/27/14	10/30/14
BLANK	SURROGATE: 1,3-DIBROMOPRO	99.0	70-132			%	10/27/14	10/30/14

Quant Method:80111027.M
Run #:1022112
Instrument:Herbie
Sequence:141022
Initials:MA

GC SC-Blank-REG MDLs
Printed: 11/14/14 2:57:13 PM

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022112.D\ECD1A.CH Vial: 12
Signal #2 : G:\HERBIE\DATA\141022\1022112.D\ECD2B.CH
Acq On : 10-30-14 12:35:52 Operator: MA
Sample : 141027A BLK 2/32.34G Inst : Herbie
Misc : soil Multiplr: 1.08
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.08	11.11	261484	351218	0.375	0.380
Spiked Amount 0.379			Recovery =		99.00%	100.32%
Target Compounds						
1) TM EDB	5.85	7.29	1201	1019	0.001	0.001 #
2) TM 1,2,3-TCP	9.29	10.52	772	1400	0.004	0.006 #
4) TM DBCP	13.41	0.00	1690	0	0.001	N.D. #

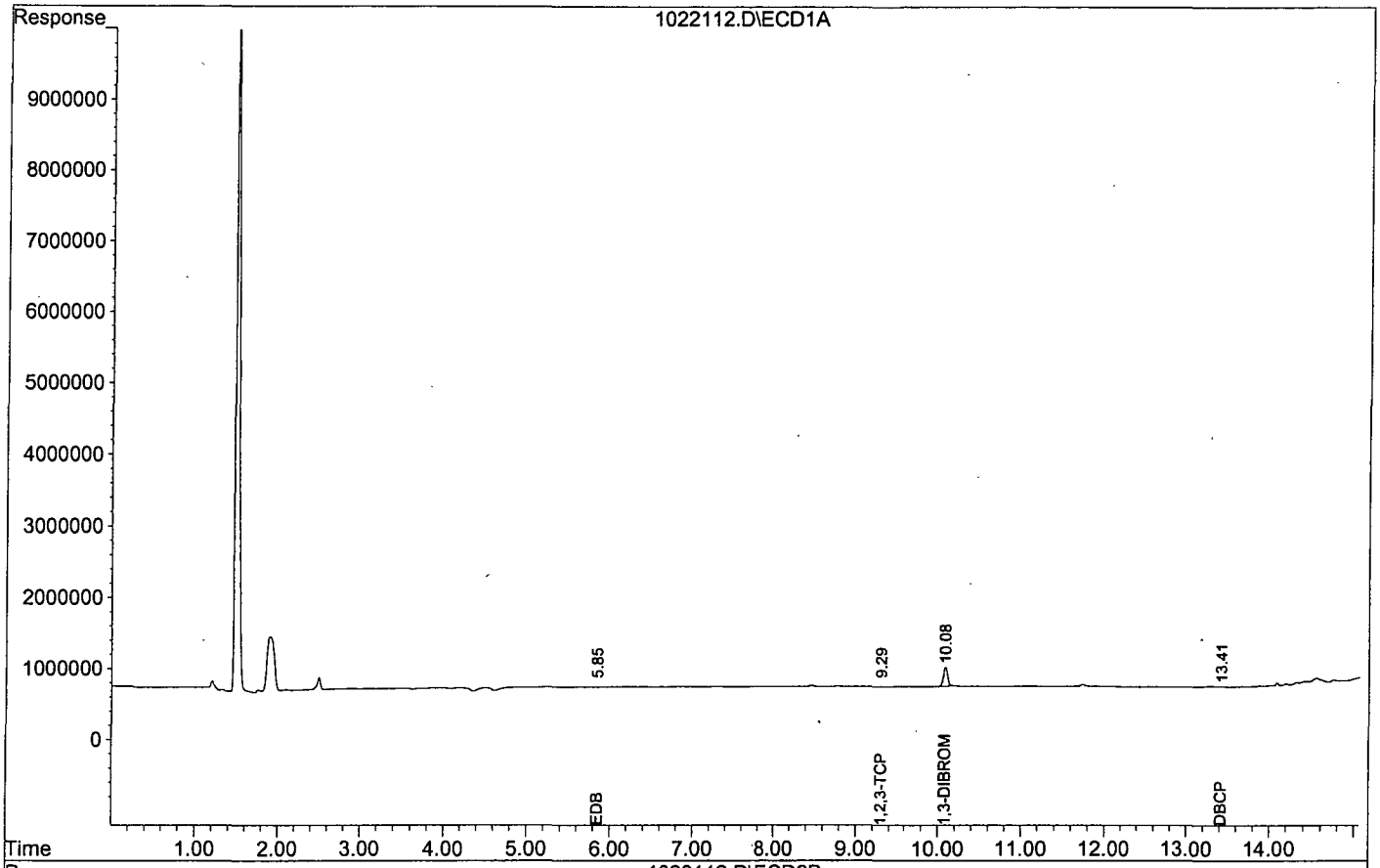
Target Compounds

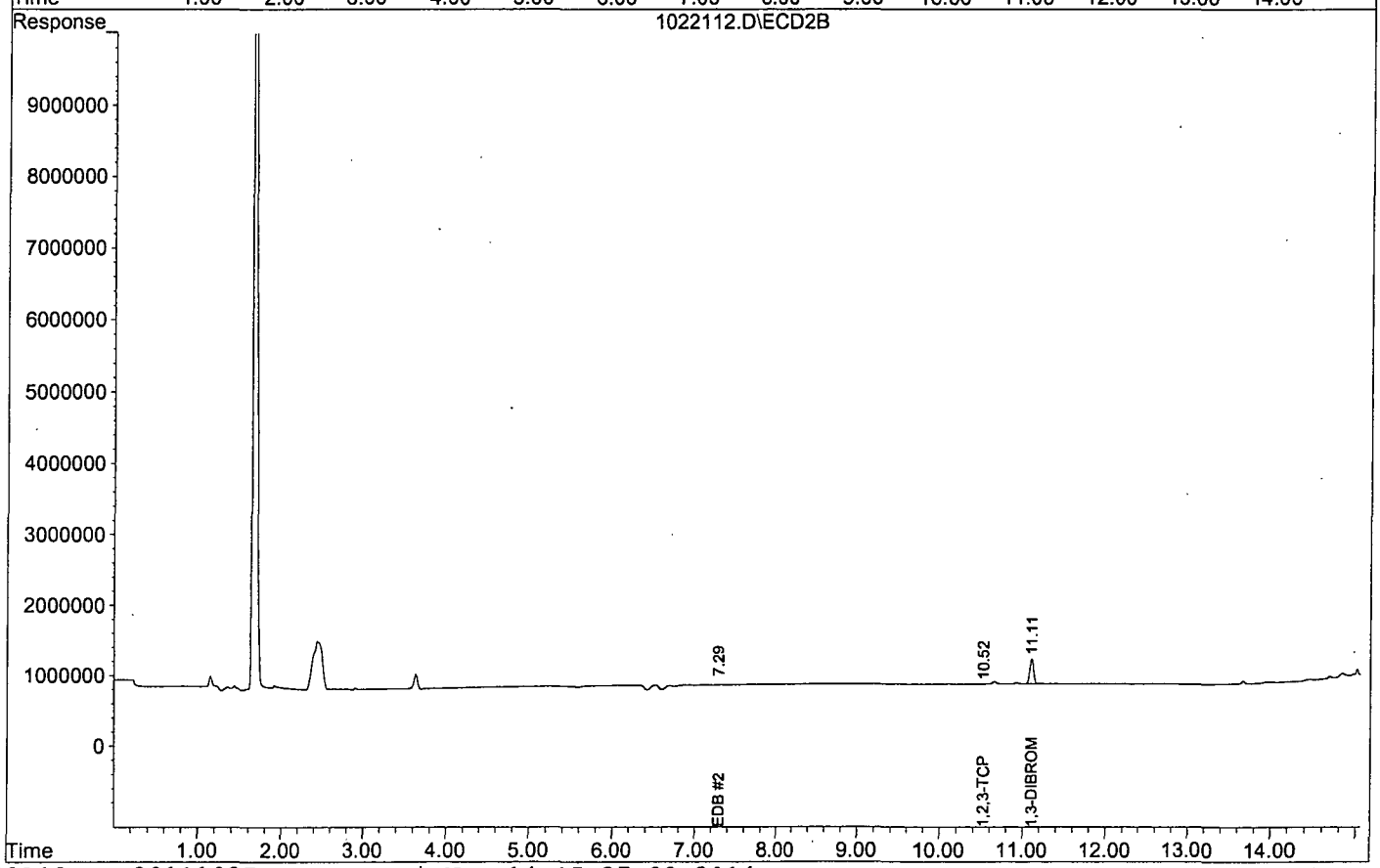
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022112.D
Acq On : 10-30-14 12:35:52
Sample : 141027A BLK 2/32.34G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 12
Operator: MA
Inst : Herbie
Multiplr: 1.08





Laboratory Control Spike Recovery
EPA 8011

APPL ID: **141027W-05593 LCS - 191515**
Batch ID: #8011-141027A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DBCP	0.482	0.507	105	60-140
EDB	0.482	0.491	102	60-140
SURROGATE: 1,3-DIBROMOPROPANE (	0.350	0.364	104	70-132

Comments: _____

Primary	SPK
Quant Method :	80111027.M
Extraction Date :	10/27/14
Analysis Date :	10/30/14
Instrument :	Herbie
Run :	1022114
Initials :	MA

Printed: 11/14/14 2:57:14 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022114.D\ECD1A.CH Vial: 14
Signal #2 : G:\HERBIE\DATA\141022\1022114.D\ECD2B.CH
Acq On : 10-30-14 13:16:33 Operator: MA
Sample : 141027A LCS-2 2/32.96G Inst : Herbie
Misc : soil Multiplr: 1.06
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
System Monitoring Compounds						
3) S 1,3-DIBROMOPROPA	10.08	11.11	258654	346347	0.364	0.368
Spiked Amount 0.372			Recovery =		97.94%	99.01%
Target Compounds						
1) TM EDB	5.84	7.29	461805	710380	0.491	0.497
2) TM 1,2,3-TCP	9.31	10.51	102372	138321	0.575	0.602
4) TM DBCP	13.40	14.13	1185573	2215148	0.507	0.519

Target Compounds

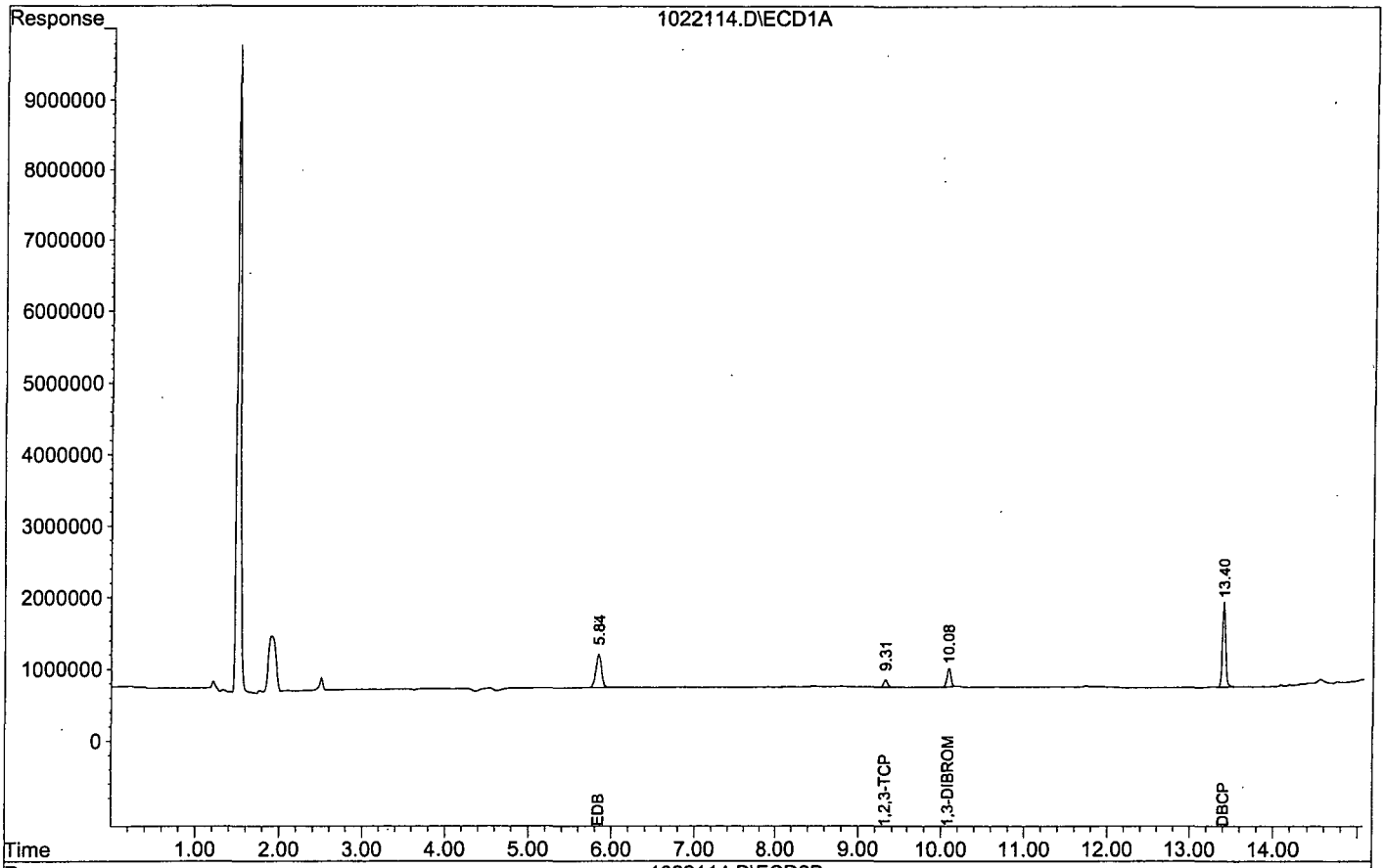
Algorithm = $\frac{461805 \times 1.06}{2 \times 499174} = 0.491$ MA 11/14/14

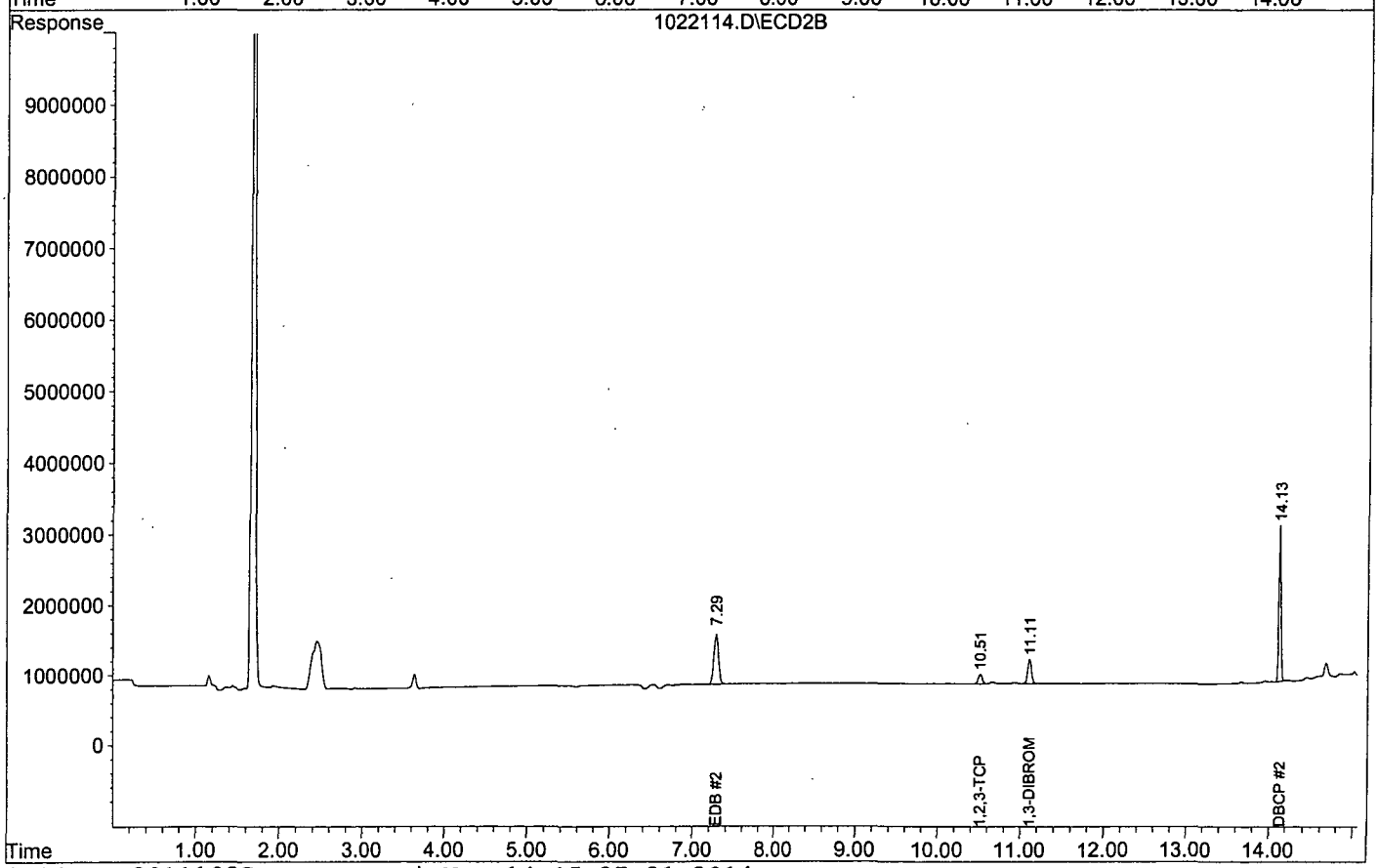
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022114.D
Acq On : 10-30-14 13:16:33
Sample : 141027A LCS-2 2/32.96G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 14
Operator: MA
Inst : Herbie
Multiplr: 1.06





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022113.D\ECD1A.CH Vial: 13
Signal #2 : G:\HERBIE\DATA\141022\1022113.D\ECD2B.CH
Acq On : 10-30-14 12:56:09 Operator: MA
Sample : 141027A LCS-1 2/32.27G Inst : Herbie
Misc : soil Multiplr: 1.08
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	System Monitoring Compounds							
3) S	1,3-DIBROMOPROPA	10.07	11.11	255831	339793	0.368	0.369	
Spiked Amount	0.380			Recovery	=	96.94%	97.21%	
	Target Compounds							
1) TM	EDB	5.83	7.29	23228	32982	0.025	0.024	
2) TM	1,2,3-TCP	9.29	10.51	470	2585	0.003	0.011	#
4) TM	DBCP	13.40	14.13	59566	93741	0.026	0.022	

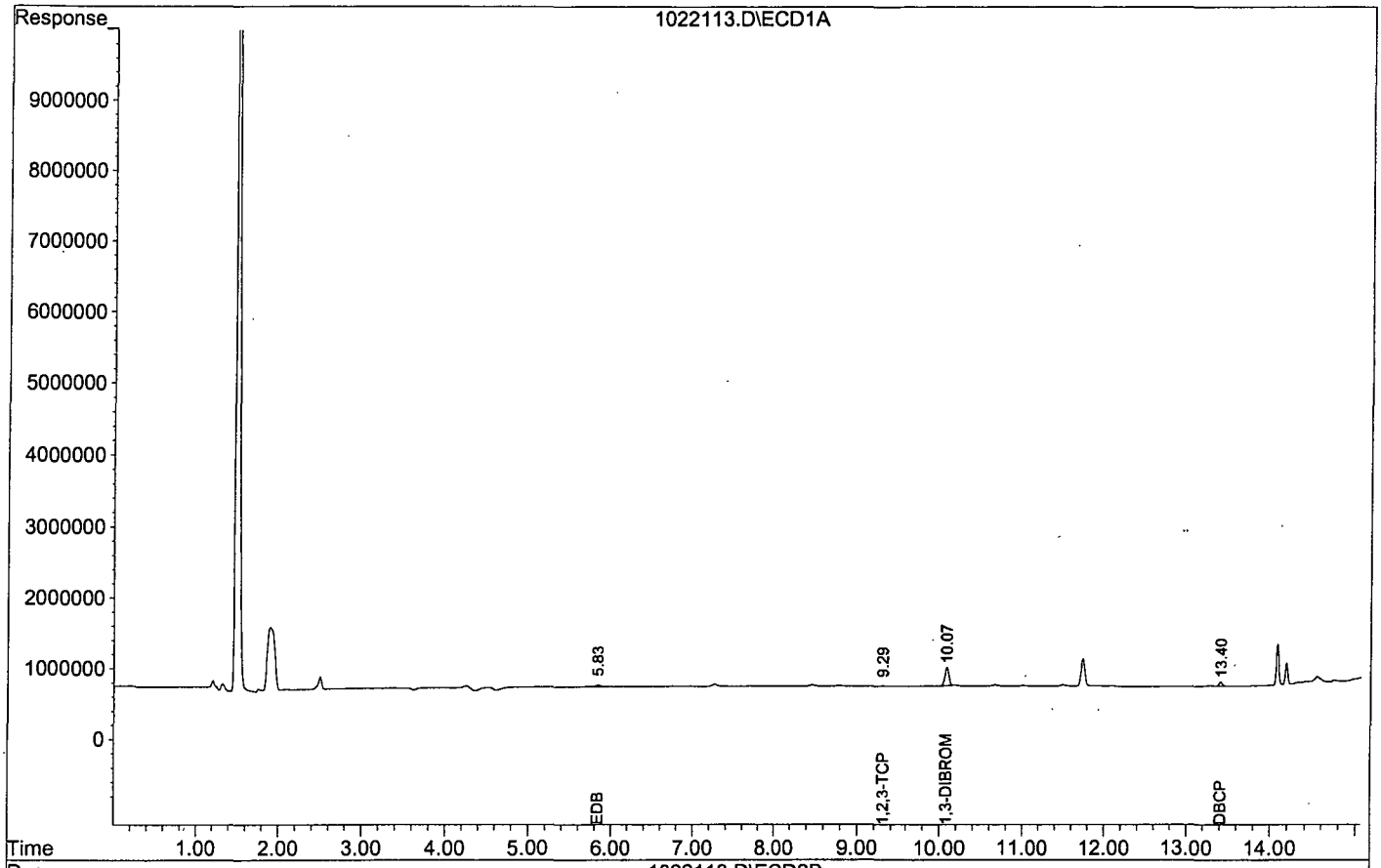
Target Compounds

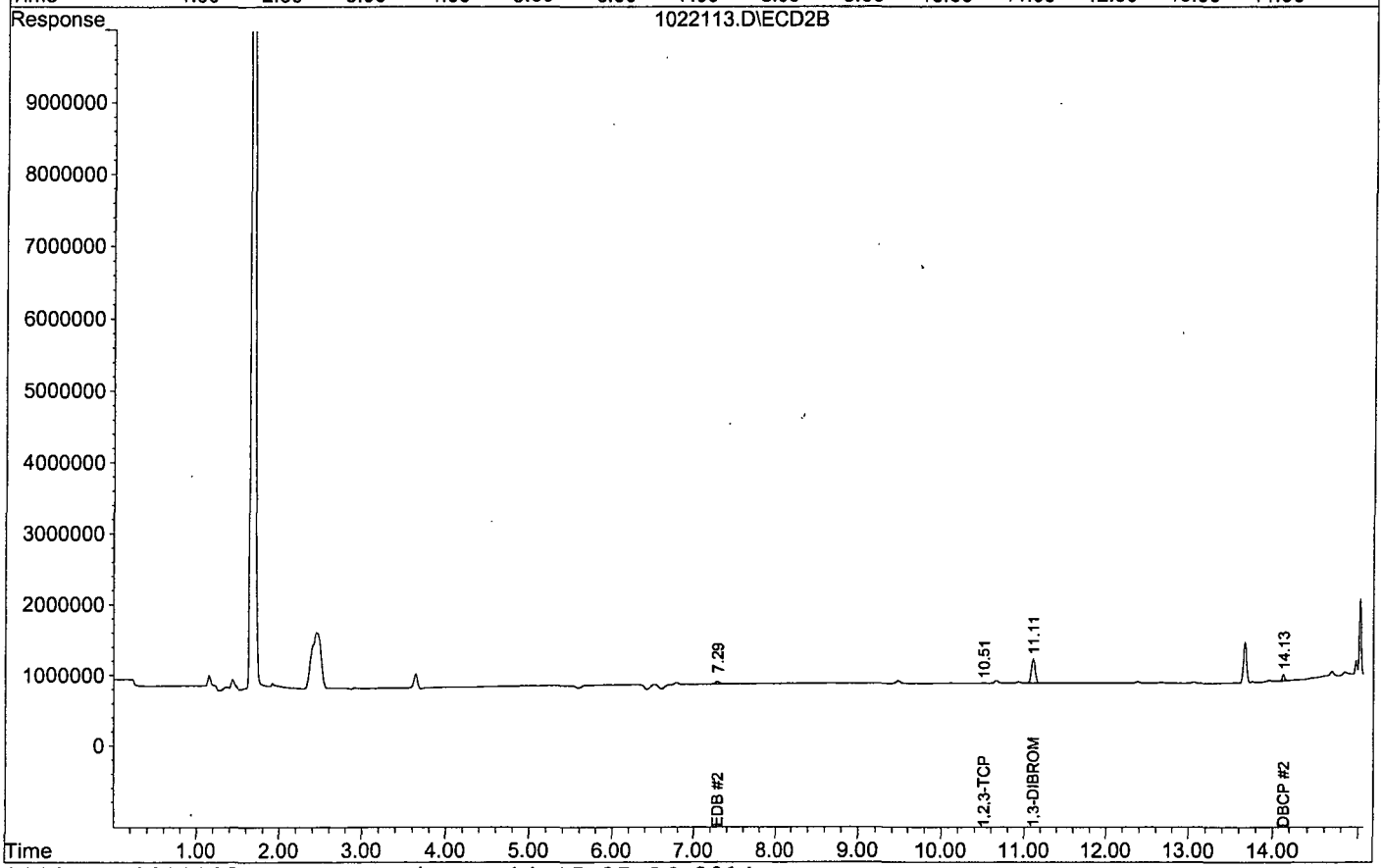
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022113.D
Acq On : 10-30-14 12:56:09
Sample : 141027A LCS-1 2/32.27G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 13
Operator: MA
Inst : Herbie
Multiplr: 1.08





Matrix Spike Recoveries

EPA 8011

APPL ID: **141027W-05593 MS - 191515**
Batch ID: #8011-141027A
Sample ID: AZ05593
Client ID: RHMW06-GW-01

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
DBCP	0.482	ND	0.497	0.519	103	108	60-140	4.3	25
EDB	0.482	ND	0.470	0.486	97.5	101	60-140	3.3	25
SURROGATE: 1,3-DIBROMOPROPANE (	0.350	NA	0.353	0.352	101	101	70-132		

Comments: _____

Primary	SPK	DUP
Quant Method :	80111027.M	80111027.M
Extraction Date :	10/27/14	10/27/14
Analysis Date :	10/30/14	10/30/14
Instrument :	Herbie	Herbie
Run :	1022120	1022121
Initials :	MA	

Printed: 11/14/14 3:20:03 PM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022120.D\ECD1A.CH Vial: 20
Signal #2 : G:\HERBIE\DATA\141022\1022120.D\ECD2B.CH
Acq On : 10-30-14 15:18:58 Operator: MA
Sample : AZ05593W13 MS-2 2/34.28G Inst : Herbie
Misc : soil Multiplr: 1.02
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.11	260651	344016	0.353	0.351
Spiked Amount	0.357			Recovery	=	98.78%	98.22%
	Target Compounds						
1) TM	EDB	5.84	7.29	459179	708922	0.470	0.477
2) TM	1,2,3-TCP	9.31	10.52	103504	139242	0.559	0.583
4) TM	DBCP	13.40	14.13	1210520	2234558	0.497	0.504

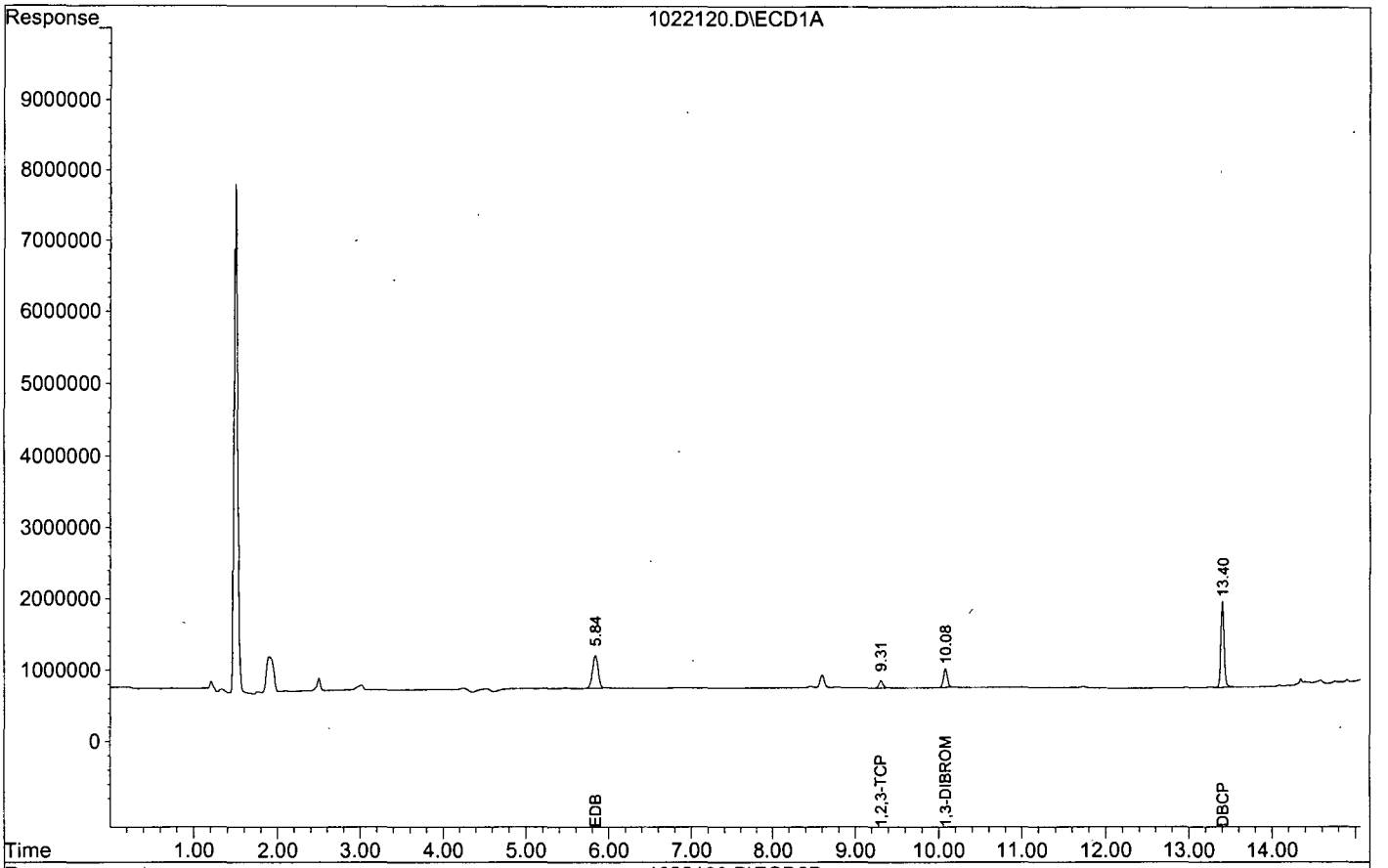
Target Compounds

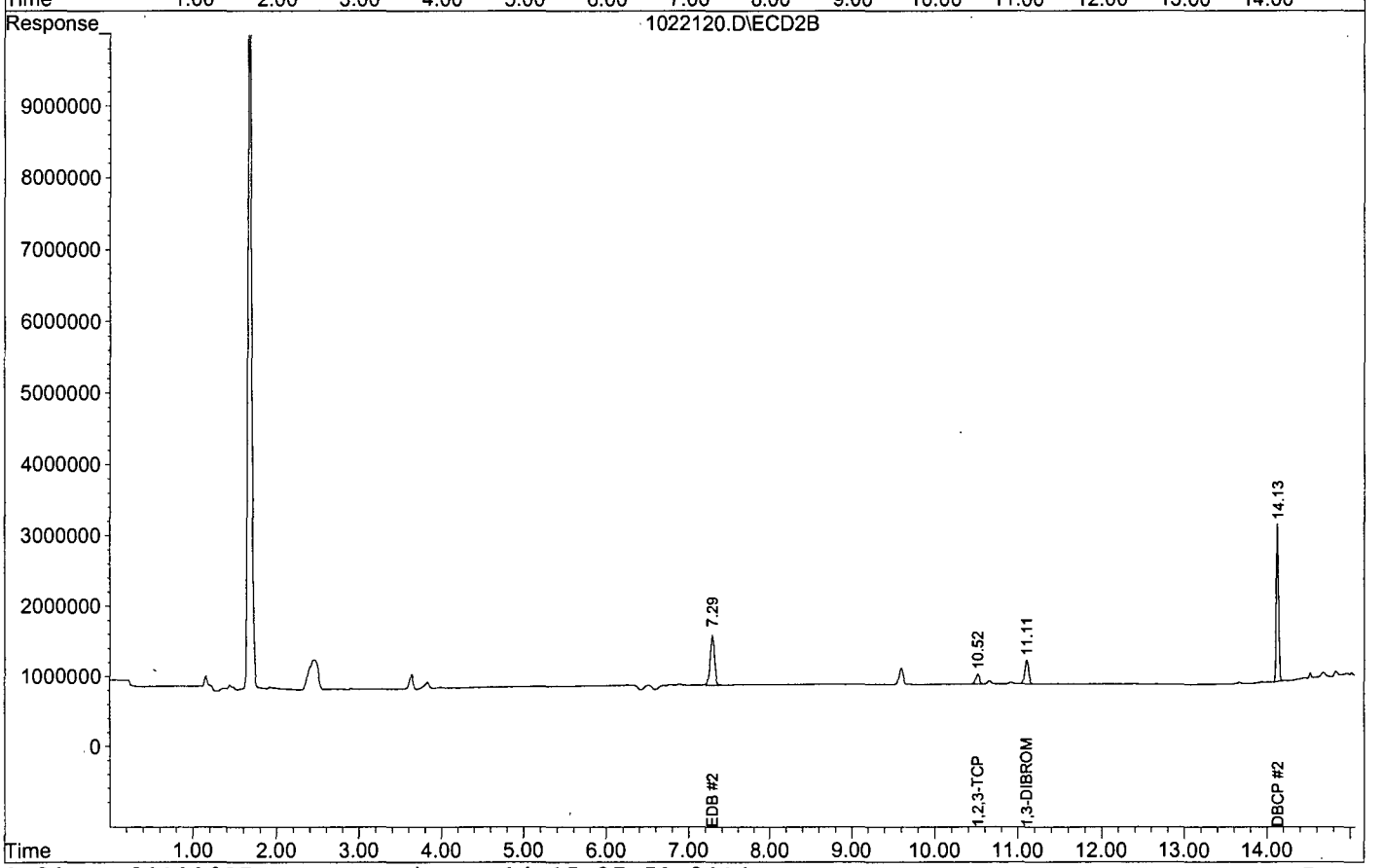
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022120.D
Acq On : 10-30-14 15:18:58
Sample : AZ05593W13 MS-2 2/34.28G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 20
Operator: MA
Inst : Herbie
Multiplr: 1.02





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141022\1022121.D\ECD1A.CH Vial: 21
Signal #2 : G:\HERBIE\DATA\141022\1022121.D\ECD2B.CH
Acq On : 10-30-14 15:39:21 Operator: MA
Sample : AZ05593W07 MSD-2 2/34.51G Inst : Herbie
Misc : soil Multiplr: 1.01
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 14 15:33 2014 Quant Results File: 80111027.RES

Quant Method : G:\HERBIE\DATA\141022\80111027.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 04 15:58:19 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.11	261288	348029	0.352	0.353
Spiked Amount	0.355			Recovery	=	99.16%	99.45%
	Target Compounds						
1) TM	EDB	5.84	7.29	478688	719639	0.486	0.480
2) TM	1,2,3-TCP	9.31	10.51	106098	142805	0.569	0.594
4) TM	DBCP	13.40	14.13	1270386	2296301	0.519	0.514

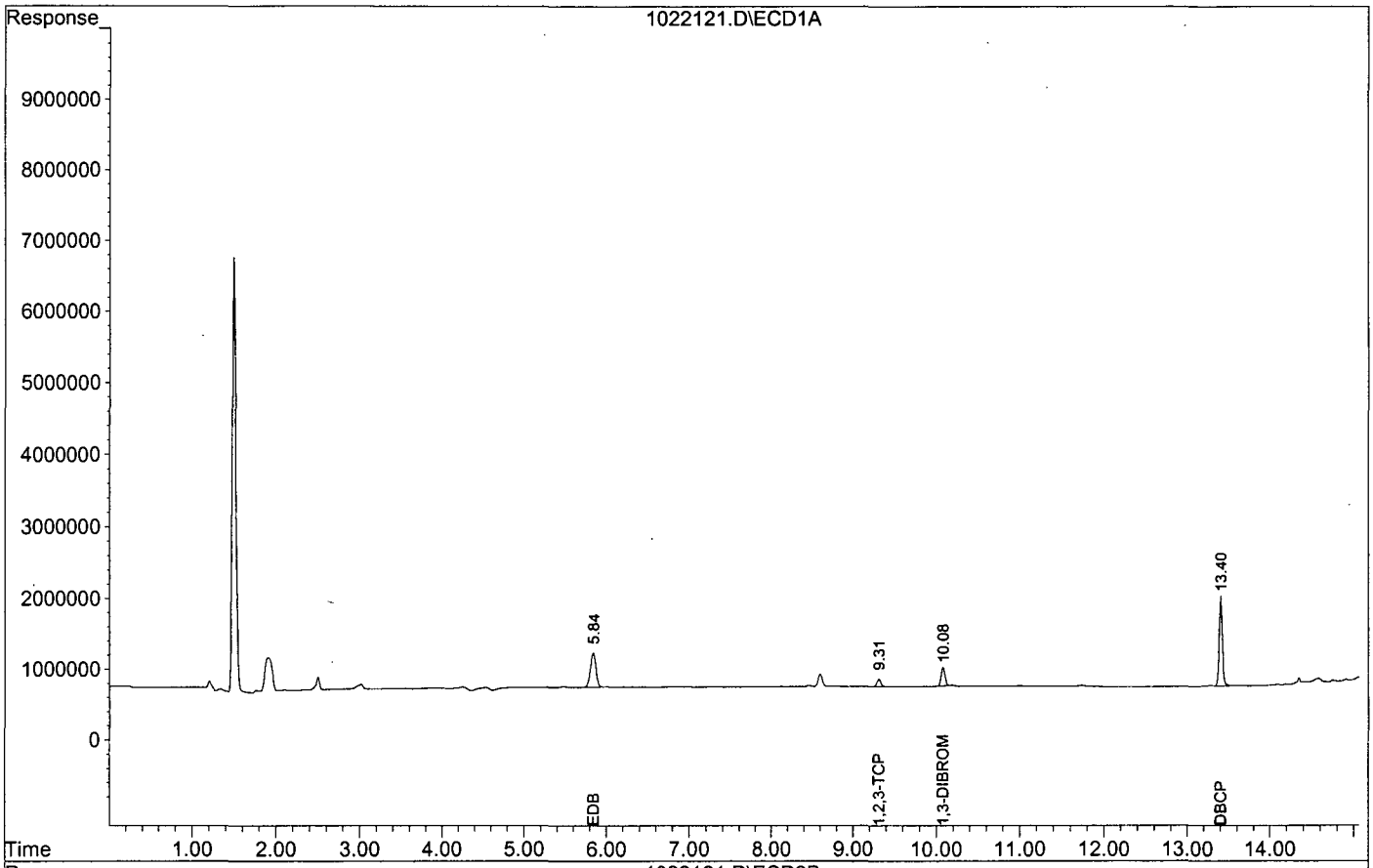
Target Compounds

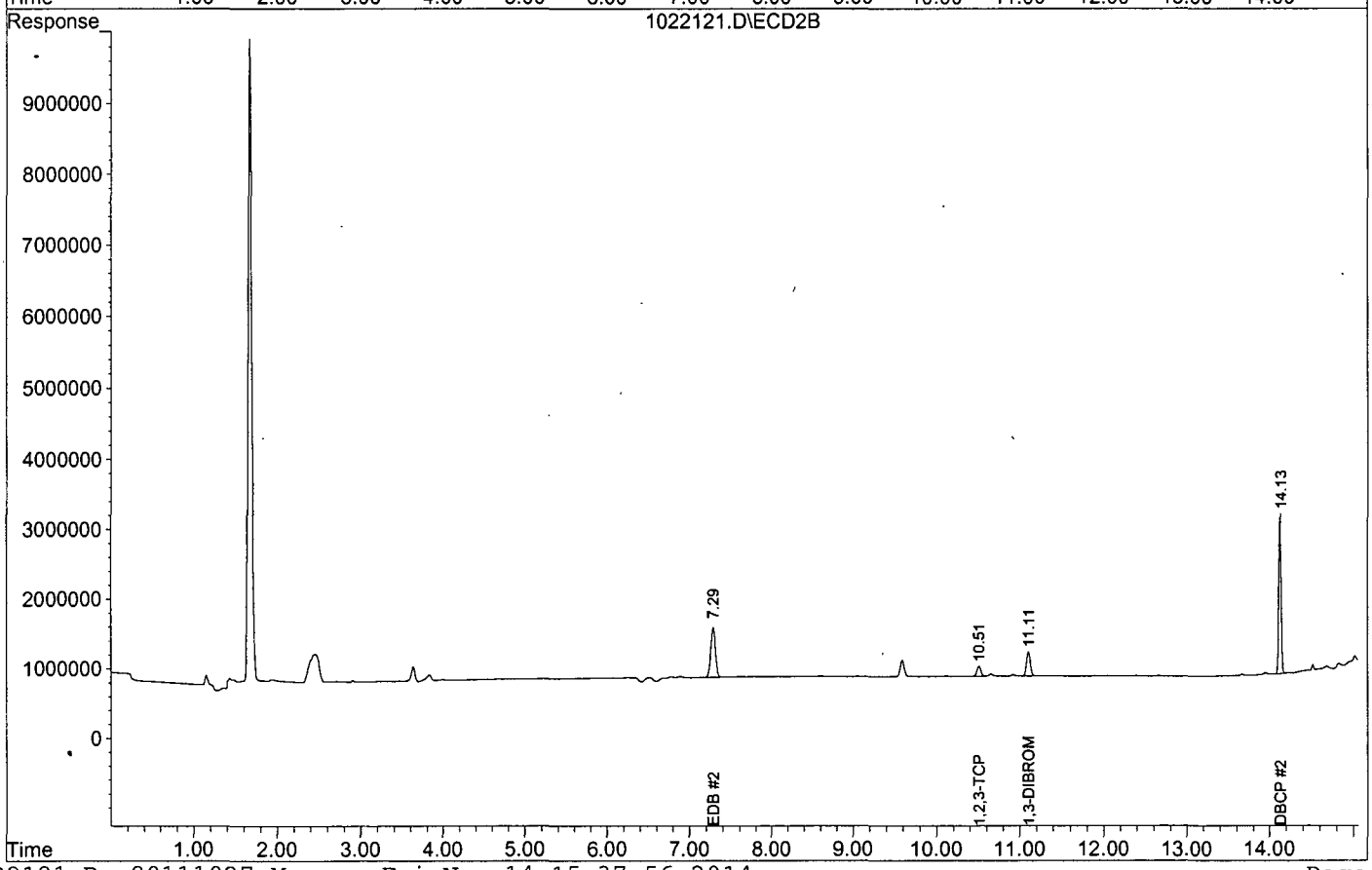
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141022\1022121.D
Acq On : 10-30-14 15:39:21
Sample : AZ05593W07 MSD-2 2/34.51G
Misc : soil
Quant Method : G:\HERBIE\DATA\141022\80111027.M

Vial: 21
Operator: MA
Inst : Herbie
Multiplr: 1.01





STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT #

LOG BOOK #41

DIESEL SPIKE

Diesel Fuel #2 Composite
(Second Source), 50,000
mg/L, 2 x 5 ml
011598-01-6S
Lot # 207749 | Storage ≤-10 Degrees C | Expiry 4/27/16
Solv: Methylene Chloride
For R&D only, not to be sold in the USA

Diesel Fuel #2 Composite (SS)
Lot #: 207749 - 32376
Rec: 4/25/13 MFR exp. 4/27/16

Open 7/28/14
Ex 7/28/15

7/28/14 MA
Ex 7/28/15

GA 7/28/14

	504/8011 SURROGATE					
Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
1,3 DBP	100	1,3 DBP STOCK prep.02/17/14 exp. 02/1715	35ul	10mL	0.35ug/mL	Methanol 070913A

GA
7/28/14
8/28/14

Lot 080414-01 Exp 10/4/14

GA 7/28/14

	504/8011 HIGH M STD					
Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
EDB TCP DBCP 1,3 DBP	20ug/mL	504/DOHS STOCK prep. 07/28/14 exp 07/28/15	500uL	25mL	0.4ug/mL	Methanol 070913A
	100ug/mL	1,3 DBP STOCK prep. 02/17/14 exp. 02/17/15	100uL			

Lot 100214-01 Exp 11/2/14
Lot 103014-01 Exp 11/30/14

GA
7/28/14
8/28/14

GA 7/28/14

	504/8011 LOW M STD					
Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
EDB TCP DBCP 1,3 DBP	0.4ug/mL	504/8011 HIGH M STD prep.07/28/14 exp: 08/28/14	750uL	10mL	0.03ug/mL	Methanol 070913A

GA
7/28/14
8/28/14

GA 7/28/14

	504/8011 HIGH SPIKE					
Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
EDB TCP DBCP	200ug/mL	Absolute CAT 30096 Lot 080111-30272 open 1/29/14 exp 1/29/15	30uL	25mL	0.24ug/mL	Methanol 070913A

GA
7/28/14
8/28/14

GA 7/28/14

	504/8011 LOW SPIKE					
Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
EDB TCP DBCP	0.24ug/mL	504/8011 HIGH SPIKE prep. 07/28/14 Exp: 08/28/14	800uL	10mL	0.0192ug/mL	Methanol 070913A

GA
7/28/14
8/28/14

GA 7/29/14

PAC ECO CURVE												
						1a	1b	1	2	3	4	5	6
	ID#	[µg/mL]	LOT #	DATE	EXP. DATE	µL	µL	µL	µL	µL	µL	µL	µL
	PAC ECO CAL STD	6		06/23/14	11/09/14	2	5	10	50	20	100	70	1000
						998	995	990	950	80	100	30	N/A
	Hexane		080613A		Final VOL.	1000	1000	1000	1000	100	200	100	N/A

GA
7/29/14
11/9/14

THC SURROGATE open 7/29/14
CAT: 110316-05 Exp. 7/29/15
Lot: 216091-33700

Kez
7/29/14
EXP 7/29/15

_MWE012

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	141027A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 Low Spike 7-28-14		Surrogate ID 1	504.1 Surrogate 7-28-14	
Spiked ID 2	504.1 High Spike 7-28-14		Surrogate ID 2		
Spiked ID 3	504.1 Low Method Standard 8-6-14		Surrogate ID 3		
Spiked ID 4	504.1 High Method Standard 7-28-14		Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	10/27/14 16:20	
Spiked ID 8			Ext. End Time:	10/28/14 16:00	
			GC Requires Extract By:	11/04/14 0:00	

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: IC **Date** 10/27/14 **Witnessed By:** DL **Date** 10/27/14

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	141027A Blk				0.035	1 equip	32.34g	2	7	10/27/14 16:20	
2	141027A LCS-1		0.035	1	0.035	1 equip	32.27g	2	7	10/27/14 16:20	
3	141027A LCS-2		0.070	2	0.035	1 equip	32.96g	2	7	10/27/14 16:20	
4	AZ05388	AZ05388W07			0.035	1 equip	34.03g	2	7	10/27/14 16:20	74672 RUSH 2 WEEKS
5	AZ05389	AZ05389W08			0.035	1 equip	34.63g	2	7	10/27/14 16:20	74672 RUSH 2 WEEKS
6	AZ05518	AZ05518W01	0.040	3	0.035	1 equip	31.09g	2	7	10/27/14 16:20	74692 LOQ
7	AZ05593 MS-1	AZ05593W02	0.035	1	0.035	1 equip	34.53g	2	7	10/27/14 16:20	74701 RUSH 2 WEEKS
8	AZ05593 MSD-1	AZ05593W12	0.035	1	0.035	1 equip	34.37g	2	7	10/27/14 16:20	74701 RUSH 2 WEEKS
9	AZ05593 MS-2	AZ05593W13	0.070	2	0.035	1 equip	34.28g	2	7	10/27/14 16:20	74701 RUSH 2 WEEKS
10	AZ05593 MSD-2	AZ05593W07	0.070	2	0.035	1 equip	34.51g	2	7	10/27/14 16:20	74701 RUSH 2 WEEKS
11	AZ05593	AZ05593W10			0.035	1 equip	34.54g	2	7	10/27/14 16:20	74701 RUSH 2 WEEKS
12	LOD		0.020	3	NA	NA equip	33.98g	2	7	10/27/14 16:20	
13	M STD 1		0.020	3	NA	NA equip	33.04g	2	7	10/27/14 16:20	
14	M STD 2		0.020	4	NA	NA equip	33.31g	2	7	10/27/14 16:20	
15	M STD 3		0.040	4	NA	NA equip	32.25g	2	7	10/27/14 16:20	
16	M STD 4		0.060	4	NA	NA equip	32.52g	2	7	10/27/14 16:20	

Solvent and Lot#	
GC2 Hexane	DH772
NaCL	WJ11D
Sod. Thiosulfate	H15584

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	LH
Date	10/29/14
Time	1:01
Refrigerator	Hoot

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

Modified	10/28/14 5:36:48 PM

Reviewed By: **Date**

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	141027A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 Low Spike 7-28-14		Surrogate ID 1	504.1 Surrogate 7-28-14	
Spiked ID 2	504.1 High Spike 7-28-14		Surrogate ID 2		
Spiked ID 3	504.1 Low Method Standard 8-6-14		Surrogate ID 3		
Spiked ID 4	504.1 High Method Standard 7-28-14		Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	YES	
Spiked ID 7			Ext. Start Time:	10/27/14 16:20	
Spiked ID 8			Ext. End Time:	10/28/14 16:00	
			GC Requires Extract By:	**11/04/14 0:00**	

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: IC **Date** 10/27/14 **Witnessed By:** DL **Date** 10/27/14

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
17	M STD 5		0.080	4	NA	NA equip	33.63g	2	7	10/27/14 16:20	
18	M STD 6		0.100	4	NA	NA equip	31.65g	2	7	10/27/14 16:20	

LH 10/28/14

Solvent and Lot#	
GC2 Hexane	DH772
NaCL	WJ11D
Sod. Thiosulfate	H15584

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	LH
Date	10/29/14
Time	1:01
Refrigerator	Hobart

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

Modified	10/28/14 5:36:48 PM

Reviewed By: LH **Date** 10/28/14

Injection Log

Directory: G:\HERBIE\DATA\141022\

Vial	FileName	Multiplier	SampleName	Misc Info	Injected
6	1022106.D	1	8011-1 10/27/14 2/33.04G	soil	10-30-14 10:34:12
7	1022107.D	1	8011-2 10/27/14 2/33.31G	soil	10-30-14 10:54:24
8	1022108.D	1	8011-3 10/27/14 2/32.25G	soil	10-30-14 11:14:47
9	1022109.D	1	8011-4 10/27/14 2/32.52G	soil	10-30-14 11:35:01
10	1022110.D	1	8011-5 10/27/14 2/33.63G	soil	10-30-14 11:55:17
11	1022111.D	1	8011-6 10/27/14 2/31.65G	soil	10-30-14 12:15:39
12	1022112.D	1.08225	141027A BLK 2/32.34G	soil	10-30-14 12:35:52
13	1022113.D	1.0846	141027A LCS-1 2/32.27G	soil	10-30-14 12:56:09
14	1022114.D	1.06189	141027A LCS-2 2/32.96G	soil	10-30-14 13:16:33
18	1022118.D	1.01361	AZ05593W02 MS-1 2/34.53G	soil	10-30-14 14:38:05
19	1022119.D	1.01833	AZ05593W12 MSD-1 2/34.37G	soil	10-30-14 14:58:28
20	1022120.D	1.021	AZ05593W13 MS-2 2/34.28G	soil	10-30-14 15:18:58
21	1022121.D	1.0142	AZ05593W07 MSD-2 2/34.51G	soil	10-30-14 15:39:21
22	1022122.D	1.01332	AZ05593W10 2/34.54G	soil	10-30-14 15:59:46
24	1022124.D	1	8011-3 10/27/14		10-30-14 16:40:41

EPA METHOD 8260C
Volatile Organic Compounds

APPL, INC.

EPA METHOD 8260C
Volatile Organic Compounds
QC Summary

APPL, INC.

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **141026W-05593 - 191309**
Batch ID: #86CRE-141026AL

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	10/26/2014	10/26/2014
BLANK	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	10/26/2014	10/26/2014
BLANK	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	10/26/2014	10/26/2014
BLANK	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	10/26/2014	10/26/2014
BLANK	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
BLANK	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	10/26/2014	10/26/2014
BLANK	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	10/26/2014	10/26/2014
BLANK	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	10/26/2014	10/26/2014
BLANK	1,2-DIBROMO-3-CHLOROPROPA	1.00 U	2.0	1.00	0.76	ug/L	10/26/2014	10/26/2014
BLANK	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	10/26/2014	10/26/2014
BLANK	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	10/26/2014	10/26/2014
BLANK	1,2-DICHLOROETHANE	0.100 U	0.10	0.100	0.030	ug/L	10/26/2014	10/26/2014
BLANK	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	10/26/2014	10/26/2014
BLANK	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	10/26/2014	10/26/2014
BLANK	1,3-DICHLOROPROPENE (TOTA	0.30 U	1.0	0.30	0.18	ug/L	10/26/2014	10/26/2014
BLANK	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
BLANK	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	10/26/2014	10/26/2014
BLANK	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	10/26/2014	10/26/2014
BLANK	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	10/26/2014	10/26/2014
BLANK	BENZENE	0.200 U	0.20	0.200	0.060	ug/L	10/26/2014	10/26/2014
BLANK	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	10/26/2014	10/26/2014
BLANK	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	10/26/2014	10/26/2014
BLANK	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	10/26/2014	10/26/2014
BLANK	CARBON TETRACHLORIDE	0.100 U	0.10	0.100	0.030	ug/L	10/26/2014	10/26/2014
BLANK	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	10/26/2014	10/26/2014
BLANK	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	10/26/2014	10/26/2014
BLANK	CHLOROFORM	0.20 U	0.2	0.20	0.06	ug/L	10/26/2014	10/26/2014
BLANK	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	10/26/2014	10/26/2014
BLANK	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	10/26/2014	10/26/2014
BLANK	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	10/26/2014	10/26/2014
BLANK	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
BLANK	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	10/26/2014	10/26/2014
BLANK	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	10/26/2014	10/26/2014

Quant Method: LALLW2.M
Run #: 1026L10
Instrument: Loki
Sequence: 141024
Initials: SV

GC SC-Blank-REG MDLs
Printed: 11/17/2014 3:26:38 PM

Method Blank
EPA 8260C WATER

Blank Name/QCG: **141026W-05593 - 191309**
Batch ID: #86CRE-141026AL

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	10/26/2014	10/26/2014
BLANK	TETRACHLOROETHENE	0.30 U	0.3	0.30	0.08	ug/L	10/26/2014	10/26/2014
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	10/26/2014	10/26/2014
BLANK	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
BLANK	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	10/26/2014	10/26/2014
BLANK	VINYL CHLORIDE	0.10 U	0.1	0.10	0.03	ug/L	10/26/2014	10/26/2014
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
BLANK	SURROGATE: 1,2-DICHLOROET	104	70-120			%	10/26/2014	10/26/2014
BLANK	SURROGATE: 4-BROMOFLUOR	99.4	75-120			%	10/26/2014	10/26/2014
BLANK	SURROGATE: DIBROMOFLUOR	104	85-115			%	10/26/2014	10/26/2014
BLANK	SURROGATE: TOLUENE-D8 (S)	98.2	85-120			%	10/26/2014	10/26/2014

Quant Method: LALLW2.M
Run #: 1026L10
Instrument: Loki
Sequence: 141024
Initials: SV

GC SC-Blank-REG MDLs
Printed: 11/17/2014 3:26:38 PM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 74701

Case No: 74701 Date Analyzed: 10/26/2014

Matrix: WATER Instrument: Loki

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
141026AL-LCS	Lab Control Spike	70-120	87.7		75-120	119	
141026AL-BLK	Blank	70-120	104		75-120	99.4	
AZ05594	TB102114	70-120	108		75-120	98.6	
AZ05593	RHMW06-GW-01	70-120	109		75-120	98.6	

Comments: Batch: #86CRE-141026AL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 74701

Case No: 74701 Date Analyzed: 10/26/2014

Matrix: WATER Instrument: Loki

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
141026AL-LCS	Lab Control Spike	85-115	88.0		85-120	106	
141026AL-BLK	Blank	85-115	104		85-120	98.2	
AZ05594	TB102114	85-115	106		85-120	101	
AZ05593	RHMW06-GW-01	85-115	105		85-120	101	

Comments: Batch: #86CRE-141026AL

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **141026W-05593 LCS - 191309**
Batch ID: #86CRE-141026AL

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,1,1,2-TETRACHLOROETHANE	10.00	9.15	91.5	80-130
1,1,1-TRICHLOROETHANE	10.00	9.54	95.4	65-130
1,1,2,2-TETRACHLOROETHANE	10.00	10.9	109	65-130
1,1,2-TRICHLOROETHANE	10.00	9.15	91.5	75-125
1,1-DICHLOROETHANE	10.00	8.64	86.4	70-135
1,1-DICHLOROETHENE	10.00	9.46	94.6	70-130
1,2,3-TRICHLOROPROPANE	10.00	9.50	95.0	75-125
1,2,4-TRICHLOROBENZENE	10.00	8.72	87.2	65-135
1,2-DIBROMO-3-CHLOROPROPANE	10.00	10.6	106	50-130
1,2-DIBROMOETHANE	10.00	9.54	95.4	80-120
1,2-DICHLOROBENZENE	10.00	10.0	100	70-120
1,2-DICHLOROETHANE	10.00	10.2	102	70-130
1,2-DICHLOROPROPANE	10.00	9.39	93.9	75-125
1,3-DICHLOROBENZENE	10.00	10.7	107	75-125
1,3-DICHLOROPROPENE (TOTAL)	20.0	18.4	92.0	55-140
1,4-DICHLOROBENZENE	10.00	10.4	104	75-125
2-BUTANONE	10.00	9.58	95.8	30-150
4-METHYL-2-PENTANONE	10.00	8.53	85.3	60-135
ACETONE	10.00	9.06	90.6	40-140
BENZENE	10.00	10.2	102	80-120
BROMODICHLOROMETHANE	10.00	9.43	94.3	75-120
BROMOFORM	10.00	8.95	89.5	70-130
BROMOMETHANE	10.00	11.0	110	30-145
CARBON TETRACHLORIDE	10.00	10.3	103	65-140
CHLOROBENZENE	10.00	9.77	97.7	80-120
CHLOROETHANE	10.00	11.4	114	60-135
CHLOROFORM	10.00	8.92	89.2	65-135
CHLOROMETHANE	10.00	8.91	89.1	40-125
CIS-1,2-DICHLOROETHENE	10.00	9.83	98.3	70-125
DIBROMOCHLOROMETHANE	10.00	9.40	94.0	60-135
ETHYLBENZENE	10.00	10.4	104	75-125

Comments: _____

Primary	SPK
Quant Method :	LALLW2.M
Extraction Date :	10/26/2014
Analysis Date :	10/26/2014
Instrument :	Loki
Run :	1026L05
Initials :	SV

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APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **141026W-05593 LCS - 191309**
Batch ID: #86CRE-141026AL

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
HEXACHLOROBUTADIENE	10.00	9.79	97.9	50-140
METHYL TERT-BUTYL ETHER	10.00	9.21	92.1	65-125
METHYLENE CHLORIDE	10.00	9.94	99.4	55-140
STYRENE	10.00	11.1	111	65-135
TETRACHLOROETHENE	10.00	9.14	91.4	45-150
TOLUENE	10.00	10.5	105	75-120
TRANS-1,2-DICHLOROETHENE	10.00	9.32	93.2	60-140
TRICHLOROETHENE	10.00	9.30	93.0	70-125
VINYL CHLORIDE	10.00	7.75	77.5	50-145
XYLENES (TOTAL)	30.0	31.3	104	75-130
SURROGATE: 1,2-DICHLOROETHANE-D	27.7	24.3	87.7	70-120
SURROGATE: 4-BROMOFLUOROBENZ	22.2	26.5	119	75-120
SURROGATE: DIBROMOFLUOROMETH	27.2	23.9	88.0	85-115
SURROGATE: TOLUENE-D8 (S)	26.2	27.6	106	85-120

Comments: _____

Primary	SPK
Quant Method :	LALLW2.M
Extraction Date :	10/26/2014
Analysis Date :	10/26/2014
Instrument :	Loki
Run :	1026L05
Initials :	SV

Printed: 11/17/2014 3:26:40 PM
APPL Standard LCS

Matrix Spike Recoveries

EPA 8260C WATER

APPL ID: **141117W-05593 MS - 191309**
Batch ID: #86CRE-141026AL
Sample ID: AZ05593
Client ID: RHMW06-GW-01

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,1,1,2-TETRACHLOROETHANE	10.00	ND	12.6	12.2	126	122	80-130	3.2	30
1,1,1-TRICHLOROETHANE	10.00	ND	12.6	12.0	126	120	65-130	4.9	30
1,1,2,2-TETRACHLOROETHANE	10.00	ND	13.8	13.5	138 #	135 #	65-130	2.2	30
1,1,2-TRICHLOROETHANE	10.00	ND	12.3	11.6	123	116	75-125	5.9	30
1,1-DICHLOROETHANE	10.00	ND	13.6	12.7	136 #	127	70-135	6.8	30
1,1-DICHLOROETHENE	10.00	ND	12.2	11.6	122	116	70-130	5.0	30
1,2,3-TRICHLOROPROPANE	10.00	ND	12.2	12.3	122	123	75-125	0.82	30
1,2,4-TRICHLOROBENZENE	10.00	ND	11.8	11.8	118	118	65-135	0.0	30
1,2-DIBROMO-3-CHLOROPROPANE	10.00	ND	9.74	10.3	97.4	103	50-130	5.6	30
1,2-DIBROMOETHANE	10.00	ND	12.0	11.4	120	114	80-120	5.1	30
1,2-DICHLOROBENZENE	10.00	ND	12.4	11.9	124 #	119	70-120	4.1	30
1,2-DICHLOROETHANE	10.00	ND	12.6	12.2	126	122	70-130	3.2	30
1,2-DICHLOROPROPANE	10.00	ND	13.4	13.2	134 #	132 #	75-125	1.5	30
1,3-DICHLOROBENZENE	10.00	ND	13.3	12.7	133 #	127 #	75-125	4.6	30
1,4-DICHLOROBENZENE	10.00	ND	12.5	12.2	125	122	75-125	2.4	30
2-BUTANONE	10.00	ND	7.90	7.69	79.0	76.9	30-150	2.7	30
4-METHYL-2-PENTANONE	10.00	ND	6.78	7.21	67.8	72.1	60-135	6.1	30
ACETONE	10.00	ND	7.59	6.94	75.9	69.4	40-140	8.9	30
BENZENE	10.00	ND	13.4	12.9	134 #	129 #	80-120	3.8	30
BROMODICHLOROMETHANE	10.00	ND	12.5	12.1	125 #	121 #	75-120	3.3	30
BROMOFORM	10.00	ND	11.4	11.1	114	111	70-130	2.7	30
BROMOMETHANE	10.00	ND	13.1	13.0	131	130	30-145	0.77	30
CARBON TETRACHLORIDE	10.00	ND	12.1	11.7	121	117	65-140	3.4	30
CHLOROBENZENE	10.00	ND	13.3	12.6	133 #	126 #	80-120	5.4	30
CHLOROETHANE	10.00	ND	9.53	9.51	95.3	95.1	60-135	0.21	30
CHLOROFORM	10.00	ND	13.0	12.5	130	125	65-135	3.9	30
CHLOROMETHANE	10.00	ND	8.69	8.43	86.9	84.3	40-125	3.0	30
CIS-1,2-DICHLOROETHENE	10.00	ND	12.6	12.2	126 #	122	70-125	3.2	30
DIBROMOCHLOROMETHANE	10.00	ND	12.1	11.6	121	116	60-135	4.2	30
ETHYLBENZENE	10.00	ND	14.9	14.2	149 #	142 #	75-125	4.8	30

= Recovery is outside QC limits.

Primary	SPK	DUP
Quant Method :	LALLW.M	LALLW.M
Extraction Date :	11/17/2014	11/17/2014
Analysis Date :	11/17/2014	11/17/2014
Instrument :	Loki	Loki
Run :	1117L31	1117L32
Initials :	SV	

Comments:

Printed: 11/18/2014 8:47:33 AM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8260C WATER

APPL ID: **141117W-05593 MS - 191309**
Batch ID: #86CRE-141026AL
Sample ID: AZ05593
Client ID: RHMW06-GW-01

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
HEXACHLOROBUTADIENE	10.00	ND	12.5	11.7	125	117	50-140	6.6	30
METHYL TERT-BUTYL ETHER	10.00	ND	11.2	11.2	112	112	65-125	0.0	30
METHYLENE CHLORIDE	10.00	ND	13.6	13.4	136	134	55-140	1.5	30
STYRENE	10.00	ND	13.1	12.5	131	125	65-135	4.7	30
TETRACHLOROETHENE	10.00	ND	12.8	11.8	128	118	45-150	8.1	30
TOLUENE	10.00	ND	13.9	13.4	139 #	134 #	75-120	3.7	30
TRANS-1,2-DICHLOROETHENE	10.00	ND	13.2	12.8	132	128	60-140	3.1	30
TRICHLOROETHENE	10.00	ND	12.2	12.2	122	122	70-125	0.0	30
VINYL CHLORIDE	10.00	ND	9.12	8.81	91.2	88.1	50-145	3.5	30
XYLENES (TOTAL)	30.0	ND	43.7	41.8	146 #	139 #	75-130	4.4	30
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	NA	22.5	22.7	90.1	90.9	70-120		
SURROGATE: 4-BROMOFLUOROBENZE	22.9	NA	26.4	25.9	115	113	75-120		
SURROGATE: DIBROMOFLUOROMETH	24.0	NA	22.7	22.5	94.5	93.7	85-115		
SURROGATE: TOLUENE-D8 (S)	24.9	NA	26.3	25.6	106	103	85-120		

= Recovery is outside QC limits.

Comments: _____

Primary	SPK	DUP
Quant Method :	LALLW.M	LALLW.M
Extraction Date :	11/17/2014	11/17/2014
Analysis Date :	11/17/2014	11/17/2014
Instrument :	Loki	Loki
Run :	1117L31	1117L32
Initials :	SV	

Printed: 11/18/2014 8:47:33 AM
APPL MSD SCII

EPA 8260C^LL

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 74701

Case No: 74701 Date Analyzed: 10/26/2014

Matrix: WATER Instrument: Loki

Blank ID: 141026AL-BLK Time Analyzed: 1457

APPL ID.	Client Sample No.	File ID.	Date Analyzed
141026AL-LCS	Lab Control Spike	1026L05	10/26/2014 1235
141026AL-BLK	Blank	1026L10	10/26/2014 1457
AZ05594	TB102114	1026L13	10/26/2014 1622
AZ05593	RHMW06-GW-01	1026L18	10/26/2014 1843

Comments: Batch: #86CRE-141026AL

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: ~~1024L01.D~~ 74701
Matrix: Water hp 11-18-14
ID: 25ug/mL BFB Std 09-30-14

SDG No: hp 11-18-14 ~~Loki~~ 74701
Date Analyzed: 10/24/14
Instrument: Loki
Time Analyzed: 10:32

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.1ug/L Vol Std 10-2	1024L05.D	10/24/14 12:19
2		0.3ug/L Vol Std 10-2	1024L06.D	10/24/14 12:47
3		0.5ug/L Vol Std 10-2	1024L07.D	10/24/14 13:16
4		1.0ug/L Vol Std 10-2	1024L08.D	10/24/14 13:44
5		5.0ug/L Vol Std 10-2	1024L09.D	10/24/14 14:12
6		10ug/L Vol Std 10-24	1024L10.D	10/24/14 14:41
7		20ug/L Vol Std 10-24	1024L11.D	10/24/14 15:09
8		40ug/L Vol Std 10-24	1024L12.D	10/24/14 15:37
9		100ug/L Vol Std 10-2	1024L13.D	10/24/14 16:05
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	16.5
75	30 - 60% of mass 95	48.1
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.7
173	0 - 2.09% of mass 174	0.0
174	50 - 100% of mass 95	96.2
175	5 - 9% of mass 174	7.7
176	94.9 - 101% of mass 174	96.1
177	5 - 9% of mass 176	6.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: ~~1024L16.D~~ 74701
Matrix: Water 11-18-14
ID: 25ug/mL BFB Std 09-30-14

SDG No: ~~Loki~~ 74701 11-18-14
Date Analyzed: 10/24/2014
Instrument: Loki
Time Analyzed: 17:30

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		10ug/L Std 10-24-14(	1024L17.D	10/24/2014 17:59
2		10ug/L Std 10-24-14(	1024L18.D	10/24/2014 18:27
3				
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17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	18.7
75	30 - 60% of mass 95	49.6
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	7.2
173	0 - 2.09% of mass 174	2.0
174	50 - 100% of mass 95	94.1
175	5 - 9% of mass 174	7.5
176	94.9 - 101% of mass 174	98.5
177	5 - 9% of mass 176	5.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 74701
Matrix: Water
ID: 25ug/mL BFB Std 09-30-14

SDG No: 74701
Date Analyzed: 10/26/2014
Instrument: Loki
Time Analyzed: 10:43

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		10ug/L Std 10-26-14(	1026L04.D	10/26/2014 12:07
2	Lab Control Spike	141026A LCS-1WL	1026L05.D	10/26/2014 12:35
3	Blank	141026A BLK-1WL	1026L10.D	10/26/2014 14:57
4	TB102114	AZ05594W01	1026L13.D	10/26/2014 16:22
5	RHMW06-GW-01	AZ05593W01	1026L18.D	10/26/2014 18:43
6				
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16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	16.1
75	30 - 60% of mass 95	46.9
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.5
173	0 - 2.09% of mass 174	0.0
174	50 - 100% of mass 95	96.9
175	5 - 9% of mass 174	7.6
176	94.9 - 101% of mass 174	97.0
177	5 - 9% of mass 176	6.7

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: ~~1110L01.D~~ 74701
Matrix: Water 11-18-14
ID: 25ug/mL BFB Std 09-30-14

SDG No: ~~Loki~~ 74701 11-18-14
Date Analyzed: 11/10/2014
Instrument: Loki
Time Analyzed: 16:17

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.3ug/L Vol Std 11-1	1110L05.D	11/10/2014 18:04
2		0.5ug/L Vol Std 11-1	1110L06.D	11/10/2014 18:32
3		1.0ug/L Vol Std 11-1	1110L07.D	11/10/2014 19:01
4		5.0ug/L Vol Std 11-1	1110L08.D	11/10/2014 19:29
5		10ug/L Vol Std 11-10	1110L09.D	11/10/2014 19:57
6		20ug/L Vol Std 11-10	1110L10.D	11/10/2014 20:25
7		40ug/L Vol Std 11-10	1110L11.D	11/10/2014 20:54
8		100ug/L Vol Std 11-1	1110L12.D	11/10/2014 21:22
9				
10				
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19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	19.1
75	30 - 60% of mass 95	49.5
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.7
173	0 - 2.09% of mass 174	0.0
174	50 - 100% of mass 95	86.7
175	5 - 9% of mass 174	7.7
176	94.9 - 101% of mass 174	95.6
177	5 - 9% of mass 176	6.5

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: ~~1110L15.D~~ 74701
Matrix: Water hp 11-18-14
ID: 25ug/mL BFB Std 09-30-14

SDG No: ~~Loki~~ 74701 hp 11-18-14
Date Analyzed: 11/10/2014
Instrument: Loki
Time Analyzed: 22:46

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		10ug/L Std 11-10-14(	1110L16.D	11/10/2014 23:14
2		10ug/L Std 11-10-14(	1110L17.D	11/10/2014 23:42
3				
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20				
21				
22				

m/e		
50	15 - 40% of mass 95	21.9
75	30 - 60% of mass 95	52.9
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.2
173	0 - 2.09% of mass 174	2.2
174	50 - 100% of mass 95	85.0
175	5 - 9% of mass 174	7.9
176	94.9 - 101% of mass 174	96.0
177	5 - 9% of mass 176	7.1

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: ~~1117L09.D~~ 74701
Matrix: Water hp 11-18-14
ID: 25ug/mL BFB Std 09-30-14

SDG No: hp 11-18-14 ~~Loki~~ 74701
Date Analyzed: 11/17/2014
Instrument: Loki
Time Analyzed: 11:46

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		10ug/L Vol Std 11-17	1117L10.D	11/17/2014 12:14
2	Lab Control Spike	141117A LCS-1WL	1117L11.D	11/17/2014 12:42
3	Blank	141117A BLK-1WL	1117L14.D	11/17/2014 14:07
4		AZ05593W458 MS-1WL	1117L31.D	11/17/2014 22:04
5		AZ05593W458 MSD-1WL	1117L32.D	11/17/2014 22:32
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	19.5
75	30 - 60% of mass 95	51.5
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.7
173	0 - 2.09% of mass 174	0.0
174	50 - 100% of mass 95	91.1
175	5 - 9% of mass 174	7.6
176	94.9 - 101% of mass 174	96.2
177	5 - 9% of mass 176	6.2

8A

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: _____ SDG No.: 74701

Lab File ID (Standard): 1024L11.D Date Analyzed: 10/24/14

Instrument ID: Loki Time Analyzed: 15:09

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

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	423488	5.95	363136	9.18	248000	11.51
	UPPER LIMIT	846976	6.45	726272	9.68	496000	12.01
	LOWER LIMIT	211744	5.45	181568	8.68	124000	11.01
	SAMPLE NO.						
01	10ug/L Std 10-26-14(CC	397248	5.95	332288	9.18	219840	11.51
02	141026A LCS-1WL	395328	5.95	342336	9.18	219328	11.51
03	141026A BLK-1WL	333440	5.95	314944	9.18	147328	11.51
04	AZ05594W01	312640	5.95	299648	9.18	142656	11.51
05	AZ05593W01	302912	5.95	289664	9.18	137408	11.51
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22							

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

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

8A

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: _____ SDG No.: 74701

Lab File ID (Standard): 1110L10.D Date Analyzed: 11/10/14

Instrument ID: Loki Time Analyzed: 20:25

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

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	650240	5.95	558080	9.18	338304	11.51
	UPPER LIMIT	1300480	6.45	1116160	9.68	676608	12.01
	LOWER LIMIT	325120	5.45	279040	8.68	169152	11.01
	SAMPLE NO.						
01	10ug/L Vol Std 11-17-14	572224	5.95	471168	9.18	281408	11.50
02	AZ05593W458 MS-1WL	536640	5.95	438208	9.18	259200	11.50
03	AZ05593W458 MSD-1W	548672	5.95	456448	9.18	264512	11.50
04							
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

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

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

EPA METHOD 8260C
Volatile Organic Compounds
Sample Data

APPL, INC.

EPA 8260C WATER

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

Project: 749435 Red Hill TO 0068

Sample ID: RHMW06-GW-01

Sample Collection Date: 10/21/2014

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 74701

APPL ID: AZ05593

QCG: #86CRE-141026AL-191309

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,2-DIBROMO-3-CHLOROPROPANE	1.00 U	2.0	1.00	0.76	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,2-DICHLOROETHANE	0.100 U	0.10	0.100	0.030	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,3-DICHLOROPROPENE (TOTAL)	0.30 U	1.0	0.30	0.18	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
EPA 8260C	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	10/26/2014	10/26/2014
EPA 8260C	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	10/26/2014	10/26/2014
EPA 8260C	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	10/26/2014	10/26/2014
EPA 8260C	BENZENE	0.200 U	0.20	0.200	0.060	ug/L	10/26/2014	10/26/2014
EPA 8260C	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	10/26/2014	10/26/2014
EPA 8260C	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	10/26/2014	10/26/2014
EPA 8260C	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	10/26/2014	10/26/2014
EPA 8260C	CARBON TETRACHLORIDE	0.100 U	0.10	0.100	0.030	ug/L	10/26/2014	10/26/2014
EPA 8260C	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	10/26/2014	10/26/2014
EPA 8260C	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	10/26/2014	10/26/2014
EPA 8260C	CHLOROFORM	0.20 U	0.2	0.20	0.06	ug/L	10/26/2014	10/26/2014
EPA 8260C	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	10/26/2014	10/26/2014
EPA 8260C	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	10/26/2014	10/26/2014
EPA 8260C	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
EPA 8260C	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	10/26/2014	10/26/2014
EPA 8260C	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
EPA 8260C	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	10/26/2014	10/26/2014
EPA 8260C	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	10/26/2014	10/26/2014
EPA 8260C	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	10/26/2014	10/26/2014

Quant Method: LALLW2.M
Run #: 1026L18
Instrument: Loki
Sequence: 141024
Dilution Factor: 1
Initials: SV

Printed: 11/17/2014 3:26:56 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 8260C WATER

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: 749435 Red Hill TO 0068

ARF: 74701

Sample ID: RHMW06-GW-01

APPL ID: AZ05593

Sample Collection Date: 10/21/2014

QCG: #86CRE-141026AL-191309

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	TETRACHLOROETHENE	0.30 U	0.3	0.30	0.08	ug/L	10/26/2014	10/26/2014
EPA 8260C	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	10/26/2014	10/26/2014
EPA 8260C	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
EPA 8260C	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	10/26/2014	10/26/2014
EPA 8260C	VINYL CHLORIDE	0.10 U	0.1	0.10	0.03	ug/L	10/26/2014	10/26/2014
EPA 8260C	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
EPA 8260C	SURROGATE: 1,2-DICHLOROETHANE	109	70-120			%	10/26/2014	10/26/2014
EPA 8260C	SURROGATE: 4-BROMOFLUOROBEN	98.6	75-120			%	10/26/2014	10/26/2014
EPA 8260C	SURROGATE: DIBROMOFLUOROMET	105	85-115			%	10/26/2014	10/26/2014
EPA 8260C	SURROGATE: TOLUENE-D8 (S)	101	85-120			%	10/26/2014	10/26/2014

Quant Method: LALLW2.M
Run #: 1026L18
Instrument: Loki
Sequence: 141024
Dilution Factor: 1
Initials: SV

Printed: 11/17/2014 3:26:56 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\141024\1026L18.D Vial: 17
Acq On : 26 Oct 14 18:43 Operator: DG,SV,RS
Sample : AZ05593W01 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 29 15:16 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	302912	25.00	ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	289664	25.00	ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	137408	25.00	ppb	0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	187529	28.41	ppb	0.00
Spiked Amount 27.165			Recovery =	104.598%		
38) 1,2-DCA-D4(S)	5.52	65	210150	30.06	ppb	0.00
Spiked Amount 27.695			Recovery =	108.542%		
58) Toluene-D8(S)	7.71	98	544835	26.54	ppb	0.00
Spiked Amount 26.150			Recovery =	101.486%		
66) 4-Bromofluorobenzene(S)	10.36	95	171529	21.92	ppb	0.00
Spiked Amount 22.231			Recovery =	98.601%		

Target Compounds Qvalue

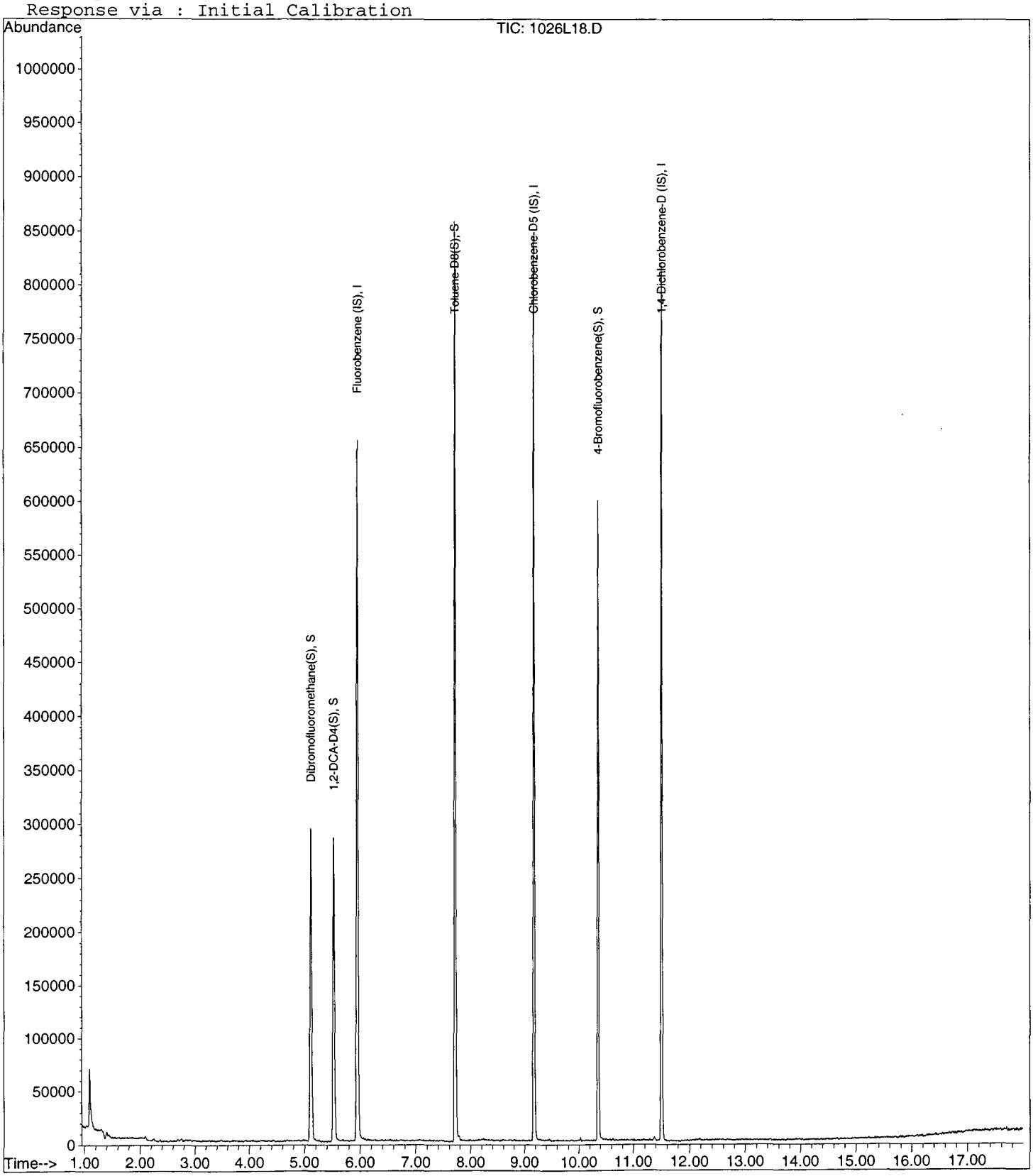
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141024\1026L18.D Vial: 17
Acq On : 26 Oct 14 18:43 Operator: DG,SV,RS
Sample : AZ05593W01 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 29 15:16 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration



EPA 8260C WATER

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

Project: 749435 Red Hill TO 0068

Sample ID: TB102114

Sample Collection Date: 10/21/2014

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 74701

APPL ID: AZ05594

QCG: #86CRE-141026AL-191309

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,2-DIBROMO-3-CHLOROPROPANE	1.00 U	2.0	1.00	0.76	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,2-DICHLOROETHANE	0.100 U	0.10	0.100	0.030	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,3-DICHLOROPROPENE (TOTAL)	0.30 U	1.0	0.30	0.18	ug/L	10/26/2014	10/26/2014
EPA 8260C	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
EPA 8260C	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	10/26/2014	10/26/2014
EPA 8260C	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	10/26/2014	10/26/2014
EPA 8260C	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	10/26/2014	10/26/2014
EPA 8260C	BENZENE	0.200 U	0.20	0.200	0.060	ug/L	10/26/2014	10/26/2014
EPA 8260C	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	10/26/2014	10/26/2014
EPA 8260C	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	10/26/2014	10/26/2014
EPA 8260C	BROMOMETHANE	1.2 J	2.0	0.50	0.24	ug/L	10/26/2014	10/26/2014
EPA 8260C	CARBON TETRACHLORIDE	0.100 U	0.10	0.100	0.030	ug/L	10/26/2014	10/26/2014
EPA 8260C	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	10/26/2014	10/26/2014
EPA 8260C	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	10/26/2014	10/26/2014
EPA 8260C	CHLOROFORM	0.20 U	0.2	0.20	0.06	ug/L	10/26/2014	10/26/2014
EPA 8260C	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	10/26/2014	10/26/2014
EPA 8260C	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	10/26/2014	10/26/2014
EPA 8260C	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
EPA 8260C	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	10/26/2014	10/26/2014
EPA 8260C	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
EPA 8260C	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	10/26/2014	10/26/2014
EPA 8260C	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	10/26/2014	10/26/2014
EPA 8260C	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	10/26/2014	10/26/2014

J = Estimated value.

Quant Method: LALLW2.M
Run #: 1026L13
Instrument: Loki
Sequence: 141024
Dilution Factor: 1
Initials: SV

Printed: 11/17/2014 3:26:56 PM
APPL-F1-SC-NoMC-REG MDLs

EPA 8260C WATER

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gene Wright

Project: 749435 Red Hill TO 0068

ARF: 74701

Sample ID: TB102114

APPL ID: AZ05594

Sample Collection Date: 10/21/2014

QCG: #86CRE-141026AL-191309

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	TETRACHLOROETHENE	0.30 U	0.3	0.30	0.08	ug/L	10/26/2014	10/26/2014
EPA 8260C	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	10/26/2014	10/26/2014
EPA 8260C	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
EPA 8260C	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	10/26/2014	10/26/2014
EPA 8260C	VINYL CHLORIDE	0.10 U	0.1	0.10	0.03	ug/L	10/26/2014	10/26/2014
EPA 8260C	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
EPA 8260C	SURROGATE: 1,2-DICHLOROETHANE	108	70-120			%	10/26/2014	10/26/2014
EPA 8260C	SURROGATE: 4-BROMOFLUOROBEN	98.6	75-120			%	10/26/2014	10/26/2014
EPA 8260C	SURROGATE: DIBROMOFLUOROMET	106	85-115			%	10/26/2014	10/26/2014
EPA 8260C	SURROGATE: TOLUENE-D8 (S)	101	85-120			%	10/26/2014	10/26/2014

J = Estimated value.

Quant Method:	LALLW2.M
Run #:	1026L13
Instrument:	Loki
Sequence:	141024
Dilution Factor:	1
Initials:	SV

Printed: 11/17/2014 3:26:56 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\141024\1026L13.D Vial: 12
Acq On : 26 Oct 14 16:22 Operator: DG,SV,RS
Sample : AZ05594W01 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 29 15:11 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	312640	25.00 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	299648	25.00 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	142656	25.00 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.11	111	196515	28.85 ppb	0.00
Spiked Amount 27.165			Recovery =	106.200%	
38) 1,2-DCA-D4(S)	5.53	65	216262	29.97 ppb	0.00
Spiked Amount 27.695			Recovery =	108.221%	
58) Toluene-D8(S)	7.71	98	558772	26.31 ppb	0.00
Spiked Amount 26.150			Recovery =	100.615%	
66) 4-Bromofluorobenzene(S)	10.36	95	177387	21.91 ppb	0.00
Spiked Amount 22.231			Recovery =	98.570%	
Target Compounds					Qvalue
6) Bromomethane	1.45	94	6468	1.19 ppb	94

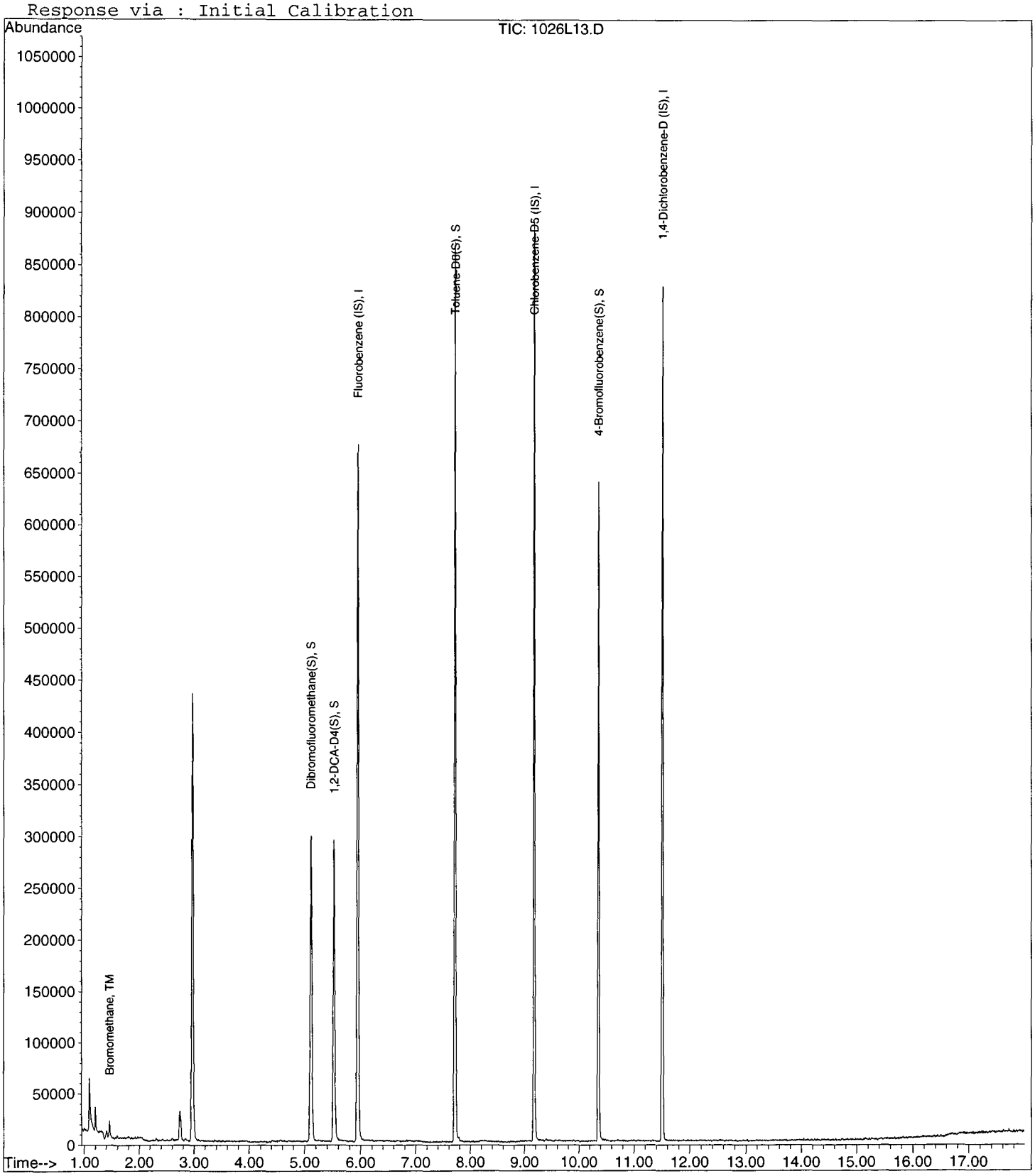
(#) = qualifier out of range (m) = manual integration

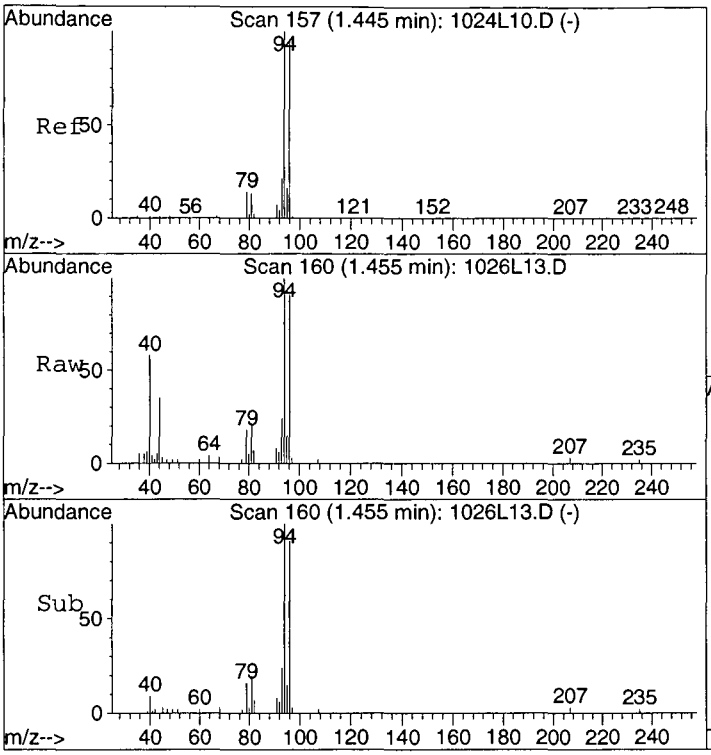
Quantitation Report

Data File : M:\LOKI\DATA\141024\1026L13.D Vial: 12
Acq On : 26 Oct 14 16:22 Operator: DG,SV,RS
Sample : AZ05594W01 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 29 15:11 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration

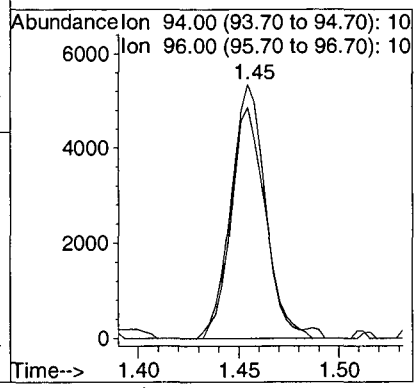




#6
Bromomethane
Concen: 1.19 ppb
RT: 1.45 min Scan# 160
Delta R.T. 0.01 min
Lab File: 1026L13.D
Acq: 26 Oct 14 16:22

Tgt Ion: 94 Resp: 6468

Ion	Ratio	Lower	Upper
94	100		
96	90.9	67.5	125.3



EPA METHOD 8260C
Volatile Organic Compounds
Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 10/24/14
Matrix: Instrument: Loki Initials:

			1024L05 D	1024L06 D	1024L07 D	1024L08.D	1024L09.D	1024L10 D	1024L11.D	1024L12.D	1024L13 D					
		Compound	0.1	0.3	0.5	1	5	10	20	40	100		Avg	%RSD		
1	I	Fluorobenzene (IS)	ISTD													
2	TML	Dichlorodifluoromethane		0.4471	0.5328	0.4546	0.3066	0.3043	0.3185	0.3013	0.3216		0.37	24	TML	0.999
3	TM	Freon 114		0.3222	0.3065	0.3512	0.2548	0.2555	0.2452	0.2611	0.2757		0.28	13	TM	
4	TM**L	Chloromethane		1.011	0.8594	0.8542	0.5506	0.5124	0.4798	0.4802	0.4862		0.65	33	TM**L	1.000
5	TM*	Vinyl chloride		0.7441	0.7516	0.6763	0.5030	0.4891	0.4716	0.4720	0.4860		0.57	22	TM*	
6	TML	Bromomethane		0.6825	0.5298	0.5059	0.3505	0.3257					0.48	30	TML	0.999
7	TML	Chloroethane			0.3590	0.3710	0.2615	0.2390	0.2267	0.2277			0.28	24	TML	1.000
8	TM	Dichlorofluoromethane			1.267	1.134	1.013	0.9407	0.8410	0.9197	0.9142		1.0	15	TM	
9	TM	Trichlorofluoromethane			0.9130	0.8977	0.6819	0.6851	0.6637	0.6887	0.6972		0.75	15	TM	
10	TM	Acrolein		0.0585	0.0601	0.0629	0.0561	0.0551	0.0526	0.0494	0.0538		0.06	7.7	TM	
11	TML	Acetone			0.4654	0.2575	0.1663	0.1460	0.1257	0.1201	0.1251		0.20	63	TML	0.999
12	TM	Freon-113		0.4213	0.5234	0.5107	0.4182	0.3871	0.3730	0.4021	0.4080		0.43	13	TM	
13	TM*	1,1-DCE	0.6894	0.7980	0.8367	0.8094	0.6327	0.6356	0.5990	0.6261	0.6637		0.70	13	TM*	
14	TM	t-Butanol		0.0194	0.0173	0.0161	0.0139	0.0146	0.0138	0.0143	0.0137		0.02	13	TM	
15	TM	Acetonitrile			0.0750	0.0734	0.0656	0.0606	0.0566	0.0502	0.0594		0.06	14	TM	
16	TML	Methyl Acetate		0.7286	0.5852	0.4859	0.4406	0.4141	0.3787	0.3709			0.49	27	TML	0.999
17	TM	Iodomethane			0.1706	0.1688	0.1397	0.1374	0.1406	0.1630			0.15	10	TM	
18	TM	Acrylonitrile			0.1516	0.1583	0.1321	0.1220	0.1178	0.1272	0.1263		0.13	11	TM	
19	TML	Methylene chloride			0.7472	0.6765	0.5715	0.5373	0.4680	0.5002	0.4929		0.57	18	TML	1.000
20	TML	Carbon disulfide			1.596	1.478	1.230	1.150	1.059	1.126	1.166		1.3	16	TML	0.999
21	TM	Methyl t-butyl ether (MtBE)		1.135	1.203	1.090	1.044	1.027	1.008	1.151	1.247		1.1	7.7	TM	
22	TM	Trans-1,2-DCE		0.5930	0.5610	0.5408	0.4659	0.4307	0.4066	0.4383	0.4685		0.49	14	TM	
23	TM	Diisopropyl Ether		1.379	1.265	1.271	1.125	1.205	1.219	1.437	1.544		1.3	11	TM	
24	TM**	1,1-DCA		1.198	1.004	1.022	0.9069	0.8656	0.7992	0.8326	0.8273		0.93	14	TM**	
25	TM	Hexane		0.3855	0.3701	0.3755	0.3006	0.3256	0.3249	0.3947	0.4653		0.37	14	TM	
26	TM	Vinyl Acetate			0.3498	0.3228	0.2685	0.2674	0.2505	0.2778	0.2802		0.29	12	TM	
27	TM	Ethyl tert Butyl Ether		1.101	1.022	1.006	1.037	1.030	1.041	1.228	1.342		1.1	11	TM	
28	TML	MEK (2-Butanone)			0.2722	0.2008	0.1932	0.1834	0.1541	0.1755	0.1710		0.19	20	TML	0.999
29	TM	Cis-1,2-DCE		0.5438	0.6042	0.5454	0.4926	0.5008	0.4877	0.5296	0.5447		0.53	7.2	TM	
30	TML	2,2-Dichloropropane		0.2796	0.3160	0.3120	0.2420	0.2323	0.2125	0.2210	0.2234		0.25	16	TML	1.000
31	TM*	Chloroform	0.9907	1.080	1.078	1.053	0.9639	0.8868	0.8011	0.8486	0.8284		0.95	12	TM*	
32	TM	Bromochloromethane		0.2676	0.2986	0.3428	0.2848	0.2673	0.2410	0.2417	0.2496		0.27	13	TM	
33	S	Dibromofluoromethane(S)		0.6168	0.6345	0.5864	0.5496	0.5138	0.4905	0.4792	0.4869		0.54	11	S	
34	TM	1,1,1-TCA			0.8275	0.9792	0.8022	0.7439	0.6882	0.7214	0.7264		0.78	13	TM	
35	TM	Cyclohexane			0.3592	0.3563	0.2952	0.2948	0.2926	0.3564	0.3435		0.33	9.8	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 10/24/14
Matrix: Instrument: Loki Initials:

		Compound	0.1	0.3	0.5	1	5	10	20	40	100		Avg	%RSD		
36	TM	1,1-Dichloropropene		0.5655	0.5273	0.5390	0.5148	0.5321	0.5277	0.5843	0.6062		0.55	5.9	TM	
37	TM	2,2,4-Trimethylpentane		0.9469	0.9480	0.9068	0.8650	0.9673	1.007	1.116	1.321		1.0	14	TM	
38	S	1,2-DCA-D4(S)		0.7002	0.6504	0.6260	0.5578	0.5478	0.5104	0.5059	0.5173		0.58	13	S	
39	TML	Carbon Tetrachloride	0.3244	0.5328	0.6540	0.6704	0.6583	0.6413	0.6041	0.6687	0.6697		0.60	19	TML	1.000
40	TM	Tert Amyl Methyl Ether		1.035	1.026	0.9848	1.013	1.083	1.074	1.217	1.297		1.1	10.0	TM	
41	TM	1,2-DCA	0.8305	0.8783	0.7379	0.7476	0.7024	0.6807	0.6105	0.6285	0.6288		0.72	13	TM	
42	TM	Benzene	2.388	1.989	1.958	1.858	1.796	1.782	1.699	1.826	1.868		1.9	11	TM	
43	TM	TCE		0.5172	0.5351	0.5497	0.4909	0.4807	0.4354	0.4764	0.4927		0.50	7.3	TM	
44	TM	2-Pentanone			0.2792	0.3155	0.3135	0.3205	0.3189	0.3453	0.3433		0.32	6.9	TM	
45	TM*	1,2-Dichloropropane		0.6994	0.6284	0.6508	0.5475	0.5118	0.4810	0.5318	0.5195		0.57	14	TM*	
46	TM	Bromodichloromethane		0.8199	0.8303	0.8258	0.7404	0.6856	0.6095	0.6686	0.6600		0.73	12	TM	
47	TM	Methyl Cyclohexane		0.5411	0.5729	0.5064	0.4599	0.4855	0.5148	0.6208	0.7092		0.55	15	TM	
48	TM	Dibromomethane		0.4072	0.3839	0.3689	0.3498	0.3293	0.2879	0.3082	0.2874		0.34	13	TM	
49	TM	2-Chloroethyl vinyl ether			0.0508	0.0509	0.0482	0.0404	0.0459	0.0525	0.0640		0.05	14	TM	
50	TM	MIBK (methyl isobutyl ketone)			0.3892	0.4766	0.3567	0.3338	0.3334	0.3638	0.4040		0.38	13	TM	
51	TM	1-Bromo-2-chloroethane		0.5255	0.4672	0.4584	0.4032	0.3992	0.3579	0.3980	0.4025		0.43	12	TM	
52	TM	Cis-1,3-Dichloropropene		0.9231	0.8823	0.8423	0.7133	0.7161	0.6855	0.7864	0.8235		0.80	11	TM	
53	TM*	Toluene	1.668	1.812	1.708	1.711	1.814	1.917	1.869	2.054	2.055		1.8	7.8	TM*	
54	TM	Trans-1,3-Dichloropropene		0.8491	0.7567	0.6847	0.6591	0.6379	0.6026	0.6819	0.7137		0.70	11	TM	
55	TM	1,1,2-TCA		0.4240	0.4913	0.4506	0.4064	0.3819	0.3421	0.3686	0.3652		0.40	12	TM	
56	TM	2-Hexanone		0.2767	0.2304	0.2409	0.2327	0.2144	0.2220	0.2449	0.2814		0.24	10	TM	
57	I	Chlorobenzene-D5 (IS)	ISTD													
58	S	Toluene-D8(S)		1.544	1.775	1.666	1.693	1.839	1.831	1.904	1.922		1.8	7.3	S	
59	TM	1,2-EDB		0.5575	0.5317	0.5088	0.5320	0.5138	0.4655	0.5044	0.4982		0.51	5.3	TM	
60	TM	Tetrachloroethene	0.7833	0.8054	0.7968	0.7962	0.7160	0.7169	0.6403	0.6469	0.6287		0.73	10	TM	
61	TM	1-Chlorohexane			0.4845	0.4915	0.5154	0.5254	0.5538	0.6653	0.6973		0.56	15	TM	
62	TM	1,1,1,2-Tetrachloroethane		0.8505	0.7306	0.6793	0.7075	0.6677	0.5984	0.6183	0.5925		0.68	13	TM	
63	TM	m&p-Xylene	0.7444	0.7886	0.7504	0.7124	0.8456	0.9248	0.9319	1.025	1.013		0.86	14	TM	
64	TM	o-Xylene	0.7328	0.7206	0.7081	0.7428	0.7747	0.8390	0.8401	0.9408	0.9926		0.81	13	TM	
65	TM	Styrene		1.125	1.147	1.150	1.313	1.491	1.543				1.3	14	TM	
66	S	4-Bromofluorobenzene(S)		0.6140	0.6086	0.5677	0.6356	0.7143	0.7244	0.7553	0.7832		0.68	12	S	
67	TM	1,3-Dichloropropane		0.9831	0.7780	0.8244	0.8934	0.8643	0.7762	0.8472	0.8440		0.85	7.8	TM	
68	TM	Dibromochloromethane		0.5850	0.6678	0.6693	0.6806	0.6488	0.6007	0.6223	0.6153		0.64	5.6	TM	
69	TM**	Chlorobenzene		1.807	1.586	1.496	1.624	1.600	1.459	1.570	1.555		1.6	6.6	TM**	
70	TM*	Ethylbenzene	1.787	1.956	1.948	2.006	2.175	2.305	2.295	2.576	2.532		2.2	13	TM*	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 10/24/14
Matrix: Instrument: Loki Initials:

		Compound	0.1	0.3	0.5	1	5	10	20	40	100		Avg	%RSD		
71	TM**	Bromoform		0.3933	0.4621	0.5080	0.5025	0.4793	0.4310	0.4367	0.4637		0.46	8.4	TM**	
72	I	1,4-Dichlorobenzene-D (IS)	ISTD													
73	TM	Isopropylbenzene		3.319	3.101	2.937	2.981	2.878	2.991	3.514	3.649		3.2	9.1	TM	
74	TM**L	1,1,2,2-Tetrachloroethane			1.480	1.350	1.162	1.035	0.9182	0.9731	0.9665		1.1	19	TM**L	1.000
75	TM	1,2,3-Trichloropropane			0.3347	0.3857	0.3408	0.3138	0.2897	0.3029	0.2995		0.32	10	TM	
76	TM	t-1,4-Dichloro-2-Butene			0.2298	0.1928	0.1875	0.2034	0.1755	0.2022	0.2097		0.20	8.7	TM	
77	TM	Bromobenzene		1.144	1.102	1.097	1.108	1.066	1.008	1.067	1.052		1.1	3.8	TM	
78	TM	n-Propylbenzene		3.878	3.694	3.393	3.539	3.773	3.877	4.463	4.428		3.9	9.9	TM	
79	TM	4-Ethyltoluene		3.357	3.189	2.796	3.086	3.412	3.544	3.972	3.917		3.4	12	TM	
80	TM	2-Chlorotoluene		2.588	2.513	2.118	2.351	2.508	2.468	2.731	2.642		2.5	7.6	TM	
81	TM	1,3,5-Trimethylbenzene		2.947	2.572	2.401	2.877	3.201	3.147	3.438	3.344		3.0	12	TM	
82	TM	4-Chlorotoluene		2.950	2.614	2.644	2.964	3.103	3.017	3.240	3.152		3.0	7.6	TM	
83	TM	Tert-Butylbenzene		2.384	2.333	2.166	2.293	2.255	2.284	2.677	2.788		2.4	9.1	TM	
84	TM	1,2,4-Trimethylbenzene		2.750	2.499	2.389	2.667	2.888	3.049	3.467	3.448		2.9	14	TM	
85	TM	Sec-Butylbenzene		3.563	3.122	3.065	3.313	3.515	3.545	4.009	4.144		3.5	11	TM	
86	TM	p-Isopropyltoluene		2.715	2.617	2.700	2.962	2.987	3.129	3.514	3.634		3.0	12	TM	
87	TM	Benzyl Chloride		1.762	1.525	1.544	1.414	1.329	1.218	1.261	1.410		1.4	12	TM	
88	TM	1,3-DCB		2.364	2.050	1.990	2.205	2.092	1.968	2.040	2.066		2.1	6.2	TM	
89	TM	1,4-DCB		2.664	2.248	2.280	2.401	2.212	2.068	2.104	2.144		2.3	8.5	TM	
90	TM	n-Butylbenzene		2.462	2.605	2.528	2.571	2.683	2.715	3.326	3.496		2.8	14	TM	
91	TM	1,2-DCB		2.305	2.143	2.175	2.113	1.911	1.831	1.909	2.072		2.1	7.8	TM	
92	TML	Hexachloroethane		0.9871	0.8350	0.9429	0.7460	0.6848	0.6049	0.6336	0.6600		0.76	19	TML	0.999
93	TML	1,2-Dibromo-3-chloropropane			0.1752	0.1865	0.1491	0.1319	0.1290	0.1271			0.15	17	TML	1.000
94	TM	1,2,4-Trichlorobenzene		1.695	1.495	1.322	1.261	1.210	1.150	1.384	1.633		1.4	14	TM	
95	TM	Hexachlorobutadiene			0.9785	0.9462	0.8644	0.7818	0.7054	0.7638	0.8589		0.84	12	TM	
96	TM	Naphthalene		1.639	1.511	1.338	1.441	1.413	1.441	1.968			1.5	14	TM	
97	TM	1,2,3-Trichlorobenzene		1.505	1.470	1.323	1.239	1.245	1.192	1.468	1.567		1.4	10	TM	
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L05.D Vial: 4
Acq On : 24 Oct 14 12:19 Operator: DG,SV,RS
Sample : 0.1ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:17:45 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	313664	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	292352	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	149568	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.11	111	1545	0.22607 ppb	0.00
Spiked Amount 26.823			Recovery =	0.843%	
38) 1,2-DCA-D4(S)	5.52	65	1721	0.23774 ppb	0.00
Spiked Amount 26.964			Recovery =	0.883%	
58) Toluene-D8(S)	7.71	98	3487	0.16829 ppb	0.00
Spiked Amount 25.836			Recovery =	0.650%	
66) 4-Bromofluorobenzene(S)	10.36	95	1803	0.22829 ppb	0.00
Spiked Amount 26.206			Recovery =	0.870%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.01	85	519	0.31693 ppb #	81
3) Freon 114	1.10	85	299	0.08391 ppb	97
4) Chloromethane	1.14	50	1919	-0.07904 ppb #	82
5) Vinyl chloride	1.21	62	1350	0.18739 ppb #	73
6) Bromomethane	1.46	94	1272	-0.13290 ppb	79
7) Chloroethane	1.54	64	629	-0.33712 ppb	87
8) Dichlorofluoromethane	1.70	67	1653	0.13118 ppb	90
9) Trichlorofluoromethane	1.74	101	1041	0.11111 ppb #	72
10) Acrolein	2.10	56	4570	6.49747 ppb #	97
11) Acetone	2.25	43	2046	0.23474 ppb #	80
12) Freon-113	2.20	101	736	0.13627 ppb #	40
13) 1,1-DCE	2.18	61	865	0.09864 ppb #	55
14) t-Butanol	2.87	59	1197	6.19721 ppb	93
15) Acetonitrile	2.52	41	5254	6.64886 ppb #	17
16) Methyl Acetate	2.60	43	1180	-0.34153 ppb #	54
17) Iodomethane	2.32	142	340	0.17672 ppb #	44
18) Acrylonitrile	2.97	52	144	0.08590 ppb	74
19) Methylene chloride	2.67	84	1643	-0.10981 ppb #	73
20) Carbon disulfide	2.36	76	2213	0.44232 ppb	95
21) Methyl t-butyl ether (MtBE	3.03	73	1349	0.09658 ppb #	61
22) Trans-1,2-DCE	2.98	96	888	0.14500 ppb #	62
23) Diisopropyl Ether	3.73	45	1630	0.09950 ppb #	57
24) 1,1-DCA	3.54	63	1817	0.15540 ppb #	70
25) Hexane	3.37	57	374	0.08105 ppb #	40
26) Vinyl Acetate	3.72	43	592	0.16374 ppb #	97
27) Ethyl tert Butyl Ether	4.30	59	1216	0.08804 ppb #	40
28) MEK (2-Butanone)	4.50	43	44	-0.14434 ppb #	47
29) Cis-1,2-DCE	4.41	96	835	0.12531 ppb #	53
31) Chloroform	4.90	83	1243	0.10452 ppb	95
32) Bromochloromethane	4.76	128	306	0.08896 ppb #	46
34) 1,1,1-TCA	5.10	97	888	0.09026 ppb #	79
36) 1,1-Dichloropropene	5.34	75	609	0.08832 ppb #	65
39) Carbon Tetrachloride	5.33	117	407	0.35571 ppb #	53
40) Tert Amyl Methyl Ether	5.79	73	1199	0.08758 ppb #	49
41) 1,2-DCA	5.62	62	1042	0.11597 ppb #	71
42) Benzene	5.58	78	2996	0.12522 ppb #	81
43) TCE	6.38	95	595	0.09537 ppb #	65
44) 2-Pentanone	6.64	43	20973	5.23283 ppb	97
45) 1,2-Dichloropropane	6.62	63	1012	0.14119 ppb #	86

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L05.D Vial: 4
Acq On : 24 Oct 14 12:19 Operator: DG,SV,RS
Sample : 0.1ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:17:45 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
46)	Bromodichloromethane	6.96	83	943	0.10296	ppb	#	97
47)	Methyl Cyclohexane	6.57	83	576	0.08327	ppb	#	65
48)	Dibromomethane	6.75	93	602	0.14099	ppb	#	60
50)	MIBK (methyl isobutyl ket	7.65	43	853	0.17909	ppb	#	44
51)	1-Bromo-2-chloroethane	7.26	63	492	0.09194	ppb	#	45
52)	Cis-1,3-Dichloropropene	7.44	75	1878	0.18791	ppb	#	58
53)	Toluene	7.78	91	2093	0.09040	ppb		96
54)	Trans-1,3-Dichloropropene	8.05	75	1396	0.15936	ppb		93
55)	1,1,2-TCA	8.22	83	494	0.09751	ppb	#	50
56)	2-Hexanone	8.51	43	439	0.14404	ppb	#	38
59)	1,2-EDB	8.69	107	586	0.09749	ppb	#	79
60)	Tetrachloroethene	8.35	166	916	0.10795	ppb		84
61)	1-Chlorohexane	9.23	91	548	0.08340	ppb	#	49
63)	m&p-Xylene	9.46	106	1741	0.17320	ppb		92
64)	o-Xylene	9.84	106	857	0.09046	ppb		69
65)	Styrene	9.86	104	1488	0.09825	ppb	#	83
67)	1,3-Dichloropropane	8.38	76	1130	0.11351	ppb	#	79
68)	Dibromochloromethane	8.60	129	942	0.12661	ppb		91
69)	Chlorobenzene	9.20	112	2557	0.13777	ppb		97
70)	Ethylbenzene	9.34	91	2090	0.08215	ppb		97
73)	Isopropylbenzene	10.22	105	1904	0.10035	ppb		97
74)	1,1,2,2-Tetrachloroethane	10.52	83	859	-0.21448	ppb	#	77
76)	t-1,4-Dichloro-2-Butene	10.59	53	174	0.14531	ppb	#	21
77)	Bromobenzene	10.49	156	734	0.11357	ppb		86
78)	n-Propylbenzene	10.63	91	2485	0.10704	ppb	#	80
79)	4-Ethyltoluene	10.75	105	1718	0.08423	ppb		93
80)	2-Chlorotoluene	10.70	91	1790	0.12016	ppb		85
81)	1,3,5-Trimethylbenzene	10.81	105	1564	0.08741	ppb		89
82)	4-Chlorotoluene	10.81	91	1836	0.10366	ppb	#	75
83)	Tert-Butylbenzene	11.13	119	1345	0.09377	ppb	#	59
84)	1,2,4-Trimethylbenzene	11.18	105	1834	0.10590	ppb		96
85)	Sec-Butylbenzene	11.35	105	1874	0.08862	ppb	#	83
86)	p-Isopropyltoluene	11.50	119	2120	0.11686	ppb	#	72
87)	Benzyl Chloride	11.67	91	1119	0.13053	ppb	#	59
88)	1,3-DCB	11.43	146	1562	0.12451	ppb	#	85
89)	1,4-DCB	11.52	146	1671	0.12330	ppb	#	65
90)	n-Butylbenzene	11.90	91	1878	0.11218	ppb		95
91)	1,2-DCB	11.89	146	1460	0.11861	ppb		88
92)	Hexachloroethane	12.16	117	401	0.14387	ppb	#	68
94)	1,2,4-Trichlorobenzene	13.49	180	1199	0.14380	ppb	#	65
95)	Hexachlorobutadiene	13.68	225	807	0.16007	ppb	#	58
96)	Naphthalene	13.74	128	1140	0.12406	ppb		95
97)	1,2,3-Trichlorobenzene	13.97	180	950	0.11538	ppb	#	92

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L06.D Vial: 5
Acq On : 24 Oct 14 12:47 Operator: DG,SV,RS
Sample : 0.3ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	311104	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	284736	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	147904	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.12	111	4605	0.67937 ppb		0.00
Spiked Amount 26.823			Recovery =	2.531%		
38) 1,2-DCA-D4(S)	5.53	65	5228	0.72814 ppb		0.00
Spiked Amount 26.964			Recovery =	2.700%		
58) Toluene-D8(S)	7.71	98	10552	0.52288 ppb		0.00
Spiked Amount 25.836			Recovery =	2.024%		
66) 4-Bromofluorobenzene(S)	10.36	95	4196	0.54549 ppb		0.00
Spiked Amount 26.206			Recovery =	2.080%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	1669	0.60722 ppb		95
3) Freon 114	1.10	85	1203	0.34037 ppb		96
4) Chloromethane	1.14	50	3773	0.23216 ppb		86
5) Vinyl chloride	1.22	62	2778	0.38877 ppb		84
6) Bromomethane	1.45	94	2548	0.19666 ppb		91
8) Dichlorofluoromethane	1.70	67	5162	0.41303 ppb		99
9) Trichlorofluoromethane	1.74	101	3516	0.37836 ppb		98
10) Acrolein	2.10	56	7281	10.43707 ppb	#	85
11) Acetone	2.26	43	2814	0.74847 ppb		87
12) Freon-113	2.20	101	1573	0.29363 ppb	#	68
13) 1,1-DCE	2.18	61	2979	0.34250 ppb		88
14) t-Butanol	2.88	59	2408	12.56949 ppb		96
15) Acetonitrile	2.52	41	9816	12.52423 ppb	#	1
17) Iodomethane	2.30	142	730	0.38255 ppb	#	55
18) Acrylonitrile	2.96	52	541	0.32538 ppb	#	64
19) Methylene chloride	2.68	84	3329	0.16838 ppb		98
20) Carbon disulfide	2.37	76	5939	0.70119 ppb		95
21) Methyl t-butyl ether (MtBE	3.01	73	4239	0.30599 ppb	#	89
22) Trans-1,2-DCE	2.99	96	2214	0.36450 ppb		90
23) Diisopropyl Ether	3.71	45	5150	0.31695 ppb	#	83
24) 1,1-DCA	3.53	63	4471	0.38553 ppb	#	80
25) Hexane	3.37	57	1439	0.31442 ppb	#	70
26) Vinyl Acetate	3.70	43	1266	0.35305 ppb	#	73
27) Ethyl tert Butyl Ether	4.28	59	4109	0.29995 ppb	#	88
28) MEK (2-Butanone)	4.51	43	1072	0.33949 ppb	#	47
29) Cis-1,2-DCE	4.43	96	2030	0.30715 ppb		94
30) 2,2-Dichloropropane	4.40	77	1044	0.27854 ppb		91
31) Chloroform	4.90	83	4032	0.34182 ppb		95
32) Bromochloromethane	4.76	128	999	0.29281 ppb		86
34) 1,1,1-TCA	5.10	97	3994	0.40932 ppb		95
35) Cyclohexane	5.16	41	1558	0.38137 ppb	#	58
36) 1,1-Dichloropropene	5.33	75	2111	0.30865 ppb	#	86
37) 2,2,4-Trimethylpentane	5.73	57	3535	0.28132 ppb	#	19
39) Carbon Tetrachloride	5.32	117	1989	0.54581 ppb		90
40) Tert Amyl Methyl Ether	5.80	73	3865	0.28463 ppb	#	90
41) 1,2-DCA	5.63	62	3279	0.36795 ppb	#	71
42) Benzene	5.58	78	7425	0.31288 ppb		93
43) TCE	6.37	95	1931	0.31205 ppb		95
44) 2-Pentanone	6.64	43	37032	9.31564 ppb		91

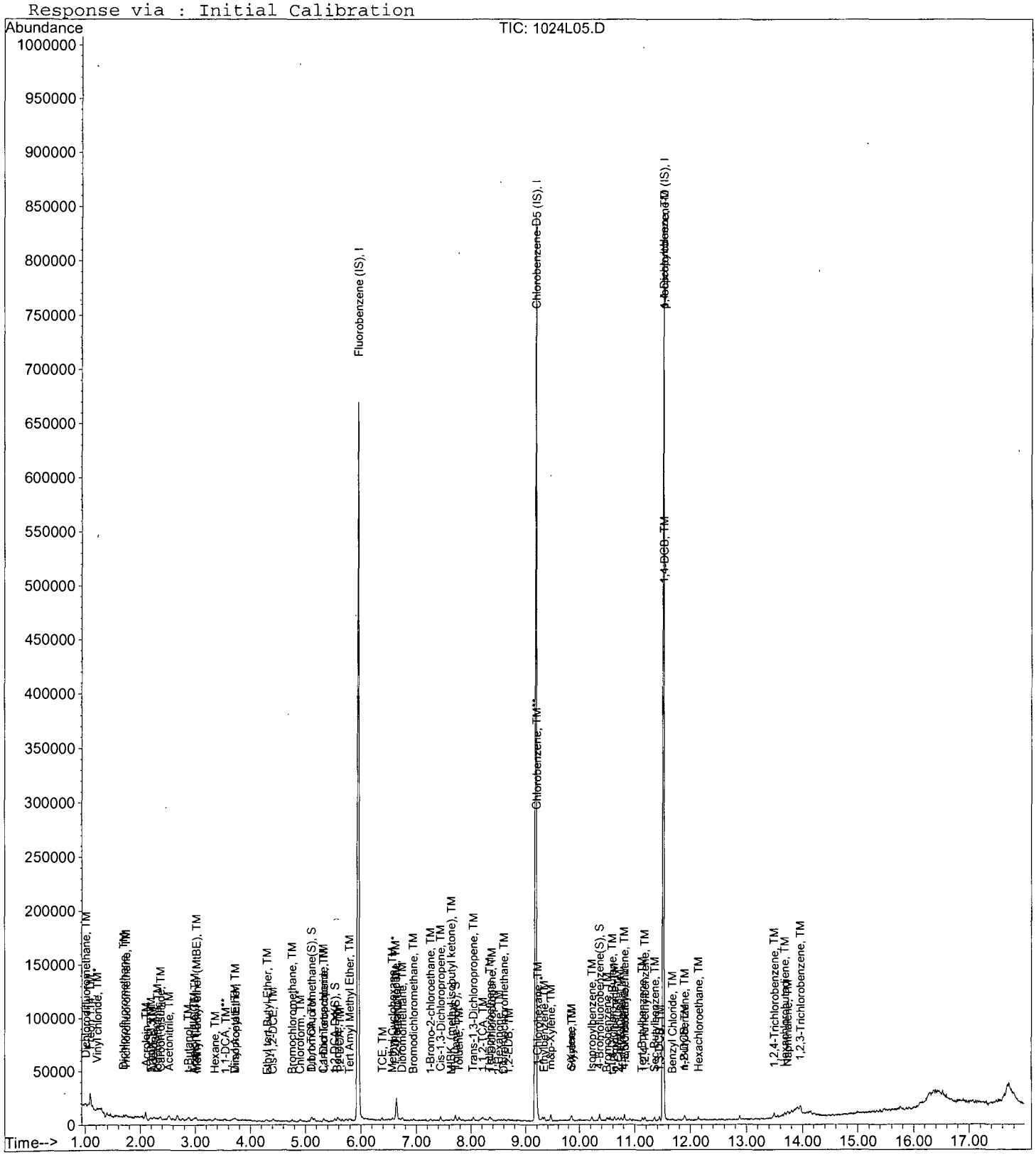
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141024\1024L05.D Vial: 4
Acq On : 24 Oct 14 12:19 Operator: DG,SV,RS
Sample : 0.1ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L06.D Vial: 5
Acq On : 24 Oct 14 12:47 Operator: DG,SV,RS
Sample : 0.3ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
45)	1,2-Dichloropropane	6.62	63	2611	0.36728	ppb	#	86
46)	Bromodichloromethane	6.95	83	3061	0.33695	ppb	#	92
47)	Methyl Cyclohexane	6.57	83	2020	0.29442	ppb	#	68
48)	Dibromomethane	6.75	93	1520	0.35892	ppb	#	85
49)	2-Chloroethyl vinyl ether	7.26	106	150	0.23923	ppb	#	1
50)	MIBK (methyl isobutyl ket	7.64	43	1698	0.35943	ppb	#	85
51)	1-Bromo-2-chloroethane	7.26	63	1962	0.36967	ppb		87
52)	Cis-1,3-Dichloropropene	7.45	75	3446	0.34764	ppb	#	66
53)	Toluene	7.79	91	6766	0.29463	ppb		81
54)	Trans-1,3-Dichloropropene	8.04	75	3170	0.36485	ppb		85
55)	1,1,2-TCA	8.22	83	1583	0.31504	ppb		97
56)	2-Hexanone	8.51	43	1033	0.34171	ppb		93
59)	1,2-EDB	8.69	107	1905	0.32542	ppb		95
60)	Tetrachloroethene	8.34	166	2752	0.33299	ppb		85
61)	1-Chlorohexane	9.22	91	1557	0.24330	ppb		89
62)	1,1,1,2-Tetrachloroethane	9.30	131	2906	0.37489	ppb		90
63)	m&p-Xylene	9.46	106	5389	0.55047	ppb		100
64)	o-Xylene	9.85	106	2462	0.26681	ppb		74
65)	Styrene	9.87	104	3845	0.26067	ppb		99
67)	1,3-Dichloropropane	8.38	76	3359	0.34643	ppb	#	80
68)	Dibromochloromethane	8.60	129	1999	0.27587	ppb		86
69)	Chlorobenzene	9.21	112	6175	0.34161	ppb		87
70)	Ethylbenzene	9.34	91	6685	0.26978	ppb		99
71)	Bromoform	10.02	173	1344	0.25677	ppb	#	79
73)	Isopropylbenzene	10.22	105	5891	0.31397	ppb		91
74)	1,1,2,2-Tetrachloroethane	10.52	83	2759	0.12115	ppb	#	78
75)	1,2,3-Trichloropropane	10.55	110	774	0.40396	ppb		82
76)	t-1,4-Dichloro-2-Butene	10.58	53	490	0.41382	ppb	#	21
77)	Bromobenzene	10.50	156	2030	0.31762	ppb		93
78)	n-Propylbenzene	10.63	91	6883	0.29981	ppb		100
79)	4-Ethyltoluene	10.75	105	5959	0.29545	ppb		92
80)	2-Chlorotoluene	10.70	91	4594	0.31186	ppb		96
81)	1,3,5-Trimethylbenzene	10.82	105	5230	0.29557	ppb		91
82)	4-Chlorotoluene	10.81	91	5236	0.29895	ppb		99
83)	Tert-Butylbenzene	11.13	119	4231	0.29830	ppb		85
84)	1,2,4-Trimethylbenzene	11.18	105	4881	0.28502	ppb		96
85)	Sec-Butylbenzene	11.35	105	6324	0.30242	ppb		91
86)	p-Isopropyltoluene	11.51	119	4818	0.26857	ppb	#	80
87)	Benzyl Chloride	11.67	91	3128	0.36897	ppb		90
88)	1,3-DCB	11.44	146	4195	0.33816	ppb		94
89)	1,4-DCB	11.53	146	4729	0.35287	ppb		96
90)	n-Butylbenzene	11.91	91	4370	0.26397	ppb		90
91)	1,2-DCB	11.89	146	4091	0.33610	ppb		83
92)	Hexachloroethane	12.15	117	1752	0.49339	ppb		91
93)	1,2-Dibromo-3-chloropropan	12.66	157	439	0.07042	ppb	#	61
94)	1,2,4-Trichlorobenzene	13.49	180	3009	0.36493	ppb		82
95)	Hexachlorobutadiene	13.68	225	2132	0.42763	ppb		93
96)	Naphthalene	13.72	128	2909	0.32013	ppb		95
97)	1,2,3-Trichlorobenzene	13.97	180	2671	0.32805	ppb	#	84

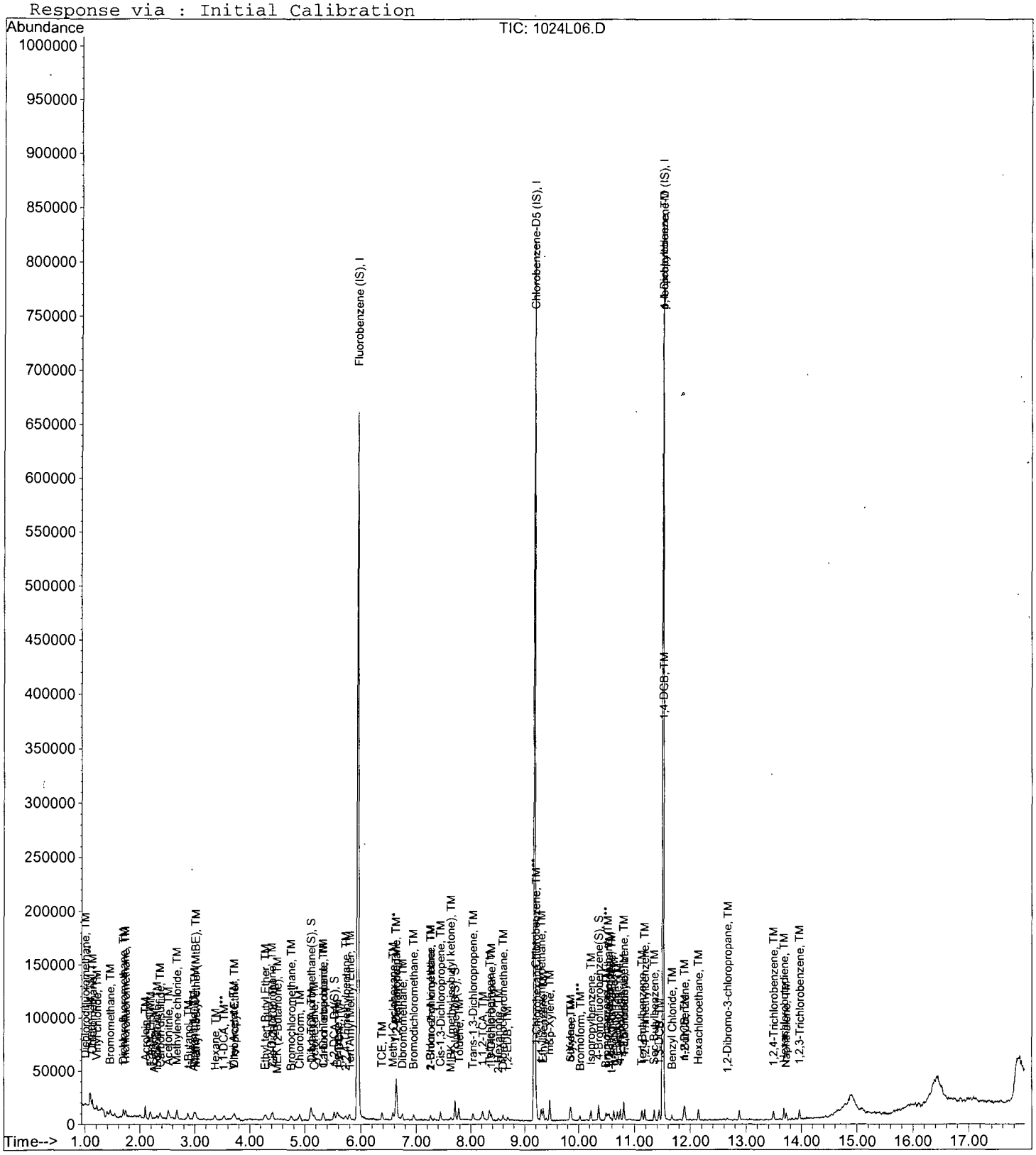
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141024\1024L06.D Vial: 5
Acq On : 24 Oct 14 12:47 Operator: DG,SV,RS
Sample : 0.3ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L07.D Vial: 6
Acq On : 24 Oct 14 13:16 Operator: DG,SV,RS
Sample : 0.5ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	330048	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	295360	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	156416	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	8376	1.16478 ppb		0.00
Spiked Amount 26.823			Recovery = 4.343%			
38) 1,2-DCA-D4(S)	5.52	65	8586	1.12719 ppb		0.00
Spiked Amount 26.964			Recovery = 4.180%			
58) Toluene-D8(S)	7.71	98	20972	1.00185 ppb		0.00
Spiked Amount 25.836			Recovery = 3.878%			
66) 4-Bromofluorobenzene(S)	10.36	95	7190	0.90110 ppb		0.00
Spiked Amount 26.206			Recovery = 3.438%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	3517	1.02121 ppb		83
3) Freon 114	1.10	85	2023	0.53953 ppb		93
4) Chloromethane	1.14	50	5673	0.49421 ppb		91
5) Vinyl chloride	1.21	62	4961	0.65442 ppb		98
6) Bromomethane	1.45	94	3497	0.38837 ppb		88
7) Chloroethane	1.53	64	2370	0.24053 ppb		89
8) Dichlorofluoromethane	1.70	67	8364	0.63083 ppb		94
9) Trichlorofluoromethane	1.74	101	6027	0.61134 ppb		95
10) Acrolein	2.10	56	19851	26.82244 ppb	#	95
11) Acetone	2.25	43	3072	0.80194 ppb		95
12) Freon-113	2.20	101	3455	0.60793 ppb		94
13) 1,1-DCE	2.18	61	5523	0.59853 ppb		96
14) t-Butanol	2.88	59	5707	28.08004 ppb		100
15) Acetonitrile	2.52	41	24765	29.78401 ppb	#	62
16) Methyl Acetate	2.60	43	3863	0.19895 ppb		86
17) Iodomethane	2.30	142	1126	0.55620 ppb		89
18) Acrylonitrile	2.96	52	1001	0.56748 ppb		79
19) Methylene chloride	2.68	84	4932	0.38444 ppb		88
20) Carbon disulfide	2.36	76	10537	0.97729 ppb		99
21) Methyl t-butyl ether (MtBE	3.01	73	7938	0.54011 ppb		97
22) Trans-1,2-DCE	2.99	96	3703	0.57464 ppb		94
23) Diisopropyl Ether	3.72	45	8347	0.48421 ppb	#	85
24) 1,1-DCA	3.53	63	6630	0.53889 ppb	#	90
25) Hexane	3.37	57	2443	0.50316 ppb	#	73
26) Vinyl Acetate	3.72	43	2309	0.60695 ppb	#	97
27) Ethyl tert Butyl Ether	4.29	59	6748	0.46433 ppb		98
28) MEK (2-Butanone)	4.51	43	1797	0.63206 ppb	#	83
29) Cis-1,2-DCE	4.43	96	3988	0.56878 ppb		90
30) 2,2-Dichloropropane	4.41	77	2086	0.61158 ppb		96
31) Chloroform	4.90	83	7118	0.56880 ppb		92
32) Bromochloromethane	4.76	128	1971	0.54455 ppb		67
34) 1,1,1-TCA	5.11	97	5462	0.52763 ppb		98
35) Cyclohexane	5.16	41	2371	0.54706 ppb		79
36) 1,1-Dichloropropene	5.34	75	3481	0.47975 ppb		95
37) 2,2,4-Trimethylpentane	5.72	57	6258	0.46944 ppb	#	89
39) Carbon Tetrachloride	5.32	117	4317	0.79525 ppb	#	73
40) Tert Amyl Methyl Ether	5.79	73	6770	0.46995 ppb	#	90
41) 1,2-DCA	5.62	62	4871	0.51522 ppb	#	86
42) Benzene	5.58	78	12924	0.51334 ppb		92

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L07.D Vial: 6
Acq On : 24 Oct 14 13:16 Operator: DG,SV,RS
Sample : 0.5ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.39	95	3532	0.53801	ppb		89
44)	2-Pentanone	6.64	43	92144	21.84897	ppb		99
45)	1,2-Dichloropropane	6.62	63	4148	0.55000	ppb	#	91
46)	Bromodichloromethane	6.95	83	5481	0.56870	ppb	#	96
47)	Methyl Cyclohexane	6.58	83	3782	0.51960	ppb		96
48)	Dibromomethane	6.75	93	2534	0.56402	ppb		89
49)	2-Chloroethyl vinyl ether	7.33	106	335	0.50361	ppb	#	36
50)	MIBK (methyl isobutyl ket	7.64	43	2569	0.51259	ppb	#	85
51)	1-Bromo-2-chloroethane	7.26	63	3084	0.54772	ppb		98
52)	Cis-1,3-Dichloropropene	7.45	75	5824	0.55381	ppb	#	84
53)	Toluene	7.78	91	11272	0.46268	ppb		97
54)	Trans-1,3-Dichloropropene	8.04	75	4995	0.54190	ppb		89
55)	1,1,2-TCA	8.21	83	3243	0.60837	ppb		78
56)	2-Hexanone	8.51	43	1521	0.47426	ppb	#	84
59)	1,2-EDB	8.70	107	3141	0.51725	ppb	#	76
60)	Tetrachloroethene	8.34	166	4707	0.54906	ppb		89
61)	1-Chlorohexane	9.22	91	2862	0.43114	ppb		98
62)	1,1,1,2-Tetrachloroethane	9.30	131	4316	0.53676	ppb		80
63)	m&p-Xylene	9.46	106	8866	0.87305	ppb		92
64)	o-Xylene	9.85	106	4183	0.43702	ppb		86
65)	Styrene	9.87	104	6778	0.44299	ppb	#	88
67)	1,3-Dichloropropane	8.38	76	4596	0.45696	ppb		89
68)	Dibromochloromethane	8.60	129	3945	0.52484	ppb		80
69)	Chlorobenzene	9.21	112	9367	0.49955	ppb		96
70)	Ethylbenzene	9.34	91	11506	0.44764	ppb		93
71)	Bromoform	10.02	173	2730	0.50279	ppb		88
73)	Isopropylbenzene	10.22	105	9702	0.48895	ppb		90
74)	1,1,2,2-Tetrachloroethane	10.52	83	4629	0.40555	ppb	#	94
75)	1,2,3-Trichloropropane	10.55	110	1047	0.51671	ppb		90
76)	t-1,4-Dichloro-2-Butene	10.59	53	719	0.57417	ppb		92
77)	Bromobenzene	10.49	156	3448	0.51012	ppb		91
78)	n-Propylbenzene	10.63	91	11556	0.47597	ppb		99
79)	4-Ethyltoluene	10.75	105	9976	0.46770	ppb		88
80)	2-Chlorotoluene	10.70	91	7861	0.50460	ppb		100
81)	1,3,5-Trimethylbenzene	10.82	105	8046	0.42997	ppb		98
82)	4-Chlorotoluene	10.81	91	8178	0.44151	ppb		89
83)	Tert-Butylbenzene	11.13	119	7297	0.48647	ppb		91
84)	1,2,4-Trimethylbenzene	11.18	105	7819	0.43173	ppb		100
85)	Sec-Butylbenzene	11.35	105	9766	0.44161	ppb		90
86)	p-Isopropyltoluene	11.51	119	8188	0.43158	ppb		94
87)	Benzyl Chloride	11.67	91	4770	0.53204	ppb		90
88)	1,3-DCB	11.44	146	6414	0.48890	ppb		97
89)	1,4-DCB	11.53	146	7033	0.49623	ppb		91
90)	n-Butylbenzene	11.91	91	8148	0.46539	ppb		90
91)	1,2-DCB	11.89	146	6703	0.52072	ppb		88
92)	Hexachloroethane	12.14	117	2612	0.67849	ppb		96
93)	1,2-Dibromo-3-chloropropan	12.66	157	548	0.17693	ppb		93
94)	1,2,4-Trichlorobenzene	13.49	180	4676	0.53625	ppb		92
95)	Hexachlorobutadiene	13.68	225	3061	0.58056	ppb		89
96)	Naphthalene	13.72	128	4728	0.49199	ppb		93
97)	1,2,3-Trichlorobenzene	13.97	180	4599	0.53411	ppb		95

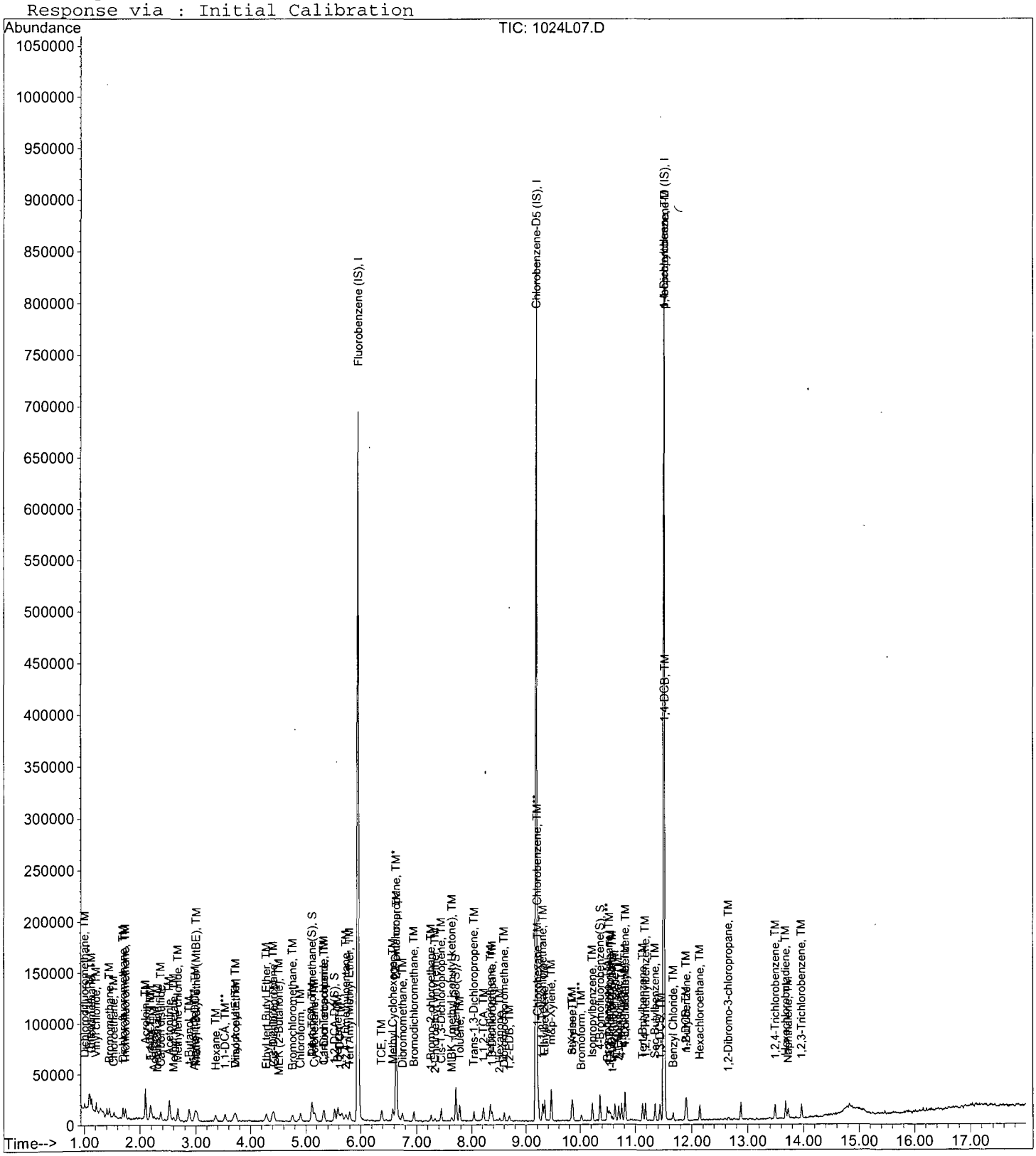
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141024\1024L07.D Vial: 6
Acq On : 24 Oct 14 13:16 Operator: DG,SV,RS
Sample : 0.5ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L08.D Vial: 7
Acq On : 24 Oct 14 13:44 Operator: DG,SV,RS
Sample : 1.0ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	324928	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	295232	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	165952	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.12	111	15242	2.15298 ppb		0.00
Spiked Amount 26.823			Recovery =	8.027%		
38) 1,2-DCA-D4(S)	5.53	65	16273	2.17002 ppb		0.00
Spiked Amount 26.964			Recovery =	8.048%		
58) Toluene-D8(S)	7.71	98	39353	1.88074 ppb		0.00
Spiked Amount 25.836			Recovery =	7.281%		
66) 4-Bromofluorobenzene(S)	10.36	95	13408	1.68111 ppb		0.00
Spiked Amount 26.206			Recovery =	6.414%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	5908	1.61009 ppb		95
3) Freon 114	1.10	85	4564	1.23639 ppb		86
4) Chloromethane	1.14	50	11102	1.37343 ppb		97
5) Vinyl chloride	1.21	62	8790	1.17779 ppb		99
6) Bromomethane	1.45	94	6575	1.15670 ppb		95
7) Chloroethane	1.53	64	4822	1.09542 ppb		97
8) Dichlorofluoromethane	1.70	67	14740	1.12923 ppb		99
9) Trichlorofluoromethane	1.74	101	11668	1.20218 ppb		95
10) Acrolein	2.10	56	40856	56.07402 ppb	#	87
11) Acetone	2.25	43	3347	1.00419 ppb		84
12) Freon-113	2.20	101	6637	1.18622 ppb		85
13) 1,1-DCE	2.18	61	10520	1.15803 ppb		92
14) t-Butanol	2.88	59	10458	52.26710 ppb		97
15) Acetonitrile	2.52	41	47693	58.26254 ppb		91
16) Methyl Acetate	2.60	43	6315	0.72503 ppb	#	82
17) Iodomethane	2.31	142	2194	1.10082 ppb		90
18) Acrylonitrile	2.97	52	2057	1.18452 ppb		73
19) Methylene chloride	2.67	84	8793	1.00158 ppb	#	71
20) Carbon disulfide	2.36	76	19209	1.56220 ppb		95
21) Methyl t-butyl ether (MtBE	3.02	73	14170	0.97934 ppb		96
22) Trans-1,2-DCE	2.99	96	7029	1.10797 ppb		94
23) Diisopropyl Ether	3.72	45	16521	0.97349 ppb	#	93
24) 1,1-DCA	3.53	63	13280	1.09641 ppb		96
25) Hexane	3.36	57	4880	1.02092 ppb		99
26) Vinyl Acetate	3.71	43	4196	1.12035 ppb	#	97
27) Ethyl tert Butyl Ether	4.28	59	13071	0.91358 ppb		91
28) MEK (2-Butanone)	4.51	43	2610	1.01085 ppb		94
29) Cis-1,2-DCE	4.42	96	7089	1.02698 ppb		96
30) 2,2-Dichloropropane	4.40	77	4055	1.30354 ppb	#	86
31) Chloroform	4.91	83	13688	1.11104 ppb		98
32) Bromochloromethane	4.76	128	4455	1.25023 ppb		87
34) 1,1,1-TCA	5.10	97	12727	1.24880 ppb		88
35) Cyclohexane	5.17	41	4631	1.08534 ppb		84
36) 1,1-Dichloropropene	5.33	75	7005	0.98063 ppb		88
37) 2,2,4-Trimethylpentane	5.73	57	11786	0.89806 ppb	#	70
39) Carbon Tetrachloride	5.33	117	8713	1.30765 ppb		92
40) Tert Amyl Methyl Ether	5.80	73	12800	0.90254 ppb	#	96
41) 1,2-DCA	5.62	62	9716	1.04388 ppb		95
42) Benzene	5.58	78	24143	0.97407 ppb		99

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L08.D Vial: 7
Acq On : 24 Oct 14 13:44 Operator: DG,SV,RS
Sample : 1.0ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.38	95	7145	1.10551	ppb		95
44)	2-Pentanone	6.64	43	205042	49.38519	ppb		99
45)	1,2-Dichloropropane	6.62	63	8458	1.13914	ppb	#	86
46)	Bromodichloromethane	6.95	83	10733	1.13119	ppb	#	97
47)	Methyl Cyclohexane	6.57	83	6582	0.91854	ppb		95
48)	Dibromomethane	6.74	93	4795	1.08409	ppb		91
49)	2-Chloroethyl vinyl ether	7.33	106	662	1.01087	ppb	#	37
50)	MIBK (methyl isobutyl ket	7.63	43	6194	1.25535	ppb	#	92
51)	1-Bromo-2-chloroethane	7.26	63	5958	1.07481	ppb		99
52)	Cis-1,3-Dichloropropene	7.44	75	10948	1.05747	ppb		95
53)	Toluene	7.78	91	22241	0.92731	ppb		93
54)	Trans-1,3-Dichloropropene	8.04	75	8899	0.98065	ppb		92
55)	1,1,2-TCA	8.22	83	5857	1.11605	ppb		89
56)	2-Hexanone	8.51	43	3131	0.99166	ppb		96
59)	1,2-EDB	8.69	107	6009	0.98998	ppb		82
60)	Tetrachloroethene	8.34	166	9403	1.09732	ppb		96
61)	1-Chlorohexane	9.22	91	5804	0.87471	ppb		96
62)	1,1,1,2-Tetrachloroethane	9.30	131	8022	0.99809	ppb		93
63)	m&p-Xylene	9.46	106	16826	1.65761	ppb		90
64)	o-Xylene	9.84	106	8772	0.91685	ppb		83
65)	Styrene	9.86	104	13584	0.88819	ppb	#	96
67)	1,3-Dichloropropane	8.38	76	9735	0.96832	ppb		96
68)	Dibromochloromethane	8.60	129	7904	1.05199	ppb		96
69)	Chlorobenzene	9.21	112	17667	0.94260	ppb	#	82
70)	Ethylbenzene	9.34	91	23694	0.92221	ppb		95
71)	Bromoform	10.03	173	5999	1.10534	ppb		88
73)	Isopropylbenzene	10.23	105	19495	0.92603	ppb		98
74)	1,1,2,2-Tetrachloroethane	10.52	83	8961	1.03995	ppb		84
75)	1,2,3-Trichloropropane	10.55	110	2560	1.19080	ppb		88
76)	t-1,4-Dichloro-2-Butene	10.59	53	1280	0.96343	ppb		84
77)	Bromobenzene	10.50	156	7281	1.01531	ppb		95
78)	n-Propylbenzene	10.63	91	22522	0.87433	ppb		93
79)	4-Ethyltoluene	10.75	105	18559	0.82010	ppb		89
80)	2-Chlorotoluene	10.70	91	14060	0.85066	ppb		89
81)	1,3,5-Trimethylbenzene	10.82	105	15940	0.80287	ppb		97
82)	4-Chlorotoluene	10.81	91	17550	0.89304	ppb		96
83)	Tert-Butylbenzene	11.13	119	14379	0.90353	ppb		92
84)	1,2,4-Trimethylbenzene	11.18	105	15858	0.82529	ppb		93
85)	Sec-Butylbenzene	11.35	105	20348	0.86724	ppb		96
86)	p-Isopropyltoluene	11.50	119	17925	0.89052	ppb	#	89
87)	Benzyl Chloride	11.67	91	10248	1.07736	ppb	#	89
88)	1,3-DCB	11.44	146	13211	0.94912	ppb		99
89)	1,4-DCB	11.53	146	15132	1.00633	ppb		88
90)	n-Butylbenzene	11.91	91	16779	0.90329	ppb		90
91)	1,2-DCB	11.89	146	14439	1.05724	ppb		96
92)	Hexachloroethane	12.14	117	6259	1.48003	ppb		91
93)	1,2-Dibromo-3-chloropropan	12.66	157	1238	0.96415	ppb	#	78
94)	1,2,4-Trichlorobenzene	13.49	180	8774	0.94839	ppb		93
95)	Hexachlorobutadiene	13.68	225	6281	1.12282	ppb		85
96)	Naphthalene	13.72	128	8881	0.87104	ppb		93
97)	1,2,3-Trichlorobenzene	13.97	180	8784	0.96151	ppb		94

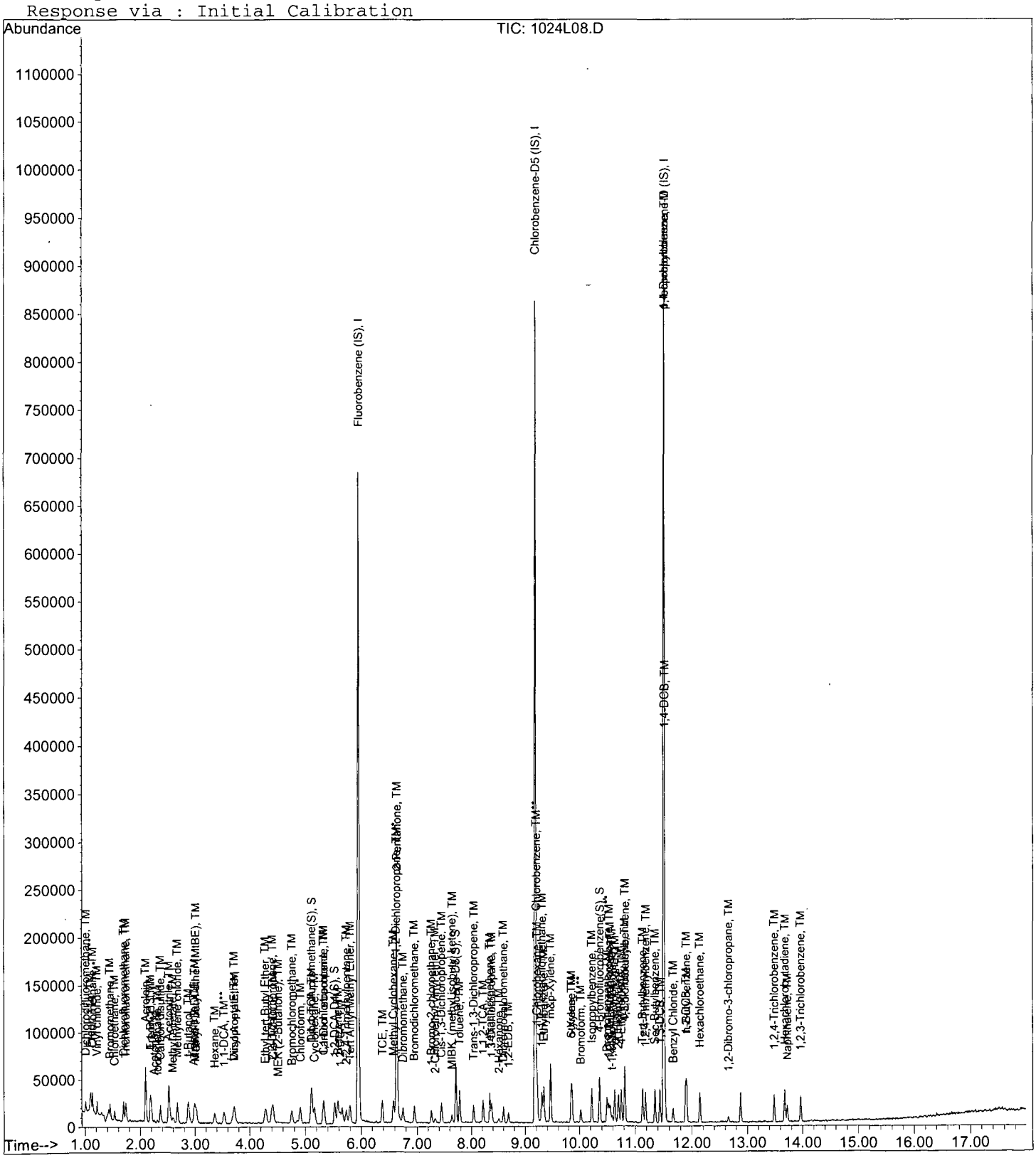
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141024\1024L08.D Vial: 7
Acq On : 24 Oct 14 13:44 Operator: DG,SV,RS
Sample : 1.0ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L09.D Vial: 8
Acq On : 24 Oct 14 14:12 Operator: DG,SV,RS
Sample : 5.0ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	363648	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	308544	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	200320	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	79943	10.08984 ppb		0.00
Spiked Amount 26.823			Recovery	= 37.617%		
38) 1,2-DCA-D4(S)	5.52	65	81143	9.66837 ppb		0.00
Spiked Amount 26.964			Recovery	= 35.855%		
58) Toluene-D8(S)	7.71	98	208916	9.55363 ppb		0.00
Spiked Amount 25.836			Recovery	= 36.979%		
66) 4-Bromofluorobenzene(S)	10.36	95	78439	9.41044 ppb		0.00
Spiked Amount 26.206			Recovery	= 35.907%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	22298	4.98502 ppb		94
3) Freon 114	1.10	85	18532	4.48578 ppb		93
4) Chloromethane	1.14	50	40042	5.30598 ppb		97
5) Vinyl chloride	1.21	62	36583	4.37991 ppb		98
6) Bromomethane	1.45	94	25489	5.13051 ppb		94
7) Chloroethane	1.53	64	19016	5.27556 ppb		99
8) Dichlorofluoromethane	1.70	67	73699	5.04492 ppb		96
9) Trichlorofluoromethane	1.74	101	49593	4.56561 ppb		94
10) Acrolein	2.10	56	81570	100.03276 ppb	#	95
11) Acetone	2.25	43	12098	5.68212 ppb		89
12) Freon-113	2.20	101	30418	4.85770 ppb		98
13) 1,1-DCE	2.18	61	46018	4.52624 ppb		97
14) t-Butanol	2.88	59	20272	90.52788 ppb		99
15) Acetonitrile	2.52	41	95445	104.18229 ppb		95
16) Methyl Acetate	2.60	43	32045	5.39912 ppb		96
17) Iodomethane	2.31	142	10158	4.55401 ppb		97
18) Acrylonitrile	2.97	52	9610	4.94468 ppb		88
19) Methylene chloride	2.67	84	41566	5.44452 ppb		98
20) Carbon disulfide	2.36	76	89461	5.58229 ppb		100
21) Methyl t-butyl ether (MtBE	3.02	73	75946	4.69001 ppb		97
22) Trans-1,2-DCE	2.99	96	33887	4.77281 ppb		96
23) Diisopropyl Ether	3.71	45	81850	4.30945 ppb		97
24) 1,1-DCA	3.53	63	65962	4.86604 ppb		97
25) Hexane	3.36	57	21861	4.08645 ppb	#	97
26) Vinyl Acetate	3.71	43	19528	4.65889 ppb	#	98
27) Ethyl tert Butyl Ether	4.29	59	75430	4.71073 ppb		98
28) MEK (2-Butanone)	4.50	43	14051	5.49070 ppb		87
29) Cis-1,2-DCE	4.42	96	35829	4.63786 ppb		94
30) 2,2-Dichloropropane	4.40	77	17600	5.33876 ppb		98
31) Chloroform	4.90	83	70107	5.08462 ppb		94
32) Bromochloromethane	4.75	128	20714	5.19411 ppb		96
34) 1,1,1-TCA	5.10	97	58343	5.11520 ppb		100
35) Cyclohexane	5.16	41	21473	4.49667 ppb		88
36) 1,1-Dichloropropene	5.33	75	37438	4.68293 ppb		97
37) 2,2,4-Trimethylpentane	5.73	57	62913	4.28335 ppb		95
39) Carbon Tetrachloride	5.32	117	47875	5.21866 ppb		98
40) Tert Amyl Methyl Ether	5.79	73	73698	4.64320 ppb	#	95
41) 1,2-DCA	5.62	62	51085	4.90414 ppb		97
42) Benzene	5.58	78	130596	4.70796 ppb		100

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L09.D Vial: 8
Acq On : 24 Oct 14 14:12 Operator: DG,SV,RS
Sample : 5.0ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.38	95	35702	4.93583	ppb		94
44)	2-Pentanone	6.63	43	455993	98.13366	ppb		99
45)	1,2-Dichloropropane	6.62	63	39822	4.79225	ppb	#	96
46)	Bromodichloromethane	6.95	83	53847	5.07087	ppb		98
47)	Methyl Cyclohexane	6.58	83	33448	4.17077	ppb		96
48)	Dibromomethane	6.75	93	25442	5.13966	ppb		97
49)	2-Chloroethyl vinyl ether	7.33	106	3508	4.78634	ppb	#	51
50)	MIBK (methyl isobutyl ket	7.64	43	25943	4.69805	ppb		100
51)	1-Bromo-2-chloroethane	7.26	63	29328	4.72738	ppb		96
52)	Cis-1,3-Dichloropropene	7.44	75	51878	4.47736	ppb		95
53)	Toluene	7.78	91	131931	4.91500	ppb		99
54)	Trans-1,3-Dichloropropene	8.04	75	47937	4.72007	ppb		96
55)	1,1,2-TCA	8.21	83	29559	5.03274	ppb		96
56)	2-Hexanone	8.51	43	16923	4.78922	ppb		94
59)	1,2-EDB	8.69	107	32831	5.17551	ppb		94
60)	Tetrachloroethene	8.34	166	44183	4.93365	ppb		95
61)	1-Chlorohexane	9.22	91	31806	4.58664	ppb		97
62)	1,1,1,2-Tetrachloroethane	9.30	131	43658	5.19755	ppb		96
63)	m&p-Xylene	9.46	106	104356	9.83707	ppb		98
64)	o-Xylene	9.85	106	47808	4.78131	ppb		100
65)	Styrene	9.86	104	81050	5.07083	ppb		98
67)	1,3-Dichloropropane	8.38	76	55129	5.24700	ppb		93
68)	Dibromochloromethane	8.60	129	41998	5.34860	ppb		99
69)	Chlorobenzene	9.21	112	100193	5.11506	ppb		98
70)	Ethylbenzene	9.34	91	134211	4.99833	ppb		98
71)	Bromoform	10.02	173	31006	5.46649	ppb		99
73)	Isopropylbenzene	10.23	105	119443	4.70022	ppb		96
74)	1,1,2,2-Tetrachloroethane	10.52	83	46540	5.67591	ppb		91
75)	1,2,3-Trichloropropane	10.55	110	13654	5.26160	ppb		86
76)	t-1,4-Dichloro-2-Butene	10.58	53	7512	4.68406	ppb		98
77)	Bromobenzene	10.50	156	44379	5.12674	ppb		99
78)	n-Propylbenzene	10.63	91	141780	4.55975	ppb		99
79)	4-Ethyltoluene	10.75	105	123639	4.52611	ppb		96
80)	2-Chlorotoluene	10.70	91	94209	4.72194	ppb		96
81)	1,3,5-Trimethylbenzene	10.82	105	115248	4.80896	ppb		96
82)	4-Chlorotoluene	10.81	91	118744	5.00568	ppb		99
83)	Tert-Butylbenzene	11.13	119	91873	4.78254	ppb		97
84)	1,2,4-Trimethylbenzene	11.18	105	106855	4.60693	ppb		96
85)	Sec-Butylbenzene	11.35	105	132752	4.68725	ppb		99
86)	p-Isopropyltoluene	11.51	119	118676	4.88432	ppb		96
87)	Benzyl Chloride	11.67	91	56667	4.93528	ppb		98
88)	1,3-DCB	11.44	146	88350	5.25838	ppb		98
89)	1,4-DCB	11.53	146	96202	5.30014	ppb		99
90)	n-Butylbenzene	11.91	91	103016	4.59437	ppb		100
91)	1,2-DCB	11.89	146	84662	5.13550	ppb		98
92)	Hexachloroethane	12.14	117	29889	5.73210	ppb		93
93)	1,2-Dibromo-3-chloropropan	12.66	157	5972	5.41155	ppb		95
94)	1,2,4-Trichlorobenzene	13.49	180	50506	4.52261	ppb		95
95)	Hexachlorobutadiene	13.68	225	34630	5.12853	ppb		95
96)	Naphthalene	13.72	128	57752	4.69245	ppb		97
97)	1,2,3-Trichlorobenzene	13.96	180	49658	4.50308	ppb		94

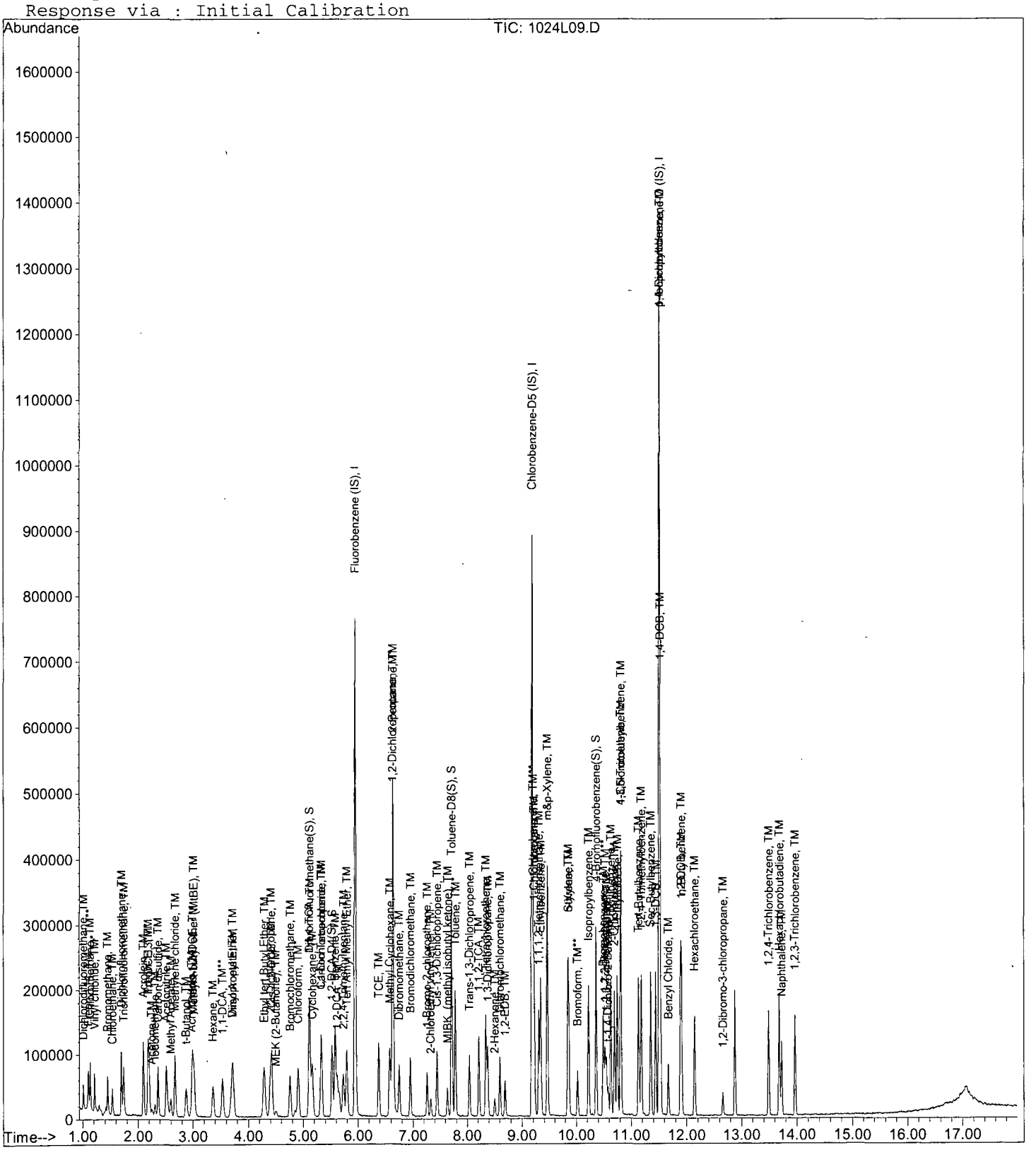
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141024\1024L09.D Vial: 8
Acq On : 24 Oct 14 14:12 Operator: DG,SV,RS
Sample : 5.0ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L10.D Vial: 9
Acq On : 24 Oct 14 14:41 Operator: DG,SV,RS
Sample : 10ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	389312	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	329920	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	225088	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.11	111	200030	23.58209 ppb	0.00
Spiked Amount 26.823			Recovery = 87.918%		
38) 1,2-DCA-D4(S)	5.52	65	213255	23.73475 ppb	0.00
Spiked Amount 26.964			Recovery = 88.025%		
58) Toluene-D8(S)	7.71	98	606847	25.95281 ppb	0.00
Spiked Amount 25.836			Recovery = 100.453%		
66) 4-Bromofluorobenzene(S)	10.36	95	235657	26.44033 ppb	0.00
Spiked Amount 26.206			Recovery = 100.892%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.01	85	47382	9.70995 ppb	100
3) Freon 114	1.10	85	39788	8.99604 ppb	100
4) Chloromethane	1.14	50	79794	10.21748 ppb	100
5) Vinyl chloride	1.21	62	76161	8.51731 ppb	100
6) Bromomethane	1.44	94	50720	9.92776 ppb	100
7) Chloroethane	1.53	64	37216	10.10862 ppb	100
8) Dichlorofluoromethane	1.70	67	146492	9.36677 ppb	100
9) Trichlorofluoromethane	1.74	101	106683	9.17396 ppb	100
10) Acrolein	2.10	56	107276	122.88469 ppb	100
11) Acetone	2.25	43	22731	10.79825 ppb	100
12) Freon-113	2.20	101	60285	8.99276 ppb	100
13) 1,1-DCE	2.18	61	98975	9.09324 ppb	100
14) t-Butanol	2.87	59	28496	118.86474 ppb	100
15) Acetonitrile	2.52	41	117988	120.29899 ppb	100
16) Methyl Acetate	2.60	43	64492	10.67542 ppb	100
17) Iodomethane	2.31	142	21400	8.96155 ppb	100
18) Acrylonitrile	2.97	52	18992	9.12785 ppb	100
19) Methylene chloride	2.67	84	83670	10.56852 ppb	100
20) Carbon disulfide	2.36	76	179100	10.18618 ppb	100
21) Methyl t-butyl ether (MtBE	3.02	73	159872	9.22199 ppb	100
22) Trans-1,2-DCE	2.99	96	67064	8.82296 ppb	100
23) Diisopropyl Ether	3.71	45	187660	9.22908 ppb	100
24) 1,1-DCA	3.53	63	134789	9.28794 ppb	100
25) Hexane	3.36	57	50710	8.85429 ppb	100
26) Vinyl Acetate	3.71	43	41640	9.27937 ppb	100
27) Ethyl tert Butyl Ether	4.28	59	160384	9.35595 ppb	100
28) MEK (2-Butanone)	4.50	43	28566	10.57507 ppb	100
29) Cis-1,2-DCE	4.43	96	77981	9.42878 ppb	100
30) 2,2-Dichloropropane	4.40	77	36176	10.34078 ppb	100
31) Chloroform	4.90	83	138104	9.35593 ppb	100
32) Bromochloromethane	4.75	128	41625	9.74956 ppb	100
34) 1,1,1-TCA	5.10	97	115841	9.48680 ppb	100
35) Cyclohexane	5.16	41	45902	8.97869 ppb	100
36) 1,1-Dichloropropene	5.33	75	82854	9.68059 ppb	100
37) 2,2,4-Trimethylpentane	5.73	57	150636	9.57977 ppb	100
39) Carbon Tetrachloride	5.32	117	99874	9.87767 ppb	100
40) Tert Amyl Methyl Ether	5.80	73	168641	9.92448 ppb	100
41) 1,2-DCA	5.62	62	105999	9.50505 ppb	100
42) Benzene	5.58	78	277473	9.34345 ppb	100

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L10.D Vial: 9
Acq On : 24 Oct 14 14:41 Operator: DG,SV,RS
Sample : 10ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

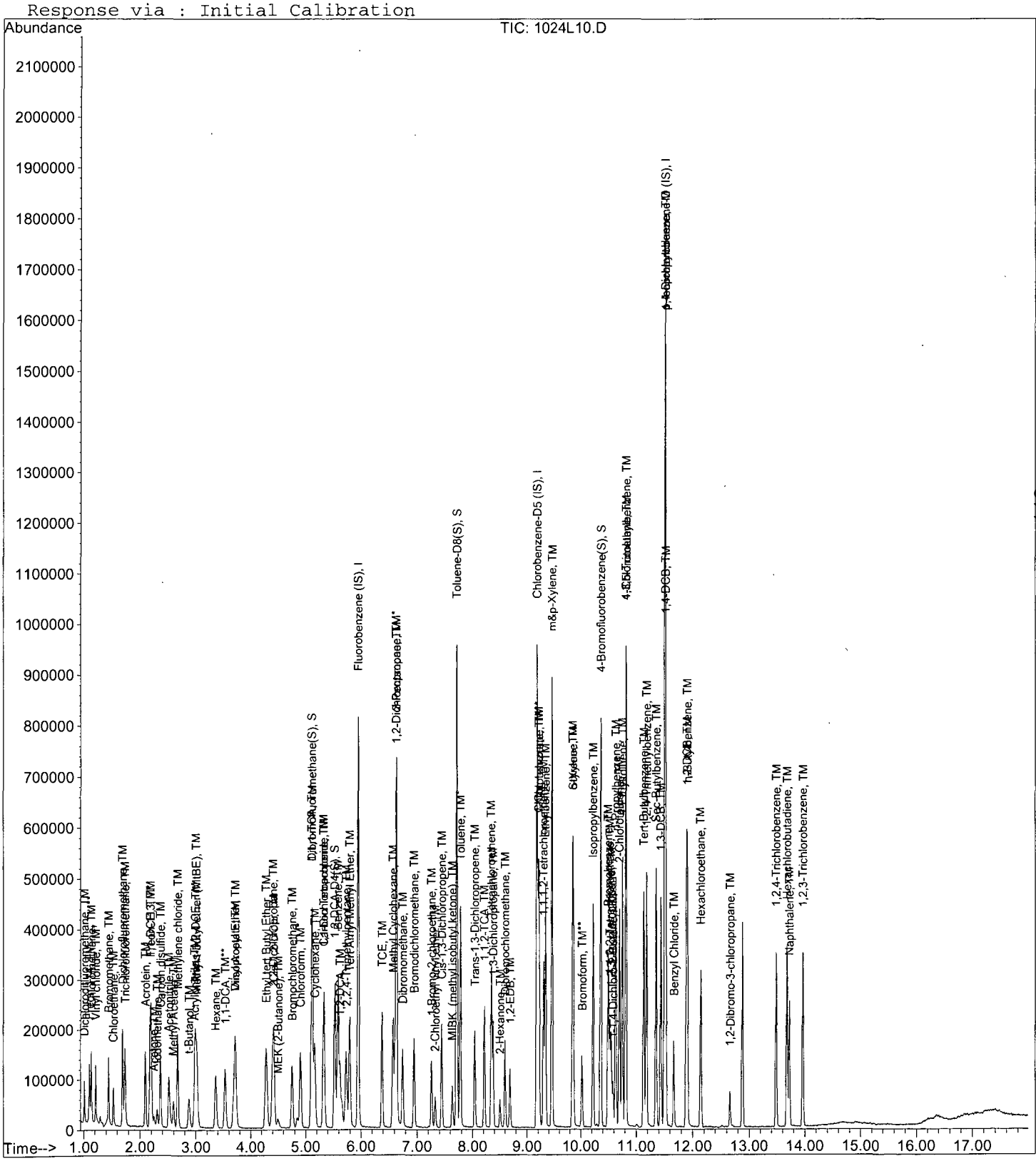
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	TCE	6.38	95	74854	9.66643	ppb	100
44)	2-Pentanone	6.63	43	623814	125.40024	ppb	100
45)	1,2-Dichloropropane	6.62	63	79705	8.95953	ppb	100
46)	Bromodichloromethane	6.95	83	106770	9.39190	ppb	100
47)	Methyl Cyclohexane	6.58	83	75611	8.80673	ppb	100
48)	Dibromomethane	6.75	93	51278	9.67604	ppb	100
49)	2-Chloroethyl vinyl ether	7.33	106	6292	8.01893	ppb	100
50)	MIBK (methyl isobutyl ket	7.63	43	51978	8.79227	ppb	100
51)	1-Bromo-2-chloroethane	7.26	63	62160	9.35906	ppb	100
52)	Cis-1,3-Dichloropropene	7.44	75	111511	8.98960	ppb	100
53)	Toluene	7.78	91	298493	10.38709	ppb	100
54)	Trans-1,3-Dichloropropene	8.04	75	99332	9.13588	ppb	100
55)	1,1,2-TCA	8.21	83	59472	9.45824	ppb	100
56)	2-Hexanone	8.50	43	33386	8.82542	ppb	100
59)	1,2-EDB	8.69	107	67800	9.99557	ppb	100
60)	Tetrachloroethene	8.34	166	94607	9.87973	ppb	100
61)	1-Chlorohexane	9.22	91	69330	9.35007	ppb	100
62)	1,1,1,2-Tetrachloroethane	9.30	131	88112	9.81021	ppb	100
63)	m&p-Xylene	9.46	106	244095	21.51868	ppb	100
64)	o-Xylene	9.85	106	110715	10.35526	ppb	100
65)	Styrene	9.86	104	196730	11.51079	ppb	100
67)	1,3-Dichloropropane	8.38	76	114058	10.15232	ppb	100
68)	Dibromochloromethane	8.60	129	85617	10.19718	ppb	100
69)	Chlorobenzene	9.21	112	211163	10.08183	ppb	100
70)	Ethylbenzene	9.34	91	304196	10.59495	ppb	100
71)	Bromoform	10.02	173	63247	10.42824	ppb	100
73)	Isopropylbenzene	10.22	105	259151	9.07575	ppb	100
74)	1,1,2,2-Tetrachloroethane	10.52	83	93196	10.39983	ppb	100
75)	1,2,3-Trichloropropane	10.55	110	28255	9.69003	ppb	100
76)	t-1,4-Dichloro-2-Butene	10.58	53	18313	10.16245	ppb	100
77)	Bromobenzene	10.49	156	95934	9.86298	ppb	100
78)	n-Propylbenzene	10.63	91	339693	9.72265	ppb	100
79)	4-Ethyltoluene	10.75	105	307221	10.00904	ppb	100
80)	2-Chlorotoluene	10.70	91	225832	10.07362	ppb	100
81)	1,3,5-Trimethylbenzene	10.82	105	288244	10.70409	ppb	100
82)	4-Chlorotoluene	10.81	91	279352	10.48034	ppb	100
83)	Tert-Butylbenzene	11.13	119	203064	9.40752	ppb	100
84)	1,2,4-Trimethylbenzene	11.18	105	260036	9.97752	ppb	100
85)	Sec-Butylbenzene	11.35	105	316493	9.94519	ppb	100
86)	p-Isopropyltoluene	11.51	119	268893	9.84900	ppb	100
87)	Benzyl Chloride	11.67	91	119641	9.27329	ppb	100
88)	1,3-DCB	11.44	146	188321	9.97507	ppb	100
89)	1,4-DCB	11.53	146	199125	9.76341	ppb	100
90)	n-Butylbenzene	11.91	91	241590	9.58897	ppb	100
91)	1,2-DCB	11.89	146	172076	9.28937	ppb	100
92)	Hexachloroethane	12.14	117	61656	10.48845	ppb	100
93)	1,2-Dibromo-3-chloropropan	12.66	157	11878	9.97950	ppb	100
94)	1,2,4-Trichlorobenzene	13.49	180	108949	8.68244	ppb	100
95)	Hexachlorobutadiene	13.68	225	70391	9.27747	ppb	100
96)	Naphthalene	13.72	128	127208	9.19855	ppb	100
97)	1,2,3-Trichlorobenzene	13.96	180	112084	9.04558	ppb	100

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

Data File : M:\LOKI\DATA\141024\1024L10.D Vial: 9
Acq On : 24 Oct 14 14:41 Operator: DG,SV,RS
Sample : 10ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L11.D Vial: 10
Acq On : 24 Oct 14 15:09 Operator: DG,SV,RS
Sample : 20ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	423488	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	363136	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	248000	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.12	111	332363	36.02106 ppb		0.00
Spiked Amount 26.823			Recovery = 134.293%			
38) 1,2-DCA-D4(S)	5.53	65	345862	35.38711 ppb		0.00
Spiked Amount 26.964			Recovery = 131.238%			
58) Toluene-D8(S)	7.71	98	1063658	41.32820 ppb		0.00
Spiked Amount 25.836			Recovery = 159.963%			
66) 4-Bromofluorobenzene(S)	10.36	95	420905	42.90520 ppb		0.00
Spiked Amount 26.206			Recovery = 163.720%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	107916	20.12535 ppb		94
3) Freon 114	1.10	85	83055	17.26322 ppb		99
4) Chloromethane	1.14	50	162541	19.47887 ppb		99
5) Vinyl chloride	1.22	62	159785	16.42716 ppb		98
6) Bromomethane	1.44	94	97171	17.83220 ppb		97
7) Chloroethane	1.53	64	76804	19.68123 ppb		93
8) Dichlorofluoromethane	1.70	67	284812	16.74137 ppb		95
9) Trichlorofluoromethane	1.74	101	224845	17.77467 ppb		98
10) Acrolein	2.10	56	133758	140.85480 ppb		93
11) Acetone	2.25	43	42580	19.38481 ppb		96
12) Freon-113	2.20	101	126371	17.32957 ppb		95
13) 1,1-DCE	2.18	61	202921	17.13866 ppb		98
14) t-Butanol	2.88	59	35056	134.42752 ppb		96
15) Acetonitrile	2.52	41	143899	134.87721 ppb		92
16) Methyl Acetate	2.60	43	128305	20.01978 ppb		98
17) Iodomethane	2.31	142	47648	18.34301 ppb		96
18) Acrylonitrile	2.97	52	39902	17.62987 ppb		92
19) Methylene chloride	2.67	84	158553	18.69036 ppb		96
20) Carbon disulfide	2.36	76	358837	18.51697 ppb		100
21) Methyl t-butyl ether (MtBE	3.02	73	341621	18.11563 ppb		99
22) Trans-1,2-DCE	2.99	96	137757	16.66077 ppb		97
23) Diisopropyl Ether	3.72	45	412993	18.67180 ppb		93
24) 1,1-DCA	3.53	63	270752	17.15116 ppb		98
25) Hexane	3.36	57	110073	17.66841 ppb		97
26) Vinyl Acetate	3.71	43	84876	17.38800 ppb		100
27) Ethyl tert Butyl Ether	4.29	59	352823	18.92085 ppb		97
28) MEK (2-Butanone)	4.50	43	52221	17.88417 ppb		93
29) Cis-1,2-DCE	4.43	96	165237	18.36667 ppb		97
30) 2,2-Dichloropropane	4.40	77	71999	19.00145 ppb		96
31) Chloroform	4.91	83	271413	16.90317 ppb		99
32) Bromochloromethane	4.76	128	81642	17.57929 ppb		100
34) 1,1,1-TCA	5.11	97	233171	17.55451 ppb		99
35) Cyclohexane	5.17	41	99145	17.82825 ppb		97
36) 1,1-Dichloropropene	5.33	75	178787	19.20353 ppb		99
37) 2,2,4-Trimethylpentane	5.73	57	341331	19.95533 ppb	#	87
39) Carbon Tetrachloride	5.32	117	204666	18.33659 ppb		98
40) Tert Amyl Methyl Ether	5.80	73	363843	19.68409 ppb		98
41) 1,2-DCA	5.62	62	206847	17.05135 ppb		94
42) Benzene	5.58	78	575501	17.81513 ppb		98

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L11.D Vial: 10
Acq On : 24 Oct 14 15:09 Operator: DG,SV,RS
Sample : 20ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	TCE	6.38	95	147496	17.51008	ppb	93
44)	2-Pentanone	6.63	43	810243	149.73220	ppb	100
45)	1,2-Dichloropropane	6.62	63	162962	16.84002	ppb	100
46)	Bromodichloromethane	6.95	83	206503	16.69887	ppb	98
47)	Methyl Cyclohexane	6.58	83	174412	18.67509	ppb	97
48)	Dibromomethane	6.75	93	97533	16.91901	ppb	97
49)	2-Chloroethyl vinyl ether	7.33	106	15546	18.21391	ppb	82
50)	MIBK (methyl isobutyl ket	7.64	43	112865	17.55081	ppb	96
51)	1-Bromo-2-chloroethane	7.26	63	121248	16.78234	ppb	100
52)	Cis-1,3-Dichloropropene	7.44	75	232231	17.21074	ppb	96
53)	Toluene	7.78	91	633135	20.25410	ppb	99
54)	Trans-1,3-Dichloropropene	8.04	75	204144	17.26055	ppb	97
55)	1,1,2-TCA	8.21	83	115896	16.94427	ppb	99
56)	2-Hexanone	8.50	43	75222	18.27985	ppb	92
59)	1,2-EDB	8.69	107	135222	18.11192	ppb	94
60)	Tetrachloroethene	8.34	166	186005	17.64761	ppb	98
61)	1-Chlorohexane	9.22	91	160887	19.71305	ppb	92
62)	1,1,1,2-Tetrachloroethane	9.30	131	173827	17.58327	ppb	94
63)	m&p-Xylene	9.46	106	541422	43.36426	ppb	96
64)	o-Xylene	9.85	106	244069	20.73990	ppb	97
65)	Styrene	9.86	104	448346	23.83346	ppb	99
67)	1,3-Dichloropropane	8.38	76	225496	18.23551	ppb	96
68)	Dibromochloromethane	8.60	129	174498	18.88208	ppb	98
69)	Chlorobenzene	9.21	112	423758	18.38141	ppb	99
70)	Ethylbenzene	9.34	91	666722	21.09742	ppb	99
71)	Bromoform	10.02	173	125221	18.75804	ppb	95
73)	Isopropylbenzene	10.23	105	593458	18.86342	ppb	99
74)	1,1,2,2-Tetrachloroethane	10.52	83	182174	18.73246	ppb	96
75)	1,2,3-Trichloropropane	10.55	110	57474	17.88965	ppb	96
76)	t-1,4-Dichloro-2-Butene	10.58	53	34815	17.53501	ppb	95
77)	Bromobenzene	10.49	156	199979	18.66040	ppb	98
78)	n-Propylbenzene	10.63	91	769113	19.97970	ppb	99
79)	4-Ethyltoluene	10.75	105	703050	20.78875	ppb	98
80)	2-Chlorotoluene	10.70	91	489636	19.82322	ppb	100
81)	1,3,5-Trimethylbenzene	10.82	105	624420	21.04587	ppb	95
82)	4-Chlorotoluene	10.81	91	598641	20.38406	ppb	98
83)	Tert-Butylbenzene	11.13	119	453143	19.05365	ppb	99
84)	1,2,4-Trimethylbenzene	11.18	105	604853	21.06394	ppb	97
85)	Sec-Butylbenzene	11.35	105	703296	20.05801	ppb	98
86)	p-Isopropyltoluene	11.50	119	620880	20.64054	ppb	99
87)	Benzyl Chloride	11.67	91	241646	16.99941	ppb	99
88)	1,3-DCB	11.44	146	390441	18.77038	ppb	96
89)	1,4-DCB	11.53	146	410308	18.25939	ppb	98
90)	n-Butylbenzene	11.91	91	538677	19.40537	ppb	96
91)	1,2-DCB	11.89	146	363212	17.79618	ppb	98
92)	Hexachloroethane	12.14	117	120014	18.49780	ppb	93
93)	1,2-Dibromo-3-chloropropan	12.66	157	25600	20.01850	ppb	87
94)	1,2,4-Trichlorobenzene	13.49	180	228074	16.49661	ppb	95
95)	Hexachlorobutadiene	13.68	225	139943	16.74034	ppb	94
96)	Naphthalene	13.72	128	285952	18.76717	ppb	99
97)	1,2,3-Trichlorobenzene	13.96	180	236546	17.32643	ppb	98

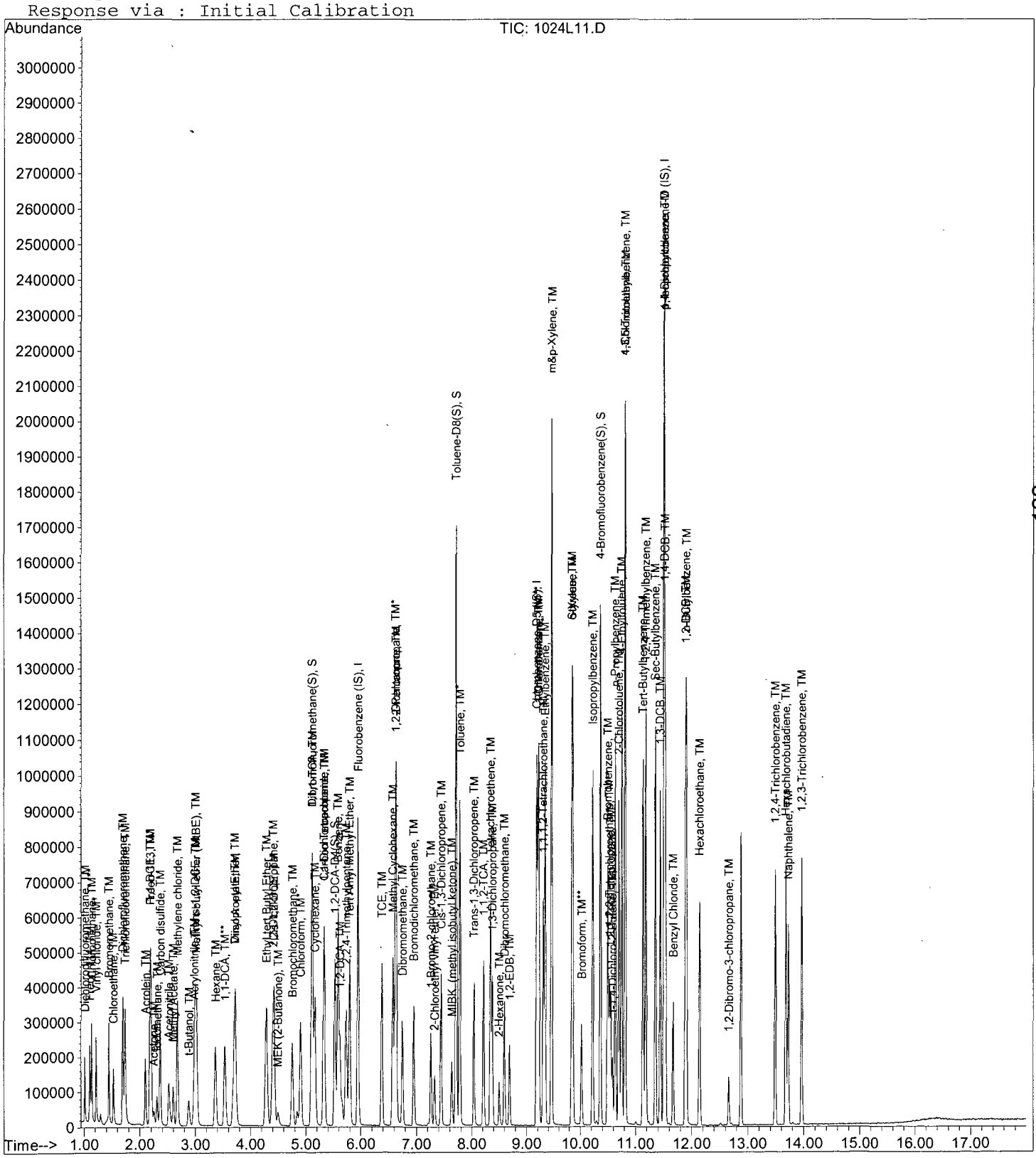
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141024\1024L11.D Vial: 10
Acq On : 24 Oct 14 15:09 Operator: DG,SV,RS
Sample : 20ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L12.D Vial: 11
Acq On : 24 Oct 14 15:37 Operator: DG,SV,RS
Sample : 40ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	419648	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	366784	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	246336	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	643513	70.38128 ppb		0.00
Spiked Amount 26.823			Recovery = 262.393%			
38) 1,2-DCA-D4(S)	5.52	65	679334	70.14254 ppb		0.00
Spiked Amount 26.964			Recovery = 260.136%			
58) Toluene-D8(S)	7.71	98	2235138	85.98204 ppb		0.00
Spiked Amount 25.836			Recovery = 332.799%			
66) 4-Bromofluorobenzene(S)	10.36	95	886475	89.46461 ppb		0.00
Spiked Amount 26.206			Recovery = 341.387%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	202327	37.91019 ppb		98
3) Freon 114	1.10	85	175330	36.77632 ppb		97
4) Chloromethane	1.14	50	322432	39.39031 ppb		98
5) Vinyl chloride	1.22	62	316941	32.88220 ppb		98
6) Bromomethane	1.44	94	188291	35.30595 ppb		100
7) Chloroethane	1.52	64	152874	40.09864 ppb		93
8) Dichlorofluoromethane	1.70	67	617525	36.63052 ppb		97
9) Trichlorofluoromethane	1.73	101	462405	36.88900 ppb		99
10) Acrolein	2.10	56	144994	154.08411 ppb	#	93
11) Acetone	2.25	43	80621	38.03522 ppb		98
12) Freon-113	2.19	101	270007	37.36555 ppb		97
13) 1,1-DCE	2.18	61	420381	35.83017 ppb		94
14) t-Butanol	2.89	59	42152	163.11728 ppb		98
15) Acetonitrile	2.52	41	147368	139.39267 ppb		89
16) Methyl Acetate	2.60	43	249024	39.78427 ppb		98
17) Iodomethane	2.30	142	109416	42.50721 ppb		100
18) Acrylonitrile	2.96	52	85379	38.06813 ppb		92
19) Methylene chloride	2.67	84	335831	40.37862 ppb		96
20) Carbon disulfide	2.36	76	756304	39.05703 ppb		100
21) Methyl t-butyl ether (MtBE	3.02	73	772883	41.35982 ppb		98
22) Trans-1,2-DCE	2.99	96	294308	35.92026 ppb		97
23) Diisopropyl Ether	3.71	45	965157	44.03493 ppb		92
24) 1,1-DCA	3.53	63	559018	35.73580 ppb		98
25) Hexane	3.36	57	265032	42.93098 ppb		91
26) Vinyl Acetate	3.71	43	186549	38.56680 ppb		100
27) Ethyl tert Butyl Ether	4.29	59	824317	44.61018 ppb		98
28) MEK (2-Butanone)	4.49	43	117863	40.94466 ppb		98
29) Cis-1,2-DCE	4.43	96	355596	39.88742 ppb		97
30) 2,2-Dichloropropane	4.40	77	148416	39.63364 ppb		96
31) Chloroform	4.90	83	569748	35.80768 ppb		100
32) Bromochloromethane	4.75	128	162291	35.26452 ppb		99
34) 1,1,1-TCA	5.10	97	484394	36.80178 ppb		99
35) Cyclohexane	5.16	41	239294	43.42360 ppb		100
36) 1,1-Dichloropropene	5.33	75	392336	42.52645 ppb		99
37) 2,2,4-Trimethylpentane	5.73	57	749001	44.18975 ppb	#	89
39) Carbon Tetrachloride	5.32	117	449017	40.22372 ppb		99
40) Tert Amyl Methyl Ether	5.79	73	817029	44.60615 ppb		94
41) 1,2-DCA	5.62	62	421965	35.10281 ppb		98
42) Benzene	5.58	78	1226253	38.30708 ppb		97

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L12.D Vial: 11
Acq On : 24 Oct 14 15:37 Operator: DG,SV,RS
Sample : 40ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

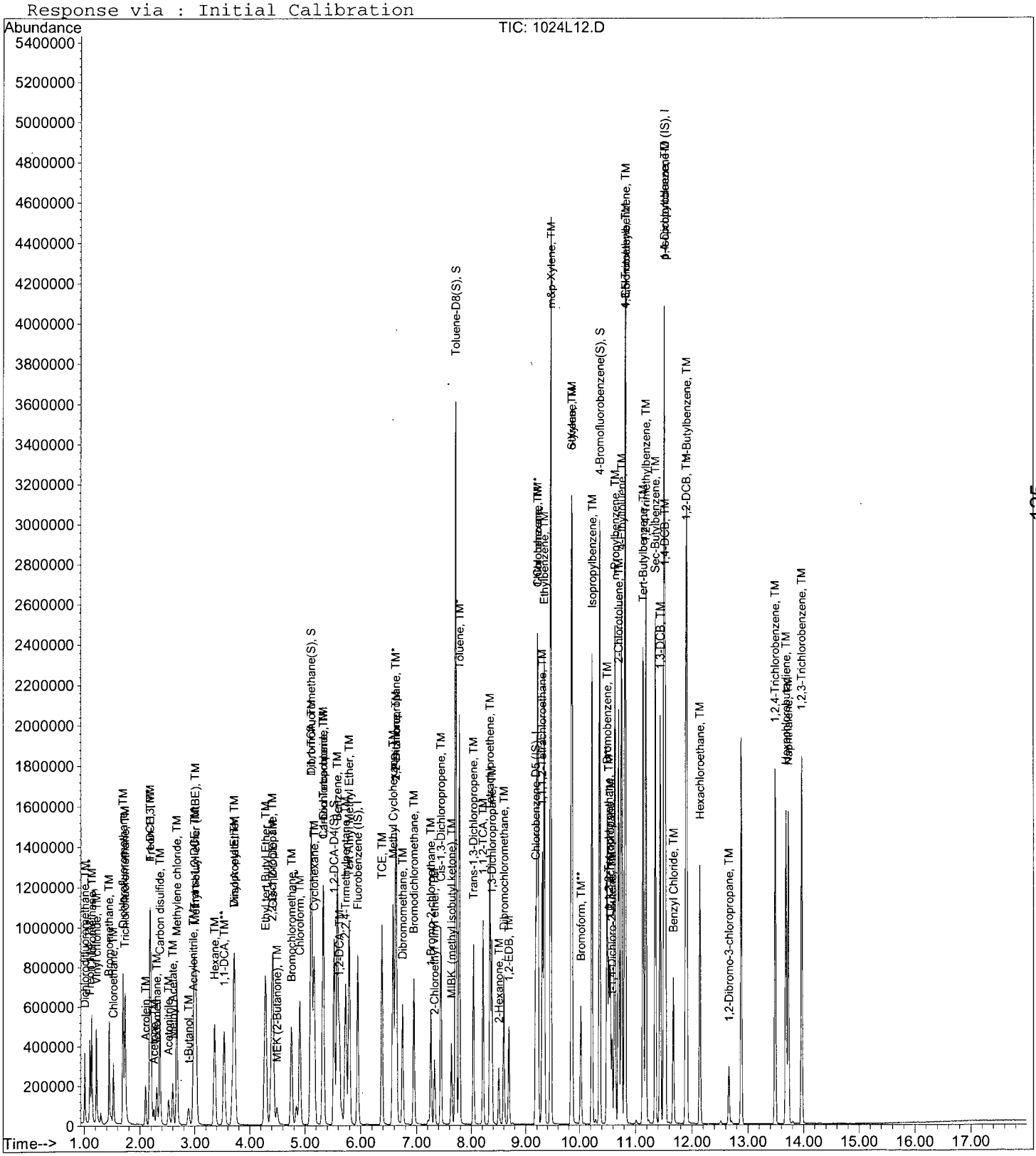
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) TCE	6.38	95	319899	38.32452 ppb	95
44) 2-Pentanone	6.63	43	1014403	189.17615 ppb	98
45) 1,2-Dichloropropane	6.62	63	357044	37.23350 ppb	99
46) Bromodichloromethane	6.95	83	448927	36.63468 ppb	98
47) Methyl Cyclohexane	6.58	83	416804	45.03750 ppb	95
48) Dibromomethane	6.75	93	206915	36.22191 ppb	94
49) 2-Chloroethyl vinyl ether	7.33	106	35247	41.67375 ppb	95
50) MIBK (methyl isobutyl ket	7.64	43	244280	38.33380 ppb	97
51) 1-Bromo-2-chloroethane	7.26	63	267264	37.33140 ppb	98
52) Cis-1,3-Dichloropropene	7.44	75	528032	39.49075 ppb	95
53) Toluene	7.78	91	1379210	44.52490 ppb	100
54) Trans-1,3-Dichloropropene	8.04	75	457845	39.06541 ppb	97
55) 1,1,2-TCA	8.21	83	247503	36.51665 ppb	98
56) 2-Hexanone	8.50	43	164406	40.31823 ppb	93
59) 1,2-EDB	8.69	107	296007	39.25348 ppb	95
60) Tetrachloroethene	8.34	166	379634	35.66032 ppb	97
61) 1-Chlorohexane	9.22	91	390431	47.36267 ppb	91
62) 1,1,1,2-Tetrachloroethane	9.30	131	362844	36.33802 ppb	94
63) m&p-Xylene	9.46	106	1202949	95.38986 ppb	96
64) o-Xylene	9.85	106	552117	46.44982 ppb	97
65) Styrene	9.86	104	1017870	53.57041 ppb	100
67) 1,3-Dichloropropane	8.38	76	497162	39.80484 ppb	96
68) Dibromochloromethane	8.60	129	365224	39.12709 ppb	99
69) Chlorobenzene	9.21	112	921644	39.58067 ppb	97
70) Ethylbenzene	9.34	91	1511890	47.36568 ppb	99
71) Bromoform	10.02	173	256270	38.00729 ppb	94
73) Isopropylbenzene	10.23	105	1385171	44.32590 ppb	99
74) 1,1,2,2-Tetrachloroethane	10.52	83	383528	40.11081 ppb	96
75) 1,2,3-Trichloropropane	10.55	110	119373	37.40764 ppb	94
76) t-1,4-Dichloro-2-Butene	10.58	53	79710	40.41812 ppb	94
77) Bromobenzene	10.49	156	420428	39.49589 ppb	98
78) n-Propylbenzene	10.63	91	1759068	46.00502 ppb	99
79) 4-Ethyltoluene	10.75	105	1565615	46.60697 ppb	99
80) 2-Chlorotoluene	10.70	91	1076232	43.86625 ppb	100
81) 1,3,5-Trimethylbenzene	10.82	105	1355063	45.98046 ppb	95
82) 4-Chlorotoluene	10.81	91	1277007	43.77652 ppb	100
83) Tert-Butylbenzene	11.13	119	1054924	44.65683 ppb	99
84) 1,2,4-Trimethylbenzene	11.18	105	1366317	47.90326 ppb	98
85) Sec-Butylbenzene	11.35	105	1580211	45.37207 ppb	99
86) p-Isopropyltoluene	11.50	119	1385087	46.35689 ppb	99
87) Benzyl Chloride	11.67	91	497080	35.20500 ppb	99
88) 1,3-DCB	11.44	146	803976	38.91210 ppb	98
89) 1,4-DCB	11.53	146	829457	37.16155 ppb	97
90) n-Butylbenzene	11.91	91	1310935	47.54431 ppb	96
91) 1,2-DCB	11.89	146	752590	37.12349 ppb	99
92) Hexachloroethane	12.15	117	249706	38.70170 ppb	96
93) 1,2-Dibromo-3-chloropropan	12.66	157	50104	39.94937 ppb	95
94) 1,2,4-Trichlorobenzene	13.49	180	545532	39.72492 ppb	98
95) Hexachlorobutadiene	13.68	225	301028	36.25298 ppb	96
96) Naphthalene	13.72	128	775616	51.24791 ppb	99
97) 1,2,3-Trichlorobenzene	13.97	180	578634	42.66985 ppb	95

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

Data File : M:\LOKI\DATA\141024\1024L12.D Vial: 11
Acq On : 24 Oct 14 15:37 Operator: DG,SV,RS
Sample : 40ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L13.D Vial: 12
Acq On : 24 Oct 14 16:05 Operator: DG,SV,RS
Sample : 100ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	422272	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	373568	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	259840	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.12	111	822405	89.38784 ppb		0.00
Spiked Amount 26.823			Recovery = 333.255%			
38) 1,2-DCA-D4(S)	5.52	65	873744	89.65515 ppb		0.00
Spiked Amount 26.964			Recovery = 332.499%			
58) Toluene-D8(S)	7.71	98	2872279	108.48526 ppb		0.00
Spiked Amount 25.836			Recovery = 419.899%			
66) 4-Bromofluorobenzene(S)	10.36	95	1170260	115.95990 ppb		0.00
Spiked Amount 26.206			Recovery = 442.489%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	543180	100.83098 ppb		98
3) Freon 114	1.10	85	465641	97.06355 ppb		94
4) Chloromethane	1.13	50	821216	100.30755 ppb		100
5) Vinyl chloride	1.22	62	820847	84.63256 ppb		96
6) Bromomethane	1.44	94	448832	84.26073 ppb		97
7) Chloroethane	1.52	64	293651	77.05548 ppb		95
8) Dichlorofluoromethane	1.69	67	1544246	91.03280 ppb		97
9) Trichlorofluoromethane	1.72	101	1177668	93.36629 ppb		98
10) Acrolein	2.10	56	181613	191.79957 ppb	#	97
11) Acetone	2.26	43	211240	100.79347 ppb		99
12) Freon-113	2.19	101	689106	94.77097 ppb		98
13) 1,1-DCE	2.17	61	1121109	94.96128 ppb		99
14) t-Butanol	2.91	59	46287	178.00561 ppb		96
15) Acetonitrile	2.53	41	200736	188.69261 ppb		92
16) Methyl Acetate	2.60	43	721054	115.60221 ppb		99
17) Iodomethane	2.30	142	278528	107.53343 ppb		98
18) Acrylonitrile	2.97	52	213404	94.55966 ppb		94
19) Methylene chloride	2.67	84	832560	100.03196 ppb		95
20) Carbon disulfide	2.35	76	1969551	100.61805 ppb		100
21) Methyl t-butyl ether (MtBE	3.02	73	2106933	112.04912 ppb		96
22) Trans-1,2-DCE	2.99	96	791352	95.98426 ppb		94
23) Diisopropyl Ether	3.72	45	2607623	118.23255 ppb		88
24) 1,1-DCA	3.53	63	1397389	88.77443 ppb		98
25) Hexane	3.36	57	785998	126.52806 ppb		88
26) Vinyl Acetate	3.72	43	473326	97.24647 ppb	#	99
27) Ethyl tert Butyl Ether	4.29	59	2266362	121.88826 ppb		98
28) MEK (2-Butanone)	4.50	43	288865	99.96249 ppb		98
29) Cis-1,2-DCE	4.43	96	920086	102.56529 ppb		99
30) 2,2-Dichloropropane	4.40	77	377344	100.29171 ppb		99
31) Chloroform	4.90	83	1399239	87.39331 ppb		100
32) Bromochloromethane	4.75	128	421537	91.02741 ppb		99
34) 1,1,1-TCA	5.10	97	1227034	92.64449 ppb		99
35) Cyclohexane	5.16	41	580209	104.63363 ppb		88
36) 1,1-Dichloropropene	5.33	75	1024001	110.30476 ppb		99
37) 2,2,4-Trimethylpentane	5.73	57	2231134	130.81504 ppb		96
39) Carbon Tetrachloride	5.32	117	1131153	100.23895 ppb		100
40) Tert Amyl Methyl Ether	5.80	73	2190221	118.83328 ppb	#	90
41) 1,2-DCA	5.62	62	1062024	87.79962 ppb		96
42) Benzene	5.58	78	3156050	97.97961 ppb		97

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L13.D Vial: 12
Acq On : 24 Oct 14 16:05 Operator: DG,SV,RS
Sample : 100ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

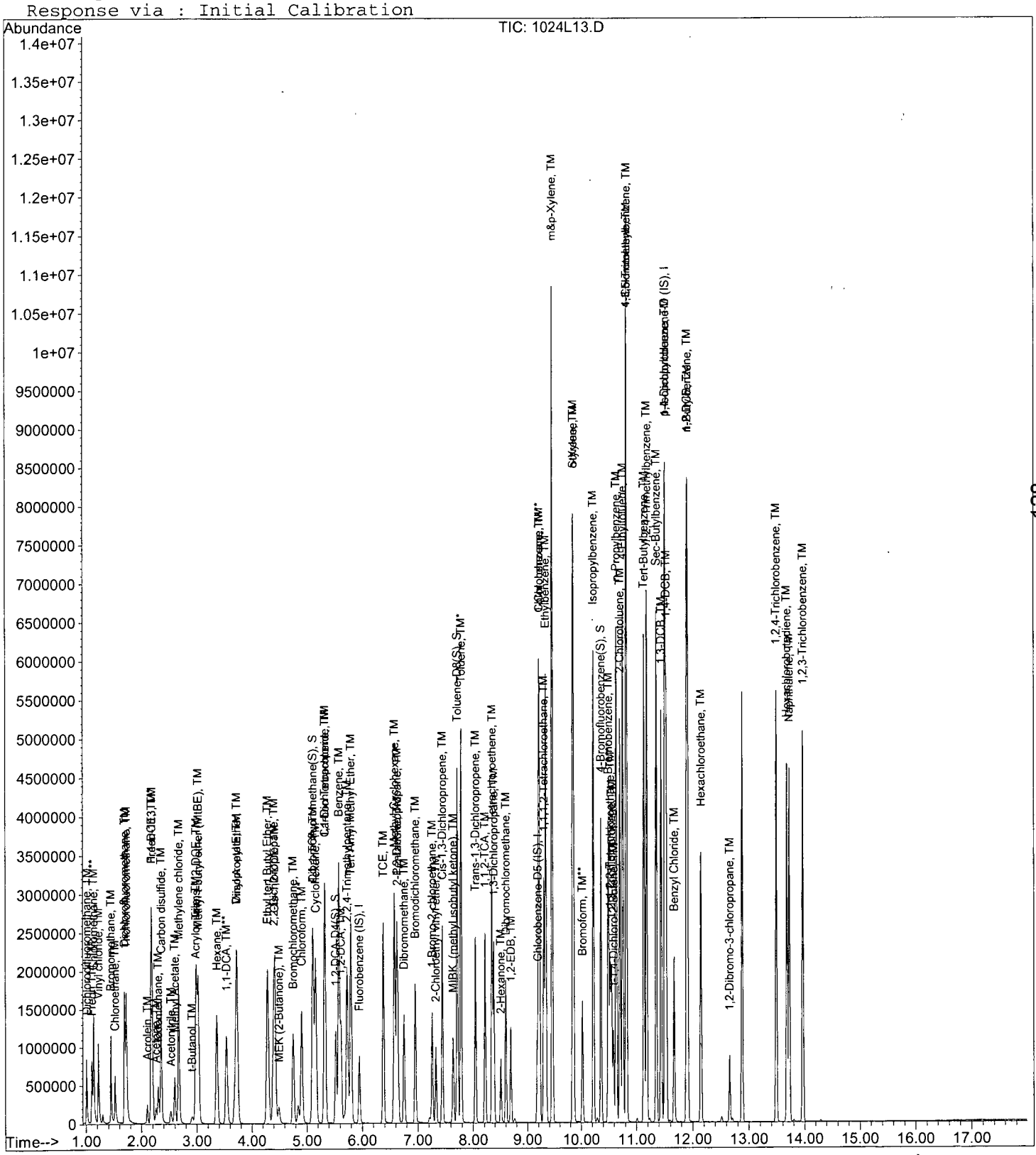
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	TCE	6.38	95	832256	99.08632	ppb	95
44)	2-Pentanone	6.64	43	1159629	214.91553	ppb	100
45)	1,2-Dichloropropane	6.62	63	877465	90.93577	ppb	99
46)	Bromodichloromethane	6.95	83	1114801	90.40802	ppb	99
47)	Methyl Cyclohexane	6.58	83	1197881	128.63197	ppb	91
48)	Dibromomethane	6.75	93	485386	84.44218	ppb	95
49)	2-Chloroethyl vinyl ether	7.33	106	108104	127.02086	ppb	91
50)	MIBK (methyl isobutyl ket	7.64	43	682367	106.41548	ppb	98
51)	1-Bromo-2-chloroethane	7.26	63	679872	94.37432	ppb	99
52)	Cis-1,3-Dichloropropene	7.44	75	1391023	103.38615	ppb	96
53)	Toluene	7.78	91	3471351	111.36890	ppb	99
54)	Trans-1,3-Dichloropropene	8.04	75	1205420	102.21279	ppb	98
55)	1,1,2-TCA	8.21	83	616934	90.45696	ppb	98
56)	2-Hexanone	8.51	43	475324	115.84209	ppb	90
59)	1,2-EDB	8.69	107	744386	96.92037	ppb	96
60)	Tetrachloroethene	8.34	166	939508	86.64856	ppb	97
61)	1-Chlorohexane	9.22	91	1041888	124.09482	ppb	85
62)	1,1,1,2-Tetrachloroethane	9.30	131	885397	87.06029	ppb	93
63)	m&p-Xylene	9.46	106	3027496	235.71070	ppb	96
64)	o-Xylene	9.85	106	1483177	122.51426	ppb	99
65)	Styrene	9.86	104	2609390	134.83802	ppb	99
67)	1,3-Dichloropropane	8.38	76	1261238	99.14612	ppb	95
68)	Dibromochloromethane	8.60	129	919381	96.70623	ppb	99
69)	Chlorobenzene	9.21	112	2323747	97.98272	ppb	99
70)	Ethylbenzene	9.34	91	3782836	116.35948	ppb	99
71)	Bromoform	10.02	173	692906	100.89838	ppb	96
73)	Isopropylbenzene	10.23	105	3792590	115.05672	ppb	99
74)	1,1,2,2-Tetrachloroethane	10.52	83	1004513	100.13548	ppb	98
75)	1,2,3-Trichloropropane	10.55	110	311288	92.47801	ppb	95
76)	t-1,4-Dichloro-2-Butene	10.59	53	218005	104.79768	ppb	98
77)	Bromobenzene	10.49	156	1093267	97.36623	ppb	97
78)	n-Propylbenzene	10.63	91	4602104	114.10400	ppb	98
79)	4-Ethyltoluene	10.75	105	4071009	114.89202	ppb	99
80)	2-Chlorotoluene	10.70	91	2745871	106.10274	ppb	100
81)	1,3,5-Trimethylbenzene	10.82	105	3475213	111.79364	ppb	94
82)	4-Chlorotoluene	10.81	91	3275976	106.46591	ppb	99
83)	Tert-Butylbenzene	11.13	119	2897512	116.28236	ppb	98
84)	1,2,4-Trimethylbenzene	11.18	105	3584073	119.12759	ppb	97
85)	Sec-Butylbenzene	11.35	105	4306678	117.22972	ppb	98
86)	p-Isopropyltoluene	11.50	119	3776924	119.83878	ppb	99
87)	Benzyl Chloride	11.67	91	1465789	98.41729	ppb	100
88)	1,3-DCB	11.44	146	2147538	98.53812	ppb	98
89)	1,4-DCB	11.53	146	2228616	94.65795	ppb	97
90)	n-Butylbenzene	11.91	91	3633812	124.94005	ppb	95
91)	1,2-DCB	11.89	146	2153475	100.70525	ppb	100
92)	Hexachloroethane	12.15	117	685986	100.72804	ppb	95
93)	1,2-Dibromo-3-chloropropan	12.66	157	163072	124.34950	ppb	88
94)	1,2,4-Trichlorobenzene	13.49	180	1697647	117.19581	ppb	97
95)	Hexachlorobutadiene	13.68	225	892746	101.92639	ppb	96
96)	Naphthalene	13.72	128	2347008	147.01642	ppb	97
97)	1,2,3-Trichlorobenzene	13.97	180	1628576	113.85368	ppb	96

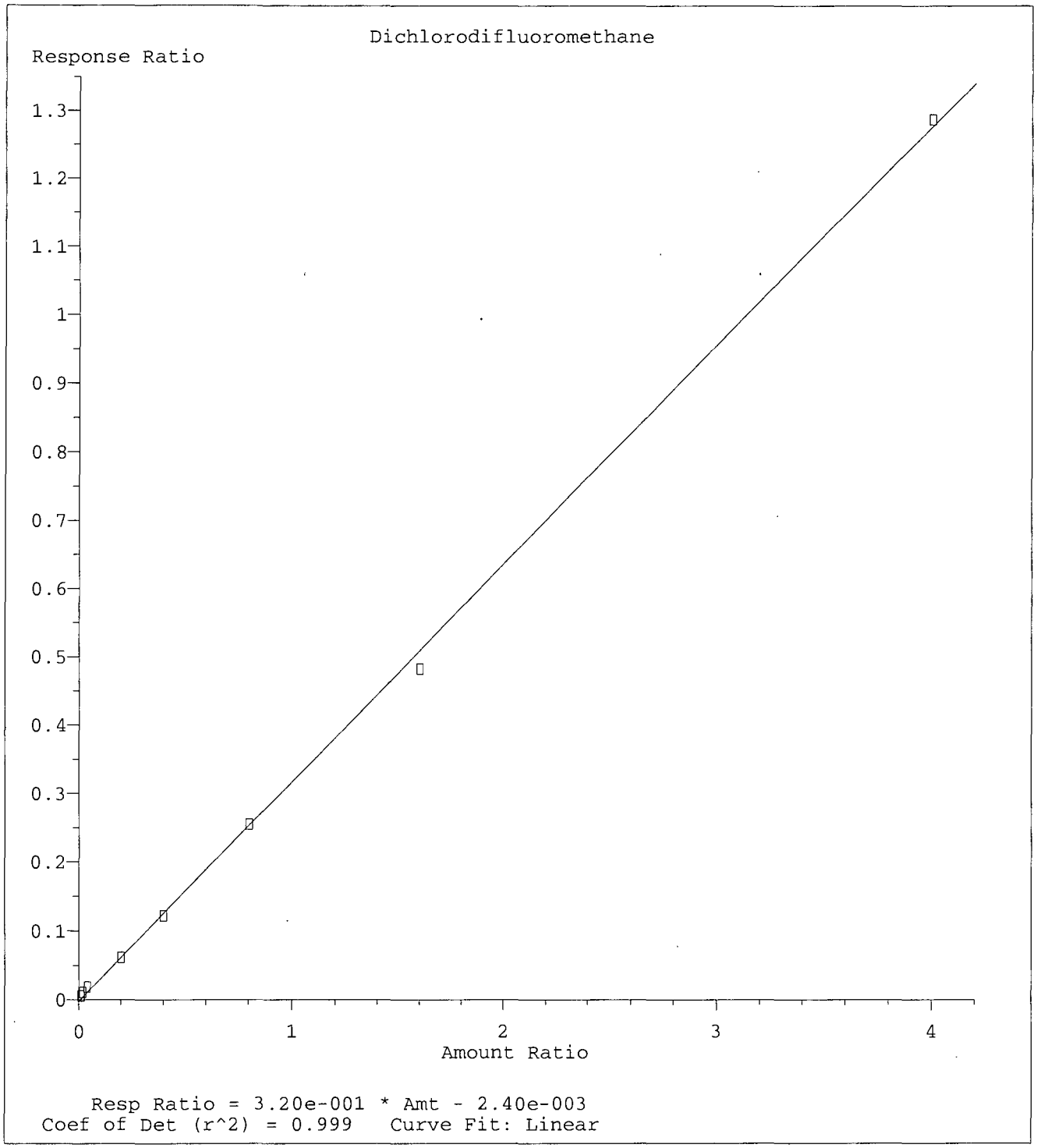
(#) = qualifier out of range (m) = manual integration

Data File : M:\LOKI\DATA\141024\1024L13.D Vial: 12
Acq On : 24 Oct 14 16:05 Operator: DG,SV,RS
Sample : 100ug/L Vol Std 10-24-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

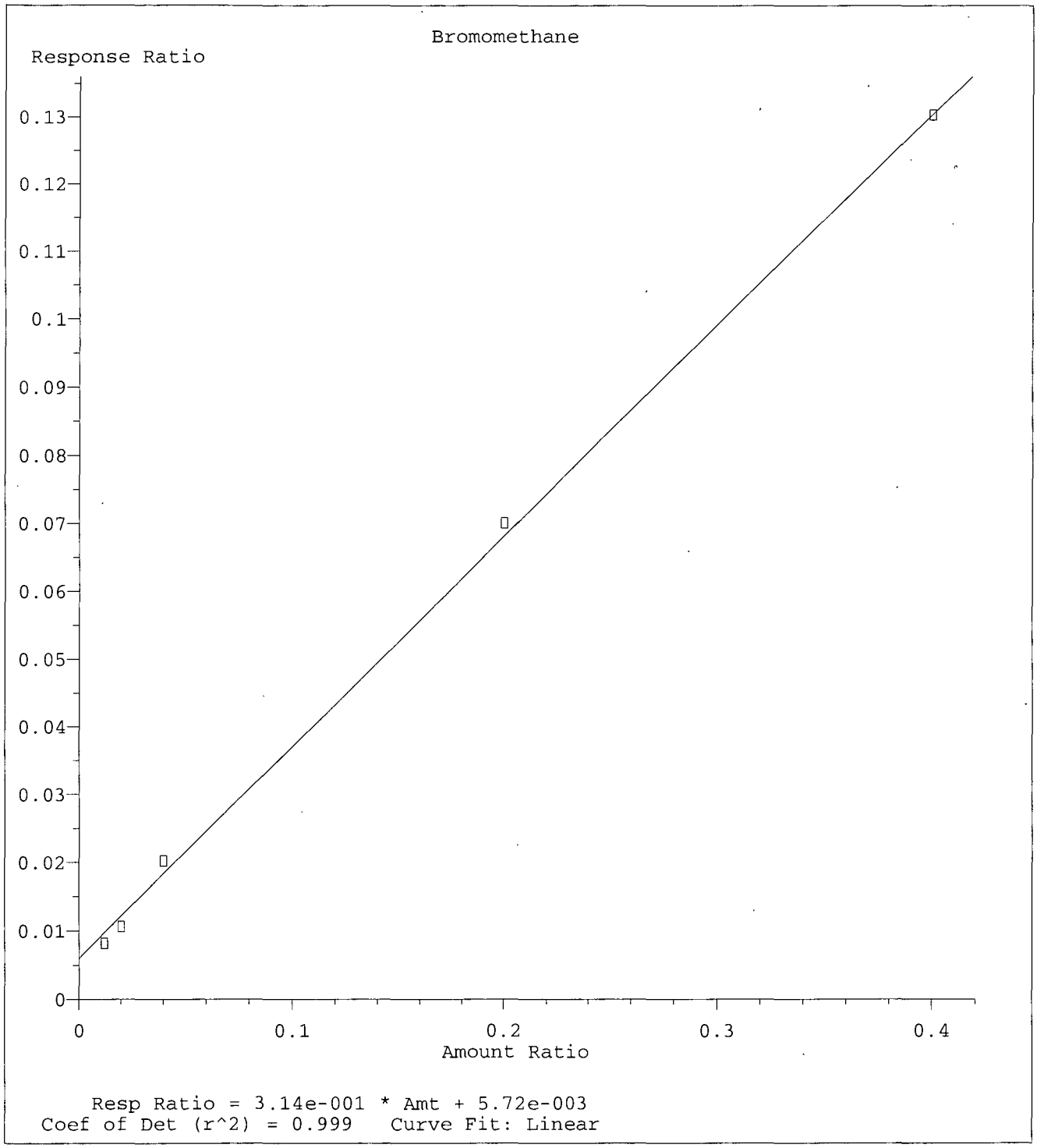
Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration

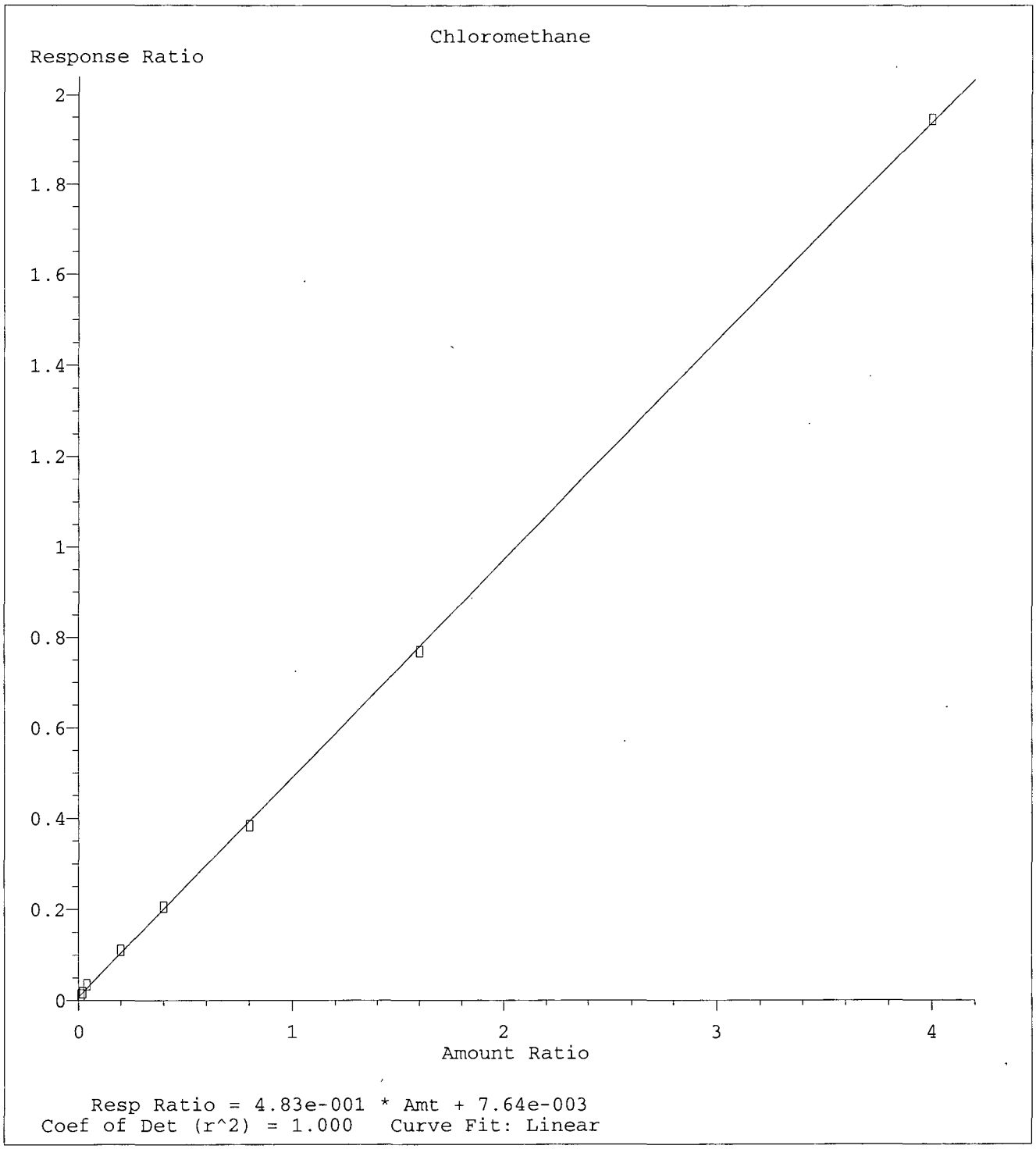




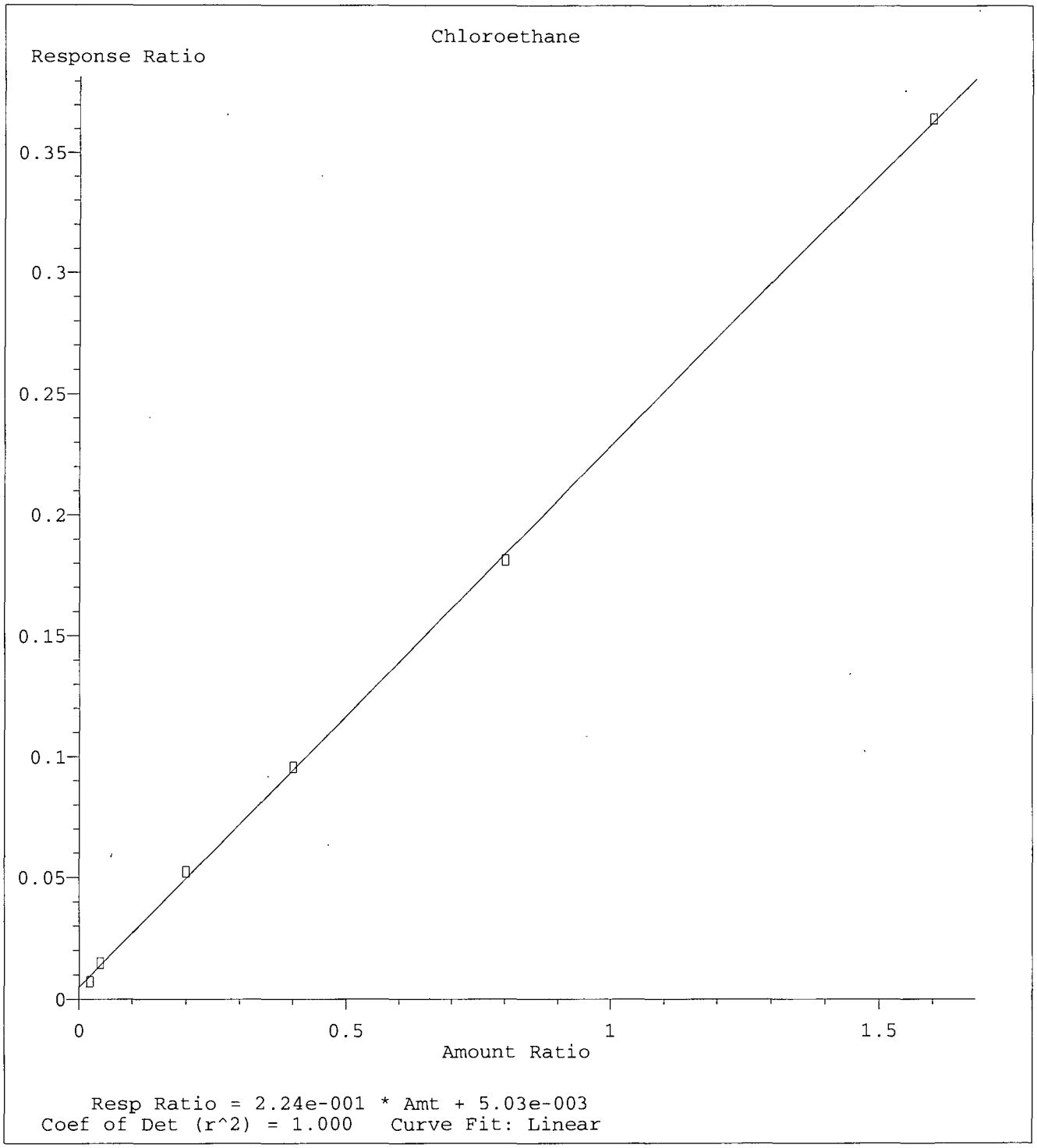
Method Name: M:\LOKI\DATA\141024\LALLW.M
Calibration Table Last Updated: Sat Oct 25 10:29:55 2014



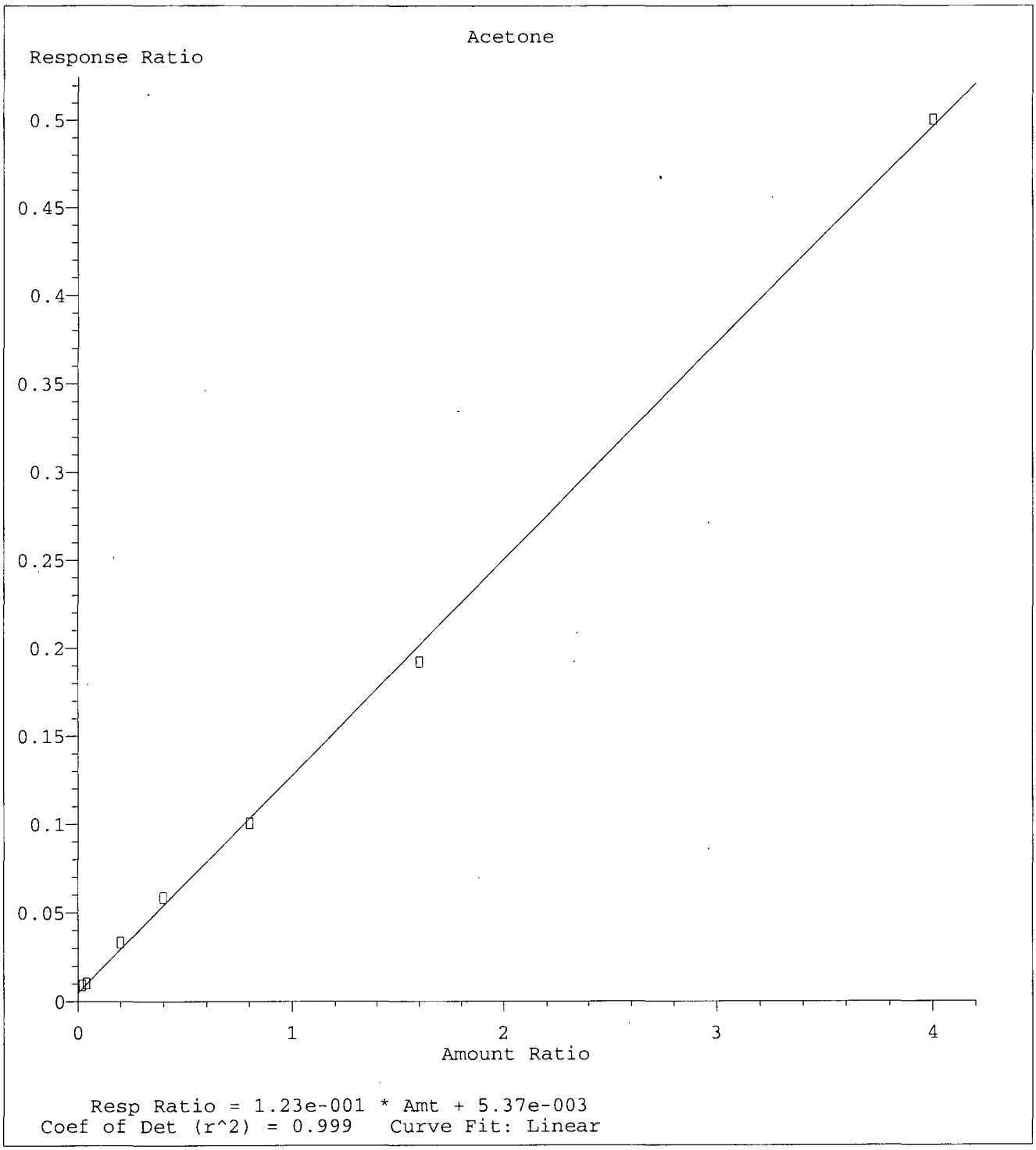
Method Name: M:\LOKI\DATA\141024\LALLW.M
Calibration Table Last Updated: Sat Oct 25 10:29:55 2014



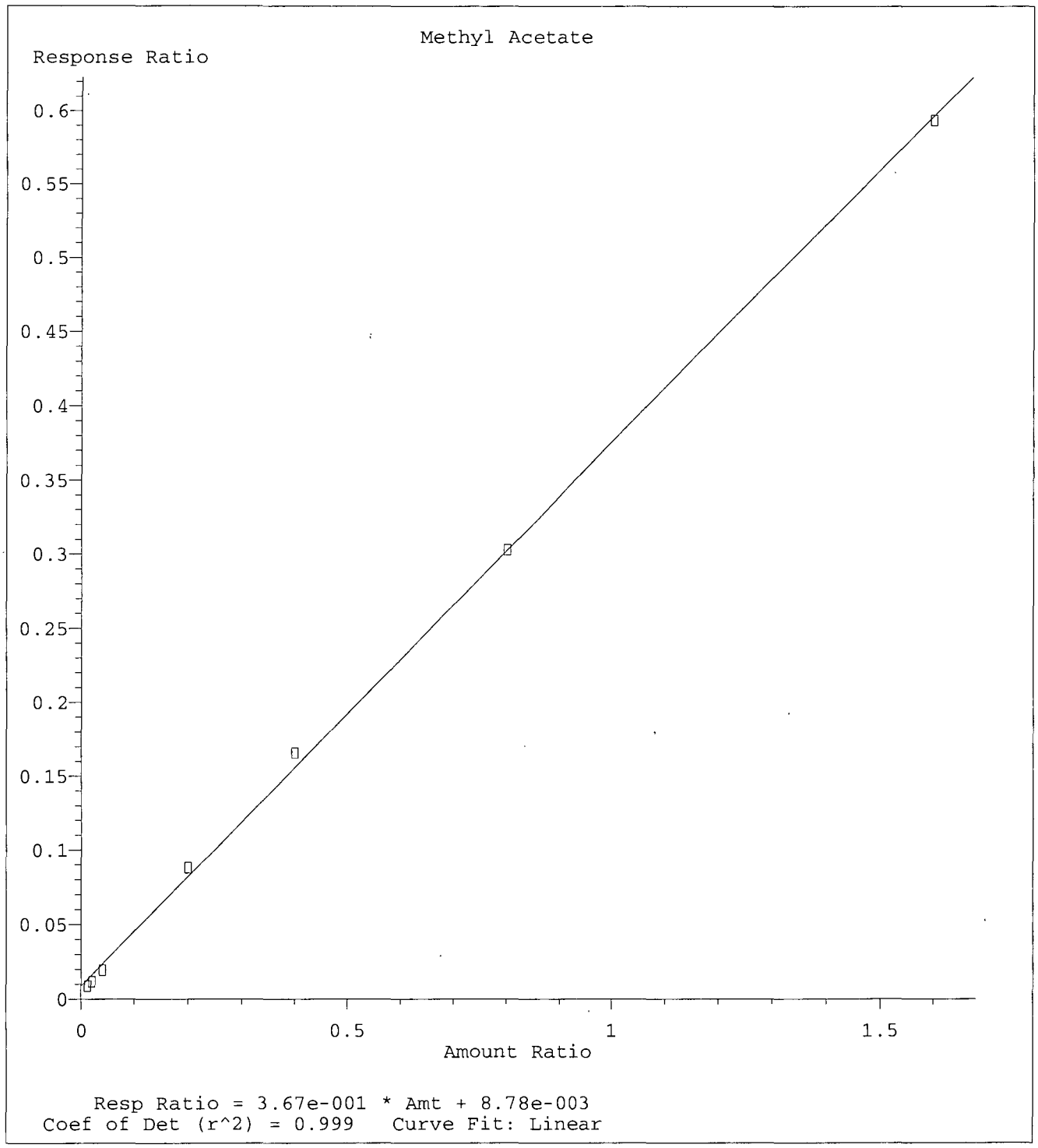
Method Name: M:\LOKI\DATA\141024\LALLW.M
Calibration Table Last Updated: Sat Oct 25 10:29:55 2014



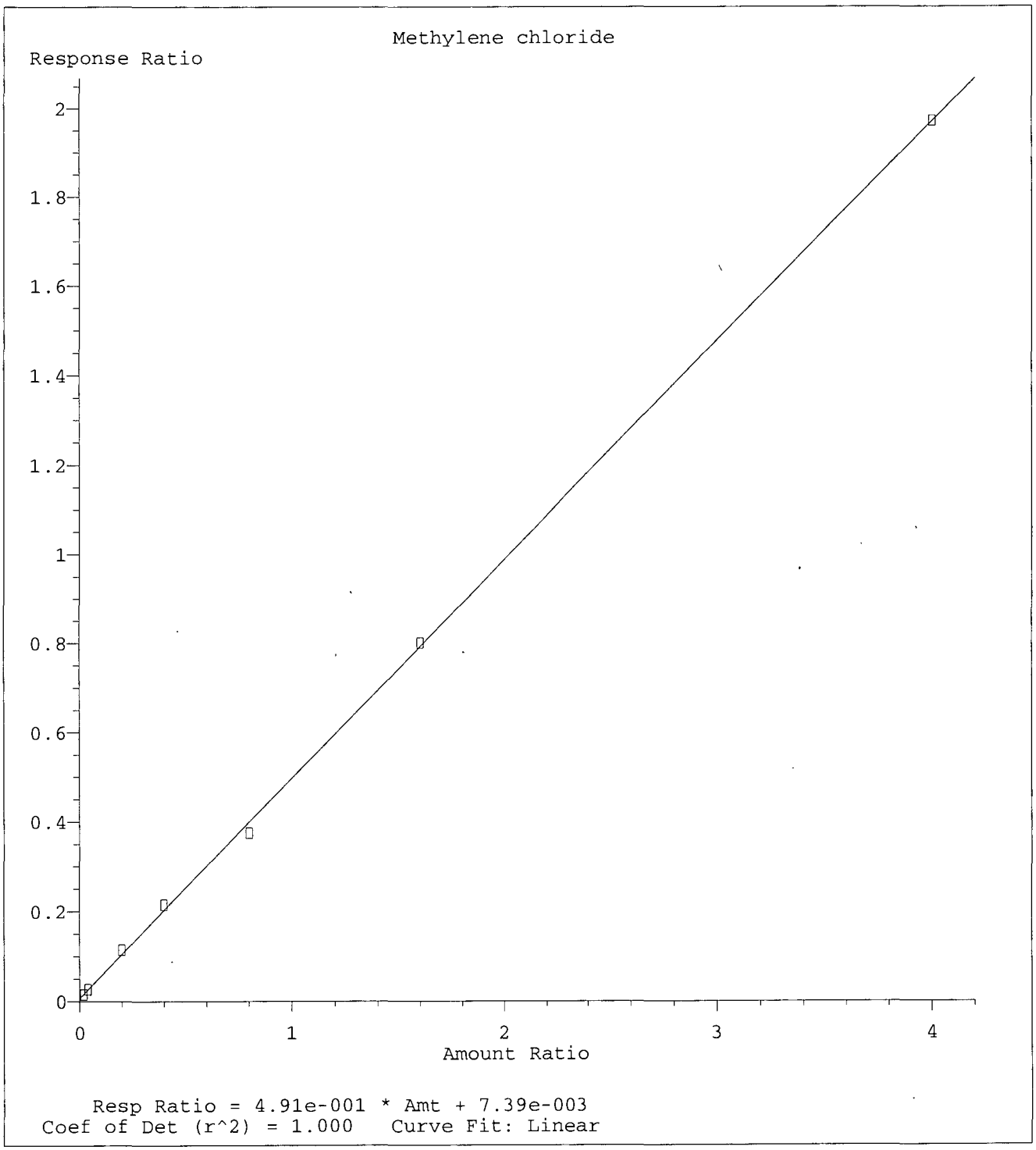
Method Name: M:\LOKI\DATA\141024\LALLW.M
Calibration Table Last Updated: Sat Oct 25 10:29:55 2014



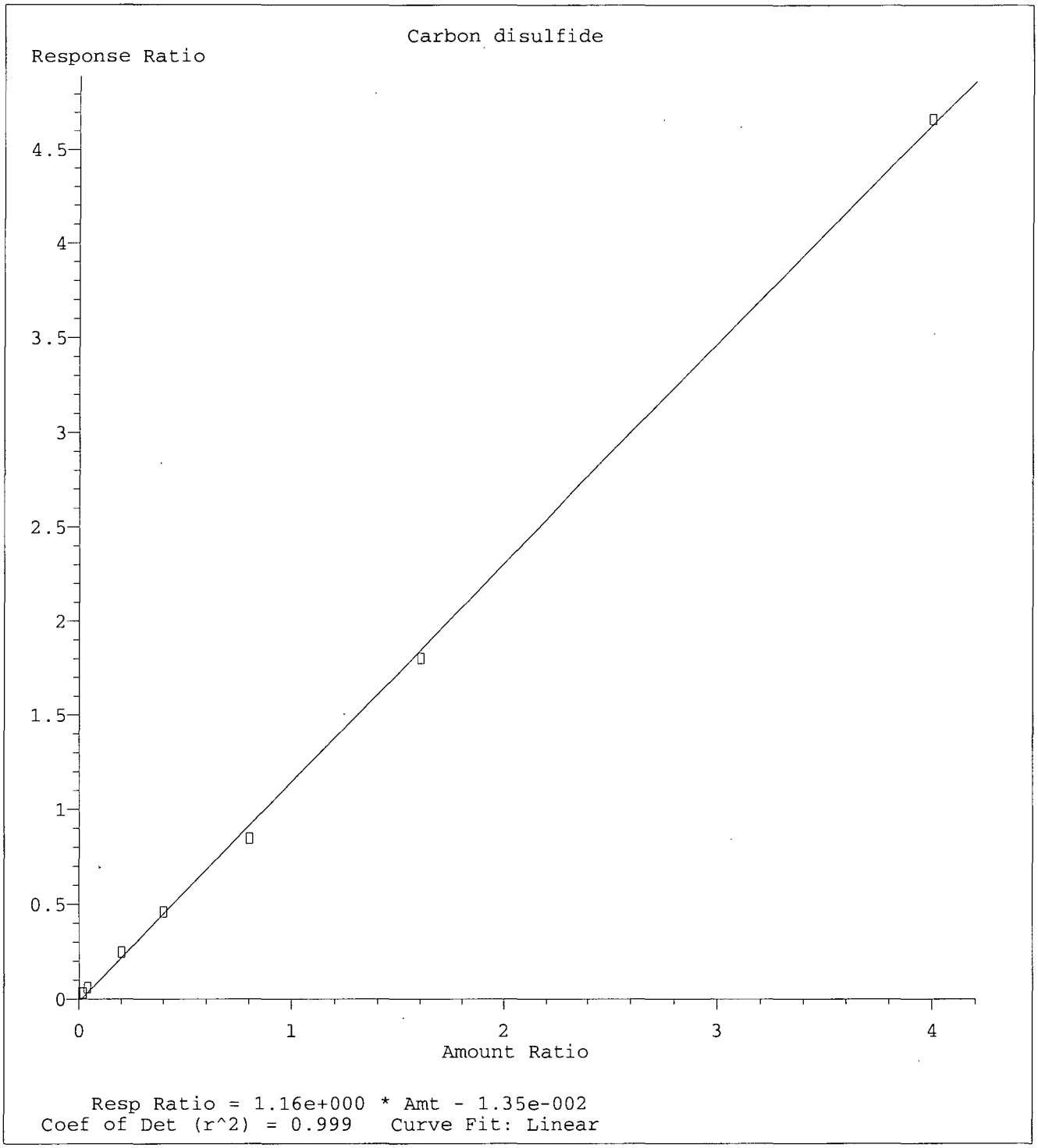
Method Name: M:\LOKI\DATA\141024\LALLW.M
Calibration Table Last Updated: Sat Oct 25 10:29:55 2014



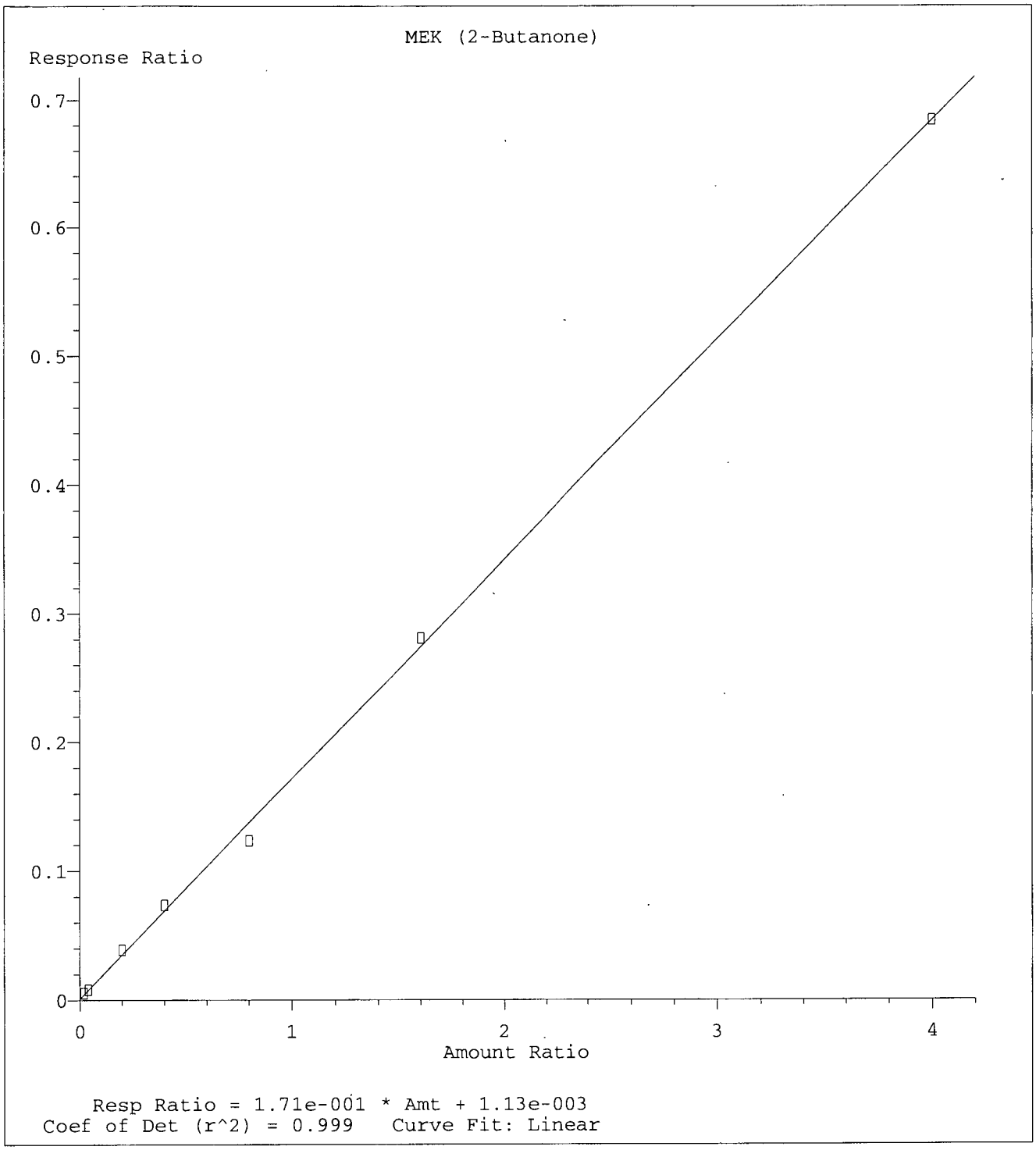
Method Name: M:\LOKI\DATA\141024\LALLW.M
Calibration Table Last Updated: Sat Oct 25 10:29:55 2014



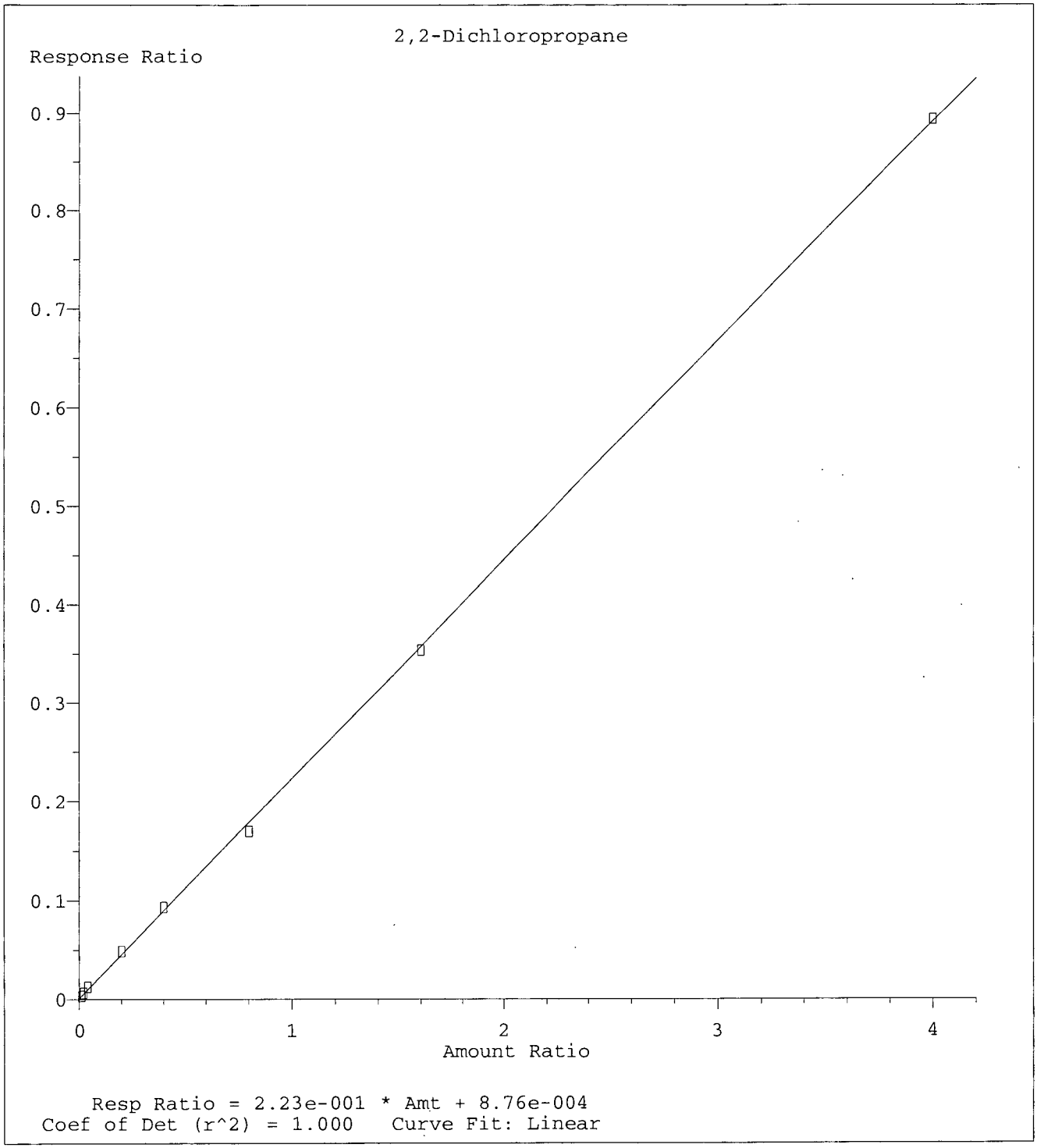
Method Name: M:\LOKI\DATA\141024\LALLW.M
Calibration Table Last Updated: Sat Oct 25 10:29:55 2014



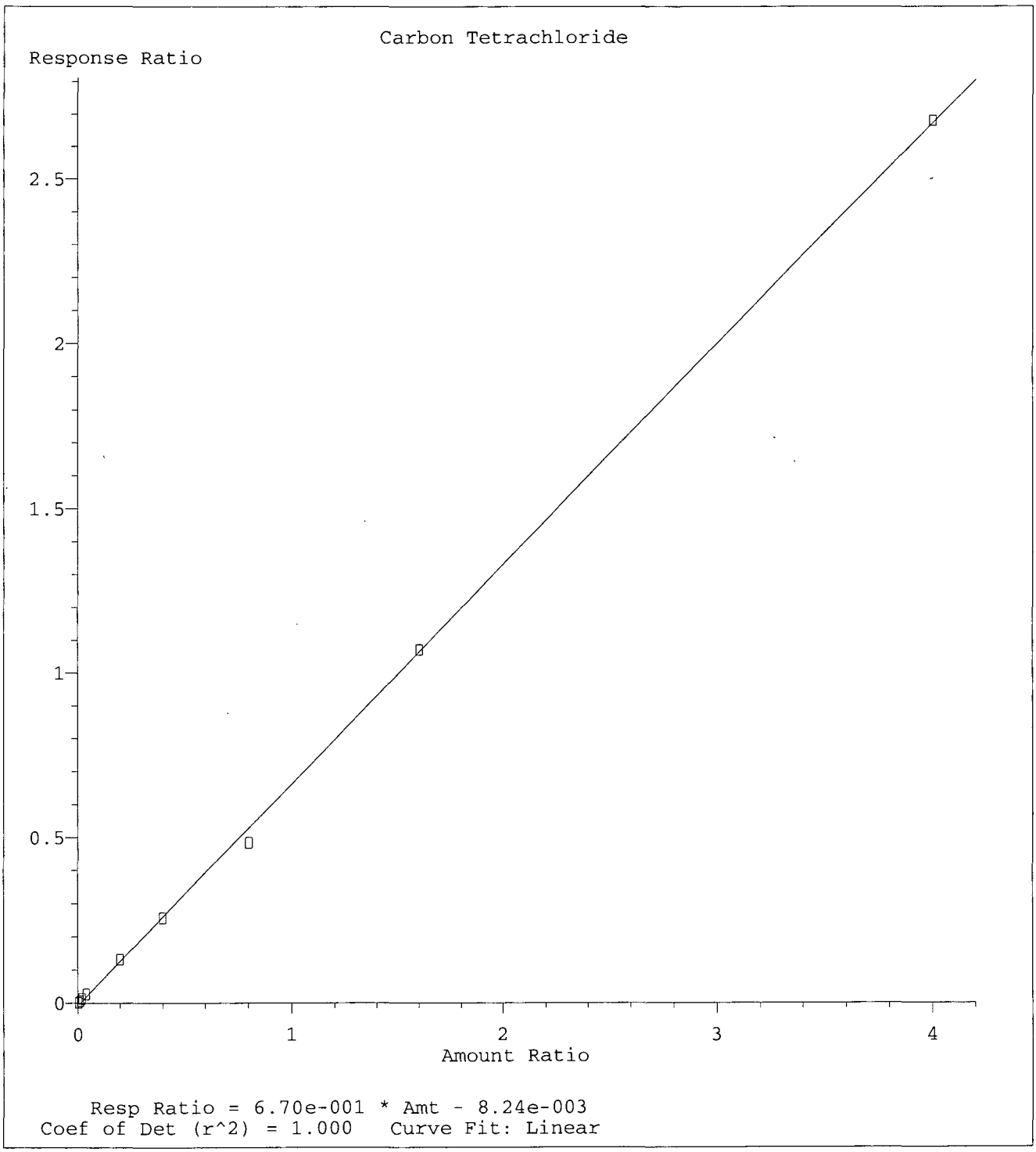
Method Name: M:\LOKI\DATA\141024\LALLW.M
Calibration Table Last Updated: Sat Oct 25 10:29:55 2014



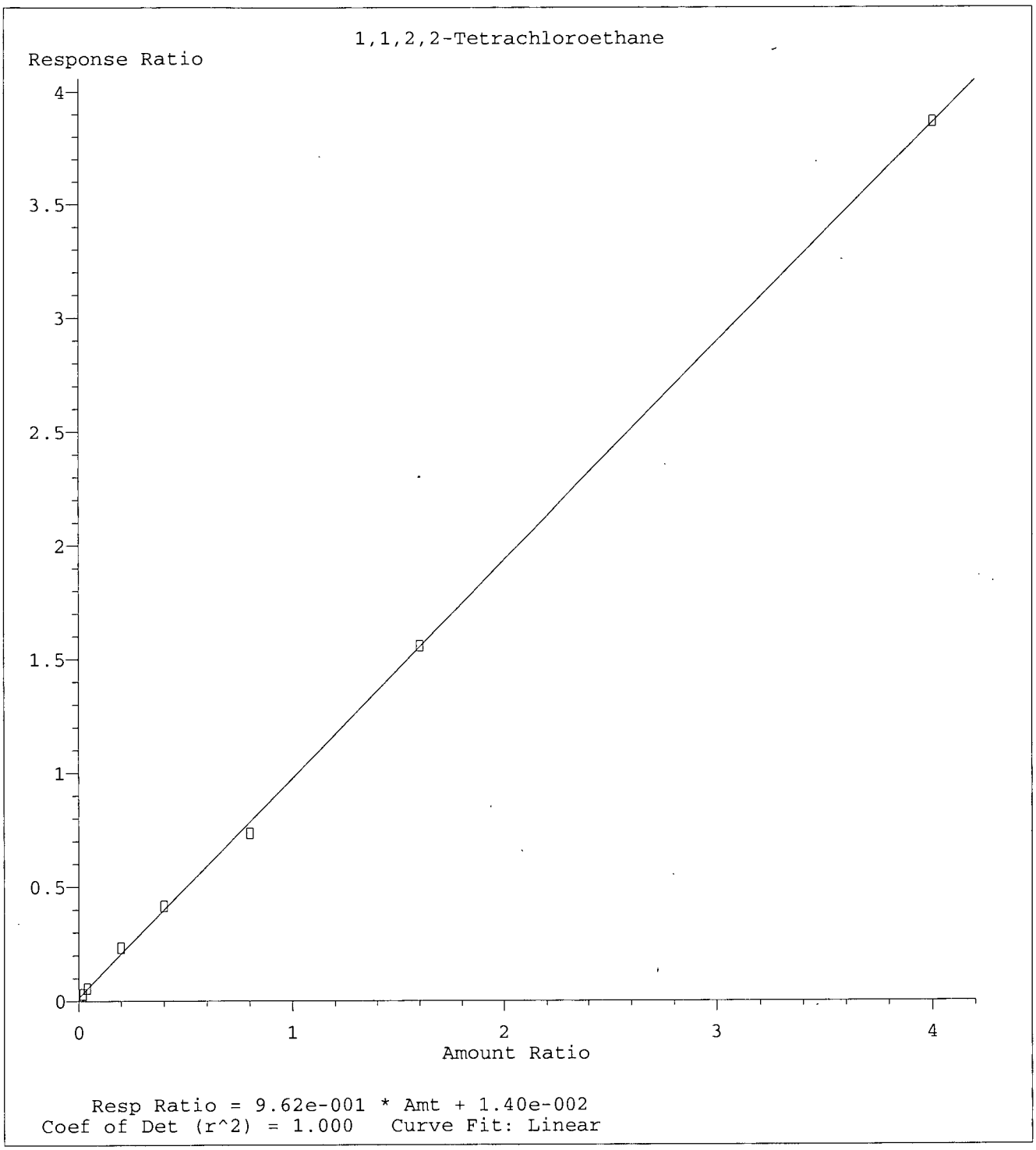
Method Name: M:\LOKI\DATA\141024\LALLW.M
Calibration Table Last Updated: Sat Oct 25 10:29:55 2014



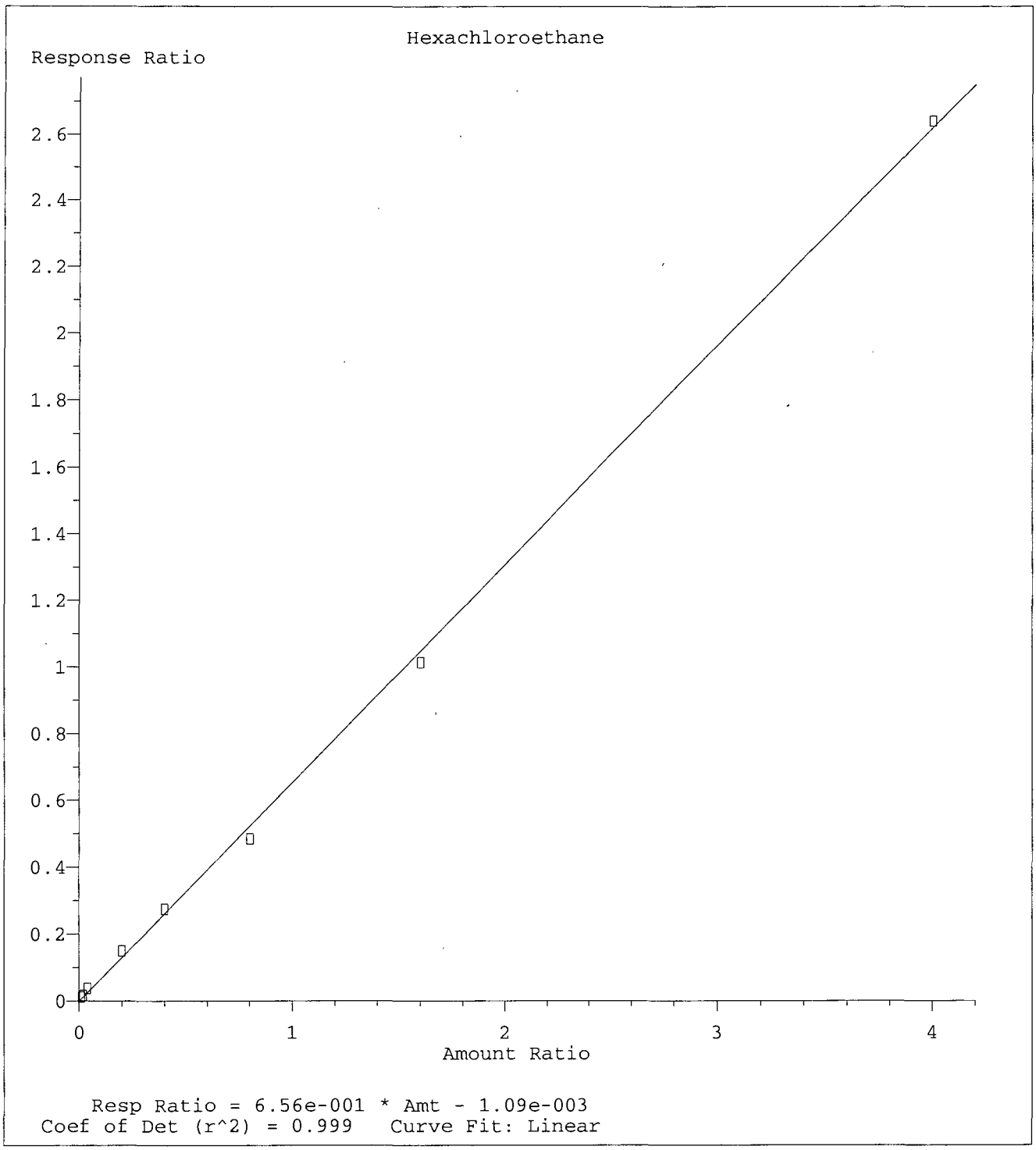
Method Name: M:\LOKI\DATA\141024\LALLW.M
Calibration Table Last Updated: Sat Oct 25 10:29:55 2014



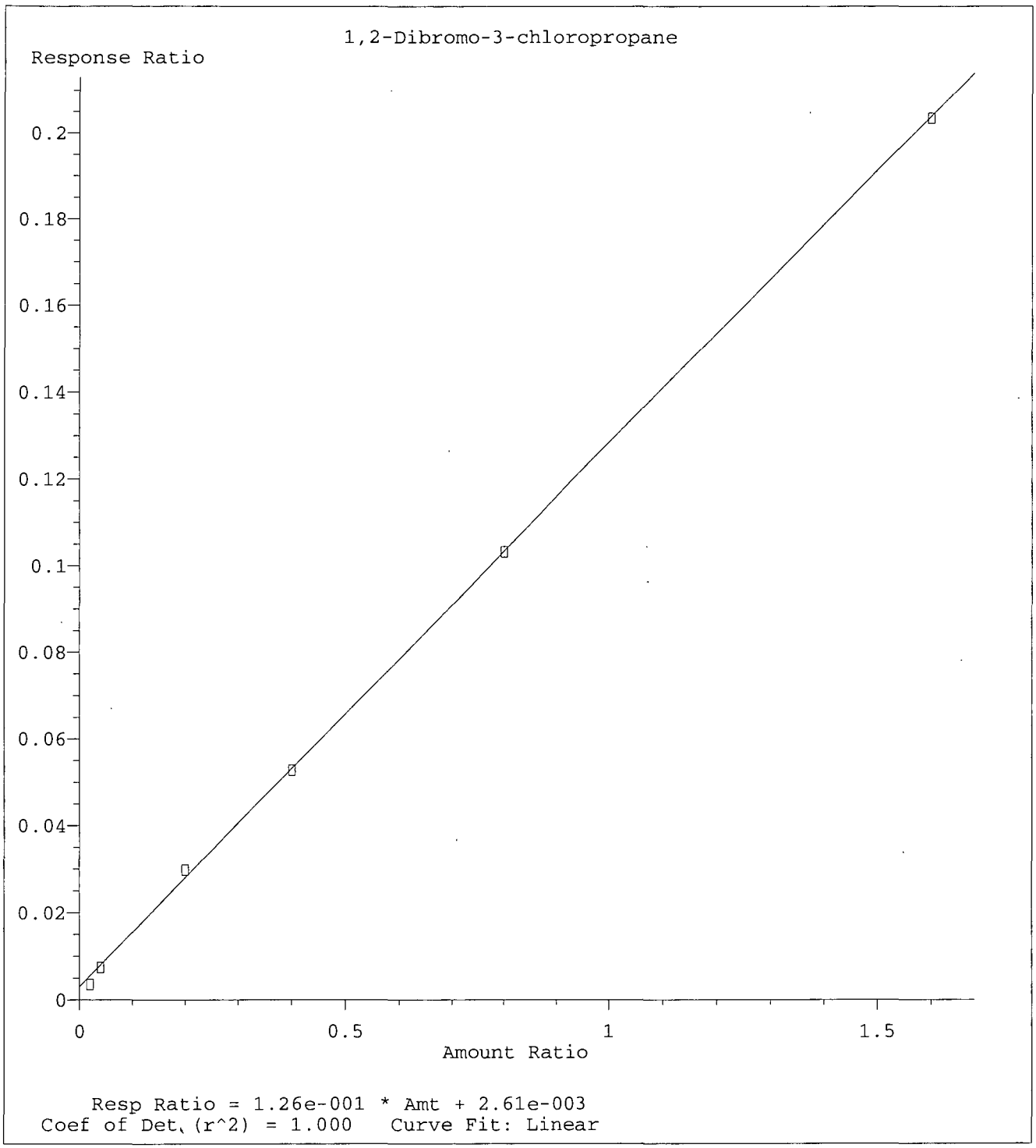
Method Name: M:\LOKI\DATA\141024\LALLW.M
Calibration Table Last Updated: Sat Oct 25 10:29:55 2014



Method Name: M:\LOKI\DATA\141024\LALLW.M
Calibration Table Last Updated: Sat Oct 25 10:29:55 2014



Method Name: M:\LOKI\DATA\141024\LALLW.M
Calibration Table Last Updated: Sat Oct 25 10:29:55 2014

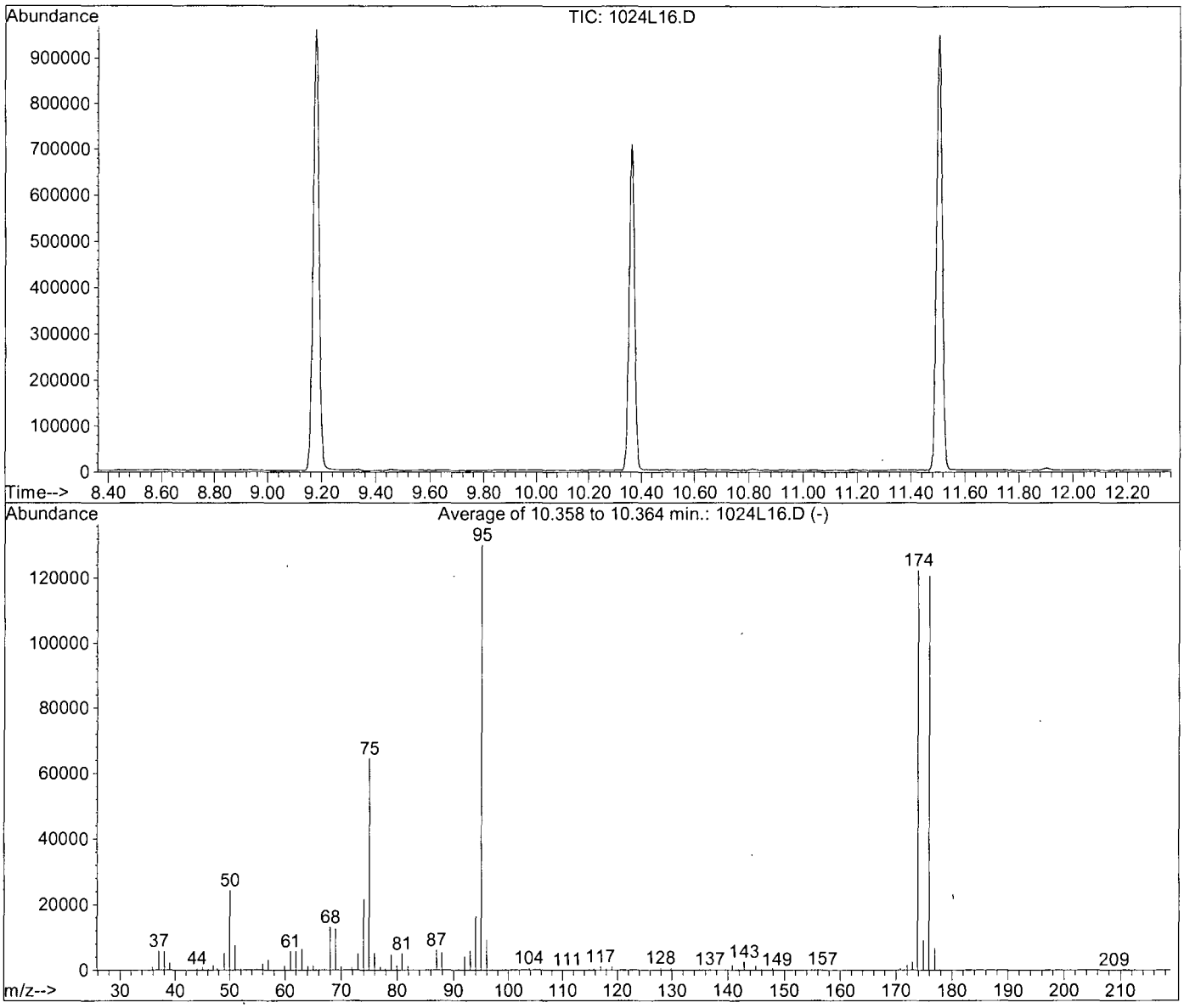


Method Name: M:\LOKI\DATA\141024\LALLW.M
Calibration Table Last Updated: Sat Oct 25 10:29:55 2014

Data File : M:\LOKI\DATA\141024\1024L16.D
Acq On : 24 Oct 14 17:30
Sample : 25ug/mL BFB Std 09-30-14
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 15
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B



AutoFind: Scans 2929, 2930, 2931; Background Corrected with Scan 2916

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.7	24299	PASS
75	95	30	60	49.6	64541	PASS
95	95	100	100	100.0	130128	PASS
96	95	5	9	7.2	9314	PASS
173	174	0.00	2	2.0	2467	PASS
174	95	50	100	94.1	122392	PASS
175	174	5	9	7.5	9131	PASS
176	174	95	101	98.5	120525	PASS
177	176	5	9	5.6	6711	PASS

1024L16.D LALLW.M Sat Oct 25 09:24:16 2014

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 10/24/14
Matrix: Instrument: Loki
Initial Cal. Date: 10/24/14
Data File: 1024L17.D

		Compound	MEAN	CCRF	%D	%Drift	
1	I	Fluorobenzene (IS)	ISTD			I	
2	TML	Dichlorodifluoromethane	0.3733	0.3143	16	TML	0.23
3	TM	Freon 114	0.2840	0.2592	8.7	TM	
4	TM**L	Chloromethane	0.6542	0.4921	25	TM**L	2.0
5	TM*	Vinyl chloride	0.5742	0.5106	11	TM*	
6	TML	Bromomethane	0.4789	0.3631	24	TML	11
7	TML	Chloroethane	0.2808	0.2589	7.8	TML	10.0
8	TM	Dichlorofluoromethane	1.004	0.9785	2.6	TM	
9	TM	Trichlorofluoromethane	0.7468	0.6777	9.2	TM	
10	TM	Acrolein	0.0561	0.0560	0.02	TM	
11	TML	Acetone	0.2009	0.1452	28	TML	7.3
12	TM	Freon-113	0.4305	0.4140	3.8	TM	
13	TM*	1,1-DCE	0.6990	0.6533	6.5	TM*	
14	TM	t-Butanol	0.0154	0.0148	4.0	TM	
15	TM	Acetonitrile	0.0630	0.0667	5.9	TM	
16	TML	Methyl Acetate	0.4863	0.4346	11	TML	12
17	TM	Iodomethane	0.1533	0.1546	0.80	TM	
18	TM	Acrylonitrile	0.1336	0.1286	3.7	TM	
19	TML	Methylene chloride	0.5705	0.5244	8.1	TML	3.1
20	TML	Carbon disulfide	1.258	1.199	4.7	TML	6.0
21	TM	Methyl t-butyl ether (MtBE)	1.113	1.074	3.5	TM	
22	TM	Trans-1,2-DCE	0.4881	0.4648	4.8	TM	
23	TM	Diisopropyl Ether	1.306	1.205	7.7	TM	
24	TM**	1,1-DCA	0.9319	0.8839	5.2	TM**	
25	TM	Hexane	0.3678	0.3455	6.0	TM	
26	TM	Vinyl Acetate	0.2882	0.2605	9.6	TM	
27	TM	Ethyl tert Butyl Ether	1.101	1.061	3.6	TM	
28	TML	MEK (2-Butanone)	0.1929	0.1728	10	TML	0.45
29	TM	Cis-1,2-DCE	0.5311	0.5342	0.58	TM	
30	TML	2,2-Dichloropropane	0.2549	0.2319	9.0	TML	3.2
31	TM*	Chloroform	0.9479	0.9098	4.0	TM*	
32	TM	Bromochloromethane	0.2742	0.2582	5.8	TM	
33	S	Dibromofluoromethane(S)	0.5447	0.5337	2.0	S	
34	TM	1,1,1-TCA	0.7841	0.7546	3.8	TM	
35	TM	Cyclohexane	0.3283	0.3299	0.48	TM	
36	TM	1,1-Dichloropropene	0.5496	0.5503	0.13	TM	
37	TM	2,2,4-Trimethylpentane	1.010	1.055	4.5	TM	
38	S	1,2-DCA-D4(S)	0.5770	0.5827	0.99	S	
39	TML	Carbon Tetrachloride	0.6026	0.6552	8.7	TML	0.84
40	TM	Tert Amyl Methyl Ether	1.091	1.146	5.0	TM	
		Average			7.1		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 10/24/14
Matrix: 0 Instrument: Loki
Cal. Date: 10/24/14
Data File: 1024L17.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2-DCA	0.7161	0.6910	3.5	TM	
42	TM	Benzene	1.907	1.884	1.2	TM	
43	TM	TCE	0.4973	0.4818	3.1	TM	
44	TM	2-Pentanone	0.3194	0.3235	1.3	TM	
45	TM*	1,2-Dichloropropane	0.5713	0.5263	7.9	TM*	
46	TM	Bromodichloromethane	0.7300	0.6936	5.0	TM	
47	TM	Methyl Cyclohexane	0.5513	0.5255	4.7	TM	
48	TM	Dibromomethane	0.3403	0.3266	4.0	TM	
49	TM	2-Chloroethyl vinyl ether	0.0504	0.0491	2.6	TM	
50	TM	MIBK (methyl isobutyl ketone)	0.3796	0.3822	0.68	TM	
51	TM	1-Bromo-2-chloroethane	0.4265	0.4041	5.3	TM	
52	TM	Cis-1,3-Dichloropropene	0.7966	0.7518	5.6	TM	
53	TM*	Toluene	1.845	2.007	8.8	TM*	
54	TM	Trans-1,3-Dichloropropene	0.6982	0.6574	5.8	TM	
55	TM	1,1,2-TCA	0.4038	0.3951	2.2	TM	
56	TM	2-Hexanone	0.2429	0.2434	0.18	TM	
57	I	Chlorobenzene-D5 (IS)	ISTD			I	
58	S	Toluene-D8(S)	1.772	1.958	11	S	
59	TM	1,2-EDB	0.5140	0.4993	2.8	TM	
60	TM	Tetrachloroethene	0.7256	0.6574	9.4	TM	
61	TM	1-Chlorohexane	0.5619	0.5569	0.89	TM	
62	TM	1,1,1,2-Tetrachloroethane	0.6806	0.6390	6.1	TM	
63	TM	m&p-Xylene	0.8596	0.9045	5.2	TM	
64	TM	o-Xylene	0.8102	0.8392	3.6	TM	
65	TM	Styrene	1.295	1.457	12	TM	
66	S	4-Bromofluorobenzene(S)	0.6754	0.7073	4.7	S	
67	TM	1,3-Dichloropropane	0.8513	0.8532	0.22	TM	
68	TM	Dibromochloromethane	0.6362	0.6220	2.2	TM	
69	TM**	Chlorobenzene	1.587	1.535	3.3	TM**	
70	TM*	Ethylbenzene	2.176	2.284	5.0	TM*	
71	TM**	Bromoform	0.4596	0.4583	0.27	TM**	
72	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
73	TM	Isopropylbenzene	3.171	3.179	0.23	TM	
74	TM**L	1,1,2,2-Tetrachloroethane	1.126	1.025	9.0	TM**L	3.0
75	TM	1,2,3-Trichloropropane	0.3239	0.3336	3.0	TM	
76	TM	t-1,4-Dichloro-2-Butene	0.2001	0.1963	1.9	TM	
77	TM	Bromobenzene	1.080	1.122	3.9	TM	
78	TM	n-Propylbenzene	3.881	4.142	6.7	TM	
79	TM	4-Ethyltoluene	3.409	3.657	7.3	TM	
80	TM	2-Chlorotoluene	2.490	2.662	6.9	TM	
		Average			4.4		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 10/24/14
Matrix: 0 Instrument: Loki
Cal. Date: 10/24/14
Data File: 1024L17.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,3,5-Trimethylbenzene	2.991	3.387	13	TM	
82	TM	4-Chlorotoluene	2.960	3.332	13	TM	
83	TM	Tert-Butylbenzene	2.397	2.428	1.3	TM	
84	TM	1,2,4-Trimethylbenzene	2.895	3.092	6.8	TM	
85	TM	Sec-Butylbenzene	3.535	3.736	5.7	TM	
86	TM	p-Isopropyltoluene	3.032	3.194	5.3	TM	
87	TM	Benzyl Chloride	1.433	1.343	6.3	TM	
88	TM	1,3-DCB	2.097	2.137	1.9	TM	
89	TM	1,4-DCB	2.265	2.245	0.90	TM	
90	TM	n-Butylbenzene	2.798	2.826	0.98	TM	
91	TM	1,2-DCB	2.057	1.995	3.0	TM	
92	TML	Hexachloroethane	0.7618	0.6711	12	TML	2.8
93	TML	1,2-Dibromo-3-chloropropane	0.1498	0.1382	7.8	TML	4.7
94	TM	1,2,4-Trichlorobenzene	1.394	1.291	7.4	TM	
95	TM	Hexachlorobutadiene	0.8427	0.8259	2.0	TM	
96	TM	Naphthalene	1.536	1.544	0.51	TM	
97	TM	1,2,3-Trichlorobenzene	1.376	1.306	5.1	TM	
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			5.5		

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L17.D Vial: 16
Acq On : 24 Oct 14 17:59 Operator: DG,SV,RS
Sample : 10ug/L Std 10-24-14(CCV) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	387776	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	345920	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	219200	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.11	111	206973	24.49727 ppb	0.00
Spiked Amount 26.823			Recovery =	91.329%	
38) 1,2-DCA-D4(S)	5.52	65	225960	25.24840 ppb	0.00
Spiked Amount 26.964			Recovery =	93.636%	
58) Toluene-D8(S)	7.71	98	677445	27.63199 ppb	0.00
Spiked Amount 25.836			Recovery =	106.952%	
66) 4-Bromofluorobenzene(S)	10.36	95	244685	26.18345 ppb	0.00
Spiked Amount 26.206			Recovery =	99.911%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.01	85	48747	10.02308 ppb	98
3) Freon 114	1.10	85	40203	9.12588 ppb	97
4) Chloromethane	1.14	50	76328	9.79669 ppb	96
5) Vinyl chloride	1.21	62	79198	8.89203 ppb	95
6) Bromomethane	1.44	94	56320	11.11992 ppb	94
7) Chloroethane	1.53	64	40152	10.99594 ppb	92
8) Dichlorofluoromethane	1.70	67	151781	9.74339 ppb	96
9) Trichlorofluoromethane	1.74	101	105125	9.07579 ppb	98
10) Acrolein	2.10	56	108672	124.97689 ppb	86
11) Acetone	2.25	43	22515	10.73190 ppb	93
12) Freon-113	2.20	101	64210	9.61620 ppb	98
13) 1,1-DCE	2.18	61	101327	9.34620 ppb	95
14) t-Butanol	2.88	59	28664	120.03912 ppb	98
15) Acetonitrile	2.52	41	129371	132.42742 ppb	93
16) Methyl Acetate	2.60	43	67404	11.23110 ppb	99
17) Iodomethane	2.31	142	23976	10.08005 ppb	94
18) Acrylonitrile	2.97	52	19950	9.62626 ppb	87
19) Methylene chloride	2.67	84	81345	10.30653 ppb	97
20) Carbon disulfide	2.36	76	185927	10.60407 ppb	100
21) Methyl t-butyl ether (MtBE	3.02	73	166612	9.64885 ppb	95
22) Trans-1,2-DCE	2.99	96	72102	9.52333 ppb	94
23) Diisopropyl Ether	3.71	45	186849	9.22559 ppb	96
24) 1,1-DCA	3.53	63	137105	9.48495 ppb	97
25) Hexane	3.36	57	53595	9.39509 ppb	98
26) Vinyl Acetate	3.71	43	40400	9.03871 ppb	100
27) Ethyl tert Butyl Ether	4.28	59	164622	9.64122 ppb	96
28) MEK (2-Butanone)	4.50	43	26810	9.95479 ppb	100
29) Cis-1,2-DCE	4.43	96	82860	10.05839 ppb	99
30) 2,2-Dichloropropane	4.40	77	35968	10.32187 ppb	97
31) Chloroform	4.90	83	141113	9.59764 ppb	97
32) Bromochloromethane	4.75	128	40046	9.41688 ppb	100
34) 1,1,1-TCA	5.10	97	117049	9.62370 ppb	98
35) Cyclohexane	5.16	41	51165	10.04780 ppb	91
36) 1,1-Dichloropropene	5.33	75	85364	10.01336 ppb	99
37) 2,2,4-Trimethylpentane	5.73	57	163687	10.45099 ppb	98
39) Carbon Tetrachloride	5.32	117	101627	10.08422 ppb	97
40) Tert Amyl Methyl Ether	5.79	73	177793	10.50452 ppb	96
41) 1,2-DCA	5.62	62	107188	9.64975 ppb	97
42) Benzene	5.58	78	292264	9.88049 ppb	98

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L17.D Vial: 16
Acq On : 24 Oct 14 17:59 Operator: DG,SV,RS
Sample : 10ug/L Std 10-24-14(CCV) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

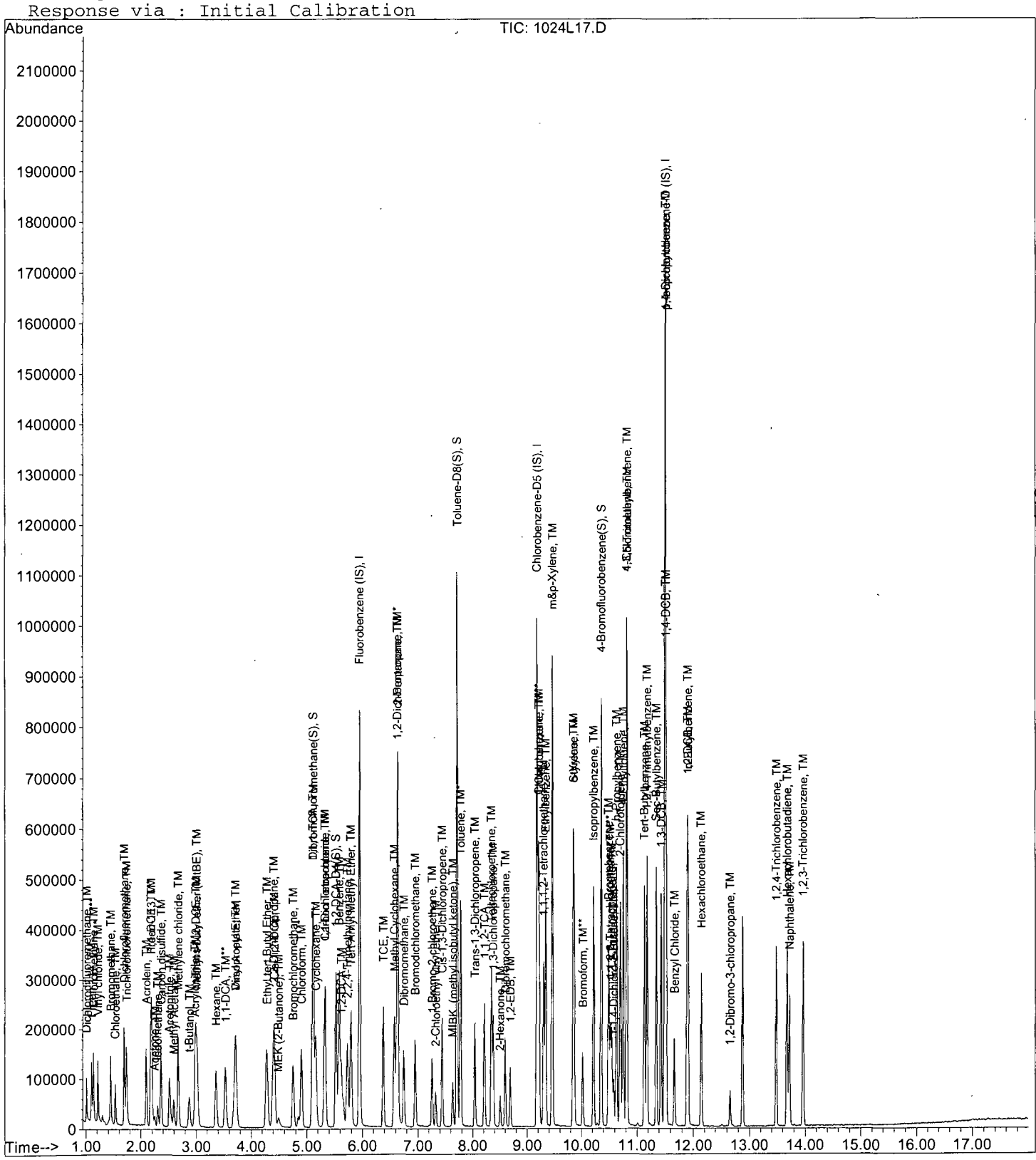
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	TCE	6.38	95	74737	9.68955	ppb	92
44)	2-Pentanone	6.63	43	627191	126.57849	ppb	99
45)	1,2-Dichloropropane	6.62	63	81642	9.21361	ppb	99
46)	Bromodichloromethane	6.95	83	107581	9.50072	ppb	96
47)	Methyl Cyclohexane	6.58	83	81505	9.53083	ppb	90
48)	Dibromomethane	6.75	93	50655	9.59635	ppb	96
49)	2-Chloroethyl vinyl ether	7.33	106	7609	9.73581	ppb	99
50)	MIBK (methyl isobutyl ket	7.63	43	59286	10.06816	ppb	98
51)	1-Bromo-2-chloroethane	7.26	63	62680	9.47473	ppb	98
52)	Cis-1,3-Dichloropropene	7.44	75	116613	9.43814	ppb	95
53)	Toluene	7.78	91	311328	10.87664	ppb	98
54)	Trans-1,3-Dichloropropene	8.04	75	101974	9.41603	ppb	95
55)	1,1,2-TCA	8.21	83	61280	9.78438	ppb	98
56)	2-Hexanone	8.51	43	37749	10.01829	ppb	94
59)	1,2-EDB	8.69	107	69093	9.71505	ppb	99
60)	Tetrachloroethene	8.34	166	90960	9.05952	ppb	96
61)	1-Chlorohexane	9.22	91	77053	9.91097	ppb	94
62)	1,1,1,2-Tetrachloroethane	9.30	131	88422	9.38937	ppb	95
63)	m&p-Xylene	9.46	106	250315	21.04634	ppb	93
64)	o-Xylene	9.85	106	116119	10.35836	ppb	99
65)	Styrene	9.86	104	201536	11.24657	ppb	99
67)	1,3-Dichloropropane	8.38	76	118057	10.02223	ppb	95
68)	Dibromochloromethane	8.60	129	86070	9.77698	ppb	100
69)	Chlorobenzene	9.21	112	212402	9.67193	ppb	99
70)	Ethylbenzene	9.34	91	316038	10.49827	ppb	100
71)	Bromoform	10.02	173	63418	9.97278	ppb	97
73)	Isopropylbenzene	10.22	105	278708	10.02284	ppb	100
74)	1,1,2,2-Tetrachloroethane	10.52	83	89906	10.29877	ppb	98
75)	1,2,3-Trichloropropane	10.55	110	29254	10.30212	ppb	96
76)	t-1,4-Dichloro-2-Butene	10.59	53	17211	9.80747	ppb	95
77)	Bromobenzene	10.49	156	98402	10.38847	ppb	99
78)	n-Propylbenzene	10.63	91	363202	10.67476	ppb	100
79)	4-Ethyltoluene	10.75	105	320674	10.72796	ppb	100
80)	2-Chlorotoluene	10.70	91	233430	10.69224	ppb	99
81)	1,3,5-Trimethylbenzene	10.81	105	296931	11.32287	ppb	98
82)	4-Chlorotoluene	10.81	91	292142	11.25458	ppb	98
83)	Tert-Butylbenzene	11.13	119	212929	10.12952	ppb	98
84)	1,2,4-Trimethylbenzene	11.18	105	271122	10.68232	ppb	98
85)	Sec-Butylbenzene	11.35	105	327545	10.56895	ppb	97
86)	p-Isopropyltoluene	11.50	119	280089	10.53466	ppb	99
87)	Benzyl Chloride	11.67	91	117712	9.36885	ppb	99
88)	1,3-DCB	11.44	146	187389	10.19232	ppb	97
89)	1,4-DCB	11.53	146	196820	9.90961	ppb	97
90)	n-Butylbenzene	11.91	91	247755	10.09781	ppb	97
91)	1,2-DCB	11.89	146	174949	9.69816	ppb	98
92)	Hexachloroethane	12.14	117	58842	10.27946	ppb	93
93)	1,2-Dibromo-3-chloropropan	12.66	157	12113	10.47484	ppb	94
94)	1,2,4-Trichlorobenzene	13.49	180	113179	9.26181	ppb	97
95)	Hexachlorobutadiene	13.68	225	72413	9.80033	ppb	97
96)	Naphthalene	13.72	128	135360	10.05095	ppb	100
97)	1,2,3-Trichlorobenzene	13.96	180	114477	9.48687	ppb	95

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

Data File : M:\LOKI\DATA\141024\1024L17.D Vial: 16
Acq On : 24 Oct 14 17:59 Operator: DG,SV,RS
Sample : 10ug/L Std 10-24-14(CCV) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration



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VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 10/24/14
Matrix: Instrument: Loki
Initial Cal. Date: 10/24/14
Data File: 1024L18.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TML	Dichlorodifluoromethane	0.3733	0.3018	19	TML	3.7
3	TM	Freon 114	0.2840	0.2439	14	TM	
4	TM**L	Chloromethane	0.6542	0.4915	25	TM**L	2.2
5	TM*	Vinyl chloride	0.5742	0.4871	15	TM*	
6	TML	Bromomethane	0.4789	0.3376	29	TML	3.1
7	TML	Chloroethane	0.2808	0.2390	15	TML	1.1
8	TM	Dichlorofluoromethane	1.004	0.9347	6.9	TM	
9	TM	Trichlorofluoromethane	0.7468	0.6295	16	TM	
10	TM	Acrolein	0.0561	0.0546	2.6	TM	
11	TML	Acetone	0.2009	0.1320	34	TML	3.4
12	TM	Freon-113	0.4305	0.3930	8.7	TM	
13	TM*	1,1-DCE	0.6990	0.5940	15	TM*	
14	TM	t-Butanol	0.0154	0.0145	5.9	TM	
15	TM	Acetonitrile	0.0630	0.0590	6.4	TM	
16	TML	Methyl Acetate	0.4863	0.4027	17	TML	3.6
17	TM	Iodomethane	0.1533	0.1329	13	TM	
18	TM	Acrylonitrile	0.1336	0.1243	7.0	TM	
19	TML	Methylene chloride	0.5705	0.5099	11	TML	0.11
20	TML	Carbon disulfide	1.258	1.147	8.8	TML	1.6
21	TM	Methyl t-butyl ether (MtBE)	1.113	1.034	7.1	TM	
22	TM	Trans-1,2-DCE	0.4881	0.4270	13	TM	
23	TM	Diisopropyl Ether	1.306	1.112	15	TM	
24	TM**	1,1-DCA	0.9319	0.8031	14	TM**	
25	TM	Hexane	0.3678	0.3220	12	TM	
26	TM	Vinyl Acetate	0.2882	0.2325	19	TM	
27	TM	Ethyl tert Butyl Ether	1.101	1.018	7.6	TM	
28	TML	MEK (2-Butanone)	0.1929	0.1665	14	TML	4.2
29	TM	Cis-1,2-DCE	0.5311	0.4937	7.0	TM	
30	TML	2,2-Dichloropropane	0.2549	0.2134	16	TML	5.1
31	TM*	Chloroform	0.9479	0.8445	11	TM*	
32	TM	Bromochloromethane	0.2742	0.2440	11	TM	
33	S	Dibromofluoromethane(S)	0.5447	0.5139	5.7	S	
34	TM	1,1,1-TCA	0.7841	0.7321	6.6	TM	
35	TM	Cyclohexane	0.3283	0.3044	7.3	TM	
36	TM	1,1-Dichloropropene	0.5496	0.5297	3.6	TM	
37	TM	2,2,4-Trimethylpentane	1.010	1.001	0.86	TM	
38	S	1,2-DCA-D4(S)	0.5770	0.5647	2.1	S	
39	TML	Carbon Tetrachloride	0.6026	0.6251	3.7	TML	3.6
40	TM	Tert Amyl Methyl Ether	1.091	1.094	0.27	TM	
		Average			11.4		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 10/24/14
Instrument: Loki
Cal. Date: 10/24/14
Data File: 1024L18.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2-DCA	0.7161	0.6440	10	TM	
42	TM	Benzene	1.907	1.807	5.3	TM	
43	TM	TCE	0.4973	0.4787	3.7	TM	
44	TM	2-Pentanone	0.3194	0.3291	3.0	TM	
45	TM*	1,2-Dichloropropane	0.5713	0.5265	7.8	TM*	
46	TM	Bromodichloromethane	0.7300	0.6543	10	TM	
47	TM	Methyl Cyclohexane	0.5513	0.4929	11	TM	
48	TM	Dibromomethane	0.3403	0.3132	8.0	TM	
49	TM	2-Chloroethyl vinyl ether	0.0504	0.0429	15	TM	
50	TM	MIBK (methyl isobutyl ketone)	0.3796	0.3572	5.9	TM	
51	TM	1-Bromo-2-chloroethane	0.4265	0.3863	9.4	TM	
52	TM	Cis-1,3-Dichloropropene	0.7966	0.7153	10	TM	
53	TM*	Toluene	1.845	1.915	3.8	TM*	
54	TM	Trans-1,3-Dichloropropene	0.6982	0.6357	9.0	TM	
55	TM	1,1,2-TCA	0.4038	0.3618	10	TM	
56	TM	2-Hexanone	0.2429	0.2276	6.3	TM	
57	I	Chlorobenzene-D5 (IS)	ISTD			I	
58	S	Toluene-D8(S)	1.772	2.051	16	S	
59	TM	1,2-EDB	0.5140	0.4927	4.1	TM	
60	TM	Tetrachloroethene	0.7256	0.6694	7.7	TM	
61	TM	1-Chlorohexane	0.5619	0.5588	0.55	TM	
62	TM	1,1,1,2-Tetrachloroethane	0.6806	0.6301	7.4	TM	
63	TM	m&p-Xylene	0.8596	0.9322	8.4	TM	
64	TM	o-Xylene	0.8102	0.8550	5.5	TM	
65	TM	Styrene	1.295	1.533	18	TM	
66	S	4-Bromofluorobenzene(S)	0.6754	0.7322	8.4	S	
67	TM	1,3-Dichloropropane	0.8513	0.8540	0.31	TM	
68	TM	Dibromochloromethane	0.6362	0.6334	0.45	TM	
69	TM**	Chlorobenzene	1.587	1.587	0.01	TM**	
70	TM*	Ethylbenzene	2.176	2.341	7.6	TM*	
71	TM**	Bromoform	0.4596	0.4455	3.1	TM**	
72	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
73	TM	Isopropylbenzene	3.171	3.139	1.0	TM	
74	TM**L	1,1,2,2-Tetrachloroethane	1.126	0.9458	16	TM**L	5.3
75	TM	1,2,3-Trichloropropane	0.3239	0.3147	2.8	TM	
76	TM	t-1,4-Dichloro-2-Butene	0.2001	0.1956	2.2	TM	
77	TM	Bromobenzene	1.080	1.109	2.7	TM	
78	TM	n-Propylbenzene	3.881	3.979	2.5	TM	
79	TM	4-Ethyltoluene	3.409	3.620	6.2	TM	
80	TM	2-Chlorotoluene	2.490	2.594	4.2	TM	
		Average			6.7		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 10/24/14
Matrix: 0 Instrument: Loki
Cal. Date: 10/24/14
Data File: 1024L18.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,3,5-Trimethylbenzene	2.991	3.247	8.6	TM	
82	TM	4-Chlorotoluene	2.960	3.162	6.8	TM	
83	TM	Tert-Butylbenzene	2.397	2.281	4.9	TM	
84	TM	1,2,4-Trimethylbenzene	2.895	2.963	2.3	TM	
85	TM	Sec-Butylbenzene	3.535	3.606	2.0	TM	
86	TM	p-Isopropyltoluene	3.032	3.127	3.1	TM	
87	TM	Benzyl Chloride	1.433	1.259	12	TM	
88	TM	1,3-DCB	2.097	2.093	0.16	TM	
89	TM	1,4-DCB	2.265	2.156	4.8	TM	
90	TM	n-Butylbenzene	2.798	2.775	0.83	TM	
91	TM	1,2-DCB	2.057	1.946	5.4	TM	
92	TML	Hexachloroethane	0.7618	0.6789	11	TML	4.0
93	TML	1,2-Dibromo-3-chloropropane	0.1498	0.1286	14	TML	2.8
94	TM	1,2,4-Trichlorobenzene	1.394	1.221	12	TM	
95	TM	Hexachlorobutadiene	0.8427	0.7572	10	TM	
96	TM	Naphthalene	1.536	1.438	6.4	TM	
97	TM	1,2,3-Trichlorobenzene	1.376	1.242	9.7	TM	
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			6.7		

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L18.D Vial: 17
Acq On : 24 Oct 14 18:27 Operator: DG,SV,RS
Sample : 10ug/L Std 10-24-14(SS) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

$\frac{8/933 \times 25}{420480 \times 0.5742} = 8.48$

AV 10/29/14

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	420480	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	345920	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	232832	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	216078	23.58578 ppb		0.00
Spiked Amount 26.823			Recovery = 87.933%			
38) 1,2-DCA-D4(S)	5.52	65	237450	24.46866 ppb		0.00
Spiked Amount 26.964			Recovery = 90.747%			
58) Toluene-D8(S)	7.71	98	709354	28.93351 ppb		0.00
Spiked Amount 25.836			Recovery = 111.991%			
66) 4-Bromofluorobenzene(S)	10.36	95	253274	27.10255 ppb		0.00
Spiked Amount 26.206			Recovery = 103.422%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	50766	9.63378 ppb		94
3) Freon 114	1.10	85	41023	8.58775 ppb		96
4) Chloromethane	1.14	50	82659	9.78360 ppb		96
5) Vinyl chloride	1.22	62	81933	8.48362 ppb		100
6) Bromomethane	1.44	94	56782	10.30713 ppb		98
7) Chloroethane	1.53	64	40200	10.10982 ppb		95
8) Dichlorofluoromethane	1.70	67	157212	9.30709 ppb		98
9) Trichlorofluoromethane	1.74	101	105879	8.42993 ppb		97
10) Acrolein	2.10	56	114800	121.75576 ppb	#	96
11) Acetone	2.25	43	22198	9.65857 ppb		93
12) Freon-113	2.20	101	66101	9.12944 ppb		97
13) 1,1-DCE	2.18	61	99914	8.49908 ppb		90
14) t-Butanol	2.88	59	30464	117.65449 ppb		97
15) Acetonitrile	2.52	41	123978	117.03647 ppb		96
16) Methyl Acetate	2.60	43	67732	10.36417 ppb		97
17) Iodomethane	2.31	142	22360	8.66949 ppb		97
18) Acrylonitrile	2.96	52	20899	9.29985 ppb		92
19) Methylene chloride	2.67	84	85766	10.01107 ppb		97
20) Carbon disulfide	2.36	76	192888	10.15801 ppb		98
21) Methyl t-butyl ether (MtBE	3.02	73	173888	9.28698 ppb		97
22) Trans-1,2-DCE	2.99	96	71817	8.74791 ppb		95
23) Diisopropyl Ether	3.72	45	187104	8.51966 ppb		95
24) 1,1-DCA	3.53	63	135070	8.61740 ppb		99
25) Hexane	3.36	57	54165	8.75651 ppb		97
26) Vinyl Acetate	3.71	43	39112	8.06994 ppb		100
27) Ethyl tert Butyl Ether	4.29	59	171164	9.24468 ppb		98
28) MEK (2-Butanone)	4.50	43	28008	9.58473 ppb		93
29) Cis-1,2-DCE	4.43	96	83032	9.29532 ppb		98
30) 2,2-Dichloropropane	4.40	77	35888	9.49002 ppb		97
31) Chloroform	4.90	83	142044	8.90956 ppb		99
32) Bromochloromethane	4.75	128	41039	8.89980 ppb		94
34) 1,1,1-TCA	5.10	97	123135	9.33666 ppb		97
35) Cyclohexane	5.16	41	51190	9.27084 ppb		95
36) 1,1-Dichloropropene	5.34	75	89092	9.63784 ppb		96
37) 2,2,4-Trimethylpentane	5.73	57	168373	9.91406 ppb	#	86
39) Carbon Tetrachloride	5.32	117	105138	9.63529 ppb		98
40) Tert Amyl Methyl Ether	5.80	73	184024	10.02701 ppb		96
41) 1,2-DCA	5.62	62	108312	8.99253 ppb		95
42) Benzene	5.58	78	303897	9.47469 ppb		97

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1024L18.D Vial: 17
Acq On : 24 Oct 14 18:27 Operator: DG,SV,RS
Sample : 10ug/L Std 10-24-14(SS) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

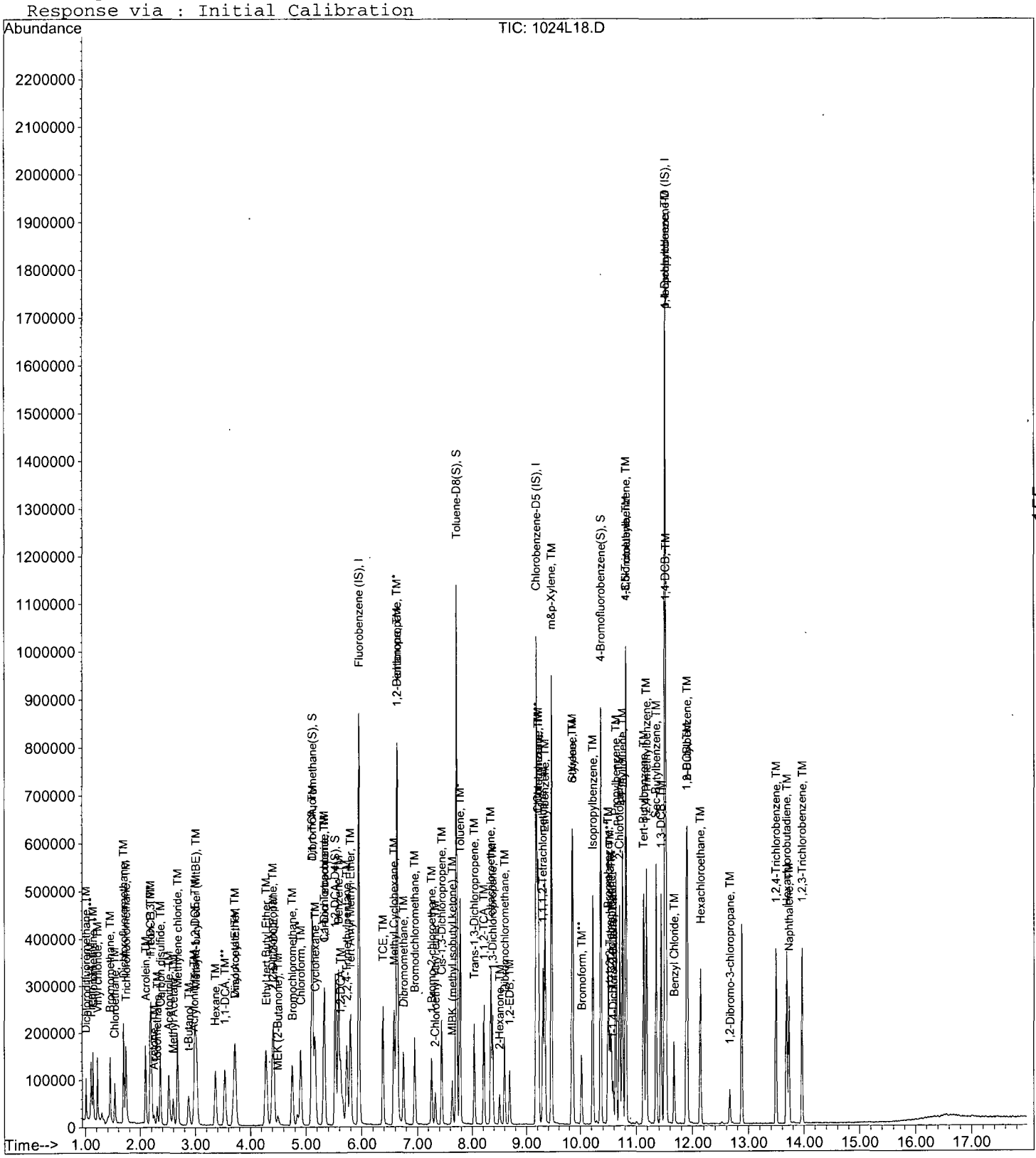
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	TCE	6.38	95	80506	9.62569	ppb	96
44)	2-Pentanone	6.63	43	691875	128.77256	ppb	98
45)	1,2-Dichloropropane	6.62	63	88545	9.21544	ppb	99
46)	Bromodichloromethane	6.95	83	110056	8.96335	ppb	99
47)	Methyl Cyclohexane	6.58	83	82908	8.94085	ppb	99
48)	Dibromomethane	6.75	93	52671	9.20218	ppb	95
49)	2-Chloroethyl vinyl ether	7.33	106	7210	8.50777	ppb	88
50)	MIBK (methyl isobutyl ket	7.63	43	60077	9.40897	ppb	96
51)	1-Bromo-2-chloroethane	7.26	63	64976	9.05788	ppb	99
52)	Cis-1,3-Dichloropropene	7.44	75	120306	8.97971	ppb	93
53)	Toluene	7.78	91	322070	10.37678	ppb	99
54)	Trans-1,3-Dichloropropene	8.04	75	106916	9.10451	ppb	99
55)	1,1,2-TCA	8.21	83	60844	8.95917	ppb	96
56)	2-Hexanone	8.51	43	38282	9.36954	ppb	98
59)	1,2-EDB	8.69	107	68171	9.58541	ppb	96
60)	Tetrachloroethene	8.34	166	92629	9.22575	ppb	98
61)	1-Chlorohexane	9.22	91	77315	9.94467	ppb	97
62)	1,1,1,2-Tetrachloroethane	9.30	131	87189	9.25844	ppb	92
63)	m&p-Xylene	9.46	106	257969	21.68988	ppb	98
64)	o-Xylene	9.85	106	118299	10.55282	ppb	98
65)	Styrene	9.86	104	212130	11.83776	ppb	99
67)	1,3-Dichloropropane	8.38	76	118161	10.03106	ppb	96
68)	Dibromochloromethane	8.60	129	87641	9.95544	ppb	98
69)	Chlorobenzene	9.21	112	219585	9.99902	ppb	98
70)	Ethylbenzene	9.34	91	323851	10.75780	ppb	97
71)	Bromoform	10.02	173	61644	9.69381	ppb	87
73)	Isopropylbenzene	10.23	105	292345	9.89772	ppb	98
74)	1,1,2,2-Tetrachloroethane	10.52	83	88082	9.47084	ppb	97
75)	1,2,3-Trichloropropane	10.55	110	29308	9.71685	ppb	92
76)	t-1,4-Dichloro-2-Butene	10.58	53	18221	9.77509	ppb	93
77)	Bromobenzene	10.50	156	103323	10.26934	ppb	96
78)	n-Propylbenzene	10.63	91	370550	10.25309	ppb	100
79)	4-Ethyltoluene	10.75	105	337129	10.61811	ppb	98
80)	2-Chlorotoluene	10.70	91	241604	10.41871	ppb	98
81)	1,3,5-Trimethylbenzene	10.82	105	302447	10.85796	ppb	97
82)	4-Chlorotoluene	10.81	91	294476	10.68029	ppb	97
83)	Tert-Butylbenzene	11.13	119	212395	9.51253	ppb	98
84)	1,2,4-Trimethylbenzene	11.18	105	275911	10.23453	ppb	97
85)	Sec-Butylbenzene	11.35	105	335863	10.20283	ppb	100
86)	p-Isopropyltoluene	11.51	119	291202	10.31138	ppb	99
87)	Benzyl Chloride	11.67	91	117229	8.78412	ppb	98
88)	1,3-DCB	11.44	146	194967	9.98362	ppb	96
89)	1,4-DCB	11.53	146	200806	9.51835	ppb	97
90)	n-Butylbenzene	11.91	91	258451	9.91701	ppb	99
91)	1,2-DCB	11.89	146	181264	9.45991	ppb	99
92)	Hexachloroethane	12.15	117	63229	10.39865	ppb	99
93)	1,2-Dibromo-3-chloropropan	12.66	157	11980	9.71744	ppb	97
94)	1,2,4-Trichlorobenzene	13.49	180	113751	8.76361	ppb	99
95)	Hexachlorobutadiene	13.68	225	70522	8.98559	ppb	95
96)	Naphthalene	13.72	128	133952	9.36405	ppb	100
97)	1,2,3-Trichlorobenzene	13.96	180	115688	9.02590	ppb	94

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

Data File : M:\LOKI\DATA\141024\1024L18.D Vial: 17
Acq On : 24 Oct 14 18:27 Operator: DG,SV,RS
Sample : 10ug/L Std 10-24-14(SS) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 25 10:30 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Sat Oct 25 10:29:55 2014
Response via : Initial Calibration



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VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

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

SDG No:
Date Analyzed: 10/26/2014
Instrument: Loki
Initial Cal. Date: 10/24/2014
Data File: 1026L04.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TML	Dichlorodifluoromethane	0.3733	0.3052	18	TML	2.6
3	TM	Freon 114	0.2840	0.2760	2.8	TM	
4	TM**L	Chloromethane	0.6542	0.4448	32	TM**L	12
5	TM*	Vinyl chloride	0.6152	0.5058	18	TM*	
6	TML	Bromomethane	0.4789	0.3677	23	TML	13
7	TML	Chloroethane	0.2808	0.2590	7.8	TML	10
8	TM	Dichlorofluoromethane	1.004	0.9722	3.2	TM	
9	TM	Trichlorofluoromethane	0.7468	0.6926	7.3	TM	
10	TM	Acrolein	0.0561	0.0533	4.9	TM	
11	TML	Acetone	0.2009	0.1279	36	TML	6.7
12	TM	Freon-113	0.4305	0.4346	0.95	TM	
13	TM*	1,1-DCE	0.7001	0.6428	8.2	TM*	
14	TM	t-Butanol	0.0154	0.0136	12	TM	
15	TM	Acetonitrile	0.0630	0.0554	12	TM	
16	TML	Methyl Acetate	0.4863	0.3900	20	TML	0.18
17	TM	Iodomethane	0.1533	0.1817	19	TM	
18	TM	Acrylonitrile	0.1336	0.1176	12	TM	
19	TML	Methylene chloride	0.5705	0.5261	7.8	TML	3.4
20	TML	Carbon disulfide	1.258	1.175	6.6	TML	4.0
21	TM	Methyl t-butyl ether (MtBE)	1.113	1.005	9.7	TM	
22	TM	Trans-1,2-DCE	0.4881	0.4482	8.2	TM	
23	TM	Diisopropyl Ether	1.306	1.288	1.4	TM	
24	TM**	1,1-DCA	0.9319	0.8584	7.9	TM**	
25	TM	Hexane	0.3678	0.3791	3.1	TM	
26	TM	Vinyl Acetate	0.2882	0.2962	2.8	TM	
27	TM	Ethyl tert Butyl Ether	1.101	1.057	4.0	TM	
28	TML	MEK (2-Butanone)	0.1929	0.1633	15	TML	6.1
29	TM	Cis-1,2-DCE	0.5311	0.5243	1.3	TM	
30	TML	2,2-Dichloropropane	0.2549	0.2649	3.9	TML	18
31	TM*	Chloroform	0.9960	0.9063	9.0	TM*	
32	TM	Bromochloromethane	0.2742	0.2723	0.68	TM	
33	S	Dibromofluoromethane(S)	0.5447	0.5195	4.6	S	
34	TM	1,1,1-TCA	0.7841	0.7426	5.3	TM	
35	TM	Cyclohexane	0.3283	0.3388	3.2	TM	
36	TM	1,1-Dichloropropene	0.5496	0.5604	2.0	TM	
37	TM	2,2,4-Trimethylpentane	1.010	1.168	16	TM	
38	S	1,2-DCA-D4(S)	0.5770	0.5694	1.3	S	
39	TM	Carbon Tetrachloride	0.6312	0.6598	4.5	TM	
40	TM	Tert Amyl Methyl Ether	1.091	1.050	3.8	TM	
		Average			9.2		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 10/26/2014
Instrument: Loki
Cal. Date: 10/24/2014
Data File: 1026L04.D

		Compound	MEAN	CCRF	%D	%Drift		
41	TML	1,2-DCA	0.7554	0.6667	12	TML	4.3	
42	TML	Benzene	1.976	1.816	8.1	TML	0.67	
43	TM	TCE	0.4973	0.4558	8.3	TM		
44	TM	2-Pentanone	0.3194	0.3001	6.1	TM		
45	TM*	1,2-Dichloropropane	0.5713	0.5198	9.0	TM*		
46	TM	Bromodichloromethane	0.7300	0.6787	7.0	TM		
47	TM	Methyl Cyclohexane	0.5513	0.5557	0.80	TM		
48	TM	Dibromomethane	0.3403	0.3254	4.4	TM		
49	TM	2-Chloroethyl vinyl ether	0.0504	0.0359	29	TM		*
50	TM	MIBK (methyl isobutyl ketone)	0.3796	0.3106	18	TM		
51	TM	1-Bromo-2-chloroethane	0.4265	0.3977	6.7	TM		
52	TM	Cis-1,3-Dichloropropene	0.7966	0.7182	9.8	TM		
53	TM*	Toluene	1.868	1.951	4.5	TM*		
54	TM	Trans-1,3-Dichloropropene	0.6982	0.6318	9.5	TM		
55	TM	1,1,2-TCA	0.4038	0.3503	13	TM		
56	TM	2-Hexanone	0.2429	0.2062	15	TM		
57	I	Chlorobenzene-D5 (IS)	ISTD			I		
58	S	Toluene-D8(S)	1.772	2.060	16	S		
59	TM	1,2-EDB	0.5140	0.4808	6.5	TM		
60	TM	Tetrachloroethene	0.7368	0.7314	0.74	TM		
61	TM	1-Chlorohexane	0.5619	0.5842	4.0	TM		
62	TM	1,1,1,2-Tetrachloroethane	0.6806	0.6400	6.0	TM		
63	TM	m&p-Xylene	0.8740	0.9419	7.8	TM		
64	TM	o-Xylene	0.8198	0.8556	4.4	TM		
65	TM	Styrene	1.295	1.497	16	TM		
66	S	4-Bromofluorobenzene(S)	0.6754	0.7374	9.2	S		
67	TM	1,3-Dichloropropane	0.8513	0.8279	2.8	TM		
68	TM	Dibromochloromethane	0.6362	0.5988	5.9	TM		
69	TM**	Chlorobenzene	1.587	1.600	0.79	TM**		
70	TM*	Ethylbenzene	2.224	2.381	7.1	TM*		
71	TM**	Bromoform	0.4596	0.4321	6.0	TM**		
72	I	1,4-Dichlorobenzene-D (IS)	ISTD			I		
73	TM	Isopropylbenzene	3.171	3.083	2.8	TM		
74	TM**L	1,1,2,2-Tetrachloroethane	1.126	1.079	4.2	TM**L	8.6	
75	TM	1,2,3-Trichloropropane	0.3239	0.3028	6.5	TM		
76	TM	t-1,4-Dichloro-2-Butene	0.2001	0.2115	5.7	TM		
77	TM	Bromobenzene	1.080	1.063	1.6	TM		
78	TM	n-Propylbenzene	3.881	4.050	4.4	TM		
79	TM	4-Ethyltoluene	3.409	3.665	7.5	TM		
80	TM	2-Chlorotoluene	2.490	2.623	5.4	TM		
		Average			7.7			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 10/26/2014
Instrument: Loki
Cal. Date: 10/24/2014
Data File: 1026L04.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,3,5-Trimethylbenzene	2.991	3.300	10	TM	
82	TM	4-Chlorotoluene	2.960	3.275	11	TM	
83	TM	Tert-Butylbenzene	2.397	2.417	0.83	TM	
84	TM	1,2,4-Trimethylbenzene	2.895	2.988	3.2	TM	
85	TM	Sec-Butylbenzene	3.535	3.743	5.9	TM	
86	TM	p-Isopropyltoluene	3.032	3.236	6.7	TM	
87	TM	Benzyl Chloride	1.433	1.492	4.2	TM	
88	TM	1,3-DCB	2.097	2.085	0.56	TM	
89	TM	1,4-DCB	2.265	2.226	1.7	TM	
90	TM	n-Butylbenzene	2.798	2.923	4.4	TM	
91	TM	1,2-DCB	2.057	2.026	1.5	TM	
92	TML	Hexachloroethane	0.7618	0.7085	7.0	TML	8.5
93	TML	1,2-Dibromo-3-chloropropane	0.1498	0.1288	14	TML	2.7
94	TM	1,2,4-Trichlorobenzene	1.394	1.202	14	TM	
95	TM	Hexachlorobutadiene	0.8427	0.8206	2.6	TM	
96	TM	Naphthalene	1.536	1.341	13	TM	
97	TM	1,2,3-Trichlorobenzene	1.376	1.192	13	TM	
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			6.7		

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1026L04.D Vial: 3
Acq On : 26 Oct 14 12:07 Operator: DG,SV,RS
Sample : 10ug/L Std 10-26-14(CCV) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multip1r: 1.00

Quant Time: Oct 27 14:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	397248	25.00	ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	332288	25.00	ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	219840	25.00	ppb		0.00
System Monitoring Compounds							
33) Dibromofluoromethane(S)	5.11	111	206369	23.84	ppb		0.00
Spiked Amount 27.165			Recovery = 87.771%				
38) 1,2-DCA-D4(S)	5.52	65	226191	24.67	ppb		0.00
Spiked Amount 27.695			Recovery = 89.084%				
58) Toluene-D8(S)	7.71	98	684409	29.06	ppb		0.00
Spiked Amount 26.150			Recovery = 111.131%				
66) 4-Bromofluorobenzene(S)	10.36	95	245025	27.30	ppb		0.00
Spiked Amount 22.231			Recovery = 122.779%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.01	85	48497	9.74	ppb		96
3) Freon 114	1.10	85	43862	9.72	ppb		89
4) Chloromethane	1.14	50	70671	8.82	ppb		97
5) Vinyl chloride	1.22	62	80364	8.22	ppb		98
6) Bromomethane	1.44	94	58427	11.27	ppb		97
7) Chloroethane	1.53	64	41160	11.00	ppb		91
8) Dichlorofluoromethane	1.70	67	154479	9.68	ppb		96
9) Trichlorofluoromethane	1.74	101	110051	9.27	ppb		96
10) Acrolein	2.10	56	105866	118.85	ppb		95
11) Acetone	2.25	43	20323	9.33	ppb		93
12) Freon-113	2.20	101	69052	10.09	ppb		98
13) 1,1-DCE	2.18	61	102139	9.18	ppb		97
14) t-Butanol	2.88	59	27024	110.47	ppb		99
15) Acetonitrile	2.52	41	110094	110.01	ppb		96
16) Methyl Acetate	2.60	43	61968	10.02	ppb		92
17) Iodomethane	2.31	142	28880	11.85	ppb		100
18) Acrylonitrile	2.97	52	18692	8.80	ppb		85
19) Methylene chloride	2.67	84	83600	10.34	ppb		95
20) Carbon disulfide	2.36	76	186706	10.40	ppb		97
21) Methyl t-butyl ether (MtBE	3.02	73	159653	9.03	ppb		99
22) Trans-1,2-DCE	2.99	96	71214	9.18	ppb		94
23) Diisopropyl Ether	3.71	45	204590	9.86	ppb		97
24) 1,1-DCA	3.53	63	136393	9.21	ppb		97
25) Hexane	3.36	57	60239	10.31	ppb	#	96
26) Vinyl Acetate	3.71	43	47072	10.28	ppb	#	99
27) Ethyl tert Butyl Ether	4.29	59	167915	9.60	ppb		98
28) MEK (2-Butanone)	4.50	43	25943	9.39	ppb		98
29) Cis-1,2-DCE	4.43	96	83309	9.87	ppb		98
30) 2,2-Dichloropropane	4.40	77	42096	11.81	ppb		100
31) Chloroform	4.90	83	144005	9.10	ppb		98
32) Bromochloromethane	4.76	128	43267	9.93	ppb		100
34) 1,1,1-TCA	5.11	97	117992	9.47	ppb		98
35) Cyclohexane	5.16	41	53833	10.32	ppb		95
36) 1,1-Dichloropropene	5.33	75	89043	10.20	ppb		97
37) 2,2,4-Trimethylpentane	5.73	57	185647	11.57	ppb		98
39) Carbon Tetrachloride	5.32	117	104846	10.45	ppb		98
40) Tert Amyl Methyl Ether	5.80	73	166772	9.62	ppb		99
41) 1,2-DCA	5.62	62	105940	10.43	ppb		94
42) Benzene	5.58	78	288506	10.07	ppb		97
43) TCE	6.38	95	72427	9.17	ppb		99

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1026L04.D Vial: 3
Acq On : 26 Oct 14 12:07 Operator: DG,SV,RS
Sample : 10ug/L Std 10-26-14(CCV) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 14:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	2-Pentanone	6.63	43	596028	117.42	ppb		99
45)	1,2-Dichloropropane	6.62	63	82599	9.10	ppb		99
46)	Bromodichloromethane	6.95	83	107842	9.30	ppb		97
47)	Methyl Cyclohexane	6.58	83	88305	10.08	ppb		97
48)	Dibromomethane	6.75	93	51704	9.56	ppb		90
49)	2-Chloroethyl vinyl ether	7.33	106	5706	7.13	ppb		95
50)	MIBK (methyl isobutyl ket	7.64	43	49362	8.18	ppb		99
51)	1-Bromo-2-chloroethane	7.26	63	63200	9.33	ppb		97
52)	Cis-1,3-Dichloropropene	7.44	75	114121	9.02	ppb		93
53)	Toluene	7.78	91	310067	10.45	ppb		99
54)	Trans-1,3-Dichloropropene	8.04	75	100396	9.05	ppb		95
55)	1,1,2-TCA	8.21	83	55665	8.68	ppb		96
56)	2-Hexanone	8.50	43	32764	8.49	ppb	#	93
59)	1,2-EDB	8.69	107	63910	9.35	ppb		96
60)	Tetrachloroethene	8.34	166	97210	9.93	ppb		98
61)	1-Chlorohexane	9.22	91	77645	10.40	ppb		98
62)	1,1,1,2-Tetrachloroethane	9.30	131	85065	9.40	ppb		97
63)	m&p-Xylene	9.46	106	250396	21.56	ppb		94
64)	o-Xylene	9.85	106	113727	10.44	ppb		96
65)	Styrene	9.86	104	198982	11.56	ppb		96
67)	1,3-Dichloropropane	8.38	76	110038	9.72	ppb		93
68)	Dibromochloromethane	8.60	129	79596	9.41	ppb		93
69)	Chlorobenzene	9.21	112	212624	10.08	ppb		96
70)	Ethylbenzene	9.34	91	316495	10.71	ppb		100
71)	Bromoform	10.02	173	57436	9.40	ppb		94
73)	Isopropylbenzene	10.22	105	271082	9.72	ppb		99
74)	1,1,2,2-Tetrachloroethane	10.52	83	94918	10.86	ppb		93
75)	1,2,3-Trichloropropane	10.55	110	26631	9.35	ppb		96
76)	t-1,4-Dichloro-2-Butene	10.58	53	18595	10.57	ppb		92
77)	Bromobenzene	10.49	156	93515	9.84	ppb		92
78)	n-Propylbenzene	10.63	91	356178	10.44	ppb		100
79)	4-Ethyltoluene	10.75	105	322309	10.75	ppb		99
80)	2-Chlorotoluene	10.70	91	230693	10.54	ppb		99
81)	1,3,5-Trimethylbenzene	10.82	105	290147	11.03	ppb		99
82)	4-Chlorotoluene	10.81	91	287961	11.06	ppb		97
83)	Tert-Butylbenzene	11.13	119	212567	10.08	ppb		98
84)	1,2,4-Trimethylbenzene	11.18	105	262784	10.32	ppb		98
85)	Sec-Butylbenzene	11.35	105	329152	10.59	ppb		98
86)	p-Isopropyltoluene	11.50	119	284575	10.67	ppb		98
87)	Benzyl Chloride	11.67	91	131244	10.42	ppb		98
88)	1,3-DCB	11.44	146	183360	9.94	ppb		96
89)	1,4-DCB	11.53	146	195723	9.83	ppb		98
90)	n-Butylbenzene	11.91	91	257003	10.44	ppb		99
91)	1,2-DCB	11.89	146	178186	9.85	ppb		98
92)	Hexachloroethane	12.14	117	62307	10.85	ppb		96
93)	1,2-Dibromo-3-chloropropan	12.66	157	11324	9.73	ppb		94
94)	1,2,4-Trichlorobenzene	13.49	180	105700	8.62	ppb		97
95)	Hexachlorobutadiene	13.68	225	72159	9.74	ppb		95
96)	Naphthalene	13.72	128	117896	8.73	ppb		100
97)	1,2,3-Trichlorobenzene	13.97	180	104835	8.66	ppb		96

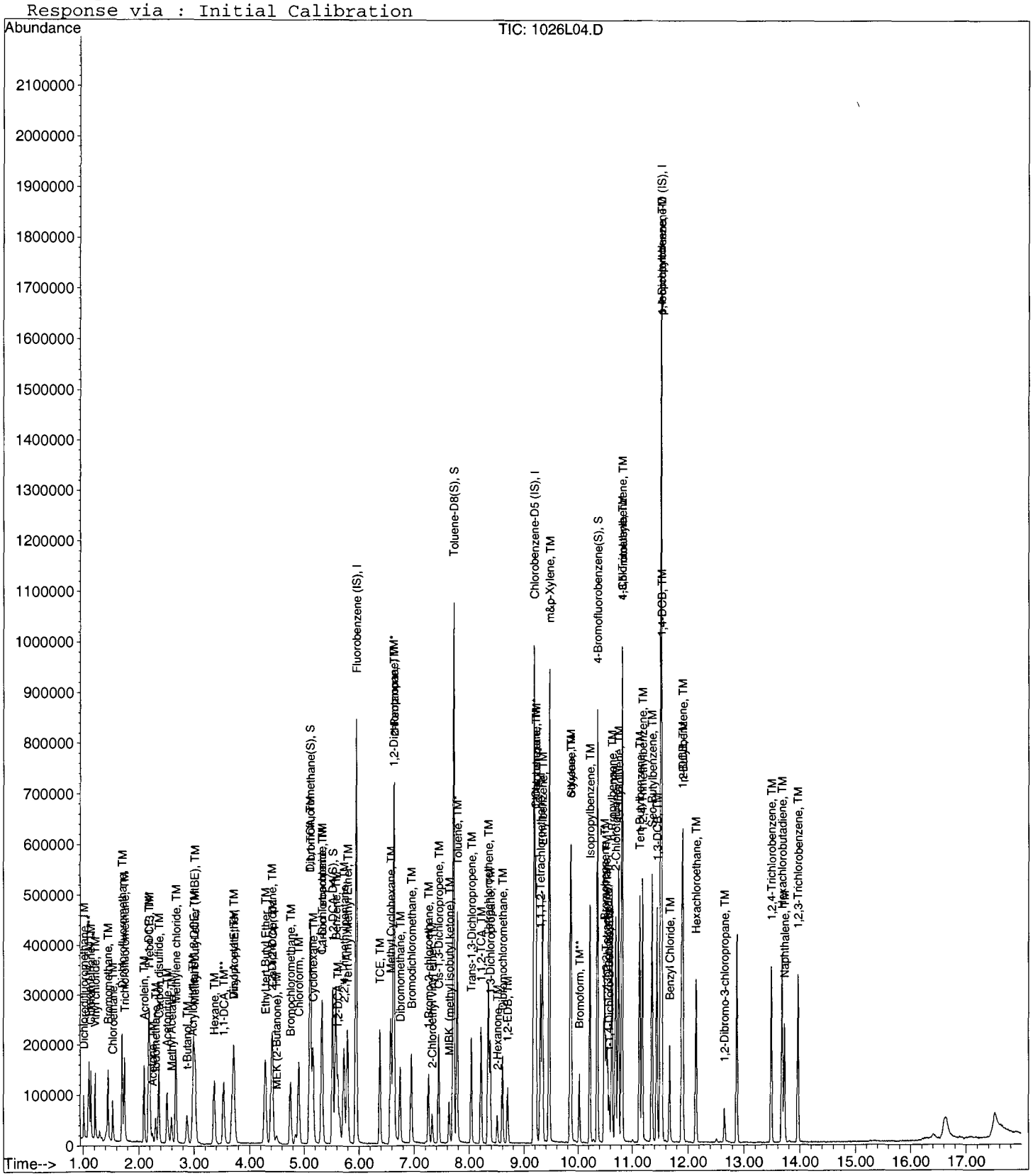
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141024\1026L04.D Vial: 3
Acq On : 26 Oct 14 12:07 Operator: DG,SV,RS
Sample : 10ug/L Std 10-26-14(CCV) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 14:44 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 11/10/14
Matrix: Instrument: Loki
Initials:

		Compound	0.3	0.5	1	5	10	20	40	100			Avg	%RSD		
			1110L05.D	1110L06.D	1110L07.D	1110L08.D	1110L09.D	1110L10.D	1110L11.D	1110L12.D						
1	I	Fluorobenzene (IS)	ISTD													
2	TM	Dichlorodifluoromethane	0.4228	0.4939	0.4658	0 3556	0.3885	0.4031	0.4427	0.4445			0.43	10	TM	
3	TM	Freon 114	0.4104	0.4458	0.4383	0 3200	0.3670	0.3922	0.4042	0.4264			0.40	10	TM	
4	TM**L	Chloromethane		1.321	1.100	0.7985	0.7527	0.7528	0.7685	0.7771			0.90	25	TM**L	1 000
5	TM*	Vinyl chloride	0.6735	0.6488	0.6281	0.5392	0.5512	0.5476	0.5621	0.5800			0.59	8.7	TM*	
6	TML	Bromomethane	0 4309	0.3453	0.3052	0 2485	0.2406	0.2843	0 2595	0.2421			0.29	22	TML	0.998
7	TML	Chloroethane	0.5814	0.5531	0.4138	0 3188	0.3018	0.2908	0.2585	0.2945			0.38	34	TML	0.997
8	TM	Dichlorofluoromethane	1.209	1.177	1.134	1.046	0.9758	0.9623	0.9319	0.8996			1.0	11	TM	
9	TM	Trichlorofluoromethane	0.7692	0.8900	0.8260	0.7000	0.6947	0.6664	0.6723	0.6675			0.74	11	TM	
10	TML	Acrolein	0.0436	0.0354	0.0320	0.0296	0.0279	0.0272	0.0262	0.0248			0.03	20	TML	0.993
11	TML	Acetone	1.046	0.8201	0.5266	0.1809	0.1515	0.1288	0.1166	0.1113			0.39	96	TML	1.000
12	TM	Freon-113	0.4672	0.5087	0.4957	0.3969	0.4067	0.4061	0.3906	0.3791			0.43	12	TM	
13	TM*	1,1-DCE	0.8832	0.7855	0.7605	0.6853	0.6739	0.6536	0.6507	0.6414			0.72	12	TM*	
14	TML	t-Butanol	0.0202	0.0153	0.0159	0.0125	0.0122	0.0115	0.0113				0.01	23	TML	0.992
15	TML	Acetonitrile	0.0833	0.0692	0.0641	0.0531	0.0539	0.0513	0.0516	0.0518			0.06	19	TML	0.998
16	TML	Methyl Acetate	0.5494	0.4920	0.4119	0.3454	0.3316	0.3143	0.3159	0.3179			0.38	24	TML	1.00
17	TML	Iodomethane	0 1298	0.1033	0.1012	0.0734	0.0732	0.0872	0.0931	0.1114			0.10	20	TML	0.995
18	TML	Acrylonitrile	0 2093	0.1327	0.1403	0.1385	0.1204	0.1155	0.1179	0.1157			0.14	23	TML	1.000
19	TML	Methylene chloride		0.8799	0.7129	0.5786	0.5168	0.5180	0.5011	0.4823			0.60	24	TML	1.000
20	TM	Carbon disulfide	1.840	1.751	1.629	1.402	1.356	1.351	1.344	1.310			1.5	14	TM	
21	TM	Methyl t-butyl ether (MtBE)	1 308	1.234	1.093	1.114	1.054	1.099	1.141	1.159			1.2	7.2	TM	
22	TM	Trans-1,2-DCE		0.7626	0.7073	0 6287	0.6169	0.6325	0.6381	0.6341			0.66	8 2	TM	
23	TM	Diisopropyl Ether	1 430	1.408	1.332	1.307	1.333	1 442	1.546	1.563			1.4	6.8	TM	
24	TM**	1,1-DCA	1.075	1.045	0.9943	0 9134	0.8476	0.8351	0.8105	0.7477			0.91	13	TM**	
25	TM	Hexane	0.3849	0.4295	0.4171	0.3348	0.3826	0.4267	0.4725	0.5115			0.42	13	TM	
26	TM	Vinyl Acetate	0.3674	0.3535	0.3448	0.2971	0.2826	0.2904	0.2921	0.2836			0.31	11	TM	
27	TM	Ethyl tert Butyl Ether	1.345	1.178	1.091	1.098	1.098	1.173	1.254	1.315			1.2	8.4	TM	
28	TML	MEK (2-Butanone)	0.3123	0.2865	0.2241	0.1759	0.1586	0.1562	0.1642	0 1567			0.20	31	TML	1.000
29	TM	Cis-1,2-DCE	0.6398	0.5456	0.5295	0.5198	0.4979	0.5086	0.5249	0.5159			0.54	8.3	TM	
30	TM	2,2-Dichloropropane	0.2981	0.2855	0.2539	0 2355	0.2288	0.2229	0.2232	0.2199			0.25	12	TM	
31	TM*	Chloroform	1.065	0.9936	0.9426	0.9392	0 8762	0.8527	0.8345	0.7972			0.91	9.8	TM*	
32	TM	Bromochloromethane	0.3380	0.2958	0.3045	0.2838	0.2601	0.2508	0.2372	0.2228			0.27	14	TM	
33	S	Dibromofluoromethane(S)	0.6542	0.6393	0.6267	0.5671	0.5218	0.5238	0.5177	0.5046			0.57	11	S	
34	TM	1,1,1-TCA	0.9231	0.8369	0.8029	0.7666	0.7110	0.7195	0.7052	0.6913			0.77	10	TM	
35	TM	Cyclohexane	0.3568	0.3605	0.3565	0.3026	0.3315	0.3528	0.3767	0.3874			0.35	7.4	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 11/10/14
Matrix: Instrument. Loki Initials:

		Compound	0.3	0.5	1	5	10	20	40	100			Avg	%RSD		
36	TM	1,1-Dichloropropene	0 6850	0.5440	0.5555	0.5191	0.5471	0 5782	0.5971	0.6110			0.58	9.0	TM	
37	TM	2,2,4-Trimethylpentane	0.9164	0.9801	0.9911	0.9276	1.022	1.136	1.242	1.289			1.1	13	TM	
38	S	1,2-DCA-D4(S)	0.7759	0.7515	0.6757	0.6408	0.5762	0.5696	0.5656	0 5497			0.64	14	S	
39	TM	Carbon Tetrachloride	0.8810	0.7476	0.7556	0.6740	0.6517	0.6569	0.6338	0.6309			0.70	12	TM	
40	TM	Tert Amyl Methyl Ether	0.9667	1.086	0.9100	1.046	1.074	1.128	1 177	1.185			1.1	9.0	TM	
41	TM	1,2-DCA	0.8184	0.7369	0.6835	0 6779	0.6542	0.6340	0.6239	0.5905			0.68	11	TM	
42	TM	Benzene	2 056	1.889	1 839	1.859	1.831	1.851	1.857	1.805			1.9	4.1	TM	
43	TM	TCE	0.5181	0 5345	0.4959	0.5002	0.4668	0.4662	0.4651	0.4656			0.49	5 6	TM	
44	TM	2-Pentanone	0.3607	0.3013	0.2835	0.2783	0.2908	0.2943	0.3011	0.2976			0.30	8.5	TM	
45	TM*	1,2-Dichloropropane	0 6175	0.5355	0.6051	0.5541	0.5250	0.5224	0.5218	0.5047			0 55	7.6	TM*	
46	TM	Bromodichloromethane	0.8714	0.7433	0.7270	0.7098	0.6721	0.6571	0.6511	0.6314			0.71	11	TM	
47	TM	Methyl Cyclohexane	0.5388	0.5155	0.5410	0.4761	0.5325	0.5828	0.6470	0.6983			0.57	13	TM	
48	TM	Dibromomethane	0.4106	0.3565	0.3520	0.3243	0.3090	0.2942	0.2870	0.2686			0.33	14	TM	
49	TML	2-Chloroethyl vinyl ether													TML	
50	TM	MIBK (methyl isobutyl ketone	0.3988	0.4691	0.4390	0.3480	0.3389	0.3163	0.3278	0.3572			0.37	15	TM	
51	TM	1-Bromo-2-chloroethane	0.4904	0.4490	0.4165	0.4263	0.3846	0.3798	0.3783	0.3830			0.41	9.8	TM	
52	TM	Cis-1,3-Dichloropropene	0.9434	0.8059	0.6926	0.7178	0.6757	0.7131	0.7454	0.7861			0.76	11	TM	
53	TM*	Toluene	1.898	1.721	1.691	1.885	1.908	1.966	2.002	1.968			1.9	6.1	TM*	
54	TM	Trans-1,3-Dichloropropene	0.8128	0.6410	0 6022	0.6438	0.6187	0.6229	0.6392	0.6608			0.66	10	TM	
55	TM	1,1,2-TCA	0.3830	0.3851	0.3926	0.3783	0.3588	0.3522	0.3452	0.3333			0.37	5.9	TM	
56	TML	2-Hexanone	0.3294	0.2433	0.2220	0.2167	0.2043	0.2021	0.2158	0.2372			0.23	18	TML	0.998
57	I	Chlorobenzene-D5 (IS)	ISTD													
58	S	Toluene-D8(S)	2.006	2.047	1.803	1.907	1.915	2.044	2.063	2.074			2.0	4.9	S	
59	TM	1,2-EDB	0.5796	0.5265	0.5062	0.4931	0.4885	0.4774	0 4538	0.4462			0.50	8.6	TM	
60	TM	Tetrachloroethene	0.7231	0.6862	0.6282	0.6768	0.6374	0 6005	0.5922	0.5849			0.64	7.8	TM	
61	TM	1-Chlorohexane	0.5897	0.4985	0.5309	0.5248	0.5744	0.6167	0.6704	0.6989			0.59	12	TM	
62	TM	1,1,1,2-Tetrachloroethane	0.6991	0.7675	0.6411	0.6790	0.6183	0.6080	0.5807	0.5801			0.65	10	TM	
63	TM	m&p-Xylene	0.7985	0.7652	0.7265	0.8429	0.9013	0.9625	0.9760	0.9761			0.87	11	TM	
64	TM	o-Xylene	0.7186	0.7555	0.6476	0.8020	0.7947	0.8690	0.9128	0 9506			0.81	13	TM	
65	TML	Styrene	1.165	1.105	1.071	1.327	1.396	1.564	1.625				1.3	17	TML	0.999
66	S	4-Bromofluorobenzene(S)	0.7651	0.6944	0.6458	0.7001	0.7174	0.7557	0.7615	0.8108			0.73	7.1	S	
67	TM	1,3-Dichloropropane	0.8813	0.8344	0.7814	0.8572	0 8139	0.8115	0.7933	0.7812			0.82	4.4	TM	
68	TM	Dibromochloromethane	0.7113	0.6426	0.5867	0.6513	0.6150	0 5844	0.5632	0.5637			0.61	8.3	TM	
69	TM**	Chlorobenzene	1.649	1.725	1 592	1.610	1.540	1.511	1.506	1.495			1.6	5.1	TM**	
70	TM*	Ethylbenzene	2.087	2.126	1.912	2.179	2.250	2.449	2.523	2.521			2.3	9.9	TM*	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 11/10/14
Matrix: Instrument: Loki Initials:

		Compound	0.3	0.5	1	5	10	20	40	100			Avg	%RSD		
71	TM**	Bromoform			0.4491	0.4472	0.4258	0.4090	0 3865	0.4096			0.42	5.8	TM**	
72	I	1,4-Dichlorobenzene-D (IS)	ISTD													
73	TM	Isopropylbenzene	3.681	3.494	3.245	3.181	3.257	3.487	3.820	3.710			3.5	6.9	TM	
74	TM**L	1,1,2,2-Tetrachloroethane		1 462	1.384	1.138	1.032	0.9796	0 9452	0.8993			1.1	20	TM**L	1.000
75	TML	1,2,3-Trichloropropane	0.5159	0.4059	0.3912	0.3292	0.3106	0.3016	0.2824	0.2668			0.35	24	TML	0.999
76	TM	t-1,4-Dichloro-2-Butene	0.2033	0.3178	0.2687	0.2286	0.2504	0.2498	0.2324	0.2349			0.25	14	TM	
77	TM	Bromobenzene	1.425	1.391	1.185	1.170	1.133	1.132	1.137	1.087			1.2	11	TM	
78	TML	n-Propylbenzene	2.365	4 051	3.706	3.954	4.130	4 532	4 795	4.573			4.0	19	TML	0.999
79	TM	4-Ethyltoluene	3.296	3.328	2.905	3.332	3.518	3 872	4.053	3.859			3.5	11	TM	
80	TM	2-Chlorotoluene	2.917	2.833	2.444	2.692	2.731	2 858	2.915	2.745			2.8	5.6	TM	
81	TM	1,3,5-Trimethylbenzene		2.795	2.636	3.116	3.296	3.486	3.573	3.381			3.2	11	TM	
82	TM	4-Chlorotoluene	0.7030	0.8611	0.6362	0.6902	0.7228	0.7449	0.7249	0.7208			0.73	8.8	TM	
83	TM	Tert-Butylbenzene	2.524	2.546	2.342	2.400	2.378	2.586	2.814	2.810			2.5	7.2	TM	
84	TM	1,2,4-Trimethylbenzene	3.156	2.958	2.434	2.879	3.020	3 344	3.493	3.451			3.1	11	TM	
85	TM	Sec-Butylbenzene	3.641	3.103	3.305	3.545	3.650	3.978	4.164	4.173			3.7	11	TM	
86	TM	p-Isopropyltoluene	3.000	2.877	2.728	2.959	3.088	3.349	3.536	3.593			3.1	10	TM	
87	TML	Benzyl Chloride	1 891	1.692	1.477	1.330	1.253	1.223	1.240	1.253			1.4	18	TML	1.000
88	TM	1,3-DCB	2.496	2.278	2.116	2.277	2.132	2.150	2.108	2.072			2.2	6.4	TM	
89	TM	1,4-DCB	2.823	3.003	2.467	2.404	2.220	2 198	2.168	2.100			2.4	14	TM	
90	TM	n-Butylbenzene	3.260	2.934	2.781	2.833	2.860	3.145	3.408	3.501			3.1	9.0	TM	
91	TM	1,2-DCB	2.498	2.411	2.157	2.058	1.980	1.978	1 985	1.987			2.1	9.8	TM	
92	TM	Hexachloroethane		0.9988	0.9590	0.7954	0.7504	0.7307	0.7272				0.83	15	TM	
93	TM	1,2-Dibromo-3-chloropropane	0.2058	0.2541	0.1707	0.2103	0.1893	0.1843	0.1984	0.1869			0.20	13	TM	
94	TM	1,2,4-Trichlorobenzene	1.232	1.157	1.153	1.211	1.203	1.240	1.490	1.516			1.3	11	TM	
95	TML	Hexachlorobutadiene	1.225	1.257	1.009	0.8454	0.7970	0.7932	0.8246	0.8090			0.95	21	TML	1.000
96	TML	Naphthalene	0.9712	1.010	0.9616	1.147	1.232	1.414					1.1	16	TML	0.995
97	TM	1,2,3-Trichlorobenzene	0.7654	0.7515	0 6356	0.7658	0.7714	0.8390	0.9919	0.9389			0.81	14	TM	
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L05.D Vial: 4
Acq On : 10 Nov 14 18:04 Operator: DG,SV,RS
Sample : 0.3ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:41 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	534784	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	477888	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	236480	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	8396	0.68933 ppb		0.00
Spiked Amount 24.012			Recovery =	2.869%		
38) 1,2-DCA-D4(S)	5.53	65	9958	0.72951 ppb		0.00
Spiked Amount 24.984			Recovery =	2.922%		
58) Toluene-D8(S)	7.71	98	23009	0.60718 ppb		0.00
Spiked Amount 24.898			Recovery =	2.438%		
66) 4-Bromofluorobenzene(S)	10.36	95	8775	0.62767 ppb		0.00
Spiked Amount 22.905			Recovery =	2.742%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	2713	0.29695 ppb		99
3) Freon 114	1.10	85	2634	0.30742 ppb		92
4) Chloromethane	1.14	50	10354	0.62744 ppb		99
5) Vinyl chloride	1.22	62	4322	0.34169 ppb		84
6) Bromomethane	1.45	94	2765	-0.28216 ppb		93
7) Chloroethane	1.54	64	3731	0.69294 ppb	#	73
8) Dichlorofluoromethane	1.70	67	7756	0.34798 ppb		96
9) Trichlorofluoromethane	1.74	101	4936	0.31361 ppb		92
10) Acrolein	2.10	56	9333	3.86866 ppb	#	89
11) Acetone	2.25	43	6712	-0.58811 ppb		93
12) Freon-113	2.20	101	2998	0.32490 ppb		88
13) 1,1-DCE	2.18	61	5668	0.36968 ppb		93
14) t-Butanol	2.88	59	4312	4.00552 ppb		95
15) Acetonitrile	2.52	41	17820	6.71841 ppb	#	79
16) Methyl Acetate	2.60	43	3526	0.28295 ppb		91
17) Iodomethane	2.31	142	833	2.28224 ppb	#	79
18) Acrylonitrile	2.97	52	1343	0.15625 ppb	#	57
19) Methylene chloride	2.67	84	8489	-0.10707 ppb		97
20) Carbon disulfide	2.37	76	11809	0.36856 ppb		99
21) Methyl t-butyl ether (MtBE	3.02	73	8395	0.34120 ppb	#	92
22) Trans-1,2-DCE	2.99	61	5008	0.35471 ppb		85
23) Diisopropyl Ether	3.71	45	9180	0.30220 ppb	#	95
24) 1,1-DCA	3.53	63	6899	0.35496 ppb		96
25) Hexane	3.36	57	2470	0.27495 ppb	#	82
26) Vinyl Acetate	3.70	43	2358	0.35112 ppb	#	90
27) Ethyl tert Butyl Ether	4.29	59	8631	0.33784 ppb	#	81
28) MEK (2-Butanone)	4.51	43	2004	0.12563 ppb	#	46
29) Cis-1,2-DCE	4.43	96	4106	0.35860 ppb		80
30) 2,2-Dichloropropane	4.40	77	1913	0.36356 ppb		93
31) Chloroform	4.90	83	6832	0.34998 ppb		83
32) Bromochloromethane	4.75	128	2169	0.36988 ppb		94
34) 1,1,1-TCA	5.10	97	5924	0.35986 ppb		97
35) Cyclohexane	5.16	41	2290	0.30317 ppb	#	66
36) 1,1-Dichloropropene	5.34	75	4396	0.35454 ppb	#	82
37) 2,2,4-Trimethylpentane	5.73	57	5881	0.25862 ppb	#	61
39) Carbon Tetrachloride	5.32	117	5654	0.37548 ppb		92
40) Tert Amyl Methyl Ether	5.80	73	6204	0.27068 ppb	#	96
41) 1,2-DCA	5.62	62	5252	0.36244 ppb		99
42) Benzene	5.58	78	13194	0.32924 ppb		98

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L05.D Vial: 4
Acq On : 10 Nov 14 18:04 Operator: DG,SV,RS
Sample : 0.3ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:41 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.38	95	3325	0.31784	ppb		90
44)	2-Pentanone	6.64	43	77151	11.98514	ppb		97
45)	1,2-Dichloropropane	6.62	63	3963	0.33791	ppb	#	85
46)	Bromodichloromethane	6.95	83	5592	0.36928	ppb	#	88
47)	Methyl Cyclohexane	6.58	83	3458	0.28535	ppb		90
48)	Dibromomethane	6.75	93	2635	0.37872	ppb	#	72
49)	2-Chloroethyl vinyl ether	7.33	106	77	0.30266	ppb	#	21
50)	MIBK (methyl isobutyl ket	7.64	43	2559	0.31953	ppb	#	84
51)	1-Bromo-2-chloroethane	7.26	63	3147	0.35579	ppb		96
52)	Cis-1,3-Dichloropropene	7.45	75	6054	0.37238	ppb		92
53)	Toluene	7.78	91	12178	0.30287	ppb		88
54)	Trans-1,3-Dichloropropene	8.04	75	5216	0.37217	ppb		98
55)	1,1,2-TCA	8.21	83	2458	0.31389	ppb		94
56)	2-Hexanone	8.51	43	2114	1.36716	ppb	#	82
59)	1,2-EDB	8.69	107	3324	0.35029	ppb	#	80
60)	Tetrachloroethene	8.34	166	4147	0.33836	ppb		96
61)	1-Chlorohexane	9.22	91	3382	0.30087	ppb		87
62)	1,1,1,2-Tetrachloroethane	9.30	131	4009	0.32428	ppb		87
63)	m&p-Xylene	9.45	106	9158	0.55155	ppb		89
64)	o-Xylene	9.85	106	4121	0.26735	ppb		79
65)	Styrene	9.87	104	6683	0.78542	ppb	#	88
67)	1,3-Dichloropropane	8.38	76	5054	0.32272	ppb		86
68)	Dibromochloromethane	8.60	129	4079	0.34709	ppb		88
69)	Chlorobenzene	9.20	112	9454	0.31336	ppb		89
70)	Ethylbenzene	9.34	91	11969	0.27756	ppb		96
71)	Bromoform	10.03	173	2963	0.36800	ppb		95
73)	Isopropylbenzene	10.22	105	10447	0.31696	ppb	#	87
74)	1,1,2,2-Tetrachloroethane	10.52	83	4610	-0.69251	ppb		93
75)	1,2,3-Trichloropropane	10.55	110	1464	-0.58532	ppb		88
76)	t-1,4-Dichloro-2-Butene	10.59	53	577	0.24574	ppb		78
77)	Bromobenzene	10.50	156	4044	0.35406	ppb		85
78)	n-Propylbenzene	10.81	91	6712	0.36680	ppb		90
79)	4-Ethyltoluene	10.75	105	9354	0.28091	ppb		90
80)	2-Chlorotoluene	10.70	91	8277	0.31627	ppb		91
81)	1,3,5-Trimethylbenzene	10.82	105	7503	0.24917	ppb		95
82)	4-Chlorotoluene	10.81	126	1995	0.29071	ppb		99
83)	Tert-Butylbenzene	11.13	119	7163	0.29698	ppb		87
84)	1,2,4-Trimethylbenzene	11.18	105	8957	0.30626	ppb		85
85)	Sec-Butylbenzene	11.35	105	10331	0.29559	ppb		87
86)	p-Isopropyltoluene	11.50	119	8513	0.28650	ppb	#	91
87)	Benzyl Chloride	11.67	91	5366	0.40018	ppb	#	89
88)	1,3-DCB	11.44	146	7083	0.33981	ppb		93
89)	1,4-DCB	11.52	146	8011	0.34953	ppb		95
90)	n-Butylbenzene	11.91	91	9252	0.31650	ppb		95
91)	1,2-DCB	11.89	146	7090	0.35159	ppb		82
92)	Hexachloroethane	12.14	117	3022	0.38635	ppb		87
93)	1,2-Dibromo-3-chloropropan	12.65	157	584	0.30872	ppb	#	67
94)	1,2,4-Trichlorobenzene	13.49	180	3496	0.28982	ppb	#	80
95)	Hexachlorobutadiene	13.68	225	3476	0.30696	ppb		91
96)	Naphthalene	13.72	128	2756	0.65335	ppb		98
97)	1,2,3-Trichlorobenzene	13.97	180	2172	0.28438	ppb	#	84

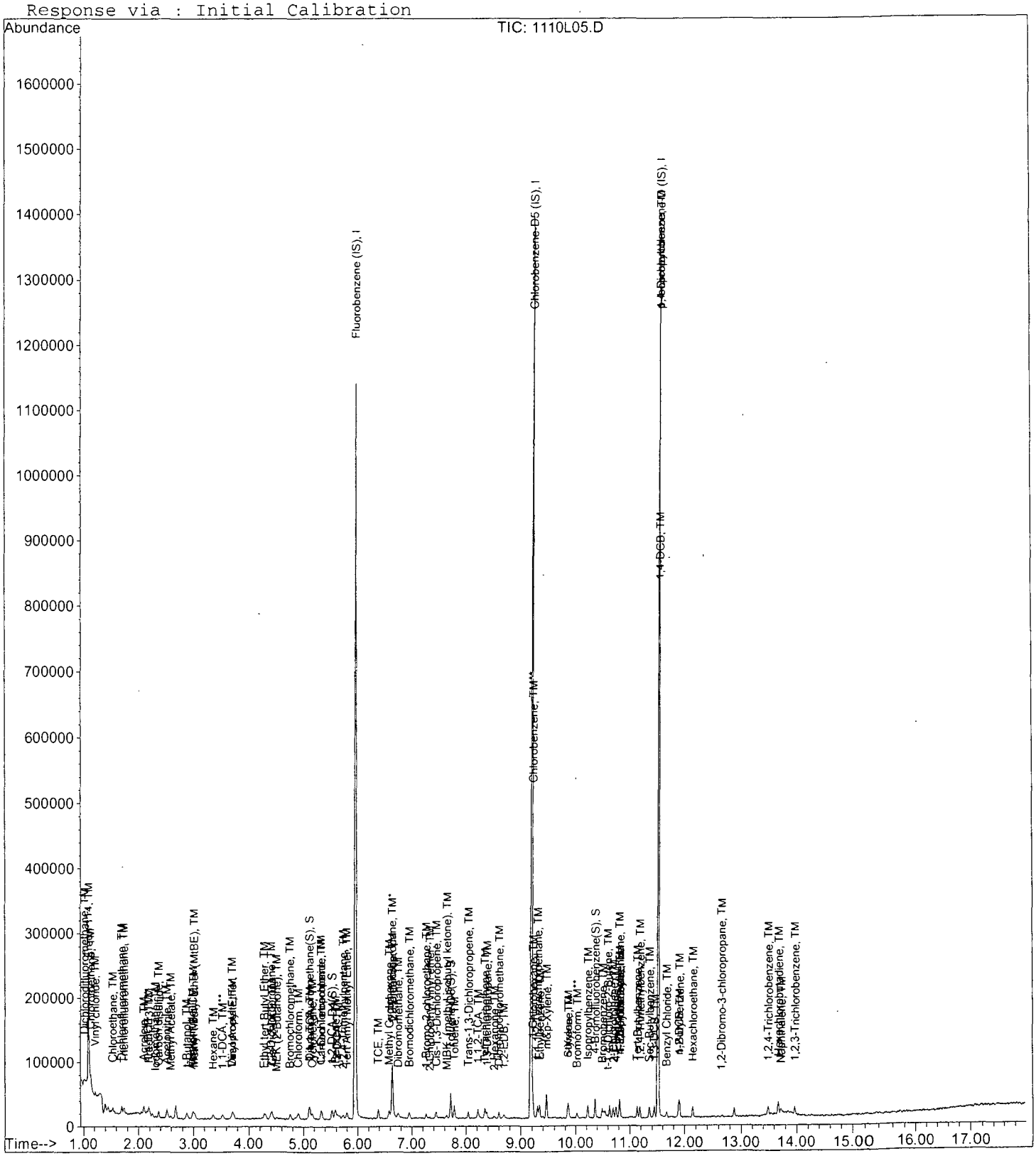
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141110\1110L05.D Vial: 4
Acq On : 10 Nov 14 18:04 Operator: DG,SV,RS
Sample : 0.3ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:41 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L06.D Vial: 5
Acq On : 10 Nov 14 18:32 Operator: DG,SV,RS
Sample : 0.5ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:41 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	542848	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	465920	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	228480	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	13882	1.12281 ppb		0.00
Spiked Amount 24.012			Recovery	= 4.677%		
38) 1,2-DCA-D4(S)	5.53	65	16318	1.17767 ppb		0.00
Spiked Amount 24.984			Recovery	= 4.715%		
58) Toluene-D8(S)	7.71	98	38158	1.03281 ppb		0.00
Spiked Amount 24.898			Recovery	= 4.149%		
66) 4-Bromofluorobenzene(S)	10.36	95	12942	0.94952 ppb		0.00
Spiked Amount 22.905			Recovery	= 4.148%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	5362	0.57818 ppb		99
3) Freon 114	1.10	85	4840	0.55650 ppb		80
4) Chloromethane	1.14	50	14346	0.85536 ppb		84
5) Vinyl chloride	1.22	62	7044	0.54861 ppb		99
6) Bromomethane	1.45	94	3749	-0.10353 ppb		87
7) Chloroethane	1.53	64	6005	1.04497 ppb	#	71
8) Dichlorofluoromethane	1.70	67	12776	0.56470 ppb		99
9) Trichlorofluoromethane	1.74	101	9663	0.60482 ppb		98
10) Acrolein	2.10	56	19230	22.42263 ppb	#	100
11) Acetone	2.25	43	8904	0.30697 ppb		89
12) Freon-113	2.20	101	5523	0.58965 ppb		89
13) 1,1-DCE	2.18	61	8528	0.54795 ppb		90
14) t-Butanol	2.88	59	8287	20.94324 ppb		96
15) Acetonitrile	2.52	41	37586	25.06018 ppb	#	67
16) Methyl Acetate	2.60	43	5342	0.53936 ppb		98
17) Iodomethane	2.31	142	1122	2.39699 ppb	#	81
18) Acrylonitrile	2.97	52	1441	0.18728 ppb		83
20) Carbon disulfide	2.36	76	19010	0.58449 ppb		99
21) Methyl t-butyl ether (MtBE	3.02	73	13399	0.53649 ppb		95
22) Trans-1,2-DCE	2.99	61	8280	0.57774 ppb		93
23) Diisopropyl Ether	3.72	45	15288	0.49580 ppb		96
24) 1,1-DCA	3.53	63	11347	0.57514 ppb	#	89
25) Hexane	3.36	57	4663	0.51135 ppb		91
26) Vinyl Acetate	3.68	43	3838	0.56302 ppb	#	84
27) Ethyl tert Butyl Ether	4.28	59	12794	0.49336 ppb		90
28) MEK (2-Butanone)	4.51	43	3110	0.44188 ppb	#	65
29) Cis-1,2-DCE	4.42	96	5924	0.50969 ppb	#	72
30) 2,2-Dichloropropane	4.40	77	3100	0.58040 ppb		98
31) Chloroform	4.90	83	10788	0.54442 ppb		93
32) Bromochloromethane	4.76	128	3211	0.53944 ppb		79
34) 1,1,1-TCA	5.10	97	9086	0.54373 ppb		82
35) Cyclohexane	5.16	41	3914	0.51047 ppb		88
36) 1,1-Dichloropropene	5.34	75	5906	0.46925 ppb	#	79
37) 2,2,4-Trimethylpentane	5.72	57	10641	0.46100 ppb	#	62
39) Carbon Tetrachloride	5.32	117	8117	0.53103 ppb		95
40) Tert Amyl Methyl Ether	5.80	73	11788	0.50667 ppb	#	89
41) 1,2-DCA	5.62	62	8000	0.54387 ppb	#	89
42) Benzene	5.58	78	20514	0.50429 ppb	#	89
43) TCE	6.38	95	5803	0.54648 ppb		89

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L06.D Vial: 5
Acq On : 10 Nov 14 18:32 Operator: DG,SV,RS
Sample : 0.5ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:41 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	2-Pentanone	6.64	43	163560	25.03104	ppb		97
45)	1,2-Dichloropropane	6.62	63	5814	0.48837	ppb	#	85
46)	Bromodichloromethane	6.95	83	8070	0.52500	ppb		91
47)	Methyl Cyclohexane	6.59	83	5597	0.45500	ppb		98
48)	Dibromomethane	6.75	93	3870	0.54796	ppb		81
49)	2-Chloroethyl vinyl ether	7.26	106	168	0.65054	ppb	#	1
50)	MIBK (methyl isobutyl ket	7.64	43	5093	0.62649	ppb		98
51)	1-Bromo-2-chloroethane	7.26	63	4875	0.54296	ppb		99
52)	Cis-1,3-Dichloropropene	7.44	75	8750	0.53022	ppb		89
53)	Toluene	7.78	91	18683	0.45775	ppb		100
54)	Trans-1,3-Dichloropropene	8.04	75	6959	0.48916	ppb		92
55)	1,1,2-TCA	8.21	83	4181	0.52599	ppb		94
56)	2-Hexanone	8.50	43	2641	1.46371	ppb	#	87
59)	1,2-EDB	8.69	107	4906	0.53028	ppb		100
60)	Tetrachloroethene	8.34	166	6394	0.53509	ppb		90
61)	1-Chlorohexane	9.22	91	4645	0.42384	ppb		96
62)	1,1,1,2-Tetrachloroethane	9.30	131	7152	0.59337	ppb		94
63)	m&p-Xylene	9.46	106	14261	0.88094	ppb		85
64)	o-Xylene	9.85	106	7040	0.46846	ppb		91
65)	Styrene	9.86	104	10296	0.90969	ppb	#	80
67)	1,3-Dichloropropane	8.38	76	7775	0.50921	ppb		93
68)	Dibromochloromethane	8.60	129	5988	0.52262	ppb		81
69)	Chlorobenzene	9.21	112	16075	0.54650	ppb		97
70)	Ethylbenzene	9.34	91	19808	0.47114	ppb		97
71)	Bromoform	10.02	173	4699	0.59860	ppb		88
73)	Isopropylbenzene	10.22	105	15966	0.50137	ppb		91
74)	1,1,2,2-Tetrachloroethane	10.52	83	6679	-0.42007	ppb		90
75)	1,2,3-Trichloropropane	10.56	110	1855	-0.40408	ppb		95
76)	t-1,4-Dichloro-2-Butene	10.58	53	1452	0.64004	ppb		92
77)	Bromobenzene	10.49	156	6355	0.57587	ppb		83
78)	n-Propylbenzene	10.63	91	18513	0.65225	ppb		99
79)	4-Ethyltoluene	10.75	105	15208	0.47271	ppb		96
80)	2-Chlorotoluene	10.70	91	12944	0.51192	ppb		93
81)	1,3,5-Trimethylbenzene	10.82	105	12773	0.43904	ppb		98
82)	4-Chlorotoluene	10.81	126	3935	0.59348	ppb	#	54
83)	Tert-Butylbenzene	11.13	119	11634	0.49923	ppb	#	86
84)	1,2,4-Trimethylbenzene	11.18	105	13518	0.47840	ppb		96
85)	Sec-Butylbenzene	11.35	105	14179	0.41989	ppb		91
86)	p-Isopropyltoluene	11.50	119	13147	0.45795	ppb	#	89
87)	Benzyl Chloride	11.67	91	7733	0.62342	ppb		99
88)	1,3-DCB	11.44	146	10409	0.51685	ppb		90
89)	1,4-DCB	11.52	146	13724	0.61976	ppb		94
90)	n-Butylbenzene	11.91	91	13409	0.47477	ppb		95
91)	1,2-DCB	11.89	146	11019	0.56557	ppb		99
92)	Hexachloroethane	12.14	117	4564	0.60392	ppb		91
93)	1,2-Dibromo-3-chloropropan	12.66	157	1161	0.63523	ppb	#	56
94)	1,2,4-Trichlorobenzene	13.49	180	5285	0.45347	ppb		90
95)	Hexachlorobutadiene	13.67	225	5743	0.62956	ppb		89
96)	Naphthalene	13.72	128	4615	0.80492	ppb		95
97)	1,2,3-Trichlorobenzene	13.97	180	3434	0.46536	ppb		88

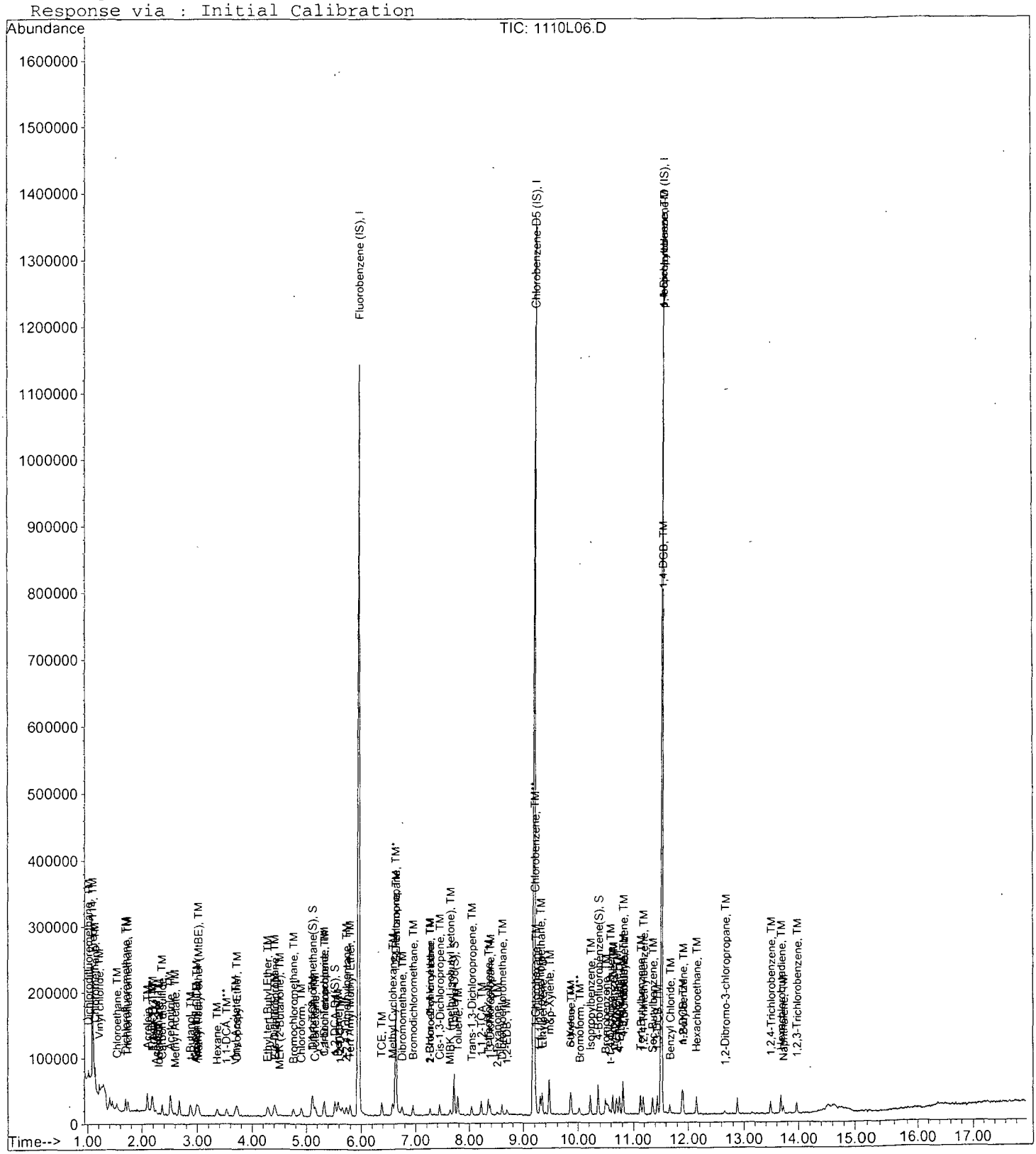
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141110\1110L06.D Vial: 5
Acq On : 10 Nov 14 18:32 Operator: DG,SV,RS
Sample : 0.5ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:41 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L07.D Vial: 6
Acq On : 10 Nov 14 19:01 Operator: DG,SV,RS
Sample : 1.0ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:41 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	557888	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	495104	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	251392	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.12	111	27971	2.20138 ppb		0.00
Spiked Amount 24.012			Recovery =	9.166%		
38) 1,2-DCA-D4(S)	5.52	65	30156	2.11769 ppb		0.00
Spiked Amount 24.984			Recovery =	8.477%		
58) Toluene-D8(S)	7.71	98	71423	1.81923 ppb		0.00
Spiked Amount 24.898			Recovery =	7.306%		
66) 4-Bromofluorobenzene(S)	10.36	95	25580	1.76611 ppb		0.00
Spiked Amount 22.905			Recovery =	7.710%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	10394	1.09057 ppb		97
3) Freon 114	1.10	85	9781	1.09429 ppb		95
4) Chloromethane	1.14	50	24536	1.42153 ppb		95
5) Vinyl chloride	1.22	62	14017	1.06227 ppb		94
6) Bromomethane	1.45	94	6811	0.44211 ppb		89
7) Chloroethane	1.53	64	9234	1.51801 ppb		89
8) Dichlorofluoromethane	1.70	67	25316	1.08879 ppb		99
9) Trichlorofluoromethane	1.74	101	18433	1.12265 ppb		96
10) Acrolein	2.10	56	35655	51.83086 ppb	#	89
11) Acetone	2.25	43	11752	1.39057 ppb		84
12) Freon-113	2.20	101	11061	1.14907 ppb		87
13) 1,1-DCE	2.18	61	16970	1.06097 ppb		99
14) t-Butanol	2.88	59	17752	59.87174 ppb		96
15) Acetonitrile	2.52	41	71545	55.19211 ppb	#	88
16) Methyl Acetate	2.60	43	9192	1.06333 ppb		93
17) Iodomethane	2.31	142	2259	2.84367 ppb		98
18) Acrylonitrile	2.98	52	3131	0.82807 ppb		84
19) Methylene chloride	2.67	84	15908	0.55141 ppb		89
20) Carbon disulfide	2.37	76	36346	1.08739 ppb		99
21) Methyl t-butyl ether (MtBE	3.02	73	24384	0.95000 ppb		90
22) Trans-1,2-DCE	2.99	61	15783	1.07158 ppb		96
23) Diisopropyl Ether	3.72	45	29715	0.93770 ppb	#	84
24) 1,1-DCA	3.53	63	22189	1.09436 ppb		95
25) Hexane	3.37	57	9308	0.99322 ppb		91
26) Vinyl Acetate	3.71	43	7695	1.09839 ppb	#	94
27) Ethyl tert Butyl Ether	4.29	59	24347	0.91355 ppb		90
28) MEK (2-Butanone)	4.51	43	5001	0.95813 ppb	#	77
29) Cis-1,2-DCE	4.43	96	11816	0.98922 ppb		96
30) 2,2-Dichloropropane	4.40	77	5667	1.03240 ppb		96
31) Chloroform	4.91	83	21034	1.03288 ppb		98
32) Bromochloromethane	4.76	128	6796	1.11094 ppb		83
34) 1,1,1-TCA	5.11	97	17918	1.04336 ppb		95
35) Cyclohexane	5.16	41	7956	1.00966 ppb		96
36) 1,1-Dichloropropene	5.34	75	12397	0.95843 ppb		92
37) 2,2,4-Trimethylpentane	5.73	57	22118	0.93239 ppb	#	63
39) Carbon Tetrachloride	5.32	117	16861	1.07335 ppb		85
40) Tert Amyl Methyl Ether	5.80	73	20308	0.84935 ppb	#	89
41) 1,2-DCA	5.62	62	15253	1.00901 ppb		93
42) Benzene	5.58	78	41034	0.98154 ppb		99

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L07.D Vial: 6
Acq On : 10 Nov 14 19:01 Operator: DG,SV,RS
Sample : 1.0ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:41 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

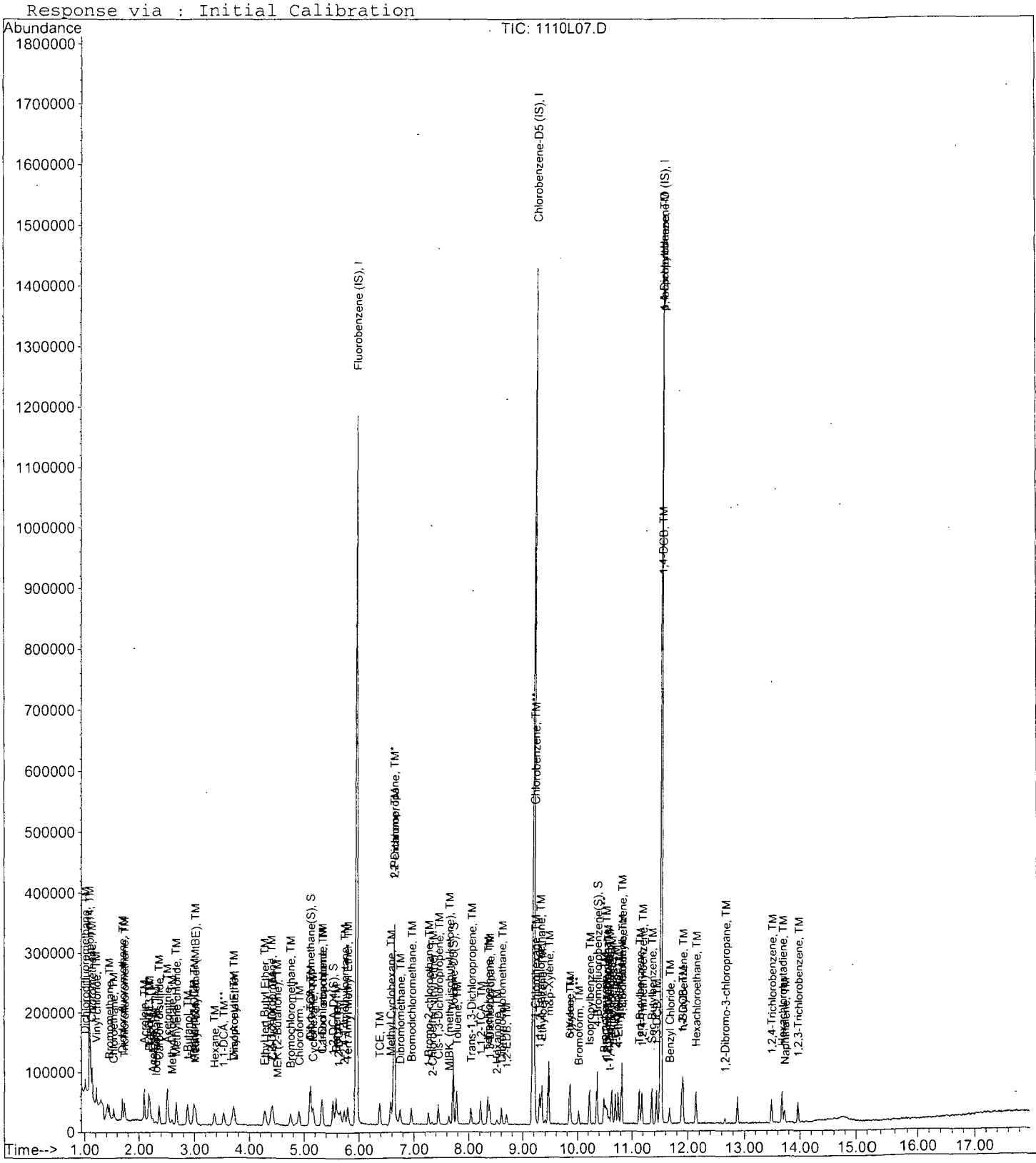
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.38	95	11066	1.01401	ppb		91
44)	2-Pentanone	6.64	43	316271	47.09690	ppb		99
45)	1,2-Dichloropropane	6.62	63	13502	1.10357	ppb		100
46)	Bromodichloromethane	6.95	83	16223	1.02695	ppb		92
47)	Methyl Cyclohexane	6.58	83	12073	0.95500	ppb		90
48)	Dibromomethane	6.75	93	7855	1.08221	ppb		90
49)	2-Chloroethyl vinyl ether	7.33	106	229	0.86285	ppb	#	38
50)	MIBK (methyl isobutyl ket	7.64	43	9797	1.17264	ppb		95
51)	1-Bromo-2-chloroethane	7.26	63	9295	1.00734	ppb		99
52)	Cis-1,3-Dichloropropene	7.44	75	15455	0.91127	ppb		95
53)	Toluene	7.78	91	37730	0.89950	ppb		96
54)	Trans-1,3-Dichloropropene	8.04	75	13439	0.91918	ppb	#	77
55)	1,1,2-TCA	8.22	83	8760	1.07233	ppb		94
56)	2-Hexanone	8.51	43	4954	1.88870	ppb	#	87
59)	1,2-EDB	8.70	107	10025	1.01971	ppb		96
60)	Tetrachloroethene	8.34	166	12440	0.97970	ppb		95
61)	1-Chlorohexane	9.22	91	10515	0.90290	ppb		94
62)	1,1,1,2-Tetrachloroethane	9.30	131	12697	0.99132	ppb		97
63)	m&p-Xylene	9.46	106	28776	1.67279	ppb		96
64)	o-Xylene	9.84	106	12826	0.80316	ppb		97
65)	Styrene	9.86	104	21214	1.22749	ppb		98
67)	1,3-Dichloropropane	8.38	76	15475	0.95377	ppb		98
68)	Dibromochloromethane	8.60	129	11620	0.95438	ppb	#	72
69)	Chlorobenzene	9.20	112	31523	1.00851	ppb		95
70)	Ethylbenzene	9.34	91	37870	0.84766	ppb		97
71)	Bromoform	10.02	173	8894	1.06621	ppb		87
73)	Isopropylbenzene	10.22	105	32629	0.93123	ppb		96
74)	1,1,2,2-Tetrachloroethane	10.52	83	13916	0.31079	ppb		96
75)	1,2,3-Trichloropropane	10.55	110	3934	0.30374	ppb		91
76)	t-1,4-Dichloro-2-Butene	10.59	53	2702	1.08248	ppb		96
77)	Bromobenzene	10.50	156	11916	0.98138	ppb		91
78)	n-Propylbenzene	10.63	91	37267	1.01672	ppb		100
79)	4-Ethyltoluene	10.75	105	29215	0.82532	ppb		99
80)	2-Chlorotoluene	10.70	91	24576	0.88337	ppb		92
81)	1,3,5-Trimethylbenzene	10.82	105	26506	0.82803	ppb		97
82)	4-Chlorotoluene	10.81	126	6397	0.87686	ppb		100
83)	Tert-Butylbenzene	11.13	119	23547	0.91835	ppb		99
84)	1,2,4-Trimethylbenzene	11.18	105	24474	0.78718	ppb		100
85)	Sec-Butylbenzene	11.35	105	33231	0.89440	ppb		93
86)	p-Isopropyltoluene	11.50	119	27436	0.86858	ppb		94
87)	Benzyl Chloride	11.67	91	14856	1.12877	ppb		98
88)	1,3-DCB	11.43	146	21281	0.96039	ppb		98
89)	1,4-DCB	11.52	146	24806	1.01811	ppb		97
90)	n-Butylbenzene	11.91	91	27964	0.89987	ppb		97
91)	1,2-DCB	11.89	146	21686	1.01162	ppb		92
92)	Hexachloroethane	12.14	117	9643	1.15969	ppb		90
93)	1,2-Dibromo-3-chloropropan	12.66	157	1717	0.85383	ppb	#	74
94)	1,2,4-Trichlorobenzene	13.49	180	11595	0.90421	ppb		87
95)	Hexachlorobutadiene	13.68	225	10149	1.10050	ppb		93
96)	Naphthalene	13.72	128	9670	1.12894	ppb		90
97)	1,2,3-Trichlorobenzene	13.96	180	6391	0.78714	ppb		96

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

Data File : M:\LOKI\DATA\141110\1110L07.D Vial: 6
Acq On : 10 Nov 14 19:01 Operator: DG,SV,RS
Sample : 1.0ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:41 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L08.D Vial: 7
Acq On : 10 Nov 14 19:29 Operator: DG,SV,RS
Sample : 5.0ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:41 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	609024	25.00000	ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	515008	25.00000	ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	307776	25.00000	ppb		0.00
System Monitoring Compounds							
33) Dibromofluoromethane(S)	5.12	111	138148	9.95966	ppb		0.00
Spiked Amount 24.012			Recovery = 41.479%				
38) 1,2-DCA-D4(S)	5.52	65	156102	10.04174	ppb		0.00
Spiked Amount 24.984			Recovery = 40.193%				
58) Toluene-D8(S)	7.71	98	392839	9.61934	ppb		0.00
Spiked Amount 24.898			Recovery = 38.634%				
66) 4-Bromofluorobenzene(S)	10.36	95	144219	9.57242	ppb		0.00
Spiked Amount 22.905			Recovery = 41.791%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.01	85	43317	4.16332	ppb		100
3) Freon 114	1.10	85	38975	3.99436	ppb		96
4) Chloromethane	1.14	50	97256	5.15384	ppb		100
5) Vinyl chloride	1.22	62	65683	4.55978	ppb		94
6) Bromomethane	1.45	94	30264	4.29942	ppb		98
7) Chloroethane	1.54	64	38830	5.58567	ppb		97
8) Dichlorofluoromethane	1.70	67	127420	5.01996	ppb		96
9) Trichlorofluoromethane	1.74	101	85269	4.75721	ppb		96
10) Acrolein	2.10	56	72036	107.96069	ppb	#	100
11) Acetone	2.25	43	22029	4.90109	ppb		89
12) Freon-113	2.20	101	48341	4.60024	ppb		95
13) 1,1-DCE	2.18	61	83467	4.78025	ppb		96
14) t-Butanol	2.87	59	30568	103.07434	ppb		100
15) Acetonitrile	2.52	41	129454	98.25084	ppb		98
16) Methyl Acetate	2.60	43	42066	5.21628	ppb		98
17) Iodomethane	2.31	142	8941	5.23934	ppb		97
18) Acrylonitrile	2.96	52	16865	5.61161	ppb		87
19) Methylene chloride	2.67	84	70475	5.09388	ppb		100
20) Carbon disulfide	2.36	76	170755	4.67965	ppb		100
21) Methyl t-butyl ether (MtBE	3.02	73	135665	4.84171	ppb		99
22) Trans-1,2-DCE	2.99	61	76576	4.76256	ppb		95
23) Diisopropyl Ether	3.71	45	159253	4.60348	ppb		90
24) 1,1-DCA	3.53	63	111252	5.02622	ppb		98
25) Hexane	3.36	57	40785	3.98658	ppb		98
26) Vinyl Acetate	3.71	43	36188	4.73179	ppb	#	98
27) Ethyl tert Butyl Ether	4.28	59	133790	4.59858	ppb		99
28) MEK (2-Butanone)	4.50	43	21431	5.14307	ppb		95
29) Cis-1,2-DCE	4.43	96	63319	4.85588	ppb		97
30) 2,2-Dichloropropane	4.40	77	28688	4.78749	ppb		99
31) Chloroform	4.90	83	114401	5.14600	ppb		98
32) Bromochloromethane	4.76	128	34574	5.17725	ppb		99
34) 1,1,1-TCA	5.10	97	93372	4.98050	ppb		99
35) Cyclohexane	5.16	41	36860	4.28497	ppb		93
36) 1,1-Dichloropropene	5.33	75	63229	4.47789	ppb		95
37) 2,2,4-Trimethylpentane	5.73	57	112983	4.36290	ppb		97
39) Carbon Tetrachloride	5.32	117	82095	4.78725	ppb		99
40) Tert Amyl Methyl Ether	5.80	73	127354	4.87915	ppb		96
41) 1,2-DCA	5.62	62	82568	5.00338	ppb		100
42) Benzene	5.58	78	226404	4.96090	ppb		98

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L08.D Vial: 7
Acq On : 10 Nov 14 19:29 Operator: DG,SV,RS
Sample : 5.0ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:41 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.38	95	60927	5.11414	ppb		96
44)	2-Pentanone	6.63	43	677846	92.46484	ppb		100
45)	1,2-Dichloropropane	6.62	63	67486	5.05276	ppb		98
46)	Bromodichloromethane	6.95	83	86462	5.01368	ppb		97
47)	Methyl Cyclohexane	6.58	83	57987	4.20175	ppb		95
48)	Dibromomethane	6.75	93	39498	4.98488	ppb		93
49)	2-Chloroethyl vinyl ether	7.33	106	1675	5.78130	ppb	#	39
50)	MIBK (methyl isobutyl ket	7.64	43	42385	4.64727	ppb		95
51)	1-Bromo-2-chloroethane	7.26	63	51928	5.15517	ppb		99
52)	Cis-1,3-Dichloropropene	7.44	75	87428	4.72215	ppb		96
53)	Toluene	7.78	91	229624	5.01469	ppb		96
54)	Trans-1,3-Dichloropropene	8.04	75	78422	4.91341	ppb		97
55)	1,1,2-TCA	8.21	83	46079	5.16703	ppb		98
56)	2-Hexanone	8.51	43	26394	5.53632	ppb		99
59)	1,2-EDB	8.69	107	50792	4.96673	ppb		84
60)	Tetrachloroethene	8.34	166	69716	5.27820	ppb		95
61)	1-Chlorohexane	9.22	91	54053	4.46205	ppb		99
62)	1,1,1,2-Tetrachloroethane	9.30	131	69941	5.24962	ppb		96
63)	m&p-Xylene	9.46	106	173648	9.70428	ppb		96
64)	o-Xylene	9.85	106	82611	4.97315	ppb		99
65)	Styrene	9.86	104	136702	4.63668	ppb		99
67)	1,3-Dichloropropane	8.38	76	88297	5.23171	ppb		98
68)	Dibromochloromethane	8.60	129	67088	5.29716	ppb		98
69)	Chlorobenzene	9.21	112	165825	5.10017	ppb		98
70)	Ethylbenzene	9.34	91	224437	4.82952	ppb		99
71)	Bromoform	10.02	173	46067	5.30904	ppb		97
73)	Isopropylbenzene	10.22	105	195792	4.56422	ppb		94
74)	1,1,2,2-Tetrachloroethane	10.52	83	70023	5.12726	ppb		96
75)	1,2,3-Trichloropropane	10.55	110	20262	5.02113	ppb		92
76)	t-1,4-Dichloro-2-Butene	10.58	53	14070	4.60411	ppb		96
77)	Bromobenzene	10.49	156	72035	4.84579	ppb		98
78)	n-Propylbenzene	10.63	91	243401	4.50110	ppb		100
79)	4-Ethyltoluene	10.75	105	205072	4.73193	ppb		98
80)	2-Chlorotoluene	10.70	91	165716	4.86536	ppb		99
81)	1,3,5-Trimethylbenzene	10.81	105	191813	4.89438	ppb		98
82)	4-Chlorotoluene	10.81	126	42488	4.75705	ppb		94
83)	Tert-Butylbenzene	11.13	119	147743	4.70646	ppb		97
84)	1,2,4-Trimethylbenzene	11.18	105	177232	4.65618	ppb		100
85)	Sec-Butylbenzene	11.35	105	218213	4.79720	ppb		100
86)	p-Isopropyltoluene	11.50	119	182114	4.70924	ppb		99
87)	Benzyl Chloride	11.67	91	81877	5.27036	ppb		97
88)	1,3-DCB	11.43	146	140160	5.16650	ppb		98
89)	1,4-DCB	11.53	146	147991	4.96126	ppb		98
90)	n-Butylbenzene	11.91	91	174408	4.58420	ppb		99
91)	1,2-DCB	11.89	146	126657	4.82597	ppb		98
92)	Hexachloroethane	12.14	117	48961	4.80947	ppb		94
93)	1,2-Dibromo-3-chloropropan	12.66	157	12946	5.25837	ppb		93
94)	1,2,4-Trichlorobenzene	13.49	180	74529	4.74722	ppb		98
95)	Hexachlorobutadiene	13.68	225	52040	5.07902	ppb		97
96)	Naphthalene	13.72	128	70624	4.51693	ppb		100
97)	1,2,3-Trichlorobenzene	13.96	180	47136	4.74190	ppb		98

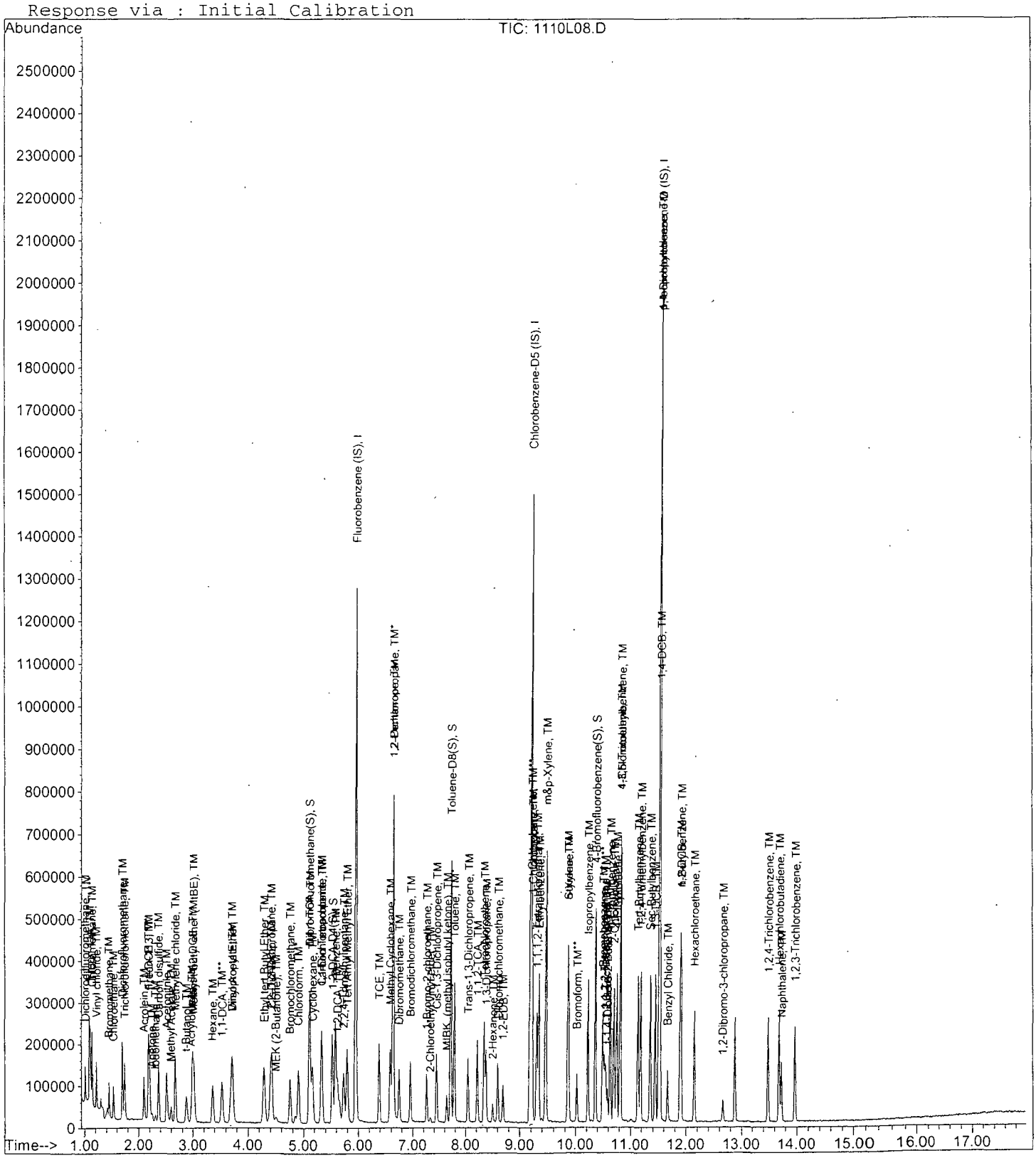
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141110\1110L08.D Vial: 7
Acq On : 10 Nov 14 19:29 Operator: DG,SV,RS
Sample : 5.0ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:41 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L09.D Vial: 8
Acq On : 10 Nov 14 19:57 Operator: DG,SV,RS
Sample : 10ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:41 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	626624	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	536256	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	326848	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.11	111	326963	22.91004 ppb	0.00
Spiked Amount 24.012			Recovery = 95.410%		
38) 1,2-DCA-D4(S)	5.52	65	361046	22.57307 ppb	0.00
Spiked Amount 24.984			Recovery = 90.349%		
58) Toluene-D8(S)	7.71	98	1026953	24.15034 ppb	0.00
Spiked Amount 24.898			Recovery = 96.997%		
66) 4-Bromofluorobenzene(S)	10.36	95	384687	24.52158 ppb	0.00
Spiked Amount 22.905			Recovery = 107.061%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.01	85	97384	9.09697 ppb	100
3) Freon 114	1.10	85	91984	9.16223 ppb	100
4) Chloromethane	1.14	50	188675	9.71493 ppb	100
5) Vinyl chloride	1.22	62	138147	9.32093 ppb	100
6) Bromomethane	1.44	94	60305	9.08917 ppb	100
7) Chloroethane	1.53	64	75638	10.49291 ppb	100
8) Dichlorofluoromethane	1.70	67	244585	9.36527 ppb	100
9) Trichlorofluoromethane	1.74	101	174119	9.44136 ppb	100
10) Acrolein	2.10	56	87271	129.63062 ppb	100
11) Acetone	2.25	43	37985	10.58257 ppb	100
12) Freon-113	2.20	101	101942	9.42856 ppb	100
13) 1,1-DCE	2.18	61	168911	9.40201 ppb	100
14) t-Butanol	2.87	59	38352	128.97079 ppb	100
15) Acetonitrile	2.52	41	168954	127.39308 ppb	100
16) Methyl Acetate	2.59	43	83127	10.23721 ppb	100
17) Iodomethane	2.31	142	18336	8.52485 ppb	100
18) Acrylonitrile	2.97	52	30167	10.04216 ppb	100
19) Methylene chloride	2.67	84	129528	9.83359 ppb	100
20) Carbon disulfide	2.36	76	339801	9.05090 ppb	100
21) Methyl t-butyl ether (MtBE	3.02	73	264288	9.16718 ppb	100
22) Trans-1,2-DCE	2.99	61	154628	9.34680 ppb	100
23) Diisopropyl Ether	3.71	45	334016	9.38412 ppb	100
24) 1,1-DCA	3.53	63	212443	9.32832 ppb	100
25) Hexane	3.36	57	95898	9.11038 ppb	100
26) Vinyl Acetate	3.71	43	70824	9.00055 ppb	100
27) Ethyl tert Butyl Ether	4.29	59	275309	9.19703 ppb	100
28) MEK (2-Butanone)	4.49	43	39749	9.65029 ppb	100
29) Cis-1,2-DCE	4.42	96	124804	9.30229 ppb	100
30) 2,2-Dichloropropane	4.40	77	57338	9.29988 ppb	100
31) Chloroform	4.90	83	219608	9.60097 ppb	100
32) Bromochloromethane	4.75	128	65183	9.48662 ppb	100
34) 1,1,1-TCA	5.10	97	178206	9.23860 ppb	100
35) Cyclohexane	5.16	41	83083	9.38710 ppb	100
36) 1,1-Dichloropropene	5.33	75	137130	9.43880 ppb	100
37) 2,2,4-Trimethylpentane	5.73	57	256218	9.61611 ppb	100
39) Carbon Tetrachloride	5.32	117	163341	9.25746 ppb	100
40) Tert Amyl Methyl Ether	5.80	73	269105	10.02029 ppb	100
41) 1,2-DCA	5.62	62	163979	9.65755 ppb	100
42) Benzene	5.58	78	458964	9.77423 ppb	100

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L09.D Vial: 8
Acq On : 10 Nov 14 19:57 Operator: DG,SV,RS
Sample : 10ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:41 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43) TCE	6.38	95	117002	9.54517	ppb	100
44) 2-Pentanone	6.63	43	910982	120.77660	ppb	100
45) 1,2-Dichloropropane	6.62	63	131599	9.57625	ppb	100
46) Bromodichloromethane	6.95	83	168469	9.49464	ppb	100
47) Methyl Cyclohexane	6.58	83	133475	9.39997	ppb	100
48) Dibromomethane	6.75	93	77447	9.49974	ppb	100
49) 2-Chloroethyl vinyl ether	7.32	106	2981	10.00000	ppb	100
50) MIBK (methyl isobutyl ket	7.63	43	84942	9.05181	ppb	100
51) 1-Bromo-2-chloroethane	7.26	63	96392	9.30057	ppb	100
52) Cis-1,3-Dichloropropene	7.44	75	169370	8.89105	ppb	100
53) Toluene	7.78	91	478136	10.14859	ppb	100
54) Trans-1,3-Dichloropropene	8.04	75	155077	9.44321	ppb	100
55) 1,1,2-TCA	8.21	83	89938	9.80186	ppb	100
56) 2-Hexanone	8.50	43	51216	9.60066	ppb	100
59) 1,2-EDB	8.69	107	104781	9.84009	ppb	100
60) Tetrachloroethene	8.34	166	136717	9.94072	ppb	100
61) 1-Chlorohexane	9.22	91	123201	9.76721	ppb	100
62) 1,1,1,2-Tetrachloroethane	9.30	131	132628	9.56033	ppb	100
63) m&p-Xylene	9.46	106	386650	20.75169	ppb	100
64) o-Xylene	9.85	106	170473	9.85577	ppb	100
65) Styrene	9.86	104	299338	9.12066	ppb	100
67) 1,3-Dichloropropane	8.38	76	174582	9.93434	ppb	100
68) Dibromochloromethane	8.60	129	131929	10.00416	ppb	100
69) Chlorobenzene	9.20	112	330233	9.75432	ppb	100
70) Ethylbenzene	9.34	91	482635	9.97401	ppb	100
71) Bromoform	10.02	173	91334	10.10882	ppb	100
73) Isopropylbenzene	10.22	105	425824	9.34740	ppb	100
74) 1,1,2,2-Tetrachloroethane	10.52	83	134958	10.31408	ppb	100
75) 1,2,3-Trichloropropane	10.55	110	40606	10.51090	ppb	100
76) t-1,4-Dichloro-2-Butene	10.58	53	32742	10.08895	ppb	100
77) Bromobenzene	10.49	156	148110	9.38199	ppb	100
78) n-Propylbenzene	10.63	91	539892	9.16960	ppb	100
79) 4-Ethyltoluene	10.75	105	459884	9.99238	ppb	100
80) 2-Chlorotoluene	10.70	91	357002	9.86983	ppb	100
81) 1,3,5-Trimethylbenzene	10.82	105	430948	10.35461	ppb	100
82) 4-Chlorotoluene	10.81	126	94504	9.96347	ppb	100
83) Tert-Butylbenzene	11.13	119	310857	9.32475	ppb	100
84) 1,2,4-Trimethylbenzene	11.18	105	394778	9.76629	ppb	100
85) Sec-Butylbenzene	11.35	105	477257	9.87980	ppb	100
86) p-Isopropyltoluene	11.50	119	403765	9.83162	ppb	100
87) Benzyl Chloride	11.67	91	163832	9.97810	ppb	100
88) 1,3-DCB	11.44	146	278788	9.67688	ppb	100
89) 1,4-DCB	11.53	146	290241	9.16229	ppb	100
90) n-Butylbenzene	11.91	91	373954	9.25560	ppb	100
91) 1,2-DCB	11.89	146	258891	9.28883	ppb	100
92) Hexachloroethane	12.14	117	98109	9.07496	ppb	100
93) 1,2-Dibromo-3-chloropropan	12.66	157	24754	9.46781	ppb	100
94) 1,2,4-Trichlorobenzene	13.49	180	157283	9.43375	ppb	100
95) Hexachlorobutadiene	13.68	225	104204	9.70721	ppb	100
96) Naphthalene	13.72	128	161088	9.18894	ppb	100
97) 1,2,3-Trichlorobenzene	13.96	180	100848	9.55335	ppb	100

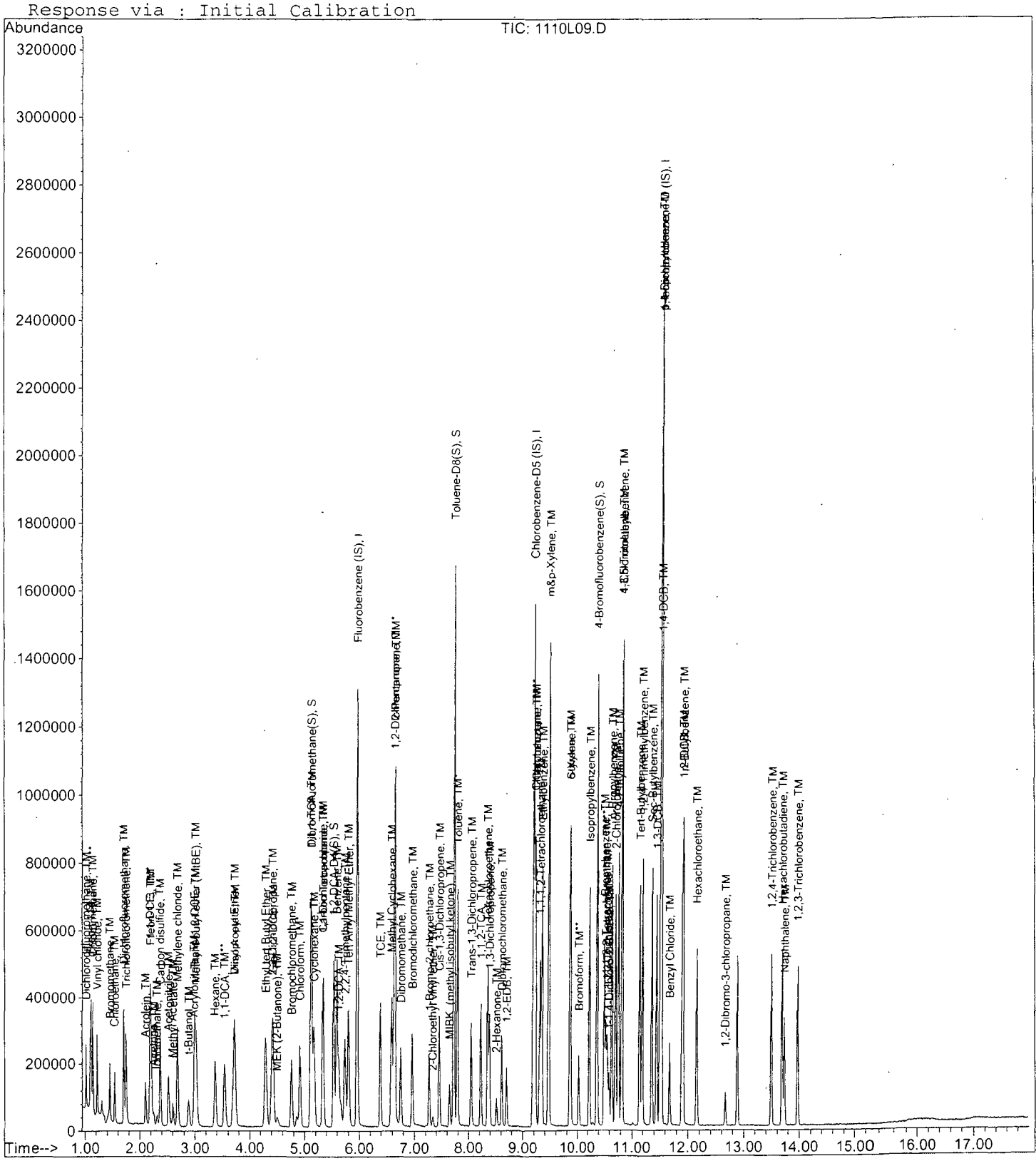
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141110\1110L09.D Vial: 8
Acq On : 10 Nov 14 19:57 Operator: DG,SV,RS
Sample : 10ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:41 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L10.D Vial: 9
Acq On : 10 Nov 14 20:25 Operator: DG,SV,RS
Sample : 20ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:41 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	650240	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	558080	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	338304	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	544931	36.79612 ppb		0.00
Spiked Amount 24.012			Recovery = 153.239%			
38) 1,2-DCA-D4(S)	5.53	65	592638	35.70679 ppb		0.00
Spiked Amount 24.984			Recovery = 142.918%			
58) Toluene-D8(S)	7.71	98	1824718	41.23292 ppb		0.00
Spiked Amount 24.898			Recovery = 165.610%			
66) 4-Bromofluorobenzene(S)	10.36	95	674792	41.33201 ppb		0.00
Spiked Amount 22.905			Recovery = 180.452%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	209670	18.87464 ppb		98
3) Freon 114	1.10	85	203996	19.58140 ppb		93
4) Chloromethane	1.14	50	391587	19.42769 ppb		99
5) Vinyl chloride	1.22	62	284846	18.52087 ppb		99
6) Bromomethane	1.44	94	147884	22.58950 ppb		98
7) Chloroethane	1.53	64	151279	20.13892 ppb		99
8) Dichlorofluoromethane	1.70	67	500593	18.47177 ppb		96
9) Trichlorofluoromethane	1.74	101	346680	18.11552 ppb		98
10) Acrolein	2.10	56	105933	154.03766 ppb		96
11) Acetone	2.25	43	67020	20.44801 ppb		100
12) Freon-113	2.20	101	211260	18.82968 ppb		95
13) 1,1-DCE	2.18	61	339998	18.23781 ppb		98
14) t-Butanol	2.88	59	44888	147.38081 ppb		100
15) Acetonitrile	2.52	41	200309	147.01740 ppb		97
16) Methyl Acetate	2.59	43	163471	19.61327 ppb		100
17) Iodomethane	2.31	142	45344	17.64468 ppb		95
18) Acrylonitrile	2.96	52	60094	19.63457 ppb		93
19) Methylene chloride	2.67	84	269479	20.65399 ppb		97
20) Carbon disulfide	2.36	76	702738	18.03823 ppb		98
21) Methyl t-butyl ether (MtBE	3.02	73	571553	19.10504 ppb		98
22) Trans-1,2-DCE	2.99	61	329034	19.16677 ppb		97
23) Diisopropyl Ether	3.71	45	749871	20.30235 ppb		99
24) 1,1-DCA	3.53	63	434427	18.38278 ppb		98
25) Hexane	3.36	57	221971	20.32154 ppb		99
26) Vinyl Acetate	3.71	43	151040	18.49753 ppb	#	97
27) Ethyl tert Butyl Ether	4.29	59	610272	19.64645 ppb		99
28) MEK (2-Butanone)	4.49	43	81277	19.47424 ppb		91
29) Cis-1,2-DCE	4.43	96	264588	19.00487 ppb		94
30) 2,2-Dichloropropane	4.40	77	115952	18.12367 ppb		99
31) Chloroform	4.90	83	443553	18.68727 ppb		96
32) Bromochloromethane	4.75	128	130473	18.29916 ppb		96
34) 1,1,1-TCA	5.10	97	374298	18.69971 ppb		99
35) Cyclohexane	5.16	41	183521	19.98198 ppb		91
36) 1,1-Dichloropropene	5.33	75	300786	19.95148 ppb		97
37) 2,2,4-Trimethylpentane	5.73	57	590891	21.37128 ppb	#	85
39) Carbon Tetrachloride	5.32	117	341692	18.66229 ppb		96
40) Tert Amyl Methyl Ether	5.79	73	586759	21.05483 ppb		94
41) 1,2-DCA	5.62	62	329822	18.71939 ppb		99
42) Benzene	5.58	78	962874	19.76091 ppb		99

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L10.D Vial: 9
Acq On : 10 Nov 14 20:25 Operator: DG,SV,RS
Sample : 20ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:41 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

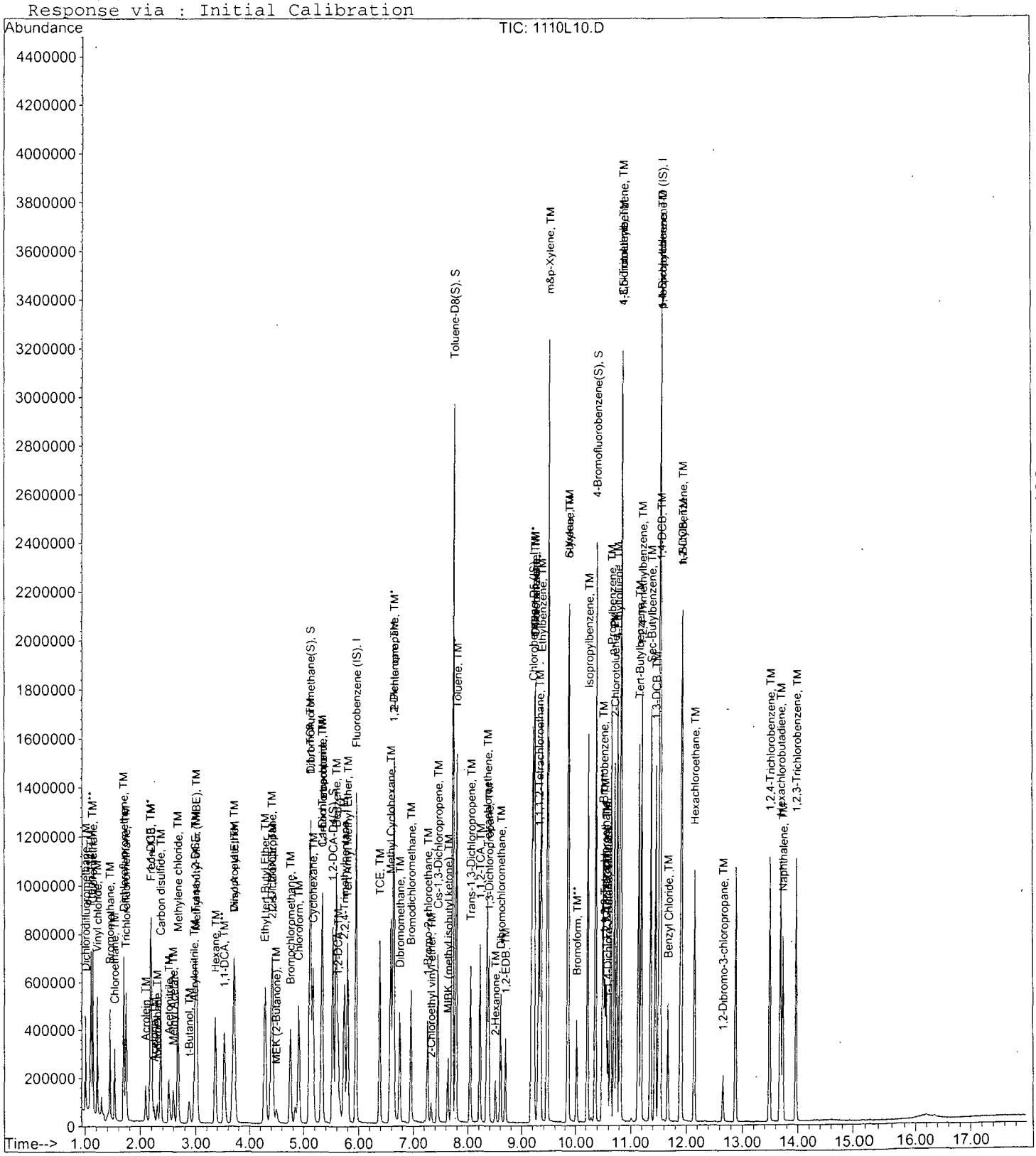
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.38	95	242500	19.06493	ppb		98
44)	2-Pentanone	6.63	43	1148179	146.69521	ppb		100
45)	1,2-Dichloropropane	6.62	63	271762	19.05745	ppb		98
46)	Bromodichloromethane	6.95	83	341821	18.56482	ppb		98
47)	Methyl Cyclohexane	6.58	83	303160	20.57462	ppb		97
48)	Dibromomethane	6.75	93	153025	18.08852	ppb		98
49)	2-Chloroethyl vinyl ether	7.33	106	8960	28.96539	ppb	#	55
50)	MIBK (methyl isobutyl ket	7.63	43	164555	16.89885	ppb		97
51)	1-Bromo-2-chloroethane	7.26	63	197568	18.37039	ppb		100
52)	Cis-1,3-Dichloropropene	7.44	75	370959	18.76617	ppb		99
53)	Toluene	7.78	91	1022700	20.91876	ppb		99
54)	Trans-1,3-Dichloropropene	8.04	75	324021	19.01424	ppb		98
55)	1,1,2-TCA	8.21	83	183220	19.24295	ppb		98
56)	2-Hexanone	8.50	43	105122	18.06207	ppb		94
59)	1,2-EDB	8.69	107	213164	19.23562	ppb		99
60)	Tetrachloroethene	8.34	166	268102	18.73144	ppb		98
61)	1-Chlorohexane	9.22	91	275331	20.97427	ppb		99
62)	1,1,1,2-Tetrachloroethane	9.30	131	271448	18.80182	ppb		99
63)	m&p-Xylene	9.46	106	859449	44.32323	ppb		97
64)	o-Xylene	9.85	106	387992	21.55429	ppb		98
65)	Styrene	9.86	104	698408	19.73850	ppb		96
67)	1,3-Dichloropropane	8.38	76	362294	19.80962	ppb		99
68)	Dibromochloromethane	8.60	129	260907	19.01085	ppb		98
69)	Chlorobenzene	9.21	112	674439	19.14233	ppb		98
70)	Ethylbenzene	9.34	91	1093459	21.71347	ppb		97
71)	Bromoform	10.02	173	182609	19.42074	ppb		100
73)	Isopropylbenzene	10.23	105	943783	20.01574	ppb		98
74)	1,1,2,2-Tetrachloroethane	10.52	83	265129	20.68781	ppb		95
75)	1,2,3-Trichloropropane	10.55	110	81619	21.51123	ppb		98
76)	t-1,4-Dichloro-2-Butene	10.58	53	67608	20.12693	ppb		90
77)	Bromobenzene	10.49	156	306360	18.74913	ppb		99
78)	n-Propylbenzene	10.63	91	1226502	19.87130	ppb		99
79)	4-Ethyltoluene	10.75	105	1047806	21.99583	ppb		98
80)	2-Chlorotoluene	10.70	91	773464	20.65941	ppb		99
81)	1,3,5-Trimethylbenzene	10.81	105	943488	21.90202	ppb		100
82)	4-Chlorotoluene	10.81	126	201600	20.53476	ppb		96
83)	Tert-Butylbenzene	11.13	119	699809	20.28125	ppb		98
84)	1,2,4-Trimethylbenzene	11.18	105	905028	21.63104	ppb		98
85)	Sec-Butylbenzene	11.35	105	1076567	21.53157	ppb		100
86)	p-Isopropyltoluene	11.50	119	906287	21.32066	ppb		99
87)	Benzyl Chloride	11.67	91	331043	19.53064	ppb		98
88)	1,3-DCB	11.44	146	581807	19.51097	ppb		99
89)	1,4-DCB	11.53	146	594986	18.14642	ppb		98
90)	n-Butylbenzene	11.91	91	851042	20.35054	ppb		98
91)	1,2-DCB	11.89	146	535371	18.55828	ppb		100
92)	Hexachloroethane	12.14	117	197762	17.67330	ppb		98
93)	1,2-Dibromo-3-chloropropan	12.66	157	49888	18.43483	ppb		97
94)	1,2,4-Trichlorobenzene	13.49	180	335687	19.45252	ppb		97
95)	Hexachlorobutadiene	13.68	225	214675	19.46700	ppb		95
96)	Naphthalene	13.72	128	382592	20.50693	ppb		98
97)	1,2,3-Trichlorobenzene	13.96	180	227072	20.78216	ppb		99

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

Data File : M:\LOKI\DATA\141110\1110L10.D Vial: 9
Acq On : 10 Nov 14 20:25 Operator: DG,SV,RS
Sample : 20ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:41 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L11.D Vial: 10
Acq On : 10 Nov 14 20:54 Operator: DG,SV,RS
Sample : 40ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:42 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	653952	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	571968	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	341312	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	1083331	72.73601 ppb		0.00
Spiked Amount 24.012			Recovery = 302.914%			
38) 1,2-DCA-D4(S)	5.52	65	1183677	70.91243 ppb		0.00
Spiked Amount 24.984			Recovery = 283.826%			
58) Toluene-D8(S)	7.71	98	3775886	83.25148 ppb		0.00
Spiked Amount 24.898			Recovery = 334.372%			
66) 4-Bromofluorobenzene(S)	10.36	95	1393747	83.29621 ppb		0.00
Spiked Amount 22.905			Recovery = 363.663%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	463182	41.45929 ppb		98
3) Freon 114	1.10	85	422964	40.36950 ppb		92
4) Chloromethane	1.13	50	804064	39.66229 ppb		100
5) Vinyl chloride	1.22	62	588087	38.02074 ppb		100
6) Bromomethane	1.44	94	271518	41.91157 ppb		99
7) Chloroethane	1.52	64	270518	35.73671 ppb		99
8) Dichlorofluoromethane	1.70	67	975028	35.77409 ppb		96
9) Trichlorofluoromethane	1.73	101	703422	36.54817 ppb		98
10) Acrolein	2.10	56	119718	174.84467 ppb		100
11) Acetone	2.25	43	121962	39.83680 ppb		99
12) Freon-113	2.20	101	408646	36.21603 ppb		98
13) 1,1-DCE	2.18	61	680878	36.31562 ppb		97
14) t-Butanol	2.89	59	51644	170.75355 ppb		98
15) Acetonitrile	2.52	41	236196	174.14884 ppb		99
16) Methyl Acetate	2.60	43	330562	39.67595 ppb		99
17) Iodomethane	2.31	142	97400	35.49247 ppb		97
18) Acrylonitrile	2.96	52	123409	40.49675 ppb		97
19) Methylene chloride	2.67	84	524271	40.82694 ppb		98
20) Carbon disulfide	2.36	76	1406273	35.89203 ppb		99
21) Methyl t-butyl ether (MtBE	3.02	73	1193908	39.68169 ppb		97
22) Trans-1,2-DCE	2.99	61	667636	38.67014 ppb		97
23) Diisopropyl Ether	3.71	45	1617806	43.55259 ppb		96
24) 1,1-DCA	3.53	63	848086	35.68306 ppb		96
25) Hexane	3.36	57	494384	45.00415 ppb		95
26) Vinyl Acetate	3.71	43	305681	37.22357 ppb	#	97
27) Ethyl tert Butyl Ether	4.29	59	1312608	42.01684 ppb		99
28) MEK (2-Butanone)	4.49	43	171815	41.45427 ppb		92
29) Cis-1,2-DCE	4.43	96	549238	39.22683 ppb		98
30) 2,2-Dichloropropane	4.40	77	233492	36.28840 ppb		99
31) Chloroform	4.90	83	873174	36.57876 ppb		97
32) Bromochloromethane	4.75	128	248219	34.61572 ppb		96
34) 1,1,1-TCA	5.10	97	737901	36.65585 ppb		99
35) Cyclohexane	5.16	41	394153	42.67223 ppb		88
36) 1,1-Dichloropropene	5.33	75	624730	41.20384 ppb		97
37) 2,2,4-Trimethylpentane	5.73	57	1299215	46.72314 ppb	#	84
39) Carbon Tetrachloride	5.32	117	663190	36.01603 ppb		97
40) Tert Amyl Methyl Ether	5.79	73	1231731	43.94765 ppb		92
41) 1,2-DCA	5.62	62	652803	36.84021 ppb		100
42) Benzene	5.58	78	1943446	39.65863 ppb		98

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L11.D Vial: 10
Acq On : 10 Nov 14 20:54 Operator: DG,SV,RS
Sample : 40ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:42 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

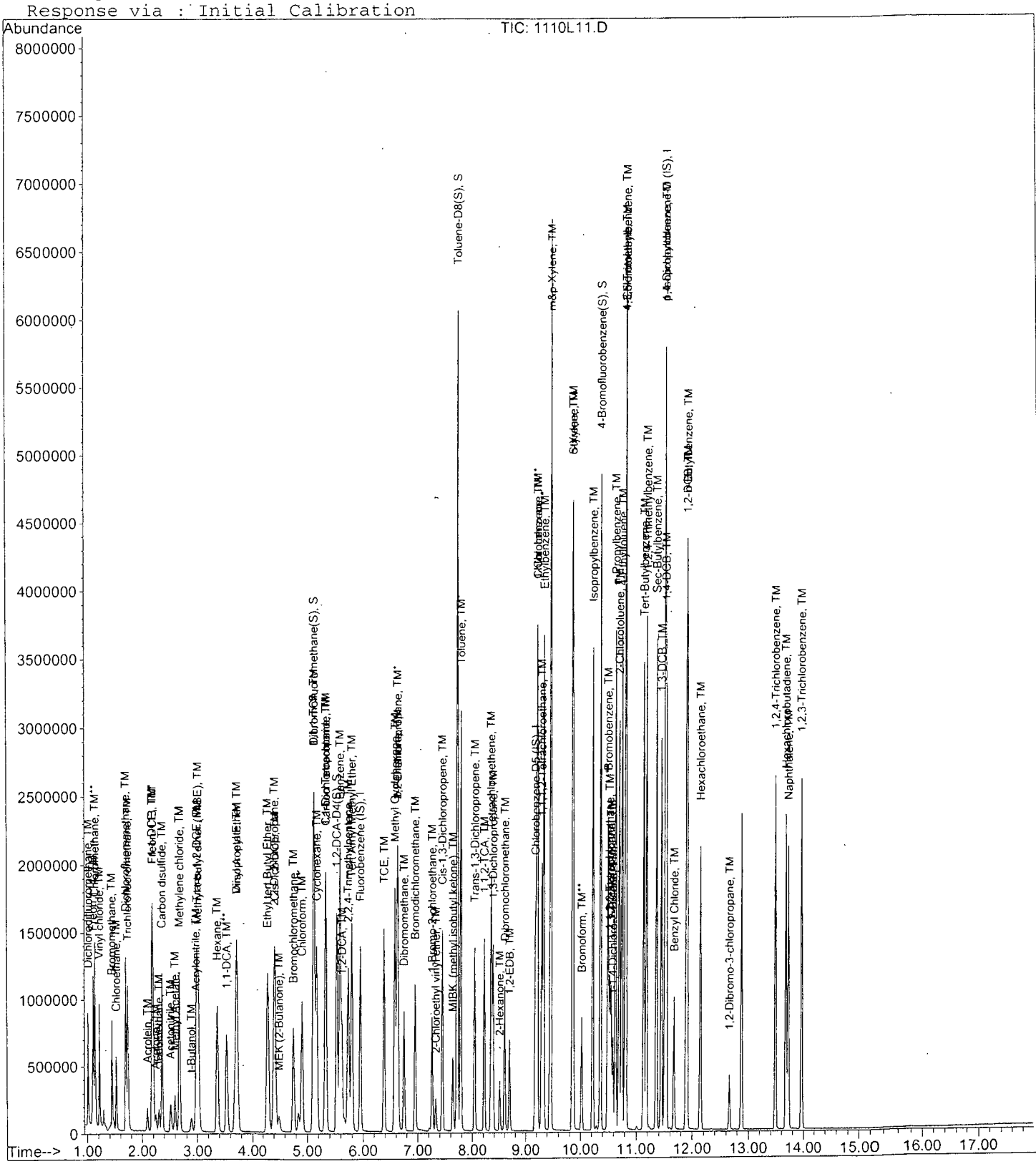
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.38	95	486595	38.03812	ppb		98
44)	2-Pentanone	6.64	43	1378246	175.08981	ppb		100
45)	1,2-Dichloropropane	6.62	63	546007	38.07169	ppb		97
46)	Bromodichloromethane	6.95	83	681234	36.78884	ppb		99
47)	Methyl Cyclohexane	6.58	83	677021	45.68672	ppb		95
48)	Dibromomethane	6.75	93	300260	35.29116	ppb		97
49)	2-Chloroethyl vinyl ether	7.33	106	25250	81.16346	ppb	#	74
50)	MIBK (methyl isobutyl ket	7.64	43	343015	35.02572	ppb		98
51)	1-Bromo-2-chloroethane	7.26	63	395776	36.59140	ppb		100
52)	Cis-1,3-Dichloropropene	7.44	75	779952	39.23245	ppb		99
53)	Toluene	7.78	91	2094338	42.59536	ppb		97
54)	Trans-1,3-Dichloropropene	8.04	75	668815	39.02470	ppb		98
55)	1,1,2-TCA	8.21	83	361234	37.72378	ppb		97
56)	2-Hexanone	8.51	43	225780	37.49599	ppb		95
59)	1,2-EDB	8.69	107	415335	36.56922	ppb		97
60)	Tetrachloroethene	8.34	166	541973	36.94651	ppb		97
61)	1-Chlorohexane	9.22	91	613542	45.60378	ppb		96
62)	1,1,1,2-Tetrachloroethane	9.30	131	531460	35.91770	ppb		99
63)	m&p-Xylene	9.46	106	1786376	89.88948	ppb		97
64)	o-Xylene	9.85	106	835363	45.28046	ppb		98
65)	Styrene	9.86	104	1486688	40.38155	ppb		97
67)	1,3-Dichloropropane	8.38	76	725996	38.73237	ppb		98
68)	Dibromochloromethane	8.60	129	515428	36.64449	ppb		98
69)	Chlorobenzene	9.21	112	1378243	38.16828	ppb		99
70)	Ethylbenzene	9.34	91	2309155	44.74089	ppb		98
71)	Bromoform	10.02	173	353739	36.70720	ppb		100
73)	Isopropylbenzene	10.22	105	2086155	43.85324	ppb		97
74)	1,1,2,2-Tetrachloroethane	10.52	83	516182	41.07327	ppb		97
75)	1,2,3-Trichloropropane	10.55	110	154213	41.30443	ppb		96
76)	t-1,4-Dichloro-2-Butene	10.58	53	126897	37.44435	ppb		95
77)	Bromobenzene	10.49	156	620790	37.65732	ppb		99
78)	n-Propylbenzene	10.63	91	2618729	41.81604	ppb		99
79)	4-Ethyltoluene	10.75	105	2213216	46.05098	ppb		97
80)	2-Chlorotoluene	10.70	91	1591712	42.14032	ppb		99
81)	1,3,5-Trimethylbenzene	10.81	105	1951020	44.89159	ppb		99
82)	4-Chlorotoluene	10.81	126	395840	39.96449	ppb		92
83)	Tert-Butylbenzene	11.13	119	1536602	44.13998	ppb		97
84)	1,2,4-Trimethylbenzene	11.18	105	1907422	45.18743	ppb		98
85)	Sec-Butylbenzene	11.35	105	2274198	45.08358	ppb		100
86)	p-Isopropyltoluene	11.50	119	1931080	45.02885	ppb		99
87)	Benzyl Chloride	11.67	91	677041	39.64698	ppb		99
88)	1,3-DCB	11.44	146	1151000	38.25875	ppb		99
89)	1,4-DCB	11.53	146	1183789	35.78607	ppb		99
90)	n-Butylbenzene	11.91	91	1861304	44.11617	ppb		96
91)	1,2-DCB	11.89	146	1083823	37.23890	ppb		99
92)	Hexachloroethane	12.14	117	397121	35.17654	ppb		96
93)	1,2-Dibromo-3-chloropropan	12.66	157	108322	39.67484	ppb		96
94)	1,2,4-Trichlorobenzene	13.49	180	813693	46.73663	ppb		99
95)	Hexachlorobutadiene	13.68	225	450295	40.63249	ppb		95
96)	Naphthalene	13.72	128	1059840	55.52708	ppb		97
97)	1,2,3-Trichlorobenzene	13.97	180	541696	49.14036	ppb		98

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

Data File : M:\LOKI\DATA\141110\1110L11.D Vial: 10
Acq On : 10 Nov 14 20:54 Operator: DG,SV,RS
Sample : 40ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:42 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L12.D Vial: 11
Acq On : 10 Nov 14 21:22 Operator: DG,SV,RS
Sample : 100ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:42 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	648384	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	570368	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	367936	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.12	111	1308579	88.61390 ppb		0.00
Spiked Amount 24.012			Recovery = 369.039%			
38) 1,2-DCA-D4(S)	5.52	65	1425732	86.14710 ppb		0.00
Spiked Amount 24.984			Recovery = 344.805%			
58) Toluene-D8(S)	7.71	98	4731793	104.62017 ppb		0.00
Spiked Amount 24.898			Recovery = 420.199%			
66) 4-Bromofluorobenzene(S)	10.36	95	1849930	110.86978 ppb		0.00
Spiked Amount 22.905			Recovery = 484.049%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	1152714	104.06516 ppb		99
3) Freon 114	1.10	85	1105895	106.45778 ppb		92
4) Chloromethane	1.13	50	2015419	100.26437 ppb		99
5) Vinyl chloride	1.22	62	1504345	98.09346 ppb		99
6) Bromomethane	1.44	94	627988	98.85393 ppb		99
7) Chloroethane	1.52	64	763735	101.58988 ppb		99
8) Dichlorofluoromethane	1.69	67	2333217	86.34163 ppb		97
9) Trichlorofluoromethane	1.73	101	1731303	90.72696 ppb		98
10) Acrolein	2.10	56	128471	190.40422 ppb	#	95
11) Acetone	2.26	43	288562	99.92209 ppb		99
12) Freon-113	2.19	101	983187	87.88268 ppb		97
13) 1,1-DCE	2.18	61	1663451	89.48448 ppb		96
14) t-Butanol	2.92	59	54320	182.05371 ppb		99
15) Acetonitrile	2.52	41	268555	201.21915 ppb		96
16) Methyl Acetate	2.60	43	824503	100.17165 ppb		97
17) Iodomethane	2.30	142	289024	102.37576 ppb		98
18) Acrylonitrile	2.97	52	299969	99.84330 ppb		94
19) Methylene chloride	2.67	84	1250839	99.55744 ppb		97
20) Carbon disulfide	2.36	76	3398584	87.48629 ppb		100
21) Methyl t-butyl ether (MtBE	3.02	73	3005003	100.73440 ppb		97
22) Trans-1,2-DCE	2.98	61	1644435	96.06525 ppb		96
23) Diisopropyl Ether	3.72	45	4052463	110.03230 ppb		94
24) 1,1-DCA	3.53	63	1939122	82.28884 ppb		97
25) Hexane	3.36	57	1326667	121.80460 ppb		93
26) Vinyl Acetate	3.71	43	735461	90.32808 ppb	#	96
27) Ethyl tert Butyl Ether	4.29	59	3411552	110.14225 ppb		98
28) MEK (2-Butanone)	4.50	43	406411	99.55249 ppb		92
29) Cis-1,2-DCE	4.43	96	1337919	96.37537 ppb		98
30) 2,2-Dichloropropane	4.40	77	570368	89.40556 ppb		100
31) Chloroform	4.90	83	2067490	87.35449 ppb		99
32) Bromochloromethane	4.75	128	577846	81.27631 ppb		96
34) 1,1,1-TCA	5.10	97	1792957	89.83151 ppb		99
35) Cyclohexane	5.16	41	1004862	109.72372 ppb		84
36) 1,1-Dichloropropene	5.33	75	1584646	105.41228 ppb		97
37) 2,2,4-Trimethylpentane	5.73	57	3343396	121.26974 ppb		92
39) Carbon Tetrachloride	5.32	117	1636359	89.62931 ppb		96
40) Tert Amyl Methyl Ether	5.80	73	3072705	110.57430 ppb	#	89
41) 1,2-DCA	5.62	62	1531521	87.17190 ppb		99
42) Benzene	5.58	78	4680399	96.33003 ppb		98

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L12.D Vial: 11
Acq On : 10 Nov 14 21:22 Operator: DG,SV,RS
Sample : 100ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:42 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.38	95	1207489	95.20245	ppb		97
44)	2-Pentanone	6.64	43	1543699	197.79274	ppb		99
45)	1,2-Dichloropropane	6.62	63	1308897	92.04983	ppb		97
46)	Bromodichloromethane	6.95	83	1637605	89.19540	ppb		97
47)	Methyl Cyclohexane	6.58	83	1810991	123.25872	ppb		94
48)	Dibromomethane	6.75	93	696631	82.58189	ppb		96
49)	2-Chloroethyl vinyl ether	7.33	106	84485	273.90021	ppb	#	75
50)	MIBK (methyl isobutyl ket	7.64	43	926371	95.40531	ppb		98
51)	1-Bromo-2-chloroethane	7.26	63	993435	92.63659	ppb		99
52)	Cis-1,3-Dichloropropene	7.44	75	2038861	103.43768	ppb		99
53)	Toluene	7.78	91	5103126	104.68041	ppb		99
54)	Trans-1,3-Dichloropropene	8.04	75	1713875	100.86171	ppb		97
55)	1,1,2-TCA	8.21	83	864510	91.05635	ppb		99
56)	2-Hexanone	8.51	43	615190	101.38540	ppb		91
59)	1,2-EDB	8.69	107	1017890	89.87411	ppb		94
60)	Tetrachloroethene	8.34	166	1334542	91.23146	ppb		97
61)	1-Chlorohexane	9.22	91	1594620	118.85852	ppb		93
62)	1,1,1,2-Tetrachloroethane	9.30	131	1323568	89.70172	ppb		96
63)	m&p-Xylene	9.46	106	4453802	224.74159	ppb		98
64)	o-Xylene	9.85	106	2168682	117.88215	ppb		99
65)	Styrene	9.86	104	3847792	103.89588	ppb		98
67)	1,3-Dichloropropane	8.38	76	1782252	95.35106	ppb		100
68)	Dibromochloromethane	8.60	129	1286102	91.69225	ppb		95
69)	Chlorobenzene	9.21	112	3410691	94.71871	ppb		98
70)	Ethylbenzene	9.34	91	5750739	111.73566	ppb		98
71)	Bromoform	10.02	173	934447	97.23880	ppb		100
73)	Isopropylbenzene	10.23	105	5460513	106.47995	ppb		98
74)	1,1,2,2-Tetrachloroethane	10.53	83	1323609	99.40685	ppb		96
75)	1,2,3-Trichloropropane	10.55	110	392614	99.13797	ppb		94
76)	t-1,4-Dichloro-2-Butene	10.59	53	345659	94.61546	ppb		95
77)	Bromobenzene	10.50	156	1600206	90.04505	ppb		98
78)	n-Propylbenzene	10.63	91	6730811	99.40618	ppb		100
79)	4-Ethyltoluene	10.75	105	5679362	109.62103	ppb		99
80)	2-Chlorotoluene	10.70	91	4039236	99.20003	ppb		99
81)	1,3,5-Trimethylbenzene	10.82	105	4976345	106.21675	ppb		100
82)	4-Chlorotoluene	10.81	126	1060864	99.35589	ppb		96
83)	Tert-Butylbenzene	11.13	119	4135295	110.19363	ppb		98
84)	1,2,4-Trimethylbenzene	11.18	105	5078507	111.60566	ppb		97
85)	Sec-Butylbenzene	11.35	105	6141675	112.94220	ppb		100
86)	p-Isopropyltoluene	11.51	119	5287563	114.37350	ppb		99
87)	Benzyl Chloride	11.67	91	1843443	100.22155	ppb		99
88)	1,3-DCB	11.44	146	3049242	94.02138	ppb		99
89)	1,4-DCB	11.53	146	3091058	86.68144	ppb		98
90)	n-Butylbenzene	11.91	91	5152052	113.27656	ppb		96
91)	1,2-DCB	11.89	146	2925082	93.23002	ppb		100
92)	Hexachloroethane	12.14	117	1078290	88.60232	ppb		98
93)	1,2-Dibromo-3-chloropropan	12.66	157	275062	93.45627	ppb		95
94)	1,2,4-Trichlorobenzene	13.49	180	2231434	118.89406	ppb		98
95)	Hexachlorobutadiene	13.68	225	1190636	99.87726	ppb		95
96)	Naphthalene	13.72	128	2842624	137.48932	ppb		97
97)	1,2,3-Trichlorobenzene	13.96	180	1381888	116.28798	ppb		98

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

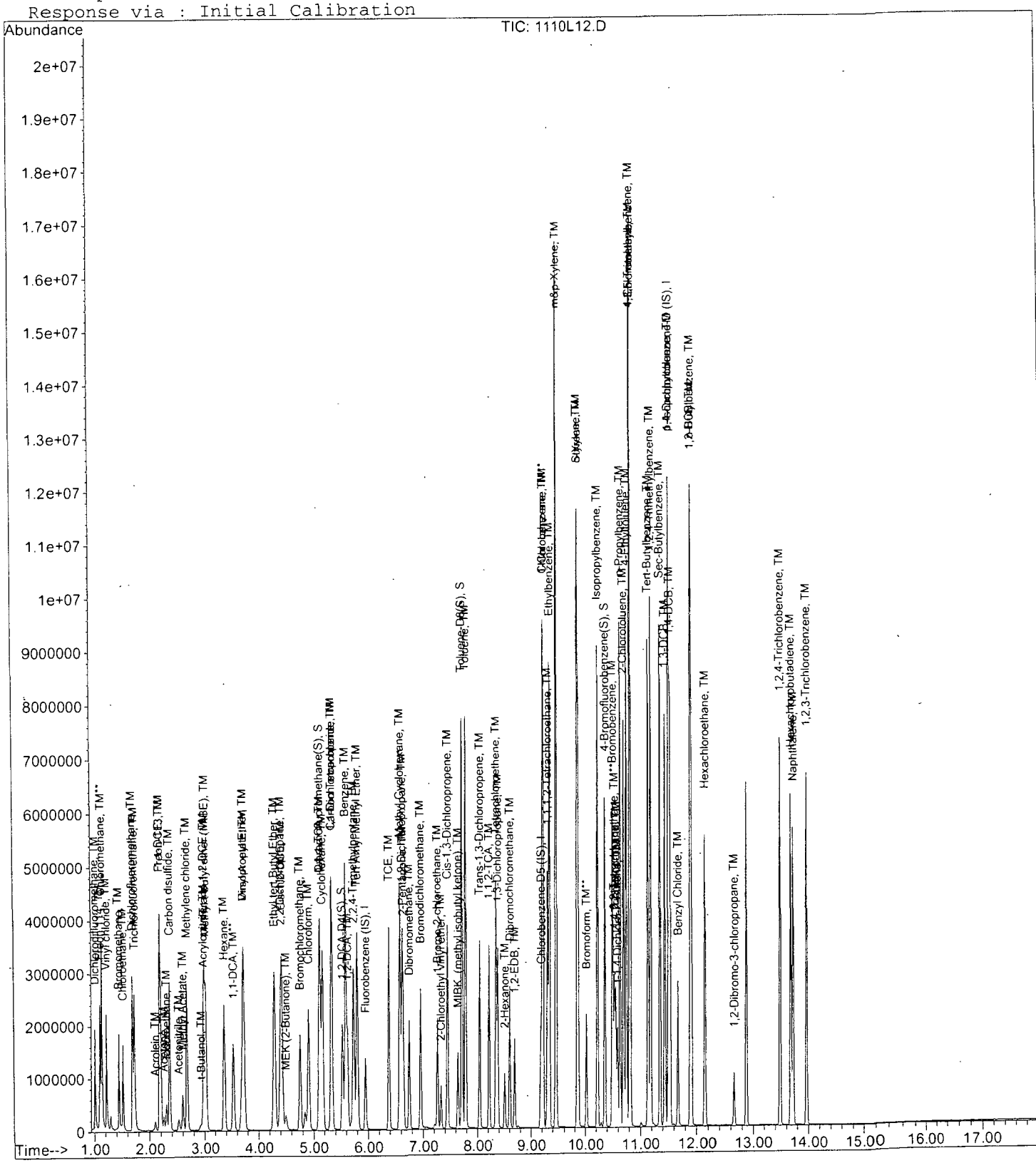
Quantitation Report

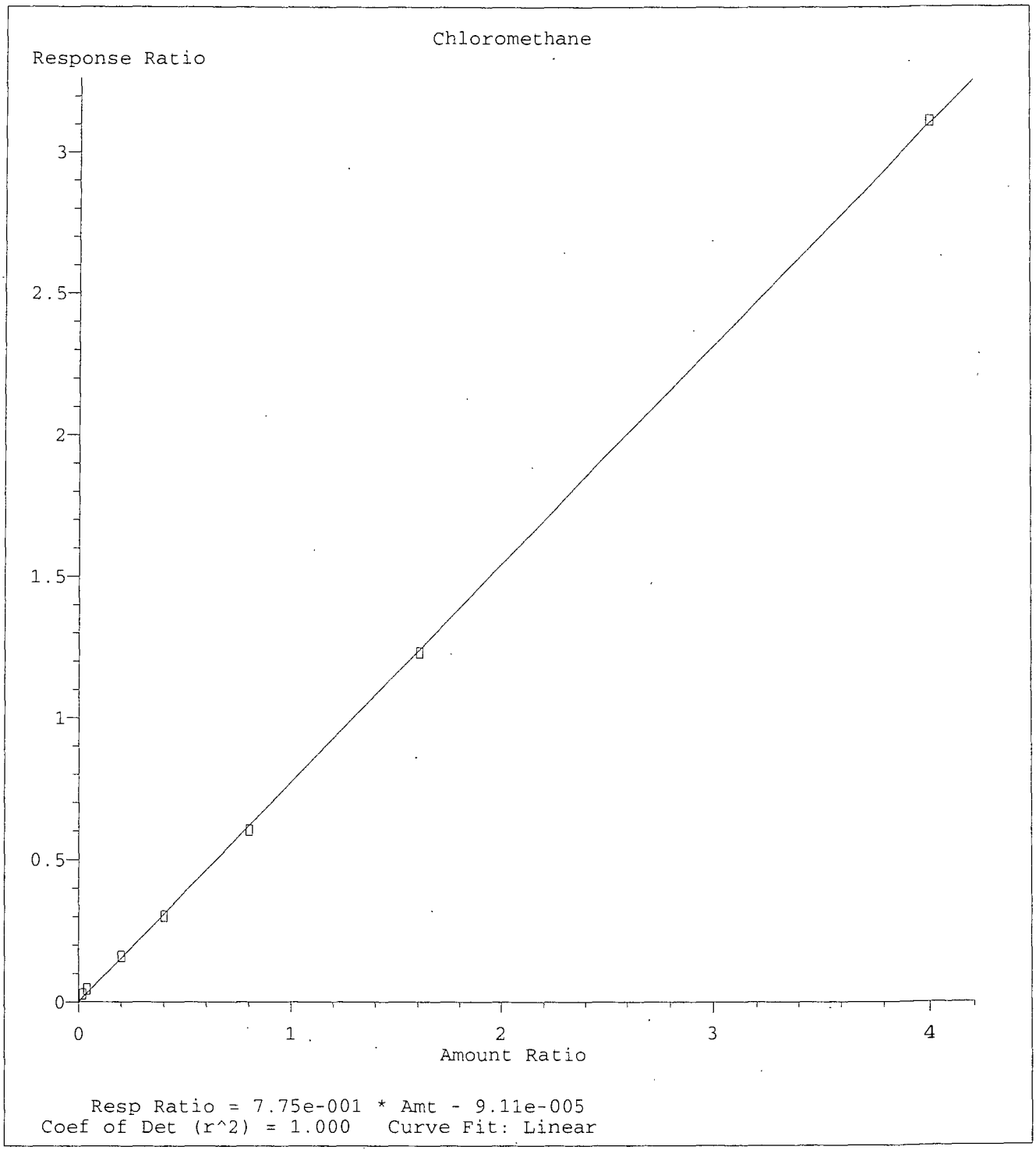
Data File : M:\LOKI\DATA\141110\1110L12.D
Acq On : 10 Nov 14 21:22
Sample : 100ug/L Vol Std 11-10-14
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 11
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

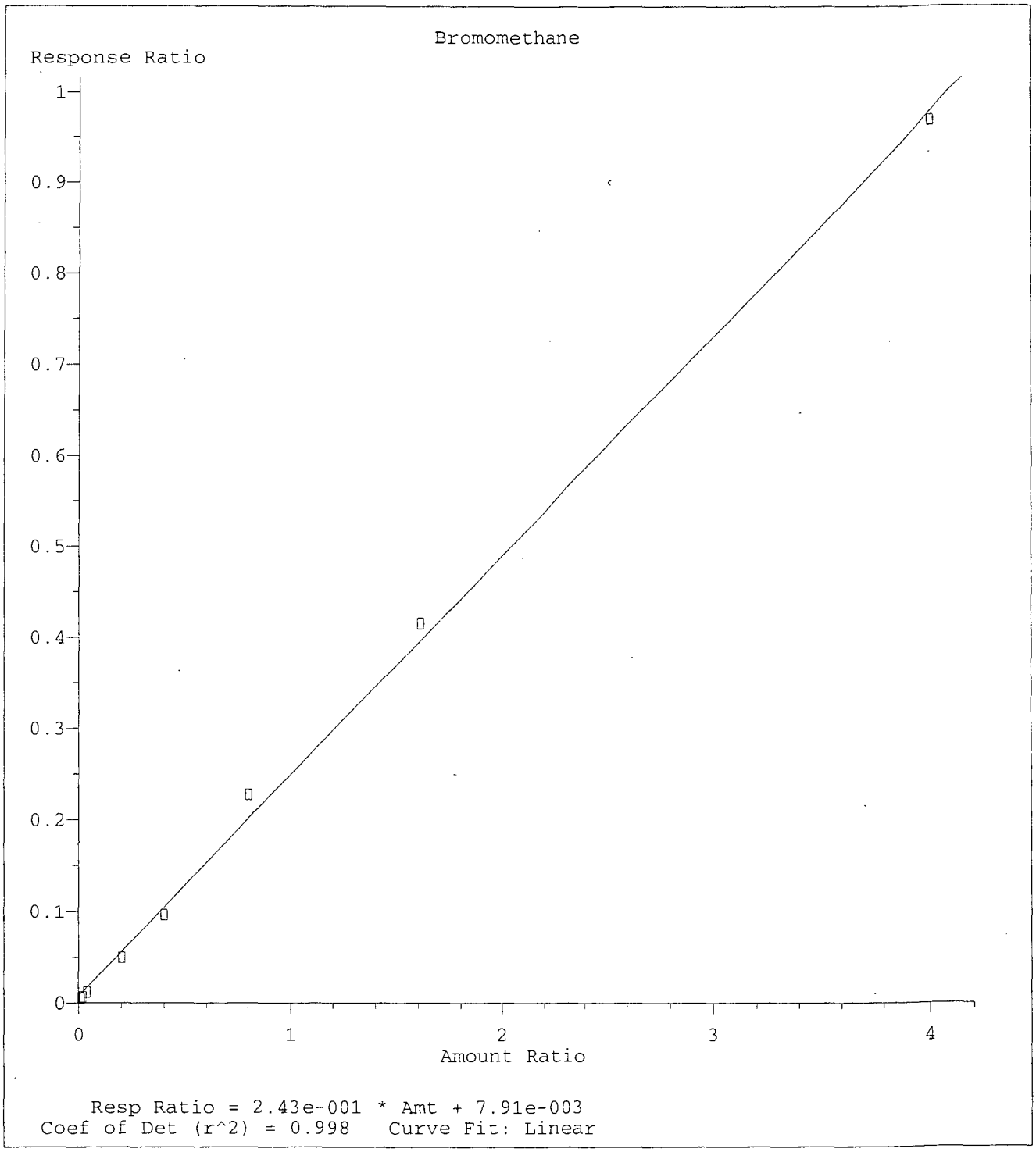
Quant Time: Nov 13 14:42 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration

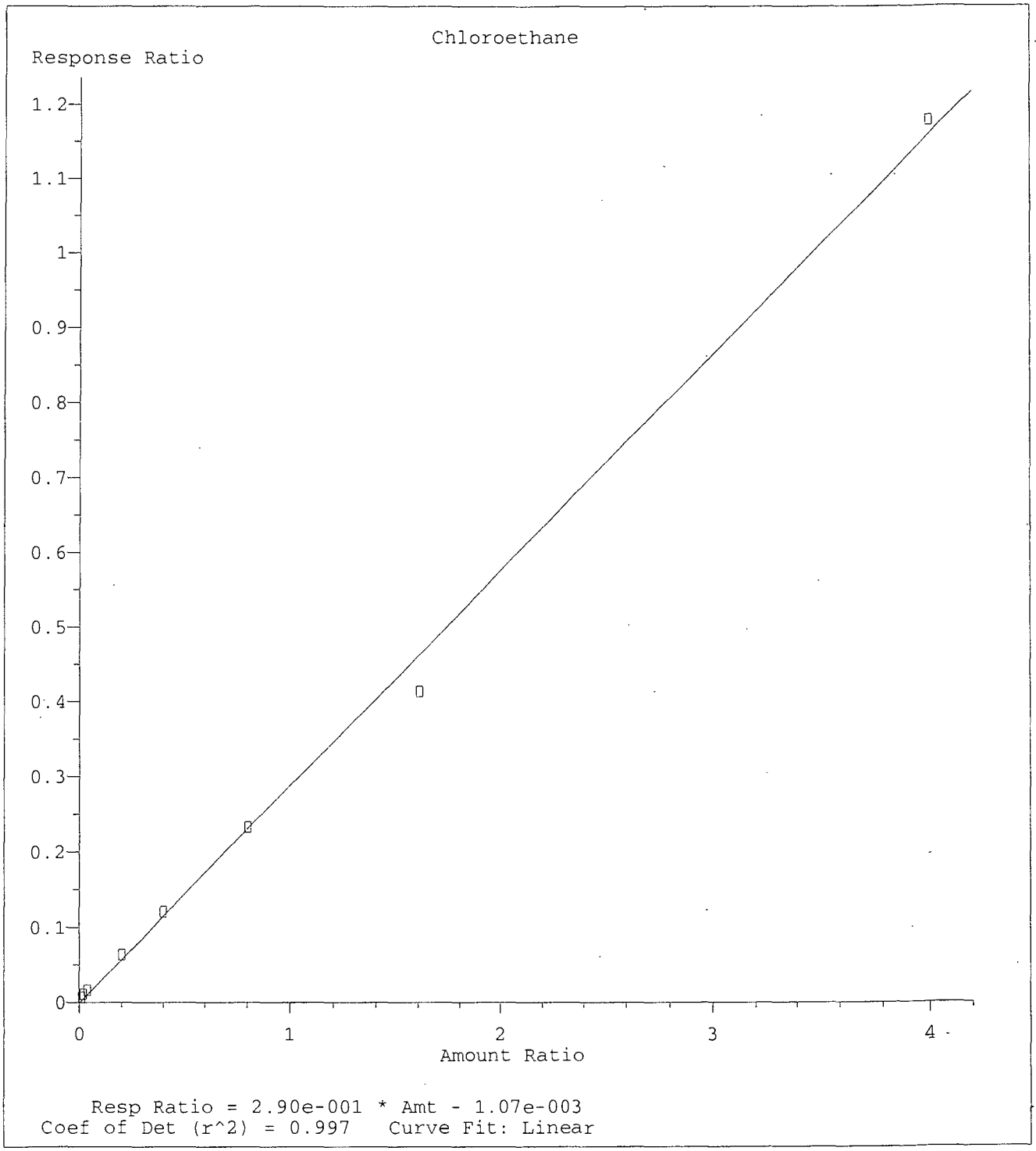




Method Name: M:\LOKI\DATA\141110\LALLW.M
Calibration Table Last Updated: Thu Nov 13 13:35:08 2014



Method Name: M:\LOKI\DATA\141110\LALLW.M
Calibration Table Last Updated: Thu Nov 13 13:35:08 2014



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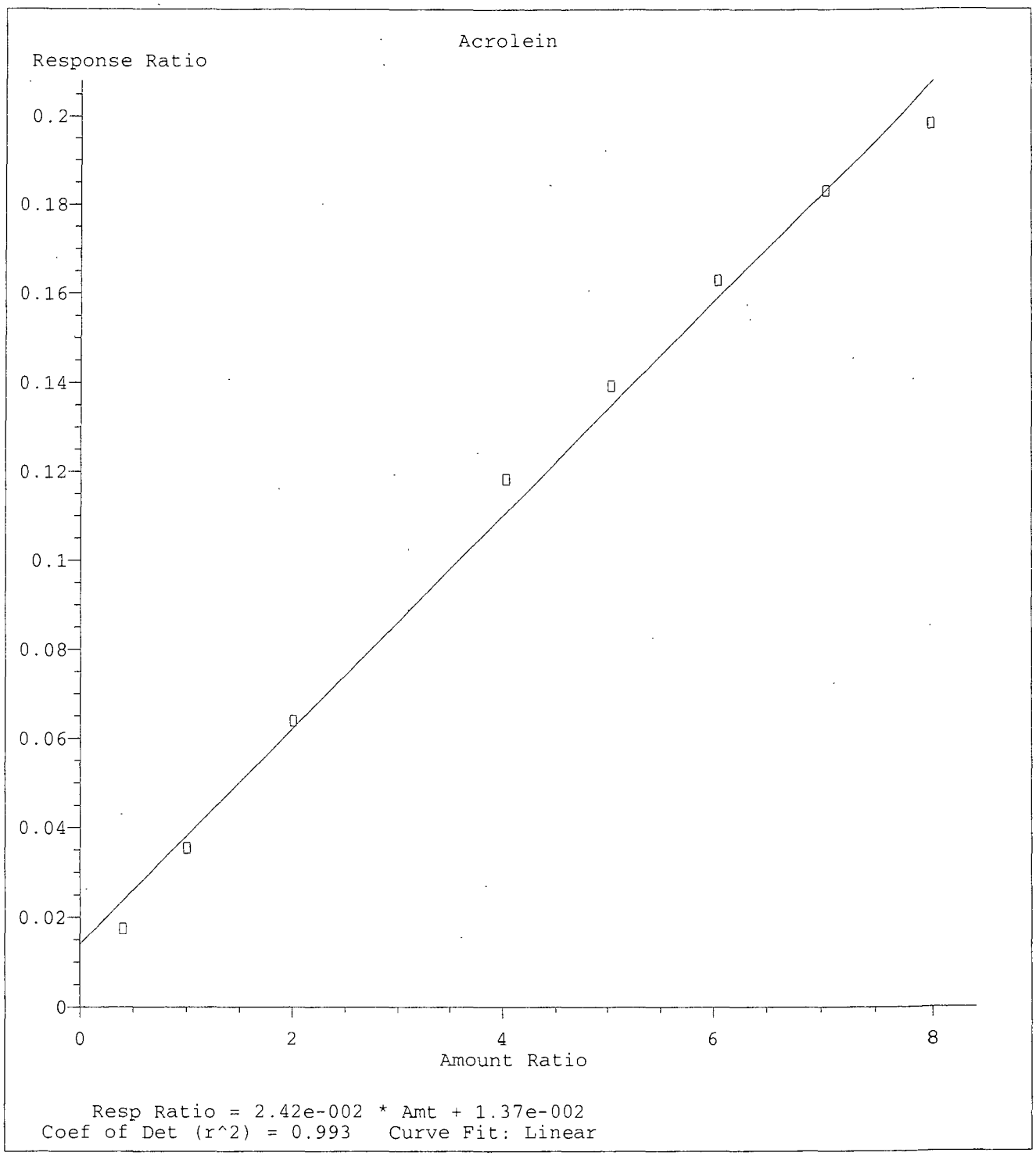
Calibration Table Last Updated: Thu Nov 13 13:35:08 2014



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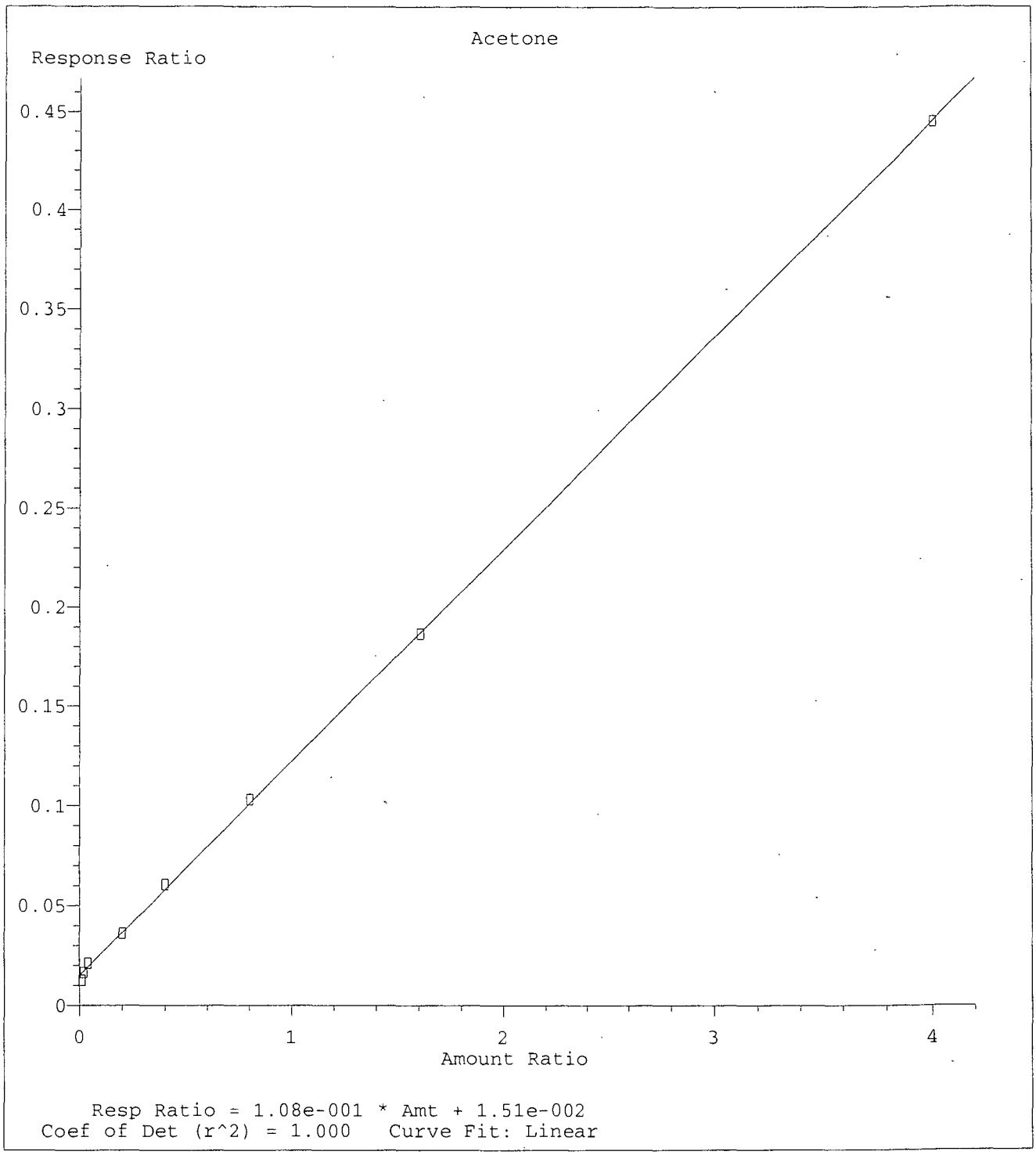
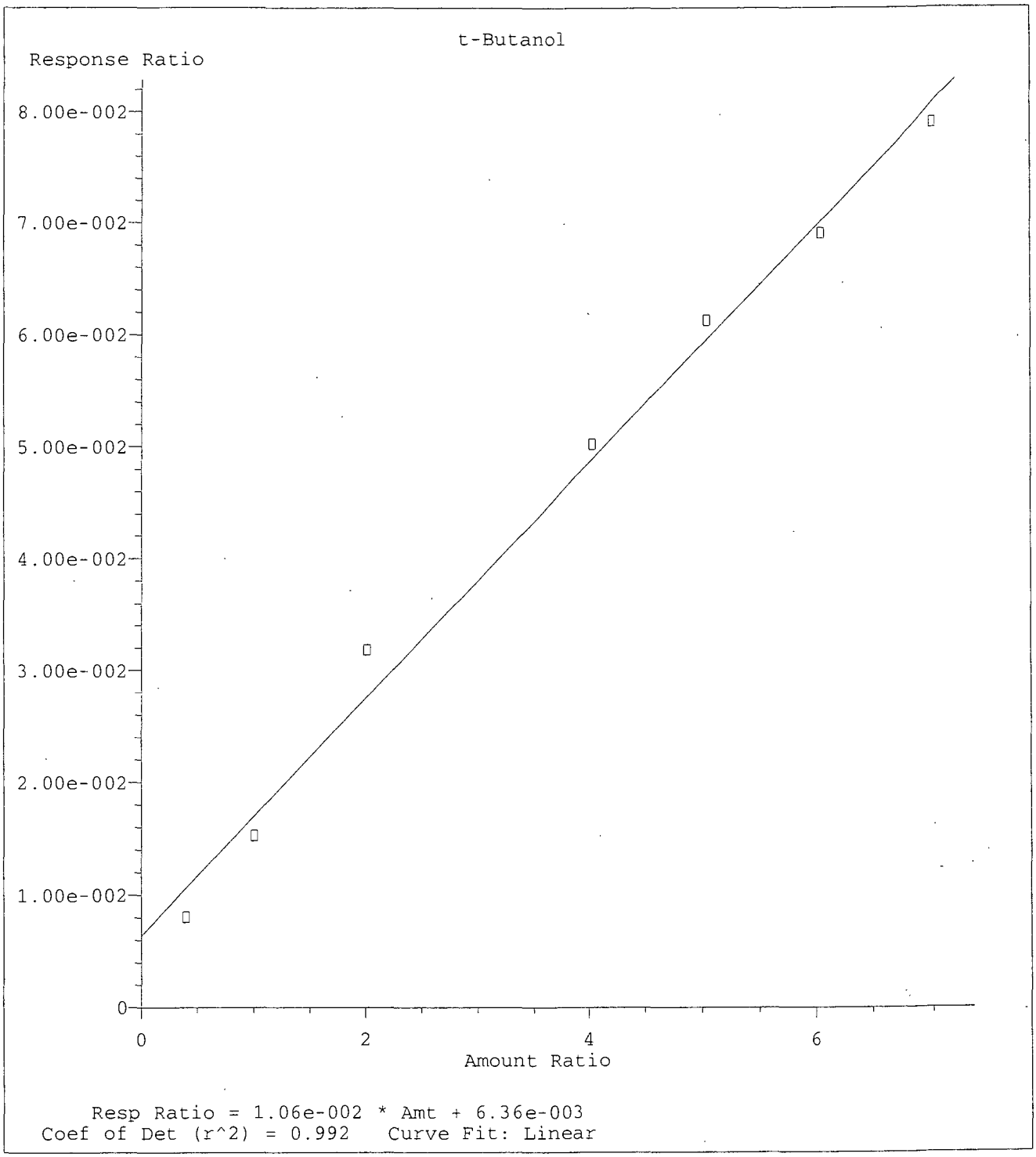
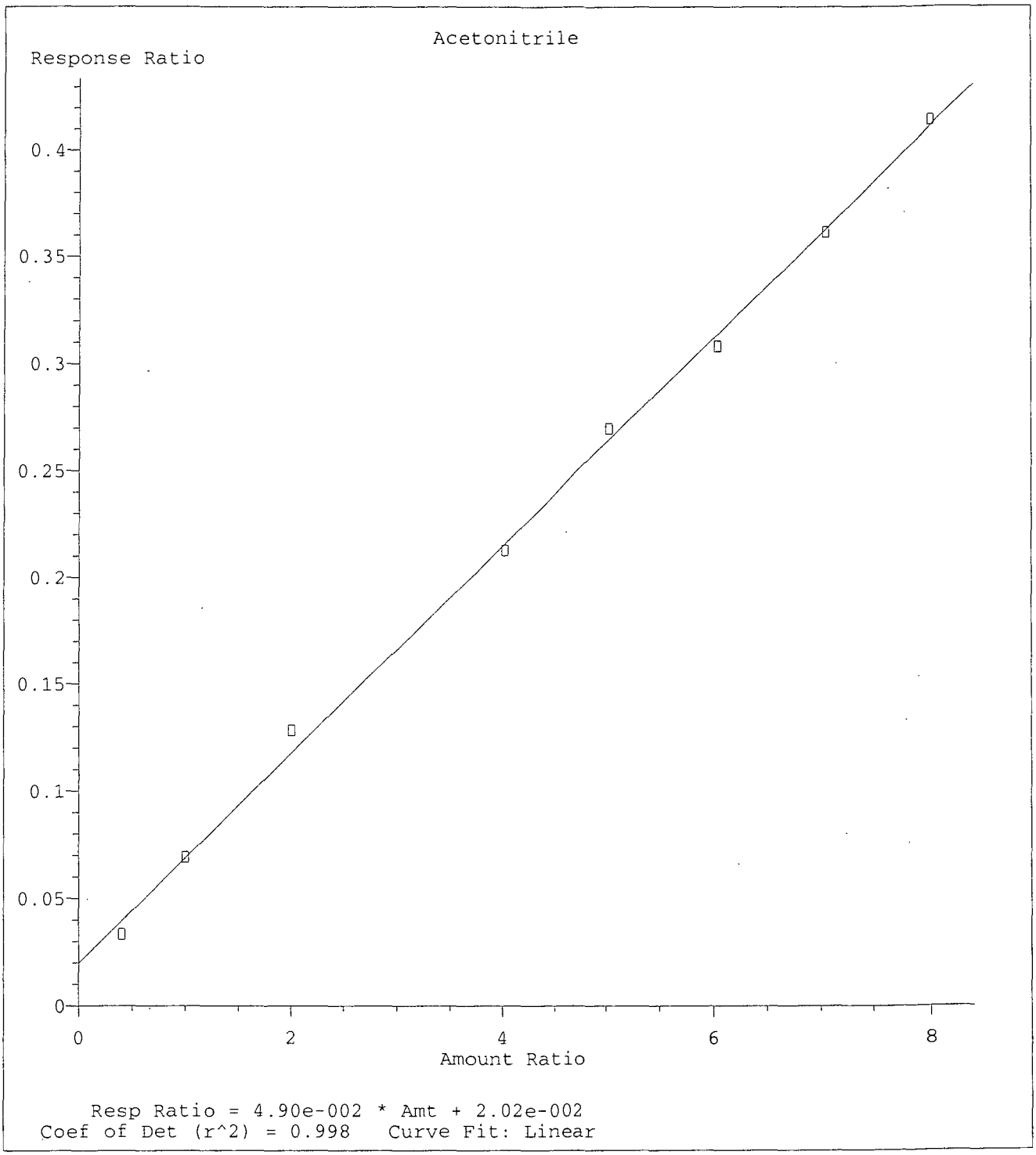
Calibration Table Last Updated: Thu Nov 13 13:35:08 2014



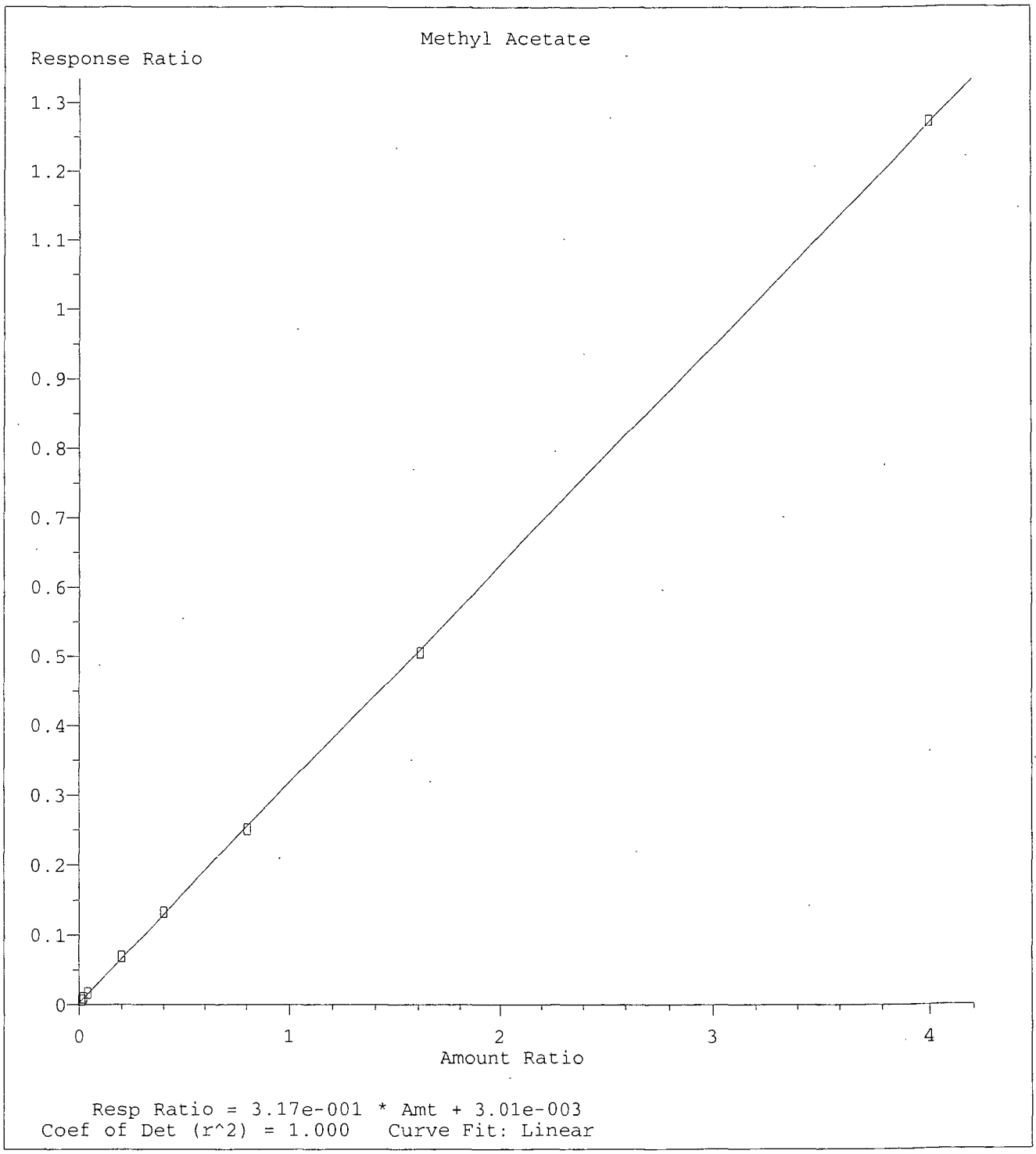
Method Name: M:\LOKI\DATA\141110\LALLW.M
Calibration Table Last Updated: Thu Nov 13 13:35:08 2014



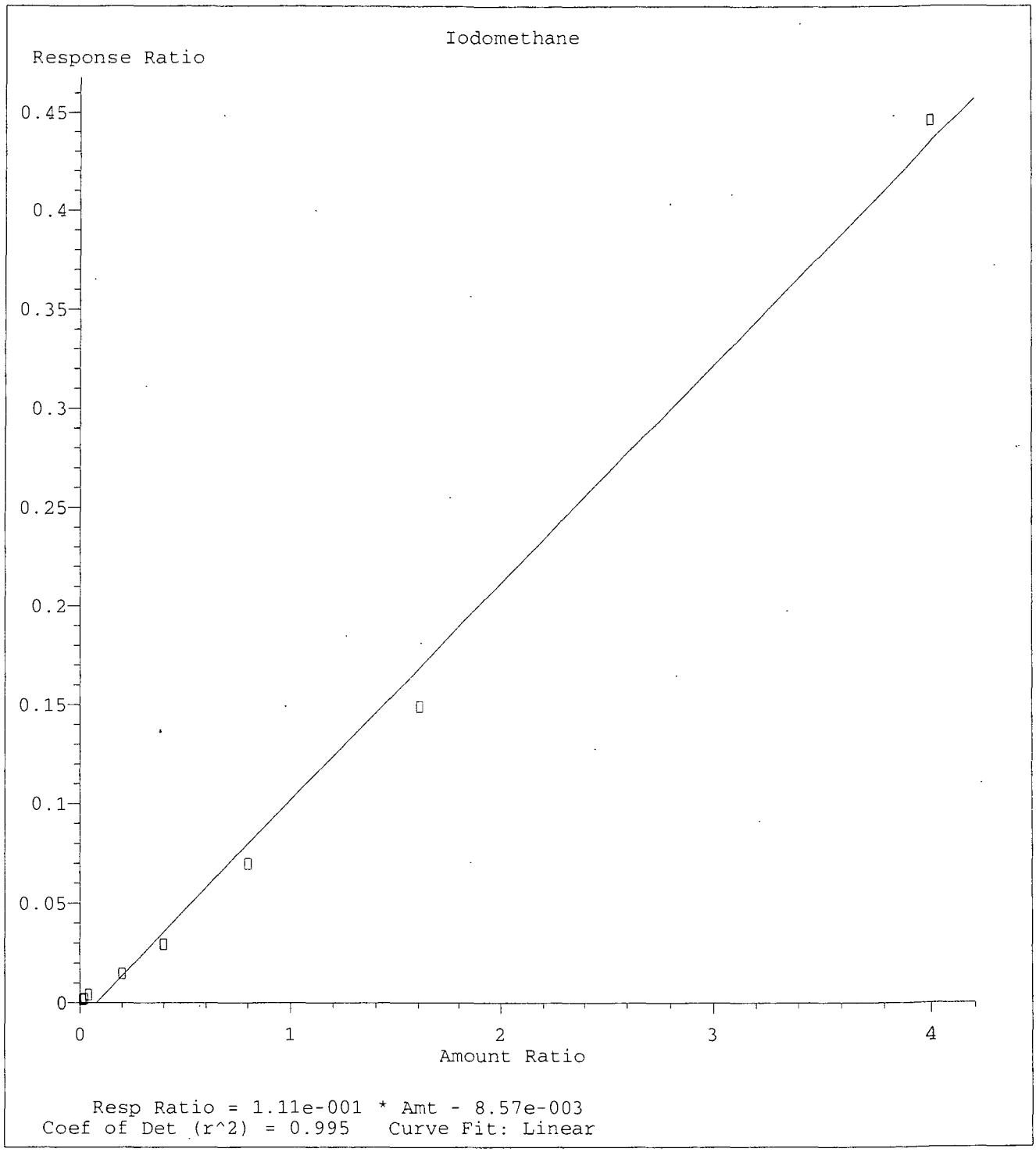
Method Name: M:\LOKI\DATA\141110\LALLW.M
Calibration Table Last Updated: Thu Nov 13 13:35:08 2014



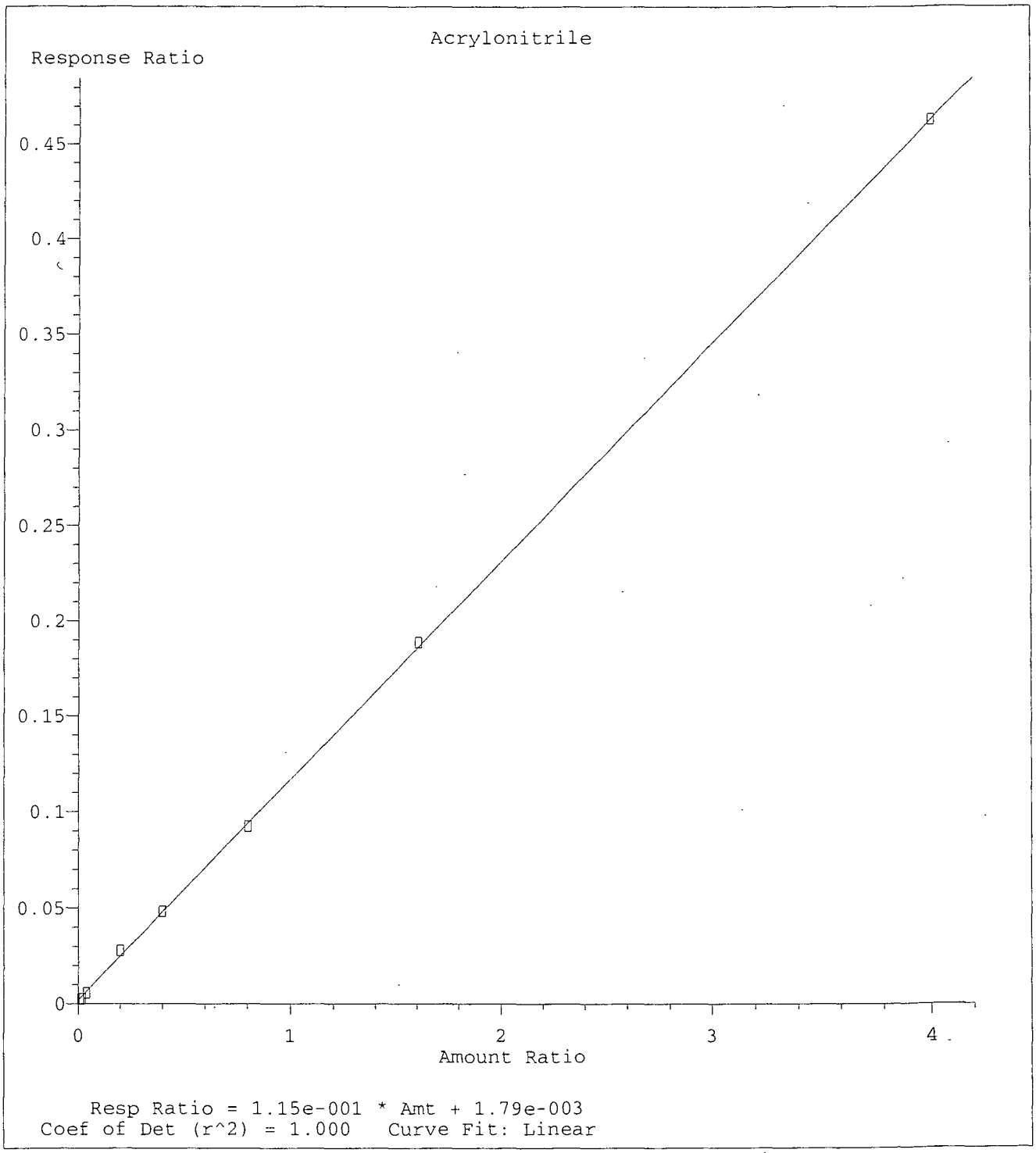
Method Name: M:\LOKI\DATA\141110\LALLW.M
Calibration Table Last Updated: Thu Nov 13 13:35:08 2014



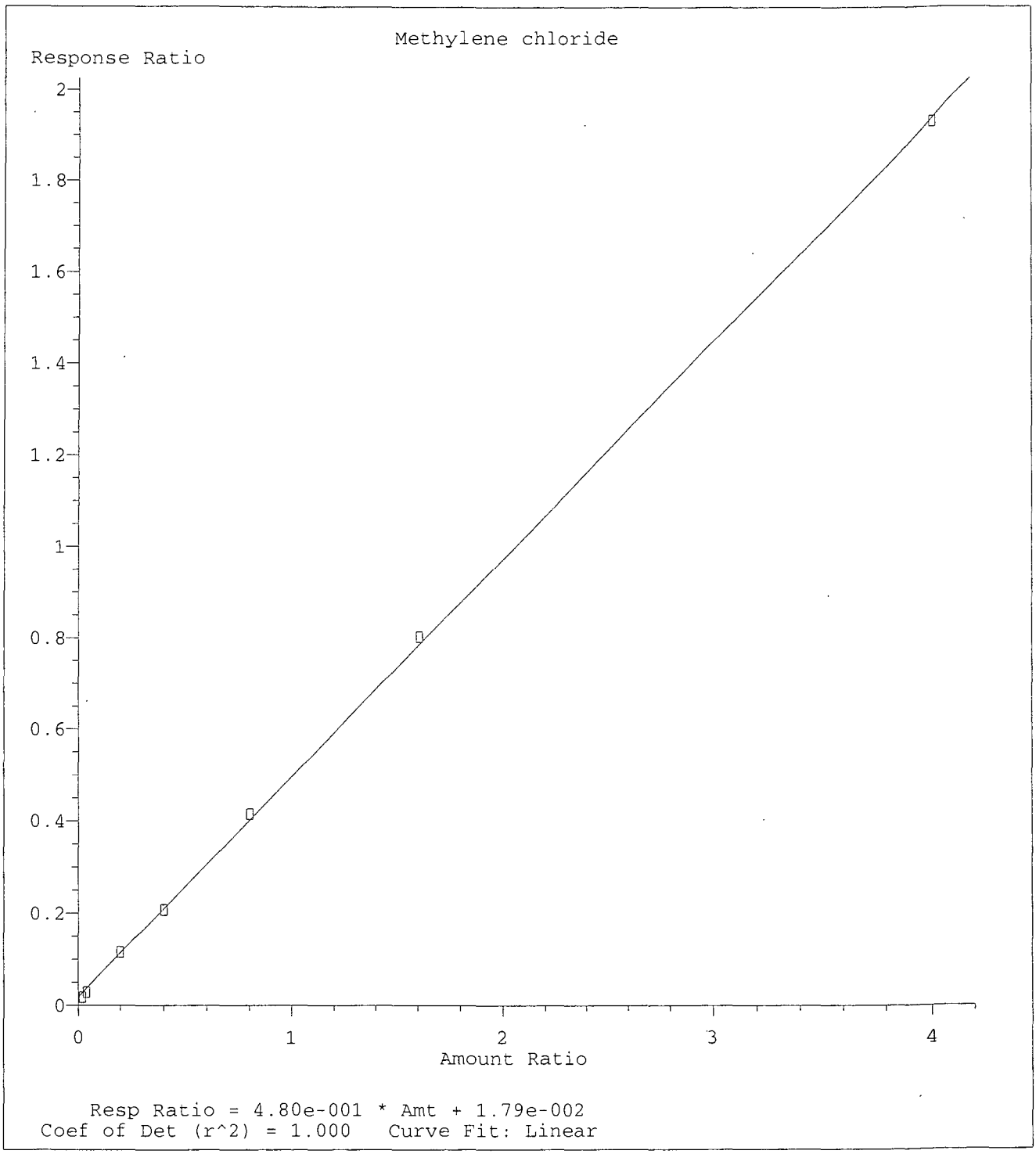
Method Name: M:\LOKI\DATA\141110\LALLW.M
Calibration Table Last Updated: Thu Nov 13 13:35:08 2014



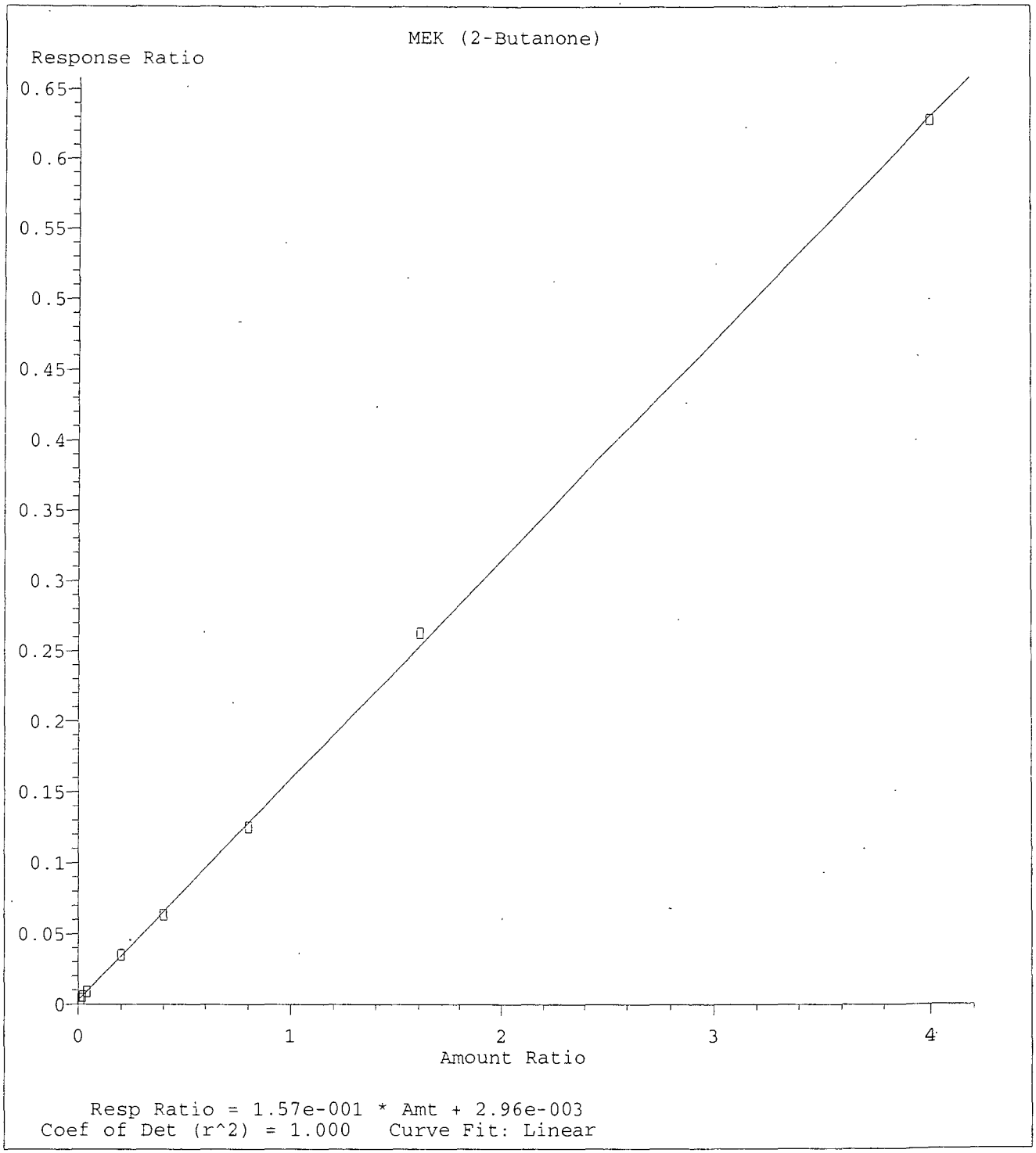
Method Name: M:\LOKI\DATA\141110\LALLW.M
Calibration Table Last Updated: Thu Nov 13 13:35:08 2014



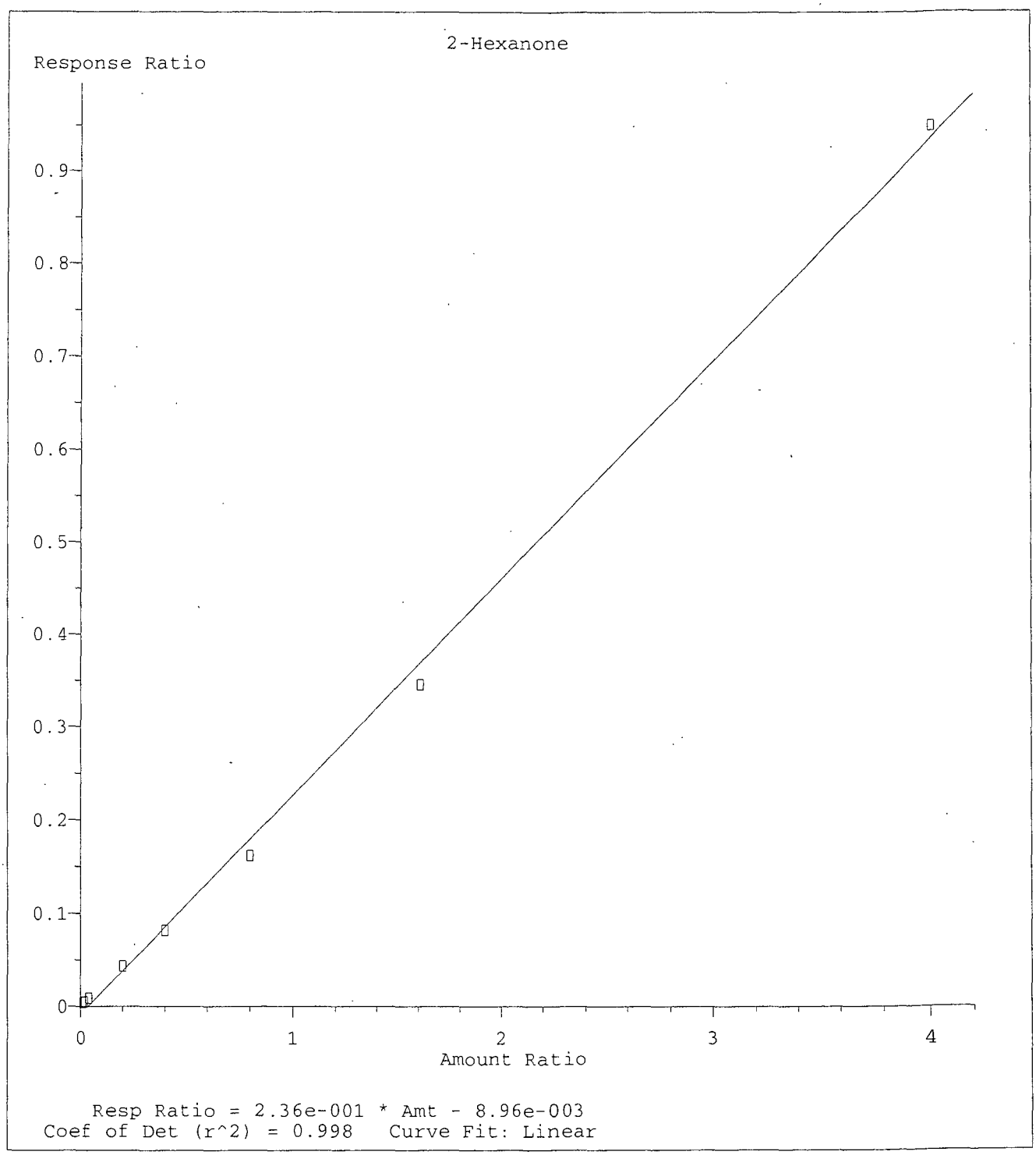
Method Name: M:\LOKI\DATA\141110\LALLW.M
Calibration Table Last Updated: Thu Nov 13 13:35:08 2014



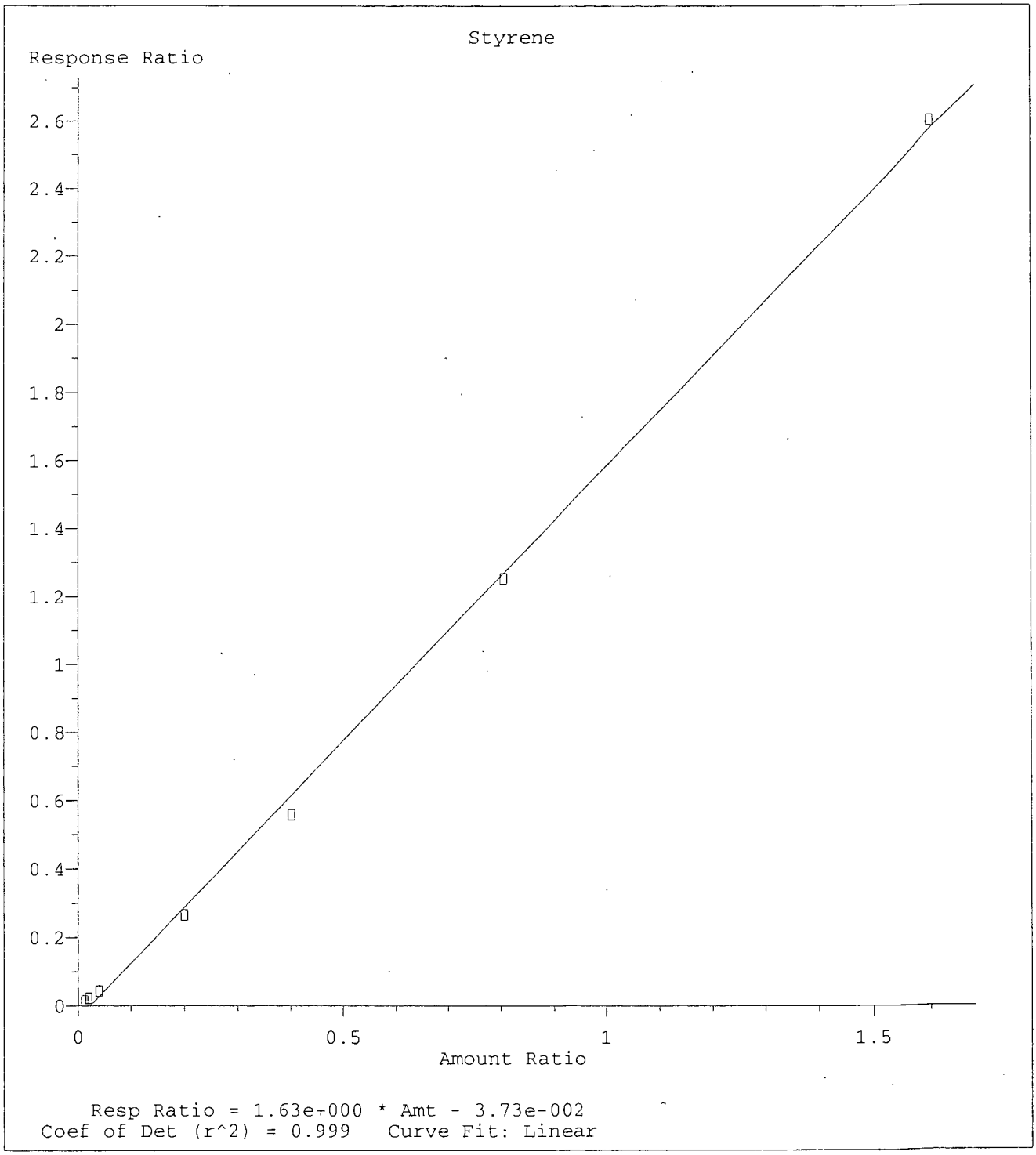
Method Name: M:\LOKI\DATA\141110\LALLW.M
Calibration Table Last Updated: Thu Nov 13 13:35:08 2014



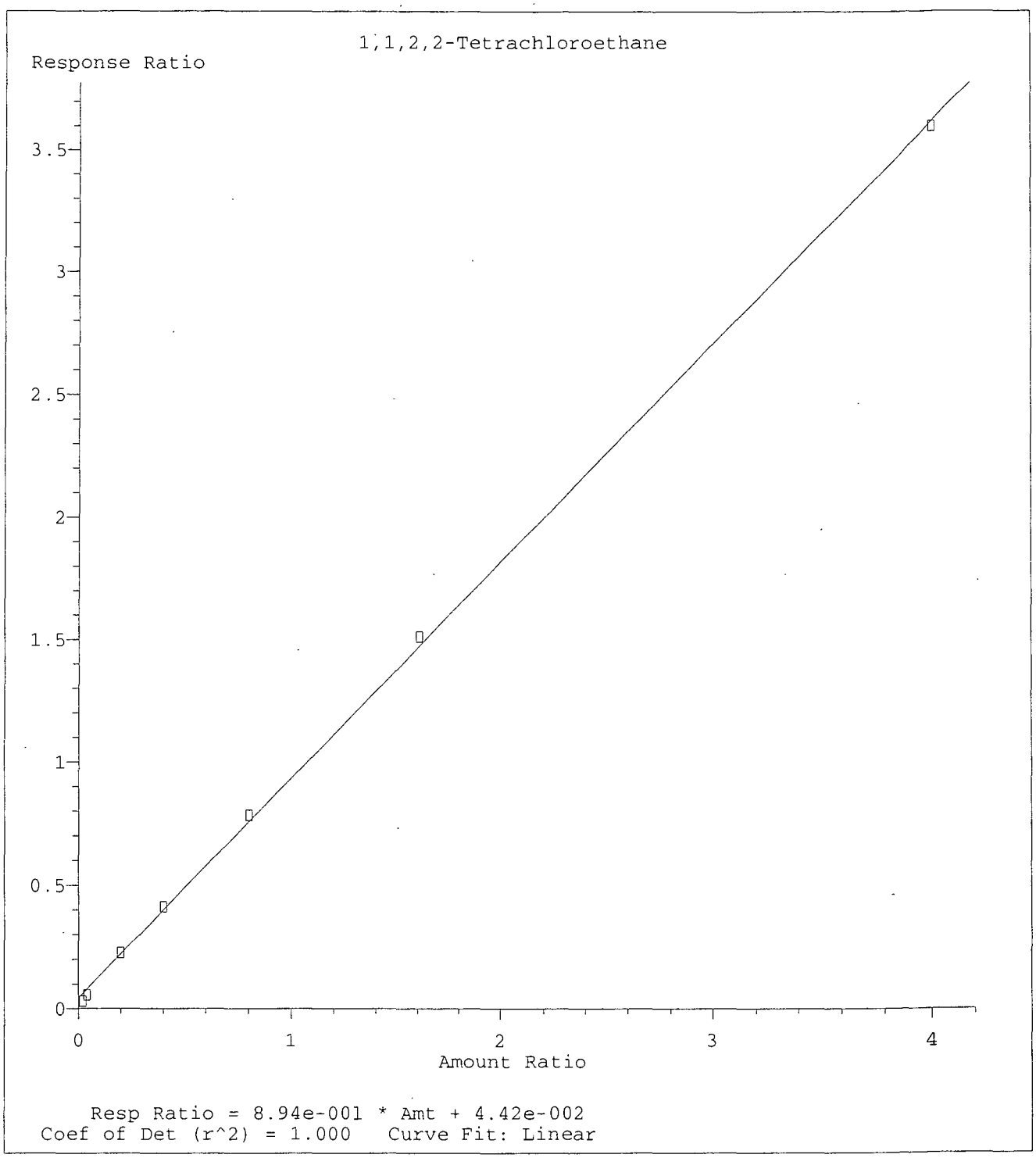
Method Name: M:\LOKI\DATA\141110\LALLW.M
Calibration Table Last Updated: Thu Nov 13 13:35:08 2014



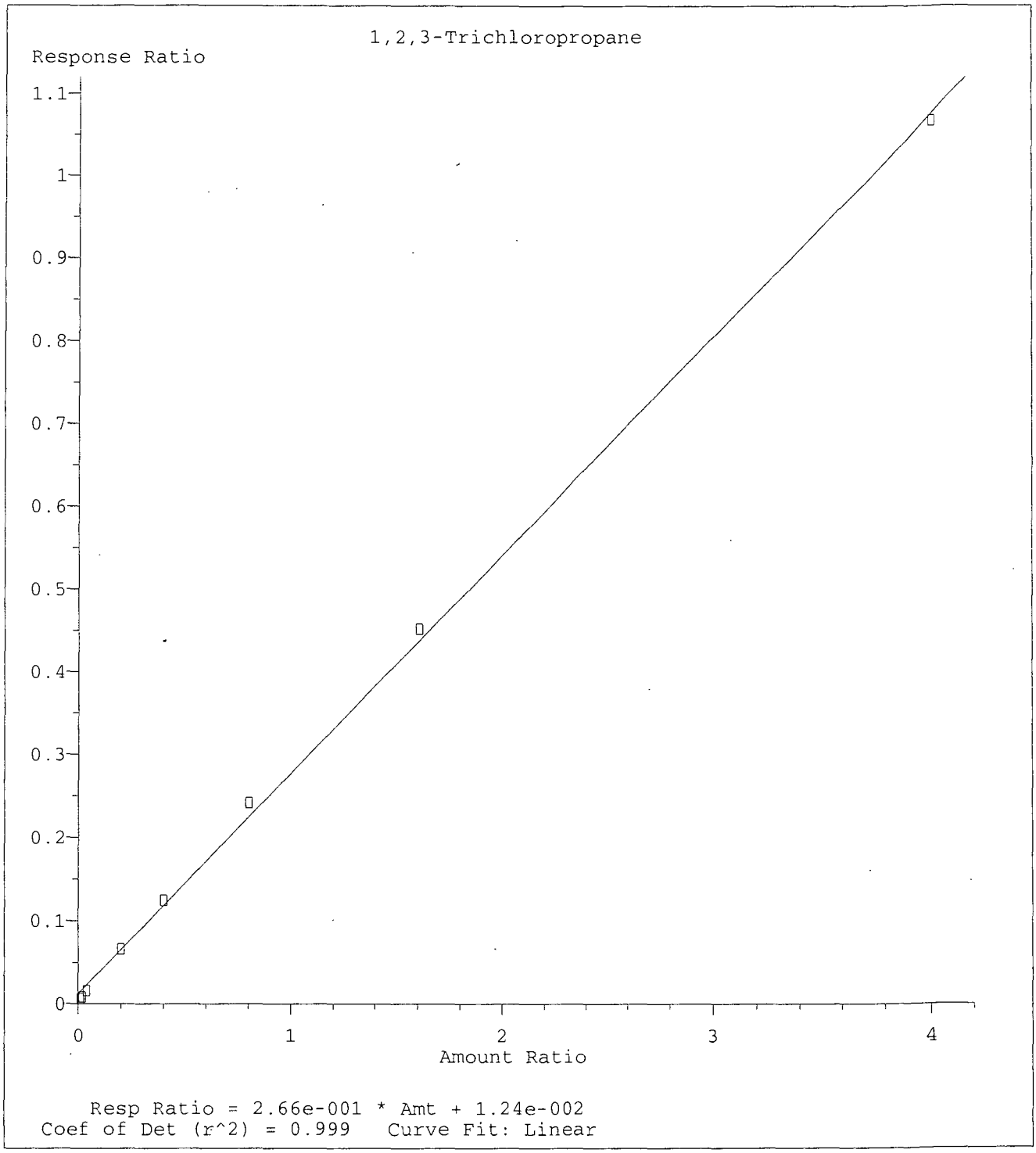
Method Name: M:\LOKI\DATA\141110\LALLW.M
Calibration Table Last Updated: Mon Nov 17 11:06:38 2014



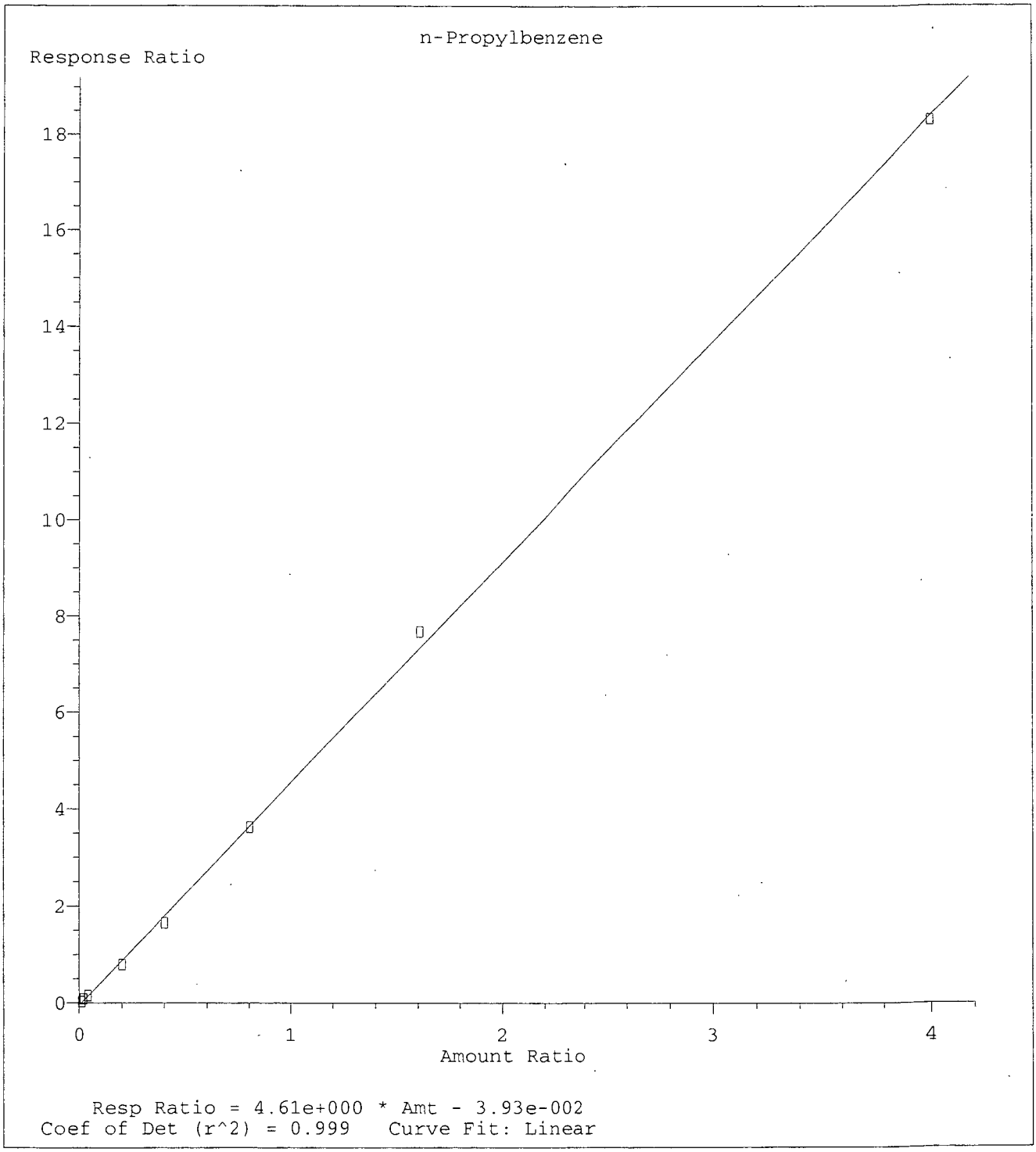
Method Name: M:\LOKI\DATA\141110\LALLW.M
Calibration Table Last Updated: Mon Nov 17 11:06:38 2014



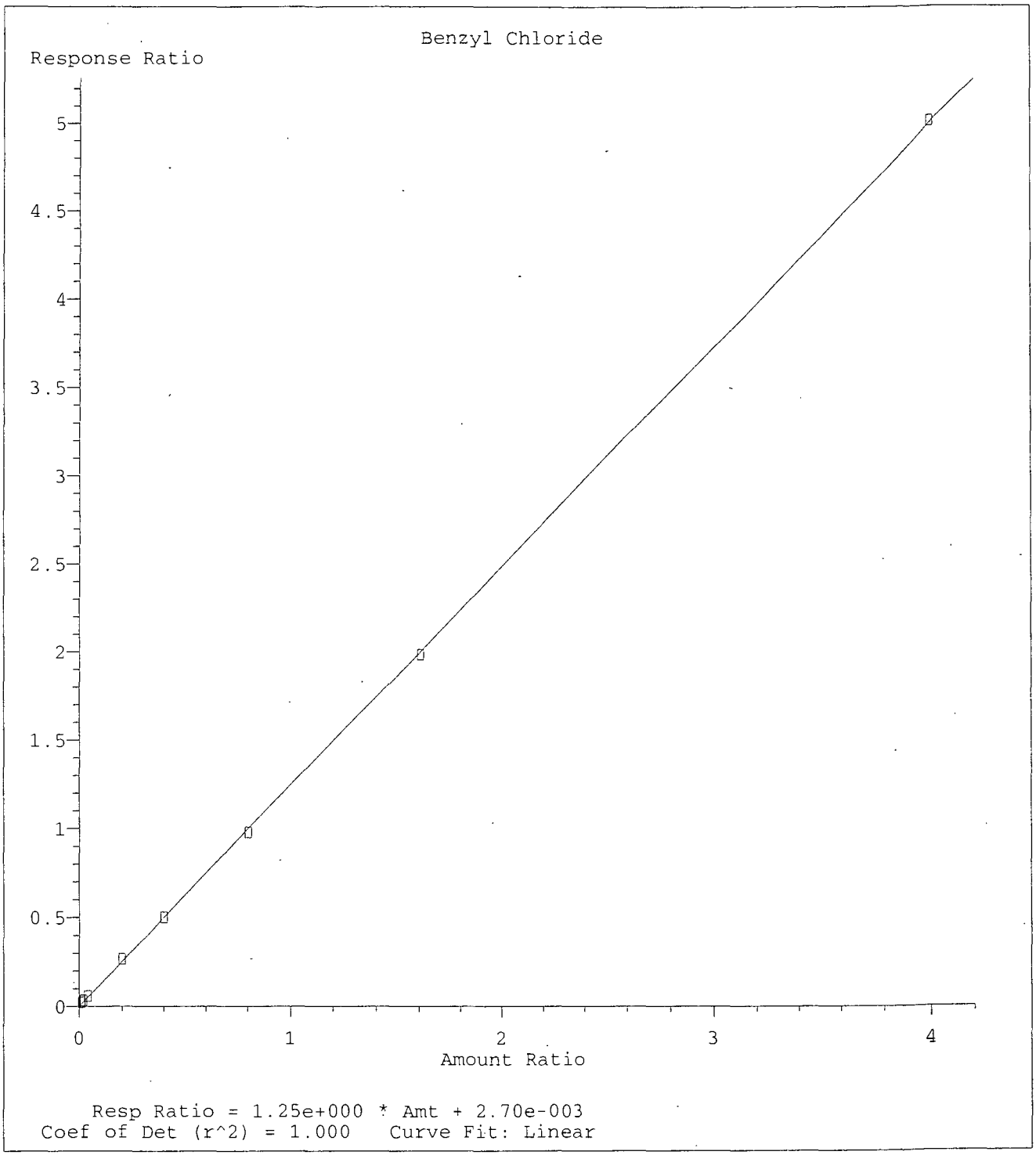
Method Name: M:\LOKI\DATA\141110\LALLW.M
Calibration Table Last Updated: Mon Nov 17 11:06:38 2014



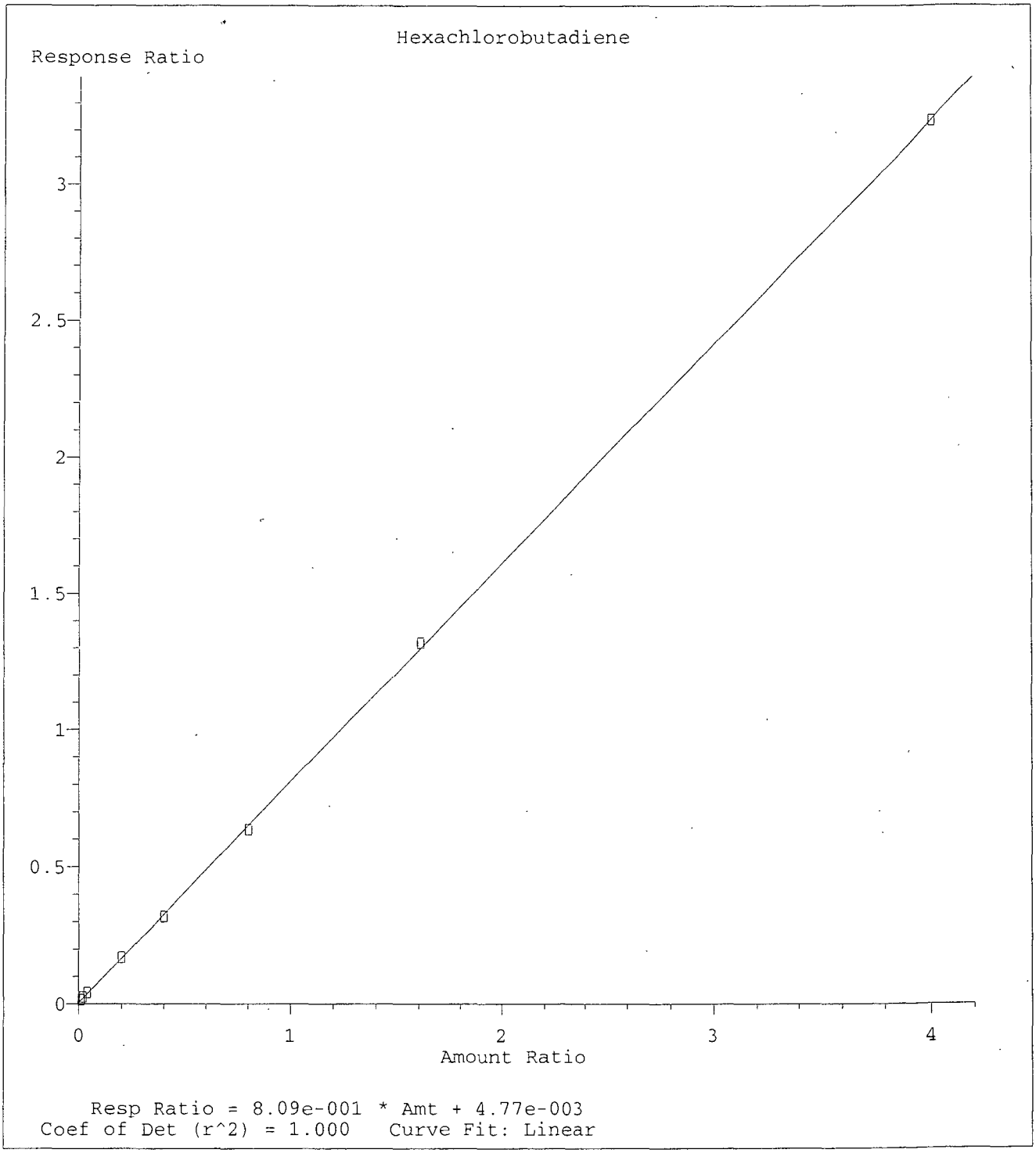
Method Name: M:\LOKI\DATA\141110\LALLW.M
Calibration Table Last Updated: Mon Nov 17 11:06:38 2014



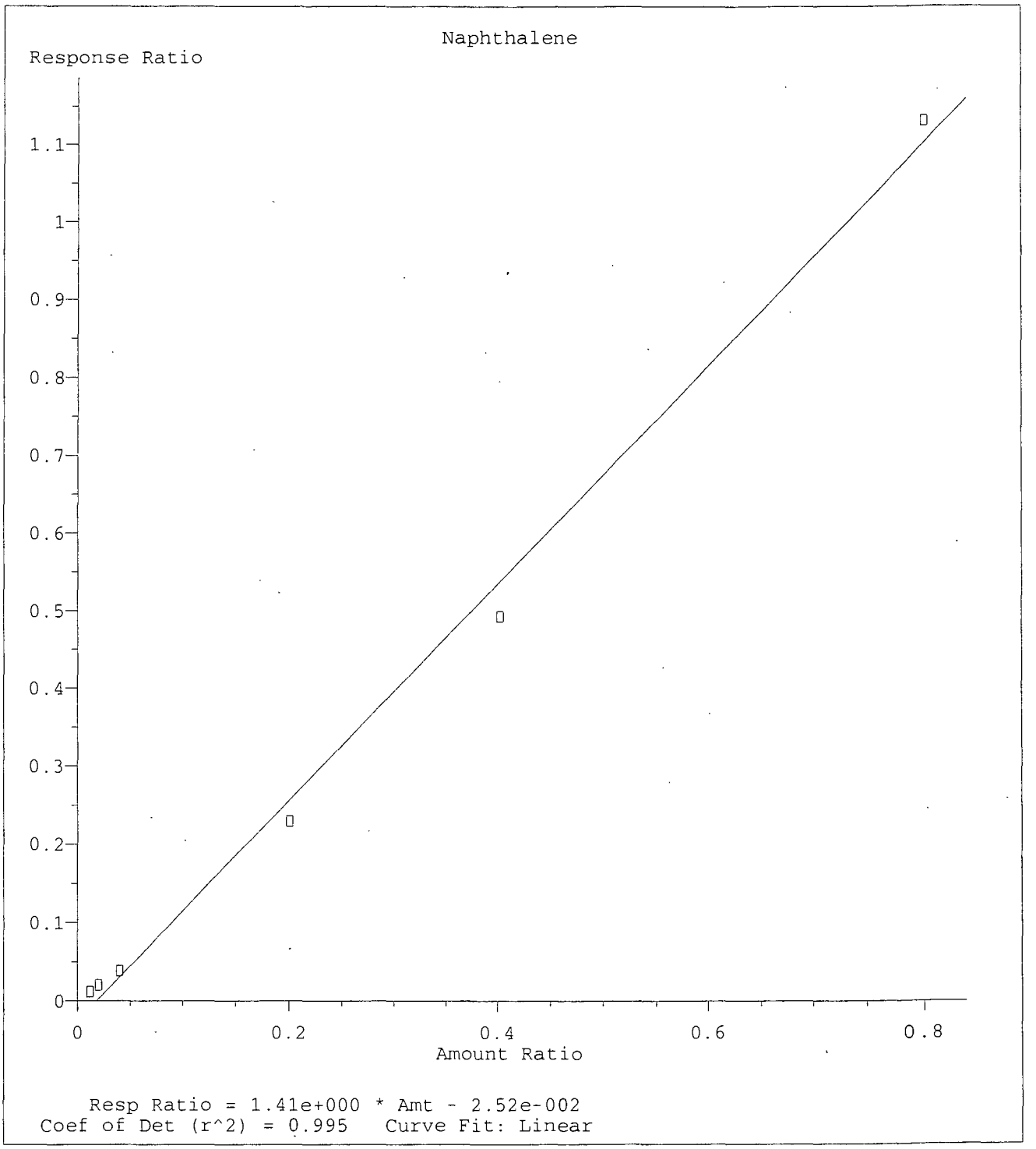
Method Name: M:\LOKI\DATA\141110\LALLW.M
Calibration Table Last Updated: Mon Nov 17 11:06:38 2014



Method Name: M:\LOKI\DATA\141110\LALLW.M
Calibration Table Last Updated: Mon Nov 17 11:06:38 2014



Method Name: M:\LOKI\DATA\141110\LALLW.M
Calibration Table Last Updated: Mon Nov 17 11:06:38 2014



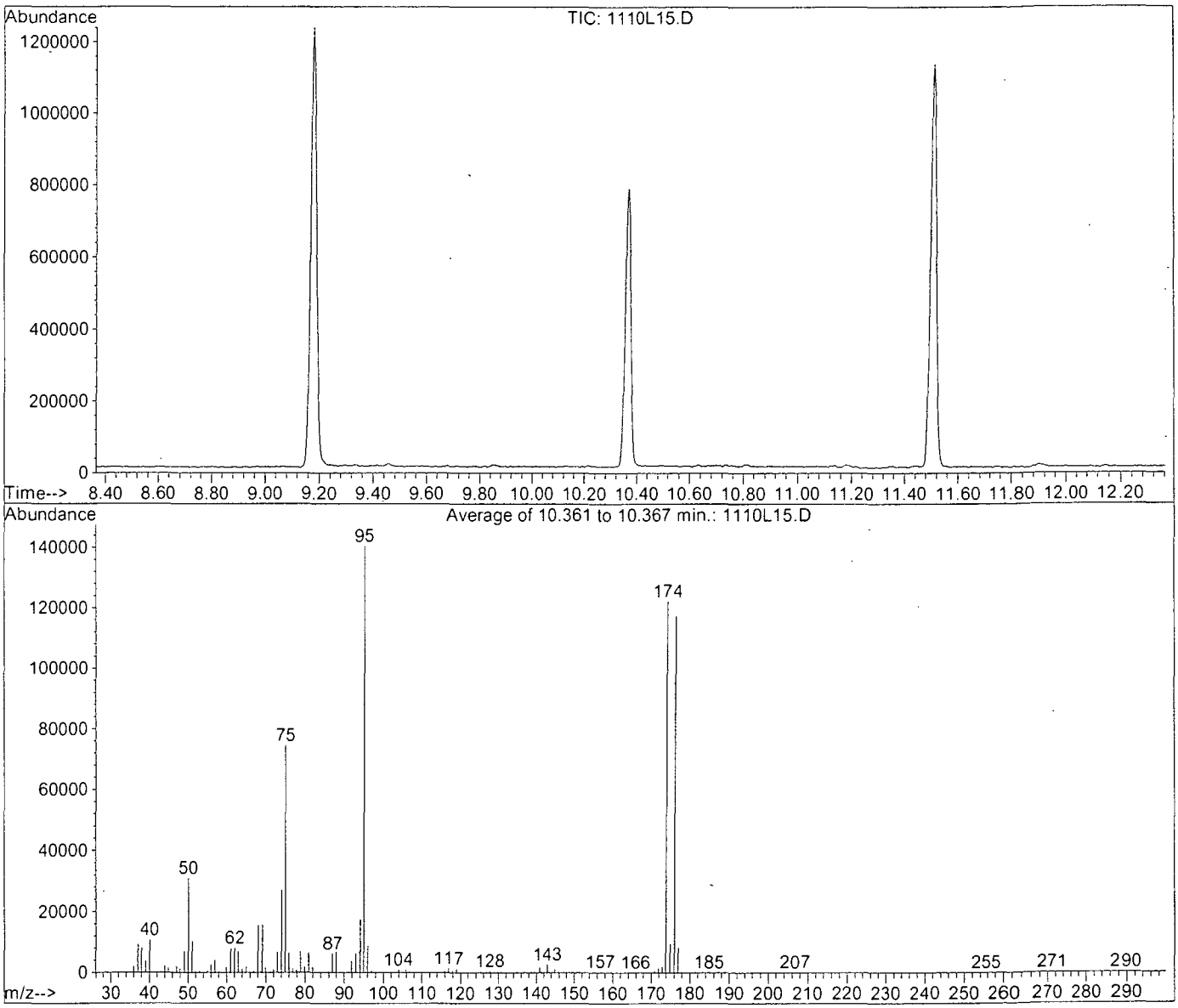
Method Name: M:\LOKI\DATA\141110\LALLW.M
Calibration Table Last Updated: Mon Nov 17 11:06:38 2014

BFB

Data File : M:\LOKI\DATA\141110\1110L15.D
Acq On : 10 Nov 14 22:46
Sample : 25ug/mL BFB Std 09-30-14
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 14
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B



Spectrum Information: Average of 10.361 to 10.367 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.0	30947	PASS
75	95	30	60	53.0	74491	PASS
95	95	100	100	100.0	140485	PASS
96	95	5	9	6.2	8652	PASS
173	174	0.00	2	1.6	1903	PASS
174	95	50	100	87.0	122203	PASS
175	174	5	9	7.6	9291	PASS
176	174	95	101	96.0	117293	PASS
177	176	5	9	6.9	8087	PASS

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

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

SDG No:
Date Analyzed: 11/10/14
Instrument: Loki
Initial Cal. Date: 11/10/14
Data File: 1110L16.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.4271	0.4574	7.1	TM		
3	TM	Freon 114	0.4005	0.4583	14	TM		
4	TM**L	Chloromethane	0.8958	0.8972	0.15	TM**L	16	
5	TM*	Vinyl chloride	0.5913	0.6346	7.3	TM*		
6	TML	Bromomethane	0.2945	0.2768	6.0	TML	5.8	
7	TML	Chloroethane	0.3766	0.3380	10	TML	17	
8	TM	Dichlorofluoromethane	1.042	1.140	9.4	TM		
9	TM	Trichlorofluoromethane	0.7358	0.7440	1.1	TM		
10	TML	Acrolein	0.0308	0.0290	6.0	TML	8.3	
11	TML	Acetone	0.3852	0.1652	57	TML	19	
12	TM	Freon-113	0.4314	0.4429	2.7	TM		
13	TM*	1,1-DCE	0.7168	0.7729	7.8	TM*		
14	TML	t-Butanol	0.0141	0.0117	17	TML	2.1	
15	TML	Acetonitrile	0.0598	0.0637	6.5	TML	22	nt
16	TML	Methyl Acetate	0.3848	0.3991	3.7	TML	24	nt
17	TML	Iodomethane	0.0966	0.0910	5.7	TML	1.4	
18	TML	Acrylonitrile	0.1363	0.1404	3.1	TML	18	
19	TML	Methylene chloride	0.5985	0.5842	2.4	TML	12	
20	TM	Carbon disulfide	1.498	1.610	7.5	TM		
21	TM	Methyl t-butyl ether (MtBE)	1.150	1.070	6.9	TM		
22	TM	Trans-1,2-DCE	0.6600	0.6865	4.0	TM		
23	TM	Diisopropyl Ether	1.420	1.698	20	TM		
24	TM**	1,1-DCA	0.9086	1.020	12	TM**		
25	TM	Hexane	0.4200	0.4415	5.1	TM		
26	TM	Vinyl Acetate	0.3139	0.3639	16	TM		
27	TM	Ethyl tert Butyl Ether	1.194	1.295	8.4	TM		
28	TML	MEK (2-Butanone)	0.2043	0.2087	2.1	TML	28	*
29	TM	Cis-1,2-DCE	0.5353	0.5624	5.1	TM		
30	TM	2,2-Dichloropropane	0.2460	0.2461	0.06	TM		
31	TM*	Chloroform	0.9126	1.010	11	TM*		
32	TM	Bromochloromethane	0.2741	0.2799	2.1	TM		
33	S	Dibromofluoromethane(S)	0.5694	0.5863	3.0	S		
34	TM	1,1,1-TCA	0.7696	0.8278	7.6	TM		
35	TM	Cyclohexane	0.3531	0.4355	23	TM		nt
36	TM	1,1-Dichloropropene	0.5796	0.6072	4.8	TM		
37	TM	2,2,4-Trimethylpentane	1.063	1.166	9.7	TM		
38	S	1,2-DCA-D4(S)	0.6381	0.6688	4.8	S		
39	TM	Carbon Tetrachloride	0.7039	0.6724	4.5	TM		
40	TM	Tert Amyl Methyl Ether	1.071	1.063	0.82	TM		
		Average			8.3			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 11/10/14
Instrument: Loki
Cal. Date: 11/10/14
Data File: 1110L16.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2-DCA	0.6774	0.6895	1.8	TM	
42	TM	Benzene	1.873	1.942	3.7	TM	
43	TM	TCE	0.4890	0.4722	3.5	TM	
44	TM	2-Pentanone	0.3009	0.3182	5.8	TM	
45	TM*	1,2-Dichloropropane	0.5483	0.5789	5.6	TM*	
46	TM	Bromodichloromethane	0.7079	0.6979	1.4	TM	
47	TM	Methyl Cyclohexane	0.5665	0.5523	2.5	TM	
48	TM	Dibromomethane	0.3253	0.3004	7.6	TM	
49	TML	2-Chloroethyl vinyl ether	0.0119	0.0134	13	TML	13
50	TM	MIBK (methyl isobutyl ketone)	0.3744	0.3782	1.0	TM	
51	TM	1-Bromo-2-chloroethane	0.4135	0.4741	15	TM	
52	TM	Cis-1,3-Dichloropropene	0.7600	0.7846	3.2	TM	
53	TM*	Toluene	1.880	2.241	19	TM*	
54	TM	Trans-1,3-Dichloropropene	0.6552	0.7034	7.4	TM	
55	TM	1,1,2-TCA	0.3661	0.4048	11	TM	
56	TML	2-Hexanone	0.2338	0.2337	0.08	TML	8.4
57	I	Chlorobenzene-D5 (IS)	ISTD			I	
58	S	Toluene-D8(S)	1.982	2.370	20	S	
59	TM	1,2-EDB	0.4964	0.5271	6.2	TM	
60	TM	Tetrachloroethene	0.6412	0.6936	8.2	TM	
61	TM	1-Chlorohexane	0.5880	0.6117	4.0	TM	
62	TM	1,1,1,2-Tetrachloroethane	0.6467	0.6069	6.2	TM	
63	TM	m&p-Xylene	0.8686	0.9151	5.4	TM	
64	TM	o-Xylene	0.8064	0.8413	4.3	TM	
65	TML	Styrene	1.322	1.437	8.7	TML	6.3
66	S	4-Bromofluorobenzene(S)	0.7314	0.7365	0.71	S	
67	TM	1,3-Dichloropropane	0.8193	0.9666	18	TM	
68	TM	Dibromochloromethane	0.6148	0.6570	6.9	TM	
69	TM**	Chlorobenzene	1.578	1.542	2.3	TM**	
70	TM*	Ethylbenzene	2.256	2.464	9.2	TM*	
71	TM**	Bromoform	0.4212	0.3809	9.6	TM**	
72	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
73	TM	Isopropylbenzene	3.484	3.544	1.7	TM	
74	TM**L	1,1,2,2-Tetrachloroethane	1.120	1.104	1.4	TM**L	11
75	TML	1,2,3-Trichloropropane	0.3504	0.3124	11	TML	5.8
76	TM	t-1,4-Dichloro-2-Butene	0.2482	0.2438	1.8	TM	
77	TM	Bromobenzene	1.207	1.108	8.2	TM	
78	TML	n-Propylbenzene	4.013	4.665	16	TML	3.3
79	TM	4-Ethyltoluene	3.520	3.819	8.5	TM	
80	TM	2-Chlorotoluene	2.767	3.052	10	TM	
		Average			7.1		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 11/10/14
Instrument: Loki
Cal. Date: 11/10/14
Data File: 1110L16.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,3,5-Trimethylbenzene	3.183	3.541	11	TM	
82	TM	4-Chlorotoluene	0.7255	0.7420	2.3	TM	
83	TM	Tert-Butylbenzene	2.550	2.554	0.16	TM	
84	TM	1,2,4-Trimethylbenzene	3.092	3.265	5.6	TM	
85	TM	Sec-Butylbenzene	3.695	4.058	9.8	TM	
86	TM	p-Isopropyltoluene	3.141	3.269	4.1	TM	
87	TML	Benzyl Chloride	1.420	1.165	18	TML	7.3
88	TM	1,3-DCB	2.204	2.112	4.2	TM	
89	TM	1,4-DCB	2.423	2.295	5.3	TM	
90	TM	n-Butylbenzene	3.090	3.702	20	TM	
91	TM	1,2-DCB	2.132	2.350	10	TM	
92	TM	Hexachloroethane	0.8269	0.9010	9.0	TM	
93	TM	1,2-Dibromo-3-chloropropane	0.2000	0.1979	1.0	TM	
94	TM	1,2,4-Trichlorobenzene	1.275	1.263	0.94	TM	
95	TML	Hexachlorobutadiene	0.9450	0.7016	26	TML	15
96	TML	Naphthalene	1.123	1.145	2.0	TML	14
97	TM	1,2,3-Trichlorobenzene	0.8074	0.6800	16	TM	
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			8.6		

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L16.D Vial: 15
Acq On : 10 Nov 14 23:14 Operator: DG,SV,RS
Sample : 10ug/L Std 11-10-14(CCV) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:42 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	473920	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	382784	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	224640	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	277859	25.74267 ppb		0.00
Spiked Amount 24.012			Recovery = 107.208%			
38) 1,2-DCA-D4(S)	5.53	65	316960	26.20200 ppb		0.00
Spiked Amount 24.984			Recovery = 104.874%			
58) Toluene-D8(S)	7.71	98	907201	29.88784 ppb		0.00
Spiked Amount 24.898			Recovery = 120.043%			
66) 4-Bromofluorobenzene(S)	10.36	95	281924	25.17627 ppb		0.00
Spiked Amount 22.905			Recovery = 109.916%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	86716	10.71051 ppb		99
3) Freon 114	1.10	85	86875	11.44157 ppb		91
4) Chloromethane	1.14	50	170072	11.57814 ppb		98
5) Vinyl chloride	1.22	62	120300	10.73212 ppb		99
6) Bromomethane	1.45	94	52469	10.57871 ppb		97
7) Chloroethane	1.53	64	64072	11.74137 ppb		96
8) Dichlorofluoromethane	1.70	67	216138	10.94267 ppb		96
9) Trichlorofluoromethane	1.74	101	141038	10.11176 ppb		97
10) Acrolein	2.10	56	68638	135.36913 ppb	#	95
11) Acetone	2.25	43	31317	11.85198 ppb		95
12) Freon-113	2.20	101	83962	10.26779 ppb		93
13) 1,1-DCE	2.18	61	146508	10.78267 ppb		92
14) t-Butanol	2.87	59	27672	122.35213 ppb		94
15) Acetonitrile	2.51	41	150918	152.32444 ppb	#	86
16) Methyl Acetate	2.59	43	75653	12.36711 ppb		94
17) Iodomethane	2.31	142	17256	10.13590 ppb		97
18) Acrylonitrile	2.97	52	26624	11.78319 ppb		88
19) Methylene chloride	2.67	84	110737	11.23765 ppb		99
20) Carbon disulfide	2.37	76	305189	10.74826 ppb		100
21) Methyl t-butyl ether (MtBE	3.02	73	202931	9.30697 ppb		92
22) Trans-1,2-DCE	2.99	61	130139	10.40122 ppb		93
23) Diisopropyl Ether	3.71	45	321871	11.95667 ppb		94
24) 1,1-DCA	3.53	63	193453	11.23152 ppb		95
25) Hexane	3.36	57	83691	10.51254 ppb		98
26) Vinyl Acetate	3.71	43	68984	11.59148 ppb	#	97
27) Ethyl tert Butyl Ether	4.29	59	245405	10.83958 ppb		99
28) MEK (2-Butanone)	4.50	43	39564	12.84966 ppb		91
29) Cis-1,2-DCE	4.43	96	106610	10.50658 ppb		90
30) 2,2-Dichloropropane	4.40	77	46656	10.00562 ppb		99
31) Chloroform	4.90	83	191507	11.07016 ppb		97
32) Bromochloromethane	4.75	128	53063	10.21106 ppb		89
34) 1,1,1-TCA	5.11	97	156930	10.75702 ppb		95
35) Cyclohexane	5.17	41	82555	12.33289 ppb		88
36) 1,1-Dichloropropene	5.34	75	115108	10.47591 ppb		98
37) 2,2,4-Trimethylpentane	5.73	57	221086	10.97117 ppb		98
39) Carbon Tetrachloride	5.32	117	127467	9.55205 ppb		93
40) Tert Amyl Methyl Ether	5.79	73	201440	9.91759 ppb		96
41) 1,2-DCA	5.62	62	130709	10.17856 ppb		98
42) Benzene	5.58	78	368148	10.36641 ppb		98

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L16.D Vial: 15
Acq On : 10 Nov 14 23:14 Operator: DG,SV,RS
Sample : 10ug/L Std 11-10-14(CCV) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:42 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

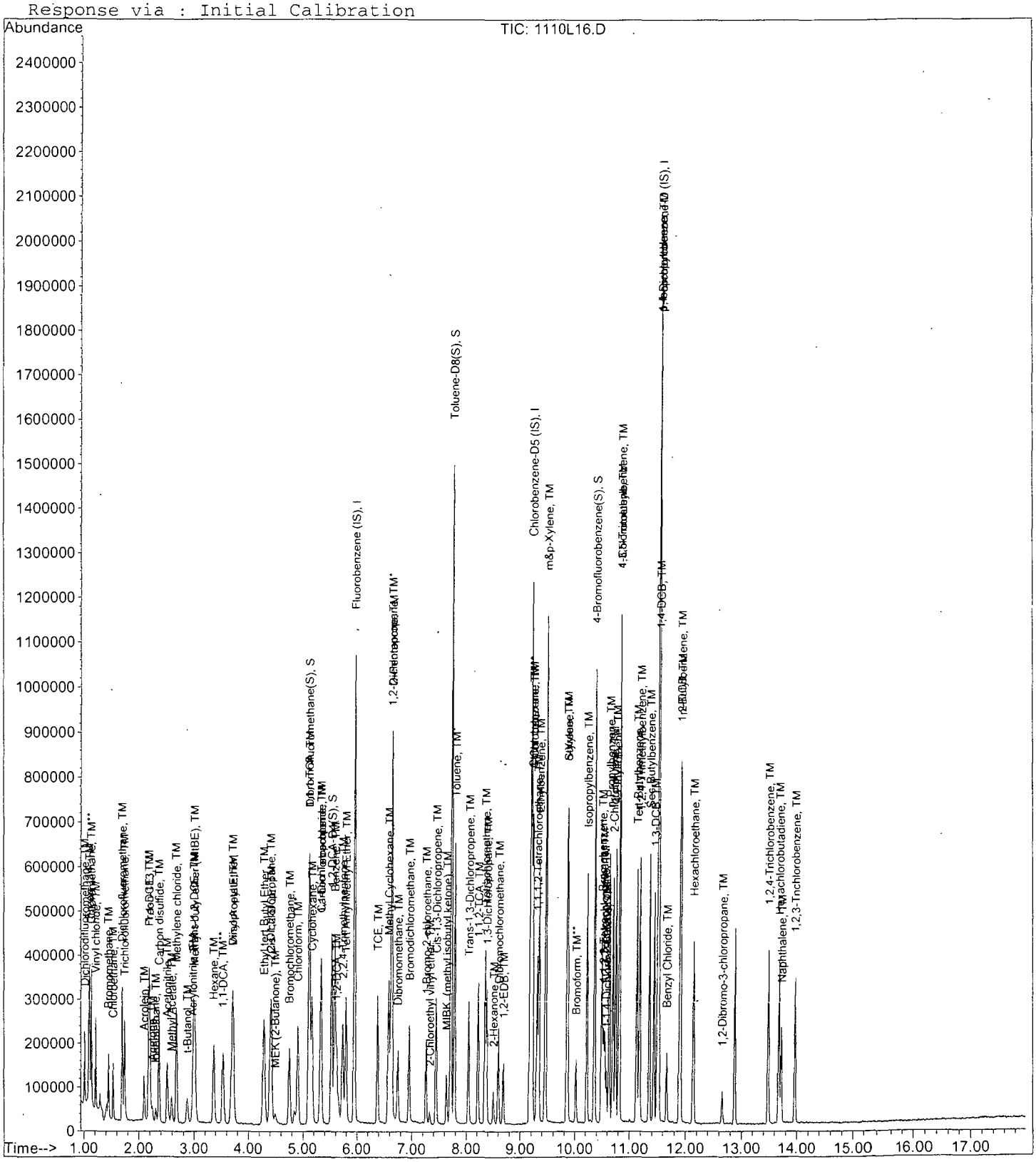
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	TCE	6.38	95	89507	9.65493	ppb	95
44)	2-Pentanone	6.63	43	754111	132.19355	ppb	93
45)	1,2-Dichloropropane	6.62	63	109744	10.55907	ppb	96
46)	Bromodichloromethane	6.95	83	132299	9.85864	ppb	99
47)	Methyl Cyclohexane	6.58	83	104703	9.74962	ppb	92
48)	Dibromomethane	6.75	93	56949	9.23624	ppb	87
49)	2-Chloroethyl vinyl ether	7.33	106	2542	11.27497	ppb	81
50)	MIBK (methyl isobutyl ket	7.63	43	71693	10.10163	ppb	94
51)	1-Bromo-2-chloroethane	7.26	63	89880	11.46657	ppb	99
52)	Cis-1,3-Dichloropropene	7.44	75	148726	10.32298	ppb	92
53)	Toluene	7.78	91	424858	11.92340	ppb	94
54)	Trans-1,3-Dichloropropene	8.04	75	133349	10.73654	ppb	98
55)	1,1,2-TCA	8.21	83	76732	11.05717	ppb	94
56)	2-Hexanone	8.50	43	44293	10.84211	ppb	99
59)	1,2-EDB	8.69	107	80700	10.61717	ppb	92
60)	Tetrachloroethene	8.34	166	106196	10.81738	ppb	96
61)	1-Chlorohexane	9.22	91	93655	10.40173	ppb	87
62)	1,1,1,2-Tetrachloroethane	9.30	131	92931	9.38462	ppb	93
63)	m&p-Xylene	9.46	106	280243	21.07117	ppb	89
64)	o-Xylene	9.85	106	128822	10.43383	ppb	98
65)	Styrene	9.86	104	219950	9.37194	ppb	95
67)	1,3-Dichloropropane	8.38	76	147994	11.79782	ppb	100
68)	Dibromochloromethane	8.60	129	100595	10.68649	ppb	99
69)	Chlorobenzene	9.21	112	236029	9.76698	ppb	96
70)	Ethylbenzene	9.34	91	377243	10.92171	ppb	96
71)	Bromoform	10.02	173	58322	9.04313	ppb	92
73)	Isopropylbenzene	10.22	105	318468	10.17151	ppb	98
74)	1,1,2,2-Tetrachloroethane	10.52	83	99192	11.11569	ppb	94
75)	1,2,3-Trichloropropane	10.55	110	28074	10.58029	ppb	98
76)	t-1,4-Dichloro-2-Butene	10.58	53	21911	9.82340	ppb	87
77)	Bromobenzene	10.49	156	99559	9.17592	ppb	99
78)	n-Propylbenzene	10.63	91	419178	10.33099	ppb	95
79)	4-Ethyltoluene	10.75	105	343176	10.84917	ppb	94
80)	2-Chlorotoluene	10.70	91	274198	11.02966	ppb	96
81)	1,3,5-Trimethylbenzene	10.81	105	318135	11.12191	ppb	96
82)	4-Chlorotoluene	10.81	126	66672	10.22734	ppb	85
83)	Tert-Butylbenzene	11.13	119	229483	10.01580	ppb	96
84)	1,2,4-Trimethylbenzene	11.18	105	293388	10.56033	ppb	94
85)	Sec-Butylbenzene	11.35	105	364626	10.98253	ppb	96
86)	p-Isopropyltoluene	11.50	119	293704	10.40555	ppb	98
87)	Benzyl Chloride	11.67	91	104666	9.27119	ppb	97
88)	1,3-DCB	11.44	146	189772	9.58412	ppb	97
89)	1,4-DCB	11.53	146	206263	9.47383	ppb	97
90)	n-Butylbenzene	11.91	91	332655	11.97951	ppb	99
91)	1,2-DCB	11.89	146	211184	11.02463	ppb	98
92)	Hexachloroethane	12.15	117	80964	10.89649	ppb	99
93)	1,2-Dibromo-3-chloropropan	12.66	157	17787	9.89842	ppb	98
94)	1,2,4-Trichlorobenzene	13.49	180	113515	9.90637	ppb	96
95)	Hexachlorobutadiene	13.68	225	63039	8.52668	ppb	94
96)	Naphthalene	13.72	128	102864	8.56904	ppb	96
97)	1,2,3-Trichlorobenzene	13.97	180	61104	8.42203	ppb	99

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

Data File : M:\LOKI\DATA\141110\1110L16.D Vial: 15
Acq On : 10 Nov 14 23:14 Operator: DG,SV,RS
Sample : 10ug/L Std 11-10-14(CCV) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:42 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

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

SDG No:
Date Analyzed: 11/10/14
Instrument: Loki
Initial Cal. Date: 11/10/14
Data File: 1110L17.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.4271	0.4546	6.4	TM	
3	TM	Freon 114	0.4005	0.4635	16	TM	
4	TM**L	Chloromethane	0.8958	0.8817	1.6	TM**L	14
5	TM*	Vinyl chloride	0.5913	0.6170	4.3	TM*	
6	TML	Bromomethane	0.2945	0.2493	15	TML	5.5
7	TML	Chloroethane	0.3766	0.3201	15	TML	11
8	TM	Dichlorofluoromethane	1.042	1.058	1.6	TM	
9	TM	Trichlorofluoromethane	0.7358	0.6920	5.9	TM	
10	TML	Acrolein	0.0308	0.0265	14	TML	2.0
11	TML	Acetone	0.3852	0.1457	62	TML	0.40
12	TM	Freon-113	0.4314	0.4086	5.3	TM	
13	TM*	1,1-DCE	0.7168	0.7406	3.3	TM*	
14	TML	t-Butanol	0.0141	0.0104	26	TML	14
15	TML	Acetonitrile	0.0598	0.0553	7.6	TML	4.7
16	TML	Methyl Acetate	0.3848	0.3524	8.4	TML	8.9
17	TML	Iodomethane	0.0966	0.0896	7.3	TML	0.05
18	TML	Acrylonitrile	0.1363	0.1110	19	TML	7.6
19	TML	Methylene chloride	0.5985	0.5340	11	TML	1.9
20	TM	Carbon disulfide	1.498	1.508	0.70	TM	
21	TM	Methyl t-butyl ether (MtBE)	1.150	0.9566	17	TM	
22	TM	Trans-1,2-DCE	0.6600	0.6244	5.4	TM	
23	TM	Diisopropyl Ether	1.420	1.495	5.3	TM	
24	TM**	1,1-DCA	0.9086	0.8712	4.1	TM**	
25	TM	Hexane	0.4200	0.4261	1.5	TM	
26	TM	Vinyl Acetate	0.3139	0.3135	0.13	TM	
27	TM	Ethyl tert Butyl Ether	1.194	1.238	3.7	TM	
28	TML	MEK (2-Butanone)	0.2043	0.1701	17	TML	3.8
29	TM	Cis-1,2-DCE	0.5353	0.5173	3.4	TM	
30	TM	2,2-Dichloropropane	0.2460	0.2324	5.5	TM	
31	TM*	Chloroform	0.9126	0.9303	1.9	TM*	
32	TM	Bromochloromethane	0.2741	0.2519	8.1	TM	
33	S	Dibromofluoromethane(S)	0.5694	0.5247	7.8	S	
34	TM	1,1,1-TCA	0.7696	0.7742	0.60	TM	
35	TM	Cyclohexane	0.3531	0.4214	19	TM	
36	TM	1,1-Dichloropropene	0.5796	0.6265	8.1	TM	
37	TM	2,2,4-Trimethylpentane	1.063	1.235	16	TM	
38	S	1,2-DCA-D4(S)	0.6381	0.6060	5.0	S	
39	TM	Carbon Tetrachloride	0.7039	0.6830	3.0	TM	
40	TM	Tert Amyl Methyl Ether	1.071	1.108	3.4	TM	
		Average			9.4		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 11/10/14
Matrix: 0 Instrument: Loki
Cal. Date: 11/10/14
Data File: 1110L17.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2-DCA	0.6774	0.7052	4.1	TM	
42	TM	Benzene	1.873	2.001	6.8	TM	
43	TM	TCE	0.4890	0.4499	8.0	TM	
44	TM	2-Pentanone	0.3009	0.2811	6.6	TM	
45	TM*	1,2-Dichloropropane	0.5483	0.5349	2.4	TM*	
46	TM	Bromodichloromethane	0.7079	0.6178	13	TM	
47	TM	Methyl Cyclohexane	0.5665	0.5174	8.7	TM	
48	TM	Dibromomethane	0.3253	0.2705	17	TM	
49	TML	2-Chloroethyl vinyl ether	0.0119	0.0137	16	TML	16
50	TM	MIBK (methyl isobutyl ketone)	0.3744	0.3087	18	TM	
51	TM	1-Bromo-2-chloroethane	0.4135	0.3775	8.7	TM	
52	TM	Cis-1,3-Dichloropropene	0.7600	0.6501	14	TM	
53	TM*	Toluene	1.880	1.838	2.2	TM*	
54	TM	Trans-1,3-Dichloropropene	0.6552	0.6393	2.4	TM	
55	TM	1,1,2-TCA	0.3661	0.3550	3.0	TM	
56	TML	2-Hexanone	0.2338	0.2139	8.5	TML	0.04
57	I	Chlorobenzene-D5 (IS)	ISTD			I	
58	S	Toluene-D8(S)	1.982	1.997	0.74	S	
59	TM	1,2-EDB	0.4964	0.5224	5.2	TM	
60	TM	Tetrachloroethene	0.6412	0.6377	0.53	TM	
61	TM	1-Chlorohexane	0.5880	0.6041	2.7	TM	
62	TM	1,1,1,2-Tetrachloroethane	0.6467	0.5806	10	TM	
63	TM	m&p-Xylene	0.8686	0.9101	4.8	TM	
64	TM	o-Xylene	0.8064	0.8196	1.6	TM	
65	TML	Styrene	1.322	1.403	6.1	TML	8.3
66	S	4-Bromofluorobenzene(S)	0.7314	0.7041	3.7	S	
67	TM	1,3-Dichloropropane	0.8193	0.9278	13	TM	
68	TM	Dibromochloromethane	0.6148	0.6698	8.9	TM	
69	TM**	Chlorobenzene	1.578	1.511	4.3	TM**	
70	TM*	Ethylbenzene	2.256	2.468	9.4	TM*	
71	TM**	Bromoform	0.4212	0.3445	18	TM**	
72	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
73	TM	Isopropylbenzene	3.484	3.840	10	TM	
74	TM**L	1,1,2,2-Tetrachloroethane	1.120	1.157	3.3	TM**L	17
75	TML	1,2,3-Trichloropropane	0.3504	0.3298	5.9	TML	12
76	TM	t-1,4-Dichloro-2-Butene	0.2482	0.2612	5.2	TM	
77	TM	Bromobenzene	1.207	1.150	4.8	TM	
78	TML	n-Propylbenzene	4.013	5.107	27	TML	13
79	TM	4-Ethyltoluene	3.520	4.212	20	TM	
80	TM	2-Chlorotoluene	2.767	3.247	17	TM	
		Average			8.5		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 11/10/14
Instrument: Loki
Cal. Date: 11/10/14
Data File: 1110L17.D

		Compound	MEAN	CCRF	%D		%Drift	
81	TM	1,3,5-Trimethylbenzene	3.183	3.826	20	TM		
82	TM	4-Chlorotoluene	0.7255	0.7992	10	TM		
83	TM	Tert-Butylbenzene	2.550	2.798	9.7	TM		
84	TM	1,2,4-Trimethylbenzene	3.092	3.507	13	TM		
85	TM	Sec-Butylbenzene	3.695	4.354	18	TM		
86	TM	p-Isopropyltoluene	3.141	3.492	11	TM		
87	TML	Benzyl Chloride	1.420	1.386	2.4	TML	10	
88	TM	1,3-DCB	2.204	2.268	2.9	TM		
89	TM	1,4-DCB	2.423	2.365	2.4	TM		
90	TM	n-Butylbenzene	3.090	3.947	28	TM		*
91	TM	1,2-DCB	2.132	2.396	12	TM		
92	TM	Hexachloroethane	0.8269	1.008	22	TM		nt
93	TM	1,2-Dibromo-3-chloropropane	0.2000	0.1992	0.41	TM		
94	TM	1,2,4-Trichlorobenzene	1.275	1.203	5.7	TM		
95	TML	Hexachlorobutadiene	0.9450	0.7833	17	TML	4.6	
96	TML	Naphthalene	1.123	1.207	7.5	TML	9.9	
97	TM	1,2,3-Trichlorobenzene	0.8074	0.7372	8.7	TM		
98								
99								
100								
101								
102								
103								
104								
105								
106								
107								
108								
109								
110								
111								
112								
113								
114								
115								
116								
117								
118								
119								
120								
		Average			11.2			

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L17.D Vial: 16
Acq On : 10 Nov 14 23:42 Operator: DG,SV,RS
Sample : 10ug/L Std 11-10-14(SS) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:42 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

$\frac{130435 \times 25}{528514 \times 0.5913} = 10.43$

SV 11/17/14

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	528512	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	403840	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	217280	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	277319	23.03875 ppb		0.00
Spiked Amount 24.012			Recovery = 95.947%			
38) 1,2-DCA-D4(S)	5.52	65	320264	23.74042 ppb		0.00
Spiked Amount 24.984			Recovery = 95.020%			
58) Toluene-D8(S)	7.71	98	806484	25.18438 ppb		0.00
Spiked Amount 24.898			Recovery = 101.150%			
66) 4-Bromofluorobenzene(S)	10.36	95	284344	24.06843 ppb		0.00
Spiked Amount 22.905			Recovery = 105.079%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	96106	10.64417 ppb		99
3) Freon 114	1.10	85	97980	11.57120 ppb		93
4) Chloromethane	1.14	50	186400	11.37900 ppb		99
5) Vinyl chloride	1.22	62	130435	10.43432 ppb		100
6) Bromomethane	1.45	94	52696	9.44609 ppb		100
7) Chloroethane	1.53	64	67662	11.12335 ppb		95
8) Dichlorofluoromethane	1.70	67	223689	10.15517 ppb		96
9) Trichlorofluoromethane	1.74	101	146294	9.40518 ppb		98
10) Acrolein	2.10	56	69983	122.55218 ppb	#	98
11) Acetone	2.25	43	30803	10.03970 ppb		97
12) Freon-113	2.20	101	86370	9.47125 ppb		98
13) 1,1-DCE	2.18	61	156559	10.33221 ppb		92
14) t-Butanol	2.87	59	27584	107.77757 ppb		95
15) Acetonitrile	2.51	41	146075	130.84697 ppb	#	59
16) Methyl Acetate	2.60	43	74508	10.89405 ppb		95
17) Iodomethane	2.31	142	18936	10.00468 ppb		97
18) Acrylonitrile	2.96	52	23475	9.23515 ppb		81
19) Methylene chloride	2.67	84	112898	10.19339 ppb		98
20) Carbon disulfide	2.37	76	318860	10.06977 ppb		100
21) Methyl t-butyl ether (MtBE	3.02	73	202236	8.31704 ppb		92
22) Trans-1,2-DCE	2.99	61	132011	9.46100 ppb		91
23) Diisopropyl Ether	3.71	45	316057	10.52795 ppb		95
24) 1,1-DCA	3.53	63	184169	9.58804 ppb		96
25) Hexane	3.36	57	90076	10.14585 ppb		99
26) Vinyl Acetate	3.71	43	66280	9.98672 ppb	#	98
27) Ethyl tert Butyl Ether	4.29	59	261802	10.36937 ppb		100
28) MEK (2-Butanone)	4.50	43	35958	10.38478 ppb	#	82
29) Cis-1,2-DCE	4.42	96	109351	9.66354 ppb		94
30) 2,2-Dichloropropane	4.40	77	49128	9.44748 ppb		96
31) Chloroform	4.90	83	196671	10.19435 ppb		97
32) Bromochloromethane	4.76	128	53261	9.19049 ppb		100
34) 1,1,1-TCA	5.11	97	163665	10.05986 ppb		97
35) Cyclohexane	5.16	41	89087	11.93400 ppb		95
36) 1,1-Dichloropropene	5.33	75	132442	10.80842 ppb		97
37) 2,2,4-Trimethylpentane	5.73	57	261124	11.61954 ppb		99
39) Carbon Tetrachloride	5.32	117	144390	9.70255 ppb		92
40) Tert Amyl Methyl Ether	5.80	73	234194	10.33919 ppb		99
41) 1,2-DCA	5.62	62	149087	10.41048 ppb		99
42) Benzene	5.58	78	423046	10.68179 ppb		96

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L17.D Vial: 16
Acq On : 10 Nov 14 23:42 Operator: DG,SV,RS
Sample : 10ug/L Std 11-10-14(SS) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:42 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

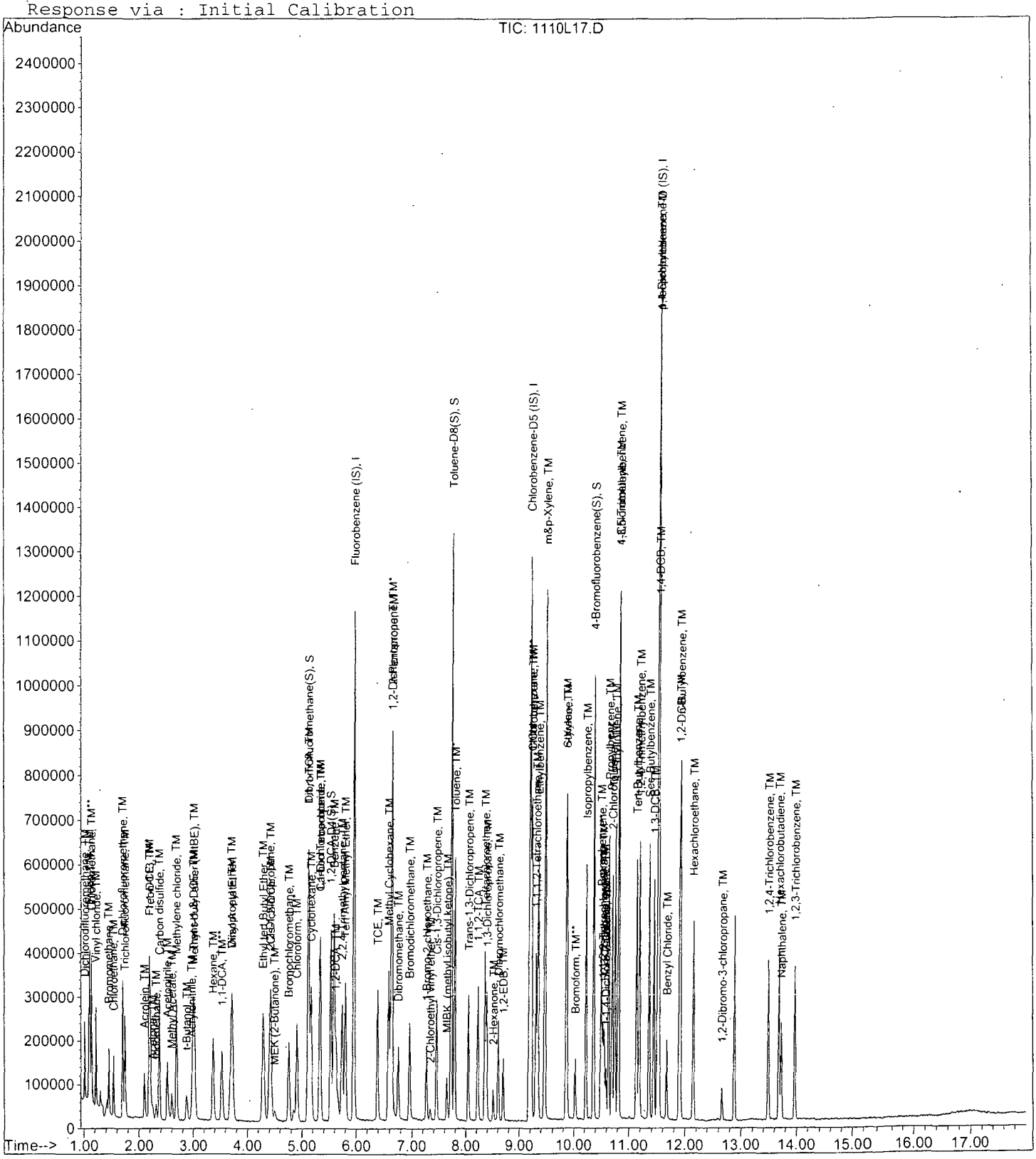
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.38	95	95104	9.19901	ppb		94
44)	2-Pentanone	6.63	43	742736	116.75074	ppb		92
45)	1,2-Dichloropropane	6.62	63	113072	9.75551	ppb		96
46)	Bromodichloromethane	6.95	83	130602	8.72691	ppb	#	95
47)	Methyl Cyclohexane	6.58	83	109391	9.13399	ppb		92
48)	Dibromomethane	6.75	93	57177	8.31536	ppb		86
49)	2-Chloroethyl vinyl ether	7.33	106	2904	11.55013	ppb	#	63
50)	MIBK (methyl isobutyl ket	7.63	43	65269	8.24654	ppb		95
51)	1-Bromo-2-chloroethane	7.26	63	79808	9.12992	ppb		98
52)	Cis-1,3-Dichloropropene	7.44	75	137434	8.55387	ppb		93
53)	Toluene	7.78	91	388458	9.77576	ppb		96
54)	Trans-1,3-Dichloropropene	8.04	75	135153	9.75776	ppb		97
55)	1,1,2-TCA	8.21	83	75049	9.69756	ppb		95
56)	2-Hexanone	8.50	43	45212	10.00425	ppb		97
59)	1,2-EDB	8.69	107	84379	10.52238	ppb		100
60)	Tetrachloroethene	8.34	166	103019	9.94662	ppb		96
61)	1-Chlorohexane	9.22	91	97577	10.27227	ppb		85
62)	1,1,1,2-Tetrachloroethane	9.30	131	93789	8.97743	ppb		91
63)	m&p-Xylene	9.46	106	294042	20.95597	ppb		94
64)	o-Xylene	9.85	106	132390	10.16373	ppb		91
65)	Styrene	9.86	104	226636	9.16665	ppb	#	95
67)	1,3-Dichloropropane	8.38	76	149870	11.32445	ppb		100
68)	Dibromochloromethane	8.60	129	108198	10.89488	ppb		96
69)	Chlorobenzene	9.21	112	244099	9.57426	ppb		96
70)	Ethylbenzene	9.34	91	398708	10.94130	ppb		95
71)	Bromoform	10.02	173	55643	8.17789	ppb		98
73)	Isopropylbenzene	10.23	105	333748	11.02061	ppb		99
74)	1,1,2,2-Tetrachloroethane	10.52	83	100566	11.71106	ppb		96
75)	1,2,3-Trichloropropane	10.55	110	28666	11.23433	ppb		98
76)	t-1,4-Dichloro-2-Butene	10.58	53	22701	10.52233	ppb		77
77)	Bromobenzene	10.50	156	99952	9.52419	ppb		98
78)	n-Propylbenzene	10.63	91	443862	11.28973	ppb		93
79)	4-Ethyltoluene	10.75	105	366088	11.96554	ppb		94
80)	2-Chlorotoluene	10.70	91	282246	11.73797	ppb		97
81)	1,3,5-Trimethylbenzene	10.82	105	332539	12.01926	ppb		94
82)	4-Chlorotoluene	10.81	126	69459	11.01577	ppb		84
83)	Tert-Butylbenzene	11.13	119	243196	10.97385	ppb		98
84)	1,2,4-Trimethylbenzene	11.18	105	304782	11.34206	ppb		94
85)	Sec-Butylbenzene	11.35	105	378378	11.78278	ppb		96
86)	p-Isopropyltoluene	11.51	119	303532	11.11800	ppb		98
87)	Benzyl Chloride	11.67	91	120442	11.04023	ppb		99
88)	1,3-DCB	11.44	146	197148	10.29389	ppb		98
89)	1,4-DCB	11.53	146	205526	9.75974	ppb		97
90)	n-Butylbenzene	11.91	91	343035	12.77176	ppb		98
91)	1,2-DCB	11.89	146	208199	11.23696	ppb		97
92)	Hexachloroethane	12.15	117	87629	12.19298	ppb		91
93)	1,2-Dibromo-3-chloropropan	12.66	157	17310	9.95927	ppb		96
94)	1,2,4-Trichlorobenzene	13.49	180	104523	9.43063	ppb		97
95)	Hexachlorobutadiene	13.68	225	68075	9.53692	ppb		93
96)	Naphthalene	13.72	128	104904	9.01071	ppb		98
97)	1,2,3-Trichlorobenzene	13.97	180	64072	9.13025	ppb		98

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

Data File : M:\LOKI\DATA\141110\1110L17.D Vial: 16
Acq On : 10 Nov 14 23:42 Operator: DG,SV,RS
Sample : 10ug/L Std 11-10-14(SS) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 13 14:42 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Thu Nov 13 13:35:08 2014
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 11/17/2014
Matrix: Instrument: Loki
Initial Cal. Date: 11/10/2014
Data File: 1117L10.D

		Compound	MEAN	CCRF	%D		%Drift	
1	I	Fluorobenzene (IS)	ISTD			I		
2	TM	Dichlorodifluoromethane	0.4271	0.3616	15	TM		
3	TM	Freon 114	0.4005	0.4082	1.9	TM		
4	TM**L	Chloromethane	0.8958	0.6383	29	TM**L	18	
5	TM*	Vinyl chloride	0.5913	0.5436	8.1	TM*		
6	TML	Bromomethane	0.2945	0.2548	13	TML	3.2	
7	TML	Chloroethane	0.3766	0.2874	24	TML	0.03	
8	TM	Dichlorofluoromethane	1.042	0.9454	9.3	TM		
9	TM	Trichlorofluoromethane	0.7358	0.6599	10	TM		
10	TML	Acrolein	0.0308	0.0234	24	TML	15	
11	TML	Acetone	0.3852	0.1180	69	TML	25	*NT
12	TM	Freon-113	0.4314	0.4173	3.3	TM		
13	TM*	1,1-DCE	0.7168	0.6614	7.7	TM*		
14	TML	t-Butanol	0.0141	0.0104	27	TML	14	
15	TML	Acetonitrile	0.0598	0.0518	13	TML	2.4	
16	TML	Methyl Acetate	0.3848	0.3069	20	TML	5.5	
17	TML	Iodomethane	0.0966	0.1271	32	TML	34	*NT
18	TML	Acrylonitrile	0.1363	0.1140	16	TML	5.1	
19	TML	Methylene chloride	0.5985	0.5053	16	TML	4.0	
20	TM	Carbon disulfide	1.498	1.274	15	TM		
21	TM	Methyl t-butyl ether (MtBE)	1.150	0.9781	15	TM		
22	TM	Trans-1,2-DCE	0.6600	0.6372	3.5	TM		
23	TM	Diisopropyl Ether	1.420	1.398	1.5	TM		
24	TM**	1,1-DCA	0.9086	0.8676	4.5	TM**		
25	TM	Hexane	0.4200	0.4504	7.3	TM		
26	TM	Vinyl Acetate	0.3139	0.3060	2.5	TM		
27	TM	Ethyl tert Butyl Ether	1.194	1.101	7.8	TM		
28	TML	MEK (2-Butanone)	0.2043	0.1449	29	TML	12	
29	TM	Cis-1,2-DCE	0.5353	0.4859	9.2	TM		
30	TM	2,2-Dichloropropane	0.2460	0.2488	1.1	TM		
31	TM*	Chloroform	0.9126	0.8359	8.4	TM*		
32	TM	Bromochloromethane	0.2741	0.2329	15	TM		
33	S	Dibromofluoromethane(S)	0.5694	0.5058	11	S		
34	TM	1,1,1-TCA	0.7696	0.7097	7.8	TM		
35	TM	Cyclohexane	0.3531	0.3685	4.4	TM		
36	TM	1,1-Dichloropropene	0.5796	0.5645	2.6	TM		
37	TM	2,2,4-Trimethylpentane	1.063	1.237	16	TM		
38	S	1,2-DCA-D4(S)	0.6381	0.5750	9.9	S		
39	TM	Carbon Tetrachloride	0.7039	0.6368	9.5	TM		
40	TM	Tert Amyl Methyl Ether	1.071	1.018	5.0	TM		
		Average			13.4			

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 11/17/2014
Instrument: Loki
Cal. Date: 11/10/2014
Data File: 1117L10.D

		Compound	MEAN	CCRF	%D		%Drift
41	TM	1,2-DCA	0.6774	0.6323	6.7	TM	
42	TM	Benzene	1.873	1.793	4.3	TM	
43	TM	TCE	0.4890	0.4399	10	TM	
44	TM	2-Pentanone	0.3009	0.2733	9.2	TM	
45	TM*	1,2-Dichloropropane	0.5483	0.5296	3.4	TM*	
46	TM	Bromodichloromethane	0.7079	0.6430	9.2	TM	
47	TM	Methyl Cyclohexane	0.5665	0.5623	0.74	TM	
48	TM	Dibromomethane	0.3253	0.2782	14	TM	
49	TML	2-Chloroethyl vinyl ether	0.0000	0.0114	0.00	TML	
50	TM	MIBK (methyl isobutyl ketone)	0.3744	0.3035	19	TM	
51	TM	1-Bromo-2-chloroethane	0.4135	0.3701	11	TM	
52	TM	Cis-1,3-Dichloropropene	0.7600	0.6843	10.0	TM	
53	TM*	Toluene	1.880	1.874	0.31	TM*	
54	TM	Trans-1,3-Dichloropropene	0.6552	0.5932	9.5	TM	
55	TM	1,1,2-TCA	0.3661	0.3320	9.3	TM	
56	TML	2-Hexanone	0.2338	0.1931	17	TML	8.8
57	I	Chlorobenzene-D5 (IS)	ISTD			I	
58	S	Toluene-D8(S)	1.982	2.028	2.3	S	
59	TM	1,2-EDB	0.4964	0.4298	13	TM	
60	TM	Tetrachloroethene	0.6412	0.6196	3.4	TM	
61	TM	1-Chlorohexane	0.5880	0.6105	3.8	TM	
62	TM	1,1,1,2-Tetrachloroethane	0.6467	0.5878	9.1	TM	
63	TM	m&p-Xylene	0.8686	0.8868	2.1	TM	
64	TM	o-Xylene	0.8064	0.8079	0.19	TM	
65	TML	Styrene	1.322	1.393	5.4	TML	8.9
66	S	4-Bromofluorobenzene(S)	0.7314	0.7469	2.1	S	
67	TM	1,3-Dichloropropane	0.8193	0.7917	3.4	TM	
68	TM	Dibromochloromethane	0.6148	0.5403	12	TM	
69	TM**	Chlorobenzene	1.578	1.510	4.3	TM**	
70	TM*	Ethylbenzene	2.256	2.380	5.5	TM*	
71	TM**	Bromoform	0.4212	0.3606	14	TM**	
72	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
73	TM	Isopropylbenzene	3.484	3.389	2.7	TM	
74	TM**L	1,1,2,2-Tetrachloroethane	1.120	0.9820	12	TM**L	2.5
75	TML	1,2,3-Trichloropropane	0.3504	0.2808	20	TML	6.1
76	TM	t-1,4-Dichloro-2-Butene	0.2482	0.2291	7.7	TM	
77	TM	Bromobenzene	1.207	1.071	11	TM	
78	TML	n-Propylbenzene	4.013	4.458	11	TML	1.2
79	TM	4-Ethyltoluene	3.520	3.690	4.8	TM	
80	TM	2-Chlorotoluene	2.767	2.847	2.9	TM	
		Average			7.5		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc.
Case No:
Matrix: 0

SDG No:
Date Analyzed: 11/17/2014
Instrument: Loki
Cal. Date: 11/10/2014
Data File: 1117L10.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,3,5-Trimethylbenzene	3.183	3.475	9.2	TM	
82	TM	4-Chlorotoluene	0.7255	0.6868	5.3	TM	
83	TM	Tert-Butylbenzene	2.550	2.561	0.45	TM	
84	TM	1,2,4-Trimethylbenzene	3.092	3.177	2.8	TM	
85	TM	Sec-Butylbenzene	3.695	3.960	7.2	TM	
86	TM	p-Isopropyltoluene	3.141	3.300	5.0	TM	
87	TML	Benzyl Chloride	1.420	1.372	3.4	TML	9.3
88	TM	1,3-DCB	2.204	2.118	3.9	TM	
89	TM	1,4-DCB	2.423	2.185	9.8	TM	
90	TM	n-Butylbenzene	3.090	3.192	3.3	TM	
91	TM	1,2-DCB	2.132	1.921	9.9	TM	
92	TM	Hexachloroethane	0.8269	0.7803	5.6	TM	
93	TM	1,2-Dibromo-3-chloropropane	0.2000	0.1626	19	TM	
94	TM	1,2,4-Trichlorobenzene	1.275	1.136	11	TM	
95	TML	Hexachlorobutadiene	0.9450	0.8345	12	TML	1.7
96	TML	Naphthalene	1.123	1.076	4.1	TML	19
97	TM	1,2,3-Trichlorobenzene	0.8074	0.7329	9.2	TM	
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			7.1		

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1117L10.D Vial: 6
Acq On : 17 Nov 14 12:14 Operator: DG,SV,RS
Sample : 10ug/L Vol Std 11-17-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 17 12:48 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Nov 17 11:06:38 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	572224	25.00	ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	471168	25.00	ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.50	152	281408	25.00	ppb	0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	289439	22.21	ppb	0.00
Spiked Amount 24.012			Recovery =	92.491%		
38) 1,2-DCA-D4(S)	5.52	65	329020	22.53	ppb	0.00
Spiked Amount 24.984			Recovery =	90.161%		
58) Toluene-D8(S)	7.71	98	955367	25.57	ppb	0.00
Spiked Amount 24.898			Recovery =	102.704%		
66) 4-Bromofluorobenzene(S)	10.36	95	351937	25.53	ppb	0.00
Spiked Amount 22.905			Recovery =	111.475%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	82757	8.47	ppb	98
3) Freon 114	1.10	85	93427	10.19	ppb	85
4) Chloromethane	1.14	50	146100	8.24	ppb	100
5) Vinyl chloride	1.21	62	124429	9.19	ppb	98
6) Bromomethane	1.45	94	58328	9.68	ppb	96
7) Chloroethane	1.53	64	65780	10.00	ppb	97
8) Dichlorofluoromethane	1.70	67	216393	9.07	ppb	96
9) Trichlorofluoromethane	1.74	101	151055	8.97	ppb	99
10) Acrolein	2.10	56	66862	106.48	ppb	95
11) Acetone	2.25	43	27005	7.46	ppb	96
12) Freon-113	2.20	101	95508	9.67	ppb	97
13) 1,1-DCE	2.18	61	151392	9.23	ppb	96
14) t-Butanol	2.87	59	29680	107.02	ppb	97
15) Acetonitrile	2.51	41	148301	122.05	ppb	98
16) Methyl Acetate	2.59	43	70241	9.45	ppb	97
17) Iodomethane	2.31	142	29096	13.39	ppb	92
18) Acrylonitrile	2.97	52	26096	9.49	ppb	83
19) Methylene chloride	2.67	84	115668	9.60	ppb	96
20) Carbon disulfide	2.36	76	291507	8.50	ppb	99
21) Methyl t-butyl ether (MtBE	3.02	73	223871	8.50	ppb	95
22) Trans-1,2-DCE	2.99	61	145844	9.65	ppb	95
23) Diisopropyl Ether	3.71	45	320074	9.85	ppb	97
24) 1,1-DCA	3.53	63	198590	9.55	ppb	95
25) Hexane	3.36	57	103101	10.73	ppb	98
26) Vinyl Acetate	3.71	43	70040	9.75	ppb	99
27) Ethyl tert Butyl Ether	4.28	59	251931	9.22	ppb	97
28) MEK (2-Butanone)	4.50	43	33170	8.78	ppb	85
29) Cis-1,2-DCE	4.43	96	111222	9.08	ppb	95
30) 2,2-Dichloropropane	4.40	77	56944	10.11	ppb	100
31) Chloroform	4.90	83	191333	9.16	ppb	97
32) Bromochloromethane	4.75	128	53317	8.50	ppb	95
34) 1,1,1-TCA	5.10	97	162436	9.22	ppb	97
35) Cyclohexane	5.16	41	84352	10.44	ppb	95
36) 1,1-Dichloropropene	5.33	75	129206	9.74	ppb	98
37) 2,2,4-Trimethylpentane	5.73	57	283065	11.63	ppb	97
39) Carbon Tetrachloride	5.32	117	145763	9.05	ppb	92
40) Tert Amyl Methyl Ether	5.79	73	232930	9.50	ppb	94
41) 1,2-DCA	5.62	62	144731	9.33	ppb	97
42) Benzene	5.58	78	410410	9.57	ppb	98
43) TCE	6.38	95	100679	8.99	ppb	98

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1117L10.D Vial: 6
Acq On : 17 Nov 14 12:14 Operator: DG,SV,RS
Sample : 10ug/L Vol Std 11-17-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 17 12:48 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Nov 17 11:06:38 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
44)	2-Pentanone	6.63	43	782017	113.54	ppb	97
45)	1,2-Dichloropropane	6.62	63	121231	9.66	ppb	98
46)	Bromodichloromethane	6.95	83	147166	9.08	ppb	97
47)	Methyl Cyclohexane	6.58	83	128705	9.93	ppb	100
48)	Dibromomethane	6.75	93	63674	8.55	ppb	95
50)	MIBK (methyl isobutyl ket	7.63	43	69478	8.11	ppb	97
51)	1-Bromo-2-chloroethane	7.26	63	84704	8.95	ppb	99
52)	Cis-1,3-Dichloropropene	7.44	75	156637	9.00	ppb	96
53)	Toluene	7.78	91	428882	9.97	ppb	98
54)	Trans-1,3-Dichloropropene	8.04	75	135772	9.05	ppb	97
55)	1,1,2-TCA	8.21	83	75994	9.07	ppb	95
56)	2-Hexanone	8.50	43	44194	9.12	ppb	94
59)	1,2-EDB	8.69	107	81000	8.66	ppb	94
60)	Tetrachloroethene	8.34	166	116781	9.66	ppb	97
61)	1-Chlorohexane	9.22	91	115063	10.38	ppb	96
62)	1,1,1,2-Tetrachloroethane	9.30	131	110778	9.09	ppb	99
63)	m&p-Xylene	9.46	106	334261	20.42	ppb	93
64)	o-Xylene	9.85	106	152257	10.02	ppb	97
65)	Styrene	9.86	104	262599	9.11	ppb	98
67)	1,3-Dichloropropane	8.37	76	149205	9.66	ppb	96
68)	Dibromochloromethane	8.60	129	101822	8.79	ppb	98
69)	Chlorobenzene	9.20	112	284530	9.57	ppb	99
70)	Ethylbenzene	9.34	91	448579	10.55	ppb	96
71)	Bromoform	10.02	173	67953	8.56	ppb	98
73)	Isopropylbenzene	10.22	105	381525	9.73	ppb	96
74)	1,1,2,2-Tetrachloroethane	10.52	83	110539	9.75	ppb	98
75)	1,2,3-Trichloropropane	10.55	110	31603	9.39	ppb	96
76)	t-1,4-Dichloro-2-Butene	10.58	53	25785	9.23	ppb	83
77)	Bromobenzene	10.49	156	120581	8.87	ppb	98
78)	n-Propylbenzene	10.63	91	501843	9.88	ppb	98
79)	4-Ethyltoluene	10.75	105	415344	10.48	ppb	98
80)	2-Chlorotoluene	10.70	91	320417	10.29	ppb	99
81)	1,3,5-Trimethylbenzene	10.81	105	391212	10.92	ppb	97
82)	4-Chlorotoluene	10.81	126	77312	9.47	ppb	84
83)	Tert-Butylbenzene	11.13	119	288301	10.04	ppb	99
84)	1,2,4-Trimethylbenzene	11.18	105	357664	10.28	ppb	97
85)	Sec-Butylbenzene	11.35	105	445780	10.72	ppb	99
86)	p-Isopropyltoluene	11.50	119	371403	10.50	ppb	99
87)	Benzyl Chloride	11.66	91	154433	10.93	ppb	98
88)	1,3-DCB	11.43	146	238368	9.61	ppb	99
89)	1,4-DCB	11.52	146	245955	9.02	ppb	98
90)	n-Butylbenzene	11.90	91	359317	10.33	ppb	99
91)	1,2-DCB	11.89	146	216232	9.01	ppb	99
92)	Hexachloroethane	12.14	117	87830	9.44	ppb	98
93)	1,2-Dibromo-3-chloropropan	12.66	157	18305	8.13	ppb	94
94)	1,2,4-Trichlorobenzene	13.48	180	127835	8.91	ppb	97
95)	Hexachlorobutadiene	13.67	225	93931	10.17	ppb	97
96)	Naphthalene	13.71	128	121168	8.08	ppb	100
97)	1,2,3-Trichlorobenzene	13.96	180	82496	9.08	ppb	99

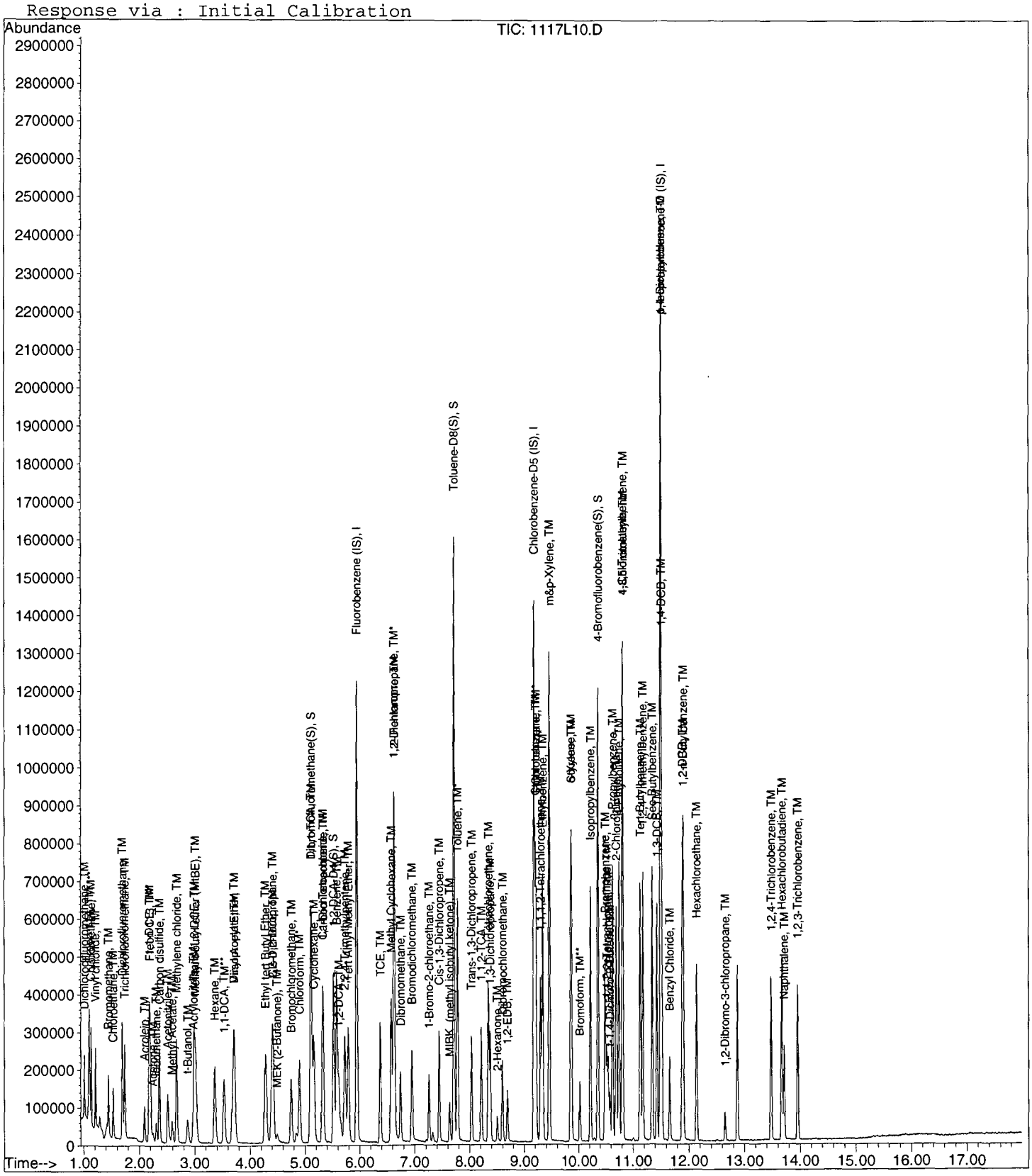
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141110\1117L10.D Vial: 6
Acq On : 17 Nov 14 12:14 Operator: DG,SV,RS
Sample : 10ug/L Vol Std 11-17-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 17 12:48 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Nov 17 11:06:38 2014
Response via : Initial Calibration



EPA METHOD 8260C
Volatile Organic Compounds
Raw Data

APPL, INC.

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **141026W-05593 - 191309**
Batch ID: #86CRE-141026AL

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	10/26/2014	10/26/2014
BLANK	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	10/26/2014	10/26/2014
BLANK	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	10/26/2014	10/26/2014
BLANK	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	10/26/2014	10/26/2014
BLANK	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
BLANK	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	10/26/2014	10/26/2014
BLANK	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	10/26/2014	10/26/2014
BLANK	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	10/26/2014	10/26/2014
BLANK	1,2-DIBROMO-3-CHLOROPROPA	1.00 U	2.0	1.00	0.76	ug/L	10/26/2014	10/26/2014
BLANK	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	10/26/2014	10/26/2014
BLANK	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	10/26/2014	10/26/2014
BLANK	1,2-DICHLOROETHANE	0.100 U	0.10	0.100	0.030	ug/L	10/26/2014	10/26/2014
BLANK	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	10/26/2014	10/26/2014
BLANK	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	10/26/2014	10/26/2014
BLANK	1,3-DICHLOROPROPENE (TOTA	0.30 U	1.0	0.30	0.18	ug/L	10/26/2014	10/26/2014
BLANK	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
BLANK	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	10/26/2014	10/26/2014
BLANK	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	10/26/2014	10/26/2014
BLANK	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	10/26/2014	10/26/2014
BLANK	BENZENE	0.200 U	0.20	0.200	0.060	ug/L	10/26/2014	10/26/2014
BLANK	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	10/26/2014	10/26/2014
BLANK	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	10/26/2014	10/26/2014
BLANK	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	10/26/2014	10/26/2014
BLANK	CARBON TETRACHLORIDE	0.100 U	0.10	0.100	0.030	ug/L	10/26/2014	10/26/2014
BLANK	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	10/26/2014	10/26/2014
BLANK	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	10/26/2014	10/26/2014
BLANK	CHLOROFORM	0.20 U	0.2	0.20	0.06	ug/L	10/26/2014	10/26/2014
BLANK	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	10/26/2014	10/26/2014
BLANK	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	10/26/2014	10/26/2014
BLANK	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	10/26/2014	10/26/2014
BLANK	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
BLANK	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	10/26/2014	10/26/2014
BLANK	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	10/26/2014	10/26/2014

Quant Method: LALLW2.M
Run #: 1026L10
Instrument: Loki
Sequence: 141024
Initials: SV

GC SC-Blank-REG MDLs
Printed: 11/17/2014 3:27:01 PM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **141026W-05593 - 191309**
Batch ID: #86CRE-141026AL

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	10/26/2014	10/26/2014
BLANK	TETRACHLOROETHENE	0.30 U	0.3	0.30	0.08	ug/L	10/26/2014	10/26/2014
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	10/26/2014	10/26/2014
BLANK	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
BLANK	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	10/26/2014	10/26/2014
BLANK	VINYL CHLORIDE	0.10 U	0.1	0.10	0.03	ug/L	10/26/2014	10/26/2014
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	10/26/2014	10/26/2014
BLANK	SURROGATE: 1,2-DICHLOROET	104	70-120			%	10/26/2014	10/26/2014
BLANK	SURROGATE: 4-BROMOFLUOR	99.4	75-120			%	10/26/2014	10/26/2014
BLANK	SURROGATE: DIBROMOFLUOR	104	85-115			%	10/26/2014	10/26/2014
BLANK	SURROGATE: TOLUENE-D8 (S)	98.2	85-120			%	10/26/2014	10/26/2014

Quant Method: LALLW2.M
Run #: 1026L10
Instrument: Loki
Sequence: 141024
Initials: SV

GC SC-Blank-REG MDLs
Printed: 11/17/2014 3:27:01 PM

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\141024\1026L10.D Vial: 9
Acq On : 26 Oct 14 14:57 Operator: DG,SV,RS
Sample : 141026A BLK-1WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 29 15:08 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	333440	25.00	ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	314944	25.00	ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	147328	25.00	ppb	0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	204259	28.12	ppb	0.00
Spiked Amount 27.165			Recovery = 103.501%			
38) 1,2-DCA-D4(S)	5.52	65	220891	28.70	ppb	0.00
Spiked Amount 27.695			Recovery = 103.642%			
58) Toluene-D8(S)	7.71	98	573395	25.69	ppb	0.00
Spiked Amount 26.150			Recovery = 98.232%			
66) 4-Bromofluorobenzene(S)	10.36	95	188032	22.10	ppb	0.00
Spiked Amount 22.231			Recovery = 99.411%			

Target Compounds Qvalue

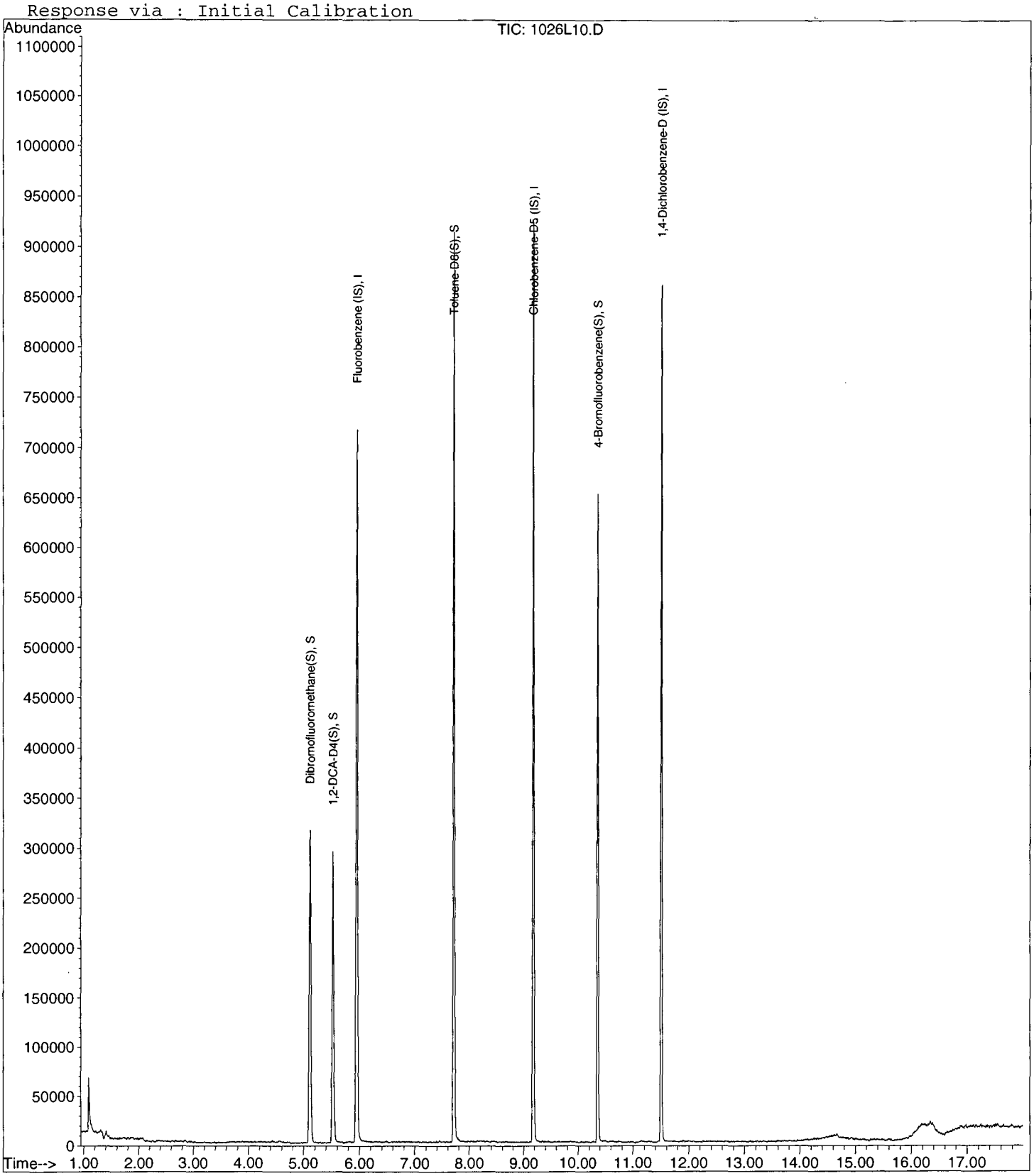
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141024\1026L10.D Vial: 9
Acq On : 26 Oct 14 14:57 Operator: DG,SV,RS
Sample : 141026A BLK-1WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 29 15:08 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration



Laboratory Control Spike Recovery

EPA 8260C WATER

APPL ID: **141026W-05593 LCS - 191309**
Batch ID: #86CRE-141026AL

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,1,1,2-TETRACHLOROETHANE	10.00	9.15	91.5	80-130
1,1,1-TRICHLOROETHANE	10.00	9.54	95.4	65-130
1,1,2,2-TETRACHLOROETHANE	10.00	10.9	109	65-130
1,1,2-TRICHLOROETHANE	10.00	9.15	91.5	75-125
1,1-DICHLOROETHANE	10.00	8.64	86.4	70-135
1,1-DICHLOROETHENE	10.00	9.46	94.6	70-130
1,2,3-TRICHLOROPROPANE	10.00	9.50	95.0	75-125
1,2,4-TRICHLOROBENZENE	10.00	8.72	87.2	65-135
1,2-DIBROMO-3-CHLOROPROPANE	10.00	10.6	106	50-130
1,2-DIBROMOETHANE	10.00	9.54	95.4	80-120
1,2-DICHLOROBENZENE	10.00	10.0	100	70-120
1,2-DICHLOROETHANE	10.00	10.2	102	70-130
1,2-DICHLOROPROPANE	10.00	9.39	93.9	75-125
1,3-DICHLOROBENZENE	10.00	10.7	107	75-125
1,3-DICHLOROPROPENE (TOTAL)	20.0	18.4	92.0	55-140
1,4-DICHLOROBENZENE	10.00	10.4	104	75-125
2-BUTANONE	10.00	9.58	95.8	30-150
4-METHYL-2-PENTANONE	10.00	8.53	85.3	60-135
ACETONE	10.00	9.06	90.6	40-140
BENZENE	10.00	10.2	102	80-120
BROMODICHLOROMETHANE	10.00	9.43	94.3	75-120
BROMOFORM	10.00	8.95	89.5	70-130
BROMOMETHANE	10.00	11.0	110	30-145
CARBON TETRACHLORIDE	10.00	10.3	103	65-140
CHLOROBENZENE	10.00	9.77	97.7	80-120
CHLOROETHANE	10.00	11.4	114	60-135
CHLOROFORM	10.00	8.92	89.2	65-135
CHLOROMETHANE	10.00	8.91	89.1	40-125
CIS-1,2-DICHLOROETHENE	10.00	9.83	98.3	70-125
DIBROMOCHLOROMETHANE	10.00	9.40	94.0	60-135
ETHYLBENZENE	10.00	10.4	104	75-125

Primary	SPK
Quant Method :	LALLW2.M
Extraction Date :	10/26/2014
Analysis Date :	10/26/2014
Instrument :	Loki
Run :	1026L05
Initials :	SV

Comments:

Printed: 11/17/2014 3:27:01 PM
APPL Standard LCS

Laboratory Control Spike Recovery

EPA 8260C WATER

APPL ID: **141026W-05593 LCS - 191309**
Batch ID: #86CRE-141026AL

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
HEXACHLOROBUTADIENE	10.00	9.79	97.9	50-140
METHYL TERT-BUTYL ETHER	10.00	9.21	92.1	65-125
METHYLENE CHLORIDE	10.00	9.94	99.4	55-140
STYRENE	10.00	11.1	111	65-135
TETRACHLOROETHENE	10.00	9.14	91.4	45-150
TOLUENE	10.00	10.5	105	75-120
TRANS-1,2-DICHLOROETHENE	10.00	9.32	93.2	60-140
TRICHLOROETHENE	10.00	9.30	93.0	70-125
VINYL CHLORIDE	10.00	7.75	77.5	50-145
XYLENES (TOTAL)	30.0	31.3	104	75-130
SURROGATE: 1,2-DICHLOROETHANE-D	27.7	24.3	87.7	70-120
SURROGATE: 4-BROMOFLUOROBENZ	22.2	26.5	119	75-120
SURROGATE: DIBROMOFLUOROMETH	27.2	23.9	88.0	85-115
SURROGATE: TOLUENE-D8 (S)	26.2	27.6	106	85-120

Comments: _____

Primary	SPK
Quant Method :	LALLW2.M
Extraction Date :	10/26/2014
Analysis Date :	10/26/2014
Instrument :	Loki
Run :	1026L05
Initials :	SV

Printed: 11/17/2014 3:27:01 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1026L05.D Vial: 4
Acq On : 26 Oct 14 12:35 Operator: DG,SV,RS
Sample : 141026A LCS-1WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 14:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	395328	25.00	ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	342336	25.00	ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	219328	25.00	ppb		0.00
System Monitoring Compounds							
33) Dibromofluoromethane(S)	5.11	111	205484	23.86	ppb		0.00
Spiked Amount 27.165			Recovery = 87.819%				
38) 1,2-DCA-D4(S)	5.52	65	221268	24.25	ppb		0.00
Spiked Amount 27.695			Recovery = 87.567%				
58) Toluene-D8(S)	7.71	98	669448	27.59	ppb		0.00
Spiked Amount 26.150			Recovery = 105.513%				
66) 4-Bromofluorobenzene(S)	10.36	95	245134	26.51	ppb		0.00
Spiked Amount 22.231			Recovery = 119.230%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.01	85	41407	8.38	ppb		95
3) Freon 114	1.10	85	42122	9.38	ppb		100
4) Chloromethane	1.14	50	71040	8.91	ppb		98
5) Vinyl chloride	1.22	62	75437	7.75	ppb		97
6) Bromomethane	1.45	94	56885	11.01	ppb		95
7) Chloroethane	1.53	64	42336	11.39	ppb		94
8) Dichlorofluoromethane	1.70	67	157465	9.92	ppb		96
9) Trichlorofluoromethane	1.74	101	102283	8.66	ppb		100
10) Acrolein	2.10	56	108940	122.89	ppb		92
11) Acetone	2.25	43	19700	9.06	ppb		97
12) Freon-113	2.20	101	67673	9.94	ppb		98
13) 1,1-DCE	2.18	61	104697	9.46	ppb		99
14) t-Butanol	2.87	59	27756	114.02	ppb		99
15) Acetonitrile	2.52	41	110531	110.98	ppb		94
16) Methyl Acetate	2.59	43	60984	9.90	ppb		99
17) Iodomethane	2.31	142	27784	11.46	ppb		92
18) Acrylonitrile	2.96	52	18857	8.93	ppb		87
19) Methylene chloride	2.67	84	80079	9.94	ppb		93
20) Carbon disulfide	2.36	76	184431	10.33	ppb		98
21) Methyl t-butyl ether (MtBE	3.02	73	162171	9.21	ppb		97
22) Trans-1,2-DCE	2.99	96	71924	9.32	ppb		96
23) Diisopropyl Ether	3.71	45	191840	9.29	ppb		98
24) 1,1-DCA	3.53	63	127377	8.64	ppb		98
25) Hexane	3.36	57	59485	10.23	ppb		95
26) Vinyl Acetate	3.71	43	42048	9.23	ppb		99
27) Ethyl tert Butyl Ether	4.29	59	173049	9.94	ppb		98
28) MEK (2-Butanone)	4.50	43	26317	9.58	ppb		97
29) Cis-1,2-DCE	4.43	96	82543	9.83	ppb		94
30) 2,2-Dichloropropane	4.40	77	41448	11.68	ppb		100
31) Chloroform	4.90	83	140419	8.92	ppb		98
32) Bromochloromethane	4.75	128	40978	9.45	ppb		98
34) 1,1,1-TCA	5.10	97	118260	9.54	ppb		95
35) Cyclohexane	5.16	41	52421	10.10	ppb		89
36) 1,1-Dichloropropene	5.34	75	90766	10.44	ppb		94
37) 2,2,4-Trimethylpentane	5.73	57	183117	11.47	ppb	#	88
39) Carbon Tetrachloride	5.32	117	102773	10.30	ppb		98
40) Tert Amyl Methyl Ether	5.79	73	172309	9.99	ppb		98
41) 1,2-DCA	5.62	62	103352	10.22	ppb		94
42) Benzene	5.58	78	292495	10.25	ppb		98
43) TCE	6.38	95	73100	9.30	ppb		96

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141024\1026L05.D Vial: 4
Acq On : 26 Oct 14 12:35 Operator: DG,SV,RS
Sample : 141026A LCS-1WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 14:44 2014 Quant Results File: LALLW2.RES

Quant Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	2-Pentanone	6.63	43	626443	124.01	ppb		99
45)	1,2-Dichloropropane	6.62	63	84864	9.39	ppb		98
46)	Bromodichloromethane	6.95	83	108807	9.43	ppb	#	99
47)	Methyl Cyclohexane	6.58	83	87477	10.03	ppb		94
48)	Dibromomethane	6.75	93	49174	9.14	ppb		94
49)	2-Chloroethyl vinyl ether	7.33	106	5800	7.28	ppb		90
50)	MIBK (methyl isobutyl ket	7.63	43	51189	8.53	ppb		97
51)	1-Bromo-2-chloroethane	7.26	63	62160	9.22	ppb		99
52)	Cis-1,3-Dichloropropene	7.44	75	114168	9.06	ppb		93
53)	Toluene	7.78	91	311052	10.53	ppb		100
54)	Trans-1,3-Dichloropropene	8.04	75	102943	9.32	ppb		94
55)	1,1,2-TCA	8.21	83	58442	9.15	ppb		96
56)	2-Hexanone	8.50	43	33402	8.70	ppb	#	87
59)	1,2-EDB	8.69	107	67116	9.54	ppb		88
60)	Tetrachloroethene	8.34	166	92261	9.14	ppb		98
61)	1-Chlorohexane	9.22	91	79024	10.27	ppb		98
62)	1,1,1,2-Tetrachloroethane	9.30	131	85284	9.15	ppb		91
63)	m&p-Xylene	9.46	106	253746	21.20	ppb		95
64)	o-Xylene	9.85	106	112848	10.05	ppb		95
65)	Styrene	9.86	104	197591	11.14	ppb		97
67)	1,3-Dichloropropane	8.38	76	111502	9.56	ppb		94
68)	Dibromochloromethane	8.60	129	81891	9.40	ppb		95
69)	Chlorobenzene	9.21	112	212406	9.77	ppb		96
70)	Ethylbenzene	9.34	91	317226	10.42	ppb		99
71)	Bromoform	10.02	173	56319	8.95	ppb		91
73)	Isopropylbenzene	10.22	105	282426	10.15	ppb		99
74)	1,1,2,2-Tetrachloroethane	10.52	83	95110	10.91	ppb		96
75)	1,2,3-Trichloropropane	10.55	110	26982	9.50	ppb		97
76)	t-1,4-Dichloro-2-Butene	10.58	53	17486	9.96	ppb		92
77)	Bromobenzene	10.49	156	96604	10.19	ppb		99
78)	n-Propylbenzene	10.63	91	354576	10.42	ppb		98
79)	4-Ethyltoluene	10.75	105	325167	10.87	ppb		98
80)	2-Chlorotoluene	10.70	91	240297	11.00	ppb		100
81)	1,3,5-Trimethylbenzene	10.82	105	293984	11.20	ppb		92
82)	4-Chlorotoluene	10.81	91	288723	11.12	ppb		100
83)	Tert-Butylbenzene	11.13	119	219351	10.43	ppb		100
84)	1,2,4-Trimethylbenzene	11.18	105	273459	10.77	ppb		95
85)	Sec-Butylbenzene	11.35	105	332725	10.73	ppb		99
86)	p-Isopropyltoluene	11.51	119	289073	10.87	ppb		98
87)	Benzyl Chloride	11.67	91	127262	10.12	ppb		99
88)	1,3-DCB	11.44	146	197395	10.73	ppb		97
89)	1,4-DCB	11.53	146	206895	10.41	ppb		98
90)	n-Butylbenzene	11.91	91	258804	10.54	ppb		99
91)	1,2-DCB	11.89	146	181383	10.05	ppb		98
92)	Hexachloroethane	12.14	117	61810	10.79	ppb		94
93)	1,2-Dibromo-3-chloropropan	12.66	157	12280	10.62	ppb		94
94)	1,2,4-Trichlorobenzene	13.49	180	106615	8.72	ppb		99
95)	Hexachlorobutadiene	13.68	225	72414	9.79	ppb		94
96)	Naphthalene	13.72	128	123488	9.16	ppb		98
97)	1,2,3-Trichlorobenzene	13.96	180	110689	9.17	ppb		95

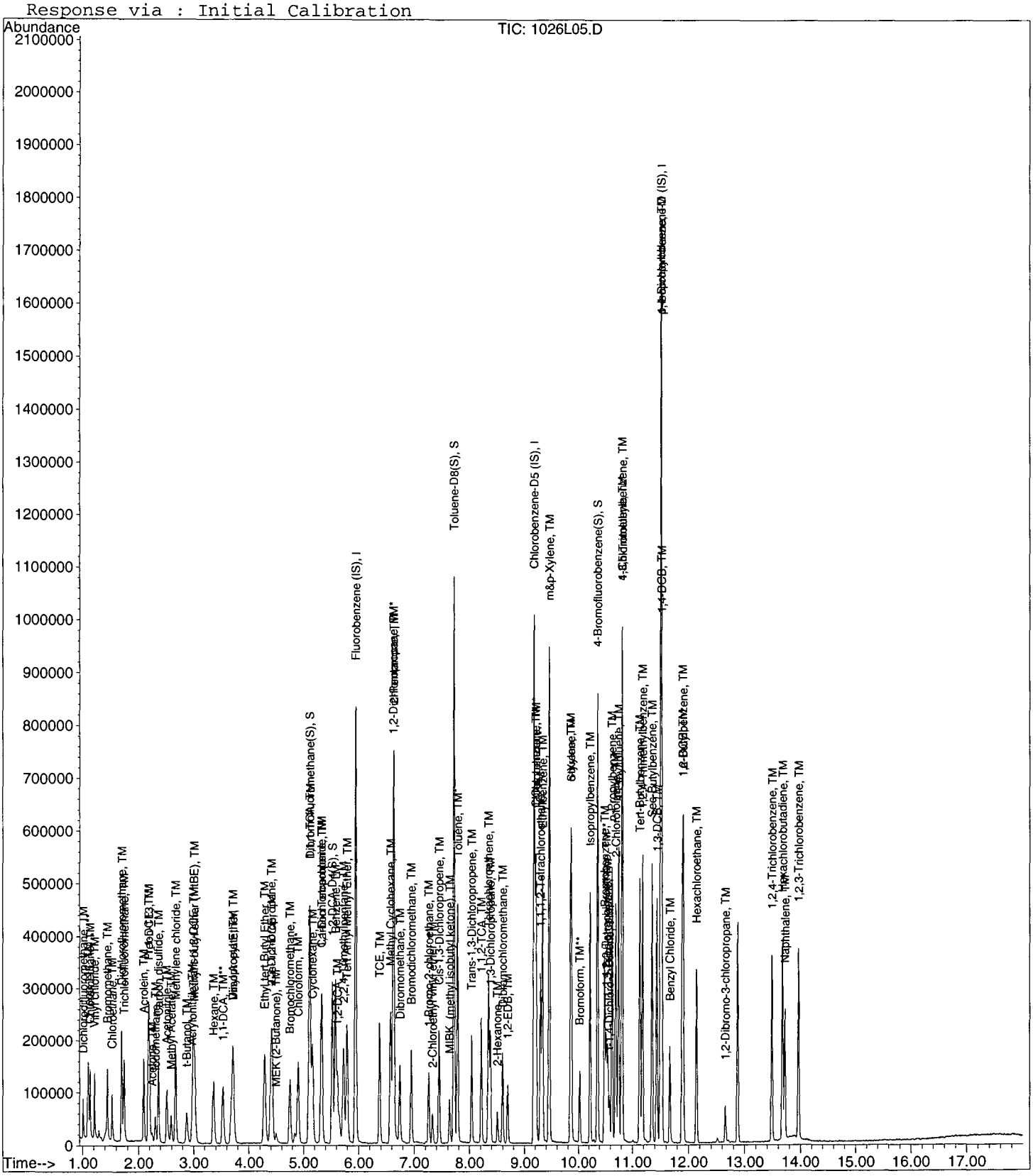
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141024\1026L05.D Vial: 4
Acq On : 26 Oct 14 12:35 Operator: DG,SV,RS
Sample : 141026A LCS-1WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Oct 27 14:44 2014 Quant Results File: LALLW2.RES

Method : M:\LOKI\DATA\141024\LALLW2.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Oct 27 15:42:00 2014
Response via : Initial Calibration



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Matrix Spike Recoveries

EPA 8260C WATER

APPL ID: **141117W-05593 MS - 191309**
Batch ID: #86CRE-141026AL
Sample ID: AZ05593
Client ID: RHMW06-GW-01

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
1,1,1,2-TETRACHLOROETHANE	10.00	ND	12.6	12.2	126	122	80-130	3.2	30
1,1,1-TRICHLOROETHANE	10.00	ND	12.6	12.0	126	120	65-130	4.9	30
1,1,2,2-TETRACHLOROETHANE	10.00	ND	13.8	13.5	138 #	135 #	65-130	2.2	30
1,1,2-TRICHLOROETHANE	10.00	ND	12.3	11.6	123	116	75-125	5.9	30
1,1-DICHLOROETHANE	10.00	ND	13.6	12.7	136 #	127	70-135	6.8	30
1,1-DICHLOROETHENE	10.00	ND	12.2	11.6	122	116	70-130	5.0	30
1,2,3-TRICHLOROPROPANE	10.00	ND	12.2	12.3	122	123	75-125	0.82	30
1,2,4-TRICHLOROBENZENE	10.00	ND	11.8	11.8	118	118	65-135	0.0	30
1,2-DIBROMO-3-CHLOROPROPANE	10.00	ND	9.74	10.3	97.4	103	50-130	5.6	30
1,2-DIBROMOETHANE	10.00	ND	12.0	11.4	120	114	80-120	5.1	30
1,2-DICHLOROBENZENE	10.00	ND	12.4	11.9	124 #	119	70-120	4.1	30
1,2-DICHLOROETHANE	10.00	ND	12.6	12.2	126	122	70-130	3.2	30
1,2-DICHLOROPROPANE	10.00	ND	13.4	13.2	134 #	132 #	75-125	1.5	30
1,3-DICHLOROBENZENE	10.00	ND	13.3	12.7	133 #	127 #	75-125	4.6	30
1,4-DICHLOROBENZENE	10.00	ND	12.5	12.2	125	122	75-125	2.4	30
2-BUTANONE	10.00	ND	7.90	7.69	79.0	76.9	30-150	2.7	30
4-METHYL-2-PENTANONE	10.00	ND	6.78	7.21	67.8	72.1	60-135	6.1	30
ACETONE	10.00	ND	7.59	6.94	75.9	69.4	40-140	8.9	30
BENZENE	10.00	ND	13.4	12.9	134 #	129 #	80-120	3.8	30
BROMODICHLOROMETHANE	10.00	ND	12.5	12.1	125 #	121 #	75-120	3.3	30
BROMOFORM	10.00	ND	11.4	11.1	114	111	70-130	2.7	30
BROMOMETHANE	10.00	ND	13.1	13.0	131	130	30-145	0.77	30
CARBON TETRACHLORIDE	10.00	ND	12.1	11.7	121	117	65-140	3.4	30
CHLOROBENZENE	10.00	ND	13.3	12.6	133 #	126 #	80-120	5.4	30
CHLOROETHANE	10.00	ND	9.53	9.51	95.3	95.1	60-135	0.21	30
CHLOROFORM	10.00	ND	13.0	12.5	130	125	65-135	3.9	30
CHLOROMETHANE	10.00	ND	8.69	8.43	86.9	84.3	40-125	3.0	30
CIS-1,2-DICHLOROETHENE	10.00	ND	12.6	12.2	126 #	122	70-125	3.2	30
DIBROMOCHLOROMETHANE	10.00	ND	12.1	11.6	121	116	60-135	4.2	30
ETHYLBENZENE	10.00	ND	14.9	14.2	149 #	142 #	75-125	4.8	30

= Recovery is outside QC limits.

Primary	SPK	DUP
Quant Method :	LALLW.M	LALLW.M
Extraction Date :	11/17/2014	11/17/2014
Analysis Date :	11/17/2014	11/17/2014
Instrument :	Loki	Loki
Run :	1117L31	1117L32
Initials :	SV	

Comments: _____

Printed: 11/18/2014 8:47:31 AM
APPL MSD SCII

Matrix Spike Recoveries

EPA 8260C WATER

APPL ID: **141117W-05593 MS - 191309**
Batch ID: #86CRE-141026AL
Sample ID: AZ05593
Client ID: RHMW06-GW-01

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	Matrix Result ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
HEXACHLOROBUTADIENE	10.00	ND	12.5	11.7	125	117	50-140	6.6	30
METHYL TERT-BUTYL ETHER	10.00	ND	11.2	11.2	112	112	65-125	0.0	30
METHYLENE CHLORIDE	10.00	ND	13.6	13.4	136	134	55-140	1.5	30
STYRENE	10.00	ND	13.1	12.5	131	125	65-135	4.7	30
TETRACHLOROETHENE	10.00	ND	12.8	11.8	128	118	45-150	8.1	30
TOLUENE	10.00	ND	13.9	13.4	139 #	134 #	75-120	3.7	30
TRANS-1,2-DICHLOROETHENE	10.00	ND	13.2	12.8	132	128	60-140	3.1	30
TRICHLOROETHENE	10.00	ND	12.2	12.2	122	122	70-125	0.0	30
VINYL CHLORIDE	10.00	ND	9.12	8.81	91.2	88.1	50-145	3.5	30
XYLENES (TOTAL)	30.0	ND	43.7	41.8	146 #	139 #	75-130	4.4	30
SURROGATE: 1,2-DICHLOROETHANE-D	25.0	NA	22.5	22.7	90.1	90.9	70-120		
SURROGATE: 4-BROMOFLUOROBENZE	22.9	NA	26.4	25.9	115	113	75-120		
SURROGATE: DIBROMOFLUOROMETH	24.0	NA	22.7	22.5	94.5	93.7	85-115		
SURROGATE: TOLUENE-D8 (S)	24.9	NA	26.3	25.6	106	103	85-120		

= Recovery is outside QC limits.

Comments: _____

Primary	SPK	DUP
Quant Method :	LALLW.M	LALLW.M
Extraction Date :	11/17/2014	11/17/2014
Analysis Date :	11/17/2014	11/17/2014
Instrument :	Loki	Loki
Run :	1117L31	1117L32
Initials :	SV	

Printed: 11/18/2014 8:47:31 AM
APPL MSD SCII

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1117L31.D
Acq On : 17 Nov 14 22:04
Sample : AZ05593W458 MS-1WL
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 27
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Quant Time: Nov 18 8:31 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Nov 17 11:06:38 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	536640	25.00	ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	438208	25.00	ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.50	152	259200	25.00	ppb		0.00
System Monitoring Compounds							
33) Dibromofluoromethane(S)	5.11	111	277842	22.73	ppb		0.00
Spiked Amount 24.012			Recovery = 94.673%				
38) 1,2-DCA-D4(S)	5.52	65	307642	22.46	ppb		0.00
Spiked Amount 24.984			Recovery = 89.892%				
58) Toluene-D8(S)	7.71	98	915581	26.35	ppb		0.00
Spiked Amount 24.898			Recovery = 105.829%				
66) 4-Bromofluorobenzene(S)	10.36	95	338038	26.37	ppb		0.00
Spiked Amount 22.905			Recovery = 115.125%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.01	85	80633	8.80	ppb		98
3) Freon 114	1.10	85	89709	10.43	ppb		89
4) Chloromethane	1.14	50	144604	8.69	ppb		98
5) Vinyl chloride	1.22	62	115793	9.12	ppb		99
6) Bromomethane	1.45	94	72656	13.12	ppb		100
7) Chloroethane	1.53	64	58751	9.53	ppb		98
8) Dichlorofluoromethane	1.70	67	289065	12.92	ppb		97
9) Trichlorofluoromethane	1.74	101	141936	8.99	ppb		94
10) Acrolein	2.10	56	44993	72.41	ppb	#	88
11) Acetone	2.25	43	25611	7.59	ppb		99
12) Freon-113	2.20	101	107929	11.66	ppb		98
13) 1,1-DCE	2.18	61	187570	12.19	ppb		93
14) t-Butanol	2.87	59	23896	89.76	ppb		98
15) Acetonitrile	2.51	41	129457	112.90	ppb		99
16) Methyl Acetate	2.59	43	83403	12.03	ppb		96
17) Iodomethane	2.31	142	23152	11.65	ppb		92
18) Acrylonitrile	2.97	52	30964	12.11	ppb		100
19) Methylene chloride	2.67	84	150149	13.64	ppb		96
20) Carbon disulfide	2.36	76	372562	11.59	ppb		99
21) Methyl t-butyl ether (MtBE	3.01	73	276436	11.20	ppb		94
22) Trans-1,2-DCE	2.99	61	187357	13.22	ppb		94
23) Diisopropyl Ether	3.71	45	415693	13.64	ppb		97
24) 1,1-DCA	3.53	63	264456	13.56	ppb		96
25) Hexane	3.36	57	96409	10.69	ppb		96
26) Vinyl Acetate	3.71	43	90614	13.45	ppb		98
27) Ethyl tert Butyl Ether	4.28	59	321532	12.54	ppb		98
28) MEK (2-Butanone)	4.50	43	28162	7.90	ppb		87
29) Cis-1,2-DCE	4.42	96	144863	12.61	ppb		91
30) 2,2-Dichloropropane	4.40	77	65040	12.32	ppb		98
31) Chloroform	4.90	83	254240	12.98	ppb		99
32) Bromochloromethane	4.75	128	68246	11.60	ppb		94
34) 1,1,1-TCA	5.10	97	208795	12.64	ppb		98
35) Cyclohexane	5.16	41	96276	12.70	ppb		94
36) 1,1-Dichloropropene	5.33	75	163480	13.14	ppb		98
37) 2,2,4-Trimethylpentane	5.73	57	277005	12.14	ppb		98
39) Carbon Tetrachloride	5.32	117	183536	12.15	ppb		97
40) Tert Amyl Methyl Ether	5.79	73	282344	12.28	ppb		99
41) 1,2-DCA	5.62	62	183766	12.64	ppb		100
42) Benzene	5.58	78	539326	13.41	ppb		98
43) TCE	6.38	95	128190	12.21	ppb		98

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1117L31.D Vial: 27
Acq On : 17 Nov 14 22:04 Operator: DG,SV,RS
Sample : AZ05593W458 MS-1WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 8:31 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Nov 17 11:06:38 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
44)	2-Pentanone	6.63	43	623711	96.56 ppb	100
45)	1,2-Dichloropropane	6.62	63	157129	13.35 ppb	97
46)	Bromodichloromethane	6.95	83	189877	12.50 ppb	98
47)	Methyl Cyclohexane	6.58	83	140968	11.59 ppb	90
48)	Dibromomethane	6.75	93	82080	11.76 ppb	93
50)	MIBK (methyl isobutyl ket	7.63	43	54509	6.78 ppb	99
51)	1-Bromo-2-chloroethane	7.26	63	107880	12.15 ppb	99
52)	Cis-1,3-Dichloropropene	7.44	75	193480	11.86 ppb	95
53)	Toluene	7.78	91	562630	13.94 ppb	98
54)	Trans-1,3-Dichloropropene	8.04	75	168399	11.97 ppb	99
55)	1,1,2-TCA	8.21	83	96339	12.26 ppb	94
56)	2-Hexanone	8.50	43	32964	7.45 ppb	99
59)	1,2-EDB	8.69	107	104219	11.98 ppb	94
60)	Tetrachloroethene	8.34	166	144349	12.84 ppb	96
61)	1-Chlorohexane	9.22	91	140083	13.59 ppb	95
62)	1,1,1,2-Tetrachloroethane	9.30	131	142846	12.60 ppb	99
63)	m&p-Xylene	9.46	106	448503	29.46 ppb	92
64)	o-Xylene	9.84	106	201712	14.27 ppb	99
65)	Styrene	9.86	104	357468	13.07 ppb	97
67)	1,3-Dichloropropane	8.37	76	189653	13.21 ppb	96
68)	Dibromochloromethane	8.60	129	130723	12.13 ppb	98
69)	Chlorobenzene	9.20	112	366958	13.26 ppb	99
70)	Ethylbenzene	9.34	91	587700	14.86 ppb	95
71)	Bromoform	10.02	173	84306	11.42 ppb	100
73)	Isopropylbenzene	10.22	105	501825	13.89 ppb	100
74)	1,1,2,2-Tetrachloroethane	10.52	83	139186	13.79 ppb	97
75)	1,2,3-Trichloropropane	10.55	110	36846	12.20 ppb	93
76)	t-1,4-Dichloro-2-Butene	10.58	53	30039	11.67 ppb	85
77)	Bromobenzene	10.49	156	156263	12.48 ppb	99
78)	n-Propylbenzene	10.63	91	663648	14.10 ppb	98
79)	4-Ethyltoluene	10.75	105	545891	14.96 ppb	97
80)	2-Chlorotoluene	10.70	91	424481	14.80 ppb	100
81)	1,3,5-Trimethylbenzene	10.81	105	503334	15.25 ppb	98
82)	4-Chlorotoluene	10.81	126	103752	13.79 ppb	84
83)	Tert-Butylbenzene	11.13	119	368349	13.93 ppb	99
84)	1,2,4-Trimethylbenzene	11.18	105	461745	14.40 ppb	97
85)	Sec-Butylbenzene	11.35	105	567088	14.80 ppb	98
86)	p-Isopropyltoluene	11.50	119	467515	14.35 ppb	99
87)	Benzyl Chloride	11.66	91	106304	8.15 ppb	98
88)	1,3-DCB	11.43	146	302819	13.25 ppb	99
89)	1,4-DCB	11.52	146	313242	12.47 ppb	98
90)	n-Butylbenzene	11.90	91	437919	13.67 ppb	99
91)	1,2-DCB	11.88	146	273801	12.39 ppb	97
92)	Hexachloroethane	12.14	117	85020	9.92 ppb	90
93)	1,2-Dibromo-3-chloropropan	12.65	157	20199	9.74 ppb	88
94)	1,2,4-Trichlorobenzene	13.48	180	155921	11.79 ppb	98
95)	Hexachlorobutadiene	13.67	225	105736	12.46 ppb	94
96)	Naphthalene	13.71	128	140224	10.04 ppb	98
97)	1,2,3-Trichlorobenzene	13.96	180	97248	11.62 ppb	98

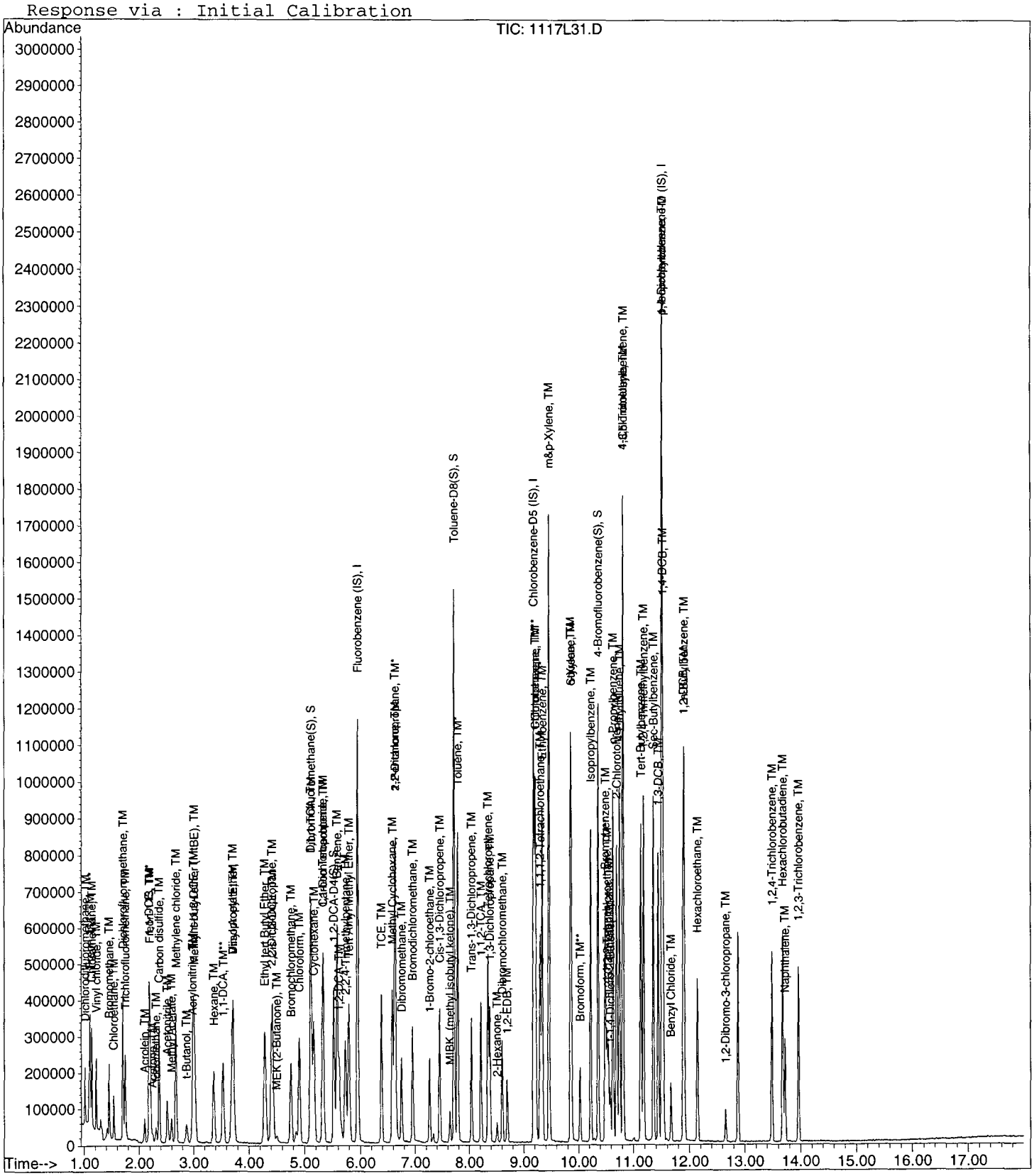
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141110\1117L31.D Vial: 27
Acq On : 17 Nov 14 22:04 Operator: DG,SV,RS
Sample : AZ05593W458 MS-1WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 8:31 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Nov 17 11:06:38 2014
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1117L32.D Vial: 28
Acq On : 17 Nov 14 22:32 Operator: DG,SV,RS
Sample : AZ05593W458 MSD-1WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 8:31 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Nov 17 11:06:38 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	548672	25.00	ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	456448	25.00	ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.50	152	264512	25.00	ppb		0.00
System Monitoring Compounds							
33) Dibromofluoromethane(S)	5.11	111	280800	22.47	ppb		0.00
Spiked Amount 24.012			Recovery = 93.582%				
38) 1,2-DCA-D4(S)	5.52	65	317937	22.70	ppb		0.00
Spiked Amount 24.984			Recovery = 90.865%				
58) Toluene-D8(S)	7.71	98	927625	25.63	ppb		0.00
Spiked Amount 24.898			Recovery = 102.937%				
66) 4-Bromofluorobenzene(S)	10.36	95	346150	25.92	ppb		0.00
Spiked Amount 22.905			Recovery = 113.178%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.01	85	74408	7.94	ppb		99
3) Freon 114	1.10	85	85583	9.74	ppb		92
4) Chloromethane	1.14	50	143408	8.43	ppb		98
5) Vinyl chloride	1.22	62	114342	8.81	ppb		100
6) Bromomethane	1.45	94	73648	13.00	ppb		95
7) Chloroethane	1.53	64	59949	9.51	ppb		98
8) Dichlorofluoromethane	1.70	67	281066	12.29	ppb		96
9) Trichlorofluoromethane	1.74	101	136797	8.47	ppb		98
10) Acrolein	2.10	56	44776	70.10	ppb	#	92
11) Acetone	2.25	43	24671	6.94	ppb		96
12) Freon-113	2.20	101	103094	10.89	ppb		98
13) 1,1-DCE	2.18	61	181919	11.56	ppb		97
14) t-Butanol	2.87	59	23712	86.67	ppb		97
15) Acetonitrile	2.51	41	128255	109.07	ppb		97
16) Methyl Acetate	2.59	43	88391	12.48	ppb		91
17) Iodomethane	2.31	142	26600	12.86	ppb		96
18) Acrylonitrile	2.97	52	30804	11.78	ppb		89
19) Methylene chloride	2.67	84	151214	13.42	ppb		95
20) Carbon disulfide	2.37	76	363895	11.07	ppb		99
21) Methyl t-butyl ether (MtBE	3.01	73	281589	11.15	ppb		97
22) Trans-1,2-DCE	2.99	61	185140	12.78	ppb		94
23) Diisopropyl Ether	3.71	45	422494	13.56	ppb		95
24) 1,1-DCA	3.53	63	253463	12.71	ppb		99
25) Hexane	3.36	57	93370	10.13	ppb		99
26) Vinyl Acetate	3.71	43	92208	13.38	ppb	#	97
27) Ethyl tert Butyl Ether	4.28	59	318003	12.13	ppb		100
28) MEK (2-Butanone)	4.50	43	28048	7.69	ppb		87
29) Cis-1,2-DCE	4.43	96	143730	12.23	ppb		91
30) 2,2-Dichloropropane	4.40	77	62720	11.62	ppb		98
31) Chloroform	4.90	83	250291	12.50	ppb		96
32) Bromochloromethane	4.75	128	67662	11.25	ppb		92
34) 1,1,1-TCA	5.10	97	202634	12.00	ppb		97
35) Cyclohexane	5.16	41	96461	12.45	ppb		100
36) 1,1-Dichloropropene	5.33	75	159865	12.57	ppb		99
37) 2,2,4-Trimethylpentane	5.73	57	269143	11.54	ppb		97
39) Carbon Tetrachloride	5.32	117	181521	11.75	ppb		95
40) Tert Amyl Methyl Ether	5.79	73	282424	12.01	ppb		99
41) 1,2-DCA	5.62	62	181098	12.18	ppb		100
42) Benzene	5.58	78	530651	12.91	ppb		98
43) TCE	6.38	95	131132	12.22	ppb		97

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1117L32.D Vial: 28
Acq On : 17 Nov 14 22:32 Operator: DG,SV,RS
Sample : AZ05593W458 MSD-1WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 8:31 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Nov 17 11:06:38 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	2-Pentanone	6.63	43	636139	96.32	ppb		95
45)	1,2-Dichloropropane	6.62	63	158335	13.16	ppb	#	95
46)	Bromodichloromethane	6.95	83	188261	12.12	ppb		96
47)	Methyl Cyclohexane	6.58	83	138976	11.18	ppb		99
48)	Dibromomethane	6.75	93	82618	11.57	ppb		90
50)	MIBK (methyl isobutyl ket	7.63	43	59257	7.21	ppb		96
51)	1-Bromo-2-chloroethane	7.26	63	110216	12.15	ppb		96
52)	Cis-1,3-Dichloropropene	7.44	75	196267	11.77	ppb		96
53)	Toluene	7.78	91	552841	13.40	ppb		95
54)	Trans-1,3-Dichloropropene	8.04	75	166812	11.60	ppb		99
55)	1,1,2-TCA	8.21	83	93480	11.64	ppb		94
56)	2-Hexanone	8.50	43	34832	7.67	ppb		99
59)	1,2-EDB	8.69	107	103023	11.37	ppb		92
60)	Tetrachloroethene	8.34	166	137630	11.76	ppb		96
61)	1-Chlorohexane	9.22	91	140145	13.05	ppb		95
62)	1,1,1,2-Tetrachloroethane	9.30	131	143885	12.19	ppb		98
63)	m&p-Xylene	9.46	106	440910	27.80	ppb		93
64)	o-Xylene	9.85	106	206774	14.04	ppb		98
65)	Styrene	9.86	104	355814	12.51	ppb		97
67)	1,3-Dichloropropane	8.37	76	188064	12.57	ppb		99
68)	Dibromochloromethane	8.60	129	130311	11.61	ppb		98
69)	Chlorobenzene	9.20	112	362467	12.58	ppb		98
70)	Ethylbenzene	9.34	91	583049	14.16	ppb		99
71)	Bromoform	10.02	173	85391	11.10	ppb		95
73)	Isopropylbenzene	10.22	105	500245	13.57	ppb		100
74)	1,1,2,2-Tetrachloroethane	10.52	83	139200	13.49	ppb		94
75)	1,2,3-Trichloropropane	10.55	110	37901	12.30	ppb		100
76)	t-1,4-Dichloro-2-Butene	10.58	53	30404	11.58	ppb		89
77)	Bromobenzene	10.49	156	153203	11.99	ppb		98
78)	n-Propylbenzene	10.63	91	650379	13.55	ppb		98
79)	4-Ethyltoluene	10.75	105	533962	14.34	ppb		97
80)	2-Chlorotoluene	10.70	91	417741	14.27	ppb		98
81)	1,3,5-Trimethylbenzene	10.81	105	498291	14.79	ppb		97
82)	4-Chlorotoluene	10.81	126	99048	12.90	ppb		85
83)	Tert-Butylbenzene	11.13	119	362155	13.42	ppb		98
84)	1,2,4-Trimethylbenzene	11.18	105	466380	14.26	ppb		97
85)	Sec-Butylbenzene	11.35	105	561404	14.36	ppb		99
86)	p-Isopropyltoluene	11.50	119	462208	13.91	ppb		98
87)	Benzyl Chloride	11.67	91	104795	7.88	ppb		98
88)	1,3-DCB	11.43	146	295232	12.66	ppb		98
89)	1,4-DCB	11.52	146	313899	12.24	ppb		99
90)	n-Butylbenzene	11.90	91	433267	13.25	ppb		99
91)	1,2-DCB	11.89	146	269032	11.93	ppb		98
92)	Hexachloroethane	12.14	117	84062	9.61	ppb		92
93)	1,2-Dibromo-3-chloropropan	12.65	157	21790	10.30	ppb		97
94)	1,2,4-Trichlorobenzene	13.48	180	158724	11.76	ppb		98
95)	Hexachlorobutadiene	13.67	225	101580	11.72	ppb		95
96)	Naphthalene	13.71	128	138176	9.71	ppb		97
97)	1,2,3-Trichlorobenzene	13.96	180	96704	11.32	ppb		95

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

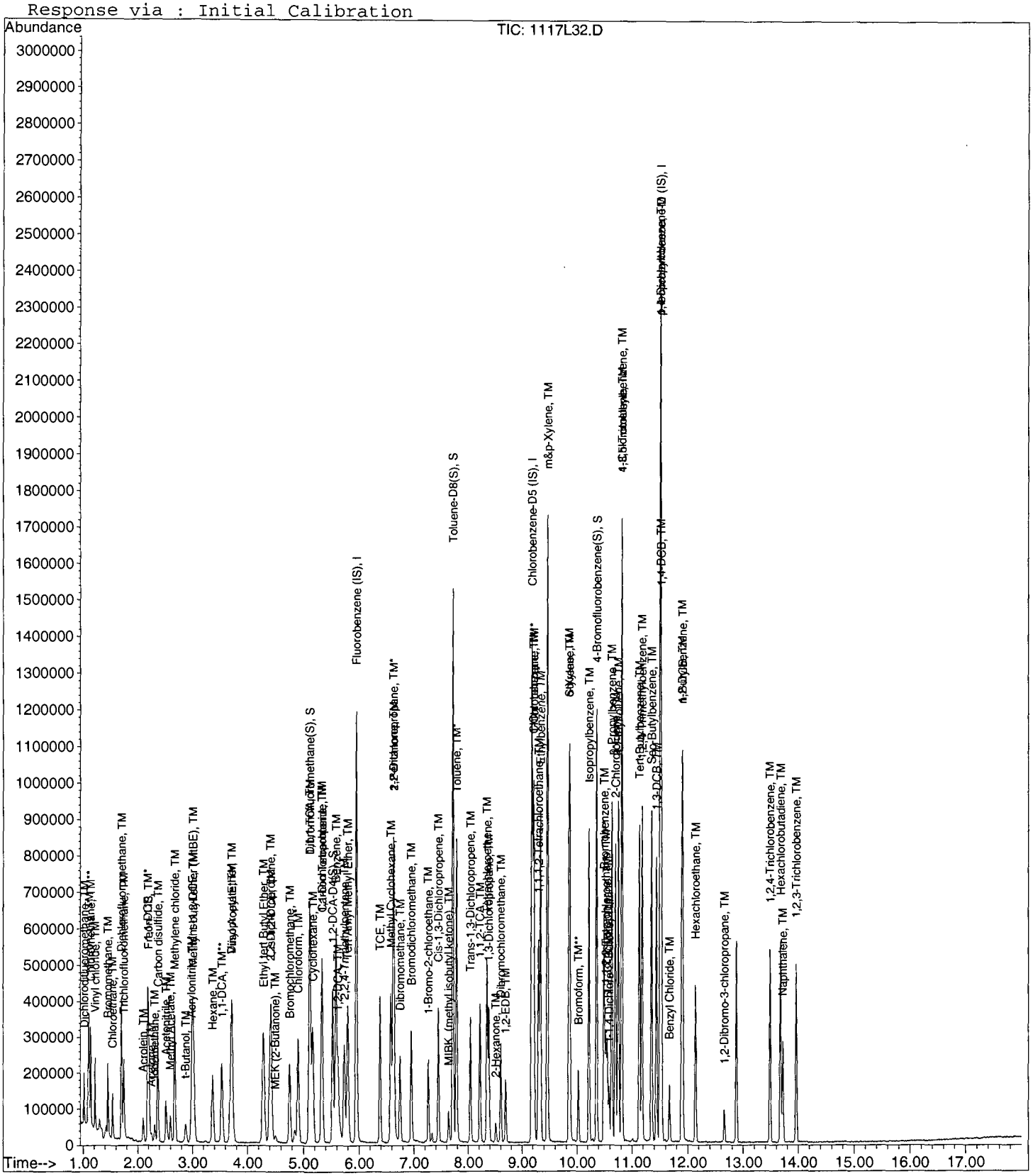
Quantitation Report

Data File : M:\LOKI\DATA\141110\1117L32.D
Acq On : 17 Nov 14 22:32
Sample : AZ05593W458 MSD-1WL
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 28
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Quant Time: Nov 18 8:31 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Nov 17 11:06:38 2014
Response via : Initial Calibration



245

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1117L11.D
Acq On : 17 Nov 14 12:42
Sample : 141117A LCS-1WL
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 7
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Quant Time: Nov 18 8:51 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Nov 17 11:06:38 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	572864	25.00	ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	474880	25.00	ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.50	152	283072	25.00	ppb		0.00
System Monitoring Compounds							
33) Dibromofluoromethane(S)	5.11	111	290011	22.23	ppb		0.00
Spiked Amount 24.012			Recovery =	92.570%			
38) 1,2-DCA-D4(S)	5.52	65	328005	22.43	ppb		0.00
Spiked Amount 24.984			Recovery =	89.784%			
58) Toluene-D8(S)	7.71	98	970058	25.76	ppb		0.00
Spiked Amount 24.898			Recovery =	103.467%			
66) 4-Bromofluorobenzene(S)	10.36	95	355301	25.58	ppb		0.00
Spiked Amount 22.905			Recovery =	111.663%			
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.01	85	81779	8.36	ppb		98
3) Freon 114	1.10	85	87580	9.54	ppb		90
4) Chloromethane	1.14	50	149268	8.41	ppb		100
5) Vinyl chloride	1.21	62	120506	8.89	ppb		99
6) Bromomethane	1.45	94	57474	9.51	ppb		93
7) Chloroethane	1.53	64	62728	9.53	ppb		97
8) Dichlorofluoromethane	1.70	67	214513	8.98	ppb		96
9) Trichlorofluoromethane	1.74	101	150907	8.95	ppb		99
10) Acrolein	2.10	56	65253	103.44	ppb	#	98
11) Acetone	2.25	43	28515	8.06	ppb		96
12) Freon-113	2.20	101	95550	9.67	ppb		97
13) 1,1-DCE	2.18	61	141312	8.60	ppb		98
14) t-Butanol	2.87	59	30536	110.39	ppb		100
15) Acetonitrile	2.51	41	147039	120.78	ppb		98
16) Methyl Acetate	2.60	43	75033	10.10	ppb		92
17) Iodomethane	2.31	142	28456	13.12	ppb		92
18) Acrylonitrile	2.96	52	25176	9.13	ppb		88
19) Methylene chloride	2.67	84	113092	9.35	ppb		94
20) Carbon disulfide	2.36	76	282267	8.22	ppb		99
21) Methyl t-butyl ether (MtBE	3.01	73	228237	8.66	ppb		98
22) Trans-1,2-DCE	2.99	61	139642	9.23	ppb		95
23) Diisopropyl Ether	3.72	45	325679	10.01	ppb		97
24) 1,1-DCA	3.53	63	193877	9.31	ppb		97
25) Hexane	3.36	57	98308	10.22	ppb		99
26) Vinyl Acetate	3.71	43	69951	9.72	ppb		99
27) Ethyl tert Butyl Ether	4.28	59	251652	9.20	ppb		98
28) MEK (2-Butanone)	4.50	43	33833	8.95	ppb		92
29) Cis-1,2-DCE	4.42	96	108514	8.85	ppb		93
30) 2,2-Dichloropropane	4.40	77	56496	10.02	ppb		96
31) Chloroform	4.90	83	187475	8.97	ppb		98
32) Bromochloromethane	4.75	128	51657	8.22	ppb		100
34) 1,1,1-TCA	5.10	97	160111	9.08	ppb		96
35) Cyclohexane	5.16	41	83851	10.36	ppb		94
36) 1,1-Dichloropropene	5.33	75	123687	9.31	ppb		99
37) 2,2,4-Trimethylpentane	5.73	57	267413	10.98	ppb		100
39) Carbon Tetrachloride	5.32	117	144096	8.93	ppb		96
40) Tert Amyl Methyl Ether	5.79	73	231540	9.43	ppb		95
41) 1,2-DCA	5.62	62	140480	9.05	ppb		99
42) Benzene	5.58	78	401451	9.35	ppb		97
43) TCE	6.38	95	102007	9.10	ppb		97

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1117L11.D Vial: 7
Acq On : 17 Nov 14 12:42 Operator: DG,SV,RS
Sample : 141117A LCS-1WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 8:51 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Nov 17 11:06:38 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
44)	2-Pentanone	6.63	43	788151	114.30	ppb		99
45)	1,2-Dichloropropane	6.62	63	120147	9.56	ppb		97
46)	Bromodichloromethane	6.95	83	146666	9.04	ppb		98
47)	Methyl Cyclohexane	6.58	83	126272	9.73	ppb		94
48)	Dibromomethane	6.74	93	63654	8.54	ppb		93
50)	MIBK (methyl isobutyl ket	7.63	43	67331	7.85	ppb		99
51)	1-Bromo-2-chloroethane	7.26	63	84104	8.88	ppb		98
52)	Cis-1,3-Dichloropropene	7.44	75	152916	8.78	ppb		96
53)	Toluene	7.78	91	422081	9.80	ppb		98
54)	Trans-1,3-Dichloropropene	8.04	75	136676	9.10	ppb		99
55)	1,1,2-TCA	8.21	83	76367	9.10	ppb		95
56)	2-Hexanone	8.50	43	44998	9.26	ppb	#	97
59)	1,2-EDB	8.69	107	82460	8.74	ppb		96
60)	Tetrachloroethene	8.34	166	112933	9.27	ppb		95
61)	1-Chlorohexane	9.22	91	111879	10.02	ppb		94
62)	1,1,1,2-Tetrachloroethane	9.30	131	112041	9.12	ppb		97
63)	m&p-Xylene	9.46	106	338458	20.51	ppb		94
64)	o-Xylene	9.84	106	152848	9.98	ppb		99
65)	Styrene	9.86	104	263457	9.07	ppb		96
67)	1,3-Dichloropropane	8.37	76	147017	9.45	ppb		99
68)	Dibromochloromethane	8.60	129	103403	8.85	ppb		93
69)	Chlorobenzene	9.20	112	280199	9.35	ppb		98
70)	Ethylbenzene	9.34	91	444477	10.37	ppb		97
71)	Bromoform	10.02	173	70082	8.76	ppb		99
73)	Isopropylbenzene	10.22	105	379956	9.63	ppb		96
74)	1,1,2,2-Tetrachloroethane	10.52	83	111497	9.78	ppb		96
75)	1,2,3-Trichloropropane	10.55	110	30557	8.98	ppb		92
76)	t-1,4-Dichloro-2-Butene	10.58	53	27471	9.77	ppb		84
77)	Bromobenzene	10.49	156	118961	8.70	ppb		94
78)	n-Propylbenzene	10.63	91	498500	9.76	ppb		98
79)	4-Ethyltoluene	10.75	105	415209	10.42	ppb		96
80)	2-Chlorotoluene	10.70	91	323842	10.34	ppb		97
81)	1,3,5-Trimethylbenzene	10.81	105	378197	10.49	ppb		99
82)	4-Chlorotoluene	10.81	126	82170	10.00	ppb		91
83)	Tert-Butylbenzene	11.13	119	288738	10.00	ppb		98
84)	1,2,4-Trimethylbenzene	11.18	105	352280	10.06	ppb		94
85)	Sec-Butylbenzene	11.35	105	433032	10.35	ppb		98
86)	p-Isopropyltoluene	11.50	119	364161	10.24	ppb		99
87)	Benzyl Chloride	11.67	91	149236	10.50	ppb		96
88)	1,3-DCB	11.43	146	234036	9.38	ppb		98
89)	1,4-DCB	11.52	146	246456	8.98	ppb		98
90)	n-Butylbenzene	11.90	91	348645	9.96	ppb		97
91)	1,2-DCB	11.89	146	212836	8.82	ppb		99
92)	Hexachloroethane	12.14	117	87615	9.36	ppb		97
93)	1,2-Dibromo-3-chloropropan	12.65	157	19043	8.41	ppb		92
94)	1,2,4-Trichlorobenzene	13.48	180	130155	9.01	ppb		99
95)	Hexachlorobutadiene	13.67	225	91152	9.81	ppb		95
96)	Naphthalene	13.71	128	120928	8.02	ppb		99
97)	1,2,3-Trichlorobenzene	13.96	180	80512	8.81	ppb		99

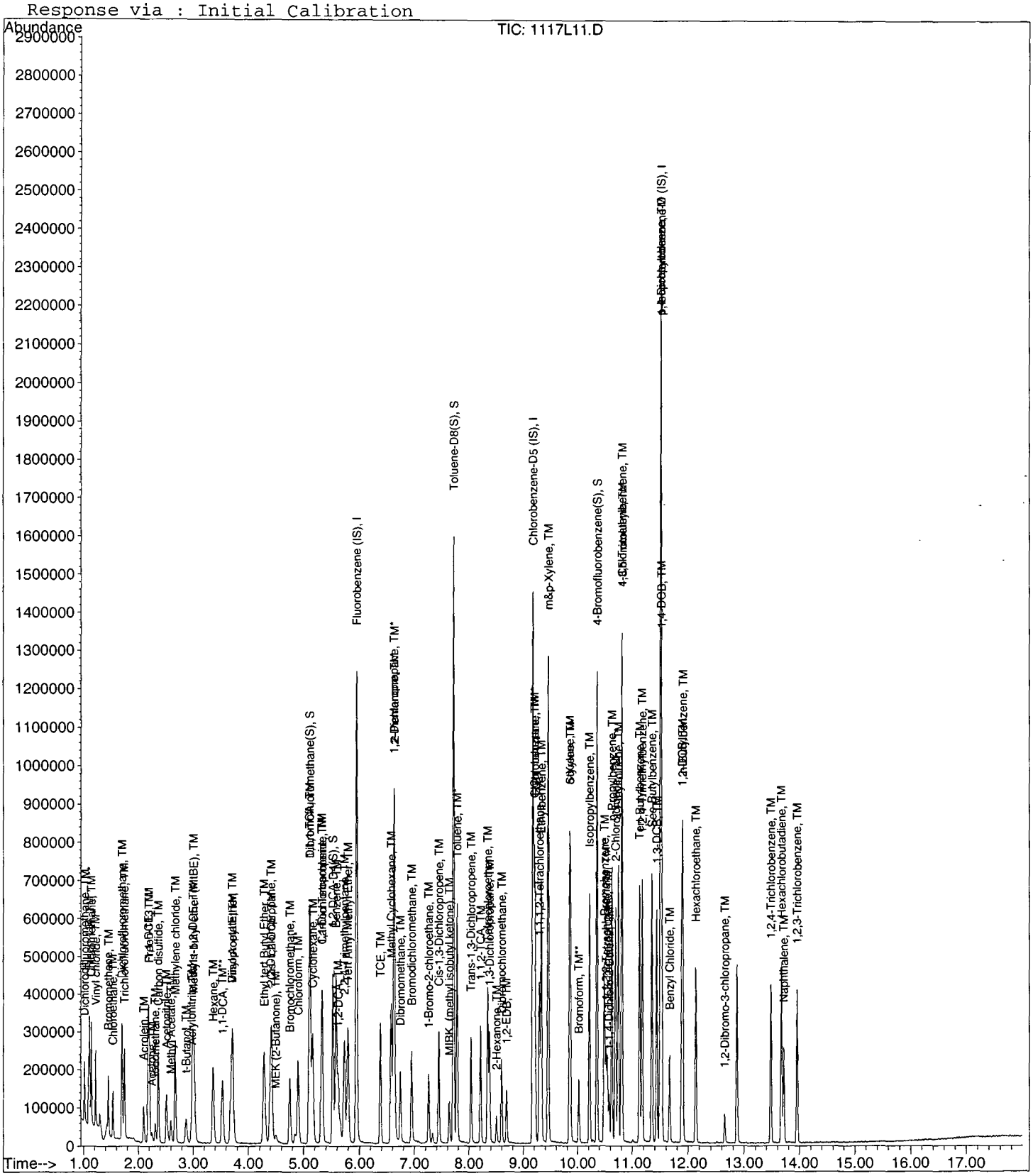
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141110\1117L11.D Vial: 7
Acq On : 17 Nov 14 12:42 Operator: DG,SV,RS
Sample : 141117A LCS-1WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 8:51 2014 Quant Results File: LALLW.RES

Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Nov 17 11:06:38 2014
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\141110\1117L14.D Vial: 10
Acq On : 17 Nov 14 14:07 Operator: DG,SV,RS
Sample : 141117A BLK-1WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 8:38 2014 Quant Results File: LALLW.RES

Quant Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Nov 17 11:06:38 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	494848	25.00	ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	435648	25.00	ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.50	152	207424	25.00	ppb	0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	280322	24.87	ppb	0.00
Spiked Amount 24.012			Recovery = 103.585%			
38) 1,2-DCA-D4(S)	5.52	65	322472	25.53	ppb	0.00
Spiked Amount 24.984			Recovery = 102.184%			
58) Toluene-D8(S)	7.71	98	829648	24.02	ppb	0.00
Spiked Amount 24.898			Recovery = 96.459%			
66) 4-Bromofluorobenzene(S)	10.36	95	267639	21.00	ppb	0.00
Spiked Amount 22.905			Recovery = 91.684%			

Target Compounds Qvalue

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

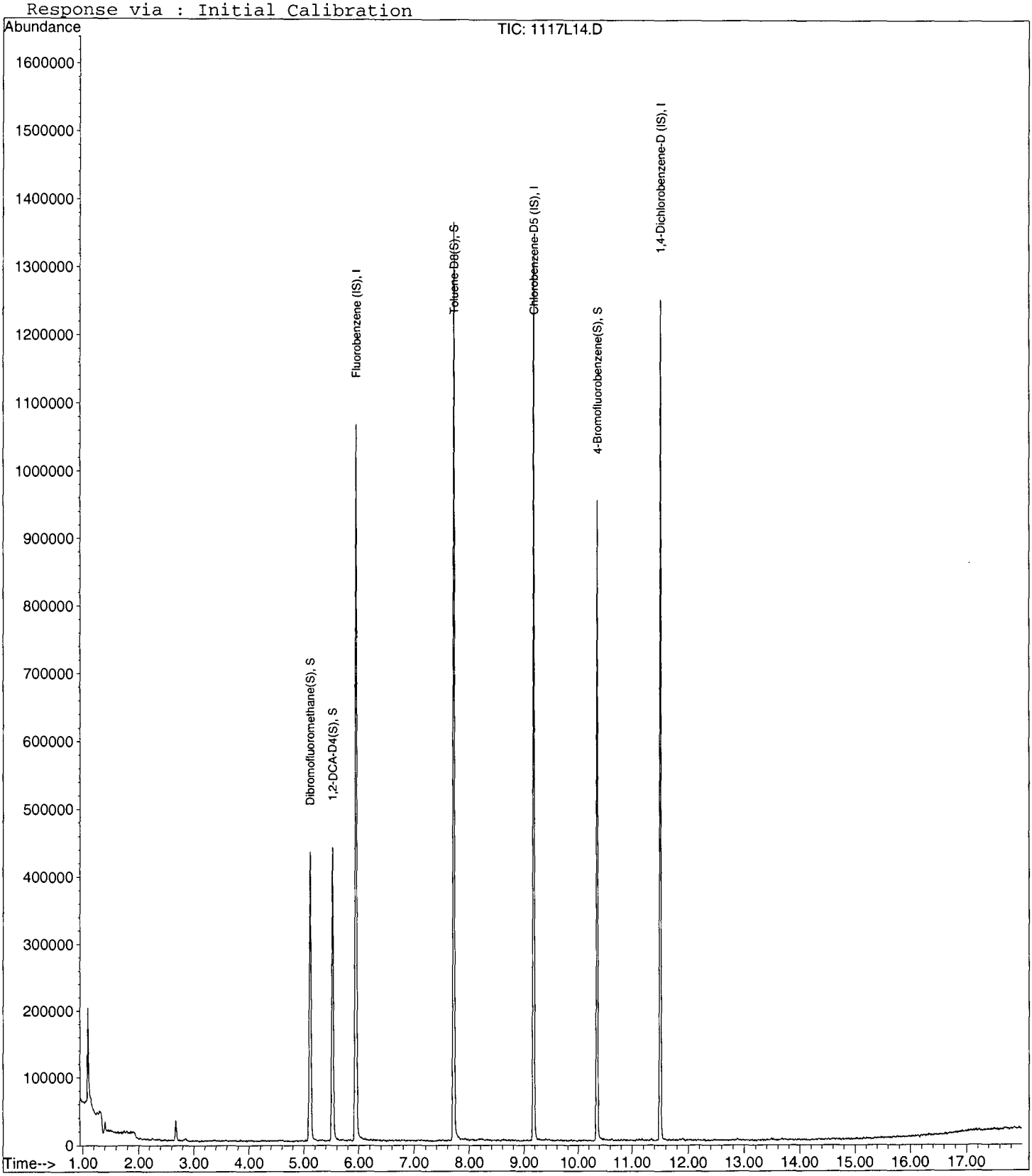
Quantitation Report

Data File : M:\LOKI\DATA\141110\1117L14.D
Acq On : 17 Nov 14 14:07
Sample : 141117A BLK-1WL
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 10
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Quant Time: Nov 18 8:38 2014 Quant Results File: LALLW.RES

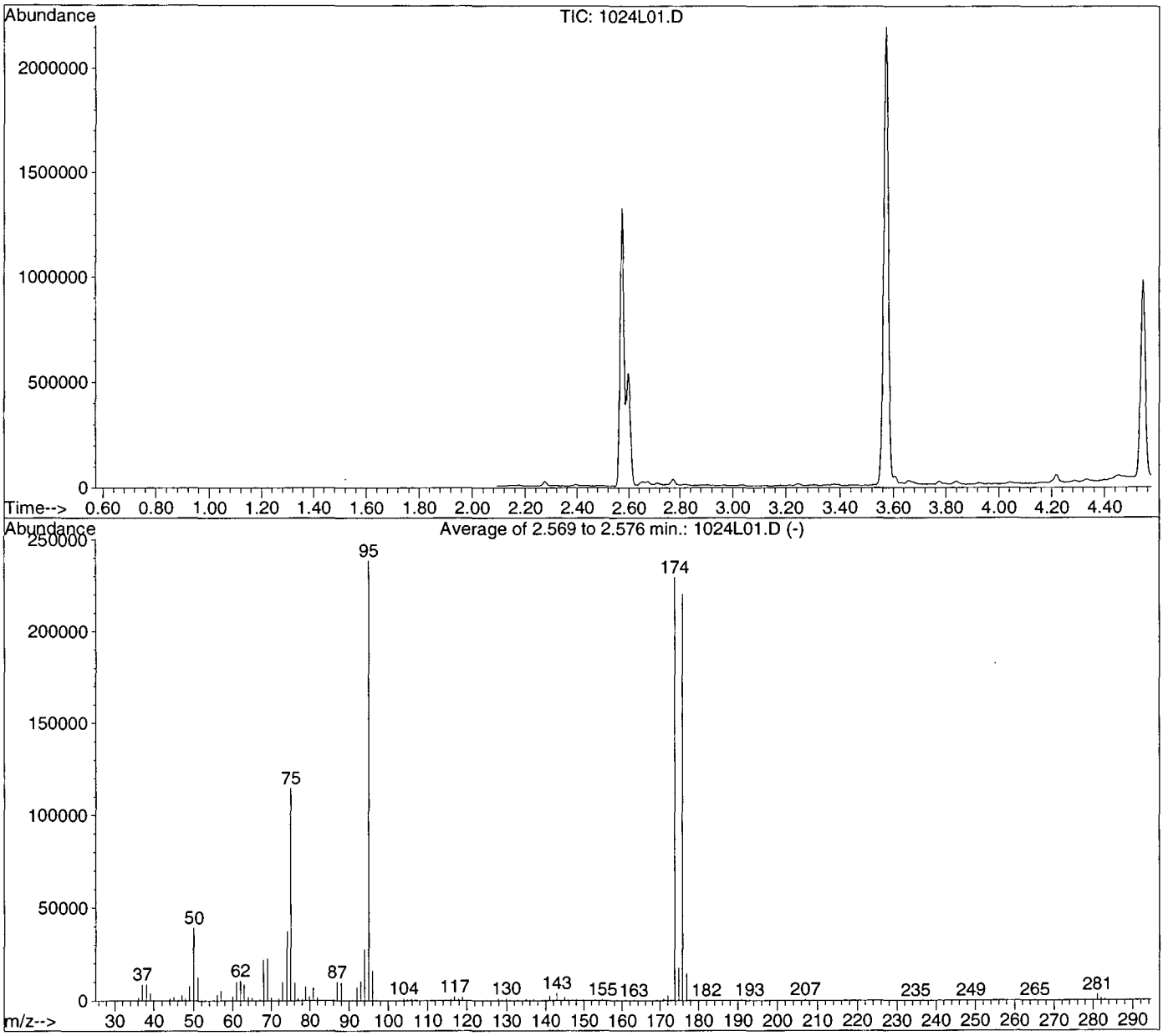
Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Mon Nov 17 11:06:38 2014
Response via : Initial Calibration



Data File : M:\LOKI\DATA\141024\1024L01.D
Acq On : 24 Oct 14 10:32
Sample : 25ug/mL BFB Std 09-30-14
Misc : 2uL

Vial: 1
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Method : M:\YODA\DATA\Y141106\Y1106B.M (RTE Integrator)
Title : EPA 8270C



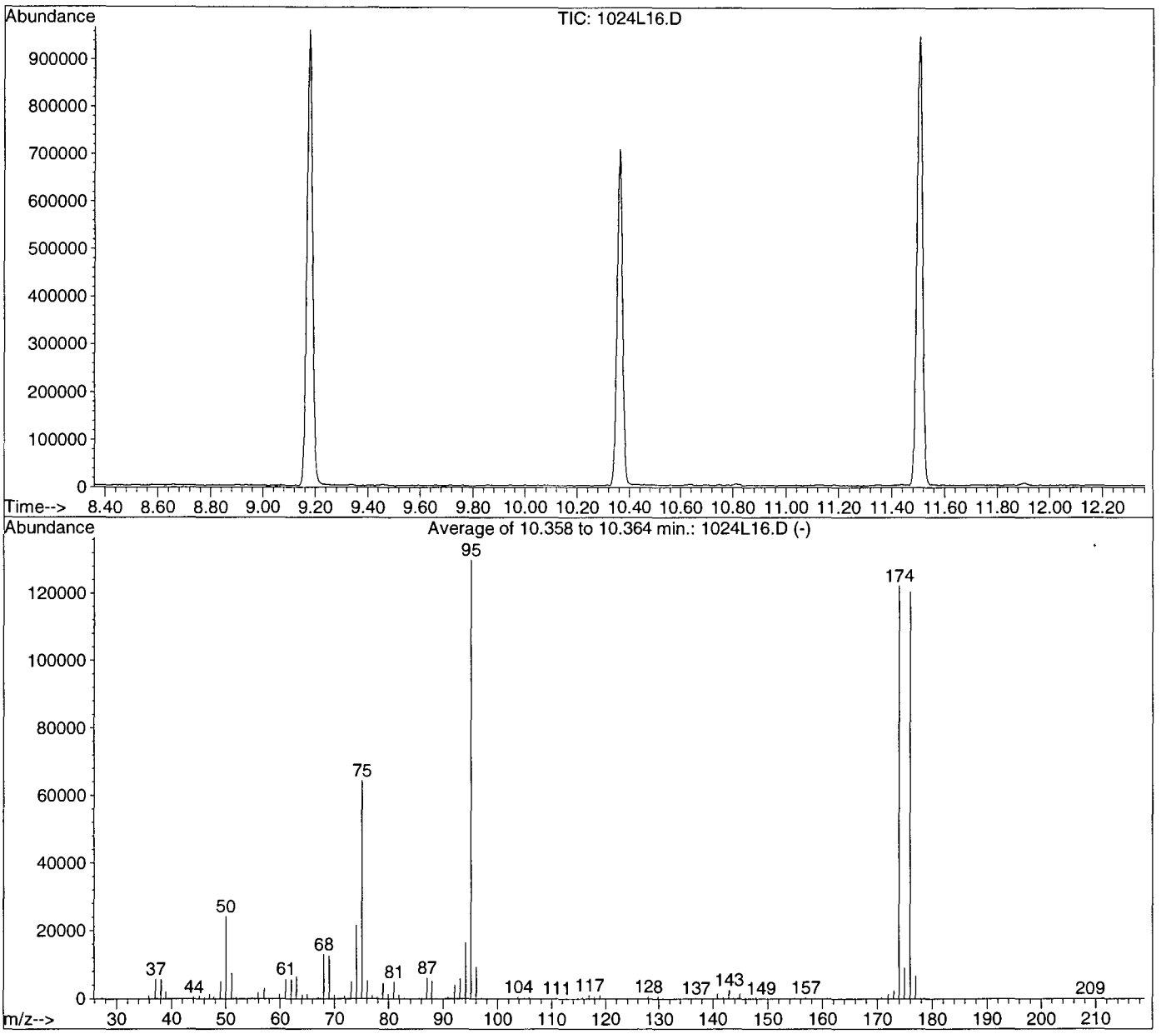
AutoFind: Scans 149, 150, 151; Background Corrected with Scan 141

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.5	39259	PASS
75	95	30	60	48.1	114777	PASS
95	95	100	100	100.0	238635	PASS
96	95	5	9	6.7	15881	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	96.2	229525	PASS
175	174	5	9	7.7	17629	PASS
176	174	95	101	96.1	220501	PASS
177	176	5	9	6.6	14538	PASS

Data File : M:\LOKI\DATA\141024\1024L16.D
Acq On : 24 Oct 14 17:30
Sample : 25ug/mL BFB Std 09-30-14
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 15
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B



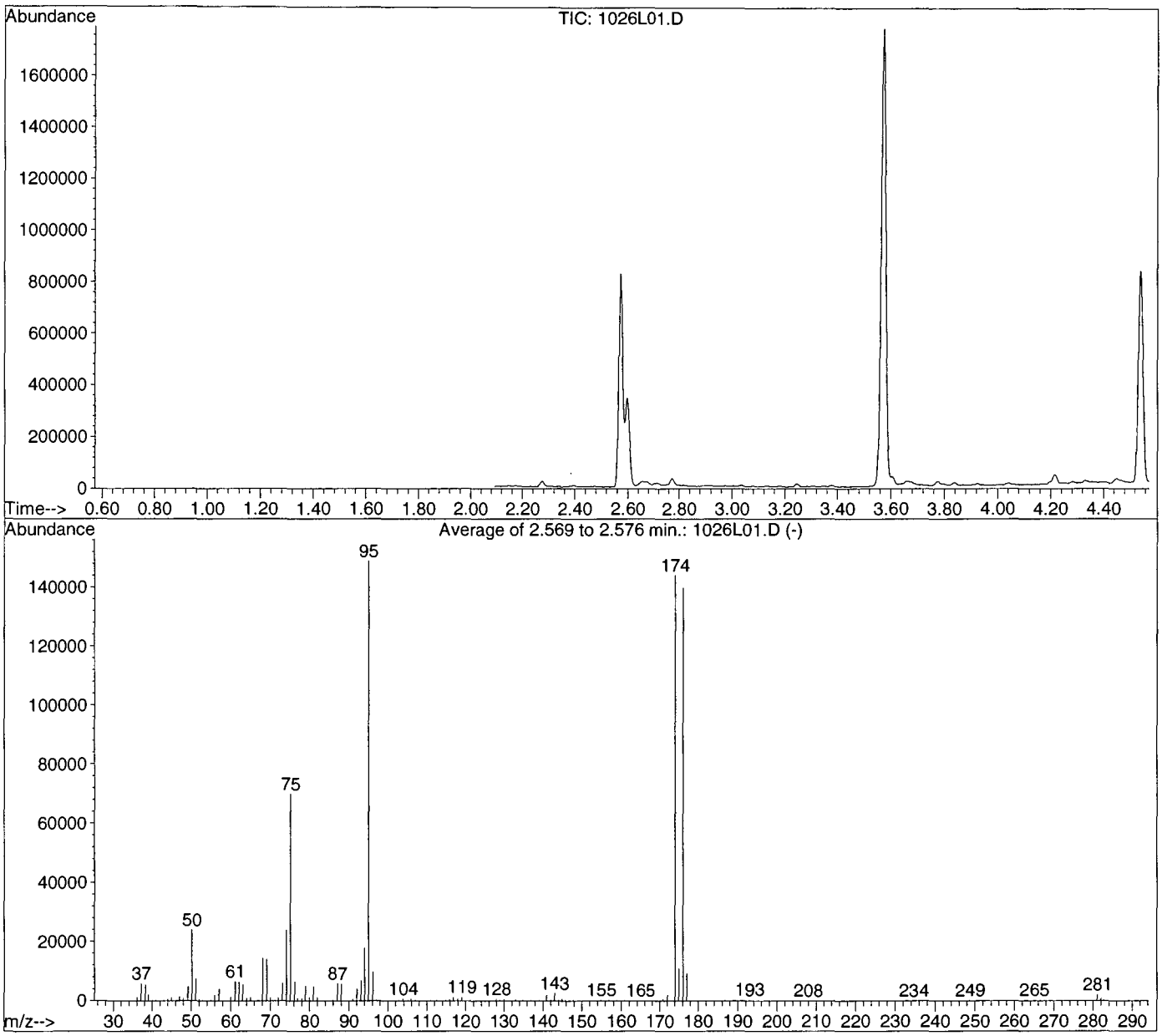
AutoFind: Scans 2929, 2930, 2931; Background Corrected with Scan 2916

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.7	24299	PASS
75	95	30	60	49.6	64541	PASS
95	95	100	100	100.0	130128	PASS
96	95	5	9	7.2	9314	PASS
173	174	0.00	2	2.0	2467	PASS
174	95	50	100	94.1	122392	PASS
175	174	5	9	7.5	9131	PASS
176	174	95	101	98.5	120525	PASS
177	176	5	9	5.6	6711	PASS

Data File : M:\LOKI\DATA\141024\1026L01.D
Acq On : 26 Oct 14 10:43
Sample : 25ug/mL BFB Std 09-30-14
Misc : 2uL

Vial: 1
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Method : M:\LOKI\DATA\141024\LALLW.M (RTE Integrator)
Title : METHOD 8260B



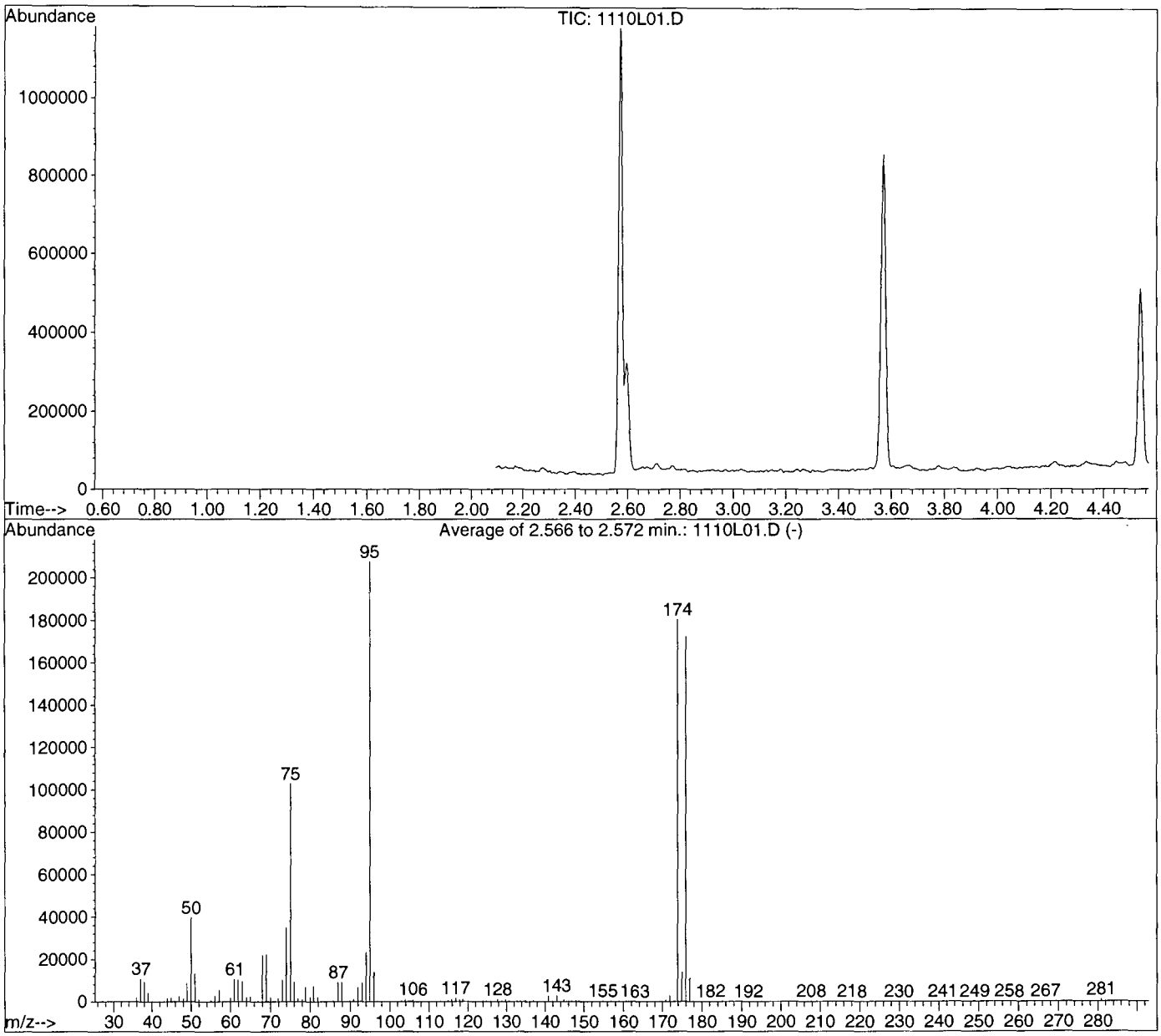
AutoFind: Scans 149, 150, 151; Background Corrected with Scan 140

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.1	23923	PASS
75	95	30	60	46.9	69808	PASS
95	95	100	100	100.0	148779	PASS
96	95	5	9	6.5	9651	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	96.9	144120	PASS
175	174	5	9	7.6	10912	PASS
176	174	95	101	97.0	139808	PASS
177	176	5	9	6.7	9340	PASS

Data File : M:\LOKI\DATA\141110\1110L01.D
Acq On : 10 Nov 14 16:17
Sample : 25ug/mL BFB Std 09-30-14
Misc : 2uL

Vial: 1
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B



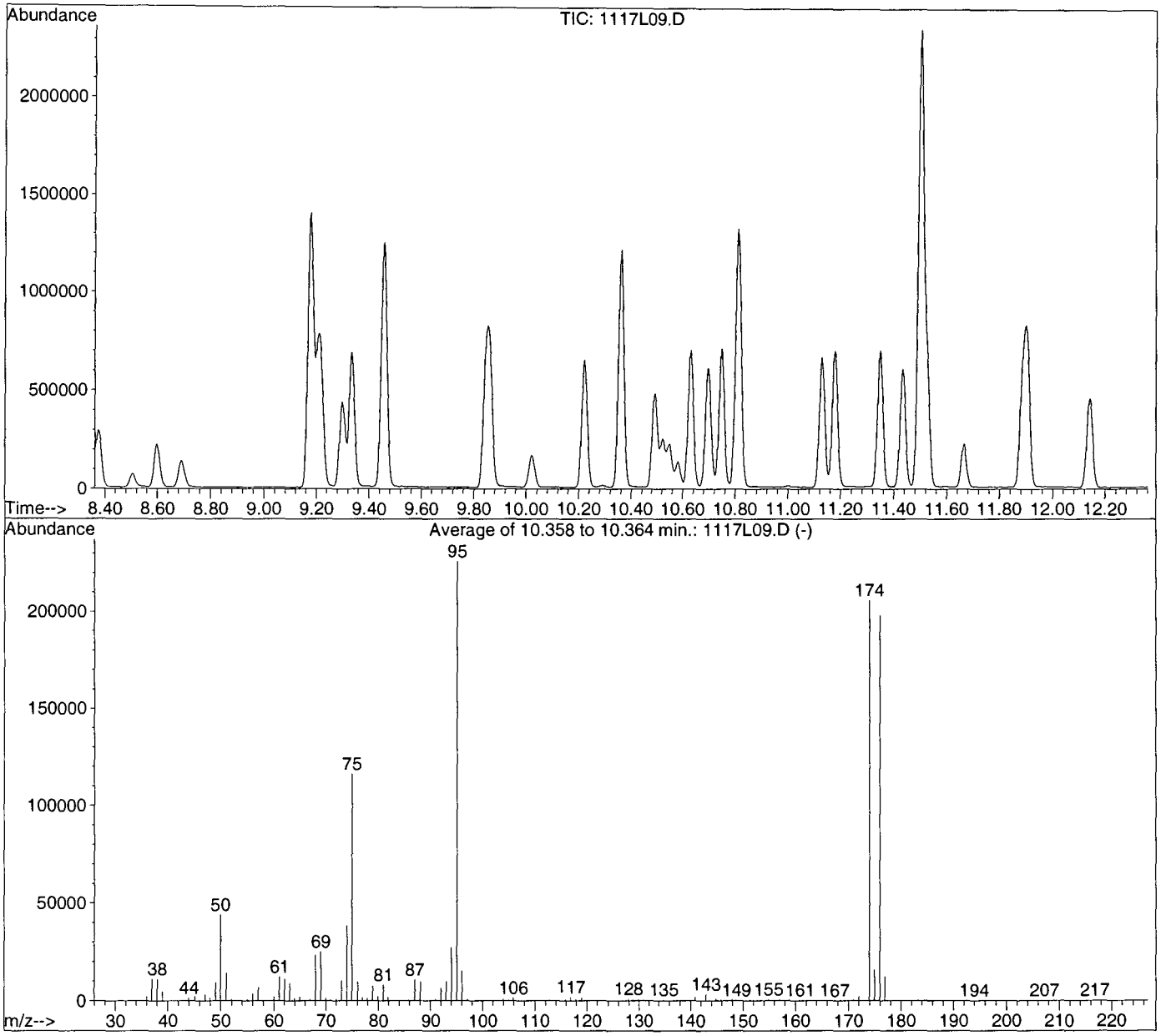
AutoFind: Scans 148, 149, 150; Background Corrected with Scan 137

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.1	39611	PASS
75	95	30	60	49.5	102680	PASS
95	95	100	100	100.0	207616	PASS
96	95	5	9	6.7	13905	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	86.7	180032	PASS
175	174	5	9	7.7	13877	PASS
176	174	95	101	95.6	172032	PASS
177	176	5	9	6.5	11249	PASS

Data File : M:\LOKI\DATA\141110\1117L09.D
Acq On : 17 Nov 14 11:46
Sample : 25ug/mL BFB Std 09-30-14
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 5
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B



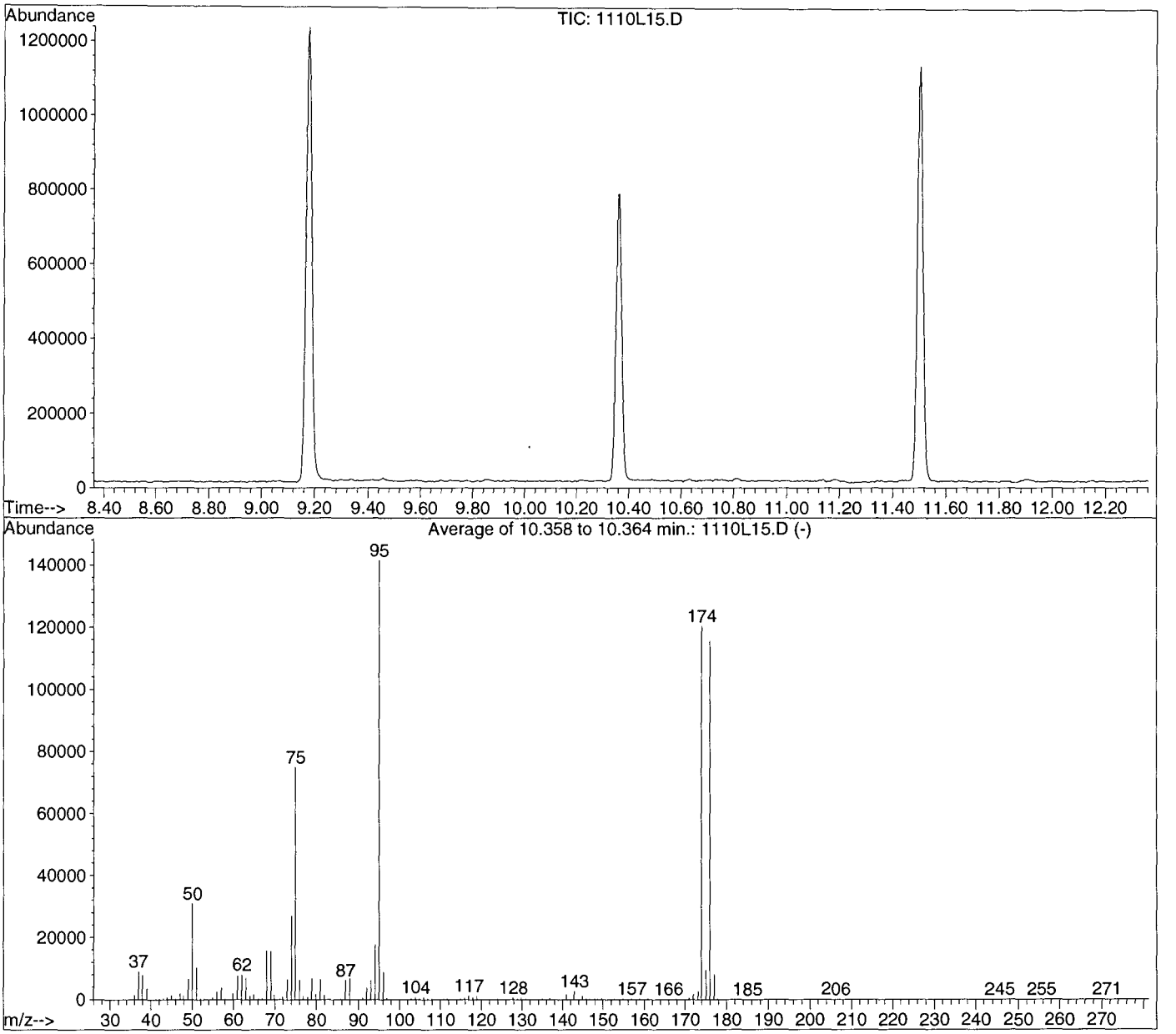
AutoFind: Scans 2929, 2930, 2931; Background Corrected with Scan 2915

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.5	44016	PASS
75	95	30	60	51.5	116361	PASS
95	95	100	100	100.0	226005	PASS
96	95	5	9	6.7	15106	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	91.1	205867	PASS
175	174	5	9	7.6	15617	PASS
176	174	95	101	96.2	198080	PASS
177	176	5	9	6.2	12310	PASS

Data File : M:\LOKI\DATA\141110\1110L15.D
Acq On : 10 Nov 14 22:46
Sample : 25ug/mL BFB Std 09-30-14
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 14
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Method : M:\LOKI\DATA\141110\LALLW.M (RTE Integrator)
Title : METHOD 8260B



AutoFind: Scans 2929, 2930, 2931; Background Corrected with Scan 2915

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.9	30954	PASS
75	95	30	60	52.9	74862	PASS
95	95	100	100	100.0	141504	PASS
96	95	5	9	6.2	8800	PASS
173	174	0.00	2	2.2	2684	FAIL*
174	95	50	100	85.0	120320	PASS
175	174	5	9	7.9	9487	PASS
176	174	95	101	96.0	115472	PASS
177	176	5	9	7.1	8165	PASS

09/26/14U							
50ug/ml VOC Std#5							
Exp:10/26/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120016-03-SS	8260 Gases(SS)	2000	220940-33548	09/15/14F	04/15/17	50
O2SI	020145-02-02-S	2-CEVE	2000	219465-33222	09/26/14F	12/16/15	50
J&T Brand		Purge & Trap MeOH		49909-00765	09/25/14	07/09/18	1900
09/26/14V							
50ug/ml VOC Std#6							
Exp:10/26/14							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120023-03-SS	VOC'S 54 COMP	2000	208329-32741	09/26/14G	05/02/15	50
O2SI	120296-01-SS	Custom 8260 Solution	2000	212199-32960	09/26/14H	01/23/15	50
O2SI	020232-02-SS	Vinyl Acetate(SS)	2000	232116-33844	09/15/14G	10/08/14	50
O2SI	020620-02-SS	n-Hexane	1000	205203-33678	09/26/14I	03/12/15	100
O2SI	020049-02-SS	HEXACHLOROETHANE	1000	226063-33531	09/26/14J	04/07/16	100
J&T Brand		Purge & Trap MeOH		49909-00765	09/25/14	07/09/18	1650
09/26/14W							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp 10/26/14			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	189667-33305	09/03/14K	05/18/15	250
O2SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	234095-33910	09/03/14L	08/25/14	50
J&T Brand		Purge & Trap MeOH		49909-00765	09/25/14	07/09/18	1700

9/26/14 RS

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-LOKI

Exp Date	09/30/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc	09-26-14O	09-26-14P	09-26-14Q	09-26-14S	09-26-14K	09-26-14M	09-26-14L	09-26-14N	09-26-14R	09-26-14T	w/P&T H2O
Date code	µg/L	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	mL
09-29-14A	0.1	1	1	1	2	n/a	n/a	n/a	n/a	n/a	1	50
09-29-14B	0.3	3	3	3	6	n/a	n/a	n/a	n/a	n/a	2	50
09-29-14C	0.5	5	5	5	10	n/a	n/a	n/a	n/a	n/a	5	50
09-29-14D	1	10	10	10	20	n/a	n/a	n/a	n/a	n/a	10	50
09-29-14E	5	n/a	n/a	n/a	n/a	5	5	5	5	10	20	50
09-29-14F	10	n/a	n/a	n/a	n/a	10	10	10	10	25	25	50
09-29-14G	20	n/a	n/a	n/a	n/a	20	20	20	20	40	30	50
09-29-14H	40	n/a	n/a	n/a	n/a	40	40	40	40	80	35	50
09-29-14I	100	n/a	n/a	n/a	n/a	100	100	100	100	100	40	50

9/29/14 RS

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-THOR

Exp Date	09/30/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc	09-26-14O	09-26-14P	09-26-14Q	09-26-14S	09-26-14K	09-26-14M	09-26-14L	09-26-14N	09-26-14R	09-26-14T	w/P&T H2O
Date code	µg/L	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	mL
09-29-14J	2	2	2	2	2	n/a	n/a	n/a	n/a	n/a	1	5
09-29-14K	5	5	5	5	5	n/a	n/a	n/a	n/a	n/a	2	5
09-29-14L	10	10	10	10	10	n/a	n/a	n/a	n/a	n/a	3	5
09-29-14M	20	20	20	20	20	n/a	n/a	n/a	n/a	n/a	4	5
09-29-14N	50	n/a	n/a	n/a	n/a	5	5	5	5	5	5	5
09-29-14O	100	n/a	n/a	n/a	n/a	10	10	10	10	10	6	5
09-29-14P	150	n/a	n/a	n/a	n/a	15	15	15	15	15	7	5
09-29-14Q	200	n/a	n/a	n/a	n/a	20	20	20	20	20	8	5

9/29/14 RS

25ug/ml HP8 STD			Conc.		Date	Exp.	
Exp:10/26/14			ug/ml	Lot #	Code	Date	uL
O2SI	020135-03	4-Bromofluorobenzene	2500	195706-33431	04/28/14A	09/15/16	250
J&T Brand		Purge & Trap MeOH		49909-00765	09/25/14	07/09/18	1700

9/30/14 RS

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-THOR

Exp Date	10/01/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc	09-26-14O	09-26-14P	09-26-14Q	09-26-14S	09-26-14K	09-26-14M	09-26-14L	09-26-14N	09-26-14R	09-26-14T	w/P&T H2O
Date code	µg/L	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	mL
09-30-14B	2	2	2	2	2	n/a	n/a	n/a	n/a	n/a	1	5
09-30-14C	5	5	5	5	5	n/a	n/a	n/a	n/a	n/a	2	5
09-30-14D	10	10	10	10	10	n/a	n/a	n/a	n/a	n/a	3	5
09-30-14E	20	20	20	20	20	n/a	n/a	n/a	n/a	n/a	4	5
09-30-14F	50	n/a	n/a	n/a	n/a	5	5	5	5	5	5	5
09-30-14G	100	n/a	n/a	n/a	n/a	10	10	10	10	10	6	5
09-30-14H	150	n/a	n/a	n/a	n/a	15	15	15	15	15	7	5
09-30-14I	200	n/a	n/a	n/a	n/a	20	20	20	20	20	8	5

9/30/14 RS

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10-8-14

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-THOR

Exp: Date:	10/09/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	10-08-14H	10-08-14I	10-08-14J	10-08-14L	10-08-14D	10-08-14F	10-08-14E	10-08-14G	10-08-14K	10-08-14P	w/P&T H2O
Date/code	µg/L	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	mL
10-08-14Q	2	2	2	2	2	n/a	n/a	n/a	n/a	n/a	1	5
10-08-14R	5	5	5	5	5	n/a	n/a	n/a	n/a	n/a	2	5
10-08-14S	10	10	10	10	10	n/a	n/a	n/a	n/a	n/a	3	5
10-08-14T	20	20	20	20	20	n/a	n/a	n/a	n/a	n/a	4	5
10-08-14U	50	n/a	n/a	n/a	n/a	5	5	5	5	5	5	5
10-08-14V	100	n/a	n/a	n/a	n/a	10	10	10	10	10	6	5
10-08-14W	150	n/a	n/a	n/a	n/a	15	15	15	15	15	7	5
10-08-14X	200	n/a	n/a	n/a	n/a	20	20	20	20	20	8	5

10/21/14 RS

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-LOKI

Exp: Date:	10/22/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	10-08-14H	10-08-14I	10-08-14J	10-08-14L	10-08-14D	10-08-14F	10-08-14E	10-08-14G	10-08-14K	10-08-14P	w/P&T H2O
Date/code	µg/L	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	mL
10-21-14A	2	2	2	2	2	n/a	n/a	n/a	n/a	n/a	1	5
10-21-14B	5	5	5	5	5	n/a	n/a	n/a	n/a	n/a	2	5
10-21-14C	10	10	10	10	10	n/a	n/a	n/a	n/a	n/a	3	5
10-21-14D	20	20	20	20	20	n/a	n/a	n/a	n/a	n/a	4	5
10-21-14E	50	n/a	n/a	n/a	n/a	5	5	5	5	5	5	5
10-21-14F	100	n/a	n/a	n/a	n/a	10	10	10	10	10	6	5
10-21-14G	150	n/a	n/a	n/a	n/a	15	15	15	15	15	7	5
10-21-14H	200	n/a	n/a	n/a	n/a	20	20	20	20	20	8	5

10/23/14 RS

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-LOKI

Exp: Date:	10/24/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	10-08-14H	10-08-14I	10-08-14J	10-08-14L	10-08-14D	10-08-14F	10-08-14E	10-08-14G	10-08-14K	10-08-14P	w/P&T H2O
Date/code	µg/L	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	mL
10-23-14A	2	2	2	2	2	n/a	n/a	n/a	n/a	n/a	1	5
10-23-14B	5	5	5	5	5	n/a	n/a	n/a	n/a	n/a	2	5
10-23-14C	10	10	10	10	10	n/a	n/a	n/a	n/a	n/a	3	5
10-23-14D	20	20	20	20	20	n/a	n/a	n/a	n/a	n/a	4	5
10-23-14E	50	n/a	n/a	n/a	n/a	5	5	5	5	5	5	5
10-23-14F	100	n/a	n/a	n/a	n/a	10	10	10	10	10	6	5
10-23-14G	150	n/a	n/a	n/a	n/a	15	15	15	15	15	7	5
10-23-14H	200	n/a	n/a	n/a	n/a	20	20	20	20	20	8	5

10/24/14 RS

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-LOKI

Exp: Date:	10/25/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	10-08-14H	10-08-14I	10-08-14J	10-08-14L	10-08-14D	10-08-14F	10-08-14E	10-08-14G	10-08-14K	10-08-14M	w/P&T H2O
Date/code	µg/L	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp:11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp:11-08-14	Exp:11-08-14	mL
10-24-14A	0.1	1	1	1	2	n/a	n/a	n/a	n/a	n/a	1	50
10-24-14B	0.3	3	3	3	6	n/a	n/a	n/a	n/a	n/a	2	50
10-24-14C	0.5	5	5	5	10	n/a	n/a	n/a	n/a	n/a	5	50
10-24-14D	1	10	10	10	20	n/a	n/a	n/a	n/a	n/a	10	50
10-24-14E	5	n/a	n/a	n/a	n/a	5	5	5	5	10	20	50
10-24-14F	10	n/a	n/a	n/a	n/a	10	10	10	10	25	25	50
10-24-14G	20	n/a	n/a	n/a	n/a	20	20	20	20	40	30	50
10-24-14H	40	n/a	n/a	n/a	n/a	40	40	40	40	80	35	50
10-24-14I	100	n/a	n/a	n/a	n/a	100	100	100	100	100	40	50

10/24/14 RS

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX

Exp: Date:	10/25/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	10-08-14H	10-08-14I	10-08-14J	10-08-14L	10-08-14D	10-08-14F	10-08-14E	10-08-14G	10-08-14K	10-08-14M	w/P&T H2O
Date/code	µg/L	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	mL
10-24-14J	0.1	1	1	1	2	n/a	n/a	n/a	n/a	n/a	1	250
10-24-14K	0.3	3	3	3	6	n/a	n/a	n/a	n/a	n/a	2	250
10-24-14L	0.5	5	5	5	10	n/a	n/a	n/a	n/a	n/a	5	250
10-24-14M	1	10	10	10	20	n/a	n/a	n/a	n/a	n/a	10	250
10-24-14N	5	n/a	n/a	n/a	n/a	5	5	5	5	10	20	250
10-24-14O	10	n/a	n/a	n/a	n/a	10	10	10	10	25	25	250
10-24-14P	20	n/a	n/a	n/a	n/a	20	20	20	20	40	30	250
10-24-14Q	40	n/a	n/a	n/a	n/a	40	40	40	40	80	35	250
10-24-14R	100	n/a	n/a	n/a	n/a	100	100	100	100	100	40	250

*10/27/14 Max water curve on pg. 118 RS 11/04/14

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10/08/14 C-
RS

VOC Mix 4-3, 2,000 mg/L, 1 mL
120166-01
Lot # 219587 Storage ≤ 6 Degrees C Expiry 29/May/2016
Solv: P/T Methanol

VOC Mix 4-3, 2000mg/L
Lot #: 229587 - 33670
Rec: 6/3/14 MFR exp. 5/29/16
RS

10/08/14D							
50ug/ml Vol Work Std #7							
Exp:11/08/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	231710-33814	10/08/14A	03/30/17	100
02SI	020049-02	HEXACHLOROETHANE	1000	234821-33990	09/03/14B	08/26/16	200
02SI	020228-02	Benzyl Chloride	1000	200704-33538	09/15/13B	12/10/14	200
J&T Brand		Purge & Trap MeOH		49909-00766	10/03/14	07/09/18	3500
10/08/14E							
50ug/ml Vol Work Std #1							
Exp:11/08/14					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	229586-33689	09/26/14D	06/03/17	50
J&T Brand		Purge & Trap MeOH		49909-00766	10/03/14	07/09/18	1950
10/08/14F							
50ug/ml Vol Work Std #8							
Exp:11/08/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	210086-32534	09/26/14B	06/06/15	100
02SI	120023-03	VOC'S-54 COMP	2000	216122-32921	10/08/14B	10/11/15	100
02SI	020232-02	Vinyl Acetate	2000	229682-33659	09/03/14E	08/28/14	100
02SI	020620-02	n-Hexane	1000	195505-33674	09/26/13C	09/09/17	200
J&T Brand		Purge & Trap MeOH		49909-00766	10/03/14	07/09/18	3500
10/08/14G							
50ug/ml Vol Work Std #2							
Exp:11/08/14							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	232379-33883	09/26/14E	10/10/14	100
J&T Brand		Purge & Trap MeOH		49909-00766	10/03/14	07/09/18	3900
		10/08/14H					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**10/08/14D**	11/08/14	200	
		50ug/ml Vol Work Std #8		**10/08/14F**	11/08/14	200	
		J&T Brand		09/25/14	07/09/18	1600	
		10/08/14I					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**10/08/14E**	11/08/14	200	
		J&T Brand		09/25/14	07/09/18	1800	
		10/08/14J					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**10/08/14G**	11/08/14	200	
		J&T Brand		09/25/14	07/09/18	1800	
10/08/14K							
50ug/ml 8260 Surrogate			Conc.		Date	Exp.	
Exp:11/08/14			ug/ml	Lot #	Code	Date	uL
O2SI	120002-01	8260B Surr Solution	2000	185763-33556	10/06/14B	02/19/15	100
J&T Brand		Purge & Trap MeOH		49909-00766	10/03/14	07/09/18	3900
10/08/14L							
5.0ug/ml 8260 Surrogate			**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml 8260 Surrogate		**10/08/14K**	11/08/14	200	
J&T Brand		Purge & Trap MeOH		09/25/14	07/09/18	1800	
10/08/14M							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:11/08/14			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	229254-33670	10/08/14C	05/29/16	500
02SI	020229-09	Acrolein	10000	235659-34043	09/15/14E	10/20/14	100
J&T Brand		Purge & Trap MeOH		49909-00766	10/03/14	07/09/18	3400

10/08/14
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10/08/14N							
50ug/ml VOC Std#5							
Exp:11/08/14							
			Conc		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120016-03-SS	8260 Gases(SS)	2000	220940 33548	09/15/14F	04/15/17	50
O2SI	020145-02-02-S	2-CEVE	2000	219465-33222	09/26/14F	12/16/15	50
J&T Brand		Purge & Trap MeOH		49909-00766	10/03/14	07/09/18	1900
10/08/14O							
50ug/ml VOC Std#6							
Exp:11/08/14							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120023-03-SS	VOC'S 54 COMP.	2000	208329-32741	09/26/14G	05/02/15	50
O2SI	120296-01-SS	Custom 8260 Solution	2000	212199-32960	09/26/14H	01/23/15	50
O2SI	020232-02-SS	Vinyl Acetate(SS)	2000	232116-33844	09/15/14G	10/08/14	50
O2SI	020620-02-SS	n-Hexane	1000	205203-33678	09/26/14I	03/12/15	100
O2SI	020049-02-SS	HEXACHLOROETHANE	1000	226063-33531	09/26/14J	04/07/16	100
J&T Brand		Purge & Trap MeOH		49909-00766	10/03/14	07/09/18	1650
10/08/14P							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:11/08/14			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	189667-33305	09/03/14K	05/18/15	250
O2SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	234095-33910	09/03/14L	08/25/14	50
J&T Brand		Purge & Trap MeOH		49909-00766	10/03/14	07/09/18	1700

10/08/14 RS

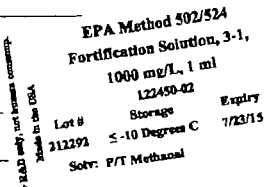
See Thor 10/8/14 Soil curve on page 112 - DMB 10/21/14

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-MAX													
Exp: Date:	10/11/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	10-08-14H	10-08-14I	10-08-14J	10-08-14L	10-08-14D	10-08-14F	10-08-14E	10-08-14G	10-08-14K	10-08-14M	w/P&T H2O
Date/code	µg/L	Exp:11-08-14	Exp 11-08-14	Exp 11-08-14	Exp.11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	mL
10-10-14A	0 1	1	1	1	2	n/a	n/a	n/a	n/a	n/a	1	50
10-10-14B	0.3	3	3	3	6	n/a	n/a	n/a	n/a	n/a	2	50
10-10-14C	0.5	5	5	5	10	n/a	n/a	n/a	n/a	n/a	5	50
10-10-14D	1	10	10	10	20	n/a	n/a	n/a	n/a	n/a	10	50
10-10-14E	5	n/a	n/a	n/a	n/a	5	5	5	5	10	20	50
10-10-14F	10	n/a	n/a	n/a	n/a	10	10	10	10	25	25	50
10-10-14G	20	n/a	n/a	n/a	n/a	20	20	20	20	40	30	50
10-10-14H	40	n/a	n/a	n/a	n/a	40	40	40	40	80	35	50
10-10-14I	100	n/a	n/a	n/a	n/a	100	100	100	100	100	40	50

10/10/14 RS

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-THOR													
Exp: Date:	10/11/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc	10-08-14H	10-08-14I	10-08-14J	10-08-14L	10-08-14D	10-08-14F	10-08-14E	10-08-14G	10-08-14K	10-08-14M	w/P&T H2O
Date/code	µg/L	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp 11-08-14	Exp.11-08-14	Exp 11-08-14	mL
10-10-14J	0.1	1	1	1	2	n/a	n/a	n/a	n/a	n/a	1	50
10-10-14K	0 3	3	3	3	6	n/a	n/a	n/a	n/a	n/a	2	50
10-10-14L	0.5	5	5	5	10	n/a	n/a	n/a	n/a	n/a	5	50
10-10-14M	1	10	10	10	20	n/a	n/a	n/a	n/a	n/a	10	50
10-10-14N	5	n/a	n/a	n/a	n/a	5	5	5	5	10	20	50
10-10-14O	10	n/a	n/a	n/a	n/a	10	10	10	10	25	25	50
10-10-14P	20	n/a	n/a	n/a	n/a	20	20	20	20	40	30	50
10-10-14Q	40	n/a	n/a	n/a	n/a	40	40	40	40	80	35	50
10-10-14R	100	n/a	n/a	n/a	n/a	100	100	100	100	100	40	50

10/10/14 RS



EPA Method 502/524 Fortification
Lot # 212292 - 33765
Rec: 7/25/13 MFR exp. 7/23/15

10/13/14 RS A-

RS

11/10/14D							
50ug/ml Vol Work Std #7							
Exp:12/10/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	231710-33816	11/10/14A	03/30/17	100
02SI	020049-02	HEXACHLOROETHANE	1000	234821-33991	10/28/14B	08/26/16	200
02SI	020228-02	Benzyl Chloride	1000	227320-33830	10/28/13C	04/28/16	200
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3500
11/10/14E							
50ug/ml Vol Work Std #1							
Exp:12/10/14					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	229586-33691	10/28/14D	06/03/17	50
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	1950
11/10/14F							
50ug/ml Vol Work Std #8							
Exp:12/10/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	212173-32728	10/28/14E	07/22/15	100
02SI	120023-03	VOC'S-54 COMP	2000	216122-32922	10/28/14F	10/11/15	100
02SI	020232-02	Vinyl Acetate	2000	229682-33660	10/28/14G	08/28/14	100
02SI	020620-02	n-Hexane	1000	195505-33675	11/10/13B	09/09/17	200
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3500
11/10/14G							
50ug/ml Vol Work Std #2							
Exp:12/10/14							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	232379-33874	10/20/14B	07/14/15	100
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3900
		11/10/14H					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**11/10/14D**	11/28/14	200	
		50ug/ml Vol Work Std #8		**11/10/14F**	11/28/14	200	
		J&T Brand		10/15/14	07/09/18	1600	
		11/10/14I					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**11/10/14E**	11/28/14	200	
		J&T Brand		10/15/14	07/09/18	1800	
		11/10/14J					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**11/10/14G**	11/28/14	200	
		J&T Brand		10/15/14	07/09/18	1800	
11/10/14K							
50ug/ml 8260 Surrogate			Conc.		Date	Exp.	
Exp:12/10/14			ug/ml	Lot #	Code	Date	uL
02SI	120002-01	8260B Surr Solution	2000	185763-33557	10/28/14H	02/19/15	100
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3900
11/10/14L							
5.0ug/ml 8260 Surrogate			**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml 8260 Surrogate		**11/10/14K**	11/28/14	200	
J&T Brand		Purge & Trap MeOH		10/15/14	07/09/18	1800	
11/10/14M							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:12/10/14			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	229254-33997	11/10/14C	05/29/16	500
02SI	020229-09	Acrolein	10000	237721-34134	10/20/14D	11/18/14	100
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3400

11/10/14
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11/10/14N							
50ug/ml VOC Std#5							
Exp:12/10/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120016-03-SS	8260 Gases(SS)	2000	220940-33548	09/15/14F	04/15/17	50
O2SI	020145-02-02-S	2-CEVE	2000	219465-33222	09/26/14F	12/16/15	50
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	1900
11/10/14O							
50ug/ml VOC Std#6							
Exp:12/10/14							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120023-03-SS	VOC'S 54 COMP.	2000	208329-32741	09/26/14G	05/02/15	50
O2SI	120296-01-SS	Custom 8260 Solution	2000	212199-32960	09/26/14H	01/23/15	50
O2SI	020232-02-SS	Vinyl Acetate(SS)	2000	232116-33844	09/15/14G	10/08/14	50
O2SI	020620-02-SS	n-Hexane	1000	205203-33678	09/26/14I	03/12/15	100
O2SI	020049-02-SS	HEXACHLOROETHANE	1000	226063-33531	09/26/14J	04/07/16	100
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	1650
11/10/14P							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:12/10/14			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	189667-33305	09/03/14K	05/18/15	250
O2SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	234095-33910	09/03/14L	08/25/14	50
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	1700

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11/10/14Q							
50ug/ml Vol Work Std #7-B							
Exp:12/10/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120016-03	Gas Mix	2000	231710-33816	11/10/14A	03/30/17	100
O2SI	020049-02	HEXACHLOROETHANE	1000	234821-33991	10/28/14B	08/26/16	200
O2SI	020228-02	Benzyl Chloride	1000	227320-33830	10/28/13C	04/28/16	200
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3500
11/10/14R							
50ug/ml Vol Work Std #1-B							
Exp:12/10/14					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	020145-02-02	2-CEVE	2000	229586-33691	10/28/14D	06/03/17	50
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	1950
11/10/14S							
50ug/ml Vol Work Std #8-B							
Exp:12/10/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	122039-02	Volatile Mix, 20-29	2000	212173-32728	10/28/14E	07/22/15	100
O2SI	120023-03	VOC'S-54 COMP	2000	216122-32922	10/28/14F	10/11/15	100
O2SI	020232-02	Vinyl Acetate	2000	229682-33660	10/28/14G	08/28/14	100
O2SI	020620-02	n-Hexane	1000	195505-33675	11/10/13B	09/09/17	200
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3500
11/10/14T							
50ug/ml Vol Work Std #2-B							
Exp:12/10/14							
Supplier	ID #	ID	ug/ml				
O2SI	121020-05	HSL'S-Ketone Solution	2000	232379-33874	10/20/14B	07/14/15	100
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3900
		11/10/14U					
		5ug/ml Vol Work Std #9-B					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**11/10/14Q**	11/28/14	200	
		50ug/ml Vol Work Std #8		**11/10/14S**	11/28/14	200	
		J&T Brand		10/15/14	07/09/18	1600	
		11/10/14V					
		5ug/ml Vol Work Std #10-B					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**11/10/14R**	11/28/14	200	
		J&T Brand		10/15/14	07/09/18	1800	
		11/10/14W					
		5ug/ml Vol Work Std #12-B					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**11/10/14T**	11/28/14	200	
		J&T Brand		10/15/14	07/09/18	1800	

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11/10/14X							
50ug/ml 8260 Surrogate-B			Conc.		Date	Exp.	
Exp:12/10/14			ug/ml	Lot #	Code	Date	uL
O2SI	120002-01	8260B Surr Solution	2000	185763-33557	10/28/14H	02/19/15	100
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3900
11/10/14Y							
5.0ug/ml 8260 Surrogate-B			Lot	APPL Code	APPL Exp Date	ul	
		50ug/ml 8260 Surrogate		11/10/14X	11/28/14	200	
J&T Brand		Purge & Trap MeOH		10/15/14	07/09/18	1800	
11/10/14Z							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P-B							
Exp:12/10/14			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	120166-01	Volatile Mix 4-3	2000	229254-33997	11/10/14C	05/29/16	500
O2SI	020229-09	Acrolein	10000	237721-34134	10/20/14D	11/18/14	100
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3400

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Volatile Standard Curve Preparation for 10mL Purge (8260 water)-LOKi

Exp. Date:	11/11/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	11-10-14U	11-10-14V	11-10-14W	11-10-14Y	11-10-14Q	11-10-14S	11-10-14R	11-10-14T	11-10-14X	11-10-14Z	w/P&T H2O
Date/code	µg/L	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	mL
11-10-14AA	0.3	3	3	3	6	n/a	n/a	n/a	n/a	n/a	2	50
11-10-14AB	0.5	5	5	5	10	n/a	n/a	n/a	n/a	n/a	5	50
11-10-14AC	1	10	10	10	20	n/a	n/a	n/a	n/a	n/a	10	50
11-10-14AD	5	n/a	n/a	n/a	n/a	5	5	5	5	10	20	50
11-10-14AE	10	n/a	n/a	n/a	n/a	10	10	10	10	25	25	50
11-10-14AF	20	n/a	n/a	n/a	n/a	20	20	20	20	40	30	50
11-10-14AG	40	n/a	n/a	n/a	n/a	40	40	40	40	80	35	50
11-10-14AH	100	n/a	n/a	n/a	n/a	100	100	100	100	100	40	50

11/10/14
RS

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-THOR

Exp: Date:	11/11/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc	11-10-14H	11-10-14I	11-10-14J	11-10-14L	11-10-14D	11-10-14F	11-10-14E	11-10-14G	11-10-14K	11-10-14M	w/P&T H2O
Date/code	µg/L	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	mL
11-10-14AI	2	2	2	2	2	n/a	n/a	n/a	n/a	n/a	1	5
11-10-14AJ	5	5	5	5	5	n/a	n/a	n/a	n/a	n/a	2	5
11-10-14AK	10	10	10	10	10	n/a	n/a	n/a	n/a	n/a	3	5
11-10-14AL	20	20	20	20	20	n/a	n/a	n/a	n/a	n/a	4	5
11-10-14AM	30	30	30	30	30	n/a	n/a	n/a	n/a	n/a	4.2	5
11-10-14AN	50	n/a	n/a	n/a	n/a	5	5	5	5	5	5	5
11-10-14AO	100	n/a	n/a	n/a	n/a	10	10	10	10	10	6	5
11-10-14AP	150	n/a	n/a	n/a	n/a	15	15	15	15	15	7	5
11-10-14AQ	200	n/a	n/a	n/a	n/a	20	20	20	20	20	8	5

11/11/14
RS

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-THOR

Exp: Date:	11/12/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	11-10-14U	11-10-14V	11-10-14W	11-10-14Y	11-10-14Q	11-10-14S	11-10-14R	11-10-14T	11-10-14X	11-10-14Z	w/P&T H2O
Date/code	µg/L	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	mL
11-11-14A	2	2	2	2	2	n/a	n/a	n/a	n/a	n/a	1	5
11-11-14B	5	5	5	5	5	n/a	n/a	n/a	n/a	n/a	2	5
11-11-14C	10	10	10	10	10	n/a	n/a	n/a	n/a	n/a	3	5
11-11-14D	20	20	20	20	20	n/a	n/a	n/a	n/a	n/a	4	5
11-11-14E	50	n/a	n/a	n/a	n/a	5	5	5	5	5	5	5
11-11-14F	100	n/a	n/a	n/a	n/a	10	10	10	10	10	6	5
11-11-14G	150	n/a	n/a	n/a	n/a	15	15	15	15	15	7	5
11-11-14H	200	n/a	n/a	n/a	n/a	20	20	20	20	20	8	5

11/12/14
RS

Butane Solution, 2,000 mg/L, 1 ml

R&D only, not for sale. Made in the USA

021009-03

Lot #	Storage	Expiry
223481	≤-10 Degrees C	3/7/17

Solv: P/T Methanol

Butane
Lot #: 223481 - 34025
Rec: 9/9/14 MFR exp. 3/7/17

RS

Injection Log

Directory: M:\LOKI\DATA\141024\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	1024L01.D	1	25ug/mL BFB Std 09-30-14	2uL	24 Oct 14 10:32
2	4	1024L05.D	1	0.1ug/L Vol Std 10-24-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 12:19
3	5	1024L06.D	1	0.3ug/L Vol Std 10-24-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 12:47
4	6	1024L07.D	1	0.5ug/L Vol Std 10-24-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 13:16
5	7	1024L08.D	1	1.0ug/L Vol Std 10-24-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 13:44
6	8	1024L09.D	1	5.0ug/L Vol Std 10-24-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 14:12
7	9	1024L10.D	1	10ug/L Vol Std 10-24-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 14:41
8	10	1024L11.D	1	20ug/L Vol Std 10-24-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 15:09
9	11	1024L12.D	1	40ug/L Vol Std 10-24-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 15:37
10	12	1024L13.D	1	100ug/L Vol Std 10-24-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 16:05
11	15	1024L16.D	1	25ug/mL BFB Std 09-30-14	10mL w/5uL IS&S:10-06-14	24 Oct 14 17:30
12	16	1024L17.D	1	10ug/L Std 10-24-14(CCV)	10mL w/5uL IS&S:10-06-14	24 Oct 14 17:59
13	17	1024L18.D	1	10ug/L Std 10-24-14(SS)	10mL w/5uL IS&S:10-06-14	24 Oct 14 18:27
14	1	1026L01.D	1	25ug/mL BFB Std 09-30-14	2uL	26 Oct 14 10:43
15	3	1026L04.D	1	10ug/L Std 10-26-14(CCV)	10mL w/5uL IS&S:10-06-14	26 Oct 14 12:07
16	4	1026L05.D	1	141026A LCS-1WL	10mL w/5uL IS&S:10-06-14	26 Oct 14 12:35
17	9	1026L10.D	1	141026A BLK-1WL	10mL w/5uL IS&S:10-06-14	26 Oct 14 14:57
18	12	1026L13.D	1	AZ05594W01	10mL w/5uL IS&S:10-06-14	26 Oct 14 16:22
19	17	1026L18.D	1	AZ05593W01	10mL w/5uL IS&S:10-06-14	26 Oct 14 18:43

Injection Log

Directory: M:\LOKI\DATA\141110\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	1110L01.D	1	25ug/mL BFB Std 09-30-14	2uL	10 Nov 14 16:17
2	4	1110L05.D	1	0.3ug/L Vol Std 11-10-14	10mL w/5uL IS&S:10-06-14	10 Nov 14 18:04
3	5	1110L06.D	1	0.5ug/L Vol Std 11-10-14	10mL w/5uL IS&S:10-06-14	10 Nov 14 18:32
4	6	1110L07.D	1	1.0ug/L Vol Std 11-10-14	10mL w/5uL IS&S:10-06-14	10 Nov 14 19:01
5	7	1110L08.D	1	5.0ug/L Vol Std 11-10-14	10mL w/5uL IS&S:10-06-14	10 Nov 14 19:29
6	8	1110L09.D	1	10ug/L Vol Std 11-10-14	10mL w/5uL IS&S:10-06-14	10 Nov 14 19:57
7	9	1110L10.D	1	20ug/L Vol Std 11-10-14	10mL w/5uL IS&S:10-06-14	10 Nov 14 20:25
8	10	1110L11.D	1	40ug/L Vol Std 11-10-14	10mL w/5uL IS&S:10-06-14	10 Nov 14 20:54
9	11	1110L12.D	1	100ug/L Vol Std 11-10-14	10mL w/5uL IS&S:10-06-14	10 Nov 14 21:22
10	14	1110L15.D	1	25ug/mL BFB Std 09-30-14	10mL w/5uL IS&S:10-06-14	10 Nov 14 22:46
11	15	1110L16.D	1	10ug/L Std 11-10-14(CCV)	10mL w/5uL IS&S:10-06-14	10 Nov 14 23:14
12	16	1110L17.D	1	10ug/L Std 11-10-14(SS)	10mL w/5uL IS&S:10-06-14	10 Nov 14 23:42
13	5	1117L09.D	1	25ug/mL BFB Std 09-30-14	10mL w/5uL IS&S:10-06-14	17 Nov 14 11:46
14	6	1117L10.D	1	10ug/L Vol Std 11-17-14	10mL w/5uL IS&S:10-06-14	17 Nov 14 12:14
15	7	1117L11.D	1	141117A LCS-1WL	10mL w/5uL IS&S:10-06-14	17 Nov 14 12:42
16	10	1117L14.D	1	141117A BLK-1WL	10mL w/5uL IS&S:10-06-14	17 Nov 14 14:07
17	27	1117L31.D	1	AZ05593W458 MS-1WL	10mL w/5uL IS&S:10-06-14	17 Nov 14 22:04
18	28	1117L32.D	1	AZ05593W458 MSD-1WL	10mL w/5uL IS&S:10-06-14	17 Nov 14 22:32

74701

RSK-175

APPL, INC.

RSK-175
QC Summary

APPL, INC.

Method Blank

MEE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **141022W-05388 - 191410**
Batch ID: #RSK50-141022A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	0.45 U	1.0	0.45	0.25	ug/L	10/22/14	10/22/14

Quant Method: RSK175Q.M
Run #: 1022F004
Instrument: Frodo
Sequence: 140305
Initials: LF

GC SC-Blank-REG MDLs
Printed: 11/02/14 9:34:26 PM

Laboratory Control Spike Recoveries

MEE

APPL ID: **141022W-05388 LCS - 191410**
Batch ID: #RSK50-141022A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	26.7	26.5	25.7	99.3	96.3	72-125	3.1	30

Comments: _____

Primary	SPK	DUP
Quant Method :	RSK175Q.M	RSK175Q.M
Extraction Date :	10/22/14	10/22/14
Analysis Date :	10/22/14	10/22/14
Instrument :	Frodo	Frodo
Run :	1022F002	1022F003
Initials :	LF	

Printed: 11/02/14 9:34:28 PM
APPL Standard LCSD

RSK 175

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 74701

Case No: 74701 Date Analyzed: 10/22/14

Matrix: WATER Instrument: Frodo

Blank ID: 141022A-BLK Time Analyzed: 2014

APPL ID.	Client Sample No.	File ID.	Date Analyzed
141022A-LCS	Lab Control Spike	1022F002	10/22/14 2005
141022A-LCSD	Lab Control SpikeD	1022F003	10/22/14 2010
141022A-BLK	Blank	1022F004	10/22/14 2014
AZ05593	RHMW06-GW-01	1022F015	10/22/14 2145

Comments: Batch: #RSK50-141022A

Printed: 11/02/14 9:34:21 PM
Form 4, Blank Summary

RSK-175
Sample Data

APPL, INC.

MEE

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: 749435 Red Hill TO 0068

ARF: 74701

Sample ID: RHMW06-GW-01

APPL ID: AZ05593

Sample Collection Date: 10/21/14

QCG: #RSK50-141022A-191410

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	1.7	1.0	0.45	0.25	ug/L	10/22/14	10/22/14

Quant Method:	RSK175Q.M
Run #:	1022F015
Instrument:	Frodo
Sequence:	140305
Dilution Factor:	1
Initials:	LF

Printed: 11/02/14 9:34:25 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\140305\1022F015.D Vial: 15
Acq On : 22 Oct 2014 21:45 Operator: lsf
Sample : AZ05593W03 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 26 20:25 2014 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

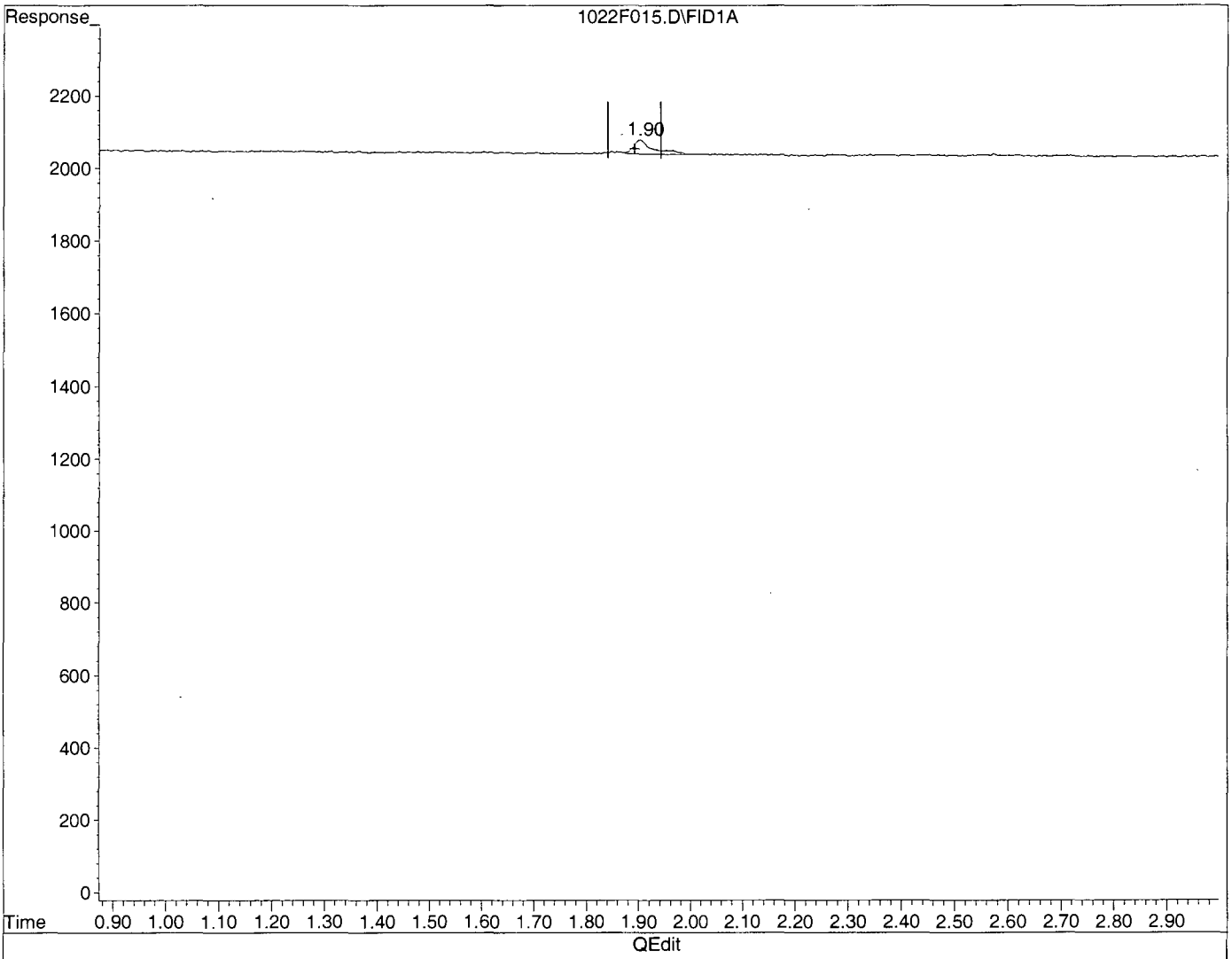
Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.90	1023	1.702 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : V:\FRODO\DATA\140305\1022F015.D Vial: 15
Acq On : 22 Oct 2014 21:45 Operator: lsf
Sample : AZ05593W03 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 26 20:25 2014 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration



QEdit

(1) Methane (ATM)

1.90min 1.702ppb

response 1023

(+) = Expected Retention Time

1022F015.D RSK175Q.M Thu Nov 20 17:34:06 2014

RSK-175
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 03/06/13
Matrix: Water Instrument: Frodo Initials:

0306F001.D 0306F002.D 0306F003.D 0306F004.D 0306F005.D

		Compound	1	2	3	4	5						Avg	%RSD		r^2
1	ATML	Methane	1275	462	373	359	357						565	71	ATML	1.00
2	ATM	Ethane	304	260	315	313	369						312	12	ATM	
3	ATM	Ethene	351	249	326	328	387						328	15	ATM	
4																
5																
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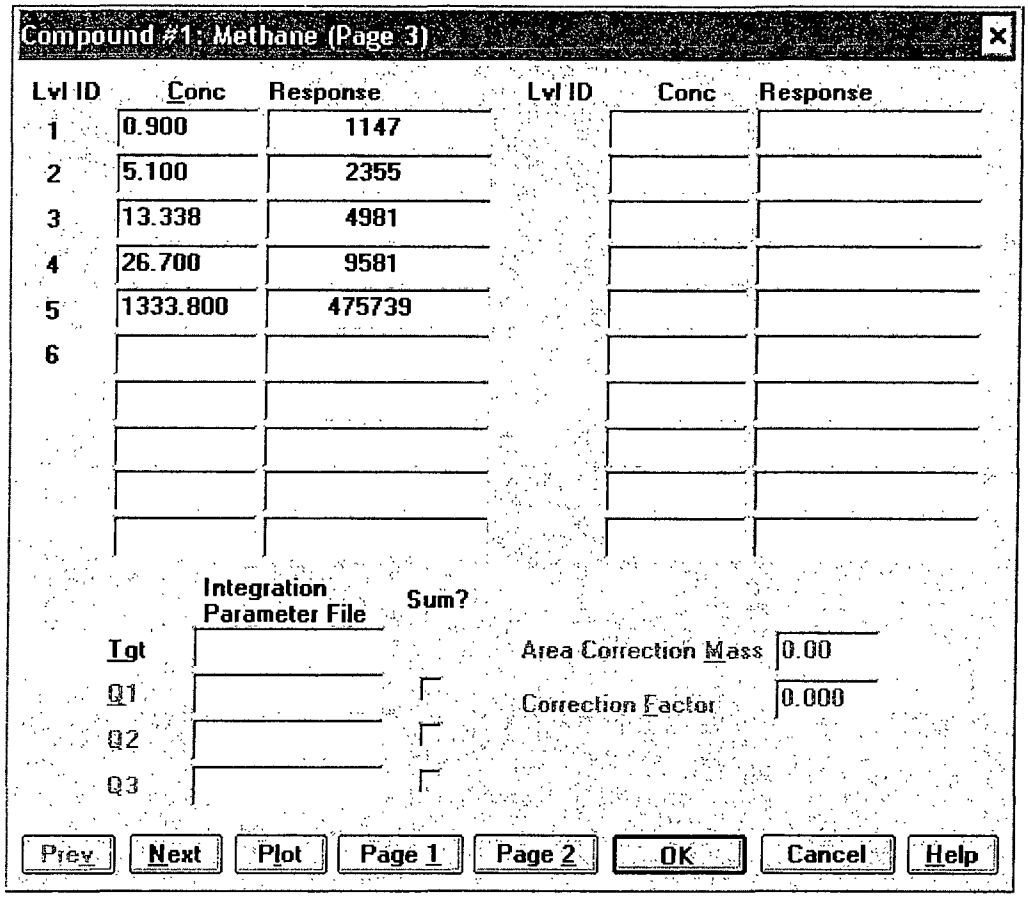
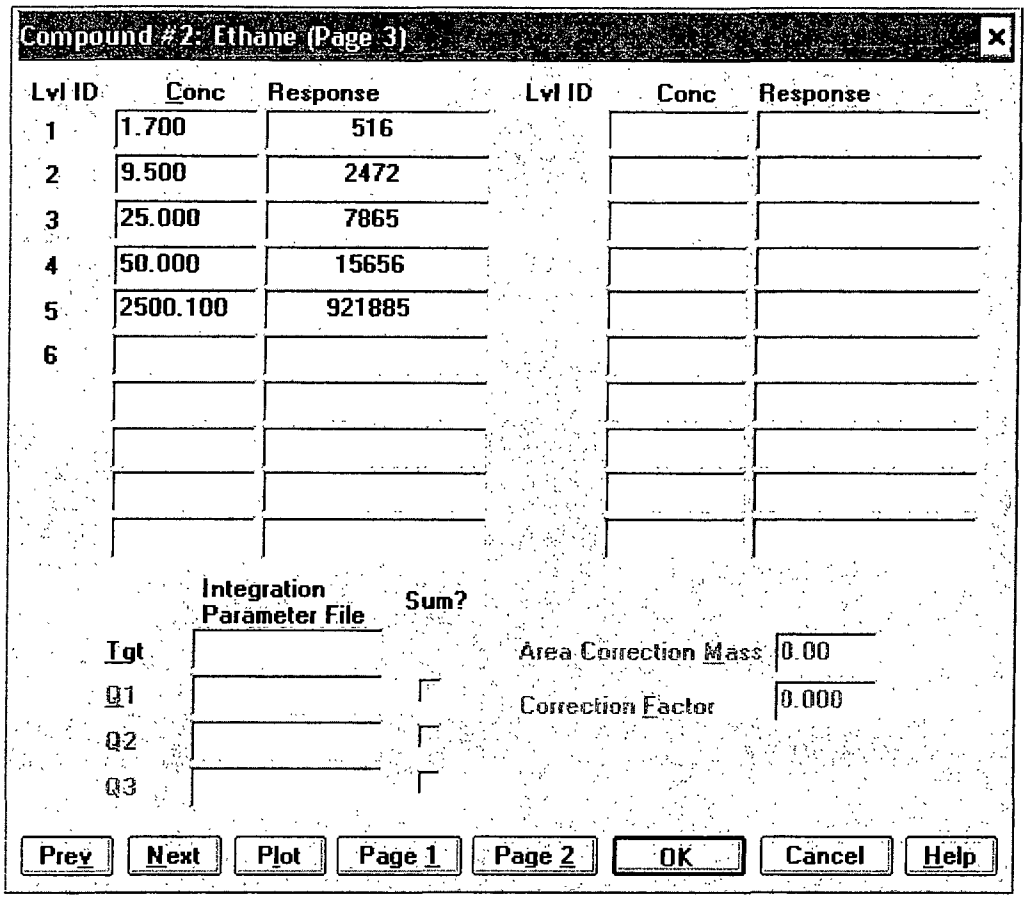
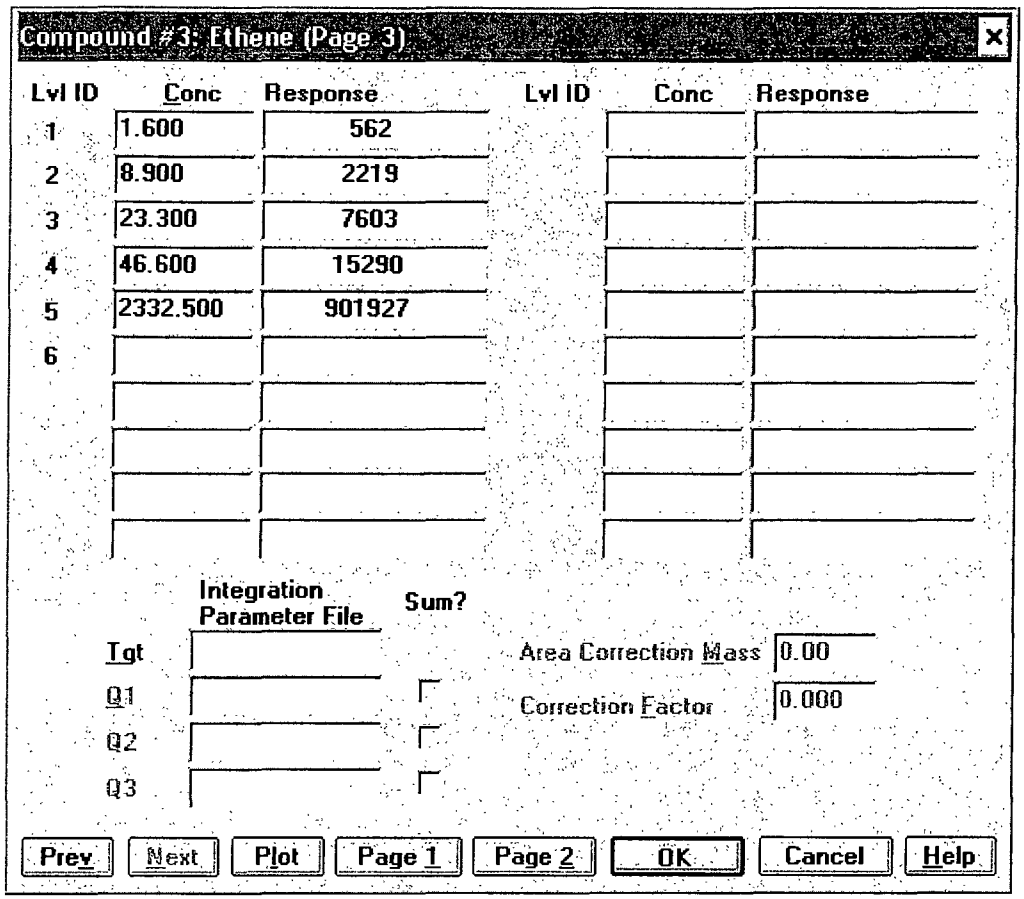
35																

2.8106706


Compound #1: Methane (Page 3)
Lvl ID
Conc
Response
1
0.900
1147
2
5.100
2355
3
13.338
4981
4
26.700
9581
5
1333.800
475739
6
Lvl ID
Conc
Response
Integration Parameter File
Sum?
Tgt
Q1
Q2
Q3
Area Correction Mass
0.00
Correction Factor
0.000
Prev
Next
Plot
Page 1
Page 2
OK
Cancel
Help


Compound #2: Ethane (Page 3)
Lvl ID
Conc
Response
1 1.700 516
2 9.500 2472
3 25.000 7865
4 50.000 15656
5 2500.100 921885
6
Lvl ID
Conc
Response
Integration Parameter File
Sum?
Tgt
Q1
Q2
Q3
Area Correction Mass 0.00
Correction Factor 0.000
Prev
Next
Plot
Page 1
Page 2
OK
Cancel
Help


Compound #3: Ethene (Page 3)
Lvl ID
Conc
Response
Lvl ID
Conc
Response
1
1.600
562
2
8.900
2219
3
23.300
7603
4
46.600
15290
5
2332.500
901927
6
Integration Parameter File
Sum?
Tgt
Q1
Q2
Q3
Area Correction Mass
0.00
Correction Factor
0.000
Prev
Next
Plot
Page 1
Page 2
OK
Cancel
Help

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\130306\0306F001.D Vial: 1
Acq On : 6 Mar 2013 10:46 Operator: lsf
Sample : RSK L-1 03-06-13 LF Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 7 13:31 2013 Quant Results File: RSK175Q.RES

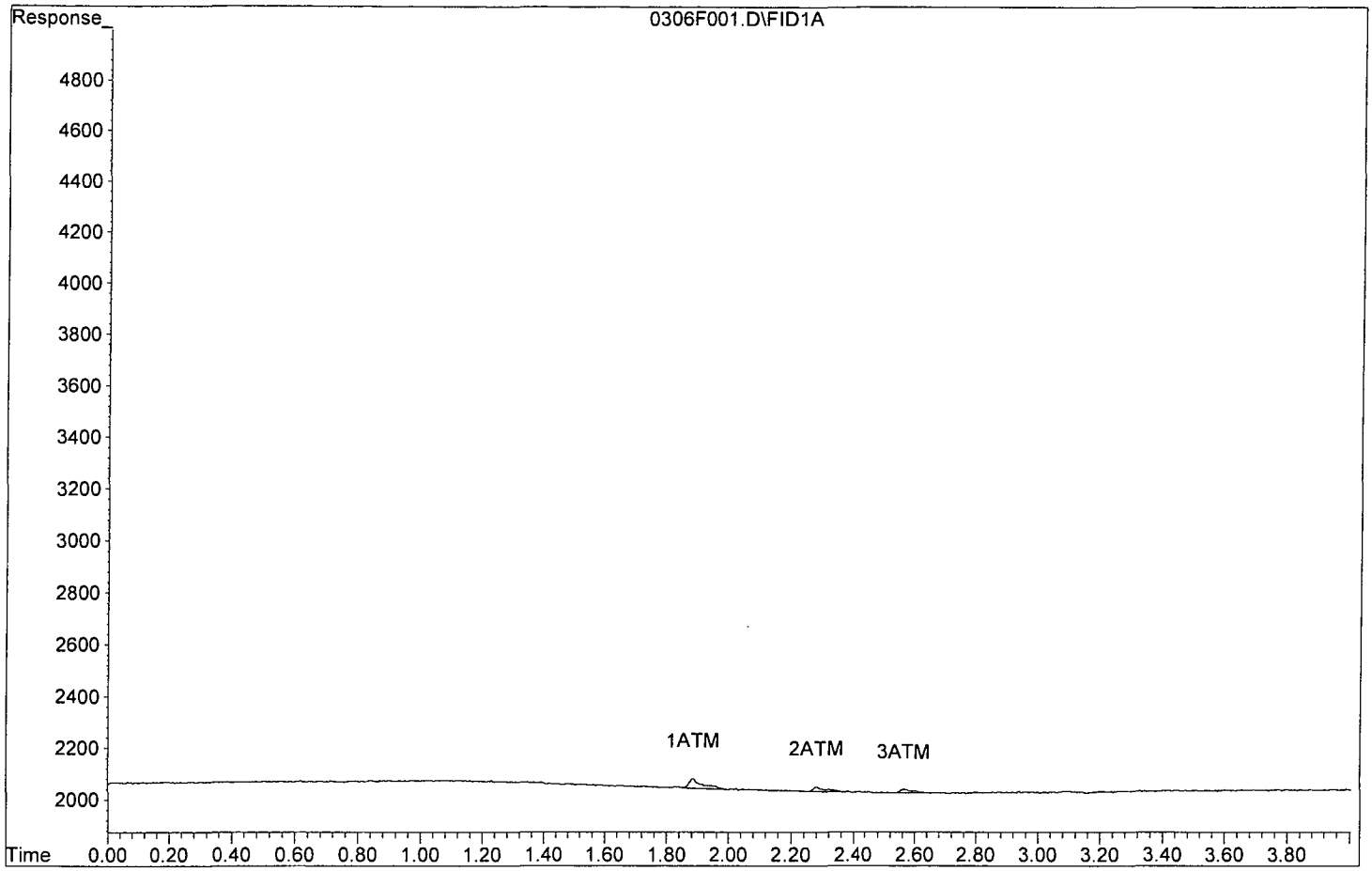
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 07 13:29:20 2013
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.89	1147	2.051 ppb
2) ATM Ethane	2.28	516	1.654 ppb
3) ATM Ethene	2.57	562	1.711 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\130306\0306F001.D
Sample : RSK L-1 03-06-13 LF



Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\130306\0306F002.D Vial: 2
Acq On : 6 Mar 2013 10:55 Operator: lsf
Sample : RSK L-2 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:00 2013 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Mar 06 11:30:47 2013
Response via : Multiple Level Calibration

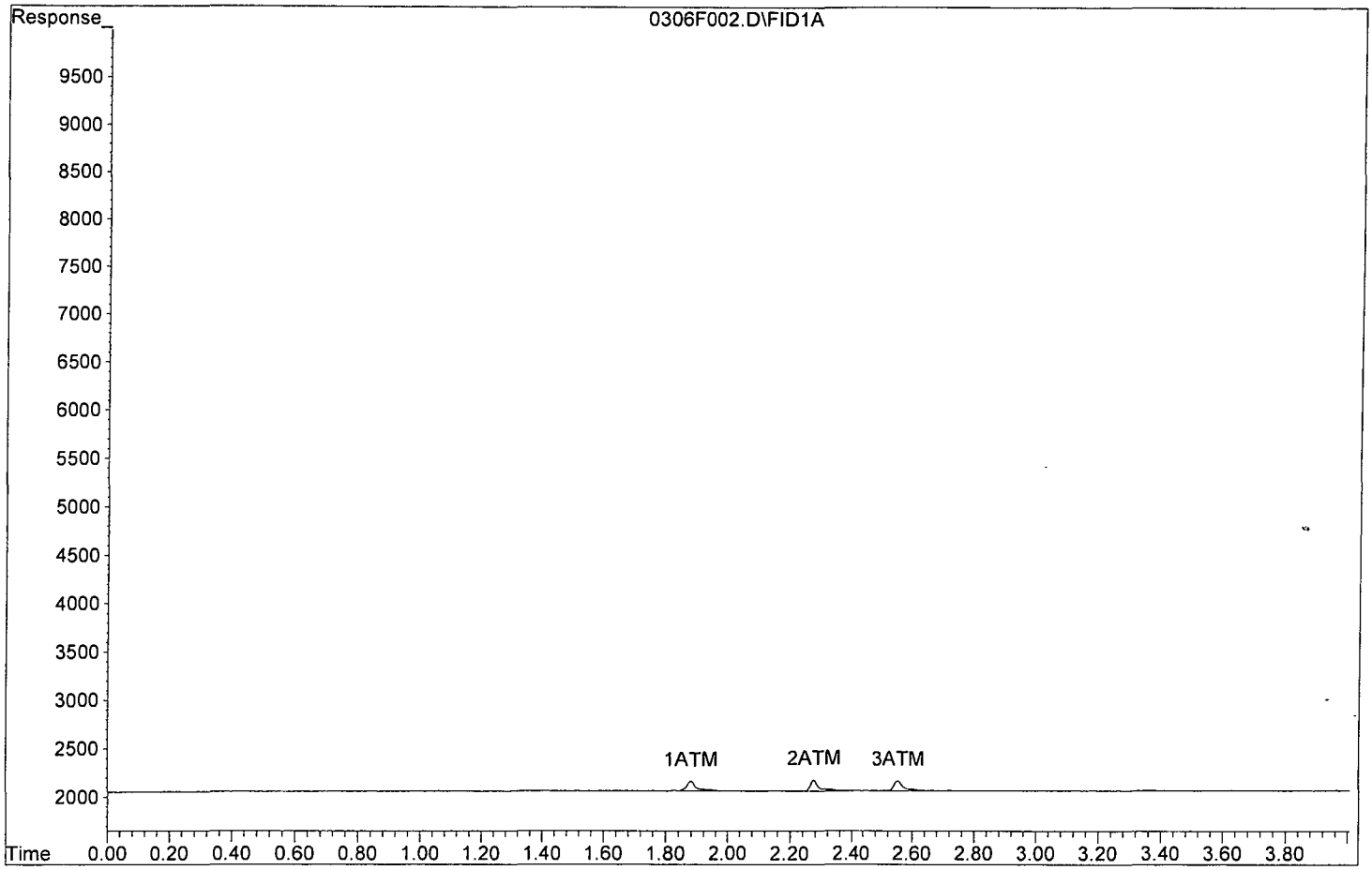
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.88	2355	1.146 ppb
2) ATM Ethane	2.28	2472	3.396 ppb
3) ATM Ethene	2.55	2219	3.381 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: V:\FRODO\DATA\130306\0306F002.D
Sample : RSK L-2



Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\130306\0306F003.D Vial: 3
Acq On : 6 Mar 2013 11:00 Operator: lsf
Sample : RSK L-3 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:05 2013 Quant Results File: RSK175Q.RES

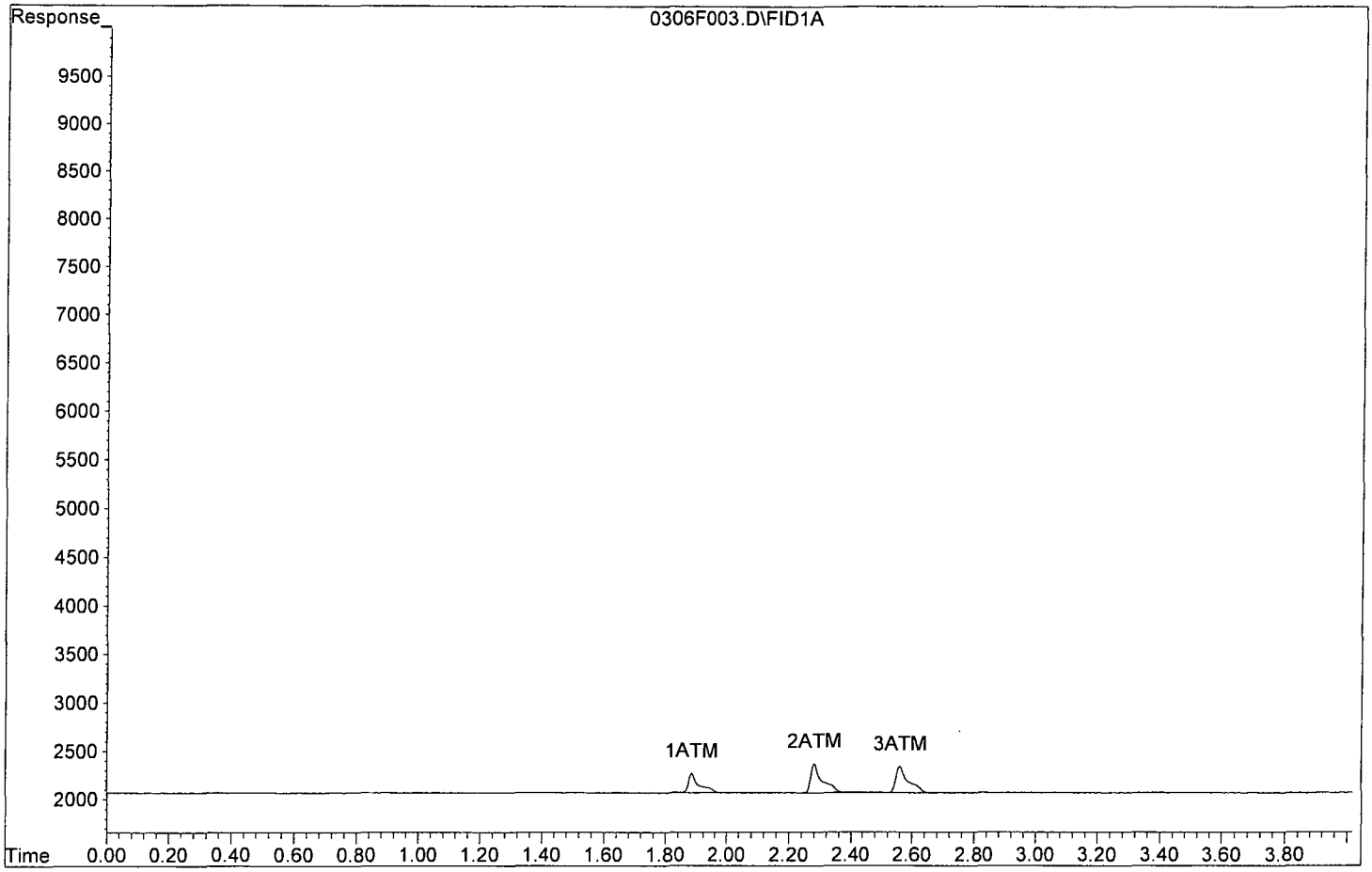
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Mar 06 11:30:47 2013
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.88	4981	4.212 ppb
2) ATM Ethane	2.28	7865	20.444 ppb
3) ATM Ethene	2.56	7603	20.362 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\130306\0306F003.D
Sample : RSK L-3



Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\130306\0306F004.D Vial: 4
Acq On : 6 Mar 2013 11:05 Operator: lsf
Sample : RSK L-4 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 7 13:25 2013 Quant Results File: RSK175Q.RES

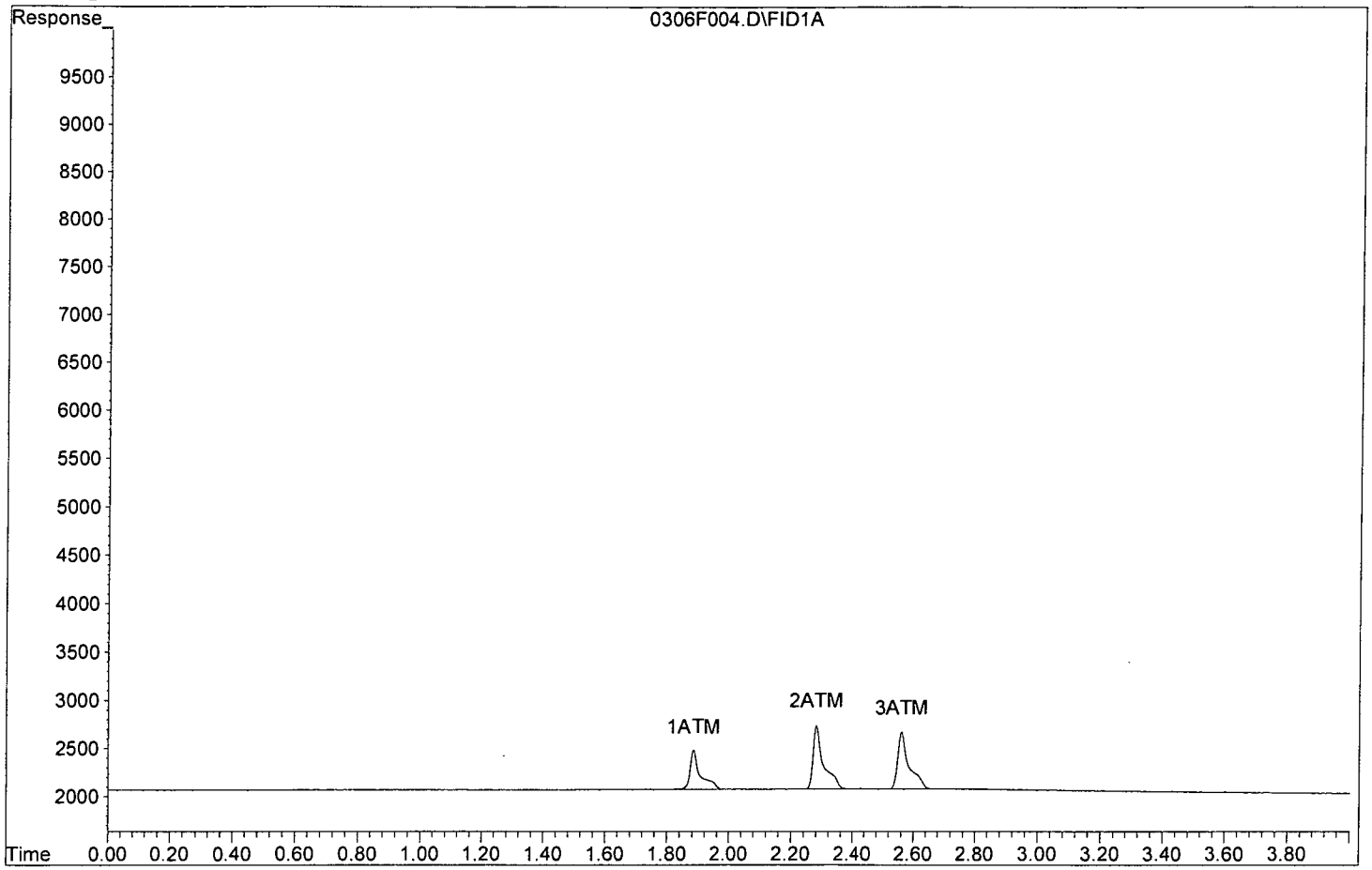
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Wed Mar 06 11:30:47 2013
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.88	9581	25.717 ppb
2) ATM Ethane	2.28	15656	45.982 ppb
3) ATM Ethene	2.56	15290	42.993 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\130306\0306F004.D
Sample : RSK L-4



Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\130306\0306F005.D Vial: 5
Acq On : 6 Mar 2013 11:09 Operator: lsf
Sample : RSK L-5 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:15 2013 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 07 13:29:20 2013
Response via : Multiple Level Calibration

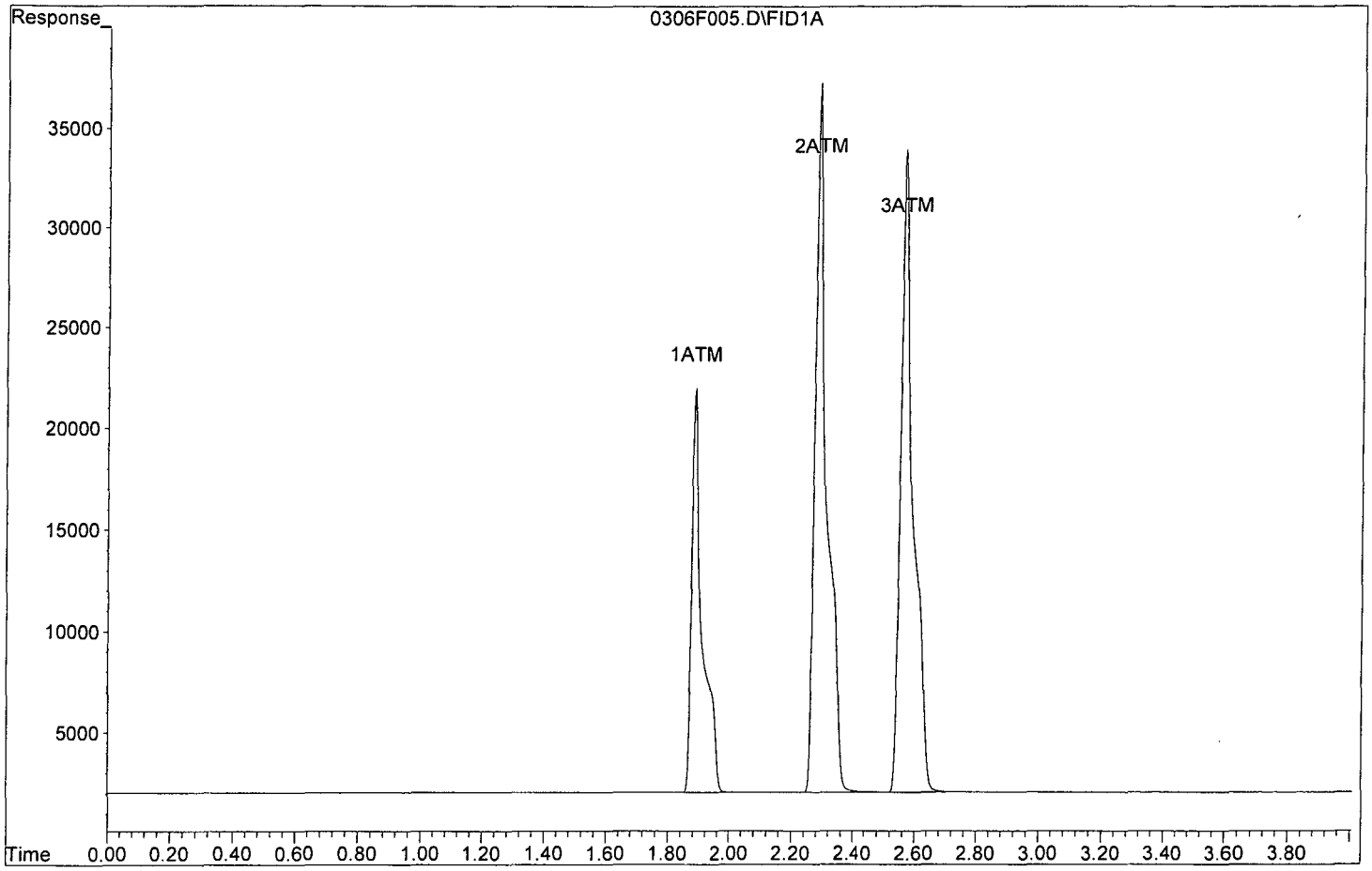
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	1.88	475739	614.401	ppb
2) ATM Ethane	2.28	921885	2639.481	ppb
3) ATM Ethene	2.56	901927	2574.780	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File: V:\FRODO\DATA\130306\0306F005.D
Sample : RSK L-5



Form 7

Second Source Calibration

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

SDG No:
Date Analyzed: 6 Mar 2013 11:53
Instrument: Frodo
Initial Cal. Date: 03/06/13
Data File: 0306F008.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	565	323	43	ATML	14
2	ATM	Ethane	312	308	1.2	ATM	
3	ATM	Ethene	328	321	2.4	ATM	
4							
5							
6							
7							
8							
9							
10							
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36							
37							
38							
39							
40							
		Average			15.5		

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\130306\0306F008.D Vial: 8
Acq On : 6 Mar 2013 11:53 Operator: lsf
Sample : 130306A LCS-1 (SS) Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 7 13:33 2013 Quant Results File: RSK175Q.RES

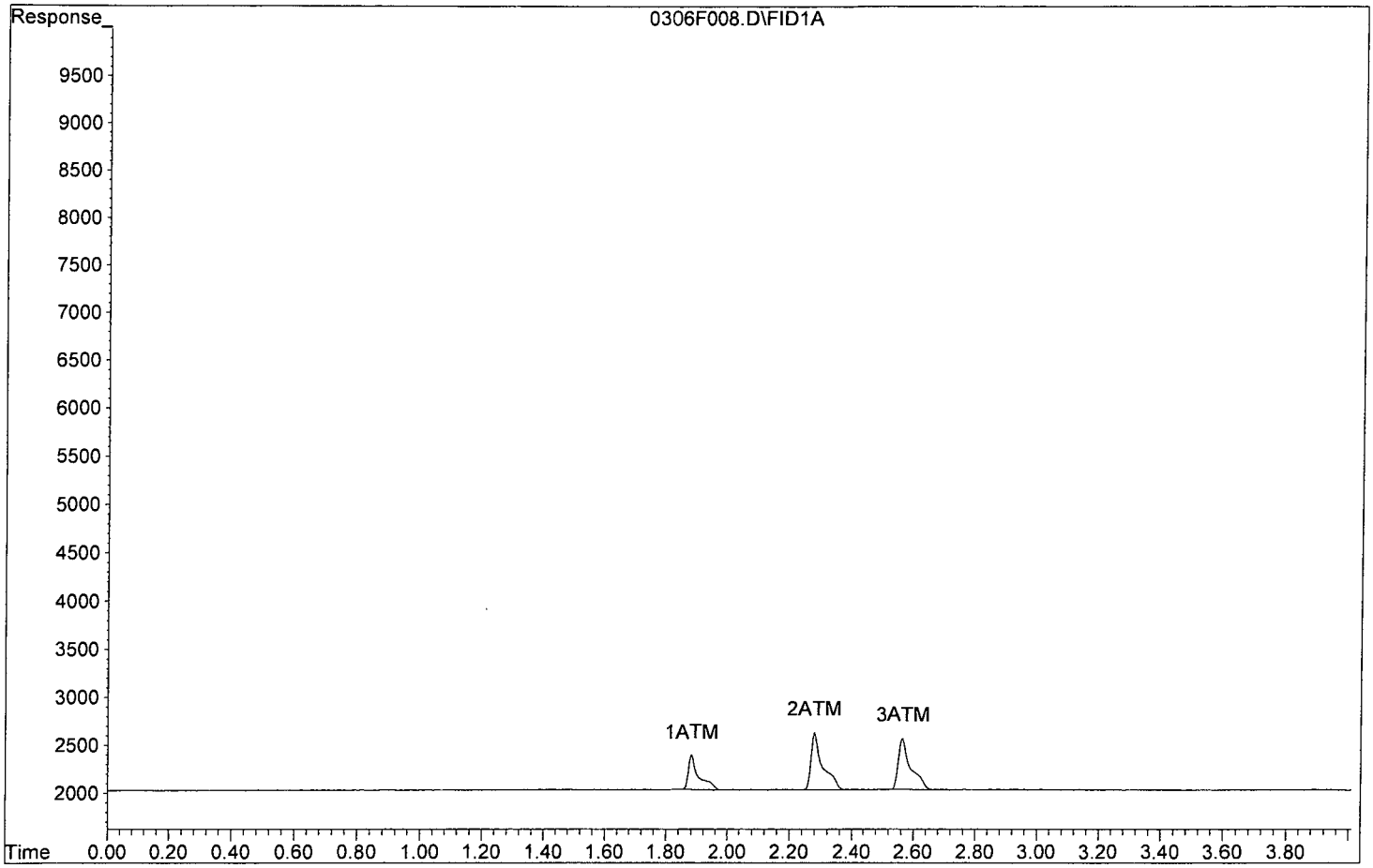
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 07 13:29:20 2013
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.88	8635	23.062 ppb
2) ATM Ethane	2.28	15416	49.407 ppb
3) ATM Ethene	2.56	14936	45.493 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\130306\0306F008.D
Sample : 130306A LCS-1 (SS)



Form 7

Continuing Calibration

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

SDG No:
Date Analyzed: 10/22/14
Instrument: Frodo
Initial Cal. Date: 03/05/14
Data File: 1022F001.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	565	395	30	ATML	6.4
2	ATM	Ethane	312	366	17	ATM	
3	ATM	Ethene	328	384	17	ATM	
4							
5							
6							
7							
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37							
38							
39							
40							
		Average			21.3		

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\140305\1022F001.D Vial: 1
Acq On : 22 Oct 2014 20:00 Operator: lsf
Sample : RSK L-4 10-22-14 LF Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 22 19:04 2014 Quant Results File: RSK175Q.RES

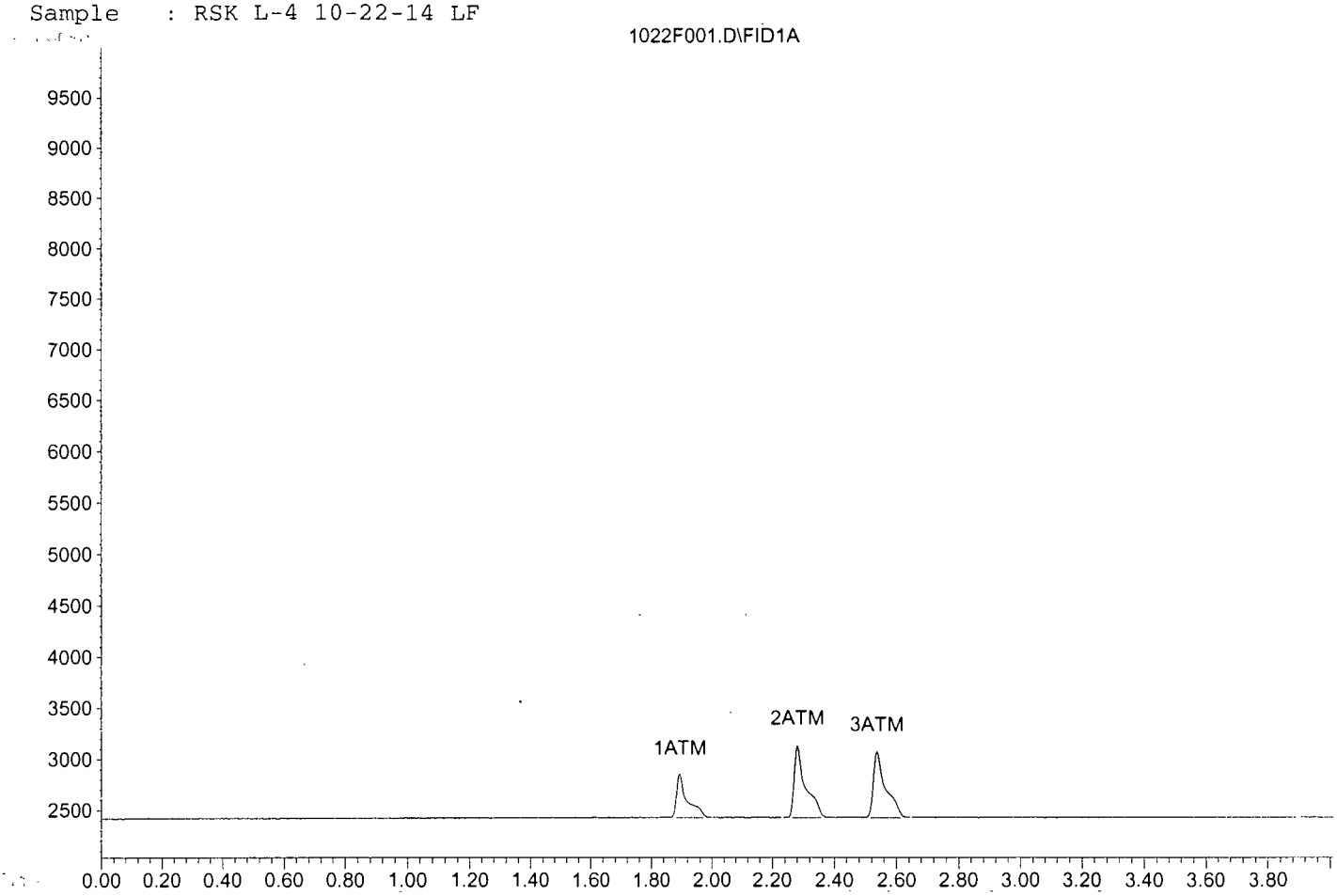
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.89	10541	28.409 ppb
2) ATM Ethane	2.28	18284	58.598 ppb
3) ATM Ethene	2.54	17906	54.540 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\140305\1022F001.D
Sample : RSK L-4 10-22-14 LF



Form 7

Continuing Calibration

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

SDG No:
Date Analyzed: 10/22/14
Instrument: Frodo
Initial Cal. Date: 03/05/14
Data File: 1022F011.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	565	300	47	ATML	20
2	ATM	Ethane	312	273	13	ATM	
3	ATM	Ethene	328	281	14	ATM	
4							
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39							
40							
		Average			24.7		

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\140305\1022F011.D Vial: 11
Acq On : 22 Oct 2014 20:56 Operator: lsf
Sample : RSK L-4 10-22-14 LF Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 22 20:10 2014 Quant Results File: RSK175Q.RES

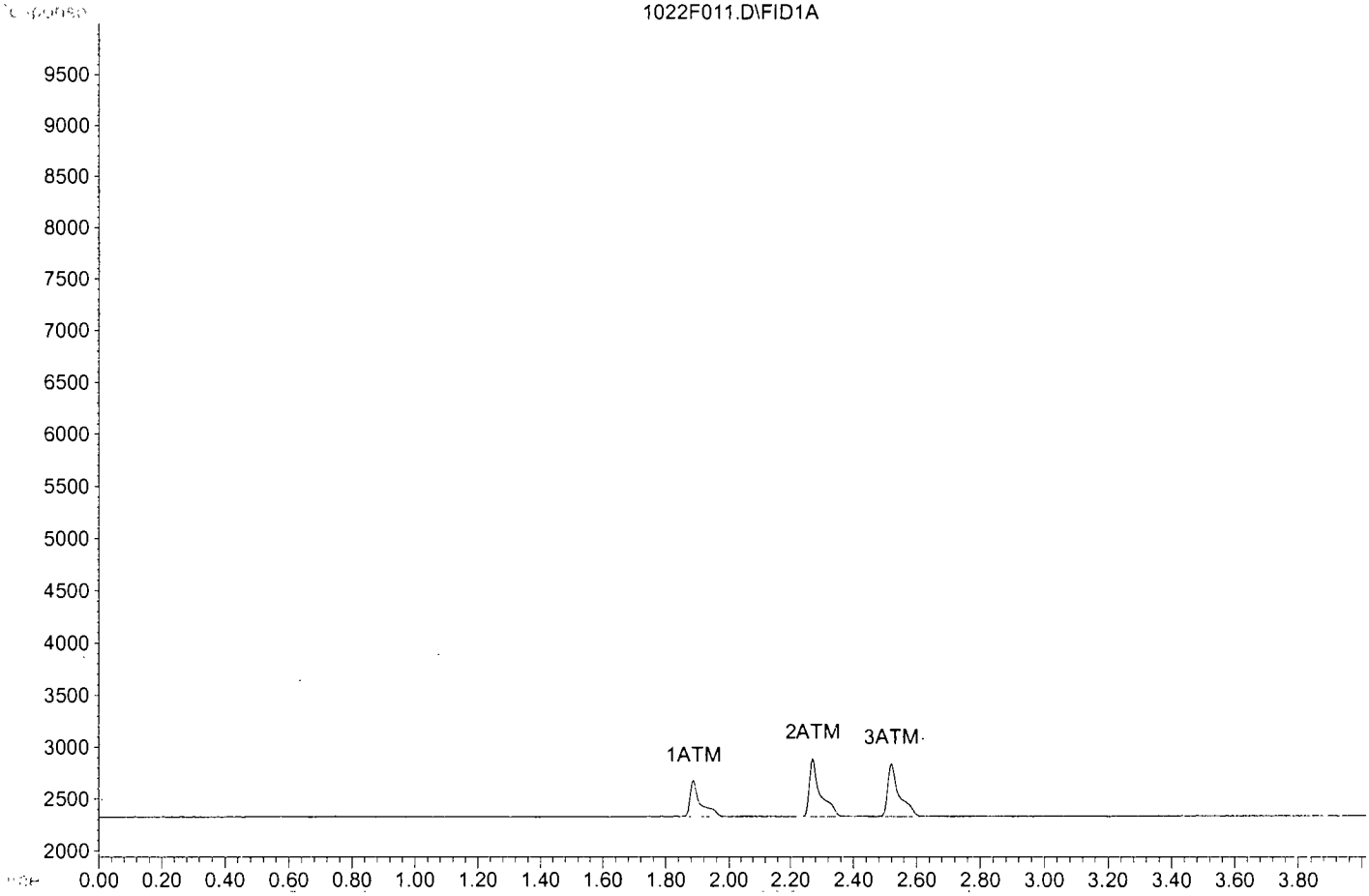
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.89	8011	21.310 ppb
2) ATM Ethane	2.27	13630	43.681 ppb
3) ATM Ethene	2.52f	13099	39.898 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\140305\1022F011.D
Sample : RSK L-4 10-22-14 LF



Form 7

Continuing Calibration

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

SDG No:
Date Analyzed: 10/22/14
Instrument: Frodo
Initial Cal. Date: 03/05/14
Data File: 1022F014.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	565	357	37	ATML	4.2
2	ATM	Ethane	312	323	3.5	ATM	
3	ATM	Ethene	328	338	3.0	ATM	
4							
5							
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		Average			14.5		

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\140305\1022F014.D Vial: 14
Acq On : 22 Oct 2014 21:37 Operator: lsf
Sample : RSK L-4 10-22-14 LF Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 22 20:42 2014 Quant Results File: RSK175Q.RES

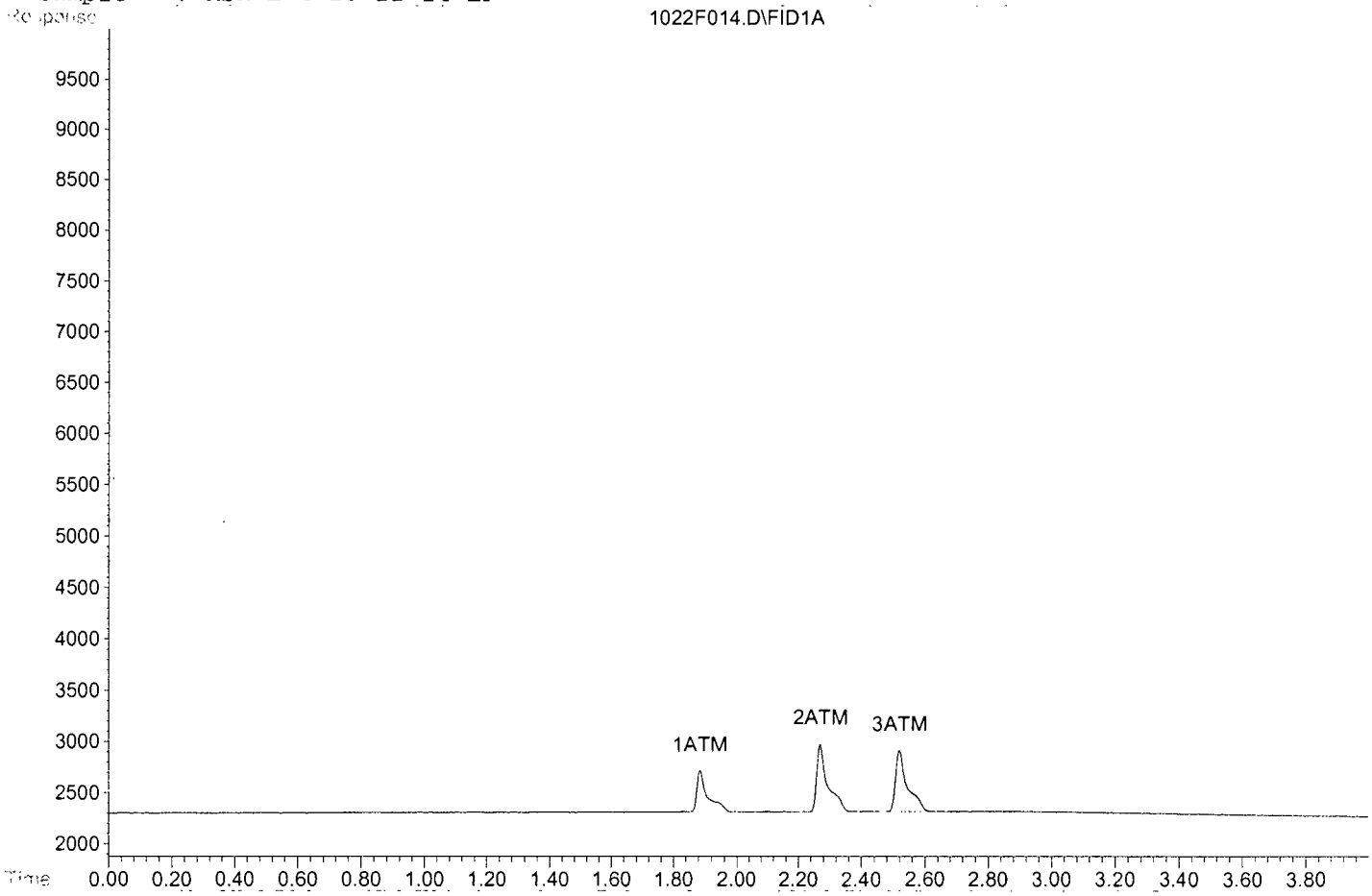
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.89	9530	25.572 ppb
2) ATM Ethane	2.27	16148	51.753 ppb
3) ATM Ethene	2.52f	15756	47.990 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\140305\1022F014.D
Sample : RSK L-4 10-22-14 LF



Form 7

Continuing Calibration

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

SDG No:
Date Analyzed: 10/22/14
Instrument: Frodo
Initial Cal. Date: 03/05/14
Data File: 1022F016.D

		Compound	MEAN	CCRF	%D		%Drift
1	ATML	Methane	565	374	34	ATML	3.9
2	ATM	Ethane	312	332	6.5	ATM	
3	ATM	Ethene	328	354	7.7	ATM	
4							
5							
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40							
		Average			16.1		

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\140305\1022F016.D Vial: 16
Acq On : 22 Oct 2014 21:50 Operator: lsf
Sample : RSK L-3 10-22-14 LF Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 22 20:54 2014 Quant Results File: RSK175Q.RES

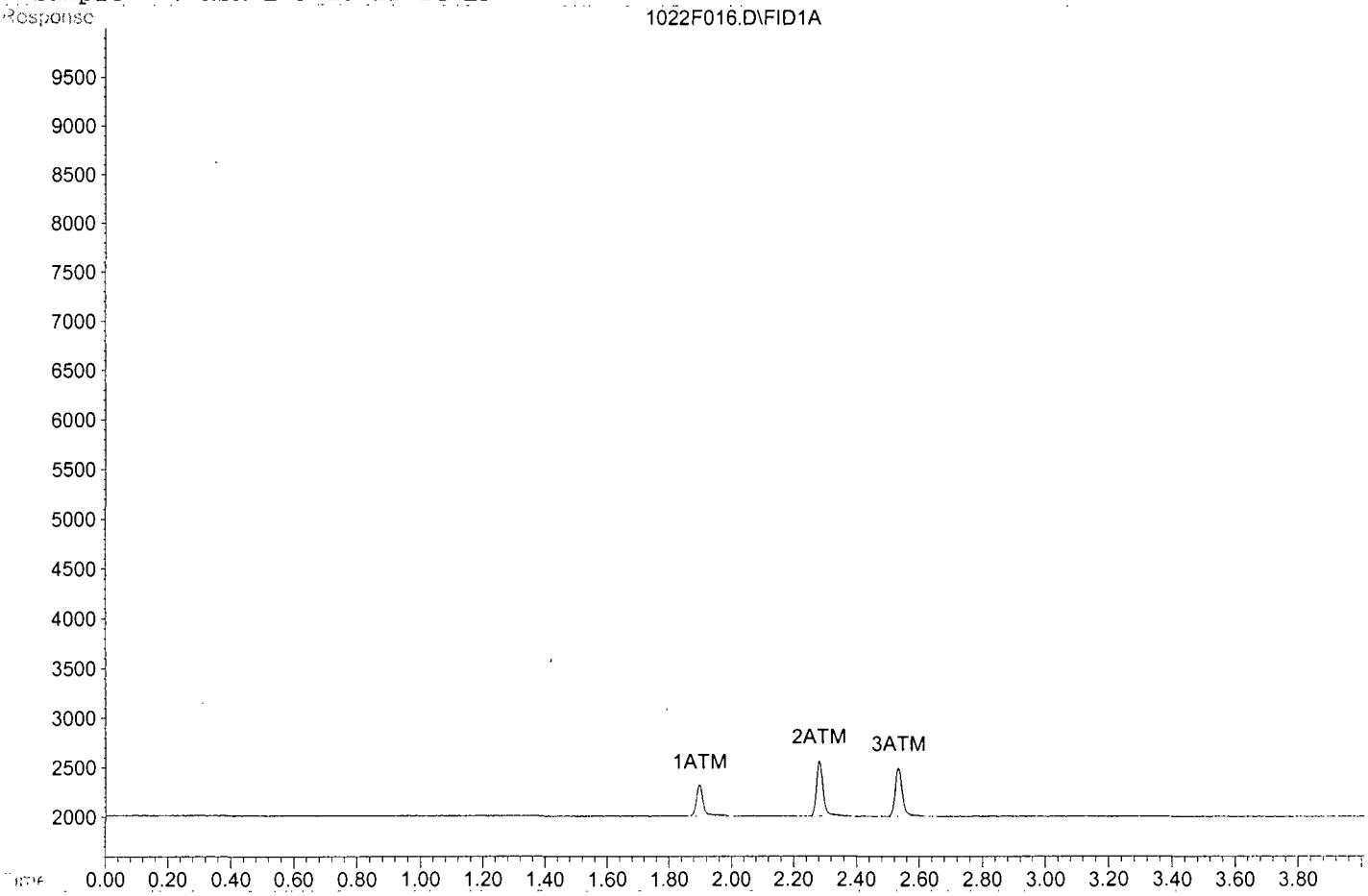
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.90	4985	12.820 ppb
2) ATM Ethane	2.28	8311	26.636 ppb
3) ATM Ethene	2.53	8240	25.099 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\140305\1022F016.D
Sample : RSK L-3 10-22-14 LF



RSK-175
Raw Data

APPL, INC.

Method Blank

MEE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **141022W-05388 - 191410**
Batch ID: #RSK50-141022A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	0.45 U	1.0	0.45	0.25	ug/L	10/22/14	10/22/14

Quant Method: RSK175Q.M
Run #: 1022F004
Instrument: Frodo
Sequence: 140305
Initials: LF

GC SC-Blank-REG MDLs
Printed: 11/02/14 9:34:16 PM

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\140305\1022F004.D Vial: 4
Acq On : 22 Oct 2014 20:14 Operator: lsf
Sample : 141022A BLK-1 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 22 19:32 2014 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

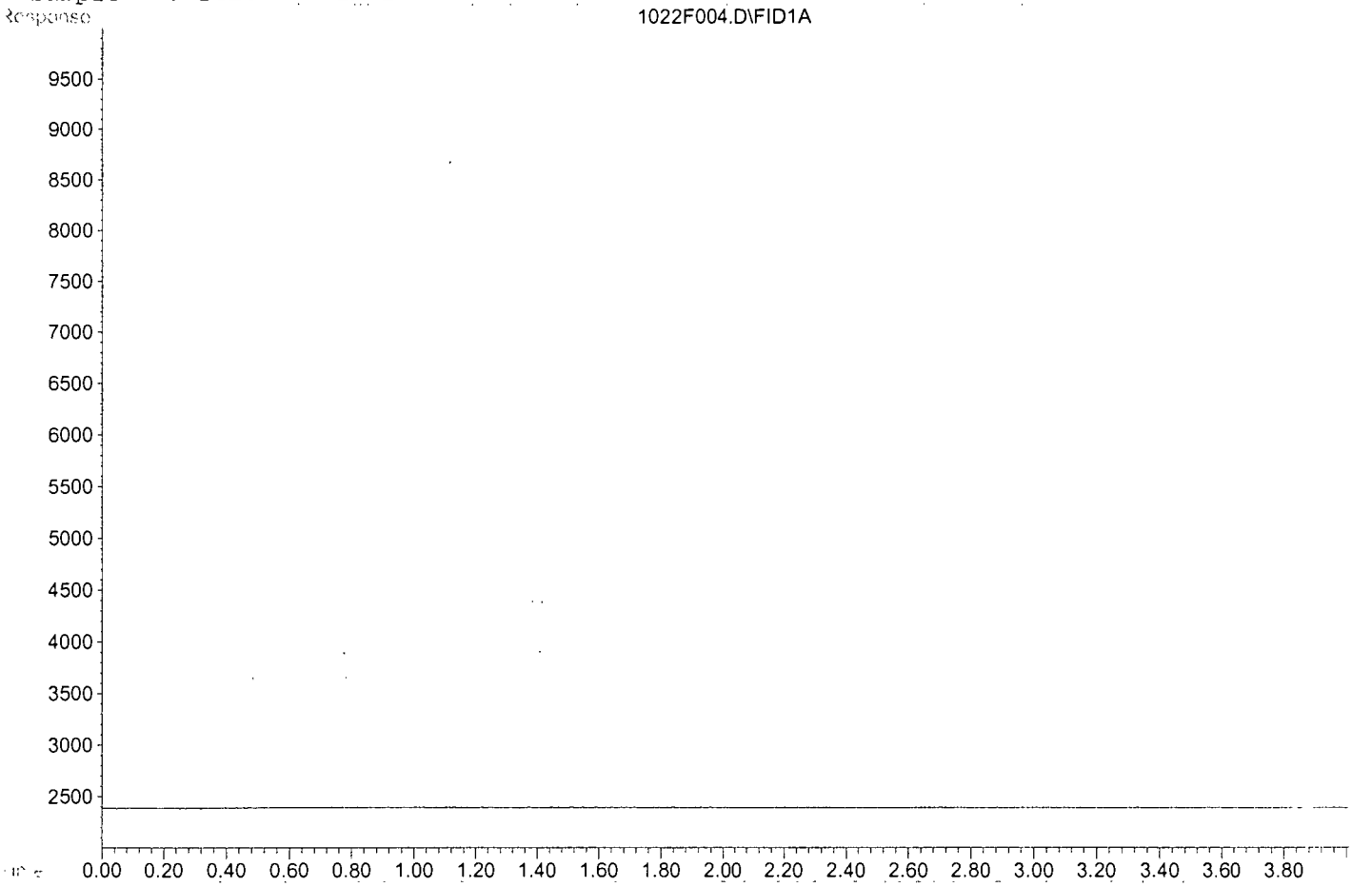
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\140305\1022F004.D
Sample : 141022A BLK-1



Laboratory Control Spike Recoveries

MEE

APPL ID: **141022W-05388 LCS - 191410**
Batch ID: #RSK50-141022A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Lvl ug/L	SPK Result ug/L	DUP Result ug/L	SPK % Recovery	DUP % Recovery	Recovery Limits	RPD %	RPD Limits
METHANE	26.7	26.5	25.7	99.3	96.3	72-125	3.1	30

Comments: _____

Primary	SPK	DUP
Quant Method :	RSK175Q.M	RSK175Q.M
Extraction Date :	10/22/14	10/22/14
Analysis Date :	10/22/14	10/22/14
Instrument :	Frodo	Frodo
Run :	1022F002	1022F003
Initials :	LF	

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\140305\1022F002.D Vial: 2
Acq On : 22 Oct 2014 20:05 Operator: lsf
Sample : 141022A LCS-1 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 22 19:09 2014 Quant Results File: RSK175Q.RES

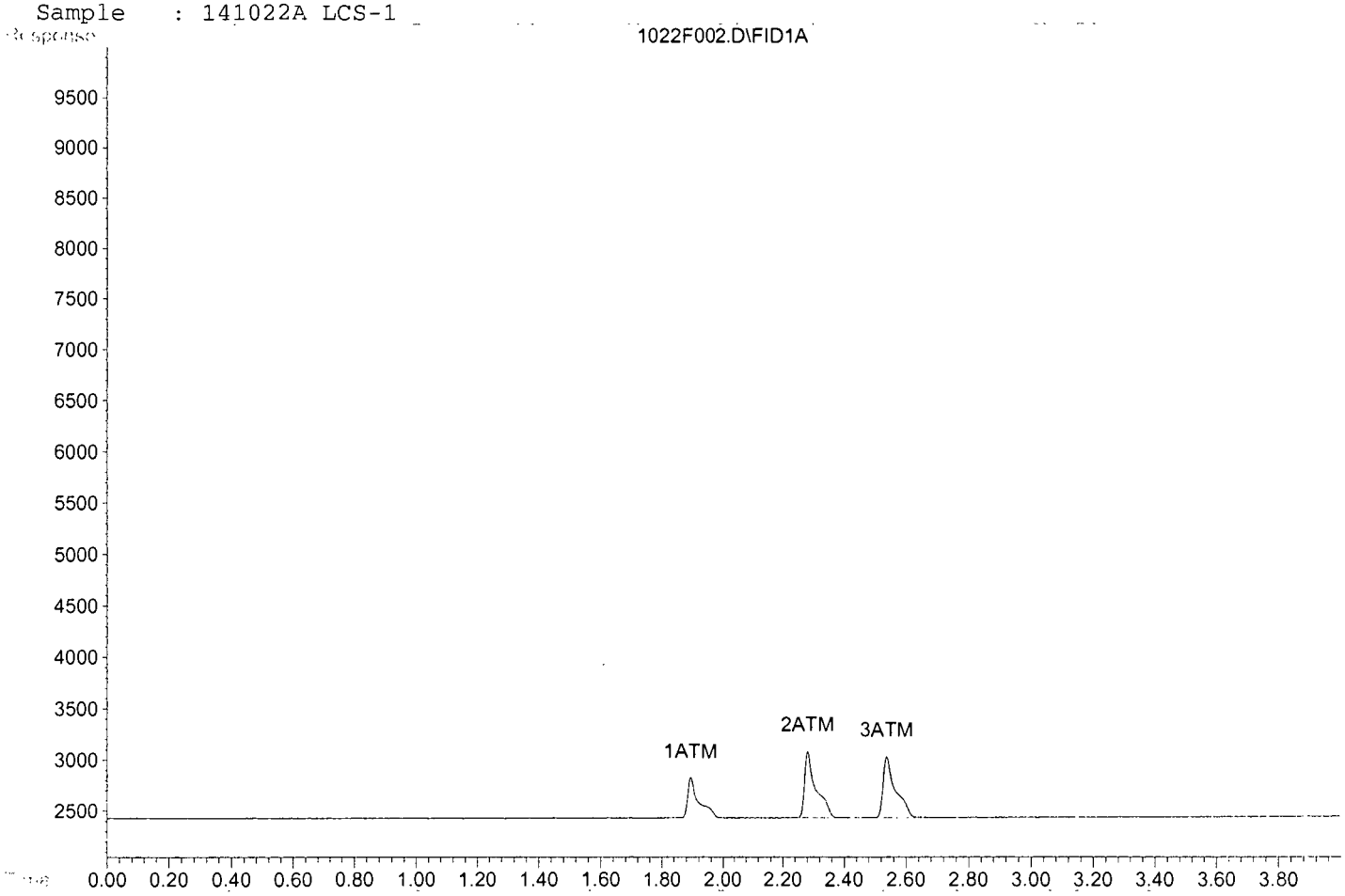
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units
Target Compounds				
1) ATM Methane	1.90	9859	26.496	ppb
2) ATM Ethane	2.28	17060	54.673	ppb
3) ATM Ethene	2.54	16799	51.170	ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\140305\1022F002.D
Sample : 141022A LCS-1



Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\140305\1022F003.D Vial: 3
Acq On : 22 Oct 2014 20:10 Operator: lsf
Sample : 141022A LCSD-1 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Oct 22 19:14 2014 Quant Results File: RSK175Q.RES

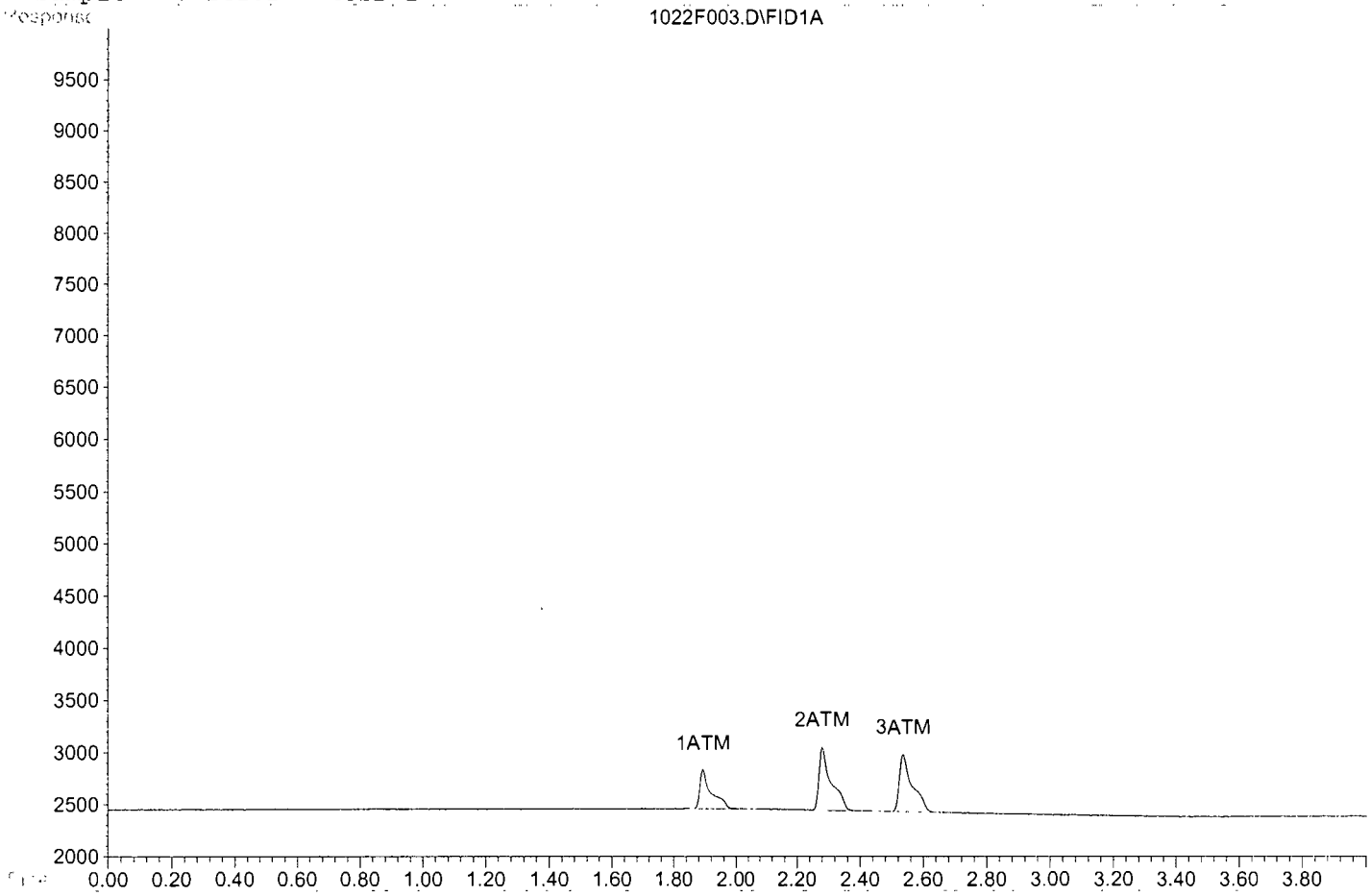
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.89	9558	25.652 ppb
2) ATM Ethane	2.28	16380	52.496 ppb
3) ATM Ethene	2.54	15864	48.321 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\140305\1022F003.D
Sample : 141022A LCSD-1



VF 12/3/12

Intermediate Calibration Stock Standard
12/3/12A is prepared in a 1 L Tedlar bag. Add 990 mL Helium and 10 mL of 193PLU2SPC04L-31276 standard.
Expires: 9/11/13
193PLU2SPC04L-31276 is Stock Standard of 10000ppmv of Methane, Ethane, and Ethene opened 9/11/12 VF

Level-4 continuing calibration verification standard
4mL of 12/3/12A into 10mL P & T Water
Final conc: 26.7ppb Methane, 50 ppb Ethane, and 46.6ppb Ethene

LCS 121203A
4mL of 12/3/12A into 10mL P & T Water
Final conc: 26.7ppb Methane, 50 ppb Ethane, and 46.6ppb Ethene

VF

VF 12/11/12

Intermediate Calibration Stock Standard
12/11/12A is prepared in a 1 L Tedlar bag. Add 990 mL Helium and 10 mL of 193PLU2SPC04L-31276 standard.
Expires: 9/11/13
193PLU2SPC04L-31276 is Stock Standard of 10000ppmv of Methane, Ethane, and Ethene opened 9/11/12

Level-4 continuing calibration verification standard
4mL of 12/11/12A into 10mL P & T Water
Final conc: 26.7ppb Methane, 50 ppb Ethane, and 46.6ppb Ethene

LCS 121211A
4mL of 12/11/12A into 10mL P & T Water
Final conc: 26.7ppb Methane, 50 ppb Ethane, and 46.6ppb Ethene

VF

VF 12/17/12

Intermediate Calibration Stock Standard
12/17/12A is prepared in a 1 L Tedlar bag. Add 990 mL Helium and 10 mL of 193PLU2SPC04L-31276 standard.
Expires: 9/11/13
193PLU2SPC04L-31276 is Stock Standard of 10000ppmv of Methane, Ethane, and Ethene opened 9/11/12

Level-4 continuing calibration verification standard
4mL of 12/17/12A into 10mL P & T Water
Final conc: 26.7ppb Methane, 50 ppb Ethane, and 46.6ppb Ethene

LCS 121217A
4mL of 12/17/12A into 10mL P & T Water
Final conc: 26.7ppb Methane, 50 ppb Ethane, and 46.6ppb Ethene

3/6/13VF Opened new standard lot# 248PLU2SPC03L-31312
Contains 10000ppmV of methane, Ethane, & Ethene
exp 3/6/14

UF 3/6/13 UF

Intermediate Calibration Stock Standard
03/6/13 A is prepared in a 1 L Tedlar bag Add 990 mL Helium and 10 mL of 248PLU2SPC03L-31312 standard.
Expires 03/16/14
248PLU2SPC03L-31312 is Stock Standard of 10000ppmv of Methane, Ethane and Ethene opened 3/06/13
Helium Lot #. 105-400107481-1

Calibration Standards
Methane mw = 16 0426

aliquot of std (mL)	std conc (ppmv)	stock std ID	ug into vial	water volume (mL)	water conc (ug/mL)
0 135	100	3/6/13 A	0.009	10	0.0009
0 76	100	3/6/13 A	0 051	10	0 0051
2	100	3/6/13 A	0.133	10	0.0133
4	100	3/6/13 A	0.267	10	0.0267
2	10000	248PLU2SPC03L-31312 standard.	13.338	10	1 3338

Ethane mw = 30 0694

aliquot of std. (mL)	std conc (ppmv)	stock std ID	ug into vial	water volume (mL)	water conc. (ug/mL)
0.135	100	3/6/13 A	0.017	10	0.0017
0 76	100	3/6/13 A	0 095	10	0 0095
2	100	3/6/13 A	0.250	10	0.0250
4	100	3/6/13 A	0.500	10	0.0500
2	10000	248PLU2SPC03L-31312 standard.	25 001	10	2 5001

Ethene mw = 28.0536

aliquot of std. (mL)	std conc (ppmv)	stock std ID	ug into vial	water volume (mL)	water conc. (ug/mL)
0.135	100	3/6/13 A	0 016	10	0 0016
0.76	100	3/6/13 A	0.089	10	0.0089
2	100	3/6/13 A	0.233	10	0.0233
4	100	3/6/13 A	0 466	10	0.0466
2	10000	248PLU2SPC03I -31312 standard.	23.325	10	2.3325

Methane/Ethane/Ethene Second Source
193PLU2SPC04L-31276 is Stock Standard of 10000ppmv of Methane, Ethane, and Ethene
opened 9/11/12 exp 9/11/13

Intermediate Second Source Stock Standard
3/6/13 B is prepared in a 1 L Tedlar bag. Add 990 mL Helium and 10 mL of 193PLU2SPC04L-31276 standard.
Concentration. 1000ppmv of Methane, Ethane and Ethene
Expires 9/11/13

Second Source Working Standard

aliquot of std. (mL)	std conc (ppmv)	stock std ID	ug into vial	water volume (mL)	water conc. (ug/mL)
4	100	3/06/10 B	0.267	10	0.0267 Methane
			0.500		0 0500 Ethane
			0.466		0.0466 Ethene

Level-4 continuing calibration verification standard
4mL of 3/06/13 A into 10mL P & T Water
Final conc: 26.7ppb Methane. 50 ppb Ethane and 46.6ppb Ethene

LCS 130306A 130306B
4mL of 3/06/13 B into 10mL P & T Water
Final conc: 26 7ppb Methane. 50 ppb Ethane. and 46.6ppb Ethene

Reviewed by 1530 3/6/13

Injection Log

Directory: V:\FRODO\DATA\130306\
V:\FRODO\DATA\140305\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0306F001.D	1	RSK L-1 03-06-13 LF	Water	6 Mar 2013 10:46
2	2	0306F002.D	1	RSK L-2	Water	6 Mar 2013 10:55
3	3	0306F003.D	1	RSK L-3	Water	6 Mar 2013 11:00
4	4	0306F004.D	1	RSK L-4	Water	6 Mar 2013 11:05
5	5	0306F005.D	1	RSK L-5	Water	6 Mar 2013 11:09
6	8	0306F008.D	1	130306A LCS-1 (SS)	Water	6 Mar 2013 11:53
7	1	1022F001.D	1	RSK L-4 10-22-14 LF	Water	22 Oct 2014 20:00
8	2	1022F002.D	1	141022A LCS-1	Water	22 Oct 2014 20:05
9	3	1022F003.D	1	141022A LCSD-1	Water	22 Oct 2014 20:10
10	4	1022F004.D	1	141022A BLK-1	Water	22 Oct 2014 20:14
11	14	1022F014.D	1	RSK L-4 10-22-14 LF	Water	22 Oct 2014 21:37
12	15	1022F015.D	1	AZ05593W03	Water	22 Oct 2014 21:45
13	16	1022F016.D	1	RSK L-3 10-22-14 LF	Water	22 Oct 2014 21:50

METALS

APPL, INC.

METALS

QC Summary

APPL, INC.

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
6020A	LEAD (PB) (DISSOL	0.40 U	3.0	0.40	0.19	ug/L	11/05/14	11/05/14	#62A14-141105A1-AZ05593

Metals SC-Blank-REG MDLs
Printed: 11/11/14 10:44:28 AM

Laboratory Control Spike Recovery
METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6020A	LEAD (PB) (DISSOLVED)	50.0	44.4	88.8	80-120	11/05/14	11/05/14	#62A14-141105A1-AZ05593

Comments: _____

Matrix Spike Recoveries

METALS

APPL ID: **141105W-05593 MS - 191727**

Sample ID: AZ05593

Client ID: RHMW06-GW-01

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl ug/L	Matrix Res ug/L	SPK Res ug/L	DUP Res ug/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 6020A	LEAD (PB) (DISSOLVE	50.0	ND	49.0	45.9	98.0	91.8	6.5	20	80-120	11/05/14	11/05/14	11/05/14	11/05/14	191727	AZ05593

Comments: _____

METALS

Sample Data

APPL, INC.

Metals Analysis

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

Project: 749435 Red Hill TO 0068

Sample ID: RHMW06-GW-01

Sample Collection Date: 10/21/14

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 74701

APPL ID: AZ05593

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6020A/3015^	LEAD (PB) (DISSOLVED)	0.80 U	6.0	0.80	0.38	ug/L	2	11/05/14	11/05/14

Printed: 11/18/14 5:02:01 PM

APPL-F1-SC-NoMC-REG MDLs

Sample Report

Sample Table

Sample Name	AZ05593W35 1/5
Data File Name	112SMPL.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T21:53:57-08:00
Sample Type	Sample
Dilution	5.555555556
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	-0.032	-0.177	-4.94	3	173.21	10000	
B	11	45	NoGas	330.667	1837.039	0.44	735009	0.30	10000	
Na	23	45	He	23361.636	129786.869	1.83	29969135	1.64	1000000	
Mg	24	45	He	8196.254	45534.742	1.07	5703442	0.76	1000000	
Al	27	45	He	-1.004	-5.576	-4.30	537	2.48	1000000	
K	39	45	He	648.754	3604.187	0.46	458412	0.60	500000	
Ca	44	45	He	5940.467	33002.594	1.27	196542	1.01	500000	
Ti	47	45	He	0.002	0.012	408.62	16	12.40	10000	
V	51	45	He	2.714	15.077	2.87	19249	2.44	10000	
Cr	52	45	He	0.353	1.964	3.29	4054	1.94	10000	
Mn	55	45	He	1.866	10.367	2.61	12593	2.17	50000	
Fe	56	45	He	-1.098	-6.100	-3.36	12124	2.46	1000000	
Co	59	45	He	-0.007	-0.041	-19.61	184	9.95	10000	
Ni	60	45	He	-0.006	-0.033	-39.14	418	1.66	10000	
Cu	63	45	He	0.114	0.634	9.35	1732	5.90	10000	
Zn	66	115	He	6.415	35.637	3.17	11298	2.91	50000	
As	75	115	He	0.293	1.625	4.02	330	3.64	2000	
Se	78	115	H2	0.143	0.793	40.04	46	32.99	10000	
Se	78	115	He	0.347	1.930	78.95	103	17.96	10000	
Sr	88	115	NoGas	50.002	277.788	2.44	1800842	2.03	50000	
Mo	95	115	NoGas	0.125	0.697	11.35	2607	3.12	10000	
Ag	107	115	NoGas	0.000	0.000	1718.67	27	86.60	5000	
Cd	111	115	He	0.002	0.012	134.85	7	91.65	10000	
Sn	118	115	He	-0.475	-2.639	-3.08	639	10.54	10000	
Sn	118	115	NoGas	-0.468	-2.599	-0.54	1413	2.04	10000	
Sb	121	115	NoGas	-0.063	-0.351	-39.10	1937	17.86	10000	
Ba	137	165	NoGas	1.820	10.111	3.08	9323	3.77	50000	
Tl	205	165	NoGas	0.000	0.000	1347.83	383	8.51	5000	
Pb	208	165	NoGas	-0.035	-0.195	-2.19	870	3.98	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	438001	0.59	349963	125.16	70	120	ISTD Failed
Sc	45	H2	517720	0.78	475873	108.79	70	120	
Sc	45	He	208767	0.33	199736	104.52	70	120	
Sc	45	NoGas	2448598	0.22	2096637	116.79	70	120	
Ge	72	H2	138211	1.27	122394	112.92	70	120	
Ge	72	He	130086	0.34	123228	105.56	70	120	
Ge	72	NoGas	538078	0.35	485769	110.77	70	120	
In	115	H2	2976688	0.49	2822980	105.44	70	120	
In	115	He	1171044	0.26	1094773	106.97	70	120	
In	115	NoGas	3478272	1.05	3222140	107.95	70	120	
Tb	159	H2	5447821	0.61	5338807	102.04	70	120	
Tb	159	He	3441441	0.72	3232159	106.48	70	120	
Tb	159	NoGas	4602036	1.97	4336564	106.12	70	120	
Ho	165	H2	5201562	1.31	5094749	102.10	70	120	
Ho	165	He	3361029	2.19	3120127	107.72	70	120	
Ho	165	NoGas	4463549	0.85	4144894	107.69	70	120	

METALS

Calibration Data

APPL, INC.

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 74701 SDG: 74701

Initial Calibration Source: CPI

Continuing Calibration Source: Environmental Express

Analysis Date: 11/05/14 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 11:27	%R(1)	True CCV1	Found 12:08	%R(1)	True CCV1	Found 21:06	%R(1)	
Lead (Pb)	100	97.3657	97.4	50	48.7956	97.6	50	47.1295	94.3	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons
ARF No: 74701 SDG: 74701
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 11/05/14 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 11:27	%R(1)	True CCV1	Found 22:23	%R(1)	True	Found	%R(1)	
Lead (Pb)	100	97.3657	97.4	50	46.8780	93.8				P

(1) Control Limits: Metals 90-110

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 74701 SDG: 74701

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analysis Date: 11/05/14

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)								Preparation Blank		M
		C	1	C	2	C	3	C		C			
	11:44		12:20		21:17		22:35				21:23		
Lead (Pb)	3.00	U	3.00	U	3.00	U	3.00	U			3.00	U	P

A.P.P.L. INC.
4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 74701 SDG: 74701

ICP ID Number: .Megatron ICS Source: Environmental Express

Analysis Date: 11/05/14 Concentration Units: ug/L

Analyte	True		Initial Found		
	Sol A	Sol AB	Sol A 12:26	Sol AB 13:08	%R(1)
Lead (Pb)		100	0.021032	102.443625	102

(1) Control Limits: Metals 80-120

A.P.P.L. INC.
9
ICP SERIAL DILUTION

CLIENT SAMPLE NO.
RHMW06-GW-01

Lab Name: A.P.P.L. INC. Contract: Parsons
ARF No.: 74701 SDG: 74701
Matrix: water

Analysis Date: 11/05/14 Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	%D	Q	M
Lead (Pb)	-0.194921		-0.991737		NA		

Comments:

11/05/14 21:53 AZ05593W35 1/5

11/05/14 22:17 AZ05593W35 1/25

Sample Report

Sample Table

Sample Name	AZ05593W35 1/25
Data File Name	116SMPL.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T22:17:53-08:00
Sample Type	Sample
Dilution	27.77777778
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	-0.028	-0.784	-11.02	17	69.28	10000	
B	11	45	NoGas	282.624	7850.675	1.15	631671	0.90	10000	
Na	23	45	He	4868.444	135234.556	2.46	6328596	2.23	1000000	
Mg	24	45	He	1760.704	48908.450	2.39	1227587	1.75	1000000	
Al	27	45	He	-1.764	-48.993	-8.87	306	14.81	1000000	
K	39	45	He	136.809	3800.249	4.88	154389	1.86	500000	
Ca	44	45	He	1224.045	34001.240	0.57	40812	1.26	500000	
Ti	47	45	He	-0.003	-0.083	-1364.39	14	58.06	10000	
V	51	45	He	0.683	18.975	7.33	5998	4.97	10000	
Cr	52	45	He	0.049	1.361	16.02	1651	3.06	10000	
Mn	55	45	He	0.038	1.045	76.40	3778	4.16	50000	
Fe	56	45	He	-1.601	-44.480	-0.46	8587	1.34	1000000	
Co	59	45	He	-0.008	-0.236	-15.28	170	8.99	10000	
Ni	60	45	He	-0.075	-2.072	-9.01	187	12.37	10000	
Cu	63	45	He	0.072	2.005	4.90	1347	2.16	10000	
Zn	66	115	He	1.044	29.010	8.59	2910	4.89	50000	
As	75	115	He	0.165	4.595	22.94	212	17.23	2000	
Se	78	115	H2	0.125	3.469	32.11	42	25.38	10000	
Se	78	115	He	0.599	16.644	12.31	122	4.17	10000	
Sr	88	115	NoGas	9.768	271.327	1.19	357898	0.24	50000	
Mo	95	115	NoGas	0.121	3.367	36.48	2620	11.65	10000	
Ag	107	115	NoGas	0.004	0.100	28.36	90	19.25	5000	
Cd	111	115	He	0.004	0.122	82.60	11	66.81	10000	
Sn	118	115	He	-0.407	-11.310	-2.92	957	5.70	10000	
Sn	118	115	NoGas	-0.410	-11.388	-1.40	2055	3.41	10000	
Sb	121	115	NoGas	1.369	38.027	0.96	21080	2.20	10000	
Ba	137	165	NoGas	0.336	9.323	11.16	1824	10.64	50000	
Tl	205	165	NoGas	0.016	0.439	13.62	881	7.30	5000	
Pb	208	165	NoGas	-0.036	-0.992	-5.47	843	7.62	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	444981	1.99	349963	127.15	70	120	ISTD Failed
Sc	45	H2	528115	0.48	475873	110.98	70	120	
Sc	45	He	209004	0.76	199736	104.64	70	120	
Sc	45	NoGas	2450955	0.56	2096637	116.90	70	120	
Ge	72	H2	140468	1.01	122394	114.77	70	120	
Ge	72	He	131572	0.37	123228	106.77	70	120	
Ge	72	NoGas	544431	0.87	485769	112.08	70	120	
In	115	H2	3076865	1.21	2822980	108.99	70	120	
In	115	He	1187370	0.05	1094773	108.46	70	120	
In	115	NoGas	3535882	1.41	3222140	109.74	70	120	
Tb	159	H2	5564415	1.89	5338807	104.23	70	120	
Tb	159	He	3466167	0.72	3232159	107.24	70	120	
Tb	159	NoGas	4689699	0.19	4336564	108.14	70	120	
Ho	165	H2	5285262	0.35	5094749	103.74	70	120	
Ho	165	He	3405741	0.65	3120127	109.15	70	120	
Ho	165	NoGas	4468572	2.38	4144894	107.81	70	120	

A.P.P.L. INC.

5B

POST DIGEST SPIKE SAMPLE RECOVERY

CLIENT SAMPLE NO.

RHMW06-GW-01

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 74701 SDG: 74701

Analysis Date: 11/05/14 Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead (Pb)	75-125	1305.352529		-0.194921		1250.000	104		

Comments:

11/05/14 21:53 AZ05593W35 1/5

11/05/14 22:11 AZ05593W35-A 1/5

Sample Report

Sample Table

Sample Name	AZ05593W35-A 1/5
Data File Name	115SMPL.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T22:11:58-08:00
Sample Type	Sample
Dilution	5.555555556
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	48.164	267.575	1.98	175009	0.78	10000	
B	11	45	NoGas	588.232	3267.954	2.09	1278436	1.38	10000	
Na	23	45	He	46658.825	259215.695	1.03	57732182	0.53	1000000	
Mg	24	45	He	31217.168	173428.712	1.10	20981929	0.65	1000000	
Al	27	45	He	1952.762	10848.678	1.20	574715	0.75	1000000	
K	39	45	He	5566.993	30927.737	3.29	3265312	2.09	500000	
Ca	44	45	He	29263.444	162574.687	1.59	934021	0.39	500000	
Ti	47	45	He	241.317	1340.649	0.45	48747	1.81	10000	
V	51	45	He	256.528	1425.153	1.02	1619419	0.55	10000	
Cr	52	45	He	245.138	1361.879	0.73	1871654	0.83	10000	
Mn	55	45	He	236.132	1311.845	1.72	1103685	0.36	50000	
Fe	56	45	He	936.299	5201.661	2.18	6392644	0.90	1000000	
Co	59	45	He	240.653	1336.960	0.53	2886544	1.03	10000	
Ni	60	45	He	219.098	1217.210	1.34	713425	0.39	10000	
Cu	63	45	He	227.483	1263.794	2.86	2024495	1.94	10000	
Zn	66	115	He	454.519	2525.106	0.50	687543	0.74	50000	
As	75	115	He	238.612	1325.623	0.89	217959	0.97	2000	
Se	78	115	H2	235.657	1309.203	2.37	59191	2.26	10000	
Se	78	115	He	227.190	1262.169	1.18	15009	1.49	10000	
Sr	88	115	NoGas	289.294	1607.189	2.77	10124597	2.19	50000	
Mo	95	115	NoGas	256.769	1426.495	1.24	1717990	1.86	10000	
Ag	107	115	NoGas	91.153	506.406	2.16	1553428	1.32	5000	
Cd	111	115	He	45.538	252.991	0.38	89952	0.43	10000	
Sn	118	115	He	249.838	1387.990	0.42	1082944	0.81	10000	
Sn	118	115	NoGas	249.643	1386.905	1.50	2558041	0.38	10000	
Sb	121	115	NoGas	251.264	1395.909	0.94	3208237	0.32	10000	
Ba	137	165	NoGas	240.522	1336.233	1.07	1193821	1.36	50000	
Tl	205	165	NoGas	227.759	1265.329	1.01	7087224	1.01	5000	
Pb	208	165	NoGas	234.963	1305.353	0.66	9837484	0.68	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	434049	1.41	349963	124.03	70	120	ISTD Failed
Sc	45	H2	511544	0.31	475873	107.50	70	120	
Sc	45	He	201700	1.54	199736	100.98	70	120	
Sc	45	NoGas	2422799	1.26	2096637	115.56	70	120	
Ge	72	H2	136075	1.21	122394	111.18	70	120	
Ge	72	He	128651	1.11	123228	104.40	70	120	
Ge	72	NoGas	524668	1.52	485769	108.01	70	120	
In	115	H2	2855003	0.61	2822980	101.13	70	120	
In	115	He	1126825	0.43	1094773	102.93	70	120	
In	115	NoGas	3380696	1.26	3222140	104.92	70	120	
Tb	159	H2	5404176	0.77	5338807	101.22	70	120	
Tb	159	He	3373465	0.59	3232159	104.37	70	120	
Tb	159	NoGas	4495260	1.18	4336564	103.66	70	120	
Ho	165	H2	5107330	1.28	5094749	100.25	70	120	
Ho	165	He	3324907	0.56	3120127	106.56	70	120	
Ho	165	NoGas	4384486	0.88	4144894	105.78	70	120	

Calibration Blank Report

Sample Table

Sample Name	Calibration Blank
Data File Name	002CALB.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T10:57:03-08:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD
Be	9	45	NoGas	103	43.64
B	11	45	NoGas	16828	4.09
Na	23	45	He	92021	0.42
Mg	24	45	He	1327	15.10
Al	27	45	He	806	6.44
K	39	45	He	69788	3.41
Ca	44	45	He	320	6.51
Ti	47	45	He	14	35.26
V	51	45	He	1466	7.69
Cr	52	45	He	1208	4.49
Mn	55	45	He	3437	5.24
Fe	56	45	He	19001	1.92
Co	59	45	He	263	7.70
Ni	60	45	He	419	23.64
Cu	63	45	He	651	12.39
Zn	66	115	He	1151	5.54
As	75	115	He	49	27.55
Se	78	115	H2	8	107.84
Se	78	115	He	74	21.16
Sr	88	115	NoGas	323	25.94
Mo	95	115	NoGas	1617	17.50
Ag	107	115	NoGas	23	49.49
Cd	111	115	He	2	100.00
Sn	118	115	He	2592	1.67
Sn	118	115	NoGas	5867	2.03
Sb	121	115	NoGas	2562	7.16
Ba	137	165	NoGas	117	17.85
Tl	205	165	NoGas	353	12.52
[Pb]	206	165	NoGas	600	12.58
[Pb]	207	165	NoGas	487	5.93
Pb	208	165	NoGas	2197	5.18

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD
Li	6	NoGas	349963	1.37
Sc	45	H2	475873	0.63
Sc	45	He	199736	0.32
Sc	45	NoGas	2096637	1.45
Ge	72	H2	122394	0.29
Ge	72	He	123228	0.40
Ge	72	NoGas	485769	0.09
In	115	H2	2822980	0.43
In	115	He	1094773	0.17
In	115	NoGas	3222140	0.69
Tb	159	H2	5338807	1.00
Tb	159	He	3232159	1.90
Tb	159	NoGas	4336564	1.26
Ho	165	H2	5094749	0.73
Ho	165	He	3120127	1.11
Ho	165	NoGas	4144894	0.83

Calibration Standard Report

Sample Table

Sample Name	Standard 1
Data File Name	003CALS.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T11:03:02-08:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD	Cal Coef
Be	9	45	NoGas	390	11.75	1.0000
B	11	45	NoGas	16771	3.00	-1.0000
Na	23	45	He	84730	0.74	-1.0000
Mg	24	45	He	3627	1.26	1.0000
Al	27	45	He	811	4.94	1.0000
K	39	45	He	74010	4.14	1.0000
Ca	44	45	He	450	10.91	1.0000
Ti	47	45	He	26	15.07	1.0000
V	51	45	He	2101	4.05	1.0000
Cr	52	45	He	1819	3.30	1.0000
Mn	55	45	He	3565	7.90	1.0000
Fe	56	45	He	19366	1.18	1.0000
Co	59	45	He	1221	7.76	1.0000
Ni	60	45	He	600	6.83	1.0000
Cu	63	45	He	1450	3.16	1.0000
Zn	66	115	He	1278	5.58	1.0000
As	75	115	He	144	41.04	1.0000
Se	78	115	H2	28	24.98	1.0000
Se	78	115	He	76	49.20	1.0000
Sr	88	115	NoGas	3501	2.73	1.0000
Mo	95	115	NoGas	1630	5.92	1.0000
Ag	107	115	NoGas	907	16.56	1.0000
Cd	111	115	He	181	24.16	1.0000
Sn	118	115	He	2742	2.86	1.0000
Sn	118	115	NoGas	6539	3.02	1.0000
Sb	121	115	NoGas	2824	7.52	1.0000
Ba	137	165	NoGas	573	20.07	1.0000
Tl	205	165	NoGas	3076	7.20	1.0000
[Pb]	206	165	NoGas	1147	16.92	
[Pb]	207	165	NoGas	1237	4.74	
Pb	208	165	NoGas	5051	11.84	1.0000

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	356364	0.96	349963	101.83	70	120	
Sc	45	H2	473911	0.14	475873	99.59	70	120	
Sc	45	He	199283	0.97	199736	99.77	70	120	
Sc	45	NoGas	2154011	1.23	2096637	102.74	70	120	
Ge	72	H2	122797	0.62	122394	100.33	70	120	
Ge	72	He	121257	0.45	123228	98.40	70	120	
Ge	72	NoGas	485356	0.91	485769	99.91	70	120	
In	115	H2	2818009	0.91	2822980	99.82	70	120	
In	115	He	1096867	0.66	1094773	100.19	70	120	
In	115	NoGas	3215026	1.40	3222140	99.78	70	120	
Tb	159	H2	5346818	1.98	5338807	100.15	70	120	
Tb	159	He	3200725	1.03	3232159	99.03	70	120	
Tb	159	NoGas	4297779	1.30	4336564	99.11	70	120	
Ho	165	H2	5070074	0.84	5094749	99.52	70	120	
Ho	165	He	3124303	0.40	3120127	100.13	70	120	
Ho	165	NoGas	4142641	1.12	4144894	99.95	70	120	

Calibration Standard Report

Sample Table

Sample Name	Standard 2
Data File Name	004CALS.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T11:09:00-08:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD	Cal Coef
Be	9	45	NoGas	3217	6.90	1.0000
B	11	45	NoGas	17972	4.42	0.8365
Na	23	45	He	108357	0.83	0.9244
Mg	24	45	He	33017	1.50	0.9997
Al	27	45	He	6020	5.35	0.9960
K	39	45	He	78752	4.66	0.9111
Ca	44	45	He	1928	5.83	0.9998
Ti	47	45	He	190	12.28	0.9994
V	51	45	He	7765	0.95	1.0000
Cr	52	45	He	8477	3.83	0.9999
Mn	55	45	He	7770	1.48	0.9980
Fe	56	45	He	139631	1.50	0.9961
Co	59	45	He	12153	0.70	0.9998
Ni	60	45	He	3470	3.33	0.9993
Cu	63	45	He	9574	0.86	1.0000
Zn	66	115	He	2281	6.51	0.9999
As	75	115	He	920	4.75	0.9999
Se	78	115	H2	256	9.16	0.9998
Se	78	115	He	136	26.29	0.9972
Sr	88	115	NoGas	33045	3.06	1.0000
Mo	95	115	NoGas	6865	7.94	0.9961
Ag	107	115	NoGas	8102	2.83	1.0000
Cd	111	115	He	1983	5.59	1.0000
Sn	118	115	He	6589	0.84	0.9983
Sn	118	115	NoGas	14983	3.78	0.9997
Sb	121	115	NoGas	9530	7.59	0.9984
Ba	137	165	NoGas	4931	3.61	1.0000
Tl	205	165	NoGas	28432	2.32	1.0000
[Pb]	206	165	NoGas	10300	2.82	
[Pb]	207	165	NoGas	8736	7.05	
Pb	208	165	NoGas	40712	1.78	0.9997

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	360691	1.84	349963	103.07	70	120	
Sc	45	H2	474722	1.18	475873	99.76	70	120	
Sc	45	He	199841	0.84	199736	100.05	70	120	
Sc	45	NoGas	2164503	0.91	2096637	103.24	70	120	
Ge	72	H2	122944	1.58	122394	100.45	70	120	
Ge	72	He	120974	0.66	123228	98.17	70	120	
Ge	72	NoGas	484419	1.01	485769	99.72	70	120	
In	115	H2	2828071	0.22	2822980	100.18	70	120	
In	115	He	1103743	1.08	1094773	100.82	70	120	
In	115	NoGas	3239990	1.29	3222140	100.55	70	120	
Tb	159	H2	5294843	0.85	5338807	99.18	70	120	
Tb	159	He	3278385	1.17	3232159	101.43	70	120	
Tb	159	NoGas	4375209	1.41	4336564	100.89	70	120	
Ho	165	H2	5083483	0.27	5094749	99.78	70	120	
Ho	165	He	3146443	0.61	3120127	100.84	70	120	
Ho	165	NoGas	4181889	1.21	4144894	100.89	70	120	

Calibration Standard Report

Sample Table

Sample Name	Standard 3
Data File Name	005CALS.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T11:14:58-08:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD	Cal Coef
Be	9	45	NoGas	160759	0.64	1.0000
B	11	45	NoGas	109028	0.43	0.9999
Na	23	45	He	1653811	1.16	1.0000
Mg	24	45	He	1710150	1.72	1.0000
Al	27	45	He	293321	1.20	1.0000
K	39	45	He	640179	0.26	1.0000
Ca	44	45	He	80443	1.69	1.0000
Ti	47	45	He	9961	3.22	1.0000
V	51	45	He	314741	0.93	1.0000
Cr	52	45	He	382043	0.51	1.0000
Mn	55	45	He	236339	1.16	1.0000
Fe	56	45	He	6821525	2.05	1.0000
Co	59	45	He	600235	0.61	1.0000
Ni	60	45	He	164441	0.44	1.0000
Cu	63	45	He	442976	0.24	1.0000
Zn	66	115	He	74776	0.51	1.0000
As	75	115	He	44314	0.74	1.0000
Se	78	115	H2	12623	0.77	1.0000
Se	78	115	He	3379	6.17	1.0000
Sr	88	115	NoGas	1663074	0.64	1.0000
Mo	95	115	NoGas	315689	1.47	1.0000
Ag	107	115	NoGas	406829	0.13	1.0000
Cd	111	115	He	95573	0.37	1.0000
Sn	118	115	He	212691	1.32	1.0000
Sn	118	115	NoGas	491627	0.33	1.0000
Sb	121	115	NoGas	608639	0.65	1.0000
Ba	137	165	NoGas	236766	0.41	1.0000
Tl	205	165	NoGas	1407913	0.71	1.0000
[Pb]	206	165	NoGas	495625	0.46	
[Pb]	207	165	NoGas	427409	0.71	
Pb	208	165	NoGas	1968219	0.70	1.0000

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	370351	0.60	349963	105.83	70	120	
Sc	45	H2	486172	0.45	475873	102.16	70	120	
Sc	45	He	200563	1.25	199736	100.41	70	120	
Sc	45	NoGas	2187098	2.48	2096637	104.31	70	120	
Ge	72	H2	122822	0.81	122394	100.35	70	120	
Ge	72	He	121635	1.20	123228	98.71	70	120	
Ge	72	NoGas	483004	0.41	485769	99.43	70	120	
In	115	H2	2853125	0.66	2822980	101.07	70	120	
In	115	He	1099190	1.39	1094773	100.40	70	120	
In	115	NoGas	3219483	1.44	3222140	99.92	70	120	
Tb	159	H2	5424652	0.54	5338807	101.61	70	120	
Tb	159	He	3266843	1.48	3232159	101.07	70	120	
Tb	159	NoGas	4439319	1.78	4336564	102.37	70	120	
Ho	165	H2	5167503	0.12	5094749	101.43	70	120	
Ho	165	He	3145781	1.03	3120127	100.82	70	120	
Ho	165	NoGas	4148593	1.12	4144894	100.09	70	120	

Calibration Standard Report

Sample Table

Sample Name	Standard 4
Data File Name	006CALS.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T11:20:59-08:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD	Cal Coef
Be	9	45	NoGas	328097	0.98	0.9999
B	11	45	NoGas	212372	0.60	0.9995
Na	23	45	He	3158915	0.86	0.9999
Mg	24	45	He	3332541	0.66	0.9999
Al	27	45	He	586722	0.84	1.0000
K	39	45	He	1215106	0.26	1.0000
Ca	44	45	He	158983	0.71	1.0000
Ti	47	45	He	20190	0.87	1.0000
V	51	45	He	630439	0.32	1.0000
Cr	52	45	He	761143	0.63	1.0000
Mn	55	45	He	467418	0.35	1.0000
Fe	56	45	He	13577724	0.57	1.0000
Co	59	45	He	1194102	0.51	1.0000
Ni	60	45	He	323766	0.53	1.0000
Cu	63	45	He	887773	0.55	1.0000
Zn	66	115	He	147380	0.25	1.0000
As	75	115	He	88615	1.20	1.0000
Se	78	115	H2	25273	2.48	1.0000
Se	78	115	He	6390	3.12	0.9998
Sr	88	115	NoGas	3333818	0.24	1.0000
Mo	95	115	NoGas	639925	0.61	1.0000
Ag	107	115	NoGas	810678	0.52	1.0000
Cd	111	115	He	191641	0.65	1.0000
Sn	118	115	He	421664	0.46	1.0000
Sn	118	115	NoGas	979477	0.52	1.0000
Sb	121	115	NoGas	1217764	0.87	1.0000
Ba	137	165	NoGas	470209	0.59	1.0000
Tl	205	165	NoGas	2986053	0.90	0.9997
[Pb]	206	165	NoGas	972238	1.42	
[Pb]	207	165	NoGas	852769	0.66	
Pb	208	165	NoGas	3982316	0.60	1.0000

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	375630	1.04	349963	107.33	70	120	
Sc	45	H2	482607	0.61	475873	101.41	70	120	
Sc	45	He	201076	0.90	199736	100.67	70	120	
Sc	45	NoGas	2177578	1.78	2096637	103.86	70	120	
Ge	72	H2	122796	0.41	122394	100.33	70	120	
Ge	72	He	119744	0.27	123228	97.17	70	120	
Ge	72	NoGas	485339	1.41	485769	99.91	70	120	
In	115	H2	2876756	1.18	2822980	101.90	70	120	
In	115	He	1091109	0.24	1094773	99.67	70	120	
In	115	NoGas	3218039	0.70	3222140	99.87	70	120	
Tb	159	H2	5423029	0.85	5338807	101.58	70	120	
Tb	159	He	3263922	0.60	3232159	100.98	70	120	
Tb	159	NoGas	4333812	2.16	4336564	99.94	70	120	
Ho	165	H2	5125827	0.64	5094749	100.61	70	120	
Ho	165	He	3172578	0.67	3120127	101.68	70	120	
Ho	165	NoGas	4161409	0.69	4144894	100.40	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	007_ICV.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T11:27:00-08:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	45	NoGas	98.780	0.338	326807	0.38	100	98.8	89.6	110.4	
B	11	45	NoGas	109.509	0.836	231185	0.62	100	109.5	89.6	110.4	
Na	23	45	He	2431.900	1.185	3065754	0.96	2500	97.3	89.6	110.4	
Mg	24	45	He	2462.072	1.473	1639246	1.00	2500	98.5	89.6	110.4	
Al	27	45	He	2460.110	0.734	716492	0.42	2500	98.4	89.6	110.4	
K	39	45	He	2556.000	0.852	1522083	1.30	2500	102.2	89.6	110.4	
Ca	44	45	He	2656.688	0.520	84234	0.92	2500	106.3	89.6	110.4	
Ti	47	45	He	99.917	4.019	19983	3.55	100	99.9	89.6	110.4	
V	51	45	He	98.798	0.540	618282	0.42	100	98.8	89.6	110.4	
Cr	52	45	He	97.913	0.676	740705	0.49	100	97.9	89.6	110.4	
Mn	55	45	He	97.682	0.155	453998	0.58	100	97.7	89.6	110.4	
Fe	56	45	He	2465.244	1.123	16631614	0.67	2500	98.6	89.6	110.4	
Co	59	45	He	98.013	0.504	1163822	0.21	100	98.0	89.6	110.4	
Ni	60	45	He	98.420	0.144	317473	0.43	100	98.4	89.6	110.4	
Cu	63	45	He	98.278	0.737	866241	0.44	100	98.3	89.6	110.4	
Zn	66	115	He	93.088	1.045	138913	1.41	100	93.1	89.6	110.4	
As	75	115	He	82.975	0.705	74305	0.96	100	83.0	89.6	110.4	>+\- 10%
Se	78	115	H2	97.951	1.341	24402	2.04	100	98.0	89.6	110.4	
Se	78	115	He	95.979	1.151	6257	1.55	100	96.0	89.6	110.4	
Sr	88	115	NoGas	96.151	1.497	3264784	1.38	100	96.2	89.6	110.4	
Mo	95	115	NoGas	98.137	0.857	637913	0.55	100	98.1	89.6	110.4	
Ag	107	115	NoGas	49.397	0.422	816705	0.41	50	98.8	89.6	110.4	
Cd	111	115	He	97.583	0.853	188880	0.23	100	97.6	89.6	110.4	
Sn	118	115	He	49.827	0.604	213736	0.61	100	49.8	89.6	110.4	>+\- 10%
Sn	118	115	NoGas	49.264	0.589	494506	0.47	100	49.3	89.6	110.4	>+\- 10%
Sb	121	115	NoGas	109.245	1.915	1354564	1.61	100	109.2	89.6	110.4	
Ba	137	165	NoGas	97.245	1.651	465789	0.55	100	97.2	89.6	110.4	
Tl	205	165	NoGas	98.332	2.908	2952129	1.17	100	98.3	89.6	110.4	
Pb	208	165	NoGas	97.366	1.613	3934709	0.28	100	97.4	89.6	110.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	383213	0.93	349963	109.50	70	120	
Sc	45	H2	482847	0.39	475873	101.47	70	120	
Sc	45	He	199640	0.49	199736	99.95	70	120	
Sc	45	NoGas	2206365	0.21	2096637	105.23	70	120	
Ge	72	H2	122827	0.17	122394	100.35	70	120	
Ge	72	He	120732	0.98	123228	97.97	70	120	
Ge	72	NoGas	489201	0.52	485769	100.71	70	120	
In	115	H2	2830949	0.76	2822980	100.28	70	120	
In	115	He	1104220	0.64	1094773	100.86	70	120	
In	115	NoGas	3279275	0.31	3222140	101.77	70	120	
Tb	159	H2	5493488	0.44	5338807	102.90	70	120	
Tb	159	He	3295181	0.89	3232159	101.95	70	120	
Tb	159	NoGas	4415602	0.92	4336564	101.82	70	120	
Ho	165	H2	5108991	0.40	5094749	100.28	70	120	
Ho	165	He	3212318	1.17	3120127	102.95	70	120	
Ho	165	NoGas	4231248	1.79	4144894	102.08	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	010_ICB.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T11:44:58-08:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	45	NoGas	-0.010	-71.9	77	32.8	0.1	
B	11	45	NoGas	0.231	111.0	18533	2.7	8	
Na	23	45	He	-16.723	-5.5	71045	1.0	50	
Mg	24	45	He	-1.259	-2.6	486	5.2	20	
Al	27	45	He	-1.200	-16.7	453	13.5	10	
K	39	45	He	-1.804	-344.3	68262	4.7	40	
Ca	44	45	He	-1.064	-97.8	284	12.2	150	
Ti	47	45	He	-0.022	-230.8	10	100.0	0.5	
V	51	45	He	-0.061	-11.5	1080	3.6	0.4	
Cr	52	45	He	-0.010	-85.2	1124	5.9	0.2	
Mn	55	45	He	-0.230	-15.1	2356	6.1	0.3	
Fe	56	45	He	-1.386	-2.5	9587	1.7	30	
Co	59	45	He	-0.017	-9.2	59	31.2	0.4	
Ni	60	45	He	-0.067	-26.2	202	28.1	0.4	
Cu	63	45	He	-0.001	-671.7	634	12.1	0.4	
Zn	66	115	He	-0.106	-40.9	1010	6.5	15	
As	75	115	He	0.135	25.9	171	18.5	0.2	
Se	78	115	H2	0.062	42.9	23	28.6	0.4	
Se	78	115	He	-0.153	-140.6	66	20.6	0.4	
Sr	88	115	NoGas	-0.001	-72.0	287	10.1	0.1	
Mo	95	115	NoGas	-0.072	-13.7	1163	5.7	0.3	
Ag	107	115	NoGas	0.003	56.4	70	37.8	0.1	
Cd	111	115	He	0.000	-9019.7	2	173.2	0.1	
Sn	118	115	He	-0.020	-135.7	2545	4.6	0.1	
Sn	118	115	NoGas	0.032	46.6	6211	2.6	0.1	
Sb	121	115	NoGas	0.161	10.4	4537	4.1	0.5	
Ba	137	165	NoGas	0.004	145.3	137	18.4	0.4	
Tl	205	165	NoGas	0.008	38.8	593	15.5	0.2	
Pb	208	165	NoGas	-0.029	-1.6	1070	0.0	0.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	395897	0.86	349963	113.13	70	120	
Sc	45	H2	481549	0.58	475873	101.19	70	120	
Sc	45	He	198304	0.75	199736	99.28	70	120	
Sc	45	NoGas	2250975	1.79	2096637	107.36	70	120	
Ge	72	H2	125702	1.24	122394	102.70	70	120	
Ge	72	He	121309	0.06	123228	98.44	70	120	
Ge	72	NoGas	497038	0.72	485769	102.32	70	120	
In	115	H2	2839870	0.95	2822980	100.60	70	120	
In	115	He	1110286	0.61	1094773	101.42	70	120	
In	115	NoGas	3238768	0.42	3222140	100.52	70	120	
Tb	159	H2	5366055	0.81	5338807	100.51	70	120	
Tb	159	He	3295345	0.85	3232159	101.95	70	120	
Tb	159	NoGas	4359892	0.44	4336564	100.54	70	120	
Ho	165	H2	5086123	0.91	5094749	99.83	70	120	
Ho	165	He	3179107	0.98	3120127	101.89	70	120	
Ho	165	NoGas	4192437	1.74	4144894	101.15	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	014_CCV.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T12:08:56-08:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	45	NoGas	51.609	1.223	177901	1.34	50	103.2	89.6	110.4	
B	11	45	NoGas	48.726	2.919	117385	2.35	50	97.5	89.6	110.4	
Na	23	45	He	1268.239	1.967	1675483	1.41	1250	101.5	89.6	110.4	
Mg	24	45	He	2553.993	0.899	1734309	0.27	2500	102.2	89.6	110.4	
Al	27	45	He	1011.066	0.980	300825	1.10	1000	101.1	89.6	110.4	
K	39	45	He	997.843	0.564	649404	0.58	1000	99.8	89.6	110.4	
Ca	44	45	He	2518.069	0.817	81444	0.29	2500	100.7	89.6	110.4	
Ti	47	45	He	50.849	2.028	10380	1.00	50	101.7	89.6	110.4	
V	51	45	He	49.638	1.007	317570	0.86	50	99.3	89.6	110.4	
Cr	52	45	He	49.925	1.524	385791	0.81	50	99.8	89.6	110.4	
Mn	55	45	He	50.146	0.630	239417	1.05	50	100.3	89.6	110.4	
Fe	56	45	He	1015.202	0.388	6997151	0.70	1000	101.5	89.6	110.4	
Co	59	45	He	50.301	1.276	609286	0.35	50	100.6	89.6	110.4	
Ni	60	45	He	50.486	1.424	166305	1.38	50	101.0	89.6	110.4	
Cu	63	45	He	50.160	1.234	451246	0.62	50	100.3	89.6	110.4	
Zn	66	115	He	48.936	0.466	75233	0.25	50	97.9	89.6	110.4	
As	75	115	He	49.730	1.349	45561	2.01	50	99.5	89.6	110.4	
Se	78	115	H2	51.259	1.744	12935	2.62	50	102.5	89.6	110.4	
Se	78	115	He	49.652	3.959	3347	4.26	50	99.3	89.6	110.4	
Sr	88	115	NoGas	50.495	2.564	1742333	1.05	50	101.0	89.6	110.4	
Mo	95	115	NoGas	49.233	0.434	326108	1.64	50	98.5	89.6	110.4	
Ag	107	115	NoGas	24.823	1.782	417066	0.69	25	99.3	89.6	110.4	
Cd	111	115	He	49.646	0.436	98267	1.00	50	99.3	89.6	110.4	
Sn	118	115	He	49.152	0.852	215634	0.99	50	98.3	89.6	110.4	
Sn	118	115	NoGas	48.940	1.572	499270	0.77	50	97.9	89.6	110.4	
Sb	121	115	NoGas	48.630	1.873	614272	1.45	50	97.3	89.6	110.4	
Ba	137	165	NoGas	49.488	1.523	242553	0.76	50	99.0	89.6	110.4	
Tl	205	165	NoGas	48.624	1.332	1493834	0.59	50	97.2	89.6	110.4	
Pb	208	165	NoGas	48.796	1.715	2018369	0.23	50	97.6	89.6	110.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	414132	0.58	349963	118.34	70	120	
Sc	45	H2	496800	0.18	475873	104.40	70	120	
Sc	45	He	203625	1.08	199736	101.95	70	120	
Sc	45	NoGas	2298120	0.12	2096637	109.61	70	120	
Ge	72	H2	126263	0.34	122394	103.16	70	120	
Ge	72	He	122796	0.70	123228	99.65	70	120	
Ge	72	NoGas	501401	0.87	485769	103.22	70	120	
In	115	H2	2866740	1.80	2822980	101.55	70	120	
In	115	He	1129128	0.70	1094773	103.14	70	120	
In	115	NoGas	3333081	1.79	3222140	103.44	70	120	
Tb	159	H2	5459322	1.38	5338807	102.26	70	120	
Tb	159	He	3374059	1.37	3232159	104.39	70	120	
Tb	159	NoGas	4482729	1.64	4336564	103.37	70	120	
Ho	165	H2	5164874	0.92	5094749	101.38	70	120	
Ho	165	He	3263213	1.93	3120127	104.59	70	120	
Ho	165	NoGas	4328392	1.50	4144894	104.43	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	016_CCB.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T12:20:52-08:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	45	NoGas	-0.016	-36.1	60	33.3	0.1	
B	11	45	NoGas	-1.613	-25.0	15584	5.3	8	
Na	23	45	He	-21.641	-6.1	66821	2.4	50	
Mg	24	45	He	-1.329	-1.8	451	3.5	20	
Al	27	45	He	-1.237	-18.2	454	15.0	10	
K	39	45	He	-6.732	-33.1	67248	2.1	40	
Ca	44	45	He	-2.606	-16.4	242	5.2	150	
Tl	47	45	He	-0.029	-215.5	9	142.0	0.5	
V	51	45	He	0.011	150.8	1561	6.3	0.4	
Cr	52	45	He	-0.028	-20.6	1019	4.2	0.2	
Mn	55	45	He	-0.309	-4.3	2049	3.5	0.3	
Fe	56	45	He	-1.417	-1.8	9630	1.4	30	
Co	59	45	He	-0.014	-5.1	102	8.2	0.4	
Ni	60	45	He	-0.079	-17.3	168	26.5	0.4	
Cu	63	45	He	-0.007	-36.0	599	4.0	0.4	
Zn	66	115	He	-0.054	-118.8	1102	9.3	15	
As	75	115	He	0.040	69.1	87	29.0	0.2	
Se	78	115	H2	0.030	177.1	16	86.6	0.4	
Se	78	115	He	-0.201	-215.4	63	45.0	0.4	
Sr	88	115	NoGas	-0.001	-267.6	313	20.5	0.1	
Mo	95	115	NoGas	-0.096	-12.0	1050	6.7	0.3	
Ag	107	115	NoGas	0.000	-146.9	17	69.3	0.1	
Cd	111	115	He	0.000	-24.5	2	0.0	0.1	
Sn	118	115	He	0.004	241.0	2684	0.9	0.1	
Sn	118	115	NoGas	0.008	259.1	6205	3.3	0.1	
Sb	121	115	NoGas	0.208	6.0	5318	3.6	0.5	
Ba	137	165	NoGas	0.015	87.3	197	33.9	0.4	
Tl	205	165	NoGas	0.002	40.2	444	7.0	0.2	
Pb	208	165	NoGas	-0.037	-2.5	763	5.3	0.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	417099	1.66	349963	119.18	70	120	
Sc	45	H2	496411	0.59	475873	104.32	70	120	
Sc	45	He	203623	0.45	199736	101.95	70	120	
Sc	45	NoGas	2359597	0.79	2096637	112.54	70	120	
Ge	72	H2	130074	1.48	122394	106.28	70	120	
Ge	72	He	124419	1.35	123228	100.97	70	120	
Ge	72	NoGas	510289	0.84	485769	105.05	70	120	
In	115	H2	2894430	0.72	2822980	102.53	70	120	
In	115	He	1125688	0.71	1094773	102.82	70	120	
In	115	NoGas	3364488	0.65	3222140	104.42	70	120	
Tb	159	H2	5401539	1.67	5338807	101.18	70	120	
Tb	159	He	3348764	1.42	3232159	103.61	70	120	
Tb	159	NoGas	4508654	0.63	4336564	103.97	70	120	
Ho	165	H2	5118024	0.46	5094749	100.46	70	120	
Ho	165	He	3236435	0.35	3120127	103.73	70	120	
Ho	165	NoGas	4323444	1.69	4144894	104.31	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	104_CCV.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T21:06:02-08:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	45	NoGas	48.005	0.492	174481	0.34	50	96.0	89.6	110.4	
B	11	45	NoGas	455.035	2.500	993579	2.32	50	910.1	89.6	110.4	>+/- 10%
Na	23	45	He	1393.593	2.088	1870391	1.24	1250	111.5	89.6	110.4	>+/- 10%
Mg	24	45	He	2468.619	3.545	1711477	2.71	2500	98.7	89.6	110.4	
Al	27	45	He	981.014	0.900	298057	0.59	1000	98.1	89.6	110.4	
K	39	45	He	987.784	1.650	657111	0.76	1000	98.8	89.6	110.4	
Ca	44	45	He	2453.506	1.735	81034	0.88	2500	98.1	89.6	110.4	
Ti	47	45	He	48.212	1.228	10051	0.83	50	96.4	89.6	110.4	
V	51	45	He	48.833	1.014	319025	0.48	50	97.7	89.6	110.4	
Cr	52	45	He	47.796	0.563	377217	1.06	50	95.6	89.6	110.4	
Mn	55	45	He	48.189	0.841	235061	0.88	50	96.4	89.6	110.4	
Fe	56	45	He	962.175	1.504	6772094	0.73	1000	96.2	89.6	110.4	
Co	59	45	He	47.855	0.748	591935	0.88	50	95.7	89.6	110.4	
Ni	60	45	He	46.809	0.998	157473	0.41	50	93.6	89.6	110.4	
Cu	63	45	He	47.193	0.481	433565	0.40	50	94.4	89.6	110.4	
Zn	66	115	He	46.236	0.836	73896	0.83	50	92.5	89.6	110.4	
As	75	115	He	48.575	0.725	46218	0.46	50	97.1	89.6	110.4	
Se	78	115	H2	50.799	2.557	13231	1.46	50	101.6	89.6	110.4	
Se	78	115	He	49.311	4.468	3453	4.41	50	98.6	89.6	110.4	
Sr	88	115	NoGas	49.703	1.123	1813364	1.31	50	99.4	89.6	110.4	
Mo	95	115	NoGas	47.493	1.910	332553	0.48	50	95.0	89.6	110.4	
Ag	107	115	NoGas	23.983	0.405	426030	1.03	25	95.9	89.6	110.4	
Cd	111	115	He	47.599	0.105	97849	0.22	50	95.2	89.6	110.4	
Sn	118	115	He	49.591	0.130	225930	0.16	50	99.2	89.6	110.4	
Sn	118	115	NoGas	48.852	2.038	526823	0.63	50	97.7	89.6	110.4	
Sb	121	115	NoGas	47.969	2.732	640488	1.38	50	95.9	89.6	110.4	
Ba	137	165	NoGas	49.087	0.762	252435	0.49	50	98.2	89.6	110.4	
Tl	205	165	NoGas	48.587	1.275	1566403	2.37	50	97.2	89.6	110.4	
Pb	208	165	NoGas	47.130	0.707	2045625	0.64	50	94.3	89.6	110.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	431423	1.25	349963	123.28	70	120	ISTD Failed
Sc	45	H2	512128	0.36	475873	107.62	70	120	
Sc	45	He	207916	0.85	199736	104.10	70	120	
Sc	45	NoGas	2423081	0.17	2096637	115.57	70	120	
Ge	72	H2	132313	0.85	122394	108.10	70	120	
Ge	72	He	127968	1.38	123228	103.85	70	120	
Ge	72	NoGas	523424	0.87	485769	107.75	70	120	
In	115	H2	2959494	1.37	2822980	104.84	70	120	
In	115	He	1172702	0.28	1094773	107.12	70	120	
In	115	NoGas	3523345	1.43	3222140	109.35	70	120	
Tb	159	H2	5593517	0.62	5338807	104.77	70	120	
Tb	159	He	3490319	0.94	3232159	107.99	70	120	
Tb	159	NoGas	4661851	0.74	4336564	107.50	70	120	
Ho	165	H2	5340458	0.86	5094749	104.82	70	120	
Ho	165	He	3397838	0.25	3120127	108.90	70	120	
Ho	165	NoGas	4541191	1.18	4144894	109.56	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	106_CCB.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T21:17:57-08:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	45	NoGas	-0.031	-10.2	7	173.2	0.1	
B	11	45	NoGas	373.808	1.4	834951	1.2	8	>LOD
Na	23	45	He	101.669	1.1	225580	0.6	50	>LOD
Mg	24	45	He	-1.103	-6.7	618	7.7	20	
Al	27	45	He	-0.813	-11.8	593	5.5	10	
K	39	45	He	5.515	88.7	76030	4.5	40	
Ca	44	45	He	-2.337	-29.0	257	9.4	150	
Ti	47	45	He	-0.040	-69.3	7	86.6	0.5	
V	51	45	He	0.057	29.4	1899	5.2	0.4	
Cr	52	45	He	-0.052	-14.6	848	6.5	0.2	
Mn	55	45	He	-0.503	-6.2	1165	12.3	0.3	
Fe	56	45	He	-1.305	-1.6	10638	2.0	30	
Co	59	45	He	-0.016	-25.5	80	62.9	0.4	
Ni	60	45	He	-0.094	-3.7	122	10.3	0.4	
Cu	63	45	He	0.146	12.2	2021	8.6	0.4	
Zn	66	115	He	-0.146	-19.9	1020	4.4	15	
As	75	115	He	0.037	78.3	89	31.2	0.2	
Se	78	115	H2	0.010	141.9	11	34.6	0.4	
Se	78	115	He	0.592	51.9	122	17.3	0.4	>LOD
Sr	88	115	NoGas	0.006	17.4	577	7.2	0.1	
Mo	95	115	NoGas	-0.085	-11.0	1190	5.1	0.3	
Ag	107	115	NoGas	0.002	81.6	57	44.4	0.1	
Cd	111	115	He	0.002	44.9	7	31.5	0.1	
Sn	118	115	He	0.001	4427.0	2827	4.5	0.1	
Sn	118	115	NoGas	-0.002	-2476.2	6478	6.0	0.1	
Sb	121	115	NoGas	0.060	20.2	3647	4.4	0.5	
Ba	137	165	NoGas	0.011	115.6	183	33.3	0.4	
Tl	205	165	NoGas	0.003	3.0	471	1.3	0.2	
Pb	208	165	NoGas	-0.041	-3.6	620	9.8	0.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	445135	0.54	349963	127.19	70	120	ISTD Failed
Sc	45	H2	519347	0.76	475873	109.14	70	120	
Sc	45	He	208205	0.66	199736	104.24	70	120	
Sc	45	NoGas	2468292	1.21	2096637	117.73	70	120	
Ge	72	H2	135719	1.56	122394	110.89	70	120	
Ge	72	He	131154	1.41	123228	106.43	70	120	
Ge	72	NoGas	543881	1.30	485769	111.96	70	120	
In	115	H2	3073457	1.62	2822980	108.87	70	120	
In	115	He	1192588	0.20	1094773	108.93	70	120	
In	115	NoGas	3568524	0.70	3222140	110.75	70	120	
Tb	159	H2	5588457	2.18	5338807	104.68	70	120	
Tb	159	He	3499888	0.46	3232159	108.28	70	120	
Tb	159	NoGas	4692811	1.83	4336564	108.21	70	120	
Ho	165	H2	5331455	1.06	5094749	104.65	70	120	
Ho	165	He	3436052	2.50	3120127	110.13	70	120	
Ho	165	NoGas	4544829	1.83	4144894	109.65	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	117_CCV.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T22:23:52-08:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	45	NoGas	49.292	1.252	182253	0.67	50	98.6	89.6	110.4	
B	11	45	NoGas	323.729	1.554	724830	1.42	50	647.5	89.6	110.4	>+/- 10%
Na	23	45	He	1287.113	0.684	1737020	0.32	1250	103.0	89.6	110.4	
Mg	24	45	He	2458.487	0.728	1706801	0.47	2500	98.3	89.6	110.4	
Al	27	45	He	984.368	0.914	299443	1.08	1000	98.4	89.6	110.4	
K	39	45	He	991.505	0.361	660145	0.35	1000	99.2	89.6	110.4	
Ca	44	45	He	2463.129	0.755	81454	0.64	2500	98.5	89.6	110.4	
Ti	47	45	He	48.592	2.977	10143	3.34	50	97.2	89.6	110.4	
V	51	45	He	48.482	0.282	317135	0.35	50	97.0	89.6	110.4	
Cr	52	45	He	47.448	0.446	374917	0.45	50	94.9	89.6	110.4	
Mn	55	45	He	48.232	0.546	235555	0.77	50	96.5	89.6	110.4	
Fe	56	45	He	958.437	0.225	6754485	0.60	1000	95.8	89.6	110.4	
Co	59	45	He	47.984	0.555	594241	0.26	50	96.0	89.6	110.4	
Ni	60	45	He	46.799	0.716	157633	0.39	50	93.6	89.6	110.4	
Cu	63	45	He	46.555	0.308	428230	0.28	50	93.1	89.6	110.4	
Zn	66	115	He	46.343	1.742	74312	1.28	50	92.7	89.6	110.4	
As	75	115	He	47.722	0.773	45562	0.28	50	95.4	89.6	110.4	
Se	78	115	H2	49.220	1.185	13167	1.28	50	98.4	89.6	110.4	
Se	78	115	He	47.260	4.267	3324	4.36	50	94.5	89.6	110.4	
Sr	88	115	NoGas	49.093	1.956	1796820	1.56	50	98.2	89.6	110.4	
Mo	95	115	NoGas	47.595	0.678	334389	0.98	50	95.2	89.6	110.4	
Ag	107	115	NoGas	23.894	0.466	425817	0.67	25	95.6	89.6	110.4	
Cd	111	115	He	47.370	0.460	97711	0.53	50	94.7	89.6	110.4	
Sn	118	115	He	49.232	0.373	225082	0.53	50	98.5	89.6	110.4	
Sn	118	115	NoGas	48.201	1.035	521655	1.29	50	96.4	89.6	110.4	
Sb	121	115	NoGas	48.503	1.847	649824	2.05	50	97.0	89.6	110.4	
Ba	137	165	NoGas	48.575	0.486	250474	0.12	50	97.1	89.6	110.4	
Tl	205	165	NoGas	48.189	1.723	1557472	1.48	50	96.4	89.6	110.4	
Pb	208	165	NoGas	46.878	1.183	2040097	0.63	50	93.8	89.6	110.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	447026	1.31	349963	127.74	70	120	ISTD Failed
Sc	45	H2	526619	1.09	475873	110.66	70	120	
Sc	45	He	208164	0.40	199736	104.22	70	120	
Sc	45	NoGas	2465184	1.38	2096637	117.58	70	120	
Ge	72	H2	139323	0.73	122394	113.83	70	120	
Ge	72	He	129089	1.42	123228	104.76	70	120	
Ge	72	NoGas	530577	1.80	485769	109.22	70	120	
In	115	H2	3039242	1.15	2822980	107.66	70	120	
In	115	He	1176706	0.59	1094773	107.48	70	120	
In	115	NoGas	3534593	0.49	3222140	109.70	70	120	
Tb	159	H2	5493028	0.59	5338807	102.89	70	120	
Tb	159	He	3446730	1.04	3232159	106.64	70	120	
Tb	159	NoGas	4725118	0.80	4336564	108.96	70	120	
Ho	165	H2	5350218	0.90	5094749	105.01	70	120	
Ho	165	He	3381774	2.11	3120127	108.39	70	120	
Ho	165	NoGas	4553169	0.61	4144894	109.85	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	119_CCB.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T22:35:48-08:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	45	NoGas	-0.032	-4.8	3	173.2	0.1	
B	11	45	NoGas	257.912	1.4	586365	0.6	8	>LOD
Na	23	45	He	40.268	32.1	149237	11.3	50	
Mg	24	45	He	-1.189	-20.6	566	30.6	20	
Al	27	45	He	-0.917	-9.0	569	4.4	10	
K	39	45	He	4.653	116.6	76505	4.2	40	
Ca	44	45	He	-1.507	-128.3	288	22.6	150	
Ti	47	45	He	-0.035	-92.5	8	89.2	0.5	
V	51	45	He	0.037	46.3	1793	6.0	0.4	
Cr	52	45	He	-0.051	-17.4	868	8.2	0.2	
Mn	55	45	He	-0.496	-2.8	1212	5.5	0.3	
Fe	56	45	He	-1.360	-0.3	10383	0.5	30	
Co	59	45	He	-0.016	-4.0	74	11.3	0.4	
Ni	60	45	He	-0.098	-9.6	110	28.9	0.4	
Cu	63	45	He	0.025	31.7	917	7.6	0.4	
Zn	66	115	He	-0.133	-26.7	1041	5.6	15	
As	75	115	He	0.051	44.9	102	21.7	0.2	
Se	78	115	H2	0.043	46.6	20	28.9	0.4	
Se	78	115	He	0.098	273.5	88	20.9	0.4	
Sr	88	115	NoGas	0.002	136.4	437	24.5	0.1	
Mo	95	115	NoGas	-0.126	-27.6	897	27.8	0.3	
Ag	107	115	NoGas	0.000	201.2	33	45.8	0.1	
Cd	111	115	He	0.002	52.3	6	33.3	0.1	
Sn	118	115	He	0.008	282.6	2856	3.2	0.1	
Sn	118	115	NoGas	-0.023	-91.4	6196	2.6	0.1	
Sb	121	115	NoGas	0.308	9.6	6922	5.2	0.5	
Ba	137	165	NoGas	0.025	25.9	253	13.9	0.4	
Tl	205	165	NoGas	0.004	23.5	499	6.0	0.2	
Pb	208	165	NoGas	-0.040	-9.3	650	25.9	0.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	453243	1.29	349963	129.51	70	120	ISTD Failed
Sc	45	H2	524503	1.02	475873	110.22	70	120	
Sc	45	He	210966	0.40	199736	105.62	70	120	
Sc	45	NoGas	2485856	0.79	2096637	118.56	70	120	
Ge	72	H2	138722	1.00	122394	113.34	70	120	
Ge	72	He	130833	0.93	123228	106.17	70	120	
Ge	72	NoGas	543815	0.55	485769	111.95	70	120	
In	115	H2	3054890	2.01	2822980	108.22	70	120	
In	115	He	1191504	0.37	1094773	108.84	70	120	
In	115	NoGas	3537075	1.46	3222140	109.77	70	120	
Tb	159	H2	5578025	1.40	5338807	104.48	70	120	
Tb	159	He	3485165	1.01	3232159	107.83	70	120	
Tb	159	NoGas	4692950	1.17	4336564	108.22	70	120	
Ho	165	H2	5319296	1.83	5094749	104.41	70	120	
Ho	165	He	3387625	0.48	3120127	108.57	70	120	
Ho	165	NoGas	4525203	1.00	4144894	109.18	70	120	

METALS

Raw Data

APPL, INC.

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
6020A	LEAD (PB) (DISSOL	0.40 U	3.0	0.40	0.19	ug/L	11/05/14	11/05/14	#62A14-141105A1-AZ05593

Metals SC-Blank-REG MDLs
Printed: 11/11/14 10:44:28 AM

Sample Report

Sample Table

Sample Name	141105A BLK
Data File Name	107SMPL.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T21:23:57-08:00
Sample Type	Sample
Dilution	1.111111111
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	-0.031	-0.034	-10.12	7	173.21	10000	
B	11	45	NoGas	375.005	416.672	1.09	845713	0.90	10000	
Na	23	45	He	108.402	120.447	1.24	234430	0.73	1000000	
Mg	24	45	He	-0.323	-0.359	-50.04	1160	9.50	1000000	
Al	27	45	He	0.177	0.196	87.01	894	5.61	1000000	
K	39	45	He	4.663	5.181	136.21	75589	4.69	500000	
Ca	44	45	He	3.722	4.136	0.92	457	0.73	500000	
Ti	47	45	He	0.050	0.056	49.42	26	19.92	10000	
V	51	45	He	-0.150	-0.167	-9.65	549	16.76	10000	
Cr	52	45	He	0.203	0.226	10.15	2862	6.20	10000	
Mn	55	45	He	-0.453	-0.503	-5.87	1406	8.72	50000	
Fe	56	45	He	-0.241	-0.268	-379.03	18158	36.00	1000000	
Co	59	45	He	-0.017	-0.019	-3.92	61	13.73	10000	
Ni	60	45	He	0.094	0.104	14.04	753	6.43	10000	
Cu	63	45	He	0.141	0.157	10.14	1975	6.63	10000	
Zn	66	115	He	-0.012	-0.013	-423.51	1212	6.37	50000	
As	75	115	He	-0.002	-0.003	-377.48	50	17.64	2000	
Se	78	115	H2	0.102	0.114	47.30	34	36.64	10000	
Se	78	115	He	0.526	0.585	34.83	116	10.92	10000	
Sr	88	115	NoGas	0.024	0.027	24.34	1224	18.30	50000	
Mo	95	115	NoGas	-0.048	-0.053	-44.57	1403	10.51	10000	
Ag	107	115	NoGas	0.001	0.001	198.25	37	62.98	5000	
Cd	111	115	He	0.000	0.000	-285.07	1	173.21	10000	
Sn	118	115	He	-0.499	-0.555	-0.67	530	2.74	10000	
Sn	118	115	NoGas	-0.487	-0.541	-0.44	1207	2.72	10000	
Sb	121	115	NoGas	-0.034	-0.038	-3.01	2297	1.26	10000	
Ba	137	165	NoGas	0.038	0.042	42.04	313	24.79	50000	
Tl	205	165	NoGas	0.050	0.055	9.23	1925	7.20	5000	
Pb	208	165	NoGas	-0.041	-0.045	-10.24	613	28.07	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	459666	0.57	349963	131.35	70	120	ISTD Failed
Sc	45	H2	513778	0.95	475873	107.97	70	120	
Sc	45	He	208438	0.54	199736	104.36	70	120	
Sc	45	NoGas	2492311	1.25	2096637	118.87	70	120	
Ge	72	H2	135214	0.92	122394	110.47	70	120	
Ge	72	He	130814	0.47	123228	106.16	70	120	
Ge	72	NoGas	531266	0.97	485769	109.37	70	120	
In	115	H2	2924241	0.56	2822980	103.59	70	120	
In	115	He	1170758	0.23	1094773	106.94	70	120	
In	115	NoGas	3452730	0.94	3222140	107.16	70	120	
Tb	159	H2	5318196	0.58	5338807	99.61	70	120	
Tb	159	He	3399050	1.66	3232159	105.16	70	120	
Tb	159	NoGas	4546700	0.42	4336564	104.85	70	120	
Ho	165	H2	5061784	0.19	5094749	99.35	70	120	
Ho	165	He	3336740	1.13	3120127	106.94	70	120	
Ho	165	NoGas	4392630	0.82	4144894	105.98	70	120	

Laboratory Control Spike Recovery

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6020A	LEAD (PB) (DISSOLVED)	50.0	44.4	88.8	80-120	11/05/14	11/05/14	#62A14-141105A1-AZ05593

Comments: _____

Sample Report

Sample Table

Sample Name	141105A LCS
Data File Name	108SMPL.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T21:29:56-08:00
Sample Type	Sample
Dilution	1.111111111
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	8.737	9.707	0.61	32896	0.89	10000	
B	11	45	NoGas	389.158	432.398	1.42	880460	0.13	10000	
Na	23	45	He	4260.955	4734.395	0.60	5561159	0.61	1000000	
Mg	24	45	He	4207.189	4674.655	0.35	2936941	0.25	1000000	
Al	27	45	He	351.015	390.017	0.13	107945	0.19	1000000	
K	39	45	He	869.441	966.046	0.44	591263	0.28	500000	
Ca	44	45	He	4165.902	4628.780	0.41	138338	0.47	500000	
Ti	47	45	He	43.174	47.971	3.26	9066	3.27	10000	
V	51	45	He	43.685	48.539	0.49	287582	0.58	10000	
Cr	52	45	He	41.416	46.018	0.38	329335	0.48	10000	
Mn	55	45	He	41.128	45.698	0.88	202562	0.97	50000	
Fe	56	45	He	161.034	178.927	0.43	1158067	0.53	1000000	
Co	59	45	He	41.301	45.890	0.24	514510	0.19	10000	
Ni	60	45	He	39.729	44.143	0.91	134668	1.00	10000	
Cu	63	45	He	38.901	43.223	0.43	360030	0.48	10000	
Zn	66	115	He	75.305	83.672	0.80	119467	0.46	50000	
As	75	115	He	39.417	43.796	1.94	37480	1.97	2000	
Se	78	115	H2	40.121	44.579	2.18	10352	2.89	10000	
Se	78	115	He	38.512	42.791	7.80	2711	7.52	10000	
Sr	88	115	NoGas	43.620	48.467	0.93	1552559	0.68	50000	
Mo	95	115	NoGas	43.771	48.634	0.63	299168	0.62	10000	
Ag	107	115	NoGas	17.226	19.139	0.89	298517	0.92	5000	
Cd	111	115	He	7.810	8.677	1.33	16041	1.38	10000	
Sn	118	115	He	43.911	48.791	0.34	200189	0.18	10000	
Sn	118	115	NoGas	43.589	48.432	0.91	459301	0.51	10000	
Sb	121	115	NoGas	45.164	50.182	1.03	588595	1.53	10000	
Ba	137	165	NoGas	43.155	47.950	3.23	216060	1.87	50000	
Tl	205	165	NoGas	38.963	43.292	0.93	1222977	0.59	5000	
Pb	208	165	NoGas	39.984	44.427	1.07	1690131	0.58	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	469498	0.59	349963	134.16	70	120	ISTD Failed
Sc	45	H2	512702	0.60	475873	107.74	70	120	
Sc	45	He	209379	0.10	199736	104.83	70	120	
Sc	45	NoGas	2502677	1.45	2096637	119.37	70	120	
Ge	72	H2	136059	0.78	122394	111.17	70	120	
Ge	72	He	130917	0.48	123228	106.24	70	120	
Ge	72	NoGas	531783	0.96	485769	109.47	70	120	
In	115	H2	2930528	0.86	2822980	103.81	70	120	
In	115	He	1171624	0.34	1094773	107.02	70	120	
In	115	NoGas	3437218	1.19	3222140	106.67	70	120	
Tb	159	H2	5302100	0.84	5338807	99.31	70	120	
Tb	159	He	3389941	0.98	3232159	104.88	70	120	
Tb	159	NoGas	4583283	0.70	4336564	105.69	70	120	
Ho	165	H2	5062441	1.09	5094749	99.37	70	120	
Ho	165	He	3324787	1.09	3120127	106.56	70	120	
Ho	165	NoGas	4421847	1.49	4144894	106.68	70	120	

Matrix Spike Recoveries

METALS

APPL ID: **141105W-05593 MS - 191727**

Sample ID: AZ05593

Client ID: RHMW06-GW-01

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl ug/L	Matrix Res ug/L	SPK Res ug/L	DUP Res ug/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 6020A	LEAD (PB) (DISSOLVE	50.0	ND	49.0	45.9	98.0	91.8	6.5	20	80-120	11/05/14	11/05/14	11/05/14	11/05/14	191727	AZ05593

Comments: _____

Sample Report

Sample Table

Sample Name	AZ05593W35 MS 1/5
Data File Name	113SMPL.d
Data Path Name	D:\DATA\141105A.b
Acq Date Time	2014-11-05T21:59:57-08:00
Sample Type	Sample
Dilution	5.555555556
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	1.944	10.797	4.10	7058	3.70	10000	
B	11	45	NoGas	337.466	1874.811	0.53	729574	0.49	10000	
Na	23	45	He	26271.759	145954.215	0.26	33266686	0.47	1000000	
Mg	24	45	He	9743.366	54129.813	0.70	6694379	0.48	1000000	
Al	27	45	He	76.260	423.665	1.34	23738	1.07	1000000	
K	39	45	He	886.902	4927.233	0.35	592351	0.53	500000	
Ca	44	45	He	7374.914	40971.745	0.51	240850	0.31	500000	
Ti	47	45	He	9.517	52.871	1.94	1979	2.08	10000	
V	51	45	He	12.540	69.665	0.76	82348	0.53	10000	
Cr	52	45	He	9.529	52.941	0.43	75561	0.42	10000	
Mn	55	45	He	11.338	62.988	2.15	57543	1.88	50000	
Fe	56	45	He	34.805	193.362	0.46	261795	0.64	1000000	
Co	59	45	He	9.141	50.781	1.03	112316	1.17	10000	
Ni	60	45	He	8.639	47.993	1.52	29167	1.45	10000	
Cu	63	45	He	8.764	48.686	1.02	80369	0.78	10000	
Zn	66	115	He	23.665	131.473	1.80	38226	1.73	50000	
As	75	115	He	9.457	52.538	2.04	8993	1.82	2000	
Se	78	115	H2	8.666	48.142	5.94	2299	6.00	10000	
Se	78	115	He	9.806	54.476	10.87	747	9.97	10000	
Sr	88	115	NoGas	63.490	352.721	2.05	2254621	0.72	50000	
Mo	95	115	NoGas	9.525	52.914	0.68	66312	1.38	10000	
Ag	107	115	NoGas	3.680	20.446	1.62	63660	0.13	5000	
Cd	111	115	He	1.781	9.894	1.62	3644	1.83	10000	
Sn	118	115	He	9.272	51.512	1.59	44271	1.22	10000	
Sn	118	115	NoGas	9.244	51.354	2.02	102109	0.37	10000	
Sb	121	115	NoGas	10.510	58.391	2.39	138753	0.84	10000	
Ba	137	165	NoGas	11.238	62.433	1.18	56752	1.27	50000	
Tl	205	165	NoGas	8.516	47.309	0.71	269402	0.69	5000	
Pb	208	165	NoGas	8.813	48.963	0.85	376922	0.99	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	434175	1.09	349963	124.06	70	120	ISTD Failed
Sc	45	H2	521154	1.13	475873	109.52	70	120	
Sc	45	He	206135	0.23	199736	103.20	70	120	
Sc	45	NoGas	2382835	0.64	2096637	113.65	70	120	
Ge	72	H2	138541	0.74	122394	113.19	70	120	
Ge	72	He	129327	1.24	123228	104.95	70	120	
Ge	72	NoGas	532797	0.52	485769	109.68	70	120	
In	115	H2	3005081	0.77	2822980	106.45	70	120	
In	115	He	1166660	0.27	1094773	106.57	70	120	
In	115	NoGas	3430130	1.59	3222140	106.46	70	120	
Tb	159	H2	5446522	1.44	5338807	102.02	70	120	
Tb	159	He	3378819	0.54	3232159	104.54	70	120	
Tb	159	NoGas	4581410	1.04	4336564	105.65	70	120	
Ho	165	H2	5203550	0.93	5094749	102.14	70	120	
Ho	165	He	3346044	0.28	3120127	107.24	70	120	
Ho	165	NoGas	4451505	0.32	4144894	107.40	70	120	

US EPA Tune Check Sample Report

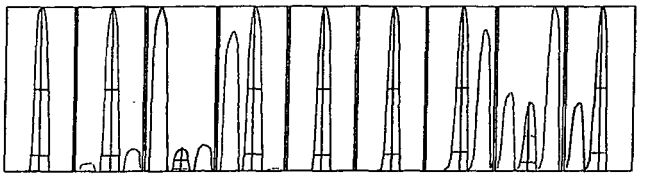
Batch Folder D:\DATA\Agilent Test.b
Report Comment C:\Agilent\ICPMH\Report Templates\en\Letter\Tune Report\New and Improved 200_8TuneCheckSampleReport.xltx
Instrument Name G3281A JP12101628

[NoGas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	5320103	0.36	5.00	
24	20275605	0.50	5.00	
25	2773927	0.21	5.00	
26	3248884	0.50	5.00	
59	37346214	0.22	5.00	
115	51997937	0.86	5.00	
206	11917073	0.56	5.00	
207	10568943	0.38	5.00	
208	25044538	0.81	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	5317560	5323673	5302166	5306036	5351077
24	20212444	20131546	20348679	20307342	20378013
25	2763696	2775360	2778239	2775842	2776499
26	3228315	3234695	3257767	3259145	3264497
59	37211212	37387118	37407556	37320587	37404598
115	51772596	51404189	52602684	52141066	52069152
206	11855366	11852906	12011898	11925427	11939770
207	10512196	10603973	10544261	10607516	10576770
208	24809791	25159675	24848403	25140665	25264154

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	845064	9.05	8.9 - 9.1		0.771	0.900	
24	3307675	24.10	23.9 - 24.1		0.766	0.900	
25	451701	25.10	24.9 - 25.1		0.752	0.900	
26	531326	26.05	25.9 - 26.1		0.765	0.900	
59	6214844	59.05	58.9 - 59.1		0.729	0.900	
115	9407439	115.10	114.9 - 115.1		0.713	0.900	
206	2248474	206.05	205.9 - 206.1		0.727	0.900	
207	1946016	207.00	206.9 - 207.1		0.724	0.900	
208	4696037	208.05	207.9 - 208.1		0.739	0.900	

X% = 10 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 235 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1600	W	Carrier Gas	0.41	L/min			
RF Matching	2.22	V	Option Gas	0.0	%			
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps			
S/C Temp	2	°C						

Lenses Parameters

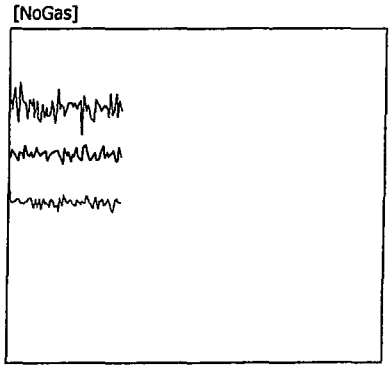
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	8.7	V			
Extract 2	-145.0	V	Cell Entrance	-30	V			
Omega Bias	-70	V	Cell Exit	-30	V			
Deflect	11.8	V						

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	false		3rd Gas Flow	0	%			
He Flow	0.0	mL/min	OctP Bias	-8.0	V			
H2 Flow	0.0	mL/min	OctP RF	170	V			
Energy Discrimination	5.1	V						

Current Signal

[NoGas]



Mass	Range	Count	Avg. Count	RSD [%]
7	2000	1516	1528.1	3.78
59	5000	3025	3149.9	3.48
89	10000	4753	4768.1	2.69
140	10000	4648	4647.4	2.48
205	10000	6159	6220.1	2.11
156/140	1	0.452 %	0.417 %	34.04
70/140	5	2.775 %	2.737 %	10.99
Integration Time [sec]		0.10		

Plasma Parameters

RF Power	1600	W	Carrier Gas	0.41	L/min
RF Matching	2.22	V	Option Gas	0.0	%
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps
S/C Temp	2	°C			

Lenses Parameters

Extract 1	0.0	V	Omega Lens	8.7	V
Extract 2	-145.0	V	Cell Entrance	-30	V
Omega Bias	-70	V	Cell Exit	-30	V
Deflect	11.8	V			

Cell Parameters

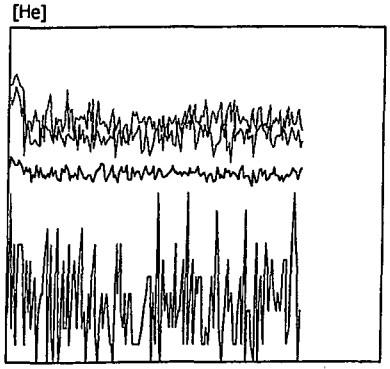
Use Gas	false		3rd Gas Flow	0	%
He Flow	0.0	mL/min	OctP Bias	-8.0	V
H2 Flow	0.0	mL/min	OctP RF	170	V
Energy Discrimination	5.1	V			

Meters

IF/BK Press	2.62E+2	Pa	S/C Temp (L)	2.0	°C
Analyzer Press	2.57E-4	Pa	Reflected Power	7	W
Forward Power	1601	W			

Current Signal

[He]



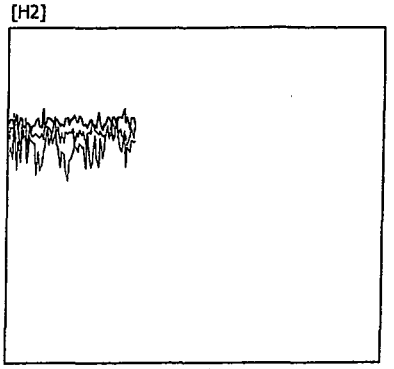
Mass	Range	Count	Avg. Count	RSD [%]
59	2000	1378	1448.2	4.74
89	2000	1311	1362.0	6.48
140	5000	3158	3134.1	3.75
205	10000	5766	5627.8	2.72
156/140	1	0.253 %	0.225 %	53.29
75	20	3	3.6	69.82
78	50	10	9.6	46.66
Integration Time [sec]		0.10		

## Plasma Parameters ##					
RF Power	1600	W	Carrier Gas	0.41	L/min
RF Matching	2.22	V	Option Gas	0.0	%
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps
S/C Temp	2	°C			
## Lenses Parameters ##					
Extract 1	0.0	V	Omega Lens	8.7	V
Extract 2	-145.0	V	Cell Entrance	-40	V
Omega Bias	-70	V	Cell Exit	-60	V
Deflect	0.8	V			
## Cell Parameters ##					
Use Gas	true		3rd Gas Flow	0	%
He Flow	3.7	mL/min	OctP Bias	-19.0	V
H2 Flow	0.0	mL/min	OctP RF	170	V
Energy Discrimination	5.0	V			

Meters					
IF/BK Press	2.62E+2	Pa	S/C Temp (L)	1.9	°C
Analyzer Press	3.59E-4	Pa	Reflected Power	7	W
Forward Power	1599	W			

Current Signal

[H2]



Mass	Range	Count	Avg. Count	RSD [%]
59	500	331	321.0	6.91
89	5000	3534	3427.3	2.79
140	2000	1287	1270.5	5.25
205	10000	7145	7213.0	1.95
56	10000	5637	5967.9	8.99
78	20	2	1.1	107.65
80	50	15	14.5	32.91
Integration Time [sec]			0.10	

## Plasma Parameters ##					
RF Power	1600	W	Carrier Gas	0.41	L/min
RF Matching	2.22	V	Option Gas	0.0	%
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps
S/C Temp	2	°C			
## Lenses Parameters ##					
Extract 1	0.0	V	Omega Lens	8.7	V
Extract 2	-145.0	V	Cell Entrance	-30	V
Omega Bias	-70	V	Cell Exit	-60	V
Deflect	-2.4	V			
## Cell Parameters ##					
Use Gas	true		3rd Gas Flow	0	%
He Flow	0.0	mL/min	OctP Bias	-18.0	V
H2 Flow	6.0	mL/min	OctP RF	170	V
Energy Discrimination	3.0	V			

Meters					
IF/BK Press	2.67E+2	Pa	S/C Temp (L)	2.0	°C
Analyzer Press	1.45E-3	Pa	Reflected Power	7	W
Forward Power	1599	W			

RE 11/2/14

RE 11/2/14

3% HCL

30 mL of HCL in 1000 mL of DI H2O

Prep Date: 11/02/14
Exp Date: 11/02/15
Prepared by: RE

Lot# HCL: BDH 4114020

RE 11/2/14

1.1% STANNOUS CHLORIDE

11g SnCl2 EMD Lot #B1006939-348
30 mL HCl BDH Lot #41140210
Brought to 1000 mL with DI Water
Prep. Date 11/02/14
Exp. Date 11/02/15
By RE

RE 11/2/14

SJH 11/03/14

Internal Standard Concentration

Amt	STD	Element	Vendor	Lot#	Final Conc. in Std	Expires
100uL	1001 ug/mL	Li	BDH	F2-L102140-33279	200 ug/L	02/01/15
250uL	1000 ug/mL	Sc	o2si	1051538-32901	500ug/L	03/30/15
250uL	1000 ug/mL	Ge	CPI	14H207-34125	500ug/L	04/07/14
250uL	1000 ug/mL	In	CPI	13H191-32872	500ug/L	03/20/15
250uL	1000 ug/mL	Tb	CPI	13J004-33038	500ug/L	04/15/15
250uL	1000 ug/mL	Ho	CPI	13G236-32873	500ug/L	03/20/15

Prep: 11/03/14 By: SJH Prep in - 1%HNO3/1.0%HCL: Final Volume: 250mL
Expires: 12/02/14

SJH 10/03/14

SJH 10/03/14
6020/200.8
D

ICP-MS STANDARDS Prep'd by: SJH
Prep Date: Today
Expires: 1 week

Prep 1% HNO3/1.0%HCL
20 mL HNO3 / 2000 mL DI Water
Lot #
20 mL HCL / 2000mL DI Water
Lot #

Internal Standard Mix: Prep 11/03/14

Standard 4

Amount	STD	Manufacturer	Lot #
50 uL	CCV-A	ENV EXPRESS	1331823-33166
50 uL	CCV-B	ENV EXPRESS	1331824-33167
50 uL	CCV-C	ENV EXPRESS	1331825-33168

Prepared in 100 mL of 1% HNO3/1.0% HCL

Standard 3
Amount STD
25 mL Standard 4
Prepared in 50 mL of 1% HNO3/1.0% HCL

Standard 2
Amount STD
500 uL Standard 4
Prepared in 50 mL of 1% HNO3/1.0% HCL

Standard 1
Amount STD
50 uL Standard 4
Prepared in 50 mL of 1% HNO3/1.0% HCL

ICP-MS ICV

Amount	STD		
50 uL	QCS ICV A	CPI	13I145-32869
50 uL	QCS ICV B	CPI	13I145-32870

Prepared in 50 mL of 1% HNO3/1.0% HCL

ICSA Prep:

1 mL	ICSA-DF2	O2SI	1053467-33165

Prepared in 10 mL of 1% HNO3/1.0% HCL

ICSAB Prep:

1mL	ICSA	CPI	12J143-33110
100uL	INT - DF10	O2SI	1054694-33223

Prepared in 10 mL of 1% HNO3/1.0% HCL

Second Source As:

25 uL	Metals Mix #2	AbsoluteGrade	161813-33063

Prepared in 100 mL of 1% HNO3/ 1% HCl

SJH 11/03/14

SJH 11/04/14
6020/200.8
(A)

ICP-MS STANDARDS	Prep'd by: SJH
Prep Date:	Today
Expires:	1 week

Prep 1% HNO3/1.0%HCL
20 mL HNO3 / 2000 mL DI Water
Lot #
20 mL HCL / 2000mL DI Water
Lot #

Internal Standard Mix: Prep 11/03/14

Standard 4

Amount	STD	Manufacturer	Lot #
50 uL	CCV-A	ENV EXPRESS	1331823-33166
50 uL	CCV-B	ENV EXPRESS	1331824-33167
50 uL	CCV-C	ENV EXPRESS	1331825-33168

Prepared in 100 mL of 1% HNO3/1.0% HCL

Standard 3
Amount STD
25 mL Standard 4
Prepared in 50 mL of 1% HNO3/1.0% HCL

Standard 2
Amount STD
500 uL Standard 4
Prepared in 50 mL of 1% HNO3/1.0% HCL

Standard 1
Amount STD
50 uL Standard 4
Prepared in 50 mL of 1% HNO3/1.0% HCL

ICP-MS ICV

Amount	STD		
50 uL	QCS ICV A	CPI	13I145-32869
50 uL	QCS ICV B	CPI	13I145-32870

Prepared in 50 mL of 1% HNO3/1.0% HCL

ICSA Prep:

1 mL	ICSA-DF2	O2Si	1053487-33165

Prepared in 10 mL of 1% HNO3/1.0% HCL

ICSAB Prep:

1mL	ICSA	CPI	12J143-33110
100uL	INT - DF10	O2Si	1054694-33223

Prepared in 10 mL of 1% HNO3/1.0% HCL

Second Source As:
25 uL Metals Mix #2 AbsoluteGrade 161613-33063
Prepared in 100 mL of 1% HNO3/ 1% HCl

SJH 11/04/14

SJH 11/05/14
6020/200.8
(A)

ICP-MS STANDARDS	Prep'd by: SJH
Prep Date:	Today
Expires:	1 week

Prep 1% HNO3/1.0%HCL
20 mL HNO3 / 2000 mL DI Water
Lot #
20 mL HCL / 2000mL DI Water
Lot #

Internal Standard Mix: Prep 11/03/14

Standard 4

Amount	STD	Manufacturer	Lot #
50 uL	CCV-A	ENV EXPRESS	1331823-33166
50 uL	CCV-B	ENV EXPRESS	1331824-33167
50 uL	CCV-C	ENV EXPRESS	1331825-33168

Prepared in 100 mL of 1% HNO3/1.0% HCL

Standard 3
Amount STD
25 mL Standard 4
Prepared in 50 mL of 1% HNO3/1.0% HCL

Standard 2
Amount STD
500 uL Standard 4
Prepared in 50 mL of 1% HNO3/1.0% HCL

Standard 1
Amount STD
50 uL Standard 4
Prepared in 50 mL of 1% HNO3/1.0% HCL

ICP-MS ICV

Amount	STD		
50 uL	QCS ICV A	CPI	13I145-32869
50 uL	QCS ICV B	CPI	13I145-32870

Prepared in 50 mL of 1% HNO3/1.0% HCL

ICSA Prep:

1 mL	ICSA-DF2	O2Si	1053487-33165

Prepared in 10 mL of 1% HNO3/1.0% HCL

ICSAB Prep:

1mL	ICSA	CPI	12J143-33110
100uL	INT - DF10	O2Si	1054694-33223

Prepared in 10 mL of 1% HNO3/1.0% HCL

Second Source As:
25 uL Metals Mix #2 AbsoluteGrade 161613-33063
Prepared in 100 mL of 1% HNO3/ 1% HCl

SJH 11/05/14

SJH 11/05/14
200.7
(A)

2%HNO3 / 2%HCl BLK				
AMOUNT	REAGENT	MANUFACTURER	LOT	OPEN DATE
40 mL	HCl	BDH	4114020	11/05/14
40 mL	HNO3	JT BAKER	0000067379	11/05/14
Prepared in 2000 ml DI Water				

STD 1 / LDL 200.7				
AMOUNT	STD	MANUFACTURER	LOT	EXP DATE
0.250 mL	200.7 LDL	O2SI	1052542-33103	11/01/14
Prepared in 50 ml 2%HNO3/2%HCl				

STD 3 / HDL 200.7				
0.5 mL	CCV-A	Environmental Express	1331823-33166	11/18/14
0.5 mL	CCV-B	Environmental Express	1331824-33167	11/18/14
0.5 mL	CCV-C	Environmental Express	1331825-33168	11/18/14
Prepared in 100 ml 2%HNO3/2%HCl				

STD 2 / CCV1 200.7			
AMOUNT	STD	PREP DATE	EXP DATE
25mL	STD 3	TODAY	1 WEEK
25mL	2%HNO3/2%HCl	TODAY	1 WEEK

CCV2 200.7			
15mL	STD 3	TODAY	1 WEEK
25mL	2%HNO3/2%HCl	TODAY	1 WEEK

200.7 ICV				
AMOUNT	STD	MANUFACTURER	LOT	EXP DATE
0.25ML	QCS ICV A	CPI	13I145-32869	03/18/15
0.25ML	QCS ICV B	CPI	13I145-32870	03/18/15
Prepared in 50ml 2%HNO3/2%HCl				

200.7 ICSA				
0.5mL	Al	CPI	14D237-33868	01/15/16
0.5mL	Ca	CPI	14D176-33867	01/15/16
0.5mL	Mg	CPI	14F190-33865	01/15/16
0.5mL	Fe	O2SI	1062942-33880	01/12/16
Prepared in 50 ml 2%HNO3/2%HCl				

200.7 ICSAB				
0.5mL	Al	CPI	14D237-33868	01/15/16
0.5mL	Ca	CPI	14D176-33867	01/15/16
0.5mL	Mg	CPI	14F190-33865	01/15/16
0.5mL	Fe	O2SI	1062942-33880	01/12/16
0.25mL	INT SPECIAL MIX	O2SI	1054694-33223	1/1/15
Prepared in 50 ml 2%HNO3/2%HCl				

SJH 11/05/14

Metals Digestion Worksheet

Method Name 3015 Digestion **Prep Method** M3015 **Set** 141105A **Units** mL

Spikes	
Spiked ID 1	LCSW LOT#1066596-34172
Spiked ID 2	LCSW LOT#1066556-34173
Spiked ID 3	
Spiked ID 4	
Spiked By	NM Date: 11/05/14 11:00:00 AM
Witnessed By	SJH Date: 11/05/14 11:00:00 AM

Starting Temp:	19 c
Ending Temp:	170 c
Temperature Type:	Microwave
Sufficient Vol for Matrix QC:	Yes
End Date/Time	11/05/14 12:30

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	141105A Blk				45mL	50mL	11/05/14 11:00	equip: MultiWave
2	141105A LCS		90uL	1+2	45mL	50mL	11/05/14 11:00	equip: MultiWave
3	AZ05388	AZ05388W12			45mL	50mL	11/05/14 11:00	equip: MultiWave Field Filtered
4	AZ05389	AZ05389W12			45mL	50mL	11/05/14 11:00	equip: MultiWave Field Filtered
5	AZ05513	AZ05513W10			45mL	50mL	11/05/14 11:00	equip: MultiWave
6	AZ05514	AZ05514W10			45mL	50mL	11/05/14 11:00	equip: MultiWave
7	AZ05515	AZ05515W10			45mL	50mL	11/05/14 11:00	equip: MultiWave
8	AZ05516	AZ05516W10			45mL	50mL	11/05/14 11:00	equip: MultiWave
9	AZ05516 DUP	AZ05516W10			45mL	50mL	11/05/14 11:00	equip: MultiWave
10	AZ05516 MS	AZ05516W10	90uL	1+2	45mL	50mL	11/05/14 11:00	equip: MultiWave
11	AZ05593	AZ05593W35			45mL	50mL	11/05/14 11:00	equip: MultiWave Field Filtered
12	AZ05593 MS	AZ05593W35	90uL	1+2	45mL	50mL	11/05/14 11:00	equip: MultiWave Field Filtered
13	AZ05593 MSD	AZ05593W35	90uL	1+2	45mL	50mL	11/05/14 11:00	equip: MultiWave Field Filtered

Solvent and Lot#
HNO3 J.T.B #74185 1839

Sample COC Transfer	
Sample prep employee Initials	nm
Analyst's initials	SJH
Date	11/05/14
Time	15:01
Moved to	metals

Technician's Initials	
Scanned By	nm
Sample Preparation	nm
Digestion	nm
Bring up to volume	nm
Modified	11/05/14 10:41:45 AM

Reviewed By: SJH **Date:** 11/05/14

6020/200.8 Injection Log

Directory: K:\ICP-MS Megatron\raw data output csv\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	05 Nov 2014	10:57	Calibration Blank		141105A	1.
2	05 Nov 2014	11:03	Standard 1		141105A	1.
3	05 Nov 2014	11:09	Standard 2		141105A	1.
4	05 Nov 2014	11:14	Standard 3		141105A	1.
5	05 Nov 2014	11:20	Standard 4		141105A	1.
6	05 Nov 2014	11:27	ICV		141105A	1.
8	05 Nov 2014	11:44	ICB		141105A	1.
12	05 Nov 2014	12:08	CCV		141105A	1.
13	05 Nov 2014	12:20	CCB		141105A	1.
14	05 Nov 2014	12:26	ICSA		141105A	1.
15	05 Nov 2014	13:08	ICSAB		141105A	1.
82	05 Nov 2014	21:06	CCV		141105A	1.
83	05 Nov 2014	21:17	CCB		141105A	1.
84	05 Nov 2014	21:23	141105A BLK		141105A	1.
85	05 Nov 2014	21:29	141105A LCS		141105A	1.
88	05 Nov 2014	21:53	AZ05593W35 1/5		141105A	5.
89	05 Nov 2014	21:59	AZ05593W35 MS 1/5		141105A	5.
90	05 Nov 2014	22:05	AZ05593W35 MSD 1/5		141105A	5.
91	05 Nov 2014	22:11	AZ05593W35-A 1/5		141105A	5.
92	05 Nov 2014	22:17	AZ05593W35 1/25		141105A	25.
93	05 Nov 2014	22:23	CCV		141105A	1.
94	05 Nov 2014	22:35	CCB		141105A	1.

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	TOTAL ALKALINITY	1.70 U	2.0	1.70	0.85	mg/L	11/03/14	11/03/14	#232W-A141103-AZ05593
EPA 353.2	NITRATE-NITRITE-N	0.100 U	0.10	0.100	0.028	mg/L	11/05/14	11/05/14	#35OF-141105A-AZ05593
EPA 9056	SULFATE	0.198 U	1.00	0.198	0.090	mg/L	10/28/14	10/28/14	#9056D-141028A-AZ05593
EPA 9056	CHLORIDE	0.200 U	1.00	0.200	0.080	mg/L	11/03/14	11/03/14	#9056D-141103A-AZ05593

Wetlab SC-Blank-REG MDLs
Printed: 11/07/14 9:12:31 AM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 9056	CHLORIDE	20.0	19.2	96.0	80-120	11/03/14	11/03/14	#9056D-141103A-AZ05593
EPA 9056	SULFATE	20.0	19.2	96.0	80-120	10/28/14	10/28/14	#9056D-141028A-AZ05593

Comments: _____

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 353.2	NITRATE-NITRITE-N	5.00	4.83	4.76	96.6	95.2	1.5	20	90-110	11/05/14	11/05/14	11/05/14	11/05/14	#35OF-141105A-AZ05593
SM 2320B	TOTAL ALKALINITY AS CA	250	253	254	101	102	0.39	20	90-110	11/03/14	11/03/14	11/03/14	11/03/14	#232W-A141103-AZ05593

Comments: _____

Matrix Spike Recoveries

WETLAB

APPL ID: **141105W-05593 MS - 191558**

Sample ID: AZ05593

Client ID: RHMW06-GW-01

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	Matrix Res mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 353.2	NITRATE-NITRITE-N	5.00	0.53	5.65	5.57	102	101	1.4	20	90-110	11/05/14	11/05/14	11/05/14	11/05/14	191558	AZ05593
EPA 9056	CHLORIDE	200	319	544	538	113	110	1.1	10	80-120	11/03/14	11/03/14	11/03/14	11/03/14	191547	AZ05593
EPA 9056	SULFATE	40	66.6	109	108	106	104	0.92	10	80-120	10/28/14	10/28/14	10/28/14	10/28/14	191430	AZ05593
SM 2320B	TOTAL ALKALINITY AS	250	118	378	378	104	104	0.0	20	90-110	11/03/14	11/03/14	11/03/14	11/03/14	191492	AZ05593

Comments: _____

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gene Wright

Project: 749435 Red Hill TO 0068

Sample ID: RHMW06-GW-01

Sample Collection Date: 10/21/14

APPL ID: AZ05593

ARF: 74701

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	0.53	0.10	0.100	0.028	mg/L	1	11/05/14	11/05/14
EPA 9056	CHLORIDE	319	10.00	2.000	0.800	mg/L	10	11/03/14	11/03/14
EPA 9056	SULFATE	66.6	2.00	0.396	0.180	mg/L	2	10/28/14	10/28/14
SM 2320B	TOTAL ALKALINITY AS CACO3	118	2.0	1.70	0.85	mg/L	1	11/03/14	11/03/14

Printed: 11/07/14 9:12:28 AM

APPL-F1-SC-NoMC-REG MDLs

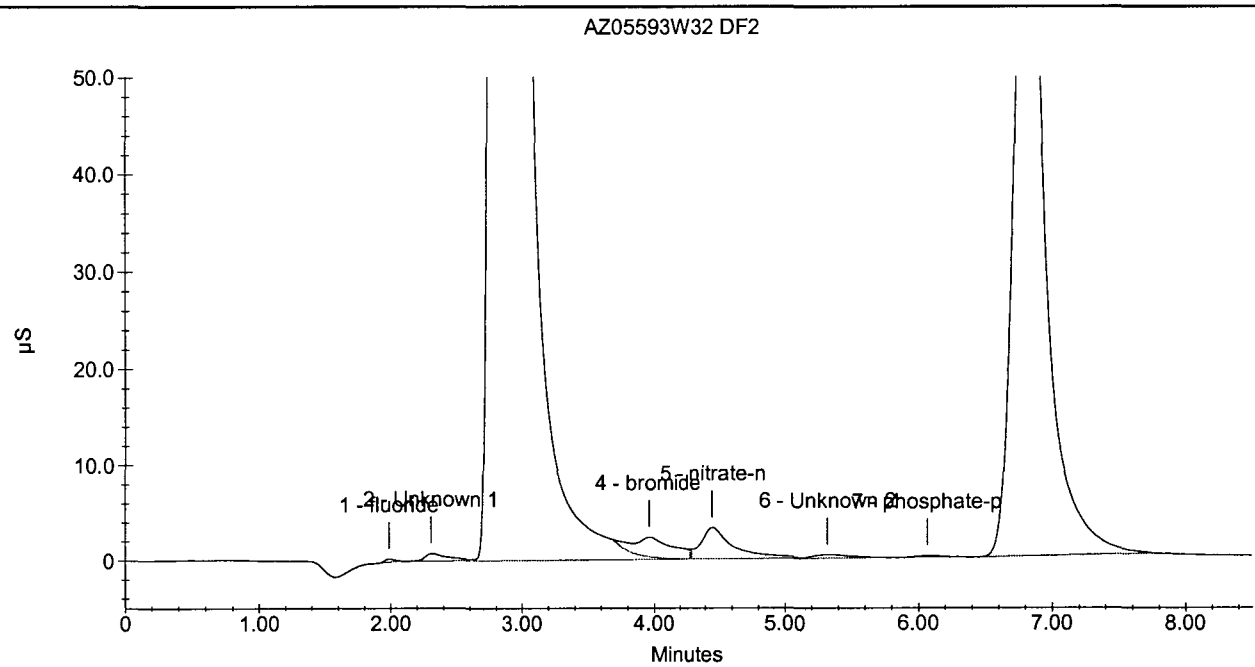
Sample Analysis Report

Sample Name : AZ05593W32 DF2
Data File Name : I:\DIONEX\D1ANIONS\DATA\141028A\141028a_008.DXD

Method File Name : I:\DIONEX\D1ANIONS\METHODS\ANIONS 140916A.met
Date Time Collected : 10/28/14 11:30:11
System Operator : mm
Injection Number : 8
Multiplier : 2.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.99	fluoride	0.1771	16863	3356
2	2.31	Unknown 1	0.0000	96709	7729
3	2.87	chloride	365.3084	105413058	12467679
4	3.96	bromide	3.7349	375590	20652
5	4.45	nitrate-n	1.2246	548869	32627
6	5.32	Unknown 2	0.0000	65888	3476
7	6.07	phosphate-p	0.2493	17721	1464
8	6.81	sulfate	66.6496	12558460	841336



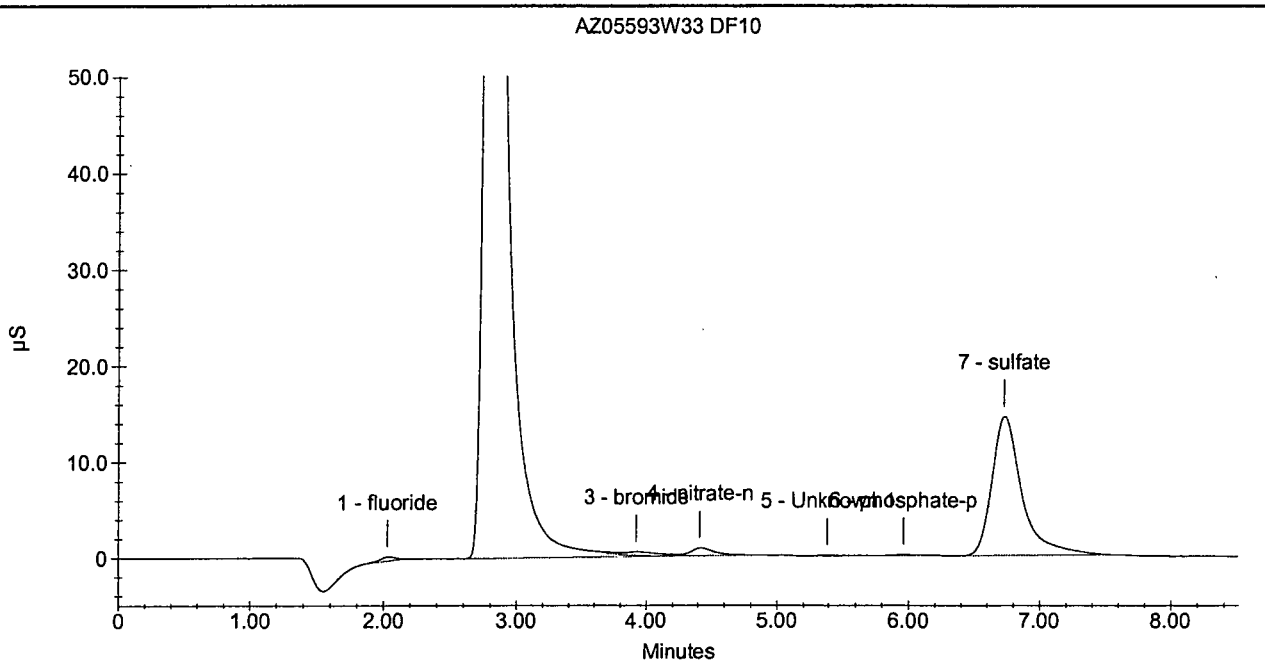
Sample Analysis Report

Sample Name : AZ05593W33 DF10
Data File Name : I:\DIONEX\D1ANIONS\DATA\141103A\141103a_023.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 11/3/14 12:24:08
System Operator : mm
Injection Number : 23
Multiplier : 10.00

Peak Information : All Peaks

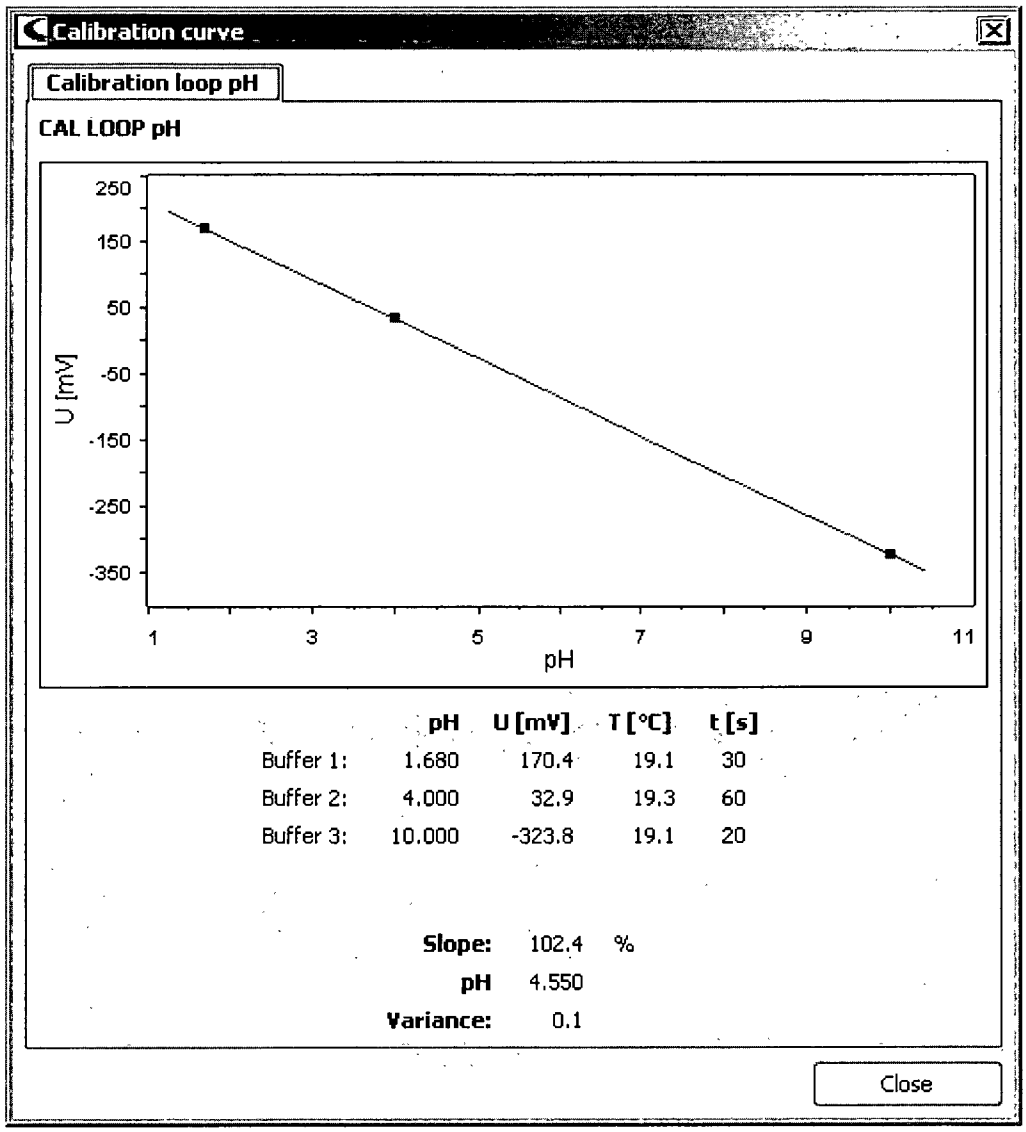
Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	2.03	fluoride	1.1181	33657	4356
2	2.80	chloride	318.6078	17851425	2159549
3	3.92	bromide	5.2782	68457	3999
4	4.41	nitrate-n	2.7158	101543	8228
5	5.39	Unknown 1	0.0000	9501	685
6	5.96	phosphate-p	1.0441	9145	783
7	6.72	sulfate	68.2988	2297027	144170



INORGANIC ANALYSIS
Calibration Data

APPL, INC.

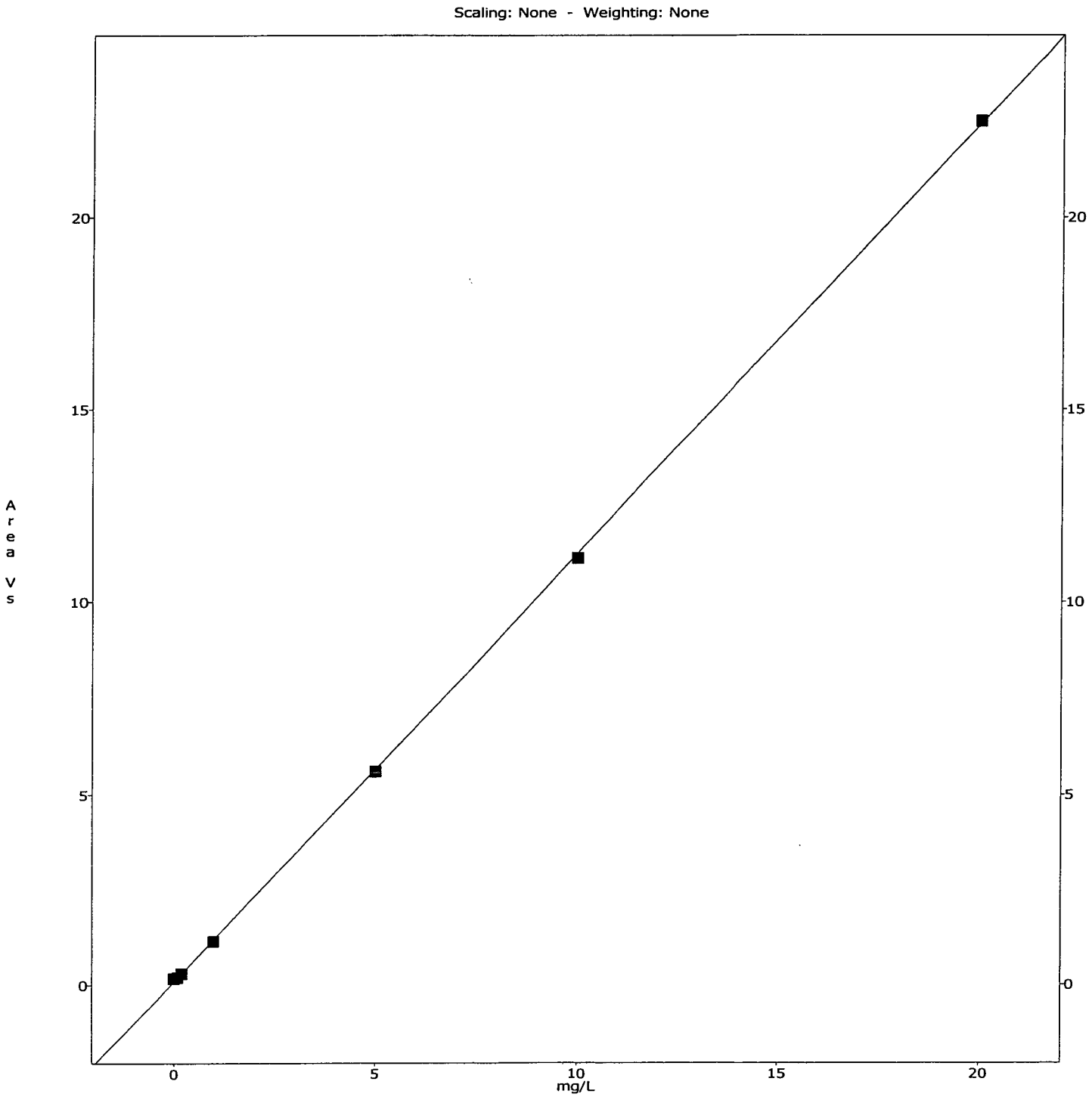
11/03/14 Tiamo Calibration Curve



TOTOXN

Lvl	Area	mg/L	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Replic STD	Replic % RSD	Residual 1st Poly
1	22500902	20.0	22500902					0.0	0.0	-0.3
2	11133735	10.0	11133735					0.0	0.0	1.1
3	5613850	5.0	5613850					0.0	0.0	0.9
4	1163898	1.0	1163898					0.0	0.0	2.9
5	313312	0.2	313312					0.0	0.0	-4.9
6	207821	0.1	207821					0.0	0.0	-15.4
7	182182	0.0	182182					0.0	0.0	

1st Order Poly
Conc = 8.949e-007 Area - 7.054e-002
r = 1.0000



Printed: Wednesday, November 05, 2014 - 03:07 PM

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons
ARF No: 74701 SDG: 74701
Initial Calibration Source: CPI
Continuing Calibration Source: O2SI
Analysis Date: 11/05/14

Analyte	Calibration Verification									M
	True CCV1	Found 14:41	%R(1)	True ICV	Found 14:44	%R(1)	True CCV1	Found 15:00	%R(1)	
TOXN	5	4.92496	98.5	5	4.89567	97.9	5	4.91904	98.4	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 74701 SDG: 74701

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

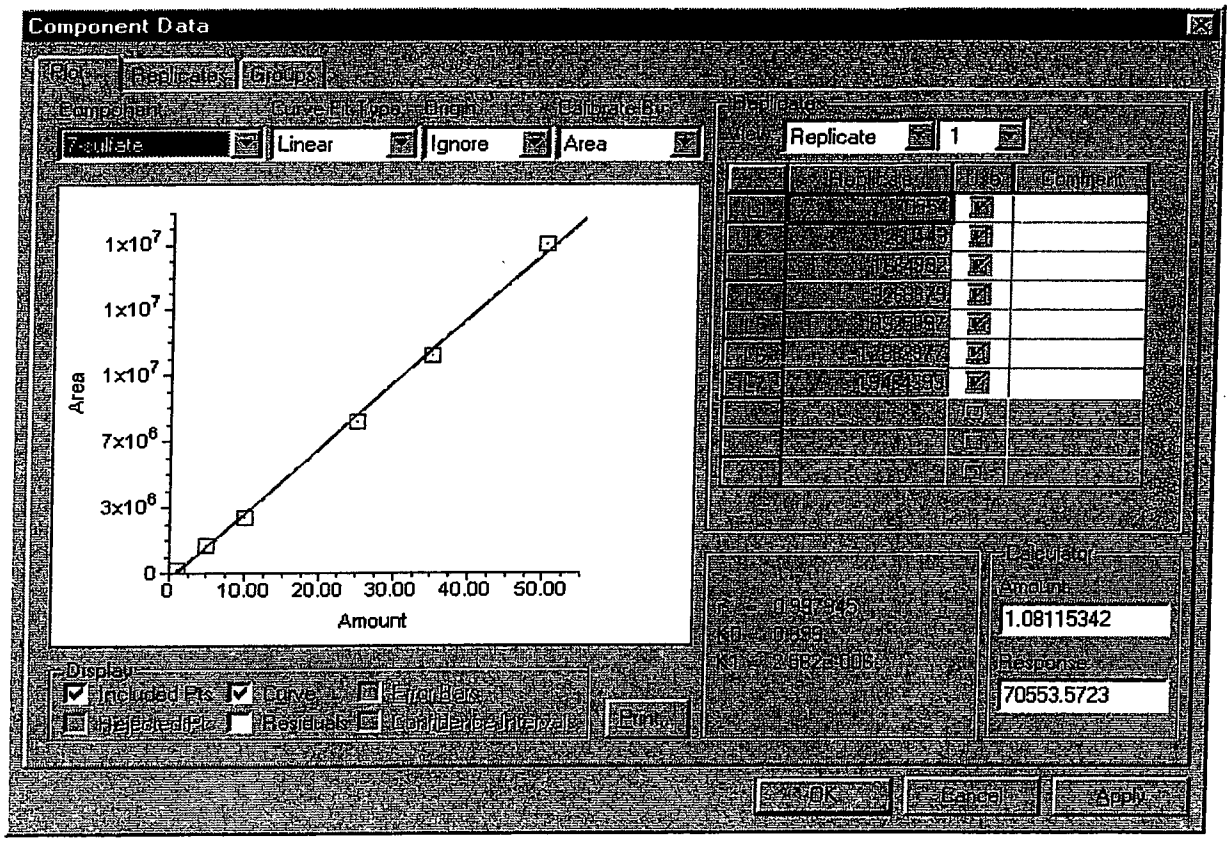
Analyte	Calibration Blanks										M
	CCB 11/05/14 14:42	C	ICB 11/05/14 14:45	C	CCB 11/05/14 15:02	C		C		C	
TOXN	.100	U	.100	U	.100	U					

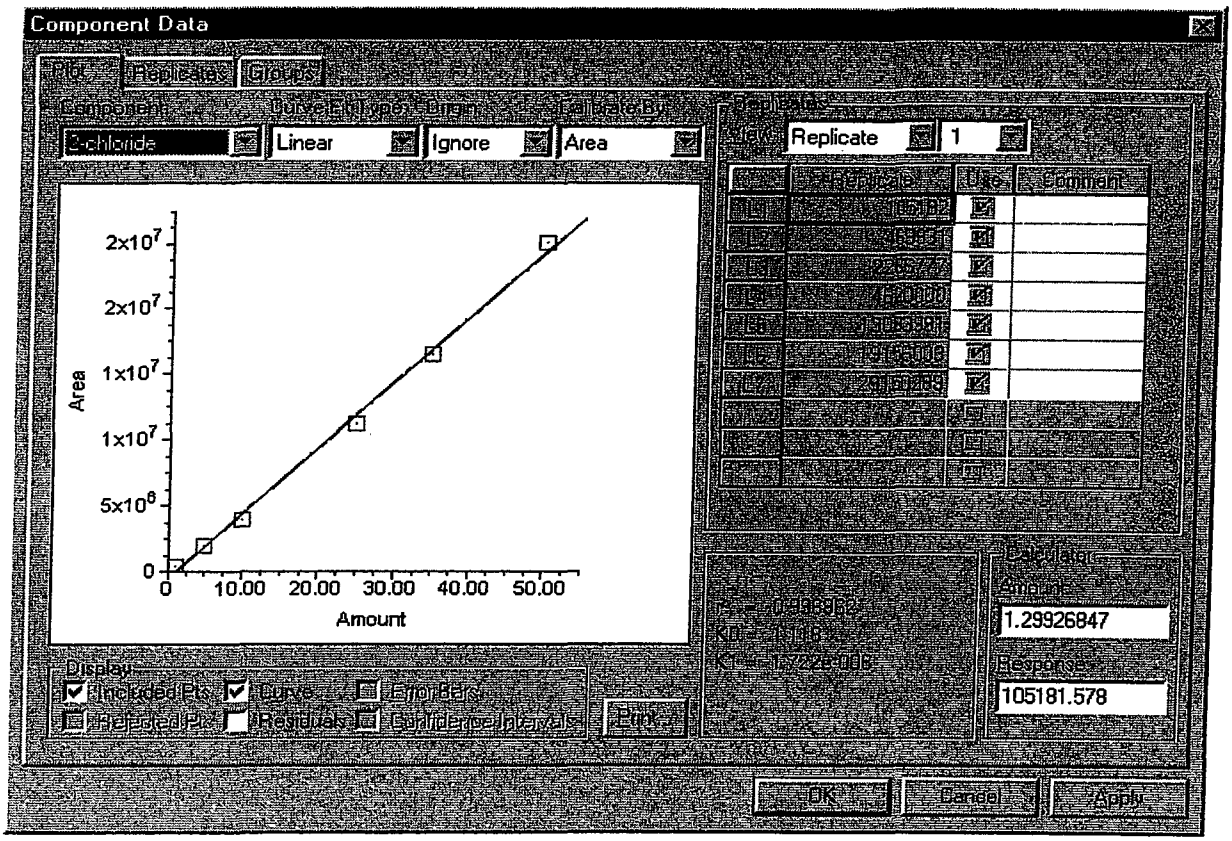
OPERATOR: Aileen
ACQ. TIME: Nov 5, 2014 14:29:17
DATA FILENAME: I:\LACHAT\OMNION\141105NB.FDT
METHOD FILENAME: I:\LACHAT\METHODS\TOTOXN1.MET
TRAY FILENAME: I:\LACHAT\TRAYS\141105NA.TRA

TRAY DESCRIPTION:
Created: Nov 5, 2014 13:05:03
Modified: Nov 5, 2014 14:29:48
NO3/TOTOXN 141105NA
DATA DESCRIPTION:
Created: Nov 5, 2014 14:29:17
Modified: Nov 5, 2014 14:29:17

Multi-Channel Table
Type: DQM
Channel Range: 1 to 8 -- Cup Range: 1 to 50

Cup	Sample ID	Sample Type	Sampling Time	# of Reps	TOTOXN (mg/L)
6	CCB	Blank	14:42:55	1	-0.0080
6	ICB	Blank	14:45:56	1	-0.0061
6	CCB	Blank	15:02:28	1	-0.0082
7	ICV	RelChkStd	14:44:26	1	4.8957
			Known Concentration:		5.0000
			% Difference:		-2.0864
15	CCV	RelChkStd	14:41:24	1	4.9250
			Known Concentration:		5.0000
			% Difference:		-1.5006
15	CCV	RelChkStd	15:00:57	1	4.9190
			Known Concentration:		5.0000
			% Difference:		-1.6191


Component Data
Replicates
Groups
Linear
Ignore
Area
Replicate
1
1x10^7
1x10^7
1x10^7
7x10^6
3x10^6
0
Area
0
10.00
20.00
30.00
40.00
50.00
Amount
Display
Included Pts.
Curve
Error Bars
Residuals
Confidence Interval
Calculated
Amount
1.08115342
Response
70553.5723
OK
Cancel
Apply


Component Data
Plot
Replicates
Groups
Component
Curve Type
Cal Rate By
2-chloride
Linear
Ignore
Area
Replicate
1
Use
Comment
Area
Amount
0
10.00
20.00
30.00
40.00
50.00
Display
Included Pts
Curve
Error Bars
Excluded Pts
Residuals
Confidence Intervals
Calculator
Amount
1.29926847
Response
105181.578
OK
Cancel
Apply

INORGANIC ANALYSES
AUTO CALIBRATION

Analytical Method: 300/9056A

Lab Name: APPL, Inc.

Instrument ID: Dionex

Autocal ID: 140916a

Concentration Units (mg/L or mg/kg): mg/L

Analyte	1	2	3	4	5	6	7
	Autocal 13:01	Autocal 13:12	Autocal 13:23	Autocal 13:35	Autocal 13:46	Autocal 13:57	Autocal 14:08
Bromide	16482	110811	530269	1040423	2811782	3853149	5758749
Chloride	105181	469930	2266776	4619999	13083991	19156002	29150289
Fluoride	ND	65241	295885	665047	1822387	2347304	3619418
Nitrate-N	42537	207636	1096945	2181530	5982651	8679959	13214287
Nitrite-N	9360	82285	427556	866240	2398640	3309962	4979067
Phosphate-P	37335	77961	423664	767089	2009102	2861951	4282289
Sulfate	70553	260443	1664932	3268878	8925096	12862977	19464398

Comments: _____

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Calibration
ARF No: SDG:
Initial Calibration Source: o2si
Continuing Calibration Source: o2si
Analysis Date: 09/16/14

Analyte	Calibration Verification									M
	True ICV	Found 14:20	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
bromide	12.5	12.1534	97.2							
chloride	20	18.9785	94.9							
fluoride	2.5	2.39410	95.8							
Nitrate(NO3)-N	5	4.85672	97.1							
Nitrite(NO2)-N	3.04	2.92650	96.3							
phosphate-p	5	4.91730	98.3							
sulfate	20	19.3370	96.7							

(1) Control Limits: 90-110

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Calibration

ARF No.: SDG:

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 09/16/14 14:31	C		C		C		C		C	
bromide	.500	U									
chloride	1.000	U									
fluoride	1.000	U									
Nitrate(NO3)-N	.200	U									
Nitrite(NO2)-N	.200	U									
phosphate-p	1.000	U									
sulfate	1.000	U									

Calibration Update Report

Sample Name : CAL STD #1 9/16/14
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_012.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 13:01:17

Calibration Date : 9/16/14 13:12:12
System Operator : mm
Injection Number : 12

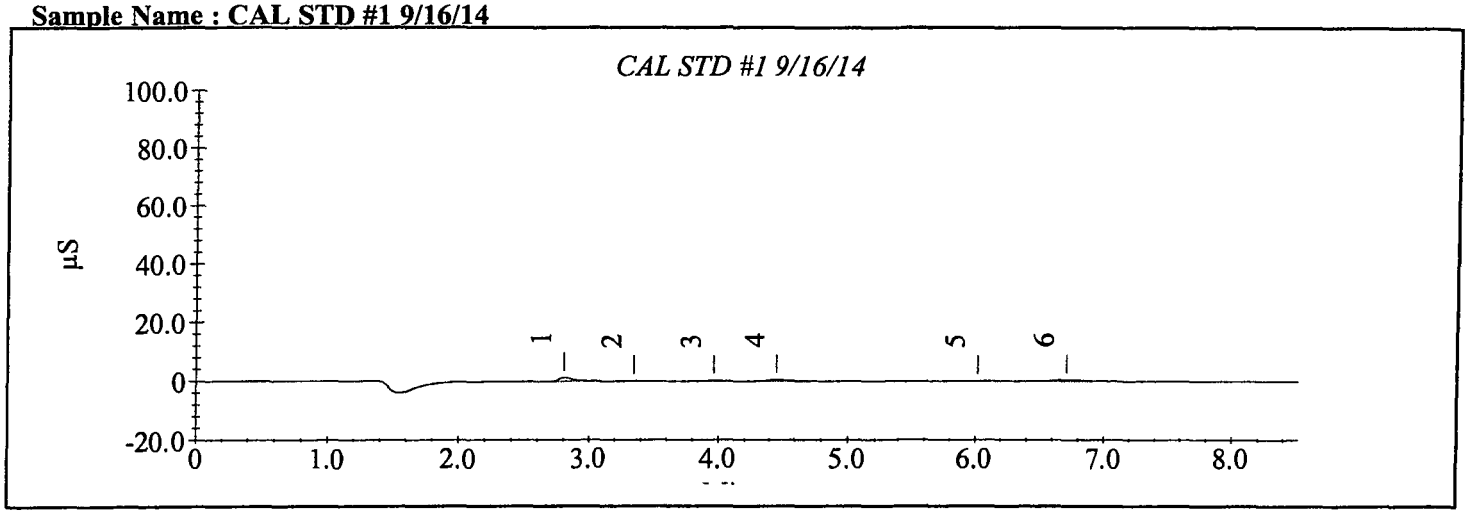
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	2.80	chloride	80668	105182	105182
2	3.35	nitrite-n	14520	9360	9360
3	3.96	bromide	17978	16482	16482
4	4.45	nitrate-n	38967	42537	42537
5	6.01	phosphate-p	17719	37336	37336
6	6.71	sulfate	39183	70554	70554

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	2.80	chloride	0.40	105182	12275	-
2	3.35	nitrite-n	0.04	9360	1262	-
3	3.96	bromide	0.20	16482	1928	-
4	4.45	nitrate-n	0.08	42537	4453	-
5	6.01	phosphate-p	0.08	37336	1580	-
6	6.71	sulfate	0.40	70554	4720	-

Sample Name : CAL STD #1 9/16/14



Calibration Update Report

Sample Name : CAL STD #2
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_013.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 13:12:31

Calibration Date : 9/16/14 13:23:26
System Operator : mm
Injection Number : 13

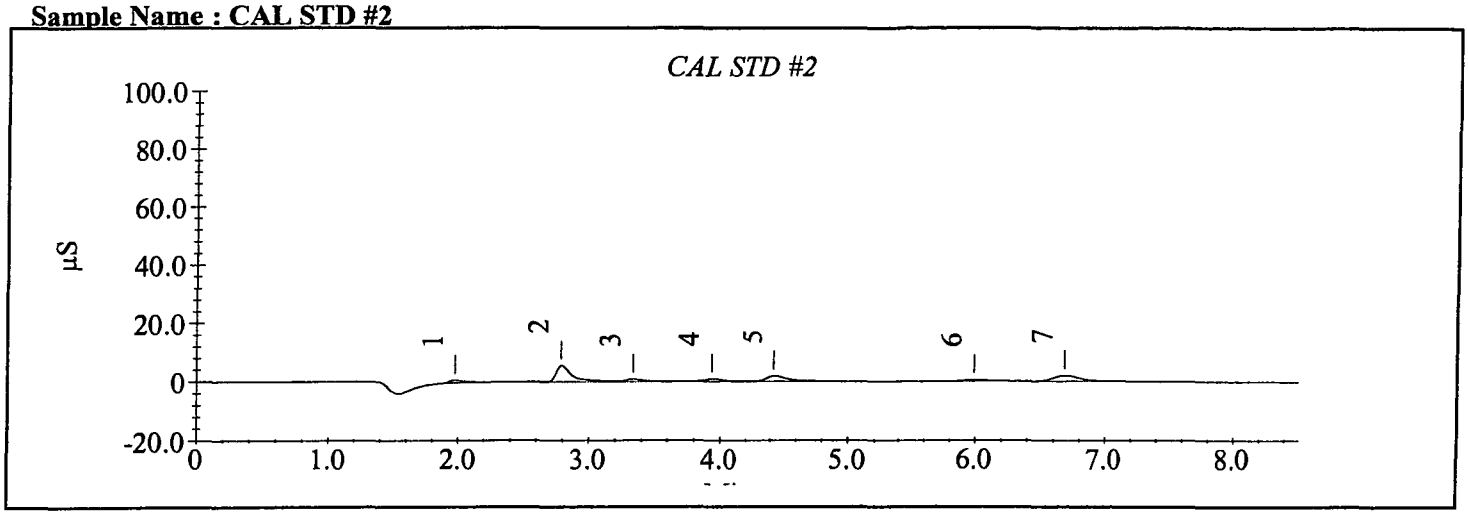
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.97	fluoride	59909	65241	65241
2	2.79	chloride	419030	469931	469931
3	3.33	nitrite-n	59671	82285	82285
4	3.93	bromide	89803	110811	110811
5	4.43	nitrate-n	201320	207637	207637
6	5.99	phosphate-p	67899	77961	77961
7	6.68	sulfate	264624	260443	260443

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.97	fluoride	0.10	65241	8911	
2	2.79	chloride	1.00	469931	54508	
3	3.33	nitrite-n	0.10	82285	7802	
4	3.93	bromide	0.50	110811	9252	
5	4.43	nitrate-n	0.20	207637	18419	
6	5.99	phosphate-p	0.20	77961	5299	
7	6.68	sulfate	1.00	260443	19470	

Sample Name : CAL STD #2



Calibration Update Report

Sample Name : CAL STD #3
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_014.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 13:23:49

Calibration Date : 9/16/14 13:34:44
System Operator : mm
Injection Number : 14

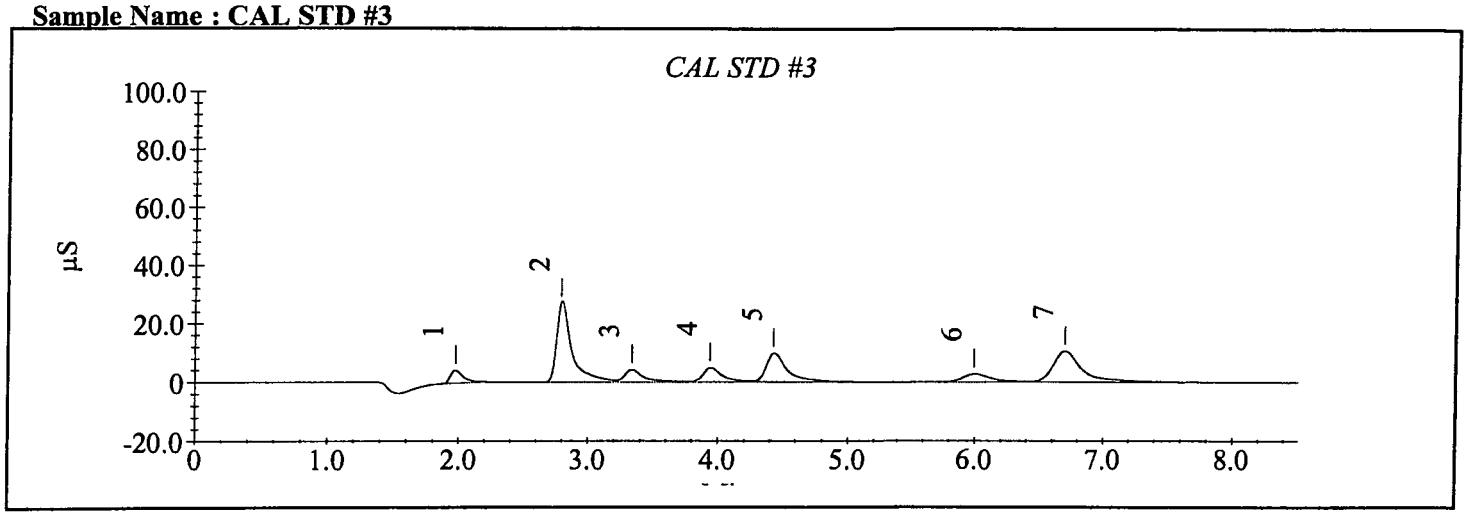
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.97	fluoride	309108	295885	295885
2	2.79	chloride	2276954	2266777	2266777
3	3.33	nitrite-n	436460	427557	427557
4	3.93	bromide	523251	530269	530269
5	4.43	nitrate-n	1108037	1096946	1096946
6	5.99	phosphate-p	384060	423665	423665
7	6.69	sulfate	1603379	1664932	1664932

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.97	fluoride	0.50	295885	42704	
2	2.79	chloride	5.00	2266777	269443	
3	3.33	nitrite-n	0.50	427557	41736	
4	3.93	bromide	2.50	530269	48100	
5	4.43	nitrate-n	1.00	1096946	96641	
6	5.99	phosphate-p	1.00	423665	27488	
7	6.69	sulfate	5.00	1664932	104763	

Sample Name : CAL STD #3



Calibration Update Report

Sample Name : CAL STD #4
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_015.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 13:35:06

Calibration Date : 9/16/14 13:46:01
System Operator : mm
Injection Number : 15

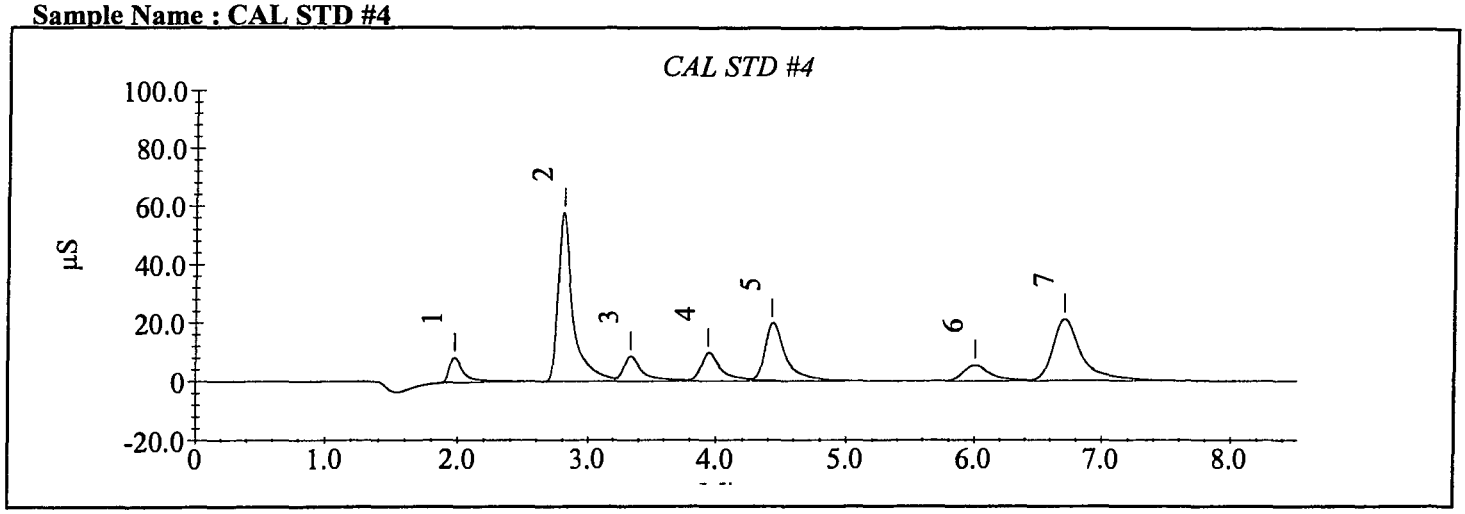
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.97	fluoride	607569	665048	665048
2	2.80	chloride	4779793	4620000	4620000
3	3.33	nitrite-n	906480	866241	866241
4	3.93	bromide	1053126	1040424	1040424
5	4.43	nitrate-n	2237044	2181530	2181530
6	6.00	phosphate-p	769425	767090	767090
7	6.71	sulfate	3360946	3268879	3268879

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.97	fluoride	1.00	665048	85001	
2	2.80	chloride	10.00	4620000	578025	
3	3.33	nitrite-n	1.00	866241	85227	
4	3.93	bromide	5.00	1040424	94837	
5	4.43	nitrate-n	2.00	2181530	194223	
6	6.00	phosphate-p	2.00	767090	53648	
7	6.71	sulfate	10.00	3268879	210711	

Sample Name : CAL STD #4



Calibration Update Report

Sample Name : CAL STD #5
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_016.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 13:46:24

Calibration Date : 9/16/14 13:57:19
System Operator : mm
Injection Number : 16

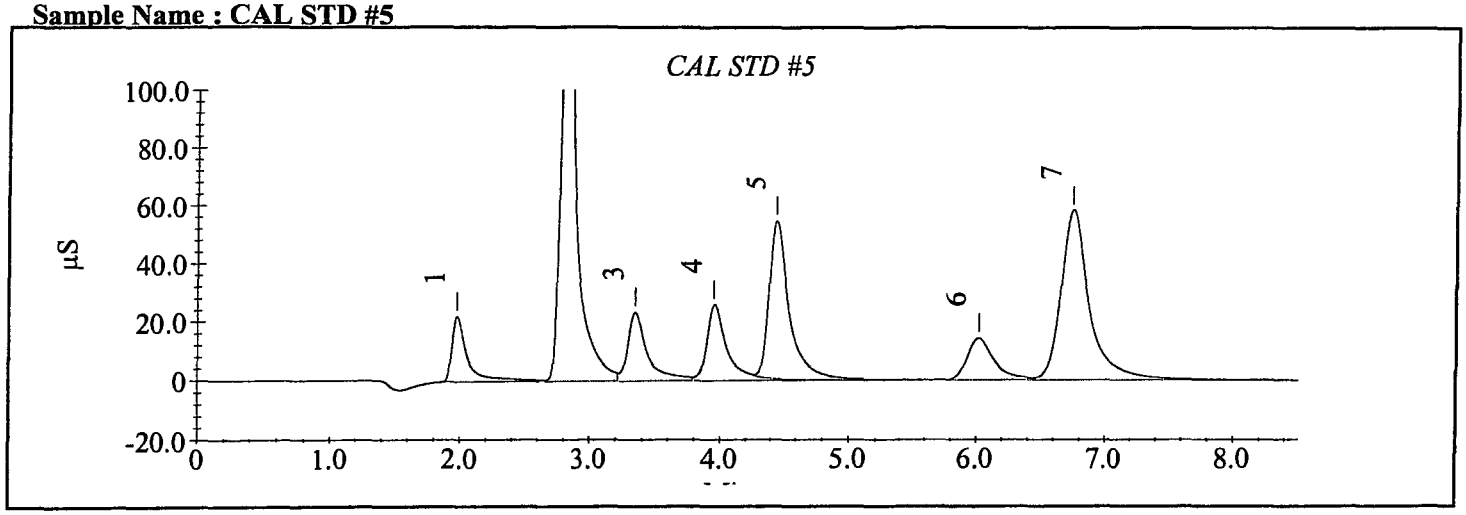
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.97	fluoride	1882150	1822387	1822387
2	2.80	chloride	13726063	13083991	13083991
3	3.35	nitrite-n	2428096	2398640	2398640
4	3.95	bromide	2795303	2811783	2811783
5	4.44	nitrate-n	6075372	5982651	5982651
6	6.01	phosphate-p	2015049	2009102	2009102
7	6.73	sulfate	9158418	8925097	8925097

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.97	fluoride	2.50	1822387	220513	
2	2.80	chloride	25.00	13083991	1634673	
3	3.35	nitrite-n	2.50	2398640	232992	
4	3.95	bromide	12.50	2811783	257207	
5	4.44	nitrate-n	5.00	5982651	539495	
6	6.01	phosphate-p	5.00	2009102	141469	
7	6.73	sulfate	25.00	8925097	579552	

Sample Name : CAL STD #5



Calibration Update Report

Sample Name : CAL STD #6
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_017.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 13:57:42

Calibration Date : 9/16/14 14:08:37
System Operator : mm
Injection Number : 17

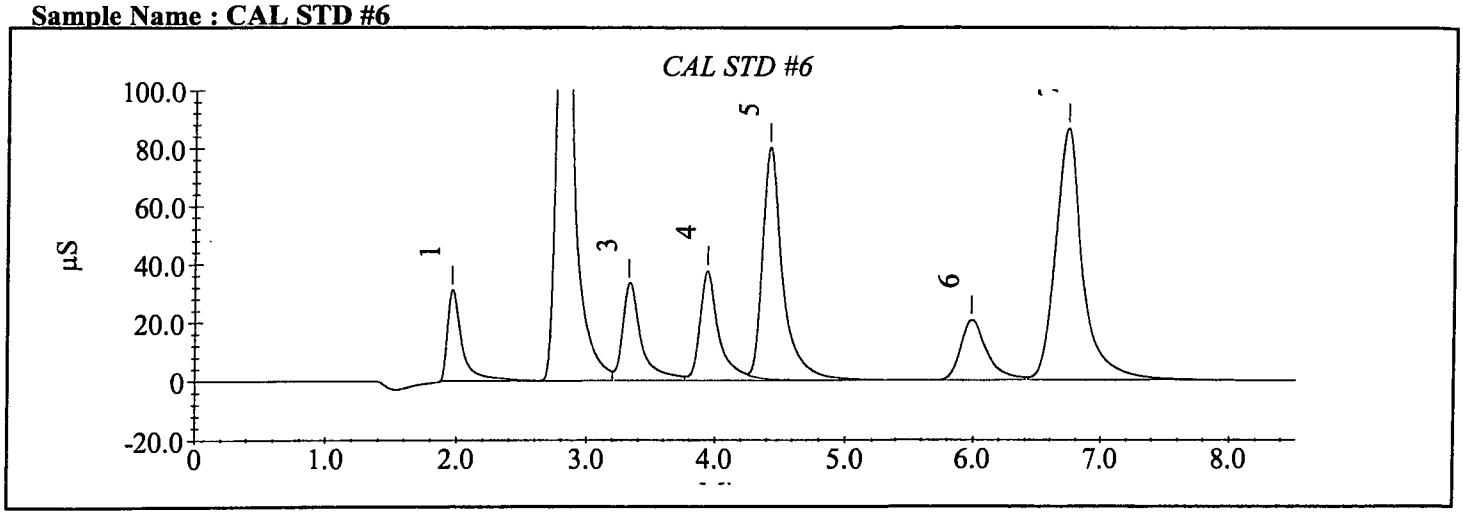
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.96	fluoride	2634975	2347305	2347305
2	2.80	chloride	20199844	19156003	19156003
3	3.32	nitrite-n	3487460	3309962	3309962
4	3.93	bromide	3964452	3853149	3853149
5	4.41	nitrate-n	8962096	8679959	8679959
6	5.97	phosphate-p	2892007	2861951	2861951
7	6.72	sulfate	13323218	12862977	12862977

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.96	fluoride	3.50	2347305	307863	
2	2.80	chloride	35.00	19156003	2543383	
3	3.32	nitrite-n	3.50	3309962	329466	
4	3.93	bromide	17.50	3853149	373363	
5	4.41	nitrate-n	7.00	8679959	793777	
6	5.97	phosphate-p	7.00	2861951	202999	
7	6.72	sulfate	35.00	12862977	864005	

Sample Name : CAL STD #6



Calibration Update Report

Sample Name : CAL STD #7
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_018.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 14:08:59

Calibration Date : 9/16/14 14:19:53
System Operator : mm
Injection Number : 18

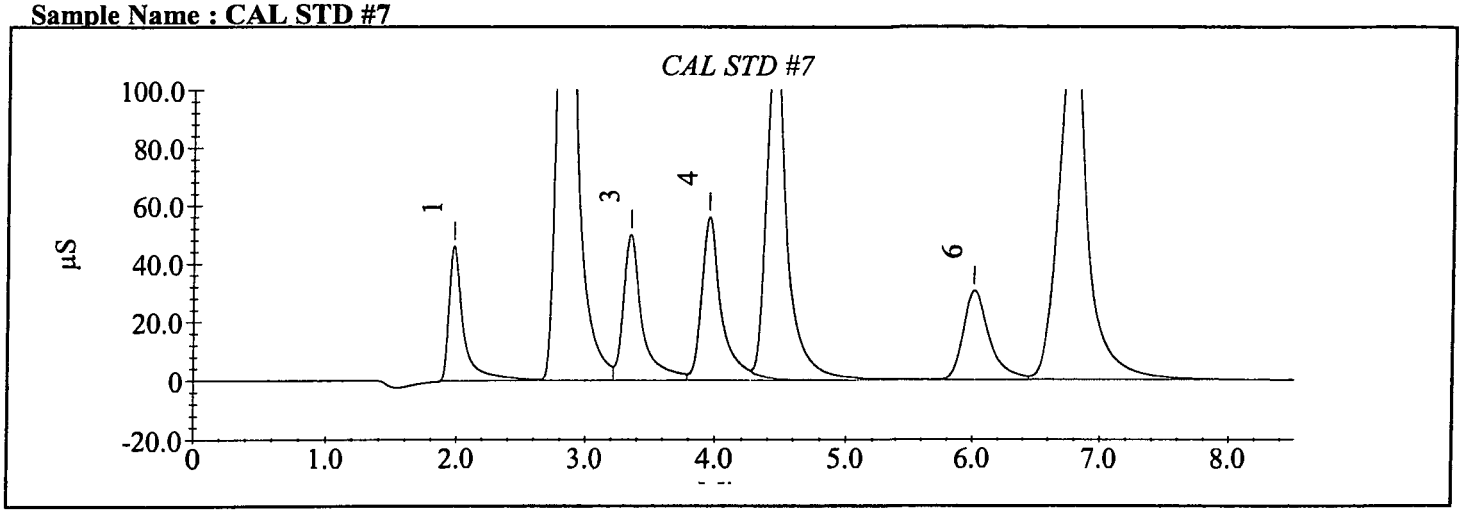
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.97	fluoride	3720726	3619418	3619418
2	2.81	chloride	29858639	29150289	29150289
3	3.35	nitrite-n	4999120	4979068	4979068
4	3.95	bromide	5710221	5758749	5758749
5	4.43	nitrate-n	13261972	13214288	13214288
6	6.00	phosphate-p	4245709	4282289	4282289
7	6.76	sulfate	19824829	19464399	19464399

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.97	fluoride	5.00	3619418	459676	
2	2.81	chloride	50.00	29150289	3850058	
3	3.35	nitrite-n	5.00	4979068	498763	
4	3.95	bromide	25.00	5758749	558971	
5	4.43	nitrate-n	10.00	13214288	1198703	
6	6.00	phosphate-p	10.00	4282289	303155	
7	6.76	sulfate	50.00	19464399	1318317	

Sample Name : CAL STD #7



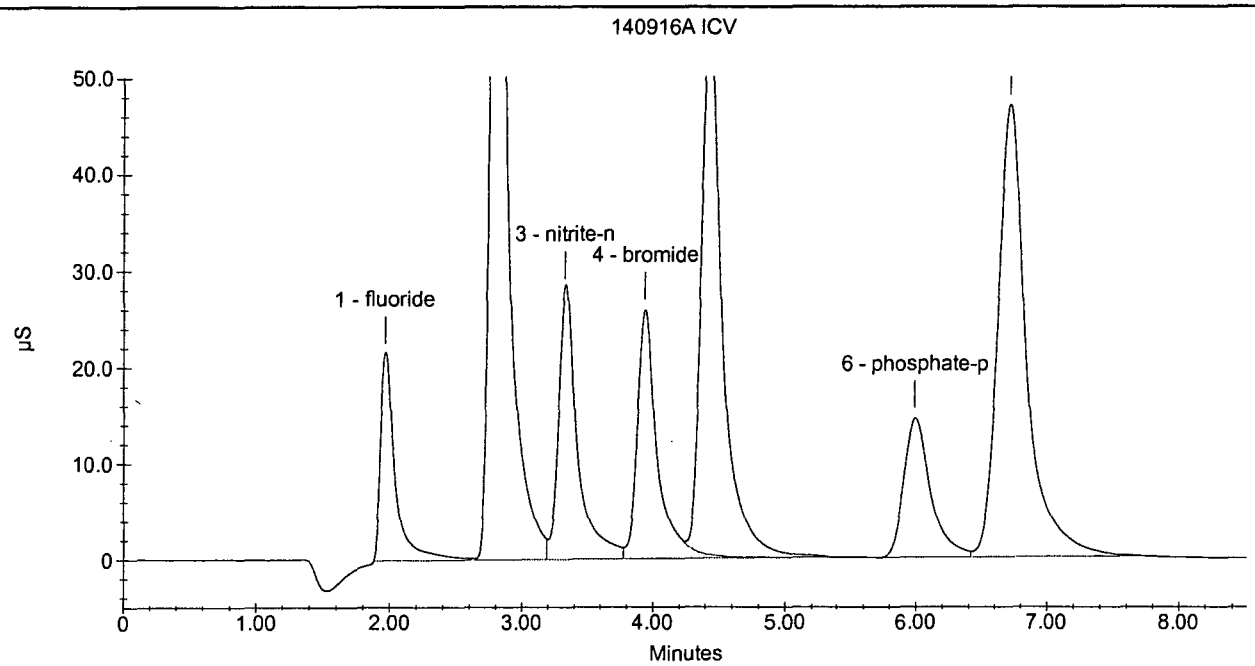
Sample Analysis Report

Sample Name : 140916A ICV
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_019.DXD

Method File Name : I:\DIONEX\D1ANIONS\METHODS\ANIONS 140916A.met
Date Time Collected : 9/16/14 14:20:16
System Operator : mm
Injection Number : 19
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height	Limit Exceed
1	1.96	fluoride	2.3941	1681572	214873	2.
2	2.79	chloride	18.9786	10371065	1320844	1
3	3.32	nitrite-n	2.9265	2837943	280321	2.
4	3.93	bromide	12.1534	2733797	258190	1
5	4.41	nitrate-n	4.8567	6121479	548928	4.
6	5.99	phosphate-p	4.9173	2047176	144494	4.
7	6.71	sulfate	19.3371	7141046	468012	1



APPL, Inc.

Current Date : 9/16/14
Current Time : 14:57:12

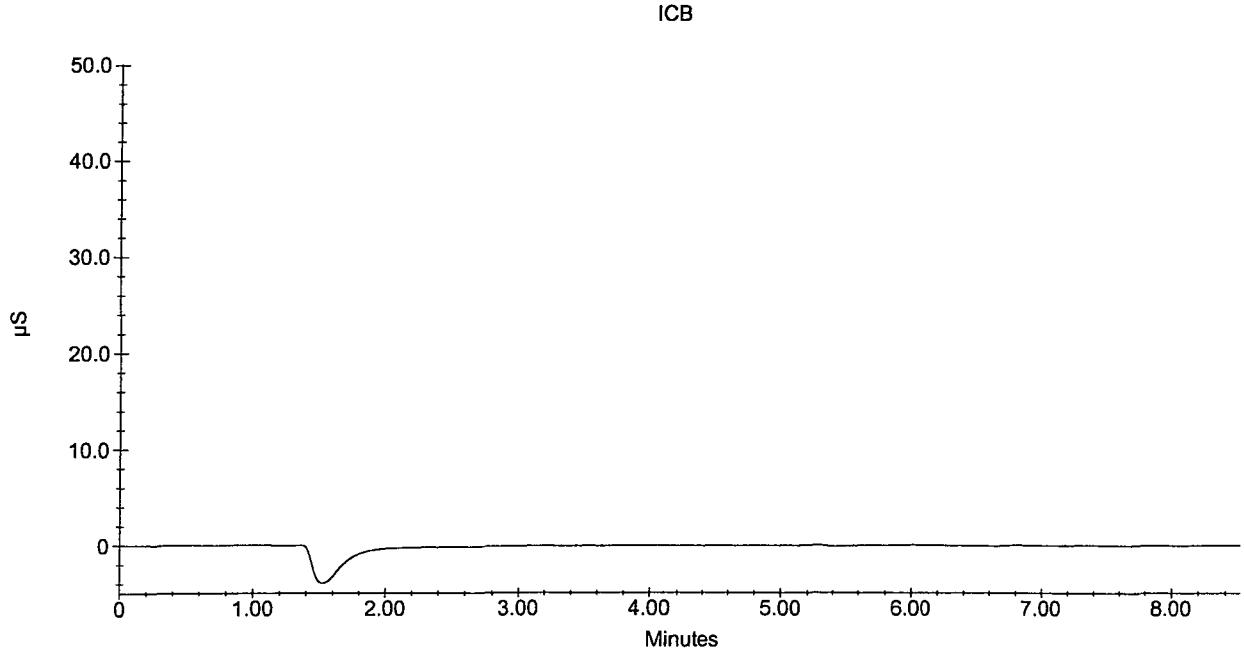
Sample Analysis Report

Sample Name : ICB
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916A_020.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 9/16/14 14:31:36
System Operator : mm
Injection Number : 20
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height	Limit Exceed



A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 74701 SDG: 74701

Initial Calibration Source: o2si

Continuing Calibration Source: o2si

Analysis Date: 10/28/14

Analyte	Calibration Verification									M
	True CCV1	Found 8:31	%R(1)	True CCV1	Found 13:00	%R(1)	True CCV1	Found 15:16	%R(1)	
chloride	25	24.0036	96.0	25	24.3981	97.6	25	24.4921	98.0	
sulfate	25	23.9146	95.7	25	24.2188	96.9	25	24.2098	96.8	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 74701 SDG: 74701

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 10/28/14 08:42	C	CCB 10/28/14 13:12	C	CCB 10/28/14 15:27	C	CCB 11/03/14 11:28	C	CCB 11/03/14 13:09	C	
chloride	1.000	U	1.000	U	1.000	U	1.000	U	1.0000	U	
sulfate	1.000	U	1.000	U	1.000	U	1.000	U	1.0000	U	

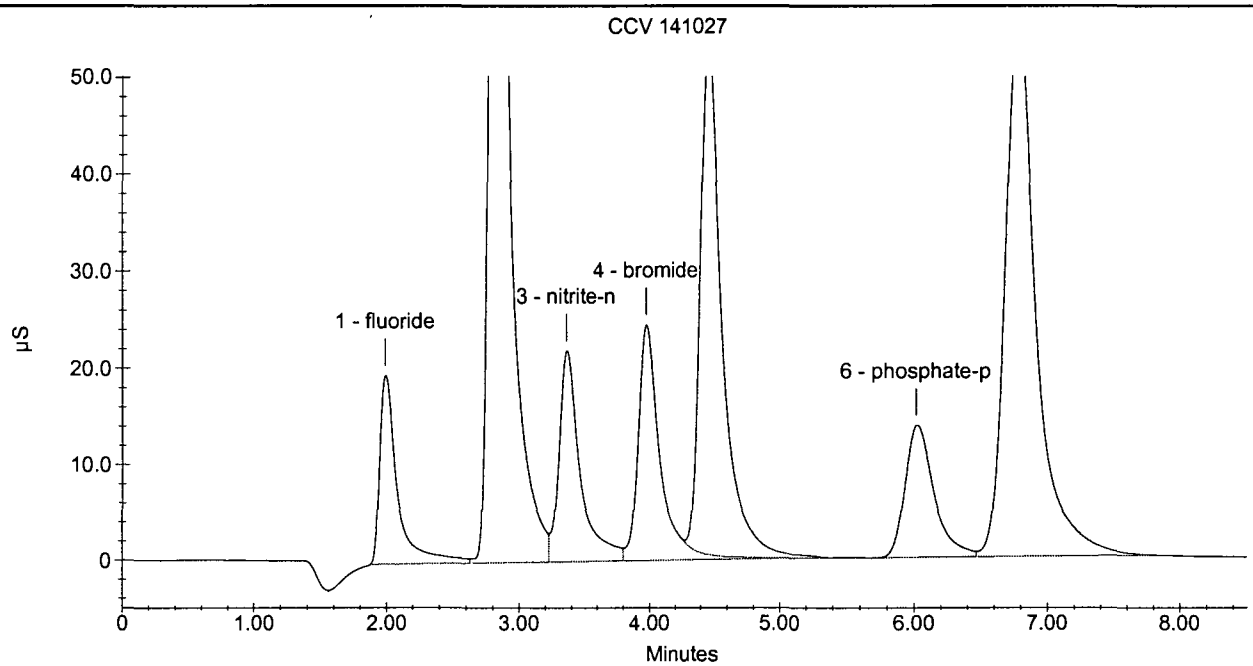
Sample Analysis Report

Sample Name : CCV 141027
Data File Name : I:\DIONEX\D1ANIONS\DATA\141028A\141028a_004.DXD

Method File Name : I:\DIONEX\D1ANIONS\METHODS\ANIONS 140916A.met
Date Time Collected : 10/28/14 08:31:36
System Operator : mm
Injection Number : 4
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.99	fluoride	2.6397	1858917	195407
2	2.83	chloride	24.0036	13288988	1538580
3	3.36	nitrite-n	2.5633	2477148	218546
4	3.97	bromide	12.6555	2848909	244044
5	4.45	nitrate-n	4.9029	6182165	524666
6	6.01	phosphate-p	4.9166	2046869	136957
7	6.77	sulfate	23.9146	8913921	561264



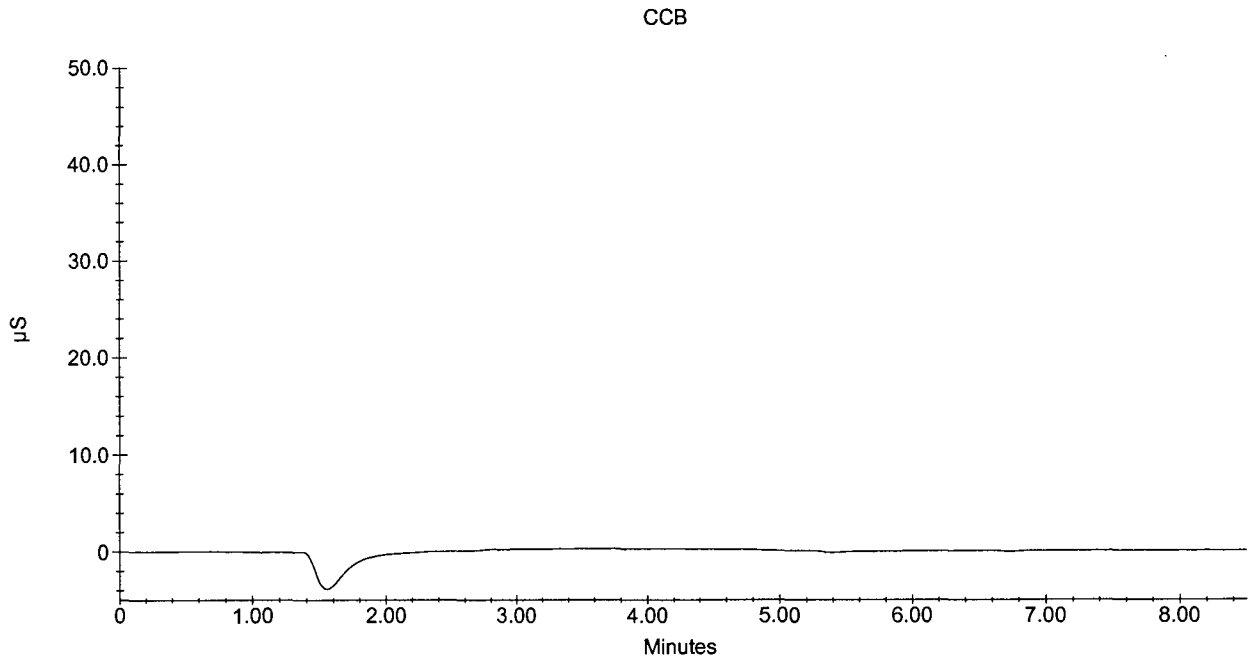
Sample Analysis Report

Sample Name : CCB
Data File Name : I:\DIONEX\D1ANIONS\DATA\141028A\141028a_005.DXD

Method File Name : I:\DIONEX\D1ANIONS\METHODS\ANIONS 140916A.met
Date Time Collected : 10/28/14 08:42:51
System Operator : mm
Injection Number : 5
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height



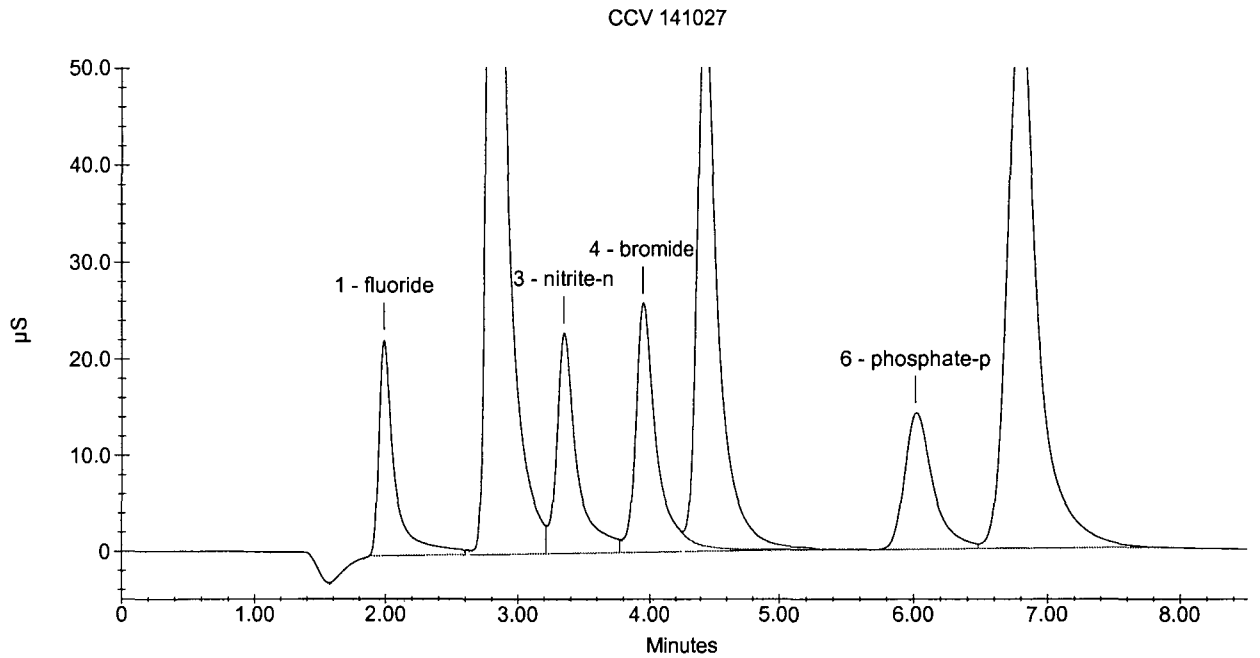
Sample Analysis Report

Sample Name : CCV 141027
Data File Name : I:\DIONEX\D1ANIONS\DATA\141028A\141028a_016.DXD

Method File Name : I:\DIONEX\D1ANIONS\METHODS\ANIONS 140916A.met
Date Time Collected : 10/28/14 13:00:49
System Operator : mm
Injection Number : 16
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.99	fluoride	2.6609	1874193	223559
2	2.81	chloride	24.3982	13518086	1692234
3	3.35	nitrite-n	2.5231	2437219	228025
4	3.95	bromide	12.8906	2902818	257561
5	4.43	nitrate-n	4.9685	6268301	551233
6	6.01	phosphate-p	4.9987	2081628	141337
7	6.79	sulfate	24.2189	9031756	577533



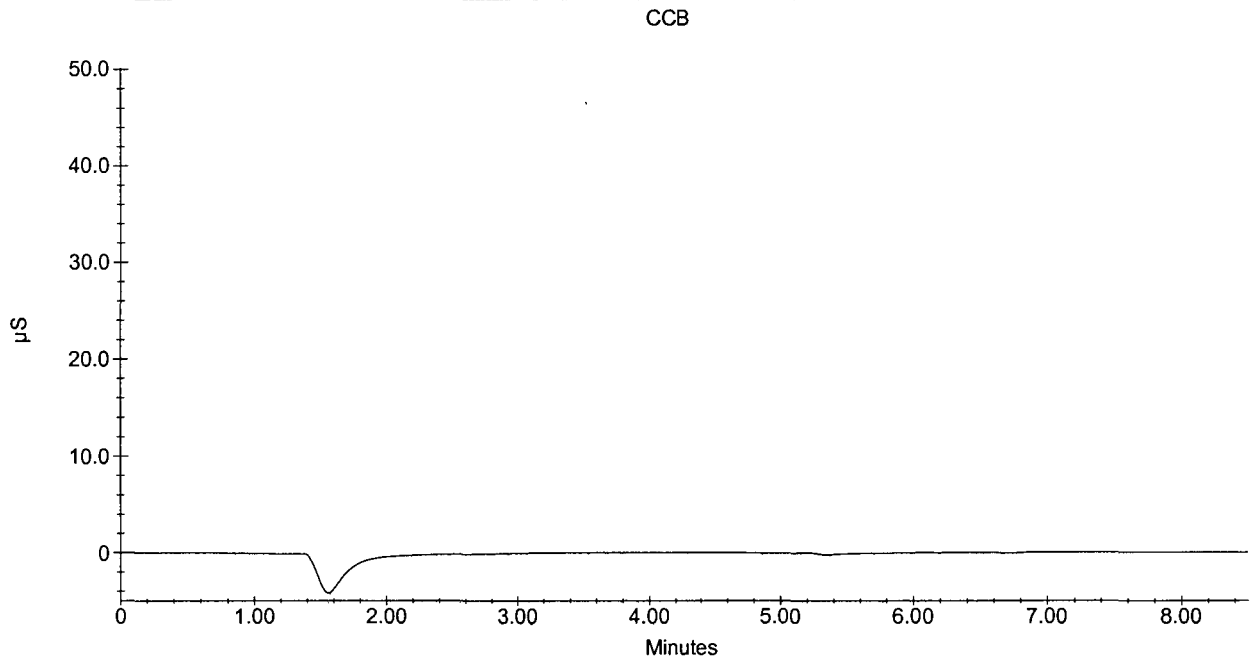
Sample Analysis Report

Sample Name : CCB
Data File Name : I:\DIONEX\D1ANIONS\DATA\141028A\141028a_017.DXD

Method File Name : I:\DIONEX\D1ANIONS\METHODS\ANIONS 140916A.met
Date Time Collected : 10/28/14 13:12:10
System Operator : mm
Injection Number : 17
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height



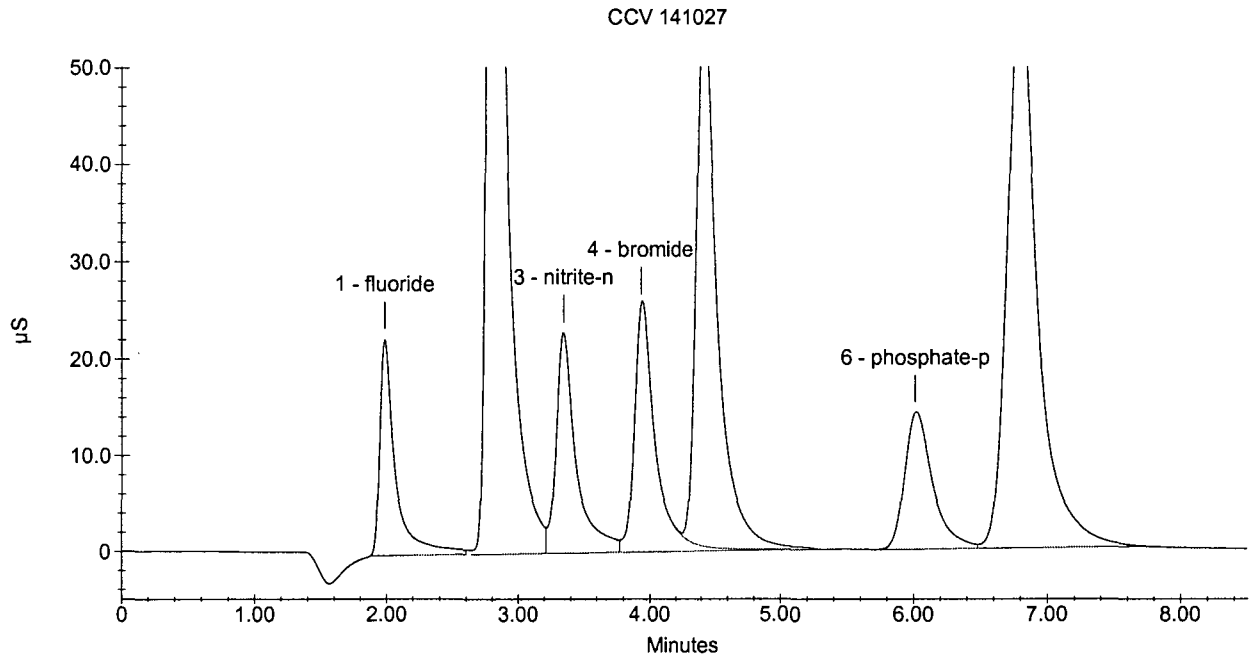
Sample Analysis Report

Sample Name : CCV 141027
Data File Name : I:\DIONEX\D1ANIONS\DATA\141028A\141028a_028.DXD

Method File Name : I:\DIONEX\D1ANIONS\METHODS\ANIONS 140916A.met
Date Time Collected : 10/28/14 15:16:17
System Operator : mm
Injection Number : 28
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.99	fluoride	2.6635	1876098	224357
2	2.81	chloride	24.4922	13572675	1711571
3	3.35	nitrite-n	2.5101	2424369	228868
4	3.93	bromide	12.7821	2877932	256037
5	4.41	nitrate-n	4.9818	6285730	550210
6	6.01	phosphate-p	4.9954	2080261	142138
7	6.80	sulfate	24.2099	9028274	583790



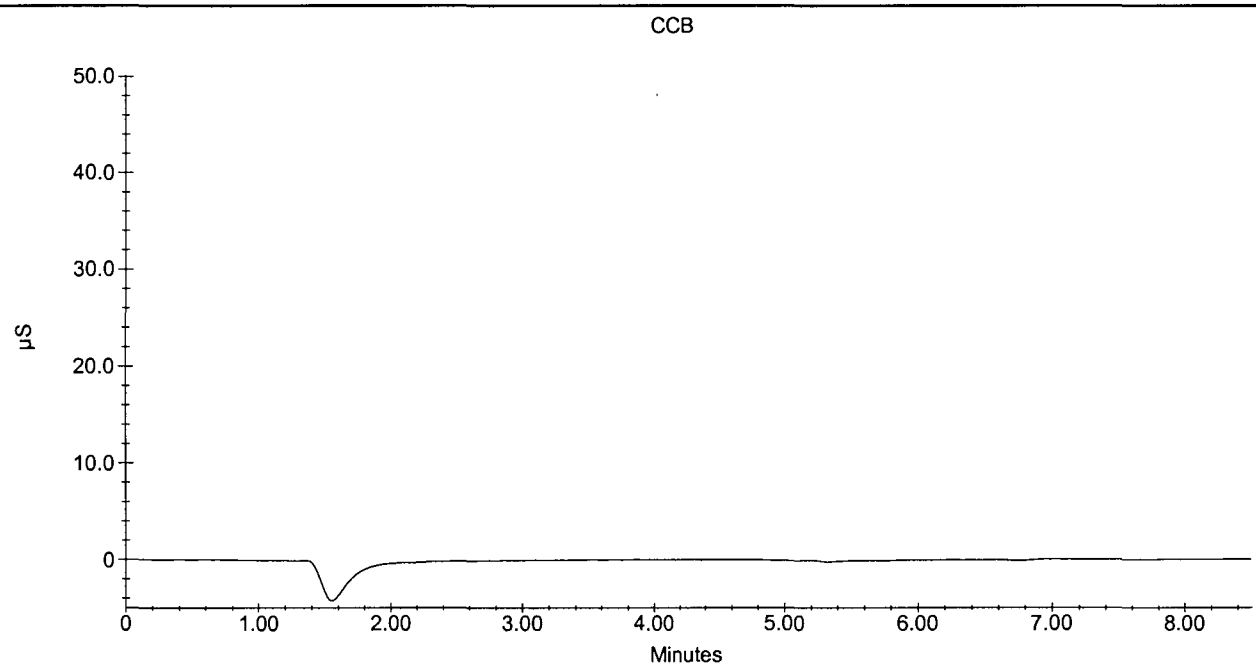
Sample Analysis Report

Sample Name : CCB
Data File Name : I:\DIONEX\D1ANIONS\DATA\141028A\141028a_029.DXD

Method File Name : I:\DIONEX\D1ANIONS\METHODS\ANIONS 140916A.met
Date Time Collected : 10/28/14 15:27:33
System Operator : mm
Injection Number : 29
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height



A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 74701 SDG: 74701

Initial Calibration Source: o2si

Continuing Calibration Source: o2si

Analysis Date: 11/03/14

Analyte	Calibration Verification									M
	True CCV1	Found 11:16	%R(1)	True CCV1	Found 12:57	%R(1)	True	Found	%R(1)	
chloride	25	24.1999	96.8	25	23.9868	95.9				

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 74701 SDG: 74701

Initial Calibration Source: o2si

Continuing Calibration Source: o2si

Analysis Date: 11/03/14

Analyte	Calibration Verification									M
	True CCV1	Found 12:57	%R(1)	True CCV1	Found 15:12	%R(1)	True	Found	%R(1)	
chloride	25	23.9868	95.9	25	24.1209	96.5				
sulfate	25	24.1294	96.5	25	24.2047	96.8				

(1) Control Limits: 90-110

ILM02.0

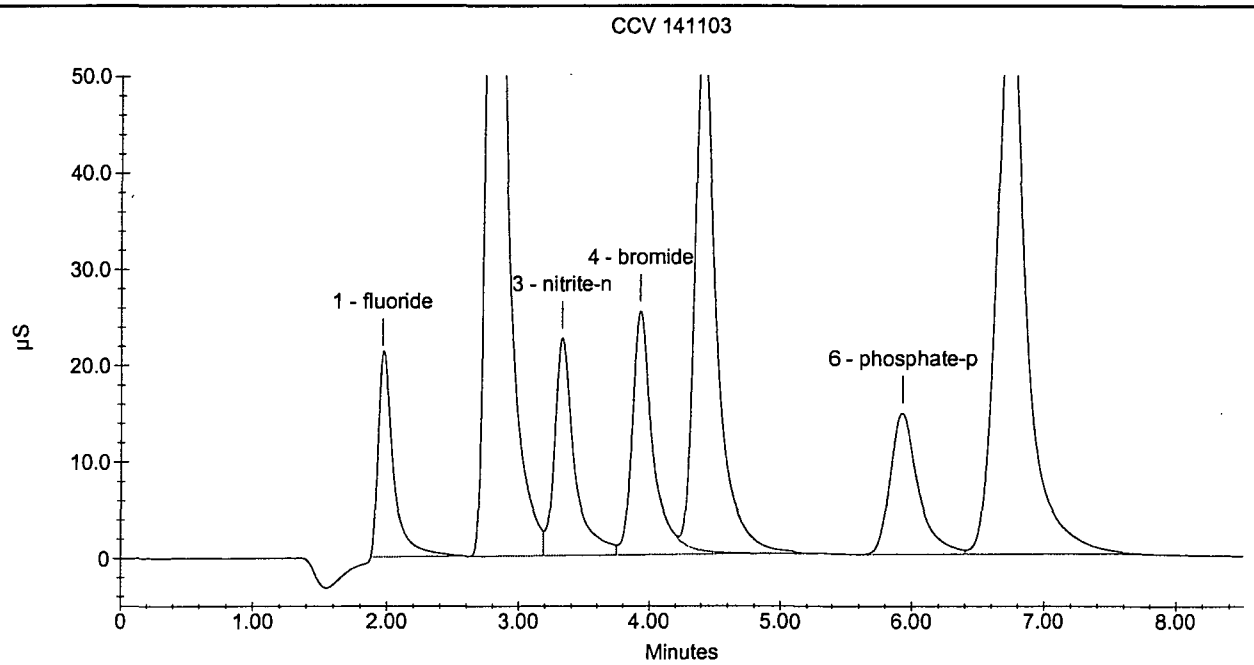
Sample Analysis Report

Sample Name : CCV 141103
Data File Name : I:\DIONEX\D1ANIONS\DATA\141103A\141103a_017.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 11/3/14 11:16:53
System Operator : mm
Injection Number : 17
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.96	fluoride	2.4047	1689189	207997
2	2.79	chloride	24.1999	13402977	1630473
3	3.32	nitrite-n	2.4375	2352199	224604
4	3.92	bromide	12.2322	2751851	251907
5	4.40	nitrate-n	4.9187	6202798	547099
6	5.92	phosphate-p	5.1484	2145034	145996
7	6.72	sulfate	24.4484	9120650	585340



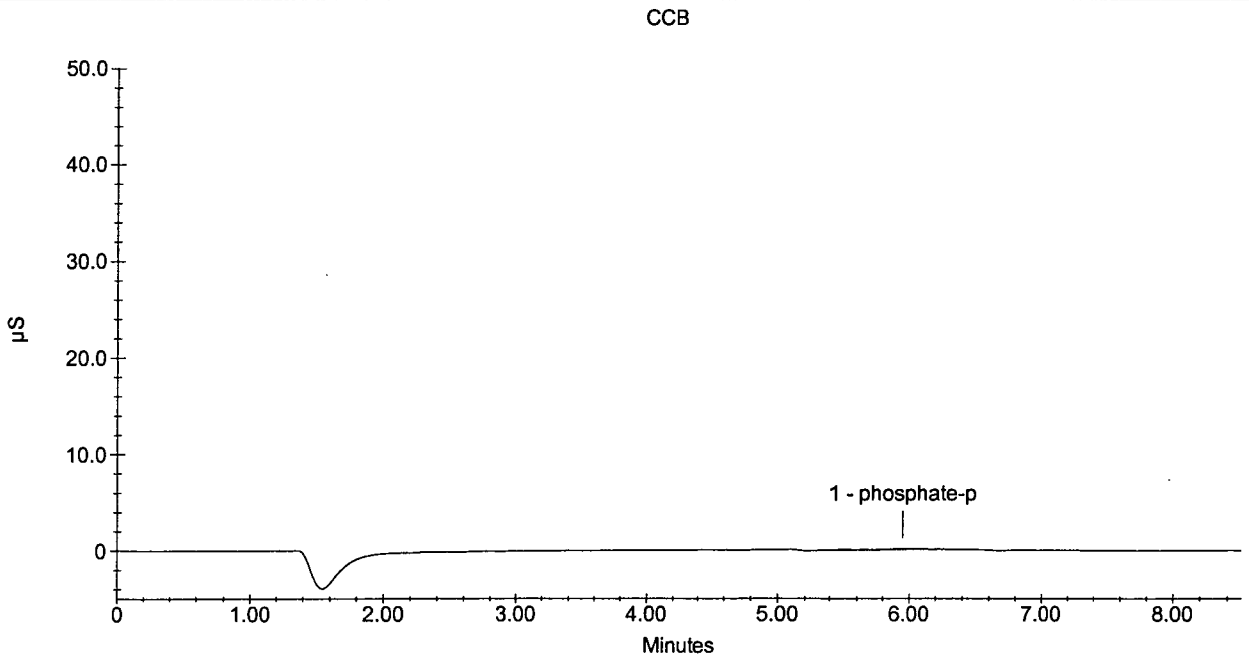
Sample Analysis Report

Sample Name : CCB
Data File Name : I:\DIONEX\D1ANIONS\DATA\141103A\141103a_018.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 11/3/14 11:28:13
System Operator : mm
Injection Number : 18
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	5.95	phosphate-p	0.1776	40151	1337



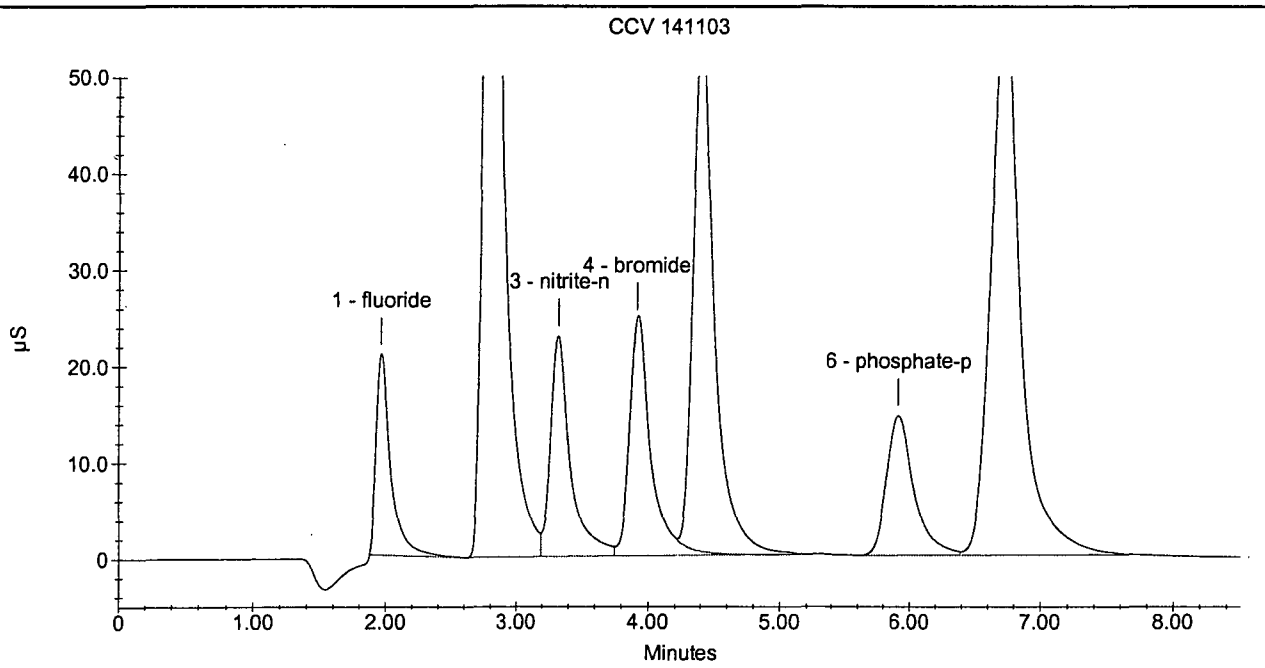
Sample Analysis Report

Sample Name : CCV 141103
Data File Name : I:\DIONEX\D1ANIONS\DATA\141103A\141103a_026.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 11/3/14 12:57:59
System Operator : mm
Injection Number : 26
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.96	fluoride	2.3096	1620566	207338
2	2.79	chloride	23.9868	13279238	1628597
3	3.32	nitrite-n	2.4714	2385900	228266
4	3.91	bromide	12.1100	2723833	244200
5	4.39	nitrate-n	4.8519	6115136	536786
6	5.91	phosphate-p	5.1049	2126602	144819
7	6.71	sulfate	24.1295	8997130	580360



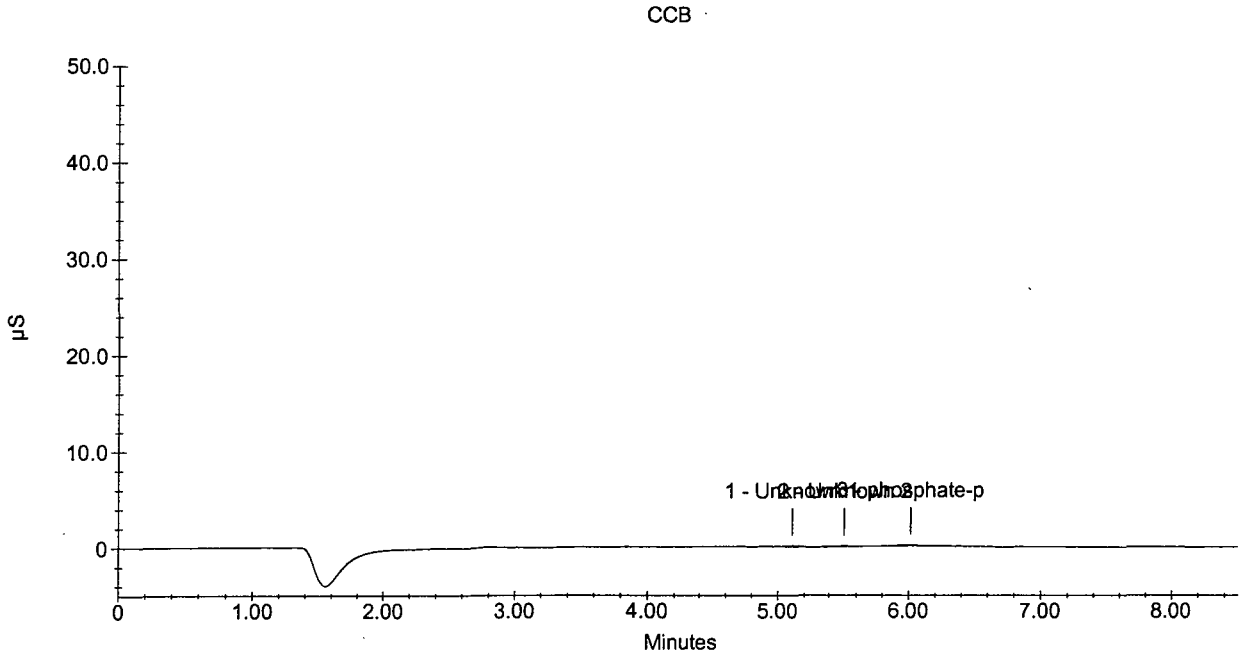
Sample Analysis Report

Sample Name : CCB
Data File Name : I:\DIONEX\D1ANIONS\DATA\141103A\141103a_027.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 11/3/14 13:09:15
System Operator : mm
Injection Number : 27
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	5.11	Unknown 1	0.0000	11136	1235
2	5.51	Unknown 2	0.0000	11151	764
3	6.01	phosphate-p	0.1119	12337	889



INORGANICS

Raw Data

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
SM 2320B	TOTAL ALKALINITY	1.70 U	2.0	1.70	0.85	mg/L	11/03/14	11/03/14	#232W-A141103-AZ05593
EPA 353.2	NITRATE-NITRITE-N	0.100 U	0.10	0.100	0.028	mg/L	11/05/14	11/05/14	#35OF-141105A-AZ05593
EPA 9056	SULFATE	0.198 U	1.00	0.198	0.090	mg/L	10/28/14	10/28/14	#9056D-141028A-AZ05593
EPA 9056	CHLORIDE	0.200 U	1.00	0.200	0.080	mg/L	11/03/14	11/03/14	#9056D-141103A-AZ05593

Wetlab SC-Blank-REG MDLs
Printed: 11/07/14 9:12:31 AM

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 9056	CHLORIDE	20.0	19.2	96.0	80-120	11/03/14	11/03/14	#9056D-141103A-AZ05593
EPA 9056	SULFATE	20.0	19.2	96.0	80-120	10/28/14	10/28/14	#9056D-141028A-AZ05593

Comments: _____

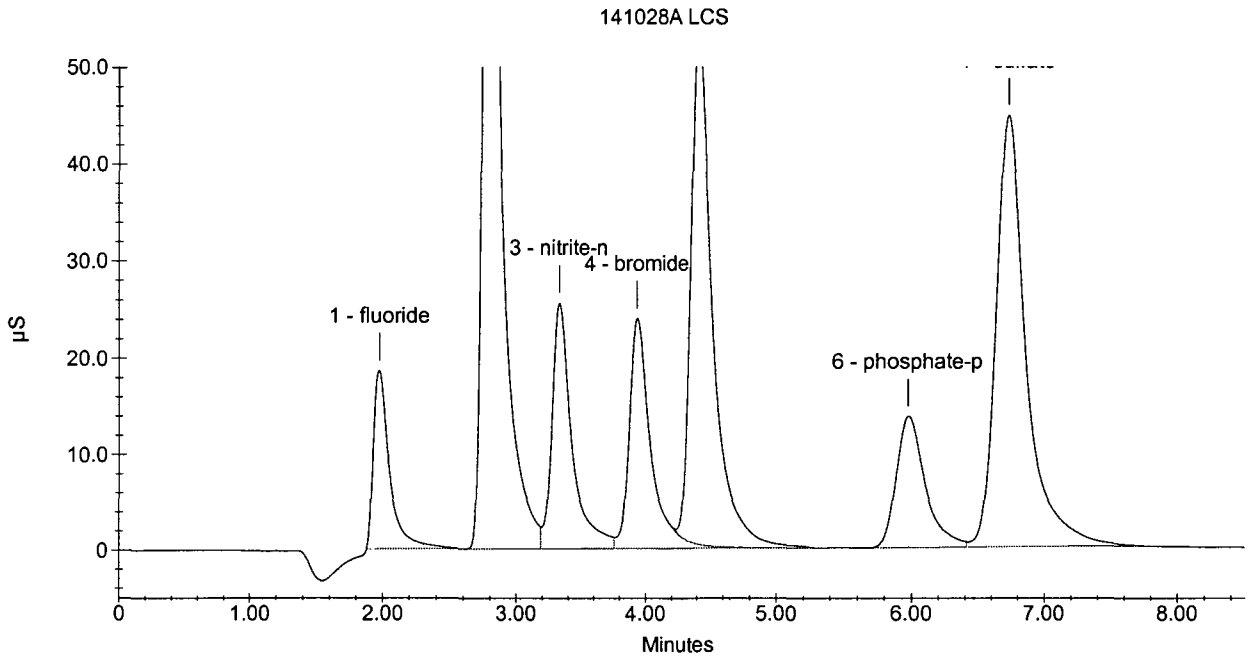
Sample Analysis Report

Sample Name : 141028A LCS
Data File Name : I:\DIONEX\D1ANIONS\DATA\141028A\141028a_006.DXD

Method File Name : I:\DIONEX\D1ANIONS\METHODS\ANIONS 140916A.met
Date Time Collected : 10/28/14 08:53:56
System Operator : mm
Injection Number : 6
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.97	fluoride	2.2437	1572986	185228
2	2.79	chloride	18.6847	10200450	1151390
3	3.33	nitrite-n	2.8230	2735135	254483
4	3.93	bromide	12.0121	2701399	238047
5	4.41	nitrate-n	4.8871	6161399	526895
6	5.97	phosphate-p	4.8857	2033782	136672
7	6.73	sulfate	19.2144 ✓	7093538	445910



Algorithm check 11-7-14
504

$(2.582 \times 10^{-6} \times 7093538) + 0.899 = 19.2$

APPL, Inc.

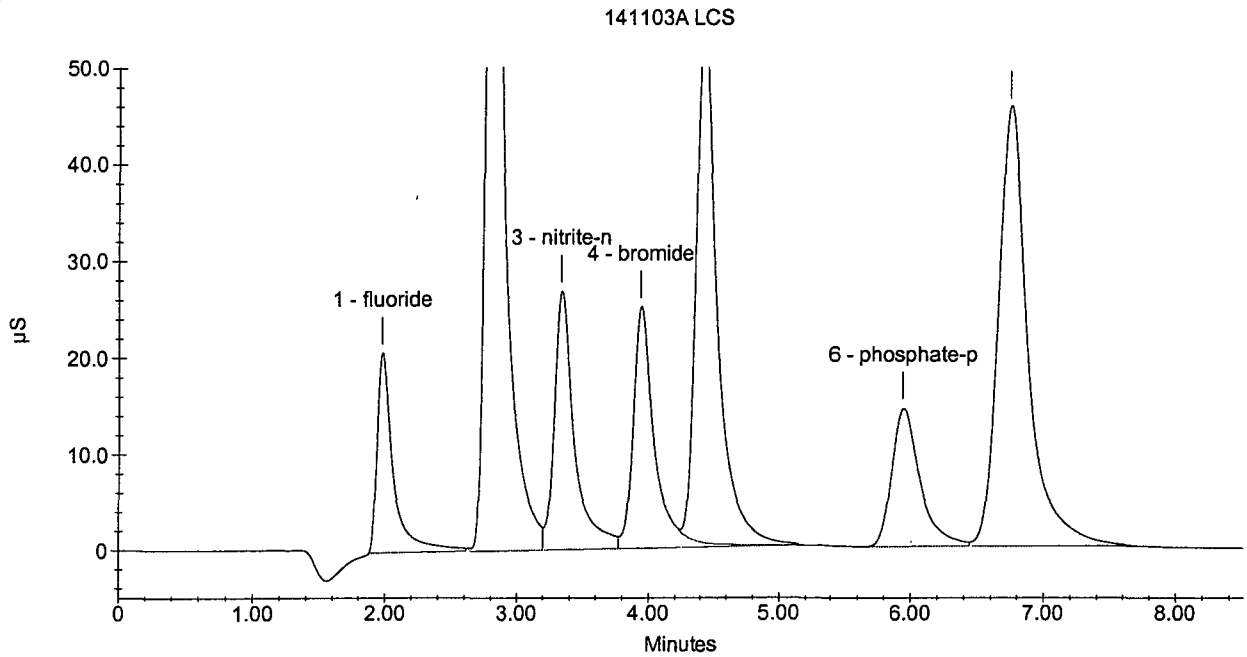
Sample Analysis Report

Sample Name : 141103A LCS
Data File Name : I:\DIONEX\D1ANIONS\DATA\141103A\141103a_019.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 11/3/14 11:39:18
System Operator : mm
Injection Number : 19
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.97	fluoride	2.5138	1768010	206027
2	2.80	chloride	19.2477 ✓	10527337	1267380
3	3.33	nitrite-n	2.8913	2802993	266696
4	3.93	bromide	12.4401	2799531	248946
5	4.41	nitrate-n	4.9124	6194517	543933
6	5.93	phosphate-p	5.1148	2130793	142881
7	6.73	sulfate	19.4147	7171097	453184



algorithm check Cl 105 11·7·14

$(1.722 \times 10^{-6} \times \frac{10527337}{7171097}) + 1.118 = 19.2$

105 11·7·14

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 353.2	NITRATE-NITRITE-N	5.00	4.83	4.76	96.6	95.2	1.5	20	90-110	11/05/14	11/05/14	11/05/14	11/05/14	#35OF-141105A-AZ05593
SM 2320B	TOTAL ALKALINITY AS CA	250	253	254	101	102	0.39	20	90-110	11/03/14	11/03/14	11/03/14	11/03/14	#232W-A141103-AZ05593

Comments: _____

Matrix Spike Recoveries

WETLAB

APPL ID: **141105W-05593 MS - 191558**

Sample ID: AZ05593

Client ID: RHMW06-GW-01

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	Matrix Res mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 353.2	NITRATE-NITRITE-N	5.00	0.53	5.65	5.57	102	101	1.4	20	90-110	11/05/14	11/05/14	11/05/14	11/05/14	191558	AZ05593
EPA 9056	CHLORIDE	200	319	544	538	113	110	1.1	10	80-120	11/03/14	11/03/14	11/03/14	11/03/14	191547	AZ05593
EPA 9056	SULFATE	40	66.6	109	108	106	104	0.92	10	80-120	10/28/14	10/28/14	10/28/14	10/28/14	191430	AZ05593
SM 2320B	TOTAL ALKALINITY AS	250	118	378	378	104	104	0.0	20	90-110	11/03/14	11/03/14	11/03/14	11/03/14	191492	AZ05593

Comments: _____

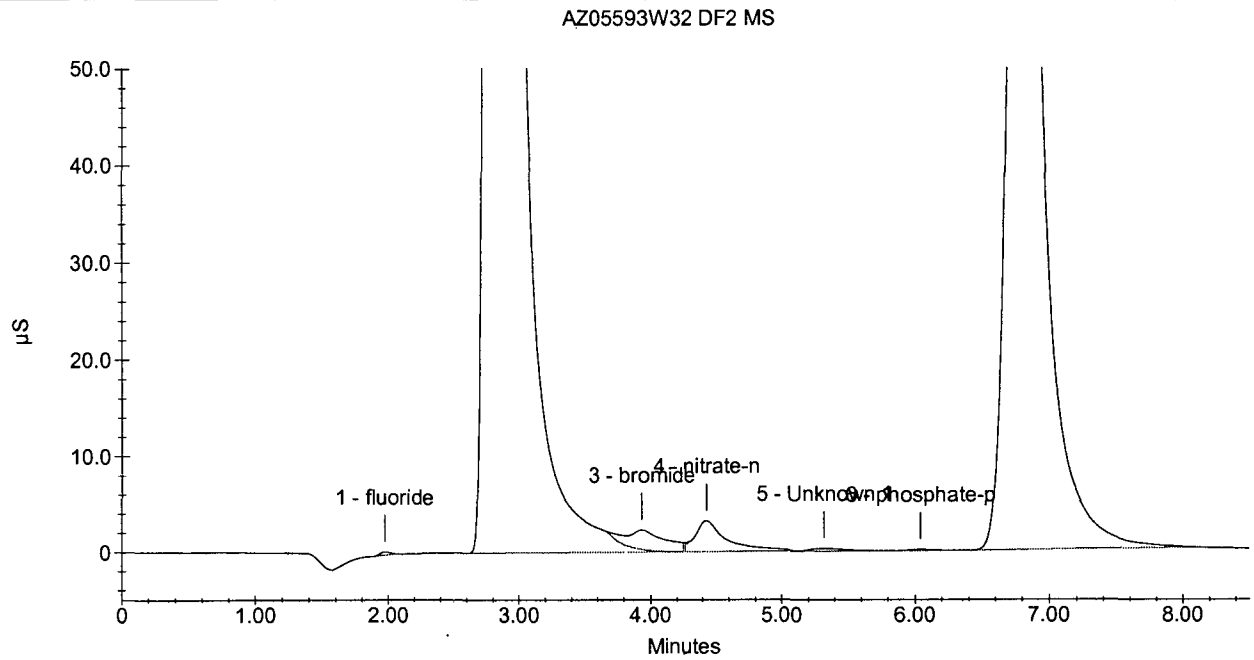
Sample Analysis Report

Sample Name : AZ05593W32 DF2 MS
Data File Name : I:\DIONEX\D1ANIONS\DATA\141028A\141028a_015.DXD

Method File Name : I:\DIONEX\D1ANIONS\METHODS\ANIONS 140916A.met
Date Time Collected : 10/28/14 12:49:30
System Operator : mm
Injection Number : 15
Multiplier : 2.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.97	fluoride	0.1781	17215	3323
2	2.85	chloride	344.9249	99495002	12169739
3	3.93	bromide	3.6371	364377	20179
4	4.43	nitrate-n	1.2084	538233	32152
5	5.32	Unknown 1	0.0000	52000	2852
6	6.04	phosphate-p	0.2355	14797	1310
7	6.81	sulfate	109.3283	20823154	1407462



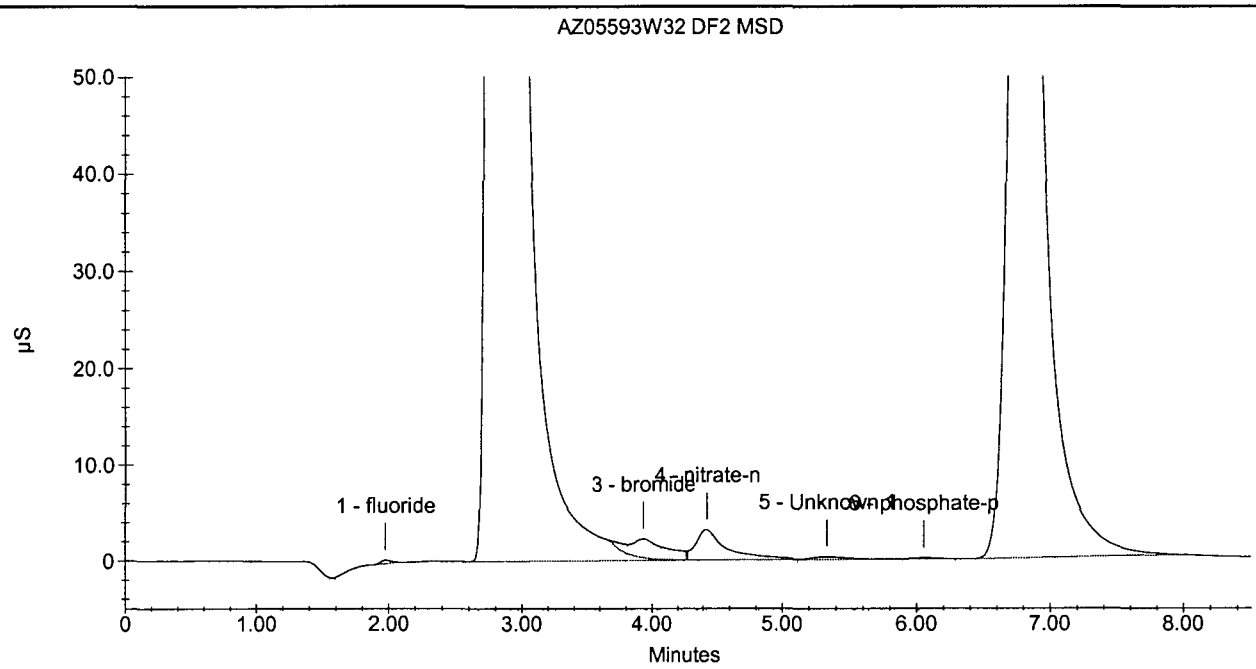
Sample Analysis Report

Sample Name : AZ05593W32 DF2 MSD
Data File Name : I:\DIONEX\D1ANIONS\DATA\141028A\141028a_018.DXD

Method File Name : I:\DIONEX\D1ANIONS\METHODS\ANIONS 140916A.met
Date Time Collected : 10/28/14 13:23:18
System Operator : mm
Injection Number : 18
Multiplier : 2.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.97	fluoride	0.1858	20006	3679
2	2.85	chloride	344.6448	99413661	12152240
3	3.93	bromide	3.6193	362337	19727
4	4.43	nitrate-n	1.1702	513151	31485
5	5.33	Unknown 1	0.0000	49448	2765
6	6.05	phosphate-p	0.2556	19043	1447
7	6.81	sulfate	107.8742	20541565	1392746



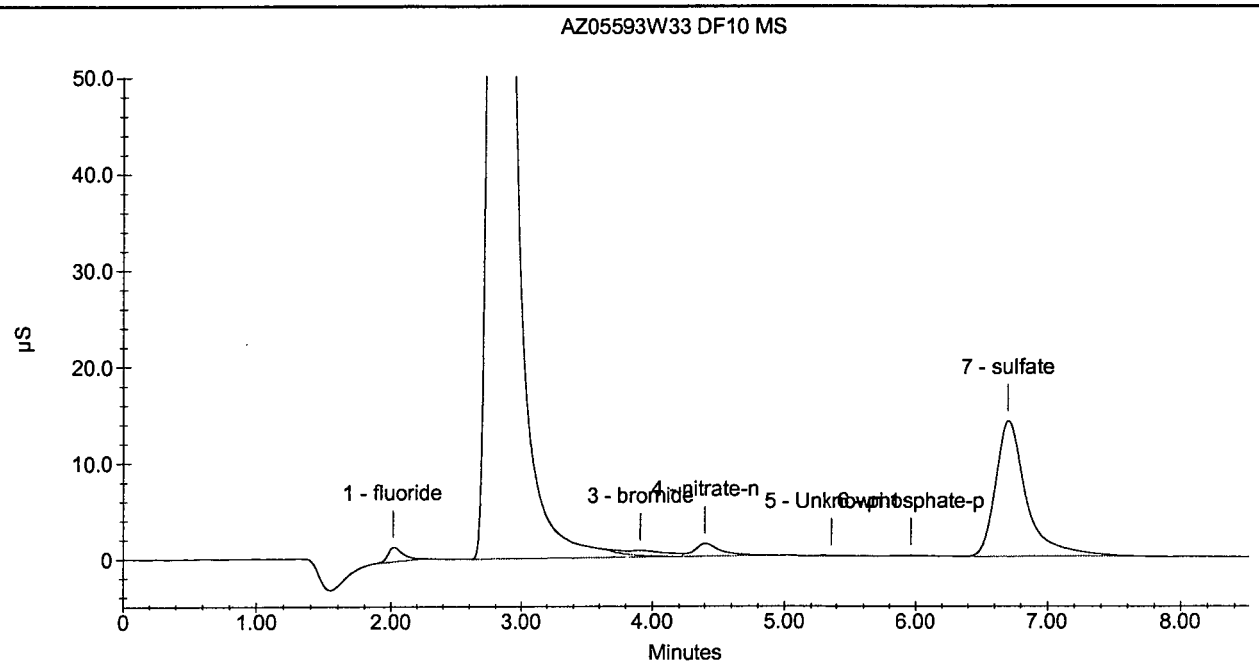
Sample Analysis Report

Sample Name : AZ05593W33 DF10 MS
Data File Name : I:\DIONEX\D1ANIONS\DATA\141103A\141103a_024.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 11/3/14 12:35:25
System Operator : mm
Injection Number : 24
Multiplier : 10.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	2.01	fluoride	2.3202	120452	14889
2	2.80	chloride	544.1938	30950588	3815078
3	3.91	bromide	6.6209	99241	5384
4	4.40	nitrate-n	3.2943	177490	13153
5	5.36	Unknown 1	0.0000	14059	714
6	5.96	phosphate-p	1.0073	7590	651
7	6.69	sulfate	67.4114	2262656	140072



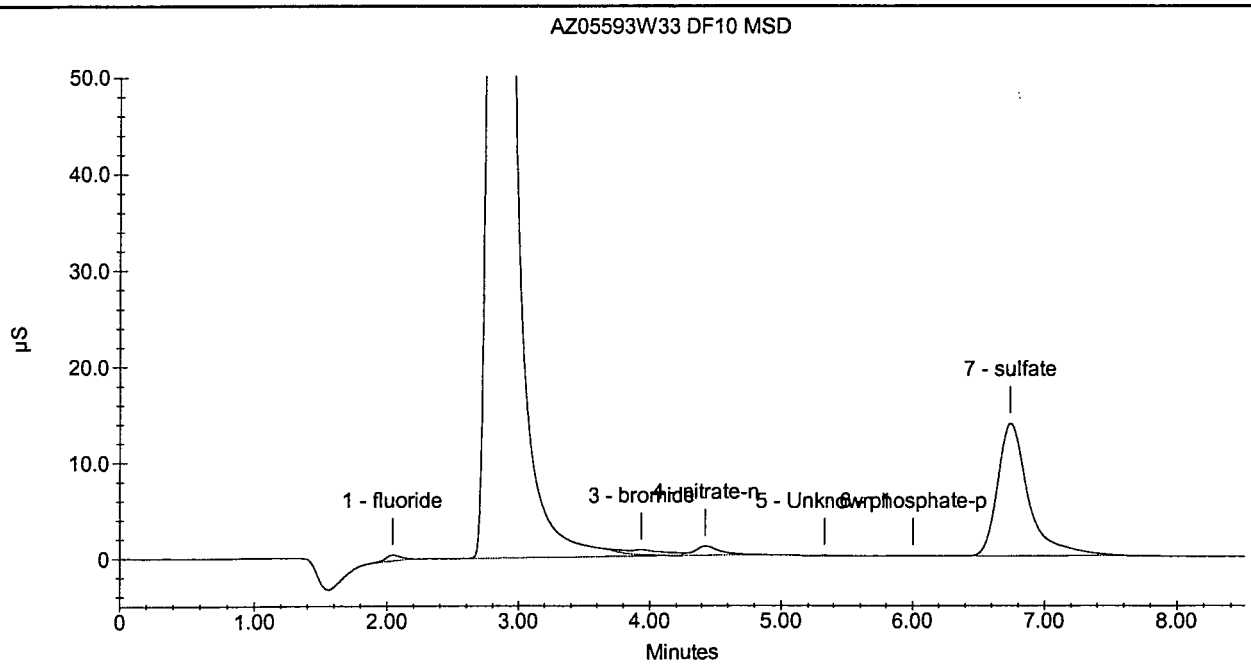
Sample Analysis Report

Sample Name : AZ05593W33 DF10 MSD
Data File Name : I:\DIONEX\D1ANIONS\DATA\141103A\141103a_025.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 11/3/14 12:46:41
System Operator : mm
Injection Number : 25
Multiplier : 10.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	2.04	fluoride	1.3168	48002	6174
2	2.81	chloride	537.5128	30562639	3708861
3	3.93	bromide	6.4223	94687	5060
4	4.43	nitrate-n	2.9035	126189	9556
5	5.32	Unknown 1	0.0000	9091	755
6	6.00	phosphate-p	1.0584	9750	731
7	6.73	sulfate	66.5061	2227593	138058



OPERATOR: Aileen
ACQ. TIME: Nov 5, 2014 14:29:17
DATA FILENAME: I:\LACHAT\OMNION\141105NB.FDT
METHOD FILENAME: I:\LACHAT\METHODS\TOTOXN1.MET
TRAY FILENAME: I:\LACHAT\TRAYS\141105NA.TRA

TRAY DESCRIPTION:
Created: Nov 5, 2014 13:05:03
Modified: Nov 5, 2014 14:29:48
NO3/TOTOXN 141105NA
DATA DESCRIPTION:
Created: Nov 5, 2014 14:29:17
Modified: Nov 5, 2014 14:29:17

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 1 to 40

Cup	Sample ID	Sampling Time	# of Reps	TOTOXN (mg/L)	Man Dil Factor
1	141105A BLK	14:47:32	1	0.0006	1.0
4	141105A LCS	14:49:00	1	4.8320	1.0
5	141105A LCSD	14:50:29	1	4.7626	1.0
6	AZ05388W11	14:51:57	1	0.0627	1.0
7	AZ05389W11	14:53:26	1	0.0554	1.0
8	AZ05593W28	14:54:54	1	0.5341	1.0
9	AZ05593W28MS	14:56:21	1	5.6537	1.0
10	AZ05593W28MSD	14:57:49	1	5.5746	1.0

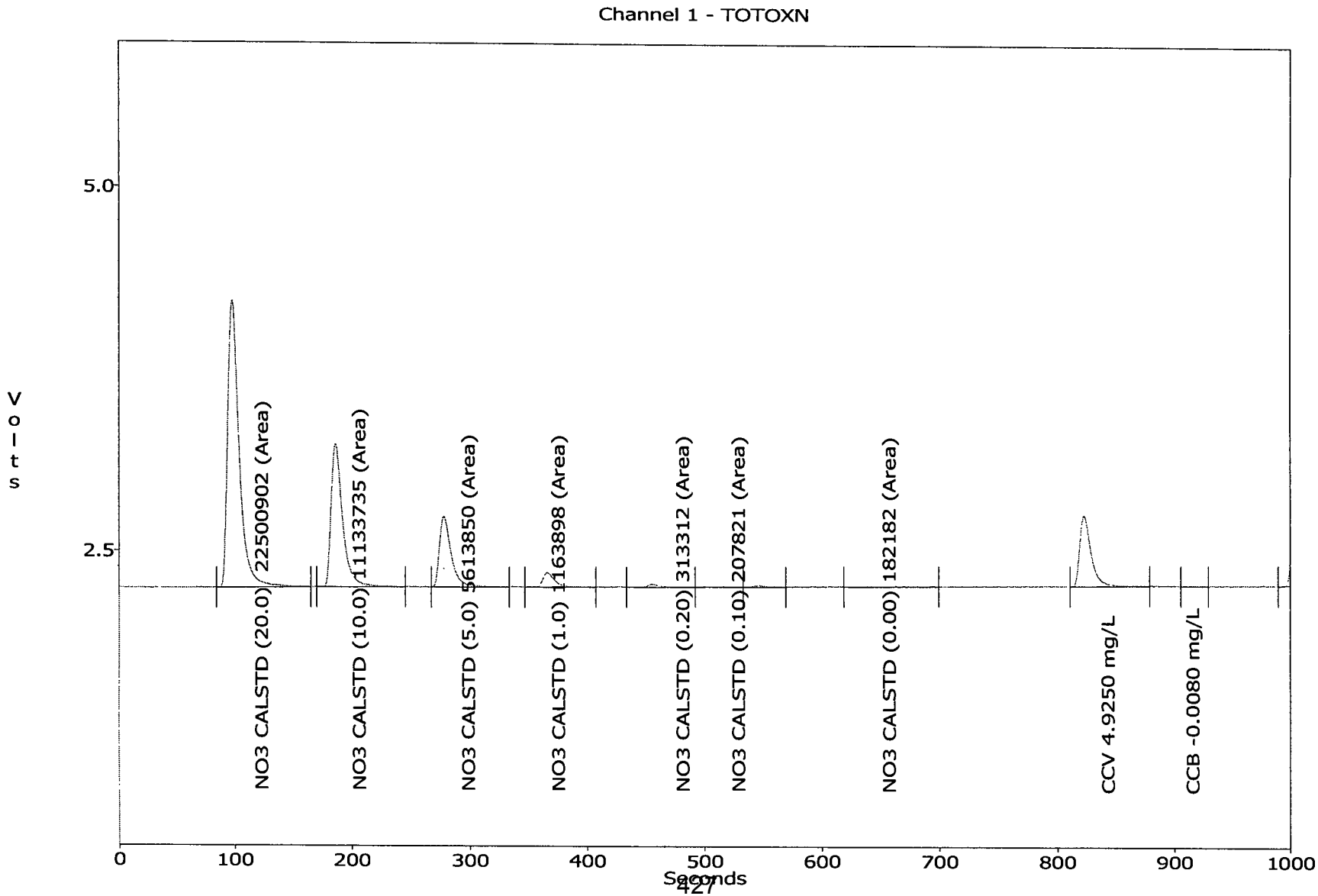
INSTRUMENT: Flow Injection Analysis
TRAY: 141105NA.TRA METHOD: TOTOXN1.MET DATAFILE: 141105NB.FDT
DATE/TIME: Wed Nov 05 14:29:18 2014 OPERATOR: Aileen

*** Begin Calibration ***
Cup# 1 Sample: NO3 CALSTD (20.0) Type: CalStd Level: 1 Rep# 1/1
Ch 1: TOTOXN Peak Area = 22500902.0 µv-s
Cup# 2 Sample: NO3 CALSTD (10.0) Type: CalStd Level: 2 Rep# 1/1
Ch 1: TOTOXN Peak Area = 11133735.0 µv-s
Cup# 15 Sample: NO3 CALSTD (5.0) Type: CalStd Level: 3 Rep# 1/1
Ch 1: TOTOXN Peak Area = 5613850.0 µv-s
Cup# 3 Sample: NO3 CALSTD (1.0) Type: CalStd Level: 4 Rep# 1/1
Ch 1: TOTOXN Peak Area = 1163898.0 µv-s
Cup# 4 Sample: NO3 CALSTD (0.20) Type: CalStd Level: 5 Rep# 1/1
Ch 1: TOTOXN Peak Area = 313312.0 µv-s
Cup# 5 Sample: NO3 CALSTD (0.10) Type: CalStd Level: 6 Rep# 1/1
Ch 1: TOTOXN Peak Area = 207821.0 µv-s
Cup# 6 Sample: NO3 CALSTD (0.00) Type: CalStd Level: 7 Rep# 1/1
Ch 1: TOTOXN Peak Area = 182182.0 µv-s
*** Updated Calibration ***
Ch 1: TOTOXN
** 1st Order Poly Calibration **
C[0] = 8.94884e-007
C[1] = -0.0705413
r = 1.0000
*** End Calibration Block ***
*** Calibration Passed ***
***** Auto DQM Begin *****
*** Starting DQM Set CONTINUING ***
Cup# 15 Sample: CCV Type: RelChkStd Rep# 1/1
Ch 1: TOTOXN = 4.9250 mg/L
DQM Sample Results: CCV
Ch 1: TOTOXN = 4.9250 mg/L
Known Conc = 5.0000 mg/L - %Diff from Known = -1.5006%
Test 1: Passed
Cup# 6 Sample: CCB Type: Blank Rep# 1/1
Ch 1: TOTOXN = -0.0080 mg/L
DQM Sample Results: CCB
Ch 1: TOTOXN
Determined Conc = -0.0080 mg/L
Test 1: Passed
*** End of DQM Set CONTINUING - Set Passed ***
*** Starting DQM Set INITIAL ***
Cup# 7 Sample: ICV Type: RelChkStd Rep# 1/1
Ch 1: TOTOXN = 4.8957 mg/L
DQM Sample Results: ICV
Ch 1: TOTOXN = 4.8957 mg/L
Known Conc = 5.0000 mg/L - %Diff from Known = -2.0864%
Test 1: Passed
Cup# 6 Sample: ICB Type: Blank Rep# 1/1
Ch 1: TOTOXN = -0.0061 mg/L
DQM Sample Results: ICB
Ch 1: TOTOXN
Determined Conc = -0.0061 mg/L
Test 1: Passed
*** End of DQM Set INITIAL - Set Passed ***
Cup# 1 Sample: 141105A BLK Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.0006 mg/L
Cup# 4 Sample: 141105A LCS Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 4.8320 mg/L
Cup# 5 Sample: 141105A LCSD Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 4.7626 mg/L
Cup# 6 Sample: AZ05388W11 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.0627 mg/L
Cup# 7 Sample: AZ05389W11 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.0554 mg/L
Cup# 8 Sample: AZ05593W28 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.5341 mg/L

AP 11/5/14
Algorithm check on ICV ✓
$(8.94884)(5549568)(10^{-7}) - 0.0705 = 4.8957$

Cup# 9 Sample: AZ05593W28MS Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 5.6537 mg/L
Cup# 10 Sample: AZ05593W28MSD Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 5.5746 mg/L
***** Auto DQM Begin *****
*** Starting DQM Set CONTINUING ***
Cup# 15 Sample: CCV Type: RelChkStd Rep# 1/1 Repeat# 1
Ch 1: TOTOXN = 4.9190 mg/L
DQM Sample Results: CCV
Ch 1: TOTOXN = 4.9190 mg/L
Known Conc = 5.0000 mg/L - %Diff from Known = -1.6191%
Test 1: Passed
Cup# 6 Sample: CCB Type: Blank Rep# 1/1 Repeat# 1
Ch 1: TOTOXN = -0.0082 mg/L
DQM Sample Results: CCB
Ch 1: TOTOXN
Determined Conc = -0.0082 mg/L
Test 1: Passed
*** End of DQM Set CONTINUING - Set Passed ***
******* Tray Run Complete *******

OPERATOR:	**Aileen**
ACQ. TIME:	**Nov 5, 2014 14:29:17**
DATA FILENAME:	**I:\LACHAT\OMNION\141105NB.FDT**
METHOD FILENAME:	**I:\LACHAT\METHODS\TOTOXN1.MET**
TRAY FILENAME:	**I:\LACHAT\TRAYS\141105NA.TRA**



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ACQ. TIME: Nov 5, 2014 14:29:17
DATA FILENAME: I:\LACHAT\OMNION\141105NB.FDT
METHOD FILENAME: I:\LACHAT\METHODS\TOTOXN1.MET
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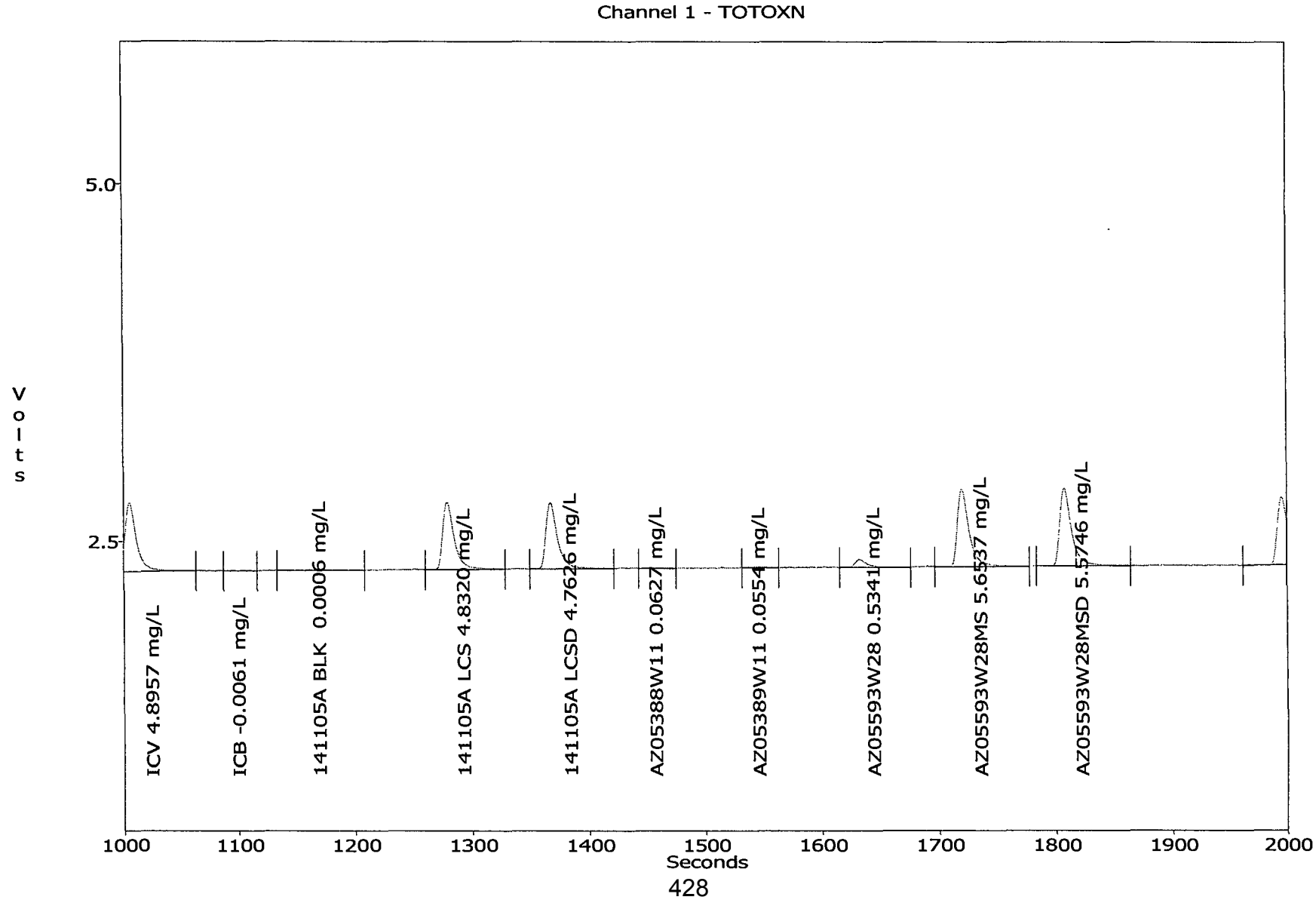

OPERATOR:	**Aileen**
ACQ. TIME:	**Nov 5, 2014 14:29:17**
DATA FILENAME:	**I:\LACHAT\OMNION\141105NB.FDT**
METHOD FILENAME:	**I:\LACHAT\METHODS\TOTOXN1.MET**
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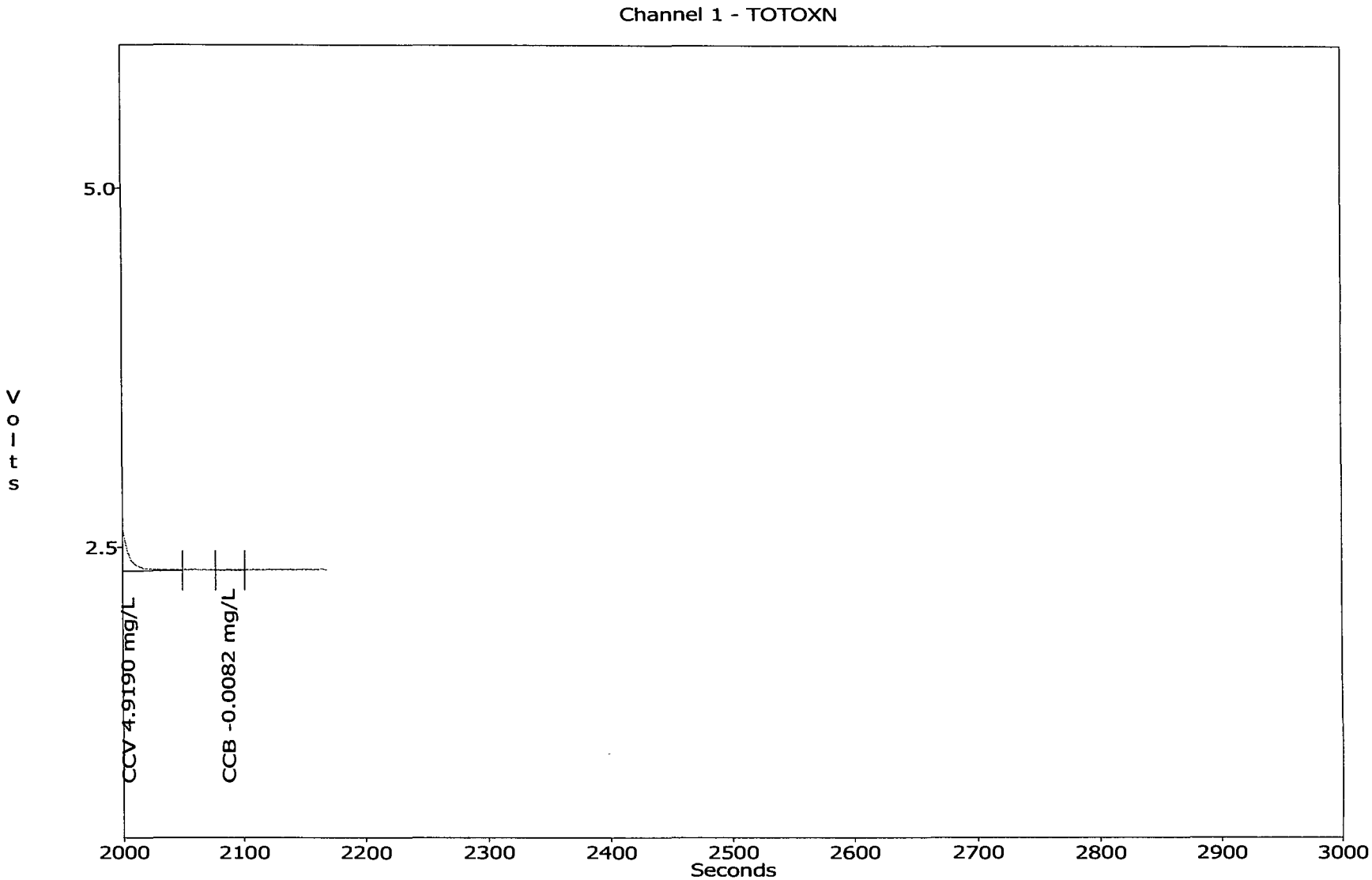
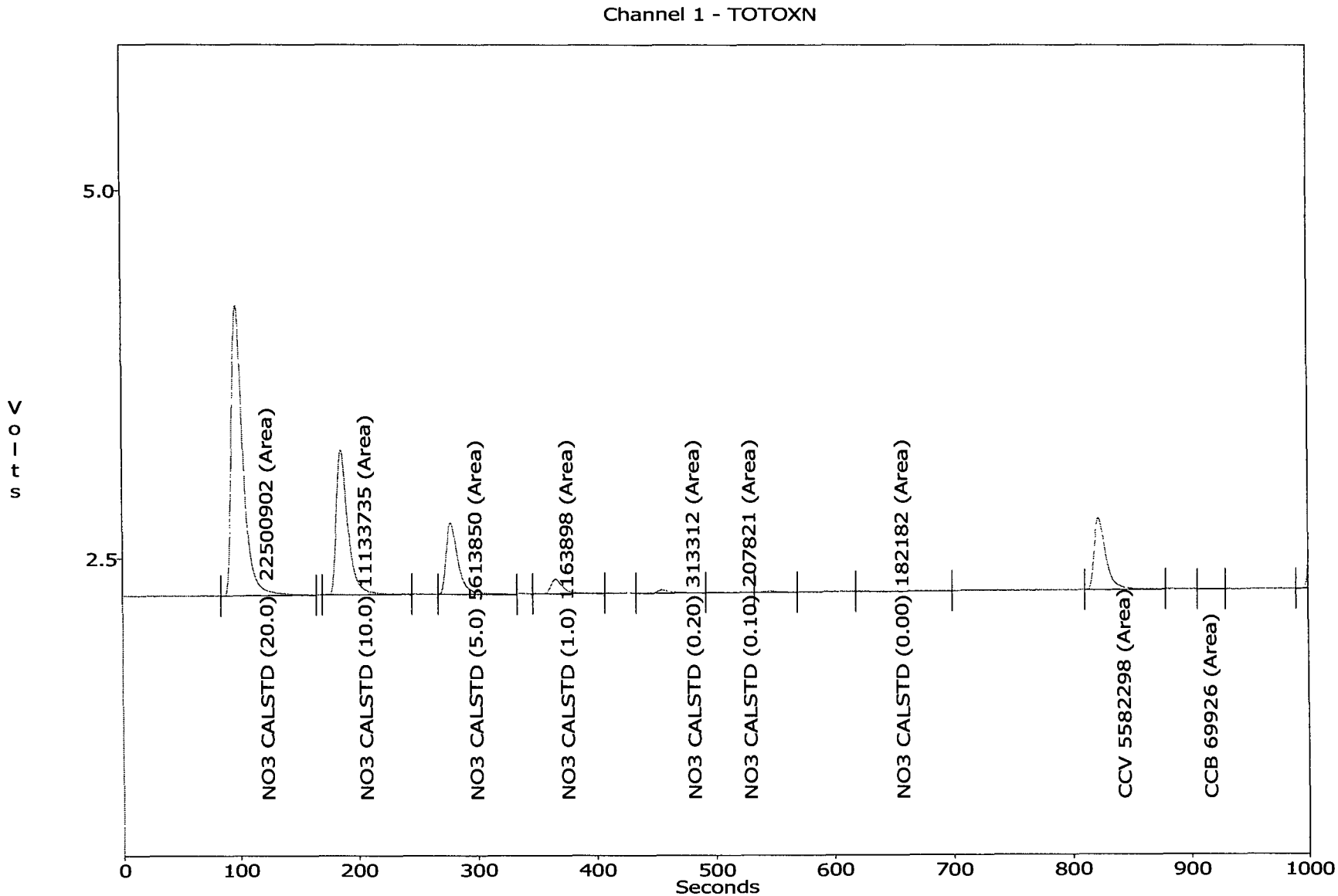
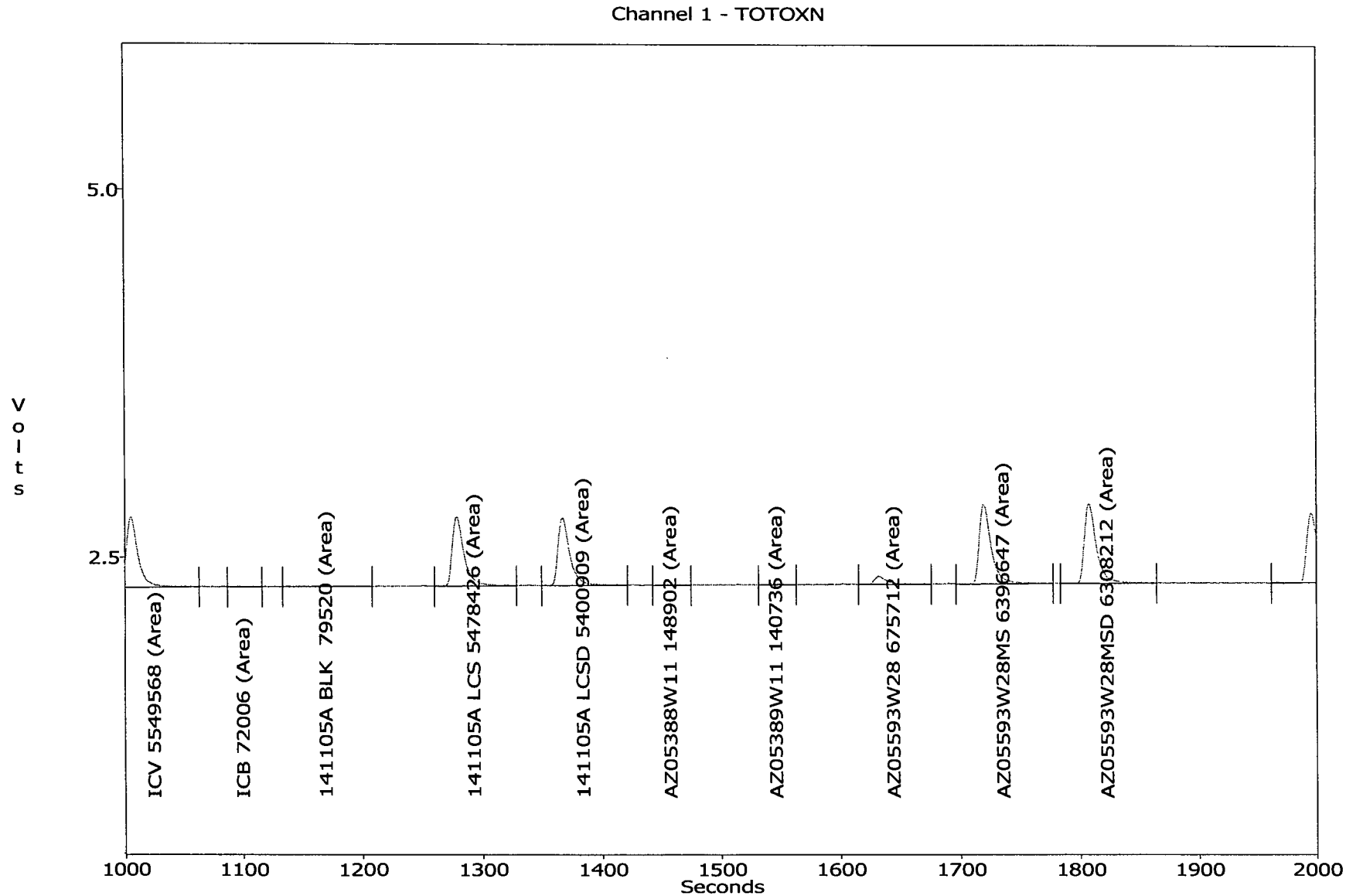


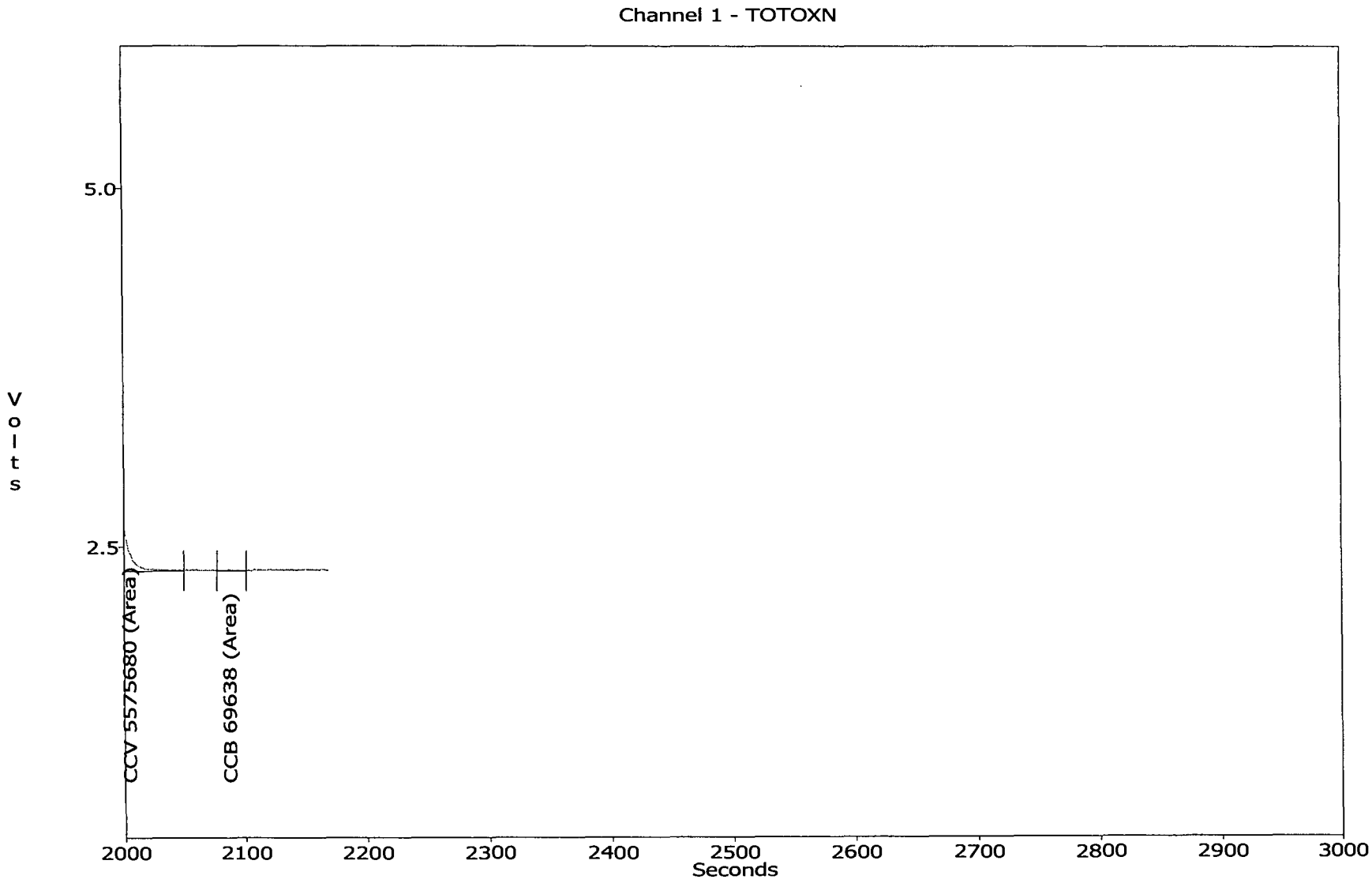
OPERATOR:	**Aileen**
ACQ. TIME:	**Nov 5, 2014 14:29:17**
DATA FILENAME:	**I:\LACHAT\OMNION\141105NB.FDT**
METHOD FILENAME:	**I:\LACHAT\METHODS\TOTOXN1.MET**
TRAY FILENAME:	**I:\LACHAT\TRAYS\141105NA.TRA**



OPERATOR: Aileen
ACQ. TIME: Nov 5, 2014 14:29:17
DATA FILENAME: I:\LACHAT\OMNION\141105NB.FDT
METHOD FILENAME: I:\LACHAT\METHODS\TOTOXN1.MET
TRAY FILENAME: I:\LACHAT\TRAYS\141105NA.TRA



OPERATOR: Aileen
ACQ. TIME: Nov 5, 2014 14:29:17
DATA FILENAME: I:\LACHAT\OMNION\141105NB.FDT
METHOD FILENAME: I:\LACHAT\METHODS\TOTOXN1.MET
TRAY FILENAME: I:\LACHAT\TRAYS\141105NA.TRA



Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
AZ05593W32 msd	2014-11-03 14:34:40 UTC-8	Alkalinity	0.000	8.912	0.00	0.00	377.87	377.87	mg/L	25 mL	0.0212	a141103	bb
AZ05593W32 ms	2014-11-03 14:19:47 UTC-8	Alkalinity	0.000	8.908	0.00	0.00	377.70	377.70	mg/L	25 mL	0.0212	a141103	bb
AZ05593W32	2014-11-03 14:09:17 UTC-8	Alkalinity	0.000	2.776	0.00	0.00	117.70	117.70	mg/L	25 mL	0.0212	a141103	bb
141103a lcsd	2014-11-03 12:42:19 UTC-8	Alkalinity	0.248	5.998	0.00	21.03	233.28	254.32	mg/L	25 mL	0.0212	a141103	bb
141103a lcs	2014-11-03 12:31:00 UTC-8	Alkalinity	0.246	5.960	0.00	20.86	231.84	252.70	mg/L	25 mL	0.0212	a141103	bb
141103a blk	2014-11-03 12:13:54 UTC-8	Alkalinity	0.000	0.000	0.00	0.00	0.00	0.00	mg/L	25 mL	0.0212	a141103	bb

10/31/14 AP
Exp 11/7/14

AP 10/31/14

NH4 STDS	STD / STOCK	PREP DATE / LOT	OPEN / EXP DATE	CONC STOCK OR STD [mg/L]	STOCK OR STD (mL)	FINAL VOL. DI (mL)	FINAL CONC. (mg/L)
NH3-N CCV	O2SI	6/18/13	12/8/14	1000	5	50	100
		Lot 1047250					
1	100mg/L NH4 STOCK	10/31/14	11/7/14	100	0.0	100	0.0
2							
3					0.5	100	0.5
4					1.0	100	1.0
5					5.0	100	5.0
6					10.0	100	10.0
7					20.0	100	20.0
		Lot 011714					
NH3-N ICV	Absolute	2/21/14	1/17/16	1000	0.25	50	5.00

10-31-14 EK
exp 11-1-14

MBAS

2 ml x 1000 ppm LAS Absolute Stds LOT 0119B-33718 / 200 ml = 10 ppm LAS

10 ml x 10 ppm LAS (10-31-14) / 100 ml DI = 1 ppm LAS EK 10-31-14

CCV (0.8): 8 ml x 1 ppm LAS (10-31-14) EK 10-31-14 / 100 ml DI

CCV2 (LCS: 5 ml x 10 ppm LAS (10-31-14) / 100 ml DI

MS: 5 ml x 10 ppm LAS (10-31-14) / 400 ml sample

11-3-14 EK
exp
11-4-14

OPO_4-P For Method SM4500PE exp 11-4-14

1mL X 1000ppm PO_4-P CPI LOT 12G005-32026 / 100mL DI → 10ppm PO_4-P

10ppm PO_4-P (11-3-14) X 10mL / 100mL DI → 1ppm PO_4-P

1ppm PO_4-P (11-3-14) X 2.5mL / 50mL → 0.05ppm PO_4-P

↓ X5mL / ↓ → 0.10ppm PO_4-P

↓ X 10mL / ↓ → 0.20ppm PO_4-P

↓ X 25mL / ↓ → 0.50ppm PO_4-P

ICV PO_4-P

1000 PO4-P O2SI Lot 1049001-32799X 1mL / 100mL DI → 10ppm PO_4-P

10ppm PO_4-P (11-3-14)X 0.75mL / 50mL DI → 0.15ppm PO_4-P

LCS: 0.75mL X 10ppm PO_4-P (11-3-14 / 50mL DI → 0.15ppm PO_4-P

MS: 0.75mL X 10ppm PO_4-P (11-3-14) / 50mL sample → 0.15ppm PO_4-

11/3/14 BB
Book Ldvd 10/29/14
exp. 8/26/15

0.02N H_2SO_4 Titrant for Alkalinity

200 mL 0.1 N H_2SO_4 (L-4 8/26/14)

Final vol 1L DDI water

9/10/14 AP
Exp 9/17/14

AP 9/10/14

NH4 STDS	STD / STOCK	PREP DATE / LOT	OPEN / EXP DATE	CONC STOCK OR STD [mg/L]	STOCK OR STD (mL)	FINAL VOL. DI (mL)	FINAL CONC. (mg/L)
NH3-N CCV	O2SI	6/18/13	12/8/14	1000	5	50	100
		Lot 1047250					
1	100mg/L NH4 STOCK	9/10/14	9/17/14	100	0.0	100	0.0
2							
3					0.5	100	0.5
4					1.0	100	1.0
5					5.0	100	5.0
6					10.0	100	10.0
7					20.0	100	20.0
		Lot 011714					
NH3-N ICV	Absolute	2/21/14	1/17/16	1000	0.25	50	5.00

7/10/14 BB — $NaHCO_3$ Inorganic Spiking Solution

100 mL DI — Exp 3/10/15 — 7.0007g $NaHCO_3$ BDH Lot # 183064

Final Vol 1L w/ DI water

6 mL DI

7/12/14 BB — 0.02N H_2SO_4 Titrant for Alkalinity

Exp 8/24/15 — 200 mL 0.1N H_2SO_4 (prep 8/26/14)

-6 — Final Vol 1L w/DI water

-6 ICV

9-12-14 CK — 7199

-6 — exp 9-13-14 — 1mL x 100ppm Cr^{+6} (9-9-14) / 100mL DI = 1000ppb Cr^{+6}

-6 — 1mL x 1000ppb Cr^{+6} (9-12-14) / 100mL DI = 10ppb Cr^{+6} (CCV)

-6 — LCS, MS: 0.25mL x 1000ppb Cr^{+6} (9-12-14) / 25mL DI or sample

-6 — 9-13-14 MM — 1mL x 100ppm Cr^{6+} (9-9-14) / 100mL DI = 1000ppb Cr^{6+} Std

-6 ICV — exp 9/14/14 — 1mL x 1000 Cr^{6+}_{ppb} (9/13/14) / 100mL DI = 10ppb Cr^{6+} (CCV)

-6 — 1mL x 100ppm Cr^{6+} (9/10/14) / 100mL DI = 1000ppb Cr^{6+} ICV

-6 — 1mL x 1000ppb Cr^{6+} (9/13/14) / 100mL DI = 10ppb Cr^{6+} (LCS)

MS: 0.25mL x 1000ppb Cr^{6+} ICV (9/13/14) / 25mL sample = 10ppb

9-16-14 CK — 3060A Digestion

exp 9-17-14 — 1mL x 100ppm Cr^{+6} (9-9-14) / 100mL DI = 1ppm Cr^{+6}

BB 10/28/14

BB 10/28/14

NORMALITY OF TITRANT (0.02 N H2SO4)

NaCO3 titrated (mL) 0.25
normality of Na2CO3 1.0
Acid used (mL) 11.83

*Begin all titrations with full buret reading 0.00
*Na2CO3 JT Baker 0000030806

Normality --> 0.02113

BB 10/30/14

BB10/30/14

NORMALITY OF TITRANT (0.02 N H2SO4)

NaCO3 titrated (mL) 0.25
normality of Na2CO3 1.0
Acid used (mL) 11.77

*Begin all titrations with full buret reading 0.00
*Na2CO3 JT Baker 0000030806

Normality --> 0.02124

Standards Prep Log Book# 62 page # 025

11-4-14CK I2 0.025N Thiosulfate (for S=) CKD 11-4-14
exp 3.20g I2 EMD Lot#20111121240-03046 1l
5-4-15 +25.0g KI BDH LoT0273C515-03219 DI

11-4-14 CK 0.025N Thiosulfate
exp 5-4-15 6.205g $Na_2S_2O_3 5H_2O$ Macron LoT0000024050-03097
+9 ml NaOH 1N (7-29-14)
bring to vol 1l with DI

11/5/14 AP
Exp 11/12/14

AP 11/5/14

NO3-N STDS	STD / STOCK	PREP DATE / LOT#	EXP.	CONC STOCK OR STD [mg/L]	STOCK OR STD (mL)	FINAL VOL. W/DI H2O (mL)	FINAL CONC. (mg/L)
100mg/L STOCK	O2SI	2/28/14	8/30/15	1000	5	50	100
		1057207					
0.1	100mg/L NO3-N STOCK	11/5/14	11/12/14		0.1	100	0.1
0.2					0.2	100	0.2
0.5							
1					1.0	100	1.0
5					5.0	100	5.0
10					10.0	100	10.0
20					20.0	100	20.0
NO3-N ICV	CPI	13L102	11/22/15	1000	0.25	50	5.00
		5/27/14					

LCS /MS /MSD	STOCK	LOT# 13L102	EXP.	CONC STOCK [mg/L]	STD (mL)	FINAL VOL.	FINAL CONC. (mg/L)
LCS	CPI	11/22/15	11/12/14	1000	0.25	50 mL	5
MS / MSD	CPI	11/22/15	11/12/14	1000	0.25	50 mL	5

FINAL CONC. (mg/L)
100
0.0
0.5
1.0
5.0
10.0
20.0
5.00

718 | DI 200ml
31-14
~LAS
E
ple

09/13/14 mm exp 09/14/14	Anion LCS, MS/MSD made as per page 48.
09/15/14 mm	Anion eluent made as per page 22
09/15/14 mm exp 09/16/14	Anion CCV, LCS, MS/MSD made as per page 48.
09/16/14 mm exp	Anion ICAL stock, curve, and ICV made as per page 47.
09/16/14 mm exp 09/17/14	Anion LCS, MS/MSD made as per page 48.

METHOD 300 / 9056		ANION STOCK				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1037642-31166	01/04/14	0.25	5
O2SI	Cl-	5,000	1045796-32404	11/08/14	0.5	50
O2SI	NO2-N	1,000	1040585-31592	04/26/14	0.25	5
Ultra Scientific	Br-	1,000	L00953-31570	09/30/14	1.25	25
O2SI	NO3-N	1,000	1040587-31591	04/26/14	0.5	10
O2SI	PO4-P	1,000	1040570-31590	04/26/14	0.5	10
Ultra Scientific	SO4	5,000	P00075-30305	02/28/14	0.5	50
Brought up with milipore water to Final Volume of:						50

METHOD 300 / 9056				ANION CAL CURVE						
				ICAL #1	ICAL#2	ICAL#3	ICAL #4	ICAL #5	ICAL #6	ICAL #7
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL	mL	mL
ANION STOCK	100			0.4	2	10	2	5	7	10
Brought up w/ Milipore Water to final volume of (mL):				100	100	100	10	10	10	na
Final Conc F (mg/L):				0.04	0.1	0.5	1	2.5	3.5	5
Final Conc Cl (mg/L):				0.4	1	5	10	25	35	50
Final Conc NO2-N (mg/L):				0.04	0.1	0.5	1	2.5	3.5	5
Final Conc Br (mg/L):				0.2	0.5	2.5	5	12.5	17.5	25
Final Conc NO3-N (mg/L):				0.08	0.2	1	2	5	7	10
Final Conc PO4-P (mg/L):				0.08	0.2	1	2	5	7	10
Final Conc SO4 (mg/L):				0.4	1	5	10	25	35	50

METHOD 300 / 9056		ANION ICV / LCS				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	12B199-30554	09/30/13	0.125	2.50
CPI	Cl-	1,000	13e314-32692	01/19/15	1.00	20.00
CPI	NO2-N	304	12g112-32702	01/19/15	0.50	3.04
CPI	Br-	1,000	12b205-32027	08/08/14	0.625	12.50
CPI	NO3-N	1,000	13b007-32700	01/19/15	0.25	5.00
CPI	PO4-P	1,000	12g005-32694	01/19/15	0.25	5.00
CPI	SO4	1,000	01/19/15	13e315-32697	1.00	20.00
Brought up with milipore water to Final Volume of:					50	

10/16/14 mm exp 10/17/14	Anion CCV, LCS, MS/MSD made as per page 48.
10/17/14 mm exp 10/18/14	Anion CCV, MS/MSD made as per page 48.
10/20/14 mm	Anion Eluent made as per page 22.
10/20/14 mm exp 10/21/14	Anion CCV, LCS, MS/MSD made as per page 48.
10/22/14 mm exp 10/23/14	Anion CCV, LCS, MS/MSD made as per page 48.
10/23/14 mm exp 10/24/14	Anion CCV, MS/MSD made as per page 48
10/24/14 mm exp 10/25/14	Anion CCV, LCS, MS/MSD made as per page 48.
10/27/14 mm	Anion Eluent made as per page 22.
10/27/14 mm exp 10/28/14	Anion CCV, LCS, MS/MSD made as per page 48
10/29/14 mm exp 10/30/14	Anion CCV, LCS, MS/MSD made as per page 48
10/30/14 mm exp 10/31/14	Anion CCV, MS/MSD made as per page 48.
10/31/14 mm exp 11/1/14	Anion LCS, MS/MSD made as per page 48.

11/03/14 MM exp 11/04/14	Anion CCV, LCS, MS/MSD made as per page 48
11/04/14 MM exp	Anion Eluent made as per page 22.
11/04/14 MM exp 11/05/14	Anion LCS, MS/MSD made as per page 48.

11.11.13
exp 11.12.13

		ANION CCV				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1037642-31166	01/04/14	0.125	2.50
O2SI	Cl-	5,000	1045796-32404	11/08/14	0.25	25.0
O2SI	NO2-N	1,000	1040585-31592	04/26/14	0.125	2.5
Ultra Scientific	Br-	1,000	L00953-31570	09/30/14	0.625	12.50
O2SI	NO3-N	1,000	1040587-31591	04/26/14	0.25	5.0
O2SI	PO4-P	1,000	1040570-31590	04/26/14	0.25	5.0
Ultra Scientific	SO4	5,000	P00075-30305	02/28/14	0.25	25.0
Brought up with milipore water to Final Volume of:					50	11.11.13

11.11.13
exp 11.12.13

METHOD 300 / 9056		ANION LCS				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	12B199-30554	09/30/13	0.125	2.50
CPI	Cl-	1,000	13e314-32692	01/19/15	1.00	20.00
CPI	NO2-N	304	12g112-32702	01/19/15	0.50	3.04
CPI	Br-	1,000	12b205-32027	08/08/14	0.63	12.50
CPI	NO3-N	1,000	13b007-32700	01/19/15	0.25	5.00
CPI	PO4-P	1,000	12g005-32694	01/19/15	0.25	5.00
CPI	SO4	1,000	01/19/15	13e315-32697	1.00	20.00
Brought up with milipore water to Final Volume of:					50	11.11.13

11.11.13
exp 11.12.13

METHOD 300 / 9056		ANION MS/MSD				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	12B199-30554	09/30/13	0.125	2.50
CPI	Cl-	1,000	13e314-32692	01/19/15	1.00	20.00
CPI	NO2-N	304	12g112-32702	01/19/15	0.50	3.04
CPI	Br-	1,000	12b205-32027	08/08/14	0.63	12.50
CPI	NO3-N	1,000	13b007-32700	01/19/15	0.25	5.00
CPI	PO4-P	1,000	12g005-32694	01/19/15	0.25	5.00
CPI	SO4	1,000	01/19/15	13e315-32697	1.00	20.00
Final Volume of Sample: (mL)					50	11.11.13

353.2 Injection Log

Directory: I:\Lachat\UPLOAD\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	05 Nov 2014	14:29	NO3 CALSTD (20.0)		141105NB	1.
2	05 Nov 2014	14:30	NO3 CALSTD (10.0)		141105NB	1.
3	05 Nov 2014	14:32	NO3 CALSTD (5.0)		141105NB	1.
4	05 Nov 2014	14:33	NO3 CALSTD (1.0)		141105NB	1.
5	05 Nov 2014	14:35	NO3 CALSTD (0.20)		141105NB	1.
6	05 Nov 2014	14:36	NO3 CALSTD (0.10)		141105NB	1.
7	05 Nov 2014	14:38	NO3 CALSTD (0.00)		141105NB	1.
8	05 Nov 2014	14:41	CCV		141105NB	1.
9	05 Nov 2014	14:42	CCB		141105NB	1.
10	05 Nov 2014	14:44	ICV		141105NB	1.
11	05 Nov 2014	14:45	ICB		141105NB	1.
12	05 Nov 2014	14:47	141105A BLK		141105NB	1.
13	05 Nov 2014	14:49	141105A LCS		141105NB	1.
14	05 Nov 2014	14:50	141105A LCSD		141105NB	1.
17	05 Nov 2014	14:54	AZ05593W28		141105NB	1.
18	05 Nov 2014	14:56	AZ05593W28MS		141105NB	1.
19	05 Nov 2014	14:57	AZ05593W28MSD		141105NB	1.
20	05 Nov 2014	15:00	CCV		141105NB	1.
21	05 Nov 2014	15:02	CCB		141105NB	1.

300/9056A Injection Log

Directory: I:\Dionex\D1Anions\data\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
12	16 Sep 2014	13:01	CAL STD #1 9/16/14		140916a	1.
13	16 Sep 2014	13:12	CAL STD #2		140916a	1.
14	16 Sep 2014	13:23	CAL STD #3		140916a	1.
15	16 Sep 2014	13:35	CAL STD #4		140916a	1.
16	16 Sep 2014	13:46	CAL STD #5		140916a	1.
17	16 Sep 2014	13:57	CAL STD #6		140916a	1.
18	16 Sep 2014	14:08	CAL STD #7		140916a	1.
19	16 Sep 2014	14:20	140916A ICV		140916a	1.
20	16 Sep 2014	14:31	ICB		140916a	1.

300/9056A Injection Log

Directory: I:\Dionex\D1Anions\data\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
4	28 Oct 2014	08:31	CCV 141027		141103a	1.
5	28 Oct 2014	08:42	CCB		141103a	1.
6	28 Oct 2014	08:53	141028A LCS		141103a	1.
8	28 Oct 2014	11:30	AZ05593W32 DF2		141103a	2.
15	28 Oct 2014	12:49	AZ05593W32 DF2 MS		141103a	2.
16	28 Oct 2014	13:00	CCV 141027		141103a	1.
17	28 Oct 2014	13:12	CCB		141103a	1.
18	28 Oct 2014	13:23	AZ05593W32 DF2 MSD		141103a	2.
28	28 Oct 2014	15:16	CCV 141027		141103a	1.
29	28 Oct 2014	15:27	CCB		141103a	1.

300/9056A Injection Log

Directory: I:\Dionex\D1Anions\data\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
62	03 Nov 2014	11:16	CCV 141103		141103a	1.
63	03 Nov 2014	11:28	CCB		141103a	1.
64	03 Nov 2014	11:39	141103A LCS		141103a	1.
68	03 Nov 2014	12:24	AZ05593W33 DF10		141103a	10.
69	03 Nov 2014	12:35	AZ05593W33 DF10 MS		141103a	10.
70	03 Nov 2014	12:46	AZ05593W33 DF10 MSD		141103a	10.
71	03 Nov 2014	12:57	CCV 141103		141103a	1.
72	03 Nov 2014	13:09	CCB		141103a	1.

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

Data Validatable Report

December 5, 2014

Parsons
10235 South Jordan Gateway, Suite 300
South Jordan, Utah 84095

Attn: Gene Wright

Title: Report of Data: Case 74924

Project: 749435 Red Hill Phase 1b TO 0068, Hawaii

Contract #: Prime contract for DoD: ESAT Contract N62583-11-D-0515 TO 0068
Battelle Purchase Order # US001-0000434917

Dear Mr. Wright:

Three water samples were received November 13, 2014, in good condition. Written results for the requested analyses are provided on this December 5, 2014.

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, Diane Anderson, danderson@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 v4.2. 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/cm
Enclosure
cc: File

Number of pages in this report: 336

Data Validation Package
for
749435 Red Hill 1b TO 0068
ARF 74924
TABLE OF CONTENTS

LABORATORY NAME: *APPL, Inc.*

SAMPLE RECEIPT INFORMATION

Sample Receipt Information

ARF: 74924

Project: 749435 Red Hill Phase 1b TO 0068

State Certification Number: CA1312 (DW & WW)

NELAP Certification number: CA00046 (HW)

DoD-ELAP Certificate number: 74807

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.

Sample Receipt Information:

The water samples were received November 13, 2014 at 4.0°C. The samples were assigned Analytical Request Form (ARF) number 74924. The sample numbers and requested analyses were compared to the chain of custody. No exception was noted.

Sample Table

CLIENT ID	APPL ID	Matrix	Date Sampled	Date Received
TRIP111214	AZ07201	WATER	11/12/14	11/13/14
HW111214-01	AZ07202	WATER	11/12/14	11/13/14
HW111214-02	AZ07203	WATER	11/12/14	11/13/14

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

APPL's laboratory control limits generated in house statistically do not meet the control limits listed in DoD QSM 4.2 for all analytes. Laboratory control spike recoveries 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 8011

Sample Preparation:

The water samples were extracted according to EPA method 8011. All holding times were met.

Sample Analysis Information:

The samples were analyzed according to the method using an Agilent Gas Chromatograph with a flame ionization detector.

Quality Control/Assurance

Calibrations:

Initial and continuing calibrations were performed according to the method. All calibration criteria were met.

Blanks:

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

Spikes:

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

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

Surrogates

The surrogate recoveries are summarized in the Form 2 & 8. All surrogate recoveries were within the control limits.

Summary:

No problem was encountered.

EPA Method 8260C
Volatile Organic Compounds

Sample Preparation:

The water samples were purged according to EPA method 5030B. All holding times were met.

Sample Analysis Information:

The samples were analyzed according to EPA method 8260C using an Agilent Gas Chromatograph with a mass spectrometer detector. The samples were received in unpreserved vials; they were analyzed within seven days of collection. All holding times were met.

Quality Control/Assurance:

Spike Recovery:

A Laboratory Control Spike (LCS) was used for quality assurance. A second-source standard was used for the LCS. All LCS recoveries were acceptable.

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

Surrogates:

The surrogate recoveries are summarized in the Form 2 & 8. All surrogate recoveries were within the control limits.

Method blanks:

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

Calibration:

Initial and continuing calibrations were analyzed according to the method. All calibration criteria were met.

Tuning:

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

Internal Standards:

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

Summary:

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

Dissolved Methane
RSK-175

Sample Preparation and Analysis

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

Quality Control/Assurance

Spike Recovery

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

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

Method blanks

The blank contained no target analyte above one-half the limit of quantitation (LOQ).

Calibration

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

Summary:

No analytical exception is noted.

Amended Page

EPA Method 6020A
Metals

Sample Preparation Information

The water samples were filtered by laboratory personnel, acidified and digested according to EPA method 3015. No exception was encountered. All holding times were met.

Analysis Information:

Samples:

The samples were analyzed for dissolved lead according to EPA method 6020 using an Agilent 7700X ICP-MS.

Calibrations:

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

Blanks:

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

Spikes:

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

Sample HW111214-02 was selected by the laboratory as the QC sample for the analytical batch. The DT was not applicable. All acceptance criteria were met in the MS/MSD and PDS.

Internal Standards:

All method criteria were met for the internal standards.

Summary:

No analytical exception is noted. All data are acceptable.

EPA Methods 353.2, 9056 and SM 2320B

Nitrate-Nitrite-N, Sulfate, and Alkalinity

Sample Preparation Information:

The water samples were prepared according to the methods.

Analysis Information:

Samples:

The samples were analyzed according to the methods. A Dionex DX500 ion chromatograph was used for the EPA 9056 analysis. A Lachat was used for the EPA 353.2 analysis. All holding times were met.

Calibrations:

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

Blanks:

No target analyte was detected above one-half the LOQ in the method blanks.

Spikes:

Laboratory Control Spikes (LCS and/or LCS/LCSD) were used for quality assurance. All recoveries were within acceptance limits in the LCS and/or LCS/LCSD.

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

Summary:

No analytical exception is noted. All data are acceptable.

APPL Inc.
Abbreviations and Flags

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

CHAIN OF CUSTODY,
ARF, CRF, AND
CLIENT COMMUNICATION

APPL - Analysis Request Form 74924

Client: **Parsons**
Address: **10235 S. Jordan Gateway Ste 300**
South Jordan, UT 84095
Attn: **Gene Wright**
Phone: **801-553-3317** Fax:
Job: **749435 Red Hill Phase 1b TO 0068**
PO #: **PO#434917**
Chain of Custody (Y/N): **Y** # **47921**
RAD Screen (Y/N): **Y** pH (Y/N): **Y**
Turn Around Type: **2 WEEKS**

Received by: **YL**
Date Received: **11/13/14** Time: **10:20**
Delivered by: **FED EX**
Shuttle Custody Seals (Y/N): **Y** Time Zone: **-10**
Chest Temp(s): **4.0°C**
Color: **VOA,C-BLK,R-ORGYEL**
Samples Chilled until Placed in Refrig/Freezer: **Y**
Project Manager: **Diane Anderson**
QC Report Type: **DVP4/NEDD/NIRIS/HI**
Due Date: **11/27/14**

Comments:
pdf ARF and prelims to gene.wright@parsons.com & scalac@battelle.org
10 business days for form 1s; 21 calendar days for final DVP with Internal COC.
send 1 hardcopy DVP4 and PDF bookmarked on CD to Gene;
pdf via email or ftp to scalac@battelle.org
Guidance: DoD QSMv4.2; DoD forms U flag at LOD, LOD database
EDD: NEDD/NIRIS to gene.wright@parsons.com & scalac@battelle.org
8011 = EDB & DBCP only; RSK = Methane only

Sample Distribution:
GC: 2-$8011
Extractions: 2-_MWE012
VOA: 3-$86CREDW, 2-$RSK50
Metals: 2-$62A14WD(Pb)
Wetlab: 2-$232W(ALK), 2-$35OF, 2-$9056DOD(SO4)
Other: 2-_M3015L

Charges:

Invoice To:
BATTELLE MEMORIAL INSTITUTE
accountspayable@battelle.org
505 King Ave
Columbus OH 43201-2696

	Client ID	APPL ID	Sampled		Analyses Requested
1.	TRIP111214	AZ07201W	11/12/14	09:30	$86CREDW -- unpreserved VOA 7day HT; LL VOCs
2.	HW111214-01	AZ07202W	11/12/14	10:00	$232W(ALK), $35OF, $62A14WD(Pb), $8011, $86CREDW, $9056DOD(SO4), $RSK50 -- unpreserved VOA 7day HT; LL VOCs
3.	HW111214-02	AZ07203W	11/12/14	10:15	$232W(ALK), $35OF, $62A14WD(Pb), $8011, $86CREDW, $9056DOD(SO4), $RSK50 -- unpreserved VOA 7day HT; LL VOCs

Note: All times, excluding sample collection times, are Pacific Time Zone unless noted otherwise. Collection times are in: -10 UTC

APPL Sample Receipt Form

ARF# **74924**

Sample	Container Type	Count	pH
AZ07201	15 VOAs - NP	3	NA
AZ07202	2 PL 500mL	1	NA
	3 PL 250mL	1	NA
	29 PL 125mL - H2SO4	1	1.7
	15 VOAs - NP	9	NA
AZ07203	2 PL 500mL	1	NA
	3 PL 250mL	1	NA
	29 PL 125mL - H2SO4	1	1.7
	15 VOAs - NP	9	NA

Sample	Container Type	Count	pH

74924
4.0

APPL LABS

CHAIN OF CUSTODY RECORD

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

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

C.O.C. 47921

Report to: PLEASE PRINT		Invoice to: PLEASE PRINT	
Company Name: Battelle	Phone: 215-504-5003	Company Name: Battelle	Phone: 215-504-5003
Address: 301 South State St., Ste. N001 Newtown, PA 18940	Fax: 614-458-6620	Address: 301 South State St., Ste. N001 Newtown, PA 18940	Fax: 614-458-6620
Attn: Carolyn Scala		Attn: Carolyn Scala	

Project Name/Number	Sampler (Print)	Date Shipped: 11/12/14
Red Hill Phase 1b	James Terry	Carrier: FEDEX
Purchase Order Number	Sampler (Signature)	Waybill No.:
	James Terry	Comments:

Sample Identification	Location	Date Collected	Time Collected	Time Zone	No. of Containers	Matrix: Aq	Matrix: Sed.	Matrix: Soil	VOCs (SW 8260B)	EDB (SW8011)	Methane (RSK 175)	Alkalinity and Sulfate	Nitrate/Nitrite as N (EPA 353.2)	Dissolved Lead (SW6020)	Comments
TRIP111214		11/12/14	0930	Hi	3	X			X						dissolved lead
HW111214-01	99-048 Koaha Hwy Fire Hydrant	↓	1000	↓	11	X			X	X	X	X	X	X	sample not field
HW111214-02	↓	↓	1015	↓	11	X			X	X	X	X	X	X	filtered.

Shuttle Temperature:	Turnaround Requested: Check one: [X] Standard 2-3 wk [ ] One week [ ] 24/48 Hrs. [ ] Other	Sample Disposal: [ ] Return to client [X] Disposal by Lab (30-day retention)

Relinquished by sampler:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
James Terry / James Terry	11/12/14	1400					
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received at lab by:
					11/13/14	10:20	Yang

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

See reverse side for Container Preservation and Sampling Information

COOLER RECEIPT FORM **ARF: 74924**

1) Project: Red Hill Phase 1b Date Received: 11/13/14

2) Coolers: Number of Coolers: 1

3) YES Were custody seals present and intact?
How many? 2 Name/Date on seal? SEE BELOW

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

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

6) YES Were cooler temperatures acceptable?

7) Serial number of certified NIST thermometer use A39267

8) Cooler temp(s): In °C
1: 4.0 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) Yes Were bubbles present in volatile samples?
If yes, the following were received with air bubbles:
Larger than a pea: ____
Smaller than a pea: AZ07201W03

Preservation Hold time:

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

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

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

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

22) Yes Were unpreserved VOA Vials received? RS 11/14/15

23) Yes Are unpreserved VOA vials noted in the ADD TEST FIELD on the ARF?
pH strip lot number: 90B2031
Lab notified if pH was not adequate: METALS FILTER & PRESERVE. JR 11-13-14

CUSTODY SEAL
APPL, Inc. (209) 275-2175
Date 11/13/14
Initials JT

Notes/Deficiencies:

Personnel receiving samples: BB Second reviewer: RBP
Personnel labeling samples: ____
Project manager notified: ____ Date/Time of notification ____
Name of client notified: ____ Date/Time of notification ____

8011
for
DBCP & EDB Fumigants

APPL, INC.

8011
for
DBCP & EDB Fumigants
QC Summary

APPL, INC.

Method Blank
EPA 8011

Blank Name/QCG: **141118W-07202 - 192306**
Batch ID: #8011-141118A

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DBCP	0.019 U	0.02	0.019	0.007	ug/L	11/18/14	11/19/14
BLANK	EDB	0.020 U	0.02	0.020	0.010	ug/L	11/18/14	11/19/14
BLANK	SURROGATE: 1,3-DIBROMOPRO	94.6	70-132			%	11/18/14	11/19/14

Quant Method:80111118.M
Run #:1111350
Instrument:Herbie
Sequence:141111
Initials:MA

GC SC-Blank-REG MDLs
Printed: 11/25/14 12:08:19 PM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 74924

Case No: 74924 Date Analyzed: 11/19/14

Matrix: WATER Instrument: Herbie

APPL ID.	Client Sample No.	SURROGATE: 1,3-DIBROMOPROPANE (S)					
		Limits	Result	Qualifier	Limits	Result	Qualifier
141118A-BLK	Blank	70-132	94.6				
141118A-LCS	Lab Control Spike	70-132	105				
AZ07202	HW111214-01	70-132	83.0				
AZ07203	HW111214-02	70-132	76.1				

Comments: Batch: #8011-141118A

Laboratory Control Spike Recovery
EPA 8011

APPL ID: **141118W-07202 LCS - 192306**
Batch ID: #8011-141118A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DBCP	0.482	0.572	119	60-140
EDB	0.482	0.524	109	60-140
SURROGATE: 1,3-DIBROMOPROPANE (	0.350	0.368	105	70-132

Comments: _____

Primary	SPK
Quant Method :	80111118.M
Extraction Date :	11/18/14
Analysis Date :	11/19/14
Instrument :	Herbie
Run :	1111351
Initials :	MA

Printed: 11/25/14 12:08:20 PM
APPL Standard LCS

8011

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 74924

Case No: 74924 Date Analyzed: 11/19/14

Matrix: WATER Instrument: Herbie

Blank ID: 141118A-BLK Time Analyzed: 1043

APPL ID.	Client Sample No.	File ID.	Date Analyzed
141118A-BLK	Blank	1111350	11/19/14 1043
141118A-LCS	Lab Control Spike	1111351	11/19/14 1103
AZ07202	HW111214-01	1111353	11/19/14 1143
AZ07203	HW111214-02	1111354	11/19/14 1203

Comments: Batch: #8011-141118A

8011
for
DBCP & EDB Fumigants
Sample Data

APPL, INC.

EPA 8011

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

Project: 749435 Red Hill Phase 1b TO 0068

Sample ID: HW111214-01

Sample Collection Date: 11/12/14

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 74924

APPL ID: AZ07202

QCG: #8011-141118A-192306

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	DBCP	0.019 U	0.02	0.019	0.007	ug/L	11/18/14	11/19/14
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	11/18/14	11/19/14
8011	SURROGATE: 1,3-DIBROMOPROPANE	83.0	70-132			%	11/18/14	11/19/14

Quant Method: 80111118.M
Run #: 1111353
Instrument: Herbie
Sequence: 141111
Dilution Factor: 1
Initials: MA

Printed: 11/25/14 12:08:24 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\141111\1111353.D\ECD1A.CH Vial: 53
Signal #2 : G:\HERBIE\DATA\141111\1111353.D\ECD2B.CH
Acq On : 11-19-14 11:43:57 Operator:
Sample : AZ07202W07 2/34.01G Inst : Herbie
Misc : water Multiplr: 1.03
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 25 11:40 2014 Quant Results File: 80111118.RES

Quant Method : G:\HERBIE\DATA\141111\80111118.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 25 11:29:34 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

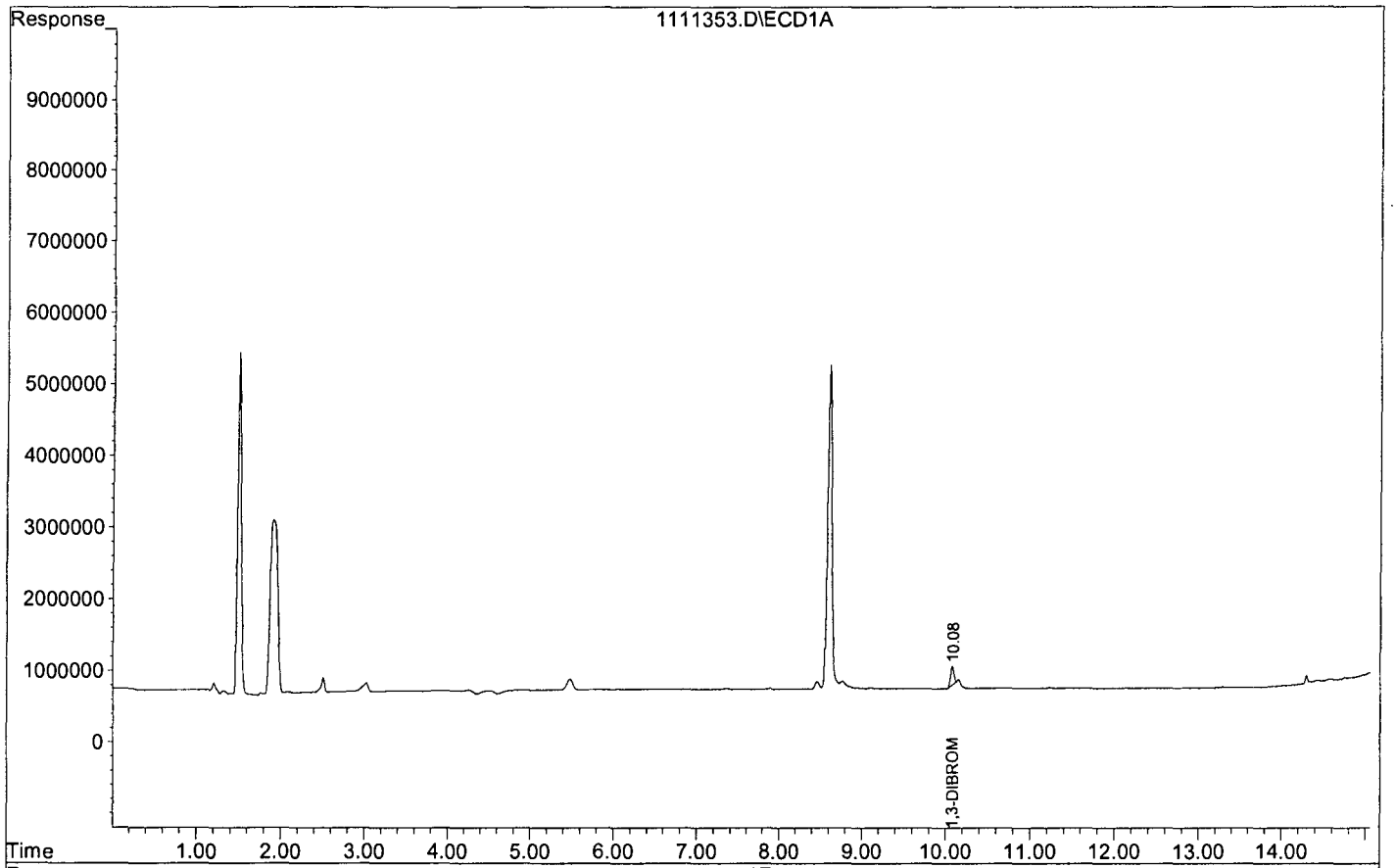
Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

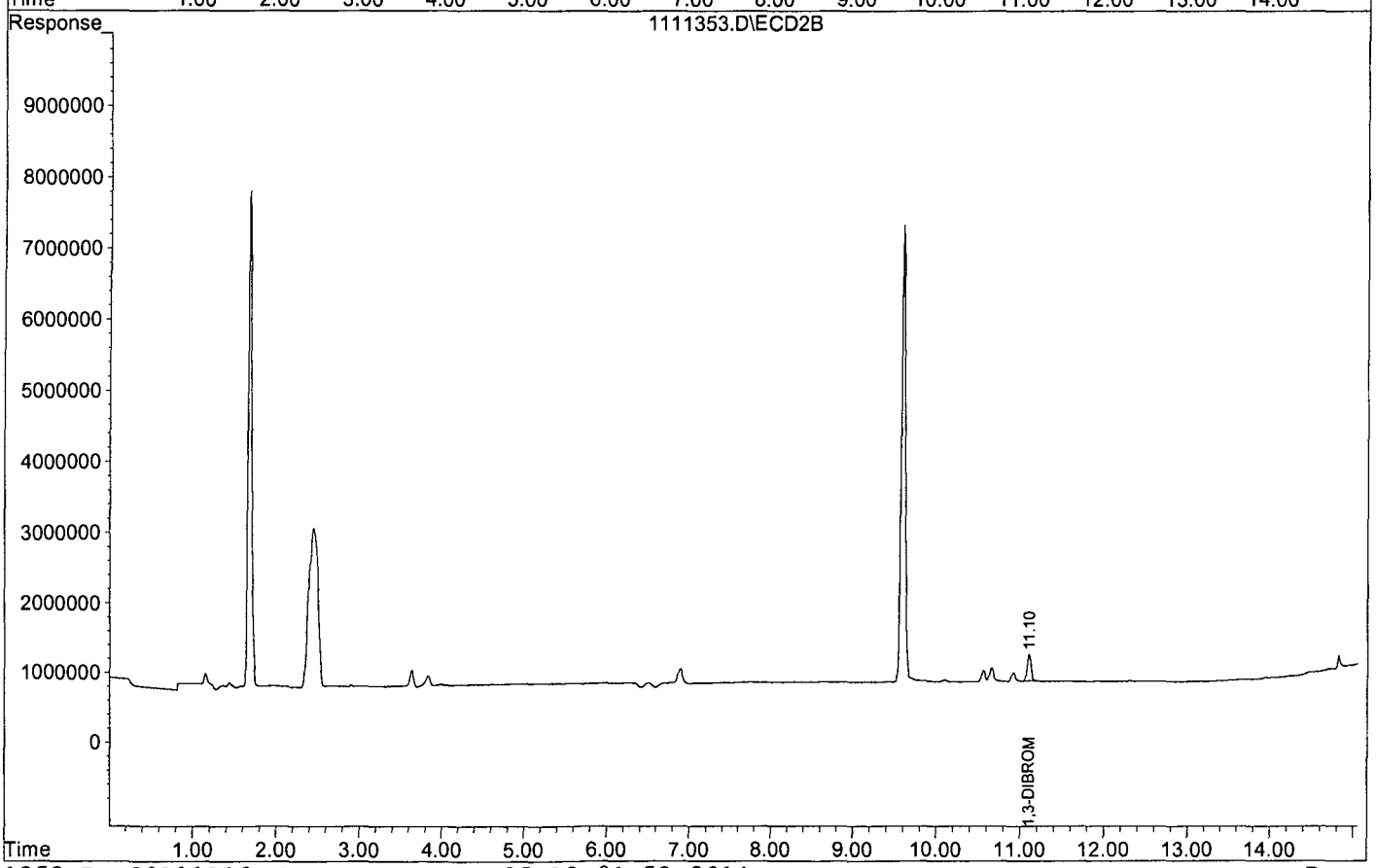
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.10	255694	383717	0.299	0.360
Spiked Amount	0.360			Recovery	=	83.01%	99.95%
	Target Compounds						
	Target Compounds						
1) TM	EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM	1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM	DBCP	0.00	0.00	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\141111\1111353.D Vial: 53
Acq On : 11-19-14 11:43:57 Operator:
Sample : AZ07202W07 2/34.01G Inst : Herbie
Misc : water Multiplr: 1.03
Quant Method : G:\HERBIE\DATA\141111\80111118.M





EPA 8011

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: 749435 Red Hill Phase 1b TO 0068

ARF: 74924

Sample ID: HW111214-02

APPL ID: AZ07203

Sample Collection Date: 11/12/14

QCG: #8011-141118A-192306

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
8011	DBCP	0.019 U	0.02	0.019	0.007	ug/L	11/18/14	11/19/14
8011	EDB	0.020 U	0.02	0.020	0.010	ug/L	11/18/14	11/19/14
8011	SURROGATE: 1,3-DIBROMOPROPANE	76.1	70-132			%	11/18/14	11/19/14

Quant Method: 80111118.M
Run #: 1111354
Instrument: Herbie
Sequence: 141111
Dilution Factor: 1
Initials: MA

Printed: 11/25/14 12:08:24 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\141111\1111354.D\ECD1A.CH Vial: 54
Signal #2 : G:\HERBIE\DATA\141111\1111354.D\ECD2B.CH
Acq On : 11-19-14 12:03:56 Operator:
Sample : AZ07203W07 2/34.80G Inst : Herbie
Misc : water Multiplr: 1.01
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 25 11:40 2014 Quant Results File: 80111118.RES

Quant Method : G:\HERBIE\DATA\141111\80111118.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 25 11:29:34 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

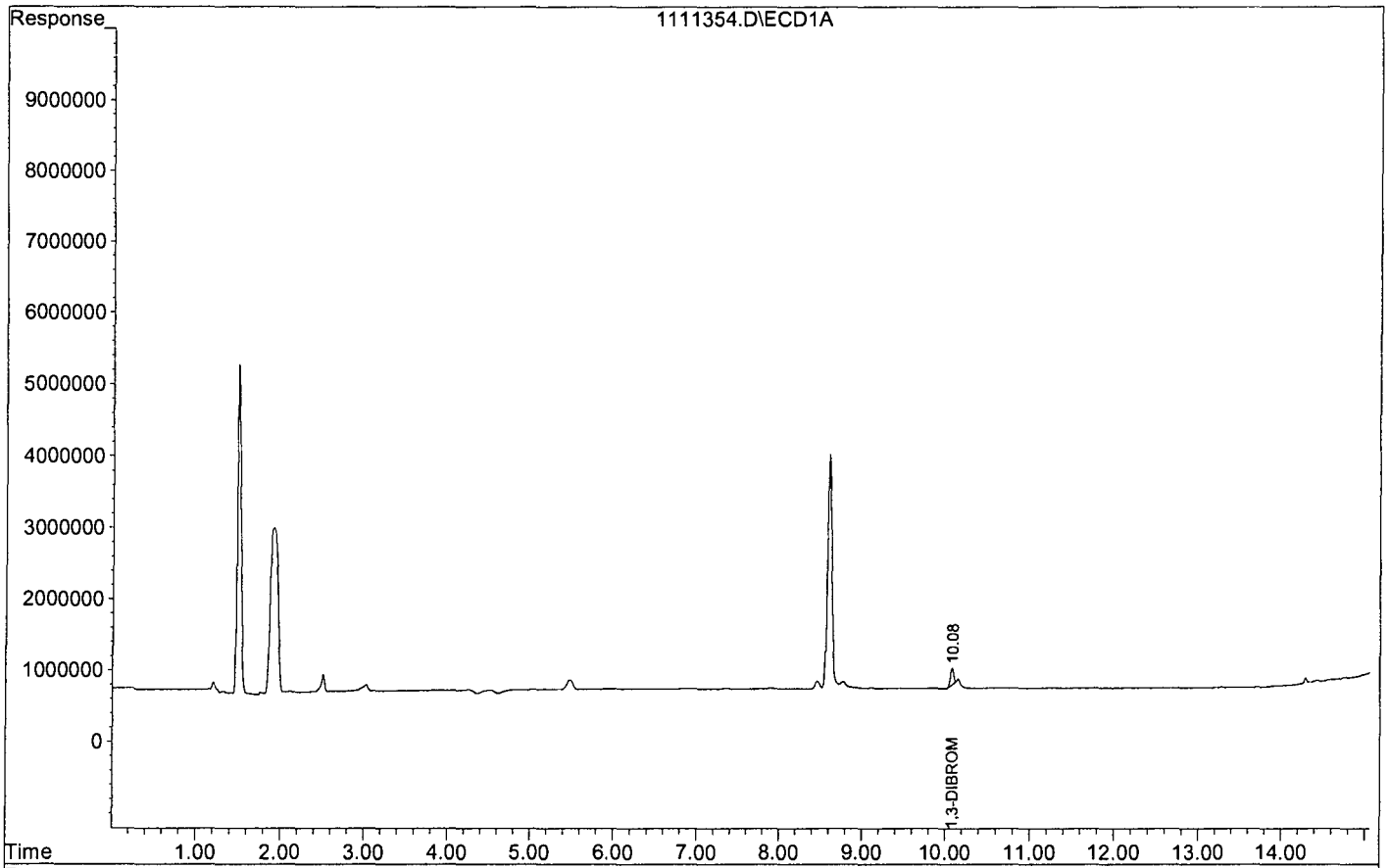
Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

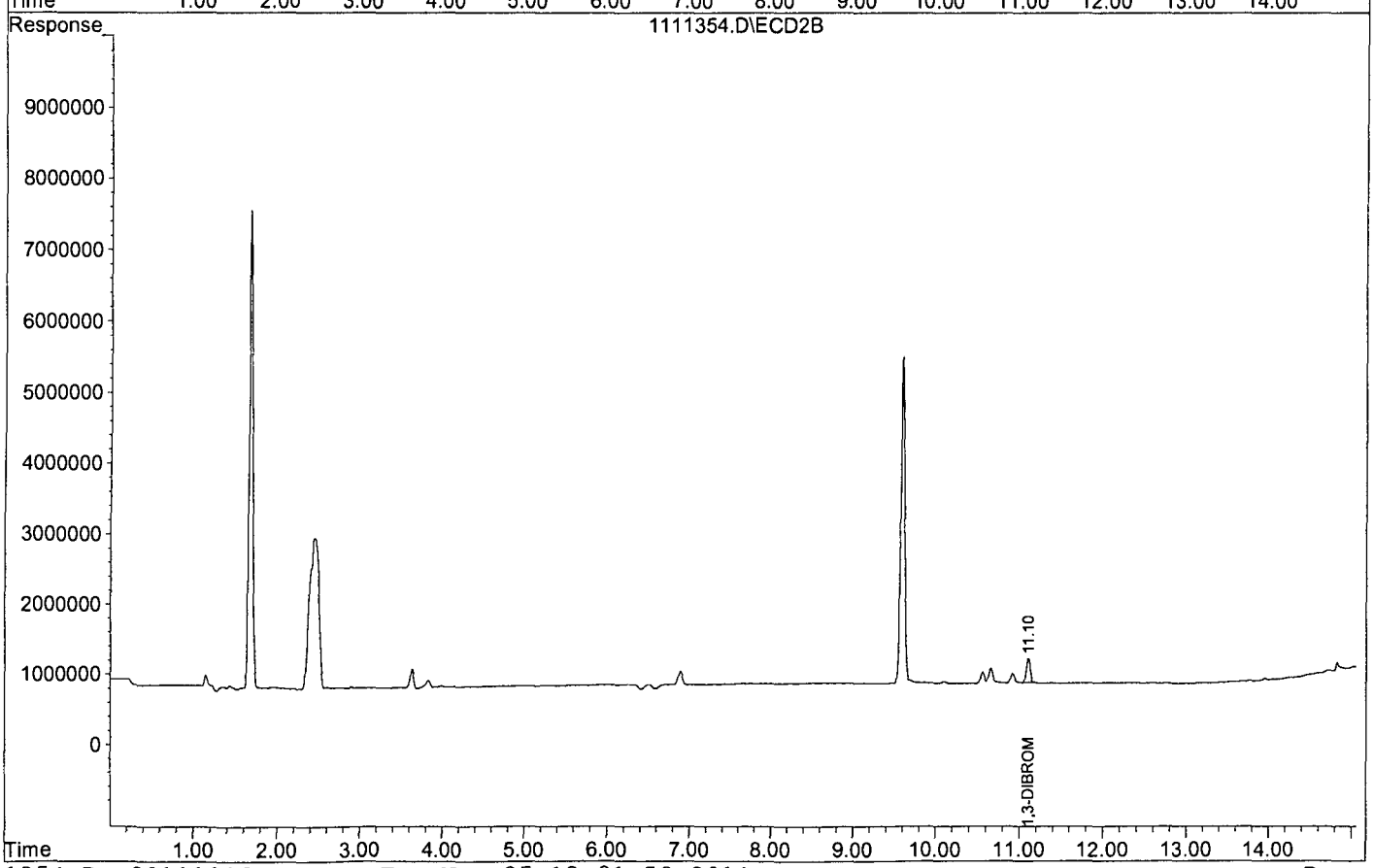
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.10	234482	349734	0.268	0.321
Spiked Amount	0.352			Recovery	=	76.13%	91.19%
	Target Compounds						
	Target Compounds						
1) TM	EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM	1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM	DBCP	0.00	0.00	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\141111\1111354.D Vial: 54
Acq On : 11-19-14 12:03:56 Operator:
Sample : AZ07203W07 2/34.80G Inst : Herbie
Misc : water Multiplr: 1.01
Quant Method : G:\HERBIE\DATA\141111\80111118.M





8011
for
DBCP & EDB Fumigants
Calibration Data

APPL, INC.

DBCP/EDB/1,2,3-TCP Analysis by
8011 1118

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No: 74924
Case No: Initial Cal. Date: 11/19/14
Matrix: Water Instrument: Herbie Initials: MA

1111344.D 1111345.D 1111346.D 1111347.D 1111348.D 1111349 D

		Compound	1	2	3	4	5	6					Avg	%RSD		
1	TM	EDB	674412	592279	543871	519088	516049	476287					553664	13	TM	
2	TM	1,2,3-TCP	39765	127945	122916	117973	116062	108419					105513	31	TM	NT
3	S	1,3-DIBROMOPROPANE(S)	506647	460485	440393	421149	424575	386762					440002	9.3	S	
4	TM	DBCP	1673235	1469307	1475613	1427234	1470234	1345545					1476861	7.3	TM	
5		Signal #2														
6	TM	EDB #2	994824	823822	791619	784595	784626	747574					821177	11	TM	
7	TM	1,2,3-TCP #2	181118	164237	159480	154664	155352	142949					159633	7.9	TM	
8	S	1,3-DIBROMOPROPANE(S) #2	534000	586283	544545	550081	556843	517593					548224	4.2	S	
9	TM	DBCP #2	2352206	2585261	2589821	2644056	2692506	2523248					2564516	4.6	TM	
10																
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35																

2.5145884

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\141111\1111344.D\ECD1A.CH Vial: 44
Signal #2 : G:\HERBIE\DATA\141111\1111344.D\ECD2B.CH
Acq On : 11-19-14 8:44:20 Operator:
Sample : 504-1 2/33.88G 11/18/14 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 25 11:27 2014 Quant Results File: 80111118.RES

Quant Method : G:\HERBIE\DATA\141111\80111118.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Nov 12 09:56:39 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

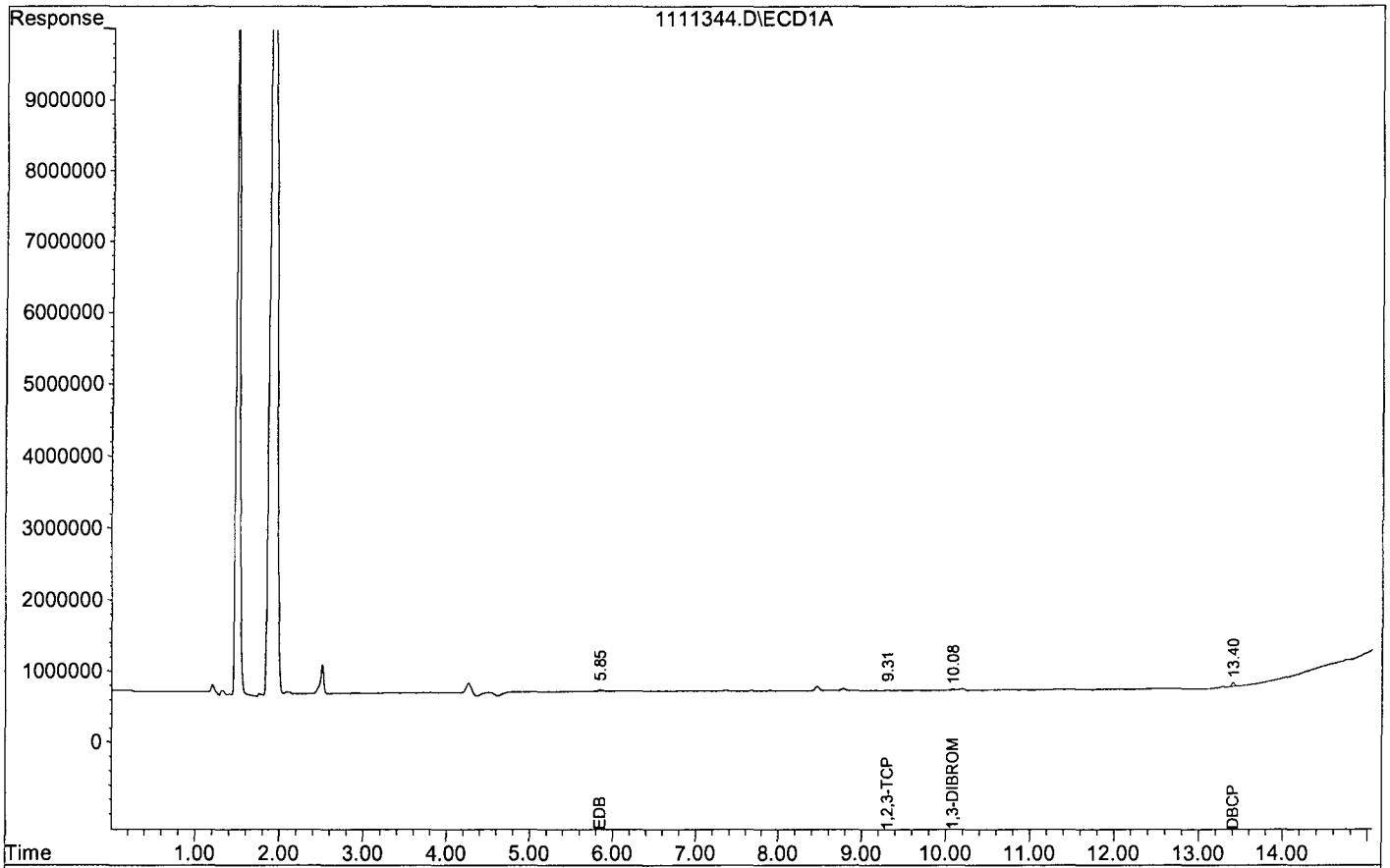
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L	
	System Monitoring Compounds							
3) S	1,3-DIBROMOPROPA	10.08	11.10	17226	18156	0.021	0.017	
Spiked Amount	0.350			Recovery	=	6.00%	4.86%	
	Target Compounds							
1) TM	EDB	5.85	7.28	22930	33824	0.022	0.020	
2) TM	1,2,3-TCP	9.31	10.52	1352	6158	0.006	0.019	#
4) TM	DBCP	13.40	14.13	56890	79975	0.020	0.014	#

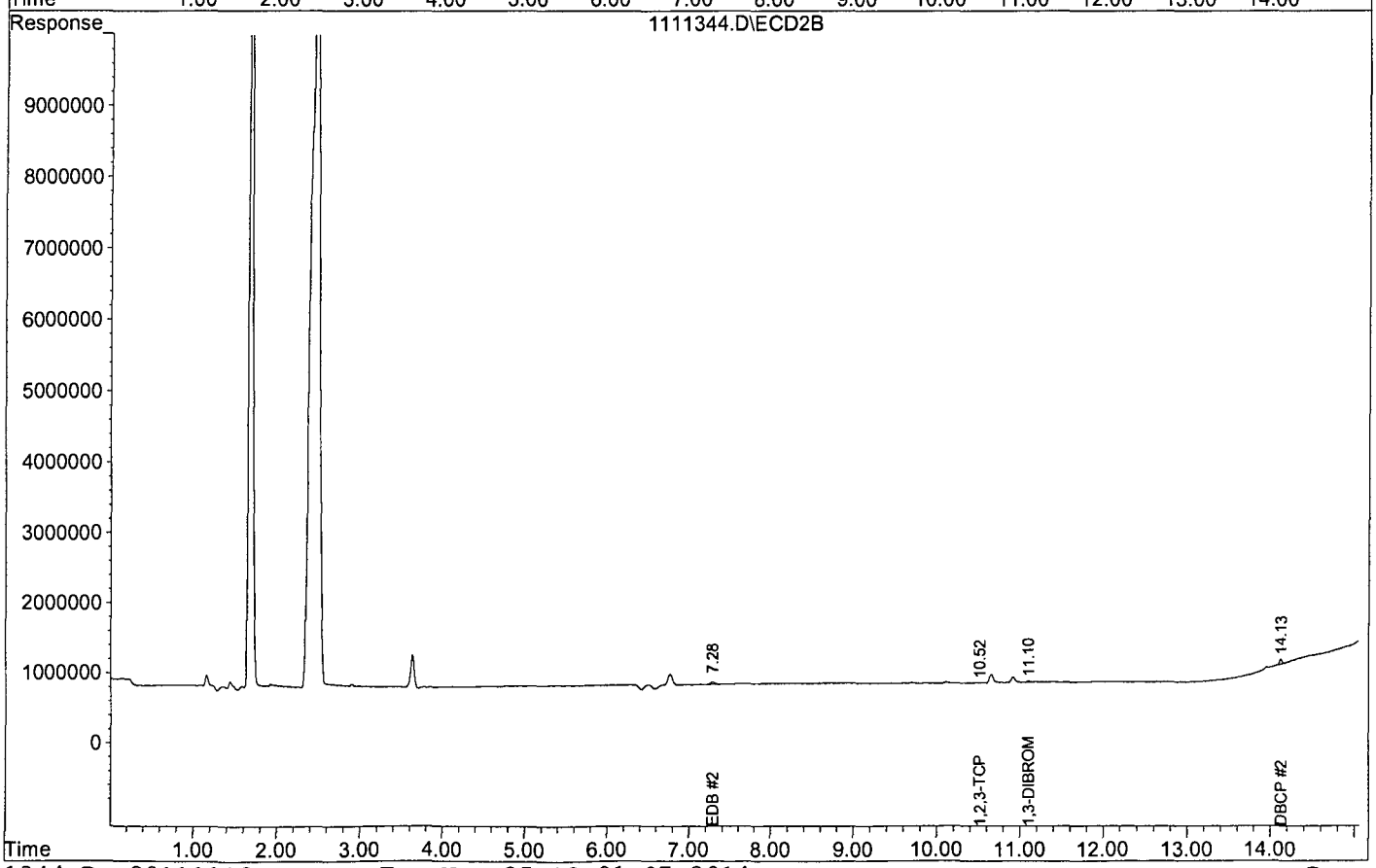
Target Compounds

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\141111\1111344.D Vial: 44
Acq On : 11-19-14 8:44:20 Operator:
Sample : 504-1 2/33.88G 11/18/14 Inst : Herbie
Misc : Multiplr: 1.00
Quant Method : G:\HERBIE\DATA\141111\80111118.M





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141111\1111345.D\ECD1A.CH Vial: 45
Signal #2 : G:\HERBIE\DATA\141111\1111345.D\ECD2B.CH
Acq On : 11-19-14 9:04:08 Operator:
Sample : 504-2 2/33.35G 11/18/14 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 25 11:27 2014 Quant Results File: 80111118.RES

Quant Method : G:\HERBIE\DATA\141111\80111118.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Nov 12 09:56:39 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

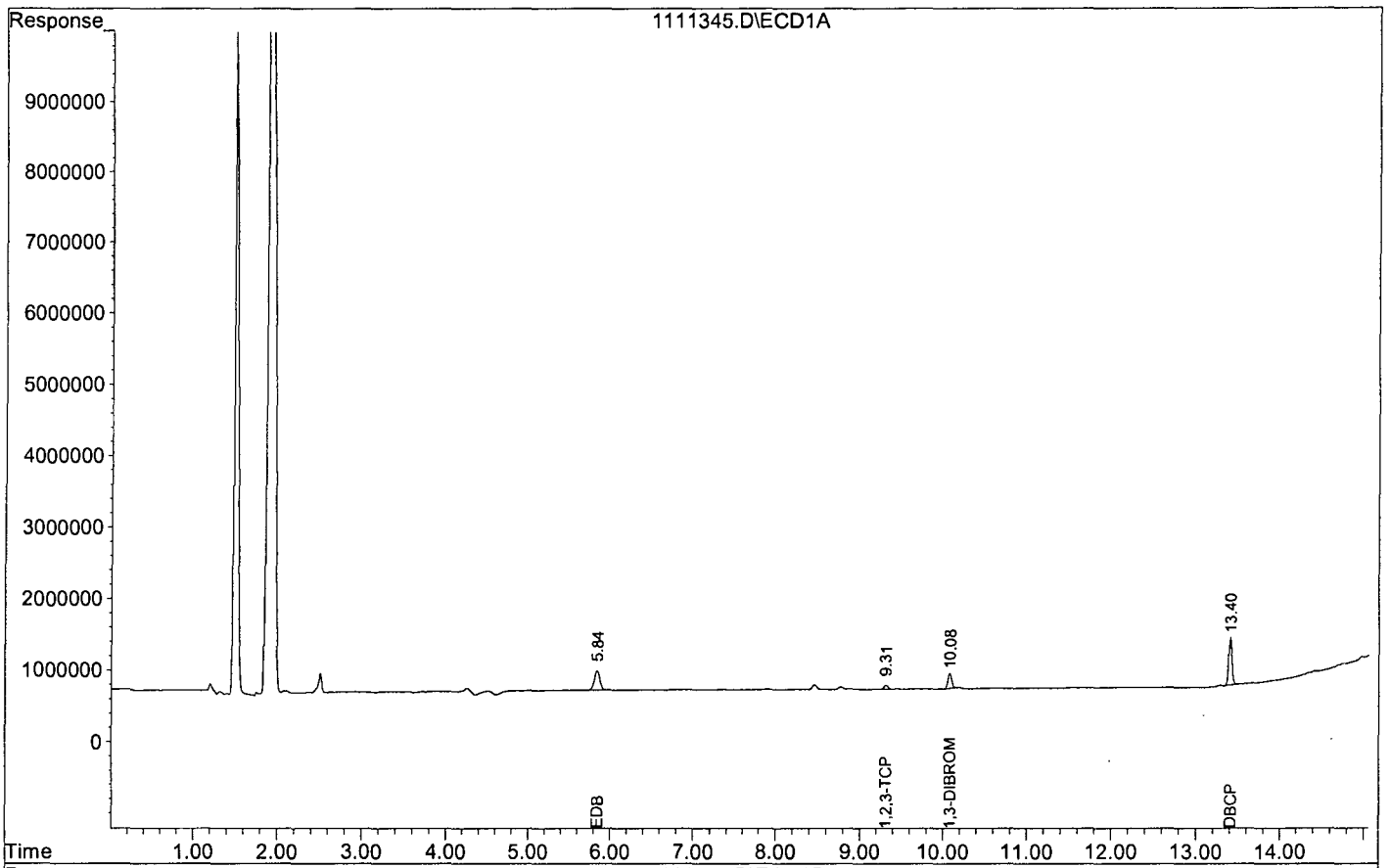
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.11	209981	267345	0.253	0.251
Spiked Amount	0.350			Recovery	=	72.29%	71.71%
	Target Compounds						
1) TM	EDB	5.84	7.29	270079	375663	0.254	0.228
2) TM	1,2,3-TCP	9.31	10.51	58343	74892	0.257	0.229
4) TM	DBCP	13.40	14.13	670004	1178879	0.232	0.207

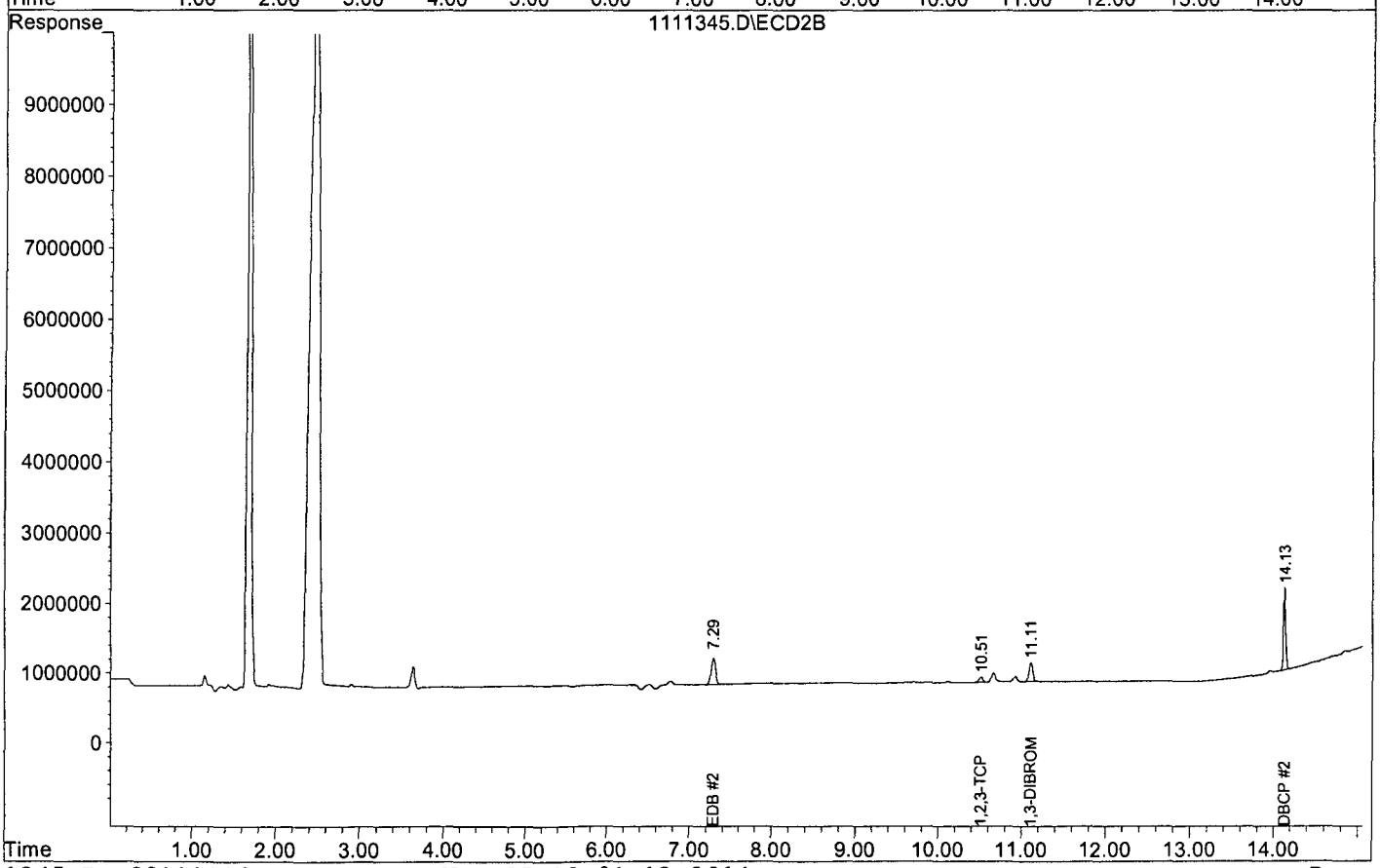
Target Compounds

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141111\1111345.D Vial: 45
Acq On : 11-19-14 9:04:08 Operator:
Sample : 504-2 2/33.35G 11/18/14 Inst : Herbie
Misc : Multiplr: 1.00
Quant Method : G:\HERBIE\DATA\141111\80111118.M





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141111\1111346.D\ECD1A.CH Vial: 46
Signal #2 : G:\HERBIE\DATA\141111\1111346.D\ECD2B.CH
Acq On : 11-19-14 9:24:00 Operator:
Sample : 504-3 2/33.09G 11/18/14 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 25 11:27 2014 Quant Results File: 80111118.RES

Quant Method : G:\HERBIE\DATA\141111\80111118.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Nov 12 09:56:39 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

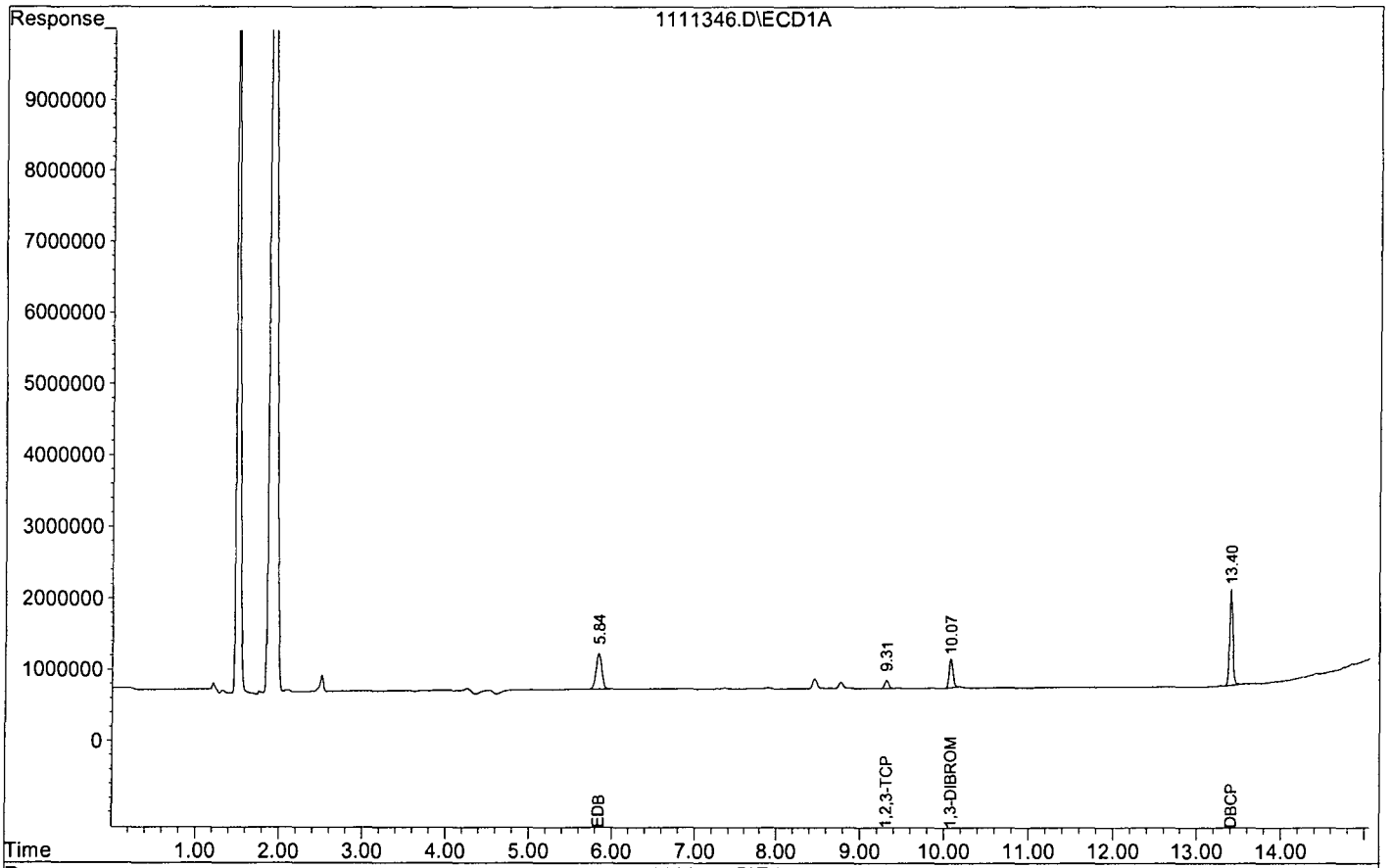
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.07	11.10	402519	497714	0.484	0.467
Spiked Amount	0.350			Recovery	=	138.29%	133.43%
	Target Compounds						
1) TM	EDB	5.84	7.28	497098	723540	0.468	0.438
2) TM	1,2,3-TCP	9.31	10.51	112345	145765	0.495	0.446
4) TM	DBCP	13.40	14.13	1348710	2367096	0.468	0.417

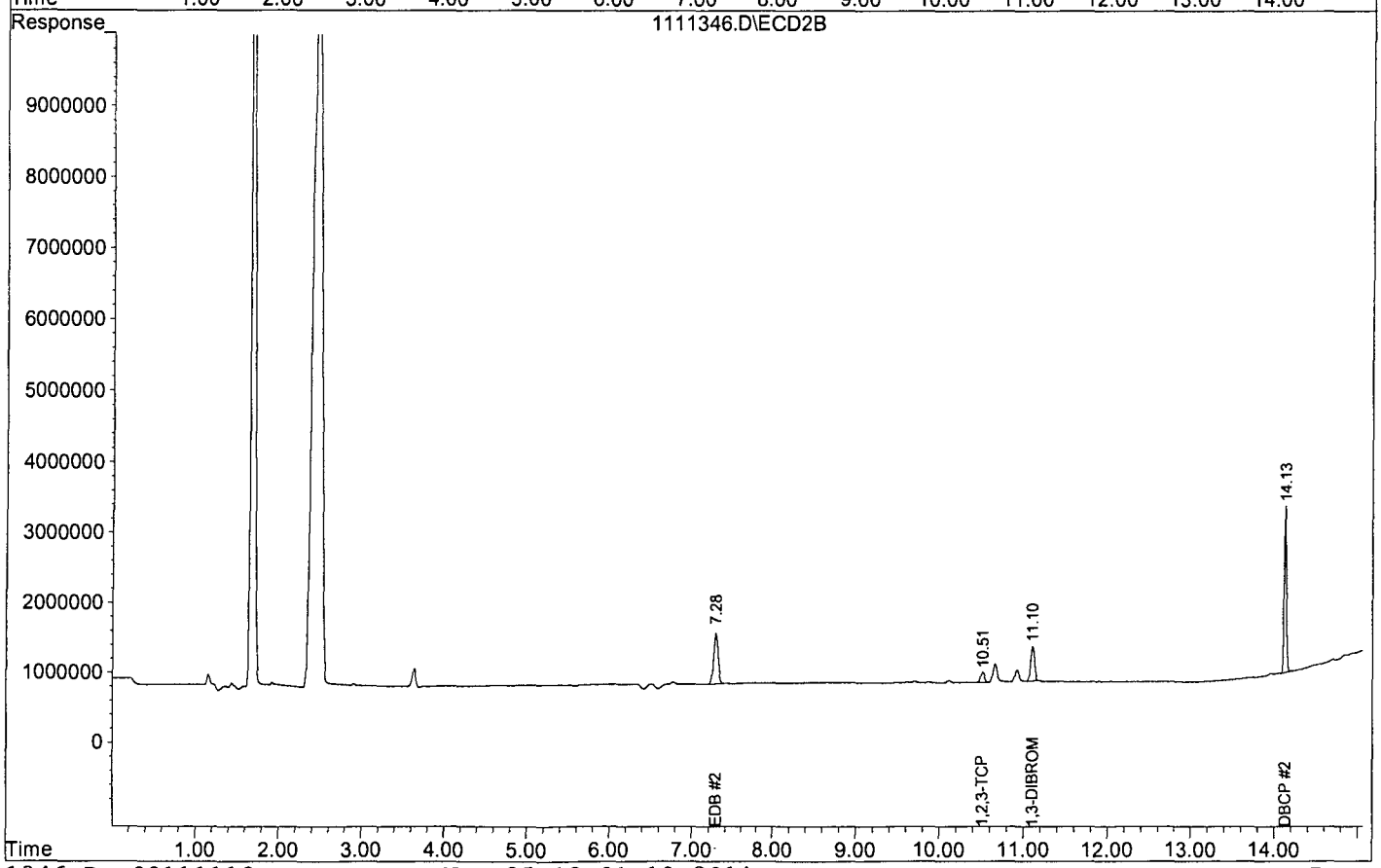
Target Compounds

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141111\1111346.D Vial: 46
Acq On : 11-19-14 9:24:00 Operator:
Sample : 504-3 2/33.09G 11/18/14 Inst : Herbie
Misc : Multiplr: 1.00
Quant Method : G:\HERBIE\DATA\141111\80111118.M





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141111\1111347.D\ECD1A.CH Vial: 47
Signal #2 : G:\HERBIE\DATA\141111\1111347.D\ECD2B.CH
Acq On : 11-19-14 9:43:56 Operator:
Sample : 504-4 2/30.81G 11/18/14 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 25 11:27 2014 Quant Results File: 80111118.RES

Quant Method : G:\HERBIE\DATA\141111\80111118.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Nov 12 09:56:39 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

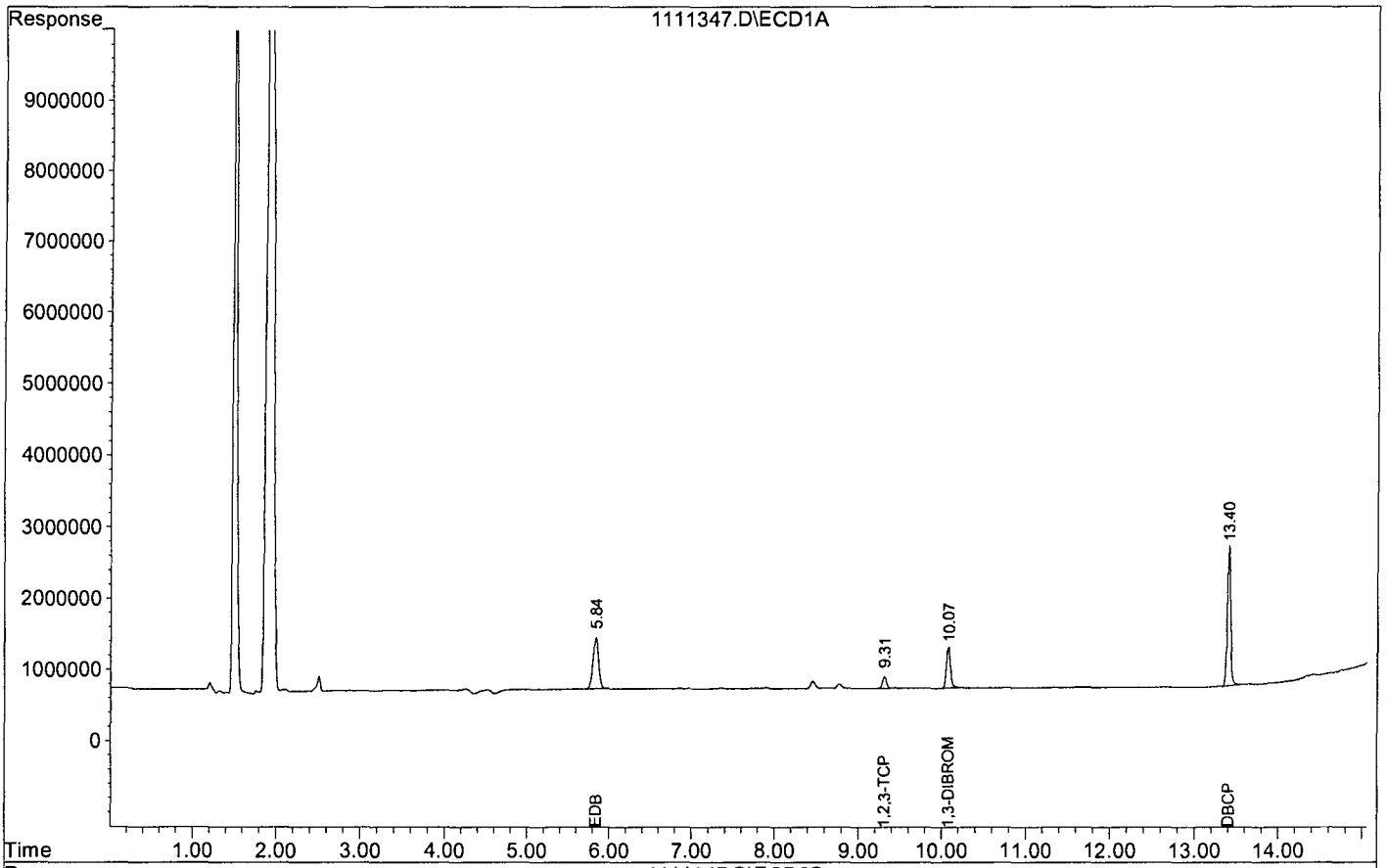
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.07	11.10	576974	753611	0.694	0.707
Spiked Amount	0.350			Recovery	=	198.29%	202.00%
	Target Compounds						
1) TM	EDB	5.84	7.28	711150	1074895	0.670	0.651
2) TM	1,2,3-TCP	9.31	10.51	161623	211889	0.712	0.648
4) TM	DBCP	13.40	14.13	1955311	3622357	0.678	0.638

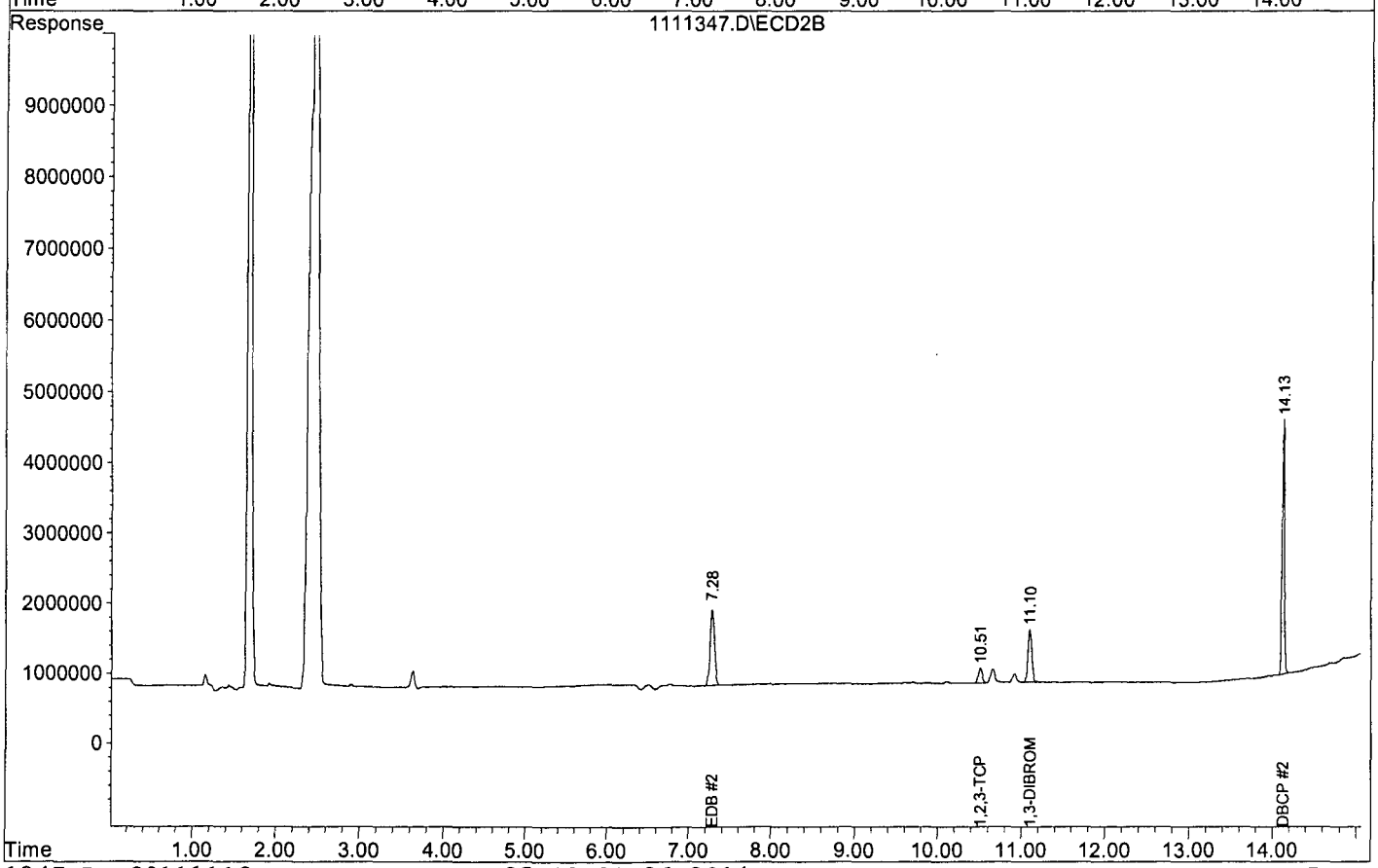
Target Compounds

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141111\1111347.D Vial: 47
Acq On : 11-19-14 9:43:56 Operator:
Sample : 504-4 2/30.81G 11/18/14 Inst : Herbie
Misc : Multiplr: 1.00
Quant Method : G:\HERBIE\DATA\141111\80111118.M





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141111\1111348.D\ECD1A.CH Vial: 48
Signal #2 : G:\HERBIE\DATA\141111\1111348.D\ECD2B.CH
Acq On : 11-19-14 10:03:53 Operator:
Sample : 504-5 2/30.69G 11/18/14 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 25 11:27 2014 Quant Results File: 80111118.RES

Quant Method : G:\HERBIE\DATA\141111\80111118.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Nov 12 09:56:39 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

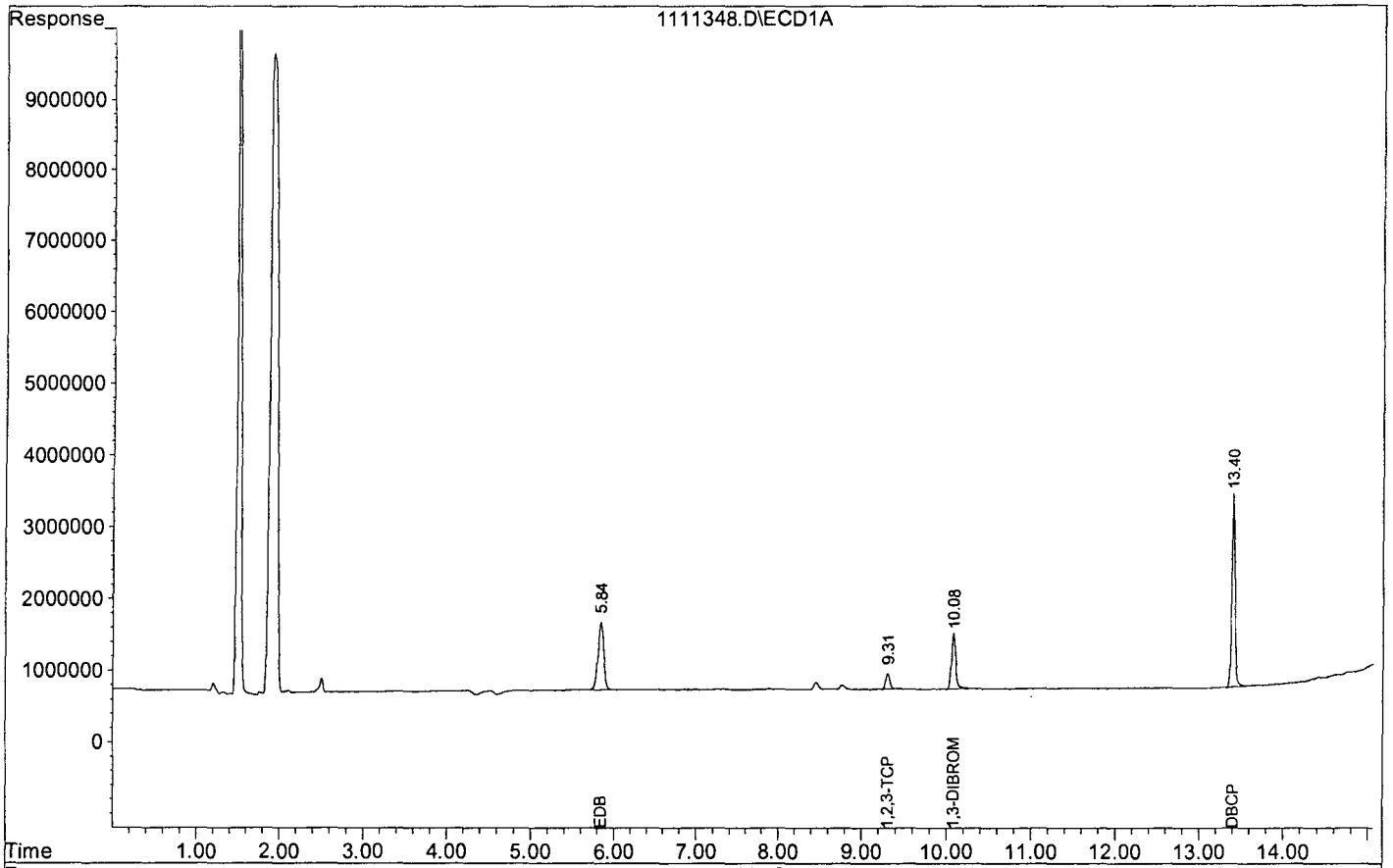
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.10	776124	1017909	0.934	0.955
Spiked Amount	0.350			Recovery	=	266.86%	272.86%
	Target Compounds						
1) TM	EDB	5.84	7.28	943338	1434296	0.888	0.869
2) TM	1,2,3-TCP	9.31	10.51	212161	283983	0.934	0.869
4) TM	DBCP	13.40	14.13	2687587	4921901	0.932	0.866

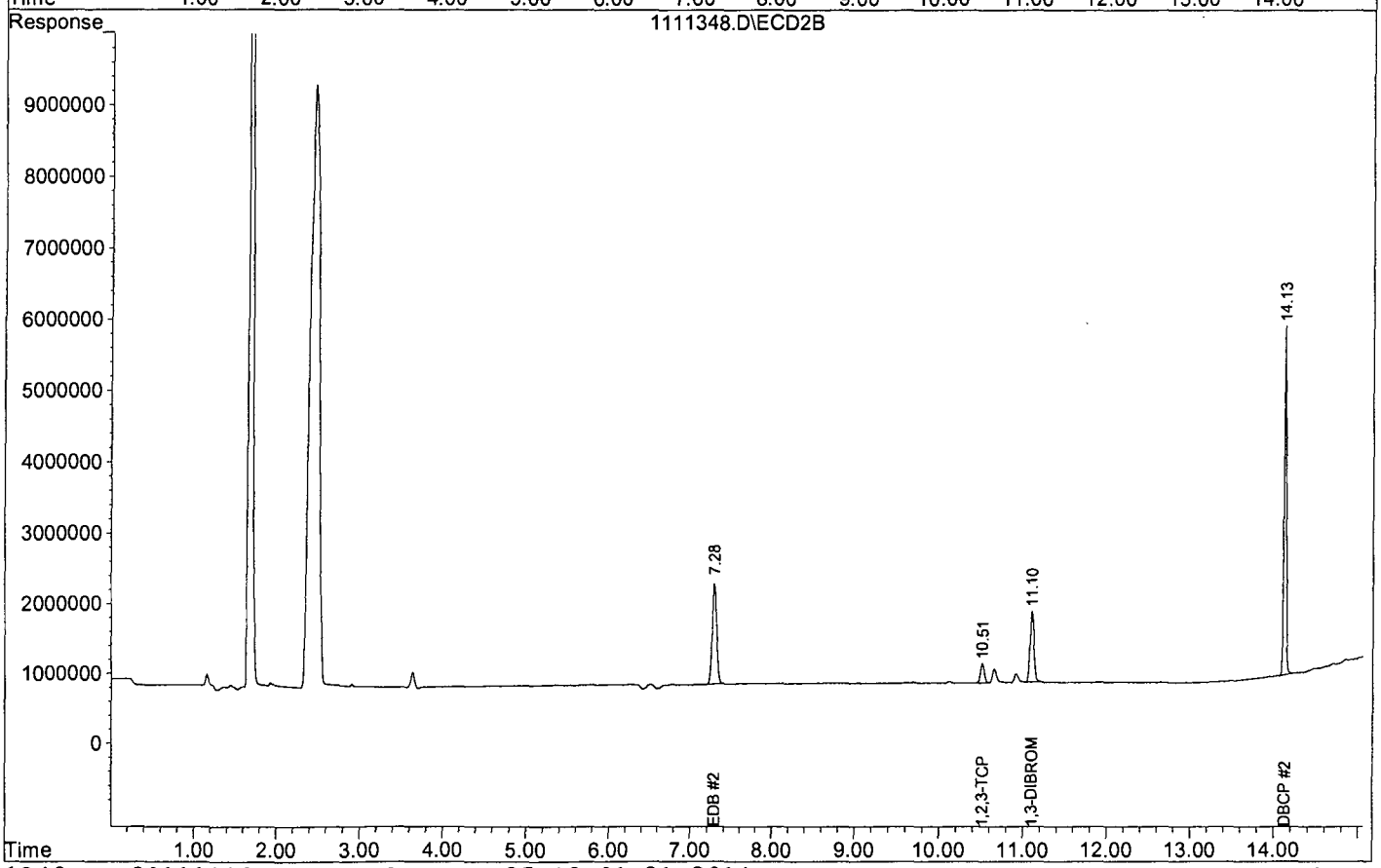
Target Compounds

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141111\1111348.D Vial: 48
Acq On : 11-19-14 10:03:53 Operator:
Sample : 504-5 2/30.69G 11/18/14 Inst : Herbie
Misc : Multiplr: 1.00
Quant Method : G:\HERBIE\DATA\141111\80111118.M





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141111\1111349.D\ECD1A.CH Vial: 49
Signal #2 : G:\HERBIE\DATA\141111\1111349.D\ECD2B.CH
Acq On : 11-19-14 10:23:52 Operator:
Sample : 504-6 2/33.48G 11/18/14 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 25 11:27 2014 Quant Results File: 80111118.RES

Quant Method : G:\HERBIE\DATA\141111\80111118.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Wed Nov 12 09:56:39 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

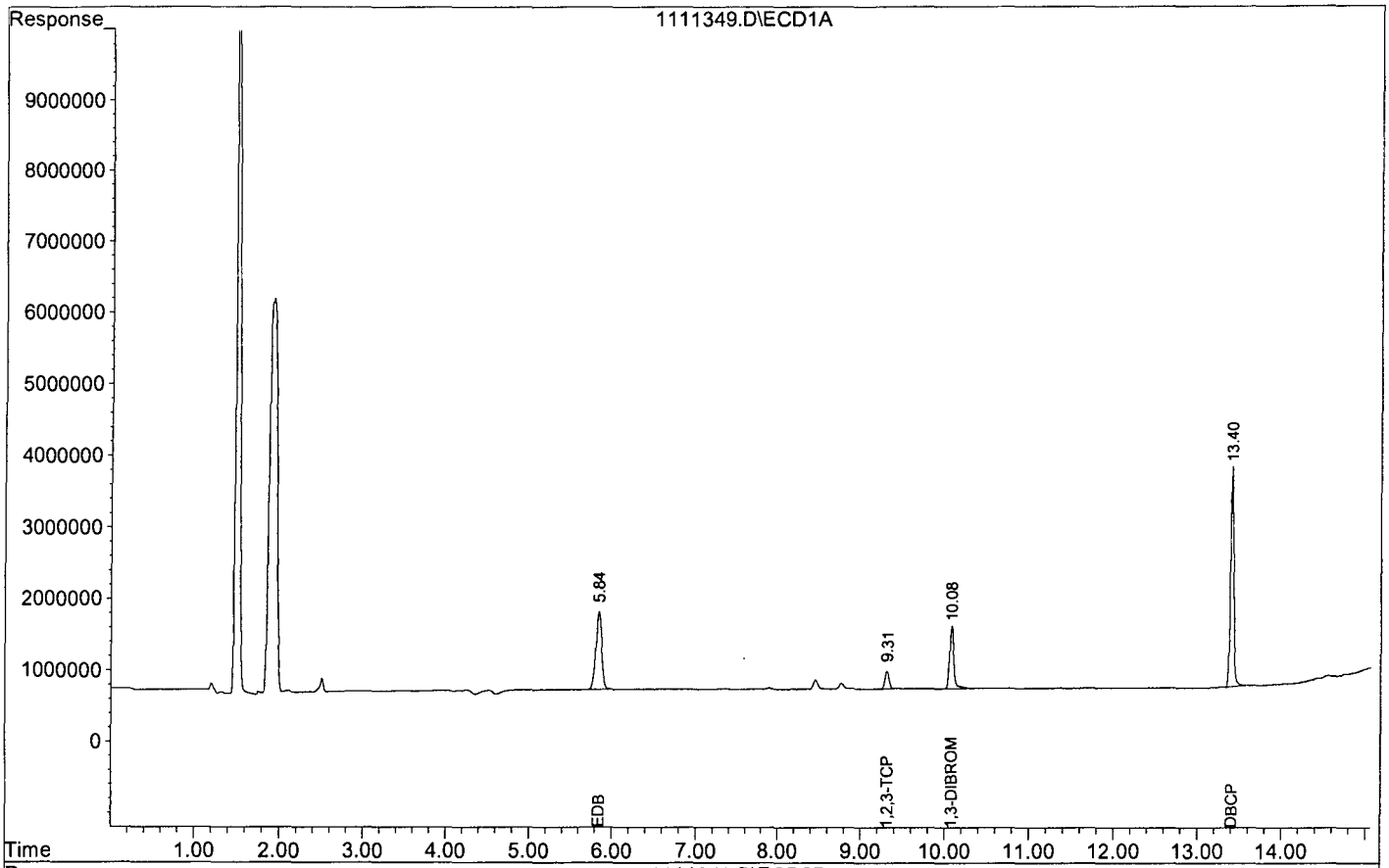
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.11	883365	1182182	1.063	1.109
Spiked Amount	0.350			Recovery	=	303.71%	316.86%
	Target Compounds						
1) TM	EDB	5.84	7.29	1087840	1707459	1.024	1.035
2) TM	1,2,3-TCP	9.31	10.51	247628	326495	1.091	0.999
4) TM	DBCP	13.40	14.13	3073225	5763098	1.066	1.014

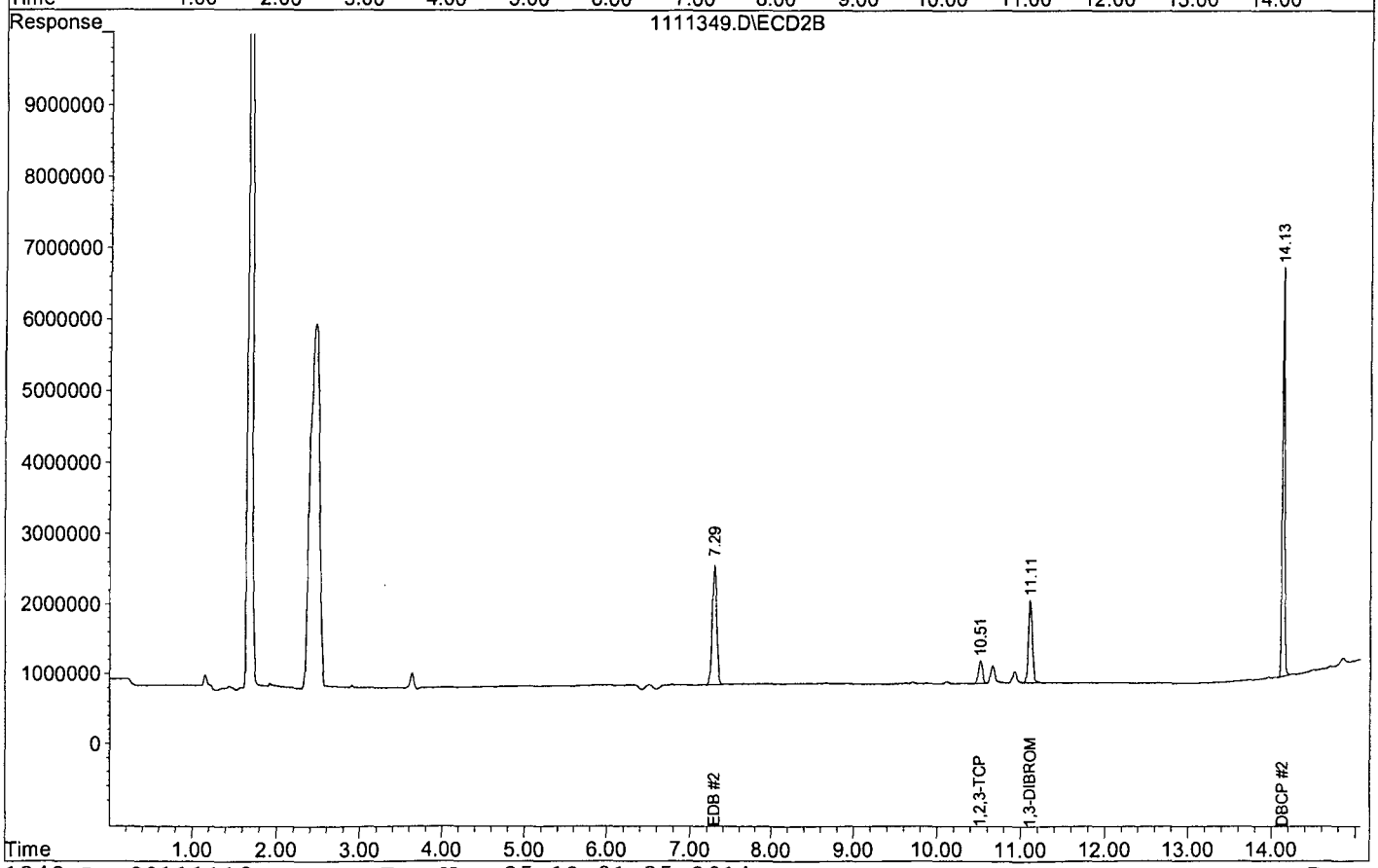
Target Compounds

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141111\1111349.D Vial: 49
Acq On : 11-19-14 10:23:52 Operator:
Sample : 504-6 2/33.48G 11/18/14 Inst : Herbie
Misc : Multiplr: 1.00
Quant Method : G:\HERBIE\DATA\141111\80111118.M





Form 7

Second Source Calibration

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

SDG No: 74924
Date Analyzed: 11/19/14
Instrument: Herbie
Initial Cal. Date: 11/19/14
Data File: 1111352.D

		Compound	MEAN	CCRF	%D		%Drift	
1	TM	EDB	553664	602832	8.9	TM		
2	TM	1,2,3-TCP	105513	143515	36	TM		*NT
3	TM	DBCP	1476860	1757050	19	TM		
4	signal #2							
5	TM	EDB	821177	893678	8.8	TM		
6	TM	1,2,3-TCP	159633	187922	18	TM		
7	TM	DBCP	2564520	3126370	22	TM		*
8								
9								
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38								
39								
		Average			18.8			

DBCP/EDB/1,2,3-TCP Analysis by

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141111\1111352.D\ECD1A.CH Vial: 52
Signal #2 : G:\HERBIE\DATA\141111\1111352.D\ECD2B.CH
Acq On : 11-19-14 11:23:55 Operator:
Sample : 141118A LCS-2 2/33.26G Inst : Herbie
Misc : water Multiplr: 1.05
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 25 11:51 2014 Quant Results File: 80111118.RES

Quant Method : G:\HERBIE\DATA\141111\80111118.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 25 11:41:44 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

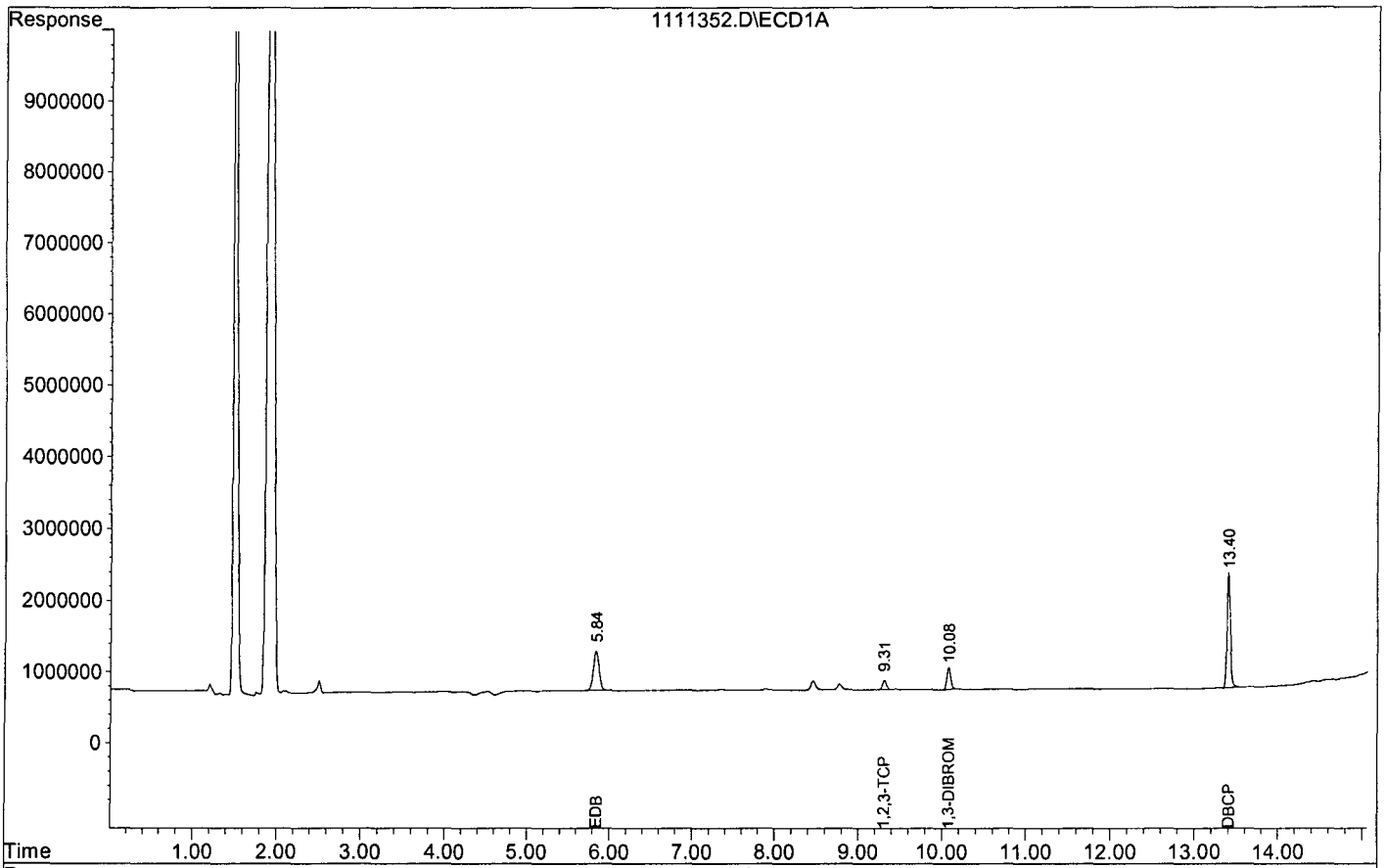
Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

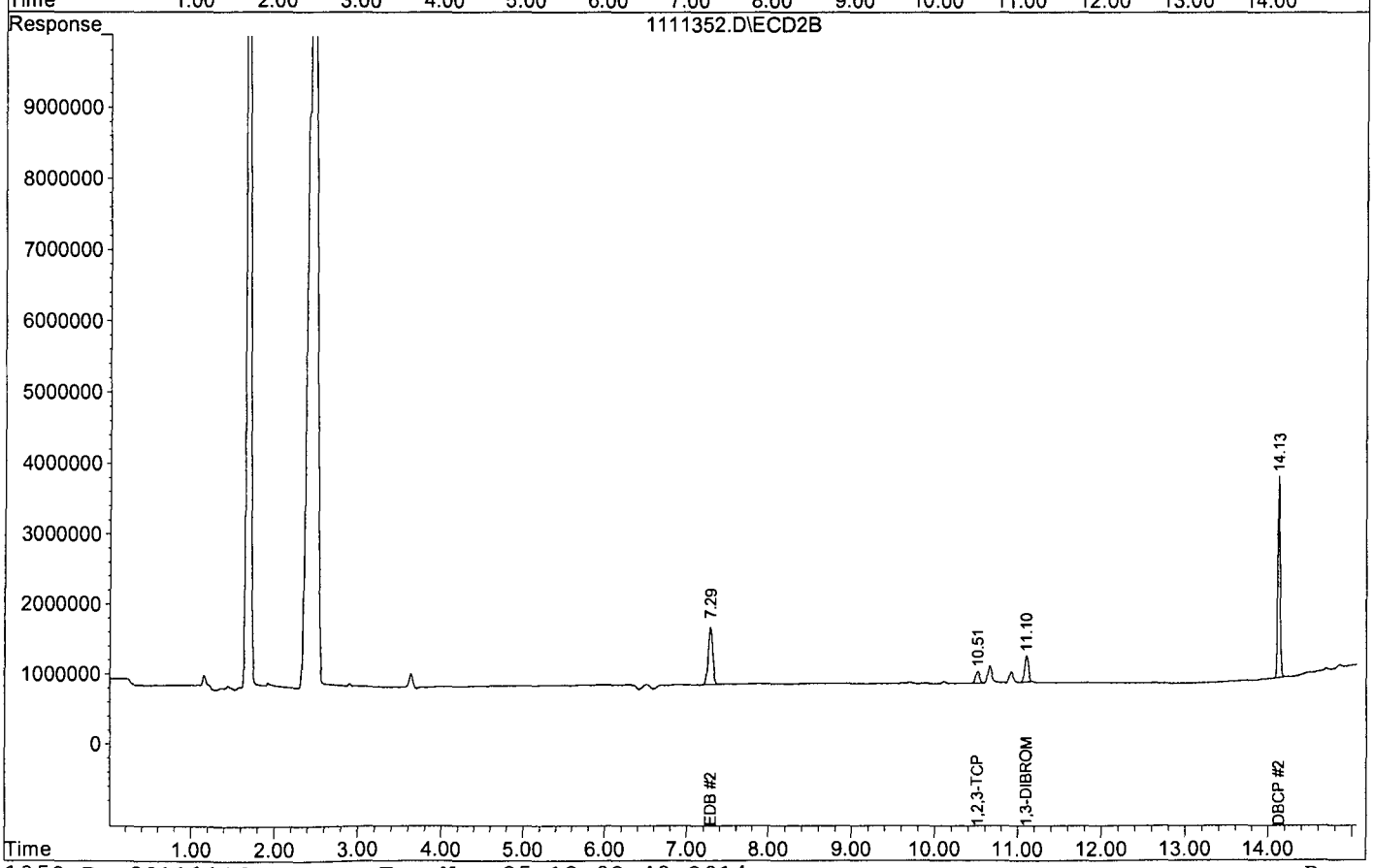
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.10	307383	375884	0.368	0.361
Spiked Amount	0.368			Recovery	=	99.92%	98.02%
	Target Compounds						
1) TM	EDB	5.84	7.29	550988	816822	0.524	0.523
2) TM	1,2,3-TCP	9.31	10.51	131173	171761	0.654	0.566
4) TM	DBCP	13.40	14.13	1605947	2857504	0.572	0.586
	Target Compounds						

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141111\1111352.D Vial: 52
Acq On : 11-19-14 11:23:55 Operator:
Sample : 141118A LCS-2 2/33.26G Inst : Herbie
Misc : water Multiplr: 1.05
Quant Method : G:\HERBIE\DATA\141111\80111118.M





DBCP/EDB/1,2,3-TCP Analysis by
8011 1118

Form 7

Continuing Calibration

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

SDG No: 74924
Date Analyzed: 11/19/14
Instrument: Herbie
Initial Cal. Date: 11/19/14
Data File: 1111357.D

		Compound	MEAN	CCRF	%D		%Drift
1	TM	EDB	553664	538567	2.7	TM	
2	TM	1,2,3-TCP	105513	124190	18	TM	
3	S	1,3-DIBROMOPROPANE(S)	440002	451891	2.7	S	
4	TM	DBCP	1476860	1527090	3.4	TM	
5	signal #2						
6	TM	EDB	821177	793945	3.3	TM	
7	TM	1,2,3-TCP	159633	162545	1.8	TM	
8	S	1,3-DIBROMOPROPANE(S)	548224	556350	1.5	S	
9	TM	DBCP	2564520	2732360	6.5	TM	
10							
11							
12							
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		Average			#REF!		

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141111\1111357.D\ECD1A.CH Vial: 57
Signal #2 : G:\HERBIE\DATA\141111\1111357.D\ECD2B.CH
Acq On : 11-19-14 13:04:14 Operator:
Sample : 504-3 11/18/14 Inst : Herbie
Misc : Multiplr: 1.00
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 25 11:42 2014 Quant Results File: 80111118.RES

Quant Method : G:\HERBIE\DATA\141111\80111118.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 25 11:41:44 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

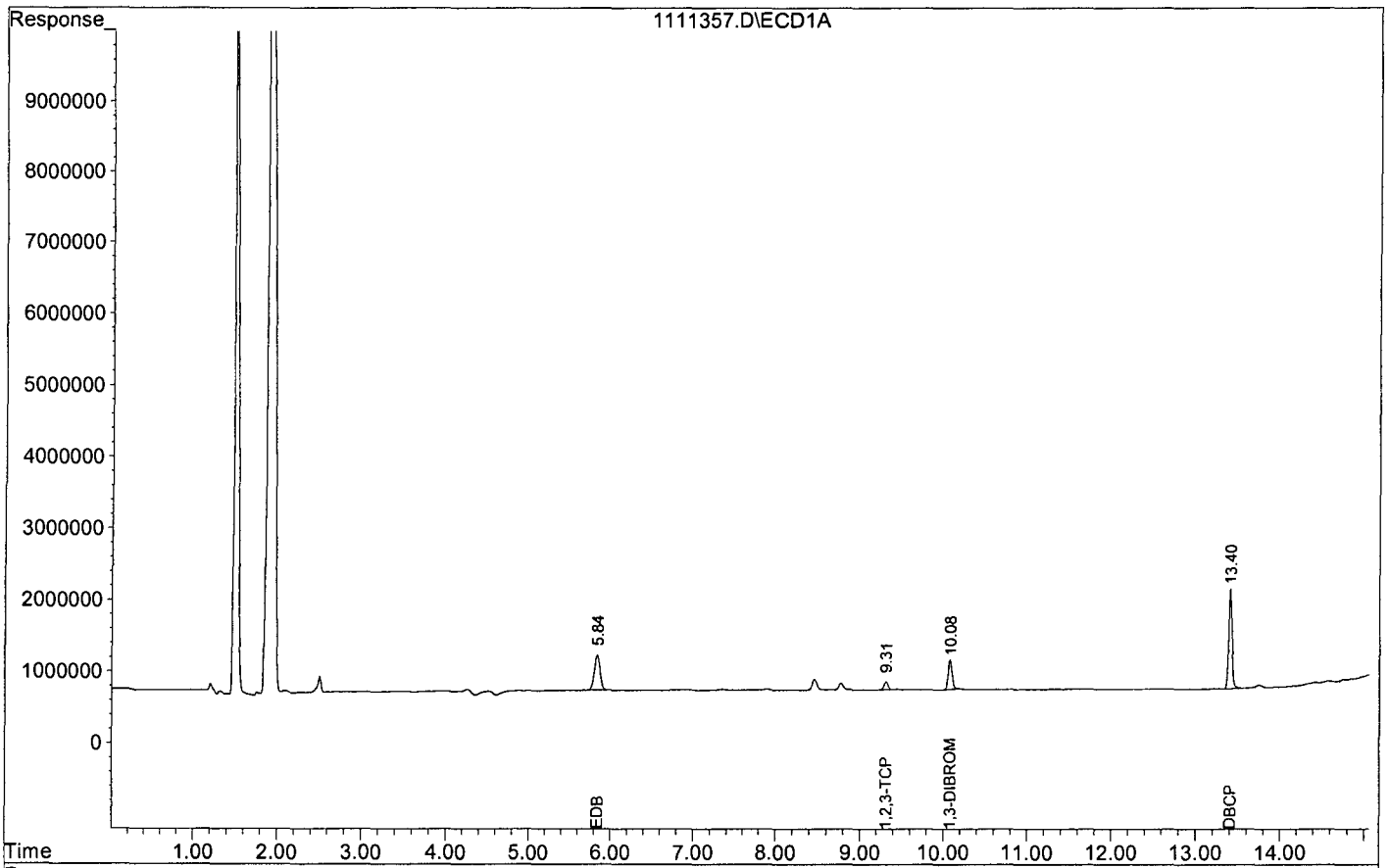
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.11	413028	508504	0.469	0.464
Spiked Amount	0.350			Recovery	=	134.00%	132.57%
	Target Compounds						
1) TM	EDB	5.84	7.29	492250	725666	0.445	0.442
2) TM	1,2,3-TCP	9.31	10.51	113510	148566	0.538	0.465
4) TM	DBCP	13.40	14.13	1395760	2497380	0.473	0.487

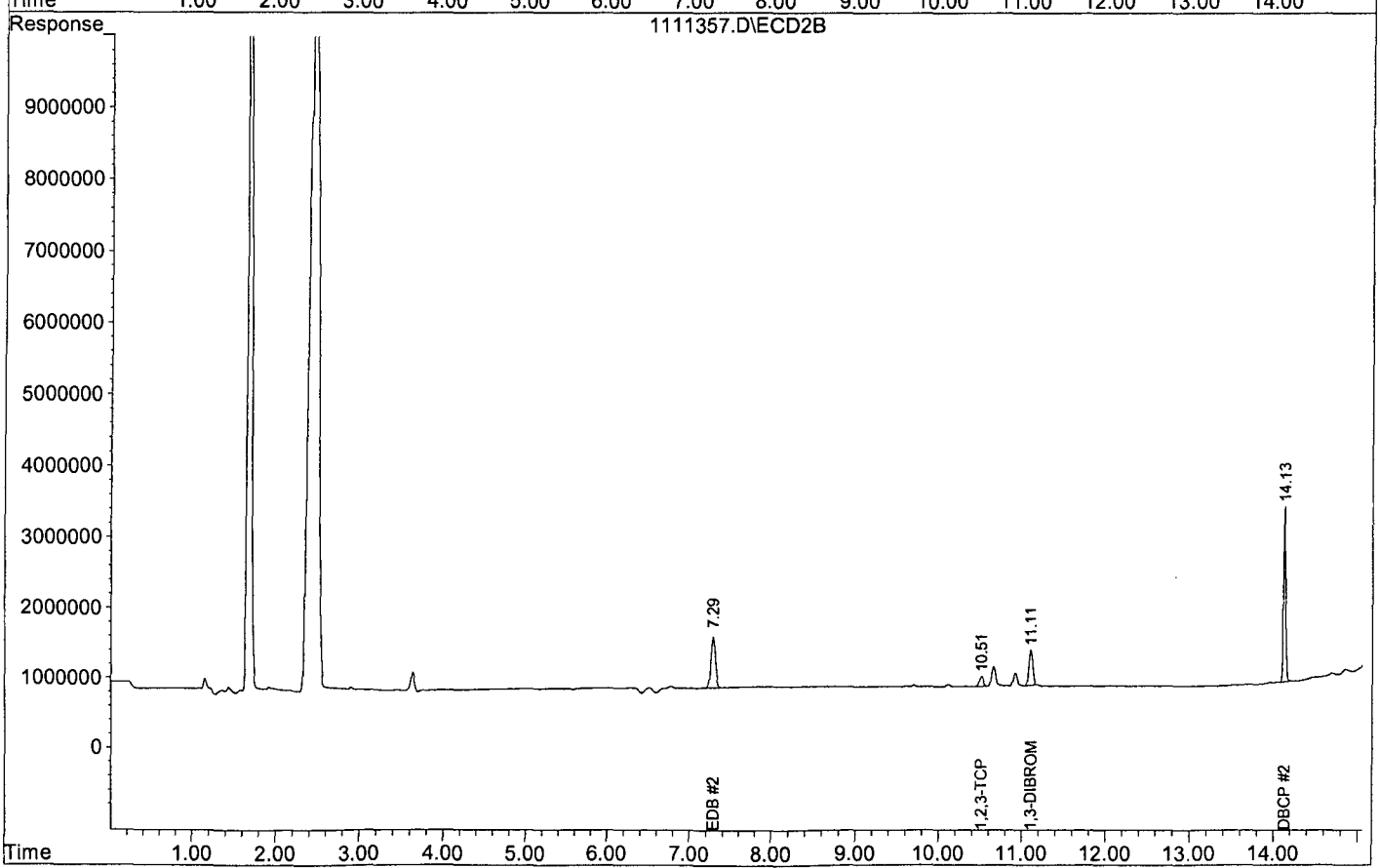
Target Compounds

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141111\1111357.D Vial: 57
Acq On : 11-19-14 13:04:14 Operator:
Sample : 504-3 11/18/14 Inst : Herbie
Misc : Multiplr: 1.00
Quant Method : G:\HERBIE\DATA\141111\80111118.M





8011
for
DBCP & EDB Fumigants
Raw Data

APPL, INC.

Method Blank
EPA 8011

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **141118W-07202 - 192306**
Batch ID: #8011-141118A

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	DBCP	0.019 U	0.02	0.019	0.007	ug/L	11/18/14	11/19/14
BLANK	EDB	0.020 U	0.02	0.020	0.010	ug/L	11/18/14	11/19/14
BLANK	SURROGATE: 1,3-DIBROMOPRO	94.6	70-132			%	11/18/14	11/19/14

Quant Method:80111118.M
Run #:1111350
Instrument:Herbie
Sequence:141111
Initials:MA

GC SC-Blank-REG MDLs
Printed: 11/25/14 12:08:25 PM

Quantitation Report (QT Reviewed)

Signal #1 : G:\HERBIE\DATA\141111\1111350.D\ECD1A.CH Vial: 50
Signal #2 : G:\HERBIE\DATA\141111\1111350.D\ECD2B.CH
Acq On : 11-19-14 10:43:51 Operator:
Sample : 141118A BLK 2/33.87G Inst : Herbie
Misc : water Multiplr: 1.03
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 25 11:36 2014 Quant Results File: 80111118.RES

Quant Method : G:\HERBIE\DATA\141111\80111118.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 25 11:29:34 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

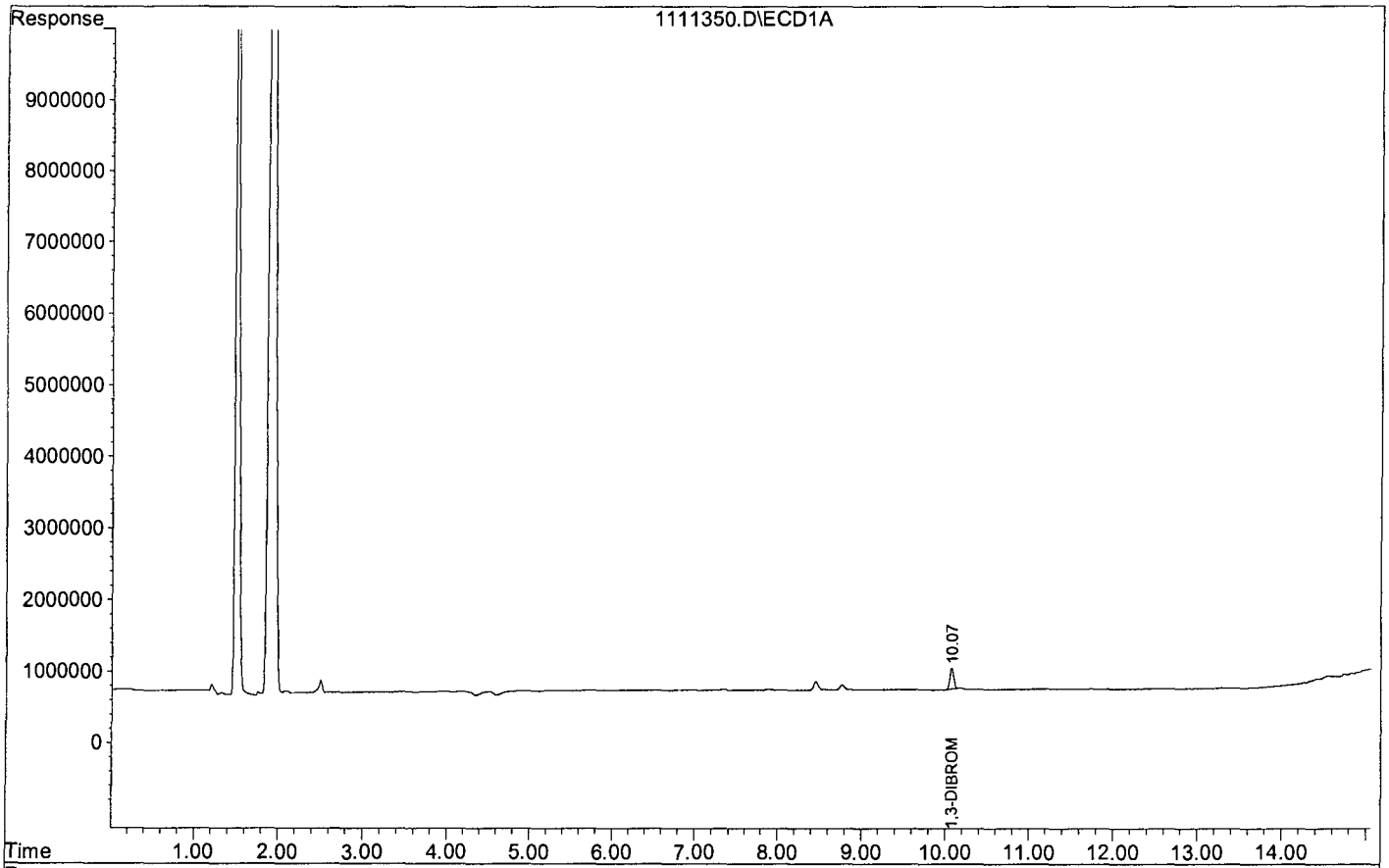
Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

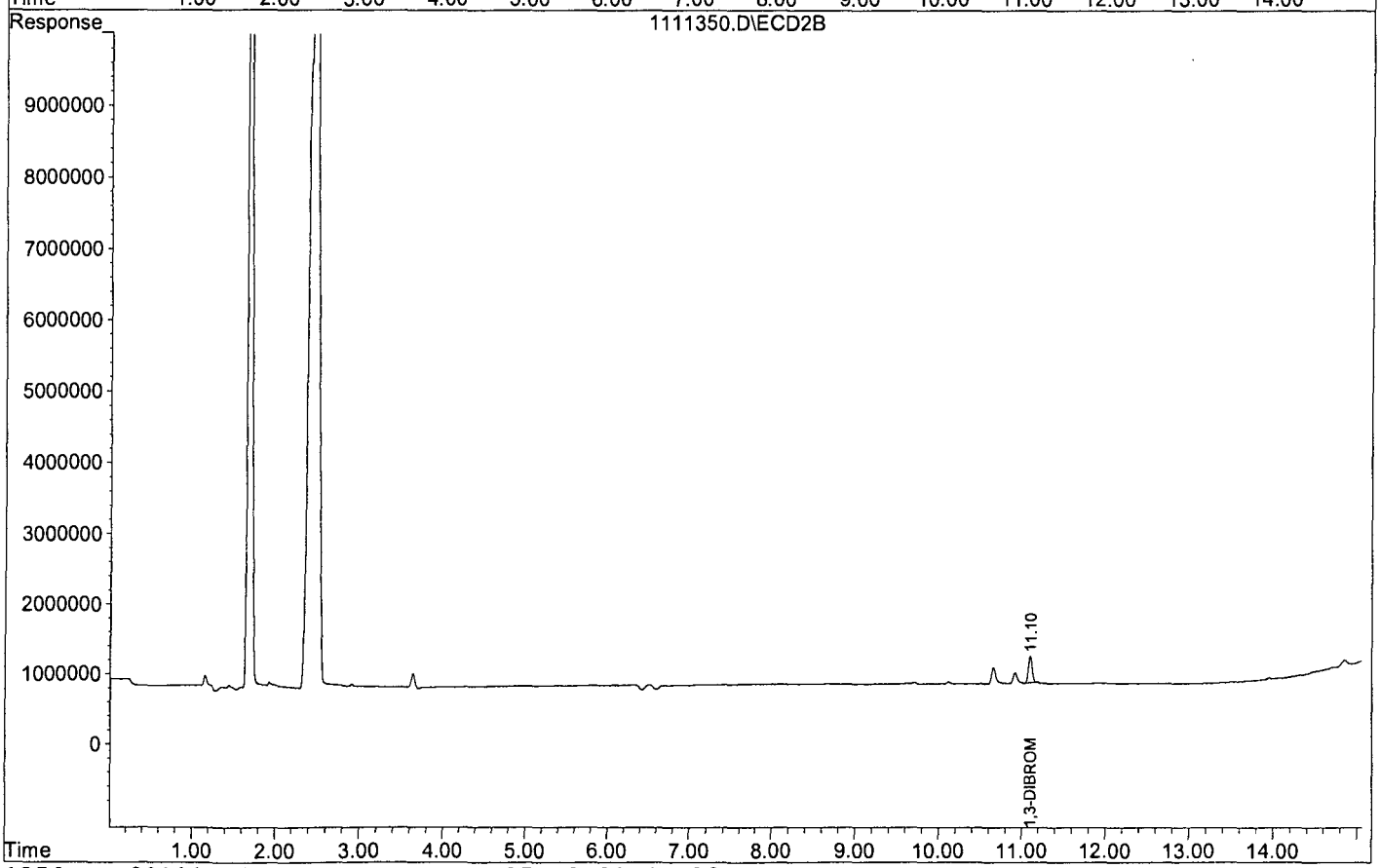
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.07	11.10	291293	374263	0.342	0.353
Spiked Amount	0.362			Recovery	=	94.56%	97.60%
	Target Compounds						
	Target Compounds						
1) TM	EDB	0.00	0.00	0	0	N.D. d	N.D. d
2) TM	1,2,3-TCP	0.00	0.00	0	0	N.D. d	N.D. d
4) TM	DBCP	0.00	0.00	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : G:\HERBIE\DATA\141111\1111350.D Vial: 50
Acq On : 11-19-14 10:43:51 Operator:
Sample : 141118A BLK 2/33.87G Inst : Herbie
Misc : water Multiplr: 1.03
Quant Method : G:\HERBIE\DATA\141111\80111118.M





Laboratory Control Spike Recovery

EPA 8011

APPL ID: **141118W-07202 LCS - 192306**
Batch ID: #8011-141118A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
DBCP	0.482	0.572	119	60-140
EDB	0.482	0.524	109	60-140
SURROGATE: 1,3-DIBROMOPROPANE (	0.350	0.368	105	70-132

Comments: _____

Primary	SPK
Quant Method :	80111118.M
Extraction Date :	11/18/14
Analysis Date :	11/19/14
Instrument :	Herbie
Run :	1111351
Initials :	MA

Printed: 11/25/14 12:08:26 PM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141111\1111351.D\ECD1A.CH Vial: 51
Signal #2 : G:\HERBIE\DATA\141111\1111351.D\ECD2B.CH
Acq On : 11-19-14 11:03:53 Operator:
Sample : 141118A LCS-1 2/34.14G Inst : Herbie
Misc : water Multiplr: 1.03
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 25 11:44 2014 Quant Results File: 80111118.RES

Quant Method : G:\HERBIE\DATA\141111\80111118.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 25 11:41:44 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

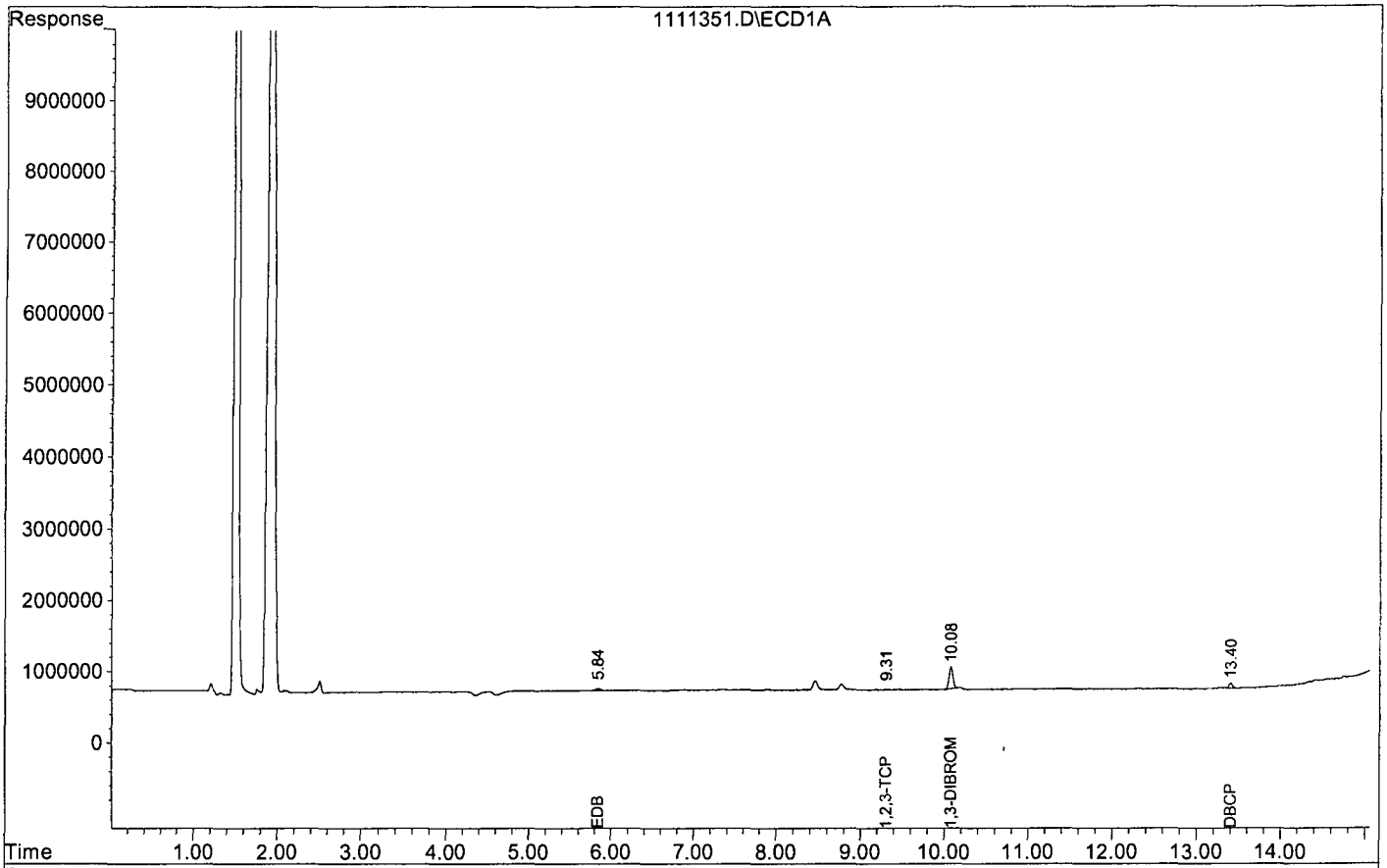
	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.11	301215	372311	0.351	0.348
Spiked Amount	0.359			Recovery	=	97.82%	96.99%
	Target Compounds						
1) TM	EDB	5.84	7.29	28799	38254	0.027	0.024
2) TM	1,2,3-TCP	9.31	10.51	4708	7349	0.023	0.024
4) TM	DBCP	13.40	14.13	71556	109987	0.025	0.022

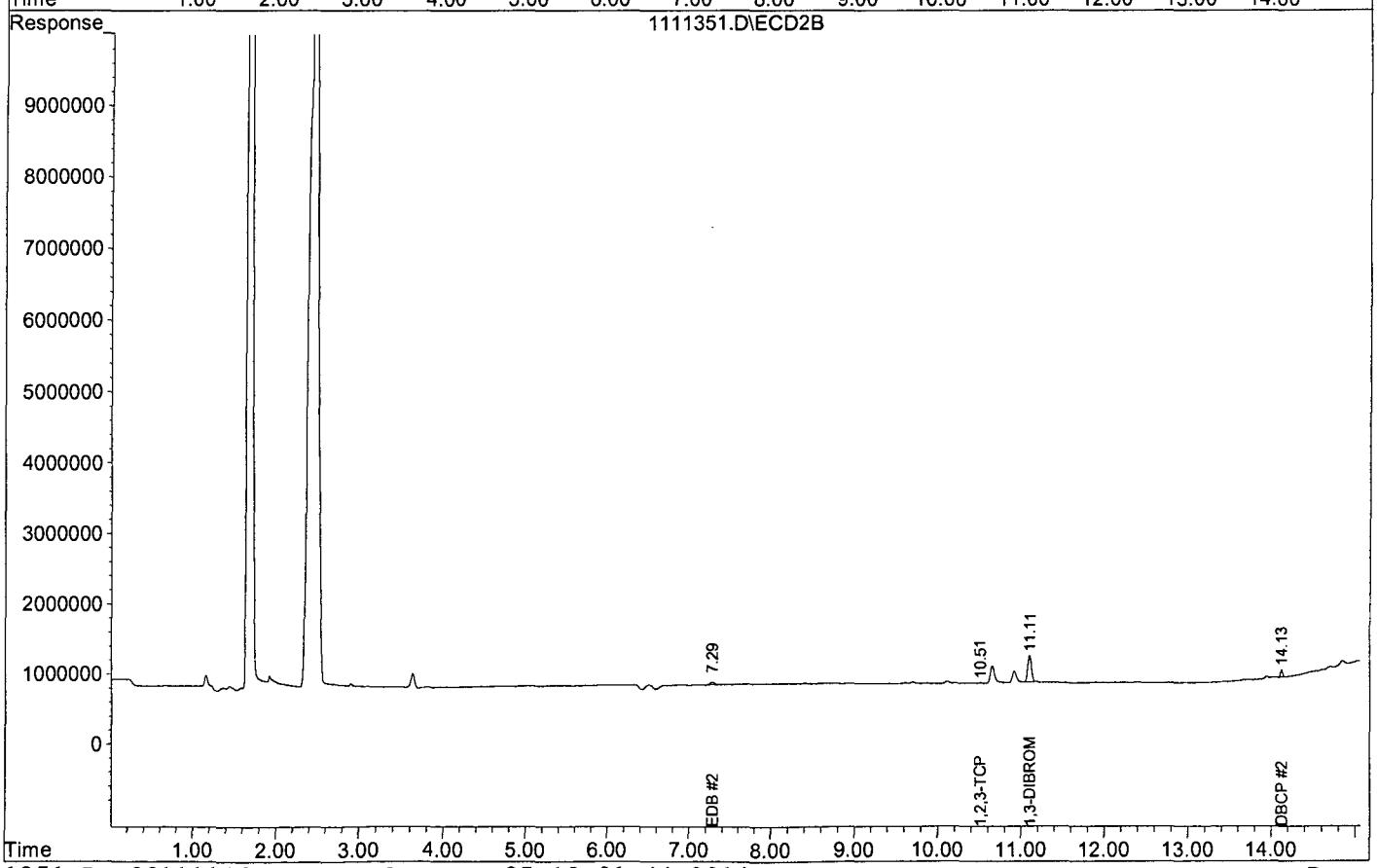
Target Compounds

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141111\1111351.D Vial: 51
Acq On : 11-19-14 11:03:53 Operator:
Sample : 141118A LCS-1 2/34.14G Inst : Herbie
Misc : water Multiplr: 1.03
Quant Method : G:\HERBIE\DATA\141111\80111118.M





Quantitation Report (Not Reviewed)

Signal #1 : G:\HERBIE\DATA\141111\1111352.D\ECD1A.CH Vial: 52
Signal #2 : G:\HERBIE\DATA\141111\1111352.D\ECD2B.CH
Acq On : 11-19-14 11:23:55 Operator:
Sample : 141118A LCS-2 2/33.26G Inst : Herbie
Misc : water Multiplr: 1.05
IntFile Signal #1: rteint.p IntFile Signal #2: rteint2.p
Quant Time: Nov 25 11:51 2014 Quant Results File: 80111118.RES

Quant Method : G:\HERBIE\DATA\141111\80111118.M (RTE Integrator)
Title : 504.1 OR 8011
Last Update : Tue Nov 25 11:41:44 2014
Response via : Initial Calibration
DataAcq Meth : DOHS504.M

Volume Inj. : 2µL
Signal #1 Phase : DB-35MS Signal #2 Phase: DB-XLB
Signal #1 Info : 0.25 Signal #2 Info : 0.50

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
3) S	1,3-DIBROMOPROPA	10.08	11.10	307383	375884	0.368	0.361
Spiked Amount	0.368			Recovery	=	99.92%	98.02%
	Target Compounds						
1) TM	EDB	5.84	7.29	550988	816822	0.524	0.523
2) TM	1,2,3-TCP	9.31	10.51	131173	171761	0.654	0.566
4) TM	DBCP	13.40	14.13	1605947	2857504	0.572	0.586

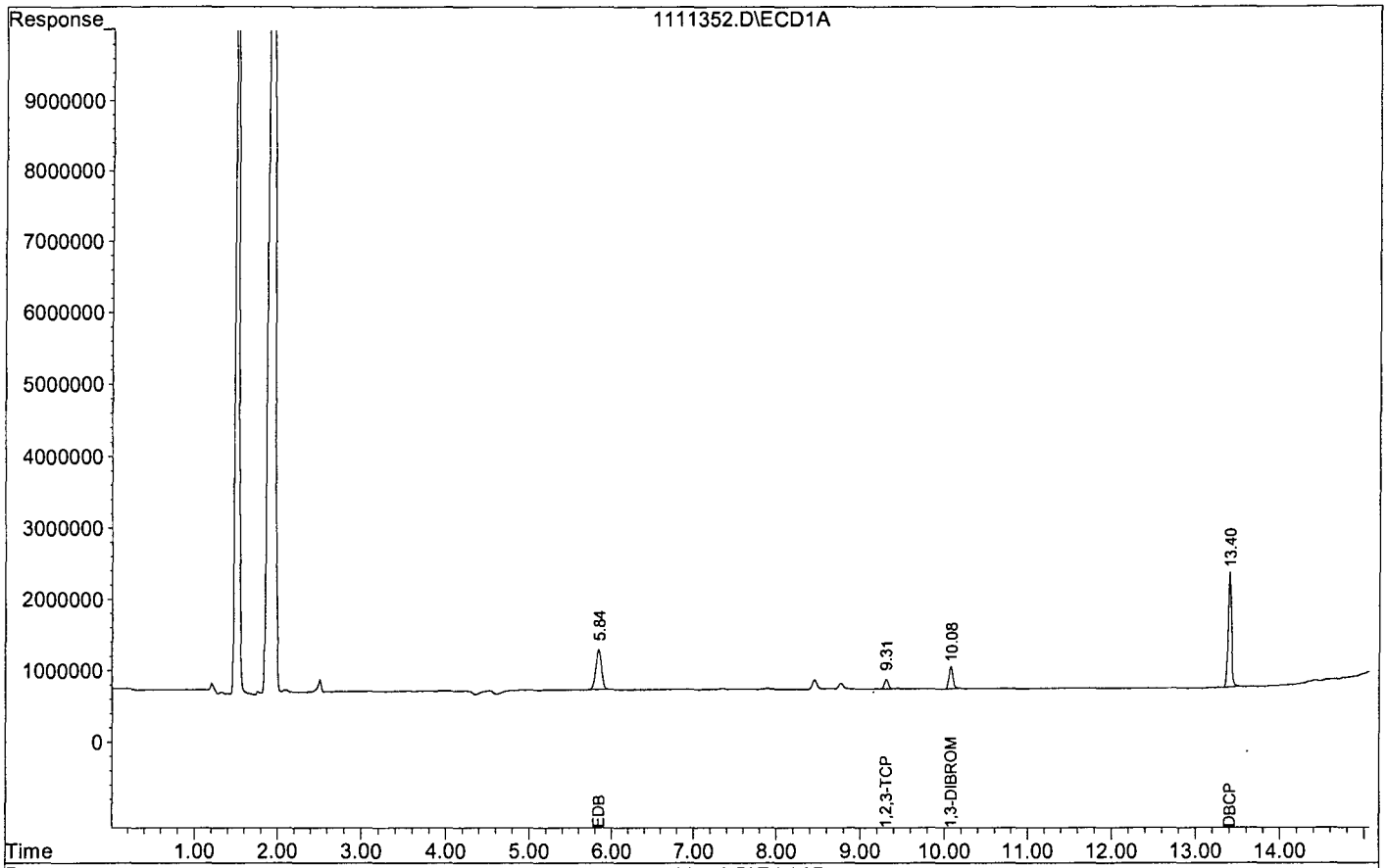
Target Compounds

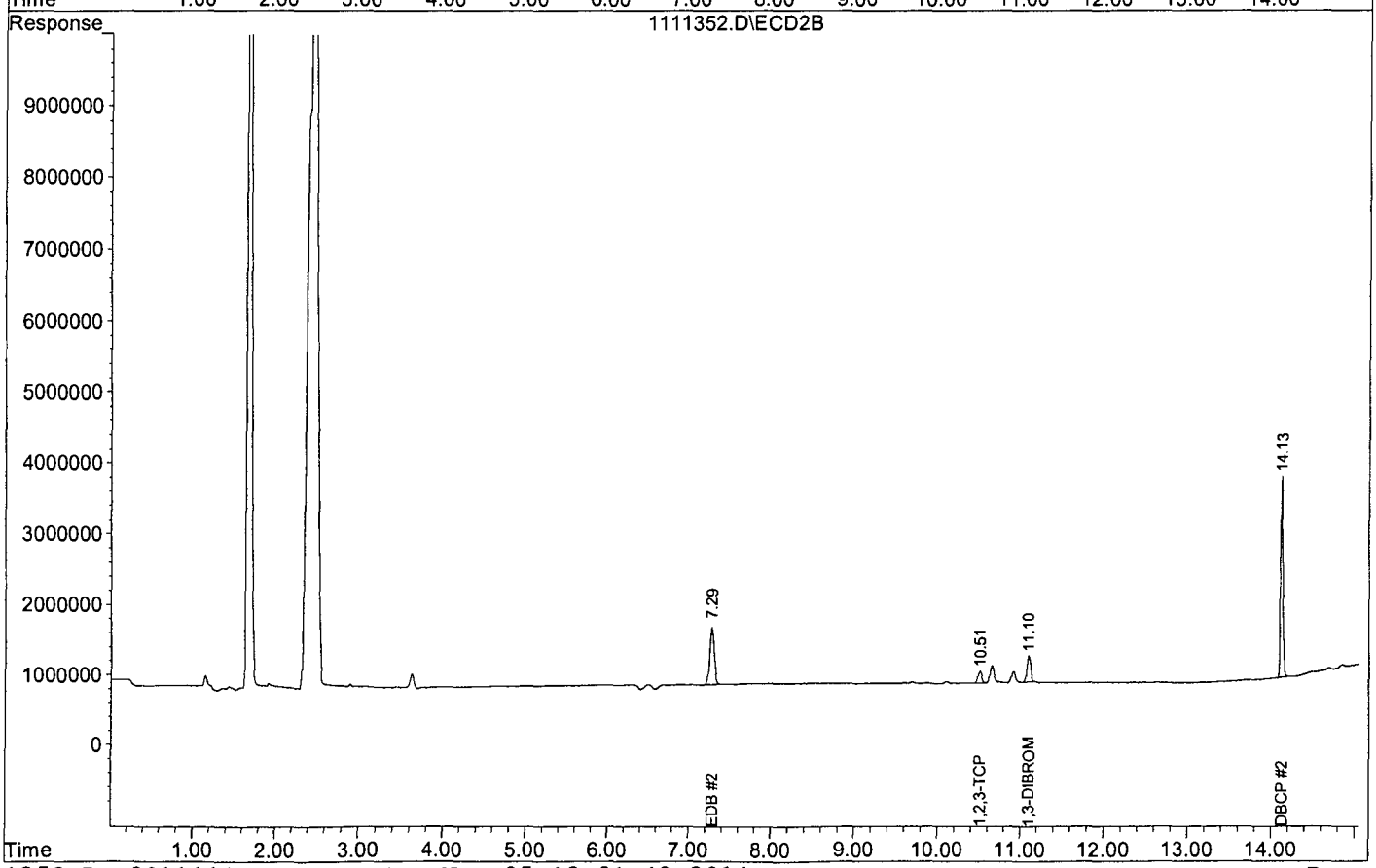
Algorithm = $\frac{550988 \times 1.052}{\text{2nd } 553664} = 0.52$ MA 11/25/14

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : G:\HERBIE\DATA\141111\1111352.D Vial: 52
Acq On : 11-19-14 11:23:55 Operator:
Sample : 141118A LCS-2 2/33.26G Inst : Herbie
Misc : water Multiplr: 1.05
Quant Method : G:\HERBIE\DATA\141111\80111118.M





STANDARD	INITIAL CONC	SOURCE DATE	ALIQUOT	FINAL VOLUME	FINAL CONC	SOLVENT LOT # 081	DATE INITIALS

LOG BOOK #41

DIESEL SPIKE

Diesel Fuel #2 Composite
(Second Source), 50,000
mg/L, 2 x 5 ml
011588-01-6S
Lot # Storage Expiry
207749 ≤-10 Degrees C 4/27/16
Solv: Methylene Chloride

Diesel Fuel #2 Composite (SS)
Lot #: 207749 - 32376
Rec: 4/25/13 MFR exp. 4/27/16

Open 7/28/14 — 7/28/14 MA
Ex 7/28/15 — Ex 7/28/15

THC Surr 8/4/14 — Ex 10/4/14
THC Surr 10/2/14 — Ex 11/2/14
THC Surr 10/30/14 — Ex 11/30/14

GA 7/28/14

504/8011 SURROGATE						
Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
1,3 DBP	100	1,3 DBP STOCK prep.02/17/14 exp. 02/1715	35ul	10mL	0.35ug/mL	Methanol 070913A

GA 7/28/14

504/8011 HIGH M STD						
Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
EDB TCP DBCP 1,3 DBP	20ug/mL	504/DOHS STOCK prep. 07/28/14 exp 07/28/15	500uL	25mL	0.4ug/mL	Methanol 070913A
	100ug/mL	1,3 DBP STOCK prep. 02/17/14 exp. 02/17/15	100uL			

GA 7/28/14

504/8011 LOW M STD						
Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
EDB TCP DBCP 1,3 DBP	0.4ug/mL	504/8011 HIGH M STD prep.07/28/14 exp: 08/28/14	750uL	10mL	0.03ug/mL	Methanol 070913A

GA 7/28/14

504/8011 HIGH SPIKE						
Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
EDB TCP DBCP	200ug/mL	Absolute CAT 30096 Lot 080111-30272 open 1/29/14 exp 1/29/15	30uL	25mL	0.24ug/mL	Methanol 070913A

GA 7/28/14

504/8011 LOW SPIKE						
Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
EDB TCP DBCP	0.24ug/mL	504/8011 HIGH SPIKE prep. 07/28/14 Exp: 08/28/14	800uL	10mL	0.0192ug/mL	Methanol 070913A

GA 7/28/14

PAC ECD CURVE							1a	1b	1	2	3	4	5	6
	ID#	(µg/mL)	LOT #	DATE	EXP. DATE		µL	µL	µL	µL	µL	µL	µL	µL
	PAC ECD CAL STD	5		06/23/14	11/09/14		2	5	10	50	20	100	70	1000
							998	995	990	950	80	100	30	N/A
	Hexane		080613A		Final VOL.		1000	1000	1000	1000	100	200	100	N/A

GA 7/29/14

THC SURROGATE — open 7/29/14 — Kg 7/29/14
CAT: 110316-05 — Exp. 7/29/15
lot: 216091-33700 — EXP 7/29/15

STANDARD | INITIAL CONC | SOURCE DATE | ALIQUOT | FINAL VOLUME | FINAL CONC | VOL TEN. LOT # | DATE VIAL #

GC/MS INSTRUMENT MAINTENANCE LOG # 42 PAGE #

THC SURROGATE

CAT NO: 1103116-05

LOT NO: 229803-34068

Open By: KY
On: 11/11/14
Exp. 11/11/15

open DATE: 11/11/14
Expire DATE: 11/11/15

HERB-3

Various	HERB STD 10/9/14 ex. 10/9/15	1mL	10mL	Various	MTBE #50223	LH 11/12/14 ex 5/12/15

Technical Chlordane Calibration Curve

Compound	Initial Conc.	Stock Src.	Aliquot	Final Conc.	Solvent	Final Vol
Technical Chlordane	10µg/mL	Tech. Chld Stk	1A- 25µL	0.025 µg/mL	Hexane	10 mL
		Prep: 10/29/14	1- 50uL	0.05µg/mL	Lot#	10 mL
		Exp: 10/29/15	2- 100uL	0.10µg/mL	051914A	10 mL
			3- 250uL	0.25µg/mL		10 mL
			4- 500uL	0.50µg/mL		10 mL
			5- 750uL	0.75µg/mL		10 mL

GA 11/12/14 EXP 5/12/15

Technical Chlordane 2nd Src

Compound	Initial Conc.	Stock Src.	Aliquot	Final Conc.	Final Vol.	Solvent
Technical Chlordane	10µg/mL	Tech Chld 2nd Src Stk	250µL	0.25µg/mL	10mL	Hexane Lot: 051914A
	Prep:	10/29/14				
	Exp:	10/29/15				

GA 11/12/14 exp 5/12/15

	504/8011 LOW M STD					
Compound	Initial Conc.	Source	Aliquot	Final Vol.	Final Conc.	Solvent
EDB, TCP, DBCP, 1,3 DBP	0.4ug/mL	504/8011 HIGH M STD prep.07/28/14 exp: 08/28/14	750uL	10mL	0.03ug/mL	Methanol 070913A

LH 11/14/14 ex 12/14/14

MITC CURVE						1	2	3	4	5	6	7
SUPPLIER	ID#	ug/mL	LOT #	DATE	EXP.	mL	mL	mL	mL	mL	mL	mL
					Final Conc.	0.02	0.125	0.25	1	2.5	3.5	5
	MITC STD	5		09/05/14	03/05/15	4	25	50	20	100	70	100
VWR	ETHYL ACETATE		10176249			996	975	950	80	200	30	N/A
					Final VOL.	1000	1000	1000	100	100	100	100

GA 11/14/14 exp 3/5/15

_MWE012

Organic Extraction Worksheet

Method	EPA Method 8011 DBCP/EDB	Extraction Set	141118A	Extraction Method	MWE012	Units	mL

Spiked ID 1	504.1 Low Spike 7-28-14		Surrogate ID 1	504.1 Surrogate 7-28-14	
Spiked ID 2	504.1 High Spike 7-28-14		Surrogate ID 2		
Spiked ID 3	504.1 Low Method Standard 11-14-14		Surrogate ID 3		
Spiked ID 4	504.1 High Method Standard 7-28-14		Surrogate ID 4		
Spiked ID 5			Surrogate ID 5		
Spiked ID 6			Sufficient Vol for Matrix QC:	NO	
Spiked ID 7			Ext. Start Time:	11/18/14 15:45	
Spiked ID 8			Ext. End Time:	11/18/14 16:15	
			GC Requires Extract By:	**11/27/14 0:00**	

pH1			Water Bath Temp Criteria	
pH2				
pH3				

Spiked By: IC **Date** 11/18/14 **Witnessed By:** KY **Date** 11/18/14

	Sample	Sample Container	Spike Amount	Spike ID	Surrogate Amount	Surrogate ID	Extract Amount	Final Volume	pH	Extract Date/Time	Comments
1	141118A Blk				0.035	1 equip	33.87g	2	7	11/18/14 15:45	
2	141118A LCS-1		0.035	1	0.035	1 equip	34.14g	2	7	11/18/14 15:45	
3	141118A LCS-2		0.070	2	0.035	1 equip	33.26g	2	7	11/18/14 15:45	
4	AZ07202	AZ07202W07			0.035	1 equip	34.01g	2	7	11/18/14 15:45	74924 RUSH 2 WEEKS
5	AZ07203	AZ07203W07			0.035	1 equip	34.80g	2	7	11/18/14 15:45	74924 RUSH 2 WEEKS
6	AZ07331	AZ07331W03			0.035	1 equip	34.09g	2	7	11/18/14 15:45	74950
7	AZ07332	AZ07332W03			0.035	1 equip	34.40g	2	7	11/18/14 15:45	74950
8	M STD 1		0.020	3	NA	NA equip	33.88g	2	7	11/18/14 15:45	
9	M STD 2		0.020	4	NA	NA equip	33.35g	2	7	11/18/14 15:45	
10	M STD 3		0.040	4	NA	NA equip	33.09g	2	7	11/18/14 15:45	
11	M STD 4		0.060	4	NA	NA equip	30.81g	2	7	11/18/14 15:45	
12	M STD 5		0.080	4	NA	NA equip	30.69g	2	7	11/18/14 15:45	
13	M STD 6		0.100	4	NA	NA equip	33.48g	2	7	11/18/14 15:45	

KY 11/18/14

Solvent and Lot#	
GC2 Hexane	dh772
NaCL	wj11d
Sod. Thiosulfate	h15584

Extraction COC Transfer	
Extraction lab employee Initials	KY
GC analyst's initials	LH
Date	11/19/14
Time	8:15
Refrigerator	Hobart

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

Modified	11/18/14 4:27:09 PM

Reviewed By: KY **Date** 11/18/14

11/18/14 4:27:58 PM Ext_ID 6245956 Page 1 of 1

Injection Log

Directory: G:\HERBIE\DATA\141111\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	44	1111344.D	1	504-1 2/33.88G 11/18/14		11-19-14 8:44:20
2	45	1111345.D	1	504-2 2/33.35G 11/18/14		11-19-14 9:04:08
3	46	1111346.D	1	504-3 2/33.09G 11/18/14		11-19-14 9:24:00
4	47	1111347.D	1	504-4 2/30.81G 11/18/14		11-19-14 9:43:56
5	48	1111348.D	1	504-5 2/30.69G 11/18/14		11-19-14 10:03:53
6	49	1111349.D	1	504-6 2/33.48G 11/18/14		11-19-14 10:23:52
7	50	1111350.D	1.03336	141118A BLK 2/33.87G	water	11-19-14 10:43:51
8	51	1111351.D	1.02519	141118A LCS-1 2/34.14G	water	11-19-14 11:03:53
9	52	1111352.D	1.05232	141118A LCS-2 2/33.26G	water	11-19-14 11:23:55
10	53	1111353.D	1.02911	AZ07202W07 2/34.01G	water	11-19-14 11:43:57
11	54	1111354.D	1.00575	AZ07203W07 2/34.80G	water	11-19-14 12:03:56
12	57	1111357.D	1	504-3 11/18/14		11-19-14 13:04:14

EPA METHOD 8260C
Volatile Organic Compounds

APPL, INC.

EPA METHOD 8260C
Volatile Organic Compounds
QC Summary

APPL, INC.

Method Blank
EPA 8260C WATER

Blank Name/QCG: **141114W-07201 - 191955**
Batch ID: #86CRE-141114AL

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	11/14/14	11/14/14
BLANK	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	11/14/14	11/14/14
BLANK	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	11/14/14	11/14/14
BLANK	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	11/14/14	11/14/14
BLANK	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
BLANK	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	11/14/14	11/14/14
BLANK	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	11/14/14	11/14/14
BLANK	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	11/14/14	11/14/14
BLANK	1,2-DIBROMO-3-CHLOROPROPA	1.00 U	2.0	1.00	0.76	ug/L	11/14/14	11/14/14
BLANK	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	11/14/14	11/14/14
BLANK	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	11/14/14	11/14/14
BLANK	1,2-DICHLOROETHANE	0.100 U	0.10	0.100	0.030	ug/L	11/14/14	11/14/14
BLANK	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	11/14/14	11/14/14
BLANK	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	11/14/14	11/14/14
BLANK	1,3-DICHLOROPROPENE (TOTA	0.30 U	1.0	0.30	0.18	ug/L	11/14/14	11/14/14
BLANK	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
BLANK	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	11/14/14	11/14/14
BLANK	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	11/14/14	11/14/14
BLANK	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	11/14/14	11/14/14
BLANK	BENZENE	0.200 U	0.20	0.200	0.060	ug/L	11/14/14	11/14/14
BLANK	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	11/14/14	11/14/14
BLANK	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	11/14/14	11/14/14
BLANK	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	11/14/14	11/14/14
BLANK	CARBON TETRACHLORIDE	0.100 U	0.10	0.100	0.030	ug/L	11/14/14	11/14/14
BLANK	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	11/14/14	11/14/14
BLANK	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	11/14/14	11/14/14
BLANK	CHLOROFORM	0.20 U	0.2	0.20	0.06	ug/L	11/14/14	11/14/14
BLANK	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	11/14/14	11/14/14
BLANK	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	11/14/14	11/14/14
BLANK	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	11/14/14	11/14/14
BLANK	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
BLANK	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	11/14/14	11/14/14
BLANK	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	11/14/14	11/14/14

Quant Method: LCREDW.M
Run #: 1114L11
Instrument: Loki
Sequence: 141110
Initials: SV

GC SC-Blank-REG MDLs
Printed: 11/18/14 11:18:06 AM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **141114W-07201 - 191955**
Batch ID: #86CRE-141114AL

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	11/14/14	11/14/14
BLANK	TETRACHLOROETHENE	0.30 U	0.3	0.30	0.08	ug/L	11/14/14	11/14/14
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	11/14/14	11/14/14
BLANK	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
BLANK	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	11/14/14	11/14/14
BLANK	VINYL CHLORIDE	0.10 U	0.1	0.10	0.03	ug/L	11/14/14	11/14/14
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	11/14/14	11/14/14
BLANK	SURROGATE: 1,2-DICHLOROET	103	70-120			%	11/14/14	11/14/14
BLANK	SURROGATE: 4-BROMOFLUOR	92.6	75-120			%	11/14/14	11/14/14
BLANK	SURROGATE: DIBROMOFLUOR	106	85-115			%	11/14/14	11/14/14
BLANK	SURROGATE: TOLUENE-D8 (S)	97.7	85-120			%	11/14/14	11/14/14

Quant Method: LCREDW.M
Run #: 1114L11
Instrument: Loki
Sequence: 141110
Initials: SV

GC SC-Blank-REG MDLs
Printed: 11/18/14 11:18:07 AM

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 74924

Case No: 74924 Date Analyzed: 11/14/14

Matrix: WATER Instrument: Loki

APPL ID.	Client Sample No.	SURROGATE: 1,2-DICHLOROETHANE-D4 (S)			SURROGATE: 4-BROMOFLUOROBENZENE (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
141114AL-LCS	Lab Control Spike	70-120	93.7		75-120	113	
141114AL-BLK	Blank	70-120	103		75-120	92.6	
AZ07201	TRIP111214	70-120	106		75-120	93.9	
AZ07202	HW111214-01	70-120	105		75-120	92.7	
AZ07203	HW111214-02	70-120	103		75-120	91.7	

Comments: Batch: #86CRE-141114AL

Form 2 & 8

Surrogate Recovery

Lab Name: APPL, Inc. SDG No: 74924

Case No: 74924 Date Analyzed: 11/14/14

Matrix: WATER Instrument: Loki

APPL ID.	Client Sample No.	SURROGATE: DIBROMOFLUOROMETHANE (S)			SURROGATE: TOLUENE-D8 (S)		
		Limits	Result	Qualifier	Limits	Result	Qualifier
141114AL-LCS	Lab Control Spike	85-115	94.1		85-120	102	
141114AL-BLK	Blank	85-115	106		85-120	97.7	
AZ07201	TRIP111214	85-115	113		85-120	99.1	
AZ07202	HW111214-01	85-115	113		85-120	98.4	
AZ07203	HW111214-02	85-115	110		85-120	98.1	

Comments: Batch: #86CRE-141114AL

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **141114W-07201 LCS - 191955**
Batch ID: #86CRE-141114AL

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,1,1,2-TETRACHLOROETHANE	10.00	9.64	96.4	80-130
1,1,1-TRICHLOROETHANE	10.00	9.47	94.7	65-130
1,1,2,2-TETRACHLOROETHANE	10.00	10.8	108	65-130
1,1,2-TRICHLOROETHANE	10.00	9.24	92.4	75-125
1,1-DICHLOROETHANE	10.00	9.63	96.3	70-135
1,1-DICHLOROETHENE	10.00	9.54	95.4	70-130
1,2,3-TRICHLOROPROPANE	10.00	9.96	99.6	75-125
1,2,4-TRICHLOROBENZENE	10.00	9.19	91.9	65-135
1,2-DIBROMO-3-CHLOROPROPANE	10.00	8.95	89.5	50-130
1,2-DIBROMOETHANE	10.00	9.25	92.5	80-120
1,2-DICHLOROBENZENE	10.00	9.60	96.0	70-120
1,2-DICHLOROETHANE	10.00	10.3	103	70-130
1,2-DICHLOROPROPANE	10.00	10.0	100	75-125
1,3-DICHLOROBENZENE	10.00	10.1	101	75-125
1,3-DICHLOROPROPENE (TOTAL)	20.0	18.8	94.0	55-140
1,4-DICHLOROBENZENE	10.00	9.55	95.5	75-125
2-BUTANONE	10.00	9.63	96.3	30-150
4-METHYL-2-PENTANONE	10.00	8.83	88.3	60-135
ACETONE	10.00	10.4	104	40-140
BENZENE	10.00	9.71	97.1	80-120
BROMODICHLOROMETHANE	10.00	9.73	97.3	75-120
BROMOFORM	10.00	8.81	88.1	70-130
BROMOMETHANE	10.00	8.60	86.0	30-145
CARBON TETRACHLORIDE	10.00	9.68	96.8	65-140
CHLOROBENZENE	10.00	9.69	96.9	80-120
CHLOROETHANE	10.00	10.2	102	60-135
CHLOROFORM	10.00	8.36	83.6	65-135
CHLOROMETHANE	10.00	8.77	87.7	40-125
CIS-1,2-DICHLOROETHENE	10.00	9.49	94.9	70-125
DIBROMOCHLOROMETHANE	10.00	9.66	96.6	60-135
ETHYLBENZENE	10.00	10.2	102	75-125

Comments: _____

Primary	SPK
Quant Method :	LCREDW.M
Extraction Date :	11/14/14
Analysis Date :	11/14/14
Instrument :	Loki
Run :	1114L06
Initials :	SV

Printed: 11/18/14 11:18:22 AM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **141114W-07201 LCS - 191955**
Batch ID: #86CRE-141114AL

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
HEXACHLOROBUTADIENE	10.00	9.47	94.7	50-140
METHYL TERT-BUTYL ETHER	10.00	8.86	88.6	65-125
METHYLENE CHLORIDE	10.00	9.85	98.5	55-140
STYRENE	10.00	9.38	93.8	65-135
TETRACHLOROETHENE	10.00	9.72	97.2	45-150
TOLUENE	10.00	10.0	100	75-120
TRANS-1,2-DICHLOROETHENE	10.00	9.52	95.2	60-140
TRICHLOROETHENE	10.00	9.27	92.7	70-125
VINYL CHLORIDE	10.00	8.65	86.5	50-145
XYLENES (TOTAL)	30.0	30.2	101	75-130
SURROGATE: 1,2-DICHLOROETHANE-	25.0	23.4	93.7	70-120
SURROGATE: 4-BROMOFLUOROBENZ	22.9	25.8	113	75-120
SURROGATE: DIBROMOFLUOROMETH	24.0	22.6	94.1	85-115
SURROGATE: TOLUENE-D8 (S)	24.9	25.5	102	85-120

Comments: _____

Primary	SPK
Quant Method :	LCREDW.M
Extraction Date :	11/14/14
Analysis Date :	11/14/14
Instrument :	Loki
Run :	1114L06
Initials :	SV

Printed: 11/18/14 11:18:22 AM
APPL Standard LCS

EPA 8260C^LL

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 74924

Case No: 74924 Date Analyzed: 11/14/14

Matrix: WATER Instrument: Loki

Blank ID: 141114AL-BLK Time Analyzed: 1233

APPL ID.	Client Sample No.	File ID.	Date Analyzed
141114AL-LCS	Lab Control Spike	1114L06	11/14/14 1012
141114AL-BLK	Blank	1114L11	11/14/14 1233
AZ07201	TRIP111214	1114L14	11/14/14 1357
AZ07202	HW111214-01	1114L20	11/14/14 1645
AZ07203	HW111214-02	1114L21	11/14/14 1713

Comments: Batch: #86CRE-141114AL

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: ~~1107L34.D~~ 74924
Matrix: Water np 12-5-14
ID: 25ug/mL BFB Std 09-30-14

SDG No: np12-5-14 ~~Loki~~ 74924
Date Analyzed: 11/08/14
Instrument: Loki
Time Analyzed: 2:17

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.1ug/L Vol Std 11-0	1107L35.D	11/08/14 2:45
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	18.1
75	30 - 60% of mass 95	46.8
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.6
173	0 - 2.09% of mass 174	0.4
174	50 - 100% of mass 95	91.9
175	5 - 9% of mass 174	8.5
176	94.9 - 101% of mass 174	98.3
177	5 - 9% of mass 176	6.6

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: ~~1110L01.D~~ 74924
Matrix: Water hp 12-5-14
ID: 25ug/mL BFB Std 09-30-14

hp 12-5-14
SDG No: ~~Loki~~ 74924
Date Analyzed: 11/10/14
Instrument: Loki
Time Analyzed: 16:17

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		0.5ug/L Vol Std 11-1	1110L06.D	11/10/14 18:32
2		1.0ug/L Vol Std 11-1	1110L07.D	11/10/14 19:01
3		5.0ug/L Vol Std 11-1	1110L08.D	11/10/14 19:29
4		10ug/L Vol Std 11-10	1110L09.D	11/10/14 19:57
5		20ug/L Vol Std 11-10	1110L10.D	11/10/14 20:25
6		40ug/L Vol Std 11-10	1110L11.D	11/10/14 20:54
7		100ug/L Vol Std 11-1	1110L12.D	11/10/14 21:22
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	19.1
75	30 - 60% of mass 95	49.5
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.7
173	0 - 2.09% of mass 174	0.0
174	50 - 100% of mass 95	86.7
175	5 - 9% of mass 174	7.7
176	94.9 - 101% of mass 174	95.6
177	5 - 9% of mass 176	6.5

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: ~~1111L02.D~~ 74924
Matrix: Water np 12-5-14
ID: 25ug/mL BFB Std 09-30-14

SDG No: np 12-5-14 ~~Loki~~ 74924
Date Analyzed: 11/11/14
Instrument: Loki
Time Analyzed: 12:31

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1	Lab Control Spike	141111A LCS-WL(SS)	1111L04.D	11/11/14 13:28
2				
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9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	17.6
75	30 - 60% of mass 95	49.1
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.9
173	0 - 2.09% of mass 174	1.7
174	50 - 100% of mass 95	93.5
175	5 - 9% of mass 174	7.6
176	94.9 - 101% of mass 174	95.6
177	5 - 9% of mass 176	5.7

Form 5
Tune Summary

Lab Name: APPL Inc.
Case No: 74924
Matrix: Water
ID: 25ug/mL BFB Std 09-30-14

SDG No: 74924
Date Analyzed: 11/14/14
Instrument: Loki
Time Analyzed: 9:16

	Client Sample No.	APPL ID.	File ID.	Date Analyzed
1		10ug/L Vol Std 11-14	1114L05.D	11/14/14 9:44
2	Lab Control Spike	141114A LCS-WL	1114L06.D	11/14/14 10:12
3	Blank	141114A BLK-WL	1114L11.D	11/14/14 12:33
4	TRIP111214	AZ07201W01	1114L14.D	11/14/14 13:57
5	HW111214-01	AZ07202W01	1114L20.D	11/14/14 16:45
6	HW111214-02	AZ07203W01	1114L21.D	11/14/14 17:13
7				
8				
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10				
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14				
15				
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17				
18				
19				
20				
21				
22				

m/e		
50	15 - 40% of mass 95	19.6
75	30 - 60% of mass 95	50.2
95	100 - 100% of mass 95	100.0
96	5 - 9% of mass 95	6.7
173	0 - 2.09% of mass 174	0.0
174	50 - 100% of mass 95	89.6
175	5 - 9% of mass 174	7.7
176	94.9 - 101% of mass 174	95.2
177	5 - 9% of mass 176	6.5

8A
INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: APPL Inc. Contract: Review

Lab Code: SDG No.: 74924

Lab File ID (Standard): 1110L09.D Date Analyzed: 11/10/14

Instrument ID: Loki Time Analyzed: 19:57

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

		Fluorobenzene (IS)		Chlorobenzene-D5 (IS)		1,4-Dichlorobenzene-D (IS)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	626624	5.95	536256	9.18	326848	11.51
	UPPER LIMIT	1253248	6.45	1072512	9.68	653696	12.01
	LOWER LIMIT	313312	5.45	268128	8.68	163424	11.01
	SAMPLE NO.						
01	0.1ug/L Vol Std 11-07-14	496448	5.95	438208	9.18	207296	11.51
02	0.5ug/L Vol Std 11-10-14	542848	5.95	465920	9.18	228480	11.51
03	1.0ug/L Vol Std 11-10-14	557888	5.95	495104	9.18	251392	11.51
04	5.0ug/L Vol Std 11-10-14	609024	5.95	515008	9.18	307776	11.51
05	10ug/L Vol Std 11-10-14	626624	5.95	536256	9.18	326848	11.51
06	20ug/L Vol Std 11-10-14	650240	5.95	558080	9.18	338304	11.51
07	40ug/L Vol Std 11-10-14	653952	5.95	571968	9.18	341312	11.51
08	100ug/L Vol Std 11-10-1	648384	5.95	570368	9.18	367936	11.51
09	141111A LCS-WL(SS)	629696	5.95	524800	9.18	332160	11.51
10	10ug/L Vol Std 11-14-14	571072	5.95	474624	9.18	289472	11.51
11	141114A LCS-WL	590400	5.95	483712	9.18	287488	11.51
12	141114A BLK-WL	502848	5.95	441792	9.18	212544	11.51
13	AZ07201W01	438592	5.95	396544	9.18	179712	11.51
14	AZ07202W01	432512	5.95	393408	9.18	178112	11.51
15	AZ07203W01	431168	5.95	389824	9.18	180608	11.51
16							
17							
18							
19							
20							
21							
22							

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

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

EPA METHOD 8260C
Volatile Organic Compounds
Sample Data

APPL, INC.

EPA 8260C WATER

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

Project: 749435 Red Hill Phase 1b TO 0068

Sample ID: TRIP111214

Sample Collection Date: 11/12/14

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 74924

APPL ID: AZ07201

QCG: #86CRE-141114AL-191955

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	11/14/14	11/14/14
EPA 8260C	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	11/14/14	11/14/14
EPA 8260C	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	11/14/14	11/14/14
EPA 8260C	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	11/14/14	11/14/14
EPA 8260C	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
EPA 8260C	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	11/14/14	11/14/14
EPA 8260C	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	11/14/14	11/14/14
EPA 8260C	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	11/14/14	11/14/14
EPA 8260C	1,2-DIBROMO-3-CHLOROPROPANE	1.00 U	2.0	1.00	0.76	ug/L	11/14/14	11/14/14
EPA 8260C	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	11/14/14	11/14/14
EPA 8260C	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	11/14/14	11/14/14
EPA 8260C	1,2-DICHLOROETHANE	0.100 U	0.10	0.100	0.030	ug/L	11/14/14	11/14/14
EPA 8260C	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	11/14/14	11/14/14
EPA 8260C	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	11/14/14	11/14/14
EPA 8260C	1,3-DICHLOROPROPENE (TOTAL)	0.30 U	1.0	0.30	0.18	ug/L	11/14/14	11/14/14
EPA 8260C	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
EPA 8260C	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	11/14/14	11/14/14
EPA 8260C	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	11/14/14	11/14/14
EPA 8260C	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	11/14/14	11/14/14
EPA 8260C	BENZENE	0.200 U	0.20	0.200	0.060	ug/L	11/14/14	11/14/14
EPA 8260C	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	11/14/14	11/14/14
EPA 8260C	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	11/14/14	11/14/14
EPA 8260C	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	11/14/14	11/14/14
EPA 8260C	CARBON TETRACHLORIDE	0.100 U	0.10	0.100	0.030	ug/L	11/14/14	11/14/14
EPA 8260C	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	11/14/14	11/14/14
EPA 8260C	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	11/14/14	11/14/14
EPA 8260C	CHLOROFORM	0.20 U	0.2	0.20	0.06	ug/L	11/14/14	11/14/14
EPA 8260C	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	11/14/14	11/14/14
EPA 8260C	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	11/14/14	11/14/14
EPA 8260C	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
EPA 8260C	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	11/14/14	11/14/14
EPA 8260C	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
EPA 8260C	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	11/14/14	11/14/14
EPA 8260C	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	11/14/14	11/14/14
EPA 8260C	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	11/14/14	11/14/14

Quant Method: LCREDW.M
Run #: 1114L14
Instrument: Loki
Sequence: 141110
Dilution Factor: 1
Initials: SV

Printed: 11/18/14 11:18:32 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8260C WATER

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gene Wright

Project: 749435 Red Hill Phase 1b TO 0068

ARF: 74924

Sample ID: TRIP111214

APPL ID: AZ07201

Sample Collection Date: 11/12/14

QCG: #86CRE-141114AL-191955

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	TETRACHLOROETHENE	0.30 U	0.3	0.30	0.08	ug/L	11/14/14	11/14/14
EPA 8260C	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	11/14/14	11/14/14
EPA 8260C	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
EPA 8260C	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	11/14/14	11/14/14
EPA 8260C	VINYL CHLORIDE	0.10 U	0.1	0.10	0.03	ug/L	11/14/14	11/14/14
EPA 8260C	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	11/14/14	11/14/14
EPA 8260C	SURROGATE: 1,2-DICHLOROETHANE	106	70-120			%	11/14/14	11/14/14
EPA 8260C	SURROGATE: 4-BROMOFLUOROBEN	93.9	75-120			%	11/14/14	11/14/14
EPA 8260C	SURROGATE: DIBROMOFLUOROMET	113	85-115			%	11/14/14	11/14/14
EPA 8260C	SURROGATE: TOLUENE-D8 (S)	99.1	85-120			%	11/14/14	11/14/14

Quant Method:	LCREDW.M
Run #:	1114L14
Instrument:	Loki
Sequence:	141110
Dilution Factor:	1
Initials:	SV

Printed: 11/18/14 11:18:32 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\141110\1114L14.D Vial: 13
Acq On : 14 Nov 14 13:57 Operator: DG,SV,RS
Sample : AZ07201W01 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 11:02 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	438592	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	396544	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	179712	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.11	111	270712	27.68967 ppb	0.00
Spiked Amount 24.012			Recovery = 115.317%		
38) 1,2-DCA-D4(S)	5.52	65	297670	27.43542 ppb	0.00
Spiked Amount 24.984			Recovery = 109.809%		
58) Toluene-D8(S)	7.71	98	775868	24.71634 ppb	0.00
Spiked Amount 24.898			Recovery = 99.270%		
66) 4-Bromofluorobenzene(S)	10.36	95	249614	21.66016 ppb	0.00
Spiked Amount 22.905			Recovery = 94.566%		

Target Compounds Qvalue

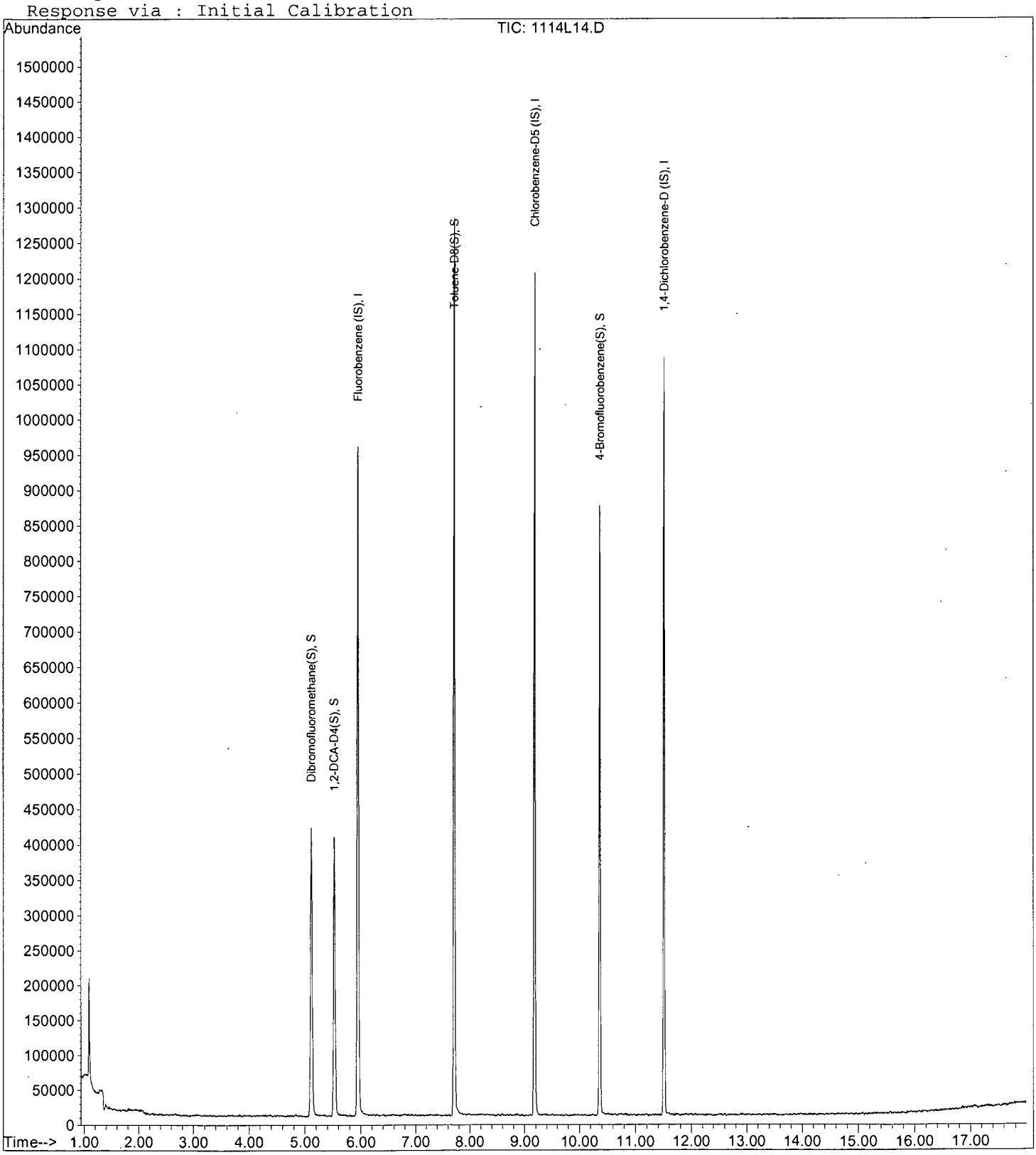
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141110\1114L14.D Vial: 13
Acq On : 14 Nov 14 13:57 Operator: DG,SV,RS
Sample : AZ07201W01 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 11:02 2014 Quant Results File: LCREDW.RES

Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration



EPA 8260C WATER

Parsons
10235 S. Jordan Gateway Ste 300
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Attn: Gene Wright

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: 749435 Red Hill Phase 1b TO 0068

ARF: 74924

Sample ID: HW111214-01

APPL ID: AZ07202

Sample Collection Date: 11/12/14

QCG: #86CRE-141114AL-191955

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	11/14/14	11/14/14
EPA 8260C	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	11/14/14	11/14/14
EPA 8260C	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	11/14/14	11/14/14
EPA 8260C	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	11/14/14	11/14/14
EPA 8260C	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
EPA 8260C	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	11/14/14	11/14/14
EPA 8260C	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	11/14/14	11/14/14
EPA 8260C	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	11/14/14	11/14/14
EPA 8260C	1,2-DIBROMO-3-CHLOROPROPANE	1.00 U	2.0	1.00	0.76	ug/L	11/14/14	11/14/14
EPA 8260C	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	11/14/14	11/14/14
EPA 8260C	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	11/14/14	11/14/14
EPA 8260C	1,2-DICHLOROETHANE	0.100 U	0.10	0.100	0.030	ug/L	11/14/14	11/14/14
EPA 8260C	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	11/14/14	11/14/14
EPA 8260C	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	11/14/14	11/14/14
EPA 8260C	1,3-DICHLOROPROPENE (TOTAL)	0.30 U	1.0	0.30	0.18	ug/L	11/14/14	11/14/14
EPA 8260C	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
EPA 8260C	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	11/14/14	11/14/14
EPA 8260C	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	11/14/14	11/14/14
EPA 8260C	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	11/14/14	11/14/14
EPA 8260C	BENZENE	0.200 U	0.20	0.200	0.060	ug/L	11/14/14	11/14/14
EPA 8260C	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	11/14/14	11/14/14
EPA 8260C	BROMOFORM	3.9	1.0	0.30	0.14	ug/L	11/14/14	11/14/14
EPA 8260C	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	11/14/14	11/14/14
EPA 8260C	CARBON TETRACHLORIDE	0.100 U	0.10	0.100	0.030	ug/L	11/14/14	11/14/14
EPA 8260C	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	11/14/14	11/14/14
EPA 8260C	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	11/14/14	11/14/14
EPA 8260C	CHLOROFORM	0.20 U	0.2	0.20	0.06	ug/L	11/14/14	11/14/14
EPA 8260C	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	11/14/14	11/14/14
EPA 8260C	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	11/14/14	11/14/14
EPA 8260C	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
EPA 8260C	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	11/14/14	11/14/14
EPA 8260C	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
EPA 8260C	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	11/14/14	11/14/14
EPA 8260C	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	11/14/14	11/14/14
EPA 8260C	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	11/14/14	11/14/14

Quant Method: LCREDW.M
Run #: 1114L20
Instrument: Loki
Sequence: 141110
Dilution Factor: 1
Initials: SV

Printed: 11/18/14 11:18:33 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8260C WATER

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APPL Inc.
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Clovis, CA 93611

Attn: Gene Wright

Project: 749435 Red Hill Phase 1b TO 0068

ARF: 74924

Sample ID: HW111214-01

APPL ID: AZ07202

Sample Collection Date: 11/12/14

QCG: #86CRE-141114AL-191955

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	TETRACHLOROETHENE	0.30 U	0.3	0.30	0.08	ug/L	11/14/14	11/14/14
EPA 8260C	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	11/14/14	11/14/14
EPA 8260C	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
EPA 8260C	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	11/14/14	11/14/14
EPA 8260C	VINYL CHLORIDE	0.10 U	0.1	0.10	0.03	ug/L	11/14/14	11/14/14
EPA 8260C	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	11/14/14	11/14/14
EPA 8260C	SURROGATE: 1,2-DICHLOROETHANE	105	70-120			%	11/14/14	11/14/14
EPA 8260C	SURROGATE: 4-BROMOFLUOROBEN	92.7	75-120			%	11/14/14	11/14/14
EPA 8260C	SURROGATE: DIBROMOFLUOROMET	113	85-115			%	11/14/14	11/14/14
EPA 8260C	SURROGATE: TOLUENE-D8 (S)	98.4	85-120			%	11/14/14	11/14/14

Quant Method: LCREDW.M
Run #: 1114L20
Instrument: Loki
Sequence: 141110
Dilution Factor: 1
Initials: SV

Printed: 11/18/14 11:18:33 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\141110\1114L20.D Vial: 19
Acq On : 14 Nov 14 16:45 Operator: DG,SV,RS
Sample : AZ07202W01 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 11:03 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	432512	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	393408	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	178112	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.11	111	266281	27.61932 ppb	0.00
Spiked Amount 24.012			Recovery = 115.021%		
38) 1,2-DCA-D4(S)	5.52	65	290338	27.13582 ppb	0.00
Spiked Amount 24.984			Recovery = 108.612%		
58) Toluene-D8(S)	7.71	98	763943	24.53045 ppb	0.00
Spiked Amount 24.898			Recovery = 98.523%		
66) 4-Bromofluorobenzene(S)	10.36	95	244353	21.37266 ppb	0.00
Spiked Amount 22.905			Recovery = 93.313%		
Target Compounds					Qvalue
71) Bromoform	10.02	173	26113	3.83167 ppb	98

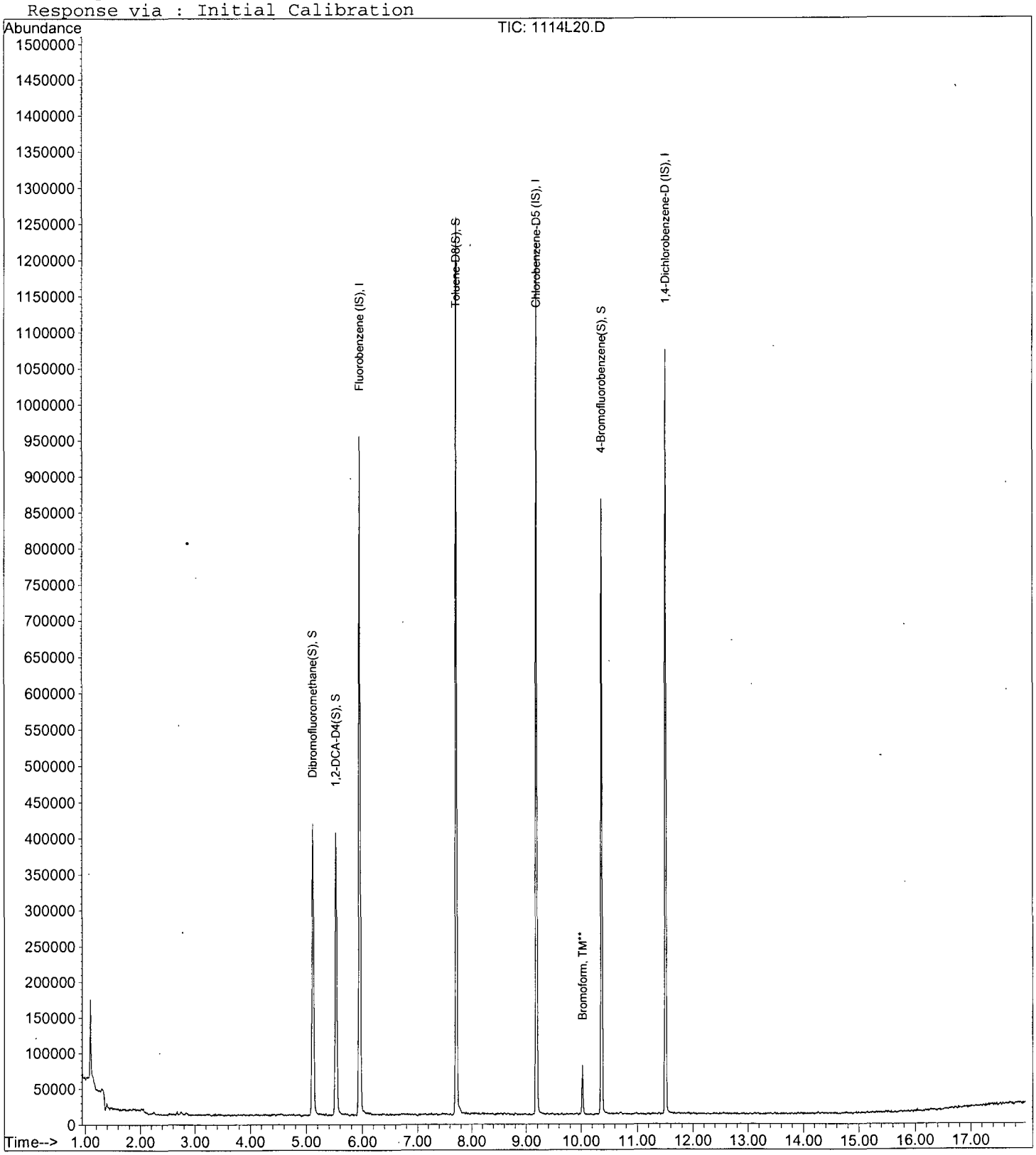
(#) = qualifier out of range (m) = manual integration

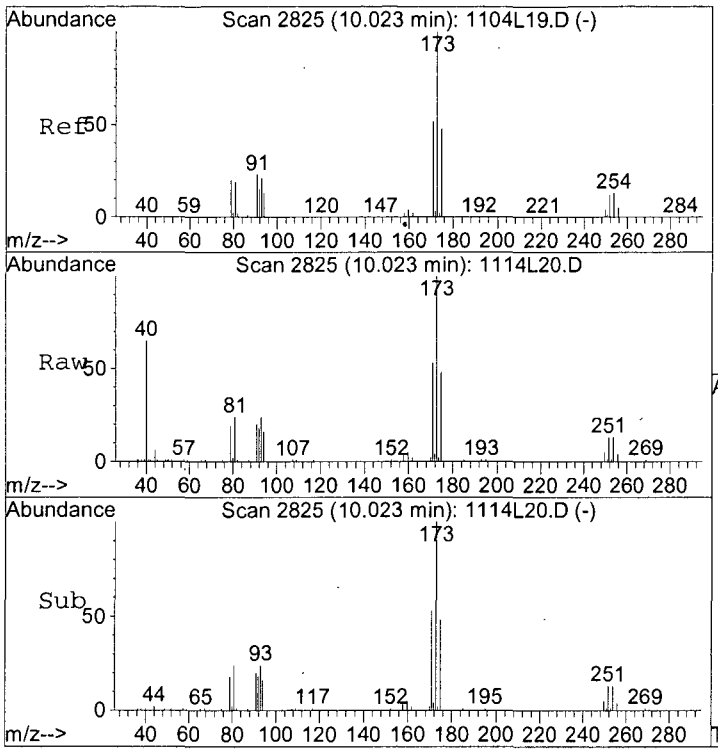
Data File : M:\LOKI\DATA\141110\1114L20.D
Acq On : 14 Nov 14 16:45
Sample : AZ07202W01
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 19
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Quant Time: Nov 18 11:03 2014 Quant Results File: LCREDW.RES

Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration

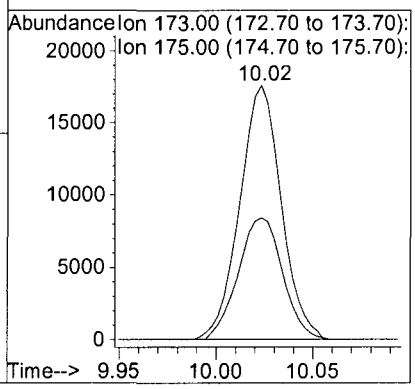




#71
Bromoform
Concen: 3.83167 ppb
RT: 10.02 min Scan# 2825
Delta R.T. 0.00 min
Lab File: 1114L20.D
Acq: 14 Nov 14 16:45

Tgt Ion:173 Resp: 26113

Ion	Ratio	Lower	Upper
173	100		
175	46.7	33.4	62.0



EPA 8260C WATER

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Project: 749435 Red Hill Phase 1b TO 0068

ARF: 74924

Sample ID: HW111214-02

APPL ID: AZ07203

Sample Collection Date: 11/12/14

QCG: #86CRE-141114AL-191955

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	11/14/14	11/14/14
EPA 8260C	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	11/14/14	11/14/14
EPA 8260C	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	11/14/14	11/14/14
EPA 8260C	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	11/14/14	11/14/14
EPA 8260C	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
EPA 8260C	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	11/14/14	11/14/14
EPA 8260C	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	11/14/14	11/14/14
EPA 8260C	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	11/14/14	11/14/14
EPA 8260C	1,2-DIBROMO-3-CHLOROPROPANE	1.00 U	2.0	1.00	0.76	ug/L	11/14/14	11/14/14
EPA 8260C	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	11/14/14	11/14/14
EPA 8260C	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	11/14/14	11/14/14
EPA 8260C	1,2-DICHLOROETHANE	0.100 U	0.10	0.100	0.030	ug/L	11/14/14	11/14/14
EPA 8260C	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	11/14/14	11/14/14
EPA 8260C	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	11/14/14	11/14/14
EPA 8260C	1,3-DICHLOROPROPENE (TOTAL)	0.30 U	1.0	0.30	0.18	ug/L	11/14/14	11/14/14
EPA 8260C	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
EPA 8260C	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	11/14/14	11/14/14
EPA 8260C	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	11/14/14	11/14/14
EPA 8260C	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	11/14/14	11/14/14
EPA 8260C	BENZENE	0.200 U	0.20	0.200	0.060	ug/L	11/14/14	11/14/14
EPA 8260C	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	11/14/14	11/14/14
EPA 8260C	BROMOFORM	4.2	1.0	0.30	0.14	ug/L	11/14/14	11/14/14
EPA 8260C	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	11/14/14	11/14/14
EPA 8260C	CARBON TETRACHLORIDE	0.100 U	0.10	0.100	0.030	ug/L	11/14/14	11/14/14
EPA 8260C	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	11/14/14	11/14/14
EPA 8260C	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	11/14/14	11/14/14
EPA 8260C	CHLOROFORM	0.20 U	0.2	0.20	0.06	ug/L	11/14/14	11/14/14
EPA 8260C	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	11/14/14	11/14/14
EPA 8260C	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	11/14/14	11/14/14
EPA 8260C	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
EPA 8260C	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	11/14/14	11/14/14
EPA 8260C	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
EPA 8260C	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	11/14/14	11/14/14
EPA 8260C	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	11/14/14	11/14/14
EPA 8260C	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	11/14/14	11/14/14

Quant Method: LCREDW.M
Run #: 1114L21
Instrument: Loki
Sequence: 141110
Dilution Factor: 1
Initials: SV

Printed: 11/18/14 11:18:33 AM
APPL-F1-SC-NoMC-REG MDLs

EPA 8260C WATER

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

Project: 749435 Red Hill Phase 1b TO 0068

Sample ID: HW111214-02

Sample Collection Date: 11/12/14

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 74924

APPL ID: AZ07203

QCG: #86CRE-141114AL-191955

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
EPA 8260C	TETRACHLOROETHENE	0.30 U	0.3	0.30	0.08	ug/L	11/14/14	11/14/14
EPA 8260C	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	11/14/14	11/14/14
EPA 8260C	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
EPA 8260C	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	11/14/14	11/14/14
EPA 8260C	VINYL CHLORIDE	0.10 U	0.1	0.10	0.03	ug/L	11/14/14	11/14/14
EPA 8260C	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	11/14/14	11/14/14
EPA 8260C	SURROGATE: 1,2-DICHLOROETHANE	103	70-120			%	11/14/14	11/14/14
EPA 8260C	SURROGATE: 4-BROMOFLUOROBEN	91.7	75-120			%	11/14/14	11/14/14
EPA 8260C	SURROGATE: DIBROMOFLUOROMET	110	85-115			%	11/14/14	11/14/14
EPA 8260C	SURROGATE: TOLUENE-D8 (S)	98.1	85-120			%	11/14/14	11/14/14

Quant Method: LCREDW.M
Run #: 1114L21
Instrument: Loki
Sequence: 141110
Dilution Factor: 1
Initials: SV

Printed: 11/18/14 11:18:33 AM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\141110\1114L21.D Vial: 20
Acq On : 14 Nov 14 17:13 Operator: DG,SV,RS
Sample : AZ07203W01 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 11:05 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	431168	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	389824	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	180608	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.11	111	258413	26.88678 ppb	0.00
Spiked Amount 24.012			Recovery = 111.973%		
38) 1,2-DCA-D4(S)	5.52	65	284153	26.64053 ppb	0.00
Spiked Amount 24.984			Recovery = 106.631%		
58) Toluene-D8(S)	7.71	98	754819	24.46031 ppb	0.00
Spiked Amount 24.898			Recovery = 98.242%		
66) 4-Bromofluorobenzene(S)	10.36	95	239628	21.15208 ppb	0.00
Spiked Amount 22.905			Recovery = 92.348%		
Target Compounds					Qvalue
71) Bromoform	10.02	173	27539	4.07807 ppb	98

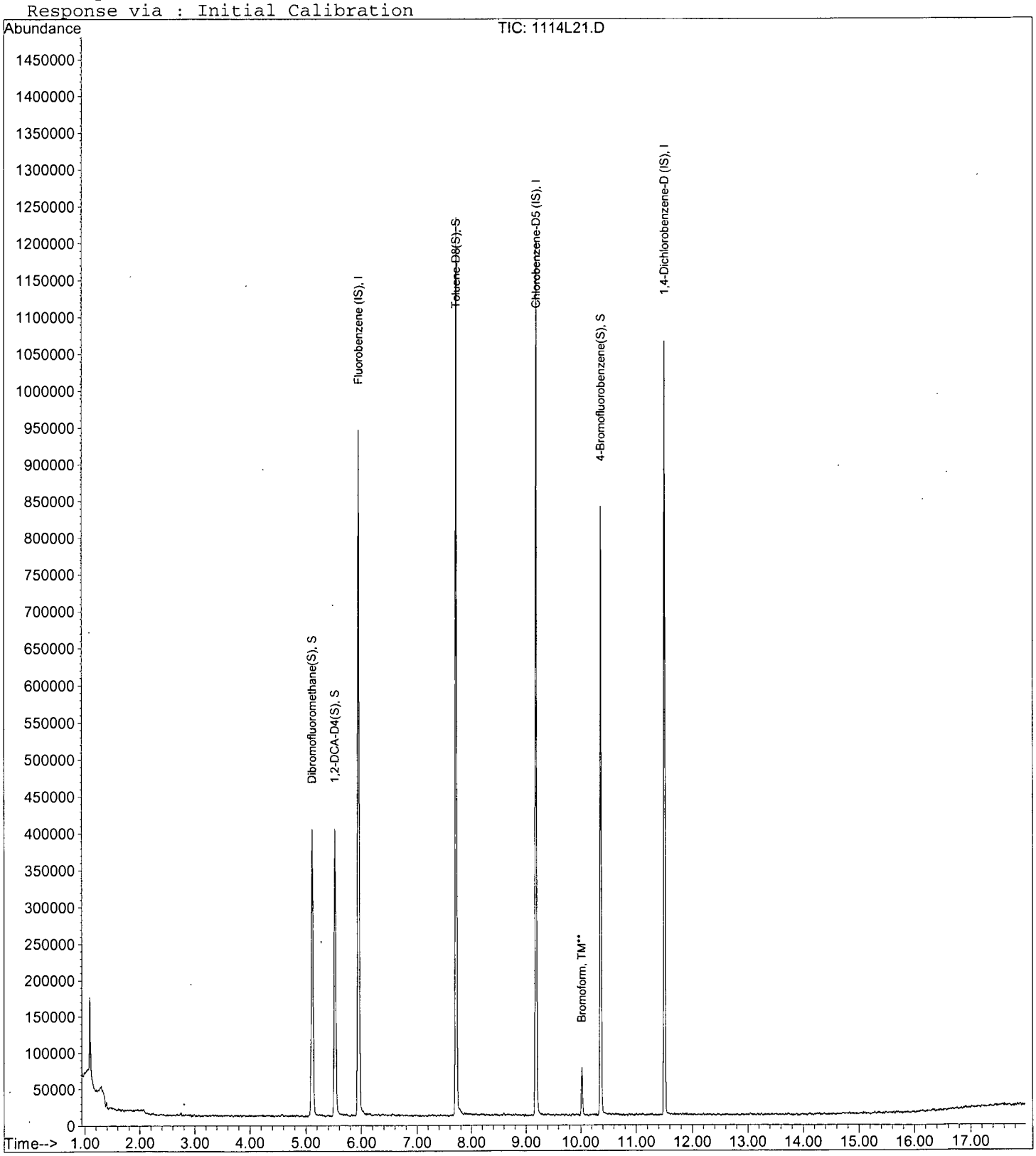
(#) = qualifier out of range (m) = manual integration

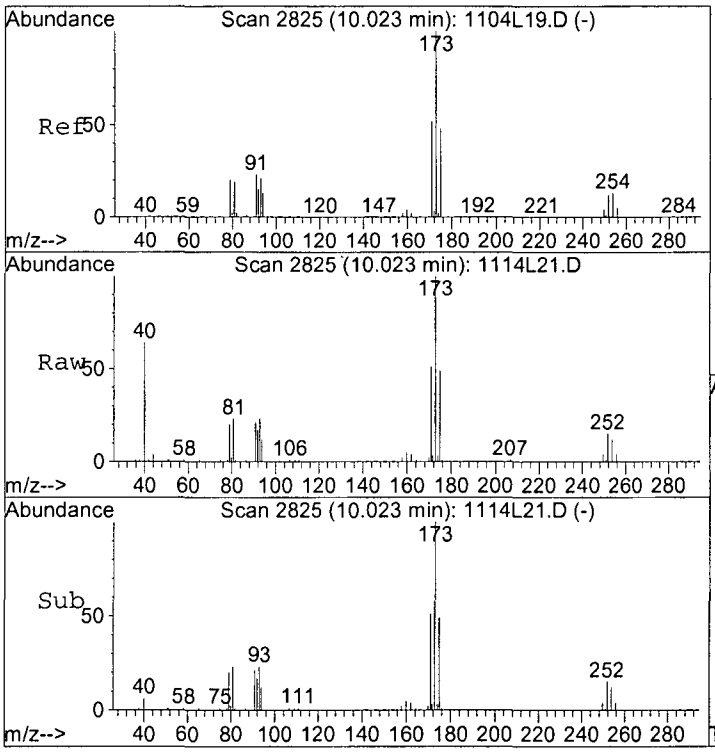
Quantitation Report

Data File : M:\LOKI\DATA\141110\1114L21.D Vial: 20
Acq On : 14 Nov 14 17:13 Operator: DG,SV,RS
Sample : AZ07203W01 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 11:05 2014 Quant Results File: LCREDW.RES

Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration

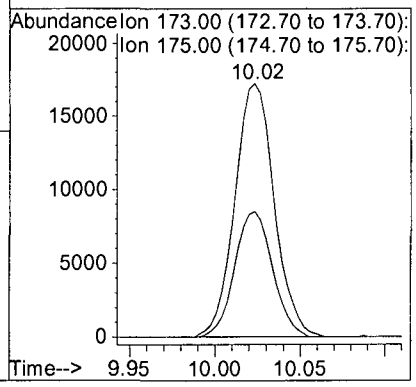




#71
Bromoform
Concen: 4.07807 ppb
RT: 10.02 min Scan# 2825
Delta R.T. 0.00 min
Lab File: 1114L21.D
Acq: 14 Nov 14 17:13

Tgt Ion:173 Resp: 27539

Ion	Ratio	Lower	Upper
173	100		
175	49.4	33.4	62.0



EPA METHOD 8260C
Volatile Organic Compounds
Calibration Data

APPL, INC.

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 11/10/14
Matrix: Instrument: Loki Initials:

			1107L35.D	1110L06.D	1110L07.D	1110L08.D	1110L09.D	1110L10.D	1110L11.D	1110L12.D						
		Compound	0.1	0.5	1	5	10	20	40	100			Avg	%RSD		
1	I	Fluorobenzene (IS)	ISTD													
2	TM	Dichlorodifluoromethane		0.4939	0.4658	0.3556	0.3885	0.4031	0.4427	0.4445			0.43	11	TM	
3	TM	Freon 114		0.4458	0.4383	0.3200	0.3670	0.3922	0.4042	0.4264			0.40	11	TM	
4	TM**L	Chloromethane			1.100	0.7985	0.7527	0.7528	0.7685				0.83	18	TM**L	1.000
5	TM*	Vinyl chloride	0.9467	0.6488	0.6281	0.5392	0.5512	0.5476	0.5621				0.63	23	TM*	
6	TM	Bromomethane		0.3453	0.3052	0.2485	0.2406	0.2843					0.28	15	TM	
7	TML	Chloroethane		0.5531	0.4138	0.3188	0.3018	0.2908	0.2585	0.2945			0.35	30	TML	0.997
8	TM	Dichlorofluoromethane		1.177	1.134	1.046	0.9758	0.9623	0.9319	0.8996			1.0	10	TM	
9	TM	Trichlorofluoromethane		0.8900	0.8260	0.7000	0.6947	0.6664	0.6723	0.6675			0.73	12	TM	
10	TM	Acrolein		0.0354	0.0320	0.0296	0.0279	0.0272	0.0262	0.0248			0.03	13	TM	
11	TML	Acetone		0.8201	0.5266	0.1809	0.1515	0.1288	0.1166	0.1113			0.29	95	TML	1.000
12	TM	Freon-113		0.5087	0.4957	0.3969	0.4067	0.4061	0.3906	0.3791			0.43	12	TM	
13	TM*	1,1-DCE		0.7855	0.7605	0.6853	0.6739	0.6536	0.6507	0.6414			0.69	8.2	TM*	
14	TM	t-Butanol		0.0362	0.0334	0.0286	0.0281	0.0273	0.0273	0.0282			0.03	12	TM	
15	TM	Acetonitrile		0.0692	0.0641	0.0531	0.0539	0.0513	0.0516	0.0518			0.06	13	TM	
16	TM	Methyl Acetate			0.4119	0.3455	0.3316	0.3152	0.3160	0.3179			0.34	11	TM	
17	TM	Iodomethane		0.1033	0.1012	0.0734	0.0732	0.0872	0.0931				0.09	15	TM	
18	TM	Acrylonitrile		0.1327	0.1403	0.1385	0.1204	0.1155	0.1179	0.1157			0.13	8.7	TM	
19	TML	Methylene chloride		0.8799	0.7129	0.5786	0.5168	0.5180	0.5011				0.62	24	TML	1.000
20	TM	Carbon disulfide		1.751	1.629	1.402	1.356	1.351	1.344	1.310			1.4	12	TM	
21	TM	Methyl t-butyl ether (MtBE)		1.234	1.093	1.114	1.054	1.099	1.141	1.159			1.1	5.1	TM	
22	TML	Trans-1,2-DCE	0.8893	0.5223	0.5459	0.4826	0.4604	0.4434	0.4502	0.4498			0.53	28	TML	1.00
23	TM	Diisopropyl Ether		1.408	1.332	1.307	1.333	1.441	1.546	1.562			1.4	7.3	TM	
24	TM**	1,1-DCA		1.045	0.9943	0.9134	0.8476	0.8351	0.8105	0.7476			0.88	12	TM**	
25	TM	Hexane		0.4295	0.4171	0.3348	0.3826	0.4267	0.4725	0.5115			0.42	14	TM	
26	TM	Vinyl Acetate		0.3535	0.3448	0.2971	0.2826	0.2904	0.2921	0.2836			0.31	9.7	TM	
27	TM	Ethyl tert Butyl Ether		1.178	1.091	1.098	1.098	1.173	1.254	1.315			1.2	7.4	TM	
28	TML	MEK (2-Butanone)		0.2865	0.2241	0.1777	0.1586	0.1562	0.1642	0.1572			0.19	26	TML	1.000
29	TM	Cis-1,2-DCE		0.5456	0.5295	0.5198	0.4979	0.5086	0.5249	0.5159			0.52	2.9	TM	
30	TM	2,2-Dichloropropane		0.7903	0.7007	0.6320	0.6197	0.5994	0.6050	0.5901			0.65	11	TM	
31	TM*	Chloroform	1.682	0.9936	0.9426	0.9392	0.8762	0.8527	0.8345				1.0	29	TM*	
32	TM	Bromochloromethane		0.2958	0.3045	0.2838	0.2601	0.2508	0.2372	0.2228			0.27	12	TM	
33	S	Dibromofluoromethane(S)		0.6393	0.6267	0.5671	0.5218	0.5238	0.5177	0.5046			0.56	9.9	S	
34	TM	1,1,1-TCA		0.8369	0.8029	0.7666	0.7110	0.7195	0.7052	0.6913			0.75	7.4	TM	
35	TM	Cyclohexane		0.3605	0.3565	0.3026	0.3315	0.3528	0.3767	0.3874			0.35	8.0	TM	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 11/10/14
Matrix: Instrument: Loki Initials:

		Compound	0.1	0.5	1	5	10	20	40	100			Avg	%RSD		
36	TM	1,1-Dichloropropene		0.5440	0.5555	0.5191	0.5471	0.5782	0.5971	0.6110			0.56	5.7	TM	
37	TM	2,2,4-Trimethylpentane		0.9801	0.9911	0.9276	1.022	1.136	1.242	1.289			1.1	13	TM	
38	S	1,2-DCA-D4(S)		0.7515	0.6757	0.6408	0.5762	0.5696	0.5656	0.5497			0.62	12	S	
39	TML	Carbon Tetrachloride	1.256	0.7476	0.7556	0.6740	0.6517	0.6569	0.6338	0.6310			0.75	28	TML	1.000
40	TM	Tert Amyl Methyl Ether		1.086	0.9100	1.046	1.074	1.128	1.177	1.185			1.1	8.6	TM	
41	TML	1,2-DCA	1.239	0.7369	0.6835	0.6779	0.6542	0.6340	0.6239	0.5905			0.73	29	TML	0.999
42	TML	Benzene	3.300	1.889	1.839	1.859	1.831	1.851	1.857	1.805			2.0	25	TML	1.000
43	TM	TCE		0.5345	0.4959	0.5002	0.4668	0.4662	0.4651	0.4656			0.48	5.5	TM	
44	TM	2-Pentanone		0.3013	0.2835	0.2783	0.2908	0.2943	0.3011	0.2976			0.29	3.0	TM	
45	TM*	1,2-Dichloropropane		0.5355	0.6051	0.5541	0.5250	0.5224	0.5218	0.5047			0.54	6.1	TM*	
46	TM	Bromodichloromethane		0.7433	0.7270	0.7098	0.6721	0.6571	0.6511	0.6314			0.68	6.2	TM	
47	TM	Methyl Cyclohexane		0.5155	0.5410	0.4761	0.5325	0.5828	0.6470	0.6983			0.57	14	TM	
48	TM	Dibromomethane		0.3565	0.3520	0.3243	0.3090	0.2942	0.2870	0.2686			0.31	11	TM	
49	TM	2-Chloroethyl vinyl ether		0.0155	0.0147	0.0187	0.0151	0.0130	0.0126				0.01	15	TM	
50	TM	MIBK (methyl isobutyl ketone)			0.4390	0.3480	0.3389	0.3163	0.3278	0.3572			0.35	12	TM	
51	TM	1-Bromo-2-chloroethane		0.4490	0.4165	0.4263	0.3846	0.3798	0.3783	0.3830			0.40	7.0	TM	
52	TM	Cis-1,3-Dichloropropene		0.8059	0.6926	0.7178	0.6757	0.7131	0.7454	0.7861			0.73	6.5	TM	
53	TM*	Toluene		1.721	1.691	1.885	1.908	1.966	2.002	1.967			1.9	6.6	TM*	
54	TM	Trans-1,3-Dichloropropene		0.6410	0.6022	0.6438	0.6187	0.6229	0.6392	0.6608			0.63	3.1	TM	
55	TM	1,1,2-TCA		0.3851	0.3926	0.3783	0.3588	0.3522	0.3452	0.3333			0.36	6.1	TM	
56	TM	2-Hexanone		0.2433	0.2220	0.2167	0.2045	0.2021	0.2158	0.2372			0.22	7.0	TM	
57	I	Chlorobenzene-D5 (IS)	ISTD													
58	S	Toluene-D8(S)		2.047	1.803	1.907	1.915	2.044	2.063	2.074			2.0	5.3	S	
59	TM	1,2-EDB		0.5265	0.5062	0.4931	0.4885	0.4774	0.4538	0.4462			0.48	5.8	TM	
60	TML	Tetrachloroethene	1.079	0.6862	0.6282	0.6768	0.6374	0.6005	0.5922	0.5849			0.69	24	TML	1.000
61	TM	1-Chlorohexane		0.4985	0.5309	0.5248	0.5744	0.6167	0.6704	0.6989			0.59	13	TM	
62	TM	1,1,1,2-Tetrachloroethane		0.7675	0.6411	0.6790	0.6183	0.6080	0.5807	0.5801			0.64	10	TM	
63	TM	m&p-Xylene		0.7652	0.7265	0.8429	0.9013	0.9625	0.9760	0.9761			0.88	12	TM	
64	TM	o-Xylene		0.7555	0.6476	0.8020	0.7947	0.8690	0.9128	0.9506			0.82	13	TM	
65	TML	Styrene		1.105	1.071	1.327	1.396	1.564	1.625	1.687			1.4	18	TML	1.000
66	S	4-Bromofluorobenzene(S)		0.6944	0.6458	0.7001	0.7174	0.7557	0.7615	0.8108			0.73	7.4	S	
67	TM	1,3-Dichloropropane		0.8344	0.7814	0.8572	0.8139	0.8115	0.7933	0.7812			0.81	3.5	TM	
68	TM	Dibromochloromethane		0.6426	0.5867	0.6513	0.6150	0.5844	0.5632	0.5637			0.60	6.0	TM	
69	TM**	Chlorobenzene		1.725	1.592	1.610	1.540	1.511	1.506	1.495			1.6	5.2	TM**	
70	TM*	Ethylbenzene		2.126	1.912	2.179	2.250	2.449	2.523	2.521			2.3	10	TM*	

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 11/10/14
Matrix: Instrument: Loki Initials:

		Compound	0.1	0.5	1	5	10	20	40	100			Avg	%RSD		
71	TM**	Bromoform		0.5043	0.4491	0.4472	0.4258	0.4090	0.3865	0.4096			0.43	8.9	TM**	
72	I	1,4-Dichlorobenzene-D (IS)	ISTD													
73	TM	Isopropylbenzene		3.494	3.245	3.181	3.257	3.487	3.820	3.710			3.5	7.1	TM	
74	TM**L	1,1,2,2-Tetrachloroethane		1.462	1.384	1.138	1.032	0.9796	0.9452				1.2	19	TM**L	1.000
75	TML	1,2,3-Trichloropropane		0.4059	0.3912	0.3292	0.3106	0.3016	0.2824	0.2668			0.33	16	TML	0.999
76	TM	t-1,4-Dichloro-2-Butene		0.3178	0.2687	0.2286	0.2504	0.2498	0.2324	0.2349			0.25	12	TM	
77	TM	Bromobenzene		1.391	1.185	1.170	1.133	1.132	1.137	1.087			1.2	8.5	TM	
78	TM	n-Propylbenzene		4.051	3.706	3.954	4.130	4.532	4.795	4.573			4.2	9.2	TM	
79	TM	4-Ethyltoluene		3.328	2.905	3.332	3.518	3.872	4.053	3.859			3.6	11	TM	
80	TM	2-Chlorotoluene		2.833	2.444	2.692	2.731	2.858	2.915	2.745			2.7	5.6	TM	
81	TM	1,3,5-Trimethylbenzene		2.795	2.636	3.116	3.296	3.486	3.573	3.381			3.2	11	TM	
82	TM	4-Chlorotoluene		3.022	2.863	3.252	3.295	3.423	3.426	3.273			3.2	6.5	TM	
83	TM	Tert-Butylbenzene		2.546	2.342	2.400	2.378	2.586	2.814	2.810			2.6	7.7	TM	
84	TM	1,2,4-Trimethylbenzene		2.958	2.434	2.879	3.020	3.344	3.493	3.451			3.1	12	TM	
85	TM	Sec-Butylbenzene		3.103	3.305	3.545	3.650	3.978	4.164	4.173			3.7	11	TM	
86	TM	p-Isopropyltoluene		2.877	2.728	2.959	3.088	3.349	3.536	3.593			3.2	11	TM	
87	TM	Benzyl Chloride		1.692	1.477	1.330	1.253	1.223	1.240	1.253			1.4	13	TM	
88	TM	1,3-DCB		2.278	2.116	2.277	2.132	2.150	2.108	2.072			2.2	3.8	TM	
89	TM	1,4-DCB		3.003	2.467	2.404	2.220	2.198	2.168	2.100			2.4	13	TM	
90	TM	n-Butylbenzene		2.934	2.781	2.833	2.860	3.145	3.408	3.501			3.1	9.5	TM	
91	TM	1,2-DCB		2.411	2.157	2.058	1.980	1.978	1.985	1.987			2.1	7.7	TM	
92	TM	Hexachloroethane		0.9988	0.9590	0.7954	0.7504	0.7307	0.7272	0.7327			0.81	14	TM	
93	TM	1,2-Dibromo-3-chloropropane		0.2541	0.1707	0.2103	0.1893	0.1843	0.1984	0.1869			0.20	14	TM	
94	TM	1,2,4-Trichlorobenzene		1.157	1.153	1.211	1.203	1.240	1.490	1.516			1.3	12	TM	
95	TM	Hexachlorobutadiene			1.009	0.8454	0.7970	0.7932	0.8246	0.8090			0.85	9.7	TM	
96	TMQ	Naphthalene	1.754	1.010	0.9616	1.147	1.232	1.414	1.941				1.4	28	TMQ	1.000
97	TM	1,2,3-Trichlorobenzene		0.7515	0.6356	0.7658	0.7714	0.8390	0.9919	0.9389			0.81	15	TM	
98																
99																
100																
101																
102																
103																
104																
105																

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141104\1107L35.D Vial: 30
Acq On : 8 Nov 14 2:45 Operator: DG,SV,RS
Sample : 0.1ug/L Vol Std 11-07-14 Inst : Loki
Misc : 10mL w/5uL IS:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:05:44 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	496448	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	438208	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	207296	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	6135	0.36788 ppb		0.00
Spiked Amount 24.012			Recovery =	1.533%		
38) 1,2-DCA-D4(S)	5.53	65	6390	0.35144 ppb		0.00
Spiked Amount 24.984			Recovery =	1.405%		
58) Toluene-D8(S)	7.71	98	16824	0.33797 ppb		0.00
Spiked Amount 24.898			Recovery =	1.358%		
66) 4-Bromofluorobenzene(S)	10.36	95	6653	0.34879 ppb		0.00
Spiked Amount 22.905			Recovery =	1.524%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	929	0.11358 ppb		87
3) Freon 114	1.10	85	932	0.10916 ppb		92
4) Chloromethane	1.14	50	5708	0.32675 ppb		96
5) Vinyl chloride	1.22	62	1880	0.16236 ppb		95
6) Bromomethane	1.46	94	974	0.35314 ppb		89
8) Dichlorofluoromethane	1.70	67	3513	0.17608 ppb		92
9) Trichlorofluoromethane	1.74	101	2395	0.16957 ppb		97
10) Acrolein	2.10	56	3475	4.51438 ppb	#	91
11) Acetone	2.25	43	2086	-1.24745 ppb		92
12) Freon-113	2.20	101	1158	0.13681 ppb	#	73
13) 1,1-DCE	2.18	61	2475	0.16882 ppb		88
14) t-Butanol	2.87	59	2788	4.73922 ppb	#	90
15) Acetonitrile	2.52	41	6599	6.05212 ppb	#	1
16) Methyl Acetate	2.60	43	1698	0.24664 ppb	#	80
17) Iodomethane	2.31	142	421	0.86596 ppb	#	43
18) Acrylonitrile	2.84	52	237	0.10020 ppb	#	1
19) Methylene chloride	2.68	84	12262	0.81689 ppb		93
20) Carbon disulfide	2.37	76	5819	0.23006 ppb	#	90
21) Methyl t-butyl ether (MtBE	3.01	73	3681	0.16836 ppb	#	81
22) Trans-1,2-DCE	2.99	96	1766	0.54193 ppb		94
23) Diisopropyl Ether	3.71	45	3694	0.12872 ppb	#	83
24) 1,1-DCA	3.54	63	3430	0.17489 ppb		98
25) Hexane	3.37	57	1001	0.12098 ppb	#	82
26) Vinyl Acetate	3.71	43	1134	0.17549 ppb	#	77
27) Ethyl tert Butyl Ether	4.30	59	3359	0.14764 ppb	#	84
28) MEK (2-Butanone)	4.54	43	1315	0.37104 ppb	#	51
29) Cis-1,2-DCE	4.42	96	2352	0.20679 ppb	#	43
30) 2,2-Dichloropropane	4.41	77	2161	0.15074 ppb		90
31) Chloroform	4.90	83	3340	0.14142 ppb		77
32) Bromochloromethane	4.77	128	579	0.10940 ppb	#	31
34) 1,1,1-TCA	5.10	97	2767	0.16185 ppb		98
35) Cyclohexane	5.16	41	849	0.11073 ppb	#	70
36) 1,1-Dichloropropene	5.33	75	1916	0.14555 ppb	#	82
37) 2,2,4-Trimethylpentane	5.73	57	1953	0.08691 ppb		98
39) Carbon Tetrachloride	5.32	117	2494	0.10567 ppb		84
40) Tert Amyl Methyl Ether	5.79	73	2904	0.13689 ppb	#	87
42) Benzene	5.58	78	6553	0.32259 ppb	#	93
43) TCE	6.38	95	2057	0.18267 ppb		83
44) 2-Pentanone	6.64	43	23441	0.75271 ppb		94

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141104\1107L35.D Vial: 30
Acq On : 8 Nov 14 2:45 Operator: DG,SV,RS
Sample : 0.1ug/L Vol Std 11-07-14 Inst : Loki
Misc : 10mL w/5uL IS:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:05:44 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
45)	1,2-Dichloropropane	6.62	63	1938	0.15352 ppb	#	88
46)	Bromodichloromethane	6.95	83	2469	0.15924 ppb	#	98
47)	Methyl Cyclohexane	6.58	83	1545	0.12820 ppb	#	57
48)	Dibromomethane	6.75	93	1181	0.16333 ppb		87
49)	2-Chloroethyl vinyl ether	7.22	106	46	0.14702 ppb	#	1
50)	MIBK (methyl isobutyl ket	7.64	43	1227	1.31451 ppb	#	92
51)	1-Bromo-2-chloroethane	7.26	63	1042	0.12624 ppb		91
52)	Cis-1,3-Dichloropropene	7.45	75	5645	0.28080 ppb		88
53)	Toluene	7.79	91	5937	0.14339 ppb		96
54)	Trans-1,3-Dichloropropene	8.04	75	3527	0.22282 ppb	#	78
55)	1,1,2-TCA	8.21	83	1032	0.12731 ppb		85
56)	2-Hexanone	8.51	43	990	0.18116 ppb	#	70
59)	1,2-EDB	8.69	107	1465	0.15334 ppb	#	66
60)	Tetrachloroethene	8.34	166	1892	0.14735 ppb		97
61)	1-Chlorohexane	9.22	91	1236	0.11591 ppb		93
62)	1,1,1,2-Tetrachloroethane	9.30	131	1971	0.15927 ppb		83
63)	m&p-Xylene	9.46	106	4474	1.27662 ppb		69
64)	o-Xylene	9.84	106	1965	0.12364 ppb		85
65)	Styrene	9.86	104	2917	0.97783 ppb	#	84
67)	1,3-Dichloropropane	8.37	76	2275	0.14038 ppb		85
68)	Dibromochloromethane	8.60	129	1451	0.12586 ppb	#	60
69)	Chlorobenzene	9.21	112	4784	0.15282 ppb		93
70)	Ethylbenzene	9.34	91	5507	0.12255 ppb		86
71)	Bromoform	10.03	173	1150	0.14275 ppb	#	77
73)	Isopropylbenzene	10.23	105	4805	0.14355 ppb		98
74)	1,1,2,2-Tetrachloroethane	10.52	83	1659	-0.45102 ppb	#	92
75)	1,2,3-Trichloropropane	10.55	110	636	-0.24593 ppb	#	16
76)	t-1,4-Dichloro-2-Butene	10.59	53	301	0.13227 ppb	#	27
77)	Bromobenzene	10.50	156	1961	0.17452 ppb		92
78)	n-Propylbenzene	10.63	91	5663	0.14123 ppb		95
79)	4-Ethyltoluene	10.75	105	4360	0.14513 ppb		90
80)	2-Chlorotoluene	10.81	91	4332	0.16152 ppb		94
81)	1,3,5-Trimethylbenzene	10.82	105	3500	0.12331 ppb		93
82)	4-Chlorotoluene	10.81	91	4332	0.14363 ppb		88
83)	Tert-Butylbenzene	11.13	119	3537	0.14443 ppb		96
84)	1,2,4-Trimethylbenzene	11.18	105	3668	0.12962 ppb		89
85)	Sec-Butylbenzene	11.35	105	4962	0.14118 ppb		88
86)	p-Isopropyltoluene	11.50	119	4755	0.15517 ppb	#	87
87)	Benzyl Chloride	11.67	91	1432	0.12402 ppb	#	62
88)	1,3-DCB	11.43	146	3014	0.14932 ppb		96
89)	1,4-DCB	11.52	146	3683	0.16278 ppb	#	86
90)	n-Butylbenzene	11.90	91	4199	0.14040 ppb		92
91)	1,2-DCB	11.89	146	3569	0.17420 ppb		97
92)	Hexachloroethane	12.15	117	1583	0.20305 ppb	#	30
93)	1,2-Dibromo-3-chloropropan	12.65	157	88	-0.33310 ppb		94
94)	1,2,4-Trichlorobenzene	13.49	180	1885	0.14475 ppb	#	65
95)	Hexachlorobutadiene	13.68	225	1417	0.13457 ppb		92
96)	Naphthalene	13.72	128	1454	0.78517 ppb		92
97)	1,2,3-Trichlorobenzene	13.96	180	1285	0.15620 ppb	#	78

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

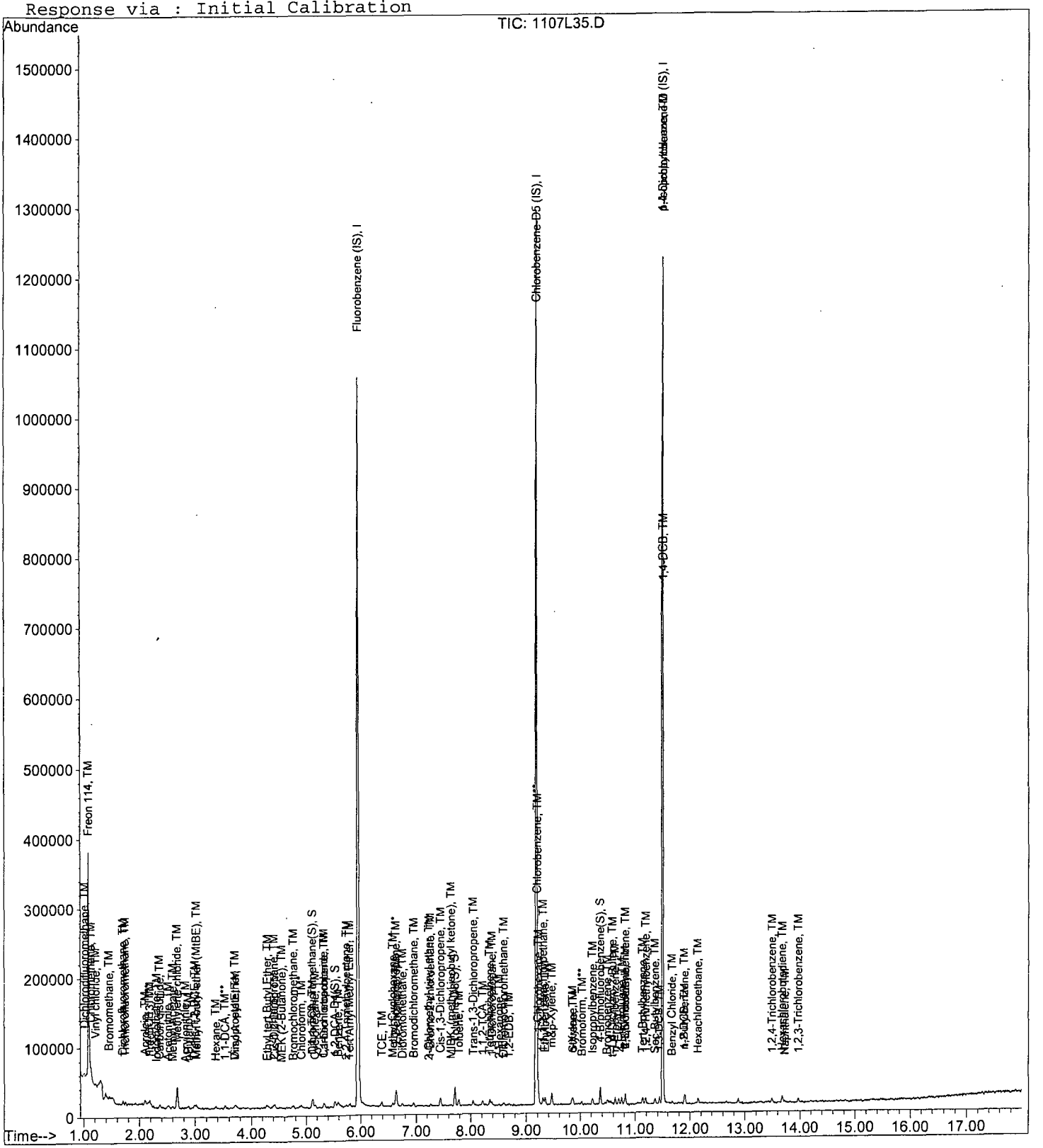
Quantitation Report

Data File : M:\LOKI\DATA\141104\1107L35.D
Acq On : 8 Nov 14 2:45
Sample : 0.1ug/L Vol Std 11-07-14
Misc : 10mL w/5uL IS:10-06-14

Vial: 30
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L06.D Vial: 5
Acq On : 10 Nov 14 18:32 Operator: DG,SV,RS
Sample : 0.5ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:15:57 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	542848	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	465920	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	228480	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	13882	0.76127 ppb		0.00
Spiked Amount 24.012			Recovery =	3.169%		
38) 1,2-DCA-D4(S)	5.53	65	16318	0.82076 ppb		0.00
Spiked Amount 24.984			Recovery =	3.286%		
58) Toluene-D8(S)	7.71	98	38158	0.72095 ppb		0.00
Spiked Amount 24.898			Recovery =	2.896%		
66) 4-Bromofluorobenzene(S)	10.36	95	12942	0.63813 ppb		0.00
Spiked Amount 22.905			Recovery =	2.785%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	5362	0.59952 ppb		96
3) Freon 114	1.10	85	4840	0.51843 ppb		86
4) Chloromethane	1.14	50	14346	0.75102 ppb		86
5) Vinyl chloride	1.22	62	7044	0.55633 ppb		99
6) Bromomethane	1.45	94	3749	1.24309 ppb		92
7) Chloroethane	1.53	64	6005	0.97584 ppb	#	74
8) Dichlorofluoromethane	1.70	67	12776	0.58562 ppb		93
9) Trichlorofluoromethane	1.74	101	9663	0.62568 ppb		95
10) Acrolein	2.10	56	19230	22.84640 ppb	#	98
11) Acetone	2.25	43	8904	1.54917 ppb		86
12) Freon-113	2.20	101	5523	0.59674 ppb		94
13) 1,1-DCE	2.18	61	8528	0.53196 ppb		91
14) t-Butanol	2.88	59	19639	30.53015 ppb		97
15) Acetonitrile	2.52	41	37586	31.52473 ppb	#	66
16) Methyl Acetate	2.60	43	5342	0.70961 ppb		96
17) Iodomethane	2.31	142	1122	1.34124 ppb	#	75
18) Acrylonitrile	2.97	52	1441	0.55717 ppb		90
19) Methylene chloride	2.67	84	9553	0.49324 ppb		89
20) Carbon disulfide	2.36	76	19010	0.68735 ppb		99
21) Methyl t-butyl ether (MtBE	3.02	73	13399	0.56045 ppb		94
22) Trans-1,2-DCE	2.99	96	5671	0.88684 ppb		91
23) Diisopropyl Ether	3.72	45	15288	0.48718 ppb		90
24) 1,1-DCA	3.53	63	11347	0.52912 ppb	#	87
25) Hexane	3.36	57	4663	0.51540 ppb		91
26) Vinyl Acetate	3.68	43	3838	0.54318 ppb	#	84
27) Ethyl tert Butyl Ether	4.28	59	12794	0.51428 ppb	#	87
28) MEK (2-Butanone)	4.51	43	3110	0.80251 ppb	#	72
29) Cis-1,2-DCE	4.42	96	5924	0.47633 ppb	#	69
30) 2,2-Dichloropropane	4.40	77	8580	0.54732 ppb		99
31) Chloroform	4.90	83	10788	0.41775 ppb		96
32) Bromochloromethane	4.76	128	3211	0.55483 ppb		76
34) 1,1,1-TCA	5.10	97	9086	0.48603 ppb		86
35) Cyclohexane	5.16	41	3914	0.46684 ppb		84
36) 1,1-Dichloropropene	5.34	75	5906	0.41031 ppb	#	82
37) 2,2,4-Trimethylpentane	5.72	57	10641	0.43304 ppb	#	62
39) Carbon Tetrachloride	5.32	117	8117	0.46710 ppb		88
40) Tert Amyl Methyl Ether	5.80	73	11788	0.50816 ppb	#	90
41) 1,2-DCA	5.62	62	8000	0.34233 ppb	#	89
42) Benzene	5.58	78	20514	0.62593 ppb	#	88

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L06.D Vial: 5
Acq On : 10 Nov 14 18:32 Operator: DG,SV,RS
Sample : 0.5ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:15:57 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.38	95	5803	0.47128	ppb		90
44)	2-Pentanone	6.64	43	163560	4.80315	ppb		96
45)	1,2-Dichloropropane	6.62	63	5814	0.42120	ppb	#	88
46)	Bromodichloromethane	6.95	83	8070	0.47601	ppb		96
47)	Methyl Cyclohexane	6.59	83	5597	0.42473	ppb		98
48)	Dibromomethane	6.75	93	3870	0.48945	ppb		83
49)	2-Chloroethyl vinyl ether	7.26	106	168	0.49104	ppb	#	1
50)	MIBK (methyl isobutyl ket	7.64	43	5093	1.76172	ppb		97
51)	1-Bromo-2-chloroethane	7.26	63	4875	0.54015	ppb		99
52)	Cis-1,3-Dichloropropene	7.44	75	8750	0.39804	ppb		93
53)	Toluene	7.78	91	18683	0.41266	ppb		96
54)	Trans-1,3-Dichloropropene	8.04	75	6959	0.40207	ppb		93
55)	1,1,2-TCA	8.21	83	4181	0.47169	ppb		92
56)	2-Hexanone	8.50	43	2641	0.44197	ppb	#	87
59)	1,2-EDB	8.69	107	4906	0.48295	ppb		93
60)	Tetrachloroethene	8.34	166	6394	0.46835	ppb		90
61)	1-Chlorohexane	9.22	91	4645	0.40971	ppb		94
62)	1,1,1,2-Tetrachloroethane	9.30	131	7152	0.54355	ppb		98
63)	m&p-Xylene	9.46	106	14261	1.74045	ppb		84
64)	o-Xylene	9.85	106	7040	0.41661	ppb		96
65)	Styrene	9.86	104	10296	1.18308	ppb	#	82
67)	1,3-Dichloropropane	8.38	76	7775	0.45123	ppb		95
68)	Dibromochloromethane	8.60	129	5988	0.48851	ppb		89
69)	Chlorobenzene	9.21	112	16075	0.48295	ppb		97
70)	Ethylbenzene	9.34	91	19808	0.41457	ppb		99
71)	Bromoform	10.02	173	4699	0.54860	ppb		89
73)	Isopropylbenzene	10.22	105	15966	0.43276	ppb		90
74)	1,1,2,2-Tetrachloroethane	10.52	83	6679	0.09057	ppb		91
75)	1,2,3-Trichloropropane	10.56	110	1855	0.18680	ppb		95
76)	t-1,4-Dichloro-2-Butene	10.58	53	1452	0.57888	ppb		96
77)	Bromobenzene	10.49	156	6355	0.51313	ppb		91
78)	n-Propylbenzene	10.63	91	18513	0.41890	ppb		98
79)	4-Ethyltoluene	10.75	105	15208	0.45929	ppb		98
80)	2-Chlorotoluene	10.70	91	12944	0.43787	ppb		93
81)	1,3,5-Trimethylbenzene	10.82	105	12773	0.40828	ppb		95
82)	4-Chlorotoluene	10.81	91	13809	0.41538	ppb	#	73
83)	Tert-Butylbenzene	11.13	119	11634	0.43102	ppb	#	82
84)	1,2,4-Trimethylbenzene	11.18	105	13518	0.43342	ppb		91
85)	Sec-Butylbenzene	11.35	105	14179	0.36602	ppb		92
86)	p-Isopropyltoluene	11.50	119	13147	0.38926	ppb	#	89
87)	Benzyl Chloride	11.67	91	7733	0.60761	ppb		99
88)	1,3-DCB	11.44	146	10409	0.46787	ppb		87
89)	1,4-DCB	11.52	146	13724	0.55032	ppb		93
90)	n-Butylbenzene	11.91	91	13409	0.40679	ppb		94
91)	1,2-DCB	11.89	146	11019	0.48796	ppb		96
92)	Hexachloroethane	12.14	117	4564	0.53115	ppb		90
93)	1,2-Dibromo-3-chloropropan	12.66	157	1161	0.25789	ppb	#	45
94)	1,2,4-Trichlorobenzene	13.49	180	5285	0.36821	ppb		89
95)	Hexachlorobutadiene	13.67	225	5743	0.63657	ppb		88
96)	Naphthalene	13.72	128	4615	0.96895	ppb		99
97)	1,2,3-Trichlorobenzene	13.97	180	3434	0.37873	ppb		91

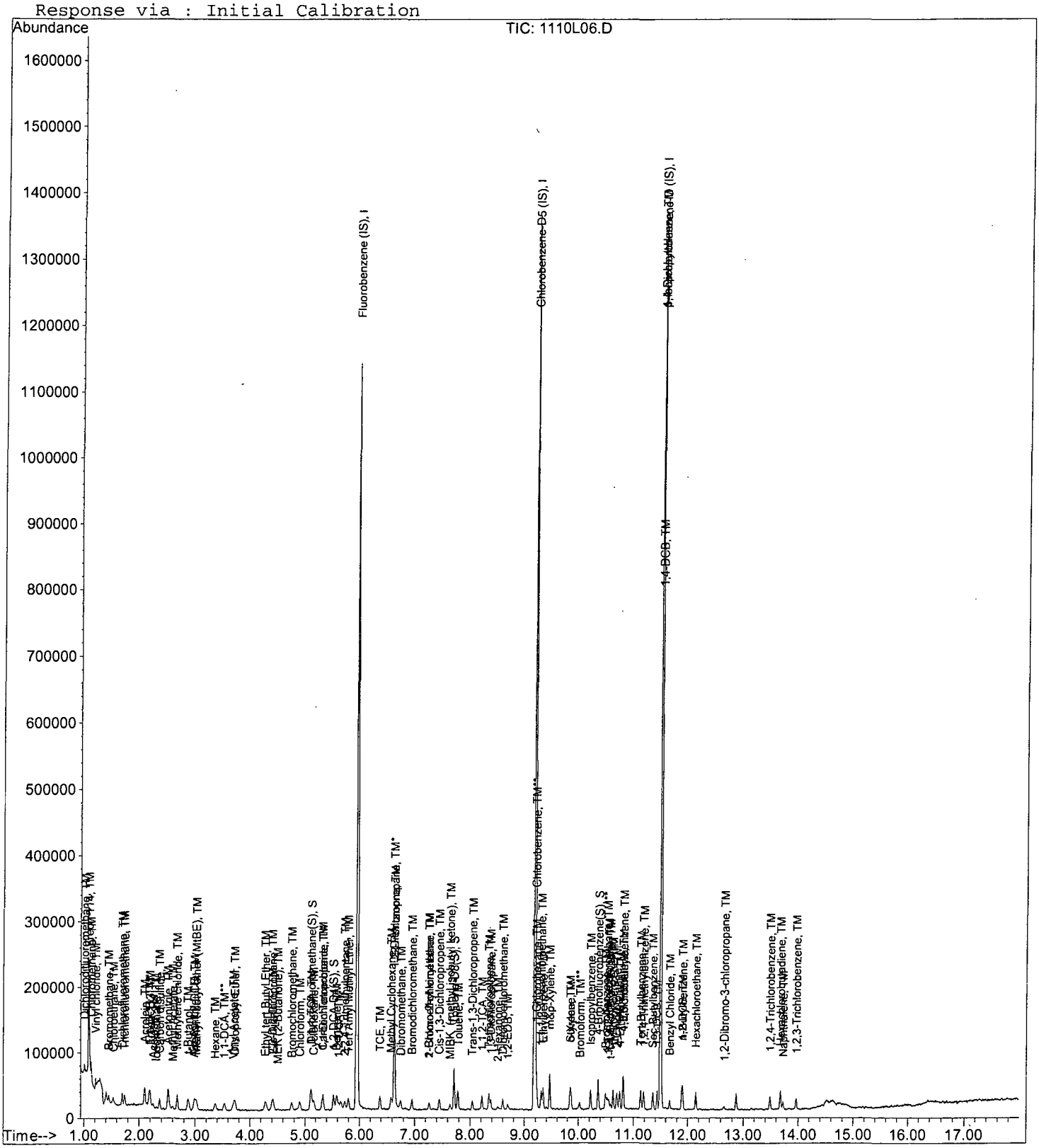
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141110\1110L06.D Vial: 5
Acq On : 10 Nov 14 18:32 Operator: DG,SV,RS
Sample : 0.5ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L07.D Vial: 6
Acq On : 10 Nov 14 19:01 Operator: DG,SV,RS
Sample : 1.0ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:15:57 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	557888	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	495104	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	251392	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.12	111	27971	1.49253 ppb		0.00
Spiked Amount 24.012			Recovery = 6.218%			
38) 1,2-DCA-D4(S)	5.52	65	30156	1.47589 ppb		0.00
Spiked Amount 24.984			Recovery = 5.908%			
58) Toluene-D8(S)	7.71	98	71423	1.26990 ppb		0.00
Spiked Amount 24.898			Recovery = 5.101%			
66) 4-Bromofluorobenzene(S)	10.36	95	25580	1.18693 ppb		0.00
Spiked Amount 22.905			Recovery = 5.182%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	10394	1.13082 ppb		95
3) Freon 114	1.10	85	9781	1.01944 ppb		88
4) Chloromethane	1.14	50	24536	1.24985 ppb		96
5) Vinyl chloride	1.22	62	14017	1.07720 ppb		92
6) Bromomethane	1.45	94	6811	2.19751 ppb		95
7) Chloroethane	1.53	64	9234	1.46012 ppb		92
8) Dichlorofluoromethane	1.70	67	25316	1.12914 ppb		94
9) Trichlorofluoromethane	1.74	101	18433	1.16137 ppb		93
10) Acrolein	2.10	56	35655	41.21831 ppb	#	92
11) Acetone	2.25	43	11752	2.61797 ppb	#	81
12) Freon-113	2.20	101	11061	1.16288 ppb		81
13) 1,1-DCE	2.18	61	16970	1.03002 ppb		99
14) t-Butanol	2.88	59	37316	56.44634 ppb		97
15) Acetonitrile	2.52	41	71545	58.38963 ppb	#	87
16) Methyl Acetate	2.60	43	9192	1.18811 ppb		94
17) Iodomethane	2.31	142	2259	2.11421 ppb		98
18) Acrylonitrile	2.98	52	3131	1.17799 ppb		91
19) Methylene chloride	2.67	84	15908	0.99077 ppb		92
20) Carbon disulfide	2.37	76	36346	1.27874 ppb		99
21) Methyl t-butyl ether (MtBE	3.02	73	24384	0.99243 ppb		91
22) Trans-1,2-DCE	2.99	96	12182	1.45700 ppb		89
23) Diisopropyl Ether	3.72	45	29715	0.92140 ppb		90
24) 1,1-DCA	3.53	63	22189	1.00680 ppb		96
25) Hexane	3.37	57	9308	1.00108 ppb		91
26) Vinyl Acetate	3.71	43	7695	1.05969 ppb	#	96
27) Ethyl tert Butyl Ether	4.29	59	24347	0.95229 ppb	#	87
28) MEK (2-Butanone)	4.51	43	5001	1.25568 ppb	#	85
29) Cis-1,2-DCE	4.43	96	11816	0.92447 ppb		95
30) 2,2-Dichloropropane	4.40	77	15636	0.97054 ppb		95
31) Chloroform	4.91	83	21034	0.79255 ppb		99
32) Bromochloromethane	4.76	128	6796	1.14262 ppb		85
34) 1,1,1-TCA	5.11	97	17918	0.93263 ppb		91
35) Cyclohexane	5.16	41	7956	0.92336 ppb		92
36) 1,1-Dichloropropene	5.34	75	12397	0.83803 ppb		95
37) 2,2,4-Trimethylpentane	5.73	57	22118	0.87583 ppb	#	63
39) Carbon Tetrachloride	5.32	117	16861	1.02297 ppb		91
40) Tert Amyl Methyl Ether	5.80	73	20308	0.85184 ppb	#	89
41) 1,2-DCA	5.62	62	15253	0.82241 ppb		93
42) Benzene	5.58	78	41034	1.06710 ppb		97

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L07.D Vial: 6
Acq On : 10 Nov 14 19:01 Operator: DG,SV,RS
Sample : 1.0ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:15:57 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	TCE	6.38	95	11066	0.87447 ppb		91
44)	2-Pentanone	6.64	43	316271	9.03732 ppb		97
45)	1,2-Dichloropropane	6.62	63	13502	0.95179 ppb		97
46)	Bromodichloromethane	6.95	83	16223	0.93111 ppb	#	96
47)	Methyl Cyclohexane	6.58	83	12073	0.89146 ppb		86
48)	Dibromomethane	6.75	93	7855	0.96667 ppb		93
49)	2-Chloroethyl vinyl ether	7.26	106	329	0.93570 ppb	#	1
50)	MIBK (methyl isobutyl ket	7.64	43	9797	2.29102 ppb		99
51)	1-Bromo-2-chloroethane	7.26	63	9295	1.00212 ppb		97
52)	Cis-1,3-Dichloropropene	7.44	75	15455	0.68411 ppb		91
53)	Toluene	7.78	91	37730	0.81090 ppb		100
54)	Trans-1,3-Dichloropropene	8.04	75	13439	0.75552 ppb	#	79
55)	1,1,2-TCA	8.22	83	8760	0.96165 ppb		94
56)	2-Hexanone	8.51	43	4954	0.80669 ppb	#	87
59)	1,2-EDB	8.70	107	10025	0.92870 ppb		90
60)	Tetrachloroethene	8.34	166	12440	0.85750 ppb		98
61)	1-Chlorohexane	9.22	91	10515	0.87279 ppb		87
62)	1,1,1,2-Tetrachloroethane	9.30	131	12697	0.90810 ppb		92
63)	m&p-Xylene	9.46	106	28776	2.36605 ppb		98
64)	o-Xylene	9.84	106	12826	0.71428 ppb		98
65)	Styrene	9.86	104	21214	1.45889 ppb		97
67)	1,3-Dichloropropane	8.38	76	15475	0.84517 ppb		100
68)	Dibromochloromethane	8.60	129	11620	0.89211 ppb		80
69)	Chlorobenzene	9.20	112	31523	0.89123 ppb		94
70)	Ethylbenzene	9.34	91	37870	0.74587 ppb		96
71)	Bromoform	10.02	173	8894	0.97715 ppb		89
73)	Isopropylbenzene	10.22	105	32629	0.80380 ppb		96
74)	1,1,2,2-Tetrachloroethane	10.52	83	13916	0.75701 ppb		95
75)	1,2,3-Trichloropropane	10.55	110	3934	0.83193 ppb		99
76)	t-1,4-Dichloro-2-Butene	10.59	53	2702	0.97905 ppb		83
77)	Bromobenzene	10.50	156	11916	0.87447 ppb		85
78)	n-Propylbenzene	10.63	91	37267	0.76639 ppb		99
79)	4-Ethyltoluene	10.75	105	29215	0.80189 ppb		99
80)	2-Chlorotoluene	10.70	91	24576	0.75559 ppb		92
81)	1,3,5-Trimethylbenzene	10.82	105	26506	0.77003 ppb		93
82)	4-Chlorotoluene	10.81	91	28790	0.78709 ppb		99
83)	Tert-Butylbenzene	11.13	119	23547	0.79286 ppb		97
84)	1,2,4-Trimethylbenzene	11.18	105	24474	0.71318 ppb		95
85)	Sec-Butylbenzene	11.35	105	33231	0.77965 ppb		92
86)	p-Isopropyltoluene	11.50	119	27436	0.73829 ppb		94
87)	Benzyl Chloride	11.67	91	14856	1.06091 ppb		99
88)	1,3-DCB	11.43	146	21281	0.86937 ppb		96
89)	1,4-DCB	11.52	146	24806	0.90404 ppb		98
90)	n-Butylbenzene	11.91	91	27964	0.77102 ppb		95
91)	1,2-DCB	11.89	146	21686	0.87280 ppb		89
92)	Hexachloroethane	12.14	117	9643	1.01995 ppb		90
93)	1,2-Dibromo-3-chloropropan	12.66	157	1717	0.47979 ppb	#	75
94)	1,2,4-Trichlorobenzene	13.49	180	11595	0.73420 ppb		85
95)	Hexachlorobutadiene	13.68	225	10149	1.05451 ppb		96
96)	Naphthalene	13.72	128	9670	1.22334 ppb	#	86
97)	1,2,3-Trichlorobenzene	13.96	180	6391	0.64061 ppb		98

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

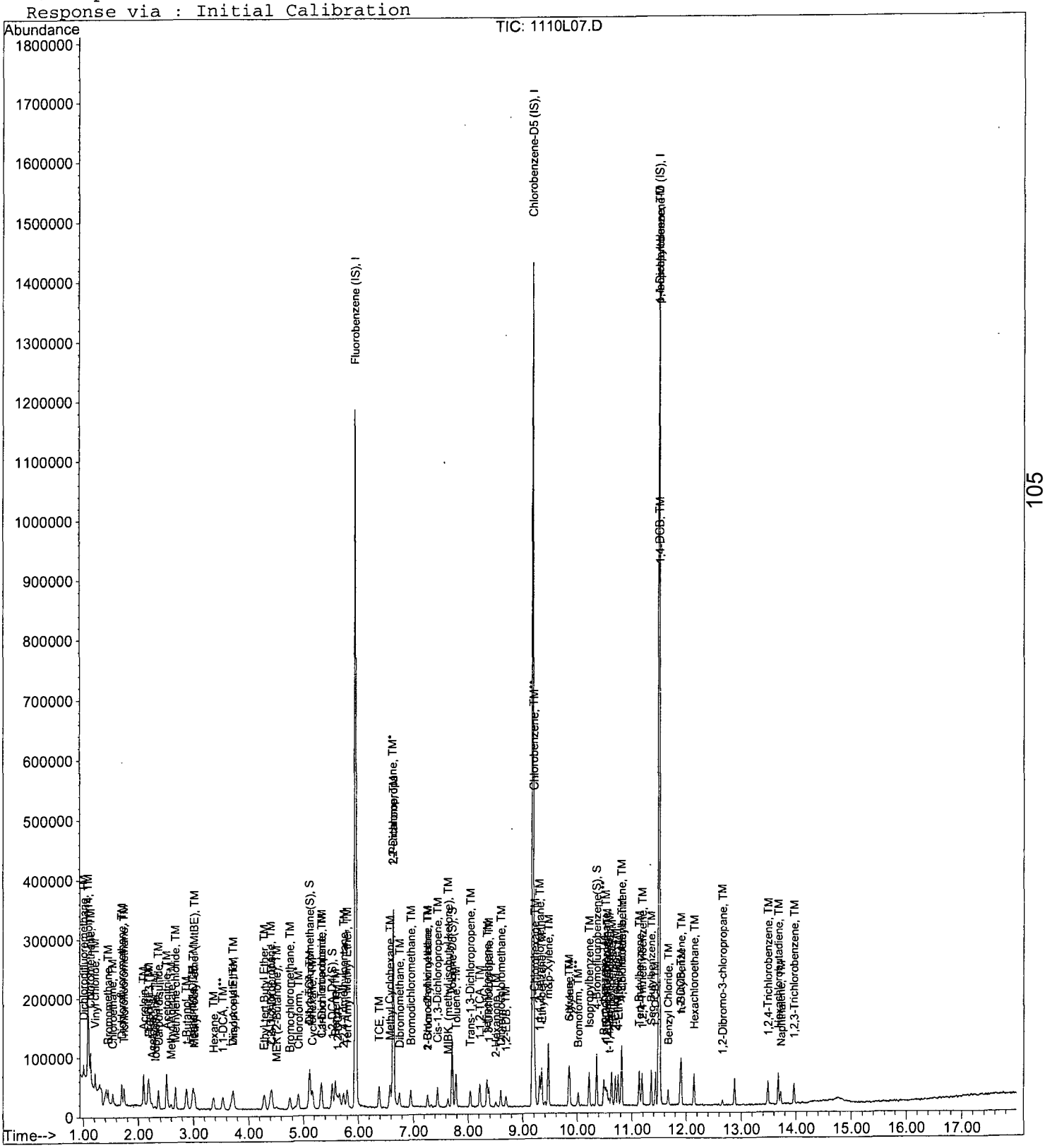
Quantitation Report

Data File : M:\LOKI\DATA\141110\1110L07.D
Acq On : 10 Nov 14 19:01
Sample : 1.0ug/L Vol Std 11-10-14
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 6
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration



105

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L08.D Vial: 7
Acq On : 10 Nov 14 19:29 Operator: DG,SV,RS
Sample : 5.0ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:15:57 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	609024	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	515008	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	307776	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.12	111	138148	6.75262 ppb		0.00
Spiked Amount 24.012			Recovery = 28.123%			
38) 1,2-DCA-D4(S)	5.52	65	156102	6.99846 ppb		0.00
Spiked Amount 24.984			Recovery = 28.010%			
58) Toluene-D8(S)	7.71	98	392839	6.71474 ppb		0.00
Spiked Amount 24.898			Recovery = 26.970%			
66) 4-Bromofluorobenzene(S)	10.36	95	144219	6.43323 ppb		0.00
Spiked Amount 22.905			Recovery = 28.086%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	43317	4.31699 ppb		98
3) Freon 114	1.10	85	38975	3.72115 ppb		97
4) Chloromethane	1.14	50	97256	4.53820 ppb		99
5) Vinyl chloride	1.22	62	65683	4.62390 ppb		92
6) Bromomethane	1.45	94	30264	8.94455 ppb		96
7) Chloroethane	1.54	64	38830	5.62443 ppb		100
8) Dichlorofluoromethane	1.70	67	127420	5.20599 ppb		98
9) Trichlorofluoromethane	1.74	101	85269	4.92127 ppb		99
10) Acrolein	2.10	56	72036	76.28373 ppb	#	98
11) Acetone	2.25	43	22029	6.08054 ppb		93
12) Freon-113	2.20	101	48341	4.65554 ppb		89
13) 1,1-DCE	2.18	61	83467	4.64080 ppb		97
14) t-Butanol	2.87	59	69767	96.67260 ppb		99
15) Acetonitrile	2.52	41	129454	96.77976 ppb		98
16) Methyl Acetate	2.60	43	42078	4.98213 ppb		97
17) Iodomethane	2.31	142	8941	6.25988 ppb		98
18) Acrylonitrile	2.96	52	16865	5.81242 ppb		95
19) Methylene chloride	2.67	84	70475	4.96505 ppb		97
20) Carbon disulfide	2.36	76	170755	5.50314 ppb		100
21) Methyl t-butyl ether (MtBE	3.02	73	135665	5.05794 ppb		98
22) Trans-1,2-DCE	2.99	96	58780	5.19559 ppb		91
23) Diisopropyl Ether	3.71	45	159253	4.52348 ppb		96
24) 1,1-DCA	3.53	63	111252	4.62409 ppb		96
25) Hexane	3.36	57	40785	4.01814 ppb		98
26) Vinyl Acetate	3.71	43	36188	4.56508 ppb		99
27) Ethyl tert Butyl Ether	4.28	59	133790	4.79357 ppb		98
28) MEK (2-Butanone)	4.50	43	21648	4.97913 ppb		97
29) Cis-1,2-DCE	4.43	96	63319	4.53807 ppb		99
30) 2,2-Dichloropropane	4.40	77	76980	4.37703 ppb		98
31) Chloroform	4.90	83	114401	3.94863 ppb		99
32) Bromochloromethane	4.76	128	34574	5.32488 ppb		99
34) 1,1,1-TCA	5.10	97	93372	4.45191 ppb		95
35) Cyclohexane	5.16	41	36860	3.91873 ppb		96
36) 1,1-Dichloropropene	5.33	75	63229	3.91538 ppb		96
37) 2,2,4-Trimethylpentane	5.73	57	112983	4.09828 ppb		97
39) Carbon Tetrachloride	5.32	117	82095	4.82968 ppb		91
40) Tert Amyl Methyl Ether	5.80	73	127354	4.89344 ppb		95
41) 1,2-DCA	5.62	62	82568	4.94515 ppb		100
42) Benzene	5.58	78	226404	4.74566 ppb		99

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L08.D Vial: 7
Acq On : 10 Nov 14 19:29 Operator: DG,SV,RS
Sample : 5.0ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:15:57 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.38	95	60927	4.41038	ppb		93
44)	2-Pentanone	6.63	43	677846	17.74287	ppb		99
45)	1,2-Dichloropropane	6.62	63	67486	4.35782	ppb		100
46)	Bromodichloromethane	6.95	83	86462	4.54579	ppb		98
47)	Methyl Cyclohexane	6.58	83	57987	3.92221	ppb		100
48)	Dibromomethane	6.75	93	39498	4.45267	ppb		90
49)	2-Chloroethyl vinyl ether	7.26	106	2282	5.94523	ppb		55
50)	MIBK (methyl isobutyl ket	7.64	43	42385	5.65844	ppb		98
51)	1-Bromo-2-chloroethane	7.26	63	51928	5.12846	ppb		97
52)	Cis-1,3-Dichloropropene	7.44	75	87428	3.54501	ppb		99
53)	Toluene	7.78	91	229624	4.52075	ppb		100
54)	Trans-1,3-Dichloropropene	8.04	75	78422	4.03860	ppb		99
55)	1,1,2-TCA	8.21	83	46079	4.63370	ppb		97
56)	2-Hexanone	8.51	43	26394	3.93704	ppb	#	96
59)	1,2-EDB	8.69	107	50792	4.52344	ppb		91
60)	Tetrachloroethene	8.34	166	69716	4.61983	ppb		94
61)	1-Chlorohexane	9.22	91	54053	4.31323	ppb		92
62)	1,1,1,2-Tetrachloroethane	9.30	131	69941	4.80889	ppb		100
63)	m&p-Xylene	9.46	106	173648	8.71132	ppb		98
64)	o-Xylene	9.85	106	82611	4.42278	ppb		97
65)	Styrene	9.86	104	136702	4.41762	ppb		99
67)	1,3-Dichloropropane	8.38	76	88297	4.63601	ppb		100
68)	Dibromochloromethane	8.60	129	67088	4.95151	ppb		95
69)	Chlorobenzene	9.21	112	165825	4.50708	ppb		97
70)	Ethylbenzene	9.34	91	224437	4.24958	ppb		100
71)	Bromoform	10.02	173	46067	4.86559	ppb		95
73)	Isopropylbenzene	10.22	105	195792	3.93963	ppb		93
74)	1,1,2,2-Tetrachloroethane	10.52	83	70023	5.14894	ppb		98
75)	1,2,3-Trichloropropane	10.55	110	20262	5.13149	ppb		98
76)	t-1,4-Dichloro-2-Butene	10.58	53	14070	4.16418	ppb		92
77)	Bromobenzene	10.49	156	72035	4.31790	ppb		96
78)	n-Propylbenzene	10.63	91	243401	4.08852	ppb		99
79)	4-Ethyltoluene	10.75	105	205072	4.59764	ppb		100
80)	2-Chlorotoluene	10.70	91	165716	4.16157	ppb		99
81)	1,3,5-Trimethylbenzene	10.81	105	191813	4.55154	ppb		99
82)	4-Chlorotoluene	10.81	91	200180	4.47014	ppb		99
83)	Tert-Butylbenzene	11.13	119	147743	4.06337	ppb		99
84)	1,2,4-Trimethylbenzene	11.18	105	177232	4.21845	ppb		95
85)	Sec-Butylbenzene	11.35	105	218213	4.18171	ppb		99
86)	p-Isopropyltoluene	11.50	119	182114	4.00281	ppb		98
87)	Benzyl Chloride	11.67	91	81870	4.77548	ppb		98
88)	1,3-DCB	11.43	146	140160	4.67682	ppb		99
89)	1,4-DCB	11.53	146	147991	4.40539	ppb		98
90)	n-Butylbenzene	11.91	91	174408	3.92781	ppb		99
91)	1,2-DCB	11.89	146	126657	4.16372	ppb		96
92)	Hexachloroethane	12.14	117	48961	4.22996	ppb		98
93)	1,2-Dibromo-3-chloropropan	12.66	157	12946	4.95113	ppb		90
94)	1,2,4-Trichlorobenzene	13.49	180	74529	3.85465	ppb		96
95)	Hexachlorobutadiene	13.68	225	52040	4.58531	ppb		97
96)	Naphthalene	13.72	128	70624	3.86723	ppb		97
97)	1,2,3-Trichlorobenzene	13.96	180	47136	3.85918	ppb		99

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

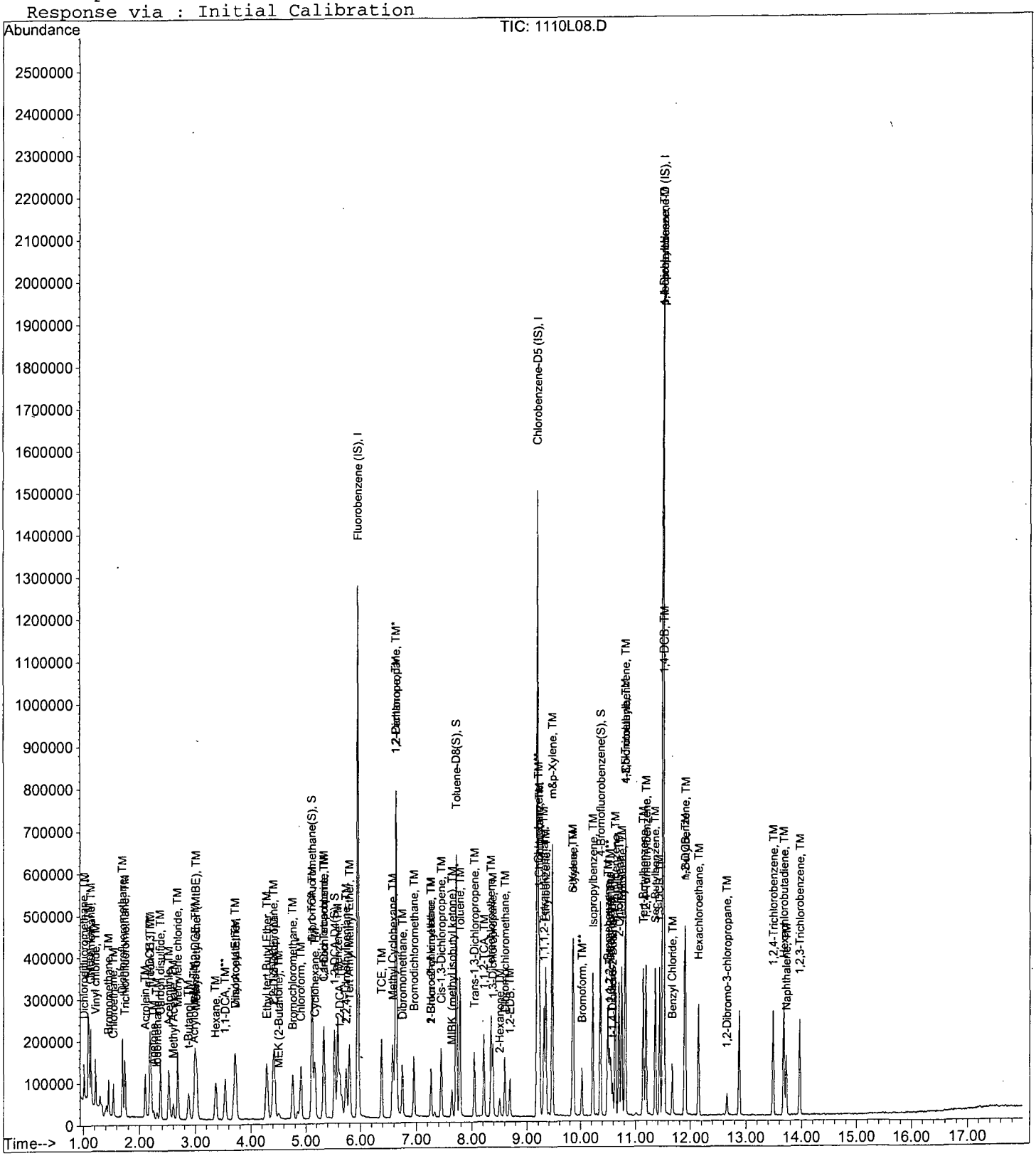
Quantitation Report

Data File : M:\LOKI\DATA\141110\1110L08.D
Acq On : 10 Nov 14 19:29
Sample : 5.0ug/L Vol Std 11-10-14
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 7
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L09.D Vial: 8
Acq On : 10 Nov 14 19:57 Operator: DG,SV,RS
Sample : 10ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:15:57 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	626624	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	536256	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	326848	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	326963	15.53294 ppb		0.00
Spiked Amount 24.012			Recovery = 64.688%			
38) 1,2-DCA-D4(S)	5.52	65	361046	15.73201 ppb		0.00
Spiked Amount 24.984			Recovery = 62.968%			
58) Toluene-D8(S)	7.71	98	1026953	16.85803 ppb		0.00
Spiked Amount 24.898			Recovery = 67.709%			
66) 4-Bromofluorobenzene(S)	10.36	95	384687	16.47995 ppb		0.00
Spiked Amount 22.905			Recovery = 71.950%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	97384	9.43273 ppb		98
3) Freon 114	1.10	85	91984	8.53554 ppb		93
4) Chloromethane	1.14	50	188675	8.55675 ppb		99
5) Vinyl chloride	1.22	62	138147	9.45200 ppb		98
6) Bromomethane	1.44	94	60305	17.32259 ppb		94
7) Chloroethane	1.53	64	75638	10.64827 ppb		97
8) Dichlorofluoromethane	1.70	67	244585	9.71232 ppb		94
9) Trichlorofluoromethane	1.74	101	174119	9.76697 ppb		97
10) Acrolein	2.10	56	87271	89.82137 ppb	#	98
11) Acetone	2.25	43	37985	11.68442 ppb		97
12) Freon-113	2.20	101	101942	9.54189 ppb		94
13) 1,1-DCE	2.18	61	168911	9.12774 ppb		99
14) t-Butanol	2.87	59	87943	118.43553 ppb		99
15) Acetonitrile	2.52	41	168954	122.76227 ppb		99
16) Methyl Acetate	2.59	43	83127	9.56597 ppb		99
17) Iodomethane	2.31	142	18336	11.94542 ppb		95
18) Acrylonitrile	2.97	52	30167	10.10485 ppb		92
19) Methylene chloride	2.67	84	129528	9.11191 ppb		97
20) Carbon disulfide	2.36	76	339801	10.64361 ppb		100
21) Methyl t-butyl ether (MtBE	3.02	73	264288	9.57658 ppb		99
22) Trans-1,2-DCE	2.99	96	115394	9.58286 ppb		98
23) Diisopropyl Ether	3.71	45	334016	9.22103 ppb		93
24) 1,1-DCA	3.53	63	212443	8.58199 ppb		95
25) Hexane	3.36	57	95898	9.18252 ppb		99
26) Vinyl Acetate	3.71	43	70824	8.68344 ppb	#	99
27) Ethyl tert Butyl Ether	4.29	59	275309	9.58701 ppb		97
28) MEK (2-Butanone)	4.49	43	39749	8.88566 ppb		91
29) Cis-1,2-DCE	4.42	96	124804	8.69347 ppb		97
30) 2,2-Dichloropropane	4.40	77	155315	8.58306 ppb		99
31) Chloroform	4.90	83	219608	7.36703 ppb		97
32) Bromochloromethane	4.75	128	65183	9.75713 ppb		98
34) 1,1,1-TCA	5.10	97	178206	8.25810 ppb		96
35) Cyclohexane	5.16	41	83083	8.58479 ppb		97
36) 1,1-Dichloropropene	5.33	75	137130	8.25311 ppb		96
37) 2,2,4-Trimethylpentane	5.73	57	256218	9.03287 ppb		100
39) Carbon Tetrachloride	5.32	117	163341	9.41160 ppb		92
40) Tert Amyl Methyl Ether	5.80	73	269105	10.04965 ppb		99
41) 1,2-DCA	5.62	62	163979	9.74890 ppb		100
42) Benzene	5.58	78	458964	9.19515 ppb		98

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L09.D Vial: 8
Acq On : 10 Nov 14 19:57 Operator: DG,SV,RS
Sample : 10ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:15:57 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	TCE	6.38	95	117002	8.23166	ppb	96
44)	2-Pentanone	6.63	43	910982	23.17555	ppb	99
45)	1,2-Dichloropropane	6.62	63	131599	8.25916	ppb	97
46)	Bromodichloromethane	6.95	83	168469	8.60857	ppb	95
47)	Methyl Cyclohexane	6.58	83	133475	8.77460	ppb	96
48)	Dibromomethane	6.75	93	77447	8.48550	ppb	97
49)	2-Chloroethyl vinyl ether	7.26	106	3785	9.58399	ppb	59
50)	MIBK (methyl isobutyl ket	7.63	43	84942	9.92708	ppb	96
51)	1-Bromo-2-chloroethane	7.26	63	96392	9.25238	ppb	98
52)	Cis-1,3-Dichloropropene	7.44	75	169370	6.67469	ppb	96
53)	Toluene	7.78	91	478136	9.14897	ppb	96
54)	Trans-1,3-Dichloropropene	8.04	75	155077	7.76190	ppb	99
55)	1,1,2-TCA	8.21	83	89938	8.79013	ppb	95
56)	2-Hexanone	8.50	43	51246	7.42937	ppb	97
59)	1,2-EDB	8.69	107	104781	8.96186	ppb	93
60)	Tetrachloroethene	8.34	166	136717	8.70078	ppb	97
61)	1-Chlorohexane	9.22	91	123201	9.44146	ppb	93
62)	1,1,1,2-Tetrachloroethane	9.30	131	132628	8.75770	ppb	96
63)	m&p-Xylene	9.46	106	386650	17.43930	ppb	98
64)	o-Xylene	9.85	106	170473	8.76505	ppb	95
65)	Styrene	9.86	104	299338	8.30912	ppb	99
67)	1,3-Dichloropropane	8.38	76	174582	8.80318	ppb	98
68)	Dibromochloromethane	8.60	129	131929	9.35135	ppb	93
69)	Chlorobenzene	9.20	112	330233	8.62000	ppb	99
70)	Ethylbenzene	9.34	91	482635	8.77632	ppb	99
71)	Bromoform	10.02	173	91334	9.26445	ppb	98
73)	Isopropylbenzene	10.22	105	425824	8.06825	ppb	100
74)	1,1,2,2-Tetrachloroethane	10.52	83	134958	9.87858	ppb	98
75)	1,2,3-Trichloropropane	10.55	110	40606	10.13503	ppb	91
76)	t-1,4-Dichloro-2-Butene	10.58	53	32742	9.12494	ppb	88
77)	Bromobenzene	10.49	156	148110	8.35992	ppb	93
78)	n-Propylbenzene	10.63	91	539892	8.53963	ppb	99
79)	4-Ethyltoluene	10.75	105	459884	9.70880	ppb	98
80)	2-Chlorotoluene	10.70	91	357002	8.44213	ppb	100
81)	1,3,5-Trimethylbenzene	10.82	105	430948	9.62929	ppb	97
82)	4-Chlorotoluene	10.81	91	430759	9.05781	ppb	98
83)	Tert-Butylbenzene	11.13	119	310857	8.05061	ppb	97
84)	1,2,4-Trimethylbenzene	11.18	105	394778	8.84816	ppb	95
85)	Sec-Butylbenzene	11.35	105	477257	8.61222	ppb	99
86)	p-Isopropyltoluene	11.50	119	403765	8.35678	ppb	99
87)	Benzyl Chloride	11.67	91	163832	8.99871	ppb	99
88)	1,3-DCB	11.44	146	278788	8.75971	ppb	97
89)	1,4-DCB	11.53	146	290241	8.13573	ppb	98
90)	n-Butylbenzene	11.91	91	373954	7.93033	ppb	99
91)	1,2-DCB	11.89	146	258891	8.01416	ppb	97
92)	Hexachloroethane	12.14	117	98109	7.98148	ppb	96
93)	1,2-Dibromo-3-chloropropan	12.66	157	24754	9.22441	ppb	91
94)	1,2,4-Trichlorobenzene	13.49	180	157283	7.66002	ppb	98
95)	Hexachlorobutadiene	13.68	225	104204	8.69266	ppb	94
96)	Naphthalene	13.72	128	161088	7.46642	ppb	96
97)	1,2,3-Trichlorobenzene	13.96	180	100848	7.77497	ppb	96

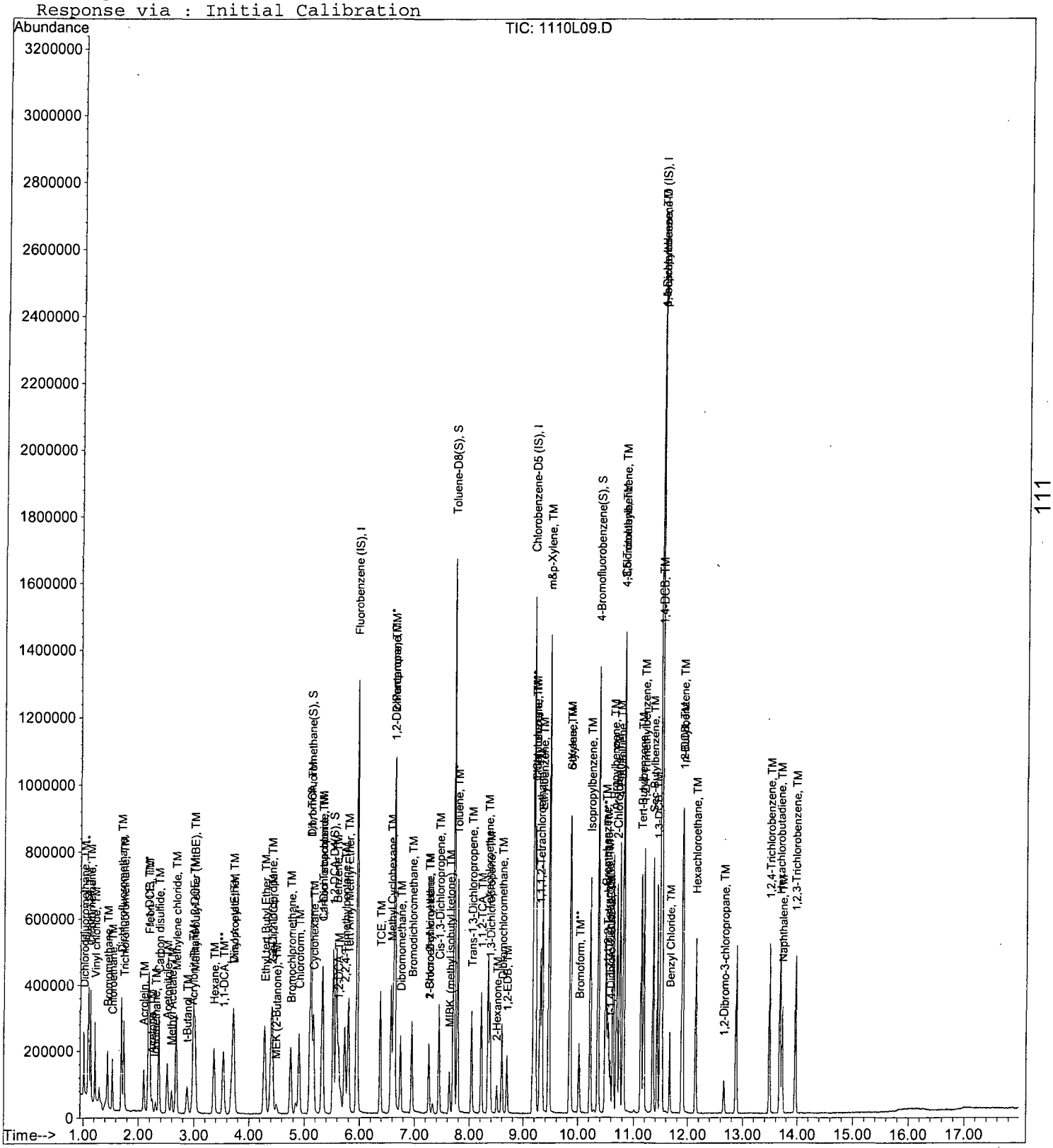
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141110\1110L09.D Vial: 8
Acq On : 10 Nov 14 19:57 Operator: DG,SV,RS
Sample : 10ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L10.D Vial: 9
Acq On : 10 Nov 14 20:25 Operator: DG,SV,RS
Sample : 20ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:15:57 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	650240	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	558080	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	338304	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	544931	24.94767 ppb		0.00
Spiked Amount 24.012			Recovery = 103.898%			
38) 1,2-DCA-D4(S)	5.53	65	592638	24.88539 ppb		0.00
Spiked Amount 24.984			Recovery = 99.603%			
58) Toluene-D8(S)	7.71	98	1824718	28.78246 ppb		0.00
Spiked Amount 24.898			Recovery = 115.601%			
66) 4-Bromofluorobenzene(S)	10.36	95	674792	27.77756 ppb		0.00
Spiked Amount 22.905			Recovery = 121.276%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	209670	19.57129 ppb		99
3) Freon 114	1.10	85	203996	18.24205 ppb		99
4) Chloromethane	1.14	50	391587	17.11417 ppb		99
5) Vinyl chloride	1.22	62	284846	18.78131 ppb		99
6) Bromomethane	1.44	94	147884	40.93681 ppb		96
7) Chloroethane	1.53	64	151279	20.52347 ppb		98
8) Dichlorofluoromethane	1.70	67	500593	19.15628 ppb		98
9) Trichlorofluoromethane	1.74	101	346680	18.74028 ppb		99
10) Acrolein	2.10	56	105933	105.06893 ppb	#	98
11) Acetone	2.25	43	67020	21.41511 ppb		96
12) Freon-113	2.20	101	211260	19.05601 ppb		96
13) 1,1-DCE	2.18	61	339998	17.70579 ppb		98
14) t-Butanol	2.88	59	106700	138.47727 ppb		99
15) Acetonitrile	2.52	41	200309	140.25884 ppb		97
16) Methyl Acetate	2.59	43	163959	18.18259 ppb		99
17) Iodomethane	2.31	142	45344	27.72717 ppb		98
18) Acrylonitrile	2.96	52	60094	19.39824 ppb		99
19) Methylene chloride	2.67	84	269479	18.57884 ppb		100
20) Carbon disulfide	2.36	76	702738	21.21246 ppb		98
21) Methyl t-butyl ether (MtBE	3.02	73	571553	19.95827 ppb		99
22) Trans-1,2-DCE	2.99	96	230644	18.12113 ppb		96
23) Diisopropyl Ether	3.71	45	749800	19.94761 ppb		92
24) 1,1-DCA	3.53	63	434427	16.91203 ppb		97
25) Hexane	3.36	57	221971	20.48246 ppb		99
26) Vinyl Acetate	3.71	43	151040	17.84584 ppb	#	98
27) Ethyl tert Butyl Ether	4.29	59	610272	20.47950 ppb		97
28) MEK (2-Butanone)	4.49	43	81277	17.50913 ppb		99
29) Cis-1,2-DCE	4.43	96	264588	17.76103 ppb		97
30) 2,2-Dichloropropane	4.40	77	311813	16.60567 ppb		99
31) Chloroform	4.90	83	443553	14.33914 ppb		99
32) Bromochloromethane	4.75	128	130473	18.82095 ppb		99
34) 1,1,1-TCA	5.10	97	374298	16.71508 ppb		97
35) Cyclohexane	5.16	41	183521	18.27413 ppb		88
36) 1,1-Dichloropropene	5.33	75	300786	17.44521 ppb		98
37) 2,2,4-Trimethylpentane	5.73	57	590891	20.07507 ppb	#	85
39) Carbon Tetrachloride	5.32	117	341692	19.05145 ppb		96
40) Tert Amyl Methyl Ether	5.79	73	586759	21.11652 ppb		95
41) 1,2-DCA	5.62	62	329822	19.10196 ppb		99
42) Benzene	5.58	78	962874	18.42692 ppb		98

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L10.D Vial: 9
Acq On : 10 Nov 14 20:25 Operator: DG,SV,RS
Sample : 20ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:15:57 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	TCE	6.38	95	242500	16.44141	ppb	98
44)	2-Pentanone	6.63	43	1148179	28.14901	ppb	99
45)	1,2-Dichloropropane	6.62	63	271762	16.43635	ppb	99
46)	Bromodichloromethane	6.95	83	341821	16.83229	ppb	96
47)	Methyl Cyclohexane	6.58	83	303160	19.20581	ppb	93
48)	Dibromomethane	6.75	93	153025	16.15729	ppb	99
49)	2-Chloroethyl vinyl ether	7.26	106	6770	16.51971	ppb	92
50)	MIBK (methyl isobutyl ket	7.63	43	164555	17.53201	ppb	98
51)	1-Bromo-2-chloroethane	7.26	63	197568	18.27521	ppb	98
52)	Cis-1,3-Dichloropropene	7.44	75	370959	14.08815	ppb	97
53)	Toluene	7.78	91	1022717	18.85860	ppb	97
54)	Trans-1,3-Dichloropropene	8.04	75	324021	15.62886	ppb	99
55)	1,1,2-TCA	8.21	83	183220	17.25671	ppb	97
56)	2-Hexanone	8.50	43	105148	14.69016	ppb	92
59)	1,2-EDB	8.69	107	213164	17.51883	ppb	94
60)	Tetrachloroethene	8.34	166	268102	16.39500	ppb	96
61)	1-Chlorohexane	9.22	91	275331	20.27476	ppb	92
62)	1,1,1,2-Tetrachloroethane	9.30	131	271448	17.22333	ppb	97
63)	m&p-Xylene	9.46	106	859449	36.06193	ppb	99
64)	o-Xylene	9.85	106	387992	19.16891	ppb	97
65)	Styrene	9.86	104	698408	17.52400	ppb	97
67)	1,3-Dichloropropane	8.38	76	362294	17.55403	ppb	99
68)	Dibromochloromethane	8.60	129	260907	17.77034	ppb	96
69)	Chlorobenzene	9.21	112	674439	16.91630	ppb	99
70)	Ethylbenzene	9.34	91	1093459	19.10610	ppb	99
71)	Bromoform	10.02	173	182609	17.79856	ppb	98
73)	Isopropylbenzene	10.23	105	943783	17.27668	ppb	98
74)	1,1,2,2-Tetrachloroethane	10.52	83	265129	19.33794	ppb	97
75)	1,2,3-Trichloropropane	10.55	110	81619	20.16106	ppb	93
76)	t-1,4-Dichloro-2-Butene	10.58	53	67608	18.20377	ppb	98
77)	Bromobenzene	10.49	156	306360	16.70661	ppb	95
78)	n-Propylbenzene	10.63	91	1226502	18.74301	ppb	99
79)	4-Ethyltoluene	10.75	105	1047806	21.37158	ppb	100
80)	2-Chlorotoluene	10.70	91	773570	17.67339	ppb	99
81)	1,3,5-Trimethylbenzene	10.81	105	943488	20.36781	ppb	97
82)	4-Chlorotoluene	10.81	91	926387	18.82002	ppb	100
83)	Tert-Butylbenzene	11.13	119	699809	17.51000	ppb	98
84)	1,2,4-Trimethylbenzene	11.18	105	905028	19.59749	ppb	97
85)	Sec-Butylbenzene	11.35	105	1076567	18.76906	ppb	99
86)	p-Isopropyltoluene	11.50	119	906287	18.12235	ppb	98
87)	Benzyl Chloride	11.67	91	331043	17.56728	ppb	99
88)	1,3-DCB	11.44	146	581807	17.66174	ppb	98
89)	1,4-DCB	11.53	146	594986	16.11325	ppb	99
90)	n-Butylbenzene	11.91	91	851042	17.43663	ppb	97
91)	1,2-DCB	11.89	146	535371	16.01159	ppb	97
92)	Hexachloroethane	12.14	117	197762	15.54376	ppb	98
93)	1,2-Dibromo-3-chloropropan	12.66	157	49888	18.32740	ppb	95
94)	1,2,4-Trichlorobenzene	13.49	180	335687	15.79506	ppb	96
95)	Hexachlorobutadiene	13.68	225	214675	17.35412	ppb	99
96)	Naphthalene	13.72	128	382592	15.97410	ppb	99
97)	1,2,3-Trichlorobenzene	13.96	180	227072	16.91352	ppb	98

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

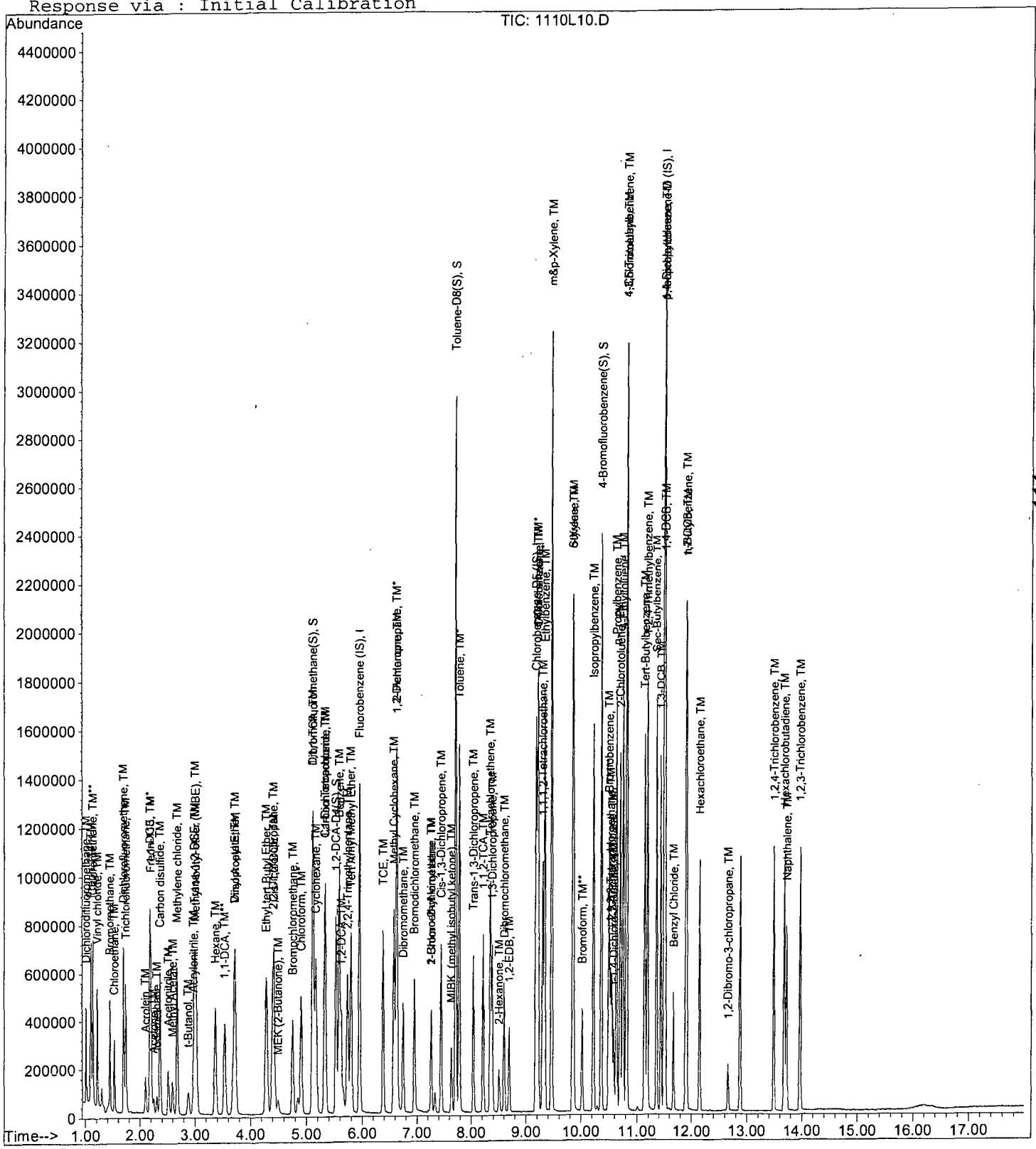
Quantitation Report

Data File : M:\LOKI\DATA\141110\1110L10.D
Acq On : 10 Nov 14 20:25
Sample : 20ug/L Vol Std 11-10-14
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 9
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L11.D Vial: 10
Acq On : 10 Nov 14 20:54 Operator: DG,SV,RS
Sample : 40ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:15:57 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	653952	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	571968	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	341312	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	1083331	49.31482 ppb		0.00
Spiked Amount 24.012			Recovery = 205.376%			
38) 1,2-DCA-D4(S)	5.52	65	1183677	49.42151 ppb		0.00
Spiked Amount 24.984			Recovery = 197.812%			
58) Toluene-D8(S)	7.71	98	3775886	58.11332 ppb		0.00
Spiked Amount 24.898			Recovery = 233.407%			
66) 4-Bromofluorobenzene(S)	10.36	95	1393747	55.97999 ppb		0.00
Spiked Amount 22.905			Recovery = 244.404%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	463182	42.98953 ppb		100
3) Freon 114	1.10	85	422964	37.60826 ppb		99
4) Chloromethane	1.13	50	804064	34.94186 ppb		99
5) Vinyl chloride	1.22	62	588087	38.55540 ppb		98
6) Bromomethane	1.44	94	271518	74.73417 ppb		95
7) Chloroethane	1.52	64	270518	36.49188 ppb		98
8) Dichlorofluoromethane	1.70	67	975028	37.09977 ppb		99
9) Trichlorofluoromethane	1.73	101	703422	37.80863 ppb		99
10) Acrolein	2.10	56	119718	118.06748 ppb	#	98
11) Acetone	2.25	43	121962	40.53907 ppb		98
12) Freon-113	2.20	101	408646	36.65133 ppb		94
13) 1,1-DCE	2.18	61	680878	35.25624 ppb		97
14) t-Butanol	2.89	59	124814	161.06649 ppb		100
15) Acetonitrile	2.52	41	236196	164.44858 ppb		99
16) Methyl Acetate	2.60	43	330603	36.45482 ppb		100
17) Iodomethane	2.31	142	97400	58.61256 ppb		98
18) Acrylonitrile	2.96	52	123409	39.61009 ppb		95
19) Methylene chloride	2.67	84	524271	36.22848 ppb		98
20) Carbon disulfide	2.36	76	1406273	42.20802 ppb		99
21) Methyl t-butyl ether (MtBE	3.02	73	1193908	41.45387 ppb		98
22) Trans-1,2-DCE	2.99	96	471046	36.42383 ppb		97
23) Diisopropyl Ether	3.71	45	1617701	42.79287 ppb		89
24) 1,1-DCA	3.53	63	848086	32.82816 ppb		98
25) Hexane	3.36	57	494384	45.36052 ppb		95
26) Vinyl Acetate	3.71	43	305681	35.91213 ppb	#	98
27) Ethyl tert Butyl Ether	4.29	59	1312608	43.79846 ppb		97
28) MEK (2-Butanone)	4.49	43	171815	36.80321 ppb		100
29) Cis-1,2-DCE	4.43	96	549238	36.65948 ppb		99
30) 2,2-Dichloropropane	4.40	77	632990	33.51867 ppb		99
31) Chloroform	4.90	83	873174	28.06766 ppb		100
32) Bromochloromethane	4.75	128	248219	35.60277 ppb		98
34) 1,1,1-TCA	5.10	97	737901	32.76550 ppb		97
35) Cyclohexane	5.16	41	394153	39.02506 ppb		84
36) 1,1-Dichloropropene	5.33	75	624730	36.02788 ppb		99
37) 2,2,4-Trimethylpentane	5.73	57	1299215	43.88928 ppb	#	84
39) Carbon Tetrachloride	5.32	117	663190	36.83885 ppb		95
40) Tert Amyl Methyl Ether	5.79	73	1231731	44.07642 ppb		93
41) 1,2-DCA	5.62	62	652803	37.80513 ppb		100
42) Benzene	5.58	78	1943446	36.82055 ppb		98

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L11.D Vial: 10
Acq On : 10 Nov 14 20:54 Operator: DG,SV,RS
Sample : 40ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:15:57 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	TCE	6.38	95	486595	32.80370	ppb	97
44)	2-Pentanone	6.64	43	1378246	33.59758	ppb	99
45)	1,2-Dichloropropane	6.62	63	546007	32.83543	ppb	100
46)	Bromodichloromethane	6.95	83	681234	33.35558	ppb	96
47)	Methyl Cyclohexane	6.58	83	677021	42.64721	ppb	91
48)	Dibromomethane	6.75	93	300260	31.52329	ppb	98
49)	2-Chloroethyl vinyl ether	7.26	106	13149	31.90321	ppb	73
50)	MIBK (methyl isobutyl ket	7.64	43	343015	35.09960	ppb	95
51)	1-Bromo-2-chloroethane	7.26	63	395776	36.40181	ppb	98
52)	Cis-1,3-Dichloropropene	7.44	75	779952	29.45260	ppb	97
53)	Toluene	7.78	91	2094338	38.39977	ppb	99
54)	Trans-1,3-Dichloropropene	8.04	75	668815	32.07656	ppb	99
55)	1,1,2-TCA	8.21	83	361234	33.82997	ppb	97
56)	2-Hexanone	8.51	43	225795	31.36661	ppb	95
59)	1,2-EDB	8.69	107	415335	33.30539	ppb	96
60)	Tetrachloroethene	8.34	166	541973	32.33804	ppb	98
61)	1-Chlorohexane	9.22	91	613542	44.08286	ppb	89
62)	1,1,1,2-Tetrachloroethane	9.30	131	531460	32.90227	ppb	97
63)	m&p-Xylene	9.46	106	1786376	72.06145	ppb	98
64)	o-Xylene	9.85	106	835363	40.26935	ppb	98
65)	Styrene	9.86	104	1486688	35.43944	ppb	98
67)	1,3-Dichloropropane	8.38	76	725996	34.32217	ppb	99
68)	Dibromochloromethane	8.60	129	515428	34.25332	ppb	96
69)	Chlorobenzene	9.21	112	1378290	33.73091	ppb	100
70)	Ethylbenzene	9.34	91	2309155	39.36836	ppb	99
71)	Bromoform	10.02	173	353739	33.64112	ppb	98
73)	Isopropylbenzene	10.22	105	2086155	37.85213	ppb	97
74)	1,1,2,2-Tetrachloroethane	10.52	83	516182	37.92657	ppb	99
75)	1,2,3-Trichloropropane	10.55	110	154213	38.20116	ppb	95
76)	t-1,4-Dichloro-2-Butene	10.58	53	126897	33.86650	ppb	93
77)	Bromobenzene	10.49	156	620790	33.55495	ppb	94
78)	n-Propylbenzene	10.63	91	2618729	39.66588	ppb	99
79)	4-Ethyltoluene	10.75	105	2213277	44.74527	ppb	99
80)	2-Chlorotoluene	10.70	91	1591728	36.04497	ppb	98
81)	1,3,5-Trimethylbenzene	10.81	105	1951020	41.74700	ppb	98
82)	4-Chlorotoluene	10.81	91	1870895	37.67322	ppb	98
83)	Tert-Butylbenzene	11.13	119	1536602	38.10865	ppb	99
84)	1,2,4-Trimethylbenzene	11.18	105	1907422	40.93935	ppb	97
85)	Sec-Butylbenzene	11.35	105	2274198	39.29934	ppb	99
86)	p-Isopropyltoluene	11.50	119	1931080	38.27407	ppb	99
87)	Benzyl Chloride	11.67	91	677041	35.61154	ppb	100
88)	1,3-DCB	11.44	146	1151000	34.63262	ppb	98
89)	1,4-DCB	11.53	146	1183789	31.77652	ppb	100
90)	n-Butylbenzene	11.91	91	1861304	37.79937	ppb	96
91)	1,2-DCB	11.89	146	1083823	32.12873	ppb	97
92)	Hexachloroethane	12.14	117	397121	30.93795	ppb	100
93)	1,2-Dibromo-3-chloropropan	12.66	157	108322	39.88951	ppb	96
94)	1,2,4-Trichlorobenzene	13.49	180	813693	37.94924	ppb	99
95)	Hexachlorobutadiene	13.68	225	450295	36.13772	ppb	98
96)	Naphthalene	13.72	128	1059840	40.65793	ppb	99
97)	1,2,3-Trichlorobenzene	13.97	180	541696	39.99277	ppb	98

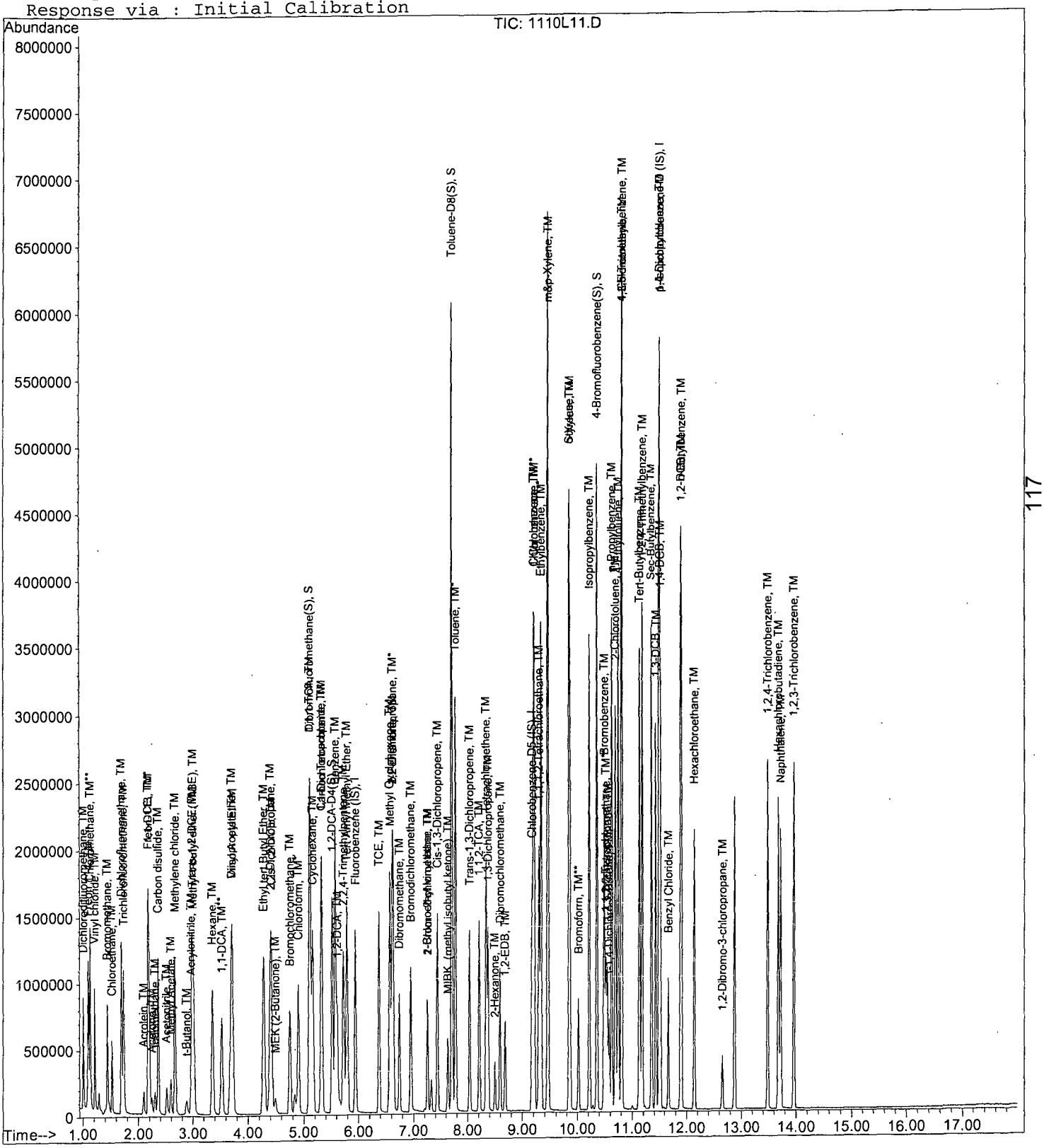
(#) = qualifier out of range (m) = manual integration

Data File : M:\LOKI\DATA\141110\1110L11.D
Acq On : 10 Nov 14 20:54
Sample : 40ug/L Vol Std 11-10-14
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 10
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L12.D Vial: 11
Acq On : 10 Nov 14 21:22 Operator: DG,SV,RS
Sample : 100ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:15:57 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	648384	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	570368	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	367936	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.12	111	1308579	60.07999 ppb		0.00
Spiked Amount 24.012			Recovery = 250.207%			
38) 1,2-DCA-D4(S)	5.52	65	1425732	60.03911 ppb		0.00
Spiked Amount 24.984			Recovery = 240.307%			
58) Toluene-D8(S)	7.71	98	4731793	73.02964 ppb		0.00
Spiked Amount 24.898			Recovery = 293.320%			
66) 4-Bromofluorobenzene(S)	10.36	95	1849930	74.51106 ppb		0.00
Spiked Amount 22.905			Recovery = 325.309%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	1152714	107.90614 ppb		99
3) Freon 114	1.10	85	1105895	99.17616 ppb		98
4) Chloromethane	1.13	50	2015419	88.33531 ppb		100
5) Vinyl chloride	1.22	62	1504345	99.47286 ppb		97
6) Bromomethane	1.44	94	627988	174.33538 ppb		96
7) Chloroethane	1.52	64	763735	103.90976 ppb		98
8) Dichlorofluoromethane	1.69	67	2333217	89.54118 ppb		98
9) Trichlorofluoromethane	1.73	101	1731303	93.85592 ppb		99
10) Acrolein	2.10	56	128471	127.78784 ppb	#	97
11) Acetone	2.26	43	288562	99.80367 ppb		95
12) Freon-113	2.19	101	983187	88.93900 ppb		95
13) 1,1-DCE	2.18	61	1663451	86.87409 ppb		97
14) t-Butanol	2.92	59	146416	190.56538 ppb		100
15) Acetonitrile	2.52	41	268555	188.58381 ppb		96
16) Methyl Acetate	2.60	43	824503	91.69677 ppb		98
17) Iodomethane	2.30	142	289024	174.35329 ppb		97
18) Acrylonitrile	2.97	52	299969	97.10665 ppb		98
19) Methylene chloride	2.67	84	1250743	87.60598 ppb		100
20) Carbon disulfide	2.36	76	3398584	102.88141 ppb		100
21) Methyl t-butyl ether (MtBE	3.02	73	3004870	105.22854 ppb		96
22) Trans-1,2-DCE	2.98	96	1166574	90.43548 ppb		97
23) Diisopropyl Ether	3.72	45	4052088	108.10994 ppb		88
24) 1,1-DCA	3.53	63	1939035	75.70175 ppb		98
25) Hexane	3.36	57	1326695	122.77172 ppb		93
26) Vinyl Acetate	3.71	43	735461	87.14570 ppb	#	98
27) Ethyl tert Butyl Ether	4.29	59	3411552	114.81255 ppb		95
28) MEK (2-Butanone)	4.50	43	407789	88.09955 ppb		100
29) Cis-1,2-DCE	4.43	96	1337919	90.06771 ppb		99
30) 2,2-Dichloropropane	4.40	77	1530403	81.73524 ppb		99
31) Chloroform	4.90	83	2067490	67.02894 ppb		98
32) Bromochloromethane	4.75	128	577846	83.59387 ppb		98
34) 1,1,1-TCA	5.10	97	1792957	80.29753 ppb		95
35) Cyclohexane	5.16	41	1004862	100.34569 ppb		81
36) 1,1-Dichloropropene	5.33	75	1584646	92.17055 ppb		99
37) 2,2,4-Trimethylpentane	5.73	57	3343396	113.91446 ppb		92
39) Carbon Tetrachloride	5.32	117	1636412	91.79489 ppb		96
40) Tert Amyl Methyl Ether	5.80	73	3072705	110.89829 ppb	#	90
41) 1,2-DCA	5.62	62	1531521	89.75434 ppb		99
42) Benzene	5.58	78	4680399	89.20811 ppb		98

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1110L12.D Vial: 11
Acq On : 10 Nov 14 21:22 Operator: DG,SV,RS
Sample : 100ug/L Vol Std 11-10-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:15:57 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	TCE	6.38	95	1207489	82.10167 ppb		98
44)	2-Pentanone	6.64	43	1543699	37.95400 ppb		98
45)	1,2-Dichloropropane	6.62	63	1308897	79.38958 ppb		100
46)	Bromodichloromethane	6.95	83	1637605	80.87140 ppb		97
47)	Methyl Cyclohexane	6.58	83	1811067	115.06323 ppb		90
48)	Dibromomethane	6.75	93	696631	73.76502 ppb		98
49)	2-Chloroethyl vinyl ether	7.26	106	28274	69.18986 ppb	#	33
50)	MIBK (methyl isobutyl ket	7.64	43	926371	93.61622 ppb		94
51)	1-Bromo-2-chloroethane	7.26	63	993435	92.15664 ppb		99
52)	Cis-1,3-Dichloropropene	7.44	75	2038861	77.65277 ppb		97
53)	Toluene	7.78	91	5102621	94.36016 ppb		97
54)	Trans-1,3-Dichloropropene	8.04	75	1713875	82.90382 ppb		99
55)	1,1,2-TCA	8.21	83	864510	81.65760 ppb		96
56)	2-Hexanone	8.51	43	615235	86.20012 ppb		92
59)	1,2-EDB	8.69	107	1017890	81.85278 ppb		99
60)	Tetrachloroethene	8.34	166	1334542	79.85182 ppb		98
61)	1-Chlorohexane	9.22	91	1594620	114.89449 ppb		87
62)	1,1,1,2-Tetrachloroethane	9.30	131	1323568	82.17092 ppb		100
63)	m&p-Xylene	9.46	106	4453802	178.60107 ppb		99
64)	o-Xylene	9.85	106	2168682	104.83634 ppb		97
65)	Styrene	9.86	104	3847792	90.56149 ppb		99
67)	1,3-Dichloropropane	8.38	76	1782252	84.49406 ppb		98
68)	Dibromochloromethane	8.60	129	1286102	85.70904 ppb		98
69)	Chlorobenzene	9.21	112	3410691	83.70404 ppb		99
70)	Ethylbenzene	9.34	91	5750739	98.31832 ppb		100
71)	Bromoform	10.02	173	934447	89.11662 ppb		99
73)	Isopropylbenzene	10.23	105	5460513	91.90867 ppb		97
74)	1,1,2,2-Tetrachloroethane	10.53	83	1323609	91.11848 ppb		98
75)	1,2,3-Trichloropropane	10.55	110	392614	90.91235 ppb		96
76)	t-1,4-Dichloro-2-Butene	10.59	53	345659	85.57483 ppb		94
77)	Bromobenzene	10.50	156	1600206	80.23559 ppb		95
78)	n-Propylbenzene	10.63	91	6730811	94.57433 ppb		99
79)	4-Ethyltoluene	10.75	105	5679362	106.50994 ppb		99
80)	2-Chlorotoluene	10.70	91	4039468	84.85536 ppb		99
81)	1,3,5-Trimethylbenzene	10.82	105	4976345	98.77643 ppb		97
82)	4-Chlorotoluene	10.81	91	4816427	89.96790 ppb		100
83)	Tert-Butylbenzene	11.13	119	4135295	95.13668 ppb		98
84)	1,2,4-Trimethylbenzene	11.18	105	5078507	101.11357 ppb		98
85)	Sec-Butylbenzene	11.35	105	6141468	98.44835 ppb		99
86)	p-Isopropyltoluene	11.51	119	5287563	97.21634 ppb		98
87)	Benzyl Chloride	11.67	91	1843443	89.94660 ppb		100
88)	1,3-DCB	11.44	146	3049242	85.11012 ppb		98
89)	1,4-DCB	11.53	146	3091058	76.96947 ppb		99
90)	n-Butylbenzene	11.91	91	5152052	97.05697 ppb		96
91)	1,2-DCB	11.89	146	2925082	80.43637 ppb		97
92)	Hexachloroethane	12.14	117	1078290	77.92621 ppb		98
93)	1,2-Dibromo-3-chloropropan	12.66	157	275062	94.48649 ppb		96
94)	1,2,4-Trichlorobenzene	13.49	180	2231434	96.53966 ppb		97
95)	Hexachlorobutadiene	13.68	225	1190636	88.71532 ppb		98
96)	Naphthalene	13.72	128	2842624	91.27241 ppb		100
97)	1,2,3-Trichlorobenzene	13.96	180	1381888	94.64071 ppb		98

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

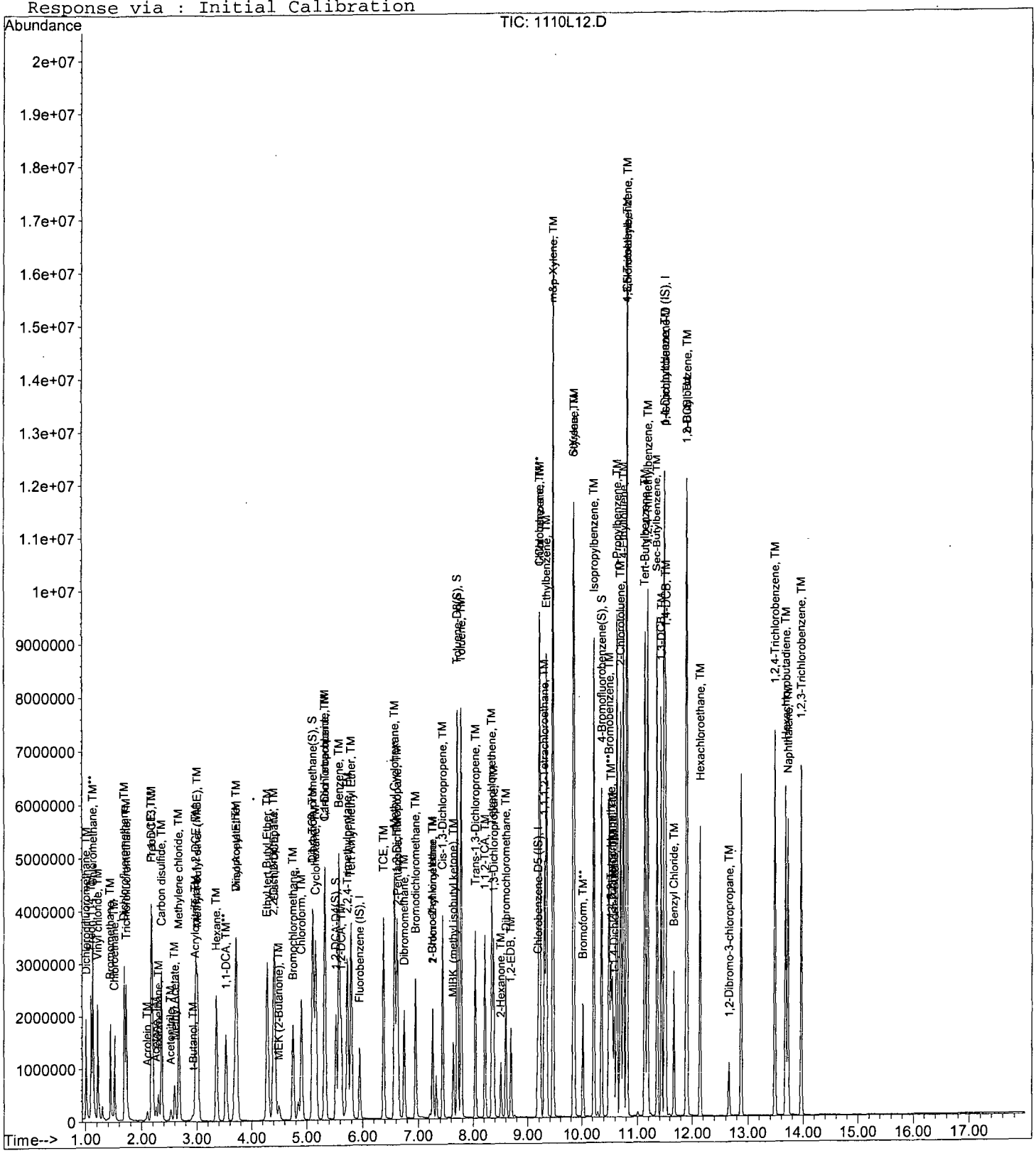
Quantitation Report

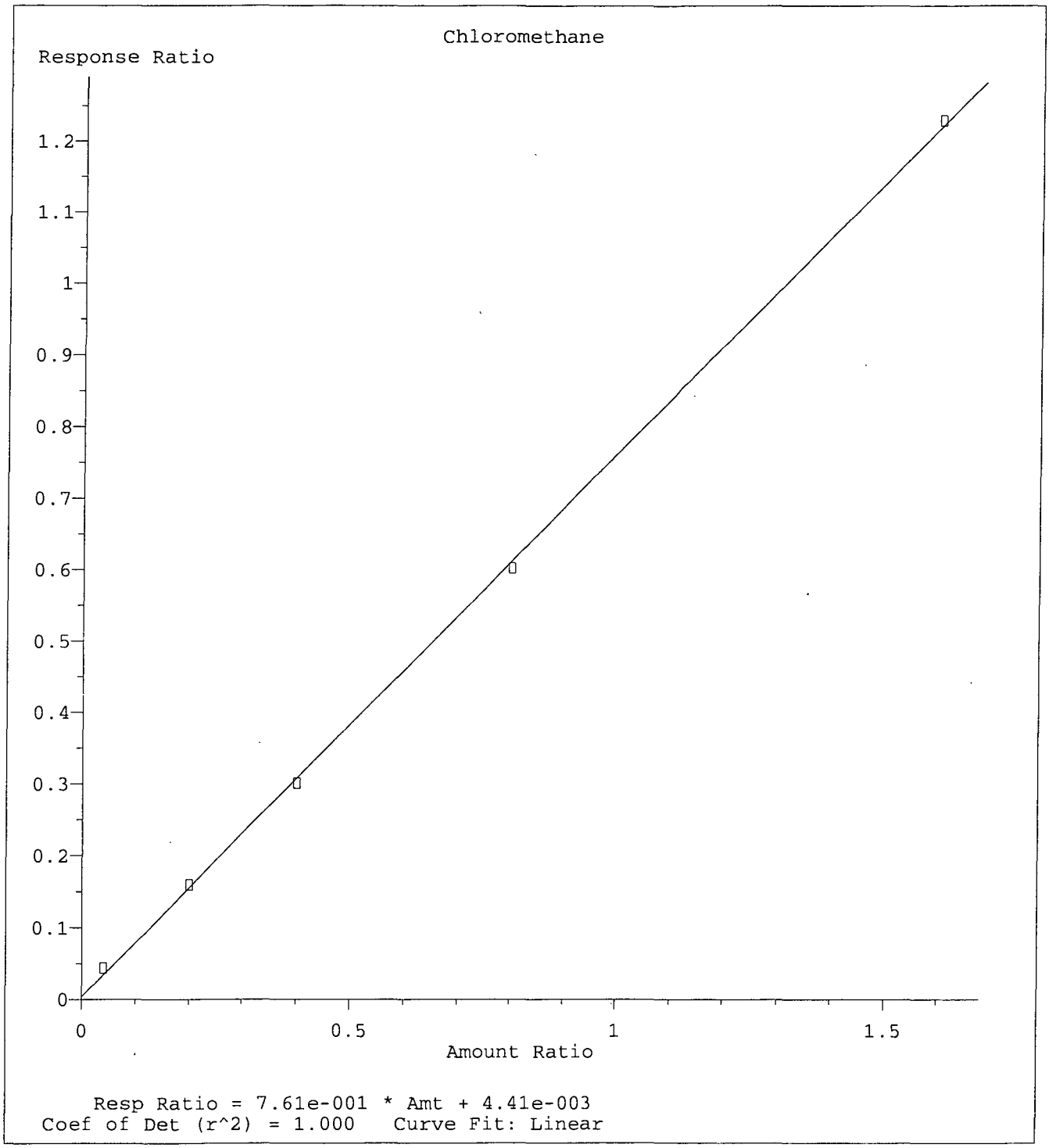
Data File : M:\LOKI\DATA\141110\1110L12.D
Acq On : 10 Nov 14 21:22
Sample : 100ug/L Vol Std 11-10-14
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 11
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

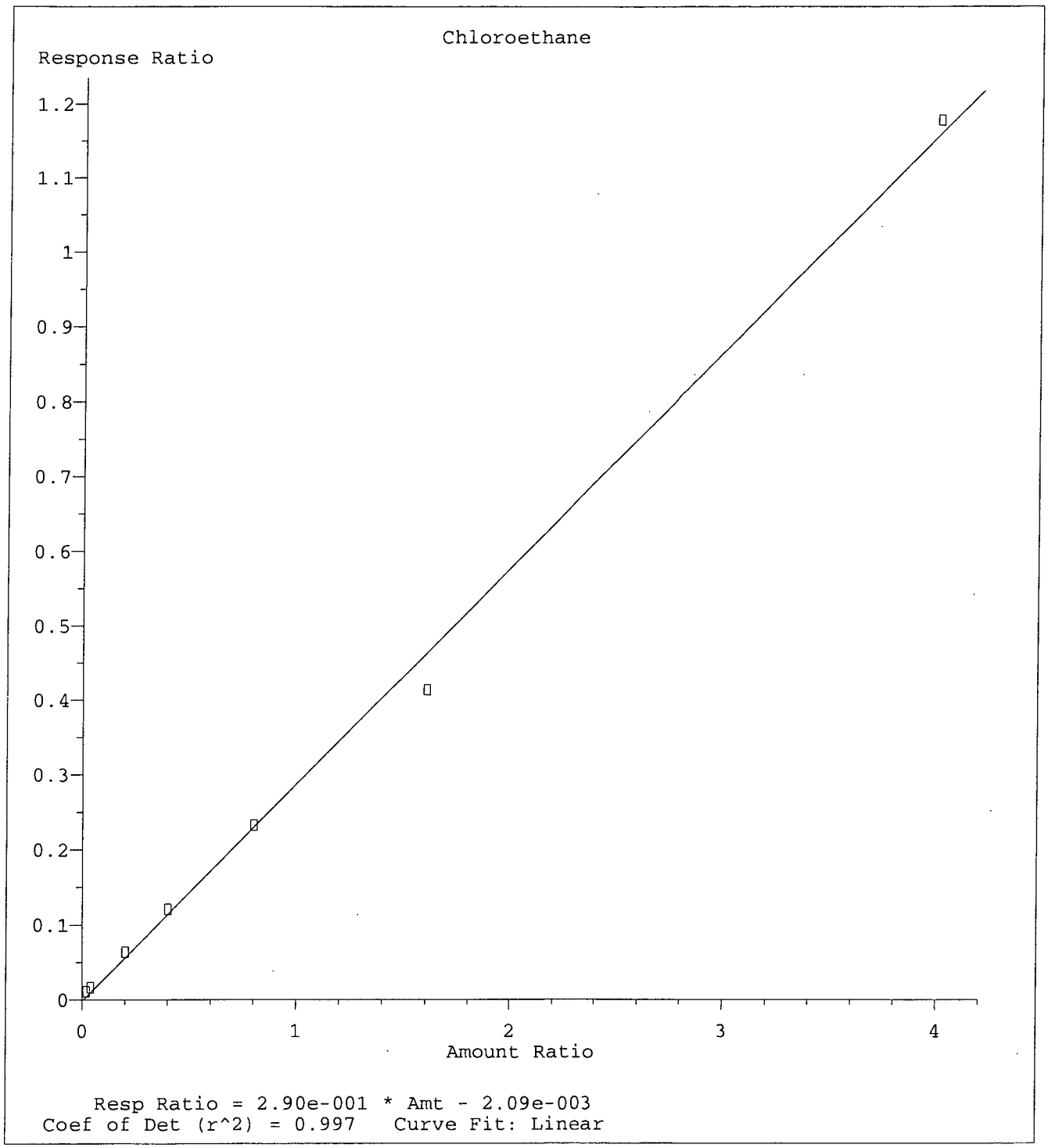
Quant Time: Nov 18 10:27 2014 Quant Results File: LCREDW.RES

Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration

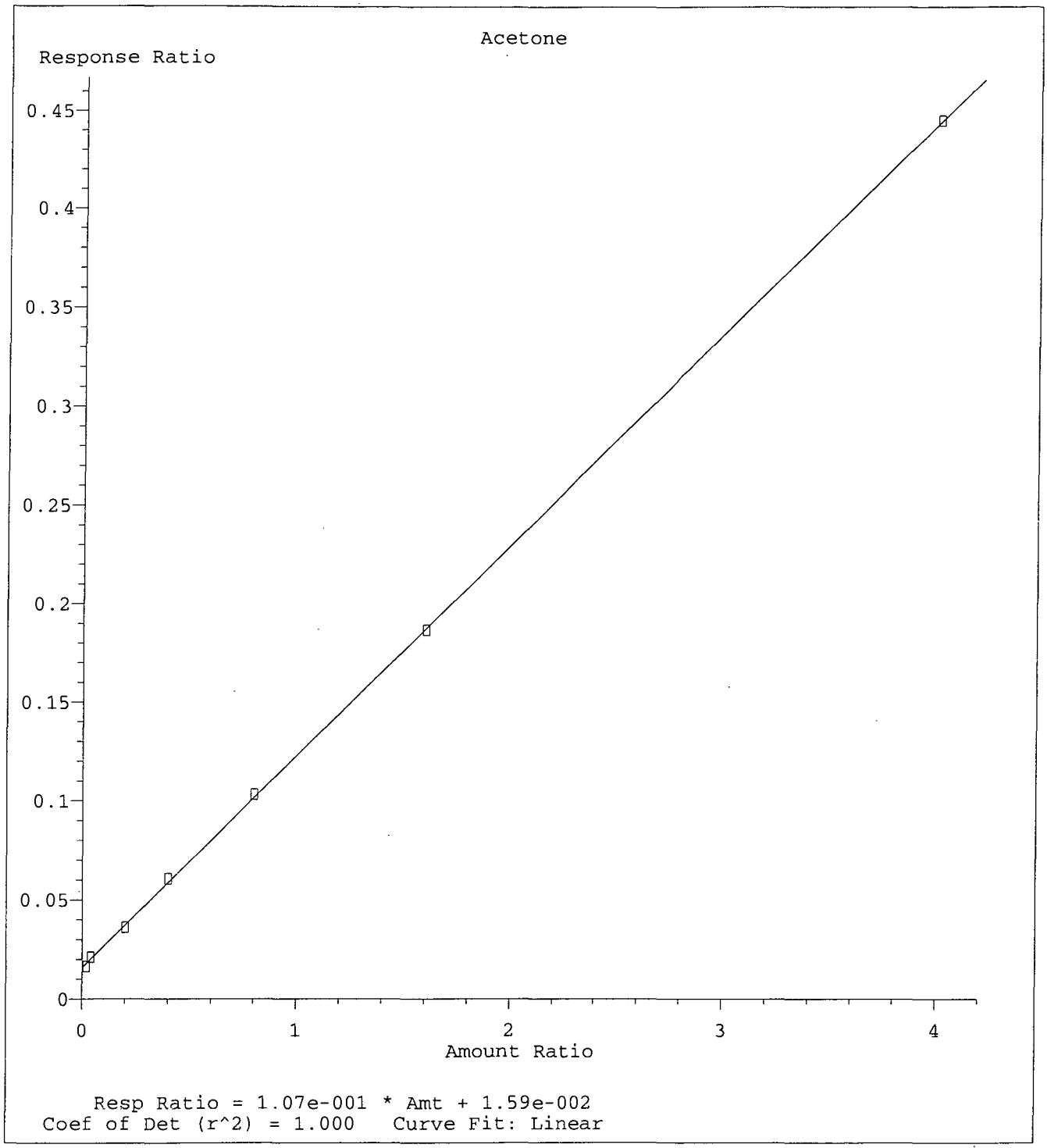




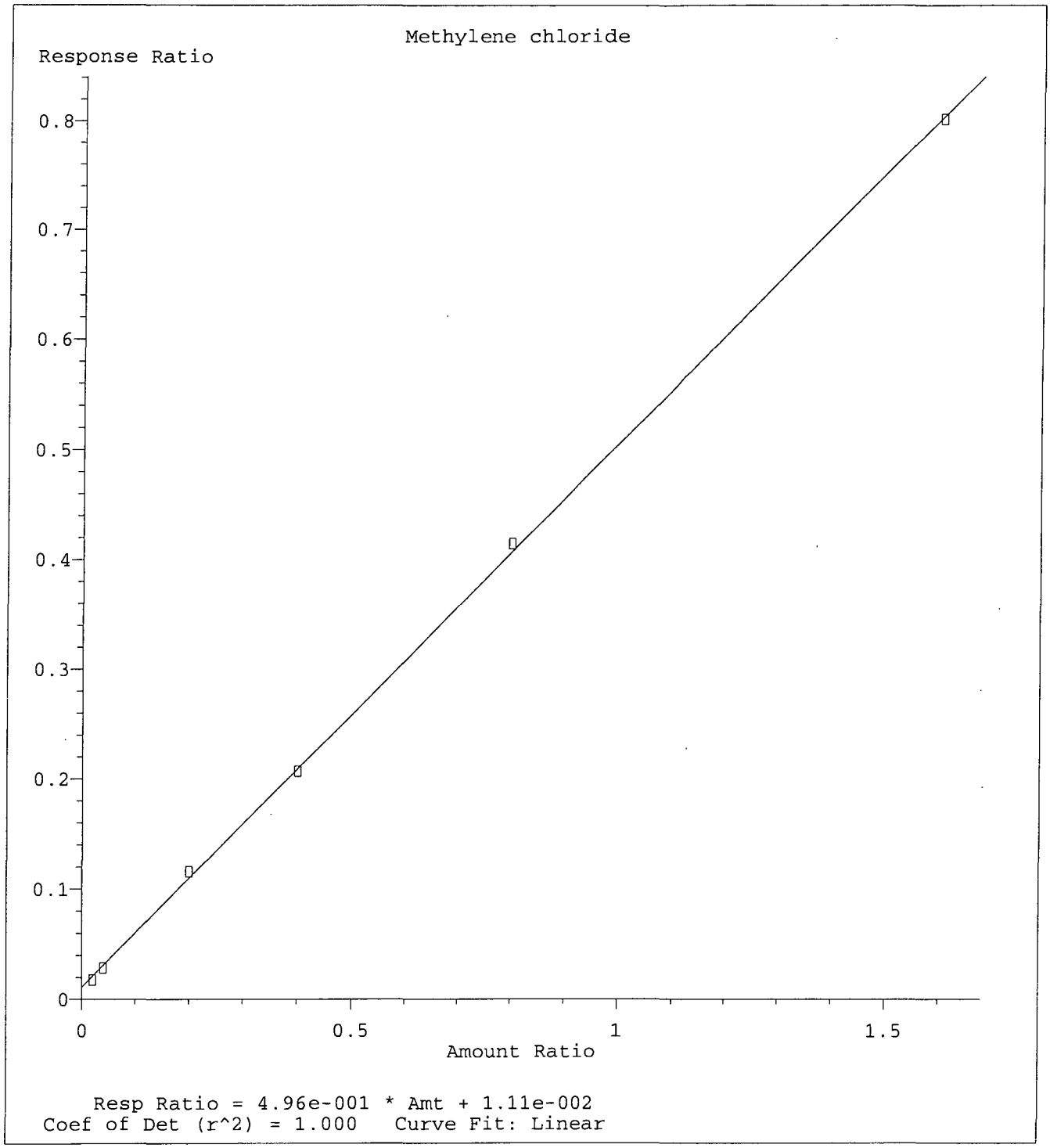
Method Name: M:\LOKI\DATA\141104\LCREDW.M
Calibration Table Last Updated: Tue Nov 18 10:54:23 2014



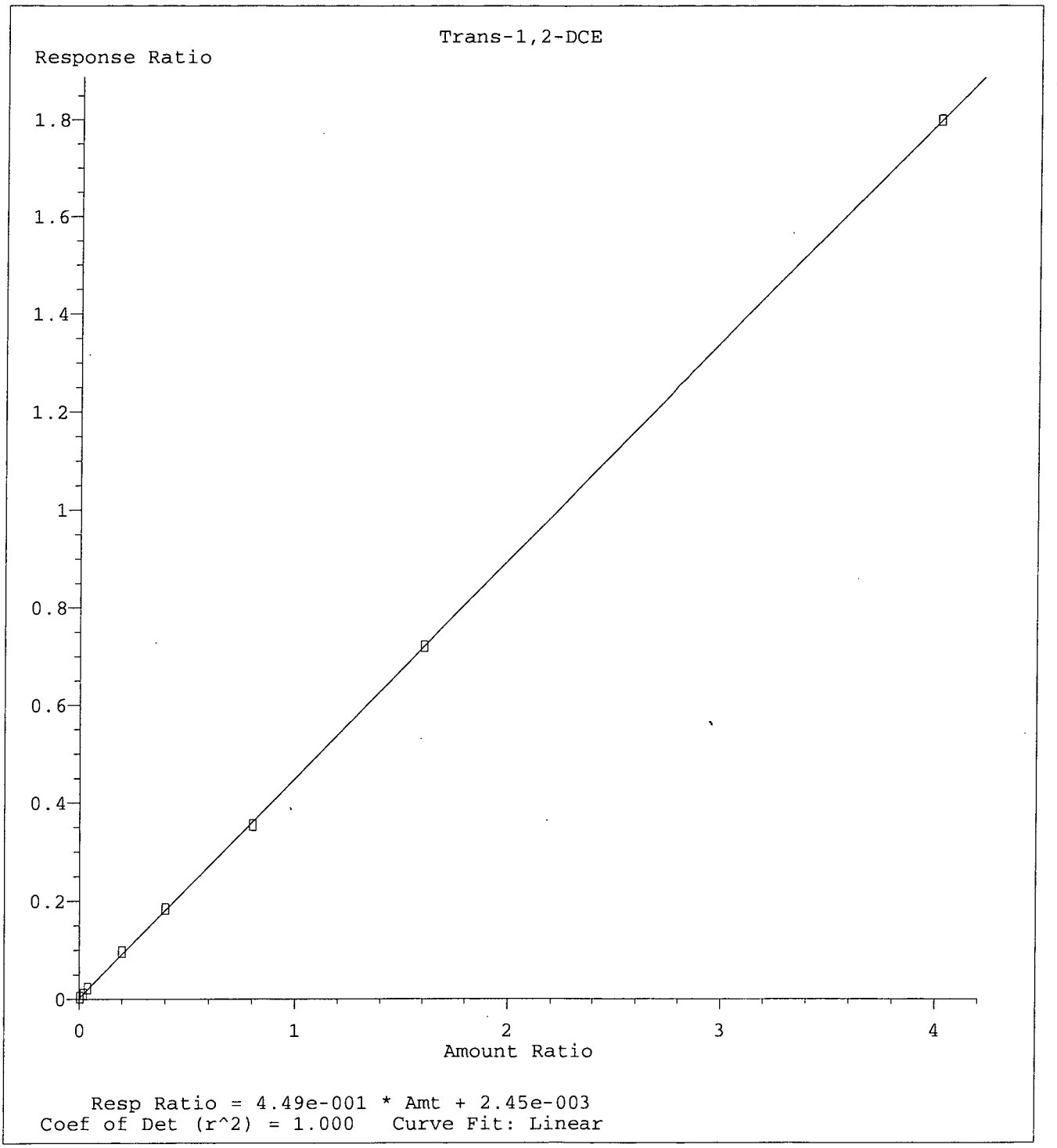
Method Name: M:\LOKI\DATA\141104\LCREDW.M
Calibration Table Last Updated: Tue Nov 18 10:54:23 2014



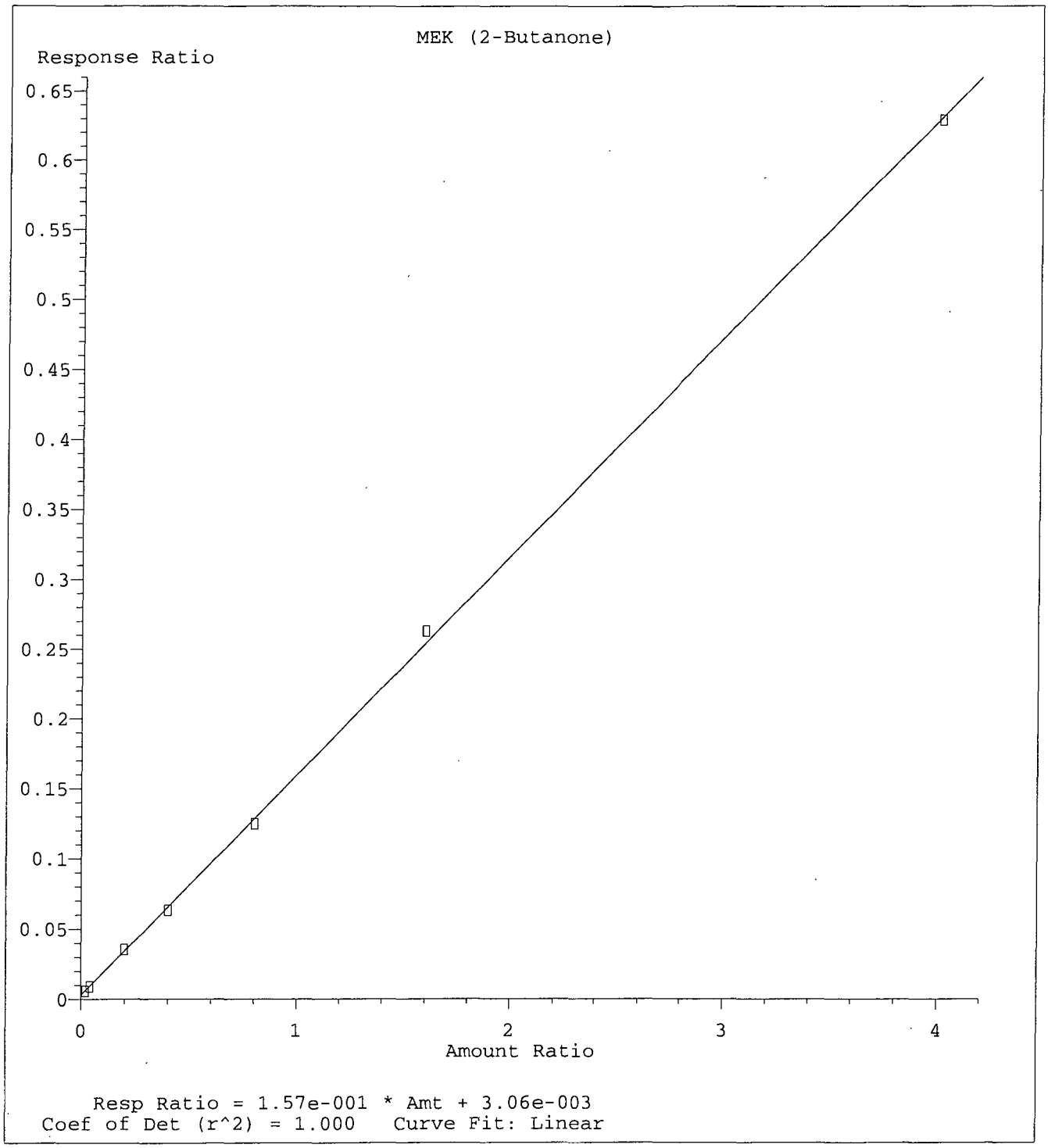
Method Name: M:\LOKI\DATA\141104\LCREDW.M
Calibration Table Last Updated: Tue Nov 18 10:54:23 2014



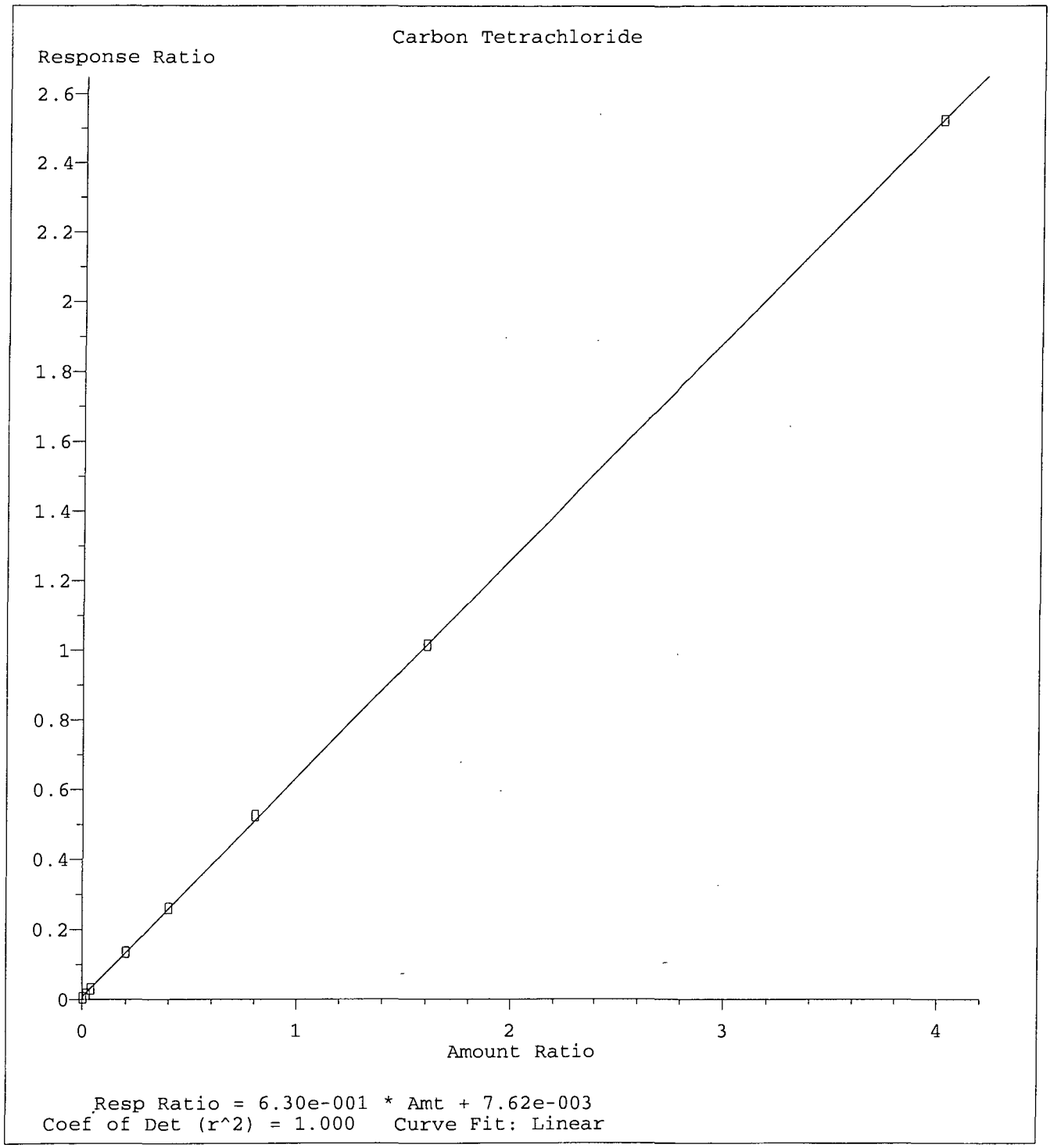
Method Name: M:\LOKI\DATA\141104\LCREDW.M
Calibration Table Last Updated: Tue Nov 18 10:54:23 2014



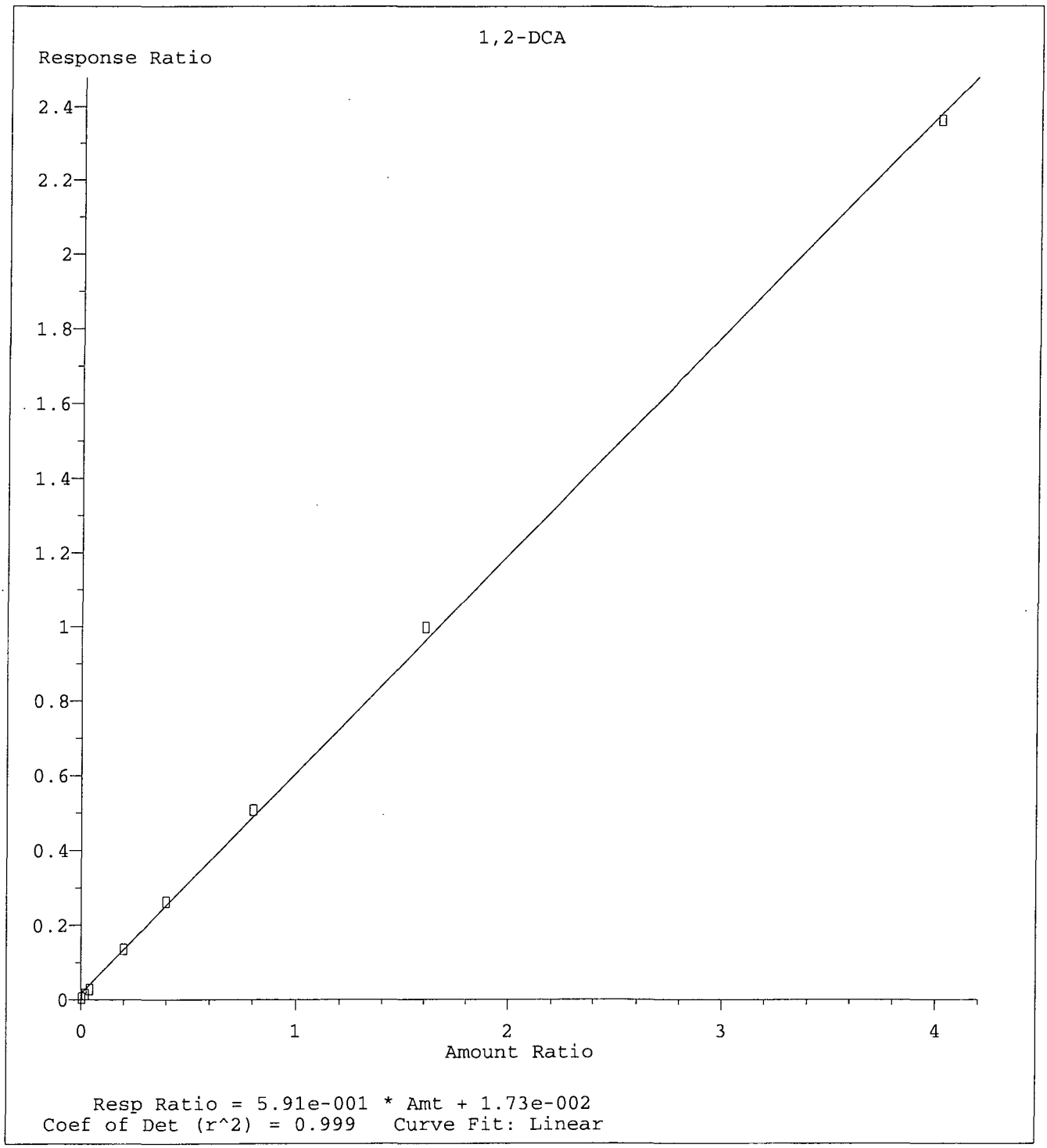
Method Name: M:\LOKI\DATA\141104\LCREDW.M
Calibration Table Last Updated: Tue Nov 18 10:54:23 2014



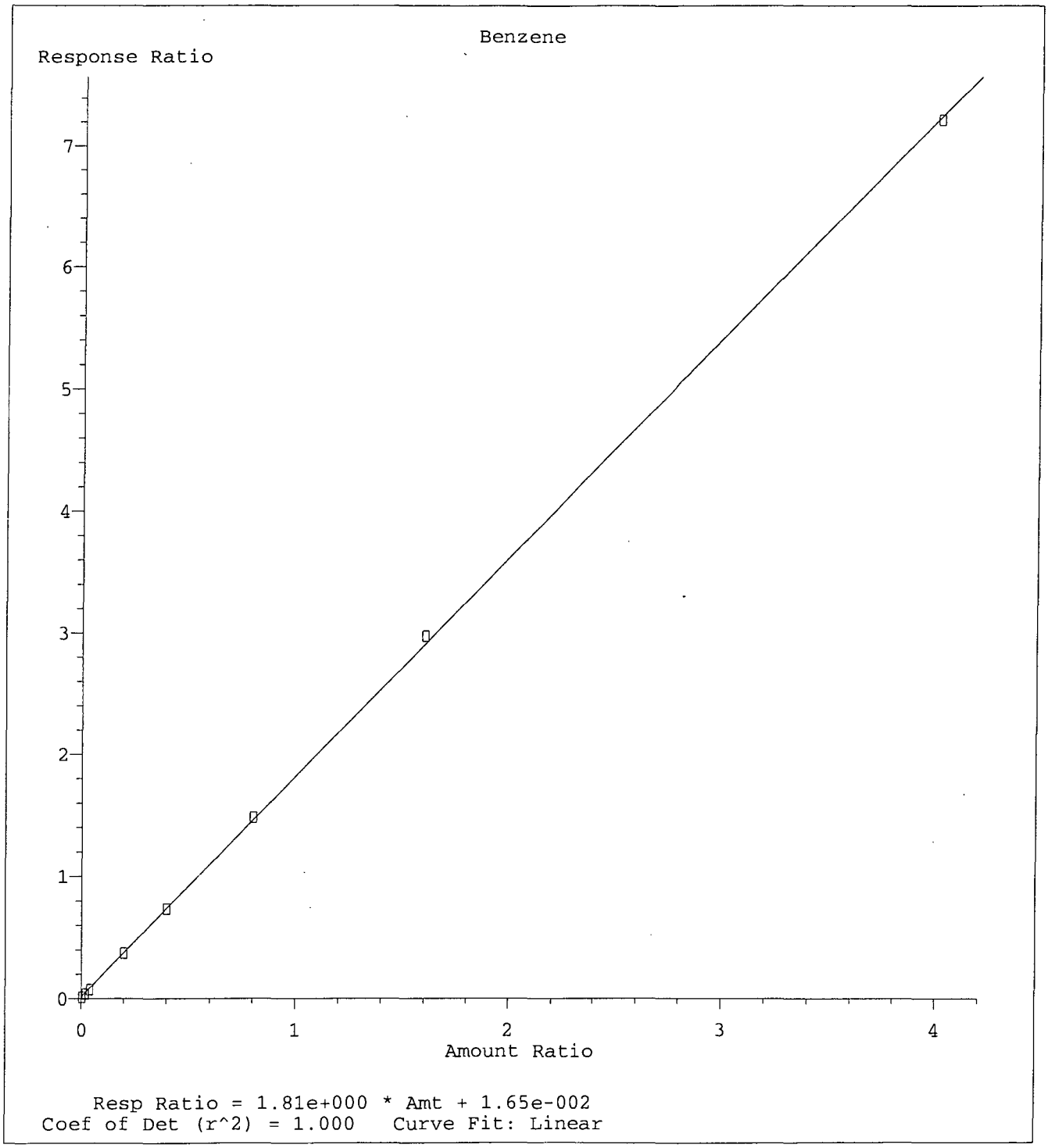
Method Name: M:\LOKI\DATA\141104\LCREDW.M
Calibration Table Last Updated: Tue Nov 18 10:54:23 2014



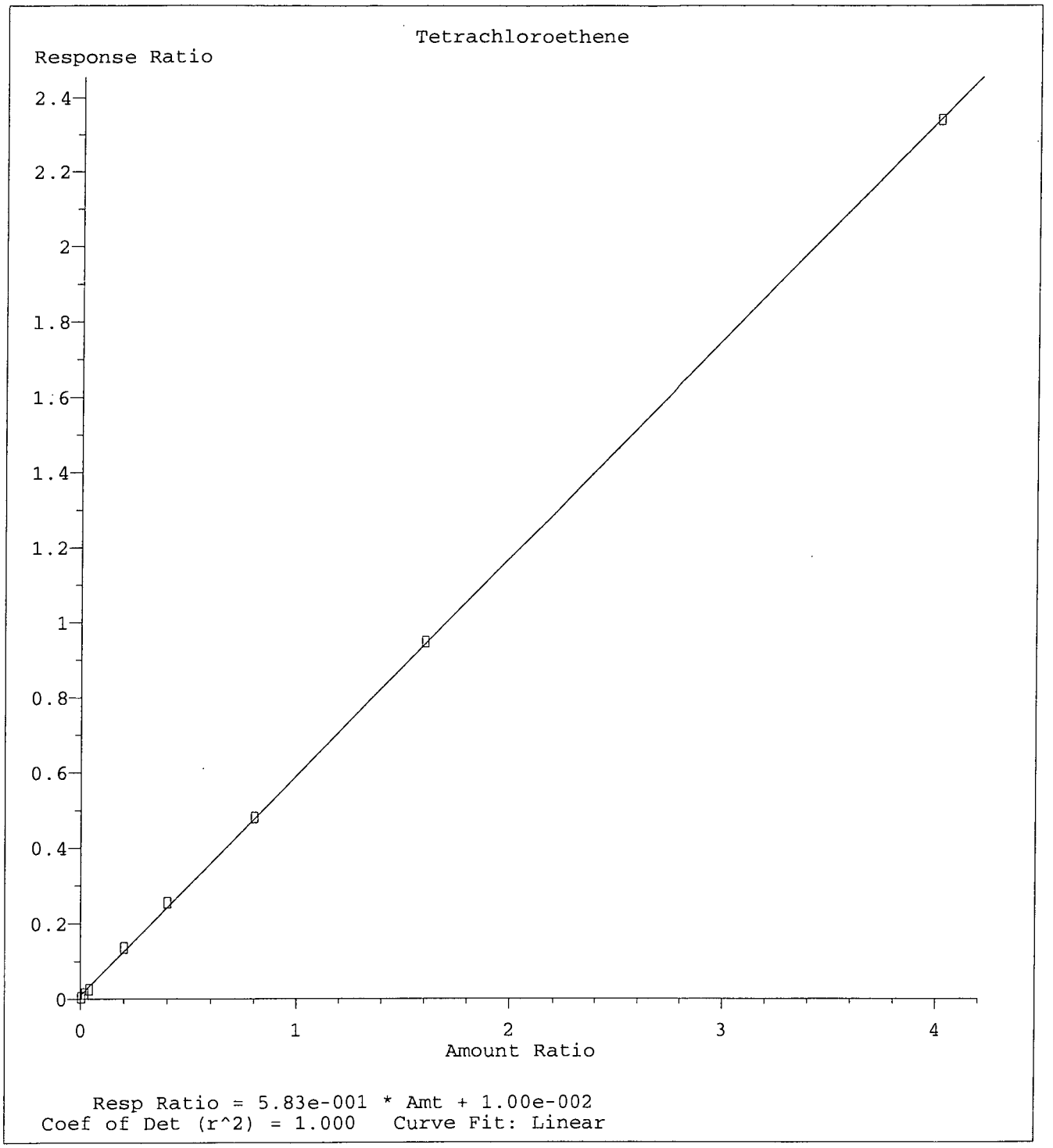
Method Name: M:\LOKI\DATA\141104\LCREDW.M
Calibration Table Last Updated: Tue Nov 18 10:54:23 2014



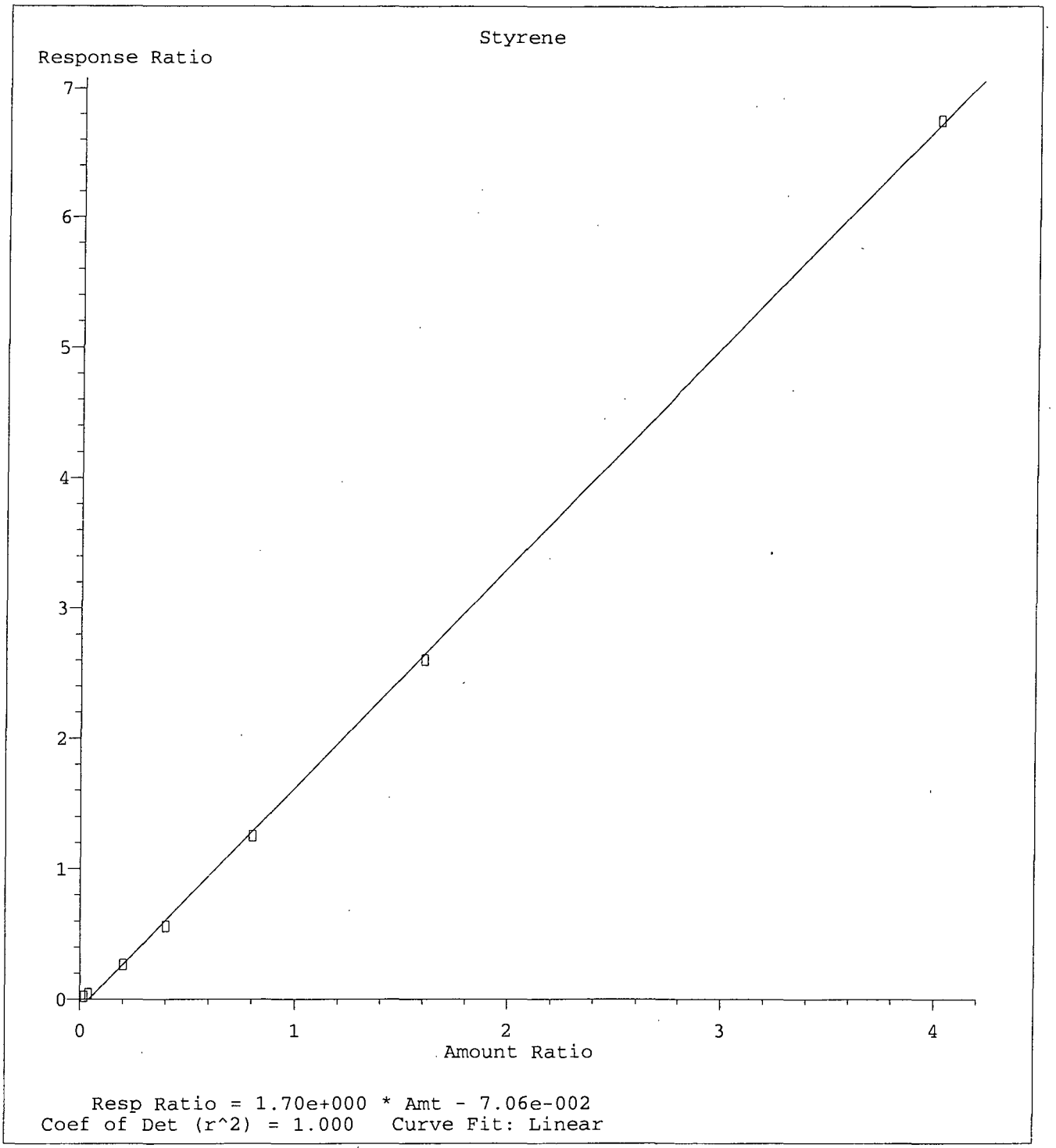
Method Name: M:\LOKI\DATA\141104\LCREDW.M
Calibration Table Last Updated: Tue Nov 18 10:54:23 2014



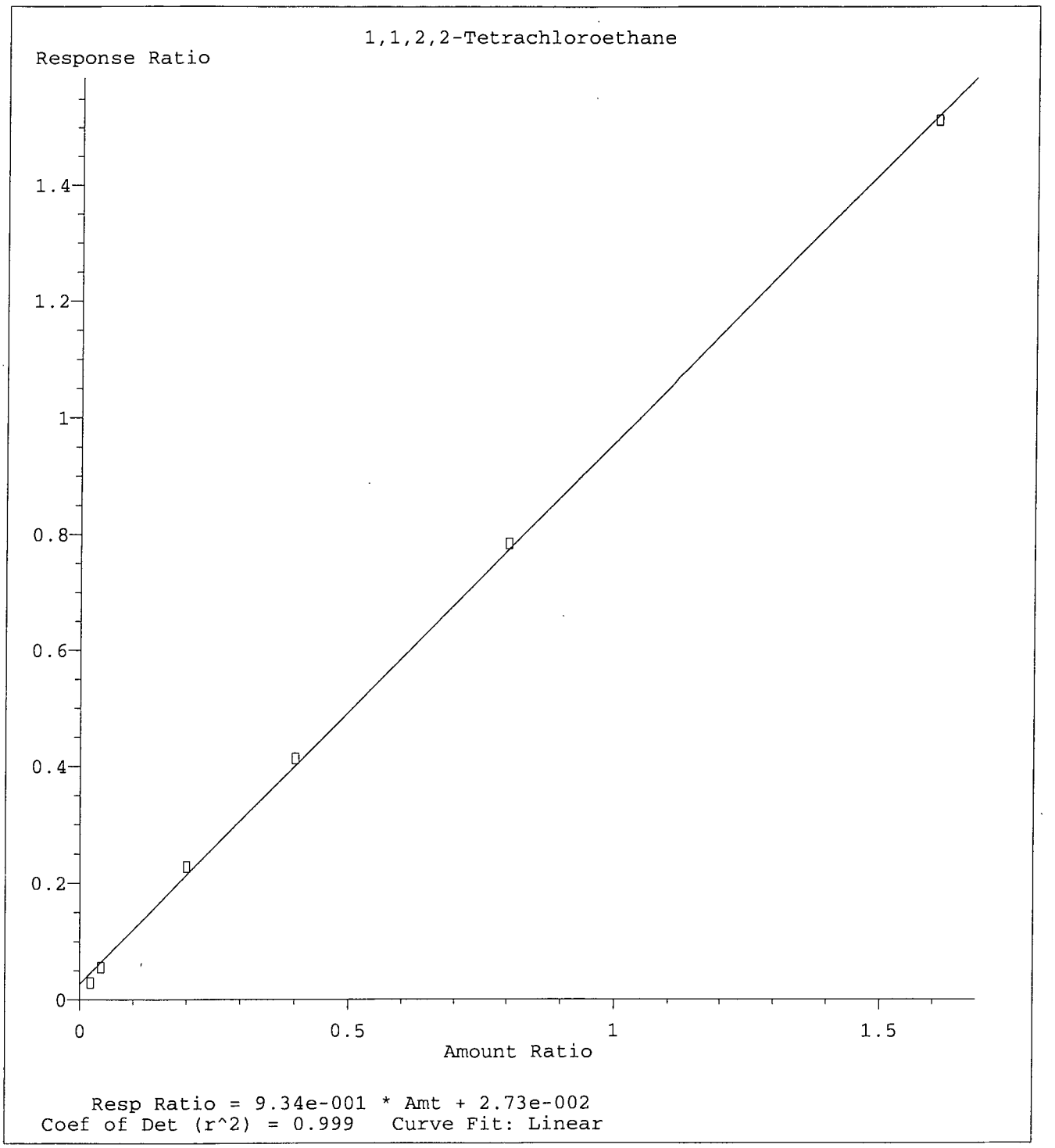
Method Name: M:\LOKI\DATA\141104\LCREDW.M
Calibration Table Last Updated: Tue Nov 18 10:54:23 2014



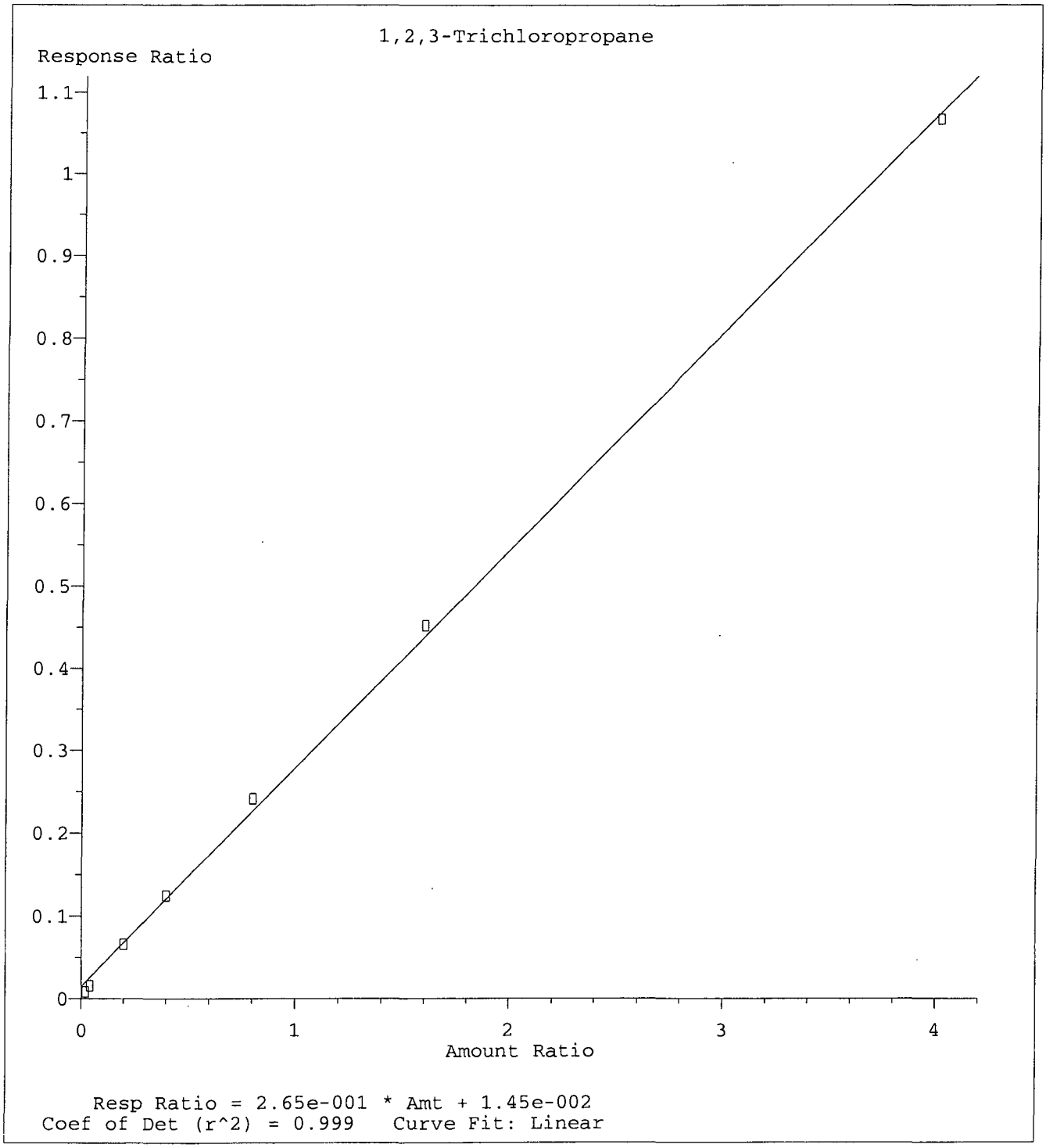
Method Name: M:\LOKI\DATA\141104\LCREDW.M
Calibration Table Last Updated: Tue Nov 18 10:54:23 2014



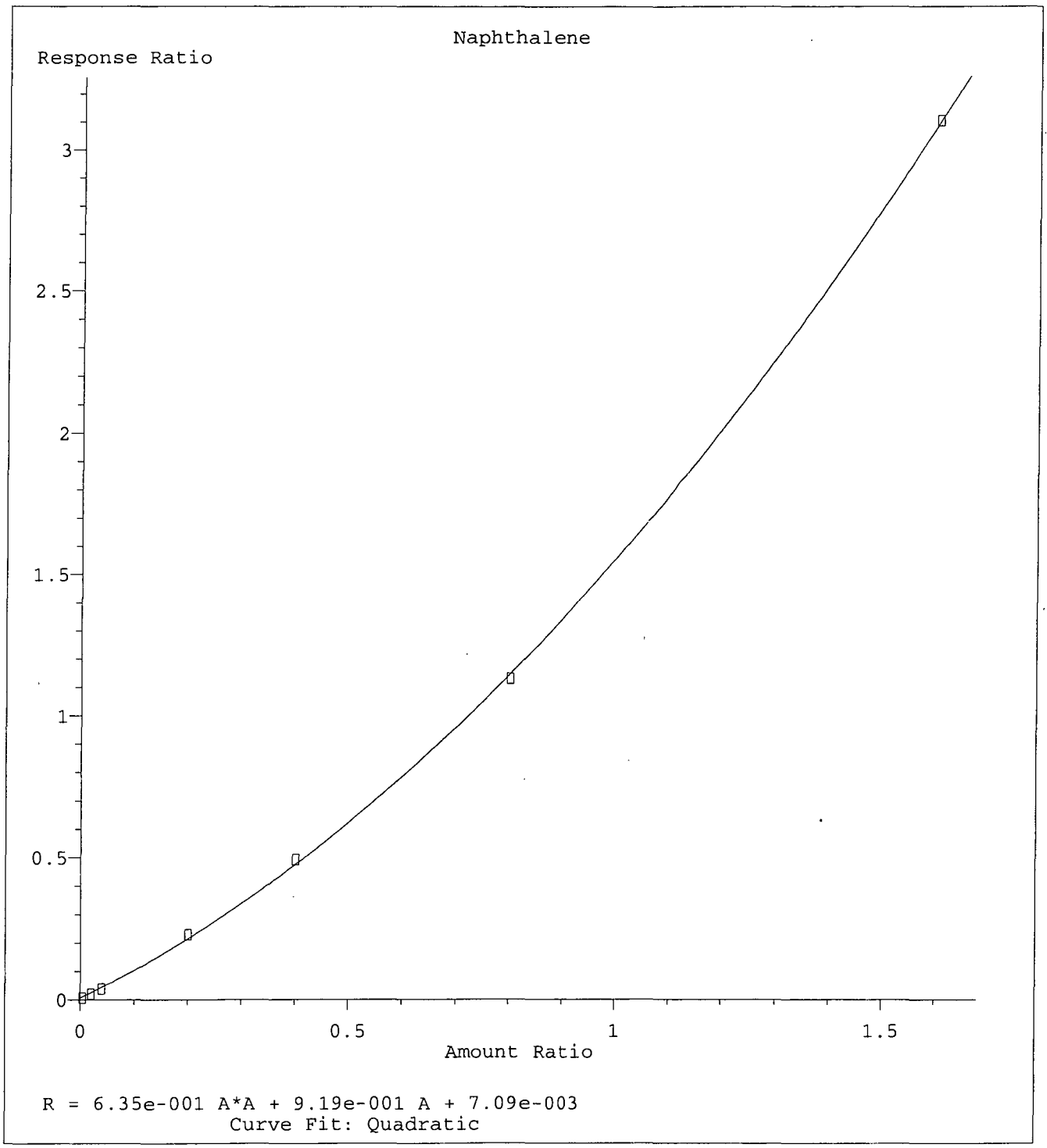
Method Name: M:\LOKI\DATA\141104\LCREDW.M
Calibration Table Last Updated: Tue Nov 18 10:54:23 2014



Method Name: M:\LOKI\DATA\141104\LCREDW.M
Calibration Table Last Updated: Tue Nov 18 10:54:23 2014



Method Name: M:\LOKI\DATA\141104\LCREDW.M
Calibration Table Last Updated: Tue Nov 18 10:54:23 2014



Method Name: M:\LOKI\DATA\141104\LCREDW.M
Calibration Table Last Updated: Tue Nov 18 10:54:23 2014

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 11/11/14
Matrix: Instrument: Loki
Initial Cal. Date: 11/10/14
Data File: 1111L04.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.4277	0.3888	9.1	TM	
3	TM	Freon 114	0.3991	0.4206	5.4	TM	
4	TM**L	Chloromethane	0.8344	0.6959	17	TM**L	10
5	TM*	Vinyl chloride	0.6320	0.5451	14	TM*	
6	TM	Bromomethane	0.2848	0.2509	12	TM	
7	TML	Chloroethane	0.3473	0.2836	18	TML	0.58
8	TM	Dichlorofluoromethane	1.018	0.9728	4.5	TM	
9	TM	Trichlorofluoromethane	0.7310	0.6857	6.2	TM	
10	TM	Acrolein	0.0290	0.0270	6.7	TM	
11	TML	Acetone	0.2908	0.1335	54	TML	13
12	TM	Freon-113	0.4262	0.4262	0.02	TM	
13	TM*	1,1-DCE	0.6930	0.6509	6.1	TM*	
14	TM	t-Butanol	0.0299	0.0290	2.8	TM	
15	TM	Acetonitrile	0.0564	0.0511	9.5	TM	
16	TM	Methyl Acetate	0.3397	0.3289	3.2	TM	
17	TM	Iodomethane	0.0886	0.0847	4.3	TM	
18	TM	Acrylonitrile	0.1259	0.1198	4.8	TM	
19	TML	Methylene chloride	0.6179	0.5173	16	TML	1.3
20	TM	Carbon disulfide	1.449	1.358	6.3	TM	
21	TM	Methyl t-butyl ether (MtBE)	1.128	1.080	4.3	TM	
22	TML	Trans-1,2-DCE	0.5305	0.4452	16	TML	2.2
23	TM	Diisopropyl Ether	1.419	1.363	3.9	TM	
24	TM**	1,1-DCA	0.8848	0.8444	4.6	TM**	
25	TM	Hexane	0.4250	0.4433	4.3	TM	
26	TM	Vinyl Acetate	0.3063	0.2883	5.9	TM	
27	TM	Ethyl tert Butyl Ether	1.173	1.109	5.4	TM	
28	TML	MEK (2-Butanone)	0.1892	0.1563	17	TML	5.4
29	TM	Cis-1,2-DCE	0.5203	0.5023	3.5	TM	
30	TM	2,2-Dichloropropane	0.6482	0.6579	1.5	TM	
31	TM*	Chloroform	1.017	0.8527	16	TM*	
32	TM	Bromochloromethane	0.2650	0.2446	7.7	TM	
33	S	Dibromofluoromethane(S)	0.5573	0.4984	11	S	
34	TM	1,1,1-TCA	0.7476	0.7289	2.5	TM	
35	TM	Cyclohexane	0.3526	0.3521	0.13	TM	
36	TM	1,1-Dichloropropene	0.5646	0.5533	2.0	TM	
37	TM	2,2,4-Trimethylpentane	1.084	1.163	7.3	TM	
38	S	1,2-DCA-D4(S)	0.6184	0.5587	9.7	S	
39	TML	Carbon Tetrachloride	0.7508	0.6490	14	TML	0.04
40	TM	Tert Amyl Methyl Ether	1.086	1.069	1.6	TM	
		Average			8.7		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 11/11/14
Matrix: 0 Instrument: Loki
Cal. Date: 11/10/14
Data File: 1111L04.D

		Compound	MEAN	CCRF	%D		%Drift
41	TML	1,2-DCA	0.7300	0.6428	12	TML	1.5
42	TML	Benzene	2.029	1.784	12	TML	3.6
43	TM	TCE	0.4849	0.4534	6.5	TM	
44	TM	2-Pentanone	0.2924	0.2916	0.27	TM	
45	TM*	1,2-Dichloropropane	0.5384	0.5171	3.9	TM*	
46	TM	Bromodichloromethane	0.6845	0.6491	5.2	TM	
47	TM	Methyl Cyclohexane	0.5705	0.5533	3.0	TM	
48	TM	Dibromomethane	0.3131	0.2965	5.3	TM	
49	TM	2-Chloroethyl vinyl ether	0.0149	0.0140	6.3	TM	
50	TM	MIBK (methyl isobutyl ketone)	0.3545	0.3169	11	TM	
51	TM	1-Bromo-2-chloroethane	0.4025	0.3739	7.1	TM	
52	TM	Cis-1,3-Dichloropropene	0.7338	0.6888	6.1	TM	
53	TM*	Toluene	1.877	1.892	0.82	TM*	
54	TM	Trans-1,3-Dichloropropene	0.6327	0.6083	3.8	TM	
55	TM	1,1,2-TCA	0.3637	0.3528	3.0	TM	
56	TM	2-Hexanone	0.2202	0.2241	1.8	TM	
57	I	Chlorobenzene-D5 (IS)	ISTD			I	
58	S	Toluene-D8(S)	1.979	1.955	1.2	S	
59	TM	1,2-EDB	0.4845	0.4832	0.27	TM	
60	TML	Tetrachloroethene	0.6857	0.6301	8.1	TML	3.7
61	TM	1-Chlorohexane	0.5878	0.6036	2.7	TM	
62	TM	1,1,1,2-Tetrachloroethane	0.6393	0.6231	2.5	TM	
63	TM	m&p-Xylene	0.8786	0.9041	2.9	TM	
64	TM	o-Xylene	0.8189	0.8228	0.48	TM	
65	TML	Styrene	1.396	1.442	3.3	TML	4.6
66	S	4-Bromofluorobenzene(S)	0.7265	0.7257	0.12	S	
67	TM	1,3-Dichloropropane	0.8104	0.8266	2.0	TM	
68	TM	Dibromochloromethane	0.6010	0.6035	0.42	TM	
69	TM**	Chlorobenzene	1.568	1.514	3.5	TM**	
70	TM*	Ethylbenzene	2.280	2.346	2.9	TM*	
71	TM**	Bromoform	0.4331	0.4296	0.80	TM**	
72	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
73	TM	Isopropylbenzene	3.456	3.192	7.7	TM	
74	TM**L	1,1,2,2-Tetrachloroethane	1.157	1.038	10	TM**L	3.8
75	TML	1,2,3-Trichloropropane	0.3268	0.2989	8.5	TML	0.99
76	TM	t-1,4-Dichloro-2-Butene	0.2546	0.2514	1.3	TM	
77	TM	Bromobenzene	1.176	1.095	6.9	TM	
78	TM	n-Propylbenzene	4.249	4.117	3.1	TM	
79	TM	4-Ethyltoluene	3.552	3.490	1.8	TM	
80	TM	2-Chlorotoluene	2.745	2.669	2.8	TM	
		Average			4.2		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Second Source Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 11/11/14
Matrix: 0 Instrument: Loki
Cal. Date: 11/10/14
Data File: 1111L04.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,3,5-Trimethylbenzene	3.183	3.229	1.4	TM	
82	TM	4-Chlorotoluene	3.222	3.278	1.7	TM	
83	TM	Tert-Butylbenzene	2.554	2.398	6.1	TM	
84	TM	1,2,4-Trimethylbenzene	3.083	2.996	2.8	TM	
85	TM	Sec-Butylbenzene	3.703	3.657	1.2	TM	
86	TM	p-Isopropyltoluene	3.161	3.113	1.5	TM	
87	TM	Benzyl Chloride	1.353	1.352	0.08	TM	
88	TM	1,3-DCB	2.162	2.069	4.3	TM	
89	TM	1,4-DCB	2.366	2.176	8.0	TM	
90	TM	n-Butylbenzene	3.066	2.914	4.9	TM	
91	TM	1,2-DCB	2.079	1.915	7.9	TM	
92	TM	Hexachloroethane	0.8134	0.7294	10	TM	
93	TM	1,2-Dibromo-3-chloropropane	0.1992	0.1899	4.7	TM	
94	TM	1,2,4-Trichlorobenzene	1.281	1.206	5.9	TM	
95	TM	Hexachlorobutadiene	0.8464	0.8068	4.7	TM	
96	TMQ	Naphthalene	1.351	1.285	4.9	TMQ	6.6
97	TM	1,2,3-Trichlorobenzene	0.8134	0.7678	5.6	TM	
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			4.5		

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1111L04.D Vial: 3
Acq On : 11 Nov 14 13:28 Operator: DG,SV,RS
Sample : 141111A LCS-WL(SS) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:57 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	629696	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	524800	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	332160	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.12	111	313836	22.35851 ppb		0.00
Spiked Amount 24.012			Recovery = 93.116%			
38) 1,2-DCA-D4(S)	5.53	65	351838	22.58650 ppb		0.00
Spiked Amount 24.984			Recovery = 90.405%			
58) Toluene-D8(S)	7.71	98	1025855	24.69334 ppb		0.00
Spiked Amount 24.898			Recovery = 99.178%			
66) 4-Bromofluorobenzene(S)	10.36	95	380822	24.96964 ppb		0.00
Spiked Amount 22.905			Recovery = 109.017%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	97942	9.09127 ppb		100
3) Freon 114	1.10	85	105929	10.53700 ppb		100
4) Chloromethane	1.14	50	175293	8.99614 ppb		100
5) Vinyl chloride	1.22	62	#137299	8.62561 ppb		99
6) Bromomethane	1.45	94	63192	8.80991 ppb		97
7) Chloroethane	1.53	64	71431	9.94209 ppb		96
8) Dichlorofluoromethane	1.70	67	245029	9.55481 ppb		99
9) Trichlorofluoromethane	1.74	101	172705	9.37980 ppb		98
10) Acrolein	2.10	56	85139	116.62818 ppb	#	95
11) Acetone	2.25	43	33631	8.73258 ppb		97
12) Freon-113	2.20	101	107343	9.99823 ppb		90
13) 1,1-DCE	2.18	61	163935	9.39214 ppb		98
14) t-Butanol	2.88	59	91412	121.45303 ppb		100
15) Acetonitrile	2.52	41	160903	113.16750 ppb		97
16) Methyl Acetate	2.60	43	82844	9.68281 ppb		99
17) Iodomethane	2.31	142	21344	9.56808 ppb		97
18) Acrylonitrile	2.96	52	30184	9.52183 ppb		90
19) Methylene chloride	2.67	84	130285	9.86667 ppb		99
20) Carbon disulfide	2.36	76	342014	9.37136 ppb		99
21) Methyl t-butyl ether (MtBE	3.02	73	271909	9.57338 ppb		98
22) Trans-1,2-DCE	2.99	96	112130	9.78029 ppb		99
23) Diisopropyl Ether	3.71	45	343193	9.60535 ppb		96
24) 1,1-DCA	3.53	63	212692	9.54350 ppb		97
25) Hexane	3.36	57	111663	10.43184 ppb		97
26) Vinyl Acetate	3.69	43	72616	9.41240 ppb	#	85
27) Ethyl tert Butyl Ether	4.28	59	279303	9.45533 ppb		97
28) MEK (2-Butanone)	4.50	43	39357	9.46086 ppb		90
29) Cis-1,2-DCE	4.43	96	126528	9.65418 ppb		99
30) 2,2-Dichloropropane	4.40	77	165699	10.14966 ppb		99
31) Chloroform	4.90	83	214788	8.38287 ppb		98
32) Bromochloromethane	4.75	128	61601	9.22868 ppb		98
34) 1,1,1-TCA	5.11	97	183603	9.74986 ppb		94
35) Cyclohexane	5.16	41	88695	9.98735 ppb		89
36) 1,1-Dichloropropene	5.33	75	139358	9.79989 ppb		100
37) 2,2,4-Trimethylpentane	5.73	57	292889	10.72743 ppb		99
39) Carbon Tetrachloride	5.32	117	163466	10.00380 ppb		96
40) Tert Amyl Methyl Ether	5.80	73	269339	9.84266 ppb		98
41) 1,2-DCA	5.62	62	161901	10.14678 ppb		97
42) Benzene	5.58	78	449309	9.64097 ppb		98

Algorithm check: $\frac{137299 \times 25}{629696 \times 0.6320} = 8.625$ ppb 12/5/14

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1111L04.D Vial: 3
Acq On : 11 Nov 14 13:28 Operator: DG,SV,RS
Sample : 141111A LCS-WL(SS) Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:57 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
43)	TCE	6.38	95	114213	9.35163	ppb	98
44)	2-Pentanone	6.63	43	918146	124.66802	ppb	97
45)	1,2-Dichloropropane	6.62	63	130248	9.60507	ppb	98
46)	Bromodichloromethane	6.95	83	163482	9.48142	ppb	100
47)	Methyl Cyclohexane	6.58	83	139370	9.69951	ppb	99
48)	Dibromomethane	6.75	93	74680	9.47066	ppb	96
49)	2-Chloroethyl vinyl ether	7.26	106	3527	9.37331	ppb	80
50)	MIBK (methyl isobutyl ket	7.63	43	79825	8.93890	ppb	94
51)	1-Bromo-2-chloroethane	7.26	63	94176	9.28920	ppb	99
52)	Cis-1,3-Dichloropropene	7.44	75	173486	9.38620	ppb	97
53)	Toluene	7.78	91	476666	10.08195	ppb	97
54)	Trans-1,3-Dichloropropene	8.04	75	153220	9.61504	ppb	98
55)	1,1,2-TCA	8.21	83	88867	9.70206	ppb	92
56)	2-Hexanone	8.50	43	56451	10.17706	ppb	93
59)	1,2-EDB	8.69	107	101442	9.97330	ppb	98
60)	Tetrachloroethene	8.34	166	132271	10.37158	ppb	97
61)	1-Chlorohexane	9.22	91	126713	10.26916	ppb	91
62)	1,1,1,2-Tetrachloroethane	9.30	131	130802	9.74722	ppb	99
63)	m&p-Xylene	9.46	106	379594	20.58030	ppb	97
64)	o-Xylene	9.85	106	172727	10.04787	ppb	100
65)	Styrene	9.86	104	302690	9.53765	ppb	98
67)	1,3-Dichloropropane	8.38	76	173515	10.19948	ppb	98
68)	Dibromochloromethane	8.60	129	126693	10.04200	ppb	96
69)	Chlorobenzene	9.21	112	317824	9.65407	ppb	100
70)	Ethylbenzene	9.34	91	492540	10.29093	ppb	100
71)	Bromoform	10.02	173	90181	9.91965	ppb	94
73)	Isopropylbenzene	10.22	105	424065	9.23450	ppb	99
74)	1,1,2,2-Tetrachloroethane	10.52	83	137902	10.38480	ppb	98
75)	1,2,3-Trichloropropane	10.55	110	39712	9.90066	ppb	91
76)	t-1,4-Dichloro-2-Butene	10.58	53	33396	9.87084	ppb	97
77)	Bromobenzene	10.49	156	145553	9.31227	ppb	93
78)	n-Propylbenzene	10.63	91	547012	9.68998	ppb	99
79)	4-Ethyltoluene	10.75	105	463633	9.82340	ppb	97
80)	2-Chlorotoluene	10.70	91	354645	9.72293	ppb	98
81)	1,3,5-Trimethylbenzene	10.82	105	428960	10.14202	ppb	98
82)	4-Chlorotoluene	10.81	91	435547	10.17458	ppb	98
83)	Tert-Butylbenzene	11.13	119	318615	9.39110	ppb	99
84)	1,2,4-Trimethylbenzene	11.18	105	398080	9.71946	ppb	98
85)	Sec-Butylbenzene	11.35	105	485916	9.87750	ppb	99
86)	p-Isopropyltoluene	11.50	119	413579	9.84626	ppb	99
87)	Benzyl Chloride	11.67	91	179570	9.99201	ppb	98
88)	1,3-DCB	11.43	146	274942	9.57220	ppb	98
89)	1,4-DCB	11.53	146	289106	9.19743	ppb	100
90)	n-Butylbenzene	11.91	91	387231	9.50562	ppb	98
91)	1,2-DCB	11.89	146	254433	9.20915	ppb	97
92)	Hexachloroethane	12.14	117	96915	8.96716	ppb	96
93)	1,2-Dibromo-3-chloropropan	12.66	157	25228	9.53440	ppb	95
94)	1,2,4-Trichlorobenzene	13.49	180	160199	9.40936	ppb	99
95)	Hexachlorobutadiene	13.68	225	107194	9.53188	ppb	99
96)	Naphthalene	13.72	128	170752	10.65708	ppb	100
97)	1,2,3-Trichlorobenzene	13.97	180	102008	9.43850	ppb	98

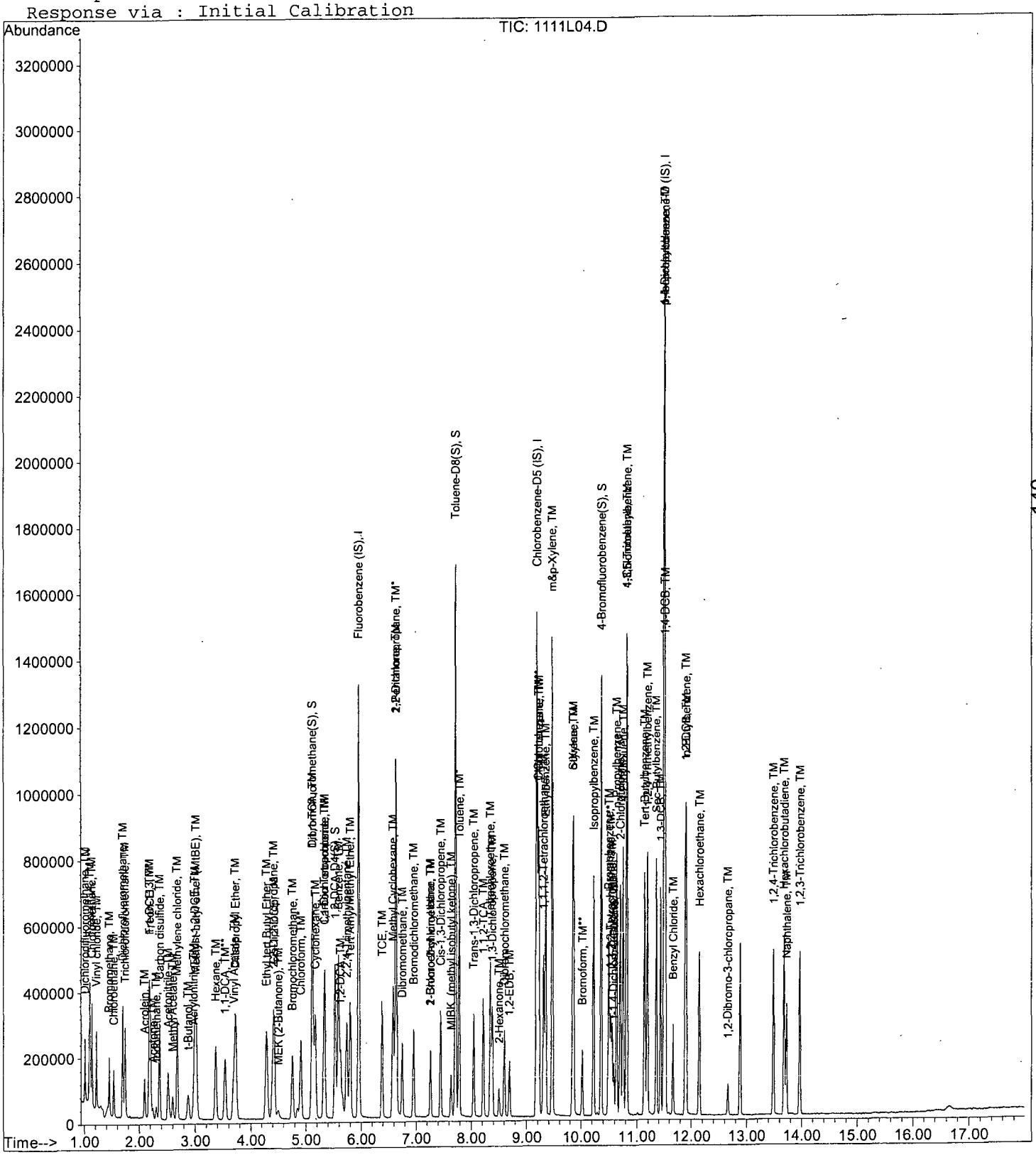
(#) = qualifier out of range (m) = manual integration

Data File : M:\LOKI\DATA\141110\1111L04.D
Acq On : 11 Nov 14 13:28
Sample : 141111A LCS-WL(SS)
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 3
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Quant Time: Nov 18 10:57 2014 Quant Results File: LCREDW.RES

Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration



VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 11/14/14
Matrix: Instrument: Loki
Initial Cal. Date: 11/10/14
Data File: 1114L05.D

		Compound	MEAN	CCRF	%D		%Drift
1	I	Fluorobenzene (IS)	ISTD			I	
2	TM	Dichlorodifluoromethane	0.4277	0.4153	2.9	TM	
3	TM	Freon 114	0.3991	0.4088	2.4	TM	
4	TM**L	Chloromethane	0.8344	0.7546	9.6	TM**L	2.3
5	TM*	Vinyl chloride	0.6320	0.5810	8.1	TM*	
6	TM	Bromomethane	0.2848	0.2527	11	TM	
7	TML	Chloroethane	0.3473	0.3091	11	TML	8.2
8	TM	Dichlorofluoromethane	1.018	1.032	1.4	TM	
9	TM	Trichlorofluoromethane	0.7310	0.7261	0.67	TM	
10	TM	Acrolein	0.0290	0.0262	9.5	TM	
11	TML	Acetone	0.2908	0.1441	50	TML	2.8
12	TM	Freon-113	0.4262	0.4163	2.3	TM	
13	TM*	1,1-DCE	0.6930	0.6934	0.06	TM*	
14	TM	t-Butanol	0.0299	0.0262	12	TM	
15	TM	Acetonitrile	0.0564	0.0545	3.4	TM	
16	TM	Methyl Acetate	0.3397	0.3221	5.2	TM	
17	TM	Iodomethane	0.0886	0.1016	15	TM	
18	TM	Acrylonitrile	0.1259	0.1178	6.4	TM	
19	TML	Methylene chloride	0.6179	0.5361	13	TML	2.5
20	TM	Carbon disulfide	1.449	1.356	6.4	TM	
21	TM	Methyl t-butyl ether (MtBE)	1.128	1.041	7.7	TM	
22	TML	Trans-1,2-DCE	0.5305	0.4730	11	TML	4.0
23	TM	Diisopropyl Ether	1.419	1.461	3.0	TM	
24	TM**	1,1-DCA	0.8848	0.9242	4.5	TM**	
25	TM	Hexane	0.4250	0.4455	4.8	TM	
26	TM	Vinyl Acetate	0.3063	0.3195	4.3	TM	
27	TM	Ethyl tert Butyl Ether	1.173	1.165	0.70	TM	
28	TML	MEK (2-Butanone)	0.1892	0.1676	11	TML	1.8
29	TM	Cis-1,2-DCE	0.5203	0.5187	0.31	TM	
30	TM	2,2-Dichloropropane	0.6482	0.7227	11	TM	
31	TM*	Chloroform	1.017	0.8991	12	TM*	
32	TM	Bromochloromethane	0.2650	0.2481	6.4	TM	
33	S	Dibromofluoromethane(S)	0.5573	0.5219	6.4	S	
34	TM	1,1,1-TCA	0.7476	0.7686	2.8	TM	
35	TM	Cyclohexane	0.3526	0.3685	4.5	TM	
36	TM	1,1-Dichloropropene	0.5646	0.5759	2.0	TM	
37	TM	2,2,4-Trimethylpentane	1.084	1.236	14	TM	
38	S	1,2-DCA-D4(S)	0.6184	0.5870	5.1	S	
39	TML	Carbon Tetrachloride	0.7508	0.6677	11	TML	3.0
40	TM	Tert Amyl Methyl Ether	1.086	1.062	2.3	TM	
		Average			7.6		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 11/14/14
Matrix: 0 Instrument: Loki
Cal. Date: 11/10/14
Data File: 1114L05.D

		Compound	MEAN	CCRF	%D		%Drift
41	TML	1,2-DCA	0.7300	0.6873	5.9	TML	9.0
42	TML	Benzene	2.029	1.905	6.1	TML	3.1
43	TM	TCE	0.4849	0.4636	4.4	TM	
44	TM	2-Pentanone	0.2924	0.2949	0.87	TM	
45	TM*	1,2-Dichloropropane	0.5384	0.5708	6.0	TM*	
46	TM	Bromodichloromethane	0.6845	0.6816	0.43	TM	
47	TM	Methyl Cyclohexane	0.5705	0.5679	0.46	TM	
48	TM	Dibromomethane	0.3131	0.2969	5.2	TM	
49	TM	2-Chloroethyl vinyl ether	0.0149	0.0128	15	TM	
50	TM	MIBK (methyl isobutyl ketone)	0.3545	0.3166	11	TM	
51	TM	1-Bromo-2-chloroethane	0.4025	0.3979	1.1	TM	
52	TM	Cis-1,3-Dichloropropene	0.7338	0.7164	2.4	TM	
53	TM*	Toluene	1.877	1.965	4.7	TM*	
54	TM	Trans-1,3-Dichloropropene	0.6327	0.6295	0.50	TM	
55	TM	1,1,2-TCA	0.3637	0.3562	2.1	TM	
56	TM	2-Hexanone	0.2202	0.2135	3.1	TM	
57	I	Chlorobenzene-D5 (IS)	ISTD			I	
58	S	Toluene-D8(S)	1.979	2.014	1.8	S	
59	TM	1,2-EDB	0.4845	0.4726	2.5	TM	
60	TML	Tetrachloroethene	0.6857	0.6330	7.7	TML	4.2
61	TM	1-Chlorohexane	0.5878	0.6098	3.7	TM	
62	TM	1,1,1,2-Tetrachloroethane	0.6393	0.6243	2.3	TM	
63	TM	m&p-Xylene	0.8786	0.9505	8.2	TM	
64	TM	o-Xylene	0.8189	0.8706	6.3	TM	
65	TML	Styrene	1.396	1.486	6.4	TML	2.1
66	S	4-Bromofluorobenzene(S)	0.7265	0.7447	2.5	S	
67	TM	1,3-Dichloropropane	0.8104	0.8349	3.0	TM	
68	TM	Dibromochloromethane	0.6010	0.5907	1.7	TM	
69	TM**	Chlorobenzene	1.568	1.581	0.82	TM**	
70	TM*	Ethylbenzene	2.280	2.447	7.3	TM*	
71	TM**	Bromoform	0.4331	0.3979	8.1	TM**	
72	I	1,4-Dichlorobenzene-D (IS)	ISTD			I	
73	TM	Isopropylbenzene	3.456	3.466	0.27	TM	
74	TM**L	1,1,2,2-Tetrachloroethane	1.157	1.030	11	TM**L	3.0
75	TML	1,2,3-Trichloropropane	0.3268	0.2866	12	TML	5.6
76	TM	t-1,4-Dichloro-2-Butene	0.2546	0.2268	11	TM	
77	TM	Bromobenzene	1.176	1.129	4.0	TM	
78	TM	n-Propylbenzene	4.249	4.514	6.2	TM	
79	TM	4-Ethyltoluene	3.552	3.755	5.7	TM	
80	TM	2-Chlorotoluene	2.745	2.864	4.3	TM	
		Average			4.9		

VOLATILE ORGANIC ANALYSIS BY
EPA METHOD 8260B

Form 7

Continuing Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Date Analyzed: 11/14/14
Matrix: 0 Instrument: Loki
Cal. Date: 11/10/14
Data File: 1114L05.D

		Compound	MEAN	CCRF	%D		%Drift
81	TM	1,3,5-Trimethylbenzene	3.183	3.517	10	TM	
82	TM	4-Chlorotoluene	3.222	3.532	9.6	TM	
83	TM	Tert-Butylbenzene	2.554	2.564	0.40	TM	
84	TM	1,2,4-Trimethylbenzene	3.083	3.268	6.0	TM	
85	TM	Sec-Butylbenzene	3.703	3.947	6.6	TM	
86	TM	p-Isopropyltoluene	3.161	3.266	3.3	TM	
87	TM	Benzyl Chloride	1.353	1.425	5.4	TM	
88	TM	1,3-DCB	2.162	2.169	0.32	TM	
89	TM	1,4-DCB	2.366	2.303	2.6	TM	
90	TM	n-Butylbenzene	3.066	3.202	4.4	TM	
91	TM	1,2-DCB	2.079	1.980	4.8	TM	
92	TM	Hexachloroethane	0.8134	0.8019	1.4	TM	
93	TM	1,2-Dibromo-3-chloropropane	0.1992	0.1756	12	TM	
94	TM	1,2,4-Trichlorobenzene	1.281	1.193	6.9	TM	
95	TM	Hexachlorobutadiene	0.8464	0.8304	1.9	TM	
96	TMQ	Naphthalene	1.351	1.142	15	TMQ	3.4
97	TM	1,2,3-Trichlorobenzene	0.8134	0.7622	6.3	TM	
98							
99							
100							
101							
102							
103							
104							
105							
106							
107							
108							
109							
110							
111							
112							
113							
114							
115							
116							
117							
118							
119							
120							
		Average			5.7		

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1114L05.D Vial: 4
Acq On : 14 Nov 14 9:44 Operator: DG,SV,RS
Sample : 10ug/L Vol Std 11-14-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:57 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units		Dev(Min)
1) Fluorobenzene (IS)	5.95	96	571072	25.00000 ppb		0.00
57) Chlorobenzene-D5 (IS)	9.18	117	474624	25.00000 ppb		0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	289472	25.00000 ppb		0.00
System Monitoring Compounds						
33) Dibromofluoromethane(S)	5.11	111	298019	23.41122 ppb		0.00
Spiked Amount 24.012			Recovery = 97.497%			
38) 1,2-DCA-D4(S)	5.52	65	335233	23.72975 ppb		0.00
Spiked Amount 24.984			Recovery = 94.980%			
58) Toluene-D8(S)	7.71	98	956090	25.44701 ppb		0.00
Spiked Amount 24.898			Recovery = 102.206%			
66) 4-Bromofluorobenzene(S)	10.36	95	353450	25.62491 ppb		0.00
Spiked Amount 22.905			Recovery = 111.877%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.01	85	94874	9.71053 ppb		96
3) Freon 114	1.10	85	93376	10.24183 ppb		99
4) Chloromethane	1.14	50	172374	9.76668 ppb		99
5) Vinyl chloride	1.22	62	132713	9.19340 ppb		99
6) Bromomethane	1.45	94	57720	8.87311 ppb		98
7) Chloroethane	1.53	64	70608	10.82022 ppb		93
8) Dichlorofluoromethane	1.70	67	235847	10.14086 ppb		99
9) Trichlorofluoromethane	1.74	101	165856	9.93253 ppb		100
10) Acrolein	2.10	56	74853	113.06398 ppb		99
11) Acetone	2.25	43	32915	9.71820 ppb		93
12) Freon-113	2.20	101	95088	9.76596 ppb		95
13) 1,1-DCE	2.18	61	158384	10.00563 ppb		94
14) t-Butanol	2.87	59	74834	109.63373 ppb		98
15) Acetonitrile	2.51	41	155640	120.70323 ppb		96
16) Methyl Acetate	2.60	43	73573	9.48198 ppb		94
17) Iodomethane	2.31	142	23208	11.47167 ppb		89
18) Acrylonitrile	2.96	52	26919	9.36360 ppb		91
19) Methylene chloride	2.67	84	122452	10.24584 ppb		99
20) Carbon disulfide	2.36	76	309771	9.35922 ppb		99
21) Methyl t-butyl ether (MtBE	3.02	73	237709	9.22843 ppb		97
22) Trans-1,2-DCE	2.99	96	108048	10.40024 ppb		99
23) Diisopropyl Ether	3.71	45	333844	10.30288 ppb		97
24) 1,1-DCA	3.53	63	211118	10.44532 ppb		97
25) Hexane	3.36	57	101775	10.48414 ppb		99
26) Vinyl Acetate	3.71	43	72994	10.43267 ppb	#	99
27) Ethyl tert Butyl Ether	4.28	59	266025	9.93033 ppb		97
28) MEK (2-Butanone)	4.49	43	38283	10.18276 ppb		100
29) Cis-1,2-DCE	4.43	96	118495	9.96939 ppb		97
30) 2,2-Dichloropropane	4.40	77	165083	11.14998 ppb		100
31) Chloroform	4.90	83	205370	8.83812 ppb		100
32) Bromochloromethane	4.76	128	56682	9.36347 ppb		97
34) 1,1,1-TCA	5.11	97	175567	10.28020 ppb		96
35) Cyclohexane	5.16	41	84176	10.45152 ppb		96
36) 1,1-Dichloropropene	5.34	75	131560	10.20125 ppb		98
37) 2,2,4-Trimethylpentane	5.73	57	282389	11.40461 ppb		99
39) Carbon Tetrachloride	5.32	117	152527	10.30132 ppb		93
40) Tert Amyl Methyl Ether	5.79	73	242570	9.77441 ppb		99
41) 1,2-DCA	5.62	62	156988	10.89966 ppb		98
42) Benzene	5.58	78	435178	10.31185 ppb		99

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1114L05.D Vial: 4
Acq On : 14 Nov 14 9:44 Operator: DG,SV,RS
Sample : 10ug/L Vol Std 11-14-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:57 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

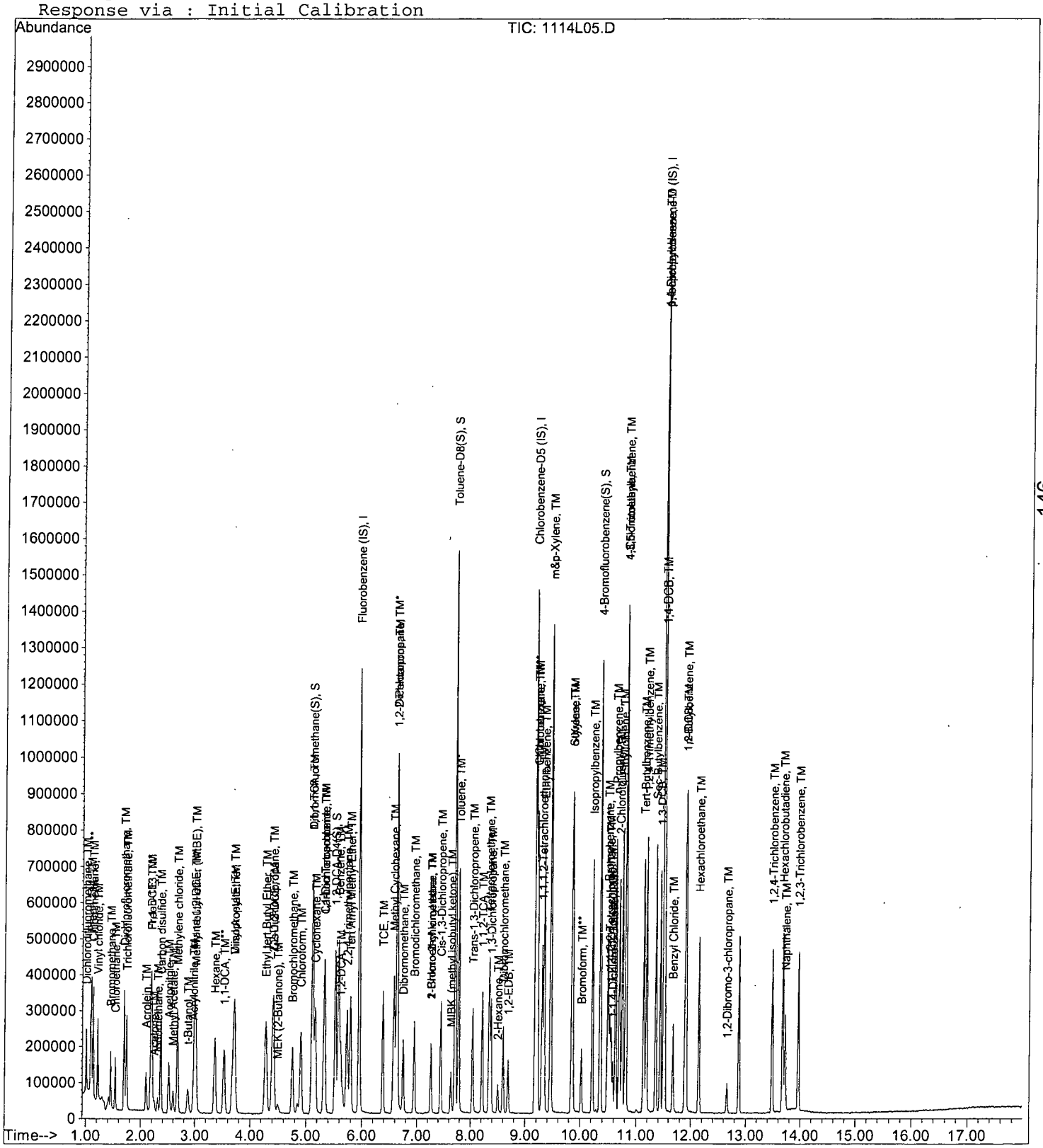
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
43) TCE	6.38	95	105906	9.56164 ppb	98
44) 2-Pentanone	6.63	43	842145	126.08699 ppb	97
45) 1,2-Dichloropropane	6.62	63	130381	10.60191 ppb	99
46) Bromodichloromethane	6.95	83	155697	9.95690 ppb	99
47) Methyl Cyclohexane	6.58	83	129716	9.95438 ppb	96
48) Dibromomethane	6.75	93	67819	9.48347 ppb	95
49) 2-Chloroethyl vinyl ether	7.26	106	2914	8.53920 ppb	98
50) MIBK (methyl isobutyl ket	7.63	43	72330	8.93108 ppb	98
51) 1-Bromo-2-chloroethane	7.26	63	90888	9.88519 ppb	99
52) Cis-1,3-Dichloropropene	7.44	75	163645	9.76266 ppb	99
53) Toluene	7.78	91	448792	10.46683 ppb	98
54) Trans-1,3-Dichloropropene	8.04	75	143795	9.94992 ppb	99
55) 1,1,2-TCA	8.21	83	81355	9.79372 ppb	99
56) 2-Hexanone	8.50	43	48759	9.69272 ppb	94
59) 1,2-EDB	8.69	107	89724	9.75380 ppb	98
60) Tetrachloroethene	8.34	166	120182	10.42191 ppb	97
61) 1-Chlorohexane	9.22	91	115763	10.37356 ppb	98
62) 1,1,1,2-Tetrachloroethane	9.30	131	118531	9.76658 ppb	96
63) m&p-Xylene	9.46	106	360895	21.63502 ppb	97
64) o-Xylene	9.85	106	165280	10.63110 ppb	100
65) Styrene	9.86	104	282030	9.79469 ppb	98
67) 1,3-Dichloropropane	8.38	76	158508	10.30235 ppb	95
68) Dibromochloromethane	8.60	129	112140	9.82816 ppb	96
69) Chlorobenzene	9.21	112	300169	10.08170 ppb	97
70) Ethylbenzene	9.34	91	464478	10.73056 ppb	97
71) Bromoform	10.02	173	75545	9.18821 ppb	99
73) Isopropylbenzene	10.22	105	401298	10.02741 ppb	98
74) 1,1,2,2-Tetrachloroethane	10.52	83	119212	10.29533 ppb	99
75) 1,2,3-Trichloropropane	10.55	110	33190	9.43875 ppb	98
76) t-1,4-Dichloro-2-Butene	10.58	53	26263	8.90727 ppb	98
77) Bromobenzene	10.49	156	130777	9.60078 ppb	97
78) n-Propylbenzene	10.63	91	522683	10.62442 ppb	98
79) 4-Ethyltoluene	10.75	105	434734	10.56944 ppb	99
80) 2-Chlorotoluene	10.70	91	331608	10.43203 ppb	98
81) 1,3,5-Trimethylbenzene	10.81	105	407276	11.04936 ppb	99
82) 4-Chlorotoluene	10.81	91	409016	10.96384 ppb	99
83) Tert-Butylbenzene	11.13	119	296852	10.03994 ppb	97
84) 1,2,4-Trimethylbenzene	11.18	105	378364	10.60040 ppb	98
85) Sec-Butylbenzene	11.35	105	457070	10.66127 ppb	97
86) p-Isopropyltoluene	11.50	119	378198	10.33172 ppb	97
87) Benzyl Chloride	11.67	91	165056	10.53880 ppb	98
88) 1,3-DCB	11.44	146	251124	10.03228 ppb	98
89) 1,4-DCB	11.53	146	266716	9.73642 ppb	97
90) n-Butylbenzene	11.91	91	370750	10.44317 ppb	99
91) 1,2-DCB	11.89	146	229268	9.52204 ppb	99
92) Hexachloroethane	12.14	117	92846	9.85753 ppb	94
93) 1,2-Dibromo-3-chloropropan	12.66	157	20337	8.81938 ppb	96
94) 1,2,4-Trichlorobenzene	13.49	180	138082	9.30633 ppb	100
95) Hexachlorobutadiene	13.68	225	96156	9.81127 ppb	98
96) Naphthalene	13.72	128	132224	9.65870 ppb	98
97) 1,2,3-Trichlorobenzene	13.96	180	88256	9.37030 ppb	99

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

Data File : M:\LOKI\DATA\141110\1114L05.D Vial: 4
Acq On : 14 Nov 14 9:44 Operator: DG,SV,RS
Sample : 10ug/L Vol Std 11-14-14 Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:57 2014 Quant Results File: LCREDW.RES

Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration



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EPA METHOD 8260C
Volatile Organic Compounds
Raw Data

APPL, INC.

Method Blank
EPA 8260C WATER

Blank Name/QCG: **141114W-07201 - 191955**
Batch ID: #86CRE-141114AL

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	1,1,1,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.13	ug/L	11/14/14	11/14/14
BLANK	1,1,1-TRICHLOROETHANE	0.30 U	1.0	0.30	0.14	ug/L	11/14/14	11/14/14
BLANK	1,1,2,2-TETRACHLOROETHANE	0.30 U	1.0	0.30	0.10	ug/L	11/14/14	11/14/14
BLANK	1,1,2-TRICHLOROETHANE	0.50 U	1.0	0.50	0.20	ug/L	11/14/14	11/14/14
BLANK	1,1-DICHLOROETHANE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
BLANK	1,1-DICHLOROETHENE	0.50 U	1.0	0.50	0.30	ug/L	11/14/14	11/14/14
BLANK	1,2,3-TRICHLOROPROPANE	1.00 U	2.0	1.00	0.39	ug/L	11/14/14	11/14/14
BLANK	1,2,4-TRICHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	11/14/14	11/14/14
BLANK	1,2-DIBROMO-3-CHLOROPROPA	1.00 U	2.0	1.00	0.76	ug/L	11/14/14	11/14/14
BLANK	1,2-DIBROMOETHANE	0.50 U	1.0	0.50	0.20	ug/L	11/14/14	11/14/14
BLANK	1,2-DICHLOROBENZENE	0.30 U	1.0	0.30	0.17	ug/L	11/14/14	11/14/14
BLANK	1,2-DICHLOROETHANE	0.100 U	0.10	0.100	0.030	ug/L	11/14/14	11/14/14
BLANK	1,2-DICHLOROPROPANE	0.30 U	1.0	0.30	0.17	ug/L	11/14/14	11/14/14
BLANK	1,3-DICHLOROBENZENE	0.30 U	1.0	0.30	0.11	ug/L	11/14/14	11/14/14
BLANK	1,3-DICHLOROPROPENE (TOTA	0.30 U	1.0	0.30	0.18	ug/L	11/14/14	11/14/14
BLANK	1,4-DICHLOROBENZENE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
BLANK	2-BUTANONE	2.00 U	10.0	2.00	0.60	ug/L	11/14/14	11/14/14
BLANK	4-METHYL-2-PENTANONE	5.00 U	10.0	5.00	1.90	ug/L	11/14/14	11/14/14
BLANK	ACETONE	2.00 U	10.0	2.00	0.95	ug/L	11/14/14	11/14/14
BLANK	BENZENE	0.200 U	0.20	0.200	0.060	ug/L	11/14/14	11/14/14
BLANK	BROMODICHLOROMETHANE	0.30 U	1.0	0.30	0.14	ug/L	11/14/14	11/14/14
BLANK	BROMOFORM	0.30 U	1.0	0.30	0.14	ug/L	11/14/14	11/14/14
BLANK	BROMOMETHANE	0.50 U	2.0	0.50	0.24	ug/L	11/14/14	11/14/14
BLANK	CARBON TETRACHLORIDE	0.100 U	0.10	0.100	0.030	ug/L	11/14/14	11/14/14
BLANK	CHLOROBENZENE	0.50 U	1.0	0.50	0.21	ug/L	11/14/14	11/14/14
BLANK	CHLOROETHANE	0.50 U	1.0	0.50	0.21	ug/L	11/14/14	11/14/14
BLANK	CHLOROFORM	0.20 U	0.2	0.20	0.06	ug/L	11/14/14	11/14/14
BLANK	CHLOROMETHANE	0.50 U	1.0	0.50	0.31	ug/L	11/14/14	11/14/14
BLANK	CIS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	11/14/14	11/14/14
BLANK	DIBROMOCHLOROMETHANE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
BLANK	ETHYLBENZENE	0.50 U	1.0	0.50	0.23	ug/L	11/14/14	11/14/14
BLANK	HEXACHLOROBUTADIENE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
BLANK	METHYL TERT-BUTYL ETHER	0.52 U	1.0	0.52	0.26	ug/L	11/14/14	11/14/14
BLANK	METHYLENE CHLORIDE	1.00 U	5.0	1.00	0.35	ug/L	11/14/14	11/14/14

Quant Method: LCREDW.M
Run #: 1114L11
Instrument: Loki
Sequence: 141110
Initials: SV

GC SC-Blank-REG MDLs
Printed: 11/18/14 11:18:37 AM

Method Blank
EPA 8260C WATER

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **141114W-07201 - 191955**
Batch ID: #86CRE-141114AL

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	STYRENE	0.50 U	1.0	0.50	0.25	ug/L	11/14/14	11/14/14
BLANK	TETRACHLOROETHENE	0.30 U	0.3	0.30	0.08	ug/L	11/14/14	11/14/14
BLANK	TOLUENE	0.30 U	1.0	0.30	0.17	ug/L	11/14/14	11/14/14
BLANK	TRANS-1,2-DICHLOROETHENE	0.30 U	1.0	0.30	0.19	ug/L	11/14/14	11/14/14
BLANK	TRICHLOROETHENE	0.30 U	1.0	0.30	0.16	ug/L	11/14/14	11/14/14
BLANK	VINYL CHLORIDE	0.10 U	0.1	0.10	0.03	ug/L	11/14/14	11/14/14
BLANK	XYLENES (TOTAL)	0.30 U	2.0	0.30	0.19	ug/L	11/14/14	11/14/14
BLANK	SURROGATE: 1,2-DICHLOROET	103	70-120			%	11/14/14	11/14/14
BLANK	SURROGATE: 4-BROMOFLUOR	92.6	75-120			%	11/14/14	11/14/14
BLANK	SURROGATE: DIBROMOFLUOR	106	85-115			%	11/14/14	11/14/14
BLANK	SURROGATE: TOLUENE-D8 (S)	97.7	85-120			%	11/14/14	11/14/14

Quant Method: LCREDW.M
Run #: 1114L11
Instrument: Loki
Sequence: 141110
Initials: SV

GC SC-Blank-REG MDLs
Printed: 11/18/14 11:18:37 AM

Quantitation Report (QT Reviewed)

Data File : M:\LOKI\DATA\141110\1114L11.D Vial: 10
Acq On : 14 Nov 14 12:33 Operator: DG,SV,RS
Sample : 141114A BLK-WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 11:00 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	502848	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	441792	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	212544	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.11	111	290775	25.94128 ppb	0.00
Spiked Amount 24.012			Recovery = 108.033%		
38) 1,2-DCA-D4(S)	5.52	65	328747	26.42788 ppb	0.00
Spiked Amount 24.984			Recovery = 105.778%		
58) Toluene-D8(S)	7.71	98	852511	24.37642 ppb	0.00
Spiked Amount 24.898			Recovery = 97.905%		
66) 4-Bromofluorobenzene(S)	10.36	95	274036	21.34390 ppb	0.00
Spiked Amount 22.905			Recovery = 93.186%		

Target Compounds Qvalue

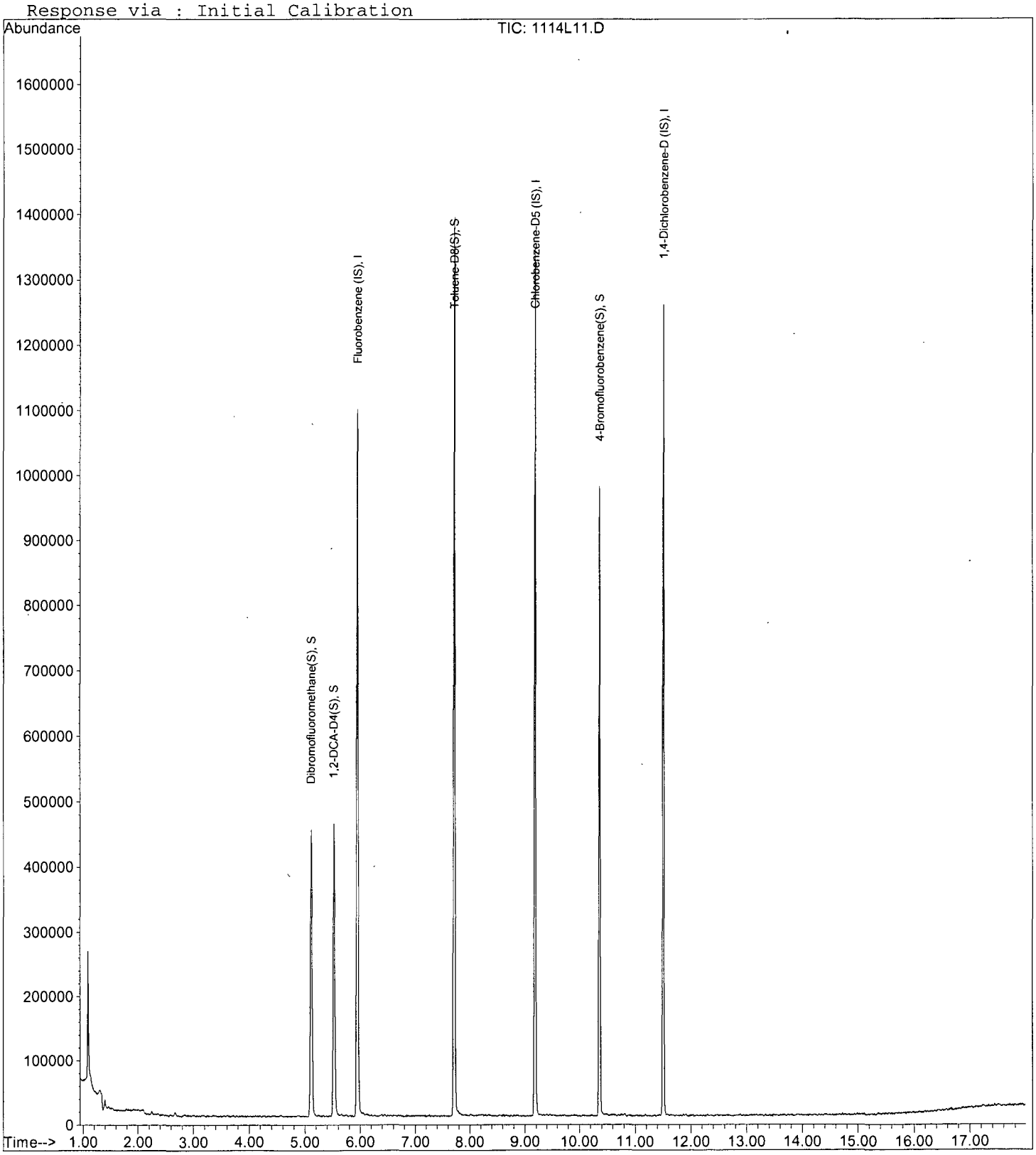
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : M:\LOKI\DATA\141110\1114L11.D Vial: 10
Acq On : 14 Nov 14 12:33 Operator: DG,SV,RS
Sample : 141114A BLK-WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 11:00 2014 Quant Results File: LCREDW.RES

Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration



Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **141114W-07201 LCS - 191955**
Batch ID: #86CRE-141114AL

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
1,1,1,2-TETRACHLOROETHANE	10.00	9.64	96.4	80-130
1,1,1-TRICHLOROETHANE	10.00	9.47	94.7	65-130
1,1,2,2-TETRACHLOROETHANE	10.00	10.8	108	65-130
1,1,2-TRICHLOROETHANE	10.00	9.24	92.4	75-125
1,1-DICHLOROETHANE	10.00	9.63	96.3	70-135
1,1-DICHLOROETHENE	10.00	9.54	95.4	70-130
1,2,3-TRICHLOROPROPANE	10.00	9.96	99.6	75-125
1,2,4-TRICHLOROBENZENE	10.00	9.19	91.9	65-135
1,2-DIBROMO-3-CHLOROPROPANE	10.00	8.95	89.5	50-130
1,2-DIBROMOETHANE	10.00	9.25	92.5	80-120
1,2-DICHLOROBENZENE	10.00	9.60	96.0	70-120
1,2-DICHLOROETHANE	10.00	10.3	103	70-130
1,2-DICHLOROPROPANE	10.00	10.0	100	75-125
1,3-DICHLOROBENZENE	10.00	10.1	101	75-125
1,3-DICHLOROPROPENE (TOTAL)	20.0	18.8	94.0	55-140
1,4-DICHLOROBENZENE	10.00	9.55	95.5	75-125
2-BUTANONE	10.00	9.63	96.3	30-150
4-METHYL-2-PENTANONE	10.00	8.83	88.3	60-135
ACETONE	10.00	10.4	104	40-140
BENZENE	10.00	9.71	97.1	80-120
BROMODICHLOROMETHANE	10.00	9.73	97.3	75-120
BROMOFORM	10.00	8.81	88.1	70-130
BROMOMETHANE	10.00	8.60	86.0	30-145
CARBON TETRACHLORIDE	10.00	9.68	96.8	65-140
CHLOROBENZENE	10.00	9.69	96.9	80-120
CHLOROETHANE	10.00	10.2	102	60-135
CHLOROFORM	10.00	8.36	83.6	65-135
CHLOROMETHANE	10.00	8.77	87.7	40-125
CIS-1,2-DICHLOROETHENE	10.00	9.49	94.9	70-125
DIBROMOCHLOROMETHANE	10.00	9.66	96.6	60-135
ETHYLBENZENE	10.00	10.2	102	75-125

Primary	SPK
Quant Method :	LCREDW.M
Extraction Date :	11/14/14
Analysis Date :	11/14/14
Instrument :	Loki
Run :	1114L06
Initials :	SV

Comments:

Printed: 11/18/14 11:18:40 AM
APPL Standard LCS

Laboratory Control Spike Recovery
EPA 8260C WATER

APPL ID: **141114W-07201 LCS - 191955**
Batch ID: #86CRE-141114AL

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
HEXACHLOROBUTADIENE	10.00	9.47	94.7	50-140
METHYL TERT-BUTYL ETHER	10.00	8.86	88.6	65-125
METHYLENE CHLORIDE	10.00	9.85	98.5	55-140
STYRENE	10.00	9.38	93.8	65-135
TETRACHLOROETHENE	10.00	9.72	97.2	45-150
TOLUENE	10.00	10.0	100	75-120
TRANS-1,2-DICHLOROETHENE	10.00	9.52	95.2	60-140
TRICHLOROETHENE	10.00	9.27	92.7	70-125
VINYL CHLORIDE	10.00	8.65	86.5	50-145
XYLENES (TOTAL)	30.0	30.2	101	75-130
SURROGATE: 1,2-DICHLOROETHANE-	25.0	23.4	93.7	70-120
SURROGATE: 4-BROMOFLUOROBENZ	22.9	25.8	113	75-120
SURROGATE: DIBROMOFLUOROMETH	24.0	22.6	94.1	85-115
SURROGATE: TOLUENE-D8 (S)	24.9	25.5	102	85-120

Comments:

Primary	SPK
Quant Method :	LCREDW.M
Extraction Date :	11/14/14
Analysis Date :	11/14/14
Instrument :	Loki
Run :	1114L06
Initials :	SV

Printed: 11/18/14 11:18:40 AM
APPL Standard LCS

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1114L06.D Vial: 5
Acq On : 14 Nov 14 10:12 Operator: DG,SV,RS
Sample : 141114A LCS-WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:57 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Fluorobenzene (IS)	5.95	96	590400	25.00000 ppb	0.00
57) Chlorobenzene-D5 (IS)	9.18	117	483712	25.00000 ppb	0.00
72) 1,4-Dichlorobenzene-D (IS)	11.51	152	287488	25.00000 ppb	0.00
System Monitoring Compounds					
33) Dibromofluoromethane(S)	5.11	111	297190	22.58182 ppb	0.00
Spiked Amount 24.012			Recovery = 94.044%		
38) 1,2-DCA-D4(S)	5.52	65	341891	23.40877 ppb	0.00
Spiked Amount 24.984			Recovery = 93.695%		
58) Toluene-D8(S)	7.71	98	975303	25.47068 ppb	0.00
Spiked Amount 24.898			Recovery = 102.303%		
66) 4-Bromofluorobenzene(S)	10.36	95	362385	25.77908 ppb	0.00
Spiked Amount 22.905			Recovery = 112.549%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.01	85	90954	9.00455 ppb	97
3) Freon 114	1.10	85	88135	9.35051 ppb	99
4) Chloromethane	1.14	50	160311	8.77128 ppb	100
5) Vinyl chloride	1.22	62	129118	8.65155 ppb	98
6) Bromomethane	1.45	94	57854	8.60256 ppb	98
7) Chloroethane	1.53	64	68736	10.19901 ppb	98
8) Dichlorofluoromethane	1.70	67	226240	9.40933 ppb	97
9) Trichlorofluoromethane	1.74	101	158801	9.19870 ppb	97
10) Acrolein	2.10	56	80636	117.81173 ppb	93
11) Acetone	2.25	43	35664	10.36363 ppb	93
12) Freon-113	2.20	101	92346	9.17386 ppb	92
13) 1,1-DCE	2.18	61	156178	9.54328 ppb	95
14) t-Butanol	2.87	59	83224	117.93381 ppb	97
15) Acetonitrile	2.51	41	158895	119.19345 ppb	98
16) Methyl Acetate	2.59	43	76675	9.55826 ppb	94
17) Iodomethane	2.31	142	23152	11.06934 ppb	91
18) Acrylonitrile	2.96	52	27800	9.35348 ppb	98
19) Methylene chloride	2.67	84	121975	9.85133 ppb	97
20) Carbon disulfide	2.36	76	296656	8.66955 ppb	99
21) Methyl t-butyl ether (MtBE	3.02	73	235986	8.86161 ppb	95
22) Trans-1,2-DCE	2.99	96	102322	9.51518 ppb	92
23) Diisopropyl Ether	3.71	45	328012	9.79150 ppb	97
24) 1,1-DCA	3.53	63	201298	9.63342 ppb	96
25) Hexane	3.36	57	97196	9.68466 ppb	100
26) Vinyl Acetate	3.71	43	72182	9.97888 ppb	100
27) Ethyl tert Butyl Ether	4.28	59	259047	9.35329 ppb	99
28) MEK (2-Butanone)	4.50	43	37539	9.63287 ppb	95
29) Cis-1,2-DCE	4.43	96	116608	9.48946 ppb	98
30) 2,2-Dichloropropane	4.40	77	158007	10.32269 ppb	95
31) Chloroform	4.90	83	200842	8.36030 ppb	98
32) Bromochloromethane	4.76	128	57156	9.13268 ppb	99
34) 1,1,1-TCA	5.10	97	167243	9.47220 ppb	97
35) Cyclohexane	5.16	41	79395	9.53518 ppb	98
36) 1,1-Dichloropropene	5.33	75	129659	9.72471 ppb	98
37) 2,2,4-Trimethylpentane	5.73	57	267290	10.44142 ppb	100
39) Carbon Tetrachloride	5.32	117	148392	9.67611 ppb	94
40) Tert Amyl Methyl Ether	5.79	73	242460	9.45014 ppb	99
41) 1,2-DCA	5.62	62	154625	10.34944 ppb	99
42) Benzene	5.58	78	424178	9.70910 ppb	99

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

Quantitation Report (Not Reviewed)

Data File : M:\LOKI\DATA\141110\1114L06.D Vial: 5
Acq On : 14 Nov 14 10:12 Operator: DG,SV,RS
Sample : 141114A LCS-WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:57 2014 Quant Results File: LCREDW.RES

Quant Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration
DataAcq Meth : 8260_BETA

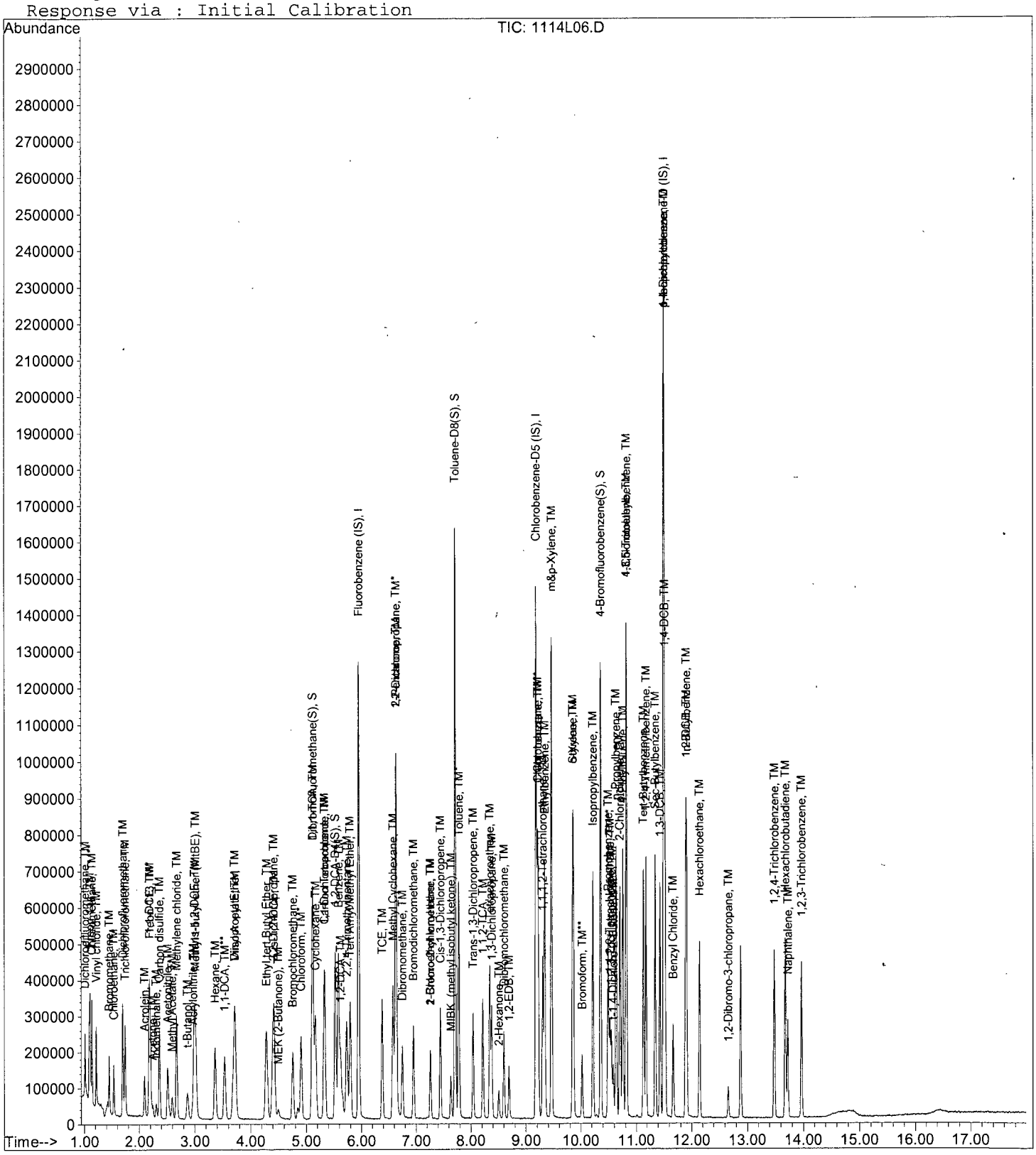
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
43)	TCE	6.38	95	106193	9.27368	ppb		97
44)	2-Pentanone	6.63	43	872517	126.35773	ppb		97
45)	1,2-Dichloropropane	6.62	63	127220	10.00621	ppb		99
46)	Bromodichloromethane	6.95	83	157224	9.72539	ppb		95
47)	Methyl Cyclohexane	6.58	83	124190	9.21832	ppb		99
48)	Dibromomethane	6.75	93	67981	9.19492	ppb		95
49)	2-Chloroethyl vinyl ether	7.26	106	3267	9.26022	ppb		58
50)	MIBK (methyl isobutyl ket	7.64	43	73956	8.83290	ppb		100
51)	1-Bromo-2-chloroethane	7.26	63	90152	9.48415	ppb		98
52)	Cis-1,3-Dichloropropene	7.44	75	159651	9.21259	ppb		98
53)	Toluene	7.78	91	444878	10.03589	ppb		99
54)	Trans-1,3-Dichloropropene	8.04	75	143418	9.59896	ppb		100
55)	1,1,2-TCA	8.21	83	79330	9.23731	ppb		93
56)	2-Hexanone	8.51	43	51509	9.90418	ppb		98
59)	1,2-EDB	8.69	107	86677	9.24554	ppb		99
60)	Tetrachloroethene	8.34	166	114558	9.71981	ppb		97
61)	1-Chlorohexane	9.22	91	111212	9.77851	ppb		98
62)	1,1,1,2-Tetrachloroethane	9.30	131	119294	9.64477	ppb		98
63)	m&p-Xylene	9.46	106	343040	20.17827	ppb		93
64)	o-Xylene	9.85	106	158845	10.02523	ppb		96
65)	Styrene	9.86	104	273844	9.38086	ppb		99
67)	1,3-Dichloropropane	8.38	76	158952	10.13711	ppb		97
68)	Dibromochloromethane	8.60	129	112298	9.65710	ppb		94
69)	Chlorobenzene	9.21	112	294144	9.69372	ppb		100
70)	Ethylbenzene	9.34	91	452122	10.24886	ppb		99
71)	Bromoform	10.02	173	73810	8.80853	ppb		95
73)	Isopropylbenzene	10.22	105	388164	9.76616	ppb		99
74)	1,1,2,2-Tetrachloroethane	10.52	83	123316	10.75362	ppb		98
75)	1,2,3-Trichloropropane	10.55	110	34553	9.96029	ppb		95
76)	t-1,4-Dichloro-2-Butene	10.58	53	27941	9.54177	ppb		95
77)	Bromobenzene	10.49	156	130882	9.67480	ppb		94
78)	n-Propylbenzene	10.63	91	510142	10.44106	ppb		97
79)	4-Ethyltoluene	10.75	105	423634	10.37065	ppb		98
80)	2-Chlorotoluene	10.70	91	329135	10.42569	ppb		98
81)	1,3,5-Trimethylbenzene	10.82	105	390100	10.65641	ppb		98
82)	4-Chlorotoluene	10.81	91	402445	10.86215	ppb		97
83)	Tert-Butylbenzene	11.13	119	290387	9.88906	ppb		98
84)	1,2,4-Trimethylbenzene	11.18	105	365679	10.31571	ppb		98
85)	Sec-Butylbenzene	11.35	105	448432	10.53198	ppb		99
86)	p-Isopropyltoluene	11.50	119	370087	10.17991	ppb		98
87)	Benzyl Chloride	11.67	91	165314	10.62811	ppb		98
88)	1,3-DCB	11.43	146	250194	10.06411	ppb		98
89)	1,4-DCB	11.53	146	259763	9.54805	ppb		99
90)	n-Butylbenzene	11.90	91	357271	10.13295	ppb		99
91)	1,2-DCB	11.89	146	229478	9.59654	ppb		97
92)	Hexachloroethane	12.14	117	90887	9.71613	ppb		96
93)	1,2-Dibromo-3-chloropropan	12.66	157	20500	8.95142	ppb	#	83
94)	1,2,4-Trichlorobenzene	13.49	180	135445	9.19160	ppb		94
95)	Hexachlorobutadiene	13.68	225	92220	9.47460	ppb		97
96)	Naphthalene	13.72	128	134272	9.84041	ppb		99
97)	1,2,3-Trichlorobenzene	13.96	180	87192	9.32122	ppb		99

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

Data File : M:\LOKI\DATA\141110\1114L06.D Vial: 5
Acq On : 14 Nov 14 10:12 Operator: DG,SV,RS
Sample : 141114A LCS-WL Inst : Loki
Misc : 10mL w/5uL IS&S:10-06-14 Multiplr: 1.00

Quant Time: Nov 18 10:57 2014 Quant Results File: LCREDW.RES

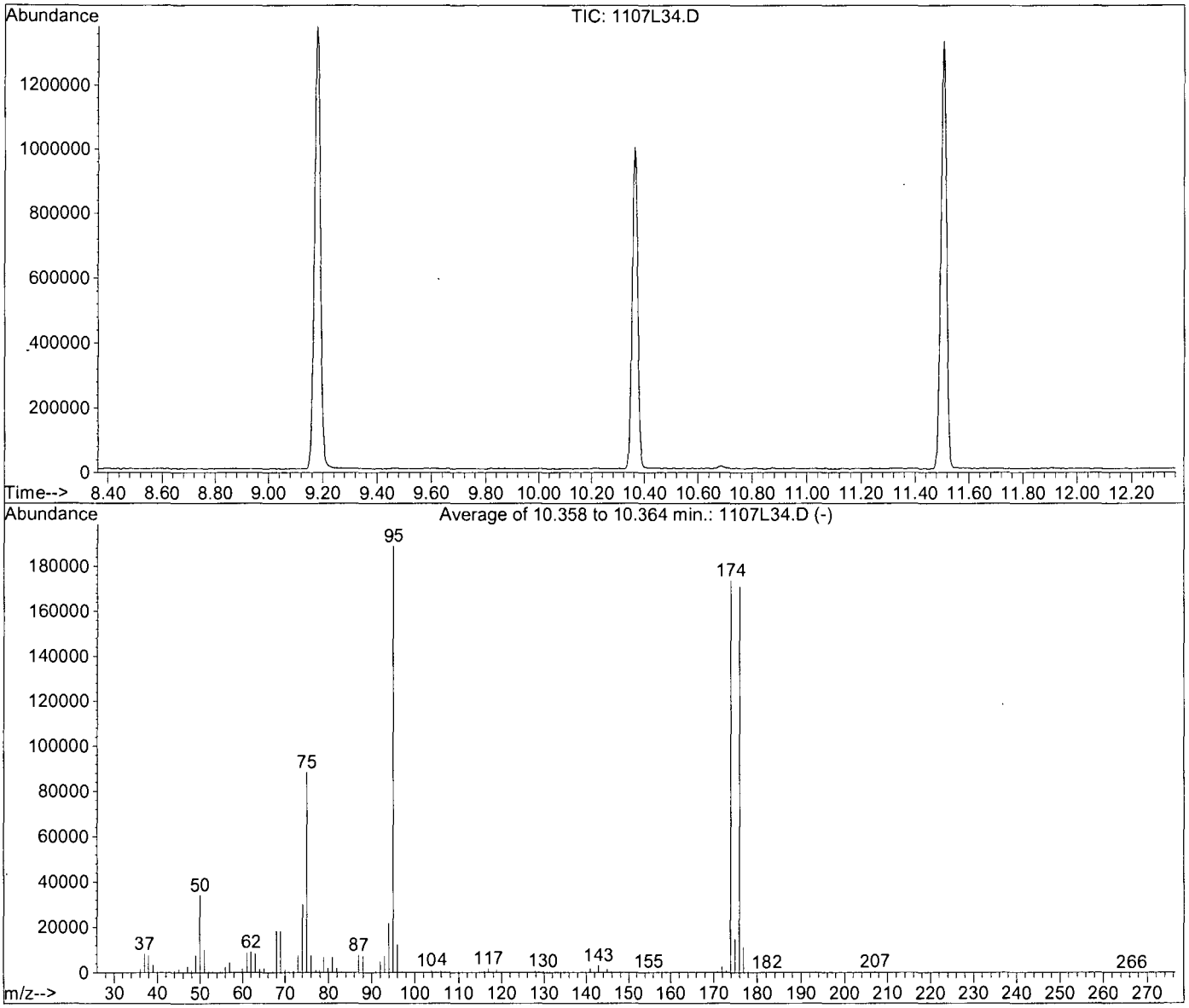
Method : M:\LOKI\DATA\141104\LCREDW.M (RTE Integrator)
Title : METHOD 8260B
Last Update : Tue Nov 18 10:54:23 2014
Response via : Initial Calibration



Data File : M:\LOKI\DATA\141104\1107L34.D
Acq On : 8 Nov 14 2:17
Sample : 25ug/mL BFB Std 09-30-14
Misc : 2ul

Vial: 29
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Method : M:\LOKI\DATA\141110\LCREDW.M (RTE Integrator)
Title : METHOD 8260B



AutoFind: Scans 2929, 2930, 2931; Background Corrected with Scan 2916

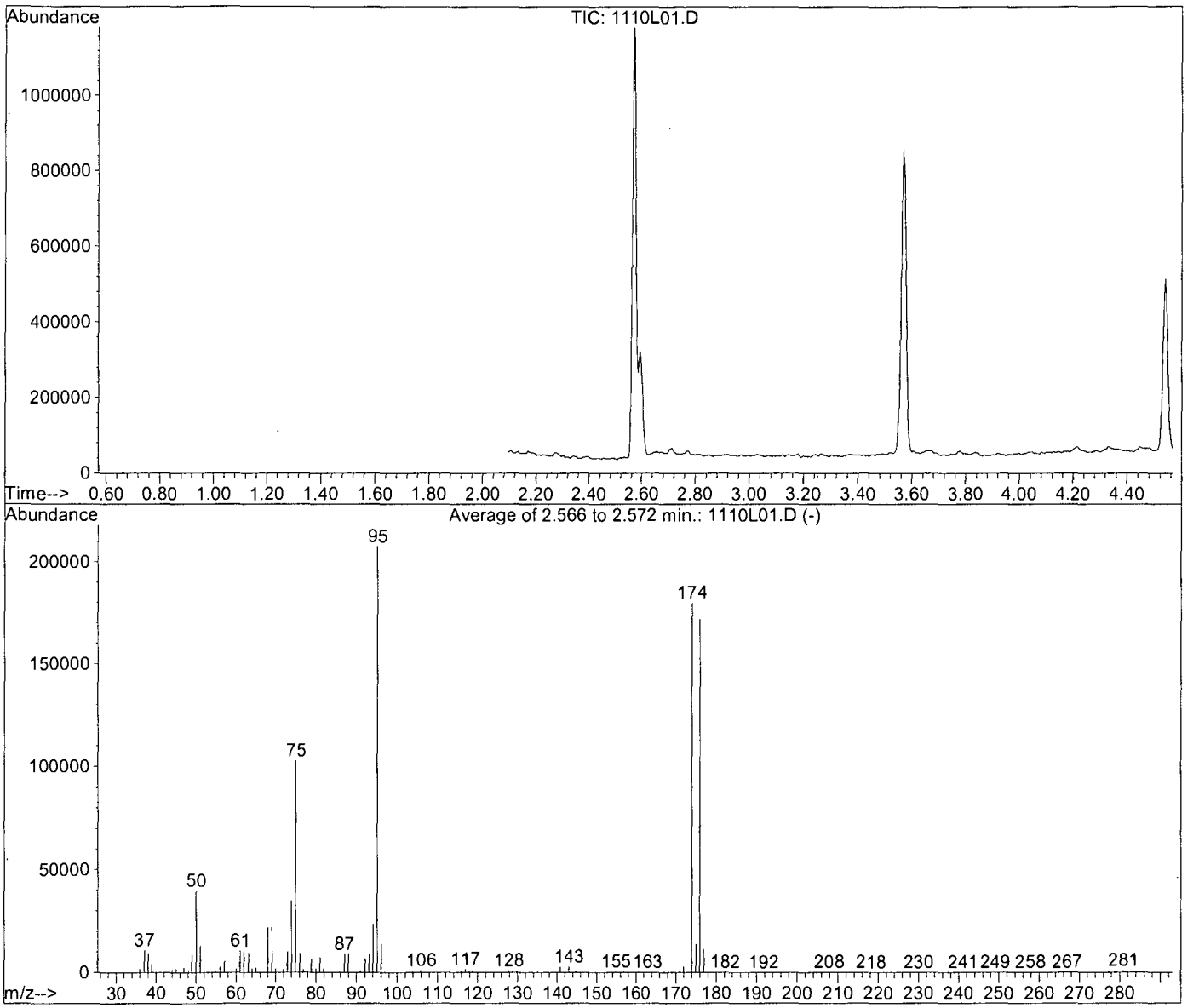
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.1	34157	PASS
75	95	30	60	46.8	88595	PASS
95	95	100	100	100.0	189141	PASS
96	95	5	9	6.6	12407	PASS
173	174	0.00	2	0.4	703	PASS
174	95	50	100	91.9	173888	PASS
175	174	5	9	8.5	14829	PASS
176	174	95	101	98.3	170965	PASS
177	176	5	9	6.6	11317	PASS

1107L34.D LCREDW.M Fri Dec 05 16:17:55 2014

Data File : M:\LOKI\DATA\141110\1110L01.D
Acq On : 10 Nov 14 16:17
Sample : 25ug/mL BFB Std 09-30-14
Misc : 2uL

Vial: 1
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Method : M:\LOKI\DATA\141110\LCREDW.M (RTE Integrator)
Title : METHOD 8260B



AutoFind: Scans 148, 149, 150; Background Corrected with Scan 137

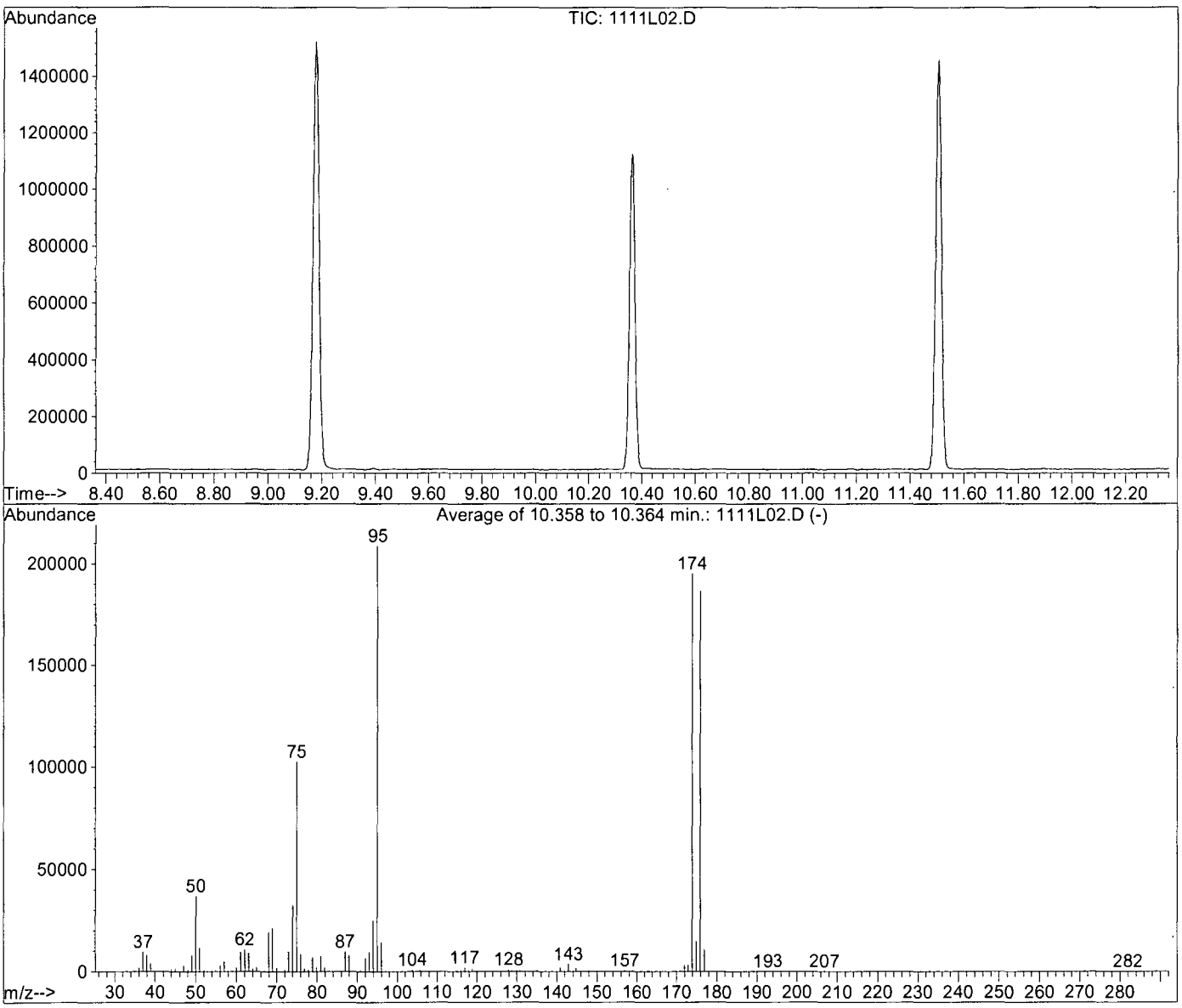
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.1	39611	PASS
75	95	30	60	49.5	102680	PASS
95	95	100	100	100.0	207616	PASS
96	95	5	9	6.7	13905	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	86.7	180032	PASS
175	174	5	9	7.7	13877	PASS
176	174	95	101	95.6	172032	PASS
177	176	5	9	6.5	11249	PASS

1110L01.D LCREDW.M Fri Dec 05 16:20:43 2014

Data File : M:\LOKI\DATA\141110\1111L02.D
Acq On : 11 Nov 14 12:31
Sample : 25ug/mL BFB Std 09-30-14
Misc : 10mL w/5uL IS&S:10-06-14

Vial: 1
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Method : M:\LOKI\DATA\141110\LCREDW.M (RTE Integrator)
Title : METHOD 8260B



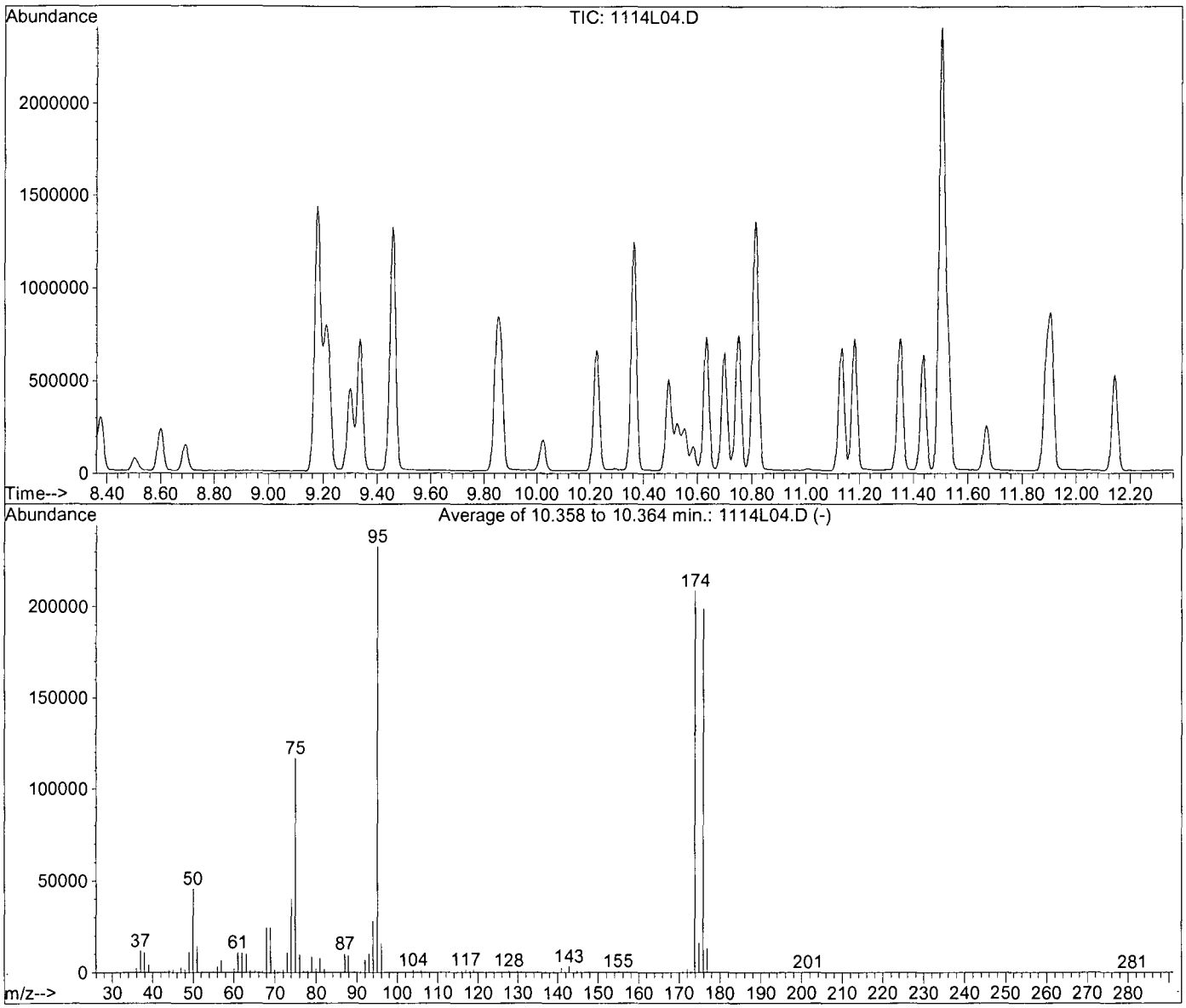
AutoFind: Scans 2929, 2930, 2931; Background Corrected with Scan 2915

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.6	36824	PASS
75	95	30	60	49.1	102552	PASS
95	95	100	100	100.0	208683	PASS
96	95	5	9	6.9	14397	PASS
173	174	0.00	2	1.7	3234	PASS
174	95	50	100	93.5	195072	PASS
175	174	5	9	7.6	14808	PASS
176	174	95	101	95.6	186560	PASS
177	176	5	9	5.7	10680	PASS

Data File : M:\LOKI\DATA\141110\1114L04.D
Acq On : 14 Nov 14 9:16
Sample : 25ug/mL BFB Std 09-30-14
Misc : 2ul

Vial: 3
Operator: DG,SV,RS
Inst : Loki
Multiplr: 1.00

Method : M:\LOKI\DATA\141110\LCREDW.M (RTE Integrator)
Title : METHOD 8260B



AutoFind: Scans 2929, 2930, 2931; Background Corrected with Scan 2916

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.6	45617	PASS
75	95	30	60	50.2	116944	PASS
95	95	100	100	100.0	232939	PASS
96	95	5	9	6.7	15648	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	89.6	208683	PASS
175	174	5	9	7.7	15987	PASS
176	174	95	101	95.2	198677	PASS
177	176	5	9	6.5	12851	PASS

1114L04.D LCREDW.M Fri Dec 05 16:21:03 2014

4/25/14 RS

04/25/14Y						
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P						
Exp:05/14/14			Conc.		Date	Exp.
Supplier	ID #		ug/ml	Lot #	Code	Date
02SI	120166-01	Volatile Mix 4-3	2000	207774-33198	04/14/14B	04/23/15
02SI	020229-09	Acrolein	10000	225983-33480	04/14/14C	05/17/14
J&T Brand		Purge & Trap MeOH		49909-00745	04/13/14	07/09/18

04/25/14Z						
50ug/ml VOC Std#5						
Exp:05/14/14						
			Conc.		Date	Exp.
Supplier	ID #	ID	ug/ml	Lot #	Code	Date
02SI	120016-03-SS	8260 Gases(SS)	2000	220940-33541	04/25/14I	01/24/17
02SI	020145-02-02-S	2-CEVE	2000	219465-33214	04/25/14J	12/16/15
J&T Brand		Purge & Trap MeOH		49909-00745	04/13/14	07/09/18

4/25/14 RS

04/25/14AA						
50ug/ml VOC Std#6						
Exp:05/14/14						
	ID #	ID	ug/ml	Lot #	Code	Date
02SI	120023-03-SS	VOC'S 54 COMP.	2000	208329-32739	04/25/14K	05/02/15
02SI	120296-01-SS	Custom 8260 Solution	2000	212199-32958	04/25/14L	01/23/15
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	222674-33301	04/25/14M	05/19/14
02SI	020620-02-SS	n-Hexane	1000	205203-32311	04/25/14N	03/12/15
02SI	020049-02-SS	HEXACHLOROETHANE	1000	226063-33530	04/25/14O	04/07/16
J&T Brand		Purge & Trap MeOH		49909-00745	04/13/14	07/09/18
04/25/14AB						
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P						
Exp:05/14/14			Conc.		Date	Exp.
Supplier	ID #		ug/ml	Lot #	Code	Date
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	189667-33302	04/02/14B	05/18/15
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	225984-33482	04/14/14E	05/17/14
J&T Brand		Purge & Trap MeOH		49909-00745	04/13/14	07/09/18

A-

4/28/14 RS

4-Bromofluorobenzene
Solution, 2,500 mg/L, 1 ml

020135-03

Lot#	Storage	Expiry
195506	≤ -10 Degrees C	9/15/15

Soln: P/T Methanol

4-Bromofluorobenzene
Lot #: 195506 - 31423
Rec: 9/20/12 MFR exp. 9/15/15

RS

04-28-14B						
25ug/ml BFB STD			Conc.		Date	EXP:
EXP:05/28/14			ug/ml	Lot#	CODE	Date
02SI	020135-03	4-Bromofluorobenzene	2500	176675-31423	04-28-14A	08/02/14
J&T Baker		Purge & Trap MeOH		49909-00745	04/13/14	07/09/18

4/28/14 RS

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-LOKI												
Exp: Date:	04/29/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	04-25-14T	04-25-14U	04-25-14V	04-25-14X	04-25-14P	04-25-14R	04-25-14Q	04-25-14S	04-25-14W	04-25-14Y	w/P&T H2O
Date/code	µg/L	Exp:05-25-14	Exp:05-25-14	Exp:05-25-14	Exp:05-25-14	Exp:05-25-14	Exp:05-25-14	Exp:05-25-14	Exp:05-25-14	Exp:05-25-14	Exp:05-25-14	mL
04-28-14C	0.3	3	3	3	6	n/a	n/a	n/a	n/a	n/a	3	50
04-28-14D	0.5	5	5	5	10	n/a	n/a	n/a	n/a	n/a	5	50
04-28-14E	1	10	10	10	20	n/a	n/a	n/a	n/a	n/a	10	50
04-28-14F	5	n/a	n/a	n/a	n/a	5	5	5	5	10	20	50
04-28-14G	10	n/a	n/a	n/a	n/a	10	10	10	10	25	25	50
04-28-14H	20	n/a	n/a	n/a	n/a	20	20	20	20	40	30	50
04-28-14I	40	n/a	n/a	n/a	n/a	40	40	40	40	80	35	50
04-28-14J	100	n/a	n/a	n/a	n/a	100	100	100	100	100	40	50

09/26/14U							
50ug/ml VOC Std#5							
Exp:10/26/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120016-03-SS	8260 Gases(SS)	2000	220940-33548	09/15/14F	04/15/17	50
O2SI	020145-02-02-S	2-CEVE	2000	219465-33222	09/26/14F	12/16/15	50
J&T Brand		Purge & Trap MeOH		49909-00765	09/25/14	07/09/18	1900
09/26/14V							
50ug/ml VOC Std#6							
Exp:10/26/14							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
O2SI	120023-03-SS	VOC'S 54 COMP.	2000	208329-32741	09/26/14G	05/02/15	50
O2SI	120296-01-SS	Custom 8260 Solution	2000	212199-32960	09/26/14H	01/23/15	50
O2SI	020232-02-SS	Vinyl Acetate(SS)	2000	232116-33844	09/15/14G	10/08/14	50
O2SI	020620-02-SS	n-Hexane	1000	205203-33678	09/26/14I	03/12/15	100
O2SI	020049-02-SS	HEXACHLOROETHANE	1000	226063-33531	09/26/14J	04/07/16	100
J&T Brand		Purge & Trap MeOH		49909-00765	09/25/14	07/09/18	1650
09/26/14W							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:10/26/14			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	189667-33305	09/03/14K	05/18/15	250
O2SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	234095-33910	09/03/14L	08/25/14	50
J&T Brand		Purge & Trap MeOH		49909-00765	09/25/14	07/09/18	1700

9/26/14 RS

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-LOKI

Exp: Date:	09/30/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	09-26-14O	09-26-14P	09-26-14Q	09-26-14S	09-26-14K	09-26-14M	09-26-14L	09-26-14N	09-26-14R	09-26-14T	w/P&T H2O
Data/code	µg/L	Exp:10-26-14	Exp:10-26-14	Exp:10-26-14	Exp:10-26-14	Exp:10-26-14	Exp.10-26-14	Exp:10-26-14	Exp 10-26-14	Exp:10-26-14	Exp.10-26-14	mL
09-29-14A	0.1	1	1	1	2	n/a	n/a	n/a	n/a	n/a	1	50
09-29-14B	0.3	3	3	3	6	n/a	n/a	n/a	n/a	n/a	2	50
09-29-14C	0.5	5	5	5	10	n/a	n/a	n/a	n/a	n/a	5	50
09-29-14D	1	10	10	10	20	n/a	n/a	n/a	n/a	n/a	10	50
09-29-14E	5	n/a	n/a	n/a	n/a	5	5	5	5	10	20	50
09-29-14F	10	n/a	n/a	n/a	n/a	10	10	10	10	25	25	50
09-29-14G	20	n/a	n/a	n/a	n/a	20	20	20	20	40	30	50
09-29-14H	40	n/a	n/a	n/a	n/a	40	40	40	40	80	35	50
09-29-14I	100	n/a	n/a	n/a	n/a	100	100	100	100	100	40	50

9/29/14 RS

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-THOR

Exp: Date:	09/30/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	09-26-14O	09-26-14P	09-26-14Q	09-26-14S	09-26-14K	09-26-14M	09-26-14L	09-26-14N	09-26-14R	09-26-14T	w/P&T H2O
Date/code	µg/L	Exp 10-26-14	Exp.10-26-14	Exp:10-26-14	Exp 10-26-14	Exp.10-26-14	Exp 10-26-14	Exp.10-26-14	Exp.10-26-14	Exp:10-26-14	Exp:10-26-14	mL
09-29-14J	2	2	2	2	2	n/a	n/a	n/a	n/a	n/a	1	5
09-29-14K	5	5	5	5	5	n/a	n/a	n/a	n/a	n/a	2	5
09-29-14L	10	10	10	10	10	n/a	n/a	n/a	n/a	n/a	3	5
09-29-14M	20	20	20	20	20	n/a	n/a	n/a	n/a	n/a	4	5
09-29-14N	50	n/a	n/a	n/a	n/a	5	5	5	5	5	5	5
09-29-14O	100	n/a	n/a	n/a	n/a	10	10	10	10	10	6	5
09-29-14P	150	n/a	n/a	n/a	n/a	15	15	15	15	15	7	5
09-29-14Q	200	n/a	n/a	n/a	n/a	20	20	20	20	20	8	5

9/29/14 RS

09/30/14A							
25ug/ml BFB STD			Conc.		Date	EXP:	
EXP:10/30/14			ug/ml	Lot#	CODE	Date	ul
O2SI	020135-03	4-Bromofluorobenzene	2500	195506-31423	04-28-14A	09/15/15	20
J&T Baker		Purge & Trap MeOH		49909-00765	09/25/14	07/09/18	1980

9/30/14 RS

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-THOR

Exp: Date:	10/01/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc	09-26-14O	09-26-14P	09-26-14Q	09-26-14S	09-26-14K	09-26-14M	09-26-14L	09-26-14N	09-26-14R	09-26-14T	w/P&T H2O
Date/code	µg/L	Exp 10-26-14	Exp 10-26-14	Exp:10-26-14	Exp:10-26-14	Exp:10-26-14	Exp:10-26-14	Exp 10-26-14	Exp:10-26-14	Exp:10-26-14	Exp:10-26-14	mL
09-30-14B	2	2	2	2	2	n/a	n/a	n/a	n/a	n/a	1	5
09-30-14C	5	5	5	5	5	n/a	n/a	n/a	n/a	n/a	2	5
09-30-14D	10	10	10	10	10	n/a	n/a	n/a	n/a	n/a	3	5
09-30-14E	20	20	20	20	20	n/a	n/a	n/a	n/a	n/a	4	5
09-30-14F	50	n/a	n/a	n/a	n/a	5	5	5	5	5	5	5
09-30-14G	100	n/a	n/a	n/a	n/a	10	10	10	10	10	6	5
09-30-14H	150	n/a	n/a	n/a	n/a	15	15	15	15	15	7	5
09-30-14I	200	n/a	n/a	n/a	n/a	20	20	20	20	20	8	5

10/1/14 RS

Volatile Standard Curve Preparation for 10mL Purge (524 water)-THOR								
Exp Date:	10/04/14	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #12	Vol Std #7	Vol Std #8	Vol Std #2	TAPD	Final Vol
	Conc.	09-26-14O	09-26-14Q	09-26-14K	09-26-14M	09-26-14N	09-26-14T	w/P&T H2O
Date/code	µg/L	Exp:10-26-14	Exp:10-26-14	Exp:10-26-14	Exp:10-26-14	Exp:10-26-14	Exp.10-26-14	mL
10-03-14A	0.2	2	2	n/a	n/a	n/a	2	50
10-03-14B	0.5	5	5	n/a	n/a	n/a	5	50
10-03-14C	1	10	10	n/a	n/a	n/a	10	50
10-03-14D	5	n/a	n/a	5	5	5	20	50
10-03-14E	10	n/a	n/a	10	10	10	25	50
10-03-14F	40	n/a	n/a	40	40	40	35	50
10-03-14G	100	n/a	n/a	100	100	100	40	50

Didn't Run Instrument was down. RS 10/06

10/03/14 RS

A-

8260 Internal Standard Solution, 2,000 mg/L, 1 ml

120004-02

Lot #	Storage	Expiry
202974	≤-10 Degrees C	1/30/15

Solv: P/T Methanol

For R&D only, not for human consumption. Made in the USA

SOLUTIONS

8260 Internal Standard
Lot #: 202974 - 32757
Rec: 7/25/13 MFR exp. 1/30/15

10/06/14 RS

RS

B-

Method 8260B Surrogate Solution, 2,000 mg/L, 1 ml

120002-01

Lot #	Storage	Expiry
185763	≤-10 Degrees C	2/19/15

Solv: P/T Methanol

For R&D only, not for human consumption. Made in the USA

Method 8260B Surrogate
Lot #: 185763 - 33556
Rec: 4/15/14 MFR exp. 2/19/15

10/06/14 RS

RS

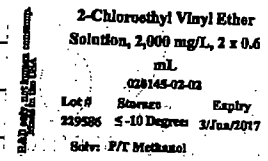
LOKI						
10-06-14C						
50ug/ml 8260 Internal Standard			Conc.		Date	Exp.
Supplier	ID #		ug/ml	Lot #	Code	Date
O2SI	120004-02	Internal Standard Mix	2000	195507-31436	10-06-14A	09/10/15
J.T Baker		Purge & Trap MeOH		49909-00766	10/03/14	02/19/18
10-06-14D						
50ug/ml 8260B Surrogate-LOKI			Conc.		Date	Exp.
Supplier	ID #		ug/ml	Lot #	Code	Date
O2SI	120002-01	Surrogate Standards	2000	185763-31770	10-06-14B	02/19/15
J.T Baker		Purge & Trap MeOH		49909-00766	10/03/14	02/19/18

10/06/14 RS

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-LOKI												
Exp: Date:	10/07/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vo
	Conc.	09-26-14O	09-26-14P	09-26-14Q	09-26-14S	09-26-14K	09-26-14M	09-26-14L	09-26-14N	09-26-14R	09-26-14T	w/P&T H2
Date/code	µg/L	Exp:10-26-14	Exp:10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	Exp 10-26-14	mL
10-06-14E	0.1	1	1	1	2	n/a	n/a	n/a	n/a	n/a	1	50
10-06-14F	0.3	3	3	3	6	n/a	n/a	n/a	n/a	n/a	2	50
10-06-14G	0.5	5	5	5	10	n/a	n/a	n/a	n/a	n/a	5	50
10-06-14H	1	10	10	10	20	n/a	n/a	n/a	n/a	n/a	10	50
10-06-14I	5	n/a	n/a	n/a	n/a	5	5	5	5	10	20	50
10-06-14J	10	n/a	n/a	n/a	n/a	10	10	10	10	25	25	50
10-06-14K	20	n/a	n/a	n/a	n/a	20	20	20	20	40	30	50
10-06-14L	40	n/a	n/a	n/a	n/a	40	40	40	40	80	35	50
10-06-14M	100	n/a	n/a	n/a	n/a	100	100	100	100	100	40	50

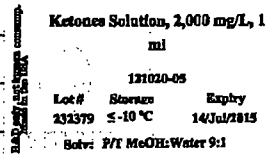
10/06/14 RS

9/26/14 RS D-



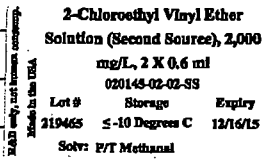
2-Chloroethyl vinyl ether
Lot #: 229586 - 33689
Rec: 6/3/14 MFR exp. 6/3/17 RS

9/26/14 RS E-



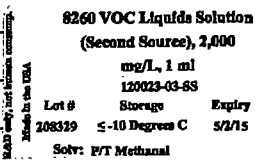
Ketones
Lot #: 232379 - 33883
Rec: 7/22/14 MFR exp. 7/14/15 RS

9/26/14 RS F-



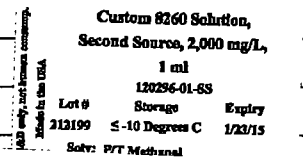
2-Chloroethyl vinyl ether (SS)
Lot #: 219465 - 33222
Rec: 12/19/13 MFR exp. 12/16/15 RS

9/26/14 RS G-



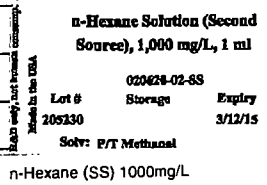
8260 VOC Liquids (SS)
Lot #: 208329 - 32741
Rec: 7/25/13 MFR exp. 5/2/15 RS

9/26/14 RS H-



Custom 8260 Solution, 2000mg/L (SS)
Lot #: 212199 - 32960
Rec: 10/15/13 MFR exp. 1/23/15 RS

9/26/14 RS I-



n-Hexane (SS) 1000mg/L
Lot #: 205230 - 33678
Rec: 6/3/14 MFR exp. 3/12/15 RS

Hexachloroethane (Second Source) Solution, 1000 mg/L, 1 ml
020049-02-SS
Lot # Storage Expiry
226063 ≤ -10 Degrees C 7/Apr/2016
Solv: P/T Methanol

Hexachloroethane (SS)
Lot #: 226063 - 33532
Rec: 4/15/14 MFR exp. 4/7/16

9/26/14 RS

J.

RS

09/26/14K							
50ug/ml Vol Work Std #7							
Exp:10/26/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	231710-33813	09/26/14A	03/30/17	100
02SI	020049-02	HEXACHLOROETHANE	1000	234821-33990	09/03/14B	08/26/16	200
02SI	020228-02	Benzyl Chloride	1000	200704-33538	09/15/13B	12/10/14	200
J&T Brand		Purge & Trap MeOH		49909-00765	09/25/14	07/09/18	3500
09/26/14L							
50ug/ml Vol Work Std #1							
Exp:10/26/14					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	229586-33689	09/26/14D	06/03/17	50
J&T Brand		Purge & Trap MeOH		49909-00765	09/25/14	07/09/18	1950
09/26/14M							
50ug/ml Vol Work Std #8							
Exp:10/26/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	210086-32534	09/26/14B	06/06/15	100
02SI	120023-03	VOC'S-54 COMP	2000	216122-32920	08/12/14G	10/11/15	100
02SI	020232-02	Vinyl Acetate	2000	229682-33659	09/03/14E	08/28/14	100
02SI	020620-02	n-Hexane	1000	195505-33674	09/26/13C	09/09/17	200
J&T Brand		Purge & Trap MeOH		49909-00765	09/25/14	07/09/18	3500
09/26/14N							
50ug/ml Vol Work Std #2							
Exp:10/26/14							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	232379-33883	09/26/14E	10/10/14	100
J&T Brand		Purge & Trap MeOH		49909-00765	09/25/14	07/09/18	3900
		09/26/14O					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**09/26/14K**	10/26/14	200	
		50ug/ml Vol Work Std #8		**09/26/14M**	10/26/14	200	
		J&T Brand		09/25/14	07/09/18	1600	
		09/26/14P					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**09/26/14L**	10/26/14	200	
		J&T Brand		09/25/14	07/09/18	1800	
		09/26/14Q					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**09/26/14N**	10/26/14	200	
		J&T Brand		09/25/14	07/09/18	1800	
09/26/14R							
50ug/ml 8260 Surrogate			Conc.		Date	Exp.	
Exp:10/26/14			ug/ml	Lot #	Code	Date	uL
02SI	120002-01	8260B Surr Solution	2000	229269-33845	09/03/14F	02/19/15	100
J&T Brand		Purge & Trap MeOH		49909-00765	09/25/14	07/09/18	3900
09/26/14S							
5.0ug/ml 8260 Surrogate			**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml 8260 Surrogate		**09/26/14R**	10/26/14	200	
J&T Brand		Purge & Trap MeOH		09/25/14	07/09/18	1800	
09/26/14T							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:10/26/14			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	229587-33995	09/15/14D	05/29/16	500
02SI	020229-09	Acrolein	10000	235659-34043	09/15/14E	10/20/14	100
J&T Brand		Purge & Trap MeOH		49909-00765	09/25/14	07/09/18	3400

9/26/14 RS

9/15/14 RS B-

Benzyl Chloride Solution, 1000 mg/L, 1 ml

020223-02

Lot #	Storage	Expiry
200704	≤ -10 Degrees C	12/10/14

Solv: P/T Methanol

Benzyl Chloride
Lot #: 200704 - 33538
Rec: 4/15/14 MFR exp. 12/10/14 RS

9/15/14 RS C-

2-Chloroethyl Vinyl Ether Solution, 2,000 mg/L, 2 x 0.6 mL

020145-02-02

Lot #	Storage	Expiry
229586	≤ -10 Degrees	3/Jun/2017

Solv: P/T Methanol

2-Chloroethyl vinyl ether
Lot #: 229586 - 33688
Rec: 6/3/14 MFR exp. 6/3/17 RS

9/15/14 RS D-

VOC Mix 4-3, 2,000 mg/L, 1 mL

120166-01

Lot #	Storage	Expiry
229587	≤ 6 Degrees C	29/May/2016

Solv: P/T Methanol

VOC Mix 4-3, 2000mg/L
Lot #: 229587 - 33995
Rec: 8/27/14 MFR exp. 5/29/16 RS

9/15/14 RS E-

Acrolein Solution, 10,000 mg/L, 2 x 0.6 mL

020229-09-02

Lot #	Storage	Expiry
235659	≤ 6 °C	20/Oct/2014

Solv: Water, HPLC Grade

Acrolein
Lot #: 235659 - 34043
Rec: 9/10/14 MFR exp. 10/20/14 RS

9/15/14 RS F-

Method 8260 Gases (Second Source), 2,000 mg/L, 2 X 0.6 ml

120016-03-SS

Lot #	Storage	Expiry
220940	≤ -10 Degrees C	1/24/17

Solv: P/T Methanol

Method 8260 Gases (SS)
Lot #: 220940 - 33548
Rec: 4/15/14 MFR exp. 1/24/17 RS

9/15/14 RS G-

Vinyl Acetate Solution (Second Source), 2,000 mg/L, 1ml

020232-02-SS

Lot #	Storage	Expiry
232116	≤ -10 °C	8/Oct/2014

Solv: P/T Methanol

Vinyl Acetate (SS)
Lot #: 232116 - 33844
Rec: 7/15/14 MFR exp. 10/8/14 RS

11/10/14D							
50ug/ml Vol Work Std #7							
Exp:12/10/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	231710-33816	11/10/14A	03/30/17	100
02SI	020049-02	HEXACHLOROETHANE	1000	234821-33991	10/28/14B	08/26/16	200
02SI	020228-02	Benzyl Chloride	1000	227320-33830	10/28/13C	04/28/16	200
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3500
11/10/14E							
50ug/ml Vol Work Std #1							
Exp:12/10/14					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	229586-33691	10/28/14D	06/03/17	50
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	1950
11/10/14F							
50ug/ml Vol Work Std #8							
Exp:12/10/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	212173-32728	10/28/14E	07/22/15	100
02SI	120023-03	VOC'S-54 COMP	2000	216122-32922	10/28/14F	10/11/15	100
02SI	020232-02	Vinyl Acetate	2000	229682-33660	10/28/14G	08/28/14	100
02SI	020620-02	n-Hexane	1000	195505-33675	11/10/13B	09/09/17	200
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3500
11/10/14G							
50ug/ml Vol Work Std #2							
Exp:12/10/14							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	232379-33874	10/20/14B	07/14/15	100
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3900
		11/10/14H					
		5ug/ml Vol Work Std #9					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #7		**11/10/14D**	11/28/14	200	
		50ug/ml Vol Work Std #8		**11/10/14F**	11/28/14	200	
		J&T Brand		10/15/14	07/09/18	1600	
		11/10/14I					
		5ug/ml Vol Work Std #10					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #1		**11/10/14E**	11/28/14	200	
		J&T Brand		10/15/14	07/09/18	1800	
		11/10/14J					
		5ug/ml Vol Work Std #12					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml Vol Work Std #2		**11/10/14G**	11/28/14	200	
		J&T Brand		10/15/14	07/09/18	1800	
11/10/14K							
50ug/ml 8260 Surrogate			Conc.		Date	Exp.	
Exp:12/10/14			ug/ml	Lot #	Code	Date	uL
02SI	120002-01	8260B Surr Solution	2000	185763-33557	10/28/14H	02/19/15	100
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3900
11/10/14L							
5.0ug/ml 8260 Surrogate			**Lot**	**APPL Code**	**APPL Exp Date**	ul	
		50ug/ml 8260 Surrogate		**11/10/14K**	11/28/14	200	
J&T Brand		Purge & Trap MeOH		10/15/14	07/09/18	1800	
11/10/14M							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:12/10/14			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01	Volatile Mix 4-3	2000	229254-33997	11/10/14C	05/29/16	500
02SI	020229-09	Acrolein	10000	237721-34134	10/20/14D	11/18/14	100
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3400

11/10/14
RS

11/10/14N							
50ug/ml VOC Std#5							
Exp:12/10/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03-SS	8260 Gases(SS)	2000	220940-33548	09/15/14F	04/15/17	50
02SI	020145-02-02-S	2-CEVE	2000	219465-33222	09/26/14F	12/16/15	50
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	1900
11/10/14O							
50ug/ml VOC Std#6							
Exp:12/10/14							
	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120023-03-SS	VOC'S 54 COMP.	2000	208329-32741	09/26/14G	05/02/15	50
02SI	120296-01-SS	Custom 8260 Solution	2000	212199-32960	09/26/14H	01/23/15	50
02SI	020232-02-SS	Vinyl Acetate(SS)	2000	232116-33844	09/15/14G	10/08/14	50
02SI	020620-02-SS	n-Hexane	1000	205203-33678	09/26/14I	03/12/15	100
02SI	020049-02-SS	HEXACHLOROETHANE	1000	226063-33531	09/26/14J	04/07/16	100
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	1650
11/10/14P							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P							
Exp:12/10/14			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
02SI	120166-01-SS	VOC Mix 4-3 (SS)	2000	189667-33305	09/03/14K	05/18/15	250
02SI	020229-09-SS	Acrolein SOLUTION (SS)	10000	234095-33910	09/03/14L	08/25/14	50
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	1700

11/10/14
RS

11/10/14Q							
50ug/ml Vol Work Std #7-B							
Exp:12/10/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	120016-03	Gas Mix	2000	231710-33816	11/10/14A	03/30/17	100
02SI	020049-02	HEXACHLOROETHANE	1000	234821-33991	10/28/14B	08/26/16	200
02SI	020228-02	Benzyl Chloride	1000	227320-33830	10/28/13C	04/28/16	200
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3500
11/10/14R							
50ug/ml Vol Work Std #1-B							
Exp:12/10/14					Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	020145-02-02	2-CEVE	2000	229586-33691	10/28/14D	06/03/17	50
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	1950
11/10/14S							
50ug/ml Vol Work Std #8-B							
Exp:12/10/14							
			Conc.		Date	Exp.	
Supplier	ID #	ID	ug/ml	Lot #	Code	Date	ul
02SI	122039-02	Volatile Mix, 20-29	2000	212173-32728	10/28/14E	07/22/15	100
02SI	120023-03	VOC'S-54 COMP	2000	216122-32922	10/28/14F	10/11/15	100
02SI	020232-02	Vinyl Acetate	2000	229682-33660	10/28/14G	08/28/14	100
02SI	020620-02	n-Hexane	1000	195505-33675	11/10/13B	09/09/17	200
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3500
11/10/14T							
50ug/ml Vol Work Std #2-B							
Exp:12/10/14							
Supplier	ID #	ID	ug/ml				
02SI	121020-05	HSL'S-Ketone Solution	2000	232379-33874	10/20/14B	07/14/15	100
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3900
		11/10/14U					
		5ug/ml Vol Work Std #9-B					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	**ul**	
		50ug/ml Vol Work Std #7		11/10/14Q	11/28/14	200	
		50ug/ml Vol Work Std #8		11/10/14S	11/28/14	200	
		J&T Brand		10/15/14	07/09/18	1600	
		11/10/14V					
		5ug/ml Vol Work Std #10-B					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	**ul**	
		50ug/ml Vol Work Std #1		11/10/14R	11/28/14	200	
		J&T Brand		10/15/14	07/09/18	1800	
		11/10/14W					
		5ug/ml Vol Work Std #12-B					
		SOURCES	**Lot**	**APPL Code**	**APPL Exp Date**	**ul**	
		50ug/ml Vol Work Std #2		11/10/14T	11/28/14	200	
		J&T Brand		10/15/14	07/09/18	1800	

11/10/14
RS

11/10/14X							
50ug/ml 8260 Surrogate-B			Conc.		Date	Exp.	
Exp:12/10/14			ug/ml	Lot #	Code	Date	uL
O2SI	120002-01	8260B Surr Solution	2000	185763-33557	10/28/14H	02/19/15	100
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3900
11/10/14Y							
5.0ug/ml 8260 Surrogate-B			Lot	APPL Code	APPL Exp Date	ul	
		50ug/ml 8260 Surrogate		11/10/14X	11/28/14	200	
J&T Brand		Purge & Trap MeOH		10/15/14	07/09/18	1800	
11/10/14Z							
250ug/ml TBA/IBA/Acetonitrile/Cyclohexanone/Acrolein/2-P-B							
Exp:12/10/14			Conc.		Date	Exp.	
Supplier	ID #		ug/ml	Lot #	Code	Date	uL
O2SI	120166-01	Volatile Mix 4-3	2000	229254-33997	11/10/14C	05/29/16	500
O2SI	020229-09	Acrolein	10000	237721-34134	10/20/14D	11/18/14	100
J&T Brand		Purge & Trap MeOH		49909-00768	10/27/14	07/09/18	3400

11/10/14
RS

Volatile Standard Curve Preparation for 10mL Purge (8260 water)-LOKI												
Exp: Date:	11/11/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	11-10-14U	11-10-14V	11-10-14W	11-10-14Y	11-10-14Q	11-10-14S	11-10-14R	11-10-14T	11-10-14X	11-10-14Z	w/P&T H2O
Date/code	µg/L	Exp 12-10-14	Exp.12-10-14	Exp:12-10-14	Exp:12-10-14	Exp:12-10-14	Exp.12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	mL
11-10-14AA	0.3	3	3	3	6	n/a	n/a	n/a	n/a	n/a	2	50
11-10-14AB	0.5	5	5	5	10	n/a	n/a	n/a	n/a	n/a	5	50
11-10-14AC	1	10	10	10	20	n/a	n/a	n/a	n/a	n/a	10	50
11-10-14AD	5	n/a	n/a	n/a	n/a	5	5	5	5	10	20	50
11-10-14AE	10	n/a	n/a	n/a	n/a	10	10	10	10	25	25	50
11-10-14AF	20	n/a	n/a	n/a	n/a	20	20	20	20	40	30	50
11-10-14AG	40	n/a	n/a	n/a	n/a	40	40	40	40	80	35	50
11-10-14AH	100	n/a	n/a	n/a	n/a	100	100	100	100	100	40	50

11/10/14
RS

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-THOR												
Exp: Date:	11/11/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	11-10-14H	11-10-14I	11-10-14J	11-10-14L	11-10-14O	11-10-14F	11-10-14E	11-10-14G	11-10-14K	11-10-14M	w/P&T H2O
Date/code	µg/L	Exp.12-10-14	Exp 12-10-14	Exp:12-10-14	Exp:12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp.12-10-14	Exp 12-10-14	mL
11-10-14AI	2	2	2	2	2	n/a	n/a	n/a	n/a	n/a	1	5
11-10-14AJ	5	5	5	5	5	n/a	n/a	n/a	n/a	n/a	2	5
11-10-14AK	10	10	10	10	10	n/a	n/a	n/a	n/a	n/a	3	5
11-10-14AL	20	20	20	20	20	n/a	n/a	n/a	n/a	n/a	4	5
11-10-14AM	30	30	30	30	30	n/a	n/a	n/a	n/a	n/a	4.2	5
11-10-14AN	50	n/a	n/a	n/a	n/a	5	5	5	5	5	5	5
11-10-14AO	100	n/a	n/a	n/a	n/a	10	10	10	10	10	6	5
11-10-14AP	150	n/a	n/a	n/a	n/a	15	15	15	15	15	7	5
11-10-14AQ	200	n/a	n/a	n/a	n/a	20	20	20	20	20	8	5

11/10/14
RS

Volatile Standard Curve Preparation for 5mL Purge (8260 soil)-THOR												
Exp: Date:	11/12/14	5µg/mL	5µg/mL	5µg/mL	5µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	50µg/mL	250µg/mL	
		Vol Std #9	Vol Std #10	Vol Std #12	Surrogate	Vol Std #7	Vol Std #8	Vol Std #1	Vol Std #2	Surrogate	TBA	Final Vol
	Conc.	11-10-14U	11-10-14V	11-10-14W	11-10-14Y	11-10-14Q	11-10-14S	11-10-14R	11-10-14T	11-10-14X	11-10-14Z	w/P&T H2O
Date/code	µg/L	Exp.12-10-14	Exp.12-10-14	Exp 12-10-14	Exp.12-10-14	Exp.12-10-14	Exp:12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	Exp 12-10-14	mL
11-11-14A	2	2	2	2	2	n/a	n/a	n/a	n/a	n/a	1	5
11-11-14B	5	5	5	5	5	n/a	n/a	n/a	n/a	n/a	2	5
11-11-14C	10	10	10	10	10	n/a	n/a	n/a	n/a	n/a	3	5
11-11-14D	20	20	20	20	20	n/a	n/a	n/a	n/a	n/a	4	5
11-11-14E	50	n/a	n/a	n/a	n/a	5	5	5	5	5	5	5
11-11-14F	100	n/a	n/a	n/a	n/a	10	10	10	10	10	6	5
11-11-14G	150	n/a	n/a	n/a	n/a	15	15	15	15	15	7	5
11-11-14H	200	n/a	n/a	n/a	n/a	20	20	20	20	20	8	5

11/11/14
RS

Butane Solution, 2,000 mg/L, 1 ml

021009-02

Lot #	Storage	Expiry
223481	≤ -10 Degrees C	3/7/17

Solv: P/T Methanol

R&D only, not to be used in the USA

Butane
Lot #: 223481 - 34025
Rec: 9/9/14 MFR exp. 3/7/17

11/12/14
RS

Injection Log

Directory: M:\LOKI\DATA\141104\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	29	1107L34.D	1	25ug/mL BFB Std 09-30-14	2ul	8 Nov 14 2:17
2	30	1107L35.D	1	0.1ug/L Vol Std 11-07-14	10mL w/5uL IS:10-06-14	8 Nov 14 2:45
3	1	1110L01.D	1	25ug/mL BFB Std 09-30-14	2uL	10 Nov 14 16:17
4	5	1110L06.D	1	0.5ug/L Vol Std 11-10-14	10mL w/5uL IS&S:10-06-14	10 Nov 14 18:32
5	6	1110L07.D	1	1.0ug/L Vol Std 11-10-14	10mL w/5uL IS&S:10-06-14	10 Nov 14 19:01
6	7	1110L08.D	1	5.0ug/L Vol Std 11-10-14	10mL w/5uL IS&S:10-06-14	10 Nov 14 19:29
7	8	1110L09.D	1	10ug/L Vol Std 11-10-14	10mL w/5uL IS&S:10-06-14	10 Nov 14 19:57
8	9	1110L10.D	1	20ug/L Vol Std 11-10-14	10mL w/5uL IS&S:10-06-14	10 Nov 14 20:25
9	10	1110L11.D	1	40ug/L Vol Std 11-10-14	10mL w/5uL IS&S:10-06-14	10 Nov 14 20:54
10	11	1110L12.D	1	100ug/L Vol Std 11-10-14	10mL w/5uL IS&S:10-06-14	10 Nov 14 21:22
11	1	1111L02.D	1	25ug/mL BFB Std 09-30-14	10mL w/5uL IS&S:10-06-14	11 Nov 14 12:31
12	3	1111L04.D	1	141111A LCS-WL(SS)	10mL w/5uL IS&S:10-06-14	11 Nov 14 13:28
13	3	1114L04.D	1	25ug/mL BFB Std 09-30-14	2ul	14 Nov 14 9:16
14	4	1114L05.D	1	10ug/L Vol Std 11-14-14	10mL w/5uL IS&S:10-06-14	14 Nov 14 9:44
15	5	1114L06.D	1	141114A LCS-WL	10mL w/5uL IS&S:10-06-14	14 Nov 14 10:12
16	10	1114L11.D	1	141114A BLK-WL	10mL w/5uL IS&S:10-06-14	14 Nov 14 12:33
17	13	1114L14.D	1	AZ07201W01	10mL w/5uL IS&S:10-06-14	14 Nov 14 13:57
18	19	1114L20.D	1	AZ07202W01	10mL w/5uL IS&S:10-06-14	14 Nov 14 16:45
19	20	1114L21.D	1	AZ07203W01	10mL w/5uL IS&S:10-06-14	14 Nov 14 17:13

RSK-175

RSK-175
QC Summary

APPL, INC.

Method Blank

MEE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **141116W-07202 - 192465**
Batch ID: #RSK50-141116AA

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	0.45 U	1.0	0.45	0.25	ug/L	11/16/14	11/16/14

Quant Method: RSK175Q.M
Run #: 1115F028
Instrument: Frodo
Sequence: 141115
Initials: SD

GC SC-Blank-REG MDLs
Printed: 12/01/14 3:23:11 PM

Laboratory Control Spike Recovery

MEE

APPL ID: **141116W-07202 LCS - 192465**
Batch ID: #RSK50-141116AA

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	133	161	121	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK175Q.M
Extraction Date :	11/16/14
Analysis Date :	11/16/14
Instrument :	Frodo
Run :	1115F029
Initials :	SD

Printed: 12/01/14 3:23:00 PM
APPL Standard LCS

RSK 175

Form 4

Blank Summary

Lab Name: APPL, Inc. SDG No: 74924

Case No: 74924 Date Analyzed: 11/16/14

Matrix: WATER Instrument: Frodo

Blank ID: 141116AA-BLK Time Analyzed: 1212

APPL ID.	Client Sample No.	File ID.	Date Analyzed
141116AA-BLK	Blank	1115F028	11/16/14 1212
141116AA-LCS	Lab Control Spike	1115F029	11/16/14 1212
AZ07202	HW111214-01	1115F037	11/16/14 1300
AZ07203	HW111214-02	1115F038	11/16/14 1304

Comments: Batch: #RSK50-141116AA

RSK-175
Sample Data

APPL, INC.

MEE

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

Project: 749435 Red Hill Phase 1b TO 0068

Sample ID: HW111214-01

Sample Collection Date: 11/12/14

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 74924

APPL ID: AZ07202

QCG: #RSK50-141116AA-192465

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	0.45 U	1.0	0.45	0.25	ug/L	11/16/14	11/16/14

Quant Method:	RSK175Q.M
Run #:	1115F037
Instrument:	Frodo
Sequence:	141115
Dilution Factor:	1
Initials:	SD

Printed: 12/01/14 3:23:05 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\141115\1115F037.D Vial: 4
Acq On : 16 Nov 2014 13:00 Operator: SD
Sample : AZ07202W05 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Dec 2 15:47 2014 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\141115\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Dec 02 15:43:37 2014
Response via : Multiple Level Calibration

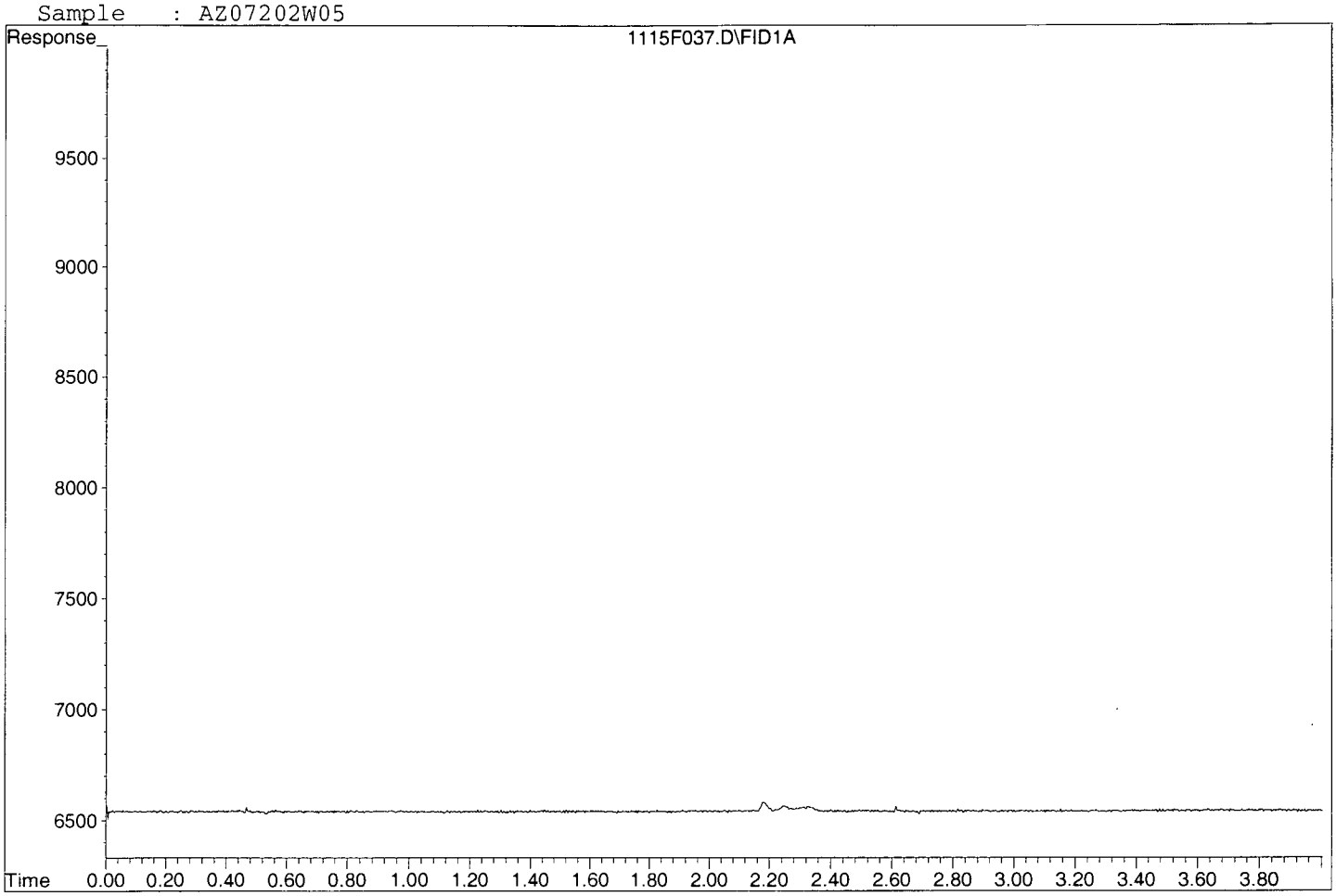
Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units

Target Compounds

Quantitation Report

Data File: V:\FRODO\DATA\141115\1115F037.D
Sample : AZ07202W05



MEE

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

Project: 749435 Red Hill Phase 1b TO 0068

Sample ID: HW111214-02

Sample Collection Date: 11/12/14

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

ARF: 74924

APPL ID: AZ07203

QCG: #RSK50-141116AA-192465

Method	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
RSK 175	METHANE	0.45 U	1.0	0.45	0.25	ug/L	11/16/14	11/16/14

Quant Method:	RSK175Q.M
Run #:	1115F038
Instrument:	Frodo
Sequence:	141115
Dilution Factor:	1
Initials:	SD

Printed: 12/01/14 3:23:05 PM
APPL-F1-SC-NoMC-REG MDLs

Quantitation Report (Not Reviewed)

Data File : V:\FRODO\DATA\141115\1115F038.D Vial: 4
Acq On : 16 Nov 2014 13:04 Operator: SD
Sample : AZ07203W05 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Dec 2 15:21 2014 Quant Results File: RSK175Q.RES

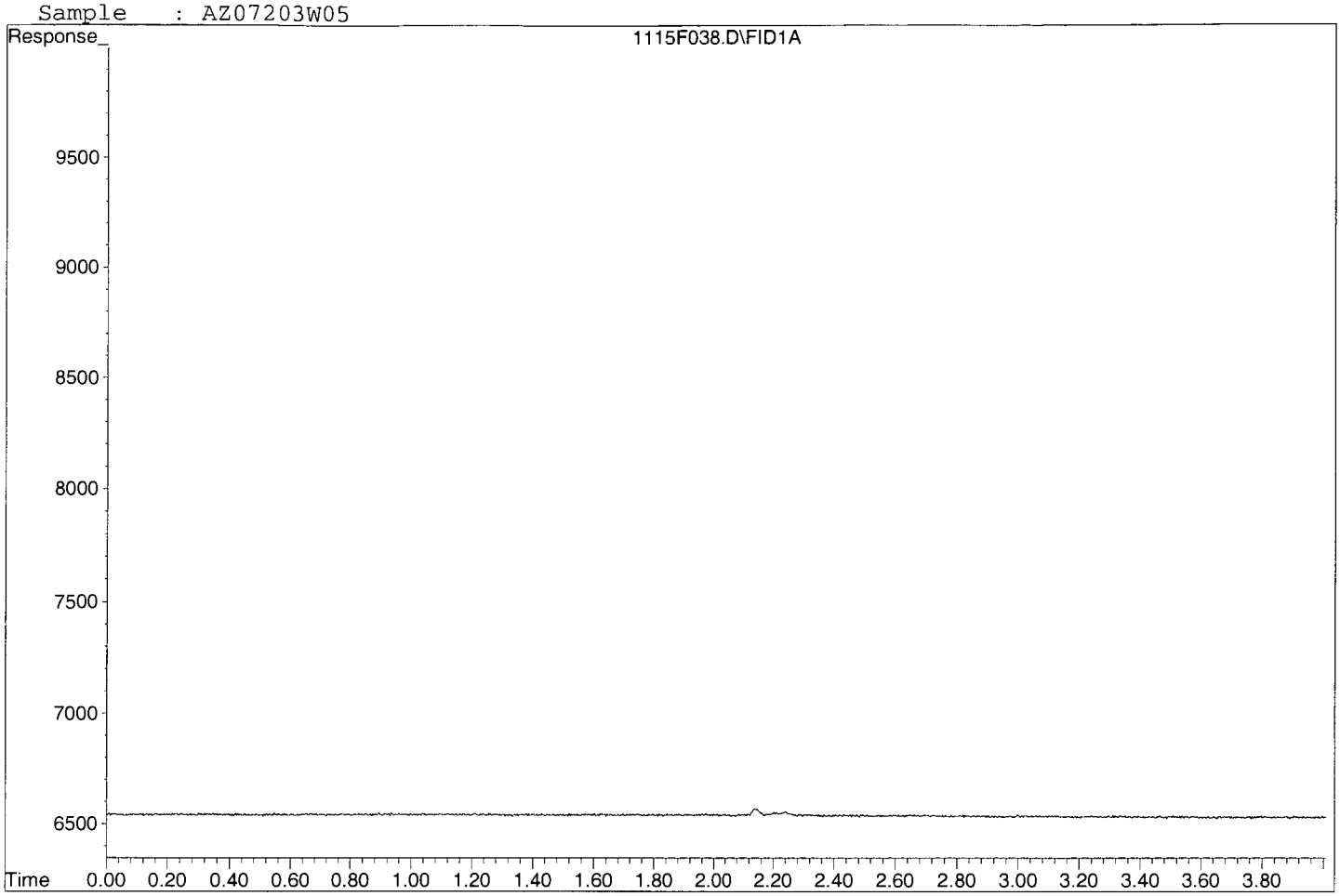
Method : V:\FRODO\DATA\141115\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Dec 02 15:43:37 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units

Target Compounds

Data File: V:\FRODO\DATA\141115\1115F038.D
Sample : AZ07203W05



RSK-175
Calibration Data

APPL, INC.

Form 6
Initial Calibration

Lab Name: APPL, Inc. SDG No:
Case No: Initial Cal. Date: 03/06/13
Matrix: Water Instrument: Frodo Initials: LF

			0306F001.D	0306F002.D	0306F003.D	0306F004.D	0306F005.D						
		Compound	1	2	3	4	5			Avg	%RSD		
1	ATML	Methane	1275	462	373	359	357			565	71	ATML	1.00
2	ATM	Ethane	304	260	315	313	369			312	12	ATM	
3	ATM	Ethene	351	249	326	328	387			328	15	ATM	
4													
5													
6													
7													
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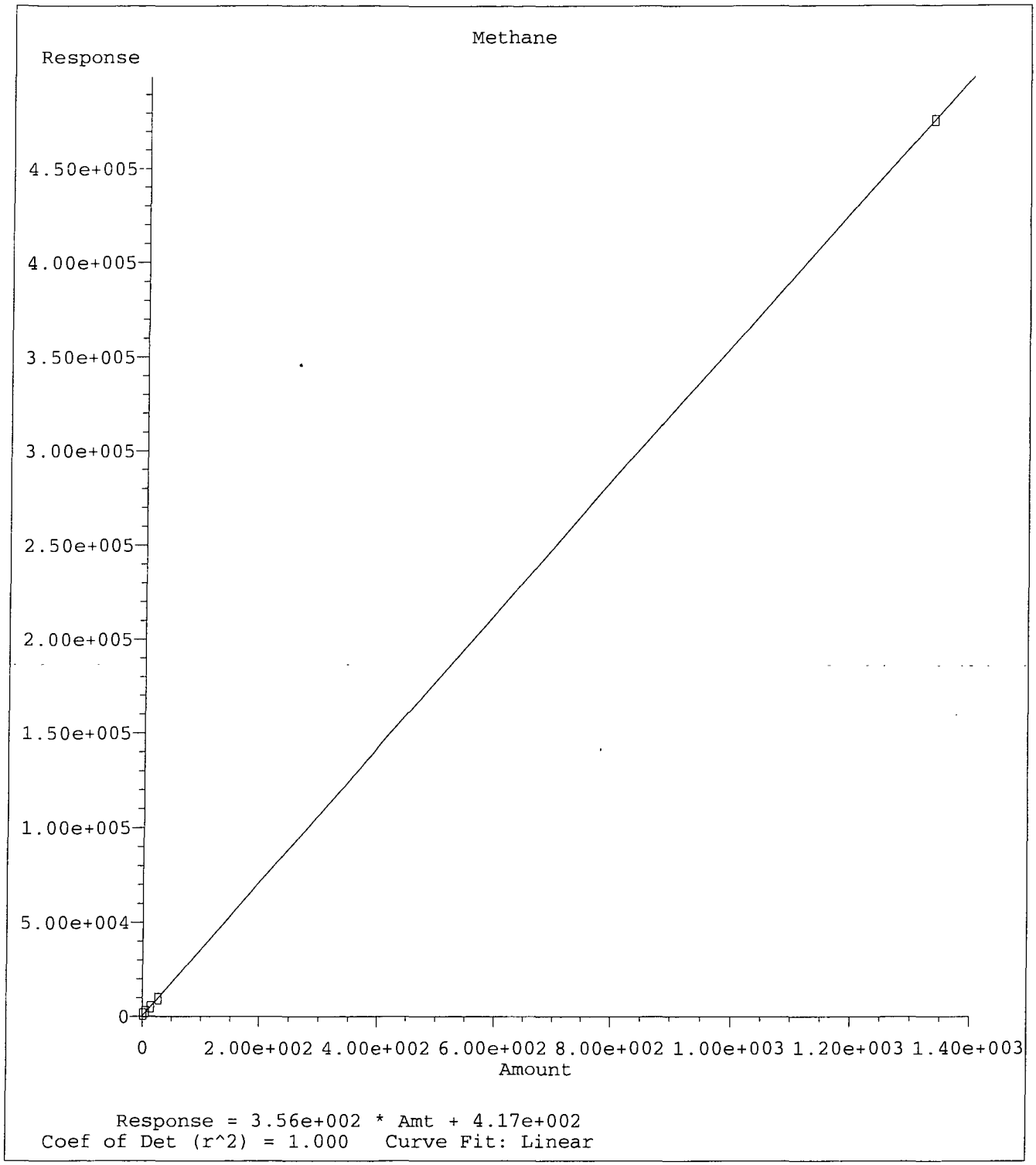
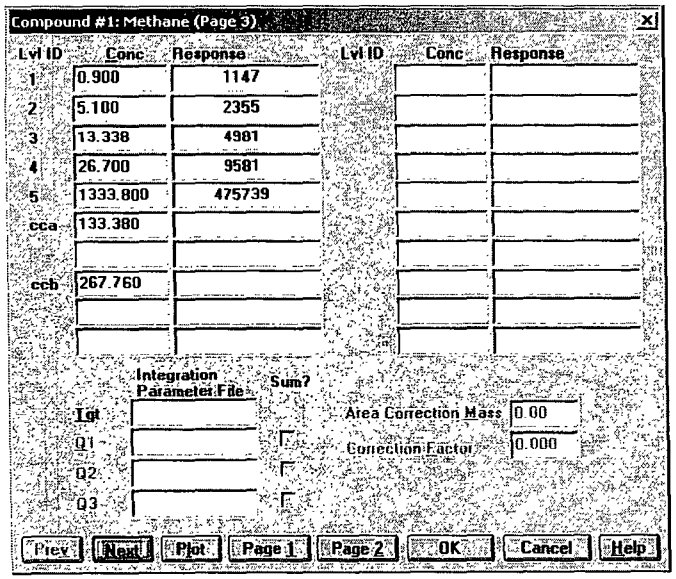
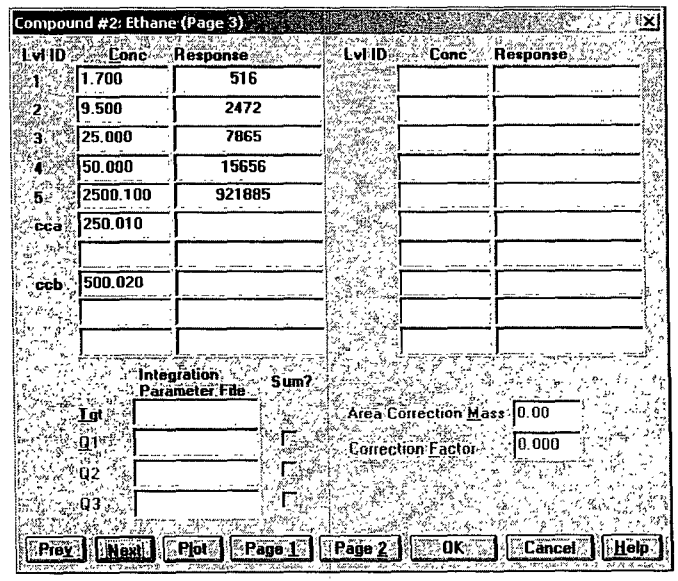
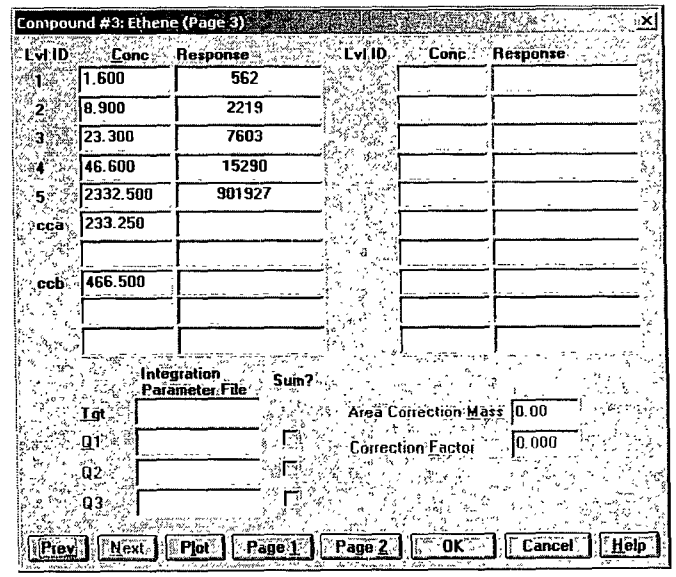


Method Name: V:\FRODO\DATA\130306\RSK175Q.M
Calibration Table Last Updated: Mon Dec 01 13:33:36 2014

RSK Calibration Concentration Summary 130306







Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\130306\0306F001.D Vial: 1
Acq On : 6 Mar 2013 10:46 Operator: lsf
Sample : RSK L-1 03-06-13 LF Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 7 13:31 2013 Quant Results File: RSK175Q.RES

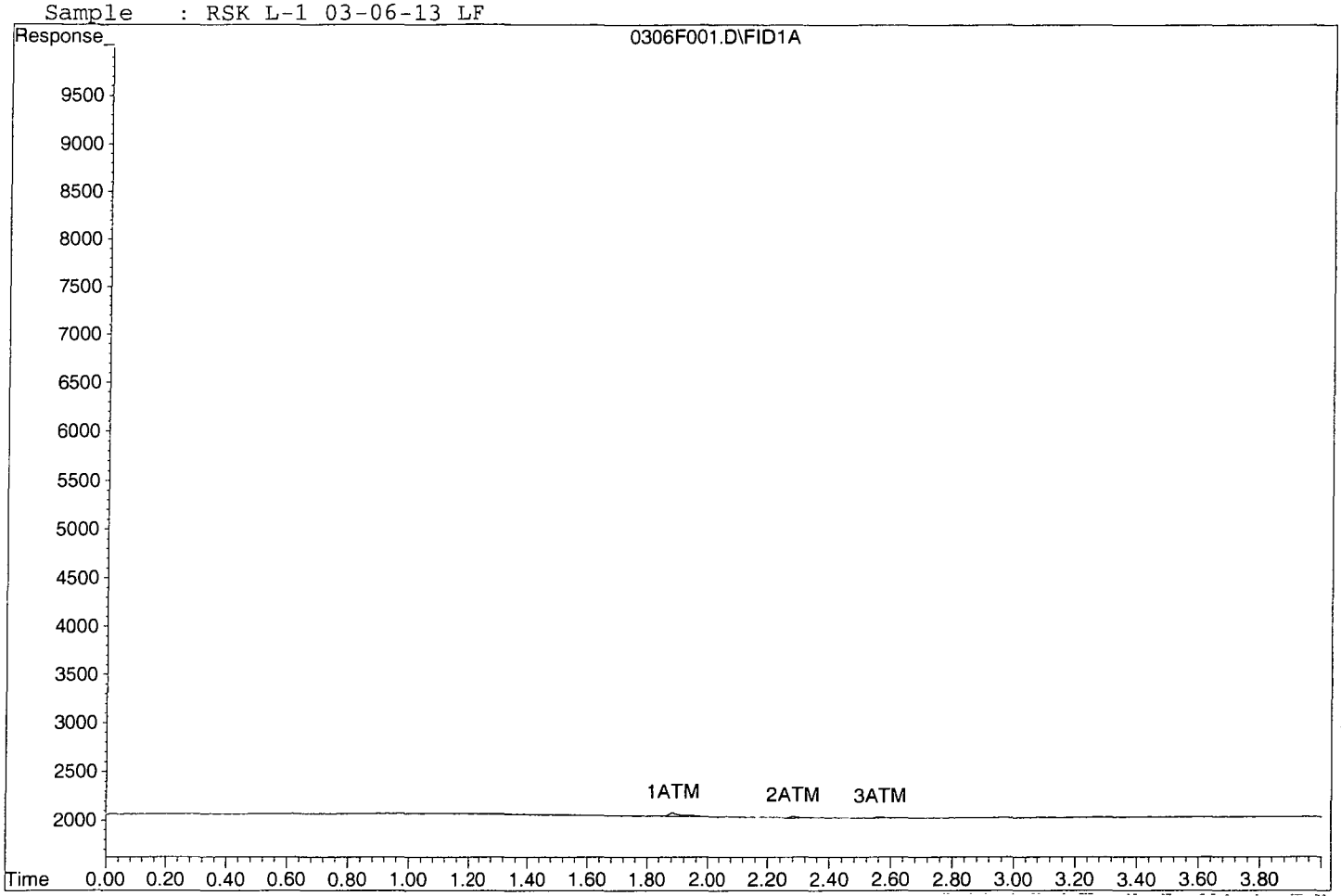
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.89	1147	2.051 ppb
2) ATM Ethane	2.28	516	1.654 ppb
3) ATM Ethene	2.57	562	1.711 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\130306\0306F001.D
Sample : RSK L-1 03-06-13 LF



Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\130306\0306F002.D Vial: 2
Acq On : 6 Mar 2013 10:55 Operator: lsf
Sample : RSK L-2 03-06-13 LF Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:00 2013 Quant Results File: RSK175Q.RES

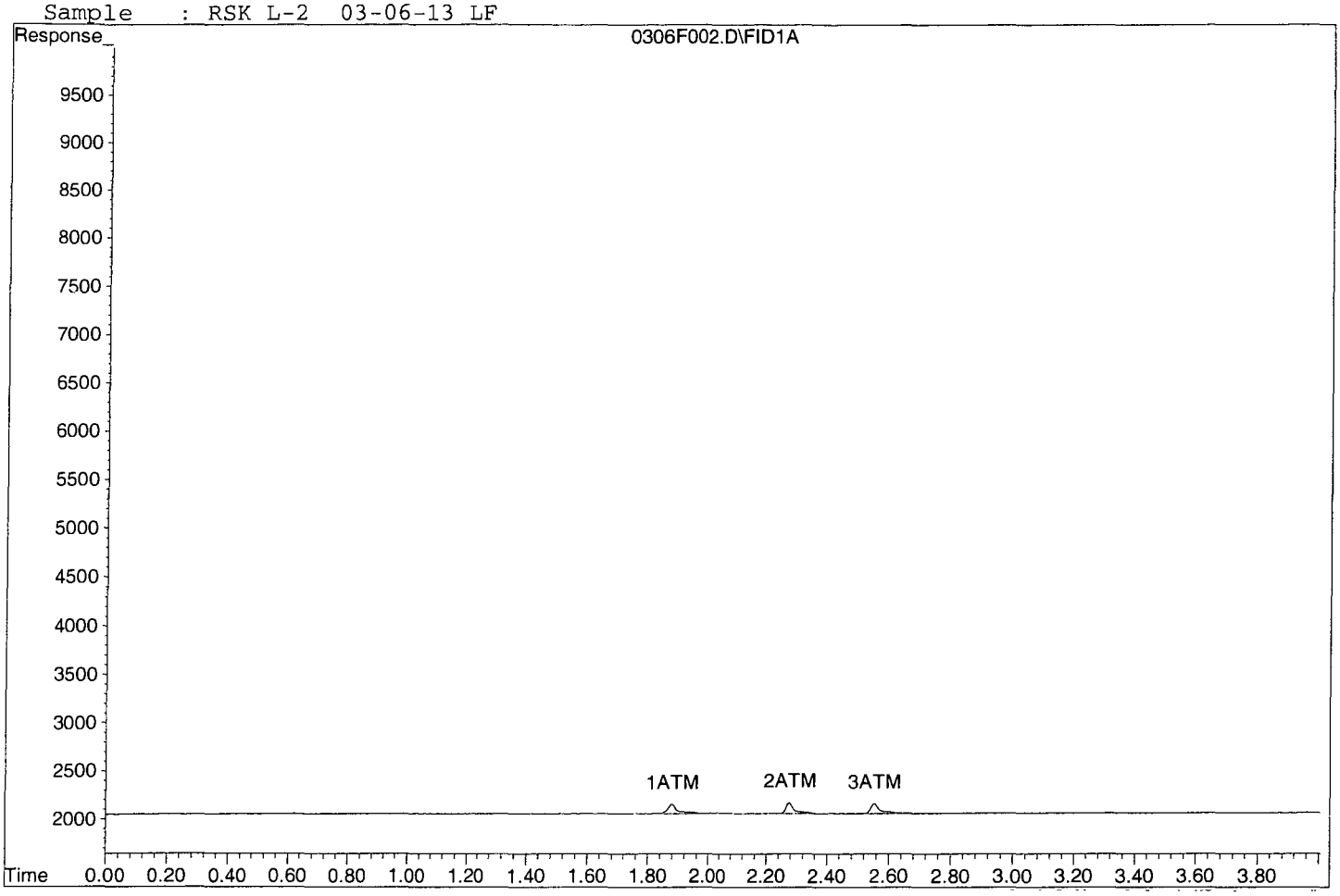
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.88	2355	1.146 ppb
2) ATM Ethane	2.28	2472	3.396 ppb
3) ATM Ethene	2.55	2219	3.381 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\130306\0306F002.D
Sample : RSK L-2 03-06-13 LF



Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\130306\0306F003.D Vial: 3
Acq On : 6 Mar 2013 11:00 Operator: lsf
Sample : RSK L-3 03-06-13 LF Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:05 2013 Quant Results File: RSK175Q.RES

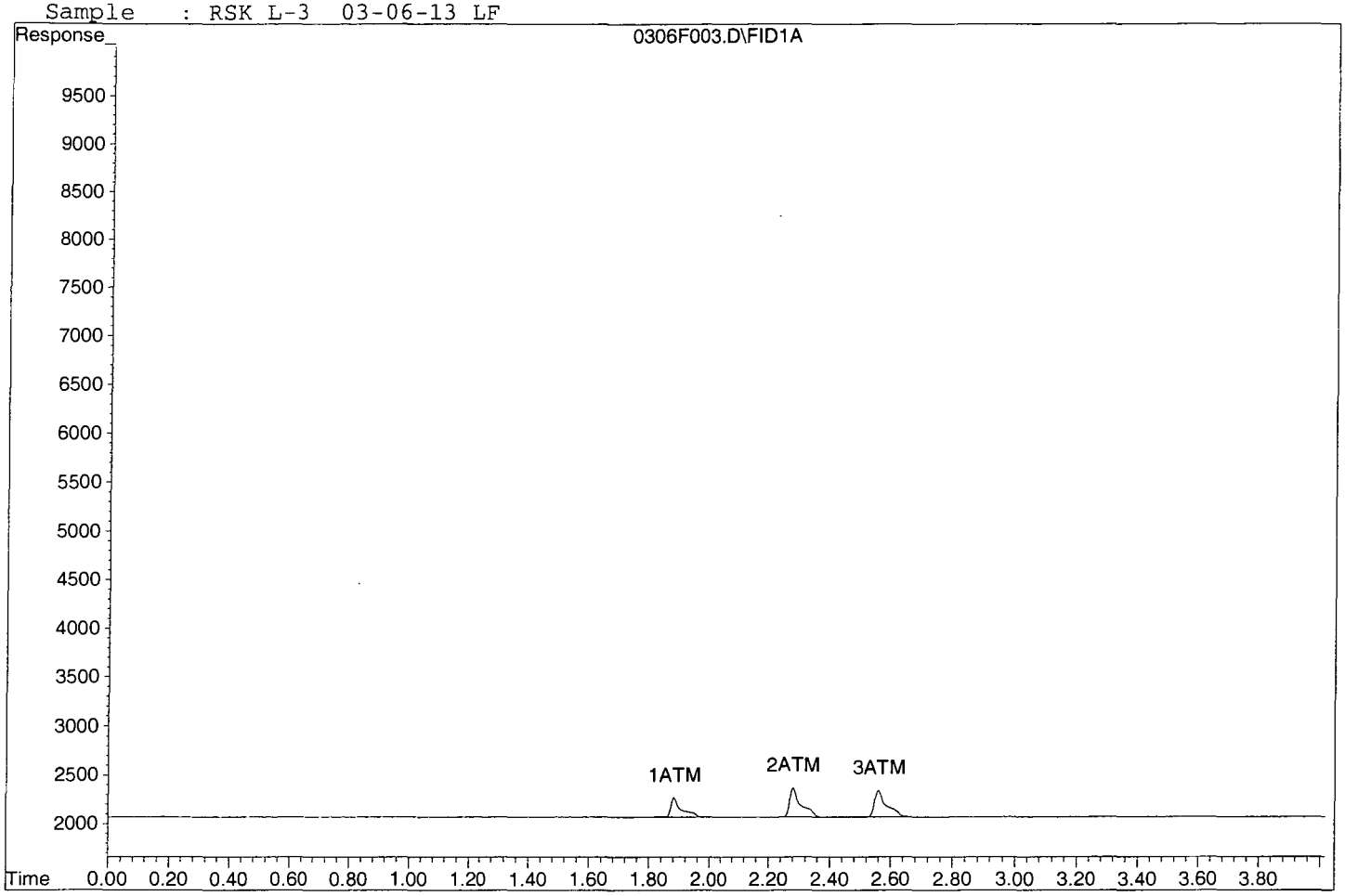
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.88	4981	4.212 ppb
2) ATM Ethane	2.28	7865	20.444 ppb
3) ATM Ethene	2.56	7603	20.362 ppb

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: V:\FRODO\DATA\130306\0306F003.D
Sample : RSK L-3 03-06-13 LF



Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\130306\0306F004.D Vial: 4
Acq On : 6 Mar 2013 11:05 Operator: lsf
Sample : RSK L-4 03-06-13 LF Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 7 13:25 2013 Quant Results File: RSK175Q.RES

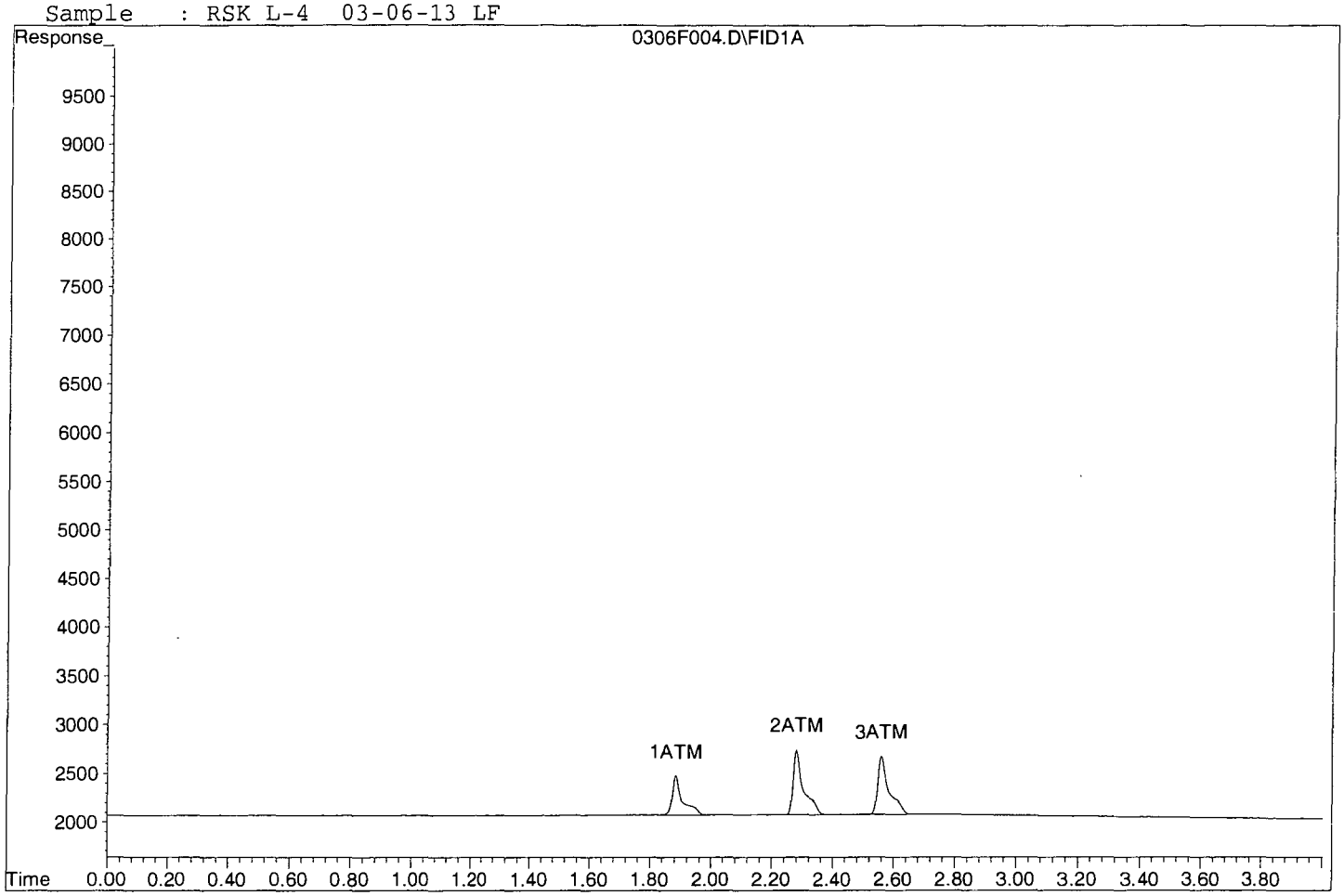
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.88	9581	25.717 ppb
2) ATM Ethane	2.28	15656	45.982 ppb
3) ATM Ethene	2.56	15290	42.993 ppb

Quantitation Report

Data File: V:\FRODO\DATA\130306\0306F004.D
Sample : RSK L-4 03-06-13 LF



Quantitation Report (QT Reviewed)

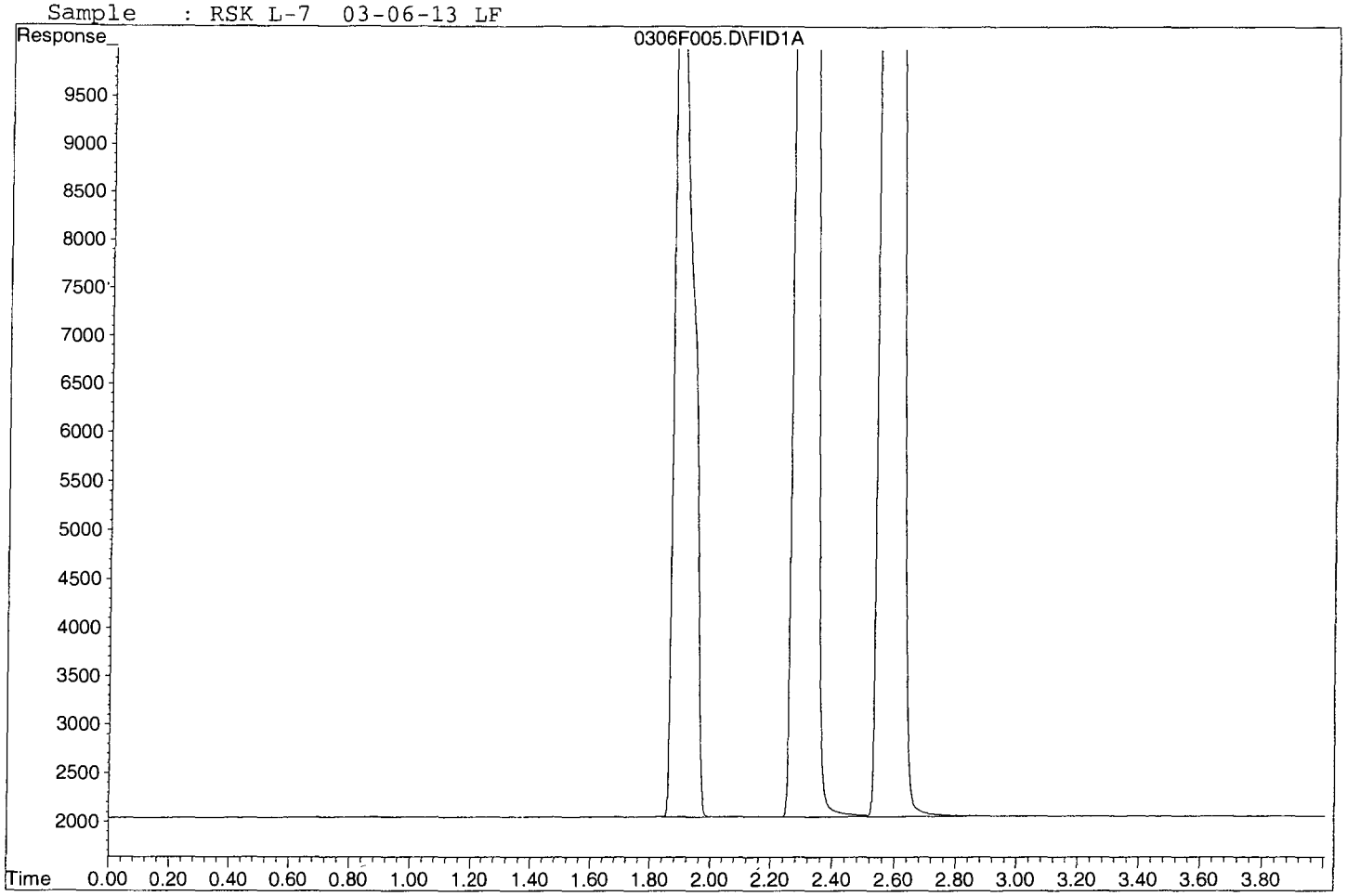
Data File : V:\FRODO\DATA\130306\0306F005.D Vial: 5
Acq On : 6 Mar 2013 11:09 Operator: lsf
Sample : RSK L-7 03-06-13 LF Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 6 11:15 2013 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Mon Aug 25 21:41:08 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.88	475739	614.401 ppb
2) ATM Ethane	2.28	921885	2639.481 ppb
3) ATM Ethene	2.56	901927	2574.780 ppb

Data File: V:\FRODO\DATA\130306\0306F005.D
Sample : RSK L-7 03-06-13 LF



Form 7

Second Source Calibration

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

SDG No:
Date Analyzed: 6 Mar 2013 11:53
Instrument: Frodo
Initial Cal. Date: 03/06/13
Data File: 0306F008.D

		Compound	MEAN	CCRF	%D	%Drift	
1	ATML	Methane	565	323	43	ATML	14
2	ATM	Ethane	312	308	1.2	ATM	
3	ATM	Ethene	328	321	2.4	ATM	
4							
5							
6							
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31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
		Average			15.5		

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\130306\0306F008.D Vial: 8
Acq On : 6 Mar 2013 11:53 Operator: lsf
Sample : 130306A LCS-1 (SS) Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Mar 7 13:33 2013 Quant Results File: RSK175Q.RES

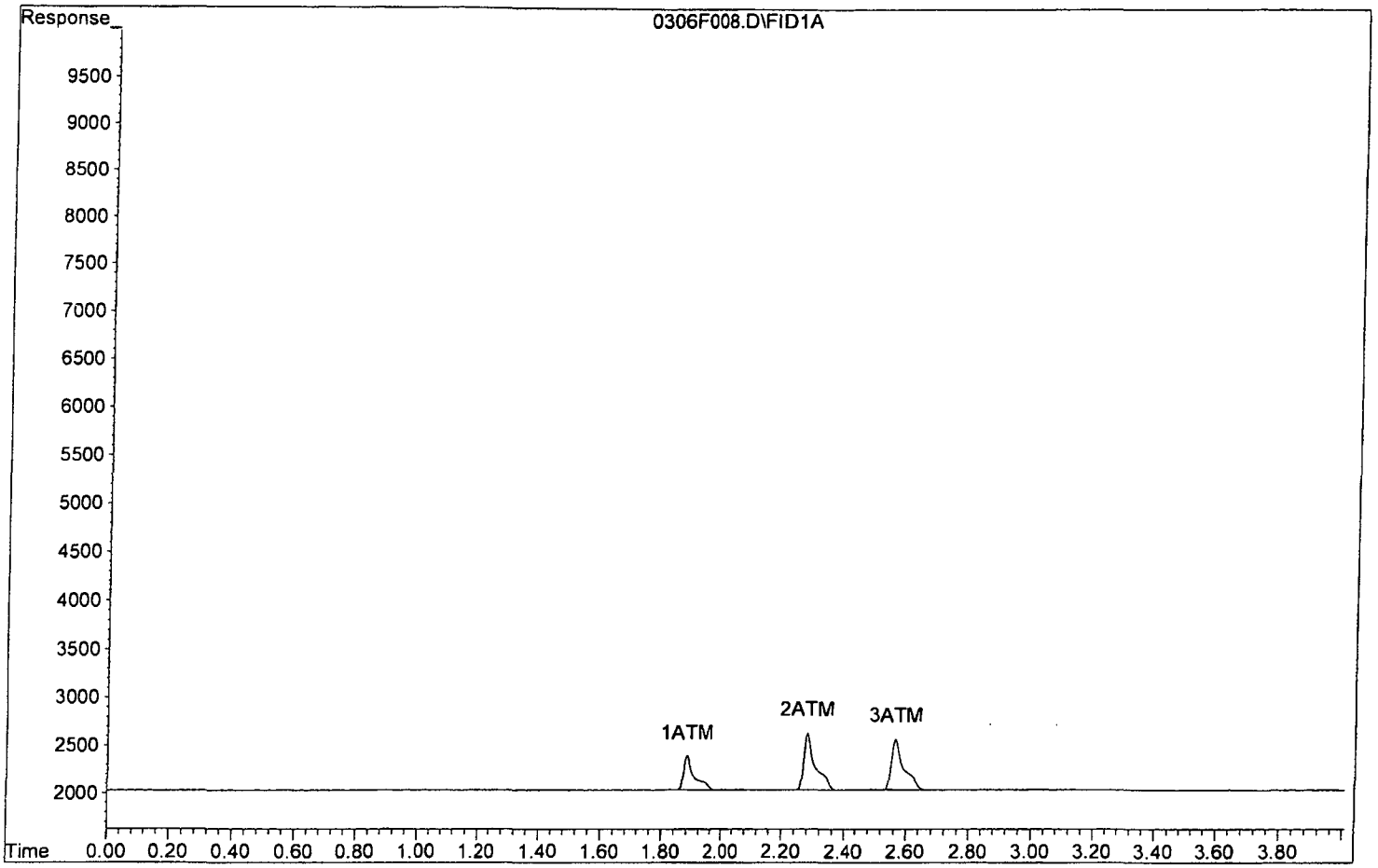
Method : V:\FRODO\DATA\130306\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Thu Mar 07 13:29:20 2013
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	1.88	8635	23.062 ppb
2) ATM Ethane	2.28	15416	49.407 ppb
3) ATM Ethene	2.56	14936	45.493 ppb

Quantitation Report

Data File: V:\FRODO\DATA\130306\0306F008.D
Sample : 130306A LCS-1 (SS)



Form 7

Continuing Calibration

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

SDG No:
Date Analyzed: 11/16/14
Instrument: Frodo
Initial Cal. Date: 11/15/14
Data File: 1115F027.D

		Compound	MEAN	CCRF	%D	%Drift	
1	ATML	Methane	565	273	52	ATML	24
2	ATM	Ethane	312	329	5.4	ATM	
3	ATM	Ethene	328	337	2.6	ATM	
4							
5							
6							
7							
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34							
35							
36							
37							
38							
39							
40							
		Average			20.0		

Quantitation Report (Not Reviewed)

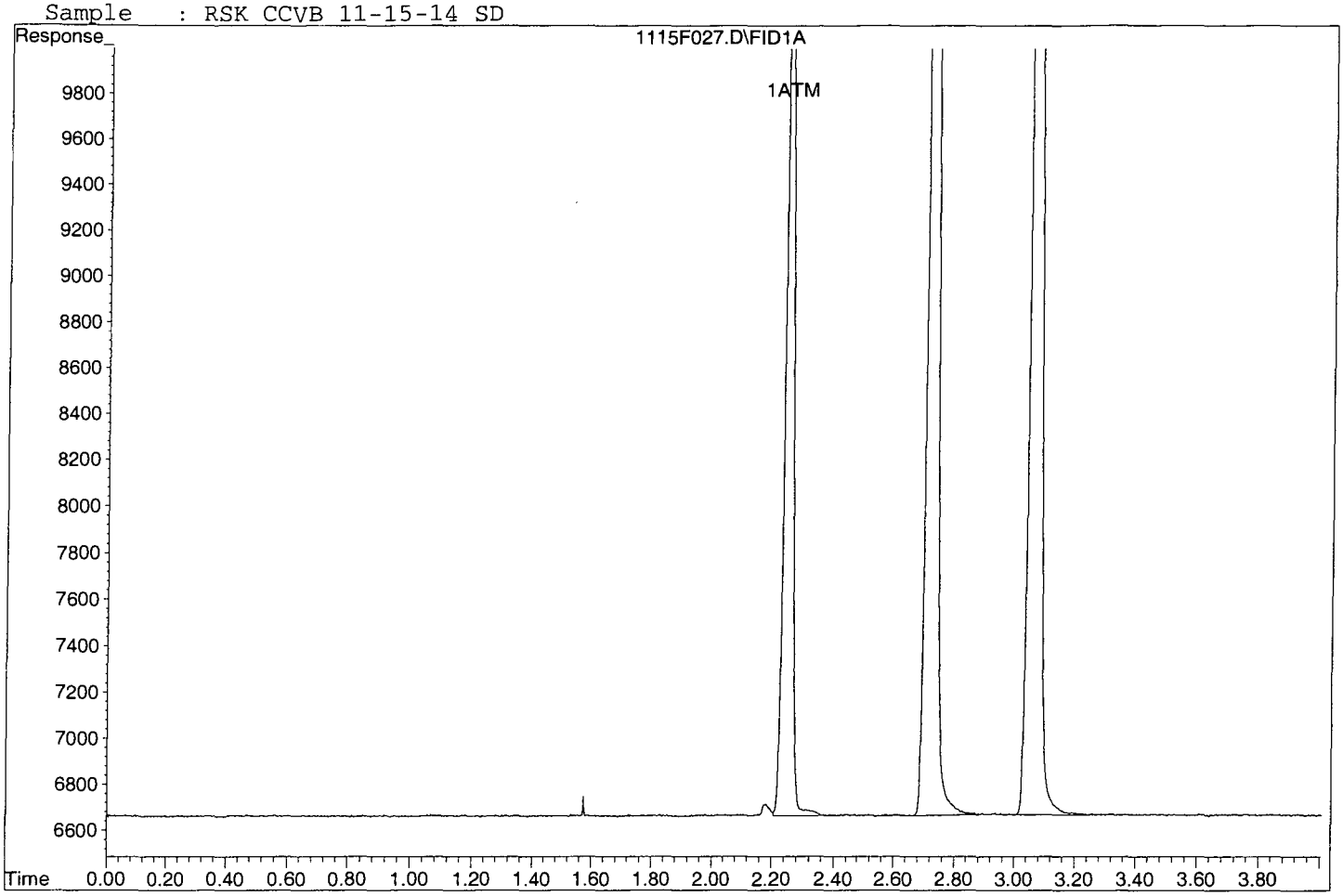
Data File : V:\FRODO\DATA\141115\1115F027.D Vial: 1
Acq On : 16 Nov 2014 12:05 Operator: SD
Sample : RSK CCVB 11-15-14 SD Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Dec 2 12:31 2014 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\141115\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Dec 02 12:25:38 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	2.25	73222	204.302 ppb
2) ATM Ethane	2.72	164453	527.024 ppb
3) ATM Ethene	3.06	157082	478.421 ppb

Data File: V:\FRODO\DATA\141115\1115F027.D
Sample : RSK CCVB 11-15-14 SD



Form 7

Continuing Calibration

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

SDG No:
Date Analyzed: 11/16/14
Instrument: Frodo
Initial Cal. Date: 11/15/14
Data File: 1115F041.D

		Compound	MEAN	CCRF	%D	%Drift	
1	ATML	Methane	565	278	51	ATML	23
2	ATM	Ethane	312	330	5.6	ATM	
3	ATM	Ethene	328	347	5.7	ATM	
4							
5							
6							
7							
8							
9							
10							
11							
12							
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34							
35							
36							
37							
38							
39							
40							
		Average			20.8		

Quantitation Report (Not Reviewed)

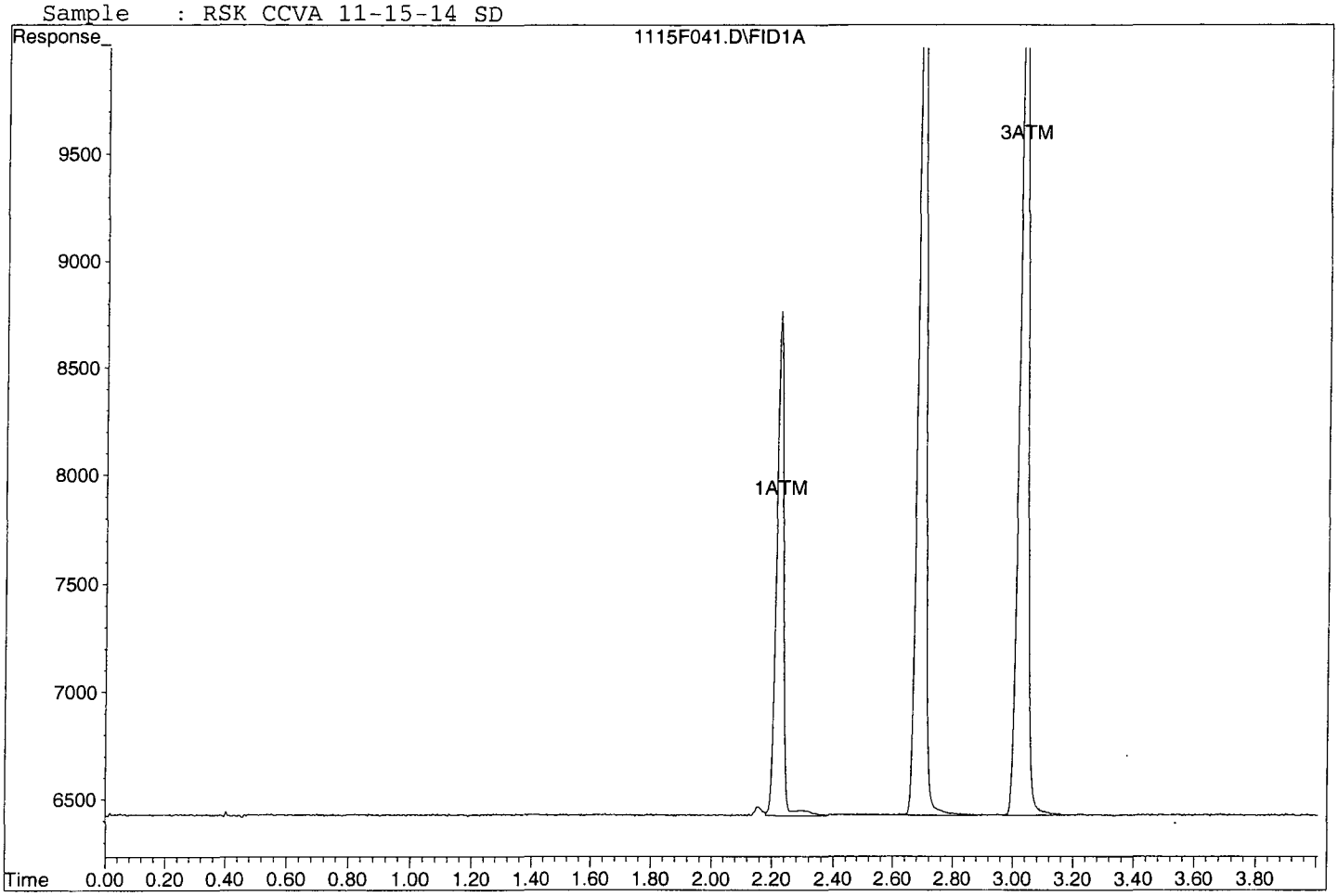
Data File : V:\FRODO\DATA\141115\1115F041.D Vial: 2
Acq On : 16 Nov 2014 13:37 Operator: SD
Sample : RSK CCVA 11-15-14 SD Inst : Frodo
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Dec 2 15:12 2014 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\141115\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Dec 02 15:02:55 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	2.22	37029	102.741 ppb
2) ATM Ethane	2.69	82380	264.006 ppb
3) ATM Ethene	3.03	80982	246.643 ppb

Data File: V:\FRODO\DATA\141115\1115F041.D
Sample : RSK CCVA 11-15-14 SD



RSK-175
Raw Data

APPL, INC.

Method Blank

MEE

APPL Inc.
908 North Temperance Avenu
Clovis, CA 93611

Blank Name/QCG: **141116W-07202 - 192465**
Batch ID: #RSK50-141116AA

Sample Type	Analyte	Result	LOQ	LOD	DL	Units	Extraction Date	Analysis Date
BLANK	METHANE	0.45 U	1.0	0.45	0.25	ug/L	11/16/14	11/16/14

Quant Method: RSK175Q.M
Run #: 1115F028
Instrument: Frodo
Sequence: 141115
Initials: SD

GC SC-Blank-REG MDLs
Printed: 12/01/14 3:23:09 PM

Quantitation Report (QT Reviewed)

Data File : V:\FRODO\DATA\141115\1115F028.D Vial: 1
Acq On : 16 Nov 2014 12:12 Operator: SD
Sample : 141116B BLK-2 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Dec 2 15:43 2014 Quant Results File: RSK175Q.RES

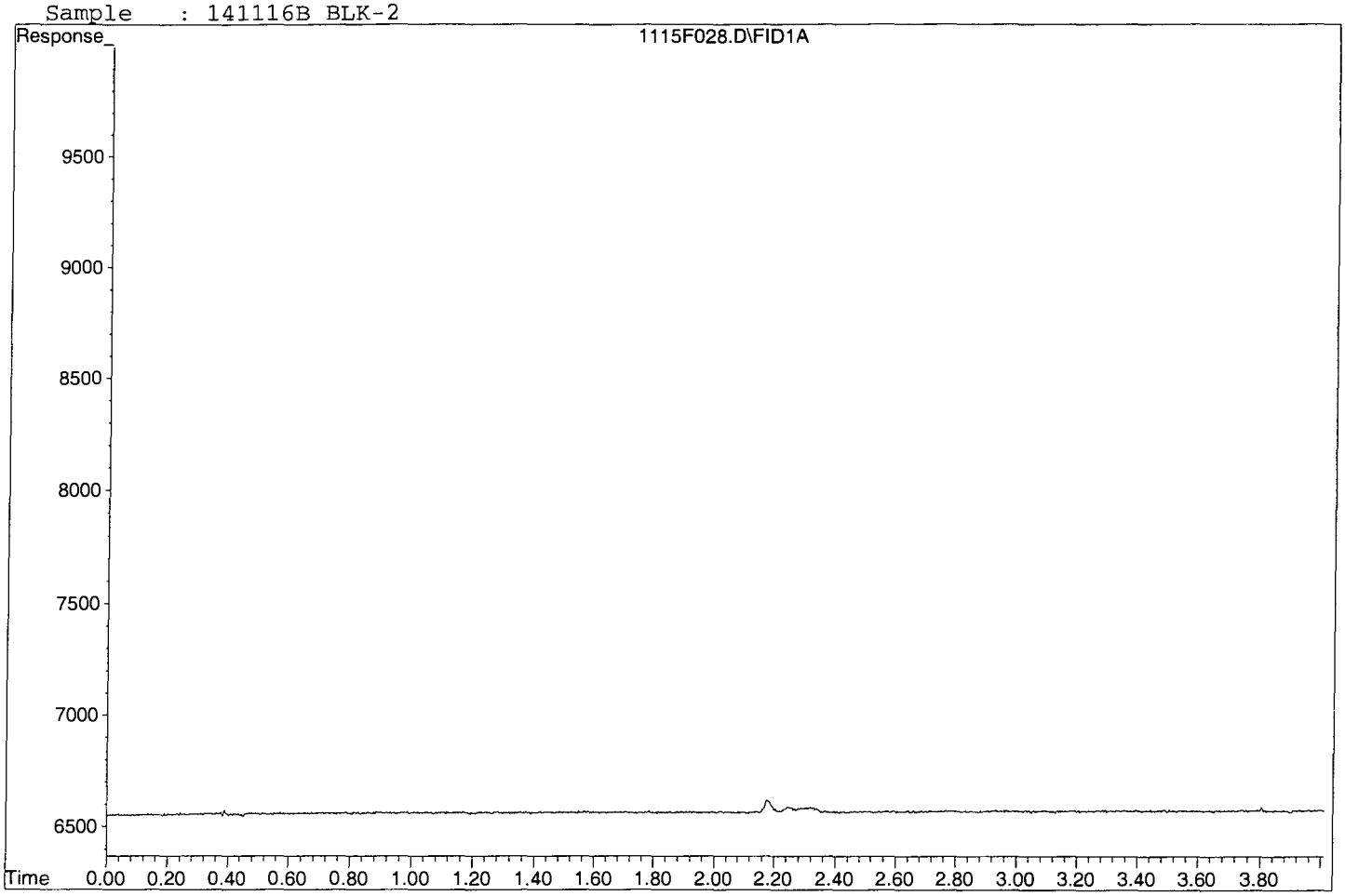
Method : V:\FRODO\DATA\141115\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Dec 02 15:41:38 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc	Units

Target Compounds

Data File: V:\FRODO\DATA\141115\1115F028.D
Sample : 141116B BLK-2



Laboratory Control Spike Recovery

MEE

APPL ID: **141116W-07202 LCS - 192465**
Batch ID: #RSK50-141116AA

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits
METHANE	133	161	121	72-125

Comments: _____

Primary	SPK
Quant Method :	RSK175Q.M
Extraction Date :	11/16/14
Analysis Date :	11/16/14
Instrument :	Frodo
Run :	1115F029
Initials :	SD

Printed: 12/01/14 3:23:00 PM
APPL Standard LCS

Quantitation Report (QT Reviewed)

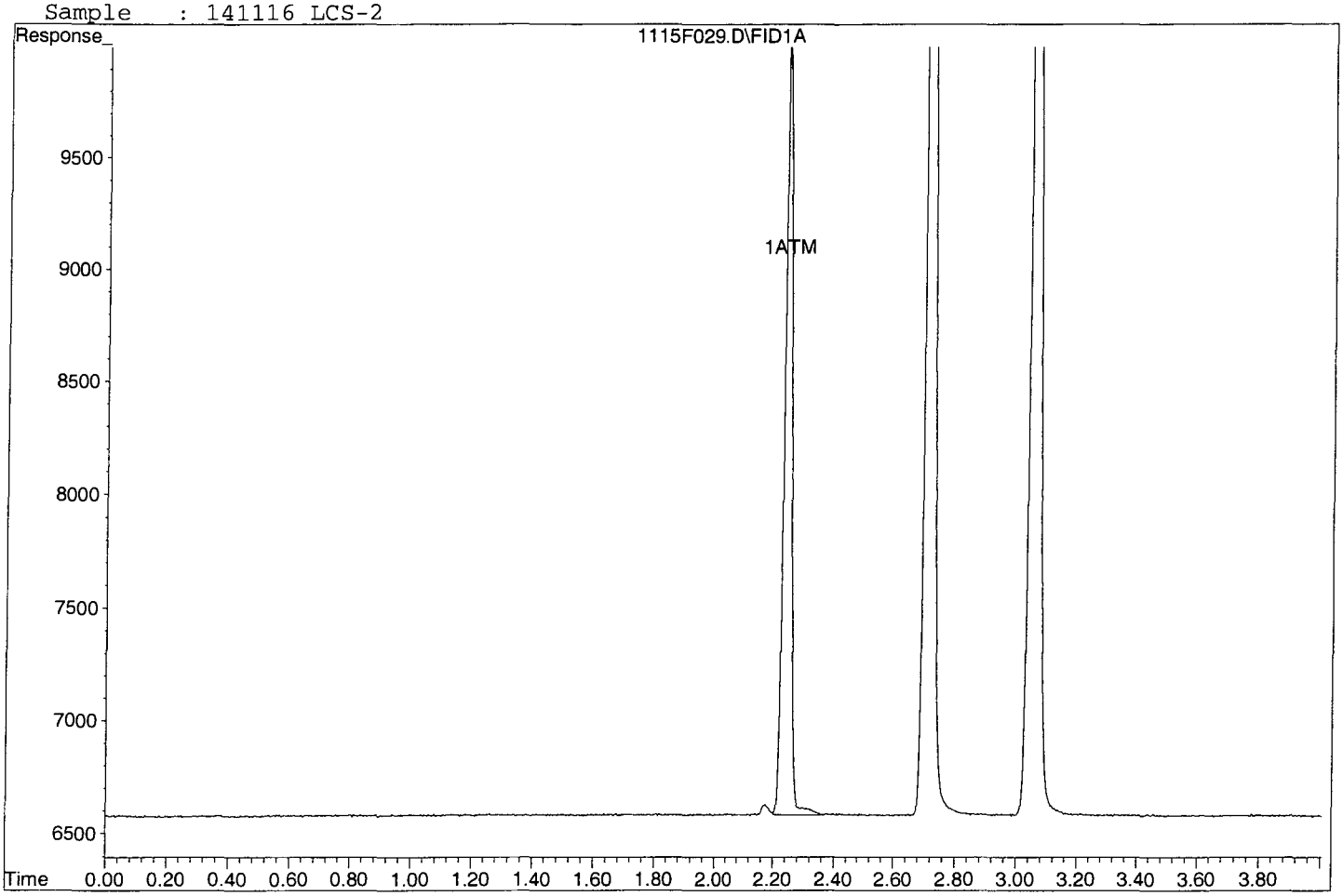
Data File : V:\FRODO\DATA\141115\1115F029.D Vial: 2
Acq On : 16 Nov 2014 12:17 Operator: SD
Sample : 141116 LCS-2 Inst : Frodo
Misc : Water Multiplr: 1.00
IntFile : events.e
Quant Time: Dec 2 17:32 2014 Quant Results File: RSK175Q.RES

Method : V:\FRODO\DATA\141115\RSK175Q.M (Chemstation Integrator)
Title : RSK 175
Last Update : Tue Dec 02 15:51:04 2014
Response via : Multiple Level Calibration

Volume Inj. : 1ML
Signal Phase : CARBOPACK
Signal Info :

Compound	R.T.	Response	Conc Units
Target Compounds			
1) ATM Methane	2.24	57659	160.632 ppb

Data File: V:\FRODO\DATA\141115\1115F029.D
Sample : 141116 LCS-2



VF 12/3/12

Intermediate Calibration Stock Standard
12/3/12A is prepared in a 1 L Tedlar bag. Add 990 mL Helium and 10 mL of 193PLU2SPC04L-31276 standard.
Expires: 9/11/13
193PLU2SPC04L-31276 is Stock Standard of 10000ppmv of Methane, Ethane, and Ethene opened 9/11/12 VF

Level-4 continuing calibration verification standard
4mL of 12/3/12A into 10mL P & T Water
Final conc: 26.7ppb Methane, 50 ppb Ethane, and 46.6ppb Ethene

LCS 121203A
4mL of 12/3/12A into 10mL P & T Water
Final conc: 26.7ppb Methane, 50 ppb Ethane, and 46.6ppb Ethene

VF

Intermediate Calibration Stock Standard
VF 12/11/12 12/11/12A is prepared in a 1 L Tedlar bag. Add 990 mL Helium and 10 mL of 193PLU2SPC04L-31276 standard.
Expires: 9/11/13
193PLU2SPC04L-31276 is Stock Standard of 10000ppmv of Methane, Ethane, and Ethene opened 9/11/12

Level-4 continuing calibration verification standard
4mL of 12/11/12A into 10mL P & T Water
Final conc: 26.7ppb Methane, 50 ppb Ethane, and 46.6ppb Ethene

LCS 121211A
4mL of 12/11/12A into 10mL P & T Water
Final conc: 26.7ppb Methane, 50 ppb Ethane, and 46.6ppb Ethene

VF

Intermediate Calibration Stock Standard
VF 12/17/12 12/17/12A is prepared in a 1 L Tedlar bag. Add 990 mL Helium and 10 mL of 193PLU2SPC04L-31276 standard.
Expires: 9/11/13
193PLU2SPC04L-31276 is Stock Standard of 10000ppmv of Methane, Ethane, and Ethene opened 9/11/12

Level-4 continuing calibration verification standard
4mL of 12/17/12A into 10mL P & T Water
Final conc: 26.7ppb Methane, 50 ppb Ethane, and 46.6ppb Ethene

LCS 121217A
4mL of 12/17/12A into 10mL P & T Water
Final conc: 26.7ppb Methane, 50 ppb Ethane, and 46.6ppb Ethene

3/6/13VF Opened new standard lot# 248PLU2SPC03L-31312
Contains 10000ppmV of methane, Ethane, & Ethene
exp 3/6/14

026

RSK Standard Prep Logbook B

LF 3/6/13

LF

Intermediate Calibration Stock Standard

03/6/13 A is prepared in a 1 L Tedlar bag. Add 990 mL Helium and 10 mL of 248PLU2SPC03L-31312 standard.
Expires: 03/16/14
248PLU2SPC03L-31312 is Stock Standard of 10000ppmv of Methane Ethane and Ethene opened 3/06/13
Helium Lot #: 105-400107481-1

Calibration Standards

Methane mw = 16.0426

aliquot of std. (mL)	std conc (ppmv)	stock std ID	ug into vial	water volume (mL)	water conc. (ug/mL)
0.135	100	3/6/13 A	0.009	10	0.0009
0.76	100	3/6/13 A	0.051	10	0.0051
2	100	3/6/13 A	0.133	10	0.0133
4	100	3/6/13 A	0.267	10	0.0267
2	10000	248PLU2SPC03L-31312 standard.	13.338	10	1.3338

Ethane mw = 30.0694

aliquot of std. (mL)	std conc (ppmv)	stock std ID	ug into vial	water volume (mL)	water conc. (ug/mL)
0.135	100	3/6/13 A	0.017	10	0.0017
0.76	100	3/6/13 A	0.095	10	0.0095
2	100	3/6/13 A	0.250	10	0.0250
4	100	3/6/13 A	0.500	10	0.0500
2	10000	248PLU2SPC03L-31312 standard.	25.001	10	2.5001

Ethene mw = 28.0536

aliquot of std. (mL)	std conc (ppmv)	stock std ID	ug into vial	water volume (mL)	water conc. (ug/mL)
0.135	100	3/6/13 A	0.016	10	0.0016
0.76	100	3/6/13 A	0.089	10	0.0089
2	100	3/6/13 A	0.233	10	0.0233
4	100	3/6/13 A	0.466	10	0.0466
2	10000	248PLU2SPC03L-31312 standard.	23.325	10	2.3325

Methane/Ethane/Ethene Second Source

193PLU2SPC04L-31276 is Stock Standard of 10000ppmv of Methane, Ethane and Ethene
opened 9/11/12 exp 9/11/13

Intermediate Second Source Stock Standard

3/6/13 B is prepared in a 1 L Tedlar bag. Add 990 mL Helium and 10 mL of 193PLU2SPC04L-31276 standard.
Concentration: 1000ppmv of Methane, Ethane, and Ethene
Expires 9/11/13

Second Source Working Standard

aliquot of std. (mL)	std conc (ppmv)	stock std ID	ug into vial	water volume (mL)	water conc. (ug/mL)
4	100	3/06/10 B	0.267	10	0.0267 Methane
			0.500		0.0500 Ethane
			0.466		0.0466 Ethene

Level-4 continuing calibration verification standard

4mL of 3/06/13 A into 10mL P & T Water
Final conc: 26.7ppb Methane, 50 ppb Ethane and 46.6ppb Ethene

LCS 130306A 130306B

4mL of 3/06/13 B into 10mL P & T Water
Final conc: 26.7ppb Methane, 50 ppb Ethane, and 46.6ppb Ethene

Reviewed by RSK 3/6/13

RSK Standard Prep Log B

Intermediate Calibration Stock Standard 11/15/14 SD

11/15/2014 A is prepared in a 1 L Tedlar bag. Add 900mL Helium and 100mL of 248PLU2SPC03L-31312 standard.
Expires 12/15/14

CCVA 11/15/14 Expires 12/15/14 SD
2mL of Intermediate cal stock 11/15/14A into 10mL P&T water
final conc:133ppb Methane, 250ppb Ethane, and 233ppb Ethene

CCVB 11/15/14 Expires 12/15/14 SD
4mL of Intermediate cal stock 11/15/14A into 10mL P&T water
final conc:267ppb Methane, 500ppb Ethane, and 466ppb Ethene

LCS 141116A SD
4mL of Intermediate cal stock 11/15/14A into 10mL P&T water
final conc:267ppb Methane, 500ppb Ethane, and 466ppb Ethene

LCS 141119A SD
4mL of Intermediate cal stock 11/15/14A into 10mL P&T water
final conc:267ppb Methane, 500ppb Ethane, and 466ppb Ethene

CCVA 11/26/14 Expires 12/26/14 SD
2mL of Intermediate cal stock 11/15/14A into 10mL P&T water
final conc:133ppb Methane, 250ppb Ethane, and 233ppb Ethene

CCVB 11/26/14 Expires 12/26/14 SD
4mL of Intermediate cal stock 11/15/14A into 10mL P&T water
final conc:267ppb Methane, 500ppb Ethane, and 466ppb Ethene

LCS 141126A SD
4mL of Intermediate cal stock 11/15/14A into 10mL P&T water
final conc:267ppb Methane, 500ppb Ethane, and 466ppb Ethene

RR 12-3-14

Injection Log

Directory: V:\FRODO\DATA\130306\

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	0306F001.D	1	RSK L-1 03-06-13 LF	Water	6 Mar 2013 10:46
2	2	0306F002.D	1	RSK L-2 03-06-13 LF	Water	6 Mar 2013 10:55
3	3	0306F003.D	1	RSK L-3 03-06-13 LF	Water	6 Mar 2013 11:00
4	4	0306F004.D	1	RSK L-4 03-06-13 LF	Water	6 Mar 2013 11:05
5	5	0306F005.D	1	RSK L-7 03-06-13 LF	Water	6 Mar 2013 11:09
6	8	0306F008.D	1	130306A LCS-1 (SS)	Water	6 Mar 2013 11:53
33	1	1115F027.D	1	RSK CCVB 11-15-14 SD	Water	16 Nov 2014 12:05
34	1	1115F028.D	1	141116B BLK-2	Water	16 Nov 2014 12:12
35	2	1115F029.D	1	141116 LCS-2	Water	16 Nov 2014 12:17
43	4	1115F037.D	1	AZ07202W05	Water	16 Nov 2014 13:00
44	4	1115F038.D	1	AZ07203W05	Water	16 Nov 2014 13:04
47	2	1115F041.D	1	RSK CCVA 11-15-14 SD		16 Nov 2014 13:37

METALS

APPL, INC.

METALS

QC Summary

APPL, INC.

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
6020A	LEAD (PB) (DISSOL	0.40 U	3.0	0.40	0.19	ug/L	11/26/14	12/03/14	#62A14-141126B-AZ07203

Metals SC-Blank-REG MDLs
Printed: 12/04/14 10:42:24 AM

Laboratory Control Spike Recovery

METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6020A	LEAD (PB) (DISSOLVED)	50.0	46.8	93.6	80-120	11/26/14	12/03/14	#62A14-141126B-AZ07203

Comments: _____

Matrix Spike Recoveries

METALS

APPL ID: **141126W-07203 MS - 192570**

Sample ID: AZ07203

Client ID: HW111214-02

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl ug/L	Matrix Res ug/L	SPK Res ug/L	DUP Res ug/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 6020A	LEAD (PB) (DISSOLVE	50.0	0.67	47.4	47.5	93.5	93.7	0.2	20	80-120	11/26/14	12/03/14	11/26/14	12/03/14	192570	AZ07203

Comments: _____

METALS

Sample Data

APPL, INC.

Metals Analysis

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

Attn: Gene Wright

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Project: 749435 Red Hill Phase 1b TO 0068

ARF: 74924

Sample ID: HW111214-01

APPL ID: AZ07202

Sample Collection Date: 11/12/14

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6020A/3015^	LEAD (PB) (DISSOLVED)	12.2	3.0	0.40	0.19	ug/L	1	11/26/14	12/03/14

Printed: 12/04/14 10:42:36 AM

APPL-F1-SC-NoMC-REG MDLs

Sample Report

Sample Table

Sample Name	AZ07202W11
Data File Name	034SMPL.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T20:12:40-08:00
Sample Type	Sample
Dilution	1.111111111
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	-0.063	-0.070	-7.34	3	173.21	10000	
B	11	45	NoGas	85.847	95.385	2.11	60788	0.76	10000	
Na	23	45	He	28905.125	32116.805	2.08	29421984	2.33	1000000	
Mg	24	45	He	18955.283	21061.425	2.68	11126355	2.70	1000000	
Al	27	45	He	25.181	27.979	1.40	10663	1.00	1000000	
K	39	45	He	2125.524	2361.693	0.71	1829400	0.37	500000	
Ca	44	45	He	24149.538	26832.820	1.16	986278	0.88	500000	
Ti	47	45	He	0.084	0.094	98.79	79	25.47	10000	
V	51	45	He	8.257	9.175	1.26	53409	1.02	10000	
Cr	52	45	He	2.592	2.880	4.00	24426	2.90	10000	
Mn	55	45	He	1.073	1.192	5.19	8420	4.12	50000	
Fe	56	45	He	9.330	10.367	2.29	118610	1.54	1000000	
Co	59	45	He	-0.038	-0.042	-13.51	501	11.16	10000	
Ni	60	45	He	18.895	20.995	0.33	54975	0.51	10000	
Cu	63	45	He	5.819	6.466	1.59	48612	1.48	10000	
Zn	66	115	He	15.646	17.385	1.02	28855	0.84	50000	
As	75	115	He	0.750	0.834	4.67	1145	3.94	2000	
Se	78	72	H2	0.784	0.871	5.99	225	6.17	10000	
Se	78	115	He	1.410	1.567	7.92	363	3.36	10000	
Sr	88	115	NoGas	160.515	178.350	1.45	6232522	0.81	50000	
Mo	95	115	NoGas	-1.198	-1.331	-3.10	3360	7.37	10000	
Ag	107	115	NoGas	0.692	0.769	0.93	15411	0.50	5000	
Cd	111	115	He	1.677	1.863	2.07	4945	2.24	10000	
Sn	118	115	He	0.230	0.256	4.38	2823	2.32	10000	
Sn	118	115	NoGas	0.231	0.257	2.18	5361	2.00	10000	
Sb	121	115	NoGas	-0.173	-0.192	-2.80	673	12.37	10000	
Ba	137	165	NoGas	12.921	14.357	1.04	94962	1.24	50000	
Tl	205	165	NoGas	0.021	0.023	15.51	2254	8.25	5000	
Pb	208	165	NoGas	10.998	12.220	0.92	843427	0.61	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	33230	0.62	29515	112.59	70	120	
Sc	45	H2	143483	0.08	120885	118.69	70	120	
Sc	45	He	116442	0.31	90842	128.18	70	120	ISTD Failed
Sc	45	NoGas	723858	1.41	581580	124.46	70	120	ISTD Failed
Ge	72	H2	65563	1.00	55430	118.28	70	120	
Ge	72	He	81149	0.27	65257	124.35	70	120	ISTD Failed
Ge	72	NoGas	252448	1.09	205384	122.92	70	120	ISTD Failed
In	115	H2	1760104	0.90	1539397	114.34	70	120	
In	115	He	988052	0.41	837505	117.98	70	120	
In	115	NoGas	2184733	1.36	1847093	118.28	70	120	
Tb	159	H2	3644701	0.63	3319426	109.80	70	120	
Tb	159	He	2442023	1.05	2158455	113.14	70	120	
Tb	159	NoGas	3512511	0.43	3040386	115.53	70	120	
Ho	165	H2	3603489	1.69	3213372	112.14	70	120	
Ho	165	He	2388818	2.00	2137675	111.75	70	120	
Ho	165	NoGas	3466907	0.48	2965292	116.92	70	120	

Metals Analysis

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gene Wright

Project: 749435 Red Hill Phase 1b TO 0068

ARF: 74924

Sample ID: HW111214-02

APPL ID: AZ07203

Sample Collection Date: 11/12/14

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
6020A/3015^	LEAD (PB) (DISSOLVED)	0.67 J	3.0	0.40	0.19	ug/L	1	11/26/14	12/03/14

J = Estimated value.

Printed: 12/04/14 10:42:36 AM

APPL-F1-SC-NoMC-REG MDLs

Sample Report

Sample Table

Sample Name	AZ07203W11
Data File Name	035SMPL.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T20:18:40-08:00
Sample Type	Sample
Dilution	1.111111111
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	-0.066	-0.073	0.00	0	#DIV/0!	10000	
B	11	45	NoGas	79.010	87.789	0.73	55690	0.74	10000	
Na	23	45	He	33552.868	37280.964	1.41	33451246	0.69	1000000	
Mg	24	45	He	19387.000	21541.111	1.56	11158048	1.96	1000000	
Al	27	45	He	15.196	16.885	2.79	7046	1.33	1000000	
K	39	45	He	2166.251	2406.945	0.74	1825895	0.91	500000	
Ca	44	45	He	25031.061	27812.291	0.75	1002285	0.94	500000	
Ti	47	45	He	0.281	0.312	30.97	124	17.43	10000	
V	51	45	He	8.741	9.712	0.95	55392	1.44	10000	
Cr	52	45	He	1.428	1.587	2.20	15569	1.56	10000	
Mn	55	45	He	18.481	20.534	0.72	108711	0.73	50000	
Fe	56	45	He	31.544	35.049	1.57	276722	1.14	1000000	
Co	59	45	He	0.363	0.403	3.02	4884	2.31	10000	
Ni	60	45	He	8.732	9.702	0.26	25240	1.02	10000	
Cu	63	45	He	3.204	3.560	1.04	27457	0.43	10000	
Zn	66	115	He	12.520	13.911	1.38	23158	1.89	50000	
As	75	115	He	0.050	0.056	12.92	165	4.93	2000	
Se	78	72	H2	0.131	0.146	18.38	51	12.52	10000	
Se	78	115	He	0.896	0.995	20.30	297	7.77	10000	
Sr	88	115	NoGas	165.919	184.355	1.54	6451908	0.57	50000	
Mo	95	115	NoGas	-1.144	-1.271	-1.33	3784	2.25	10000	
Ag	107	115	NoGas	0.007	0.008	25.55	227	18.37	5000	
Cd	111	115	He	0.009	0.010	43.52	35	32.19	10000	
Sn	118	115	He	0.280	0.312	8.77	3133	5.54	10000	
Sn	118	115	NoGas	0.270	0.300	2.79	5881	1.89	10000	
Sb	121	115	NoGas	-0.142	-0.158	-2.86	1257	5.18	10000	
Ba	137	165	NoGas	16.481	18.313	1.16	120223	1.72	50000	
Tl	205	165	NoGas	0.019	0.021	16.82	2127	7.47	5000	
Pb	208	165	NoGas	0.599	0.665	1.93	57182	2.05	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	32746	4.40	29515	110.95	70	120	
Sc	45	H2	141576	1.74	120885	117.12	70	120	
Sc	45	He	114172	1.03	90842	125.68	70	120	ISTD Failed
Sc	45	NoGas	718645	1.00	581580	123.57	70	120	ISTD Failed
Ge	72	H2	66002	0.79	55430	119.07	70	120	
Ge	72	He	80453	1.08	65257	123.29	70	120	ISTD Failed
Ge	72	NoGas	246777	0.53	205384	120.15	70	120	ISTD Failed
In	115	H2	1721980	2.29	1539397	111.86	70	120	
In	115	He	973441	0.64	837505	116.23	70	120	
In	115	NoGas	2187950	0.96	1847093	118.45	70	120	
Tb	159	H2	3589380	0.45	3319426	108.13	70	120	
Tb	159	He	2426259	1.40	2158455	112.41	70	120	
Tb	159	NoGas	3509867	1.08	3040386	115.44	70	120	
Ho	165	H2	3519832	1.23	3213372	109.54	70	120	
Ho	165	He	2366269	1.46	2137675	110.69	70	120	
Ho	165	NoGas	3443961	0.60	2965292	116.14	70	120	

METALS

Calibration Data

APPL, INC.

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons
ARF No: 74924 SDG: 74924
Initial Calibration Source: CPI
Continuing Calibration Source: Environmental Express
Analysis Date: 12/03/14 Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration						M
	True	Found 17:30	%R(1)	True CCV1	Found 18:12	%R(1)	True CCV1	Found 20:48	%R(1)	
Lead (Pb)	100	95.5352	95.5	50	49.1768	98.4	50	49.4570	98.9	P

(1) Control Limits: Metals 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 74924 SDG: 74924

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): ug/L

Analysis Date: 12/03/14

Analyte	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
	17:42		18:24		21:00				18:54		
Lead (Pb)	3.00	U	3.00	U	3.00	U			3.00	U	P

A.P.P.L. INC.
4
ICP INTERFERENCE CHECK SAMPLE

Lab Name:	A.P.P.L. INC.	Contract:	Parsons
ARF No.:	74924	SDG:	74924
ICP ID Number:	Megatron	ICS Source:	Environmental Express

Analysis Date: 12/03/14 Concentration Units: ug/L

Analyte	True		Initial Found		
	Sol A	Sol AB	Sol A 18:30	Sol AB 18:42	%R(1)
Lead (Pb)		100	-0.030932	87.25419	87.3

(1) Control Limits: Metals 80-120

A.P.P.L. INC.
9
ICP SERIAL DILUTION

CLIENT SAMPLE NO.
HW111214-02

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 74924 SDG: 74924

Matrix: water

Analysis Date: 12/03/14 Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	%D	Q	M
Lead (Pb)	0.665118		0.26342		NA		

Comments:

12/03/14 20:18 AZ07203W11

12/03/14 20:42 AZ07203W11 1/5

Sample Report

Sample Table

Sample Name	AZ07203W11 1/5
Data File Name	039SMPL.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T20:42:43-08:00
Sample Type	Sample
Dilution	5.555555556
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	-0.059	-0.330	-18.25	7	173.21	10000	
B	11	45	NoGas	19.698	109.434	2.67	12681	3.92	10000	
Na	23	45	He	6719.619	37331.215	1.90	6085876	1.18	1000000	
Mg	24	45	He	3995.626	22197.925	1.58	2042307	0.68	1000000	
Al	27	45	He	-0.048	-0.264	-497.41	1635	3.38	1000000	
K	39	45	He	412.085	2289.360	2.37	390814	0.54	500000	
Ca	44	45	He	4980.811	27671.171	0.86	178347	1.76	500000	
Ti	47	45	He	-0.103	-0.572	-39.70	29	29.04	10000	
V	51	45	He	1.987	11.041	3.90	11696	2.47	10000	
Cr	52	45	He	0.127	0.706	8.49	5499	2.49	10000	
Mn	55	45	He	3.815	21.195	2.45	21366	0.98	50000	
Fe	56	45	He	2.486	13.809	4.95	59333	1.97	1000000	
Co	59	45	He	0.035	0.192	29.15	1142	9.63	10000	
Ni	60	45	He	1.816	10.088	3.09	5087	1.83	10000	
Cu	63	45	He	0.604	3.358	5.94	6547	2.81	10000	
Zn	66	115	He	2.574	14.301	10.90	6308	7.06	50000	
As	75	115	He	0.109	0.606	10.08	243	5.85	2000	
Se	78	72	H2	0.128	0.709	0.25	48	1.44	10000	
Se	78	115	He	0.638	3.546	36.10	263	9.94	10000	
Sr	88	115	NoGas	31.595	175.530	0.92	1197963	1.11	50000	
Mo	95	115	NoGas	-1.296	-7.201	-0.81	2544	3.72	10000	
Ag	107	115	NoGas	0.842	4.679	2.09	18287	0.94	5000	
Cd	111	115	He	0.002	0.009	250.47	14	85.71	10000	
Sn	118	115	He	0.192	1.066	4.62	2484	2.13	10000	
Sn	118	115	NoGas	0.151	0.840	1.08	4206	1.15	10000	
Sb	121	115	NoGas	0.595	3.304	3.89	14677	2.90	10000	
Ba	137	165	NoGas	3.180	17.669	4.03	23647	5.50	50000	
Tl	205	165	NoGas	0.012	0.065	27.32	1767	10.16	5000	
Pb	208	165	NoGas	0.047	0.263	9.07	15887	1.02	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	25464	2.59	29515	86.28	70	120	
Sc	45	H2	134822	0.88	120885	111.53	70	120	
Sc	45	He	101317	1.27	90842	111.53	70	120	
Sc	45	NoGas	600557	1.66	581580	103.26	70	120	
Ge	72	H2	63852	1.43	55430	115.19	70	120	
Ge	72	He	77180	0.75	65257	118.27	70	120	
Ge	72	NoGas	234403	0.68	205384	114.13	70	120	
In	115	H2	1760336	1.33	1539397	114.35	70	120	
In	115	He	961330	0.35	837505	114.79	70	120	
In	115	NoGas	2132076	1.27	1847093	115.43	70	120	
Tb	159	H2	3725186	1.51	3319426	112.22	70	120	
Tb	159	He	2437034	2.27	2158455	112.91	70	120	
Tb	159	NoGas	3523696	0.35	3040386	115.90	70	120	
Ho	165	H2	3592356	0.30	3213372	111.79	70	120	
Ho	165	He	2355014	1.40	2137675	110.17	70	120	
Ho	165	NoGas	3463560	1.79	2965292	116.80	70	120	

A.P.P.L. INC.

5B

POST DIGEST SPIKE SAMPLE RECOVERY

CLIENT SAMPLE NO.

HW111214-02

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 74924 SDG: 74924

Analysis Date: 12/03/14 Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead (Pb)	75-125	257.50762		0.665118		250.000	103		

Comments:

12/03/14 20:18 AZ07203W11

12/03/14 20:36 AZ07203W11-A

Sample Report

Sample Table

Sample Name	AZ07203W11-A
Data File Name	038SMPL.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T20:36:43-08:00
Sample Type	Sample
Dilution	1.111111111
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	44.745	49.717	2.82	59394	2.27	10000	
B	11	45	NoGas	307.652	341.836	1.39	224136	1.42	10000	
Na	23	45	He	54119.135	60132.372	1.00	53720029	0.32	1000000	
Mg	24	45	He	41708.251	46342.501	0.79	23949336	0.42	1000000	
Al	27	45	He	1935.940	2151.044	0.60	661386	1.28	1000000	
K	39	45	He	6803.617	7559.574	0.51	5477019	1.29	500000	
Ca	44	45	He	50109.049	55676.722	0.75	2000301	1.09	500000	
Ti	47	45	He	247.961	275.512	2.00	59243	1.59	10000	
V	51	45	He	280.090	311.211	0.91	1747509	1.48	10000	
Cr	52	45	He	259.062	287.847	1.06	1867786	2.09	10000	
Mn	55	45	He	281.253	312.504	0.47	1621681	1.31	50000	
Fe	56	45	He	1057.181	1174.646	1.14	7667445	0.10	1000000	
Co	59	45	He	251.860	279.844	1.97	2753860	1.71	10000	
Ni	60	45	He	244.416	271.573	0.62	688452	0.71	10000	
Cu	63	45	He	244.481	271.645	1.58	1887223	1.78	10000	
Zn	66	115	He	523.359	581.510	0.31	871136	0.50	50000	
As	75	115	He	255.841	284.268	0.27	346580	1.03	2000	
Se	78	72	H2	226.544	251.715	1.03	62180	1.73	10000	
Se	78	115	He	245.498	272.776	1.33	28895	0.58	10000	
Sr	88	115	NoGas	415.136	461.262	2.14	16296406	1.41	50000	
Mo	95	115	NoGas	271.282	301.424	2.93	2129120	0.96	10000	
Ag	107	115	NoGas	46.868	52.075	22.77	1048981	22.02	5000	
Cd	111	115	He	46.869	52.076	0.34	133870	0.92	10000	
Sn	118	115	He	263.081	292.312	1.31	1808571	2.02	10000	
Sn	118	115	NoGas	260.724	289.693	1.70	3480734	0.36	10000	
Sb	121	115	NoGas	272.233	302.482	1.46	5152975	1.01	10000	
Ba	137	165	NoGas	274.705	305.227	2.37	2030984	1.70	50000	
Tl	205	165	NoGas	229.909	255.454	0.57	12736476	0.46	5000	
Pb	208	165	NoGas	231.757	257.508	0.49	17700998	0.29	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	34967	3.50	29515	118.47	70	120	
Sc	45	H2	150639	1.11	120885	124.61	70	120	ISTD Failed
Sc	45	He	113930	1.04	90842	125.41	70	120	ISTD Failed
Sc	45	NoGas	760191	0.83	581580	130.71	70	120	ISTD Failed
Ge	72	H2	67330	0.77	55430	121.47	70	120	ISTD Failed
Ge	72	He	85349	0.92	65257	130.79	70	120	ISTD Failed
Ge	72	NoGas	257666	0.50	205384	125.46	70	120	ISTD Failed
In	115	H2	1750067	1.19	1539397	113.69	70	120	
In	115	He	958773	0.76	837505	114.48	70	120	
In	115	NoGas	2209194	2.00	1847093	119.60	70	120	
Tb	159	H2	3638145	0.73	3319426	109.60	70	120	
Tb	159	He	2363462	1.51	2158455	109.50	70	120	
Tb	159	NoGas	3548299	1.24	3040386	116.71	70	120	
Ho	165	H2	3561619	0.32	3213372	110.84	70	120	
Ho	165	He	2343243	1.03	2137675	109.62	70	120	
Ho	165	NoGas	3501524	0.79	2965292	118.08	70	120	

Calibration Blank Report

Sample Table

Sample Name	Calibration Blank
Data File Name	002CALB.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T17:00:02-08:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD
Be	9	45	NoGas	67	45.83
B	11	45	NoGas	1387	9.02
Na	23	45	He	158206	0.71
Mg	24	45	He	2087	9.91
Al	27	45	He	1479	6.19
K	39	45	He	91492	3.37
Ca	44	45	He	1515	3.56
Ti	47	45	He	46	15.23
V	51	45	He	608	3.57
Cr	52	45	He	4202	8.12
Mn	55	45	He	1643	7.24
Fe	56	45	He	38915	6.54
Co	59	45	He	722	22.25
Ni	60	45	He	488	8.54
Cu	63	45	He	2157	3.48
Zn	66	115	He	1762	6.02
As	75	115	He	83	32.53
Se	78	72	H2	13	53.31
Se	78	115	He	164	6.87
Sr	88	115	NoGas	703	8.21
Mo	95	115	NoGas	10660	2.51
Ag	107	115	NoGas	60	66.67
Cd	111	115	He	8	66.14
Sn	118	115	He	1012	2.47
Sn	118	115	NoGas	1955	6.01
Sb	121	115	NoGas	3310	6.13
Ba	137	165	NoGas	327	17.94
Tl	205	165	NoGas	960	4.54
[Pb]	206	165	NoGas	2664	6.72
[Pb]	207	165	NoGas	2337	4.73
Pb	208	165	NoGas	10535	2.76

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD
Li	6	NoGas	29515	2.34
Sc	45	H2	120885	0.30
Sc	45	He	90842	0.25
Sc	45	NoGas	581580	0.85
Ge	72	H2	55430	0.88
Ge	72	He	65257	1.18
Ge	72	NoGas	205384	1.59
In	115	H2	1539397	0.86
In	115	He	837505	0.91
In	115	NoGas	1847093	2.13
Tb	159	H2	3319426	1.01
Tb	159	He	2158455	0.43
Tb	159	NoGas	3040386	0.36
Ho	165	H2	3213372	0.78
Ho	165	He	2137675	0.93
Ho	165	NoGas	2965292	2.60

Calibration Standard Report

Sample Table

Sample Name	Standard 1
Data File Name	003CALS.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T17:06:01-08:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD	Cal Coef
Be	9	45	NoGas	40	25.00	0.9999
B	11	45	NoGas	1280	15.09	1.0000
Na	23	45	He	153706	0.37	0.9999
Mg	24	45	He	613	10.15	0.9999
Al	27	45	He	638	5.29	1.0000
K	39	45	He	90949	4.06	0.9999
Ca	44	45	He	847	10.72	1.0000
Ti	47	45	He	29	35.25	1.0000
V	51	45	He	648	3.35	1.0000
Cr	52	45	He	3916	8.46	1.0000
Mn	55	45	He	1077	11.07	1.0000
Fe	56	45	He	17804	3.39	1.0000
Co	59	45	He	147	36.57	1.0000
Ni	60	45	He	287	9.30	1.0000
Cu	63	45	He	1806	1.40	1.0000
Zn	66	115	He	918	14.11	1.0000
As	75	115	He	87	9.95	1.0000
Se	78	72	H2	9	11.62	1.0000
Se	78	115	He	183	7.91	1.0000
Sr	88	115	NoGas	530	37.15	1.0000
Mo	95	115	NoGas	5591	8.24	0.9999
Ag	107	115	NoGas	60	28.87	1.0000
Cd	111	115	He	10	80.00	1.0000
Sn	118	115	He	680	11.10	1.0000
Sn	118	115	NoGas	1385	1.81	1.0000
Sb	121	115	NoGas	2710	4.11	0.9996
Ba	137	165	NoGas	343	12.13	1.0000
Tl	205	165	NoGas	580	19.43	1.0000
[Pb]	206	165	NoGas	2150	4.58	
[Pb]	207	165	NoGas	1807	11.69	
Pb	208	165	NoGas	8411	1.56	1.0000

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	30097	1.94	29515	101.97	70	120	
Sc	45	H2	121858	0.86	120885	100.80	70	120	
Sc	45	He	91685	0.67	90842	100.93	70	120	
Sc	45	NoGas	576851	1.14	581580	99.19	70	120	
Ge	72	H2	56229	1.02	55430	101.44	70	120	
Ge	72	He	66298	1.09	65257	101.59	70	120	
Ge	72	NoGas	205740	0.85	205384	100.17	70	120	
In	115	H2	1505222	2.06	1539397	97.78	70	120	
In	115	He	839414	0.10	837505	100.23	70	120	
In	115	NoGas	1842451	1.26	1847093	99.75	70	120	
Tb	159	H2	3325515	1.23	3319426	100.18	70	120	
Tb	159	He	2173909	2.02	2158455	100.72	70	120	
Tb	159	NoGas	3047784	1.89	3040386	100.24	70	120	
Ho	165	H2	3207505	1.45	3213372	99.82	70	120	
Ho	165	He	2147524	0.63	2137675	100.46	70	120	
Ho	165	NoGas	2980813	1.49	2965292	100.52	70	120	

Calibration Standard Report

Sample Table

Sample Name	Standard 2
Data File Name	004CALS.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T17:12:02-08:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD	Cal Coef
Be	9	45	NoGas	1080	10.52	0.9999
B	11	45	NoGas	1964	12.08	1.0000
Na	23	45	He	173259	0.29	0.9999
Mg	24	45	He	24331	3.27	0.9999
Al	27	45	He	8524	4.82	1.0000
K	39	45	He	111410	3.82	0.9999
Ca	44	45	He	2601	4.04	1.0000
Ti	47	45	He	234	2.17	1.0000
V	51	45	He	6437	3.19	1.0000
Cr	52	45	He	10036	1.82	1.0000
Mn	55	45	He	6192	1.78	1.0000
Fe	56	45	He	149528	1.19	1.0000
Co	59	45	He	9983	1.35	1.0000
Ni	60	45	He	2781	3.17	1.0000
Cu	63	45	He	8935	1.88	1.0000
Zn	66	115	He	2424	3.72	1.0000
As	75	115	He	1337	1.68	1.0000
Se	78	72	H2	257	6.50	1.0000
Se	78	115	He	279	0.95	1.0000
Sr	88	115	NoGas	34748	2.46	1.0000
Mo	95	115	NoGas	9970	5.67	0.9999
Ag	107	115	NoGas	10037	2.79	1.0000
Cd	111	115	He	2633	1.25	1.0000
Sn	118	115	He	7049	2.76	1.0000
Sn	118	115	NoGas	12805	3.75	1.0000
Sb	121	115	NoGas	16602	2.24	0.9996
Ba	137	165	NoGas	6878	6.92	1.0000
Tl	205	165	NoGas	51058	1.23	1.0000
[Pb]	206	165	NoGas	19983	3.96	
[Pb]	207	165	NoGas	16933	3.82	
Pb	208	165	NoGas	78160	0.93	1.0000

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	29349	1.90	29515	99.44	70	120	
Sc	45	H2	125279	0.26	120885	103.63	70	120	
Sc	45	He	93024	1.28	90842	102.40	70	120	
Sc	45	NoGas	589414	0.55	581580	101.35	70	120	
Ge	72	H2	56760	0.44	55430	102.40	70	120	
Ge	72	He	66302	1.19	65257	101.60	70	120	
Ge	72	NoGas	207666	1.50	205384	101.11	70	120	
In	115	H2	1546963	0.89	1539397	100.49	70	120	
In	115	He	848104	0.45	837505	101.27	70	120	
In	115	NoGas	1880155	0.25	1847093	101.79	70	120	
Tb	159	H2	3345941	0.75	3319426	100.80	70	120	
Tb	159	He	2218114	0.89	2158455	102.76	70	120	
Tb	159	NoGas	3064065	0.49	3040386	100.78	70	120	
Ho	165	H2	3286409	1.82	3213372	102.27	70	120	
Ho	165	He	2148946	0.21	2137675	100.53	70	120	
Ho	165	NoGas	3020874	1.79	2965292	101.87	70	120	

Calibration Standard Report

Sample Table

Sample Name	Standard 3
Data File Name	005CALS.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T17:18:02-08:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD	Cal Coef
Be	9	45	NoGas	51344	1.51	0.9999
B	11	45	NoGas	29724	1.71	1.0000
Na	23	45	He	1233156	0.59	0.9999
Mg	24	45	He	1252048	3.56	0.9999
Al	27	45	He	293926	0.55	1.0000
K	39	45	He	749035	0.57	0.9999
Ca	44	45	He	87051	0.23	1.0000
Ti	47	45	He	10262	1.70	1.0000
V	51	45	He	266247	1.22	1.0000
Cr	52	45	He	309894	0.26	1.0000
Mn	55	45	He	245774	0.55	1.0000
Fe	56	45	He	6181060	0.49	1.0000
Co	59	45	He	467359	0.63	1.0000
Ni	60	45	He	120887	0.79	1.0000
Cu	63	45	He	333381	0.75	1.0000
Zn	66	115	He	75449	0.64	1.0000
As	75	115	He	59532	1.24	1.0000
Se	78	72	H2	11613	1.54	1.0000
Se	78	115	He	5343	1.44	1.0000
Sr	88	115	NoGas	1683946	1.68	1.0000
Mo	95	115	NoGas	338970	2.51	0.9999
Ag	107	115	NoGas	482464	0.60	1.0000
Cd	111	115	He	125860	1.01	1.0000
Sn	118	115	He	304555	0.46	1.0000
Sn	118	115	NoGas	571196	0.45	1.0000
Sb	121	115	NoGas	774758	0.32	0.9996
Ba	137	165	NoGas	319799	0.61	1.0000
Tl	205	165	NoGas	2437711	1.25	1.0000
[Pb]	206	165	NoGas	808653	0.42	
[Pb]	207	165	NoGas	708976	0.25	
Pb	208	165	NoGas	3294837	0.45	1.0000

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	30266	1.31	29515	102.55	70	120	
Sc	45	H2	125820	1.68	120885	104.08	70	120	
Sc	45	He	96669	0.96	90842	106.41	70	120	
Sc	45	NoGas	604658	0.69	581580	103.97	70	120	
Ge	72	H2	57066	1.19	55430	102.95	70	120	
Ge	72	He	67868	1.16	65257	104.00	70	120	
Ge	72	NoGas	210536	1.00	205384	102.51	70	120	
In	115	H2	1511782	3.17	1539397	98.21	70	120	
In	115	He	854937	0.04	837505	102.08	70	120	
In	115	NoGas	1886682	0.45	1847093	102.14	70	120	
Tb	159	H2	3348403	1.74	3319426	100.87	70	120	
Tb	159	He	2230718	3.58	2158455	103.35	70	120	
Tb	159	NoGas	3151485	0.83	3040386	103.65	70	120	
Ho	165	H2	3217728	1.10	3213372	100.14	70	120	
Ho	165	He	2189062	2.28	2137675	102.40	70	120	
Ho	165	NoGas	3041926	0.87	2965292	102.58	70	120	

Calibration Standard Report

Sample Table

Sample Name	Standard 4
Data File Name	006CALS.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T17:24:02-08:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	CPS	%RSD	Cal Coef
Be	9	45	NoGas	109065	0.61	0.9999
B	11	45	NoGas	60731	1.28	1.0000
Na	23	45	He	2328856	0.52	0.9999
Mg	24	45	He	2497805	0.98	0.9999
Al	27	45	He	596043	0.86	1.0000
K	39	45	He	1488257	0.57	0.9999
Ca	44	45	He	175702	0.98	1.0000
Ti	47	45	He	20891	2.18	1.0000
V	51	45	He	545754	0.48	1.0000
Cr	52	45	He	633363	0.37	1.0000
Mn	55	45	He	505777	0.82	1.0000
Fe	56	45	He	12641654	1.30	1.0000
Co	59	45	He	955728	0.35	1.0000
Ni	60	45	He	246267	0.36	1.0000
Cu	63	45	He	674694	0.47	1.0000
Zn	66	115	He	150370	0.23	1.0000
As	75	115	He	121543	0.36	1.0000
Se	78	72	H2	23789	0.27	1.0000
Se	78	115	He	10633	1.12	1.0000
Sr	88	115	NoGas	3416186	0.49	1.0000
Mo	95	115	NoGas	693407	0.82	0.9999
Ag	107	115	NoGas	974268	0.63	1.0000
Cd	111	115	He	255913	0.38	1.0000
Sn	118	115	He	616219	1.52	1.0000
Sn	118	115	NoGas	1164371	0.47	1.0000
Sb	121	115	NoGas	1669235	1.19	0.9996
Ba	137	165	NoGas	652918	1.12	1.0000
Tl	205	165	NoGas	4869461	0.22	1.0000
[Pb]	206	165	NoGas	1727484	0.81	
[Pb]	207	165	NoGas	1443343	0.68	
Pb	208	165	NoGas	6756419	0.98	1.0000

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	33285	2.18	29515	112.77	70	120	
Sc	45	H2	129826	0.83	120885	107.40	70	120	
Sc	45	He	99681	0.03	90842	109.73	70	120	
Sc	45	NoGas	620812	0.70	581580	106.75	70	120	
Ge	72	H2	58307	0.88	55430	105.19	70	120	
Ge	72	He	69289	0.64	65257	106.18	70	120	
Ge	72	NoGas	216663	1.12	205384	105.49	70	120	
In	115	H2	1580861	1.32	1539397	102.69	70	120	
In	115	He	856608	0.98	837505	102.28	70	120	
In	115	NoGas	1923927	1.05	1847093	104.16	70	120	
Tb	159	H2	3336767	0.11	3319426	100.52	70	120	
Tb	159	He	2236933	0.79	2158455	103.64	70	120	
Tb	159	NoGas	3194327	0.32	3040386	105.06	70	120	
Ho	165	H2	3273346	1.06	3213372	101.87	70	120	
Ho	165	He	2186659	1.18	2137675	102.29	70	120	
Ho	165	NoGas	3087604	1.33	2965292	104.12	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	007_ICV.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T17:30:03-08:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	45	NoGas	96.291	1.866	105496	1.99	100	96.3	89.6	110.4	
B	11	45	NoGas	94.709	1.624	58027	1.71	100	94.7	89.6	110.4	
Na	23	45	He	2332.050	2.093	2247749	1.98	2500	93.3	89.6	110.4	
Mg	24	45	He	2449.652	0.550	1264508	0.77	2500	98.0	89.6	110.4	
Al	27	45	He	2424.468	0.694	742826	0.50	2500	97.0	89.6	110.4	
K	39	45	He	2401.902	1.361	1801704	1.46	2500	96.1	89.6	110.4	
Ca	44	45	He	2559.324	1.089	93300	1.44	2500	102.4	89.6	110.4	
Ti	47	45	He	96.893	2.286	20807	2.64	100	96.9	89.6	110.4	
V	51	45	He	97.320	0.623	545316	1.19	100	97.3	89.6	110.4	
Cr	52	45	He	94.576	1.002	614817	0.27	100	94.6	89.6	110.4	
Mn	55	45	He	94.724	1.102	491315	0.89	100	94.7	89.6	110.4	
Fe	56	45	He	2405.385	1.188	15599388	0.22	2500	96.2	89.6	110.4	
Co	59	45	He	95.429	1.127	936849	0.10	100	95.4	89.6	110.4	
Ni	60	45	He	96.457	1.113	244132	0.14	100	96.5	89.6	110.4	
Cu	63	45	He	95.513	1.252	663064	0.21	100	95.5	89.6	110.4	
Zn	66	115	He	96.258	1.120	149285	1.07	100	96.3	89.6	110.4	
As	75	115	He	86.455	0.314	108069	0.55	100	86.5	89.6	110.4	>+\- 10%
Se	78	72	H2	93.880	2.388	23178	1.98	100	93.9	89.6	110.4	
Se	78	115	He	94.993	0.986	10418	0.67	100	95.0	89.6	110.4	
Sr	88	115	NoGas	95.780	2.113	3325860	1.03	100	95.8	89.6	110.4	
Mo	95	115	NoGas	98.661	0.902	692209	1.29	100	98.7	89.6	110.4	
Ag	107	115	NoGas	50.040	0.873	992119	1.29	50	100.1	89.6	110.4	
Cd	111	115	He	94.851	0.505	249848	0.65	100	94.9	89.6	110.4	
Sn	118	115	He	49.070	0.400	311959	0.59	100	49.1	89.6	110.4	>+\- 10%
Sn	118	115	NoGas	49.884	1.508	590711	1.17	100	49.9	89.6	110.4	>+\- 10%
Sb	121	115	NoGas	110.852	1.406	1857904	1.41	100	110.9	89.6	110.4	>+\- 10%
Ba	137	165	NoGas	96.296	0.163	639542	0.82	100	96.3	89.6	110.4	
Tl	205	165	NoGas	95.483	0.787	4750232	1.41	100	95.5	89.6	110.4	
Pb	208	165	NoGas	95.535	0.326	6558335	0.79	100	95.5	89.6	110.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	32781	4.37	29515	111.07	70	120	
Sc	45	H2	134047	1.33	120885	110.89	70	120	
Sc	45	He	102238	1.05	90842	112.54	70	120	
Sc	45	NoGas	627860	0.13	581580	107.96	70	120	
Ge	72	H2	60549	0.49	55430	109.23	70	120	
Ge	72	He	70252	2.41	65257	107.65	70	120	
Ge	72	NoGas	217453	0.84	205384	105.88	70	120	
In	115	H2	1642166	0.35	1539397	106.68	70	120	
In	115	He	884235	0.35	837505	105.58	70	120	
In	115	NoGas	1953915	2.13	1847093	105.78	70	120	
Tb	159	H2	3483232	0.69	3319426	104.93	70	120	
Tb	159	He	2294063	0.64	2158455	106.28	70	120	
Tb	159	NoGas	3242313	1.16	3040386	106.64	70	120	
Ho	165	H2	3372189	1.15	3213372	104.94	70	120	
Ho	165	He	2211819	2.35	2137675	103.47	70	120	
Ho	165	NoGas	3143986	0.94	2965292	106.03	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV As 50 ppb
Data File Name	008_ICV.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T17:36:04-08:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	45	NoGas	50.200	1.717	55976	1.47	100	50.2	89.6	110.4	>+\- 10%
B	11	45	NoGas	52.470	2.417	33377	1.90	100	52.5	89.6	110.4	>+\- 10%
Na	23	45	He	1349.401	0.786	1364687	0.15	2500	54.0	89.6	110.4	>+\- 10%
Mg	24	45	He	-0.491	-27.577	2079	4.15	2500	0.0	89.6	110.4	>+\- 10%
Al	27	45	He	-2.675	-8.530	840	8.59	2500	-0.1	89.6	110.4	>+\- 10%
K	39	45	He	987.272	1.051	794820	0.49	2500	39.5	89.6	110.4	>+\- 10%
Ca	44	45	He	190.266	2.568	8445	1.26	2500	7.6	89.6	110.4	>+\- 10%
Ti	47	45	He	-0.103	-38.848	29	29.04	100	-0.1	89.6	110.4	>+\- 10%
V	51	45	He	50.475	1.070	280892	0.52	100	50.5	89.6	110.4	>+\- 10%
Cr	52	45	He	50.724	1.155	329298	0.42	100	50.7	89.6	110.4	>+\- 10%
Mn	55	45	He	51.175	0.225	264179	0.74	100	51.2	89.6	110.4	>+\- 10%
Fe	56	45	He	-3.187	-0.466	23000	0.54	2500	-0.1	89.6	110.4	>+\- 10%
Co	59	45	He	52.961	0.227	516191	0.65	100	53.0	89.6	110.4	>+\- 10%
Ni	60	45	He	53.298	1.697	134067	1.13	100	53.3	89.6	110.4	>+\- 10%
Cu	63	45	He	53.436	1.476	369070	0.68	100	53.4	89.6	110.4	>+\- 10%
Zn	66	115	He	56.351	1.640	89215	1.63	100	56.4	89.6	110.4	>+\- 10%
As	75	115	He	50.197	0.314	63530	0.32	100	50.2	89.6	110.4	>+\- 10%
Se	78	72	H2	49.234	2.198	12213	1.54	100	49.2	89.6	110.4	>+\- 10%
Se	78	115	He	50.880	1.812	5728	1.74	100	50.9	89.6	110.4	>+\- 10%
Sr	88	115	NoGas	50.311	1.028	1794657	0.70	100	50.3	89.6	110.4	>+\- 10%
Mo	95	115	NoGas	-0.965	-2.374	4744	4.47	100	-1.0	89.6	110.4	>+\- 10%
Ag	107	115	NoGas	0.006	25.676	187	16.37	50	0.0	89.6	110.4	>+\- 10%
Cd	111	115	He	50.647	0.628	135002	0.76	100	50.6	89.6	110.4	>+\- 10%
Sn	118	115	He	0.176	1.628	2210	0.69	100	0.2	89.6	110.4	>+\- 10%
Sn	118	115	NoGas	0.143	5.660	3857	1.56	100	0.1	89.6	110.4	>+\- 10%
Sb	121	115	NoGas	0.345	2.275	9523	1.11	100	0.3	89.6	110.4	>+\- 10%
Ba	137	165	NoGas	50.802	1.337	339927	1.06	100	50.8	89.6	110.4	>+\- 10%
Tl	205	165	NoGas	52.162	1.372	2613585	0.90	100	52.2	89.6	110.4	>+\- 10%
Pb	208	165	NoGas	50.715	1.009	3511155	0.41	100	50.7	89.6	110.4	>+\- 10%

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	34499	0.50	29515	116.89	70	120	
Sc	45	H2	134843	0.68	120885	111.55	70	120	
Sc	45	He	101424	0.83	90842	111.65	70	120	
Sc	45	NoGas	638650	0.49	581580	109.81	70	120	
Ge	72	H2	60806	0.67	55430	109.70	70	120	
Ge	72	He	71177	0.73	65257	109.07	70	120	
Ge	72	NoGas	221474	1.77	205384	107.83	70	120	
In	115	H2	1685418	0.75	1539397	109.49	70	120	
In	115	He	894756	0.24	837505	106.84	70	120	
In	115	NoGas	2006403	1.06	1847093	108.62	70	120	
Tb	159	H2	3471066	0.35	3319426	104.57	70	120	
Tb	159	He	2297428	1.75	2158455	106.44	70	120	
Tb	159	NoGas	3231757	1.93	3040386	106.29	70	120	
Ho	165	H2	3361642	1.42	3213372	104.61	70	120	
Ho	165	He	2243524	0.91	2137675	104.95	70	120	
Ho	165	NoGas	3166084	0.59	2965292	106.77	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	009SMPL.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T17:42:07-08:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	45	NoGas	-0.050	-28.5	17	91.7	0.1	
B	11	45	NoGas	1.840	4.3	2550	1.4	8	
Na	23	45	He	-30.974	-4.9	143007	0.4	50	
Mg	24	45	He	-2.211	-3.3	1149	3.9	20	
Al	27	45	He	-2.816	-0.8	763	1.2	10	
K	39	45	He	4.326	137.9	100714	4.0	40	
Ca	44	45	He	-27.304	-4.5	691	6.6	150	
Ti	47	45	He	-0.146	-16.9	19	27.0	0.5	
V	51	45	He	0.036	20.5	843	4.9	0.4	
Cr	52	45	He	-0.135	-12.9	3663	3.7	0.2	
Mn	55	45	He	-0.108	-14.6	1228	6.3	0.3	
Fe	56	45	He	-2.515	-3.5	26154	2.9	30	
Co	59	45	He	-0.056	-5.2	252	9.9	0.4	
Ni	60	45	He	-0.053	-19.9	396	7.2	0.4	
Cu	63	45	He	-0.098	-16.0	1662	5.8	0.4	
Zn	66	115	He	-0.591	-7.0	942	6.2	15	
As	75	115	He	0.101	22.9	211	12.9	0.2	
Se	78	72	H2	0.046	27.4	25	13.0	0.4	
Se	78	115	He	0.123	243.0	184	16.7	0.4	
Sr	88	115	NoGas	-0.007	-14.4	483	8.6	0.1	
Mo	95	115	NoGas	-1.194	-3.6	2990	8.4	0.3	
Ag	107	115	NoGas	0.005	68.9	153	39.8	0.1	
Cd	111	115	He	0.001	272.2	11	71.3	0.1	
Sn	118	115	He	0.016	111.8	1151	9.2	0.1	
Sn	118	115	NoGas	0.011	147.5	2162	9.5	0.1	
Sb	121	115	NoGas	0.113	14.0	5314	4.7	0.5	
Ba	137	165	NoGas	0.000	8871.8	347	32.8	0.4	
Tl	205	165	NoGas	0.033	9.3	2640	5.1	0.2	
Pb	208	165	NoGas	-0.076	-10.4	5974	8.5	0.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	33131	3.60	29515	112.25	70	120	
Sc	45	H2	132725	1.81	120885	109.79	70	120	
Sc	45	He	97113	0.83	90842	106.90	70	120	
Sc	45	NoGas	616833	0.73	581580	106.06	70	120	
Ge	72	H2	60017	1.27	55430	108.27	70	120	
Ge	72	He	70303	1.75	65257	107.73	70	120	
Ge	72	NoGas	218374	0.64	205384	106.32	70	120	
In	115	H2	1590048	0.95	1539397	103.29	70	120	
In	115	He	871881	0.58	837505	104.10	70	120	
In	115	NoGas	1924619	1.27	1847093	104.20	70	120	
Tb	159	H2	3418369	1.49	3319426	102.98	70	120	
Tb	159	He	2260172	0.89	2158455	104.71	70	120	
Tb	159	NoGas	3192816	1.01	3040386	105.01	70	120	
Ho	165	H2	3343497	1.20	3213372	104.05	70	120	
Ho	165	He	2196100	1.98	2137675	102.73	70	120	
Ho	165	NoGas	3142914	0.65	2965292	105.99	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	014_CCV.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T18:12:16-08:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	45	NoGas	49.956	1.587	55866	1.56	50	99.9	89.6	110.4	
B	11	45	NoGas	48.718	4.182	31187	3.51	50	97.4	89.6	110.4	
Na	23	45	He	1214.463	1.172	1265452	0.38	1250	97.2	89.6	110.4	
Mg	24	45	He	2567.735	0.542	1335492	0.74	2500	102.7	89.6	110.4	
Al	27	45	He	1000.679	1.615	309908	0.69	1000	100.1	89.6	110.4	
K	39	45	He	953.153	1.440	782977	0.21	1000	95.3	89.6	110.4	
Ca	44	45	He	2489.906	2.261	91496	1.14	2500	99.6	89.6	110.4	
Ti	47	45	He	49.178	2.774	10669	3.76	50	98.4	89.6	110.4	
V	51	45	He	48.942	1.899	276653	1.33	50	97.9	89.6	110.4	
Cr	52	45	He	48.802	2.026	321965	1.01	50	97.6	89.6	110.4	
Mn	55	45	He	49.074	2.088	257357	0.99	50	98.1	89.6	110.4	
Fe	56	45	He	992.618	1.134	6512607	0.58	1000	99.3	89.6	110.4	
Co	59	45	He	49.194	0.563	487068	0.81	50	98.4	89.6	110.4	
Ni	60	45	He	49.784	0.829	127238	0.31	50	99.6	89.6	110.4	
Cu	63	45	He	49.778	1.989	349366	0.96	50	99.6	89.6	110.4	
Zn	66	115	He	49.828	1.418	79076	0.70	50	99.7	89.6	110.4	
As	75	115	He	48.895	1.094	61863	0.21	50	97.8	89.6	110.4	
Se	78	72	H2	47.742	1.577	12053	1.87	50	95.5	89.6	110.4	
Se	78	115	He	49.475	0.571	5573	0.61	50	98.9	89.6	110.4	
Sr	88	115	NoGas	48.942	0.900	1725392	0.34	50	97.9	89.6	110.4	
Mo	95	115	NoGas	47.197	0.986	342050	1.01	50	94.4	89.6	110.4	
Ag	107	115	NoGas	24.757	0.580	498209	0.62	25	99.0	89.6	110.4	
Cd	111	115	He	48.839	1.300	130137	0.60	50	97.7	89.6	110.4	
Sn	118	115	He	48.831	0.853	314037	0.47	50	97.7	89.6	110.4	
Sn	118	115	NoGas	48.817	1.069	586760	0.16	50	97.6	89.6	110.4	
Sb	121	115	NoGas	46.475	2.177	792560	1.24	50	92.9	89.6	110.4	
Ba	137	165	NoGas	49.098	1.993	327021	0.10	50	98.2	89.6	110.4	
Tl	205	165	NoGas	48.852	0.334	2437072	1.64	50	97.7	89.6	110.4	
Pb	208	165	NoGas	49.177	0.748	3389941	1.44	50	98.4	89.6	110.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	33719	2.60	29515	114.24	70	120	
Sc	45	H2	140161	0.25	120885	115.95	70	120	
Sc	45	He	103021	1.07	90842	113.41	70	120	
Sc	45	NoGas	640493	0.84	581580	110.13	70	120	
Ge	72	H2	61875	0.93	55430	111.63	70	120	
Ge	72	He	71402	0.27	65257	109.42	70	120	
Ge	72	NoGas	221449	1.63	205384	107.82	70	120	
In	115	H2	1660615	0.55	1539397	107.87	70	120	
In	115	He	894500	0.89	837505	106.81	70	120	
In	115	NoGas	1982922	1.08	1847093	107.35	70	120	
Tb	159	H2	3472204	0.58	3319426	104.60	70	120	
Tb	159	He	2300178	0.52	2158455	106.57	70	120	
Tb	159	NoGas	3220229	0.83	3040386	105.92	70	120	
Ho	165	H2	3387203	1.13	3213372	105.41	70	120	
Ho	165	He	2236841	0.47	2137675	104.64	70	120	
Ho	165	NoGas	3152195	1.95	2965292	106.30	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	016_CCB.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T18:24:18-08:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	45	NoGas	-0.066	0.0	0	#DIV/0!	0.1	
B	11	45	NoGas	0.121	178.3	1577	8.3	8	
Na	23	45	He	-39.746	-6.7	139289	0.0	50	
Mg	24	45	He	-3.380	-1.9	592	4.1	20	
Al	27	45	He	-3.349	-4.2	624	5.2	10	
K	39	45	He	13.370	11.9	109707	2.4	40	
Ca	44	45	He	-19.617	-10.4	978	6.5	150	
Ti	47	45	He	-0.160	-9.4	17	20.0	0.5	
V	51	45	He	0.065	5.4	1023	0.9	0.4	
Cr	52	45	He	-0.210	-4.8	3294	1.7	0.2	
Mn	55	45	He	-0.051	-15.4	1549	3.7	0.3	
Fe	56	45	He	-3.946	-1.1	17829	1.6	30	
Co	59	45	He	-0.068	-5.9	144	28.5	0.4	
Ni	60	45	He	-0.064	-28.1	378	13.2	0.4	
Cu	63	45	He	-0.141	-9.5	1417	7.5	0.4	
Zn	66	115	He	-0.195	-27.7	1581	5.3	15	
As	75	115	He	0.015	91.3	107	15.6	0.2	
Se	78	72	H2	-0.021	-46.4	9	26.4	0.4	
Se	78	115	He	0.101	120.7	186	7.3	0.4	
Sr	88	115	NoGas	0.001	294.1	783	11.2	0.1	
Mo	95	115	NoGas	-1.416	-1.3	1520	9.2	0.3	
Ag	107	115	NoGas	-0.001	-208.7	53	43.3	0.1	
Cd	111	115	He	0.000	401.9	9	32.7	0.1	
Sn	118	115	He	0.035	59.9	1306	10.3	0.1	
Sn	118	115	NoGas	0.035	29.3	2512	3.6	0.1	
Sb	121	115	NoGas	0.041	43.5	4237	5.8	0.5	
Ba	137	165	NoGas	-0.001	-303.5	337	6.2	0.4	
Tl	205	165	NoGas	-0.005	-44.5	793	13.5	0.2	
Pb	208	165	NoGas	-0.103	-0.7	4120	1.5	0.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	34170	0.94	29515	115.77	70	120	
Sc	45	H2	138963	1.06	120885	114.95	70	120	
Sc	45	He	99759	1.63	90842	109.82	70	120	
Sc	45	NoGas	630410	0.93	581580	108.40	70	120	
Ge	72	H2	62292	0.69	55430	112.38	70	120	
Ge	72	He	71673	1.38	65257	109.83	70	120	
Ge	72	NoGas	221944	1.30	205384	108.06	70	120	
In	115	H2	1669264	0.60	1539397	108.44	70	120	
In	115	He	895499	0.18	837505	106.92	70	120	
In	115	NoGas	1978777	1.27	1847093	107.13	70	120	
Tb	159	H2	3456769	0.47	3319426	104.14	70	120	
Tb	159	He	2255009	0.81	2158455	104.47	70	120	
Tb	159	NoGas	3208265	1.29	3040386	105.52	70	120	
Ho	165	H2	3382151	0.38	3213372	105.25	70	120	
Ho	165	He	2209737	1.67	2137675	103.37	70	120	
Ho	165	NoGas	3137841	1.13	2965292	105.82	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	017ICSA.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T18:30:18-08:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	45	NoGas	-0.059	-18.3	7	173.2	0.1	
B	11	45	NoGas	2.401	23.0	2834	11.9	8	
Na	23	45	He	44145.807	0.6	39066871	0.3	60000	
Mg	24	45	He	45266.745	0.8	23153244	0.6	60000	
Al	27	45	He	48017.877	0.4	14573028	0.9	60000	
K	39	45	He	45190.652	1.2	31828812	1.8	60000	
Ca	44	45	He	50185.170	0.5	1784531	1.2	60000	
Ti	47	45	He	969.057	0.8	206099	1.0	1200	
V	51	45	He	0.006	480.1	709	20.0	0.2	
Cr	52	45	He	0.302	41.3	6624	11.3	30	
Mn	55	45	He	2.673	3.4	15546	2.3	24	
Fe	56	45	He	47355.045	0.6	304048175	0.9	60000	
Co	59	45	He	0.532	7.1	5986	5.4	5	
Ni	60	45	He	0.747	7.7	2416	5.2	20	
Cu	63	45	He	0.175	6.6	3613	1.7	25	
Zn	66	115	He	-0.100	-126.0	1630	10.8	60	
As	75	115	He	0.224	22.0	351	17.0	0.4	
Se	78	72	H2	-0.002	-535.9	14	23.3	0.4	
Se	78	115	He	0.139	79.4	180	5.8	0.4	
Sr	88	115	NoGas	1.964	1.4	65779	0.9	5	
Mo	95	115	NoGas	1013.964	0.7	6689480	0.3	1200	
Ag	107	115	NoGas	0.018	19.7	407	17.8	5	
Cd	111	115	He	0.144	6.8	371	5.9	0.5	
Sn	118	115	He	0.233	8.7	2430	5.3	5	
Sn	118	115	NoGas	0.237	1.7	4640	0.8	5	
Sb	121	115	NoGas	0.291	5.6	7979	3.7	5	
Ba	137	165	NoGas	0.111	10.8	1073	7.9	1.5	
Tl	205	165	NoGas	0.002	120.0	1120	11.2	0.2	
Pb	208	165	NoGas	-0.031	-23.7	8975	4.9	1	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	30777	1.03	29515	104.28	70	120	
Sc	45	H2	138093	1.11	120885	114.23	70	120	
Sc	45	He	101482	0.72	90842	111.71	70	120	
Sc	45	NoGas	606734	1.00	581580	104.33	70	120	
Ge	72	H2	61314	0.38	55430	110.62	70	120	
Ge	72	He	72550	1.76	65257	111.18	70	120	
Ge	72	NoGas	221676	1.23	205384	107.93	70	120	
In	115	H2	1559413	2.07	1539397	101.30	70	120	
In	115	He	844717	0.69	837505	100.86	70	120	
In	115	NoGas	1864602	0.98	1847093	100.95	70	120	
Tb	159	H2	3369786	0.26	3319426	101.52	70	120	
Tb	159	He	2243748	0.58	2158455	103.95	70	120	
Tb	159	NoGas	3127630	0.92	3040386	102.87	70	120	
Ho	165	H2	3288506	2.18	3213372	102.34	70	120	
Ho	165	He	2203331	0.47	2137675	103.07	70	120	
Ho	165	NoGas	3116971	0.71	2965292	105.12	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	019ICSB.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T18:42:20-08:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	45	NoGas	41.516	2.363	41837	2.07	50	83.0	80	120	
B	11	45	NoGas	1.538	11.925	2220	4.75	-8	-19.2	80	120	
Na	23	45	He	43092.926	0.812	36021189	0.53	50000	86.2	80	120	
Mg	24	45	He	44697.258	1.235	21591530	0.23	50000	89.4	80	120	
Al	27	45	He	47304.679	1.956	13557511	0.73	50000	94.6	80	120	
K	39	45	He	45117.691	0.796	30011502	0.96	50000	90.2	80	120	
Ca	44	45	He	49706.809	1.605	1669234	1.05	50000	99.4	80	120	
Ti	47	45	He	963.738	1.460	193589	1.71	1000	96.4	80	120	
V	51	45	He	47.399	1.158	249310	0.62	50	94.8	80	120	
Cr	52	45	He	46.133	1.307	283423	0.25	50	92.3	80	120	
Mn	55	45	He	48.477	1.503	236574	1.27	50	97.0	80	120	
Fe	56	45	He	47236.325	1.228	286433331	0.88	50000	94.5	80	120	
Co	59	45	He	46.712	1.128	430313	0.61	50	93.4	80	120	
Ni	60	45	He	92.493	1.333	219488	0.42	100	92.5	80	120	
Cu	63	45	He	46.167	1.184	301644	0.32	50	92.3	80	120	
Zn	66	115	He	92.053	0.324	133290	0.34	100	92.1	80	120	
As	75	115	He	46.796	1.253	54619	1.06	50	93.6	80	120	
Se	78	72	H2	42.650	3.112	10508	0.69	50	85.3	80	120	
Se	78	115	He	47.398	1.516	4931	1.17	50	94.8	80	120	
Sr	88	115	NoGas	1.909	2.739	62792	2.14	-5	-38.2	80	120	
Mo	95	115	NoGas	1036.290	1.775	6711073	1.03	1050	98.7	80	120	
Ag	107	115	NoGas	94.252	1.002	1750740	0.83	100	94.3	80	120	
Cd	111	115	He	91.435	0.148	224739	0.40	100	91.4	80	120	
Sn	118	115	He	0.209	11.815	2235	6.23	50	0.4	80	120	>+\- 20%
Sn	118	115	NoGas	0.211	4.573	4275	2.94	50	0.4	80	120	>+\- 20%
Sb	121	115	NoGas	51.985	1.134	818089	1.24	50	104.0	80	120	
Ba	137	165	NoGas	45.322	0.585	292681	0.53	50	90.6	80	120	
Tl	205	165	NoGas	43.741	1.005	2115080	0.05	50	87.5	80	120	
Pb	208	165	NoGas	87.254	0.128	5821879	0.94	100	87.3	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	28141	4.51	29515	95.35	70	120	
Sc	45	H2	131964	1.55	120885	109.16	70	120	
Sc	45	He	95851	1.30	90842	105.51	70	120	
Sc	45	NoGas	577023	0.29	581580	99.22	70	120	
Ge	72	H2	60408	2.48	55430	108.98	70	120	
Ge	72	He	69404	0.78	65257	106.36	70	120	
Ge	72	NoGas	212959	0.53	205384	103.69	70	120	
In	115	H2	1521296	0.84	1539397	98.82	70	120	
In	115	He	825085	0.30	837505	98.52	70	120	
In	115	NoGas	1830461	0.75	1847093	99.10	70	120	
Tb	159	H2	3317535	0.90	3319426	99.94	70	120	
Tb	159	He	2173255	1.47	2158455	100.69	70	120	
Tb	159	NoGas	3025814	1.00	3040386	99.52	70	120	
Ho	165	H2	3324143	0.73	3213372	103.45	70	120	
Ho	165	He	2143279	0.60	2137675	100.26	70	120	
Ho	165	NoGas	3055313	1.05	2965292	103.04	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	040_CCV.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T20:48:44-08:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	45	NoGas	45.380	3.262	47447	3.07	50	90.8	89.6	110.4	
B	11	45	NoGas	48.224	2.480	28876	2.14	50	96.4	89.6	110.4	
Na	23	45	He	1283.334	2.338	1323774	1.56	1250	102.7	89.6	110.4	
Mg	24	45	He	2412.900	0.831	1252069	1.22	2500	96.5	89.6	110.4	
Al	27	45	He	942.682	0.846	291346	0.28	1000	94.3	89.6	110.4	
K	39	45	He	936.862	0.869	769516	0.35	1000	93.7	89.6	110.4	
Ca	44	45	He	2428.633	0.351	89080	0.41	2500	97.1	89.6	110.4	
Ti	47	45	He	47.568	2.239	10293	1.54	50	95.1	89.6	110.4	
V	51	45	He	49.819	1.498	280918	0.88	50	99.6	89.6	110.4	
Cr	52	45	He	48.554	1.040	319596	0.53	50	97.1	89.6	110.4	
Mn	55	45	He	49.638	0.159	259694	0.54	50	99.3	89.6	110.4	
Fe	56	45	He	991.836	1.056	6491656	0.44	1000	99.2	89.6	110.4	
Co	59	45	He	49.767	0.292	491529	0.41	50	99.5	89.6	110.4	
Ni	60	45	He	50.254	0.533	128125	0.73	50	100.5	89.6	110.4	
Cu	63	45	He	49.876	0.023	349235	0.71	50	99.8	89.6	110.4	
Zn	66	115	He	46.828	1.465	80583	1.35	50	93.7	89.6	110.4	
As	75	115	He	46.972	0.347	64348	0.55	50	93.9	89.6	110.4	
Se	78	72	H2	47.381	2.680	12368	0.99	50	94.8	89.6	110.4	
Se	78	115	He	47.698	2.790	5823	2.45	50	95.4	89.6	110.4	
Sr	88	115	NoGas	47.361	1.884	1827994	0.49	50	94.7	89.6	110.4	
Mo	95	115	NoGas	45.037	1.946	357904	0.49	50	90.1	89.6	110.4	
Ag	107	115	NoGas	25.023	0.632	551359	1.27	25	100.1	89.6	110.4	
Cd	111	115	He	48.805	0.513	140798	0.26	50	97.6	89.6	110.4	
Sn	118	115	He	49.363	0.542	343682	0.55	50	98.7	89.6	110.4	
Sn	118	115	NoGas	49.691	0.714	653978	1.55	50	99.4	89.6	110.4	
Sb	121	115	NoGas	47.669	1.097	890045	0.35	50	95.3	89.6	110.4	
Ba	137	165	NoGas	49.433	0.856	369116	0.18	50	98.9	89.6	110.4	
Tl	205	165	NoGas	48.845	1.484	2731160	1.26	50	97.7	89.6	110.4	
Pb	208	165	NoGas	49.457	1.010	3821270	0.32	50	98.9	89.6	110.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	26610	1.02	29515	90.16	70	120	
Sc	45	H2	134961	0.70	120885	111.64	70	120	
Sc	45	He	102767	0.69	90842	113.13	70	120	
Sc	45	NoGas	598755	0.28	581580	102.95	70	120	
Ge	72	H2	63996	1.94	55430	115.45	70	120	
Ge	72	He	77500	1.47	65257	118.76	70	120	
Ge	72	NoGas	231961	1.24	205384	112.94	70	120	
In	115	H2	1759582	0.49	1539397	114.30	70	120	
In	115	He	968393	0.26	837505	115.63	70	120	
In	115	NoGas	2171162	1.40	1847093	117.54	70	120	
Tb	159	H2	3758304	0.38	3319426	113.22	70	120	
Tb	159	He	2482908	1.29	2158455	115.03	70	120	
Tb	159	NoGas	3561245	1.52	3040386	117.13	70	120	
Ho	165	H2	3721178	1.76	3213372	115.80	70	120	
Ho	165	He	2443862	0.41	2137675	114.32	70	120	
Ho	165	NoGas	3533125	0.82	2965292	119.15	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	042_CCB.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T21:00:45-08:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	002CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	45	NoGas	-0.050	-40.1	17	124.9	0.1	
B	11	45	NoGas	3.062	16.3	3167	8.4	8	
Na	23	45	He	46.013	7.5	213565	0.5	50	
Mg	24	45	He	-2.968	-4.9	799	8.4	20	
Al	27	45	He	-3.299	-0.7	640	1.8	10	
K	39	45	He	10.513	28.4	107741	2.8	40	
Ca	44	45	He	-19.439	-0.8	984	1.4	150	
Ti	47	45	He	-0.197	-20.5	9	94.4	0.5	
V	51	45	He	0.209	12.7	1809	7.4	0.4	
Cr	52	45	He	-0.242	-0.5	3088	1.2	0.2	
Mn	55	45	He	0.026	44.3	1935	2.5	0.3	
Fe	56	45	He	-3.762	-2.1	18992	1.8	30	
Co	59	45	He	-0.062	-3.6	201	9.7	0.4	
Ni	60	45	He	-0.066	-30.6	372	12.7	0.4	
Cu	63	45	He	-0.118	-3.8	1571	1.4	0.4	
Zn	66	115	He	-0.343	-13.6	1461	5.2	15	
As	75	115	He	0.021	97.8	124	22.6	0.2	
Se	78	72	H2	0.008	176.5	17	22.9	0.4	
Se	78	115	He	0.402	34.4	237	6.6	0.4	>LOD
Sr	88	115	NoGas	0.008	51.7	1113	13.1	0.1	
Mo	95	115	NoGas	-1.427	-1.6	1567	9.9	0.3	
Ag	107	115	NoGas	0.191	8.9	4241	8.3	0.1	>LOD
Cd	111	115	He	0.000	9713.1	9	65.5	0.1	
Sn	118	115	He	0.051	31.9	1527	7.7	0.1	
Sn	118	115	NoGas	0.057	3.7	3015	2.0	0.1	
Sb	121	115	NoGas	0.026	31.8	4327	4.3	0.5	
Ba	137	165	NoGas	0.015	84.4	497	19.6	0.4	
Tl	205	165	NoGas	-0.002	-95.1	1007	13.2	0.2	
Pb	208	165	NoGas	-0.106	-0.9	4400	1.6	0.4	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	27143	1.13	29515	91.96	70	120	
Sc	45	H2	131527	0.39	120885	108.80	70	120	
Sc	45	He	99759	0.90	90842	109.82	70	120	
Sc	45	NoGas	598144	0.63	581580	102.85	70	120	
Ge	72	H2	63677	0.91	55430	114.88	70	120	
Ge	72	He	76857	0.99	65257	117.78	70	120	
Ge	72	NoGas	228806	1.56	205384	111.40	70	120	
In	115	H2	1751688	2.20	1539397	113.79	70	120	
In	115	He	968227	0.27	837505	115.61	70	120	
In	115	NoGas	2149861	1.17	1847093	116.39	70	120	
Tb	159	H2	3753950	1.09	3319426	113.09	70	120	
Tb	159	He	2461448	1.19	2158455	114.04	70	120	
Tb	159	NoGas	3569931	0.48	3040386	117.42	70	120	
Ho	165	H2	3659337	1.08	3213372	113.88	70	120	
Ho	165	He	2390779	2.94	2137675	111.84	70	120	
Ho	165	NoGas	3522740	1.20	2965292	118.80	70	120	

METALS

Raw Data

APPL, INC.

METALS BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
6020A	LEAD (PB) (DISSOL	0.40 U	3.0	0.40	0.19	ug/L	11/26/14	12/03/14	#62A14-141126B-AZ07203

Metals SC-Blank-REG MDLs
Printed: 12/04/14 10:42:24 AM

Sample Report

Sample Table

Sample Name	141126B BLK
Data File Name	021SMPL.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T18:54:20-08:00
Sample Type	Sample
Dilution	1.111111111
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	-0.066	-0.073	0.00	0	#DIV/0!	10000	
B	11	45	NoGas	-0.310	-0.344	-97.04	1503	14.30	10000	
Na	23	45	He	-60.122	-66.802	-5.12	137366	0.49	1000000	
Mg	24	45	He	-2.092	-2.325	-18.11	1400	15.10	1000000	
Al	27	45	He	-2.238	-2.487	-7.24	1080	5.57	1000000	
K	39	45	He	-6.722	-7.469	-97.45	108167	2.96	500000	
Ca	44	45	He	-29.547	-32.830	-6.37	712	8.78	500000	
Ti	47	45	He	-0.131	-0.145	-28.63	26	32.81	10000	
V	51	45	He	-0.104	-0.116	-9.37	112	53.33	10000	
Cr	52	45	He	-0.315	-0.349	-8.40	2973	4.57	10000	
Mn	55	45	He	0.012	0.014	331.19	2106	9.68	50000	
Fe	56	45	He	-3.174	-3.527	-3.16	25630	1.62	1000000	
Co	59	45	He	-0.049	-0.054	-7.98	370	12.71	10000	
Ni	60	45	He	0.070	0.078	31.42	800	6.93	10000	
Cu	63	45	He	-0.082	-0.091	-18.43	2047	3.96	10000	
Zn	66	115	He	-0.325	-0.361	-20.52	1422	7.45	50000	
As	75	115	He	-0.033	-0.037	-15.78	48	14.43	2000	
Se	78	72	H2	-0.010	-0.012	-35.61	12	8.53	10000	
Se	78	115	He	0.382	0.424	5.86	224	1.29	10000	
Sr	88	115	NoGas	-0.007	-0.007	-27.52	540	11.57	50000	
Mo	95	115	NoGas	-0.868	-0.964	-3.01	5531	3.89	10000	
Ag	107	115	NoGas	0.000	0.000	613.98	73	64.45	5000	
Cd	111	115	He	0.001	0.001	324.70	11	71.32	10000	
Sn	118	115	He	-0.068	-0.076	-17.23	666	11.79	10000	
Sn	118	115	NoGas	-0.067	-0.075	-8.19	1333	7.17	10000	
Sb	121	115	NoGas	-0.102	-0.114	-5.09	1870	3.74	10000	
Ba	137	165	NoGas	-0.032	-0.036	-16.28	133	26.34	50000	
Tl	205	165	NoGas	0.025	0.028	20.56	2284	11.26	5000	
Pb	208	165	NoGas	-0.118	-0.132	-2.78	3087	7.51	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	40982	1.65	29515	138.85	70	120	ISTD Failed
Sc	45	H2	145214	0.43	120885	120.13	70	120	ISTD Failed
Sc	45	He	112660	1.85	90842	124.02	70	120	ISTD Failed
Sc	45	NoGas	718441	0.79	581580	123.53	70	120	ISTD Failed
Ge	72	H2	65664	0.82	55430	118.46	70	120	
Ge	72	He	77063	0.52	65257	118.09	70	120	
Ge	72	NoGas	241777	1.02	205384	117.72	70	120	
In	115	H2	1665051	1.00	1539397	108.16	70	120	
In	115	He	922961	0.24	837505	110.20	70	120	
In	115	NoGas	2043860	2.40	1847093	110.65	70	120	
Tb	159	H2	3372160	1.40	3319426	101.59	70	120	
Tb	159	He	2274912	0.56	2158455	105.40	70	120	
Tb	159	NoGas	3269139	1.34	3040386	107.52	70	120	
Ho	165	H2	3334304	2.05	3213372	103.76	70	120	
Ho	165	He	2231545	0.80	2137675	104.39	70	120	
Ho	165	NoGas	3169316	0.17	2965292	106.88	70	120	

Laboratory Control Spike Recovery
METALS

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level ug/L	SPK Result ug/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 6020A	LEAD (PB) (DISSOLVED)	50.0	46.8	93.6	80-120	11/26/14	12/03/14	#62A14-141126B-AZ07203

Comments: _____

Sample Report

Sample Table

Sample Name	141126B LCS
Data File Name	022SMPL.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T19:00:20-08:00
Sample Type	Sample
Dilution	1.111111111
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	9.031	10.034	0.91	11727	0.94	10000	
B	11	45	NoGas	45.990	51.100	2.57	34088	2.74	10000	
Na	23	45	He	4286.154	4762.394	1.37	4465767	0.66	1000000	
Mg	24	45	He	4509.707	5010.786	0.73	2609017	2.31	1000000	
Al	27	45	He	372.906	414.340	0.47	129727	1.29	1000000	
K	39	45	He	862.841	958.712	1.27	799859	0.65	500000	
Ca	44	45	He	4455.528	4950.587	1.43	180747	1.57	500000	
Ti	47	45	He	44.609	49.566	1.16	10774	1.20	10000	
V	51	45	He	44.283	49.203	0.44	278708	1.22	10000	
Cr	52	45	He	42.377	47.085	0.61	311909	1.08	10000	
Mn	55	45	He	42.988	47.764	0.19	251232	1.78	50000	
Fe	56	45	He	175.897	195.441	3.22	1325480	4.63	1000000	
Co	59	45	He	42.364	47.071	0.58	467005	1.68	10000	
Ni	60	45	He	41.542	46.158	0.55	118280	1.11	10000	
Cu	63	45	He	41.154	45.726	0.88	321980	0.78	10000	
Zn	66	115	He	86.611	96.235	0.75	143167	1.13	50000	
As	75	115	He	42.779	47.533	0.93	56960	0.59	2000	
Se	78	72	H2	39.329	43.699	1.24	10626	0.97	10000	
Se	78	115	He	43.247	48.052	1.92	5149	2.20	10000	
Sr	88	115	NoGas	43.686	48.540	1.10	1655902	1.15	50000	
Mo	95	115	NoGas	44.370	49.300	1.51	346449	1.40	10000	
Ag	107	115	NoGas	17.297	19.219	2.28	374252	2.18	5000	
Cd	111	115	He	8.056	8.951	0.59	22597	2.04	10000	
Sn	118	115	He	44.085	48.984	1.71	298386	0.45	10000	
Sn	118	115	NoGas	44.174	49.082	0.81	571082	1.08	10000	
Sb	121	115	NoGas	43.443	48.270	0.55	796850	0.90	10000	
Ba	137	165	NoGas	45.021	50.024	1.18	305846	0.71	50000	
Tl	205	165	NoGas	42.987	47.764	1.86	2186524	0.26	5000	
Pb	208	165	NoGas	42.141	46.824	1.20	2963807	1.34	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	41907	0.83	29515	141.99	70	120	ISTD Failed
Sc	45	H2	148863	2.07	120885	123.14	70	120	ISTD Failed
Sc	45	He	114670	1.64	90842	126.23	70	120	ISTD Failed
Sc	45	NoGas	739336	0.68	581580	127.13	70	120	ISTD Failed
Ge	72	H2	66206	1.50	55430	119.44	70	120	
Ge	72	He	77649	1.75	65257	118.99	70	120	
Ge	72	NoGas	245973	1.21	205384	119.76	70	120	
In	115	H2	1702096	0.83	1539397	110.57	70	120	
In	115	He	941174	1.46	837505	112.38	70	120	
In	115	NoGas	2131781	0.36	1847093	115.41	70	120	
Tb	159	H2	3455523	0.68	3319426	104.10	70	120	
Tb	159	He	2263689	0.60	2158455	104.88	70	120	
Tb	159	NoGas	3260651	1.72	3040386	107.24	70	120	
Ho	165	H2	3343303	0.95	3213372	104.04	70	120	
Ho	165	He	2248214	1.31	2137675	105.17	70	120	
Ho	165	NoGas	3214277	1.59	2965292	108.40	70	120	

Matrix Spike Recoveries

METALS

APPL ID: **141126W-07203 MS - 192570**

Sample ID: AZ07203

Client ID: HW111214-02

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl ug/L	Matrix Res ug/L	SPK Res ug/L	DUP Res ug/L	SPK % Recovery	DUP % Recovery	RPD	RPD Max	Recovery Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group	QC Sample
EPA 6020A	LEAD (PB) (DISSOLVE	50.0	0.67	47.4	47.5	93.5	93.7	0.2	20	80-120	11/26/14	12/03/14	11/26/14	12/03/14	192570	AZ07203

Comments: _____

Sample Report

Sample Table

Sample Name	AZ07203W11 MS
Data File Name	036SMPL.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T20:24:43-08:00
Sample Type	Sample
Dilution	1.111111111
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	7.990	8.878	1.20	10066	0.51	10000	
B	11	45	NoGas	117.869	130.966	1.67	82005	0.97	10000	
Na	23	45	He	37104.159	41226.843	2.43	37232383	2.83	1000000	
Mg	24	45	He	23636.629	26262.921	1.63	13698082	2.11	1000000	
Al	27	45	He	360.764	400.849	1.86	125887	1.73	1000000	
K	39	45	He	3000.470	3333.856	1.52	2502061	1.65	500000	
Ca	44	45	He	29349.754	32610.838	0.97	1183077	1.37	500000	
Ti	47	45	He	42.340	47.044	2.02	10256	2.14	10000	
V	51	45	He	52.980	58.866	1.14	334174	1.54	10000	
Cr	52	45	He	43.224	48.027	1.03	318868	0.90	10000	
Mn	55	45	He	59.929	66.588	1.23	350302	0.85	50000	
Fe	56	45	He	206.228	229.143	0.74	1549038	0.82	1000000	
Co	59	45	He	41.837	46.485	0.41	462386	0.49	10000	
Ni	60	45	He	43.368	48.186	0.76	123779	1.45	10000	
Cu	63	45	He	41.207	45.786	1.13	323265	1.63	10000	
Zn	66	115	He	91.170	101.300	1.54	153412	1.15	50000	
As	75	115	He	42.111	46.790	1.23	57123	0.95	2000	
Se	78	72	H2	39.396	43.773	0.94	10469	1.30	10000	
Se	78	115	He	41.666	46.296	0.91	5060	0.28	10000	
Sr	88	115	NoGas	213.191	236.878	0.87	8160412	1.37	50000	
Mo	95	115	NoGas	44.046	48.940	0.73	347520	0.96	10000	
Ag	107	115	NoGas	17.112	19.013	1.41	373998	1.00	5000	
Cd	111	115	He	8.132	9.036	0.90	23235	0.09	10000	
Sn	118	115	He	45.314	50.349	0.45	312456	0.95	10000	
Sn	118	115	NoGas	46.407	51.564	0.67	605939	0.62	10000	
Sb	121	115	NoGas	48.153	53.503	0.63	891796	0.33	10000	
Ba	137	165	NoGas	61.477	68.308	1.15	443482	0.74	50000	
Tl	205	165	NoGas	42.684	47.427	1.81	2306286	1.22	5000	
Pb	208	165	NoGas	42.638	47.375	0.34	3185087	0.41	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	32559	1.24	29515	110.31	70	120	
Sc	45	H2	142345	0.72	120885	117.75	70	120	
Sc	45	He	114965	0.85	90842	126.55	70	120	ISTD Failed
Sc	45	NoGas	716660	0.81	581580	123.23	70	120	ISTD Failed
Ge	72	H2	65123	2.24	55430	117.49	70	120	
Ge	72	He	80511	0.33	65257	123.38	70	120	ISTD Failed
Ge	72	NoGas	251207	1.13	205384	122.31	70	120	ISTD Failed
In	115	H2	1718596	1.49	1539397	111.64	70	120	
In	115	He	958773	0.84	837505	114.48	70	120	
In	115	NoGas	2153517	0.52	1847093	116.59	70	120	
Tb	159	H2	3585998	1.07	3319426	108.03	70	120	
Tb	159	He	2383963	1.55	2158455	110.45	70	120	
Tb	159	NoGas	3529291	0.65	3040386	116.08	70	120	
Ho	165	H2	3500322	1.38	3213372	108.93	70	120	
Ho	165	He	2370177	2.32	2137675	110.88	70	120	
Ho	165	NoGas	3413987	0.69	2965292	115.13	70	120	

Sample Report

Sample Table

Sample Name	AZ07203W11 MSD
Data File Name	037SMPL.d
Data Path Name	D:\DATA\141203A.b
Acq Date Time	2014-12-03T20:30:42-08:00
Sample Type	Sample
Dilution	1.111111111
Comment	
ISTD Ref FileName	002CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	ISTD Mass	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	45	NoGas	8.068	8.964	3.51	10450	3.37	10000	
B	11	45	NoGas	117.315	130.350	1.33	83929	1.31	10000	
Na	23	45	He	37903.178	42114.642	0.65	38828038	0.76	1000000	
Mg	24	45	He	23859.613	26510.681	1.65	14116366	0.31	1000000	
Al	27	45	He	371.784	413.093	1.56	132400	0.82	1000000	
K	39	45	He	3057.063	3396.737	0.73	2600722	1.15	500000	
Ca	44	45	He	30511.185	33901.317	1.88	1255953	3.18	500000	
Ti	47	45	He	45.621	50.690	1.75	11281	3.02	10000	
V	51	45	He	58.083	64.536	1.35	373964	0.14	10000	
Cr	52	45	He	44.240	49.155	0.52	333112	0.86	10000	
Mn	55	45	He	5166.906	5741.007	1.07	30656628	0.42	50000	
Fe	56	45	He	220.137	244.596	0.27	1685041	1.46	1000000	
Co	59	45	He	42.547	47.275	0.87	480134	1.19	10000	
Ni	60	45	He	43.193	47.992	1.62	125864	0.66	10000	
Cu	63	45	He	41.694	46.327	0.72	333925	0.88	10000	
Zn	66	115	He	90.948	101.053	0.53	155812	0.49	50000	
As	75	115	He	43.123	47.915	0.88	59550	0.79	2000	
Se	78	72	H2	38.927	43.252	0.31	10709	2.44	10000	
Se	78	115	He	41.767	46.407	1.01	5163	0.67	10000	
Sr	88	115	NoGas	207.450	230.500	0.97	8341097	2.30	50000	
Mo	95	115	NoGas	42.741	47.490	1.12	354582	1.40	10000	
Ag	107	115	NoGas	16.655	18.506	1.66	382330	1.05	5000	
Cd	111	115	He	8.042	8.935	0.87	23392	1.14	10000	
Sn	118	115	He	44.952	49.947	0.31	315563	0.57	10000	
Sn	118	115	NoGas	45.151	50.168	1.85	619194	0.26	10000	
Sb	121	115	NoGas	46.491	51.656	1.04	904518	1.50	10000	
Ba	137	165	NoGas	60.656	67.395	1.06	449791	0.31	50000	
Tl	205	165	NoGas	41.506	46.118	1.75	2305326	0.86	5000	
Pb	208	165	NoGas	42.758	47.509	0.78	3283295	0.34	50000	

QC ISTD Table

Name	Mass	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	NoGas	33163	0.53	29515	112.36	70	120	
Sc	45	H2	147617	1.25	120885	122.11	70	120	ISTD Failed
Sc	45	He	117390	1.34	90842	129.22	70	120	ISTD Failed
Sc	45	NoGas	736810	0.11	581580	126.69	70	120	ISTD Failed
Ge	72	H2	67402	2.16	55430	121.60	70	120	ISTD Failed
Ge	72	He	82253	1.07	65257	126.05	70	120	ISTD Failed
Ge	72	NoGas	253134	0.28	205384	123.25	70	120	ISTD Failed
In	115	H2	1735406	1.38	1539397	112.73	70	120	
In	115	He	976068	0.34	837505	116.54	70	120	
In	115	NoGas	2262040	1.62	1847093	122.46	70	120	ISTD Failed
Tb	159	H2	3641823	0.52	3319426	109.71	70	120	
Tb	159	He	2440999	0.62	2158455	113.09	70	120	
Tb	159	NoGas	3592082	1.15	3040386	118.15	70	120	
Ho	165	H2	3542318	0.81	3213372	110.24	70	120	
Ho	165	He	2358886	0.48	2137675	110.35	70	120	
Ho	165	NoGas	3509499	1.04	2965292	118.35	70	120	

US EPA Tune Check Sample Report

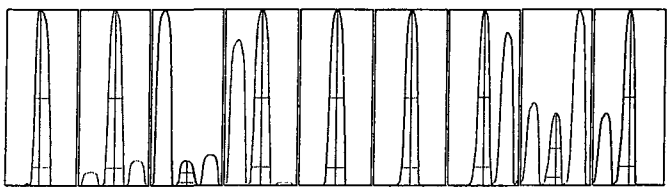
Batch Folder D:\DATA\141203A.b
Report Comment C:\Agilent\ICPMH\Report Templates\en\Letter\Tune Report\New and Improved 200_8TuneCheckSampleReport.xltx
Instrument Name G3281A JP12101628

[NoGas]

Mass	Count (Mean)	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
9	2131090	0.52	5.00	
24	8677913	0.59	5.00	
25	1245352	0.73	5.00	
26	1497193	0.30	5.00	
59	30276472	0.40	5.00	
115	66877159	0.52	5.00	
206	21615453	1.41	5.00	
207	18969412	1.63	5.00	
208	45474187	1.28	5.00	

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	2124416	2119919	2131671	2130597	2148848
24	8635673	8734716	8691223	8613603	8714351
25	1250950	1248723	1244583	1230029	1252476
26	1501375	1496739	1490577	1496036	1501238
59	30173176	30206452	30348713	30456813	30197205
115	66792714	66744016	66662910	66688806	67497347
206	21383337	21331183	21473822	21930488	21958434
207	18613364	18711631	19013192	19140462	19368409
208	44826371	44983367	45435213	46021594	46104391

Integration Time [sec] = 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	Width-X% (Actual)	Width-X% (Required)	Width-X% (Flag)
9	337782	8.95	8.9 - 9.1		0.770	0.900	
24	1416245	24.05	23.9 - 24.1		0.763	0.900	
25	203368	25.05	24.9 - 25.1		0.736	0.900	
26	244186	26.05	25.9 - 26.1		0.763	0.900	
59	4981059	59.05	58.9 - 59.1		0.762	0.900	
115	11957205	115.05	114.9 - 115.1		0.704	0.900	
206	4081876	206.05	205.9 - 206.1		0.726	0.900	
207	3573462	207.05	206.9 - 207.1		0.709	0.900	
208	8681283	208.05	207.9 - 208.1		0.713	0.900	

X% = 10 **Integration Time [sec] =** 0.1 **Acquisition Time [sec] =** 235 **Y Axis =** Linear

Tune Parameters

Plasma Paramters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
RF Power	1600	W	Carrier Gas	0.45	L/min			
RF Matching	2.50	V	Option Gas	0.0	%			
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps			
S/C Temp	2	°C						

Lenses Parameters

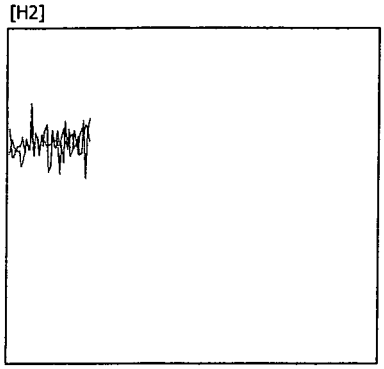
ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Extract 1	0.0	V	Omega Lens	12.6	V			
Extract 2	-195.0	V	Cell Entrance	-30	V			
Omega Bias	-75	V	Cell Exit	-50	V			
Deflect	14.0	V						

Cell Parameters

ParameterName	Value	Unit	ParameterName	Value	Unit	ParameterName	Value	Unit
Use Gas	false		3rd Gas Flow	0	%			
He Flow	0.0	mL/min	OctP Bias	-8.0	V			
H2 Flow	0.0	mL/min	OctP RF	180	V			
Energy Discrimination	5.1	V						

Current Signal

[H2]



Mass	Range	Count	Avg. Count	RSD [%]
59	500	365	325.8	7.42
89	5000	3304	3307.0	3.71
140	2000	2358	2306.2	4.50
205	5000	6694	6553.8	2.86
56	1000	4101	3879.6	3.97
78	50	0	0.8	132.95
80	200	13	21.4	27.72
Integration Time [sec]		0.10		

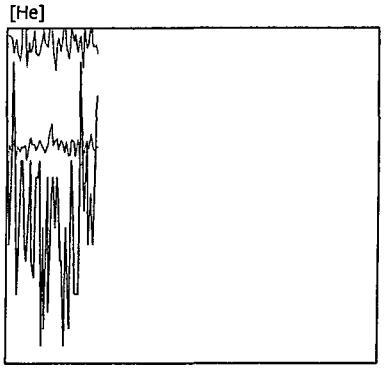
## Plasma Parameters ##					
RF Power	1600	W	Carrier Gas	0.45	L/min
RF Matching	2.50	V	Option Gas	0.0	%
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps
S/C Temp	2	°C			
## Lenses Parameters ##					
Extract 1	0.0	V	Omega Lens	12.6	V
Extract 2	-195.0	V	Cell Entrance	-30	V
Omega Bias	-75	V	Cell Exit	-60	V
Deflect	-0.8	V			

## Cell Parameters ##					
Use Gas	true		3rd Gas Flow	0	%
He Flow	0.0	mL/min	OctP Bias	-18.0	V
H2 Flow	6.0	mL/min	OctP RF	180	V
Energy Discrimination	3.0	V			

Meters					
IF/BK Press	2.47E+2	Pa	TMP Revolution	100.0	%
Analyzer Press	1.42E-3	Pa	Reflected Power	73	W
Forward Power	1599	W			

Current Signal

[He]



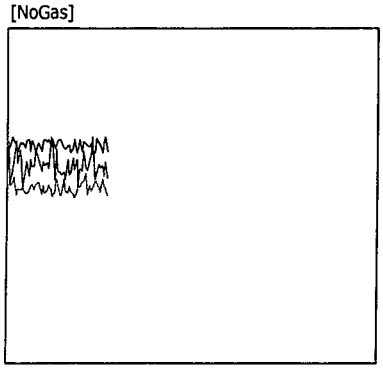
Mass	Range	Count	Avg. Count	RSD [%]
59	2000	1286	1287.5	3.63
89	2000	1851	1918.2	3.97
140	5000	4229	4151.7	2.83
205	2000	4574	4589.1	2.59
156/140	1	0.567 %	0.787 %	19.60
75	20	16	8.6	47.69
78	50	15	21.0	26.46
Integration Time [sec]		0.10		

## Plasma Parameters ##					
RF Power	1600	W	Carrier Gas	0.45	L/min
RF Matching	2.50	V	Option Gas	0.0	%
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps
S/C Temp	2	°C			
## Lenses Parameters ##					
Extract 1	0.0	V	Omega Lens	12.6	V
Extract 2	-195.0	V	Cell Entrance	-40	V
Omega Bias	-75	V	Cell Exit	-60	V
Deflect	0.0	V			
## Cell Parameters ##					
Use Gas	true		3rd Gas Flow	0	%
He Flow	3.4	mL/min	OctP Bias	-19.0	V
H2 Flow	0.0	mL/min	OctP RF	180	V
Energy Discrimination	5.0	V			

Meters					
IF/BK Press	2.42E+2	Pa	TMP Revolution	100.0	%
Analyzer Press	3.61E-4	Pa	Reflected Power	75	W
Forward Power	1599	W			

Current Signal

[NoGas]



Mass	Range	Count	Avg. Count	RSD [%]
7	1000	550	591.4	5.97
59	5000	2999	2937.7	3.99
89	10000	4987	5221.8	3.18
140	10000	6289	6429.9	2.53
205	10000	6314	6511.6	2.18
156/140	1	0.668 %	0.565 %	21.87
70/140	2	1.876 %	1.471 %	12.79
Integration Time [sec]		0.10		

## Plasma Parameters ##					
RF Power	1600	W	Carrier Gas	0.45	L/min
RF Matching	2.50	V	Option Gas	0.0	%
Smpl Depth	8.0	mm	Nebulizer Pump	0.10	rps
S/C Temp	2	°C			
## Lenses Parameters ##					
Extract 1	0.0	V	Omega Lens	12.6	V
Extract 2	-195.0	V	Cell Entrance	-30	V
Omega Bias	-75	V	Cell Exit	-50	V
Deflect	14.0	V			

## Cell Parameters ##					
Use Gas	false		3rd Gas Flow	0	%
He Flow	0.0	mL/min	OctP Bias	-8.0	V
H2 Flow	0.0	mL/min	OctP RF	180	V
Energy Discrimination	5.1	V			

Meters					
IF/BK Press	2.40E+2	Pa	TMP Revolution	100.0	%
Analyzer Press	2.57E-4	Pa	Reflected Power	75	W
Forward Power	1599	W			

SJH 12/3/14

2%HNO3 / 2%HCl BLK					200.7 ICV				
AMOUNT	REAGENT	MANUFACTURER	LOT	OPEN DATE	AMOUNT	STD	MANUFACTURER	LOT	EXP DATE
40 mL	HCL	BDH	4114020	12/03/14	0.25ML	QCS ICV A	CPI	13I145-32869	03/18/15
40 mL	HNO3	JT BAKER	0000067379	12/03/14	0.25ML	QCS ICV B	CPI	13I145-32870	03/18/15
Prepared in 2000 ml DI Water					Prepared in 50ml 2%HNO3/2%HCl				
STD 1 / LDL 200.7					200.7 ICSA				
AMOUNT	STD	MANUFACTURER	LOT	EXP DATE	0.5mL	Al	CPI	14D237-33868	01/15/16
0.250 mL	200.7 LDL	O2SI	1052642-33103	11/01/14	0.5mL	Ca	CPI	14D176-33867	01/15/16
Prepared in 50 ml 2%HNO3/2%HCl					0.5mL	Mg	CPI	14F190-33865	01/15/16
STD 3 / HDL 200.7					0.5mL	Fe	O2SI	1062942-33880	01/12/16
0.5 mL	CCV-A	Environmental Express	1428118-34178	10/14/15	Prepared in 50 ml 2%HNO3/2%HCl				
0.5 mL	CCV-B	Environmental Express	1428119-34179	10/14/15	200.7 ICSAB				
0.5 mL	CCV-C	Environmental Express	1428120-34180	10/14/15	0.5mL	Al	CPI	14D237-33868	01/15/16
Prepared in 100 ml 2%HNO3/2%HCl					0.5mL	Ca	CPI	14D176-33867	01/15/16
STD 2 / CCV1 200.7					0.5mL	Mg	CPI	14F190-33865	01/15/16
AMOUNT	STD	PREP DATE	EXP DATE		0.5mL	Fe	O2SI	1062942-33880	01/12/16
25mL	STD 3	TODAY	1 WEEK		0.25mL	INT SPECIAL MIX	O2SI	1054694-33223	1/1/15
25mL	2%HNO3/2%HCl	TODAY	1 WEEK		Prepared in 50 ml 2%HNO3/2%HCl				
CCV2 200.7									
15mL	STD 3	TODAY	1 WEEK						
25mL	2%HNO3/2%HCl	TODAY	1 WEEK						

JJH 12/03/14

SJH 12/3/14

1%HNO3 / 5%HCl BLK					6010B/6010C ICSA				
AMOUNT	REAGENT	MANUFACTURER	LOT	OPEN DATE	AMOUNT	STD	MANUFACTURER	LOT	EXP DATE
100 mL	HCL	BDH	4114020	12/03/14	1mL	Al	CPI	14D237-33868	01/15/16
20 mL	HNO3	JT BAKER	0000067379	12/03/14	1mL	Ca	CPI	14D176-33867	01/15/16
Prepared in 2000 ml DI Water					1mL	Mg	CPI	14F190-33865	01/15/16
STD 1 / LDL 6010B/6010C					1mL	Fe	O2SI	1062942-33880	01/12/16
AMOUNT	STD	MANUFACTURER	LOT	EXP DATE	Prepared in 50 ml 1%HNO3/5%HCl				
0.5 mL	6010 LDL	ABSOLUTE	1062903-33879	08/01/15	6010B/6010C ICSAB				
Prepared in 50 ml 1%HNO3/5%HCl					1mL	Al	CPI	14D237-33868	01/15/16
STD 3 / HDL 6010B/6010C					1mL	Ca	CPI	14D176-33867	01/15/16
1ML	CCV-A	Environmental Express	1428118-34178	10/14/15	1mL	Mg	CPI	14F190-33865	01/15/16
1ML	CCV-B	Environmental Express	1428119-34179	10/14/15	1mL	Fe	O2SI	1062942-33880	01/12/16
1ML	CCV-C	Environmental Express	1428120-34180	10/14/15	0.5mL	INT SPECIAL MIX	O2SI	1054694-33223	01/01/15
Prepared in 100 ml 1%HNO3 / 5%HCl					Prepared in 50 ml 1%HNO3/5%HCl				
STD 2 / CCV1 6010B/6010C/6010C					6010B/6010C ICV				
AMOUNT	STD	PREP DATE	EXP DATE		0.5ML	QCS ICV A	CPI	13I145-32869	03/18/15
25mL	STD 3	Today	1 week		0.5ML	QCS ICV B	CPI	13I145-32870	03/18/15
25mL	1%HNO3/5%HCl	Today	1 week		Prepared in 50ml 1%HNO3/5%HCl				
CCV2 6010B/6010C					6010B/6010C Internal Standard				
AMOUNT	STD	PREP DATE	EXP DATE		AMOUNT	STD	MANUFACTURER	PREP	EXP
15mL	STD 3	Today	1 week		2mL	Yttrium	O2SI	Today	1 week
25mL	1%HNO3/5%HCl	Today	1 week		Prepared in 2L 1%HNO3 / 5%HCl				

JJH 12/03/14

SJH 12/3/14

ICP-MS STANDARDS Prep'd by: SJH
Prep Date: Today
Expires: 1 week

Prep 1% HNO3/1.0%HCL
20 mL HNO3 / 2000 mL Di Water
Lot #
20 mL HCL / 2000mL Di Water
Lot #

Internal Standard Mix: Prep 11/18/14

Standard 4

Amount	STD	Manufacturer	Lot #
50 uL	CCV-A	ENV EXPRESS	1331823-33166
50 uL	CCV-B	ENV EXPRESS	1331824-33167
50 uL	CCV-C	ENV EXPRESS	1331825-33168

Prepared in 100 mL of 1% HNO3/1.0% HCL

Standard 3
Amount STD
25 mL Standard 4
Prepared in 50 mL of 1% HNO3/1.0% HCL

Standard 2
Amount STD
500 uL Standard 4
Prepared in 50 mL of 1% HNO3/1.0% HCL

Standard 1
Amount STD
50 uL Standard 4
Prepared in 50 mL of 1% HNO3/1.0% HCL

ICP-MS ICV

Amount	STD		
50 uL	QCS ICV A	CPI	13I145-32869
50 uL	QCS ICV B	CPI	13I145-32870

Prepared in 50 mL of 1% HNO3/1.0% HCL

ICSA Prep:

1 mL	ICSA-DF2	O2Si	1053467-33165

Prepared in 10 mL of 1% HNO3/1.0% HCL

ICSAB Prep:

1mL	ICSA	CPI	12J143-33110
100uL	INT - DF10	O2Si	1054694-33223

Prepared in 10 mL of 1% HNO3/1.0% HCL

Second Source As:

25 uL	Metals Mix #2	AbsoluteGrade	161613-33063

Prepared in 100 mL of 1% HNO3/ 1% HCl

JJH 12/3/14

041

SJH 11/17/14

Hg WORKING STANDARDS 7470A/7471/245.1

Hg WORKING STD	1ml 10ug/ml Hg STOCK STD. 10/21/14 exp: 11/18/14 and 2mL HNO3 JT Baker LOT#50770 final conc: 50ug/L to final vol 200mL with milipore water expires daily
Hg WORKING ICV	1ml 10ug/ml Hg STOCK ICV 10/21/14 exp: 11/18/14 and 2mL HNO3 JT Baker LOT#50770 final conc: 50ug/L to final vol 200mL with milipore water expires daily

SJH 11/17/14

SJH 11/18/14

Internal Standard Concentration

Amt	STD	Element	Vendor	Lot#	Final Conc. in Std	Expires
50uL	1001 ug/mL	Li	BDH	F2-L102140-33279	200 ug/L	02/01/15
125uL	1000 ug/mL	Sc	o2si	1051538-32901	500ug/L	03/30/15
125uL	1000 ug/mL	Ge	CPI	14H207-34125	500ug/L	04/07/14
125uL	1000 ug/mL	In	CPI	13H191-32872	500ug/L	03/20/15
125uL	1000 ug/mL	Tb	CPI	13J004-33038	500ug/L	04/15/15
125uL	1000 ug/mL	Ho	CPI	13G236-32873	500ug/L	03/20/15

Prep: 11/18/14 By: SJH Prep in - 1%HNO3/1.0%HCL: Final Volume: 250mL
Expires: 12/17/14

SJH 11/18/14

SJH 11/18/14
6020/200.8
(A)

ICP-MS STANDARDS Prep'd by: SJH
Prep Date: Today
Expires: 1 week

Prep 1% HNO3/1.0%HCL
20 mL HNO3 / 2000 mL DI Water
Lot #
20 mL HCL / 2000mL DI Water
Lot #

Internal Standard Mix: Prep 11/18/14

Standard 4

Amount	STD	Manufacturer	Lot #
50 uL	CCV-A	ENV EXPRESS	1331823-33166
50 uL	CCV-B	ENV EXPRESS	1331824-33167
50 uL	CCV-C	ENV EXPRESS	1331825-33168

Prepared in 100 mL of 1% HNO3/1.0% HCL

Standard 3
Amount STD
25 mL Standard 4
Prepared in 50 mL of 1% HNO3/1.0% HCL

Standard 2
Amount STD
500 uL Standard 4
Prepared in 50 mL of 1% HNO3/1.0% HCL

Standard 1
Amount STD
50 uL Standard 4
Prepared in 50 mL of 1% HNO3/1.0% HCL

ICP-MS ICV

Amount	STD		
50 uL	QCS ICV A	CPI	13I145-32869
50 uL	QCS ICV B	CPI	13I145-32870

Prepared in 50 mL of 1% HNO3/1.0% HCL

ICSA Prep:

1 mL	ICSA-DF2	O2SI	1053467-33165

Prepared in 10 mL of 1% HNO3/1.0% HCL

ICSAB Prep:

1mL	ICSA	CPI	12J143-33110
100uL	INT - DF10	O2SI	1054694-33223

Prepared in 10 mL of 1% HNO3/1.0% HCL

Second Source As:
25 uL Metals Mix #2 AbsoluteGrade 161613-33063
Prepared in 100 mL of 1% HNO3/ 1% HCl

SJH 11/18/14

SJH 11/18/14
200.7
(A)

2%HNO3 / 2%HCl BLK					200.7 ICV				
AMOUNT	REAGENT	MANUFACTURER	LOT	OPEN DATE	AMOUNT	STD	MANUFACTURER	LOT	EXP DATE
40 mL	HCL	BDH	4114020	11/18/14	0.25ML	QCS ICV A	CPI	13I145-32869	03/18/15
40 mL	HNO3	JT BAKER	0000067379	11/18/14	0.25ML	QCS ICV B	CPI	13I145-32870	03/18/15
Prepared in 2000 ml DI Water					Prepared in 50ml 2%HNO3/2%HCl				
STD 1 / LDL 200.7					200.7 ICSA				
AMOUNT	STD	MANUFACTURER	LOT	EXP DATE	0.5mL	Al	CPI	14D237-33868	01/15/16
0.250 mL	200.7 LDL	O2SI	1052542-33103	11/01/14	0.5mL	Ca	CPI	14D176-33867	01/15/16
Prepared in 50 ml 2%HNO3/2%HCl					0.5mL	Mg	CPI	14F190-33865	01/15/16
STD 3 / HDL 200.7					0.5mL	Fe	O2SI	1062942-33880	01/12/16
0.5 mL	CCV-A	Environmental Express	1331823-33166	11/18/14	Prepared in 50 ml 2%HNO3/2%HCl				
0.5 mL	CCV-B	Environmental Express	1331824-33167	11/18/14	200.7 ICSAB				
0.5 mL	CCV-C	Environmental Express	1331825-33168	11/18/14	0.5mL	Al	CPI	14D237-33868	01/15/16
Prepared in 100 ml 2%HNO3/2%HCl					0.5mL	Ca	CPI	14D176-33867	01/15/16
STD 2 / CCV1 200.7					0.5mL	Mg	CPI	14F190-33865	01/15/16
AMOUNT	STD	PREP DATE	EXP DATE		0.5mL	Fe	O2SI	1062942-33880	01/12/16
25mL	STD 3	TODAY	1 WEEK		0.25mL	INT SPECIAL MIX	O2SI	1054694-33223	1/1/15
25mL	2%HNO3/2%HCl	TODAY	1 WEEK		Prepared in 50 ml 2%HNO3/2%HCl				
CCV2 200.7									
15mL	STD 3	TODAY	1 WEEK						
25mL	2%HNO3/2%HCl	TODAY	1 WEEK						

SJH 10/18/14

_M3015

Metals Digestion Worksheet

Method Name 3015 Digestion **Prep Method** M3015 **Set** 141126B **Units** mL

Spikes	
Spiked ID 1	LCSW LOT#1066596-34172
Spiked ID 2	LCSW LOT#1066556-34173
Spiked ID 3	
Spiked ID 4	
Spiked By	NM Date: 11/26/14 11:23:00 AM
Witnessed By	SJH Date: 11/26/14 11:23:00 AM

Starting Temp:	41 c
Ending Temp:	170 c
Temperature Type:	Microwave
Sufficient Vol for Matrix QC:	Yes
End Date/Time	11/26/14 12:30

	Sample	Sample Container	Spike Amount	Spike ID	Digested Amount	Final Volume	Start Date/Time	Comments
1	141126B Blk				45mL	50mL	11/26/14 11:23	equip: MultiWave
2	141126B LCS		90uL	1+2	45mL	50mL	11/26/14 11:23	equip: MultiWave
3	AZ06185	AZ06185W08			45mL	50mL	11/26/14 11:23	equip: MultiWave Total
4	AZ06185 FF	AZ06185W07			45mL	50mL	11/26/14 11:23	equip: MultiWave Field Filter
5	AZ06186	AZ06186W10			45mL	50mL	11/26/14 11:23	equip: MultiWave Total
6	AZ06186 FF	AZ06186W09			45mL	50mL	11/26/14 11:23	equip: MultiWave Field Filter
7	AZ06187	AZ06187W10			45mL	50mL	11/26/14 11:23	equip: MultiWave Total
8	AZ06187 FF	AZ06187W09			45mL	50mL	11/26/14 11:23	equip: MultiWave Field Filter
9	AZ06189	AZ06189W07			45mL	50mL	11/26/14 11:23	equip: MultiWave Total
10	AZ06189 FF	AZ06189W08			45mL	50mL	11/26/14 11:23	equip: MultiWave Field Filter
11	AZ06190	AZ06190W04			45mL	50mL	11/26/14 11:23	equip: MultiWave Total
12	AZ06190 FF	AZ06190W05			45mL	50mL	11/26/14 11:23	equip: MultiWave Field Filter
13	AZ07202	AZ07202W11			45mL	50mL	11/26/14 11:23	equip: MultiWave Lab Filter
14	AZ07203	AZ07203W11			45mL	50mL	11/26/14 11:23	equip: MultiWave Lab Filter
15	AZ07203 MS	AZ07203W11	90uL	1+2	45mL	50mL	11/26/14 11:23	equip: MultiWave Lab Filter
16	AZ07203 MSD	AZ07203W11	90uL	1+2	45mL	50mL	11/26/14 11:23	equip: MultiWave Lab Filter

Solvent and Lot#
HNO3 J.T.B #67379 1281

Sample COC Transfer	
Sample prep employee Initials	nm
Analyst's initials	SJH
Date	11/26/14
Time	16:28
Moved to	Metals

Technician's Initials	
Scanned By	nm
Sample Preparation	nm
Digestion	nm
Bring up to volume	nm
Modified	11/26/14 9:19:36 AM

Reviewed By: SJH **Date:** 11/26/14

6020/200.8 Injection Log

Directory: K:\ICP-MS Megatron\raw data output csv\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	03 Dec 2014	17:00	Calibration Blank		141203A	1.
2	03 Dec 2014	17:06	Standard 1		141203A	1.
3	03 Dec 2014	17:12	Standard 2		141203A	1.
4	03 Dec 2014	17:18	Standard 3		141203A	1.
5	03 Dec 2014	17:24	Standard 4		141203A	1.
6	03 Dec 2014	17:30	ICV		141203A	1.
7	03 Dec 2014	17:36	ICV As 50 ppb		141203A	1.
8	03 Dec 2014	17:42	ICB		141203A	1.
13	03 Dec 2014	18:12	CCV		141203A	1.
14	03 Dec 2014	18:24	CCB		141203A	1.
15	03 Dec 2014	18:30	ICSA		141203A	1.
16	03 Dec 2014	18:42	ICSAB		141203A	1.
17	03 Dec 2014	18:54	141126B BLK		141203A	1.
18	03 Dec 2014	19:00	141126B LCS		141203A	1.
29	03 Dec 2014	20:12	AZ07202W11		141203A	1.
30	03 Dec 2014	20:18	AZ07203W11		141203A	1.
31	03 Dec 2014	20:24	AZ07203W11 MS		141203A	1.
32	03 Dec 2014	20:30	AZ07203W11 MSD		141203A	1.
33	03 Dec 2014	20:36	AZ07203W11-A		141203A	1.
34	03 Dec 2014	20:42	AZ07203W11 1/5		141203A	5.
35	03 Dec 2014	20:48	CCV		141203A	1.
36	03 Dec 2014	21:00	CCB		141203A	1.

INORGANIC ANALYSIS

APPL, INC.

INORGANIC ANALYSIS
QC Summary

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
EPA 353.2	NITRATE-NITRITE-N	0.100 U	0.10	0.100	0.028	mg/L	11/26/14	11/26/14	#35OF-141126A-AZ07148
EPA 9056	SULFATE	0.198 U	1.00	0.198	0.090	mg/L	11/21/14	11/21/14	#9056D-141121B-AZ07202
SM 2320B	TOTAL ALKALINITY	1.70 U	2.0	1.70	0.85	mg/L	11/24/14	11/24/14	#232W-141124A-AZ07203

Wetlab SC-Blank-REG MDLs
Printed: 12/01/14 11:17:09 AM

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 353.2	NITRATE-NITRITE-N	5.00	4.95	4.89	99.0	97.8	1.2	20	90-110	11/26/14	11/26/14	11/26/14	11/26/14	#35OF-141126A-AZ07148

Comments: _____

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 9056	SULFATE	20.0	19.4	97.0	80-120	11/21/14	11/21/14	#9056D-141121B-AZ07202

Comments: _____

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
SM 2320B	TOTAL ALKALINITY AS CA	250	261	259	104	104	0.77	20	90-110	11/24/14	11/24/14	11/24/14	11/24/14	#232W-141124A-AZ07203

Comments: _____

INORGANIC ANALYSIS
Sample Data

APPL, INC.

Wet Lab Analysis

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gene Wright

Project: 749435 Red Hill Phase 1b TO 0068

Sample ID: HW111214-01

APPL ID: AZ07202

Sample Collection Date: 11/12/14

ARF: 74924

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	0.56	0.10	0.100	0.028	mg/L	1	11/26/14	11/26/14
EPA 9056	SULFATE	28.9	1.00	0.198	0.090	mg/L	1	11/21/14	11/21/14
SM 2320B	TOTAL ALKALINITY AS CACO3	52.9	2.0	1.70	0.85	mg/L	1	11/24/14	11/24/14

Printed: 12/01/14 11:17:04 AM

APPL-F1-SC-NoMC-REG MDLs

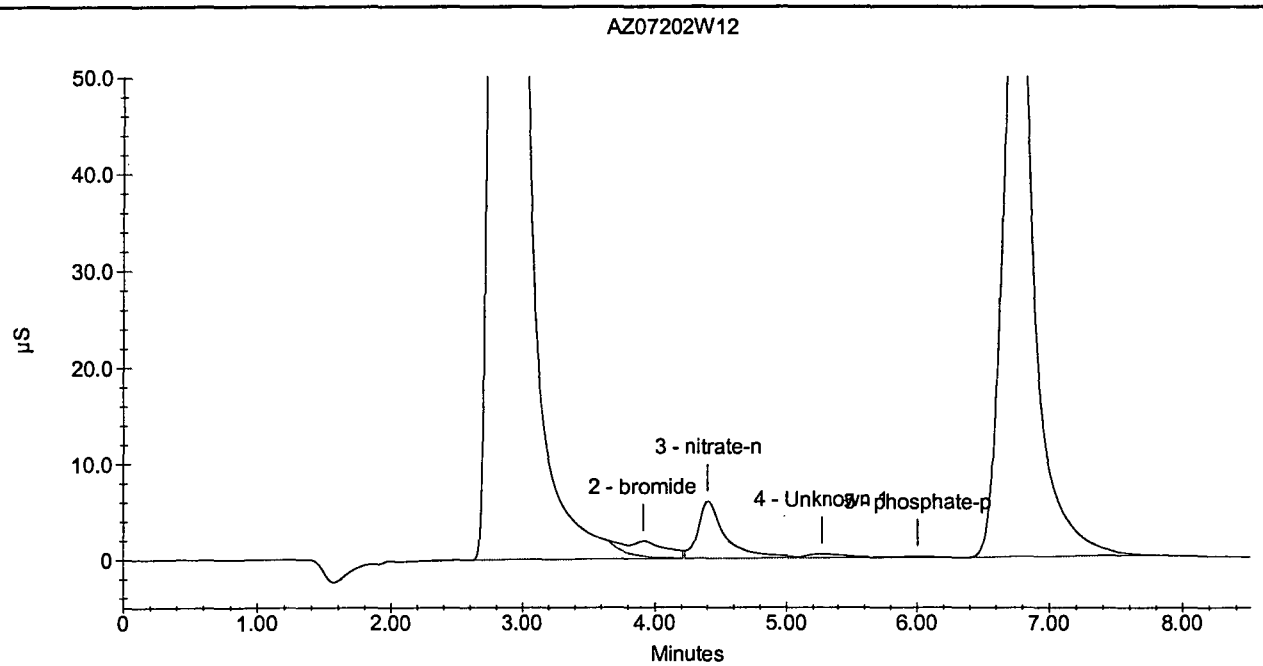
Sample Analysis Report

Sample Name : AZ07202W12
Data File Name : I:\DIONEX\D1ANIONS\DATA\141121A\141121a_043.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 11/21/14 15:58:30
System Operator : mm
Injection Number : 43
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	2.84	chloride	139.6807	80459525	10201497
2	3.91	bromide	1.4479	279389	15575
3	4.40	nitrate-n	0.8401	848020	59656
4	5.27	Unknown 1	0.0000	86458	4243
5	6.00	phosphate-p	0.1312	20493	1249
6	6.73	sulfate	28.9356	10858518	713128



Wet Lab Analysis

Parsons
10235 S. Jordan Gateway Ste 300
South Jordan, UT 84095

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Gene Wright

Project: 749435 Red Hill Phase 1b TO 0068

Sample ID: HW111214-02

APPL ID: AZ07203

Sample Collection Date: 11/12/14

ARF: 74924

Method	Analyte	Result	LOQ	LOD	DL	Units	DF	Prep Date	Analysis Date
EPA 353.2	NITRATE-NITRITE-N	0.56	0.10	0.100	0.028	mg/L	1	11/26/14	11/26/14
EPA 9056	SULFATE	28.7	1.00	0.198	0.090	mg/L	1	11/21/14	11/21/14
SM 2320B	TOTAL ALKALINITY AS CACO3	53.6	2.0	1.70	0.85	mg/L	1	11/24/14	11/24/14

Printed: 12/01/14 11:17:04 AM

APPL-F1-SC-NoMC-REG MDLs

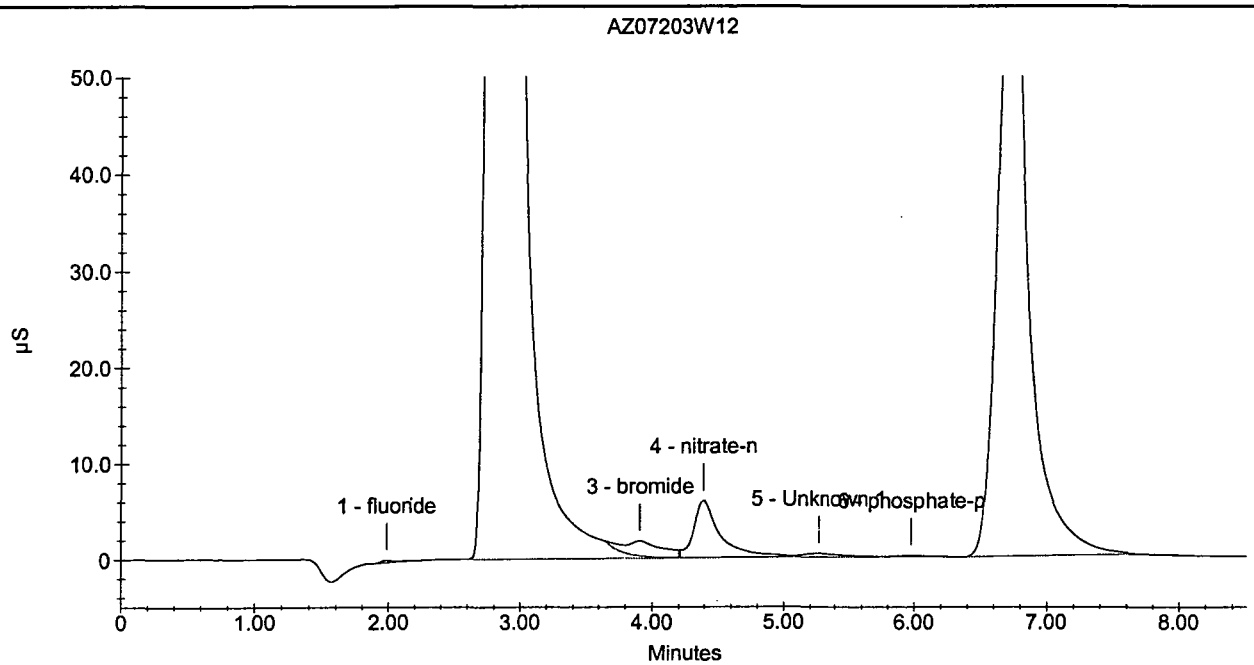
Sample Analysis Report

Sample Name : AZ07203W12
Data File Name : I:\DIONEX\D1ANIONS\DATA\141121A\141121a_030.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 11/21/14 13:32:37
System Operator : mm
Injection Number : 30
Multiplier : 1.00

Peak Information : All Peaks

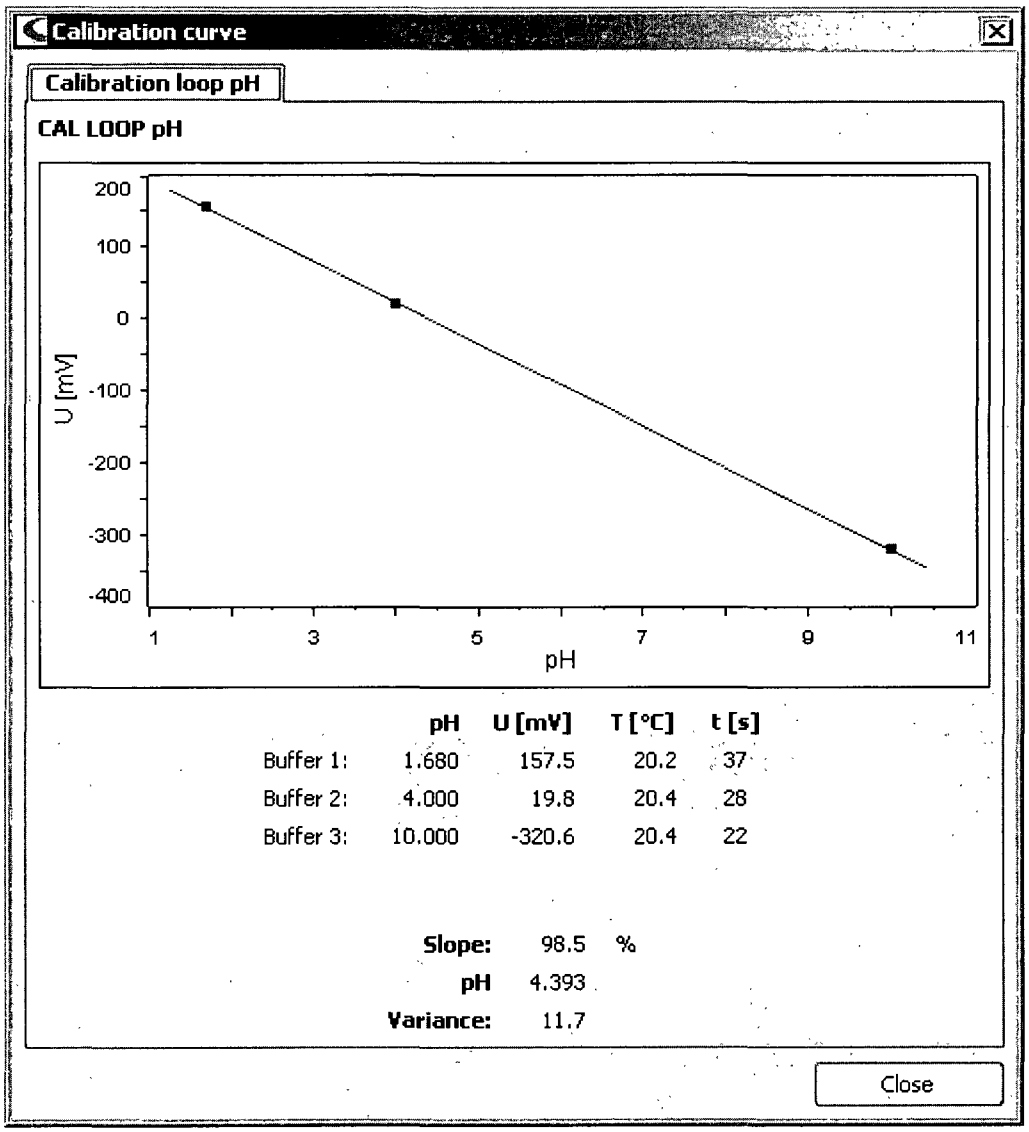
Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.99	fluoride	0.0851	14395	2289
2	2.83	chloride	139.0591	80098598	10013419
3	3.91	bromide	1.4200	272996	15630
4	4.39	nitrate-n	0.8262	829710	59305
5	5.27	Unknown 1	0.0000	76561	3784
6	5.97	phosphate-p	0.1131	12814	1023
7	6.72	sulfate	28.7307	10779168	714500



INORGANIC ANALYSIS
Calibration Data

APPL, INC.

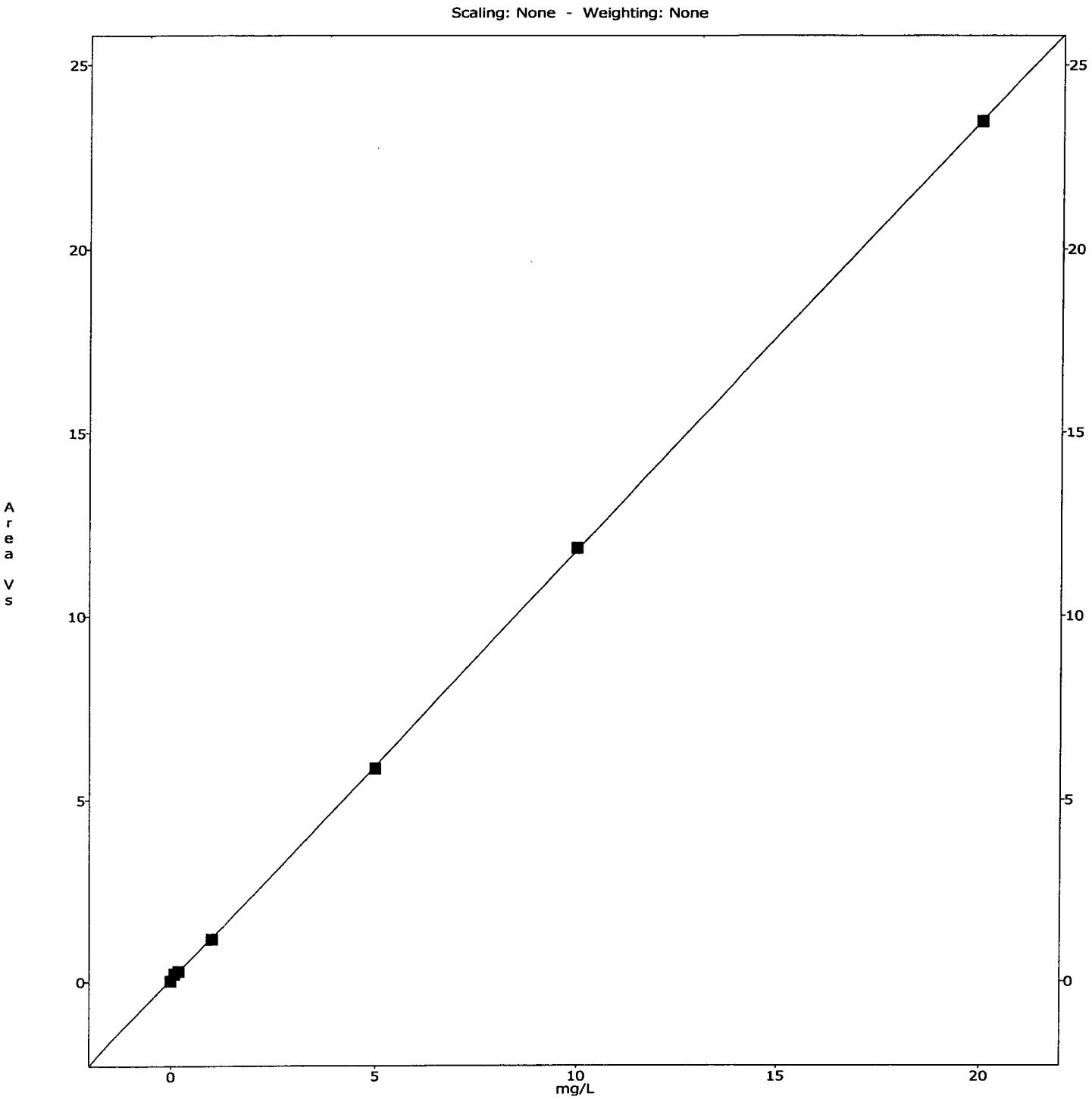
11/24/14 Tiamo Calibration Curve



TOTOXN

Lvl	Area	mg/L	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Replic STD	Replic % RSD	Residual 1st Poly
1	23473230	20.0	23473230					0.0	0.0	0.1
2	11838016	10.0	11838016					0.0	0.0	-0.6
3	5856448	5.0	5856448					0.0	0.0	1.0
4	1186771	1.0	1186771					0.0	0.0	3.4
5	302099	0.2	302099					0.0	0.0	-5.3
6	236595	0.1	236595					0.0	0.0	-54.7
7	28899	0.0	28899					0.0	0.0	

1st Order Poly
Conc = 8.534e-007 Area - 4.723e-002
r = 1.0000



Printed: Wednesday, November 26, 2014 - 02:46 PM

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons
ARF No: 74924 SDG: 74924
Initial Calibration Source: CPI
Continuing Calibration Source: O2SI
Analysis Date: 11/26/14

Analyte	Calibration Verification									M
	True CCV1	Found 13:58	%R(1)	True ICV	Found 14:01	%R(1)	True CCV1	Found 14:19	%R(1)	
TOXN	5	4.94781	99.0	5	5.00016	100	5	4.89969	98.0	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 74924 SDG: 74924

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 11/26/14 13:59	C	ICB 11/26/14 14:02	C	CCB 11/26/14 14:20	C		C		C	
TOXN	.100	U	.100	U	.100	U					

OPERATOR: Aileen
ACQ. TIME: Nov 26, 2014 13:46:09
DATA FILENAME: I:\LACHAT\OMNION\141126NA.FDT
METHOD FILENAME: I:\LACHAT\METHODS\TOTOXN1.MET
TRAY FILENAME: I:\LACHAT\TRAYS\141126NA.TRA

TRAY DESCRIPTION:
Created: Nov 26, 2014 11:12:33
Modified: Nov 26, 2014 14:38:56
NO3/TOTOXN 141126NA
DATA DESCRIPTION:
Created: Nov 26, 2014 13:46:09
Modified: Nov 26, 2014 13:46:09

Multi-Channel Table
Type: DQM
Channel Range: 1 to 8 -- Cup Range: 1 to 50

Cup	Sample ID	Sample Type	Sampling Time	# of Reps	TOTOXN (mg/L)
6	CCB	Blank	13:59:49	1	-0.0338
6	ICB	Blank	14:02:52	1	-0.0309
6	CCB	Blank	14:20:41	1	-0.0188
6	CCB	Blank	14:41:40	1	-0.0295
7	ICV	RelChkStd	14:01:20	1	5.0002
			Known Concentration:		5.0000
			% Difference:		0.0033
15	CCV	RelChkStd	13:58:17	1	4.9478
			Known Concentration:		5.0000
			% Difference:		-1.0436
15	CCV	RelChkStd	14:19:11	1	4.8997
			Known Concentration:		5.0000
			% Difference:		-2.0060
15	CCV	RelChkStd	14:40:09	1	5.0783
			Known Concentration:		5.0000
			% Difference:		1.5661

INORGANIC ANALYSES
AUTO CALIBRATION

Analytical Method: 300/9056A

Lab Name: APPL, Inc.

Instrument ID: Dionex

Autocal ID: 140916a

Concentration Units (mg/L or mg/kg): mg/L

Analyte	1	2	3	4	5	6	7
	Autocal 13:01	Autocal 13:12	Autocal 13:23	Autocal 13:35	Autocal 13:46	Autocal 13:57	Autocal 14:08
Bromide	16482	110811	530269	1040423	2811782	3853149	5758749
Chloride	105181	469930	2266776	4619999	13083991	19156002	29150289
Fluoride	ND	65241	295885	665047	1822387	2347304	3619418
Nitrate-N	42537	207636	1096945	2181530	5982651	8679959	13214287
Nitrite-N	9360	82285	427556	866240	2398640	3309962	4979067
Phosphate-P	37335	77961	423664	767089	2009102	2861951	4282289
Sulfate	70553	260443	1664932	3268878	8925096	12862977	19464398

Comments:

A.P.P.L. INC.
2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Calibration
ARF No: SDG:
Initial Calibration Source: o2si
Continuing Calibration Source: o2si
Analysis Date: 09/16/14

Analyte	Calibration Verification									M
	True ICV	Found 14:20	%R(1)	True	Found	%R(1)	True	Found	%R(1)	
bromide	12.5	12.1534	97.2							
chloride	20	18.9785	94.9							
fluoride	2.5	2.39410	95.8							
Nitrate(NO3)-N	5	4.85672	97.1							
Nitrite(NO2)-N	3.04	2.92650	96.3							
phosphate-p	5	4.91730	98.3							
sulfate	20	19.3370	96.7							

(1) Control Limits: 90-110

A.P.P.L. INC.
3
BLANKS

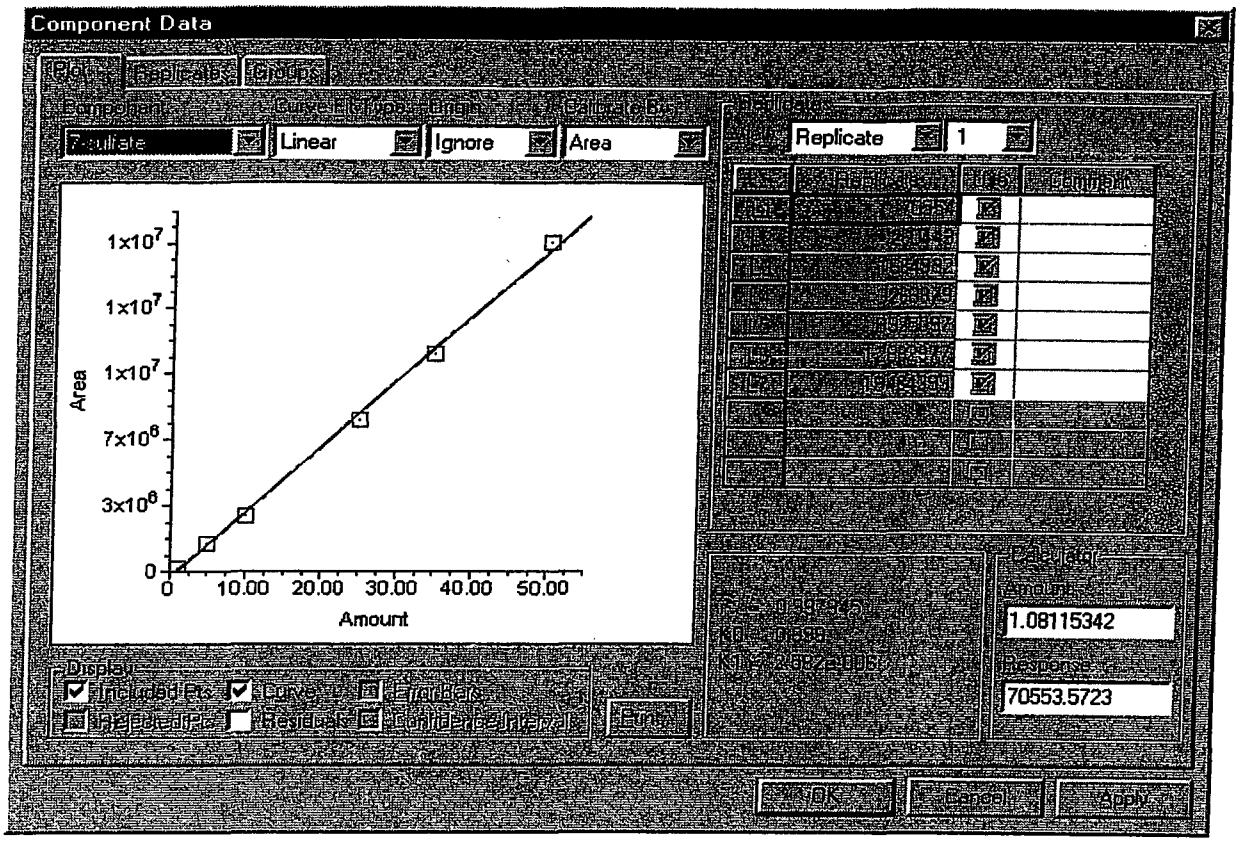
Lab Name: A.P.P.L. INC. Contract: Calibration

ARF No.: SDG:

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	ICB 09/16/14 14:31	C		C		C		C		C	
bromide	.500	U									
chloride	1.000	U									
fluoride	1.000	U									
Nitrate(NO3)-N	.200	U									
Nitrite(NO2)-N	.200	U									
phosphate-p	1.000	U									
sulfate	1.000	U									


Component Data
Replicates
Linear
Ignore
Area
Replicate
1
1x10^7
1x10^7
1x10^7
7x10^6
3x10^6
0
Area
0
10.00
20.00
30.00
40.00
50.00
Amount
Display
Included Pts
Curve
Error Bars
Excluded Pts
Residuals
Confidence Interval
Calculated
Amount
1.08115342
Response
70553.5723
OK
Cancel
Apply

Calibration Update Report

Sample Name : CAL STD #1 9/16/14
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_012.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 13:01:17

Calibration Date : 9/16/14 13:12:12
System Operator : mm
Injection Number : 12

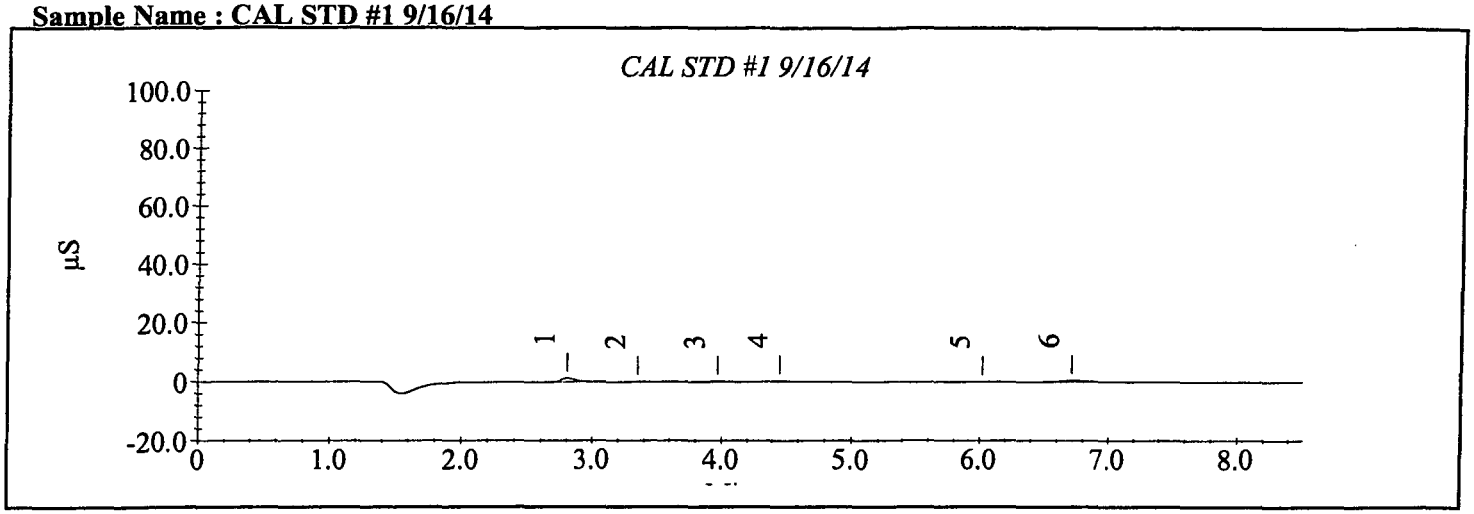
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	2.80	chloride	80668	105182	105182
2	3.35	nitrite-n	14520	9360	9360
3	3.96	bromide	17978	16482	16482
4	4.45	nitrate-n	38967	42537	42537
5	6.01	phosphate-p	17719	37336	37336
6	6.71	sulfate	39183	70554	70554

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	2.80	chloride	0.40	105182	12275	-
2	3.35	nitrite-n	0.04	9360	1262	-
3	3.96	bromide	0.20	16482	1928	-
4	4.45	nitrate-n	0.08	42537	4453	-
5	6.01	phosphate-p	0.08	37336	1580	-
6	6.71	sulfate	0.40	70554	4720	-

Sample Name : CAL STD #1 9/16/14



Calibration Update Report

Sample Name : CAL STD #2
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_013.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 13:12:31

Calibration Date : 9/16/14 13:23:26
System Operator : mm
Injection Number : 13

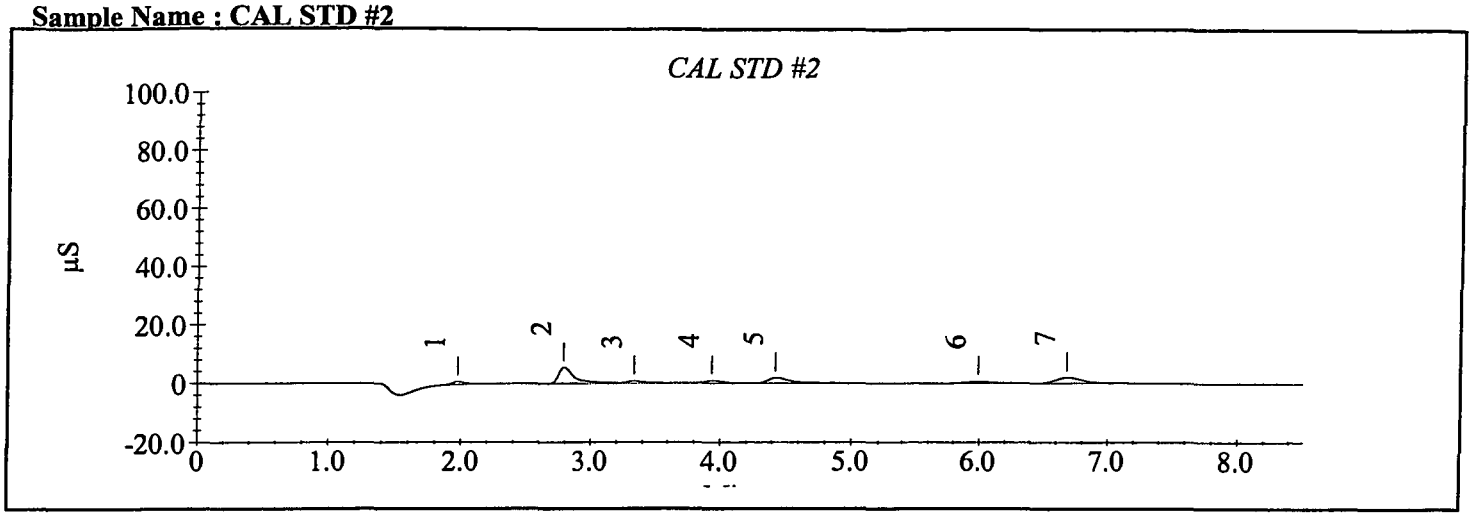
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.97	fluoride	59909	65241	65241
2	2.79	chloride	419030	469931	469931
3	3.33	nitrite-n	59671	82285	82285
4	3.93	bromide	89803	110811	110811
5	4.43	nitrate-n	201320	207637	207637
6	5.99	phosphate-p	67899	77961	77961
7	6.68	sulfate	264624	260443	260443

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.97	fluoride	0.10	65241	8911	
2	2.79	chloride	1.00	469931	54508	
3	3.33	nitrite-n	0.10	82285	7802	
4	3.93	bromide	0.50	110811	9252	
5	4.43	nitrate-n	0.20	207637	18419	
6	5.99	phosphate-p	0.20	77961	5299	
7	6.68	sulfate	1.00	260443	19470	

Sample Name : CAL STD #2



Calibration Update Report

Sample Name : CAL STD #3
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_014.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 13:23:49

Calibration Date : 9/16/14 13:34:44
System Operator : mm
Injection Number : 14

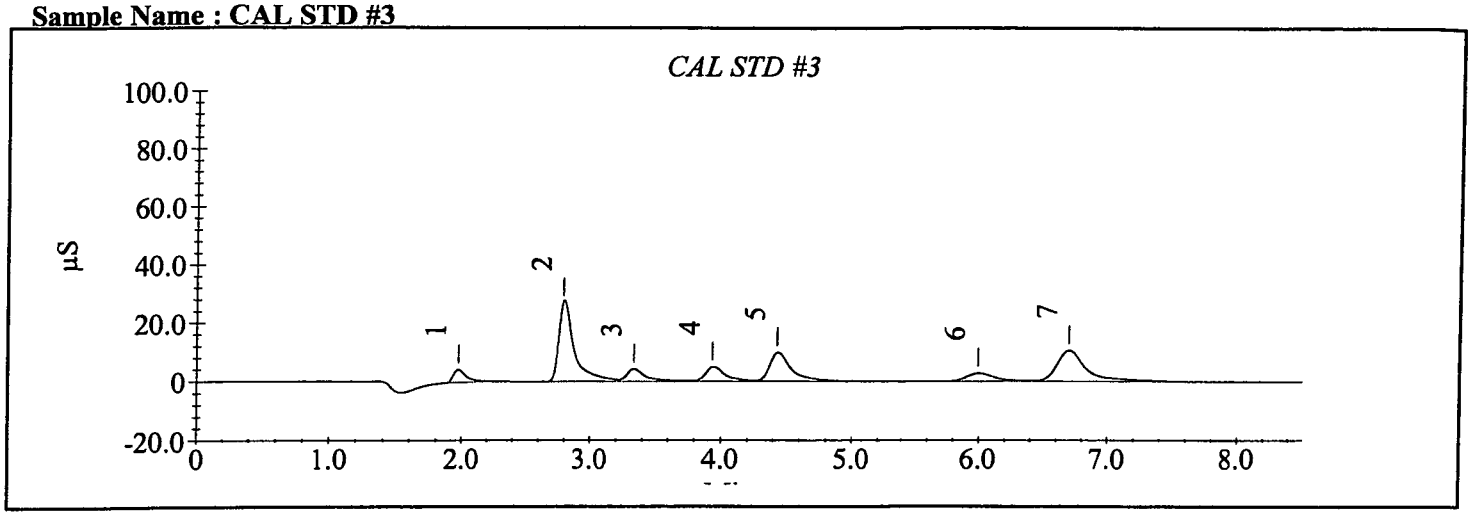
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.97	fluoride	309108	295885	295885
2	2.79	chloride	2276954	2266777	2266777
3	3.33	nitrite-n	436460	427557	427557
4	3.93	bromide	523251	530269	530269
5	4.43	nitrate-n	1108037	1096946	1096946
6	5.99	phosphate-p	384060	423665	423665
7	6.69	sulfate	1603379	1664932	1664932

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.97	fluoride	0.50	295885	42704	
2	2.79	chloride	5.00	2266777	269443	
3	3.33	nitrite-n	0.50	427557	41736	
4	3.93	bromide	2.50	530269	48100	
5	4.43	nitrate-n	1.00	1096946	96641	
6	5.99	phosphate-p	1.00	423665	27488	
7	6.69	sulfate	5.00	1664932	104763	

Sample Name : CAL STD #3



Calibration Update Report

Sample Name : CAL STD #4
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_015.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 13:35:06

Calibration Date : 9/16/14 13:46:01
System Operator : mm
Injection Number : 15

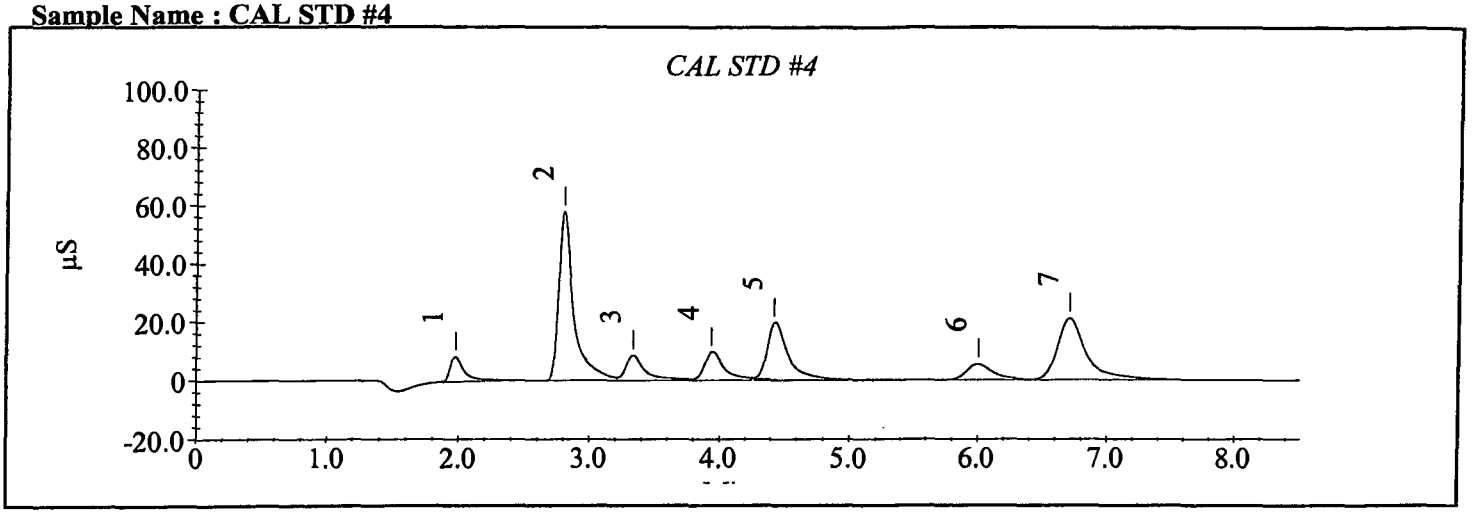
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.97	fluoride	607569	665048	665048
2	2.80	chloride	4779793	4620000	4620000
3	3.33	nitrite-n	906480	866241	866241
4	3.93	bromide	1053126	1040424	1040424
5	4.43	nitrate-n	2237044	2181530	2181530
6	6.00	phosphate-p	769425	767090	767090
7	6.71	sulfate	3360946	3268879	3268879

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.97	fluoride	1.00	665048	85001	
2	2.80	chloride	10.00	4620000	578025	
3	3.33	nitrite-n	1.00	866241	85227	
4	3.93	bromide	5.00	1040424	94837	
5	4.43	nitrate-n	2.00	2181530	194223	
6	6.00	phosphate-p	2.00	767090	53648	
7	6.71	sulfate	10.00	3268879	210711	

Sample Name : CAL STD #4



Calibration Update Report

Sample Name : CAL STD #5
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_016.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 13:46:24

Calibration Date : 9/16/14 13:57:19
System Operator : mm
Injection Number : 16

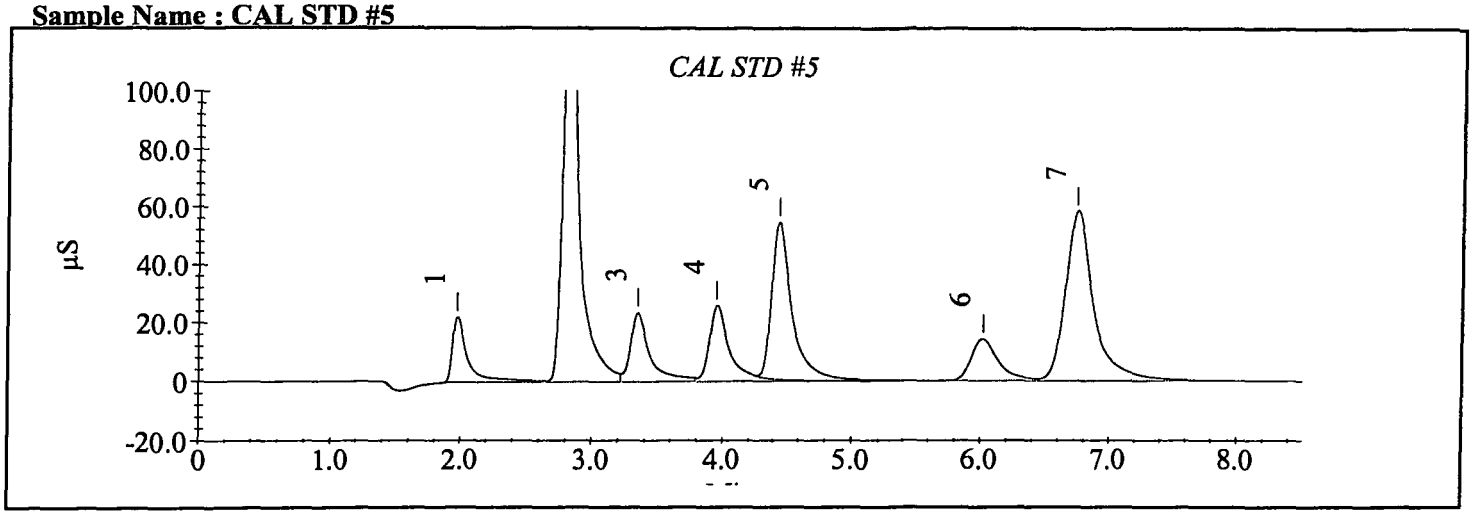
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.97	fluoride	1882150	1822387	1822387
2	2.80	chloride	13726063	13083991	13083991
3	3.35	nitrite-n	2428096	2398640	2398640
4	3.95	bromide	2795303	2811783	2811783
5	4.44	nitrate-n	6075372	5982651	5982651
6	6.01	phosphate-p	2015049	2009102	2009102
7	6.73	sulfate	9158418	8925097	8925097

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.97	fluoride	2.50	1822387	220513	
2	2.80	chloride	25.00	13083991	1634673	
3	3.35	nitrite-n	2.50	2398640	232992	
4	3.95	bromide	12.50	2811783	257207	
5	4.44	nitrate-n	5.00	5982651	539495	
6	6.01	phosphate-p	5.00	2009102	141469	
7	6.73	sulfate	25.00	8925097	579552	

Sample Name : CAL STD #5



Calibration Update Report

Sample Name : CAL STD #6
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_017.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 13:57:42

Calibration Date : 9/16/14 14:08:37
System Operator : mm
Injection Number : 17

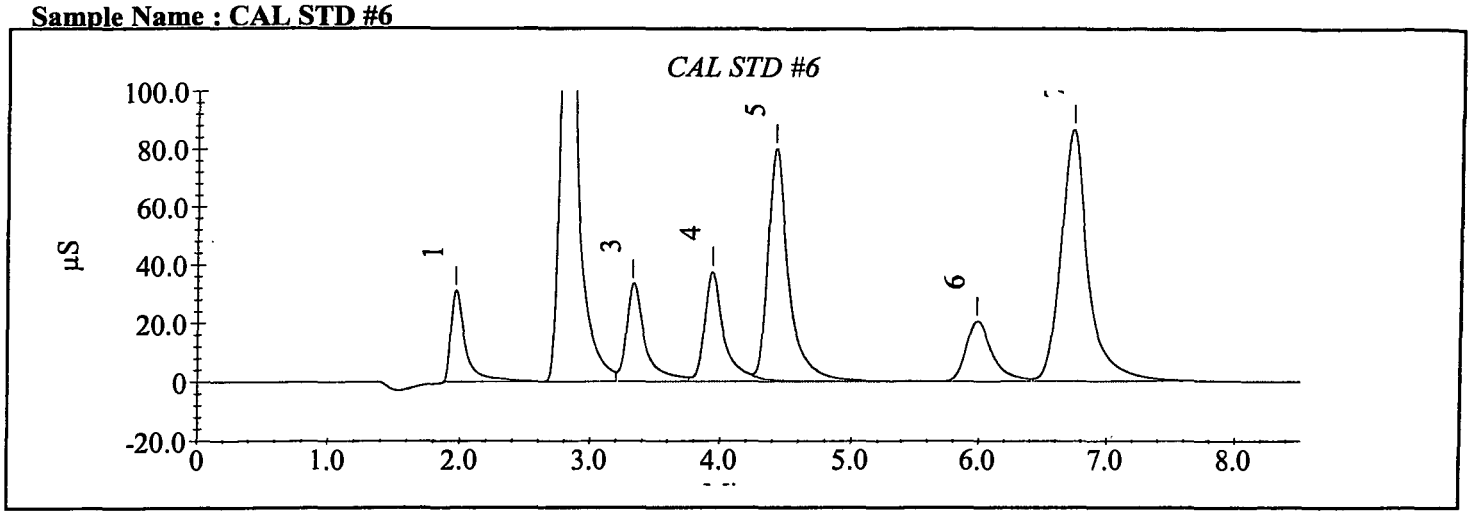
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.96	fluoride	2634975	2347305	2347305
2	2.80	chloride	20199844	19156003	19156003
3	3.32	nitrite-n	3487460	3309962	3309962
4	3.93	bromide	3964452	3853149	3853149
5	4.41	nitrate-n	8962096	8679959	8679959
6	5.97	phosphate-p	2892007	2861951	2861951
7	6.72	sulfate	13323218	12862977	12862977

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.96	fluoride	3.50	2347305	307863	
2	2.80	chloride	35.00	19156003	2543383	
3	3.32	nitrite-n	3.50	3309962	329466	
4	3.93	bromide	17.50	3853149	373363	
5	4.41	nitrate-n	7.00	8679959	793777	
6	5.97	phosphate-p	7.00	2861951	202999	
7	6.72	sulfate	35.00	12862977	864005	

Sample Name : CAL STD #6



Calibration Update Report

Sample Name : CAL STD #7
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_018.DXD

Method File Name : ...\anions 140916a.met
Schedule File Name : ...\140916a.sch
Date Time Collected : 9/16/14 14:08:59

Calibration Date : 9/16/14 14:19:53
System Operator : mm
Injection Number : 18

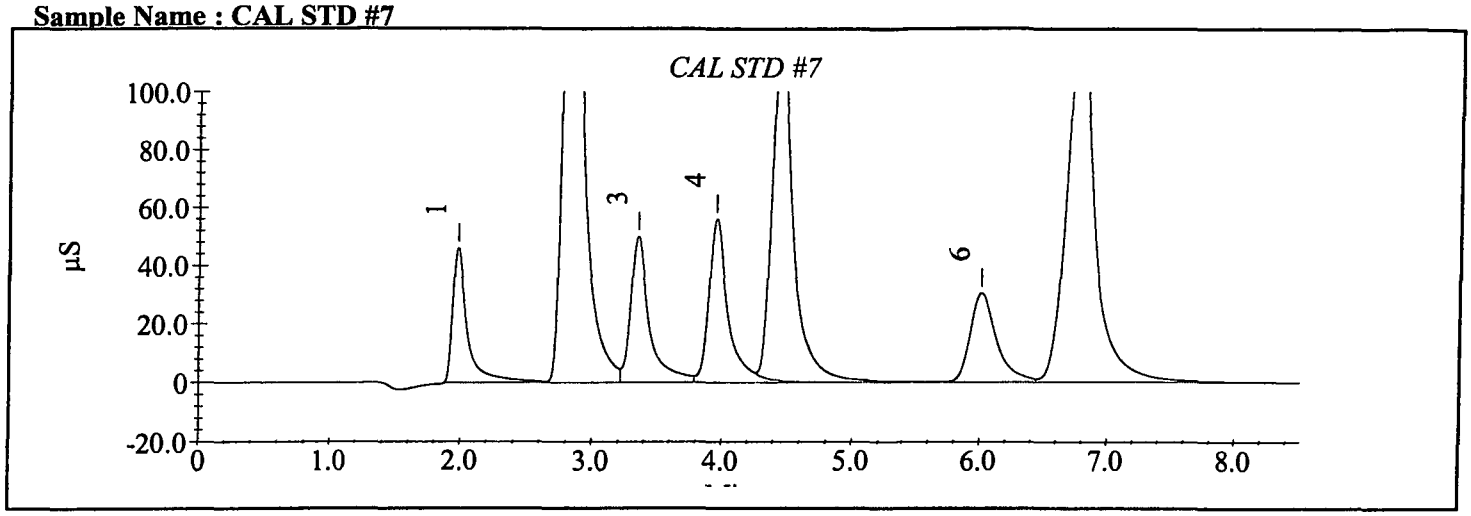
Peak Information : All Components

Peak #	Retention Time	Component Name	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	1.97	fluoride	3720726	3619418	3619418
2	2.81	chloride	29858639	29150289	29150289
3	3.35	nitrite-n	4999120	4979068	4979068
4	3.95	bromide	5710221	5758749	5758749
5	4.43	nitrate-n	13261972	13214288	13214288
6	6.00	phosphate-p	4245709	4282289	4282289
7	6.76	sulfate	19824829	19464399	19464399

Peak Information : All Components

Peak #	Retention Time	Component Name	Amount (mg/L)	Peak Area	Peak Height	Limit Exceeded
1	1.97	fluoride	5.00	3619418	459676	
2	2.81	chloride	50.00	29150289	3850058	
3	3.35	nitrite-n	5.00	4979068	498763	
4	3.95	bromide	25.00	5758749	558971	
5	4.43	nitrate-n	10.00	13214288	1198703	
6	6.00	phosphate-p	10.00	4282289	303155	
7	6.76	sulfate	50.00	19464399	1318317	

Sample Name : CAL STD #7



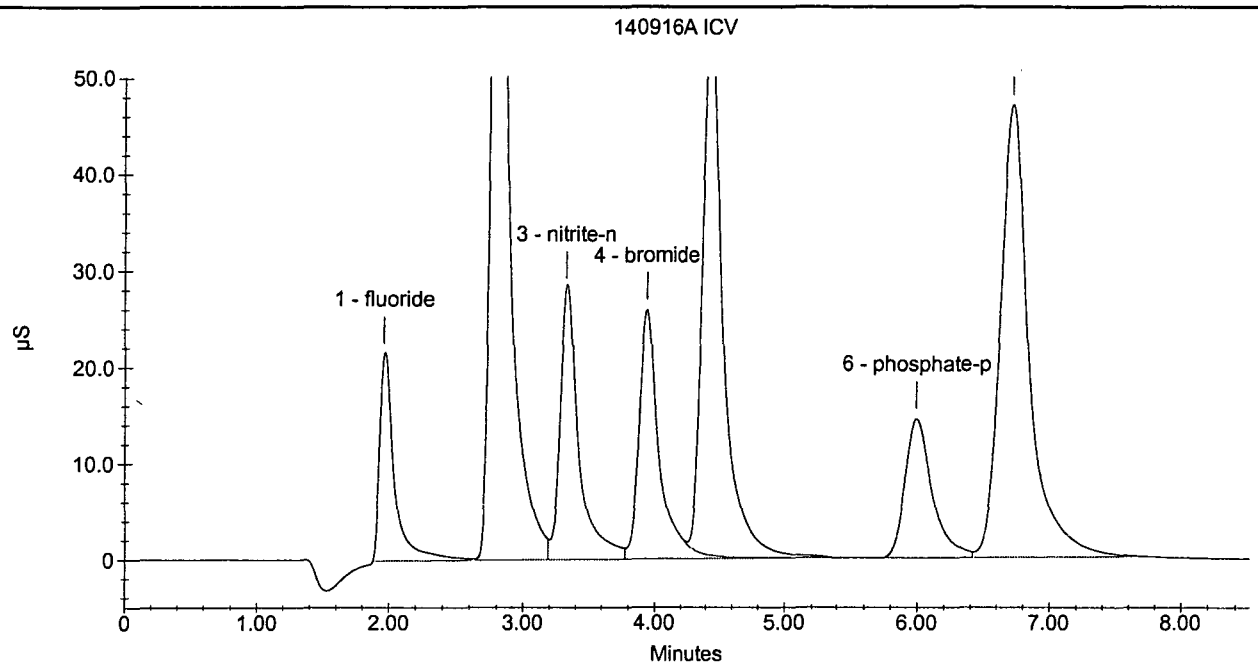
Sample Analysis Report

Sample Name : 140916A ICV
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916a_019.DXD

Method File Name : I:\DIONEX\D1ANIONS\METHODS\ANIONS 140916A.met
Date Time Collected : 9/16/14 14:20:16
System Operator : mm
Injection Number : 19
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height	Limit Exceed
1	1.96	fluoride	2.3941	1681572	214873	2.
2	2.79	chloride	18.9786	10371065	1320844	1
3	3.32	nitrite-n	2.9265	2837943	280321	2.
4	3.93	bromide	12.1534	2733797	258190	1
5	4.41	nitrate-n	4.8567	6121479	548928	4.
6	5.99	phosphate-p	4.9173	2047176	144494	4.
7	6.71	sulfate	19.3371	7141046	468012	1



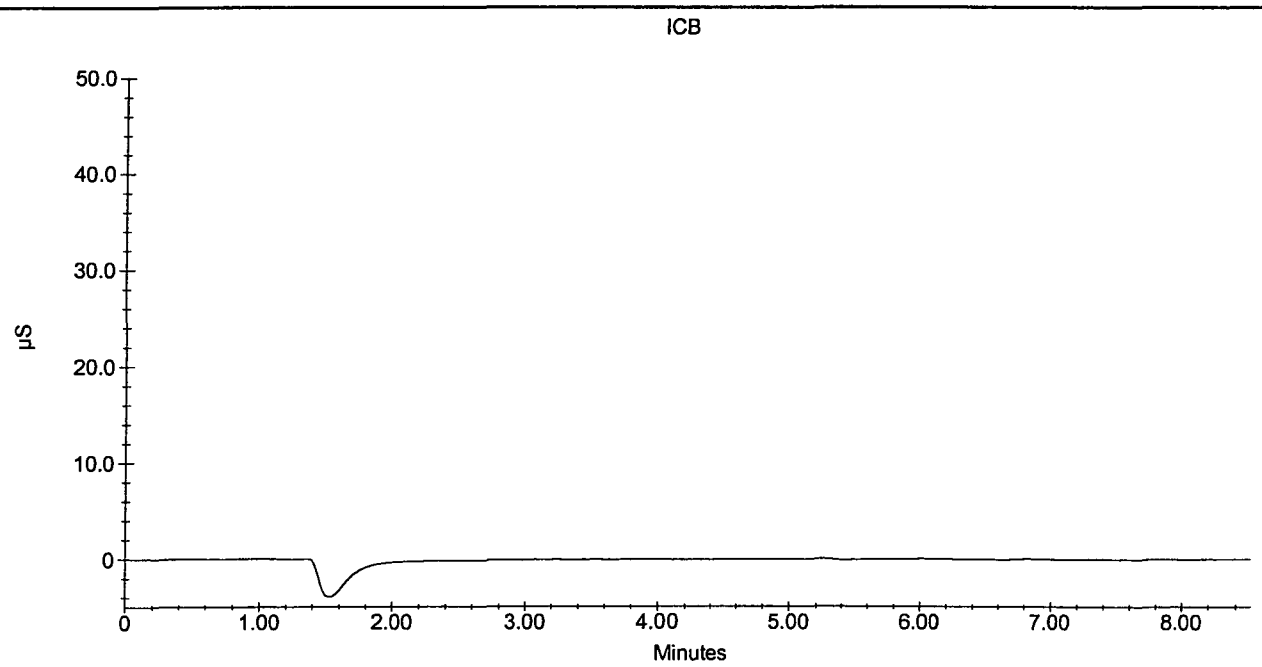
Sample Analysis Report

Sample Name : ICB
Data File Name : I:\DIONEX\D1ANIONS\DATA\140916A\140916A_020.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 9/16/14 14:31:36
System Operator : mm
Injection Number : 20
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height	Limit Exceed



A.P.P.L. INC.

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No: 74924 SDG: 74924

Initial Calibration Source: o2si

Continuing Calibration Source: o2si

Analysis Date: 11/21/14

Analyte	Calibration Verification									M
	True CCV1	Found 12:36	%R(1)	True CCV1	Found 14:51	%R(1)	True CCV1	Found 17:05	%R(1)	
sulfate	25	24.0393	96.2	25	24.2577	97.0	25	24.2021	96.8	

(1) Control Limits: 90-110

ILM02.0

A.P.P.L. INC.
3
BLANKS

Lab Name: A.P.P.L. INC. Contract: Parsons

ARF No.: 74924 SDG: 74924

Preparation Blank Matrix (soil/water): water

Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

Analyte	Calibration Blanks										M
	CCB 11/21/14 12:47	C	CCB 11/21/14 15:02	C	CCB 11/21/14 17:16	C		C		C	
sulfate	1.000	U	1.000	U	1.000	U					

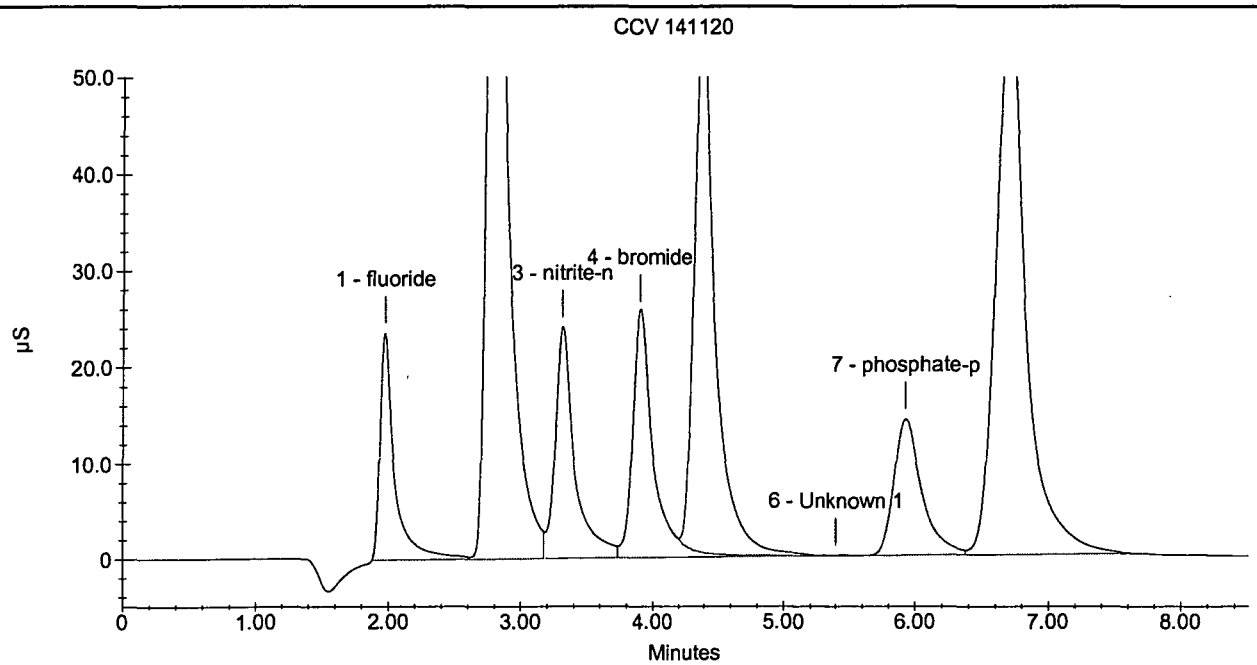
Sample Analysis Report

Sample Name : CCV 141120
Data File Name : I:\DIONEX\D1ANIONS\DATA\141121A\141121a_025.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 11/21/14 12:36:02
System Operator : mm
Injection Number : 25
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.97	fluoride	2.5601	1801457	235658
2	2.79	chloride	24.3811	13508185	1776598
3	3.31	nitrite-n	2.5340	2448090	240365
4	3.89	bromide	12.5141	2816492	255833
5	4.37	nitrate-n	4.9066	6186954	558078
6	5.40	Unknown 1	0.0000	7029	582
7	5.92	phosphate-p	4.9799	2073699	142108
8	6.68	sulfate	24.0394	8962236	574448



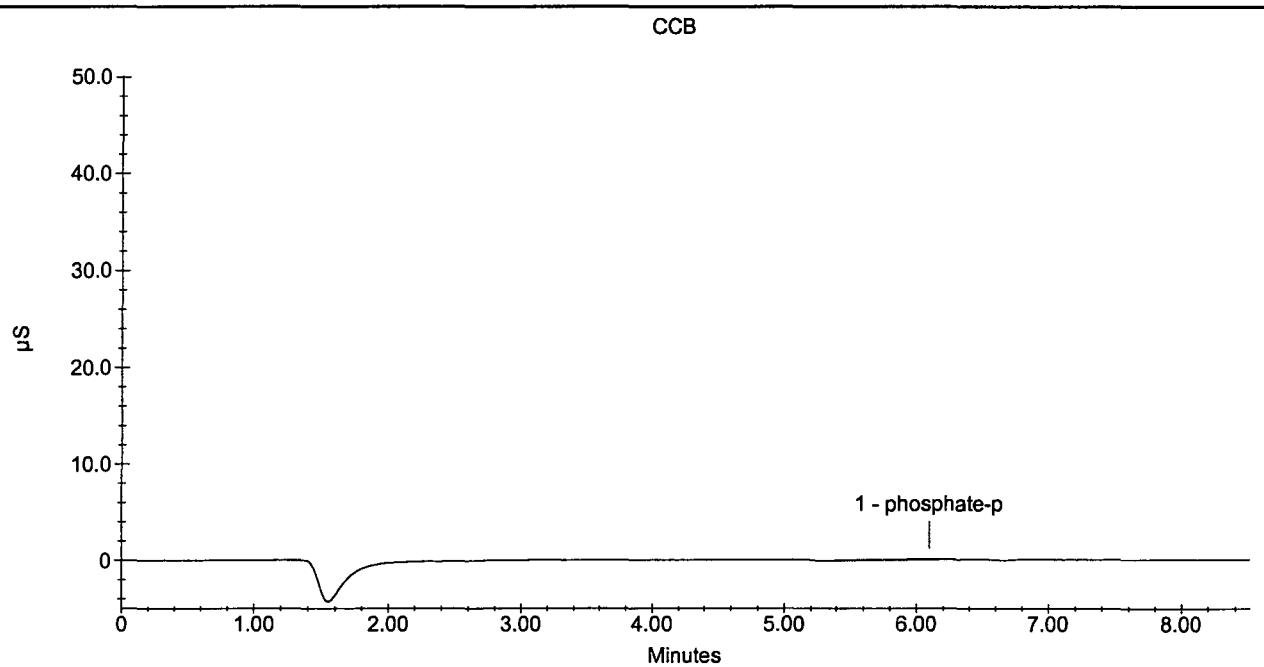
Sample Analysis Report

Sample Name : CCB
Data File Name : I:\DIONEX\D1ANIONS\DATA\141121A\141121a_026.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 11/21/14 12:47:22
System Operator : mm
Injection Number : 26
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	6.09	phosphate-p	0.1900	45391	942



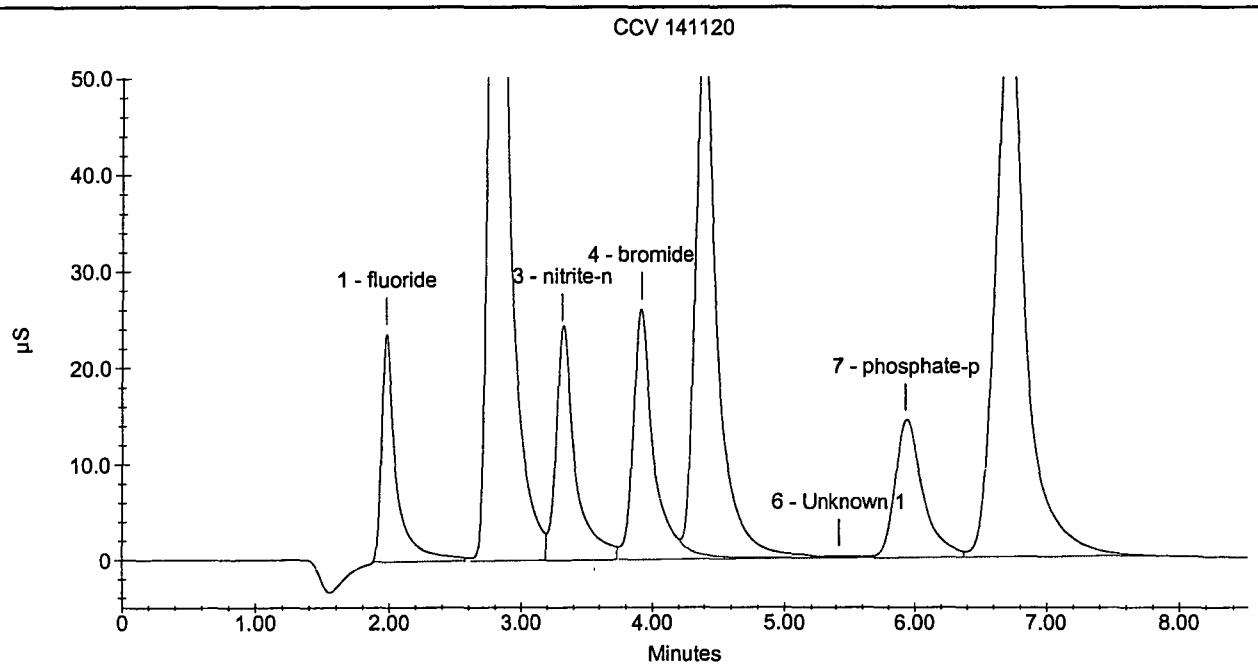
Sample Analysis Report

Sample Name : CCV 141120
Data File Name : I:\DIONEX\D1ANIONS\DATA\141121A\141121a_037.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 11/21/14 14:51:06
System Operator : mm
Injection Number : 37
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.97	fluoride	2.5937	1825652	235722
2	2.79	chloride	24.5441	13602815	1741826
3	3.31	nitrite-n	2.5736	2487433	238289
4	3.91	bromide	12.6639	2850842	259988
5	4.37	nitrate-n	4.9742	6275757	553606
6	5.41	Unknown 1	0.0000	28396	1569
7	5.92	phosphate-p	5.0957	2122707	142501
8	6.69	sulfate	24.2578	9046812	577669



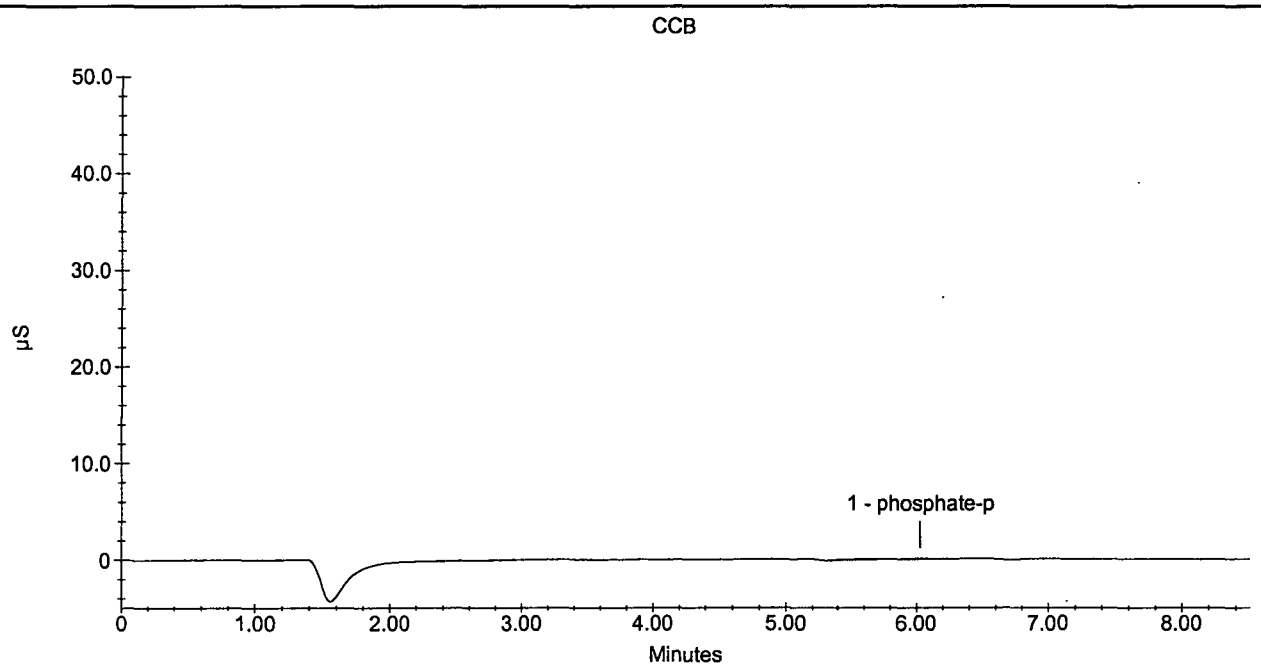
Sample Analysis Report

Sample Name : CCB
Data File Name : I:\DIONEX\D1ANIONS\DATA\141121A\141121a_038.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 11/21/14 15:02:26
System Operator : mm
Injection Number : 38
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	6.03	phosphate-p	0.1733	38335	831



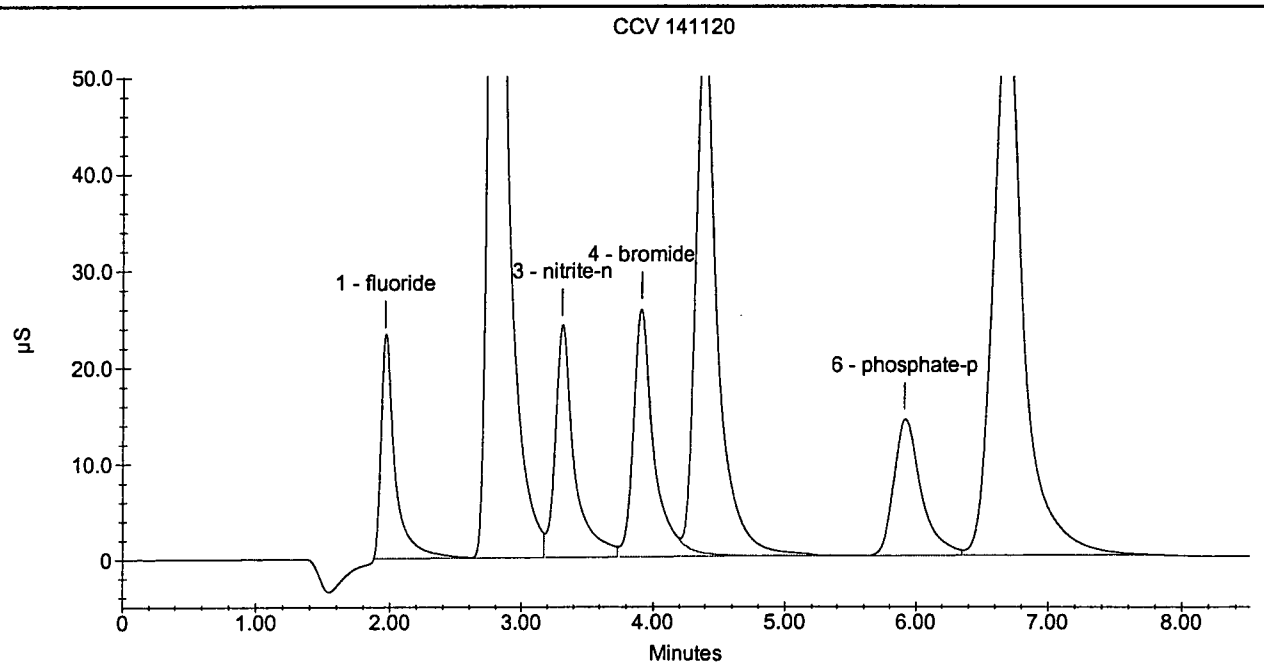
Sample Analysis Report

Sample Name : CCV 141120
Data File Name : I:\DIONEX\D1ANIONS\DATA\141121A\141121a_049.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 11/21/14 17:05:42
System Operator : mm
Injection Number : 49
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.96	fluoride	2.4322	1709047	229038
2	2.79	chloride	24.3479	13488886	1769226
3	3.31	nitrite-n	2.5134	2427590	240352
4	3.91	bromide	12.1972	2743828	256973
5	4.37	nitrate-n	4.9325	6221004	553397
6	5.91	phosphate-p	4.9873	2076817	141674
7	6.67	sulfate	24.2021	9025258	575973



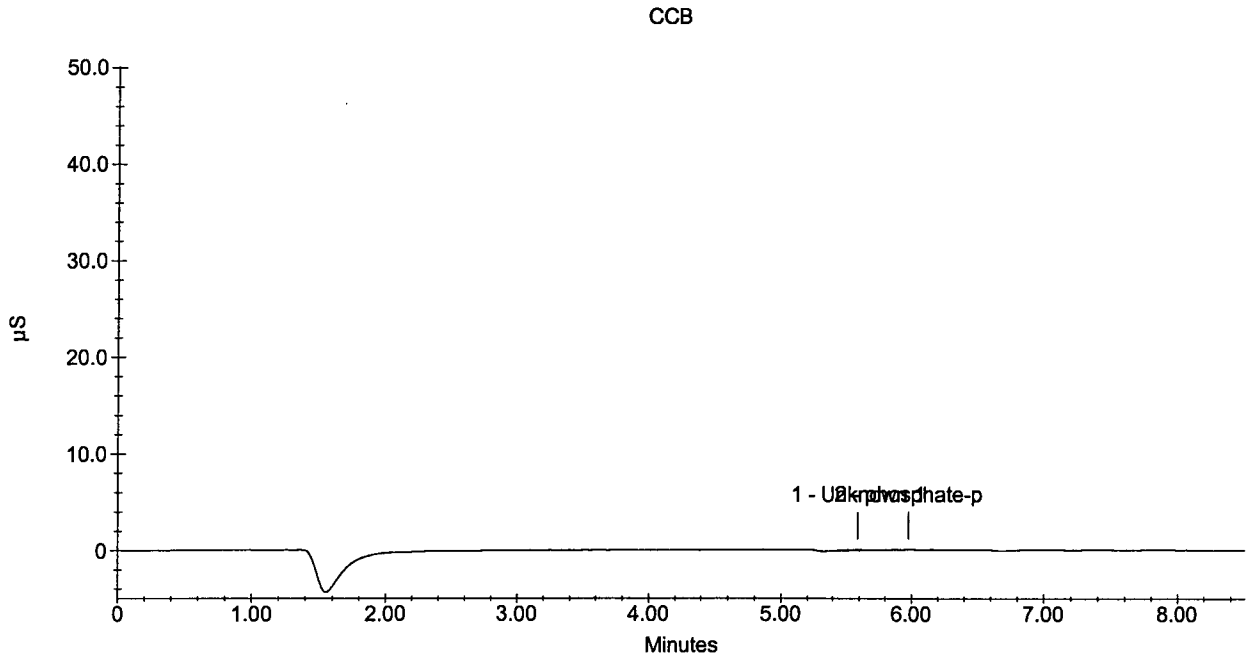
Sample Analysis Report

Sample Name : CCB
Data File Name : I:\DIONEX\D1ANIONS\DATA\141121A\141121a_050.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 11/21/14 17:16:59
System Operator : mm
Injection Number : 50
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	5.59	Unknown 1	0.0000	11739	779
2	5.97	phosphate-p	0.0989	6803	418



INORGANICS

Raw Data

APPL, INC.

WETLAB BLANK

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Analyte	Result	LOQ	LOD	DL	Units	Prep Date	Analysis Date	QC Group
EPA 353.2	NITRATE-NITRITE-N	0.100 U	0.10	0.100	0.028	mg/L	11/26/14	11/26/14	#35OF-141126A-AZ07148
EPA 9056	SULFATE	0.198 U	1.00	0.198	0.090	mg/L	11/21/14	11/21/14	#9056D-141121B-AZ07202
SM 2320B	TOTAL ALKALINITY	1.70 U	2.0	1.70	0.85	mg/L	11/24/14	11/24/14	#232W-141124A-AZ07203

Wetlab SC-Blank-REG MDLs
Printed: 12/01/14 11:17:08 AM

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
SM 2320B	TOTAL ALKALINITY AS CA	250	261	259	104	104	0.77	20	90-110	11/24/14	11/24/14	11/24/14	11/24/14	#232W-141124A-AZ07203

Comments: _____

Laboratory Control Spike Recoveries

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Lvl mg/L	SPK Res mg/L	DUP Res mg/L	SPK % Recov	DUP % Recov	RPD	RPD Max	QC Limits	Extract Date-Spk	Analysis Date-Spk	Extract Date-Dup	Analysis Date-Dup	QC Group
EPA 353.2	NITRATE-NITRITE-N	5.00	4.95	4.89	99.0	97.8	1.2	20	90-110	11/26/14	11/26/14	11/26/14	11/26/14	#35OF-141126A-AZ07148

Comments: _____

Laboratory Control Spike Recovery

WETLAB

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Method	Compound Name	Spike Level mg/L	SPK Result mg/L	SPK % Recovery	Recovery Limits	Extract Date	Analysis Date	QC Group
EPA 9056	SULFATE	20.0	19.4	97.0	80-120	11/21/14	11/21/14	#9056D-141121B-AZ07202

Comments: _____

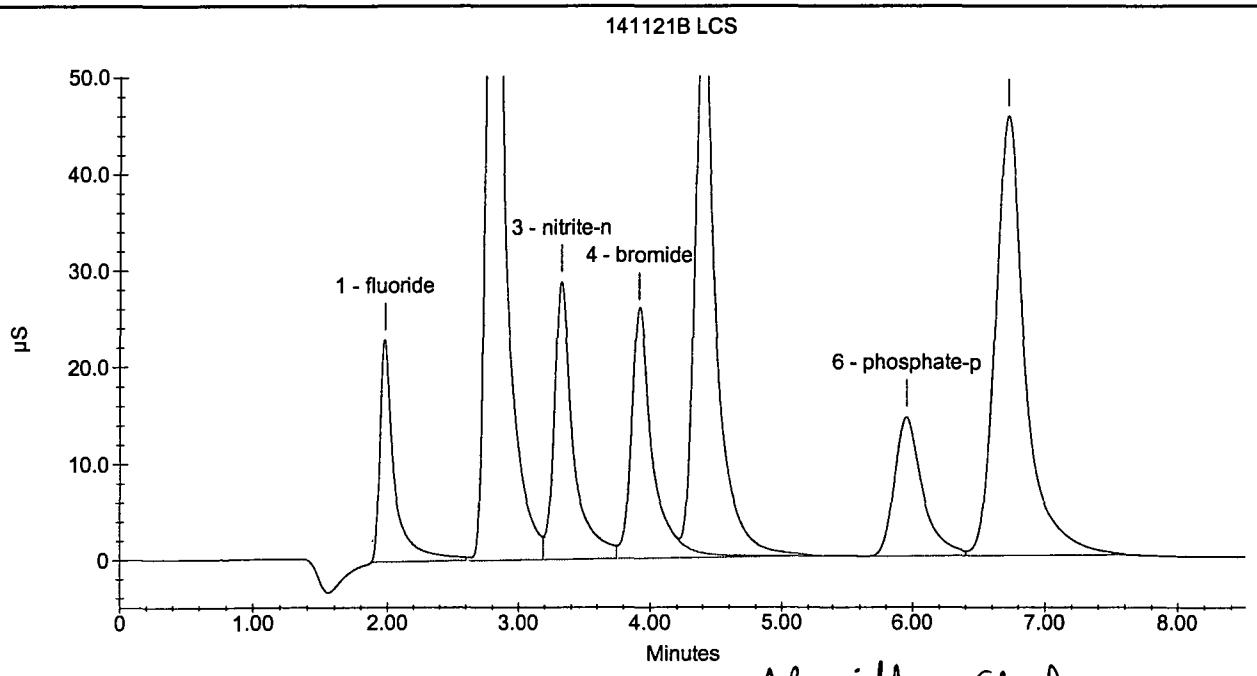
Sample Analysis Report

Sample Name : 141121B LCS
Data File Name : I:\DIONEX\D1ANIONS\DATA\141121A\141121a_027.DXD

Method File Name : i:\dionex\d1anions\methods\anions 140916a.met
Date Time Collected : 11/21/14 12:58:28
System Operator : mm
Injection Number : 27
Multiplier : 1.00

Peak Information : All Peaks

Peak Number	Peak Retention Time	Component Name	Component Amount (mg/L)	Peak Area	Peak Height
1	1.97	fluoride	2.5184	1771332	229242
2	2.79	chloride	19.3285	10574267	1343981
3	3.32	nitrite-n	2.9444	2855695	286731
4	3.91	bromide	12.5726	2829894	257085
5	4.39	nitrate-n	5.0074	6319280	569583
6	5.95	phosphate-p	5.0785	2115427	144168
7	6.71	sulfate	19.3544	7147735	454407



Algorithm Check ✓

$7147735(2.582\times10^{-6}) + 0.899 = 19.35$

MM 11/25/14

OPERATOR: Aileen
ACQ. TIME: Nov 26, 2014 13:46:09
DATA FILENAME: I:\LACHAT\OMNION\141126NA.FDT
METHOD FILENAME: I:\LACHAT\METHODS\TOTOXN1.MET
TRAY FILENAME: I:\LACHAT\TRAYS\141126NA.TRA

TRAY DESCRIPTION:
Created: Nov 26, 2014 11:12:33
Modified: Nov 26, 2014 14:38:56
NO3/TOTOXN 141126NA
DATA DESCRIPTION:
Created: Nov 26, 2014 13:46:09
Modified: Nov 26, 2014 13:46:09

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 1 to 40

Cup	Sample ID	Sampling Time	# of Reps	TOTOXN (mg/L)	Man Dil Factor
1	141126A BLK	14:04:26	1	-0.0277	1.0
4	141126A LCS	14:05:55	1	4.9537	1.0
5	141126A LCSD	14:07:24	1	4.8945	1.0
6	AZ07147W06	14:08:52	1	0.0238	1.0
7	AZ07148W06	14:10:20	1	0.0109	1.0
8	AZ07148W06MS	14:11:48	1	4.8982	1.0
9	AZ07202W10	14:13:15	1	0.5573	1.0
10	AZ07203W10	14:14:43	1	0.5551	1.0
11	AZ07408W07	14:16:10	1	0.3983	1.0
12	AZ07409W07	14:17:38	1	0.1222	1.0
13	AZ07410W07	14:23:45	1	0.1246	1.0
14	AZ07411W07	14:25:12	1	0.1840	1.0
15	AZ07493W06	14:26:40	1	-0.0231	1.0
16	AZ07534W13	14:28:09	1	0.0297	1.0
17	AZ07534W13MS	14:29:38	1	4.8929	1.0
18	AZ07534W13MSD	14:31:06	1	5.0433	1.0
19	AZ07535W05	14:32:35	1	0.0227	1.0
20	AZ07536W05	14:34:04	1	0.0222	1.0
21	AZ07537W05	14:35:32	1	0.0019	1.0
24		~~14:38:37~~	~~1~~	~~0.5396~~	~~1.0~~

(4) AP 11/26/14

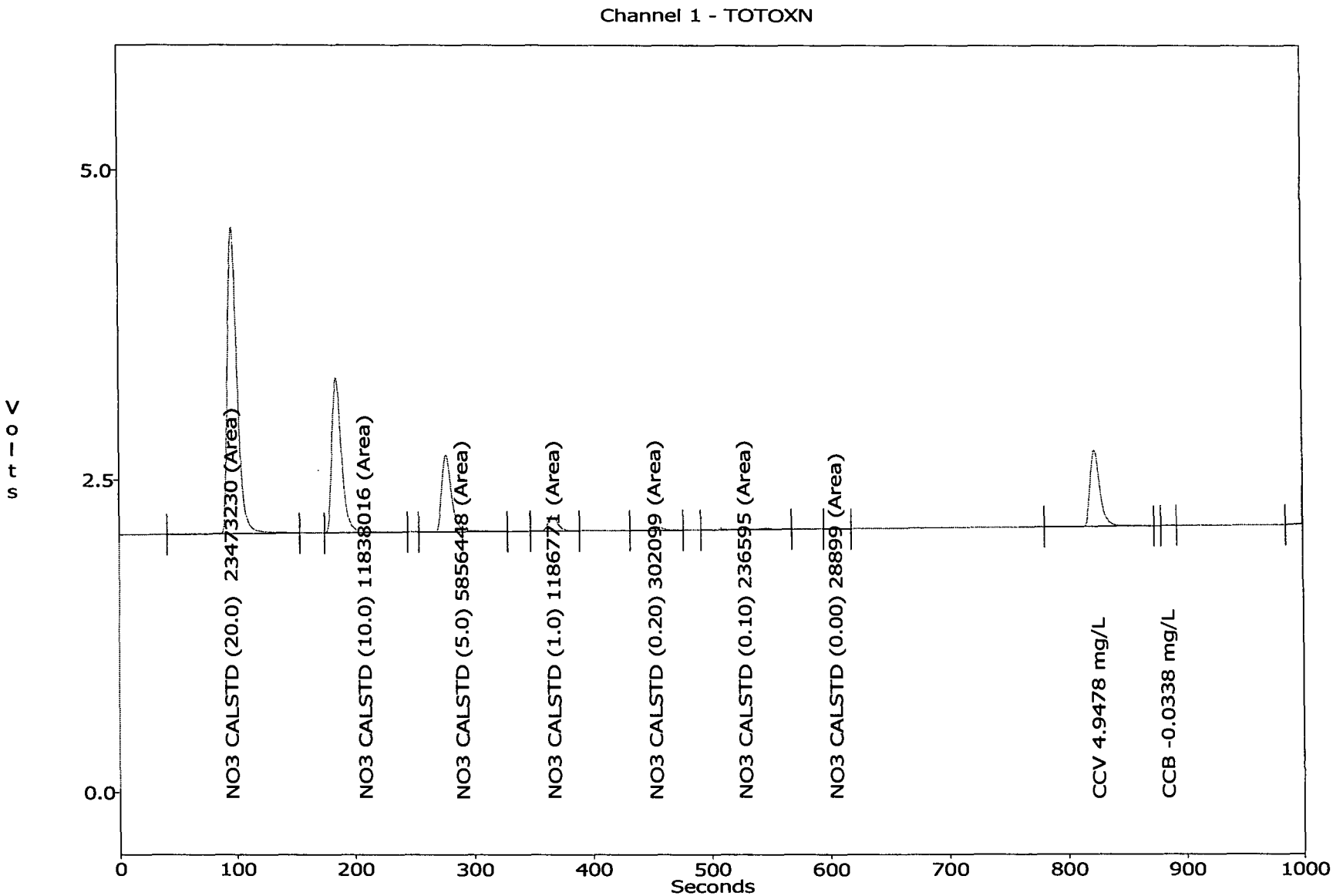
INSTRUMENT: Flow Injection Analysis
TRAY: 141126NA.TRA METHOD: TOTOXN1.MET DATAFILE: 141126NA.FDT
DATE/TIME: Wed Nov 26 13:46:09 2014 OPERATOR: Aileen

*** Begin Calibration ***
Cup# 1 Sample: NO3 CALSTD (20.0) Type: CalStd Level: 1 Rep# 1/1
Ch 1: TOTOXN Peak Area = 23473230.0 µv-s
Cup# 2 Sample: NO3 CALSTD (10.0) Type: CalStd Level: 2 Rep# 1/1
Ch 1: TOTOXN Peak Area = 11838016.0 µv-s
Cup# 15 Sample: NO3 CALSTD (5.0) Type: CalStd Level: 3 Rep# 1/1
Ch 1: TOTOXN Peak Area = 5856448.0 µv-s
Cup# 3 Sample: NO3 CALSTD (1.0) Type: CalStd Level: 4 Rep# 1/1
Ch 1: TOTOXN Peak Area = 1186771.0 µv-s
Cup# 4 Sample: NO3 CALSTD (0.20) Type: CalStd Level: 5 Rep# 1/1
Ch 1: TOTOXN Peak Area = 302099.0 µv-s
Cup# 5 Sample: NO3 CALSTD (0.10) Type: CalStd Level: 6 Rep# 1/1
Ch 1: TOTOXN Peak Area = 236595.0 µv-s
Cup# 6 Sample: NO3 CALSTD (0.00) Type: CalStd Level: 7 Rep# 1/1
Ch 1: TOTOXN Peak Area = 28899.0 µv-s
*** Updated Calibration ***
Ch 1: TOTOXN
** 1st Order Poly Calibration **
C[0] = 8.53421e-007
C[1] = -0.0472279
r = 1.0000
*** End Calibration Block ***
*** Calibration Passed ***
***** Auto DQM Begin *****
*** Starting DQM Set CONTINUING ***
Cup# 15 Sample: CCV Type: RelChkStd Rep# 1/1
Ch 1: TOTOXN = 4.9478 mg/L
DQM Sample Results: CCV
Ch 1: TOTOXN = 4.9478 mg/L
Known Conc = 5.0000 mg/L - %Diff from Known = -1.0436%
Test 1: Passed
Cup# 6 Sample: CCB Type: Blank Rep# 1/1
Ch 1: TOTOXN = -0.0338 mg/L
DQM Sample Results: CCB
Ch 1: TOTOXN
Determined Conc = -0.0338 mg/L
Test 1: Passed
*** End of DQM Set CONTINUING - Set Passed ***
*** Starting DQM Set INITIAL ***
Cup# 7 Sample: ICV Type: RelChkStd Rep# 1/1
Ch 1: TOTOXN = 5.0002 mg/L
DQM Sample Results: ICV
Ch 1: TOTOXN = 5.0002 mg/L
Known Conc = 5.0000 mg/L - %Diff from Known = 0.0033%
Test 1: Passed
Cup# 6 Sample: ICB Type: Blank Rep# 1/1
Ch 1: TOTOXN = -0.0309 mg/L
DQM Sample Results: ICB
Ch 1: TOTOXN
Determined Conc = -0.0309 mg/L
Test 1: Passed
*** End of DQM Set INITIAL - Set Passed ***
Cup# 1 Sample: 141126A BLK Type: Unknown Rep# 1/1
Ch 1: TOTOXN = -0.0277 mg/L
Cup# 4 Sample: 141126A LCS Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 4.9537 mg/L
Cup# 5 Sample: 141126A LCSD Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 4.8945 mg/L
Cup# 6 Sample: AZ07147W06 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.0238 mg/L
Cup# 7 Sample: AZ07148W06 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.0109 mg/L
Cup# 8 Sample: AZ07148W06MS Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 4.8982 mg/L

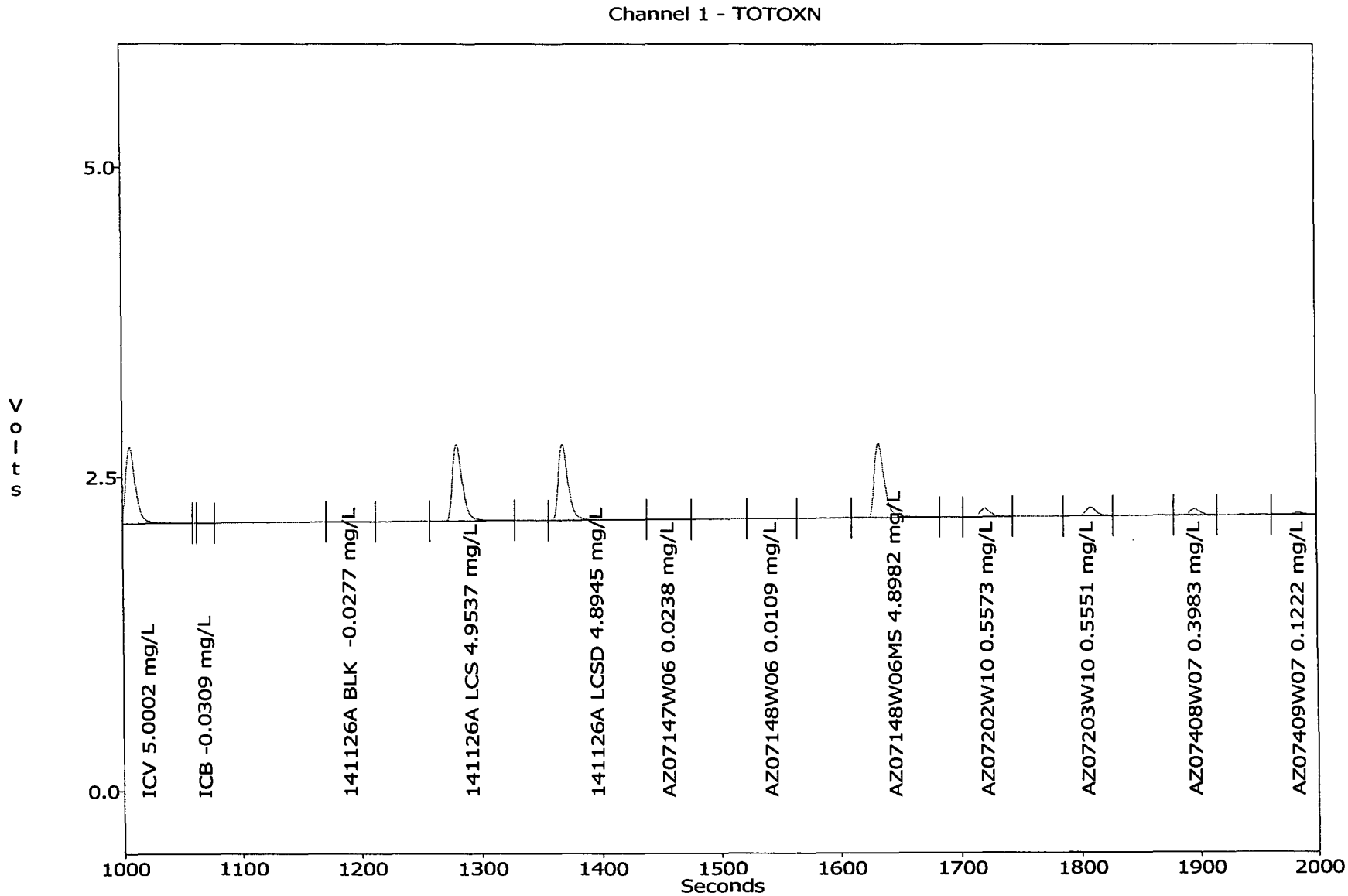
AP 11/26/14
Algorithm check on ICV /
$(8.53421)(5914304)(10^{-7}) - 0.0472279 = 5.0002$

Cup# 9 Sample: AZ07202W10 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.5573 mg/L
Cup# 10 Sample: AZ07203W10 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.5551 mg/L
Cup# 11 Sample: AZ07408W07 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.3983 mg/L
Cup# 12 Sample: AZ07409W07 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.1222 mg/L
***** Auto DQM Begin *****
*** Starting DQM Set CONTINUING ***
Cup# 15 Sample: CCV Type: RelChkStd Rep# 1/1 Repeat# 1
Ch 1: TOTOXN = 4.8997 mg/L
DQM Sample Results: CCV
Ch 1: TOTOXN = 4.8997 mg/L
Known Conc = 5.0000 mg/L - %Diff from Known = -2.0060%
Test 1: Passed
Cup# 6 Sample: CCB Type: Blank Rep# 1/1 Repeat# 1
Ch 1: TOTOXN = -0.0188 mg/L
DQM Sample Results: CCB
Ch 1: TOTOXN
Determined Conc = -0.0188 mg/L
Test 1: Passed
*** End of DQM Set CONTINUING - Set Passed ***
Cup# 13 Sample: AZ07410W07 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.1246 mg/L
Cup# 14 Sample: AZ07411W07 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.1840 mg/L
Cup# 15 Sample: AZ07493W06 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = -0.0231 mg/L
Cup# 16 Sample: AZ07534W13 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.0297 mg/L
Cup# 17 Sample: AZ07534W13MS Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 4.8929 mg/L
Cup# 18 Sample: AZ07534W13MSD Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 5.0433 mg/L
Cup# 19 Sample: AZ07535W05 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.0227 mg/L
Cup# 20 Sample: AZ07536W05 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.0222 mg/L
Cup# 21 Sample: AZ07537W05 Type: Unknown Rep# 1/1
Ch 1: TOTOXN = 0.0019 mg/L
Cup# 24 Sample: ~~Type: Unknown Rep~~# 1/1 ④ no sample present - aspirated air AP 11/26/14
Ch 1: TOTOXN = ~~0.5396 mg/L~~
***** Auto DQM Begin *****
*** Starting DQM Set CONTINUING ***
Cup# 15 Sample: CCV Type: RelChkStd Rep# 1/1 Repeat# 2
Ch 1: TOTOXN = 5.0783 mg/L
DQM Sample Results: CCV
Ch 1: TOTOXN = 5.0783 mg/L
Known Conc = 5.0000 mg/L - %Diff from Known = 1.5661%
Test 1: Passed
Cup# 6 Sample: CCB Type: Blank Rep# 1/1 Repeat# 2
Ch 1: TOTOXN = -0.0295 mg/L
DQM Sample Results: CCB
Ch 1: TOTOXN
Determined Conc = -0.0295 mg/L
Test 1: Passed
*** End of DQM Set CONTINUING - Set Passed ***
******* Tray Run Complete *******

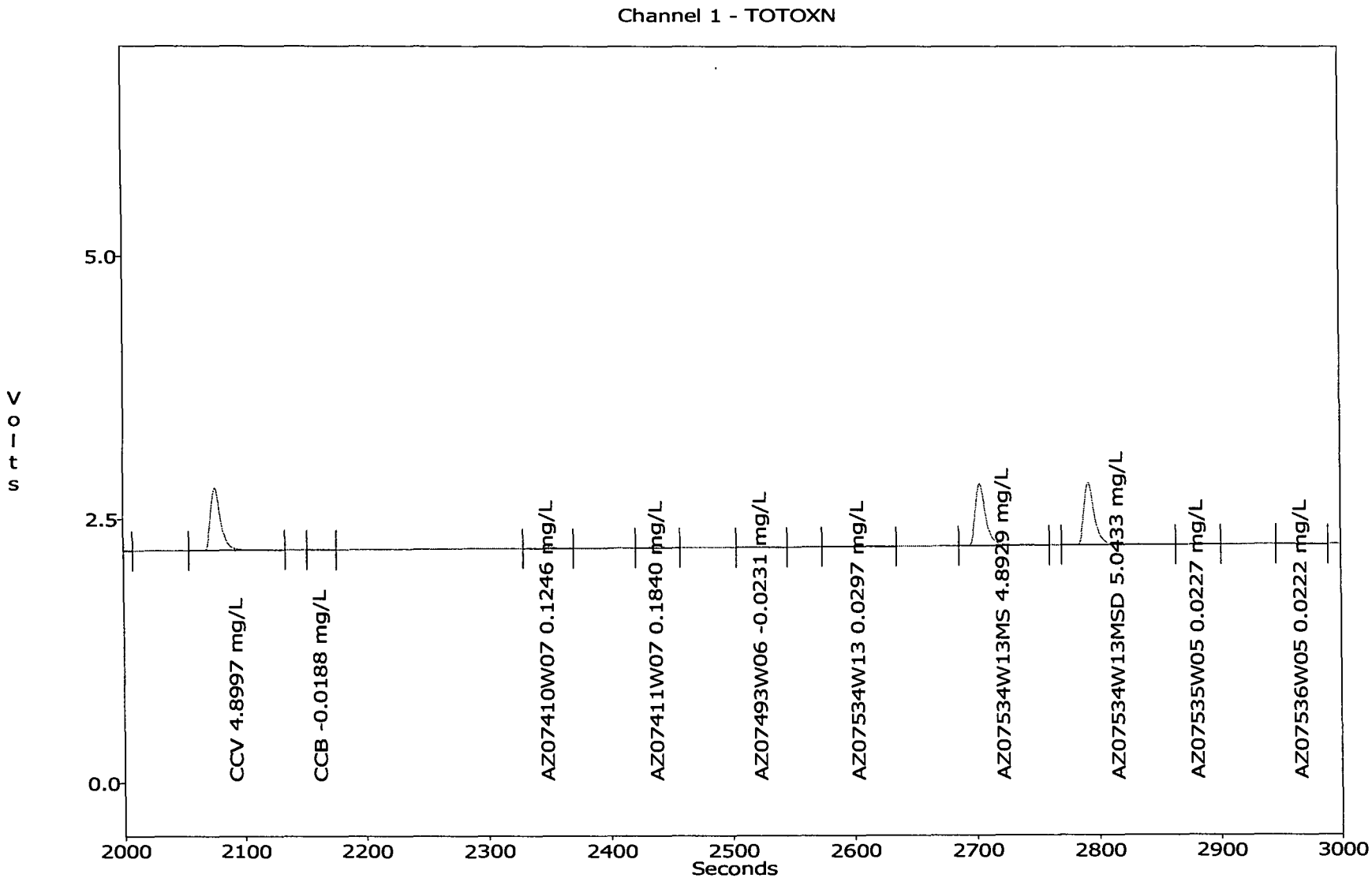
OPERATOR: Aileen
ACQ. TIME: Nov 26, 2014 13:46:09
DATA FILENAME: I:\LACHAT\OMNION\141126NA.FDT
METHOD FILENAME: I:\LACHAT\METHODS\TOTOXN1.MET
TRAY FILENAME: I:\LACHAT\TRAYS\141126NA.TRA



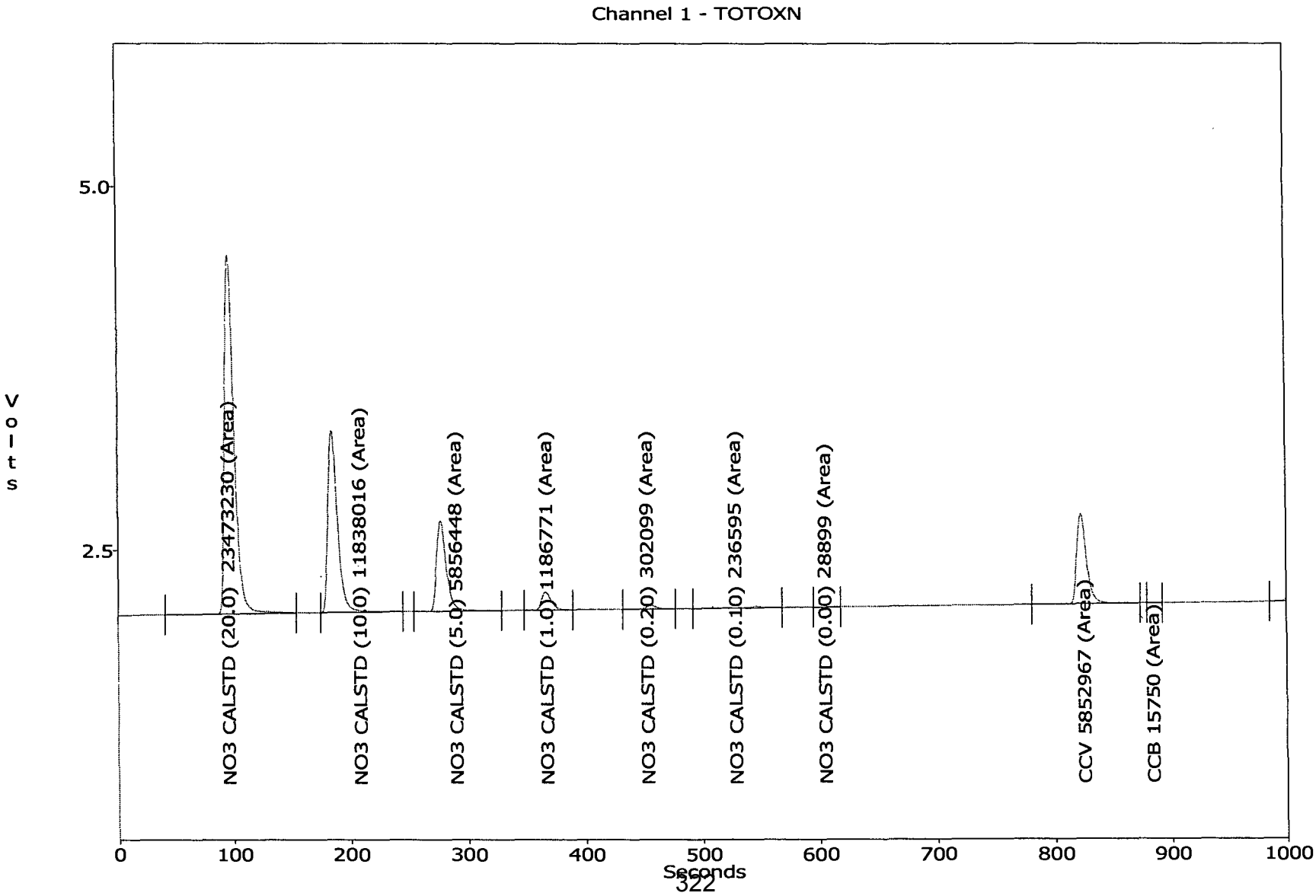
OPERATOR:	**Aileen**
ACQ. TIME:	**Nov 26, 2014 13:46:09**
DATA FILENAME:	**I:\LACHAT\OMNION\141126NA.FDT**
METHOD FILENAME:	**I:\LACHAT\METHODS\TOTOXN1.MET**
TRAY FILENAME:	**I:\LACHAT\TRAYS\141126NA.TRA**



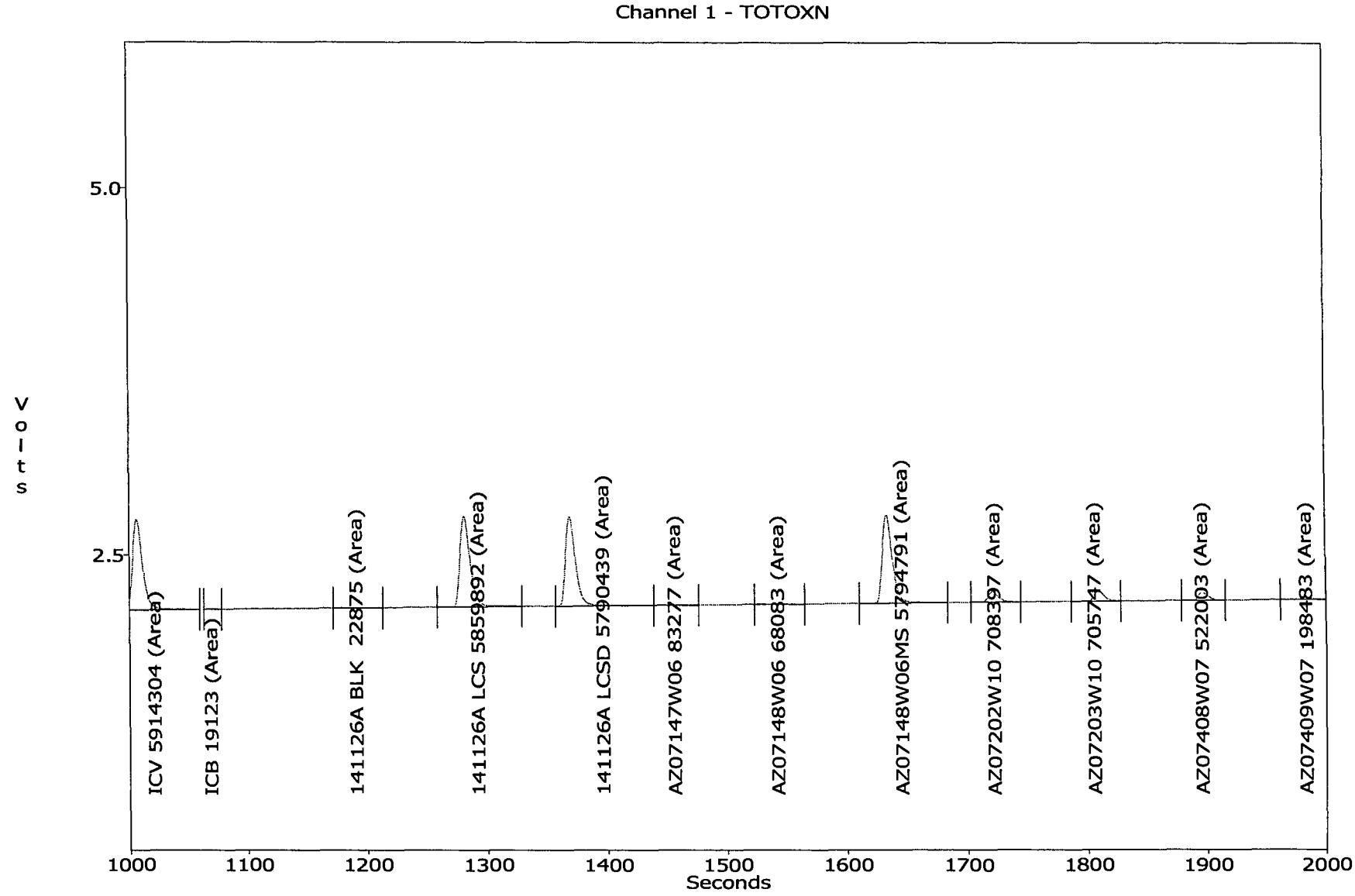
OPERATOR: Aileen
ACQ. TIME: Nov 26, 2014 13:46:09
DATA FILENAME: I:\LACHAT\OMNION\141126NA.FDT
METHOD FILENAME: I:\LACHAT\METHODS\TOTOXN1.MET
TRAY FILENAME: I:\LACHAT\TRAYS\141126NA.TRA



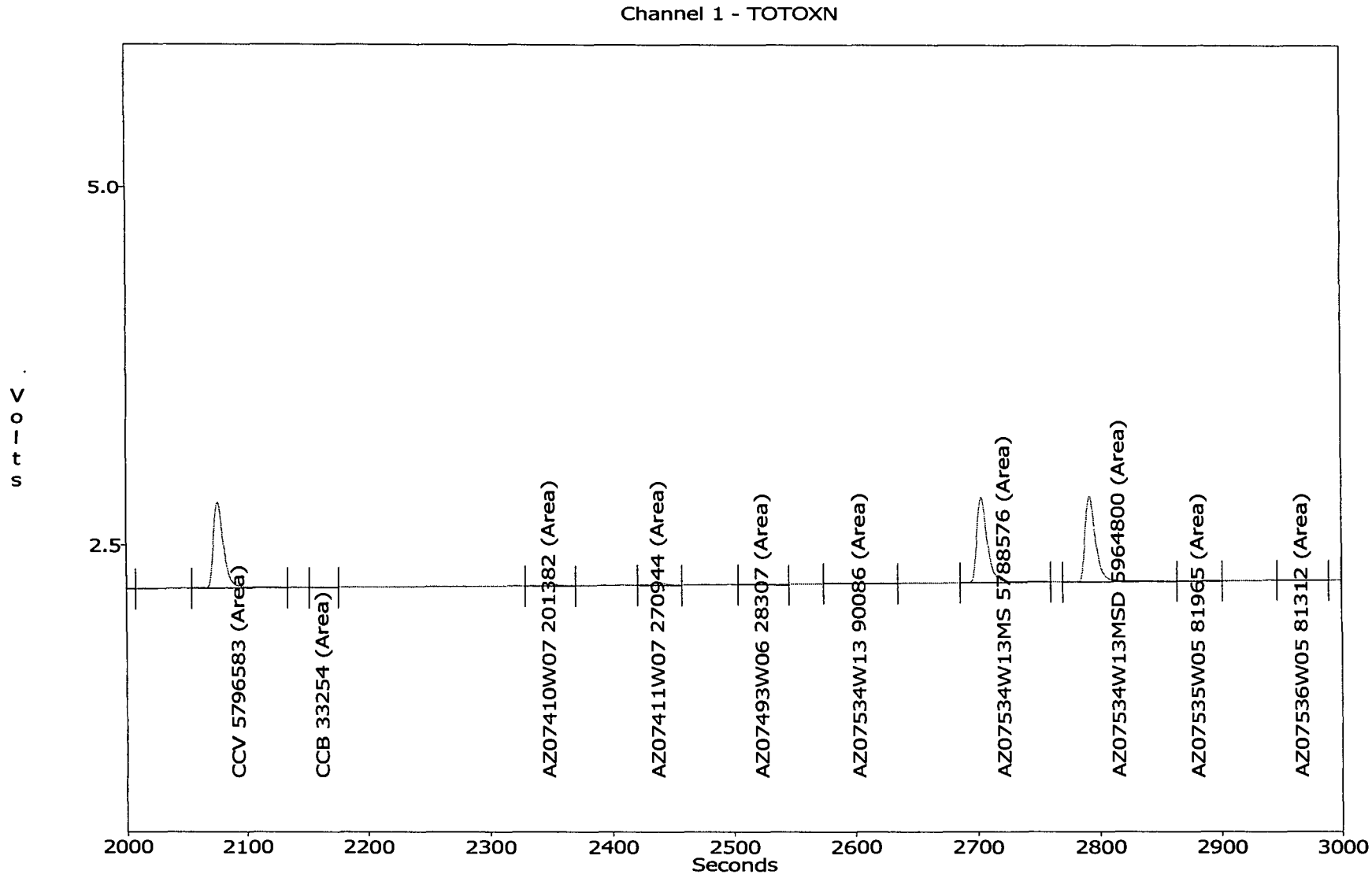
OPERATOR: Aileen
ACQ. TIME: Nov 26, 2014 13:46:09
DATA FILENAME: I:\LACHAT\OMNION\141126NA.FDT
METHOD FILENAME: I:\LACHAT\METHODS\TOTOXN1.MET
TRAY FILENAME: I:\LACHAT\TRAYS\141126NA.TRA



OPERATOR: Aileen
ACQ. TIME: Nov 26, 2014 13:46:09
DATA FILENAME: I:\LACHAT\OMNION\141126NA.FDT
METHOD FILENAME: I:\LACHAT\METHODS\TOTOXN1.MET
TRAY FILENAME: I:\LACHAT\TRAYS\141126NA.TRA



OPERATOR: Aileen
ACQ. TIME: Nov 26, 2014 13:46:09
DATA FILENAME: I:\LACHAT\OMNION\141126NA.FDT
METHOD FILENAME: I:\LACHAT\METHODS\TOTOXN1.MET
TRAY FILENAME: I:\LACHAT\TRAYS\141126NA.TRA



Metrohm 814/809 Titrando Data

Sample ID	Analysis Date/Time	Method	Titration Volume (to 8.3)	Titration Volume (total)	OH	CO3	HCO3	Total Alk	Unit	Sample Vol	N	Batch	Initials
AZ07203W12	2014-11-24 17:02:29 UTC-8	Alkalinity	0.000	1.258	0.00	0.00	53.59	53.59	mg/L	25 mL	0.0213	141124a	bb
AZ07202W12	2014-11-24 16:57:37 UTC-8	Alkalinity	0.000	1.242	0.00	0.00	52.91	52.91	mg/L	25 mL	0.0213	141124a	bb
141124a lcsd	2014-11-24 16:38:14 UTC-8	Alkalinity	0.412	6.068	0.00	35.10	223.39	258.50	mg/L	25 mL	0.0213	141124a	bb
141124a lcs	2014-11-24 16:27:30 UTC-8	Alkalinity	0.450	6.132	0.00	38.34	222.88	261.22	mg/L	25 mL	0.0213	141124a	bb
141124a blk	2014-11-24 15:49:37 UTC-8	Alkalinity	0.000	0.000	0.00	0.00	0.00	0.00	mg/L	25 mL	0.0213	141124a	bb

Standards Prep Log Book# 62 page# 029

11/20/14 AP
Exp 11/27/14

AP 11/20/14

FINAL CONC. (mg/L)
100
0.0
0.35
0.5
1.0
5.0
10.0
20.0
5.00

NO3-N STDS	STD / STOCK	PREP DATE / LOT#	EXP.	CONC STOCK OR STD [mg/L]	STOCK OR STD (mL)	FINAL VOL. W/DI H2O (mL)	FINAL CONC. (mg/L)
100mg/L STOCK	O2SI	2/28/14	8/30/15	1000	5	50	100
		1057207					
0.1	100mg/L NO3-N STOCK	11/20/14			0.1	100	0.1
0.2					0.2	100	0.2
0.5							
1			11/27/14		1.0	100	1.0
5					5.0	100	5.0
10					10.0	100	10.0
20					20.0	100	20.0
NO3-N ICV	CPI	13L102	11/22/15	1000	0.25	50	5.00
		5/27/14					

FINAL CONC. (mg/L)
100
0.0
0.35
0.5
1.0
5.0
10.0
20.0
5.00

LCS /MS /MSD	STOCK	LOT# 13L102	EXP.	CONC STOCK [mg/L]	STD (mL)	FINAL VOL.	FINAL CONC. (mg/L)
LCS	CPI	11/22/15	11/27/14	1000	0.25	50 mL	5
MS / MSD	CPI	11/22/15	11/27/14	1000	0.25	50 mL	5

09/13/14 mm | Anion LCS, MS/MSD made as per page 48.
exp 09/14/14

09/15/14 mm | Anion eluent made as per page 22

09/15/14 mm | Anion CCV, LCS, MS/MSD made as per page 48.
exp 09/16/14

09/16/14 mm | Anion ICAL stock, curve, and ICV made as per page 47.
exp

09/16/14 mm | Anion LCS, MS/MSD made as per page 48.
exp 09/17/14

METHOD 300 / 9056		ANION STOCK				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1037642-31166	01/04/14	0.25	5
O2SI	Cl-	5,000	1045796-32404	11/08/14	0.5	50
O2SI	NO2-N	1,000	1040585-31592	04/26/14	0.25	5
Ultra Scientific	Br-	1,000	L00953-31570	09/30/14	1.25	25
O2SI	NO3-N	1,000	1040587-31591	04/26/14	0.5	10
O2SI	PO4-P	1,000	1040570-31590	04/26/14	0.5	10
Ultra Scientific	SO4	5,000	P00075-30305	02/28/14	0.5	50
Brought up with milipore water to Final Volume of:					50	

METHOD 300 / 9056				ANION CAL CURVE						
				ICAL #1	ICAL#2	ICAL#3	ICAL #4	ICAL #5	ICAL #6	ICAL #7
ID#	mg/L	Prep Date	EXP. DATE	mL	mL	mL	mL	mL	mL	mL
ANION STOCK	100			0.4	2	10	2	5	7	10
Brought up w/ Milipore Water to final volume of (mL):				100	100	100	10	10	10	na
Final Conc F (mg/L):				0.04	0.1	0.5	1	2.5	3.5	5
Final Conc Cl (mg/L):				0.4	1	5	10	25	35	50
Final Conc NO2-N (mg/L):				0.04	0.1	0.5	1	2.5	3.5	5
Final Conc Br (mg/L):				0.2	0.5	2.5	5	12.5	17.5	25
Final Conc NO3-N (mg/L):				0.08	0.2	1	2	5	7	10
Final Conc PO4-P (mg/L):				0.08	0.2	1	2	5	7	10
Final Conc SO4 (mg/L):				0.4	1	5	10	25	35	50

METHOD 300 / 9056		ANION ICV / LCS				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	12B199-30554	09/30/13	0.125	2.50
CPI	Cl-	1,000	13e314-32692	01/19/15	1.00	20.00
CPI	NO2-N	304	12g112-32702	01/19/15	0.50	3.04
CPI	Br-	1,000	12b205-32027	08/08/14	0.625	12.50
CPI	NO3-N	1,000	13b007-32700	01/19/15	0.25	5.00
CPI	PO4-P	1,000	12g005-32694	01/19/15	0.25	5.00
CPI	SO4	1,000	01/19/15	13e315-32697	1.00	20.00
Brought up with milipore water to Final Volume of:					50	

11/7/14	Anion Eluent made as per page 22
11/7/14 MM exp 11/18/14	Anion CCV, LCS, MS/MSD made as per page 48
11/19/14 MM exp 11/20/14	Anion CCV, LCS, MS/MSD made as per page 48.
11/20/14 MM exp 11/21/14	Anion CCV, MS/MSD made as per page 48.
11/21/14 MM exp 11/22/14	Anion LCS, MS/MSD made as per page 48.
11/24/14 MM	Anion Eluent made as per page 22
11/24/14 MM exp 11/25/14	Anion CCV, LCS, MS/MSD made as per page 48.

048

11-11-13
exp 11-12-13

		ANION CCV				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
O2SI	F-	1,000	1037642-31166	01/04/14	0.125	2.50
O2SI	Cl-	5,000	1045796-32404	11/08/14	0.25	25.0
O2SI	NO2-N	1,000	1040585-31592	04/26/14	0.125	2.5
Ultra Scientific	Br-	1,000	L00953-31570	09/30/14	0.625	12.50
O2SI	NO3-N	1,000	1040587-31591	04/26/14	0.25	5.0
O2SI	PO4-P	1,000	1040570-31590	04/26/14	0.25	5.0
Ultra Scientific	SO4	5,000	P00075-30305	02/28/14	0.25	25.0
Brought up with milipore water to Final Volume of:					50	

11-11-13

11-11-13
exp 11-12-13

METHOD 300 / 9056		ANION LCS				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	12B199-30554	09/30/13	0.125	2.50
CPI	Cl-	1,000	13e314-32692	01/19/15	1.00	20.00
CPI	NO2-N	304	12g112-32702	01/19/15	0.50	3.04
CPI	Br-	1,000	12b205-32027	08/08/14	0.63	12.50
CPI	NO3-N	1,000	13b007-32700	01/19/15	0.25	5.00
CPI	PO4-P	1,000	12g005-32694	01/19/15	0.25	5.00
CPI	SO4	1,000	01/19/15	13e315-32697	1.00	20.00
Brought up with milipore water to Final Volume of:					50	

11-11-13

11-11-13
exp 11-12-13

METHOD 300 / 9056		ANION MS/MSD				
SUPPLIER		mg/L	LOT #	EXP.	mL	Final Conc (mg/L)
CPI	F-	1,000	12B199-30554	09/30/13	0.125	2.50
CPI	Cl-	1,000	13e314-32692	01/19/15	1.00	20.00
CPI	NO2-N	304	12g112-32702	01/19/15	0.50	3.04
CPI	Br-	1,000	12b205-32027	08/08/14	0.63	12.50
CPI	NO3-N	1,000	13b007-32700	01/19/15	0.25	5.00
CPI	PO4-P	1,000	12g005-32694	01/19/15	0.25	5.00
CPI	SO4	1,000	01/19/15	13e315-32697	1.00	20.00
Final Volume of Sample: (mL)					50	

11-11-13

Standards Prep Log book# 62 page #

10/31/14 AP
Exp 11/7/14

AP 10/31/14

NH4 STDS	STD / STOCK	PREP DATE / LOT	OPEN / EXP DATE	CONC STOCK OR STD [mg/L]	STOCK OR STD (mL)	FINAL VOL. DI (mL)	FINAL CONC. (mg/L)
NH3-N CCV	O2SI	6/18/13	12/8/14	1000	5	50	100
		Lot 1047250					
1	100mg/L NH4 STOCK	10/31/14	11/7/14	100	0.0	100	0.0
2							
3					0.5	100	0.5
4					1.0	100	1.0
5					5.0	100	5.0
6					10.0	100	10.0
7					20.0	100	20.0
		Lot 011714					
NH3-N ICV	Absolute	2/21/14	1/17/16	1000	0.25	50	5.00

10-31-14 EK
exp 11-1-14

MBAS

2 mL x 1000ppm LAS Absolute Stds LOT 0119 13-33718 | DI 200mL
= 10 ppm LAS

EK 10-31-14
10mL x 10ppm LAS (10-31-14) / 100mL DI = 1 ppm LAS
CCV (0.8): 8mL x 1ppm LAS (10-31-14) / 100mL DI
CCV2/LCS: 5mL x 10ppm LAS (10-31-14) / 100mL DI
MS: 5mL x 10ppm LAS (10-31-14) / 400mL sample

11-3-14 EK
exp
11-4-14

OPO_4-P For Method SM4500PE exp 11-4-14

1mL X 1000ppm PO_4-P CPI LOT 12G005-32026 / 100mL DI → 10ppm PO_4-P
10ppm PO_4-P (11-3-14) X 10mL / 100mL DI → 1ppm PO_4-P

1ppm PO_4-P (11-3-14)	X 2.5mL / 50mL	→ 0.05ppm PO_4-P
↓	X5mL / ↓	→ 0.10ppm PO_4-P
↓	X 10mL / ↓	→ 0.20ppm PO_4-P
↓	X 25mL / ↓	→ 0.50ppm PO_4-P

ICV PO_4-P

1000 PO4-P O2SI Lot 1049001-32799X 1mL / 100mL DI → 10ppm PO_4-P
10ppm PO_4-P (11-3-14)X 0.75mL / 50mL DI → 0.15ppm PO_4-P
LCS: 0.75mL X 10ppm PO_4-P (11-3-14 / 50mL DI → 0.15ppm PO_4-P
MS: 0.75mL X 10ppm PO_4-P (11-3-14) / 50mL sample → 0.15ppm PO_4-

11/3/14 BB
Book rdy 10/29/14
exp. 8/26/15

0.02N H_2SO_4 Titrant for Alkalinity
200 mL 0.1 N H_2SO_4 (Lot 8/26/14)
Final vol 1L w/DI water

9/10/14 AP
Exp 9/17/14

AP 9/10/14

NH4 STDS	STD / STOCK	PREP DATE / LOT	OPEN / EXP DATE	CONC STOCK OR STD [mg/L]	STOCK OR STD (mL)	FINAL VOL. DI (mL)	FINAL CONC. (mg/L)
NH3-N CCV	O2SI	6/18/13	12/8/14	1000	5	50	100
		Lot 1047250					
1	100mg/L NH4 STOCK	9/10/14	9/17/14	100	0.0	100	0.0
2							
3					0.5	100	0.5
4					1.0	100	1.0
5					5.0	100	5.0
6					10.0	100	10.0
7					20.0	100	20.0
		Lot 011714					
NH3-N ICV	Absolute	2/21/14	1/17/16	1000	0.25	50	5.00

7/10/14 BB — $NaHCO_3$ Inorganic Spiking Solution
100 mL DI — Exp 3/10/15 — 7.0007g $NaHCO_3$ BDH Lot # 183064
Final Vol 1L w/DI water
10 mL DI

7/12/14 BB — 0.02N H_2SO_4 Titrant for Alkalinity
Exp 8/14/15 — 200 mL 0.1N H_2SO_4 (prep 8/26/14)
+6 — Final Vol 1L w/DI water
+6 ICV

9-12-14 CK — 7199
+6 — exp 9-13-14 — 1mL x 100ppm Cr^{+6} (9-9-14)/100mL DI = 1000ppb Cr^{+6}
+6 — 1mL x 1000ppb Cr^{+6} (9-12-14)/100mL DI = 10ppb Cr^{+6} (CCV)
+6 — LCS, MS: 0.25mL x 1000ppb Cr^{+6} (9-12-14)/25mL DI or sample
+6 ICV

9/13/14 MM — 1mL x 100ppm Cr^{6+} (9-9-14)/100mL DI = 1000ppb Cr^{6+} Std
+6 — exp 9/14/14 — 1mL x 1000 Cr^{6+}_{ppb} (9/13/14)/100mL DI = 10ppb Cr^{6+} (CCV)
1mL x 100ppm Cr^{6+} (9/10/14)/100mL DI = 1000ppb Cr^{6+} ICV
+6 — 1mL x 1000ppb Cr^{6+} (9/13/14)/100mL DI = 10ppb Cr^{6+} (LCS)
MS: 0.25mL x 1000ppb Cr^{6+} ICV (9/13/14)/25mL sample = 10ppb

9-16-14 CK — 3060A Digestion
exp 9-17-14 — 1mL x 100ppm Cr^{+6} (9-9-14)/100mL DI = 1ppm Cr^{+6}

BB 10/28/14

BB 10/28/14

NORMALITY OF TITRANT (0.02 N H2SO4)

NaCO3 titrated (mL) 0.25
normality of Na2CO3 1.0
Acid used (mL) 11.83

*Begin all titrations with full buret reading 0.00
*Na2CO3 JT Baker 0000030806

Normality --> 0.02113

BB 10/30/14

BB10/30/14

NORMALITY OF TITRANT (0.02 N H2SO4)

NaCO3 titrated (mL) 0.25
normality of Na2CO3 1.0
Acid used (mL) 11.77

*Begin all titrations with full buret reading 0.00
*Na2CO3 JT Baker 0000030806

Normality --> 0.02124

BB 11/6/14

BB 11/6/14

NORMALITY OF TITRANT (0.02 N H2SO4)

NaCO3 titrated (mL) 0.25
normality of Na2CO3 1.0
Acid used (mL) 11.8

*Begin all titrations with full buret reading 0.00
*Na2CO3 JT Baker 0000030806

Normality --> 0.02119

11/10/14 BB Replaced pH 7 Buffer CPI lot # 1065597-34085
exp BB of: 11/104
exp: 3/7/16

BB 11/17/14

BB 11/17/14

NORMALITY OF TITRANT (0.02 N H2SO4)

NaCO3 titrated (mL) 0.25
normality of Na2CO3 1.0
Acid used (mL) 11.75

*Begin all titrations with full buret reading 0.00
*Na2CO3 JT Baker 0000030806

Normality --> 0.02128

353.2 Injection Log

Directory: I:\Lachat\UPLOAD\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
1	26 Nov 2014	13:46	NO3 CALSTD (20.0)		141126NA	1.
2	26 Nov 2014	13:47	NO3 CALSTD (10.0)		141126NA	1.
3	26 Nov 2014	13:49	NO3 CALSTD (5.0)		141126NA	1.
4	26 Nov 2014	13:50	NO3 CALSTD (1.0)		141126NA	1.
5	26 Nov 2014	13:52	NO3 CALSTD (0.20)		141126NA	1.
6	26 Nov 2014	13:53	NO3 CALSTD (0.10)		141126NA	1.
7	26 Nov 2014	13:55	NO3 CALSTD (0.00)		141126NA	1.
8	26 Nov 2014	13:58	CCV		141126NA	1.
9	26 Nov 2014	13:59	CCB		141126NA	1.
10	26 Nov 2014	14:01	ICV		141126NA	1.
11	26 Nov 2014	14:02	ICB		141126NA	1.
12	26 Nov 2014	14:04	141126A BLK		141126NA	1.
13	26 Nov 2014	14:05	141126A LCS		141126NA	1.
14	26 Nov 2014	14:07	141126A LCSD		141126NA	1.
18	26 Nov 2014	14:13	AZ07202W10		141126NA	1.
19	26 Nov 2014	14:14	AZ07203W10		141126NA	1.
22	26 Nov 2014	14:19	CCV		141126NA	1.
23	26 Nov 2014	14:20	CCB		141126NA	1.

300/9056A Injection Log

Directory: I:\Dionex\D1Anions\data\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
52	16 Sep 2014	13:01	CAL STD #1 9/16/14		140916a	1.
53	16 Sep 2014	13:12	CAL STD #2		140916a	1.
54	16 Sep 2014	13:23	CAL STD #3		140916a	1.
55	16 Sep 2014	13:35	CAL STD #4		140916a	1.
56	16 Sep 2014	13:46	CAL STD #5		140916a	1.
57	16 Sep 2014	13:57	CAL STD #6		140916a	1.
58	16 Sep 2014	14:08	CAL STD #7		140916a	1.
59	16 Sep 2014	14:20	140916A ICV		140916a	1.
60	16 Sep 2014	14:31	ICB		140916a	1.

300/9056A Injection Log

Directory: I:\Dionex\D1Anions\data\

RunID	Injected		Sample Name	Misc Info	FileName	Multiplier
25	21 Nov 2014	12:36	CCV 141120		141121a	1.
26	21 Nov 2014	12:47	CCB		141121a	1.
27	21 Nov 2014	12:58	141121B LCS		141121a	1.
30	21 Nov 2014	13:32	AZ07203W12		141121a	1.
37	21 Nov 2014	14:51	CCV 141120		141121a	1.
38	21 Nov 2014	15:02	CCB		141121a	1.
43	21 Nov 2014	15:58	AZ07202W12		141121a	1.
49	21 Nov 2014	17:05	CCV 141120		141121a	1.
50	21 Nov 2014	17:16	CCB		141121a	1.

EMAX

TABLE OF CONTENTS

CLIENT: **BATTELLE**

PROJECT: **RED HILL PHASE 1B**

SDG: **14J130**

** - Not Requested

Revised Report

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 11-24-2014
EMAX Batch No.: 14J130

Attn: Carolyn Scala

Battelle
301 South State St., Suite N001
Newton PA 18940

Subject: Supplemental to Test Report 14J130
Project: Red Hill Phase 1b

Enclosed is the Laboratory report for samples received on 10/21/14.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
RHMW07-GW-01	J130-01	10/20/14	WATER	CANCELLED
				TPH
				PAH BY 8270C SIM ULTRA LOW
RHMW07-GW-01FD	J130-02	10/20/14	WATER	CANCELLED
				TPH
				PAH BY 8270C SIM ULTRA LOW

These pages are to replace the original submittal. The results for TPH were recalculated to remove discrete peaks per Client's request.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all NELAC & DOD requirements unless noted in the Case Narrative.

NELAC Accredited Certificate Number 02116CA
L-A-B Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing

Revised Report

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
1835 W. 205th Street, Torrance, CA 90501
Tel #: 310-618-8889 Fax #: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER:

SAMPLE STORAGE

EMAX CONTROL NO. * 14J130

PROJECT CODE:

CLIENT Battelle / Parsons
PROJECT 749435
COORDINATOR Mitch Jansen
TEL 801 380 1375 FAX EMAIL
SEND REPORT TO Gene Wright 801 553 3317
COMPANY Parsons
ADDRESS
EMAX PM not known

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O=	

ANALYSIS REQUIRED: TPH - GRO; TPH - DRO/ORO; PAHs

TAT:
- ☐ Rush ____hrs.
- ☐ Rush ____days
- ☐ 7 days
- ☐ 14 days
- ☐ 21 days
- ☐ 30 days
- ☐ ____days
- ☐

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	SIZE	TYPE	MATRIX CODE	QC	PRESERVATIVE CODE	COMMENTS
* 1	RHMW07-GW-01	Hawaii	10/20/14	1100	7			GW		3 2 2	no preservative
* 2	RHMW07-GW-01FD	" "	10/20/14	1100	7			GW		3 2 2	no preservative
* 3											
* 4											note: water has drilling
* 5											foam i.e ethyl glycol ether
* 6											
* 7											
* 8											
* 9											
* 0											

Instructions

Cooler #	Temp. (°C)	Sample #s
1	5.7	

SAMPLER

COURIER/AIRBILL Fedex 8073 4977 1554

RELINQUISHED BY	Date	Time	RECEIVED BY
	10/20/14	1530	
	10/21/14	0915	

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

Rev. 05/05

SAMPLE RECEIPT FORM 1

Reference Number: SM02.7.3

Type of Delivery	Airbill / Tracking Number	ECN 14J130
☑ Fedex ☐ UPS ☐ GSO ☐ Others	8033 9937 1554	Recipient Cecilia Chavez
☐ EMAX Courier ☐ Client Delivery		Date 10-21-14 Time 0915

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☐ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☑ Matrix
☐ Address	☑ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☑ Preservative (if any)	☐ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note: _____

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☑ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	B ☑ Cooler 1 5.7 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C
Thermometer:	*A - S/N* _____	*(B) S/N* 140252010	*C - S/N* _____	*D - S/N* _____	

Comments: ☐ **Temperature is out of range. PM was informed IMMEDIATELY.**

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
2	8	D10		R4

10/21/14

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS:

LEGEND:

☐ **Continue to next page.**

Code	Description- Sample Management
D1	Analysis is not indicated in _____
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in _____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in _____
D7	Date/Time mismatch COC vs label
D8	Sample listed in COC is not received
D9	Sample received is not listed in COC
D10	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
D12	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
D22	_____
D23	_____
D24	_____

Code	Description-Sample Management
R1	Proceed as indicated in ☐ COC ☐ Label
R2	Refer to attached instruction
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and time+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	_____
R9	_____
R10	_____
R11	_____
R12	_____

REVIEWS:

Sample Labeling _____ **Date** 10-21-14 10/21/14

SRF _____ **Date** 10/21/14

PM _____ **Date** 10/21/14

Andy Mai

From: Scala, Carolyn [ScalaC@battelle.org]
Sent: Friday, October 24, 2014 11:18 AM
To: Andy Mai
Cc: Matt Morrell
Subject: RE: Red Hill; login SDG 14J130

Yes, understood. Thank you Andy.
-Carolyn

From: Andy Mai [mailto:AMai@emaxlabs.com]
Sent: Friday, October 24, 2014 2:17 PM
To: Scala, Carolyn
Cc: Matt Morrell
Subject: RE: Red Hill; login SDG 14J130

No worries Carolyn. We will not report the results, but since the samples were already analyzed, we will still have to charge for the cost of the analysis.

Thanks,

Andy Mai
EMAX Laboratories, Inc.
1835 W. 205th St.
Torrance, CA 90501
Tel: 310-618-8889 ext. 117
Fax: 310-618-0818
AMai@emaxlabs.com

From: Scala, Carolyn [mailto:ScalaC@battelle.org]
Sent: Friday, October 24, 2014 7:27 AM
To: Andy Mai
Cc: Matt Morrell
Subject: RE: Red Hill; login SDG 14J130

Hi Andy. I don't think I got back to you on this yesterday, my apologies. Please do not report the results from the first TPH-GRO sample and duplicate. This will be resampled on Monday and you will receive the samples with trip blank on Tuesday.
Thank you, -Carolyn

From: Andy Mai [mailto:AMai@emaxlabs.com]
Sent: Thursday, October 23, 2014 1:43 PM
To: Scala, Carolyn
Cc: Matt Morrell
Subject: RE: Red Hill; login SDG 14J130

Carolyn—The samples were analyzed last night. Do you still want us to report the results?

Thanks,

Andy Mai
EMAX Laboratories, Inc.
1835 W. 205th St.

Torrance, CA 90501
Tel: 310-618-8889 ext. 117
Fax: 310-618-0818
AMai@emaxlabs.com

From: Scala, Carolyn [mailto:ScalaC@battelle.org]
Sent: Thursday, October 23, 2014 10:24 AM
To: Andy Mai
Cc: Matt Morrell
Subject: RE: Red Hill; login SDG 14J130

OK, if I'm too late that is fine. Just let me know either way. We will be sending the recollected samples regardless.
Thanks, -Carolyn

From: Andy Mai [mailto:AMai@emaxlabs.com]
Sent: Thursday, October 23, 2014 1:22 PM
To: Scala, Carolyn
Cc: Matt Morrell
Subject: RE: Red Hill; login SDG 14J130

Hi Carolyn,

I think the samples were already analyzed because of the short hold… I will check on the status and get back to you.

Thanks,

Andy Mai
EMAX Laboratories, Inc.
1835 W. 205th St.
Torrance, CA 90501
Tel: 310-618-8889 ext. 117
Fax: 310-618-0818
AMai@emaxlabs.com

From: Scala, Carolyn [mailto:ScalaC@battelle.org]
Sent: Thursday, October 23, 2014 9:55 AM
To: Andy Mai
Cc: Matt Morrell
Subject: RE: Red Hill; login SDG 14J130

Hi Andy.
Please cancel the TPH-GRO analysis from this SDG. There was no trip blank sent, so we are recollecting the TPH-GRO sample and duplicate today and will send with a trip blank this time.

Thank you, -Carolyn

From: Andy Mai [mailto:AMai@emaxlabs.com]
Sent: Tuesday, October 21, 2014 6:44 PM
To: Scala, Carolyn
Subject: Red Hill; login SDG 14J130

Andy Mai

From: Scala, Carolyn [ScalaC@battelle.org]
Sent: Friday, November 21, 2014 11:44 AM
To: Andy Mai
Subject: RE: data validation for Battelle's Pearl Harbor project

Thank you Andy. We would like to recalculate the TPH result by removing the peak. Can you let us know the result before finalizing the report? Please let me know when we'll be able to get the new result.
Really appreciate all of your support on this one. Thanks!
-Carolyn

From: Andy Mai [mailto:AMai@emaxlabs.com]
Sent: Friday, November 21, 2014 1:41 PM
To: Scala, Carolyn
Subject: RE: data validation for Battelle's Pearl Harbor project

Sorry Carolyn...Our system is not sophisticated enough to report the results both ways. It only stores the results one way or there other. Also, reporting both results will cause issues with the NEDD EDD.

If it is decided that the peaks should be removed, we can mention that the peaks were removed because they do not resemble the petroleum hydrocarbon pattern.

Thanks,

Andy Mai
EMAX Laboratories, Inc.
1835 W. 205th St.
Torrance, CA 90501
Tel: 310-618-8889 ext. 117
Fax: 310-618-0818
AMai@emaxlabs.com

Note: In observance of the upcoming holidays, EMAX will be closed on the following days:
Thursday- November 27, 2014
Friday- November 28, 2014

From: Scala, Carolyn [mailto:ScalaC@battelle.org]
Sent: Friday, November 21, 2014 9:35 AM
To: Andy Mai
Subject: RE: data validation for Battelle's Pearl Harbor project

Thanks for the email Andy. I am going to check with the client to confirm how this should be reported and I will get back to you.

As an option, would it be possible to report the result both ways, with and without the discrete peak? And then add a note to the report saying that the DRO was recalculated based on the identification of butoxyacetic acid in the sample and the removal of this non-petroleum related compound from the result?

Thanks, -Carolyn

Revised Report

From: Andy Mai [mailto:AMai@emaxlabs.com]
Sent: Thursday, November 20, 2014 9:44 PM
To: Scala, Carolyn
Subject: RE: data validation for Battelle's Pearl Harbor project

Andy Mai

From: Chang, Tammy [Tammy.Chang@parsons.com]
Sent: Thursday, November 20, 2014 3:57 PM
To: 'Scala, Carolyn'
Cc: Wright, Gene; Andy Mai
Subject: RE: data validation for Battelle's Pearl Harbor project

Carolyn:

I just talked to the analyst and went over her interpretation of the chromatographs.

Basically, the TPH-DRO extract is exactly the same as SVOC extract. Analyst injected the TPH-DRO extract into the GC/MS and clearly saw a peak came out early stage of the run, similar to what happened with the TPH-Diesel run on GC.

GC/MS software matches this peak with a compound named Butoxyacetic acid. The analyst went on line and look for the relationship between this compound and ethylene glycol monobutyl ether. It says Butoxyacetic acid is one of the metabolites of the ethylene glycol monobutyl ether. The conclusion is that the peak we saw in the original TPH-DRO run is not related to diesel. I suggest EMAX to remove that peak (from both samples) and recalculate the TPH-DRO concentrations.

I am getting ready to go out of town, but, will look into these two compounds more from the internet tomorrow morning if you wish me to.

Tammy

From: Andy Mai [mailto:AMai@emaxlabs.com]
Sent: Thursday, November 20, 2014 3:49 PM
To: 'Scala, Carolyn'; Chang, Tammy
Cc: Wright, Gene
Subject: RE: data validation for Battelle's Pearl Harbor project

Hi Carolyn,

Please see attached for the raw data from the TPH extract. The chemist noted peak #2 might be your compound of interest.

Thanks,

Andy Mai
EMAX Laboratories, Inc.
1835 W. 205th St.
Torrance, CA 90501
Tel: 310-618-8889 ext. 117
Fax: 310-618-0818
AMai@emaxlabs.com

Revised Report

Note: In observance of the upcoming holidays, EMAX will be closed on the following days:
Thursday- November 27, 2014
Friday- November 28, 2014

From: Scala, Carolyn [mailto:ScalaC@battelle.org]
Sent: Thursday, November 20, 2014 4:46 AM

FedEx Express Package US Airbill

FedEx Tracking Number 8033 9937 1554

Form ID No. 0215

TRK# 0215 8033 9937 1554

WZ HHRA

From

Date 10/20/14

Sender's Name MITCH JENSEN Phone 801 572-5999

Company PARSONS GOVT

Address 10235 S JORDAN GTWY STE 300 Dept./Floor/Suite/Room

City SOUTH JORDAN State UT ZIP 84095-4188

Your Internal Billing Reference 640016.0006.74943.05000.LBR0D

To

Recipient's Name Sample Receiving Phone 310 618-8889

Company EMAX Laboratories Inc.

Address 1835 W. 205th Street

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City Torrance State CA ZIP 90501

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HOLD Weekday
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NOTE: Service order has changed. Please select ca

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- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
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5 Packaging * Declared value limit $500.

- [ ] FedEx Envelope*
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6 Special Handling and Delivery Si

- [ ] SATURDAY Delivery — **NOT available for** FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.
- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
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Does this shipment contain dangerous goods?

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- [x] No
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QUICK 1000-003333

F955

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

BATTELLE

RED HILL PHASE 1B

METHOD 3520C/8270C SIM
SEMI VOLATILE ORGANICS LOW LEVEL BY GC/MS SIM

SDG#: 14J130

CASE NARRATIVE

Client : BATTELLE

Project : RED HILL PHASE 1B

SDG : 14J130

METHOD SW3520C/8270C SIM
SEMI VOLATILE ORGANICS LOW LEVEL BY GC/MS SIM

A total of two (2) water samples were received on 10/21/14 for PAH BY 8270C SIM Ultra Low analysis, Method SW3520C/8270C SIM in accordance with Department of Defense Quality Systems Manual for Environmental Laboratories, Version 4.2 and project SAP August 2014.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Instrument mass ratios were evaluated and results were within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried on at a frequency required by the project. All project calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Results were compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for SVJ034WL/C were all within QC limits.

Matrix QC Sample
No matrix QC sample was designated in this SDG.

Surrogate
Surrogate was added on QC and field samples. Surrogate recoveries were within project QC limits. Refer to sample result forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter.

LAB CHRONICLE
SEMI VOLATILE ORGANICS BY GC/MS SIM

Client : BATTELLE
Project : RED HILL PHASE 1B
SDG NO. : 14J130
Instrument ID : T-OF0

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	SVJ034WB	1	NA	10/28/1410:13	10/23/1410:00	RJF033	REF014	SVJ034W	Method Blank
LCS1W	SVJ034WL	1	NA	10/28/1410:41	10/23/1410:00	RJF034	REF014	SVJ034W	Lab Control Sample (LCS)
LCD1W	SVJ034WC	1	NA	10/28/1411:08	10/23/1410:00	RJF035	REF014	SVJ034W	LCS Duplicate
RHMW07-GW-01	J130-01	0.96	NA	10/28/1411:44	10/23/1410:00	RJF036	REF014	SVJ034W	Field Sample
RHMW07-GW-01FD	J130-02	1	NA	10/28/1412:03	10/23/1410:00	RJF037	REF014	SVJ034W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD SW3520C/8270C SIM
SEMI VOLATILE ORGANICS LOW LEVEL BY GC/MS SIM

Client : BATTELLE	Date Collected: 10/20/14
Project : RED HILL PHASE 1B	Date Received: 10/21/14
Batch No. : 14J130	Date Extracted: 10/23/14 10:00
Sample ID: RHMW07-GW-01	Date Analyzed: 10/28/14 11:44
Lab Samp ID: J130-01	Dilution Factor: 0.96
Lab File ID: RJF036	Matrix : WATER
Ext Btch ID: SVJ034W	% Moisture : NA
Calib. Ref.: REF014	Instrument ID : T-OFO

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
ACENAPHTHENE	ND	0.019	0.0048	0.0096
ACENAPHTHYLENE	ND	0.019	0.0048	0.0096
ANTHRACENE	ND	0.019	0.0048	0.0096
BENZO(A)ANTHRACENE	ND	0.019	0.0048	0.0096
BENZO(A)PYRENE	ND	0.019	0.0048	0.0096
BENZO(B)FLUORANTHENE	ND	0.019	0.0048	0.0096
BENZO(K)FLUORANTHENE	ND	0.019	0.0048	0.0096
BENZO(G,H,I)PERYLENE	ND	0.019	0.0048	0.0096
CHRYSENE	ND	0.019	0.0048	0.0096
DIBENZO(A,H)ANTHRACENE	ND	0.019	0.0048	0.0096
FLUORANTHENE	ND	0.019	0.0048	0.0096
FLUORENE	ND	0.019	0.0048	0.0096
INDENO(1,2,3-CD)PYRENE	ND	0.019	0.0048	0.0096
NAPHTHALENE	ND	0.096	0.024	0.048
PHENANTHRENE	ND	0.019	0.0048	0.0096
PYRENE	ND	0.019	0.0048	0.0096
2-METHYLNAPHTHALENE	0.0084J	0.019	0.0048	0.0096
1-METHYLNAPHTHALENE	ND	0.019	0.0048	0.0096

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TERPHENYL-D14	0.422	0.4800	87.9	50-135

Quantitation Report (QT Reviewed)

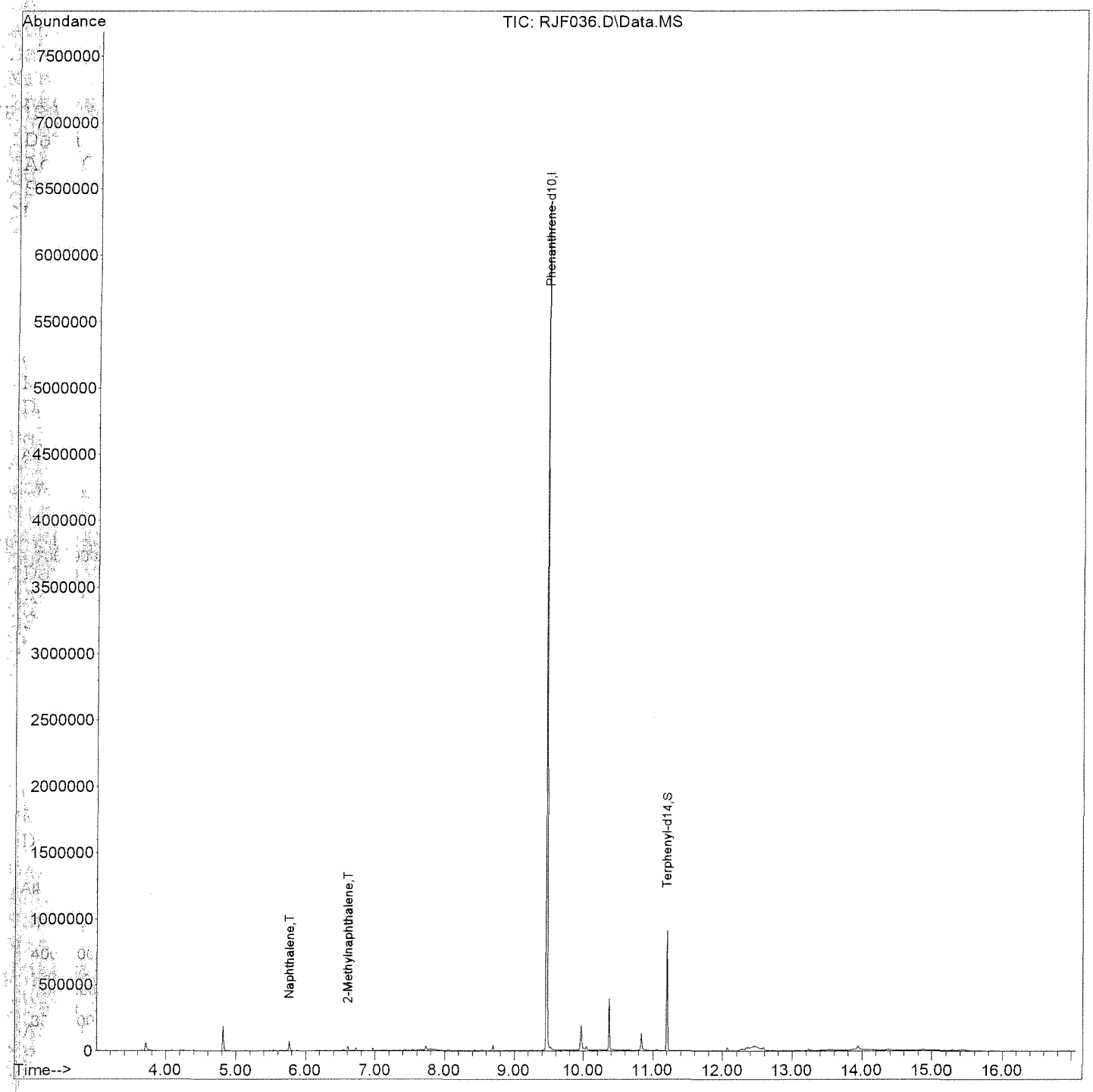
Data File : C:\msdchem\1\DATA\14J28\RJF036.D Vial: 15
Acq On : 28 Oct 2014 11:44 Operator: KVu
Sample : 14J130-01 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 29 17:06:21 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

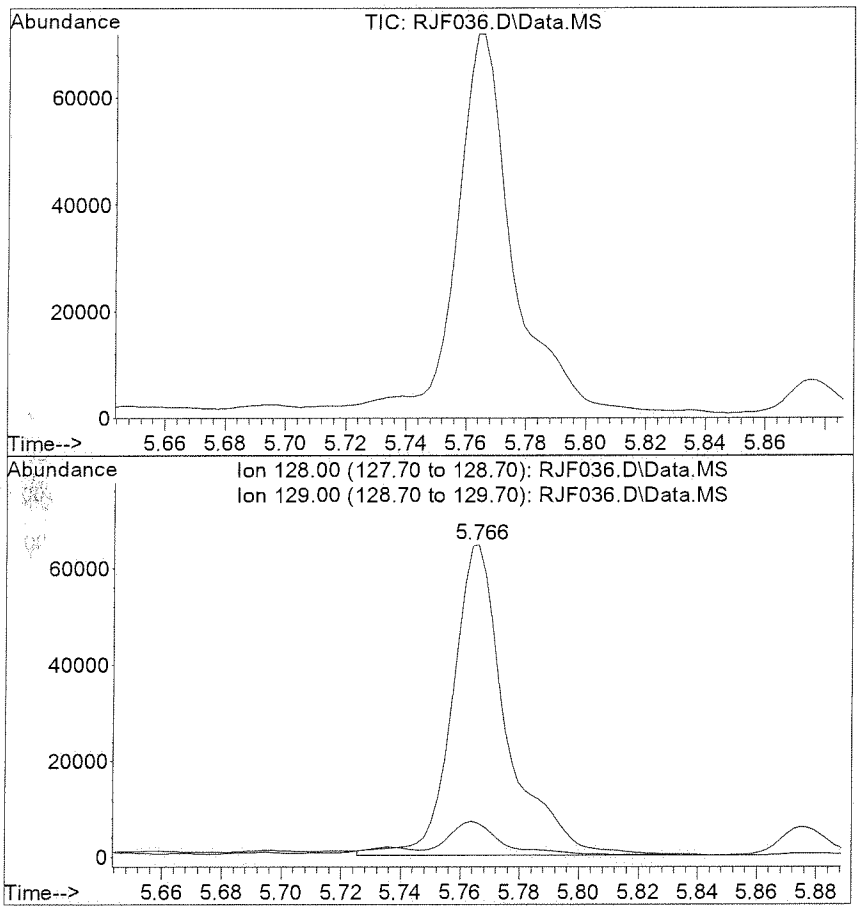
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.468	188	4893440	2000.00	ppb	0.02
System Monitoring Compounds						
13) Terphenyl-d14	11.203	244	795556	439.59	ppb	0.02
Spiked Amount 500.000			Recovery =	87.92%		
Target Compounds						Qvalue
2) Naphthalene	5.766	128	82323	24.58	ppb	97
3) 2-Methylnaphthalene	6.606	142	19724	8.78	ppb	95

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14J28\RJF036.D Vial: 15
Acq On : 28 Oct 2014 11:44 Operator: KVu
Sample : 14J130-01 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 29 17:06:21 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

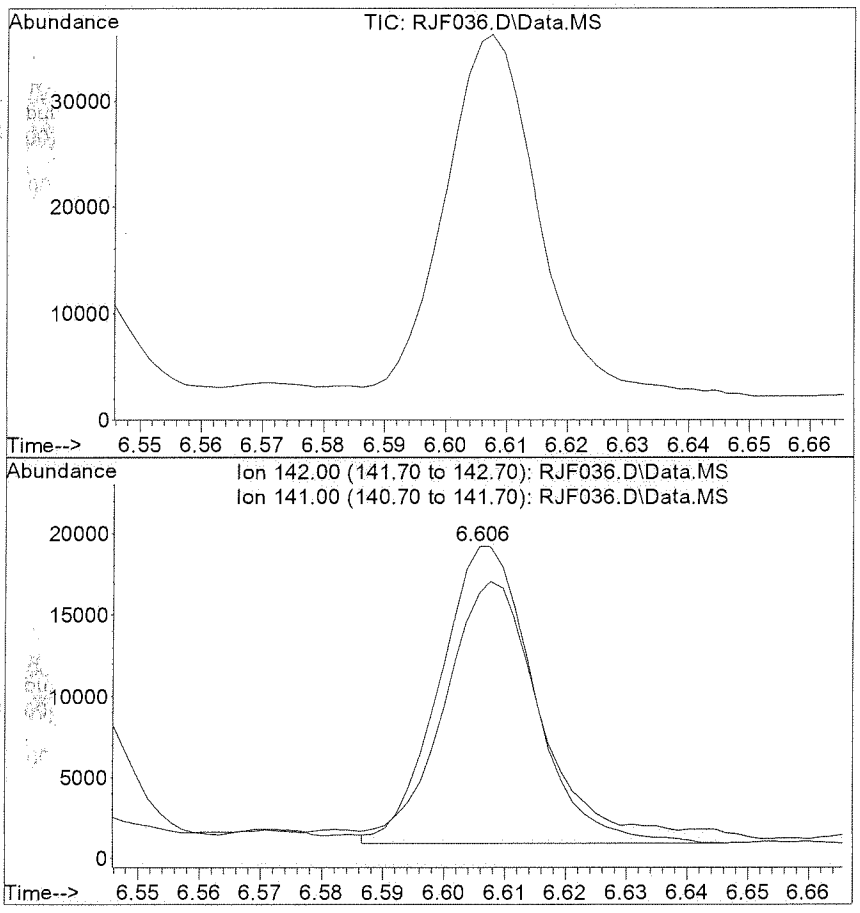




#2
Naphthalene
Concen: 24.58 ppb
RT: 5.766 min Scan# 1220
Delta R.T. 0.025 min
Lab File: RJF036.D
Acq: 28 Oct 2014 11:44

Tgt Ion:128 Resp: 82323

Ion	Ratio	Lower	Upper
128	100		
129	10.2	0.0	41.2



#3
2-Methylnaphthalene
Concen: 8.78 ppb
RT: 6.606 min Scan# 1597
Delta R.T. 0.029 min
Lab File: RJF036.D
Acq: 28 Oct 2014 11:44

Tgt Ion:142 Resp: 19724

Ion	Ratio	Lower	Upper
142	100		
141	79.7	53.9	113.9

METHOD SW3520C/8270C SIM
SEMI VOLATILE ORGANICS LOW LEVEL BY GC/MS SIM

Client : BATTELLE	Date Collected: 10/20/14
Project : RED HILL PHASE 1B	Date Received: 10/21/14
Batch No. : 14J130	Date Extracted: 10/23/14 10:00
Sample ID: RHMW07-GW-01FD	Date Analyzed: 10/28/14 12:03
Lab Samp ID: J130-02	Dilution Factor: 1
Lab File ID: RJF037	Matrix : WATER
Ext Btch ID: SVJ034W	% Moisture : NA
Calib. Ref.: REF014	Instrument ID : T-OFO

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
ACENAPHTHENE	ND	0.020	0.0050	0.010
ACENAPHTHYLENE	ND	0.020	0.0050	0.010
ANTHRACENE	ND	0.020	0.0050	0.010
BENZO(A)ANTHRACENE	ND	0.020	0.0050	0.010
BENZO(A)PYRENE	ND	0.020	0.0050	0.010
BENZO(B)FLUORANTHENE	ND	0.020	0.0050	0.010
BENZO(K)FLUORANTHENE	ND	0.020	0.0050	0.010
BENZO(G,H,I)PERYLENE	ND	0.020	0.0050	0.010
CHRYSENE	ND	0.020	0.0050	0.010
DIBENZO(A,H)ANTHRACENE	ND	0.020	0.0050	0.010
FLUORANTHENE	ND	0.020	0.0050	0.010
FLUORENE	ND	0.020	0.0050	0.010
INDENO(1,2,3-CD)PYRENE	ND	0.020	0.0050	0.010
NAPHTHALENE	ND	0.10	0.025	0.050
PHENANTHRENE	ND	0.020	0.0050	0.010
PYRENE	ND	0.020	0.0050	0.010
2-METHYLNAPHTHALENE	0.0060J	0.020	0.0050	0.010
1-METHYLNAPHTHALENE	ND	0.020	0.0050	0.010

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TERPHENYL-D14	0.347	0.5000	69.5	50-135

Quantitation Report (QT Reviewed)

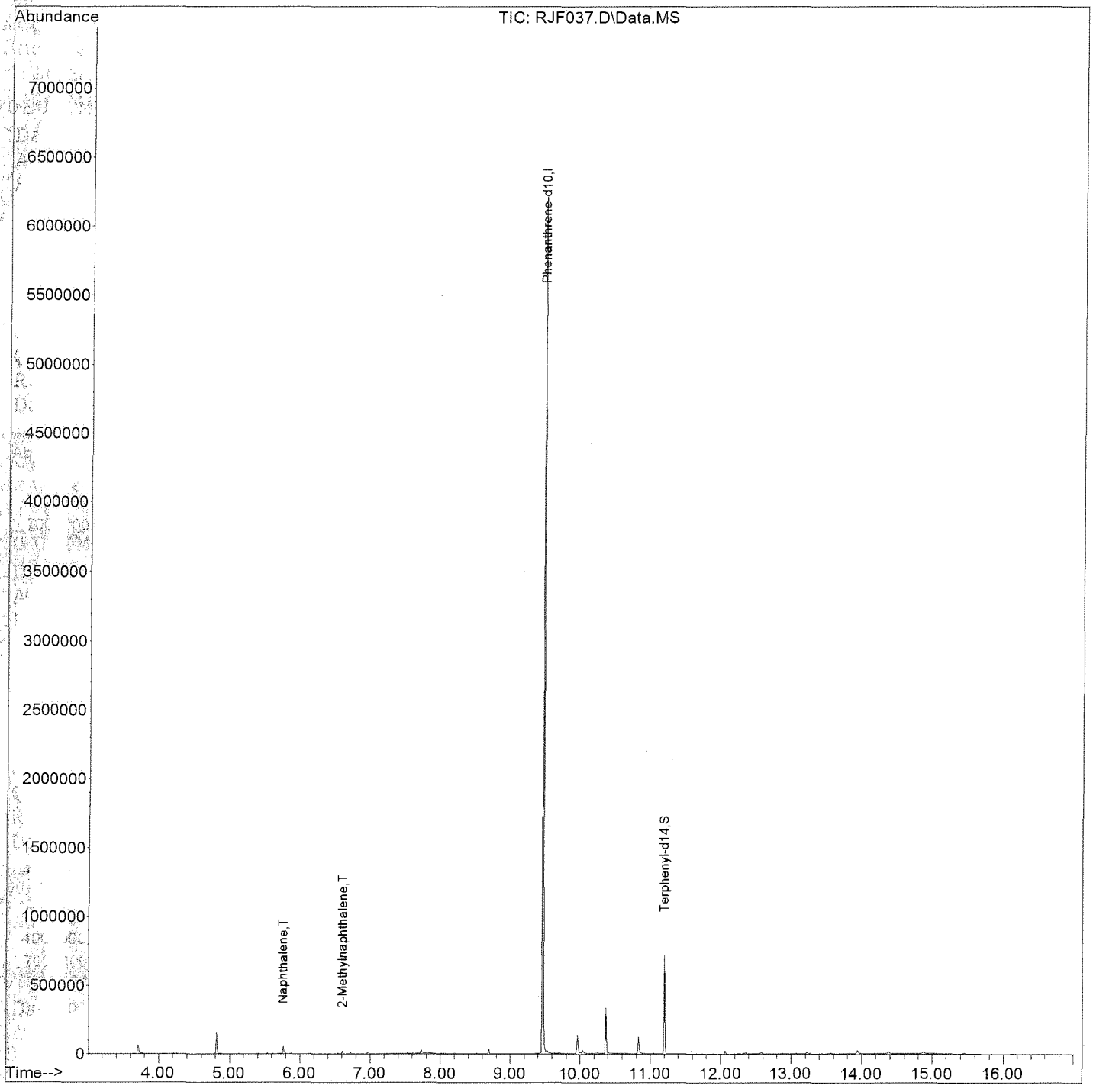
Data File : C:\msdchem\1\DATA\14J28\RJF037.D Vial: 16
Acq On : 28 Oct 2014 12:03 Operator: KVu
Sample : 14J130-02 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 29 17:06:37 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

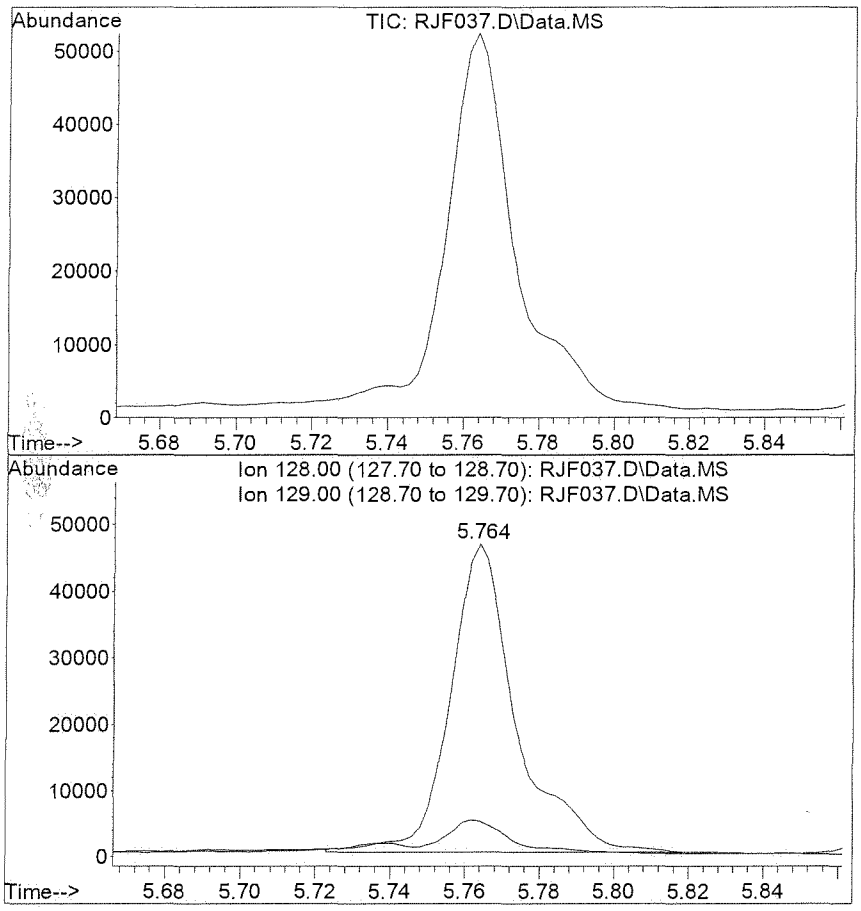
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.466	188	4832655	2000.00	ppb	0.02
System Monitoring Compounds						
13) Terphenyl-d14	11.201	244	620741	347.31	ppb	0.02
Spiked Amount 500.000			Recovery = 69.46%			
Target Compounds						Qvalue
2) Naphthalene	5.764	128	57942	17.52	ppb < DL	98
3) 2-Methylnaphthalene	6.606	142	13361	6.02	ppb	97

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14J28\RJF037.D Vial: 16
Acq On : 28 Oct 2014 12:03 Operator: KVu
Sample : 14J130-02 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 29 17:06:37 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

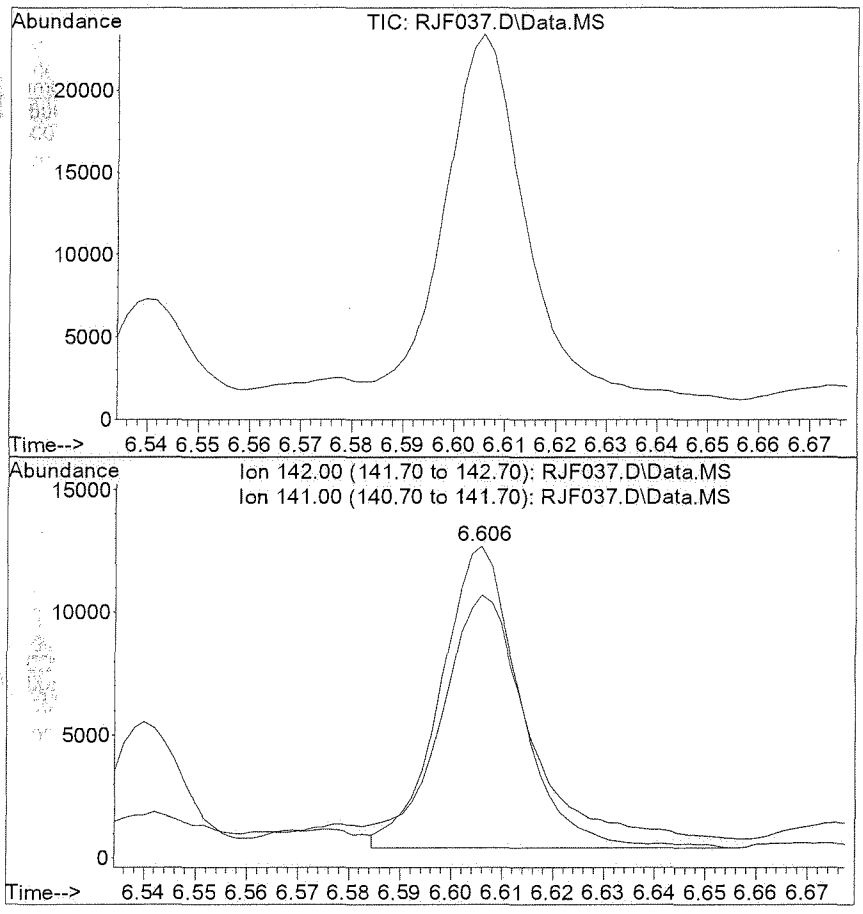




#2
Naphthalene
Concen: 17.52 ppb
RT: 5.764 min Scan# 1219
Delta R.T. 0.023 min
Lab File: RJF037.D
Acq: 28 Oct 2014 12:03

Tgt Ion:128 Resp: 57942

Ion	Ratio	Lower	Upper
128	100		
129	10.3	0.0	41.2



#3
2-Methylnaphthalene
Concen: 6.02 ppb
RT: 6.606 min Scan# 1597
Delta R.T. 0.029 min
Lab File: RJF037.D
Acq: 28 Oct 2014 12:03

Tgt Ion:142 Resp: 13361

Ion	Ratio	Lower	Upper
142	100		
141	87.0	53.9	113.9

QC SUMMARIES

METHOD SW3520C/8270C SIM
SEMI VOLATILE ORGANICS LOW LEVEL BY GC/MS SIM

Client : BATTELLE	Date Collected: NA
Project : RED HILL PHASE 1B	Date Received: 10/23/14
Batch No. : 14J130	Date Extracted: 10/23/14 10:00
Sample ID: MBLK1W	Date Analyzed: 10/28/14 10:13
Lab Samp ID: SVJ034WB	Dilution Factor: 1
Lab File ID: RJF033	Matrix : WATER
Ext Btch ID: SVJ034W	% Moisture : NA
Calib. Ref.: REF014	Instrument ID : T-OFO

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
ACENAPHTHENE	ND	0.020	0.0050	0.010
ACENAPHTHYLENE	ND	0.020	0.0050	0.010
ANTHRACENE	ND	0.020	0.0050	0.010
BENZO(A)ANTHRACENE	ND	0.020	0.0050	0.010
BENZO(A)PYRENE	ND	0.020	0.0050	0.010
BENZO(B)FLUORANTHENE	ND	0.020	0.0050	0.010
BENZO(K)FLUORANTHENE	ND	0.020	0.0050	0.010
BENZO(G,H,I)PERYLENE	ND	0.020	0.0050	0.010
CHRYSENE	ND	0.020	0.0050	0.010
DIBENZO(A,H)ANTHRACENE	ND	0.020	0.0050	0.010
FLUORANTHENE	ND	0.020	0.0050	0.010
FLUORENE	ND	0.020	0.0050	0.010
INDENO(1,2,3-CD)PYRENE	ND	0.020	0.0050	0.010
NAPHTHALENE	ND	0.10	0.025	0.050
PHENANTHRENE	ND	0.020	0.0050	0.010
PYRENE	ND	0.020	0.0050	0.010
2-METHYLNAPHTHALENE	ND	0.020	0.0050	0.010
1-METHYLNAPHTHALENE	ND	0.020	0.0050	0.010

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TERPHENYL-D14	0.395	0.5000	78.9	50-135

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: BATTELLE
PROJECT: RED HILL PHASE 1B
BATCH NO.: 14J130
METHOD: SW3520C/8270C SIM

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	SVJ034WB	SVJ034WL	SVJ034WC		
LAB FILE ID:	RJF033	RJF034	RJF035		
DATE EXTRACTED:	10/23/1410:00	10/23/1410:00	10/23/1410:00	DATE COLLECTED:	NA
DATE ANALYZED:	10/28/1410:13	10/28/1410:41	10/28/1411:08	DATE RECEIVED:	10/23/14
PREP. BATCH:	SVJ034W	SVJ034W	SVJ034W		
CALIB. REF:	REF014	REF014	REF014		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Acenaphthene	ND	0.500	0.462	92	0.500	0.445	89	4	45-110	30
Acenaphthylene	ND	0.500	0.455	91	0.500	0.437	87	4	50-105	30
Anthracene	ND	0.500	0.380	76	0.500	0.368	74	3	55-110	30
Benzo(a)anthracene	ND	0.500	0.490	98	0.500	0.492	98	0	55-110	30
Benzo(a)pyrene	ND	0.500	0.390	78	0.500	0.397	79	2	55-110	30
Benzo(b)fluoranthene	ND	0.500	0.465	93	0.500	0.466	93	0	45-120	30
Benzo(k)fluoranthene	ND	0.500	0.483	97	0.500	0.482	96	0	45-125	30
Benzo(g,h,i)perylene	ND	0.500	0.489	98	0.500	0.493	99	1	40-125	30
Chrysene	ND	0.500	0.461	92	0.500	0.468	94	1	55-110	30
Dibenzo(a,h)anthracene	ND	0.500	0.470	94	0.500	0.478	96	2	40-125	30
Fluoranthene	ND	0.500	0.420	84	0.500	0.409	82	3	55-115	30
Fluorene	ND	0.500	0.423	85	0.500	0.408	82	4	50-110	30
Indeno(1,2,3-cd)pyrene	ND	0.500	0.471	94	0.500	0.472	94	0	45-125	30
Naphthalene	ND	0.500	0.397	79	0.500	0.384	77	3	40-100	30
Phenanthrene	ND	0.500	0.414	83	0.500	0.404	81	3	50-115	30
Pyrene	ND	0.500	0.406	81	0.500	0.396	79	3	50-130	30
2-Methylnaphthalene	ND	0.500	0.455	91	0.500	0.446	89	2	45-105	30
1-Methylnaphthalene	ND	0.500	0.481	96	0.500	0.458	92	5	30-160	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
Terphenyl-d14	0.500	0.551	110	0.500	0.538	108	50-135

QC DATA

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14J28\RJF033.D Vial: 12
Acq On : 28 Oct 2014 10:13 Operator: KVu
Sample : SVJ034WB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 29 17:04:43 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.466	188	4529029	2000.00	ppb	0.02
System Monitoring Compounds						
13) Terphenyl-d14	11.204	244	660903	394.57	ppb	0.02
Spiked Amount 500.000			Recovery = 78.91%			
Target Compounds						Qvalue
2) Naphthalene	5.764	128	46402	14.97	ppb	94

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14J28\RJF033.D Vial: 12
Acq On : 28 Oct 2014 10:13 Operator: KVu
Sample : SVJ034WB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 29 17:04:43 2014
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Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
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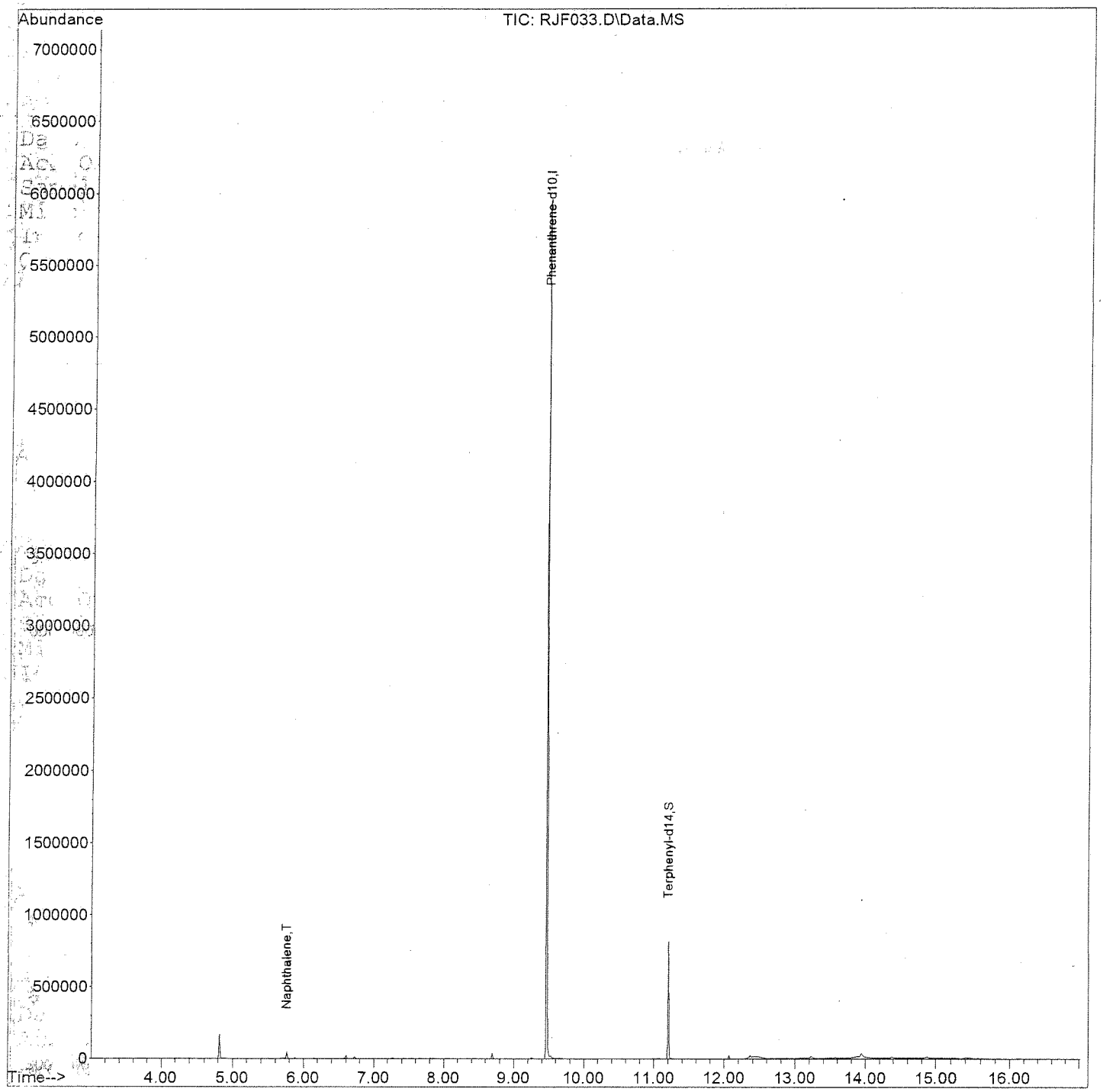
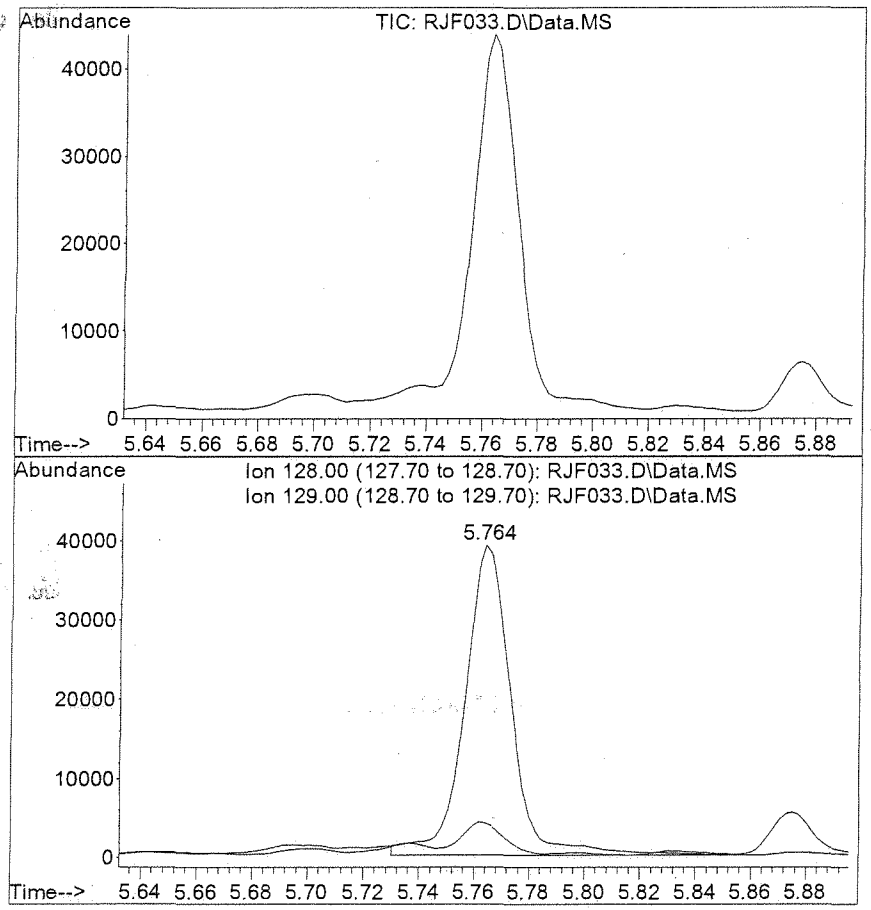




#2
Naphthalene
Concen: 14.97 ppb
RT: 5.764 min Scan# 1219
Delta R.T. 0.023 min
Lab File: RJF033.D
Acq: 28 Oct 2014 10:13

Tgt Ion:128 Resp: 46402

Ion	Ratio	Lower	Upper
128	100		
129	9.0	0.0	41.2

Quantitation Report (QT Reviewed)

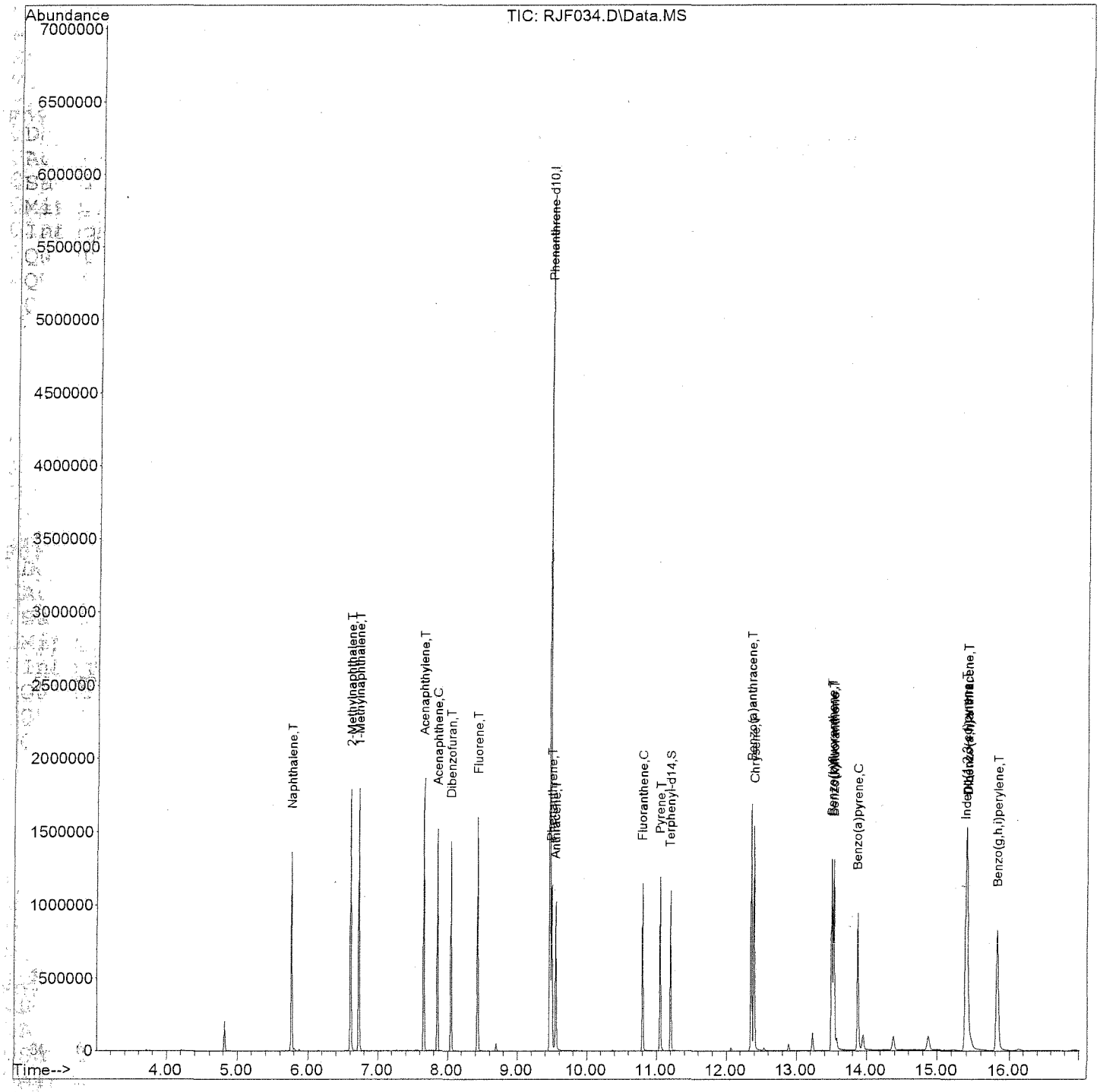
Data File : C:\msdchem\1\DATA\14J28\RJF034.D Vial: 13
Acq On : 28 Oct 2014 10:41 Operator: KVu
Sample : SVJ034WL Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 13:01:41 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.468	188	4565409	2000.00	ppb	0.02
System Monitoring Compounds						
13) Terphenyl-d14	11.204	244	929625	550.57	ppb	0.02
Spiked Amount 500.000			Recovery =	110.11%		
Target Compounds						Qvalue
2) Naphthalene	5.764	128	1239734	396.82	ppb	100
3) 2-Methylnaphthalene	6.606	142	953792	455.22	ppb	98
4) 1-Methylnaphthalene	6.724	142	925848	481.17	ppb	99
5) Acenaphthylene	7.657	152	1266238	454.96	ppb	100
6) Acenaphthene	7.853	153	836576	462.15	ppb	100
7) Dibenzofuran	8.046	168	978378	422.77	ppb	99
8) Fluorene	8.430	166	782257	423.39	ppb	99
9) Phenanthrene	9.495	178	981080	414.43	ppb	100
10) Anthracene	9.551	178	904803	380.45	ppb	99
11) Fluoranthene	10.802	202	923369	420.16	ppb	84
12) Pyrene	11.054	202	965466	406.19	ppb	84
14) Benzo(a)anthracene	12.356	228	1584401	490.39	ppb	76
15) Chrysene	12.395	228	1445766	461.05	ppb	82
16) Benzo(b)fluoranthene	13.502	252	1439754	465.38	ppb	85
17) Benzo(k)fluoranthene	13.534	252	1493502	483.37	ppb	85
18) Benzo(a)pyrene	13.877	252	1144792	389.56	ppb	85
19) Indeno(1,2,3-cd)pyrene	15.392	276	1684931	471.07	ppb	84
20) Dibenzo(a,h)anthracene	15.409	278	1388276	470.28	ppb	95
21) Benzo(g,h,i)perylene	15.829	276	1449682	489.16	ppb	84

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14J28\RJF034.D Vial: 13
Acq On : 28 Oct 2014 10:41 Operator: KVu
Sample : SVJ034WL Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 13:01:41 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



Quantitation Report (QT Reviewed)

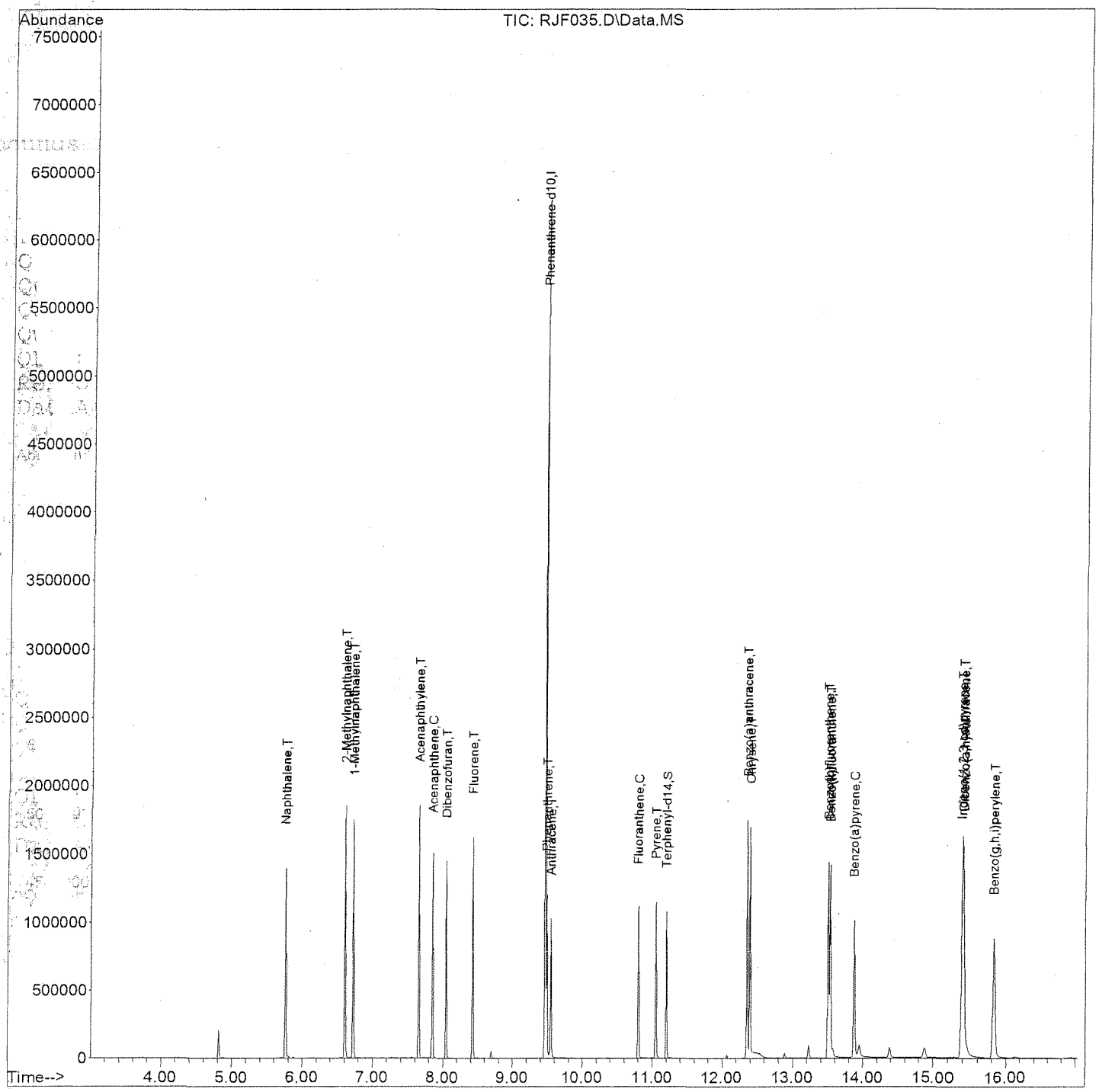
Data File : C:\msdchem\1\DATA\14J28\RJF035.D Vial: 14
Acq On : 28 Oct 2014 11:08 Operator: KVu
Sample : SVJ034WC Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 13:01:44 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.466	188	4726800	2000.00	ppb	0.02
System Monitoring Compounds						
13) Terphenyl-d14	11.204	244	940398	537.94	ppb	0.02
Spiked Amount 500.000			Recovery = 107.59%			
Target Compounds						Qvalue
2) Naphthalene	5.764	128	1242136	384.01	ppb	99
3) 2-Methylnaphthalene	6.606	142	967422	445.96	ppb	99
4) 1-Methylnaphthalene	6.724	142	912671	458.13	ppb	99
5) Acenaphthylene	7.657	152	1260386	437.40	ppb	99
6) Acenaphthene	7.851	153	833893	444.94	ppb	99
7) Dibenzofuran	8.046	168	972632	405.94	ppb	98
8) Fluorene	8.428	166	780462	408.00	ppb	99
9) Phenanthrene	9.493	178	990533	404.14	ppb	99
10) Anthracene	9.551	178	905642	367.81	ppb	100
11) Fluoranthene	10.799	202	931175	409.25	ppb	84
12) Pyrene	11.051	202	973808	395.71	ppb	84
14) Benzo(a)anthracene	12.354	228	1647162	492.44	ppb	79
15) Chrysene	12.395	228	1519075	467.89	ppb	83
16) Benzo(b)fluoranthene	13.504	252	1492343	465.91	ppb	85
17) Benzo(k)fluoranthene	13.534	252	1542693	482.25	ppb	85
18) Benzo(a)pyrene	13.877	252	1207691	396.94	ppb	88
19) Indeno(1,2,3-cd)pyrene	15.392	276	1748657	472.20	ppb	83
20) Dibenzo(a,h)anthracene	15.406	278	1460567	477.88	ppb	91
21) Benzo(g,h,i)perylene	15.829	276	1511924	492.75	ppb	85

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14J28\RJF035.D Vial: 14
Acq On : 28 Oct 2014 11:08 Operator: KVu
Sample : SVJ034WC Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 13:01:44 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



INITIAL CALIBRATIONS

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: REF012
Instrument ID: TOF0

Project: RED HILL PHASE 1B
SDG No.: 14J130
DFTPP Injection Date: 05/08/14
DFTPP Injection Time: 11:44

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	44.44
68	Less than 2% of mass 69	0.14(0.8)1
69	Relative abundance of mass 198	17.73
70	Less than 2.0% of mass 69	0.02(0.1)1
127	40.0 - 60.0% of mass 198	44.87
197	Less than 1.0% of mass 198	0.67
198	Base Peak, 100% relative abundance	100.00
199	5.0 - 9.0% of mass 198	6.24
275	10.0 - 30.0% of mass 198	22.93
365	Greater than 1.00% of mass 198	1.66
441	Present, but less than mass 443	13.99(81.1)3
442	Greater than 40.0% of mass 198	92.91
443	17.0 - 23.0% of mass 442	17.25(18.6)2

1-Value is % mass 69 2-Value is % mass 442
3-Value is % mass 443

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	SSTD1000	SVF0E081	REF013	05/08/14	12:10
2	SSTD500	SVF0E082	REF014	05/08/14	12:31
3	SSTD100	SVF0E083	REF015	05/08/14	12:54
4	SSTD080	SVF0E084	REF016	05/08/14	13:17
5	SSTD040	SVF0E085	REF017	05/08/14	13:40
6	SSTD020	SVF0E086	REF018	05/08/14	14:03
7	SSTD500	ISVF0E081	REF019	05/08/14	14:26

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: REF014
Instrument ID: TOF0

Project:ICAL
SDG No.:ICAL
Date Analyzed: 05/08/14
Time Analyzed: 12:31

		IS4(PHN)		IS5(CRY)		IS6(PRY)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	5005097	9.44	0	0.00	0	0.00
	UPPER LIMIT	10010194	9.94	0	0.50	0	0.50
	LOWER LIMIT	2502549	8.94	0	-0.50	0	-0.50
	SAMPLE ID						
1	SVF0E081	5187965	9.44	0	0.00	0	0.00
2	SVF0E083	5327101	9.44	0	0.00	0	0.00
3	SVF0E084	7937548	9.44	0	0.00	0	0.00
4	SVF0E085	5477844	9.44	0	0.00	0	0.00
5	SVF0E086	4821286	9.44	0	0.00	0	0.00
6	ISVF0E081	6284290	9.44	0	0.00	0	0.00

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

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

RW 7-11-14

Quantitation Limit from Lowest Initial Calibration Concentration

Instrument ID :FO
Beginning DateTime :05/08/14 12:10
IC File :REF018.4 DJ 10/30/14

Column Spec :ZB-SEMI ID:0.25MM
Ending DateTime :05/08/14 14:03
HPChem Method :SVFOE08

WATER Init. Vol. (ml) : 1000 Final Vol. (ml) : 1
SOIL Init. Weight (gm) : 30 Final Vol. (ml) : 1

IDX	Parameters	ON_COL UG/L	WATER UG/L	SOIL UG/KG	R_FILE
1	Phenanthrene-d10	IntSTD	IntSTD	IntSTD	IntSTD
2	Naphthalene	20	.02	.6667	REF018
3	2-Methylnaphthalene	20	.02	.6667	REF018
4	1-Methylnaphthalene	20	.02	.6667	REF018
5	Acenaphthylene	20	.02	.6667	REF018
6	Acenaphthene	20	.02	.6667	REF018
7	Dibenzofuran	20	.02	.6667	REF018
8	Fluorene	20	.02	.6667	REF018
9	Phenanthrene	20	.02	.6667	REF018
10	Anthracene	20	.02	.6667	REF018
11	Fluoranthene	20	.02	.6667	REF018
12	Pyrene	20	.02	.6667	REF018
13	Terphenyl-d14	20	.02	.6667	REF018
14	Benzo(a)anthracene	20	.02	.6667	REF018
15	Chrysene	20	.02	.6667	REF018
16	Benzo(b)fluoranthene	20	.02	.6667	REF018
17	Benzo(k)fluoranthene	20	.02	.6667	REF018
18	Benzo(a)pyrene	20	.02	.6667	REF018
19	Indeno(1,2,3-cd)pyrene	20	.02	.6667	REF018
20	Dibenzo(a,h)anthracene	20	.02	.6667	REF018
21	Benzo(g,h,i)perylene	20	.02	.6667	REF018

7-1-14

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :FO
Beginning DateTime :05/08/14 12:10
Spike Units :PPB
IC File :REF01714 DJ 10/30/14

Column Spec :ZB-SEMI ID:0.25MM
Ending DateTime :05/08/14 14:03
HPChem Method :SVFOE08

IDX	Parameters	20 14:03 REF018	40 13:40 REF017	80 13:17 REF016	100 12:54 REF015	500 12:31 REF014	1000 12:10 REF013	Av_RRF	%_RSD	Av_Rt_M
1	Phenanthrene-d10	1	1	1	1	1	1	1	0	9.4429
2	Naphthalene	1.584	1.389	1.265	1.344	1.392	1.238	1.369	8.99	5.7405
3	2-Methylnaphthalene	1.049	0.917	0.855	0.919	0.934	0.833	0.918	8.25	6.5772
4	1-Methylnaphthalene	0.978	0.846	0.789	0.836	0.849	0.759	0.843	8.93	6.6945
5	Acenaphthylene	1.353	1.215	1.133	1.232	1.245	1.139	1.219	6.61	7.6248
6	Acenaphthene	0.908	0.800	0.739	0.802	0.787	0.723	0.793	8.22	7.8215
7	Dibenzofuran	1.143	1.026	0.947	1.015	1.018	0.934	1.014	7.34	8.0151
8	Fluorene	0.905	0.823	0.759	0.820	0.805	0.744	0.809	7.05	8.4032
9	Phenanthrene	1.167	1.073	0.982	1.046	1.026	0.928	1.037	7.86	9.4701
10	Anthracene	1.165	1.048	0.987	1.044	1.047	0.960	1.042	6.78	9.5262
11	Fluoranthene	1.107	0.997	0.907	0.952	0.957	0.857	0.963	8.86	10.7756
12	Pyrene	1.199	1.055	0.985	1.029	1.031	0.949	1.041	8.26	11.0270
13	Terphenyl-d14	0.872	0.761	0.690	0.714	0.734	0.667	0.740	9.81	11.1795
14	Benzo(a)anthracene	2.042	1.655	1.458	1.489	1.522	1.358	1.587	15.30	12.3298
15	Chrysene	1.582	1.404	1.292	1.326	1.388	1.250	1.374	8.55	12.3690
16	Benzo(b)fluoranthene	1.516	1.347	1.270	1.310	1.410	1.278	1.355	6.94	13.4730
17	Benzo(k)fluoranthene	1.505	1.292	1.253	1.348	1.449	1.275	1.354	7.55	13.5020
18	Benzo(a)pyrene	1.418	1.249	1.173	1.251	1.378	1.255	1.287	7.12	13.8406
19	Indeno(1,2,3-cd)pyrene	1.722	1.553	1.448	1.510	1.657	1.512	1.567	6.56	15.3334
20	Dibenzo(a,h)anthracene	1.458	1.286	1.193	1.247	1.347	1.229	1.293	7.44	15.3500
21	Benzo(g,h,i)perylene	1.390	1.273	1.236	1.265	1.389	1.237	1.298	5.54	15.7617

Ave_%RSD : 8.1 Max_%RSD : 15.3

Use Least Square Linear Regression with weighting factor of inverse concentration
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
14	Benzo(a)anthracene	0.00585	1.39154	0.9984

RO 9-11-14

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR(%REC)

Instrument ID :FO
Beginning DateTime :05/08/14 12:10
Spike Units :PPB
IC File :REF018 4 DJ 10/30/14

Column Spec :ZB-SEMI ID:0.25MM
Ending DateTime :05/08/14 14:03
HPChem Method :SVFOE08

IDX	Parameters	20 14:03 REF018	40 13:40 REF017	80 13:17 REF016	100 12:54 REF015	500 12:31 REF014	1000 12:10 REF013	AvDRec	%_RSD	Av_Rt_M
1	Phenanthrene-d10	1	1	1	1	1	1	1	0	9.4429
2	Naphthalene	116	101	92	98	102	90	6.3	8.99	5.7405
3	2-Methylnaphthalene	114	100	93	100	102	91	5.4	8.25	6.5772
4	1-Methylnaphthalene	116	100	94	99	101	90	5.7	8.93	6.6945
5	Acenaphthylene	111	100	93	101	102	93	4.7	6.61	7.6248
6	Acenaphthene	115	101	93	101	99	91	5.5	8.22	7.8215
7	Dibenzofuran	113	101	93	100	100	92	4.8	7.34	8.0151
8	Fluorene	112	102	94	101	100	92	4.9	7.05	8.4032
9	Phenanthrene	113	103	95	101	99	89	5.6	7.86	9.4701
10	Anthracene	112	101	95	100	100	92	4.4	6.78	9.5262
11	Fluoranthene	115	104	94	99	99	89	6.2	8.86	10.7756
12	Pyrene	115	101	95	99	99	91	5.5	8.26	11.0270
13	Terphenyl-d14	118	103	93	96	99	90	6.9	9.81	11.1795
14	Benzo(a)anthracene	105	98	94	99	108	97	4.2	5.1	12.3298
15	Chrysene	115	102	94	97	101	91	6.1	8.55	12.3690
16	Benzo(b)fluoranthene	112	99	94	97	104	94	5.3	6.94	13.4730
17	Benzo(k)fluoranthene	111	95	93	100	107	94	6.1	7.55	13.5020
18	Benzo(a)pyrene	110	97	91	97	107	98	5.7	7.12	13.8406
19	Indeno(1,2,3-cd)pyrene	110	99	92	96	106	96	5.2	6.56	15.3334
20	Dibenzo(a,h)anthracene	113	99	92	96	104	95	5.6	7.44	15.3500
21	Benzo(g,h,i)perylene	107	98	95	97	107	95	4.7	5.54	15.7617

7-11-14

Compound List Report DSQ

Method Path : C:\msdchem\1\METHODS\
Method File : SVF0E08.M
Title : SEMIVOLATILES - SIM
Last Update : Thu May 08 14:37:46 2014
Response Via : Initial Calibration

Total Cpnds : 21

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Phenanthrene-d10	188	9.444	1.000	A	1	A	B
2	T	Naphthalene	128	5.741	0.608	A	1	A	B
3	T	2-Methylnaphthalene	142	6.577	0.696	A	1	A	B
4	T	1-Methylnaphthalene	142	6.695	0.709	A	1	A	B
5	T	Acenaphthylene	152	7.626	0.807	A	1	A	B
6	C	Acenaphthene	153	7.821	0.828	A	1	A	B
7	T	Dibenzofuran	168	8.015	0.849	A	1	A	B
8	T	Fluorene	166	8.403	0.890	A	1	A	B
9	T	Phenanthrene	178	9.471	1.003	A	1	A	B
10	T	Anthracene	178	9.527	1.009	A	1	A	B
11	C	Fluoranthene	202	10.777	1.141	A	1	A	B
12	T	Pyrene	202	11.029	1.168	A	1	A	B
13	S	Terphenyl-d14	244	11.181	1.184	A	1	A	B
14	T	Benzo(a)anthracene	228	12.331	1.306	L	1	A	B
15	T	Chrysene	228	12.370	1.310	A	1	A	B
16	T	Benzo(b)fluoranthene	252	13.475	1.427	A	1	A	B
17	T	Benzo(k)fluoranthene	252	13.504	1.430	A	1	A	B
18	C	Benzo(a)pyrene	252	13.842	1.466	A	1	A	B
19	T	Indeno(1,2,3-cd)pyrene	276	15.336	1.624	A	1	A	B
20	T	Dibenzo(a,h)anthracene	278	15.353	1.626	A	1	A	B
21	T	Benzo(g,h,i)perylene	276	15.763	1.669	A	1	A	B

Cal = A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID = R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

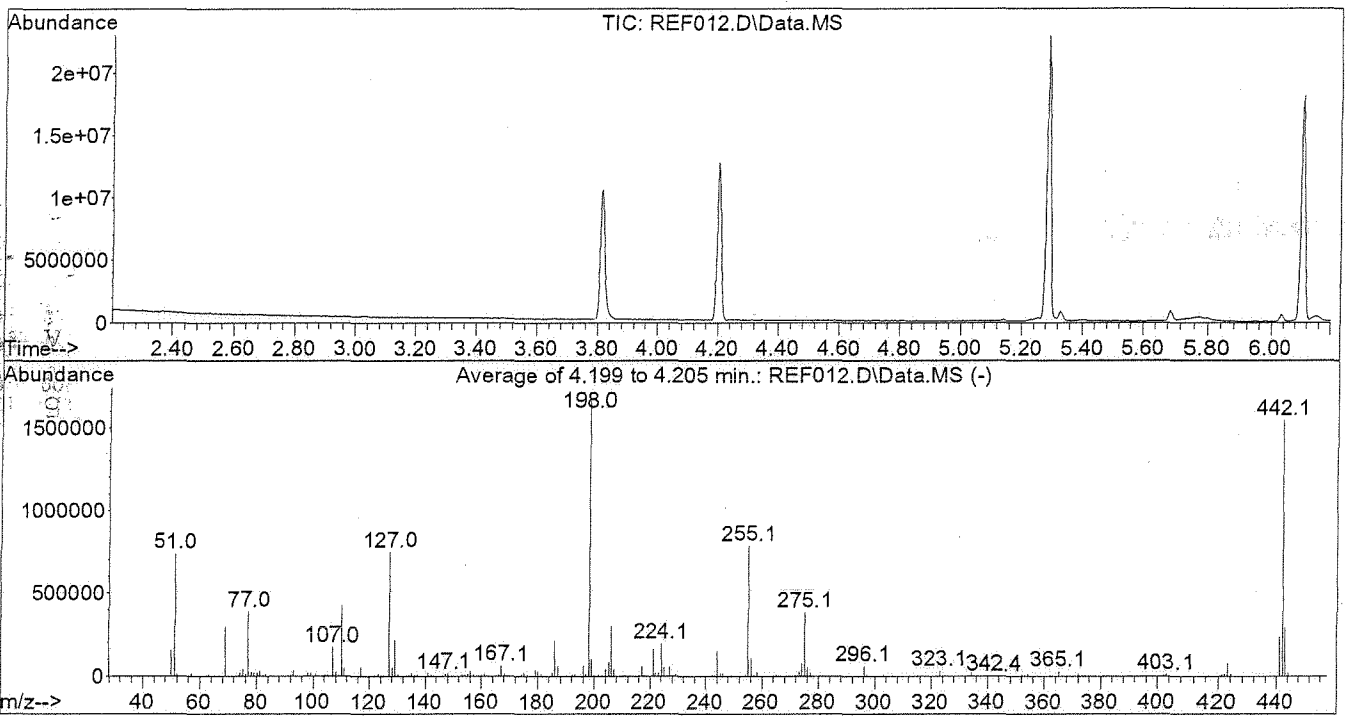
SVF0E08.M Thu May 08 14:38:06 2014 F0

5/1-1-14

Data Path : C:\msdchem\1\DATA\14E08\
Data File : REF012.D
Acq On : 08 May 2014 11:44
Operator : KV
Sample : DFTF0F0801
Misc : F0
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Title : DFTPP
Last Update : Fri May 09 13:48:37 2014



AutoFind: Scans 725, 726, 727; Background Corrected with Scan 716

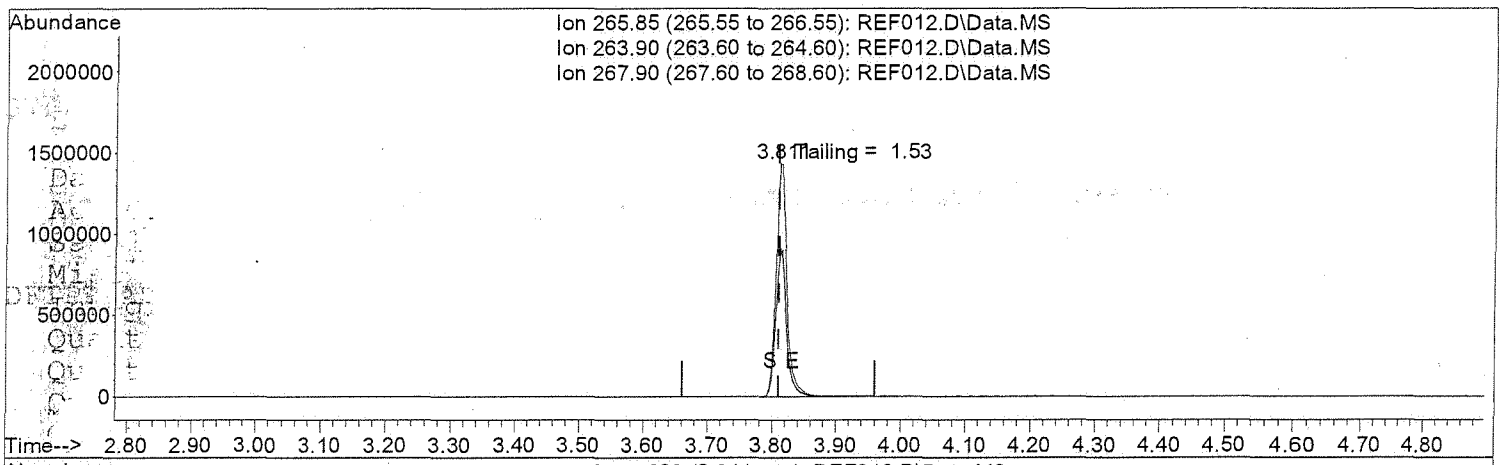
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.4	737448	PASS
68	69	0.00	2	0.8	2241	PASS
69	198	0.00	100	17.7	294208	PASS
70	69	0.00	2	0.1	361	PASS
127	198	40	60	44.9	744448	PASS
197	198	0.00	1	0.7	11039	PASS
198	198	100	100	100.0	1659221	PASS
199	198	5	9	6.2	103579	PASS
275	198	10	30	22.9	380501	PASS
365	198	1	100	1.7	27571	PASS
441	443	0.01	100	81.1	232107	PASS
442	198	40	100	92.9	1541632	PASS
443	442	17	23	18.6	286251	PASS

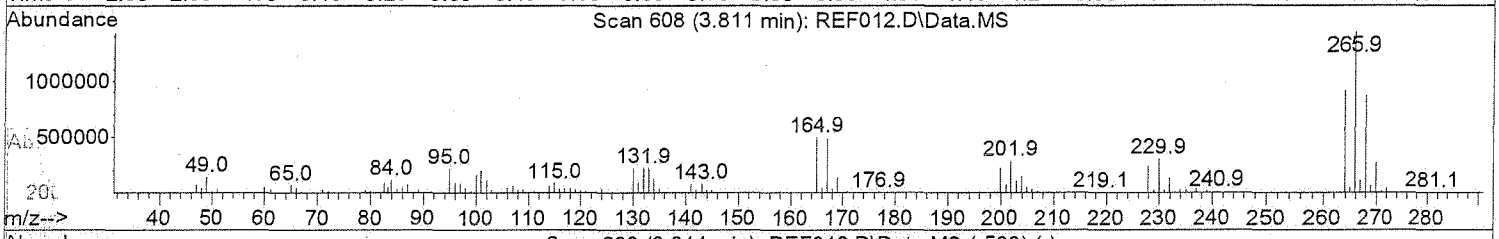
RE 7-11-14

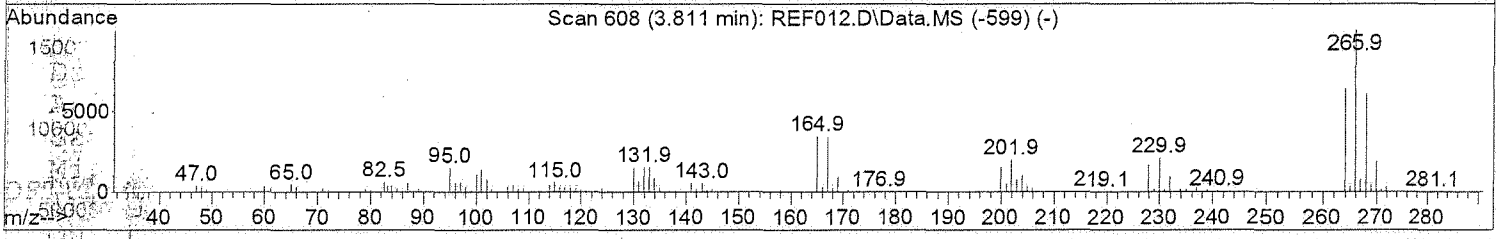
3030

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14E08\REF012.D Vial: 2
Acq On : 08 May 2014 11:44 Operator: KV
Sample : DFTF0F0801 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 09 13:48:40 2014
Quant Results File: DFTPPPAH.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Quant Title : DFTPP
QLast Update : Fri May 09 13:48:38 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M







TIC: REF012.D\Data.MS

(1) Pentachlorophenol (T)

3.811min (+0.000) 50.00 ppm

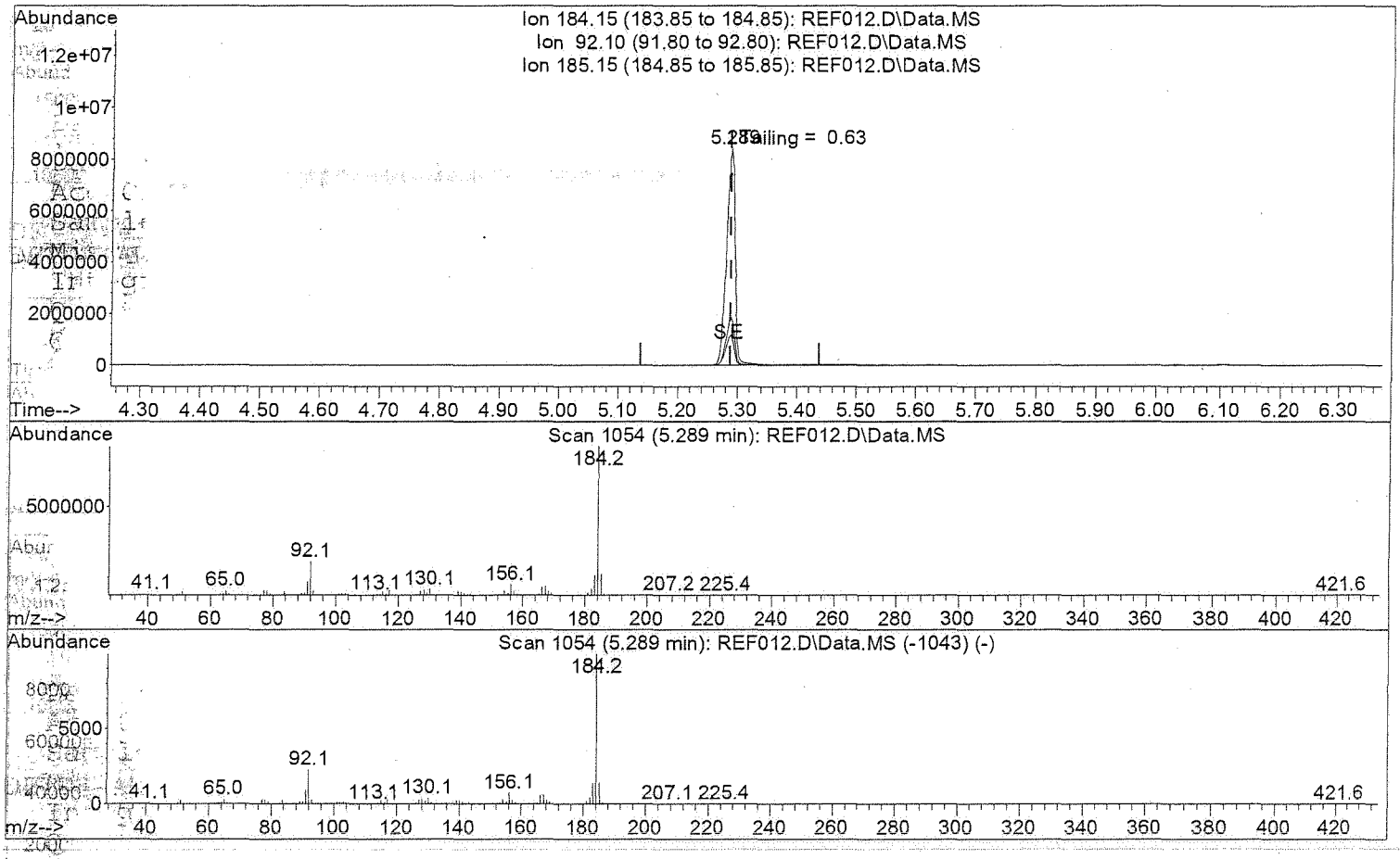
response 1690635

Ion	Exp%	Act%
265.85	100	100
263.90	61.80	61.80
267.90	62.70	62.72
0.00	0.00	0.00

7-11-14

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14E08\REF012.D Vial: 2
Acq On : 08 May 2014 11:44 Operator: KV
Sample : DFTF0F0801 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 09 13:48:40 2014
Quant Results File: DFTPPPAH.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Quant Title : DFTPP
QLast Update : Fri May 09 13:48:38 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



TIC: REF012.D\Data.MS

(3) Benzidine (T)

5.289min (0.000) 50.00 ppm

response 8591117

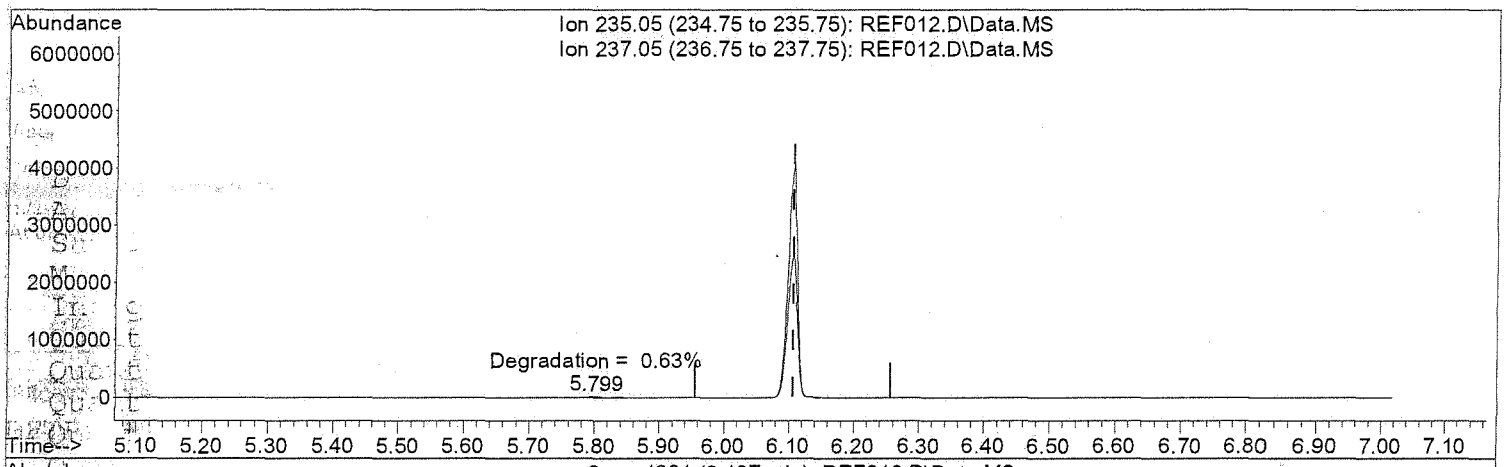
Ion	Exp%	Act%
184.15	100	100
92.10	21.70	21.65
185.15	13.30	13.29
0.00	0.00	0.00

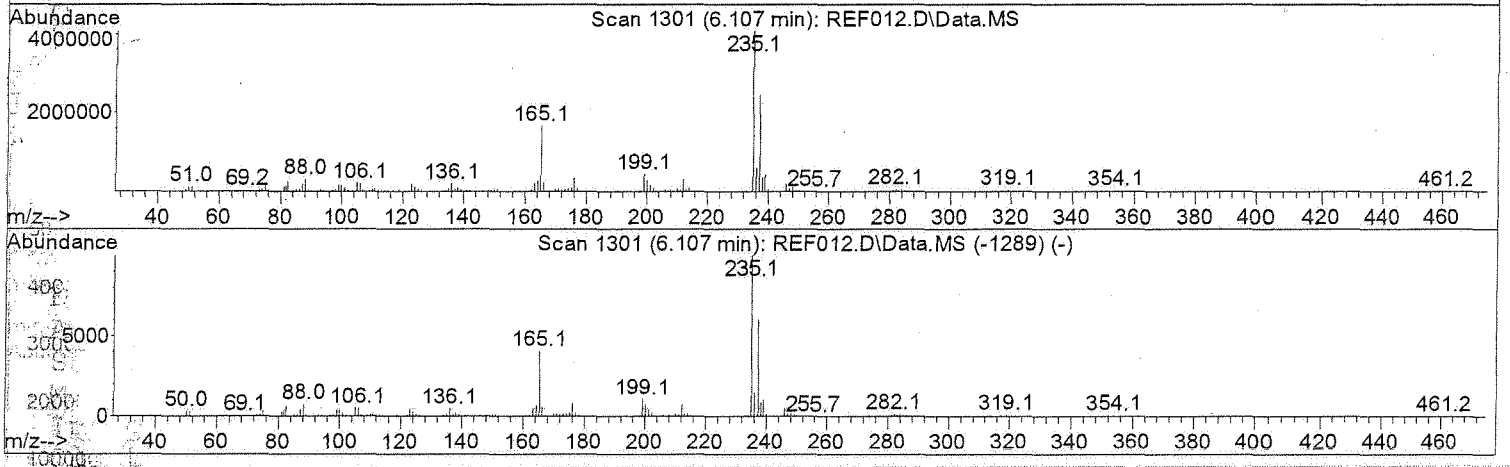
7-11-14

3032

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14E08\REF012.D Vial: 2
Acq On : 08 May 2014 11:44 Operator: KV
Sample : DFTF0F0801 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 09 13:48:40 2014
Quant Results File: DFTPPPAH.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Quant Title : DFTPP
QLast Update : Fri May 09 13:48:38 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M





TIC: REF012.D\Data.MS

(6) DDT (T)

6.107min (0.000) 50.00 ppm

response 4079265

Ion	Exp%	Act%
235.05	100	100
237.05	63.20	63.24
0.00	0.00	0.00
0.00	0.00	0.00

7-11-14

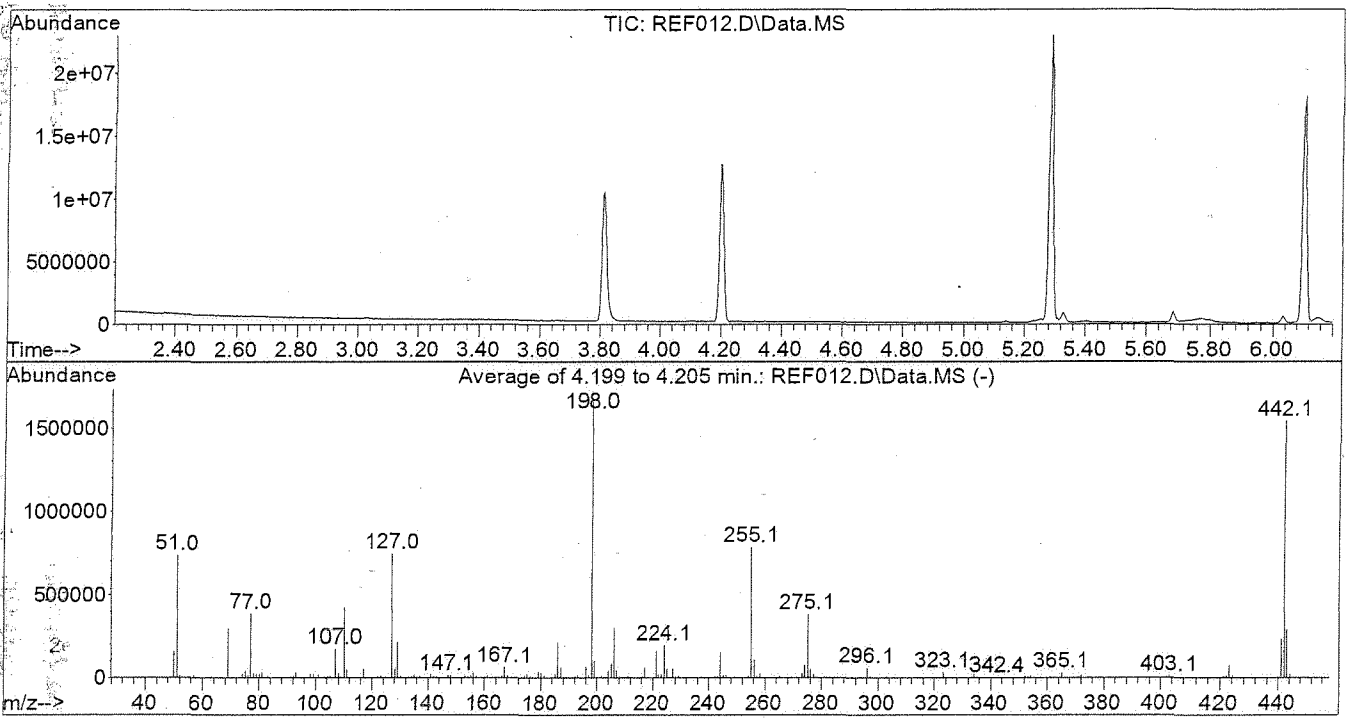
3033

DFTPP

Data Path : C:\msdchem\1\DATA\14E08\
Data File : REF012.D
Acq On : 08 May 2014 11:44
Operator : KV
Sample : DFTF0F0801
Misc : F0
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPD.M
Title : DFTPP-8270D
Last Update : Fri May 09 13:50:01 2014



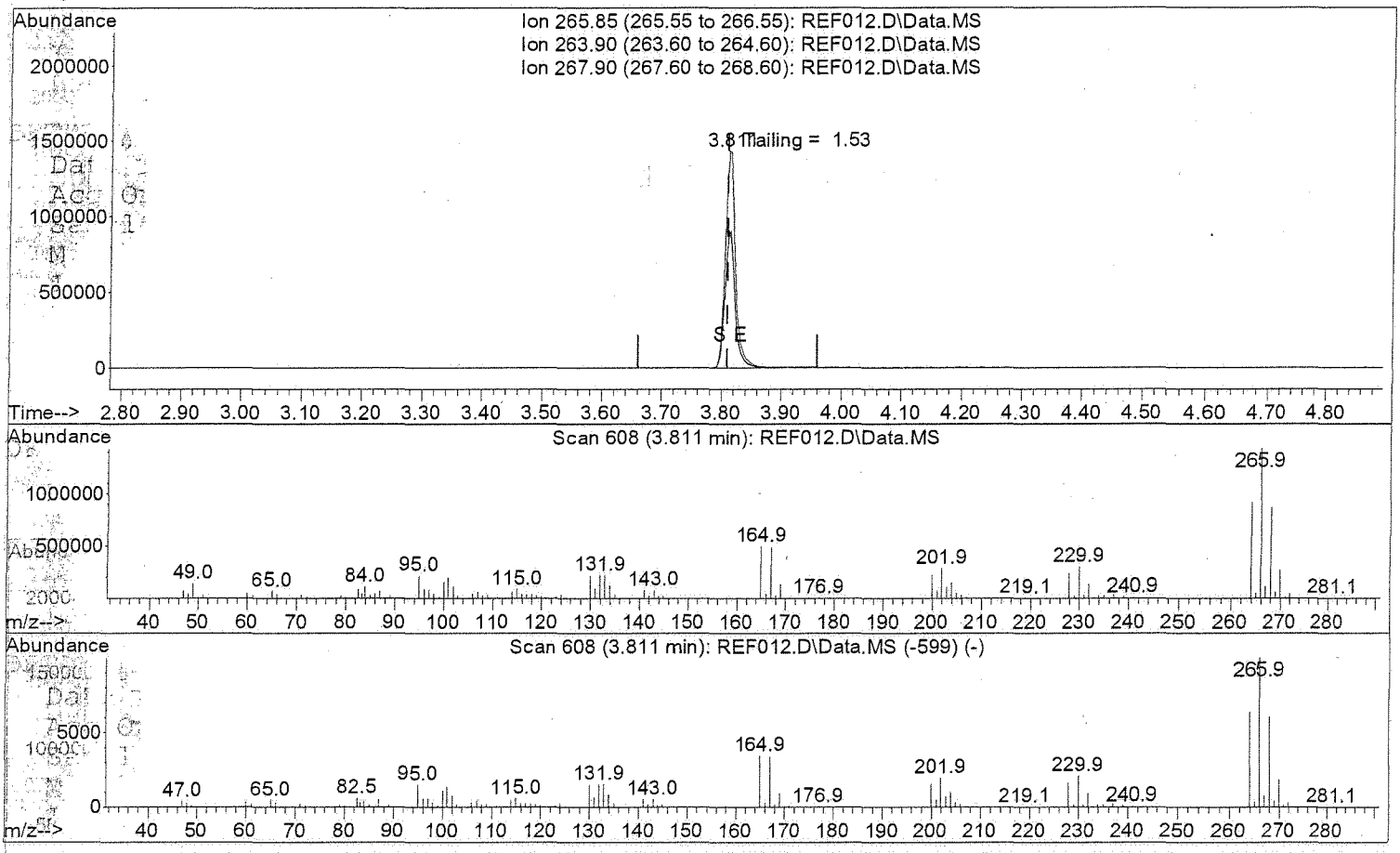
AutoFind: Scans 725, 726, 727; Background Corrected with Scan 716

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	44.4	737448	PASS
68	69	0.00	2	0.8	2241	PASS
69	198	0.00	100	17.7	294208	PASS
70	69	0.00	2	0.1	361	PASS
127	198	10	80	44.9	744448	PASS
197	198	0.00	2	0.7	11039	PASS
198	198	100	100	100.0	1659221	PASS
199	198	5	9	6.2	103579	PASS
275	198	10	60	22.9	380501	PASS
365	198	1	100	1.7	27571	PASS
441	442	0.01	24	15.1	232107	PASS
442	198	50	100	92.9	1541632	PASS
443	442	15	24	18.6	286251	PASS

7-11-14

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14E08\REF012.D Vial: 2
Acq On : 08 May 2014 11:44 Operator: KV
Sample : DFTF0F0801 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 09 13:50:04 2014
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : DFTPP-8270D
QLast Update : Fri May 09 13:50:02 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



TIC: REF012.D\Data.MS

(1) Pentachlorophenol (T)

3.811min (+0.000) 50.00 ppm

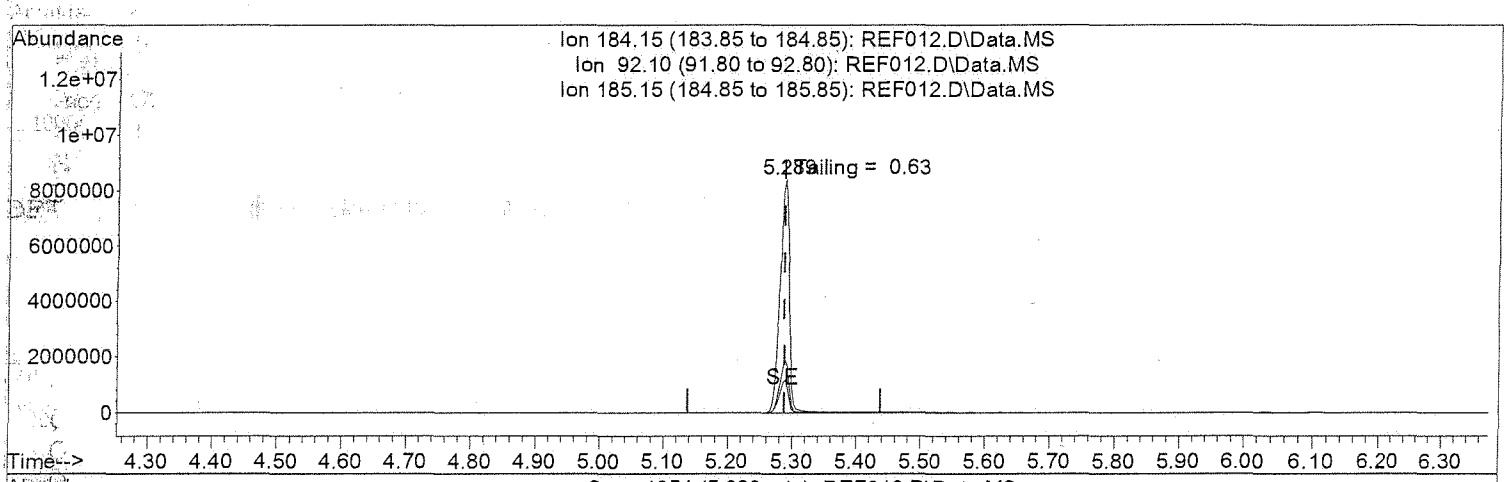
response 1690635

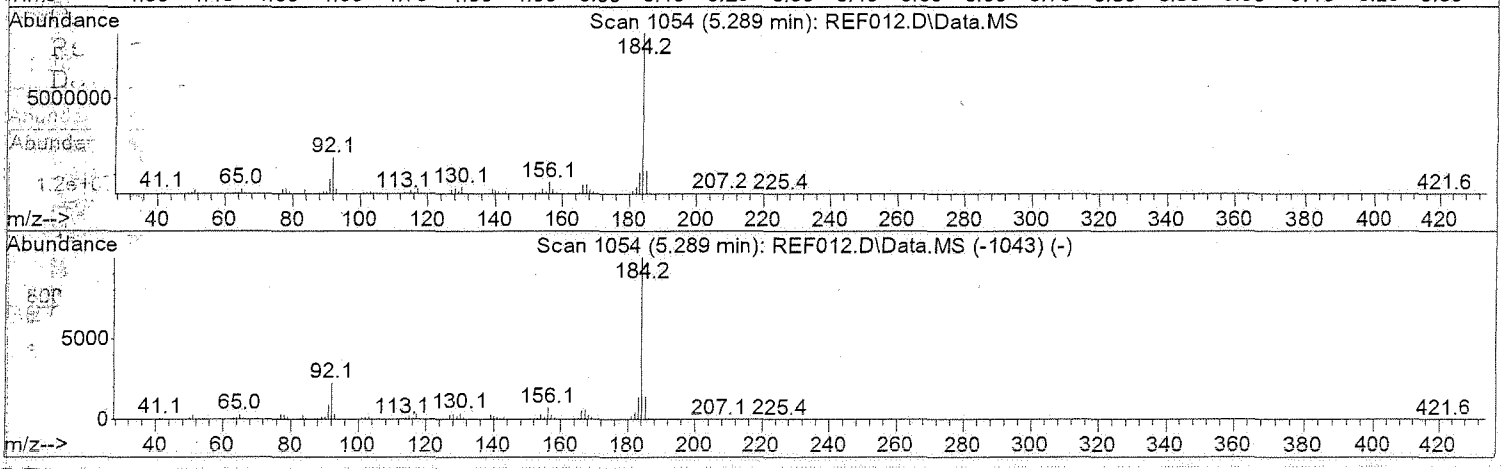
Ion	Exp%	Act%
265.85	100	100
263.90	61.80	61.80
267.90	62.70	62.72#
0.00	0.00	0.00

7-11-14

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14E08\REF012.D Vial: 2
Acq On : 08 May 2014 11:44 Operator: KV
Sample : DFTF0F0801 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 09 13:50:04 2014
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : DFTPP-8270D
QLast Update : Fri May 09 13:50:02 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M





TIC: REF012.D\Data.MS

(3) Benzidine (T)

5.289min (0.000) 50.00 ppm

response 8591117

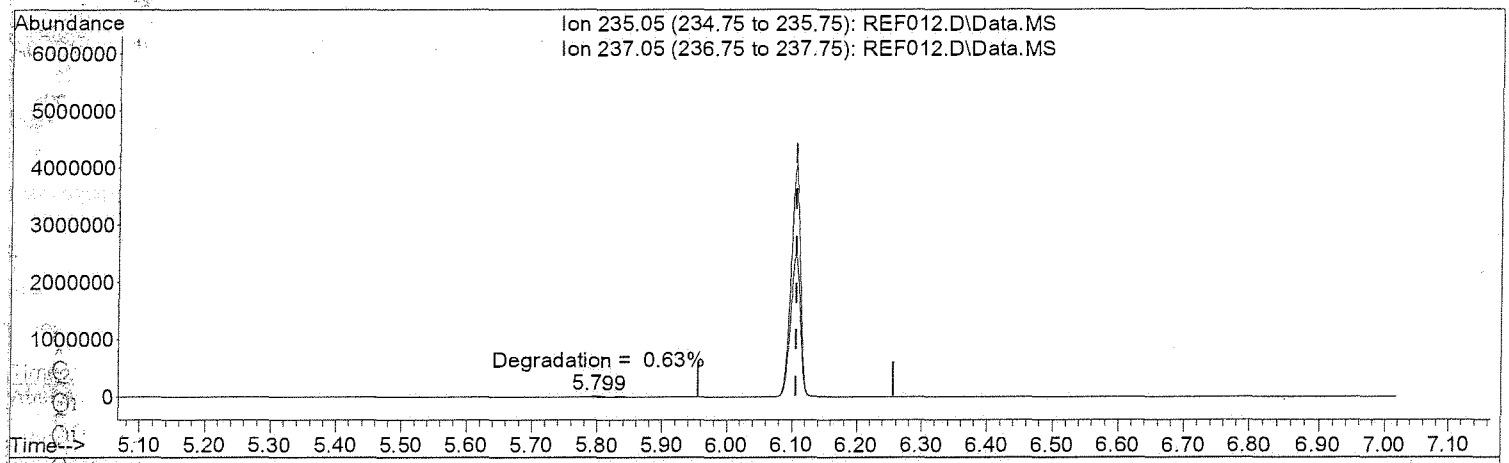
Ion	Exp%	Act%
184.15	100	100
92.10	21.70	21.65
185.15	13.30	13.29#
0.00	0.00	0.00

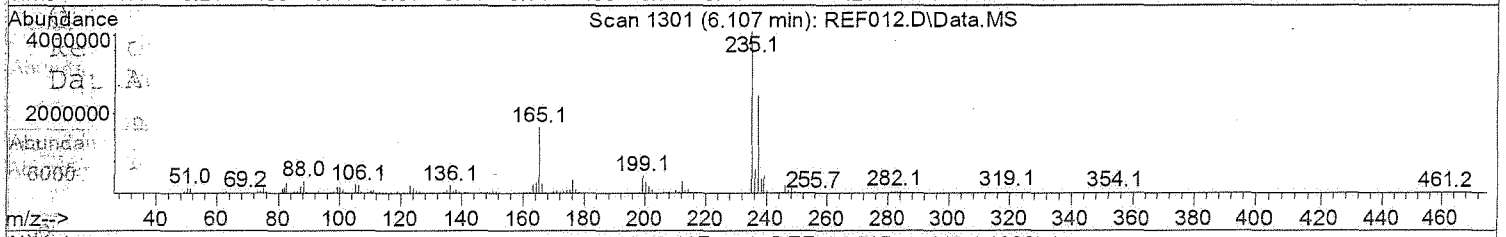
7-11-14

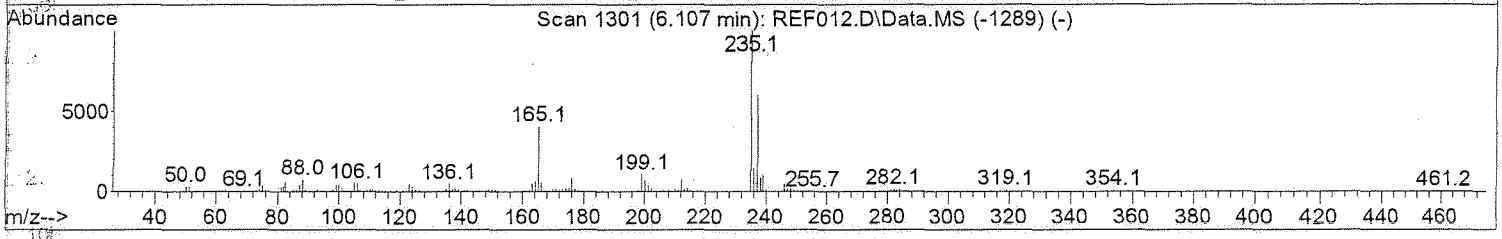
3036

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14E08\REF012.D Vial: 2
Acq On : 08 May 2014 11:44 Operator: KV
Sample : DFTF0F0801 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 09 13:50:04 2014
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : DFTPP-8270D
QLast Update : Fri May 09 13:50:02 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M







TIC: REF012.D\Data.MS

(6) DDT (T)

6.107min (0.000) 50.00 ppm

response 4079265

Ion	Exp%	Act%
235.05	100	100
237.05	63.20	63.24
0.00	0.00	0.00
0.00	0.00	0.00

PM 7-11-14

3037

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF018.D Vial: 8
Acq On : 08 May 2014 14:03 Operator: KV
Sample : SVF0E086 20PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:40:04 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

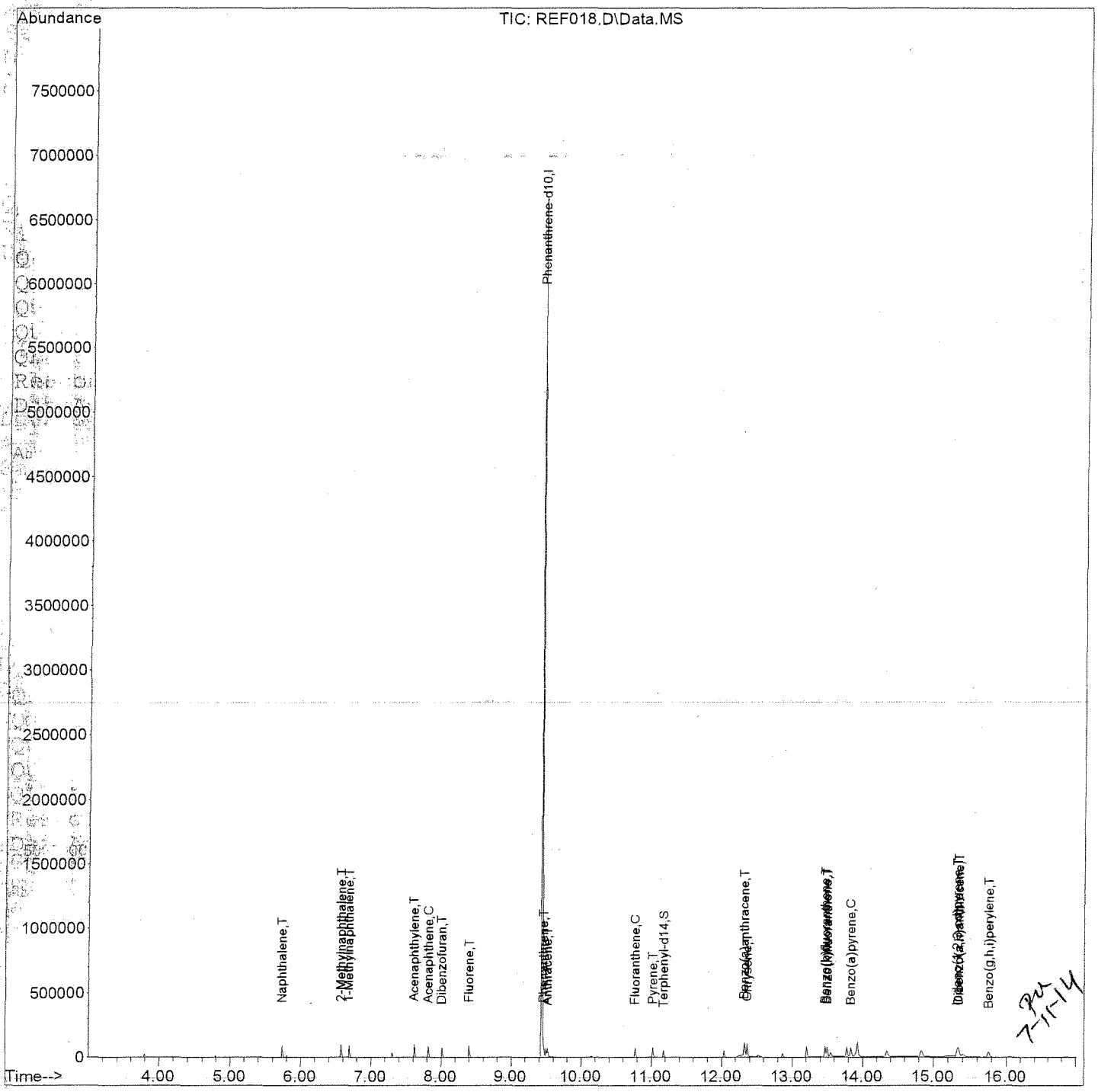
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.442	188	4821286	2000.00	ppb	0.00
System Monitoring Compounds						
13) Terphenyl-d14	11.179	244	42038	23.58	ppb	0.00
Spiked Amount 500.000			Recovery =	4.72%		
Target Compounds						Qvalue
2) Naphthalene	5.741	128	76370	23.15	ppb	99
3) 2-Methylnaphthalene	6.577	142	50590	22.86	ppb	98
4) 1-Methylnaphthalene	6.693	142	47155	23.21	ppb	98
5) Acenaphthylene	7.623	152	65214	22.19	ppb	100
6) Acenaphthene	7.821	153	43775	22.90	ppb	100
7) Dibenzofuran	8.015	168	55096	22.54	ppb	98
8) Fluorene	8.403	166	43644	22.37	ppb	99
9) Phenanthrene	9.469	178	56274	22.51	ppb	99
10) Anthracene	9.524	178	56170	22.37	ppb	98
11) Fluoranthene	10.774	202	53368	23.00	ppb	98
12) Pyrene	11.026	202	57800	23.03	ppb	96
14) Benzo(a)anthracene	12.329	228	98467	20.95	ppb	96
15) Chrysene	12.368	228	76292	23.04	ppb	50
16) Benzo(b)fluoranthene	13.473	252	73104	22.38	ppb	95
17) Benzo(k)fluoranthene	13.500	252	72569	22.24	ppb	98
18) Benzo(a)pyrene	13.838	252	68348	22.02	ppb	92
19) Indeno(1,2,3-cd)pyrene	15.331	276	83032	21.98	ppb	99
20) Dibenzo(a,h)anthracene	15.348	278	70272	22.54	ppb	92
21) Benzo(g,h,i)perylene	15.761	276	67001	21.41	ppb	97

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

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF018.D Vial: 8
Acq On : 08 May 2014 14:03 Operator: KV
Sample : SVF0E086 20PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:40:04 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



7-11-14

3039

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF017.D Vial: 7
Acq On : 08 May 2014 13:40 Operator: KV
Sample : SVF0E085 40PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:47 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

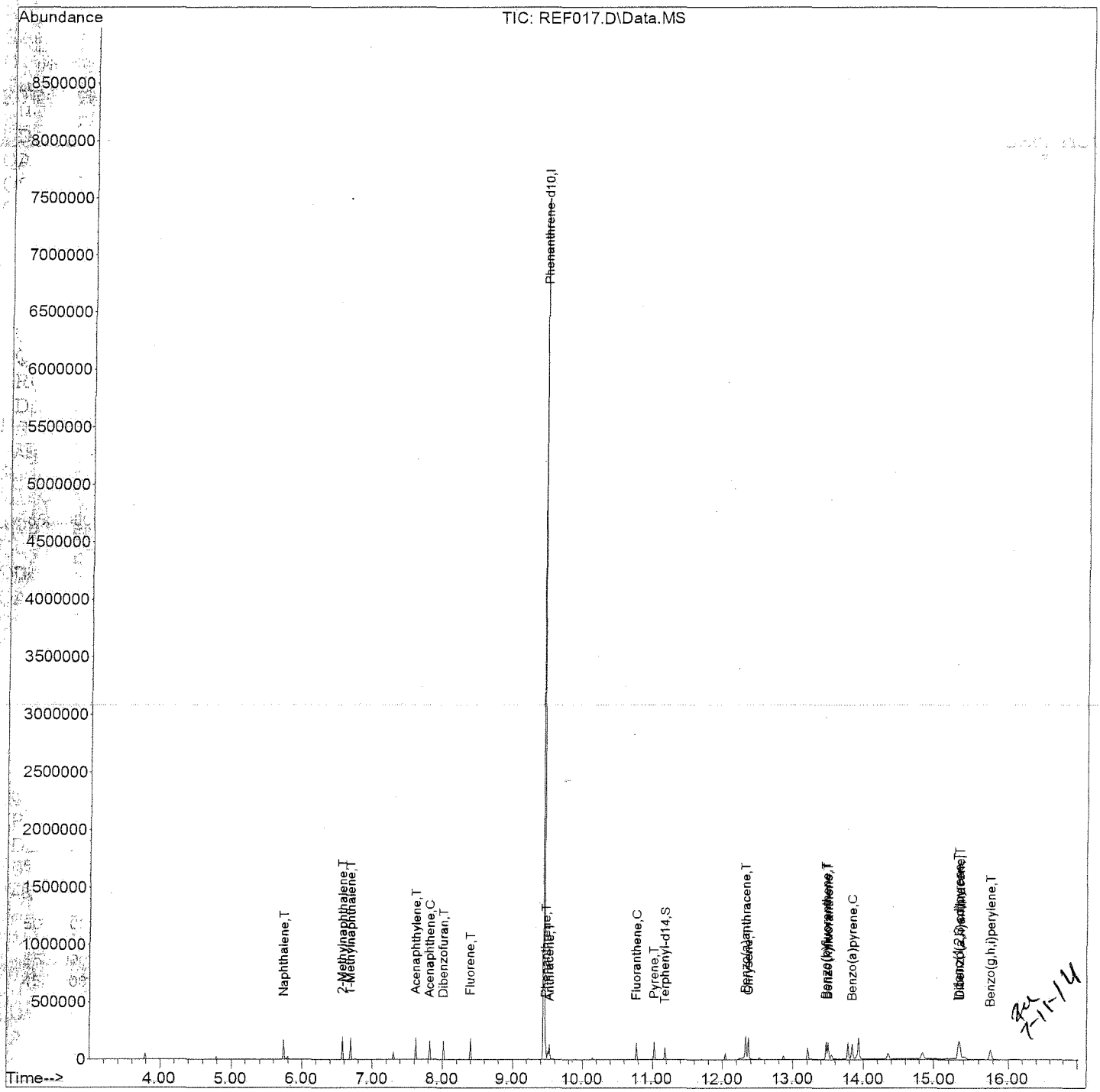
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.443	188	5477844	2000.00	ppb	0.00
System Monitoring Compounds						
13) Terphenyl-d14	11.180	244	83327	41.13	ppb	0.00
Spiked Amount 500.000			Recovery =	8.23%		
Target Compounds						Qvalue
2) Naphthalene	5.741	128	152169	40.59	ppb	99
3) 2-Methylnaphthalene	6.578	142	100467	39.96	ppb	98
4) 1-Methylnaphthalene	6.696	142	92719	40.16	ppb	99
5) Acenaphthylene	7.625	152	133087	39.85	ppb	99
6) Acenaphthene	7.823	153	87608	40.34	ppb	99
7) Dibenzofuran	8.016	168	112420	40.49	ppb	99
8) Fluorene	8.404	166	90161	40.67	ppb	99
9) Phenanthrene	9.470	178	117504	41.37	ppb	98
10) Anthracene	9.526	178	114777	40.22	ppb	99
11) Fluoranthene	10.775	202	109222	41.42	ppb	99
12) Pyrene	11.027	202	115618	40.54	ppb	98
14) Benzo(a)anthracene	12.330	228	181359	39.18	ppb	100
15) Chrysene	12.369	228	153818	40.88	ppb	77
16) Benzo(b)fluoranthene	13.472	252	147590	39.76	ppb	97
17) Benzo(k)fluoranthene	13.501	252	141499	38.17	ppb	98
18) Benzo(a)pyrene	13.842	252	136839	38.81	ppb	95
19) Indeno(1,2,3-cd)pyrene	15.333	276	170119	39.64	ppb	99
20) Dibenzo(a,h)anthracene	15.349	278	140943	39.79	ppb	93
21) Benzo(g,h,i)perylene	15.760	276	139493	39.23	ppb	99

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

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF017.D Vial: 7
Acq On : 08 May 2014 13:40 Operator: KV
Sample : SVF0E085 40PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:47 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF016.D Vial: 6
Acq On : 08 May 2014 13:17 Operator: KV
Sample : SVF0E084 80PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:33 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

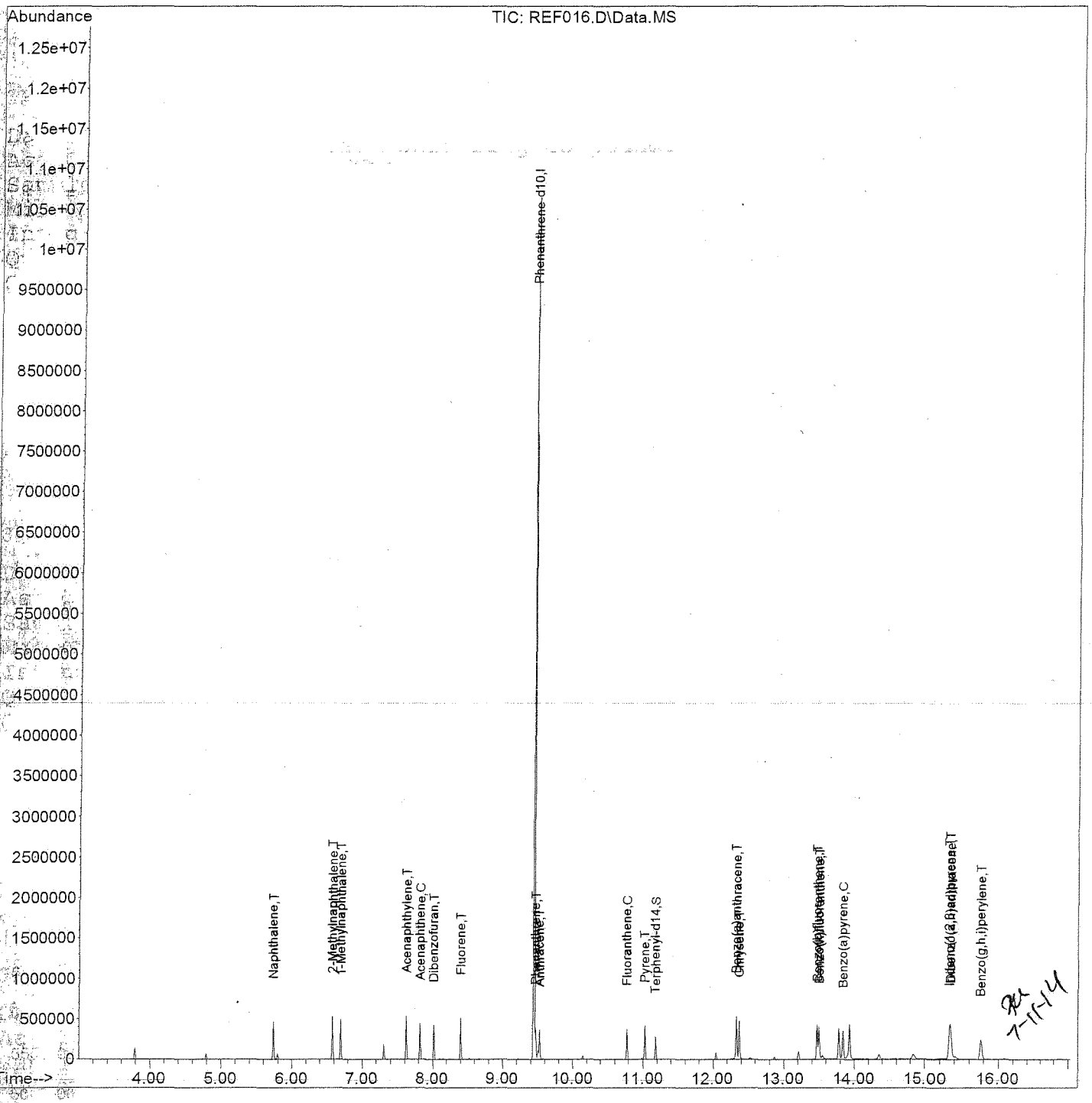
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.442	188	7937548	2000.00	ppb	0.00
System Monitoring Compounds						
13) Terphenyl-d14	11.179	244	219212	74.67	ppb	0.00
Spiked Amount 500.000			Recovery = 14.93%			
Target Compounds						Qvalue
2) Naphthalene	5.739	128	401533	73.92	ppb	98
3) 2-Methylnaphthalene	6.577	142	271326	74.48	ppb	99
4) 1-Methylnaphthalene	6.695	142	250355	74.84	ppb	99
5) Acenaphthylene	7.626	152	359752	74.35	ppb	100
6) Acenaphthene	7.821	153	234592	74.54	ppb	100
7) Dibenzofuran	8.015	168	300779	74.76	ppb	100
8) Fluorene	8.403	166	241130	75.06	ppb	100
9) Phenanthrene	9.471	178	311853	75.77	ppb	100
10) Anthracene	9.527	178	313341	75.78	ppb	99
11) Fluoranthene	10.775	202	288030	75.38	ppb	99
12) Pyrene	11.027	202	312643	75.65	ppb	97
14) Benzo(a)anthracene	12.329	228	462964	75.43	ppb	100
15) Chrysene	12.370	228	410255	75.25	ppb	97
16) Benzo(b)fluoranthene	13.473	252	403227	74.97	ppb	99
17) Benzo(k)fluoranthene	13.502	252	397711	74.04	ppb	99
18) Benzo(a)pyrene	13.841	252	372463	72.90	ppb	99
19) Indeno(1,2,3-cd)pyrene	15.331	276	459641	73.91	ppb	98
20) Dibenzo(a,h)anthracene	15.348	278	378829	73.81	ppb	99
21) Benzo(g,h,i)perylene	15.761	276	392568	76.19	ppb	98

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

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF016.D Vial: 6
Acq On : 08 May 2014 13:17 Operator: KV
Sample : SVF0E084 80PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:33 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



SVF0E08.M Thu May 08 14:39:44 2014 F0

3043

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF015.D Vial: 5
Acq On : 08 May 2014 12:54 Operator: KV
Sample : SVF0E083 100PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:17 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

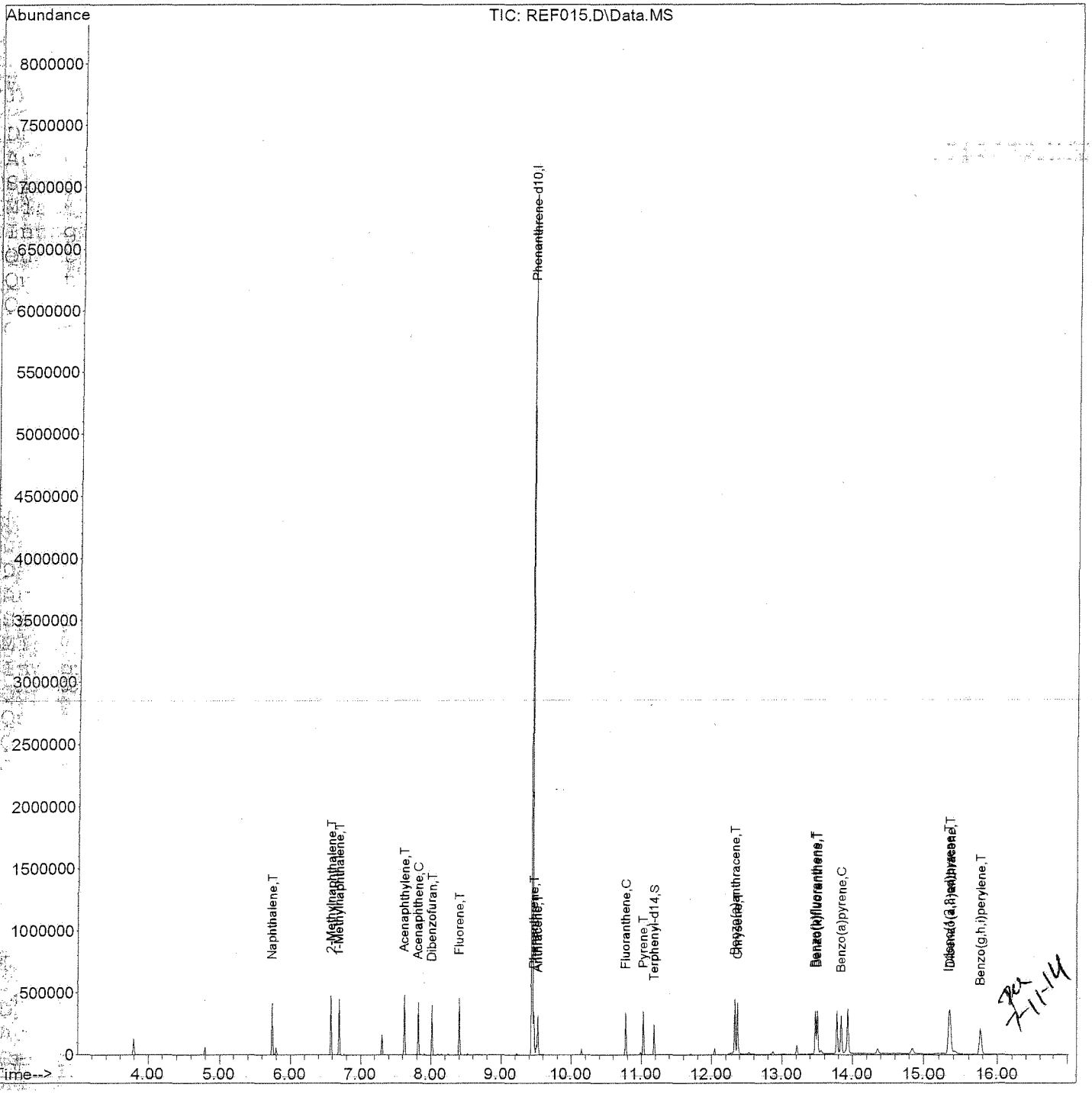
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.444	188	5327101	2000.00	ppb	0.00
System Monitoring Compounds						
13) Terphenyl-d14	11.181	244	190088	96.48	ppb	0.00
Spiked Amount 500.000			Recovery = 19.30%			
Target Compounds						Qvalue
2) Naphthalene	5.742	128	357872	98.17	ppb	99
3) 2-Methylnaphthalene	6.577	142	244851	100.15	ppb	99
4) 1-Methylnaphthalene	6.695	142	222774	99.22	ppb	99
5) Acenaphthylene	7.626	152	328041	101.01	ppb	100
6) Acenaphthene	7.821	153	213620	101.14	ppb	99
7) Dibenzofuran	8.015	168	270411	100.14	ppb	99
8) Fluorene	8.403	166	218467	101.34	ppb	100
9) Phenanthrene	9.471	178	278620	100.87	ppb	99
10) Anthracene	9.527	178	278120	100.22	ppb	99
11) Fluoranthene	10.777	202	253501	98.86	ppb	99
12) Pyrene	11.027	202	274024	98.80	ppb	96
14) Benzo(a)anthracene	12.329	228	396477	98.57	ppb	96
15) Chrysene	12.370	228	353201	96.53	ppb	93
16) Benzo(b)fluoranthene	13.472	252	349041	96.69	ppb	97
17) Benzo(k)fluoranthene	13.502	252	359178	99.63	ppb	98
18) Benzo(a)pyrene	13.840	252	333230	97.18	ppb	100
19) Indeno(1,2,3-cd)pyrene	15.333	276	402132	96.35	ppb	98
20) Dibenzo(a,h)anthracene	15.350	278	332039	96.40	ppb	99
21) Benzo(g,h,i)perylene	15.763	276	337001	97.45	ppb	100

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

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF015.D Vial: 5
Acq On : 08 May 2014 12:54 Operator: KV
Sample : SVF0E083 100PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:17 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



SVF0E08.M Thu May 08 14:39:31 2014 F0

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF014.D Vial: 4
Acq On : 08 May 2014 12:31 Operator: KV
Sample : SVF0E082 500PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:00 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

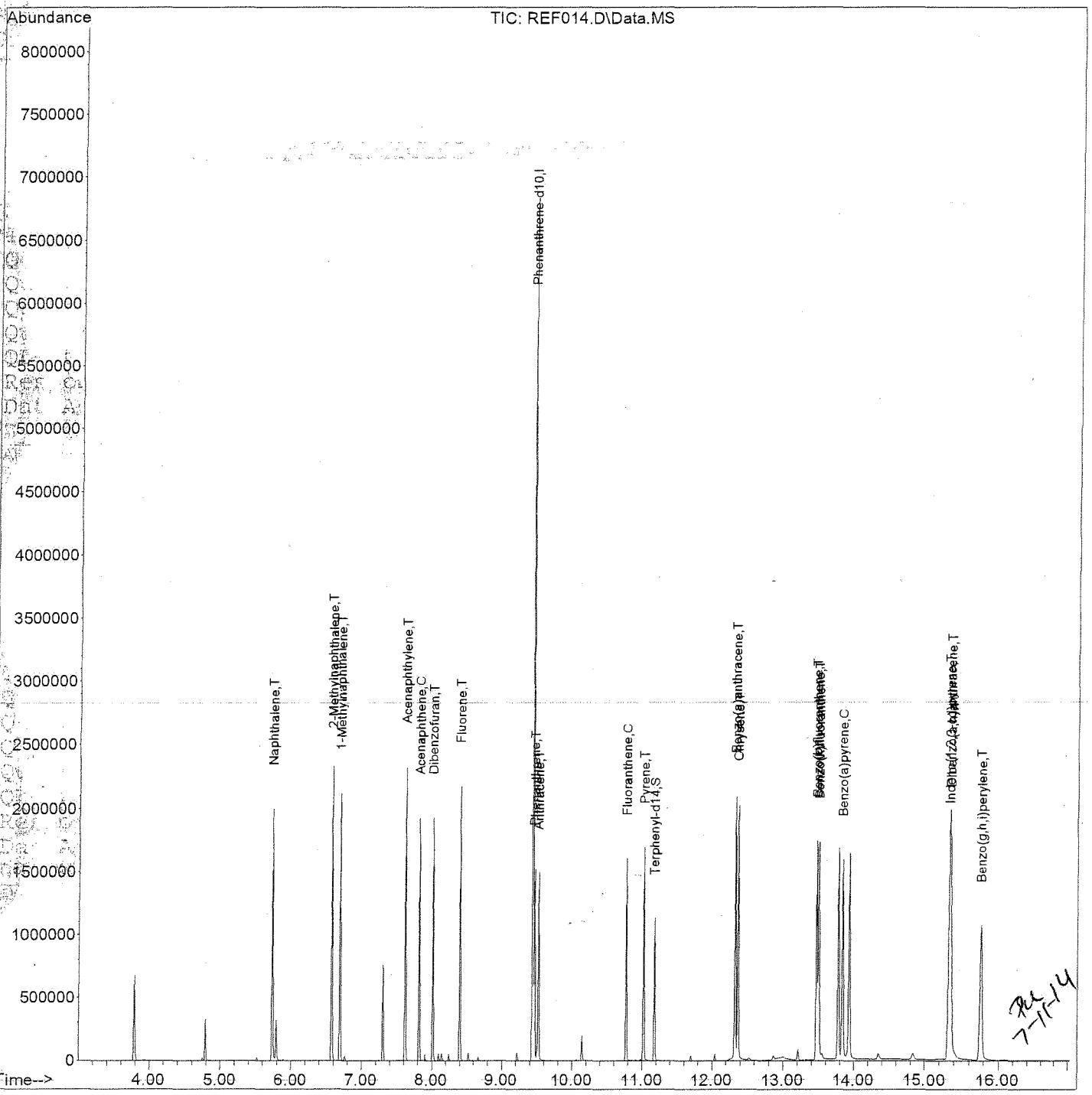
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.444	188	5005097	2000.00	ppb	0.00
System Monitoring Compounds						
13) Terphenyl-d14	11.181	244	918914	496.42	ppb	0.00
Spiked Amount 500.000			Recovery =	99.28%		
Target Compounds						Qvalue
2) Naphthalene	5.741	128	1741943	508.59	ppb	100
3) 2-Methylnaphthalene	6.577	142	1168286	508.61	ppb	100
4) 1-Methylnaphthalene	6.695	142	1062669	503.76	ppb	100
5) Acenaphthylene	7.626	152	1557242	510.37	ppb	100
6) Acenaphthene	7.821	153	984537	496.11	ppb	100
7) Dibenzofuran	8.015	168	1273461	501.94	ppb	100
8) Fluorene	8.403	166	1006867	497.08	ppb	100
9) Phenanthrene	9.471	178	1283892	494.70	ppb	100
10) Anthracene	9.527	178	1310366	502.58	ppb	100
11) Fluoranthene	10.777	202	1197242	496.93	ppb	100
12) Pyrene	11.029	202	1289762	494.96	ppb	100
14) Benzo(a)anthracene	12.331	228	1904241	538.42	ppb	100
15) Chrysene	12.370	228	1736704	505.18	ppb	100
16) Benzo(b)fluoranthene	13.475	252	1763855	520.06	ppb	100
17) Benzo(k)fluoranthene	13.504	252	1812490	535.08	ppb	100
18) Benzo(a)pyrene	13.842	252	1724163	535.18	ppb	100
19) Indeno(1,2,3-cd)pyrene	15.336	276	2073112	528.68	ppb	100
20) Dibenzo(a,h)anthracene	15.353	278	1685316	520.75	ppb	100
21) Benzo(g,h,i)perylene	15.763	276	1737462	534.77	ppb	100

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

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF014.D Vial: 4
Acq On : 08 May 2014 12:31 Operator: KV
Sample : SVF0E082 500PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:00 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



SVF0E08.M Thu May 08 14:39:13 2014 F0

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF013.D Vial: 3
Acq On : 08 May 2014 12:10 Operator: KV
Sample : SVF0E081 1000PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:38:33 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

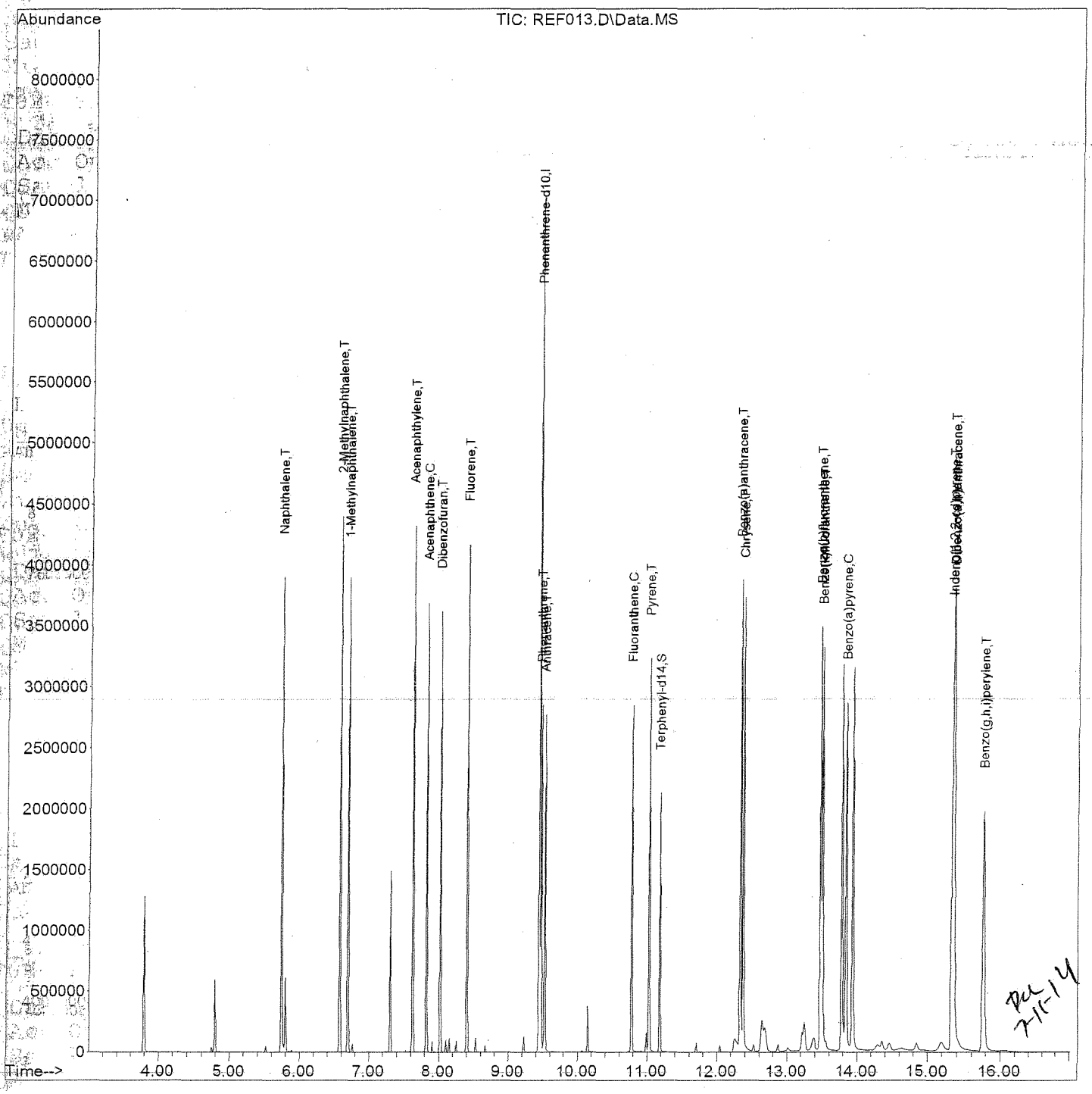
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.442	188	5187965	2000.00	ppb	0.00
System Monitoring Compounds						
13) Terphenyl-d14	11.179	244	1730433	901.87	ppb	0.00
Spiked Amount 500.000			Recovery =	180.37%		
Target Compounds						Qvalue
2) Naphthalene	5.739	128	3212458	904.87	ppb	100
3) 2-Methylnaphthalene	6.577	142	2161799	907.96	ppb	100
4) 1-Methylnaphthalene	6.693	142	1968901	900.47	ppb	100
5) Acenaphthylene	7.623	152	2954163	934.07	ppb	99
6) Acenaphthene	7.821	153	1874579	911.31	ppb	100
7) Dibenzofuran	8.015	168	2421617	920.85	ppb	99
8) Fluorene	8.403	166	1929445	918.98	ppb	100
9) Phenanthrene	9.469	178	2407864	895.09	ppb	100
10) Anthracene	9.525	178	2490401	921.51	ppb	100
11) Fluoranthene	10.775	202	2222593	889.99	ppb	100
12) Pyrene	11.027	202	2462047	911.53	ppb	100
14) Benzo(a)anthracene	12.329	228	3522474	967.45	ppb	94
15) Chrysene	12.368	228	3242045	909.81	ppb	99
16) Benzo(b)fluoranthene	13.473	252	3315418	943.07	ppb	96
17) Benzo(k)fluoranthene	13.503	252	3307129	941.91	ppb	91
18) Benzo(a)pyrene	13.841	252	3256376	975.15	ppb	96
19) Indeno(1,2,3-cd)pyrene	15.336	276	3922801	965.12	ppb	99
20) Dibenzo(a,h)anthracene	15.351	278	3186834	950.01	ppb	100
21) Benzo(g,h,i)perylene	15.763	276	3207572	952.45	ppb	98

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

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF013.D Vial: 3
Acq On : 08 May 2014 12:10 Operator: KV
Sample : SVF0E081 1000PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:38:33 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



7-11-14

3614

SECOND SOURCE VERIFICATION

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\14E08\REF019.D Vial: 9
Acq On : 08 May 2014 14:26 Operator: KV
Sample : ISVF0E081 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:51:50 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Phenanthrene-d10	2000.000	2000.000	0.0	126	0.00
2	T	Naphthalene	500.000	475.713	4.9	117	0.00
3	T	2-Methylnaphthalene	500.000	460.899	7.8	114	0.00
4	T	1-Methylnaphthalene	500.000	479.043	4.2	119	0.00
5	T	Acenaphthylene	500.000	469.742	6.1	116	0.00
6	C	Acenaphthene	500.000	479.360	4.1	121	0.00
7	T	Dibenzofuran	500.000	455.746	8.9	114	0.00
8	T	Fluorene	500.000	469.595	6.1	119	0.00
9	T	Phenanthrene	500.000	470.736	5.9	119	0.00
10	T	Anthracene	500.000	464.238	7.2	116	0.00
11	C	Fluoranthene	500.000	488.088	2.4	123	0.00
12	T	Pyrene	500.000	471.132	5.8	120	0.00
13	S	Terphenyl-d14	500.000	0.000	100.0#	0	-11.18#
14	T	Benzo(a)anthracene	500.000	513.537	-2.7	120	0.00
15	T	Chrysene	500.000	482.748	3.5	120	0.00
16	T	Benzo(b)fluoranthene	500.000	496.628	0.7	120	0.00
17	T	Benzo(k)fluoranthene	500.000	494.243	1.2	116	0.00
18	C	Benzo(a)pyrene	500.000	494.774	1.0	116	0.00
19	T	Indeno(1,2,3-cd)pyrene	500.000	490.776	1.8	117	0.00
20	T	Dibenzo(a,h)anthracene	500.000	488.185	2.4	118	0.00
21	T	Benzo(g,h,i)perylene	500.000	490.934	1.8	115	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

7-1-14

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\14E08\REF019.D Vial: 9
Acq On : 08 May 2014 14:26 Operator: KV
Sample : ISVF0E081 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:51:50 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Phenanthrene-d10	1.000	1.000	0.0	126	0.00
2 T	Naphthalene	1.369	1.302	4.9	117	0.00
3 T	2-Methylnaphthalene	0.918	0.846	7.8	114	0.00
4 T	1-Methylnaphthalene	0.843	0.808	4.2	119	0.00
5 T	Acenaphthylene	1.219	1.145	6.1	116	0.00
6 C	Acenaphthene	0.793	0.760	4.2	121	0.00
7 T	Dibenzofuran	1.014	0.924	8.9	114	0.00
8 T	Fluorene	0.809	0.760	6.1	119	0.00
9 T	Phenanthrene	1.037	0.976	5.9	119	0.00
10 T	Anthracene	1.042	0.967	7.2	116	0.00
11 C	Fluoranthene	0.963	0.940	2.4	123	0.00
12 T	Pyrene	1.041	0.981	5.8	120	0.00
13 S	Terphenyl-d14	0.740	0.000#	100.0#	0#	-11.18#
14 T	Benzo(a)anthracene	1.587	1.453	8.4	120	0.00
15 T	Chrysene	1.374	1.326	3.5	120	0.00
16 T	Benzo(b)fluoranthene	1.355	1.346	0.7	120	0.00
17 T	Benzo(k)fluoranthene	1.354	1.338	1.2	116	0.00
18 C	Benzo(a)pyrene	1.287	1.274	1.0	116	0.00
19 T	Indeno(1,2,3-cd)pyrene	1.567	1.538	1.9	117	0.00
20 T	Dibenzo(a,h)anthracene	1.293	1.263	2.3	118	0.00
21 T	Benzo(g,h,i)perylene	1.298	1.275	1.8	115	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF019.D Vial: 9
Acq On : 08 May 2014 14:26 Operator: KV
Sample : ISVF0E081 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:51:50 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

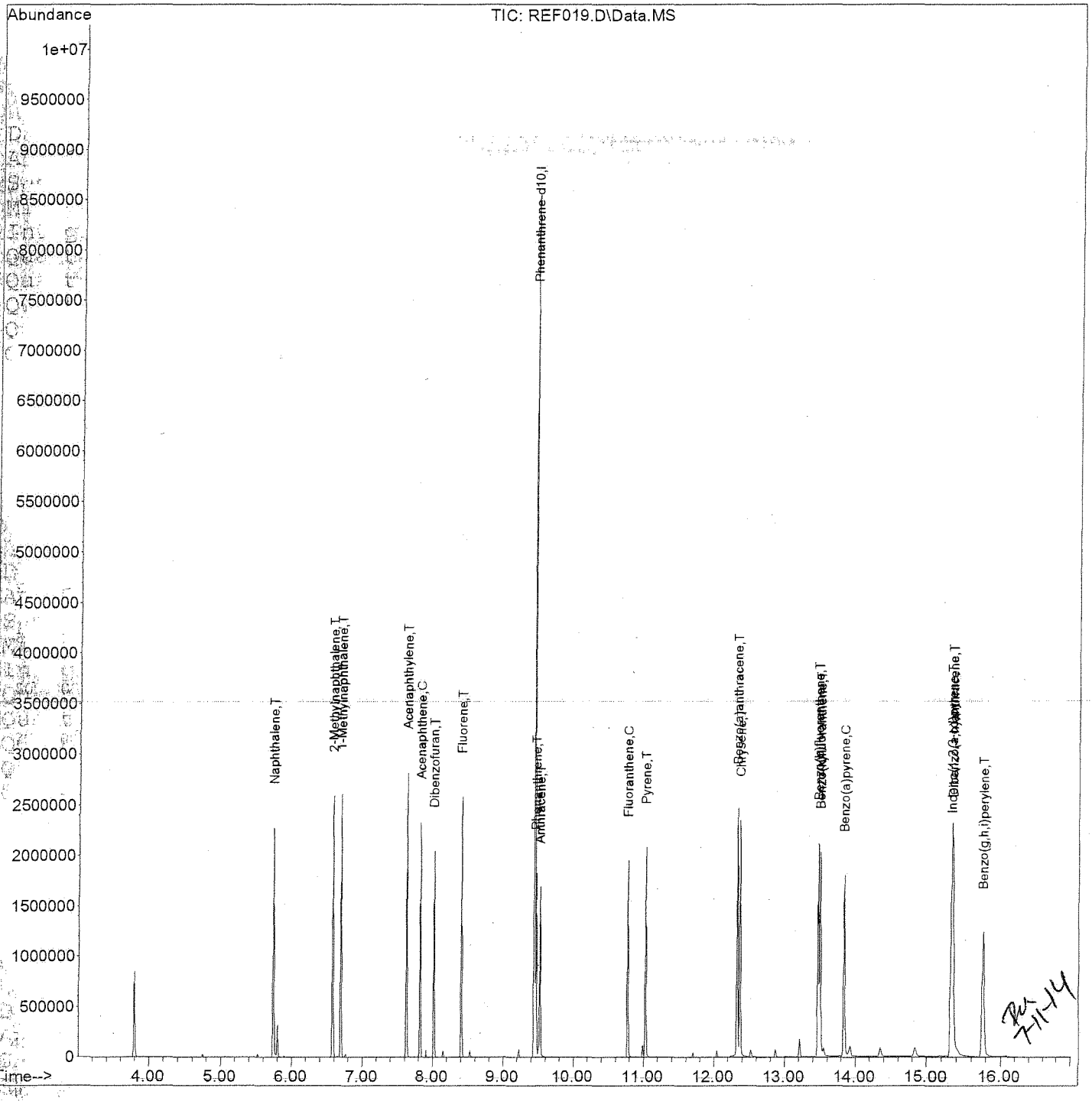
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.442	188	6284290	2000.00	ppb	0.00
System Monitoring Compounds						
13) Terphenyl-d14	0.000	244	0d	0.00	ppb	
Spiked Amount 500.000			Recovery =	0.00%		
Target Compounds						Qvalue
2) Naphthalene	5.739	128	2045775	475.71	ppb	100
3) 2-Methylnaphthalene	6.577	142	1329272	460.90	ppb	99
4) 1-Methylnaphthalene	6.695	142	1268792	479.04	ppb	100
5) Acenaphthylene	7.626	152	1799597	469.74	ppb	100
6) Acenaphthene	7.821	153	1194428	479.36	ppb	100
7) Dibenzofuran	8.015	168	1451767	455.75	ppb	100
8) Fluorene	8.403	166	1194287	469.59	ppb	100
9) Phenanthrene	9.469	178	1533926	470.74	ppb	100
10) Anthracene	9.525	178	1519738	464.24	ppb	100
11) Fluoranthene	10.775	202	1476496	488.09	ppb	100
12) Pyrene	11.027	202	1541444	471.13	ppb	97
14) Benzo(a)anthracene	12.330	228	2282138	513.54	ppb	94
15) Chrysene	12.368	228	2083761	482.75	ppb	98
16) Benzo(b)fluoranthene	13.473	252	2114870	496.63	ppb	97
17) Benzo(k)fluoranthene	13.501	252	2102041	494.24	ppb	100
18) Benzo(a)pyrene	13.841	252	2001383	494.77	ppb	99
19) Indeno(1,2,3-cd)pyrene	15.332	276	2416327	490.78	ppb	97
20) Dibenzo(a,h)anthracene	15.349	278	1983704	488.19	ppb	97
21) Benzo(g,h,i)perylene	15.761	276	2002714	490.93	ppb	99

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

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF019.D Vial: 9
Acq On : 08 May 2014 14:26 Operator: KV
Sample : ISVF0E081 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:51:50 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



7-11-14

3054

DAILY CALIBRATIONS

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RJF031
Instrument ID: TOF0

Project: RED HILL PHASE 1B
SDG No.: 14J130
DFTPP Injection Date: 10/28/14
DFTPP Injection Time: 09:33

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	40.81
68	Less than 2% of mass 69	0.25(1.1)1
69	Relative abundance of mass 198	22.34
70	Less than 2.0% of mass 69	0.06(0.3)1
127	40.0 - 60.0% of mass 198	44.74
197	Less than 1.0% of mass 198	0.36
198	Base Peak, 100% relative abundance	100.00
199	5.0 - 9.0% of mass 198	6.52
275	10.0 - 30.0% of mass 198	28.77
365	Greater than 1.00% of mass 198	2.00
441	Present, but less than mass 443	13.28(84.6)3
442	Greater than 40.0% of mass 198	86.46
443	17.0 - 23.0% of mass 442	15.69(18.2)2

1-Value is % mass 69 2-Value is % mass 442
3-Value is % mass 443

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	SSTD025	CSVF0E0807	RJF032	10/28/14	09:48
2	MBLK1W	SVJ034WB	RJF033	10/28/14	10:13
3	LCS1W	SVJ034WL	RJF034	10/28/14	10:41
4	LCD1W	SVJ034WC	RJF035	10/28/14	11:08
5	RHMW07-GW-01	J130-01	RJF036	10/28/14	11:44
6	RHMW07-GW-01FD	J130-02	RJF037	10/28/14	12:03

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: REF014
Instrument ID: TOF0

Project:RED HILL PHASE 1B
SDG No.: 14J130
Date Analyzed: 05/08/14
Time Analyzed: 12:31

		IS4(PHN)		IS5(CRY)		IS6(PRY)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	5005097	9.44	0	0.00	0	0.00
	UPPER LIMIT	10010194	9.94	0	0.50	0	0.50
	LOWER LIMIT	2502549	8.94	0	-0.50	0	-0.50
	SAMPLE ID						
1	SSTD500	5332031	9.47	0	0.00	0	0.00
2	MBLK1W	4529029	9.47	0	0.00	0	0.00
3	LCS1W	4565409	9.47	0	0.00	0	0.00
4	LCD1W	4726800	9.47	0	0.00	0	0.00
5	RHMW07-GW-01	4893440	9.47	0	0.00	0	0.00
6	RHMW07-GW-01FD	4832655	9.47	0	0.00	0	0.00

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

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

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :DSQ
IC_Beginning DateTime :05/08/14 12:10
Spike Amount :500 PPB
CC/CV File :RJF032
IC File :REF014

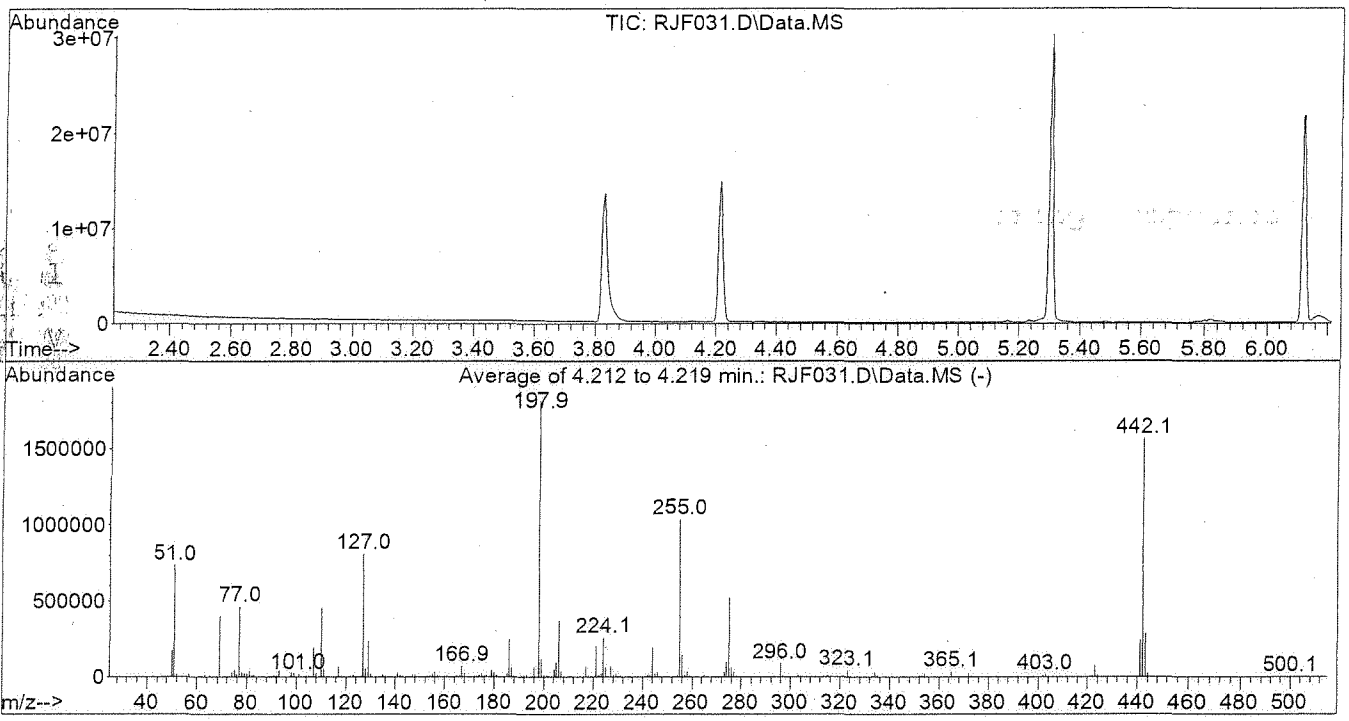
Column Spec :ZB-SEMIVOA ID:0.25MM
IC_Ending DateTime :05/08/14 14:03
HPChem Method :SVF0E08
Date_Time :10/28/14 09:48

M IDX	Parameters	CC_Con	CC%_D	CC_Resp	CCRRF	AvRRF	CC_Rtm	AvRtm	%_RSD	Co_X0	Co_X1	Co_X2	Co_Cor
1	Phenanthrene-d10	2000.00	0	5332031	1	1	9.466	9.443	0				
2	Naphthalene	412.934	-17.4	1506711	1.130	1.369	5.764	5.740	8.99				
3	2-Methylnaphthalene	511.352	2.3	1251309	0.939	0.918	6.604	6.577	8.25				
4	1-Methylnaphthalene	498.046	-0.4	1119237	0.840	0.843	6.722	6.694	8.93				
5	Acenaphthylene	478.943	-4.2	1556810	1.168	1.219	7.655	7.625	6.61				
6	Acenaphthene	482.818	-3.4	1020745	0.766	0.793	7.851	7.821	8.22				
7	Dibenzofuran	441.904	-11.6	1194370	0.896	1.014	8.044	8.015	7.34				
8	Fluorene	436.932	-12.6	942836	0.707	0.809	8.428	8.403	7.05				
9	Phenanthrene	427.129	-14.6	1180924	0.886	1.037	9.493	9.470	7.86				
10	Anthracene	440.114	-12.0	1222445	0.917	1.042	9.549	9.526	6.78				
11	Fluoranthene	434.145	-13.2	1114309	0.836	0.963	10.800	10.776	8.86				
12	Pyrene	425.750	-14.9	1181887	0.887	1.041	11.051	11.027	8.26				
13	Terphenyl-d14	498.345	-0.3	982735	0.737	0.740	11.201	11.179	9.81				
14	Benzo(a)anthracene	519.124	3.8	1957052	1.468	1.587	12.354	12.330	15.30	0.0058	1.3915		0.9984
15	Chrysene	480.578	-3.9	1760060	1.320	1.374	12.395	12.369	8.55				
16	Benzo(b)fluoranthene	479.119	-4.2	1731142	1.299	1.355	13.502	13.473	6.94				
17	Benzo(k)fluoranthene	500.066	0.0	1804529	1.354	1.354	13.529	13.502	7.55				
18	Benzo(a)pyrene	484.697	-3.1	1663528	1.248	1.287	13.875	13.841	7.12				
19	Indeno(1,2,3-cd)pyrene	493.208	-1.4	2060337	1.546	1.567	15.390	15.333	6.56				
20	Dibenzo(a,h)anthracene	495.927	-0.8	1709806	1.283	1.293	15.407	15.350	7.44				
21	Benzo(g,h,i)perylene	506.285	1.3	1752374	1.315	1.298	15.824	15.762	5.54				

Data Path : C:\msdchem\1\DATA\14J28\
Data File : RJF031.D
Acq On : 28 Oct 2014 09:33
Operator : KVu
Sample : DFTF0E0807
Misc : F0
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Title : DFTPP
Last Update : Fri May 09 13:48:37 2014

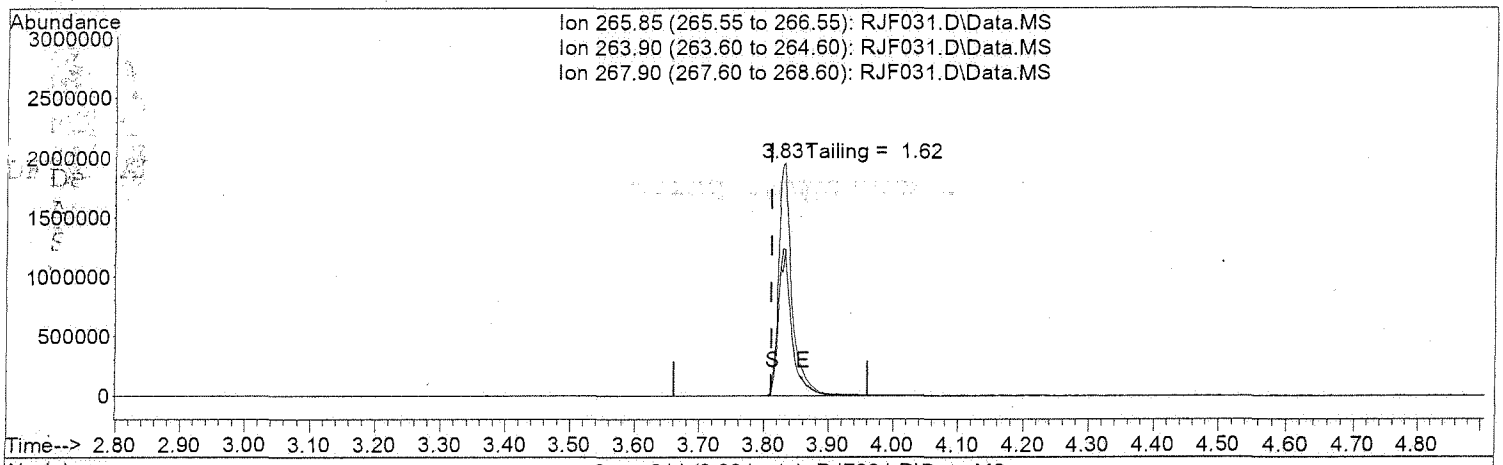


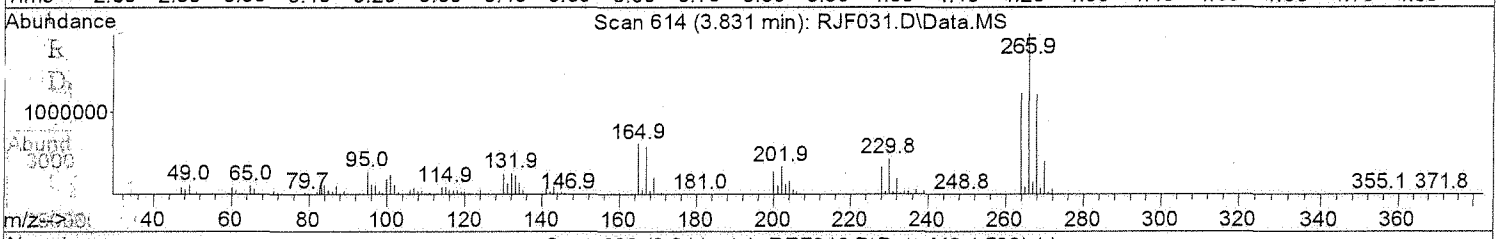
AutoFind: Scans 729, 730, 731; Background Corrected with Scan 720

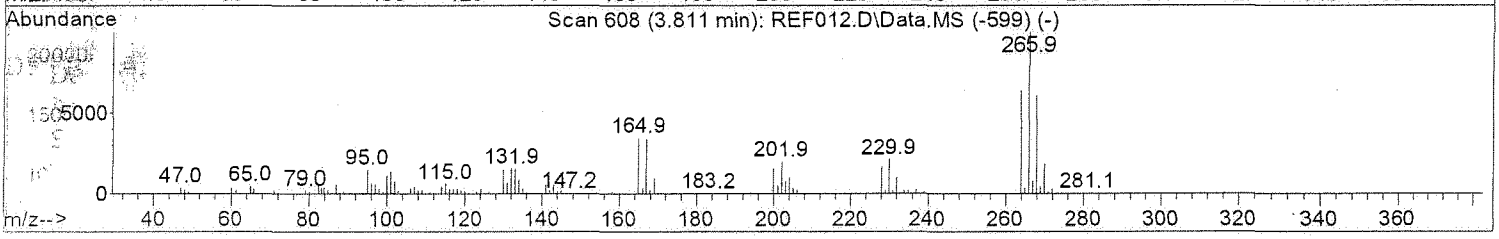
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	40.8	739293	PASS
68	69	0.00	2	1.1	4595	PASS
69	198	0.00	100	22.3	404669	PASS
70	69	0.00	2	0.3	1081	PASS
127	198	40	60	44.7	810475	PASS
197	198	0.00	1	0.4	6471	PASS
198	198	100	100	100.0	1811627	PASS
199	198	5	9	6.5	118181	PASS
275	198	10	30	28.8	521152	PASS
365	198	1	100	2.0	36144	PASS
441	443	0.01	100	84.6	240512	PASS
442	198	40	100	86.5	1566379	PASS
443	442	17	23	18.2	284331	PASS

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14J28\RJF031.D Vial: 2
Acq On : 28 Oct 2014 09:33 Operator: KVu
Sample : DFTF0E0807 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 09:47:23 2014
Quant Results File: DFTPPPAH.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Quant Title : DFTPP
QLast Update : Fri May 09 13:48:37 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M







TIC: RJF031.D\Data.MS

(1) Pentachlorophenol (T)

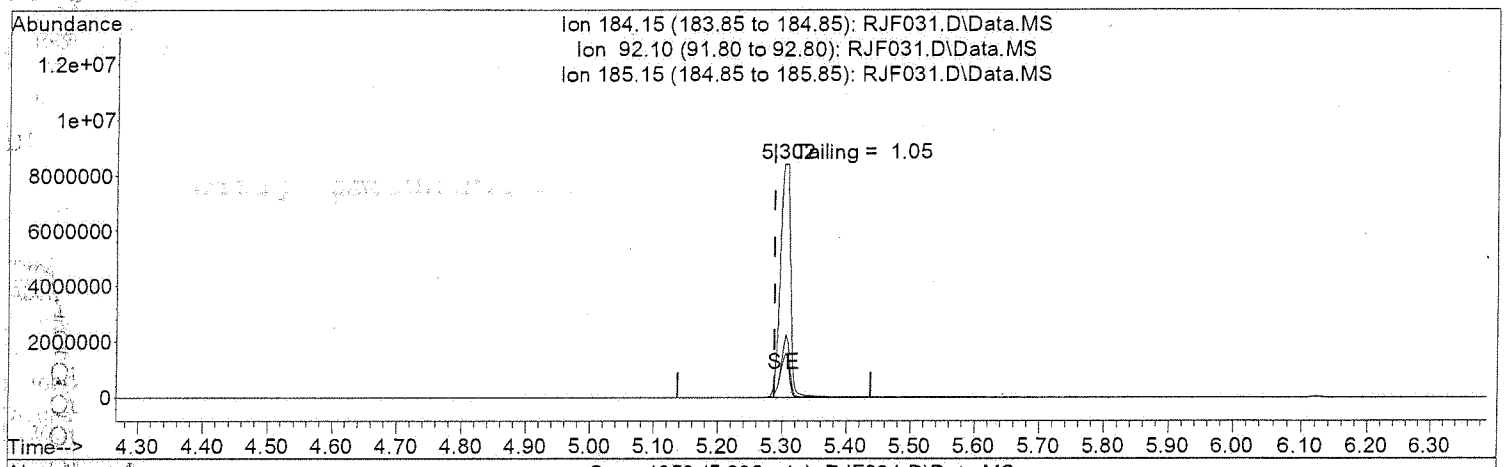
3.831min (+0.020) 82.65 ppm

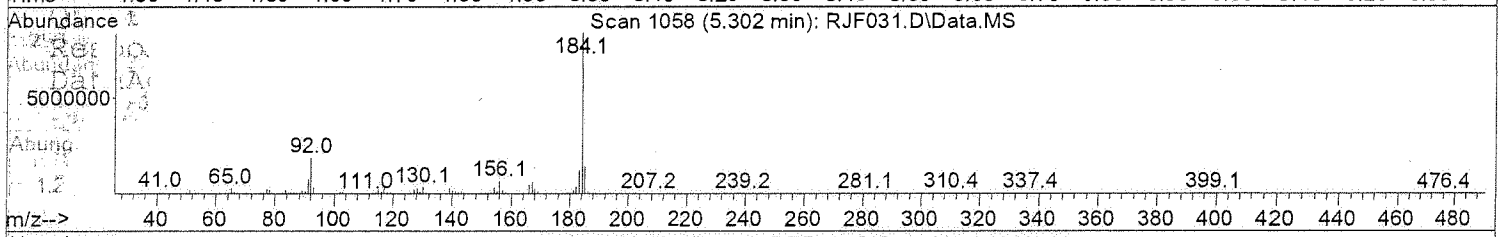
response 2794565

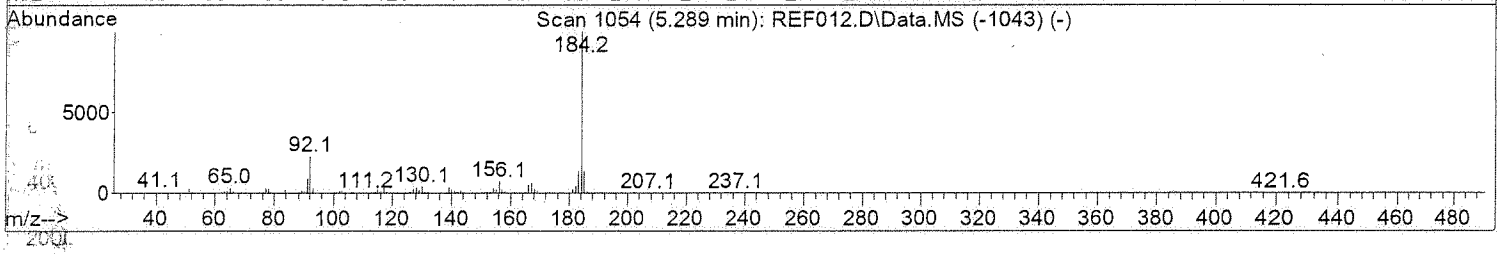
Ion	Exp%	Act%
265.85	100	100
263.90	61.80	63.34
267.90	62.70	61.89
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14J28\RJF031.D Vial: 2
Acq On : 28 Oct 2014 09:33 Operator: KVu
Sample : DFTF0E0807 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 09:47:23 2014
Quant Results File: DFTPPPAH.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Quant Title : DFTPP
QLast Update : Fri May 09 13:48:37 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M







TIC: RJF031.D\Data.MS

(3) Benzidine (T)

5.302min (+0.014) 54.51 ppm

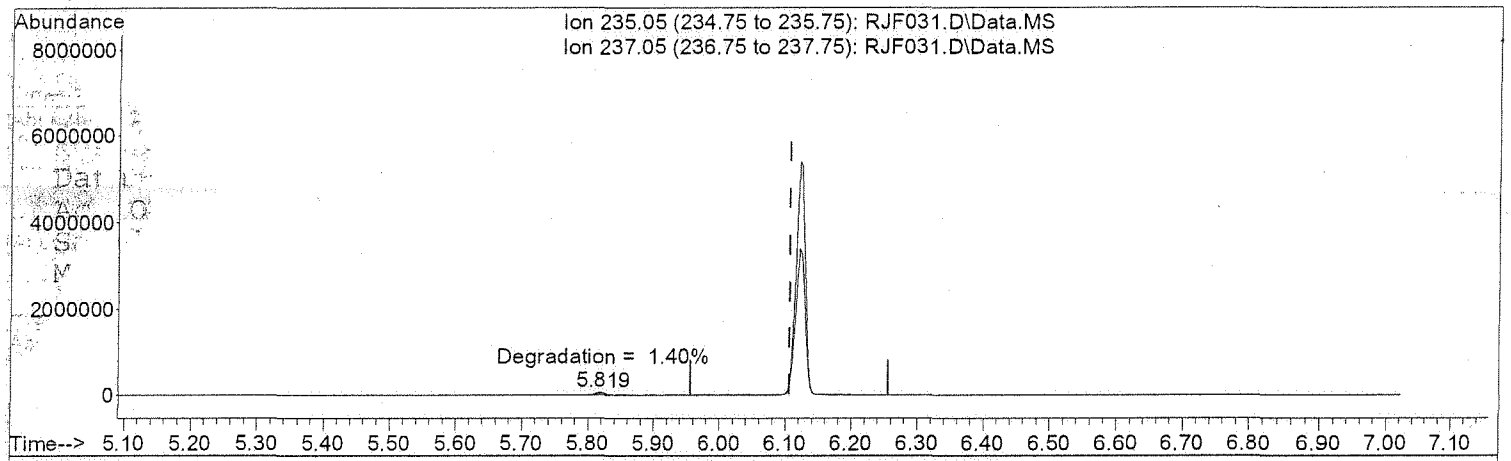
response 9366019

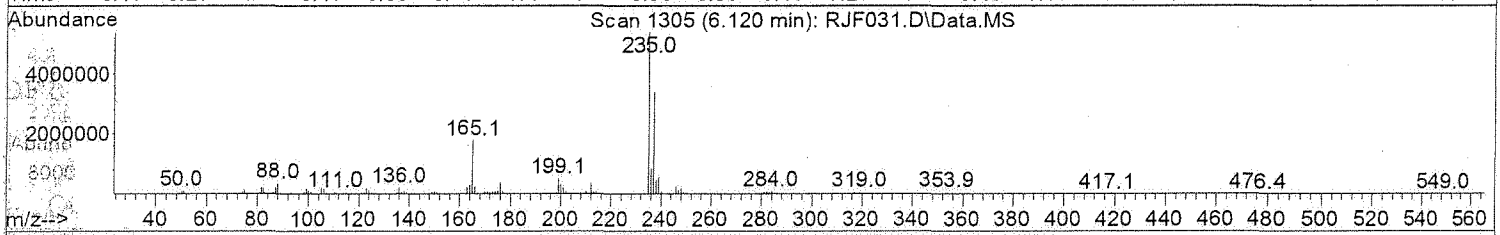
Ion	Exp%	Act%
184.15	100	100
92.10	21.70	21.69
185.15	13.30	15.56
0.00	0.00	0.00

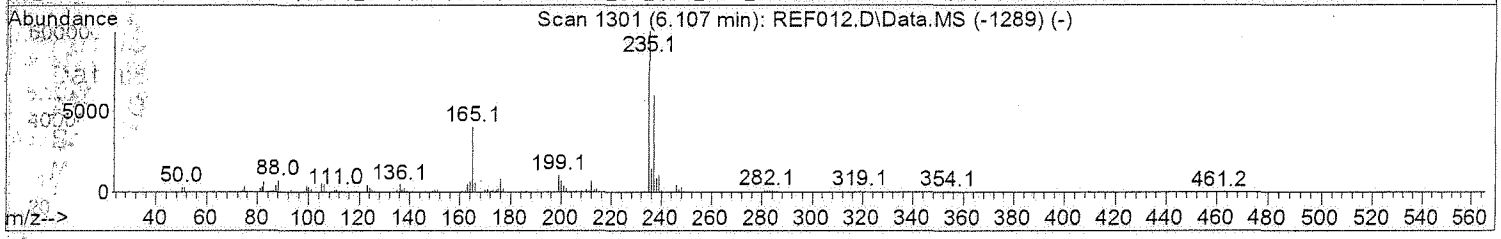
3061

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14J28\RJF031.D Vial: 2
Acq On : 28 Oct 2014 09:33 Operator: KVu
Sample : DFTF0E0807 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 09:47:23 2014
Quant Results File: DFTPPPAH.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Quant Title : DFTPP
QLast Update : Fri May 09 13:48:37 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M







TIC: RJF031.D\Data.MS

(6) DDT (T)

6.120min (+0.014) 64.15 ppm

response 5233404

Ion	Exp%	Act%
235.05	100	100
237.05	63.20	63.58
0.00	0.00	0.00
0.00	0.00	0.00

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\14J28\RJF032.D Vial: 3
Acq On : 28 Oct 2014 09:48 Operator: KVu
Sample : CSVF0E0807 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 10:12:27 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Phenanthrene-d10	2000.000	2000.000	0.0	107	0.02
2	T	Naphthalene	500.000	412.934	17.4	86	0.02
3	T	2-Methylnaphthalene	500.000	511.352	-2.3	107	0.03
4	T	1-Methylnaphthalene	500.000	498.046	0.4	105	0.03
5	T	Acenaphthylene	500.000	478.943	4.2	100	0.03
6	C	Acenaphthene	500.000	482.817	3.4	104	0.03
7	T	Dibenzofuran	500.000	441.904	11.6	94	0.03
8	T	Fluorene	500.000	436.932	12.6	94	0.02
9	T	Phenanthrene	500.000	427.129	14.6	92	0.02
10	T	Anthracene	500.000	440.114	12.0	93	0.02
11	C	Fluoranthene	500.000	434.145	13.2	93	0.02
12	T	Pyrene	500.000	425.749	14.9	92	0.02
13	S	Terphenyl-d14	500.000	498.345	0.3	107	0.02
14	T	Benzo(a)anthracene	500.000	519.124	-3.8	103	0.02
15	T	Chrysene	500.000	480.578	3.9	101	0.02
16	T	Benzo(b)fluoranthene	500.000	479.119	4.2	98	0.03
17	T	Benzo(k)fluoranthene	500.000	500.066	-0.0	100	0.03
18	C	Benzo(a)pyrene	500.000	484.697	3.1	96	0.03
19	T	Indeno(1,2,3-cd)pyrene	500.000	493.208	1.4	99	0.05
20	T	Dibenzo(a,h)anthracene	500.000	495.927	0.8	101	0.05
21	T	Benzo(g,h,i)perylene	500.000	506.285	-1.3	101	0.06

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\14J28\RJF032.D Vial: 3
Acq On : 28 Oct 2014 09:48 Operator: KVu
Sample : CSVF0E0807 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 10:12:27 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Phenanthrene-d10	1.000	1.000	0.0	107	0.02
2	T	Naphthalene	1.369	1.130	17.5	86	0.02
3	T	2-Methylnaphthalene	0.918	0.939	-2.3	107	0.03
4	T	1-Methylnaphthalene	0.843	0.840	0.4	105	0.03
5	T	Acenaphthylene	1.219	1.168	4.2	100	0.03
6	C	Acenaphthene	0.793	0.766	3.4	104	0.03
7	T	Dibenzofuran	1.014	0.896	11.6	94	0.03
8	T	Fluorene	0.809	0.707	12.6	94	0.02
9	T	Phenanthrene	1.037	0.886	14.6	92	0.02
10	T	Anthracene	1.042	0.917	12.0	93	0.02
11	C	Fluoranthene	0.963	0.836	13.2	93	0.02
12	T	Pyrene	1.041	0.887	14.8	92	0.02
13	S	Terphenyl-d14	0.740	0.737	0.4	107	0.02
14	T	Benzo(a)anthracene	1.587	1.468	7.5	103	0.02
15	T	Chrysene	1.374	1.320	3.9	101	0.02
16	T	Benzo(b)fluoranthene	1.355	1.299	4.1	98	0.03
17	T	Benzo(k)fluoranthene	1.354	1.354	0.0	100	0.03
18	C	Benzo(a)pyrene	1.287	1.248	3.0	96	0.03
19	T	Indeno(1,2,3-cd)pyrene	1.567	1.546	1.3	99	0.05
20	T	Dibenzo(a,h)anthracene	1.293	1.283	0.8	101	0.05
21	T	Benzo(g,h,i)perylene	1.298	1.315	-1.3	101	0.06

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

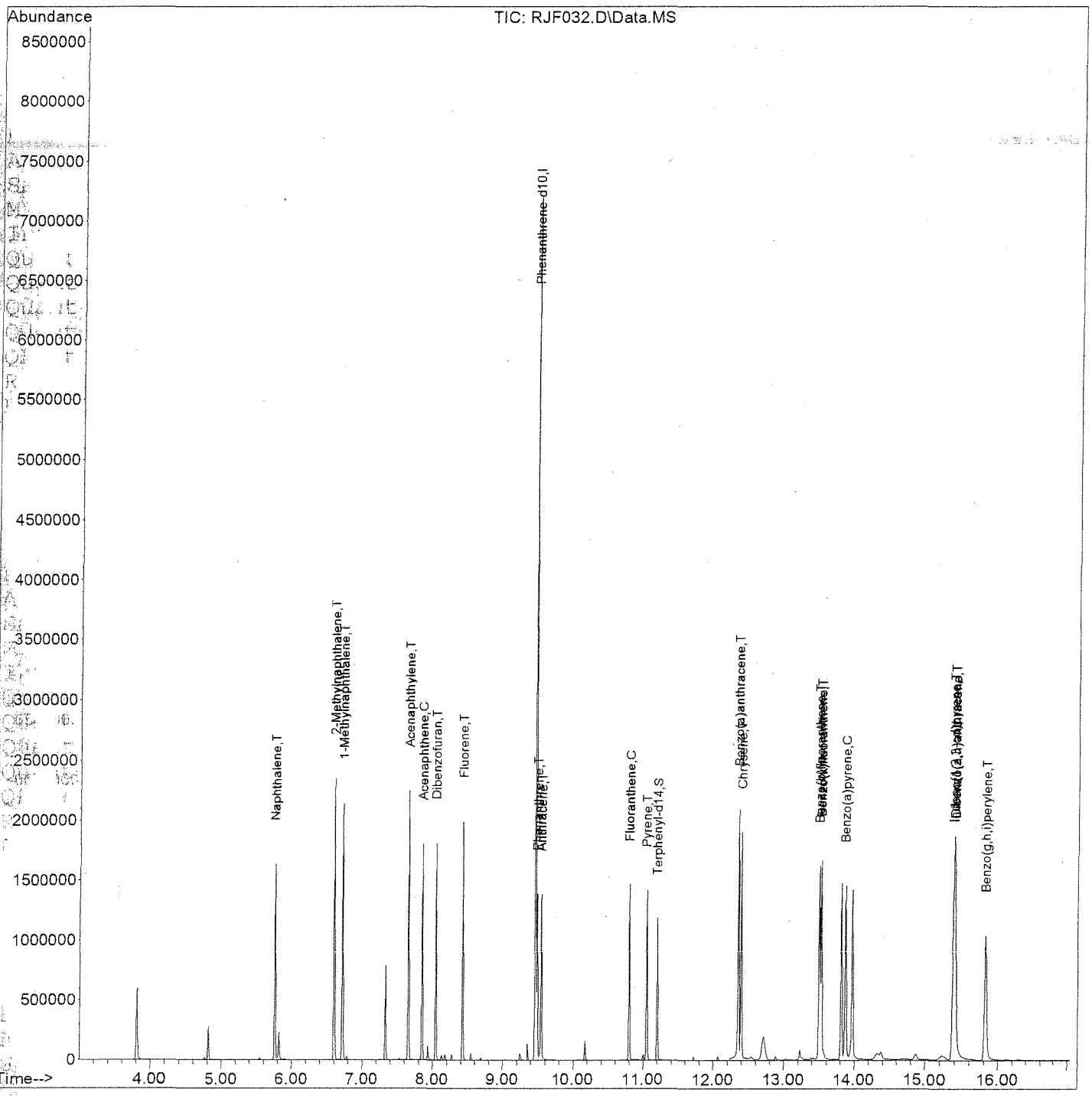
Data File : C:\msdchem\1\DATA\14J28\RJF032.D Vial: 3
Acq On : 28 Oct 2014 09:48 Operator: KVu
Sample : CSVF0E0807 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 10:12:27 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.466	188	5332031	2000.00	ppb	0.02
System Monitoring Compounds						
13) Terphenyl-d14	11.201	244	982735	498.35	ppb	0.02
Spiked Amount 500.000			Recovery =	99.67%		
Target Compounds						Qvalue
2) Naphthalene	5.764	128	1506711	412.93	ppb	99
3) 2-Methylnaphthalene	6.604	142	1251309	511.35	ppb	98
4) 1-Methylnaphthalene	6.722	142	1119237	498.05	ppb	99
5) Acenaphthylene	7.655	152	1556810	478.94	ppb	100
6) Acenaphthene	7.851	153	1020745	482.82	ppb	100
7) Dibenzofuran	8.044	168	1194370	441.90	ppb	98
8) Fluorene	8.428	166	942836	436.93	ppb	99
9) Phenanthrene	9.493	178	1180924	427.13	ppb	100
10) Anthracene	9.549	178	1222445	440.11	ppb	100
11) Fluoranthene	10.799	202	1114309	434.14	ppb	84
12) Pyrene	11.051	202	1181887	425.75	ppb	83
14) Benzo(a)anthracene	12.354	228	1957052	519.12	ppb	85
15) Chrysene	12.395	228	1760060	480.58	ppb	81
16) Benzo(b)fluoranthene	13.502	252	1731142	479.12	ppb	95
17) Benzo(k)fluoranthene	13.529	252	1804529	500.07	ppb	90
18) Benzo(a)pyrene	13.874	252	1663528	484.70	ppb	84
19) Indeno(1,2,3-cd)pyrene	15.390	276	2060337	493.21	ppb	81
20) Dibenzo(a,h)anthracene	15.407	278	1709806	495.93	ppb	86
21) Benzo(g,h,i)perylene	15.824	276	1752374	506.28	ppb	84

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14J28\RJF032.D Vial: 3
Acq On : 28 Oct 2014 09:48 Operator: KVu
Sample : CSVF0E0807 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 10:12:27 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR SEMIVOLATILES

SOP ☐ EMAX-8270 Rev. No. 5 ☑ EMAX-8270SIM Rev. No. 2 ☐ EMAX-CLPSVOA ☐ EMAX-M8270SIM Rev. No. 2 ☐ EMAX-625 Rev. No. 1 ☐ Book #AF0-002

Method File: SVF0E08 Tune File: LOWSIM Start Date/Time: 5/8/14 11:44 End Date/Time: 5/8/14 15:36

ANALYTICAL BATCH: SVF0E082

Preparative Batch	Data File Name	Run ID	DF	Matrix S	Matrix W	Notes
NA	REF011	IBF0E0801	1			
	12	DFTF0E0801				
	13	SVF0E08 1				1000ppb
	14	2				500
	15	3				100
	16	4				80
	17	5				40
	18	6				20
	19	ISVF0E081				ICV
SVD013LL	20	LOQ -11	1		X	
	21	LOD -11				
	22	SVD013WB				
	23	D146-01	2			Cyromazine 8310
	24	02	2			
	25	03	2			
		KV 5/8/14				

Instrument No: F0

INITIAL CALIBRATION REFERENCE

Date	5/8/14
ICAL ID	SVF0E08

Standards		
Name	ID	Conc. (mg/L)
DFTPP	SS2C-11-15-01	50
INT. STD.	SS2B-10-37-03	2000
ICV	SS2C-11-18-02	0.5
DCC	SS2C-11-18-01	0.25-1
BENZIDINE	01	
APP 9	KV 5/8/14	
APP 9 ADD		

Solvent	ID
CH_2Cl_2	

DATA FILE	14E08

Electronic Data Archival	
Location	Date
HPCHEM_SVOA/TOF0	

Comments:

Analyzed By: KV

Date Disposed: 5/9/14

Disposed By: KV

This page is checked during data review.

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EMAX LABORATORIES, INC.

ANALYSIS LOG FOR SEMIVOLATILES

SOP ☐ EMAX-8270 Rev. No. 5 ☐ EMAX-8270D Rev. No. 1 ☑ EMAX-8270SIM Rev. No. 2 ☐ EMAX-CLPSVOA ☐ EMAX-M8270SIM Rev. No. 2 ☐ EMAX-625 Rev. No. 1 ☐ Book #: AF0-003

Method File: SVF0 E08 Tune File: LOW SIM Start Date/Time: 10/28/14 9:33 End Date/Time: 10/28/14 14:22

ANALYTICAL BATCH: SVF0E807

Preparative Batch	Data File Name	Run ID	DF	Matrix S	Matrix W	Notes
	RJF030	IBF0E807				
	031	DFTF0E807				
	032	CSVF0E807				
SVJ0344W	033	SVJ0344WB	1		X	
	034	WL				
	035	WC				
	036	14J130-01				
	037	02				
	038	14J144-01				
	039	01M				
	040	01S	↓		↓	

DJ 10/28/14

Instrument No:	F0
INITIAL CALIBRATION REFERENCE	
Date	5/8/14
ICAL ID	SVF0 E08
Standards	

Name	ID	Conc. (mg/L)
DFTPP	SS2C-11-25-03	50
INT. STD.	SS2B-10-47-02	2000
ICV		
DCC	SS2C-11-28-01	0.5
BENZIDINE		
APP 9		
APP 9 ADD		

Solvent	ID
CH_2Cl_2	54184
DATA FILE	14J28

Electronic Data Archival

Location	Date
HPCHEM_SVOA/TOF0	

Micropipette ID: ☑ PO97A-02 01 MV 10/28/14
☐ PO97A-03
☐ PO00-01

Comments: Naphthalene 15 ppb

Syringe ID: 499766-1
Analyzed By: MV
Date Disposed: 10/29/14
Disposed By: DJ

This page is checked during data review.

EXTRACTION LOGS

EMAX LABORATORIES, INC.

EXTRACTION LOG
for
SEMIVOLATILES

SOP	Rev. #
☑ EMAX-3520	5
☐ EMAX-3540	2
☐ EMAX-3546	0
☐ EMAX-3550	4
☐ EMAX-3580	2
☐ EMAX-625	1

Note: For samples and relevant QCs/Standards extracted, refer to attached extraction sequence.

Comments:

Book #: ESV-082
Preparation Batch: SVJ034N
Matrix: WATER
Micropipette ID: 1000µL: PE00-04
Micropipette ID: 100µL: PE97C-03

Standards	ID	Amount Added (ml)
Surrogate	SS2A-06-348	0.010
LCS/MS (3rpm Ultralow)	SS2A-06-347	0.25
LCS/MS		
LCS/MS		
LCS/MS		
Reagent	**Lot# / ID**	
CH_2Cl_2	54184	
Na_2SO_4	SWIB-002-02-14	
H_2SO_4	—	
NaOH	SPIB-06-77-04	
Silica Sand		
Silica Gel		
Reagent Water	SWIA-005-08-22	
Residual Chlorine Strip	40719	
pH Strip	HC421273	
Filter Paper	58732 2B	

Lab Sample ID	Sonicator #	Cell #	Concentrator #
SVJ034WB			1
WL			1
WC			1
J130-01	2		1
-02	2		1
J144-01	1		1
~~-01D~~	1		1
-01M			1
-01S			1

TUNING	
Sonicator #	Reading

Concentrator	Water Bath Temperature Setting (°C)	Thermometer Reading (°C)
1	35	35
2		
3		
4		
5		
6		
8		

Thermometer ID = SVOC-T1

Prepared By: JM — Witnessed By: MG
Standard Added By: JM — Checked By: ML
Extract Received By: DJ 10/24/14 — Location: VE03-01
Disposed By: — Disposed On:

FileID: SVJ034W

EMAX LABORATORIES, INC.

EXTRACTION LOG FOR SEMIVOLATILES

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Ve(ml)	ExpAmt	ExpVe(ml)	PrepFctr	Comments
14SVJ034W01	SVJ034WB	1000	ml	10/23/14 10:00	1	1000	1	1	
14SVJ034W02	SVJ034WL	1000	ml	10/23/14 10:00	1	1000	1	1	SIM ULTRA LOW
14SVJ034W03	SVJ034WC	1000	ml	10/23/14 10:00	1	1000	1	1	SIM ULTRA LOW
14SVJ034W04	J130-01	1040	ml	10/23/14 10:00	1	1000	1	0.96	
14SVJ034W05	J130-02	1000	ml	10/23/14 10:00	1	1000	1	1	
14SVJ034W06	J144-01	940	ml	10/23/14 10:00	1	1000	1	1.06	
14SVJ034W07	J144-01M	900	ml	10/23/14 10:00	1	1000	1	1.11	SIM ULTRA LOW
14SVJ034W08	J144-01S	1020	ml	10/23/14 10:00	1	1000	1	0.98	SIM ULTRA LOW

Ve=extract volume PrepFctr=(ExpAmt/Aliquot)(Ve/ExpVe)

☑ Extraction Started @ 10/23/14 10:00 ☐ pHAdj(≤2) @ Prepared By: JMuert

☑ Extraction Ended @ 10/24/14 5:00 ☑ pHAdj(≥11) @ 10/23/14 15:00 Checked By: ML

Comments: Date 10/24/14

SOP EMAX-3520 Rev. 5

3072

LABORATORY REPORT FOR

BATTELLE

RED HILL PHASE 1B

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 14J130

CASE NARRATIVE

Client : BATTELLE

Project : RED HILL PHASE 1B

SDG : 14J130

METHOD SW3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

A total of two (2) water samples were received on 10/21/14 for TPH analysis, Method SW3520C/8015B in accordance with Department of Defense Quality Systems Manual for Environmental Laboratories, Version 4.2 and project SAP August 2014.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Results were compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for DSJ030WL/Y were all within QC limits.

Matrix QC Sample
No matrix QC sample was designated in this SDG.

Surrogate
Surrogates were added on QC and field samples. Surrogate recoveries were within project QC limits. Refer to sample result forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter.

The chromatograms of Samples J130-01 and J130-02 contain dominant peaks that do not resemble the petroleum hydrocarbon pattern. These peaks were removed per Client's instructions after reviewing the TIC search of the TPH extract (see Appendix).

Revised Report

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : BATTELLE
Project : RED HILL PHASE 1B

SDG NO. : 14J130
Instrument ID : GCT105

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSJ030WB	1	NA	10/23/1402:26	10/22/1416:45	LJ22039A	LJ22037A	DSJ030W	Method Blank
LCS1W	DSJ030WL	1	NA	10/23/1402:43	10/22/1416:45	LJ22040A	LJ22037A	DSJ030W	Lab Control Sample (LCS)
LCD1W	DSJ030WY	1	NA	10/23/1416:15	10/22/1416:45	LJ22078A	LJ22073A	DSJ030W	LCS Duplicate
RHMW07-GW-01	J130-01	1.04	NA	10/23/1404:08	10/22/1416:45	LJ22045A	LJ22037A	DSJ030W	Field Sample
RHMW07-GW-01FD	J130-02	1.03	NA	10/23/1404:26	10/22/1416:45	LJ22046A	LJ22037A	DSJ030W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD SW3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: BATTELLE	Date Collected:	10/20/14
Project	: RED HILL PHASE 1B	Date Received:	10/21/14
Batch No.	: 14J130	Date Extracted:	10/22/14 16:45
Sample ID:	RHMW07-GW-01	Date Analyzed:	10/23/14 04:08
Lab Samp ID:	J130-01	Dilution Factor:	1.04
Lab File ID:	LJ22045A	Matrix :	WATER
Ext Btch ID:	DSJ030W	% Moisture :	NA
Calib. Ref.:	LJ22037A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
DRO	0.057J	0.10	0.052	0.078
ORO	ND	0.10	0.052	0.078

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	0.750	1.040	72.1	60-130
HEXACOSANE	0.229	0.2600	88.2	60-130

Parameter	H-C Range
DRO	C10-C24
ORO	C24-C36

*: Discrete peak(s) excluded

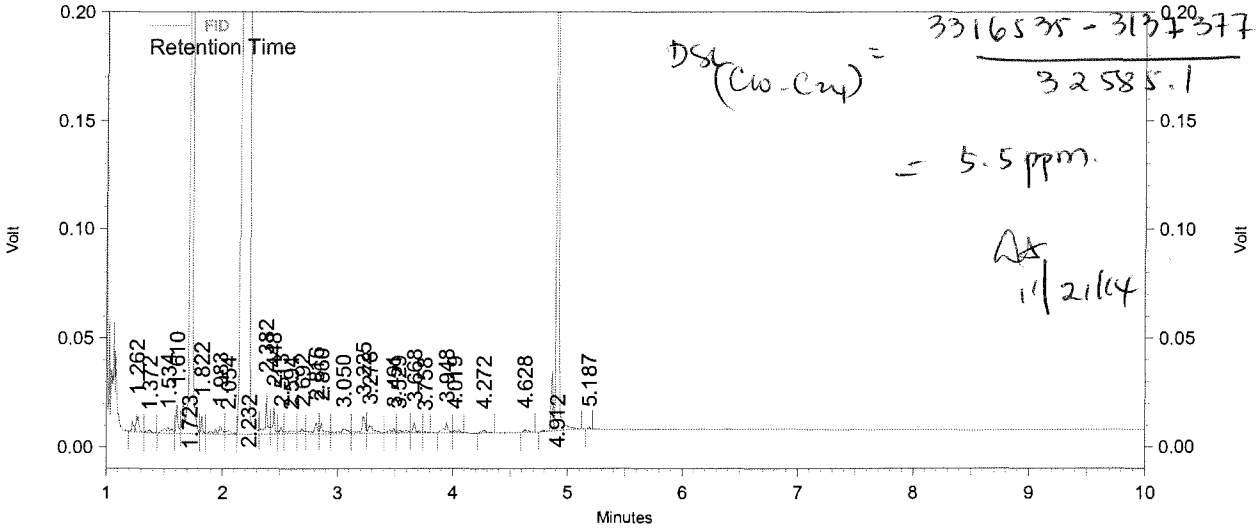
Revised Report

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\EZCHROM_GC6890N\14CHROM\LJ22\LJ22045.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16M.met
Sequence: : D:\EZCHROM_GC6890N\14SEQUENCE\LJ22.seq
Sample ID : 14J130-01
Acquired : 10/23/14 04:08:50
Printed : 11/21/14 12:18:34
User : LArzad

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.723	1289512	17891.93900	72.072
HEXACOSANE	4.912	552675	25061.64131	22.053
DIESEL(TOTAL)		3373892	33399.78271	101.015
DIESEL(C10-C24)		3316535 ✓	32585.09943	101.781
M.OIL(C24-C36)		0	20980.20150	0.000
Totals		8532614		296.921
DIS. PK.(2.232)		3137377 ✓	0.00000	0.000
Totals		3137377		0.000



$DS_{(C10-C24)} = \frac{3316535 - 3137377}{32585.1} = 5.5\ ppm.$

11/21/14

Revised Report

Software Version: Version 3.3.1

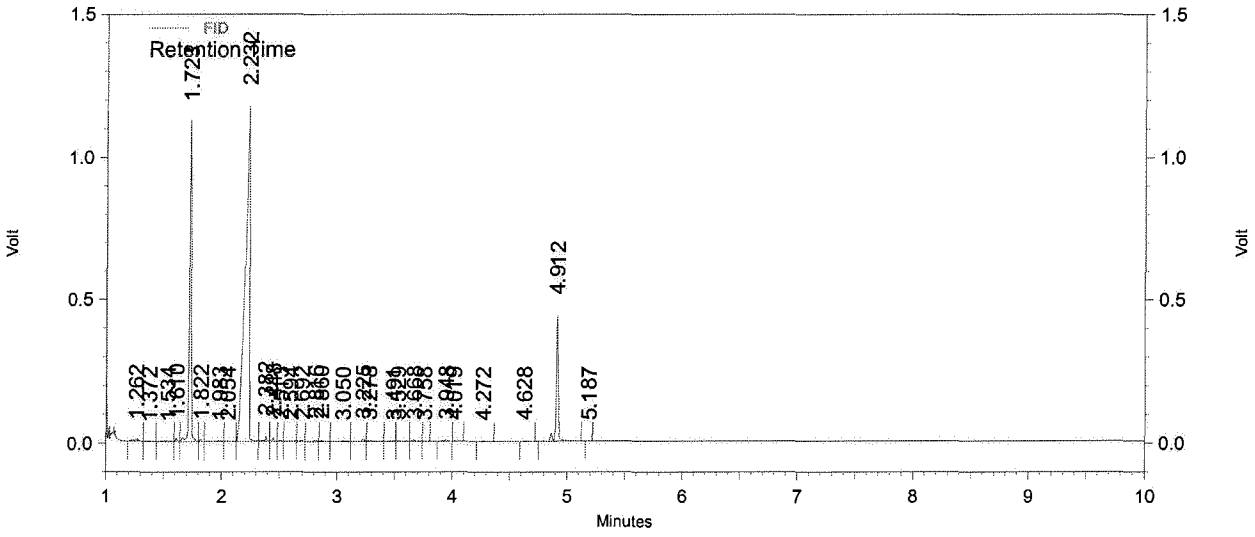
5005

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LJ22\LJ22045.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16M.met
Sequence: : D:\Projects\EZC331\Sequence\LJ22.seq
Sample ID : 14J130-01
Acquired : 10/23/14 04:08:50
Printed : 10/23/14 15:08:06
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.723	1289512	17891.93900	72.072
HEXACOSANE	4.912	552675	25061.64131	22.053
DIESEL(TOTAL)		3373892	33399.78271	101.015
DIESEL(C10-C24)		3316535	32585.09943	101.781
M.OIL(C24-C36)		0	20980.20150	0.000
Totals		8532614		296.921



Software Version: Version 3.3.1

METHOD SW3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: BATTELLE	Date Collected:	10/20/14
Project	: RED HILL PHASE 1B	Date Received:	10/21/14
Batch No.	: 14J130	Date Extracted:	10/22/14 16:45
Sample ID	: RHMW07-GW-01FD	Date Analyzed:	10/23/14 04:26
Lab Samp ID	: J130-02	Dilution Factor:	1.03
Lab File ID	: LJ22046A	Matrix :	WATER
Ext Btch ID	: DSJ030W	% Moisture :	NA
Calib. Ref.	: LJ22037A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
DRO	0.066J	0.10	0.052	0.077
ORO	ND	0.10	0.052	0.077

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	0.703	1.030	68.2	60-130
HEXACOSANE	0.206	0.2575	79.9	60-130

Parameter	H-C Range
DRO	C10-C24
ORO	C24-C36

*: Discrete peak(s) excluded

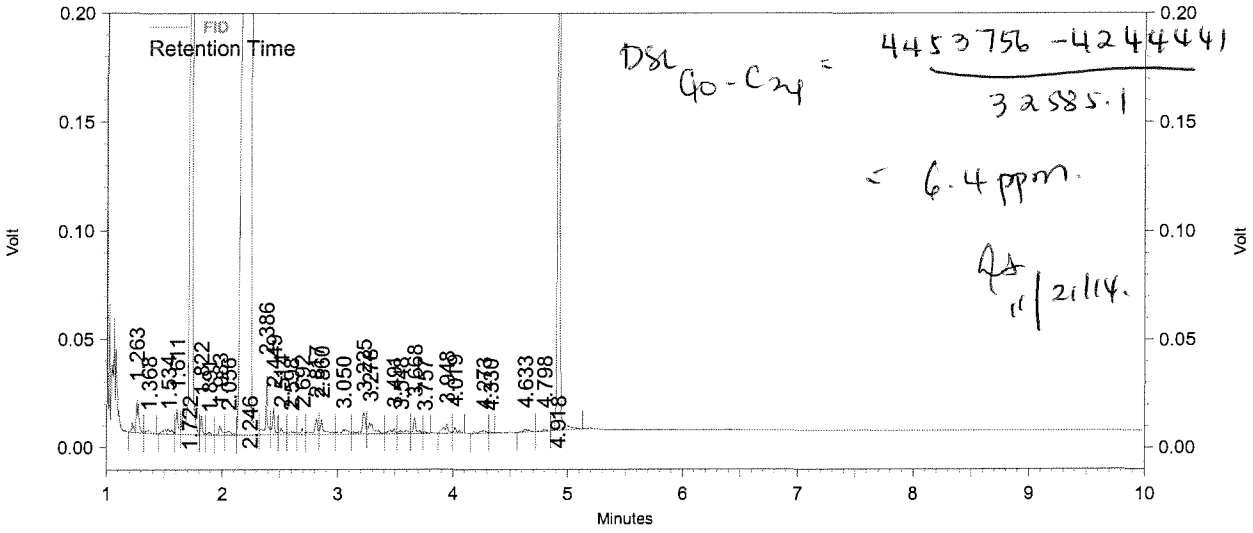
Revised Report

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\EZCHROM_GC6890N\14CHROM\LJ22\LJ22046.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16M.met
Sequence: : D:\EZCHROM_GC6890N\14SEQUENCE\LJ22.seq
Sample ID : 14J130-02
Acquired : 10/23/14 04:26:02
Printed : 11/21/14 12:21:50
User : LArzad

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.722	1220308	17891.93900	68.204
HEXACOSANE	4.918	500427	25061.64131	19.968
DIESEL(TOTAL)		4526200	33399.78271	135.516
DIESEL(C10-C24)		4453756	32585.09943	136.681
M.OIL(C24-C36)		2472	20980.20150	0.118
Totals		10703163		360.487
DIS. PK.(2.246)		4244441 ~	0.00000	0.000
Totals		4244441		0.000



DSL $_{C_{10}-C_{24}}$ = $\frac{4453756 - 4244441}{32585.1}$ = 6.4 ppm.

QA 11/21/14.

Revised Report

Software Version: Version 3.3.1

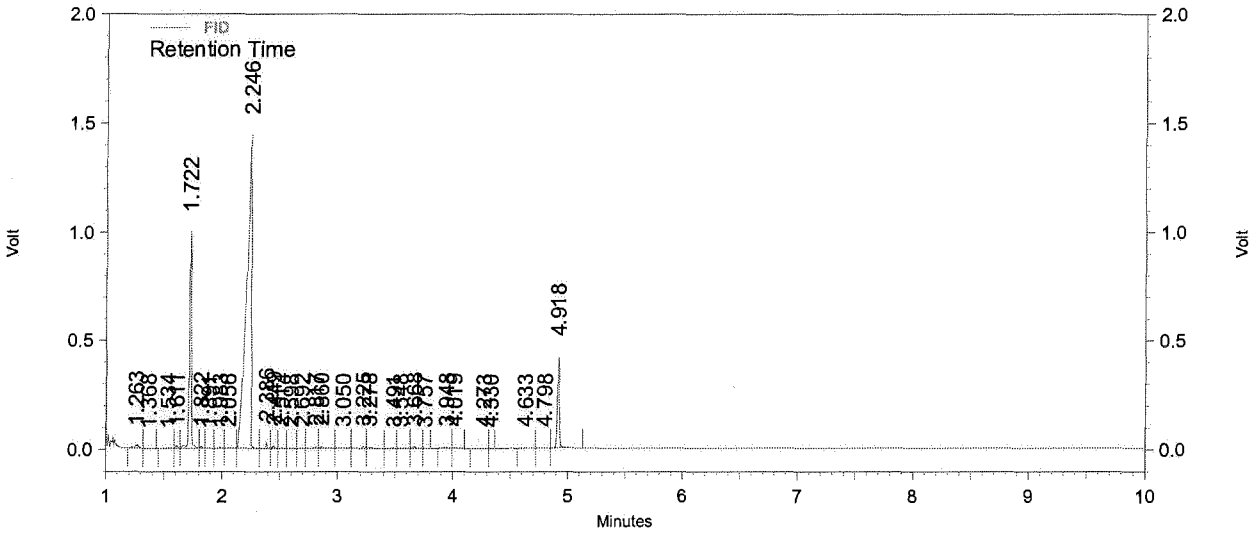
5008

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LJ22\LJ22046.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16M.met
Sequence: : D:\Projects\EZC331\Sequence\LJ22.seq
Sample ID : 14J130-02
Acquired : 10/23/14 04:26:02
Printed : 10/23/14 15:08:24
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.722	1220308	17891.93900	68.204
HEXACOSANE	4.918	500427	25061.64131	19.968
DIESEL(TOTAL)		4526200	33399.78271	135.516
DIESEL(C10-C24)		4453756	32585.09943	136.681
M.OIL(C24-C36)		2472	20980.20150	0.118
Totals		10703163		360.487



Software Version: Version 3.3.1

QC SUMMARIES

METHOD SW3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : BATTELLE	Date Collected: NA
Project : RED HILL PHASE 1B	Date Received: 10/22/14
Batch No. : 14J130	Date Extracted: 10/22/14 16:45
Sample ID: MBLK1W	Date Analyzed: 10/23/14 02:26
Lab Samp ID: DSJ030WB	Dilution Factor: 1
Lab File ID: LJ22039A	Matrix : WATER
Ext Btch ID: DSJ030W	% Moisture : NA
Calib. Ref.: LJ22037A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
DRO	ND	0.10	0.050	0.075
ORO	ND	0.10	0.050	0.075

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	0.746	1.000	74.6	60-130
HEXACOSANE	0.197	0.2500	78.9	60-130

Parameter	H-C Range
DRO	C10-C24
ORO	C24-C36

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: BATTELLE
PROJECT: RED HILL PHASE 1B
BATCH NO.: 14J130
METHOD: SW3520C/8015B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	DSJ030WB	DSJ030WL	DSJ030WY		
LAB FILE ID:	LJ22039A	LJ22040A	LJ22078A		
DATE EXTRACTED:	10/22/1416:45	10/22/1416:45	10/22/1416:45	DATE COLLECTED:	NA
DATE ANALYZED:	10/23/1402:26	10/23/1402:43	10/23/1416:15	DATE RECEIVED:	10/22/14
PREP. BATCH:	DSJ030W	DSJ030W	DSJ030W		
CALIB. REF:	LJ22037A	LJ22037A	LJ22073A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
DRO	ND	5.00	3.21	64	5.00	4.00	80	22	60-130	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	QC LIMIT (%)
Bromobenzene	1.00	0.713	71	1.00	0.893	89	60-130
Hexacosane	0.250	0.190	76	0.250	0.238	95	60-130

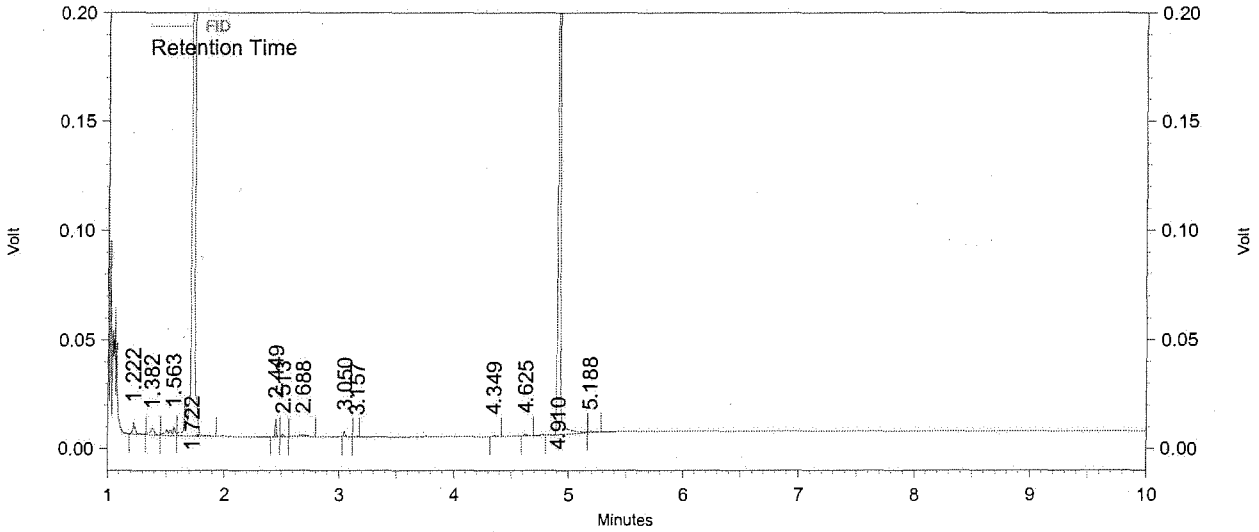
QC DATA

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LJ22\LJ22039.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16M.met
Sequence: : D:\Projects\EZC331\Sequence\LJ22.seq
Sample ID : DSJ030WB
Acquired : 10/23/14 02:26:04
Printed : 10/23/14 15:15:23
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.722	1335056	17891.93900	74.618
HEXACOSANE	4.910	494417	25061.64131	19.728
DIESEL(TOTAL)		48302	33399.78271	1.446
DIESEL(C10-C24)		18882	32585.09943	0.579
M.OIL(C24-C36)		0	20980.20150	0.000
Totals		1896657		96.371



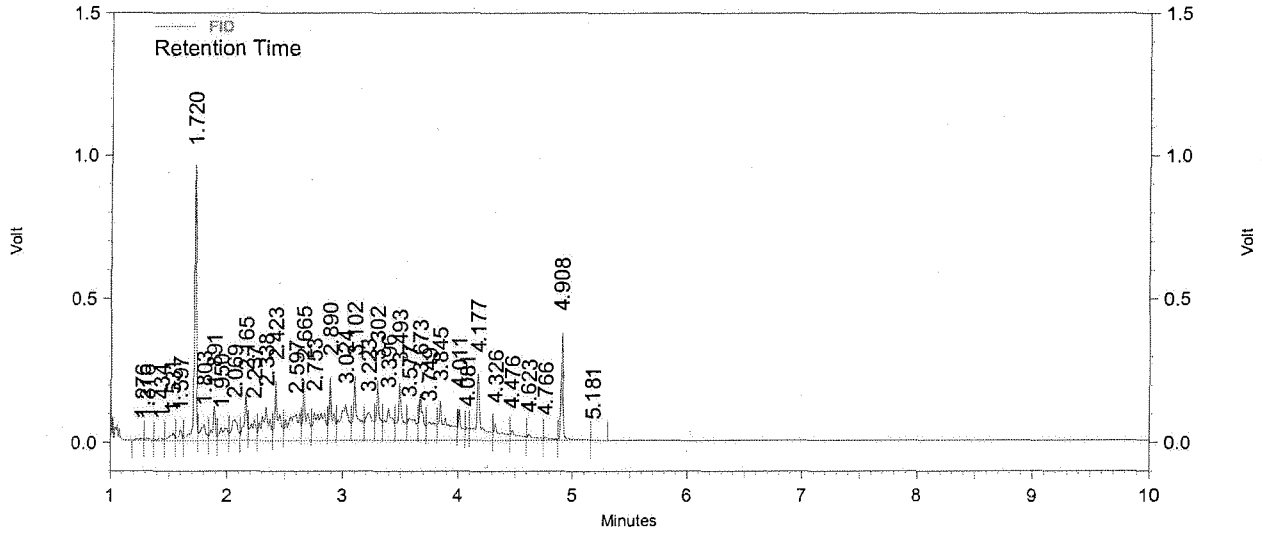
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LJ22\LJ22040.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16M.met
Sequence: : D:\Projects\EZC331\Sequence\LJ22.seq
Sample ID : DSJ030WL
Acquired : 10/23/14 02:43:05
Printed : 10/23/14 15:15:39
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.720	1275501	17891.93900	71.289
HEXACOSANE	4.908	475562	25061.64131	18.976
DIESEL(TOTAL)		11108345	33399.78271	332.587
DIESEL(C10-C24)		10455801	32585.09943	320.877
M.OIL(C24-C36)		44248	20980.20150	2.109
Totals		23359457		745.838



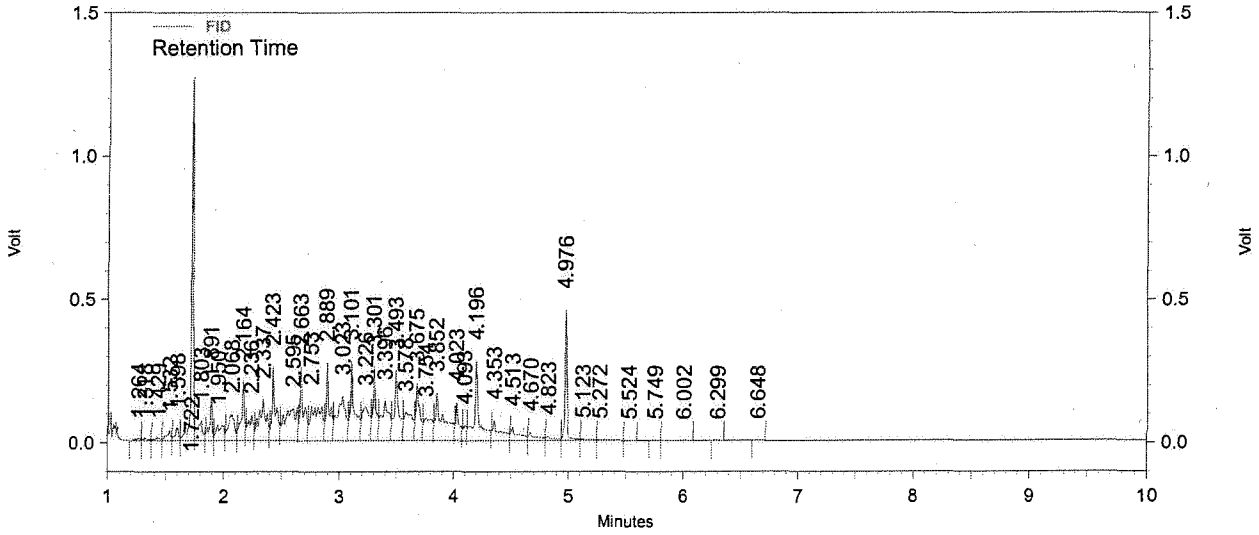
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LJ22\LJ22078.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5I16M.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LJ22.seq**
Sample ID	**: DSJ030WY**
Acquired	**: 10/23/14 16:15:06**
Printed	**: 10/27/14 11:36:33**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.722	1597599	17891.93900	89.292
HEXACOSANE	4.976	595518	25061.64131	23.762
DIESEL(TOTAL)		13877311	33399.78271	415.491
DIESEL(C10-C24)		13035837	32585.09943	400.055
M.OIL(C24-C36)		83639	20980.20150	3.987
Totals		29189904		932.586



Software Version: Version 3.3.1

INITIAL CALIBRATIONS

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
LFID & Datetime: LI16029A 09/17/14 09:01
LFID & Datetime: LI16030A 09/17/14 09:19
LFID & Datetime: LI16031A 09/17/14 09:36
LFID & Datetime: LI16032A 09/17/14 09:53
LFID & Datetime: LI16033A 09/17/14 10:10
LFID & Datetime: LI16034A 09/17/14 10:27
LFID & Datetime: LI16035A 09/17/14 10:45
CONC UNIT: ppm

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 1.00X	2.00X	10.00X	20.00X	100.00X	300.00X	600.00X	MEAN	%RSD
DIESEL(TOTAL)	5.00	34501	36051	34544	34578	33031	30015	31078	33399.8	6.5
DIESEL(C10-C24)	5.00	34041	35236	33714	33778	32148	29089	30089	32585.1	6.9
DIESEL(C10-C28)	5.00	34041	35323	33752	33816	32216	29153	30172	32639.0	6.9
DIESEL(C10-C25)	5.00	34041	35262	33739	33805	32203	29127	30132	32615.5	6.9
DIESEL(C9-C24)	5.00	34501	35965	34209	34251	32643	29607	30625	33114.4	6.9
DIESEL(C9-C25)	5.00	34501	35990	34234	34278	32698	29645	30668	33144.9	6.9
DIESEL(C10-C36)	5.00	34041	35323	33781	33835	32223	29157	30182	32648.9	6.9
DIESEL(C10-C40)	5.00	34041	35323	33781	33835	32223	29157	30182	32648.9	6.9
SURROGATE	X	0.00X	1.00X	2.00X	3.00X	4.00X	5.00X	11.00X	MEAN	%RSD
BROMOBENZENE	20.00	0	17409	16798	16686	18433	19091	18934	17891.9	6.0
HEXACOSANE	5.00	0	25128	24649	24470	25467	24871	25786	25061.6	2.0

DSD5I16.MET

09/19/14

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
LFID & Datetime: LI16029A 09/17/14 09:01
LFID & Datetime: LI16030A 09/17/14 09:19
LFID & Datetime: LI16031A 09/17/14 09:36
LFID & Datetime: LI16032A 09/17/14 09:53
LFID & Datetime: LI16033A 09/17/14 10:10
LFID & Datetime: LI16034A 09/17/14 10:27
LFID & Datetime: LI16035A 09/17/14 10:45

COMPOUND	RT OF STANDARDS (MIN) 1.0X	2.0X	10.0X	20.0X	100.0X	300.0X	600.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
DIESEL(TOTAL)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C24)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C28)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C25)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C9-C24)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C9-C25)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C36)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C40)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SURROGATE	0.0X	1.0X	2.0X	3.0X	4.0X	5.0X	11.0X	RT	FROM	TO	WIDTH
BROMOBENZENE	0.000	1.730	1.732	1.733	1.732	1.734	1.737	1.733	1.730	1.736	0.003
HEXACOSANE	0.000	5.018	5.037	5.056	5.076	5.088	5.102	5.063	5.015	5.111	0.048

DSD5I16.MET

AS
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INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
LFID & Datetime: LI16037A 09/17/14 11:19
LFID & Datetime: LI16038A 09/17/14 11:37
LFID & Datetime: LI16039A 09/17/14 11:54
LFID & Datetime: LI16040A 09/17/14 12:11
LFID & Datetime: LI16041A 09/17/14 12:28
LFID & Datetime: LI16042A 09/17/14 12:45
CONC UNIT: ppm

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 2.00X	10.00X	20.00X	100.00X	300.00X	600.00X	MEAN	%RSD	
JP5(C8-C18)	5.00	36105	33167	33441	32566	30501	28904	32447.4	7.7	✓
M.OIL(C18-C36)	5.00	25340	25940	25892	24946	23441	21203	24460.1	7.5	✓
M.OIL(C24-C36)	5.00	22686	22554	22251	21092	19659	17638	20980.2	9.5	✓
M.OIL(C24-C40)	5.00	22686	22554	22251	21280	19659	17980	21068.4	9.0	✓

DSD5I16.MET

AS
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FORM VI DIESEL -2 1/96 Rev 2/2006

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
LFID & Datetime: LI16037A 09/17/14 11:19
LFID & Datetime: LI16038A 09/17/14 11:37
LFID & Datetime: LI16039A 09/17/14 11:54
LFID & Datetime: LI16040A 09/17/14 12:11
LFID & Datetime: LI16041A 09/17/14 12:28
LFID & Datetime: LI16042A 09/17/14 12:45

COMPOUND	RT OF STANDARDS (MIN) 2.0X	10.0X	20.0X	100.0X	300.0X	600.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
JP5(C8-C18)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M.OIL(C18-C36)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M.OIL(C24-C36)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M.OIL(C24-C40)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

DSD5I16.MET

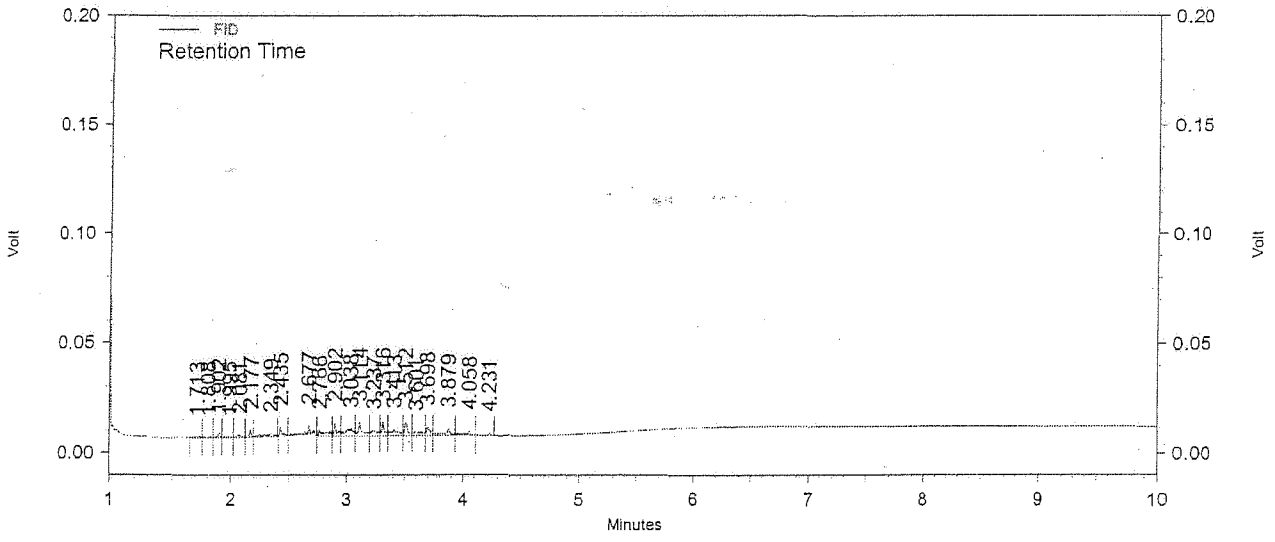
9/19/14

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16029.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1601 DSL 5PPM
Acquired	: 09/17/14 09:01:57
Printed	: 09/17/14 16:55:46
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
DIESEL(TOTAL)		172506 ✓	33399.78271	5.000 CAL
DIESEL(C10-C24)		170205 ✓	32585.09943	5.000 CAL
DIESEL(C10-C28)		170205 ✓	32639.02829	5.000 CAL
DIESEL(C10-C25)		170205 ✓	32615.51857	5.000 CAL
DIESEL(C9-C24)		172506 ✓	33114.42838	5.000 CAL
DIESEL(C9-C25)		172506 ✓	33144.84752	5.000 CAL
DIESEL(C10-C36)		170205 ✓	32648.86105	5.000 CAL
DIESEL(C10-C40)		170205 ✓	32648.86105	5.000 CAL
Totals		1368543		40.000 CAL



DS 09/19/14

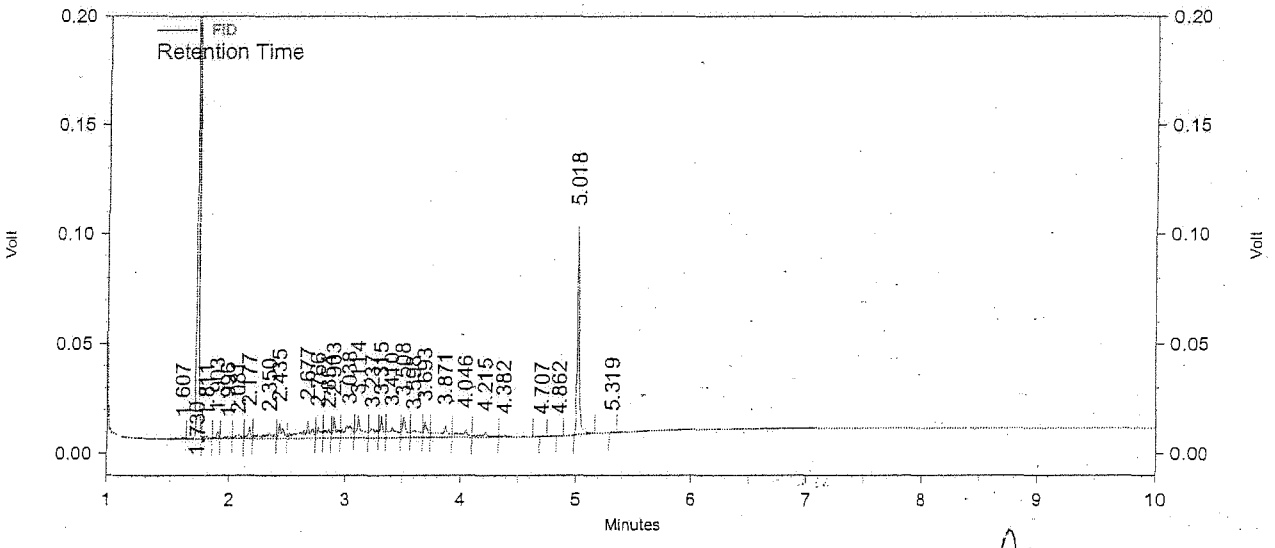
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LI16\LI16030.dat
Method : D:\Projects\EZC331\Method\DSD5I16.met
Sequence: : D:\Projects\EZC331\Sequence\LI16.seq
Sample ID : DSD5I1602 DSL 10/20/5PPM
Acquired : 09/17/14 09:19:04
Printed : 09/17/14 16:56:22
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.730	348178	17891.93900	20.000 CAL
HEXACOSANE	5.018	125638	25061.64131	5.000 CAL
DIESEL(TOTAL)		360512	33399.78271	10.000 CAL
DIESEL(C10-C24)		352364	32585.09943	10.000 CAL
DIESEL(C10-C28)		353230	32639.02829	10.000 CAL
DIESEL(C10-C25)		352618	32615.51857	10.000 CAL
DIESEL(C9-C24)		359646	33114.42838	10.000 CAL
DIESEL(C9-C25)		359900	33144.84752	10.000 CAL
DIESEL(C10-C36)		353230	32648.86105	10.000 CAL
DIESEL(C10-C40)		353230	32648.86105	10.000 CAL
Totals		3318546		105.000 CAL



09/19/14

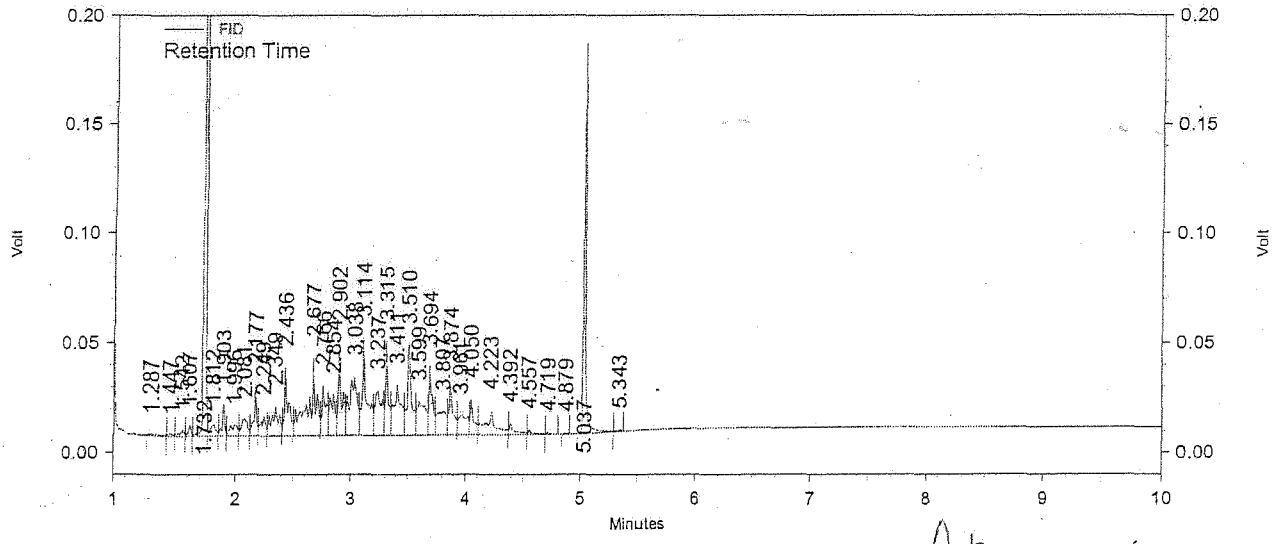
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16031.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1603 DSL 50/40/10PPM
Acquired	: 09/17/14 09:36:14
Printed	: 09/17/14 16:58:34
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.732	671920	17891.93900	40.000 CAL
HEXACOSANE	5.037	246485	25061.64131	10.000 CAL
DIESEL(TOTAL)		1727179	33399.78271	50.000 CAL
DIESEL(C10-C24)		1685709	32585.09943	50.000 CAL
DIESEL(C10-C28)		1687596	32639.02829	50.000 CAL
DIESEL(C10-C25)		1686967	32615.51857	50.000 CAL
DIESEL(C9-C24)		1710453	33114.42838	50.000 CAL
DIESEL(C9-C25)		1711711	33144.84752	50.000 CAL
DIESEL(C10-C36)		1689059	32648.86105	50.000 CAL
DIESEL(C10-C40)		1689059	32648.86105	50.000 CAL
Totals		14506138		450.000 CAL



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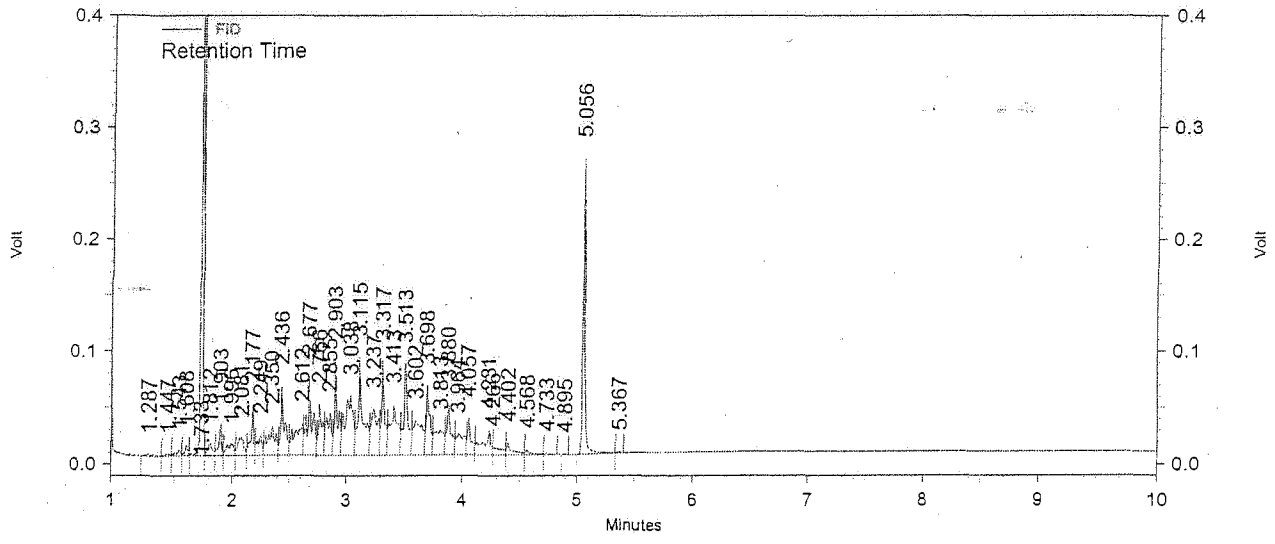
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16032.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1604 DSL 100/60/15PPM
Acquired	: 09/17/14 09:53:33
Printed	: 09/17/14 16:58:44
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.733	1001186	17891.93900	60.000 CAL
HEXACOSANE	5.056	367043	25061.64131	15.000 CAL
DIESEL(TOTAL)		3457812	33399.78271	100.000 CAL
DIESEL(C10-C24)		3377793	32585.09943	100.000 CAL
DIESEL(C10-C28)		3381578	32639.02829	100.000 CAL
DIESEL(C10-C25)		3380463	32615.51857	100.000 CAL
DIESEL(C9-C24)		3425081	33114.42838	100.000 CAL
DIESEL(C9-C25)		3427751	33144.84752	100.000 CAL
DIESEL(C10-C36)		3383510	32648.86105	100.000 CAL
DIESEL(C10-C40)		3383510	32648.86105	100.000 CAL
Totals		28585727		875.000 CAL



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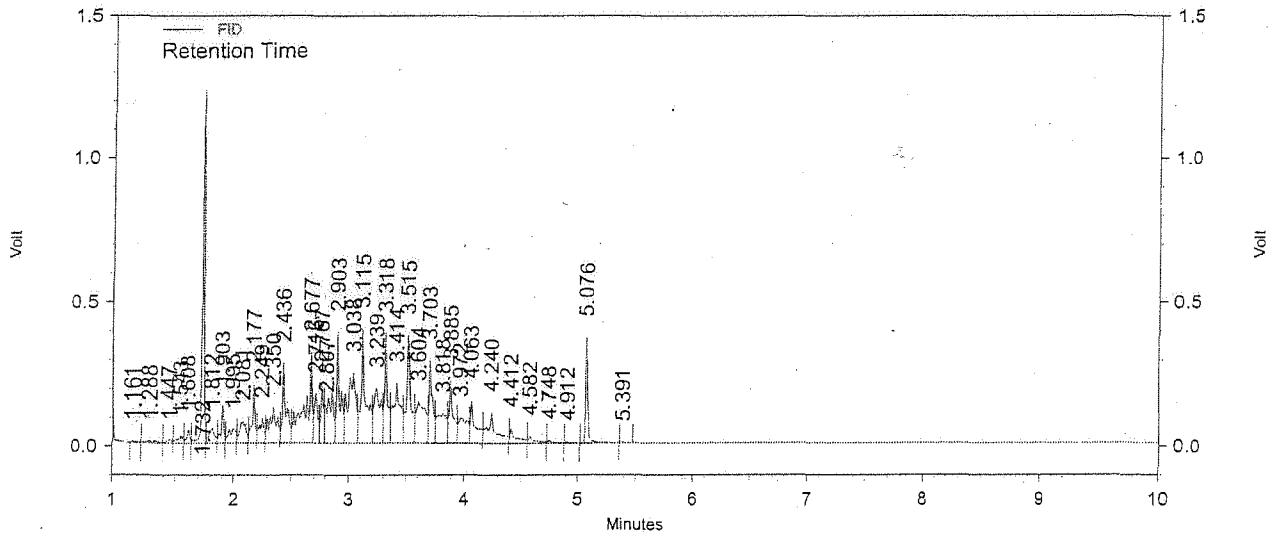
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16033.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1605 DSL 500/80/20PPM
Acquired	: 09/17/14 10:10:43
Printed	: 09/17/14 16:58:54
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.732	1474677	17891.93900	80.000 CAL
HEXACOSANE	5.076	509336	25061.64131	20.000 CAL
DIESEL(TOTAL)		16515495	33399.78271	500.000 CAL
DIESEL(C10-C24)		16073956	32585.09943	500.000 CAL
DIESEL(C10-C28)		16108086	32639.02829	500.000 CAL
DIESEL(C10-C25)		16101262	32615.51857	500.000 CAL
DIESEL(C9-C24)		16321629	33114.42838	500.000 CAL
DIESEL(C9-C25)		16348935	33144.84752	500.000 CAL
DIESEL(C10-C36)		16111304	32648.86105	500.000 CAL
DIESEL(C10-C40)		16111304	32648.86105	500.000 CAL
Totals		131675984		4100.000 CAL



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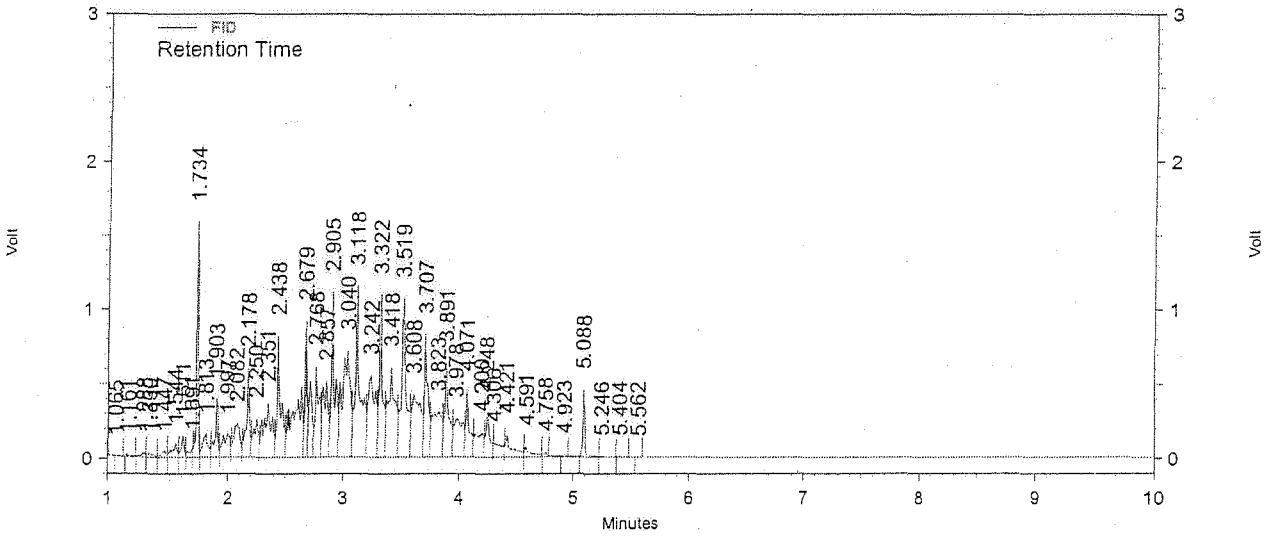
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LI16\LI16034.dat
Method : D:\Projects\EZC331\Method\DSD5I16.met
Sequence: : D:\Projects\EZC331\Sequence\LI16.seq
Sample ID : DSD5I1606 DSL 1500/100/25PPM
Acquired : 09/17/14 10:27:59
Printed : 09/17/14 16:59:06
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.734	1909057	17891.93900	100.000 CAL
HEXACOSANE	5.088	621784	25061.64131	25.000 CAL
DIESEL(TOTAL)		45022638	33399.78271	1500.000 CAL
DIESEL(C10-C24)		43633851	32585.09943	1500.000 CAL
DIESEL(C10-C28)		43729901	32639.02829	1500.000 CAL
DIESEL(C10-C25)		43690883	32615.51857	1500.000 CAL
DIESEL(C9-C24)		44410692	33114.42838	1500.000 CAL
DIESEL(C9-C25)		44467724	33144.84752	1500.000 CAL
DIESEL(C10-C36)		43735512	32648.86105	1500.000 CAL
DIESEL(C10-C40)		43735512	32648.86105	1500.000 CAL
Totals		354957554		12125.000 CAL



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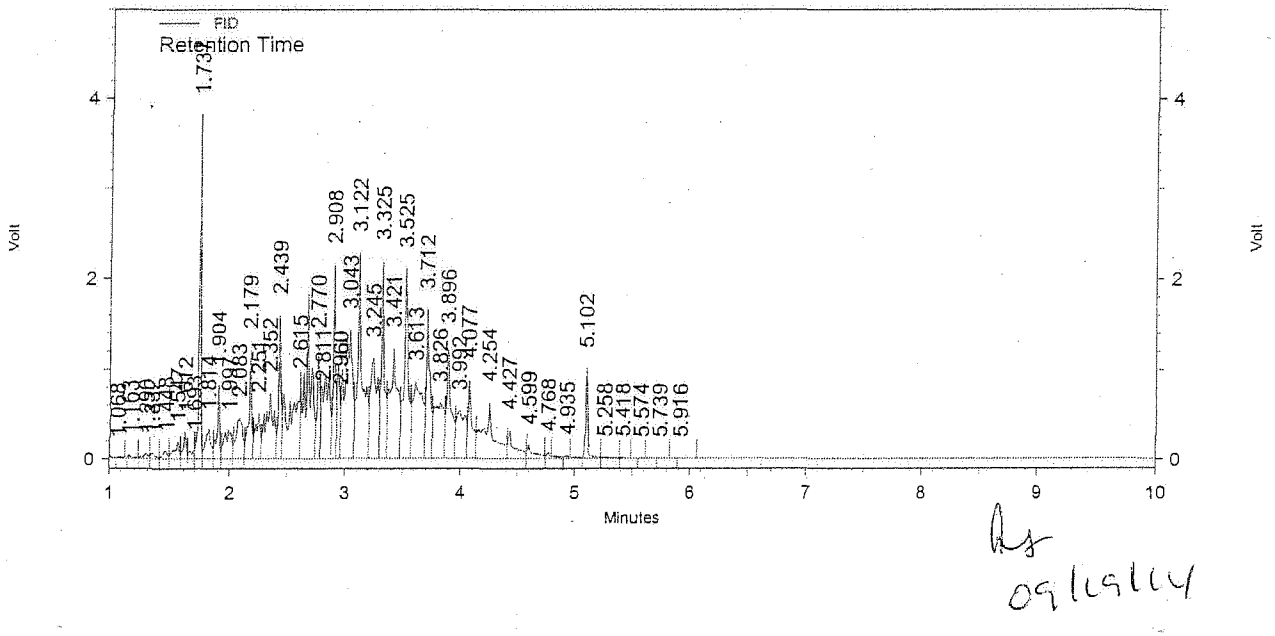
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16035.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1607 DSL 3000/220/55PPM
Acquired	: 09/17/14 10:45:13
Printed	: 09/17/14 16:59:16
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.737	4165539	17891.93900	220.000 CAL
HEXACOSANE	5.102	1418233	25061.64131	55.000 CAL
DIESEL(TOTAL)		93234891	33399.78271	3000.000 CAL
DIESEL(C10-C24)		90267120	32585.09943	3000.000 CAL
DIESEL(C10-C28)		90516176	32639.02829	3000.000 CAL
DIESEL(C10-C25)		90396242	32615.51857	3000.000 CAL
DIESEL(C9-C24)		91874828	33114.42838	3000.000 CAL
DIESEL(C9-C25)		92003950	33144.84752	3000.000 CAL
DIESEL(C10-C36)		90546394	32648.86105	3000.000 CAL
DIESEL(C10-C40)		90546394	32648.86105	3000.000 CAL
Totals		734969767		24275.000 CAL



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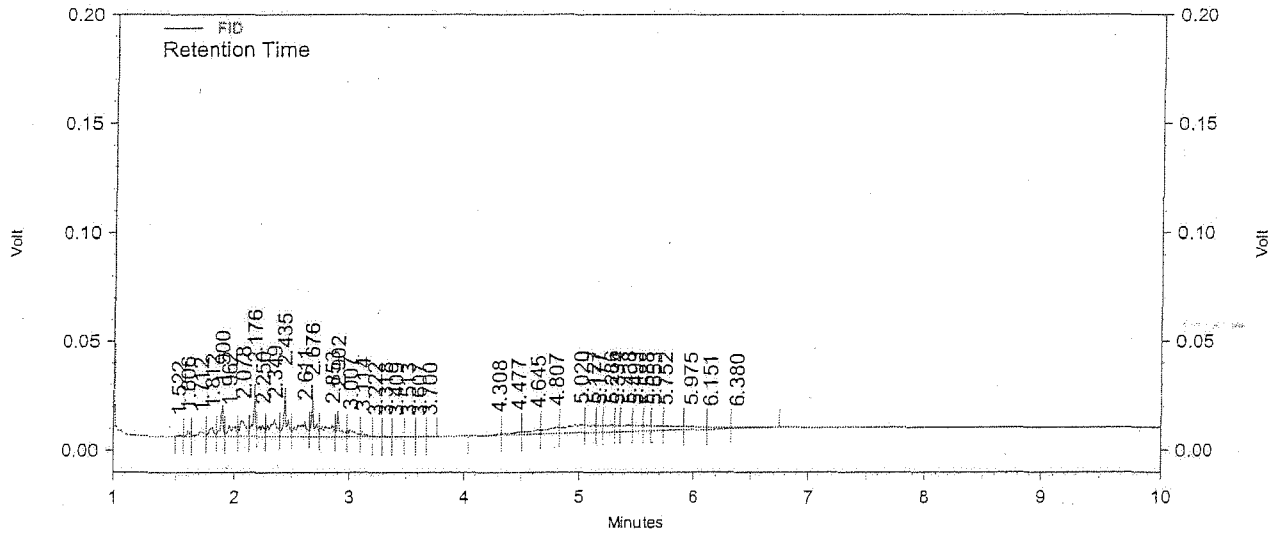
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16037.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1608 JP5/5W30 10/10PPM
Acquired	: 09/17/14 11:19:48
Printed	: 09/17/14 16:46:23
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		361054	32447.41478	10.000 CAL
M.OIL(C18-C36)		253397	24460.06839	10.000 CAL
M.OIL(C24-C36)		226861	20980.20150	10.000 CAL
M.OIL(C24-C40)		226861	21068.39522	10.000 CAL
Totals		1068173		40.000 CAL



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09/19/14

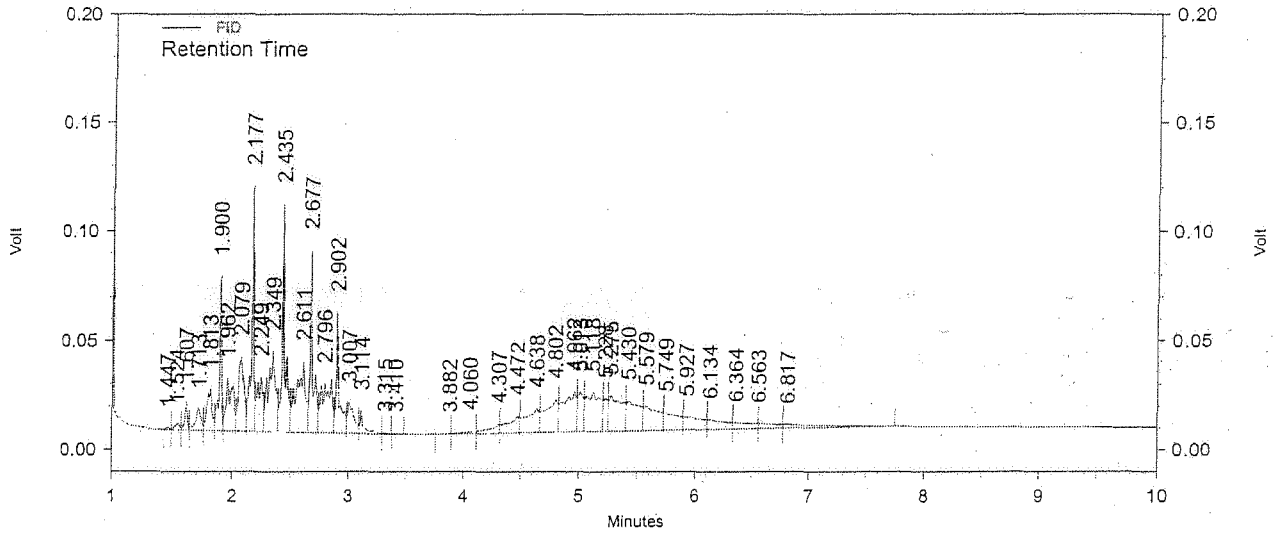
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16038.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1609 JP5/5W30 50/50PPM
Acquired	: 09/17/14 11:37:00
Printed	: 09/17/14 16:46:31
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		1658372	32447.41478	50.000 CAL
M.OIL(C18-C36)		1296976	24460.06839	50.000 CAL
M.OIL(C24-C36)		1127709	20980.20150	50.000 CAL
M.OIL(C24-C40)		1127709	21068.39522	50.000 CAL
Totals		5210766		200.000 CAL



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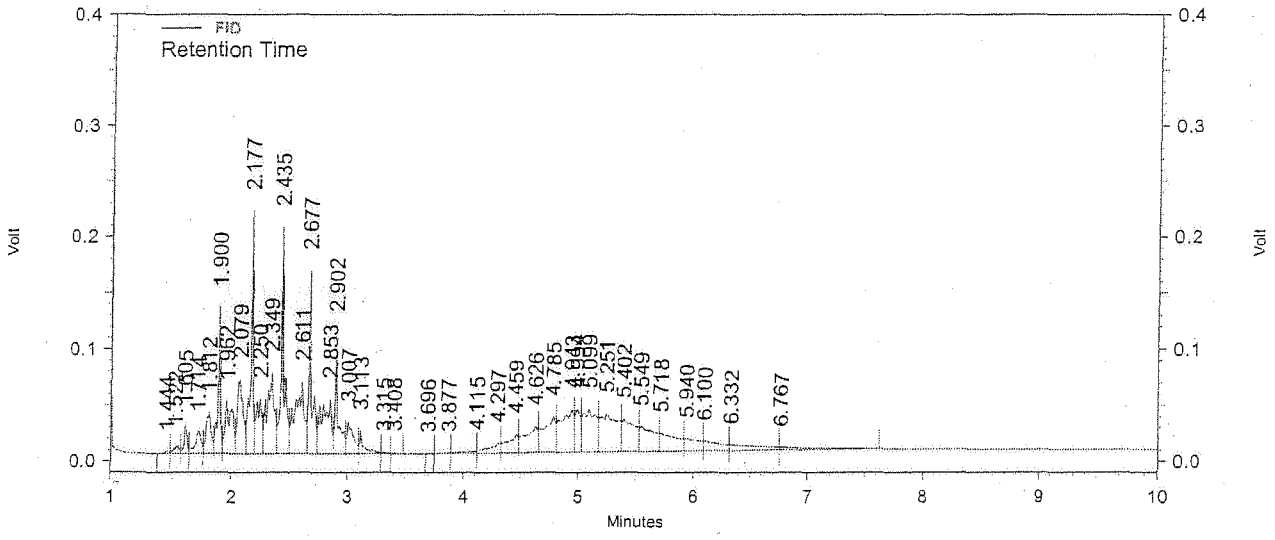
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16039.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1610 JP5/5W30 100/100PPM
Acquired	: 09/17/14 11:54:09
Printed	: 09/17/14 16:46:42
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		3344126	32447.41478	100.000 CAL
M.OIL(C18-C36)		2589166	24460.06839	100.000 CAL
M.OIL(C24-C36)		2225133	20980.20150	100.000 CAL
M.OIL(C24-C40)		2225133	21068.39522	100.000 CAL
Totals		10383558		400.000 CAL



RS 09/19/14

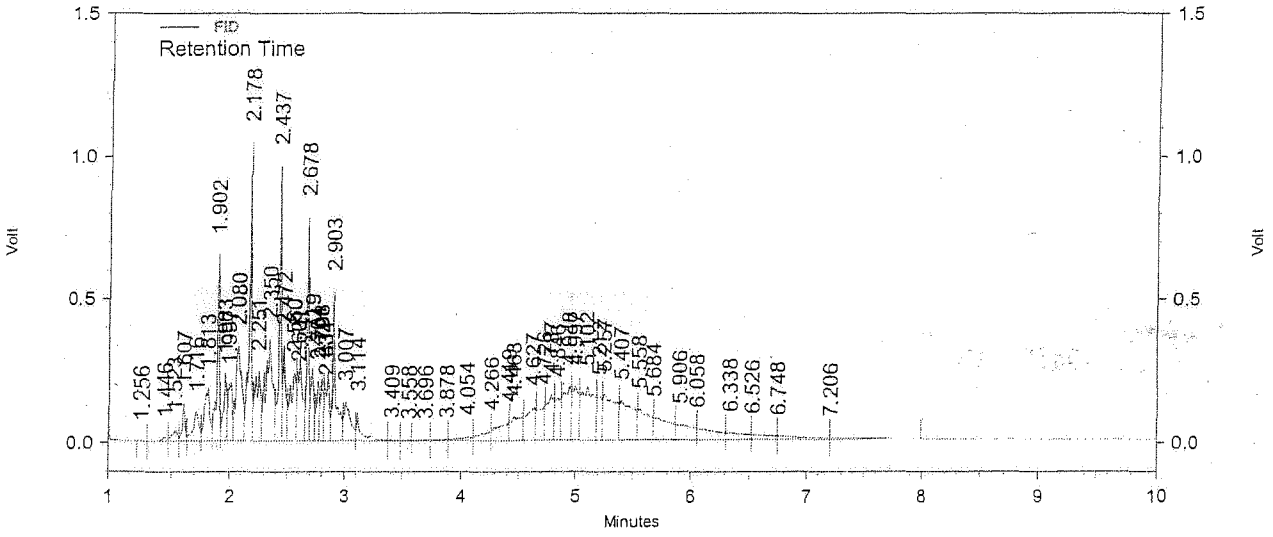
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16040.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1611 JP5/5W30 500/500PPM
Acquired	: 09/17/14 12:11:26
Printed	: 09/17/14 16:46:53
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		16282801	32447.41478	500.000 CAL
M.OIL(C18-C36)		12472992	24460.06839	500.000 CAL
M.OIL(C24-C36)		10546163	20980.20150	500.000 CAL
M.OIL(C24-C40)		10640078	21068.39522	500.000 CAL
Totals		49942034		2000.000 CAL



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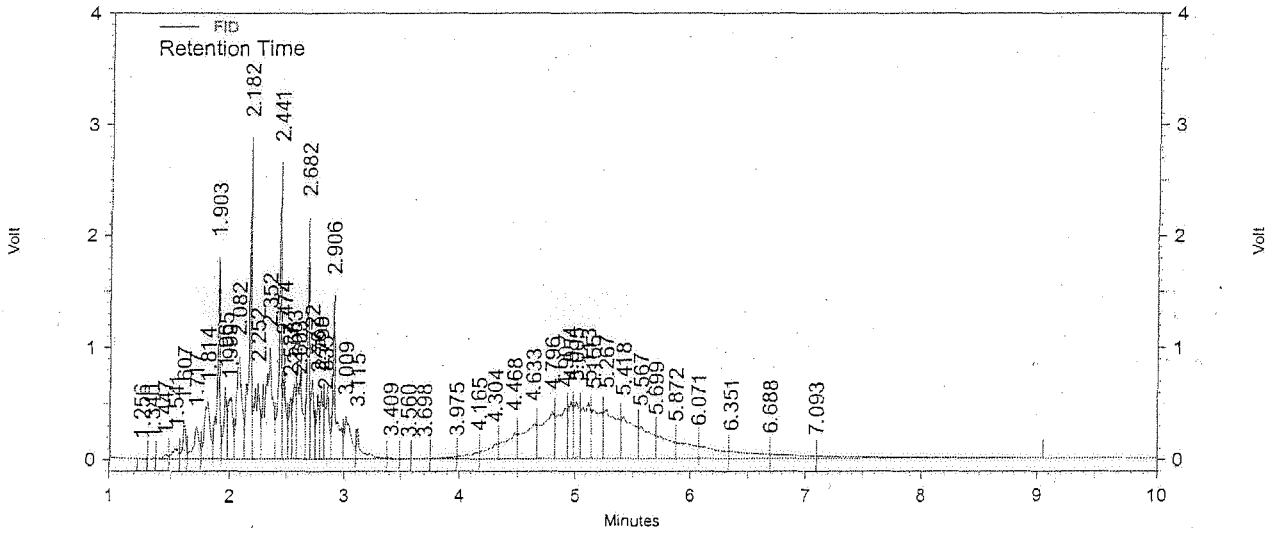
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16041.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1612 JP5/5W30 1500/1500PPM
Acquired	: 09/17/14 12:28:38
Printed	: 09/17/14 16:47:15
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		45751227	32447.41478	1500.000 CAL
M.OIL(C18-C36)		35161093	24460.06839	1500.000 CAL
M.OIL(C24-C36)		29488420	20980.20150	1500.000 CAL
M.OIL(C24-C40)		29488420	21068.39522	1500.000 CAL
Totals		139889160		6000.000 CAL



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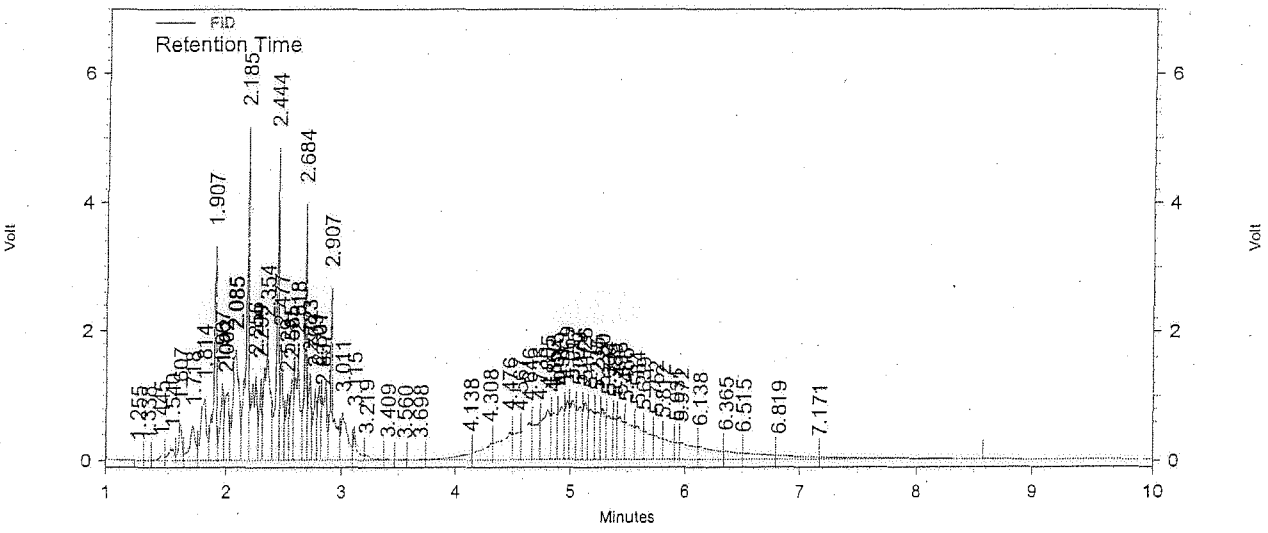
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16042.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1613 JP5/5W30 3000/3000PPM
Acquired	: 09/17/14 12:45:43
Printed	: 09/17/14 16:47:25
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		86711906	32447.41478	3000.000 CAL
M.OIL(C18-C36)		63608453	24460.06839	3000.000 CAL
M.OIL(C24-C36)		52914979	20980.20150	3000.000 CAL
M.OIL(C24-C40)		53938976	21068.39522	3000.000 CAL
Totals		257174314		12000.000 CAL



AJ
09/19/14

Software Version: Version 3.3.1

SECOND SOURCE VERIFICATION

INITIAL CALIBRATION VERIFICATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LI16033A 09/17/2014 10:10
Conc Cont LFID & Datetime: LI16036A 09/17/2014 11:02
CONC UNIT : ppm

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	NA	NA	NA	500.0	33399.8	14834662	444.15	-11		15
DIESEL(C10-C24)	NA	NA	NA	500.0	32585.1	14111899	433.08	-13		15
DIESEL(C10-C28)	NA	NA	NA	500.0	32639.0	14286046	437.70	-12		15
DIESEL(C10-C25)	NA	NA	NA	500.0	32615.5	14228185	436.24	-13		15
DIESEL(C9-C24)	NA	NA	NA	500.0	33114.4	14426067	435.64	-13		15
DIESEL(C9-C25)	NA	NA	NA	500.0	33144.9	14542353	438.75	-12		15
DIESEL(C10-C36)	NA	NA	NA	500.0	32648.9	14292159	437.75	-12		15
DIESEL(C10-C40)	NA	NA	NA	500.0	32648.9	14292159	437.75	-12		15
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
BROMOBENZENE	1.732	1.729	1.735	80.0	17891.9	1491534	83.36	4		15
HEXACOSANE	5.061	5.013	5.109	20.0	25061.6	541583	21.61	8		15

DSD5I16.MET

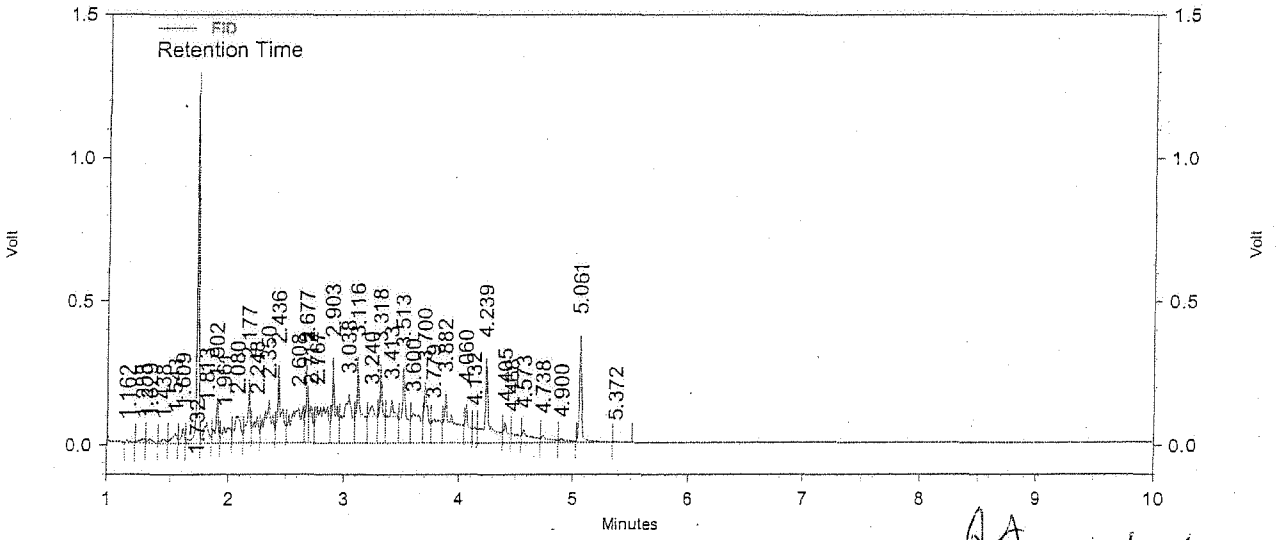
AS 9/19/14

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16036.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: IDSD5I1601 DSL 500/80/20PPM
Acquired	: 09/17/14 11:02:35
Printed	: 09/17/14 16:49:55
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.732	1491534	17891.93900	83.363
HEXACOSANE	5.061	541583	25061.64131	21.610
DIESEL(TOTAL)		14834662	33399.78271	444.154
DIESEL(C10-C24)		14111899	32585.09943	433.078
DIESEL(C10-C28)		14286046	32639.02829	437.698
DIESEL(C10-C25)		14228185	32615.51857	436.240
DIESEL(C9-C24)		14426067	33114.42838	435.643
DIESEL(C9-C25)		14542353	33144.84752	438.752
DIESEL(C10-C36)		14292159	32648.86105	437.754
DIESEL(C10-C40)		14292159	32648.86105	437.754
Totals		117046647		3606.046



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Software Version: Version 3.3.1

INITIAL CALIBRATION VERIFICATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LI16040A 09/17/2014 12:11
Conc Cont LFID & Datetime: LI16043A 09/17/2014 13:02
CONC UNIT : ppm

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5(C8-C18)	NA	NA	NA	500.0	32447.4	14412814	444.19	-11		15
M.OIL(C18-C36)	NA	NA	NA	500.0	24460.1	10598661	433.30	-13		15
M.OIL(C24-C36)	NA	NA	NA	500.0	20980.2	9003494	429.14	-14		15
M.OIL(C24-C40)	NA	NA	NA	500.0	21068.4	9003494	427.35	-15		15

DSD5I16.MET

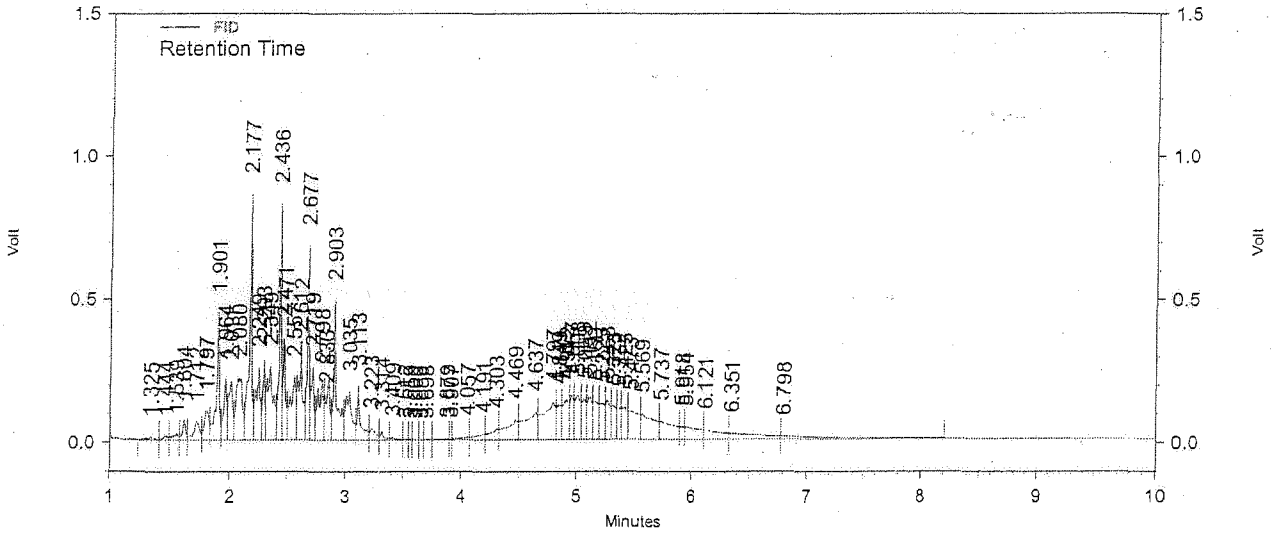
09/19/14

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16043.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: IDSD5I1602 JP5/5W30 500/500PPM
Acquired	: 09/17/14 13:02:52
Printed	: 09/17/14 16:43:12
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		14412814	32447.41478	444.190
M.OIL(C18-C36)		10598661	24460.06839	433.305
M.OIL(C24-C36)		9003494	20980.20150	429.142
M.OIL(C24-C40)		9003494	21068.39522	427.346
Totals		43018463		1733.983



9/19/14

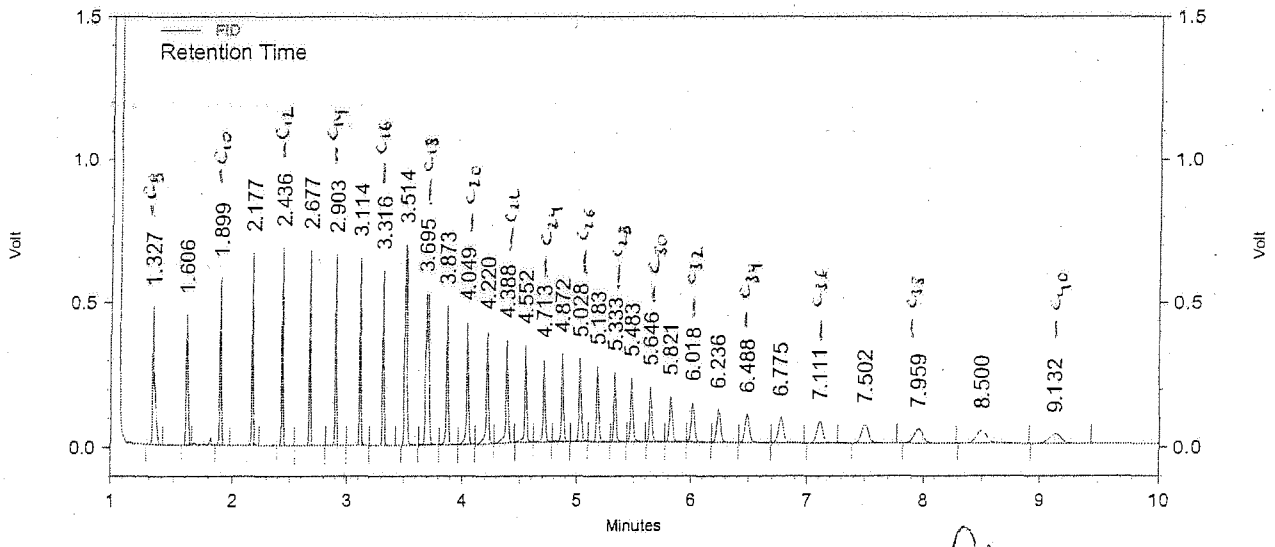
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16045.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DRO(C8-C40 + C9-C39)
Acquired	: 09/17/14 13:37:11
Printed	: 09/17/14 16:51:25
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE				0.000 BDL
HEXACOSANE	5.028	379323	25061.64131	15.136
DIESEL(TOTAL)		14182377	33399.78271	424.625
DIESEL(C10-C24)		8587176	32585.09943	263.531
DIESEL(C10-C28)		9335081	32639.02829	286.010
DIESEL(C10-C25)		9335081	32615.51857	286.216
DIESEL(C9-C24)		8587176	33114.42838	259.318
DIESEL(C9-C25)		9335081	33144.84752	281.645
DIESEL(C10-C36)		11961304	32648.86105	366.362
DIESEL(C10-C40)		12986226	32648.86105	397.754
Totals		84688825		2580.597



QA 09/19/14

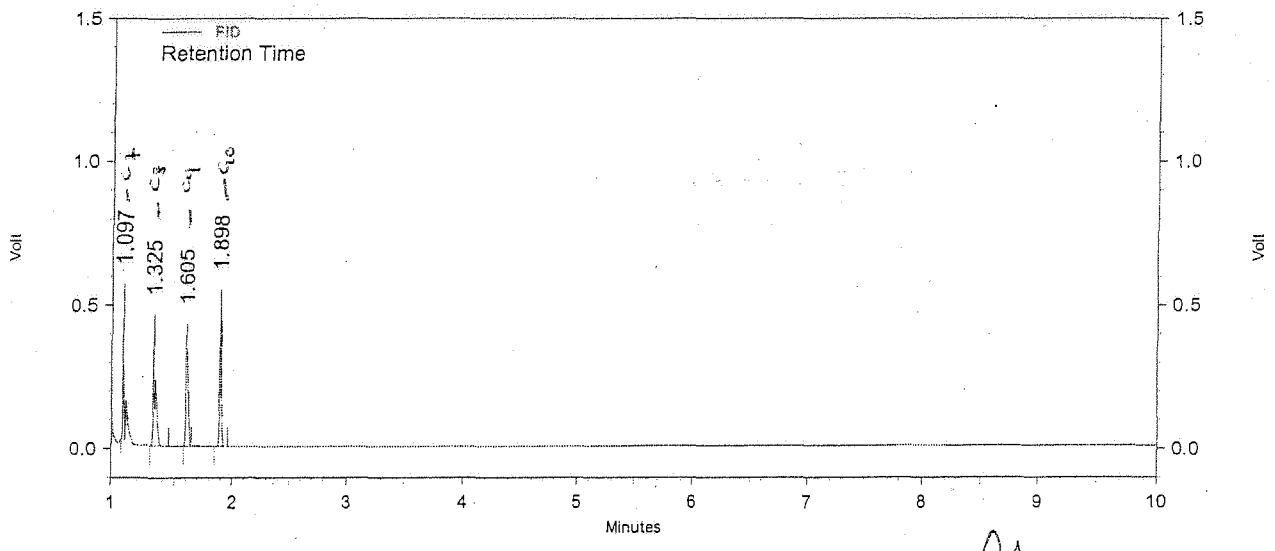
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16046.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: GRO(C6-C10)
Acquired	: 09/17/14 13:54:19
Printed	: 09/17/14 16:51:45
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE				0.000 BDL
HEXACOSANE				0.000 BDL
DIESEL(TOTAL)		1757412	33399.78271	52.617
DIESEL(C10-C24)		0	32585.09943	0.000
DIESEL(C10-C28)		0	32639.02829	0.000
DIESEL(C10-C25)		0	32615.51857	0.000
DIESEL(C9-C24)		591908	33114.42838	17.875
DIESEL(C9-C25)		591908	33144.84752	17.858
DIESEL(C10-C36)		0	32648.86105	0.000
DIESEL(C10-C40)		0	32648.86105	0.000
Totals		2941228		88.350



AS 09/14/14

Software Version: Version 3.3.1

DAILY CALIBRATIONS

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LI16033A 09/17/2014 10:10
Conc Cont LFID & Datetime: LJ22037A 10/23/2014 01:51
CONC UNIT : ppm

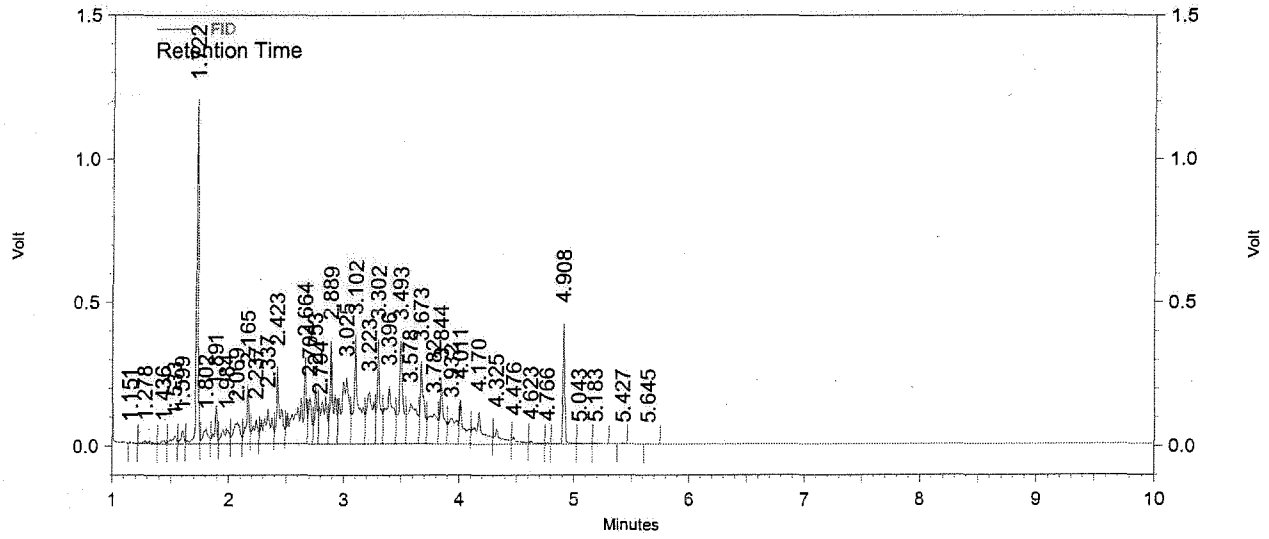
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	NA	NA	NA	500.0	33399.8	15631961	468.03	-6		20
DIESEL(C10-C24)	NA	NA	NA	500.0	32585.1	15002747	460.42	-8		20
DIESEL(C10-C28)	NA	NA	NA	500.0	32639.0	15009579	459.87	-8		20
DIESEL(C10-C25)	NA	NA	NA	500.0	32615.5	15009579	460.20	-8		20
DIESEL(C9-C24)	NA	NA	NA	500.0	33114.4	15383294	464.55	-7		20
DIESEL(C9-C25)	NA	NA	NA	500.0	33144.9	15390126	464.33	-7		20
DIESEL(C10-C36)	NA	NA	NA	500.0	32648.9	15012193	459.81	-8		20
DIESEL(C10-C40)	NA	NA	NA	500.0	32648.9	15012193	459.81	-8		20
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
BROMOBENZENE	1.722	1.719	1.725	80.0	17891.9	1379691	77.11	-4		20
HEXACOSANE	4.908	4.860	4.956	20.0	25061.6	502282	20.04	0		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LJ22\LJ22037.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16.met
Sequence: : D:\Projects\EZC331\Sequence\LJ22.seq
Sample ID : CDSD5I16340 DSL 500/80/20PPM
Acquired : 10/23/14 01:51:39
Printed : 10/23/14 12:17:46
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.722	1379691	17891.93900	77.112
HEXACOSANE	4.908	502282	25061.64131	20.042
DIESEL(TOTAL)		15631961	33399.78271	468.026
DIESEL(C10-C24)		15002747	32585.09943	460.417
DIESEL(C10-C28)		15009579	32639.02829	459.866
DIESEL(C10-C25)		15009579	32615.51857	460.197
DIESEL(C9-C24)		15383294	33114.42838	464.550
DIESEL(C9-C25)		15390126	33144.84752	464.329
DIESEL(C10-C36)		15012193	32648.86105	459.808
DIESEL(C10-C40)		15012193	32648.86105	459.808
Totals		123333645		3794.155



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LI16040A 09/17/2014 12:11
Conc Cont LFID & Datetime: LJ22038A 10/23/2014 02:08
CONC UNIT : ppm

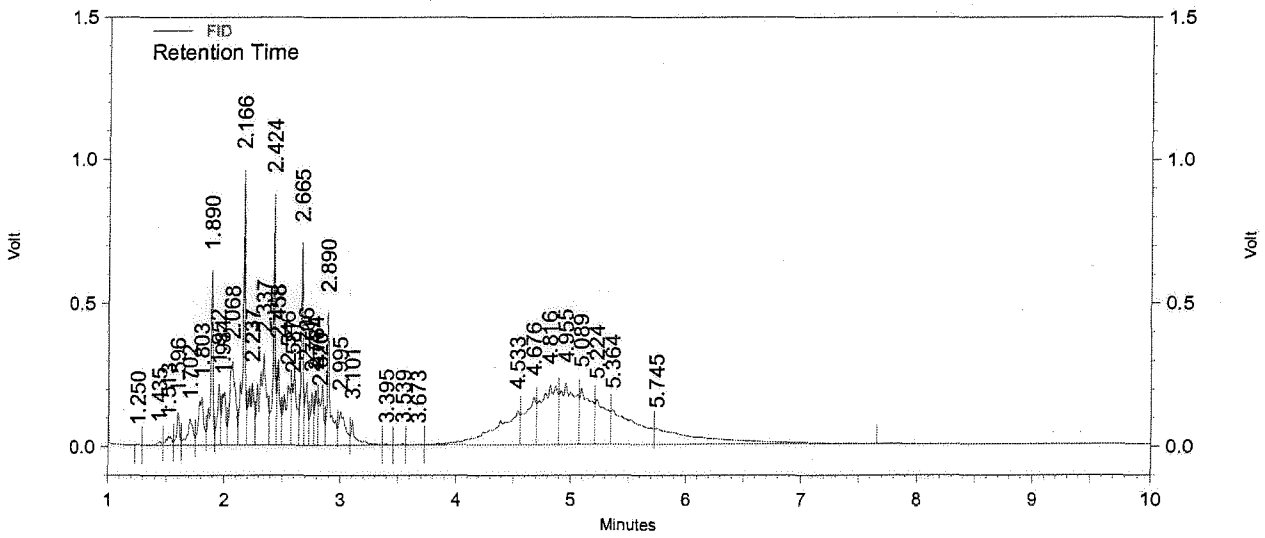
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5(C8-C18)	NA	NA	NA	500.0	32447.4	14492572	446.65	-11		20
M.OIL(C18-C36)	NA	NA	NA	500.0	24460.1	12443025	508.71	2		20
M.OIL(C24-C36)	NA	NA	NA	500.0	20980.2	9626783	458.85	-8		20
M.OIL(C24-C40)	NA	NA	NA	500.0	21068.4	9626783	456.93	-9		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LJ22\LJ22038.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16.met
Sequence: : D:\Projects\EZC331\Sequence\LJ22.seq
Sample ID : CDSD5I16341 JP5/5W30 500/500PPM
Acquired : 10/23/14 02:08:40
Printed : 10/23/14 12:18:10
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		14492572	32447.41478	446.648
M.OIL(C18-C36)		12443025	24460.06839	508.708
M.OIL(C24-C36)		9626783	20980.20150	458.851
M.OIL(C24-C40)		9626783	21068.39522	456.930
Totals		46189163		1871.137



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LI16033A 09/17/2014 10:10
Conc Cont LFID & Datetime: LJ22047A 10/23/2014 04:43
CONC UNIT : ppm

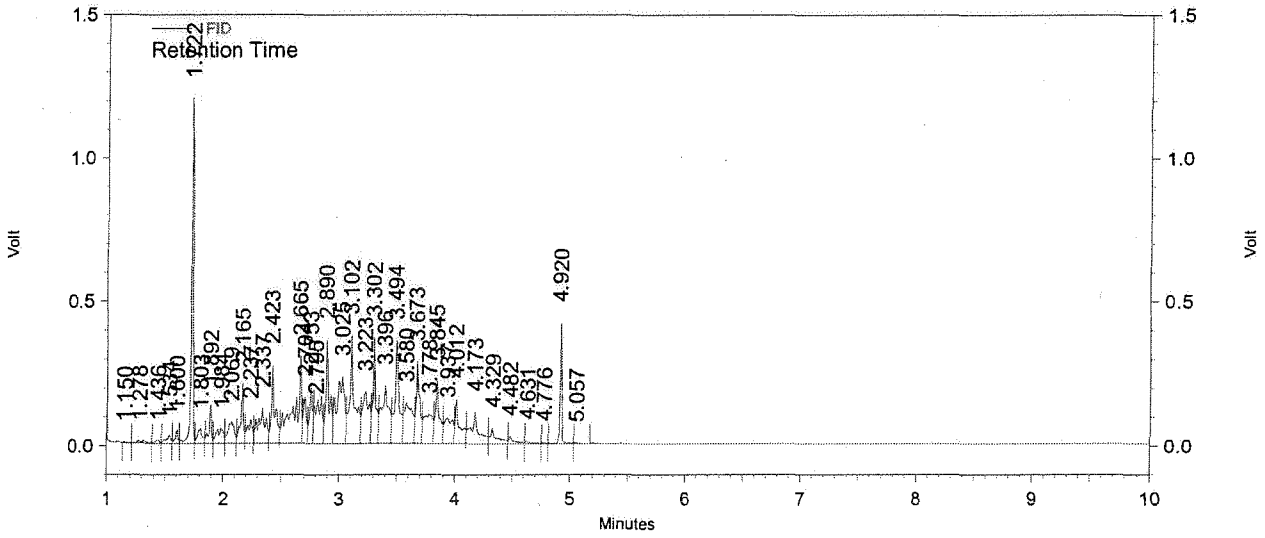
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	NA	NA	NA	500.0	33399.8	15695989	469.94	-6		20
DIESEL(C10-C24)	NA	NA	NA	500.0	32585.1	15068390	462.43	-8		20
DIESEL(C10-C28)	NA	NA	NA	500.0	32639.0	15074796	461.86	-8		20
DIESEL(C10-C25)	NA	NA	NA	500.0	32615.5	15074796	462.20	-8		20
DIESEL(C9-C24)	NA	NA	NA	500.0	33114.4	15451293	466.60	-7		20
DIESEL(C9-C25)	NA	NA	NA	500.0	33144.9	15457699	466.37	-7		20
DIESEL(C10-C36)	NA	NA	NA	500.0	32648.9	15074796	461.73	-8		20
DIESEL(C10-C40)	NA	NA	NA	500.0	32648.9	15074796	461.73	-8		20
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
BROMOBENZENE	1.722	1.719	1.725	80.0	17891.9	1386085	77.47	-3		20
HEXACOSANE	4.920	4.872	4.968	20.0	25061.6	497505	19.85	-1		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LJ22\LJ22047.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16.met
Sequence: : D:\Projects\EZC331\Sequence\LJ22.seq
Sample ID : CDSD5I16342 DSL 500/80/20PPM
Acquired : 10/23/14 04:43:04
Printed : 10/23/14 09:20:59
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.722	1386085	17891.93900	77.470
HEXACOSANE	4.920	497505	25061.64131	19.851
DIESEL(TOTAL)		15695989	33399.78271	469.943
DIESEL(C10-C24)		15068390	32585.09943	462.432
DIESEL(C10-C28)		15074796	32639.02829	461.864
DIESEL(C10-C25)		15074796	32615.51857	462.197
DIESEL(C9-C24)		15451293	33114.42838	466.603
DIESEL(C9-C25)		15457699	33144.84752	466.368
DIESEL(C10-C36)		15074796	32648.86105	461.725
DIESEL(C10-C40)		15074796	32648.86105	461.725
Totals		123856145		3810.178



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LI16040A 09/17/2014 12:11
Conc Cont LFID & Datetime: LJ22048A 10/23/2014 05:00
CONC UNIT : ppm

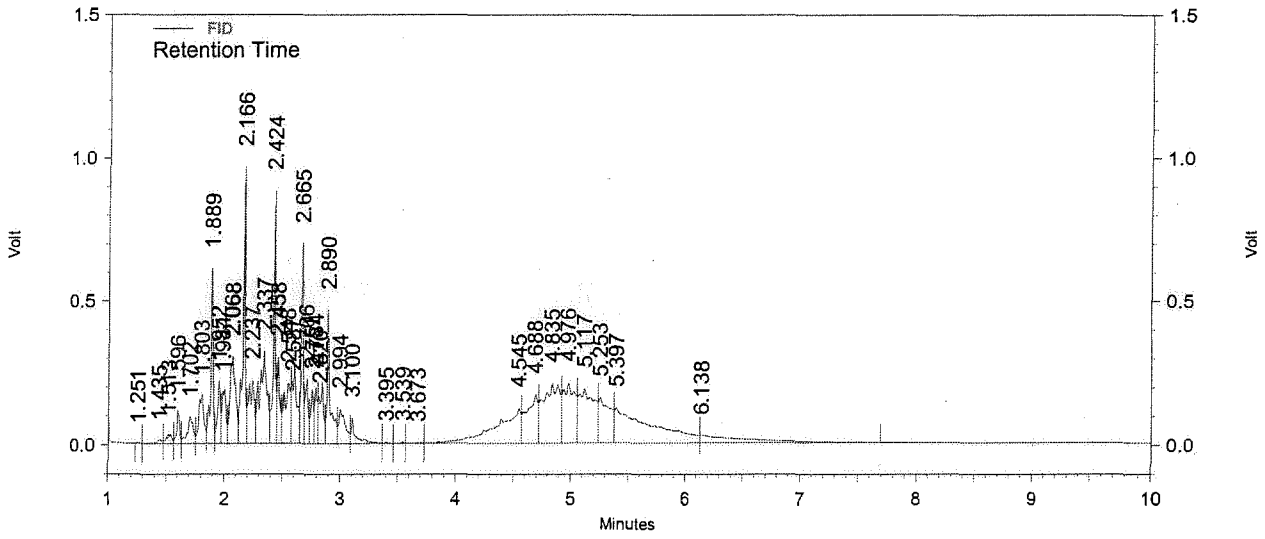
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5(C8-C18)	NA	NA	NA	500.0	32447.4	14577221	449.26	-10		20
M.OIL(C18-C36)	NA	NA	NA	500.0	24460.1	12567707	513.80	3		20
M.OIL(C24-C36)	NA	NA	NA	500.0	20980.2	9714335	463.02	-7		20
M.OIL(C24-C40)	NA	NA	NA	500.0	21068.4	9714335	461.09	-8		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LJ22\LJ22048.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5I16.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LJ22.seq**
Sample ID	**: CDSD5I16343 JP5/5W30 500/500PPM**
Acquired	**: 10/23/14 05:00:08**
Printed	**: 10/23/14 09:22:00**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		14577221	32447.41478	449.257
M.OIL(C18-C36)		12567707	24460.06839	513.805
M.OIL(C24-C36)		9714335	20980.20150	463.024
M.OIL(C24-C40)		9714335	21068.39522	461.086
Totals		46573598		1887.171



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LI16033A 09/17/2014 10:10
Conc Cont LFID & Datetime: LJ22073A 10/23/2014 12:07
CONC UNIT : ppm

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	NA	NA	NA	500.0	33399.8	15266521	457.08	-9		20
DIESEL(C10-C24)	NA	NA	NA	500.0	32585.1	14555091	446.68	-11		20
DIESEL(C10-C28)	NA	NA	NA	500.0	32639.0	14591613	447.06	-11		20
DIESEL(C10-C25)	NA	NA	NA	500.0	32615.5	14583762	447.14	-11		20
DIESEL(C9-C24)	NA	NA	NA	500.0	33114.4	14962484	451.84	-10		20
DIESEL(C9-C25)	NA	NA	NA	500.0	33144.9	14991155	452.29	-10		20
DIESEL(C10-C36)	NA	NA	NA	500.0	32648.9	14597989	447.12	-11		20
DIESEL(C10-C40)	NA	NA	NA	500.0	32648.9	14597989	447.12	-11		20
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
BROMOBENZENE	1.722	1.719	1.725	80.0	17891.9	1445326	80.78	1		20
HEXACOSANE	5.037	4.989	5.085	20.0	25061.6	520763	20.78	4		20

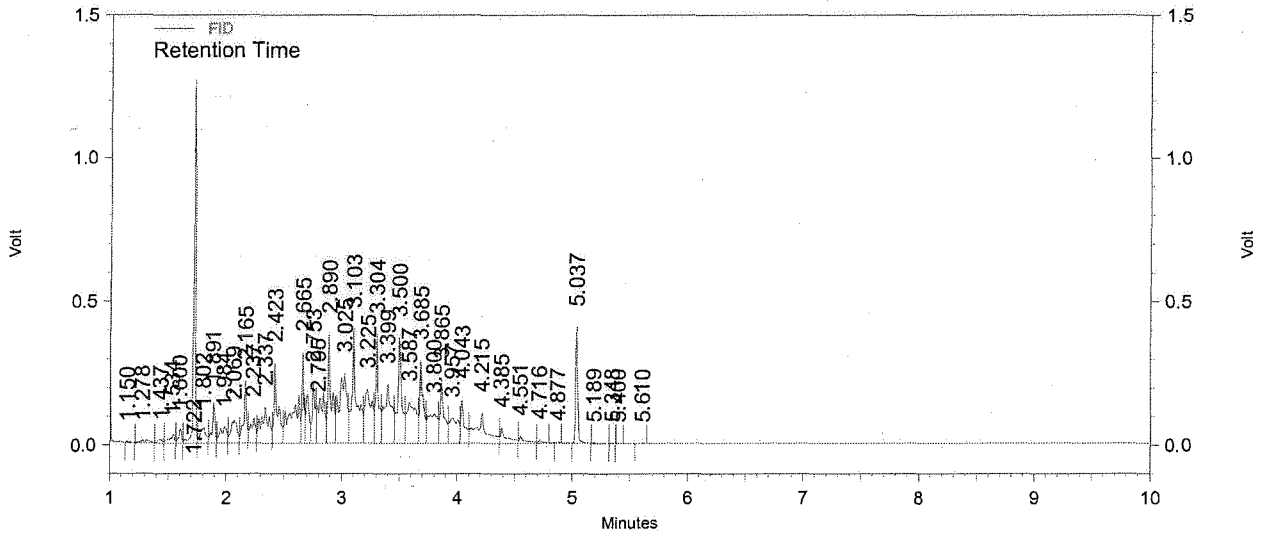
METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LJ22\LJ22073.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5I16.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LJ22.seq**
Sample ID	**: CDSD5I16348 DSL 500/80/20PPM**
Acquired	**: 10/23/14 12:07:14**
Printed	**: 10/23/14 14:47:22**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.722	1445326	17891.93900	80.781
HEXACOSANE	5.037	520763	25061.64131	20.779
DIESEL(TOTAL)		15266521	33399.78271	457.084
DIESEL(C10-C24)		14555091	32585.09943	446.679
DIESEL(C10-C28)		14591613	32639.02829	447.060
DIESEL(C10-C25)		14583762	32615.51857	447.142
DIESEL(C9-C24)		14962484	33114.42838	451.842
DIESEL(C9-C25)		14991155	33144.84752	452.292
DIESEL(C10-C36)		14597989	32648.86105	447.121
DIESEL(C10-C40)		14597989	32648.86105	447.121

Totals				
		120112693		3697.902



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LI16040A 09/17/2014 12:11
Conc Cont LFID & Datetime: LJ22074A 10/23/2014 12:24
CONC UNIT : ppm

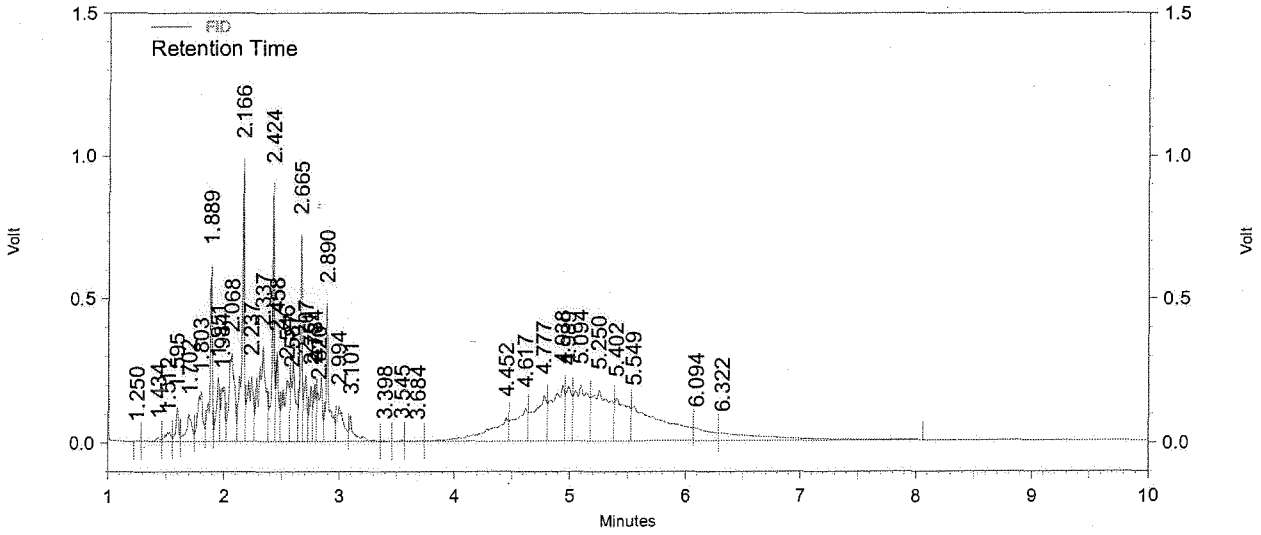
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5(C8-C18)	NA	NA	NA	500.0	32447.4	15013537	462.70	-7		20
M.OIL(C18-C36)	NA	NA	NA	500.0	24460.1	12994307	531.25	6		20
M.OIL(C24-C36)	NA	NA	NA	500.0	20980.2	11176310	532.71	7		20
M.OIL(C24-C40)	NA	NA	NA	500.0	21068.4	11176310	530.48	6		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LJ22\LJ22074.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16.met
Sequence: : D:\Projects\EZC331\Sequence\LJ22.seq
Sample ID : CDSD5I16349 JP5/5W30 500/500PPM
Acquired : 10/23/14 12:24:19
Printed : 10/23/14 14:46:30
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		15013537	32447.41478	462.704
M.OIL(C18-C36)		12994307	24460.06839	531.246
M.OIL(C24-C36)		11176310	20980.20150	532.707
M.OIL(C24-C40)		11176310	21068.39522	530.478
Totals		50360464		2057.134



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LI16033A 09/17/2014 10:10
Conc Cont LFID & Datetime: LJ22086A 10/23/2014 18:31
CONC UNIT : ppm

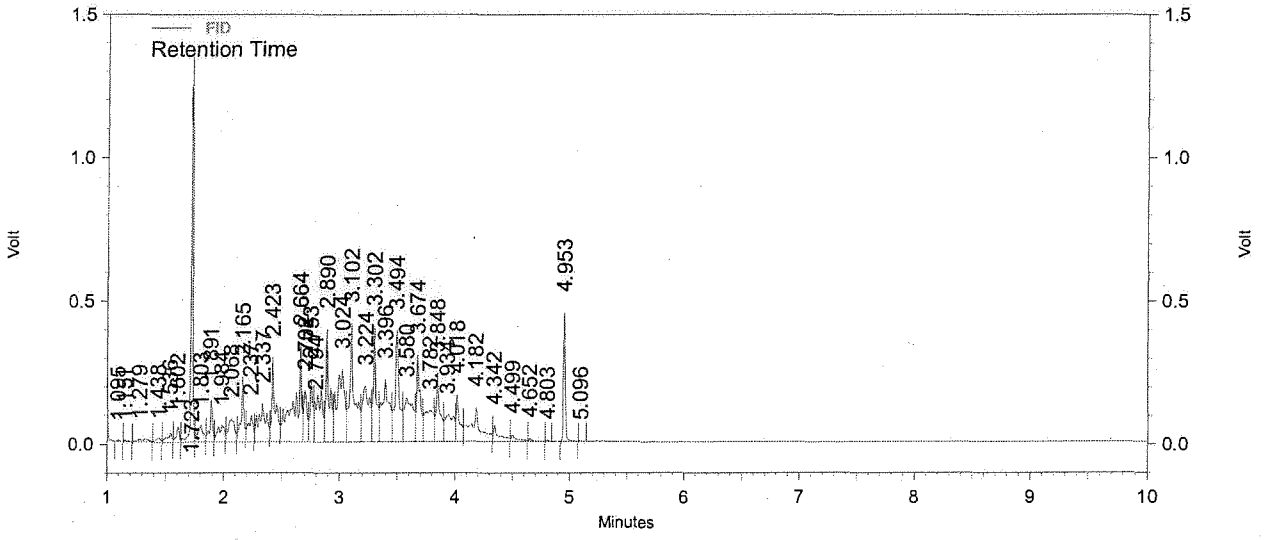
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	NA	NA	NA	500.0	33399.8	17243436	516.27	3		20
DIESEL(C10-C24)	NA	NA	NA	500.0	32585.1	16527237	507.20	1		20
DIESEL(C10-C28)	NA	NA	NA	500.0	32639.0	16532853	506.54	1		20
DIESEL(C10-C25)	NA	NA	NA	500.0	32615.5	16532853	506.90	1		20
DIESEL(C9-C24)	NA	NA	NA	500.0	33114.4	16958090	512.11	2		20
DIESEL(C9-C25)	NA	NA	NA	500.0	33144.9	16963706	511.80	2		20
DIESEL(C10-C36)	NA	NA	NA	500.0	32648.9	16532853	506.38	1		20
DIESEL(C10-C40)	NA	NA	NA	500.0	32648.9	16532853	506.38	1		20
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
BROMOBENZENE	1.723	1.720	1.726	80.0	17891.9	1530190	85.52	7		20
HEXACOSANE	4.953	4.905	5.001	20.0	25061.6	551721	22.01	10		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LJ22\LJ22086.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16.met
Sequence: : D:\Projects\EZC331\Sequence\LJ22.seq
Sample ID : CDSD5I16351 DSL 500/80/20PPM
Acquired : 10/23/14 18:31:50
Printed : 10/27/14 11:43:29
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.723	1530190	17891.93900	85.524
HEXACOSANE	4.953	551721	25061.64131	22.015
DIESEL(TOTAL)		17243435	33399.78271	516.274
DIESEL(C10-C24)		16527237	32585.09943	507.202
DIESEL(C10-C28)		16532853	32639.02829	506.536
DIESEL(C10-C25)		16532853	32615.51857	506.901
DIESEL(C9-C24)		16958090	33114.42838	512.106
DIESEL(C9-C25)		16963706	33144.84752	511.805
DIESEL(C10-C36)		16532853	32648.86105	506.384
DIESEL(C10-C40)		16532853	32648.86105	506.384
Totals		135905791		4181.131



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LI16040A 09/17/2014 12:11
Conc Cont LFID & Datetime: LJ22087A 10/23/2014 18:48
CONC UNIT : ppm

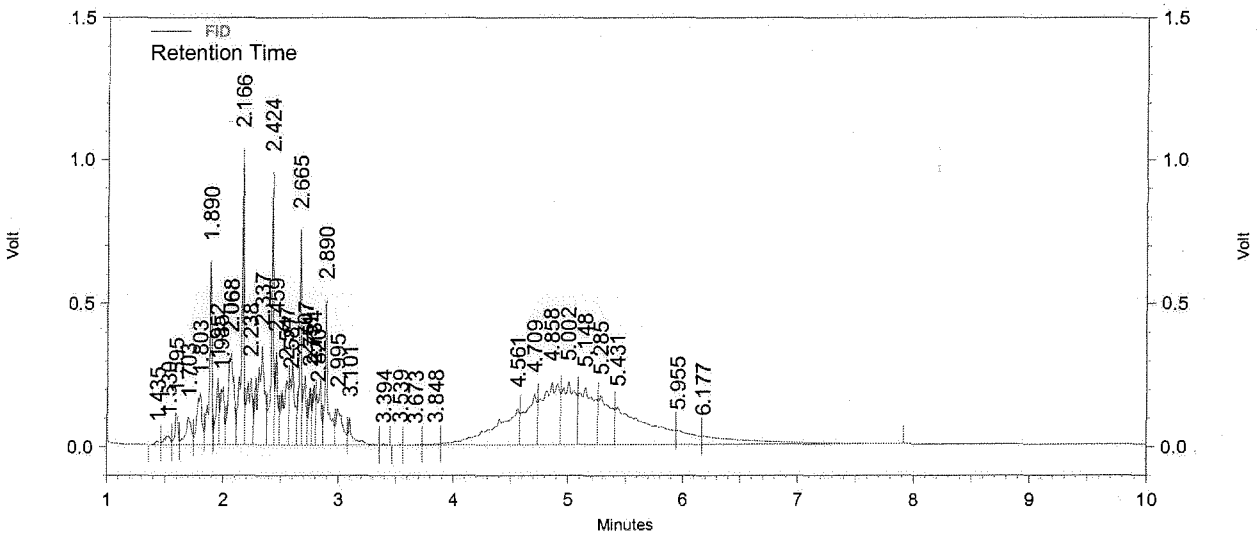
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5(C8-C18)	NA	NA	NA	500.0	32447.4	15668566	482.89	-3		20
M.OIL(C18-C36)	NA	NA	NA	500.0	24460.1	13888095	567.79	14		20
M.OIL(C24-C36)	NA	NA	NA	500.0	20980.2	10730354	511.45	2		20
M.OIL(C24-C40)	NA	NA	NA	500.0	21068.4	10730354	509.31	2		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LJ22\LJ22087.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16.met
Sequence: : D:\Projects\EZC331\Sequence\LJ22.seq
Sample ID : CDSD5I16352 JP5/5W30 500/500PPM
Acquired : 10/23/14 18:48:53
Printed : 10/27/14 11:44:44
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		15668566	32447.41478	482.891
M.OIL(C18-C36)		13888095	24460.06839	567.786
M.OIL(C24-C36)		10730354	20980.20150	511.451
M.OIL(C24-C40)		10730354	21068.39522	509.310
Totals		51017369		2071.439



Software Version: Version 3.3.1

ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
EXTRACTABLE TPH

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Book #: AD5-029

Instrument No.: D5

Analytical Sequence: LI16

Method File: D5D5I16

Analytical Batch: N A.

SOP #	Rev. #
☑ EMAX-8015D	6
☐ EMAX-AK102/AK103	3
☐ EMAX-	

STANDARDS ID	Conc (mg/L)
ICAL	
☑ Diesel SS3B-17.98-01	5 → 3,000
☑ Motor Oil ☑ JP5 SS3B-17-98-03	10 → 3,000
CH_2Cl_2 54141	Pure
DSL ~~DEC~~ ICV SS3B-17-98-02	500/80/20
JP5/5W30 ~~DEC~~ ICV1 SS3B-17-99-01	500/500
~~Alaska DCC~~ JP5/5W30 ICV2 SS3B-17-99-02	500/500
Arizona DCC	
DRO (C_9-C_{40} + C_{41}-C_{81}) SS3B-17-32-03	—
GRO (C_6-C_{10}) SS3B-17-32-02	—

KHL 9/16/14

KHL 9/16/14

KHL 9/16/14

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZCHROM_GC6890N	
☐ External Hard Drive	

Analyzed By: KHL

Date: 9/16/14

GET-105 (Offline) - Method: CCD5I17.met - Data: LI17062.dat - Project: EZC331 - [Sequence: LI16.seq]

File Edit View Method Data Sequence Analysis Control Reports Window Help

1: FID

Run #	Run Type	Level	Vial #	Volume	Sample ID	Method	Filename	Action	Description
28	Unknown	0	100	2	IBD5I1602	DSD5I16.met	LI16028.dat		
29	Unknown	0	9	2	DSD5I1601 DSL 5PPM	DSD5I16.met	LI16029.dat		DSL + Surr. ICAL
30	Unknown	0	10	2	DSD5I1602 DSL 10/20/5PPM	DSD5I16.met	LI16030.dat		
31	Unknown	0	11	2	DSD5I1603 DSL 50/40/10PPM	DSD5I16.met	LI16031.dat		
32	Unknown	0	12	2	DSD5I1604 DSL 100/60/15PPM	DSD5I16.met	LI16032.dat		
33	Unknown	0	13	2	DSD5I1605 DSL 500/80/20PPM	DSD5I16.met	LI16033.dat		
34	Unknown	0	14	2	DSD5I1606 DSL 1500/100/25PPM	DSD5I16.met	LI16034.dat		
35	Unknown	0	15	2	DSD5I1607 DSL 3000/220/55PPM	DSD5I16.met	LI16035.dat		
36	Unknown	0	16	2	IDSD5I1601 DSL 500/80/20PPM	DSD5I16.met	LI16036.dat		DSL + Surr. ICV
37	Unknown	0	17	2	DSD5I1608 JP5/5W30 10/10PPM	DSD5I16.met	LI16037.dat		JP5 + SW30 ICAL
38	Unknown	0	18	2	DSD5I1609 JP5/5W30 50/50PPM	DSD5I16.met	LI16038.dat		
39	Unknown	0	19	2	DSD5I1610 JP5/5W30 100/100PPM	DSD5I16.met	LI16039.dat		
40	Unknown	0	20	2	DSD5I1611 JP5/5W30 500/500PPM	DSD5I16.met	LI16040.dat		
41	Unknown	0	21	2	DSD5I1612 JP5/5W30 1500/1500PPM	DSD5I16.met	LI16041.dat		
42	Unknown	0	22	2	DSD5I1613 JP5/5W30 3000/3000PPM	DSD5I16.met	LI16042.dat		
43	Unknown	0	23	2	IDSD5I1602 JP5/5W30 500/500PPM	DSD5I16.met	LI16043.dat		JP5 + SW30 (Restek) ICV
44	Unknown	0	24	2	IDSD5I1603 JP5/5W30 500/500PPM	DSD5I16.met	LI16044.dat		JP5 + SW30 (Accustandard) ICV
45	Unknown	0	25	2	DRO(C8-C40 + C9-C39)	DSD5I16.met	LI16045.dat		
46	Unknown	0	26	2	GRO(C6-C10)	DSD5I16.met	LI16046.dat		
47	Unknown	0		2		CCD5I16.met	LI16047.dat		
48	Unknown	0		2		CCD5I16.met	LI16048.dat		
49	Unknown	0		2		CCD5I16.met	LI16049.dat		
50	Unknown	0		2		CCD5I16.met	LI16050.dat		
51	Unknown	0		2		CCD5I16.met	LI16051.dat		
52	Unknown	0		2		CCD5I16.met	LI16052.dat		
53	Unknown	0		2		CCD5I16.met	LI16053.dat		
54	Unknown	0		2		CCD5I16.met	LI16054.dat		
55	Unknown	0		2		CCD5I16.met	LI16055.dat		
56	Unknown	0		2		J8D5I16.met	LI16056.dat		
57	Unknown	0		2		J8D5I16.met	LI16057.dat		FINAL
58	Unknown	0		2		J8D5I16.met	LI16058.dat		
59	Unknown	0		2		J8D5I16.met	LI16059.dat		
60	Unknown	0		2		J8D5I16.met	LI16060.dat		
61	Unknown	0		2		J8D5I16.met	LI16061.dat		
62	Unknown	0		2		J8D5I16.met	LI16062.dat		
63	Unknown	0		2		J8D5I16.met	LI16063.dat		
64	Unknown	0		2		J8D5I16.met	LI16064.dat		
65	Unknown	0		2		J8D5I16.met	LI16065.dat		
66	Unknown	0		2		J8D5I16.met	LI16066.dat		
67	Unknown	0		2		J8D5I16.met	LI16067.dat		
68	Unknown	0		2		J8D5I16.met	LI16068.dat		
69	Unknown	0		2		J8D5I16.met	LI16069.dat		
70	Unknown	0		2		J8D5I16.met	LI16070.dat		
71	Unknown	0		2		J8D5I16.met	LI16071.dat		

KML 9/16/14

KML 9/16/14

For Help, press F1

MIN

Start | Lawson Tile... | CCD-105 Method: DS... | GET-105 (Offline) | Untitled - Paint | D:\Projects\ezcgc\Unchr...

1446

5951

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
EXTRACTABLE TPH

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

DSJ 0 31W: LCS-2, MD-2 8015 M27
J107 ↓

DSJ029S: J107 8015 M27

SSJ030W: J128
J133
J134
J130

DSJ028W: J113
J118
J121
J122

DSJ0328: J110
J128
J128

Book #: AD5-030

Instrument No.: D5

Analytical Sequence: LJ22

Method File: AED5I29 / DSD5I16

Analytical Batch: CAED5I29336

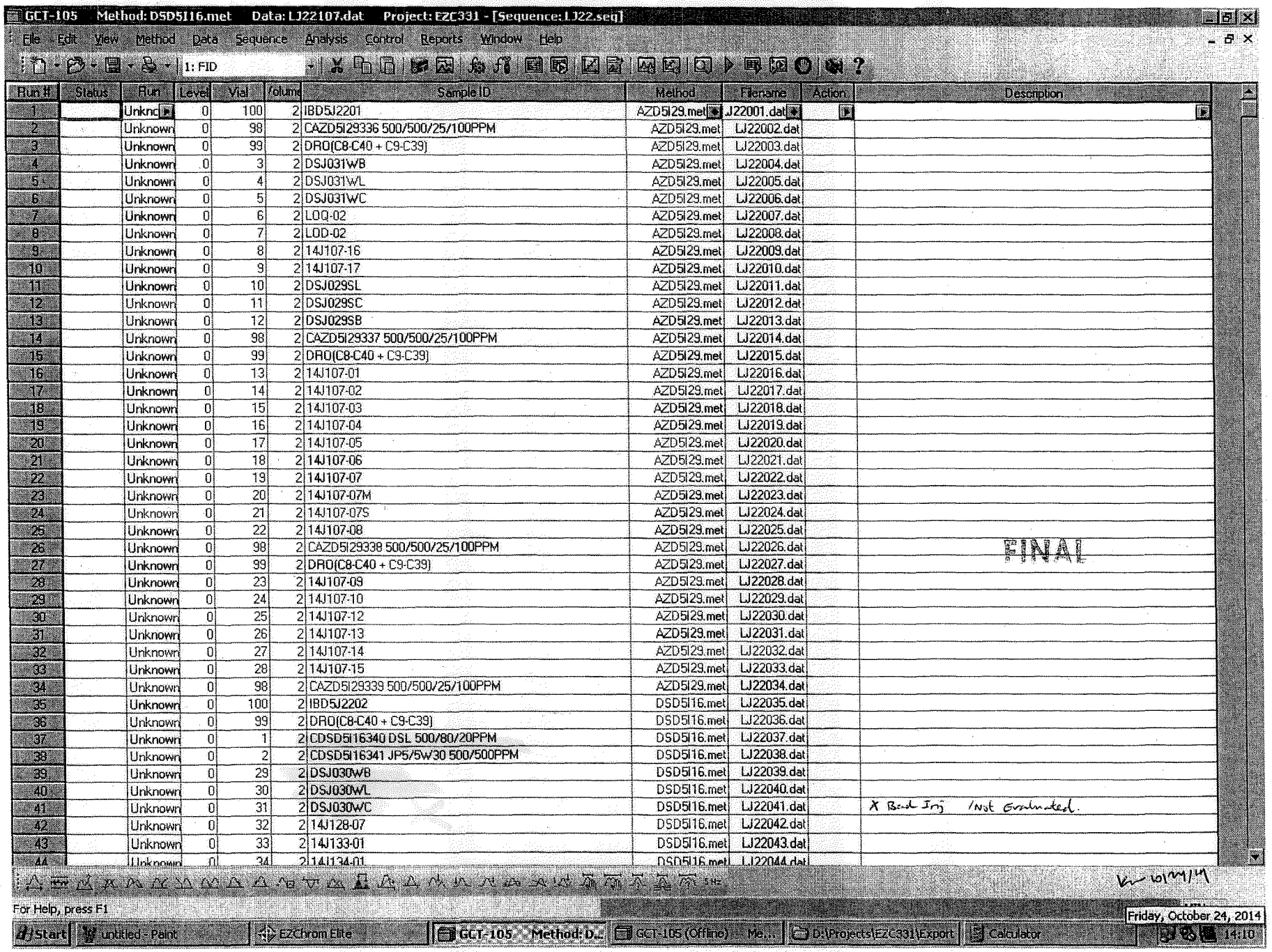
SOP #	Rev. #
☑ EMAX-8015D	6
☑ EMAX-AK102/AK103	3
☑ EMAX- ~~8015M~~	2

STANDARDS ID	Conc (mg/L)
ICAL	
☐ Diesel	
☐ Motor Oil ☐ JP5	
CH_2Cl_2 Lot # 54141	Pure
DSL DCC SSSB-17-96-02	500/20
JP5/5W30 DCC SSSB-17-96-03	500/500
Alaska DCC	
Arizona DCC	500/100/100/25
JP-8 DCC SSSB-17-88-03	5000
DRO SSSB-17-~~dg~~ 91-02 10/22/14	—

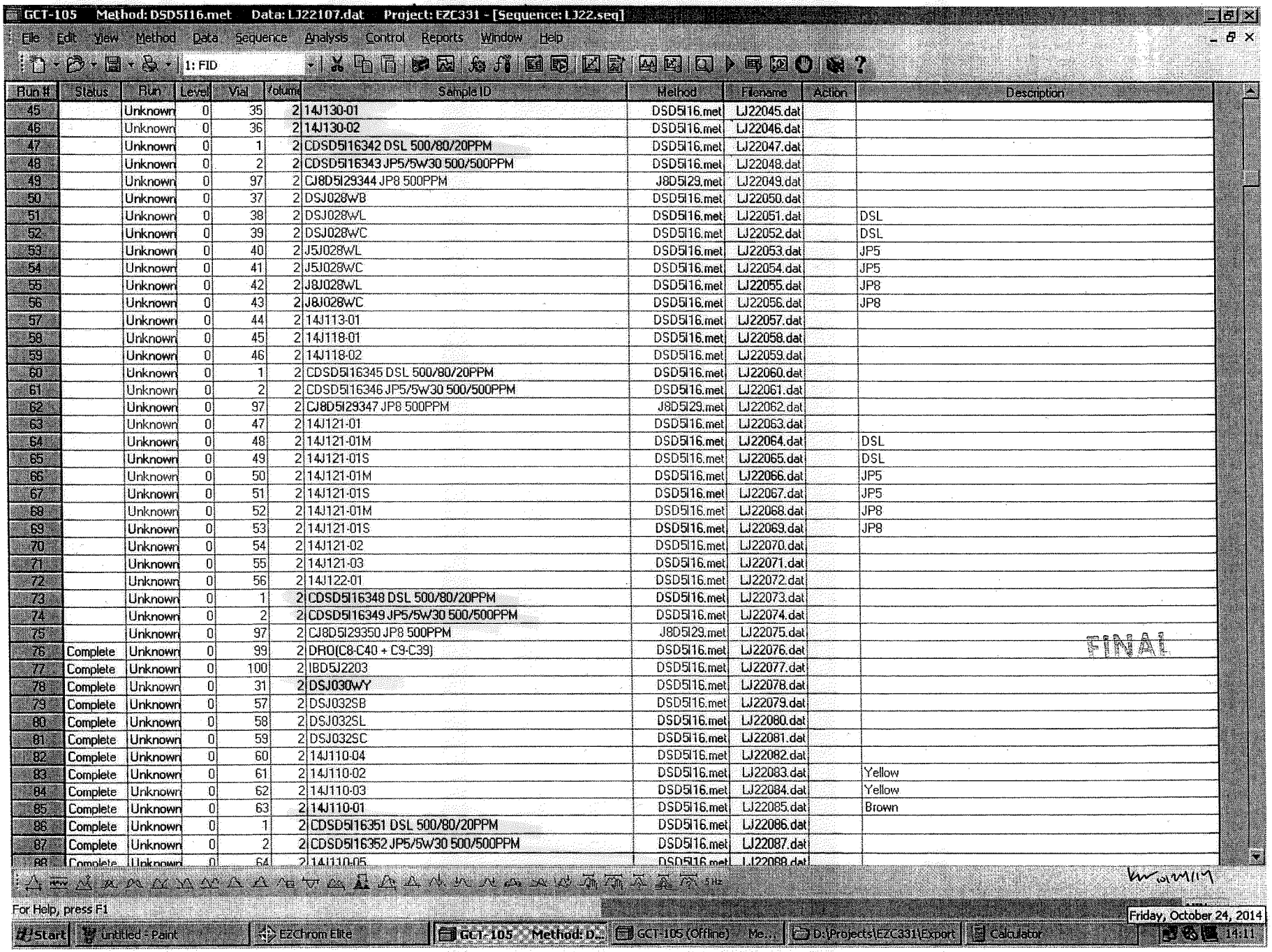
ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZCHROM_GC6890N	
☐ External Hard Drive	

Analyzed By: [signature]

Date: 10/22/14


GCT-105 Method: DSD5I16.met Data: LJ22107.dat Project: EZC331 - [Sequence: LJ22.seq]
File Edit View Method Data Sequence Analysis Control Reports Window Help
1: FID
Run # | Status | Run | Level | Vial | Volume | Sample ID | Method | Filename | Action | Description
1 | Unkno | 0 | 100 | 2 | IBD5J2201 | AZD5I29.met | J22001.dat
2 | Unknown | 0 | 98 | 2 | CAZD5I29336 500/500/25/100PPM | AZD5I29.met | LJ22002.dat
3 | Unknown | 0 | 99 | 2 | DRO(C8-C40 + C9-C39) | AZD5I29.met | LJ22003.dat
4 | Unknown | 0 | 3 | 2 | DSJ031WB | AZD5I29.met | LJ22004.dat
5 | Unknown | 0 | 4 | 2 | DSJ031WL | AZD5I29.met | LJ22005.dat
6 | Unknown | 0 | 5 | 2 | DSJ031WC | AZD5I29.met | LJ22006.dat
7 | Unknown | 0 | 6 | 2 | LOQ-02 | AZD5I29.met | LJ22007.dat
8 | Unknown | 0 | 7 | 2 | LOD-02 | AZD5I29.met | LJ22008.dat
9 | Unknown | 0 | 8 | 2 | 14J107-16 | AZD5I29.met | LJ22009.dat
10 | Unknown | 0 | 9 | 2 | 14J107-17 | AZD5I29.met | LJ22010.dat
11 | Unknown | 0 | 10 | 2 | DSJ029SL | AZD5I29.met | LJ22011.dat
12 | Unknown | 0 | 11 | 2 | DSJ029SC | AZD5I29.met | LJ22012.dat
13 | Unknown | 0 | 12 | 2 | DSJ029SB | AZD5I29.met | LJ22013.dat
14 | Unknown | 0 | 98 | 2 | CAZD5I29337 500/500/25/100PPM | AZD5I29.met | LJ22014.dat
15 | Unknown | 0 | 99 | 2 | DRO(C8-C40 + C9-C39) | AZD5I29.met | LJ22015.dat
16 | Unknown | 0 | 13 | 2 | 14J107-01 | AZD5I29.met | LJ22016.dat
17 | Unknown | 0 | 14 | 2 | 14J107-02 | AZD5I29.met | LJ22017.dat
18 | Unknown | 0 | 15 | 2 | 14J107-03 | AZD5I29.met | LJ22018.dat
19 | Unknown | 0 | 16 | 2 | 14J107-04 | AZD5I29.met | LJ22019.dat
20 | Unknown | 0 | 17 | 2 | 14J107-05 | AZD5I29.met | LJ22020.dat
21 | Unknown | 0 | 18 | 2 | 14J107-06 | AZD5I29.met | LJ22021.dat
22 | Unknown | 0 | 19 | 2 | 14J107-07 | AZD5I29.met | LJ22022.dat
23 | Unknown | 0 | 20 | 2 | 14J107-07M | AZD5I29.met | LJ22023.dat
24 | Unknown | 0 | 21 | 2 | 14J107-07S | AZD5I29.met | LJ22024.dat
25 | Unknown | 0 | 22 | 2 | 14J107-08 | AZD5I29.met | LJ22025.dat
26 | Unknown | 0 | 98 | 2 | CAZD5I29338 500/500/25/100PPM | AZD5I29.met | LJ22026.dat
27 | Unknown | 0 | 99 | 2 | DRO(C8-C40 + C9-C39) | AZD5I29.met | LJ22027.dat
28 | Unknown | 0 | 23 | 2 | 14J107-09 | AZD5I29.met | LJ22028.dat
29 | Unknown | 0 | 24 | 2 | 14J107-10 | AZD5I29.met | LJ22029.dat
30 | Unknown | 0 | 25 | 2 | 14J107-12 | AZD5I29.met | LJ22030.dat
31 | Unknown | 0 | 26 | 2 | 14J107-13 | AZD5I29.met | LJ22031.dat
32 | Unknown | 0 | 27 | 2 | 14J107-14 | AZD5I29.met | LJ22032.dat
33 | Unknown | 0 | 28 | 2 | 14J107-15 | AZD5I29.met | LJ22033.dat
34 | Unknown | 0 | 98 | 2 | CAZD5I29339 500/500/25/100PPM | AZD5I29.met | LJ22034.dat
35 | Unknown | 0 | 100 | 2 | IBD5J2202 | DSD5I16.met | LJ22035.dat
36 | Unknown | 0 | 99 | 2 | DRO(C8-C40 + C9-C39) | DSD5I16.met | LJ22036.dat
37 | Unknown | 0 | 1 | 2 | CDSD5I16340 DSL 500/80/20PPM | DSD5I16.met | LJ22037.dat
38 | Unknown | 0 | 2 | 2 | CDSD5I16341 JP5/5W30 500/500PPM | DSD5I16.met | LJ22038.dat
39 | Unknown | 0 | 29 | 2 | DSJ030WB | DSD5I16.met | LJ22039.dat
40 | Unknown | 0 | 30 | 2 | DSJ030WL | DSD5I16.met | LJ22040.dat
41 | Unknown | 0 | 31 | 2 | DSJ030WC | DSD5I16.met | LJ22041.dat
42 | Unknown | 0 | 32 | 2 | 14J128-07 | DSD5I16.met | LJ22042.dat
43 | Unknown | 0 | 33 | 2 | 14J133-01 | DSD5I16.met | LJ22043.dat
44 | Unknown | 0 | 34 | 2 | 14J134-01 | DSD5I16.met | LJ22044.dat
FINAL
X Bench Inj /Not Evaluated.
For Help, press F1
Start
untitled - Paint
EZChrom Elite
GCT-105 Method: D...
GCT-105 (Offline) - Me...
D:\Projects\EZC331\Export
Calculator
Friday, October 24, 2014
14:10

5995



GCT-105 Method: DSD5I16.met Data: LJ22107.dat Project: EZC331 - [Sequence: LJ22.seq]

File Edit View Method Data Sequence Analysis Control Reports Window Help

1: FID

Run #	Status	Run	Level	Vial	Volume	Sample ID	Method	Filename	Action	Description
45		Unknown	0	35	2	14J130-01	DSD5I16.met	LJ22045.dat		
46		Unknown	0	36	2	14J130-02	DSD5I16.met	LJ22046.dat		
47		Unknown	0	1	2	CDSD5I16342 DSL 500/80/20PPM	DSD5I16.met	LJ22047.dat		
48		Unknown	0	2	2	CDSD5I16343 JP5/5W30 500/500PPM	DSD5I16.met	LJ22048.dat		
49		Unknown	0	97	2	CJ8D5I29344 JP8 500PPM	J8D5I29.met	LJ22049.dat		
50		Unknown	0	37	2	DSJ028WB	DSD5I16.met	LJ22050.dat		
51		Unknown	0	38	2	DSJ028WL	DSD5I16.met	LJ22051.dat		DSL
52		Unknown	0	39	2	DSJ028WC	DSD5I16.met	LJ22052.dat		DSL
53		Unknown	0	40	2	J5J028WL	DSD5I16.met	LJ22053.dat		JP5
54		Unknown	0	41	2	J5J028WC	DSD5I16.met	LJ22054.dat		JP5
55		Unknown	0	42	2	J8J028WL	DSD5I16.met	LJ22055.dat		JP8
56		Unknown	0	43	2	J8J028WC	DSD5I16.met	LJ22056.dat		JP8
57		Unknown	0	44	2	14J113-01	DSD5I16.met	LJ22057.dat		
58		Unknown	0	45	2	14J118-01	DSD5I16.met	LJ22058.dat		
59		Unknown	0	46	2	14J118-02	DSD5I16.met	LJ22059.dat		
60		Unknown	0	1	2	CDSD5I16345 DSL 500/80/20PPM	DSD5I16.met	LJ22060.dat		
61		Unknown	0	2	2	CDSD5I16346 JP5/5W30 500/500PPM	DSD5I16.met	LJ22061.dat		
62		Unknown	0	97	2	CJ8D5I29347 JP8 500PPM	J8D5I29.met	LJ22062.dat		
63		Unknown	0	47	2	14J121-01	DSD5I16.met	LJ22063.dat		
64		Unknown	0	48	2	14J121-01M	DSD5I16.met	LJ22064.dat		DSL
65		Unknown	0	49	2	14J121-01S	DSD5I16.met	LJ22065.dat		DSL
66		Unknown	0	50	2	14J121-01M	DSD5I16.met	LJ22066.dat		JP5
67		Unknown	0	51	2	14J121-01S	DSD5I16.met	LJ22067.dat		JP5
68		Unknown	0	52	2	14J121-01M	DSD5I16.met	LJ22068.dat		JP8
69		Unknown	0	53	2	14J121-01S	DSD5I16.met	LJ22069.dat		JP8
70		Unknown	0	54	2	14J121-02	DSD5I16.met	LJ22070.dat		
71		Unknown	0	55	2	14J121-03	DSD5I16.met	LJ22071.dat		
72		Unknown	0	56	2	14J122-01	DSD5I16.met	LJ22072.dat		
73		Unknown	0	1	2	CDSD5I16348 DSL 500/80/20PPM	DSD5I16.met	LJ22073.dat		
74		Unknown	0	2	2	CDSD5I16349 JP5/5W30 500/500PPM	DSD5I16.met	LJ22074.dat		
75		Unknown	0	97	2	CJ8D5I29350 JP8 500PPM	J8D5I29.met	LJ22075.dat		
76	Complete	Unknown	0	99	2	DRO(C8-C40 + C9-C39)	DSD5I16.met	LJ22076.dat		
77	Complete	Unknown	0	100	2	IBD5J2203	DSD5I16.met	LJ22077.dat		
78	Complete	Unknown	0	31	2	DSJ030WY	DSD5I16.met	LJ22078.dat		
79	Complete	Unknown	0	57	2	DSJ032SB	DSD5I16.met	LJ22079.dat		
80	Complete	Unknown	0	58	2	DSJ032SL	DSD5I16.met	LJ22080.dat		
81	Complete	Unknown	0	59	2	DSJ032SC	DSD5I16.met	LJ22081.dat		
82	Complete	Unknown	0	60	2	14J110-04	DSD5I16.met	LJ22082.dat		
83	Complete	Unknown	0	61	2	14J110-02	DSD5I16.met	LJ22083.dat		Yellow
84	Complete	Unknown	0	62	2	14J110-03	DSD5I16.met	LJ22084.dat		Yellow
85	Complete	Unknown	0	63	2	14J110-01	DSD5I16.met	LJ22085.dat		Brown
86	Complete	Unknown	0	1	2	CDSD5I16351 DSL 500/80/20PPM	DSD5I16.met	LJ22086.dat		
87	Complete	Unknown	0	2	2	CDSD5I16352 JP5/5W30 500/500PPM	DSD5I16.met	LJ22087.dat		
88	Complete	Unknown	0	64	2	14J110-05	DSD5I16.met	LJ22088.dat		

FINAL

For Help, press F1

Friday, October 24, 2014

Start | Untitled - Paint | EZChrom Elite | GCT-105 Method: D... | GCT-105 (Offline) - Me... | D:\Projects\EZC331\Export | Calculator | 14:11

5961

GCT-105 Method: DSD5I16.met Data: LJ22107.dat Project: EZC331 - [Sequence: LJ22.seq]

File Edit View Method Data Sequence Analysis Control Reports Window Help

1: FID

Run #	Status	Run	Level	Vial	Volume	Sample ID	Method	Filename	Action	Description
89	Complete	Unknown	0	65	2	14J110-06	DSD5I16.met	LJ22089.dat		
90	Complete	Unknown	0	66	2	14J110-07	DSD5I16.met	LJ22090.dat		
91	Complete	Unknown	0	67	2	14J120-01	DSD5I16.met	LJ22091.dat		
92	Complete	Unknown	0	68	2	14J120-02	DSD5I16.met	LJ22092.dat		
93	Complete	Unknown	0	69	2	14J120-03	DSD5I16.met	LJ22093.dat		
94	Complete	Unknown	0	70	2	14J120-04	DSD5I16.met	LJ22094.dat		
95	Complete	Unknown	0	71	2	14J120-05	DSD5I16.met	LJ22095.dat		
96	Complete	Unknown	0	72	2	14J120-05M	DSD5I16.met	LJ22096.dat		
97	Complete	Unknown	0	73	2	14J120-05S	DSD5I16.met	LJ22097.dat		
98	Complete	Unknown	0	1	2	CDSD5I16353 DSL 500/80/20PPM	DSD5I16.met	LJ22098.dat		
99	Complete	Unknown	0	2	2	CDSD5I16354 JP5/5W30 500/500PPM	DSD5I16.met	LJ22099.dat		
100	Complete	Unknown	0	74	2	14J128-03	DSD5I16.met	LJ22100.dat		
101	Complete	Unknown	0	75	2	14J128-02	DSD5I16.met	LJ22101.dat		Yellow
102	Complete	Unknown	0	76	2	14J128-06	DSD5I16.met	LJ22102.dat		Yellow
103	Complete	Unknown	0	77	2	14J128-04I 0.2/1ML	DSD5I16.met	LJ22103.dat		Brown
104	Complete	Unknown	0	78	2	14J128-01	DSD5I16.met	LJ22104.dat		Brown
105	Complete	Unknown	0	79	2	14J128-05	DSD5I16.met	LJ22105.dat		Brown
106	Complete	Unknown	0	1	2	CDSD5I16355 DSL 500/80/20PPM	DSD5I16.met	LJ22106.dat		
107	Stopped	Unknown	0	2	2	CDSD5I16356 JP5/5W30 500/500PPM	DSD5I16.met	LJ22107.dat	ANY	
108		Unknown	0		2		DSD5I16.met	LJ22108.dat		
109		Unknown	0		2		DSD5I16.met	LJ22109.dat		
110		Unknown	0		2		DSD5I16.met	LJ22110.dat		
111		Unknown	0		2		DSD5I16.met	LJ22111.dat		
112		Unknown	0		2		DSD5I16.met	LJ22112.dat		
113		Unknown	0		2		DSD5I16.met	LJ22113.dat		
114		Unknown	0		2		DSD5I16.met	LJ22114.dat		
115		Unknown	0		2		DSD5I16.met	LJ22115.dat		
116		Unknown	0		2		DSD5I16.met	LJ22116.dat		
117		Unknown	0		2		DSD5I16.met	LJ22117.dat		
118		Unknown	0		2		DSD5I16.met	LJ22118.dat		
119		Unknown	0		2		DSD5I16.met	LJ22119.dat		
120		Unknown	0		2	IB	DSD5I16.met	LJ22120.dat		
121		Unknown	0		2	IB	DSD5I16.met	LJ22121.dat		
122		Unknown	0		2	IB	DSD5I16.met	LJ22122.dat		
123		Unknown	0		2	IB	DSD5I16.met	LJ22123.dat		
124		Unknown	0		2	IB	DSD5I16.met	LJ22124.dat		
125		Unknown	0		2	IB	DSD5I16.met	LJ22125.dat		
126		Unknown	0		2	IB	DSD5I16.met	LJ22126.dat		
127		Unknown	0		2	IB	DSD5I16.met	LJ22127.dat		
128		Unknown	0		2	IB	DSD5I16.met	LJ22128.dat		
129		Unknown	0		2	IB	DSD5I16.met	LJ22129.dat		
130		Unknown	0		2	IB	DSD5I16.met	LJ22130.dat		
131		Unknown	0		2	IB	DSD5I16.met	LJ22131.dat		
132		Unknown	0		2	IB	DSD5I16.met	LJ22132.dat		

10/24/14

FINAL

10/24/14

For Help, press F1

Start | untitled - Paint | EZChrom Elite | GCT-105 Method: D... | GCT-105 (Offline) - Me... | D:\Projects\EZC331\Export | Calculator | Friday, October 24, 2014 14:11

5965

EXTRACTION LOGS

EMAX LABORATORIES, INC.

EXTRACTION LOG
for
TPH

SOP	Rev. #
☑ EMAX-3520	5
☐ EMAX-3540	2
☐ EMAX-3550	4
☐ EMAX-3580	2
☐ EMAX-8015AZ	2
☐ EMAX-AK 102/103	3
☐ EMAX-	

Note: For samples and relevant QCs/Standards extracted, refer to attached extraction sequence.

Book #: EDS-070
Preparation Batch: DSJ030W
Matrix: water
Micropipette ID: PE97C-03 (100 µL) ✓
Micropipette ID: PE00-03 (1000 µL) ✓

Standards	ID	Amount Added (ml)
Surrogate	SS3-009-08-30	0.5 ✓
Surrogate		
LCS/MS (diesel)	SS3-009-08-04	0.1 ✓
LCS/MS		

Reagent	Lot # / ID
CH_2Cl_2	54184
Na_2SO_4	SWB-002-62-10
HCl	4113080
Silica Sand	
Silica Gel	
Reagent Water	SWIA-005-09-18
pH strip	HC413032
Filter Paper 10/27/14	~~HC413032~~ 95873228

TUNING

Sonicator #	Reading

Lab Sample ID	Sonicator #	Concentrator #
DSJ030WB		4
WL		4
WC		4
J128-07		4
J133-01		4
J134-01		4
J130-01		3
-02		3

Concentrator	Water Bath Temperature Setting (°C)	Thermometer Reading (°C)
1		
2		
3	35	35
4	35	35
5		
6		

Comments:

Test thermometer = SVOC-T1

Prepared By: AGG
Standard Added By: AGG
Witnessed By:
Checked By: ML
Extract Received By: 10/27/14
Extraction Location: SE06-11
Disposal Date:
Disposed By:

FileID: DSJ030W

EMAX LABORATORIES, INC.

EXTRACTION LOG FOR EXTRACTABLE TPH

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Ve(ml)	ExpAmt	ExpVe(ml)	PrepFctr	Comments
14DSJ030W01	DSJ030WB	1000	ml	10/21/14 15:13	10	1000	10	1	
14DSJ030W02	DSJ030WL	1000	ml	10/21/14 15:13	10	1000	10	1	
14DSJ030W03	DSJ030WC	1000	ml	10/21/14 15:13	10	1000	10	1	
14DSJ030W04	J128-07	880	ml	10/21/14 15:13	10	1000	10	1.14	
14DSJ030W05	J133-01	950	ml	10/21/14 15:14	10	1000	10	1.05	
14DSJ030W06	J134-01	880	ml	10/21/14 15:14	10	1000	10	1.14	
14DSJ030W07	J130-01	960	ml	10/21/14 16:35	10	1000	10	1.04	✓
14DSJ030W08	J130-02	970	ml	10/21/14 16:35	10	1000	10	1.03	✓

Ve=extract volume

PrepFctr=(ExpAmt/Aliquot)(Ve/ExpVe)

☑ Extraction Started @ 10/22/14 16:45

☑ Extraction Ended @ 10/22/14 10:45

Prepared By: AGalan

Checked By: ML

Comments: Volume entered after extraction started, pH adjusted to pH<2 w/ conc HCl.

Date 10/22/14

APPENDIX

Quantitation Report (QT Reviewed)

Data File : D:\DATA\14K19\RKJ283.D
Acq On : 19 Nov 2014 17:42
Sample : 14J130-01
Misc : DEISEL EXTRACT
Integrator: RTE
Quant Time: Nov 20 12:50:40 2014
Quant Results File: SVE4G02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4G02.M
Quant Title : SEMIVOLATILES
QLast Update : Thu Jul 03 14:34:50 2014
Response via : Initial Calibration
DataAcq Meth:SVE4G02S.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	2.986	152	538949	40.00	ppm	-0.02
21) Naphthalene-d8	4.215	136	2000448	40.00	ppm	-0.02
41) Acenaphthene-d10	6.245	164	1157292	40.00	ppm	-0.02
71) Phenanthrene-d10	7.986	188	2018005	40.00	ppm	0.00
87) Chrysene-d12	10.772	240	2245831	40.00	ppm	0.00
97) Perylene-d12	12.193	264	2053022	40.00	ppm	-0.02
System Monitoring Compounds						
5) 2-Fluorophenol	0.000	112	0	0.00	ppm	
Spiked Amount 30.000			Recovery =	0.00%		
6) Phenol-d5	0.000	99	0	0.00	ppm	
Spiked Amount 30.000			Recovery =	0.00%		
12) 1,2-Dichlorobenzene-d4	3.126	152	397	0.03	ppm	-0.02
Spiked Amount 10.000			Recovery =	0.30%		
22) Nitrobenzene-d5	3.451	82	94	0.00	ppm	-0.05
Spiked Amount 10.000			Recovery =	0.00%		
46) 2-Fluorobiphenyl	0.000	172	0	0.00	ppm	
Spiked Amount 10.000			Recovery =	0.00%		
75) 2,4,6-Tribromophenol	0.000	330	0	0.00	ppm	
Spiked Amount 30.000			Recovery =	0.00%		
90) Terphenyl-d14	0.000	244	0	0.00	ppm	
Spiked Amount 10.000			Recovery =	0.00%		

Target Compounds Qvalue

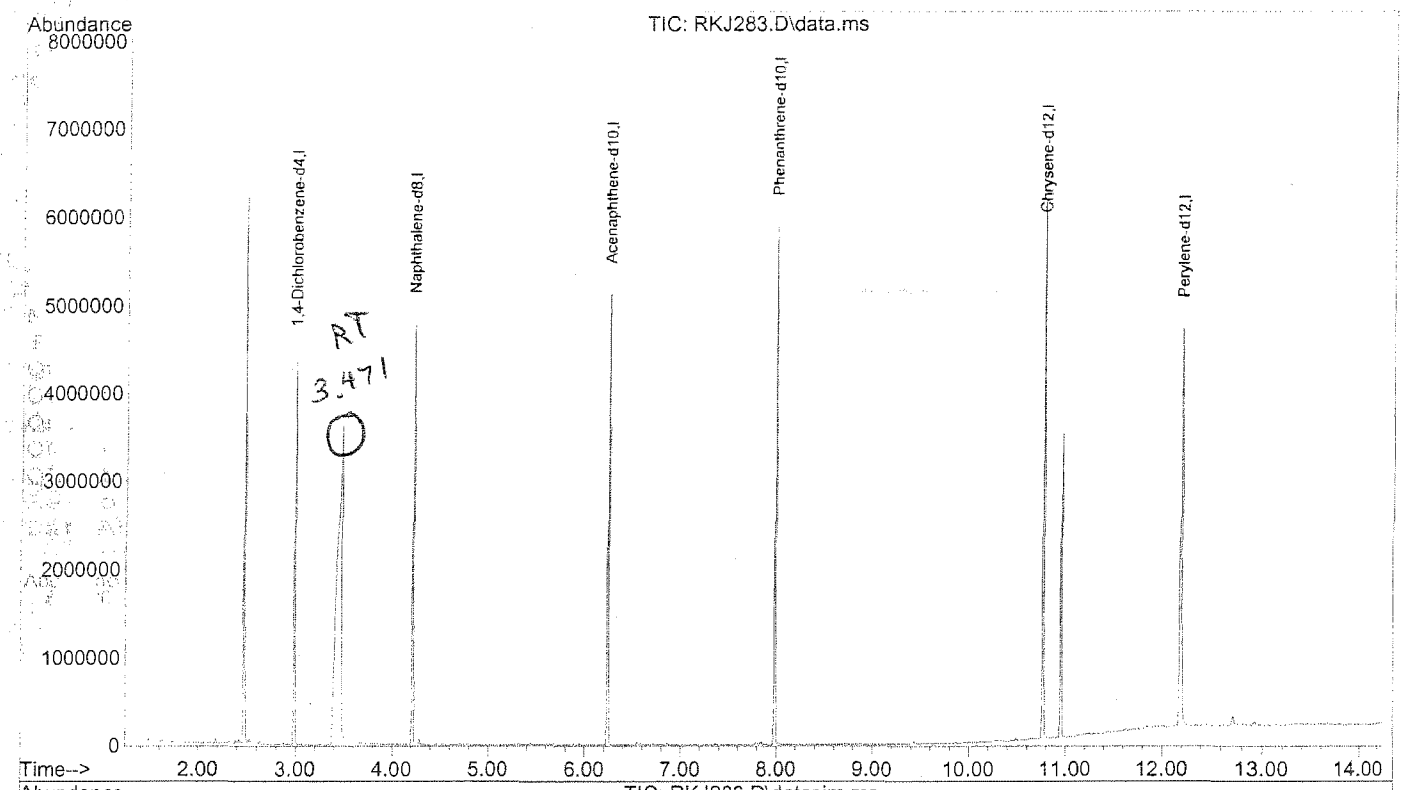
(#) = qualifier out of range (m) = manual integration (+) = signals summed

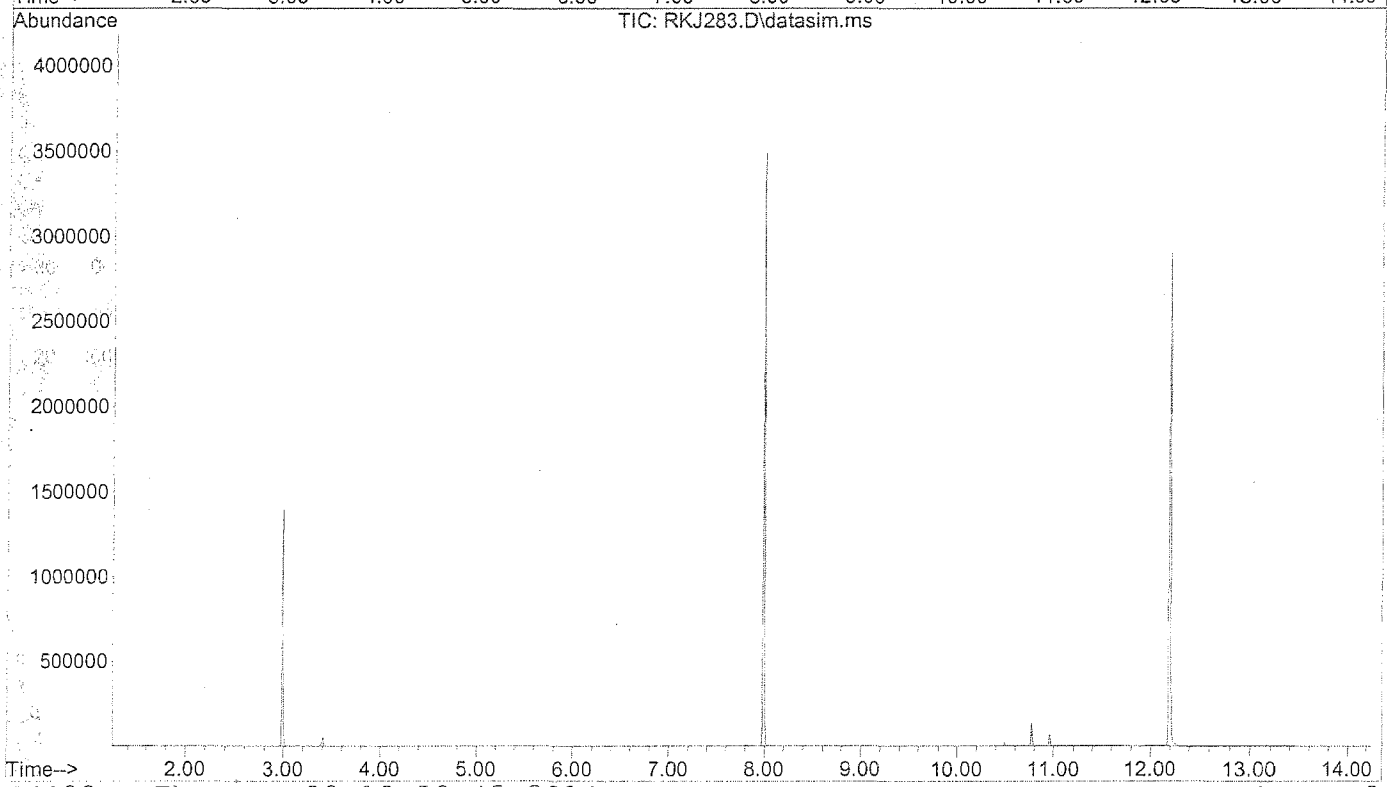
Largest peak identification: See # 2 peak on page 9006

Quantitation Report (QT Reviewed)

Data File : D:\DATA\14K19\RKJ283.D
Acq On : 19 Nov 2014 17:42
Sample : 14J130-01
Misc : DEISEL EXTRACT
Integrator: RTE
Quant Time: Nov 20 12:50:40 2014
Quant Results File: SVE4G02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4G02.M
Quant Title : SEMIVOLATILES
QLast Update : Thu Jul 03 14:34:50 2014
Response via : Initial Calibration
DataAcq Meth:SVE4G02S.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00





9002

LSC Area Percent Report

Data Path : D:\DATA\14K19\
Data File : RKJ283.D
Acq On : 19 Nov 2014 17:42
Operator : KVu
Sample : 14J130-01
Misc : DEISEL EXTRACT
ALS Vial : 2 Sample Multiplier: 1

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\SVE4G02.M
Title : SEMIVOLATILES

Signal : TIC: RKJ283.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.468	249	253	262	rBV	6204720	4758390	38.26%	9.619%
2	2.986	348	352	358	rVB	4403295	3337710	26.84%	6.747%
3	3.471	429	449	452	rBV	3621055	12436929	100.00%	25.140%
4	4.215	596	600	604	rBV	4779907	4239317	34.09%	8.569%
5	6.245	1002	1008	1012	rBV	5121975	4850904	39.00%	9.806%
6	7.986	1361	1367	1371	rBV2	5891610	5065273	40.73%	10.239%
7	10.772	1948	1954	1958	rBV	6635599	5987801	48.15%	12.104%
8	10.956	1987	1992	1998	rBV	3447803	3110686	25.01%	6.288%
9	12.193	2235	2242	2259	rVB	4518064	5683788	45.70%	11.489%

Sum of corrected areas: 49470798

Signal : TIC: RKJ283.D\datasim.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total

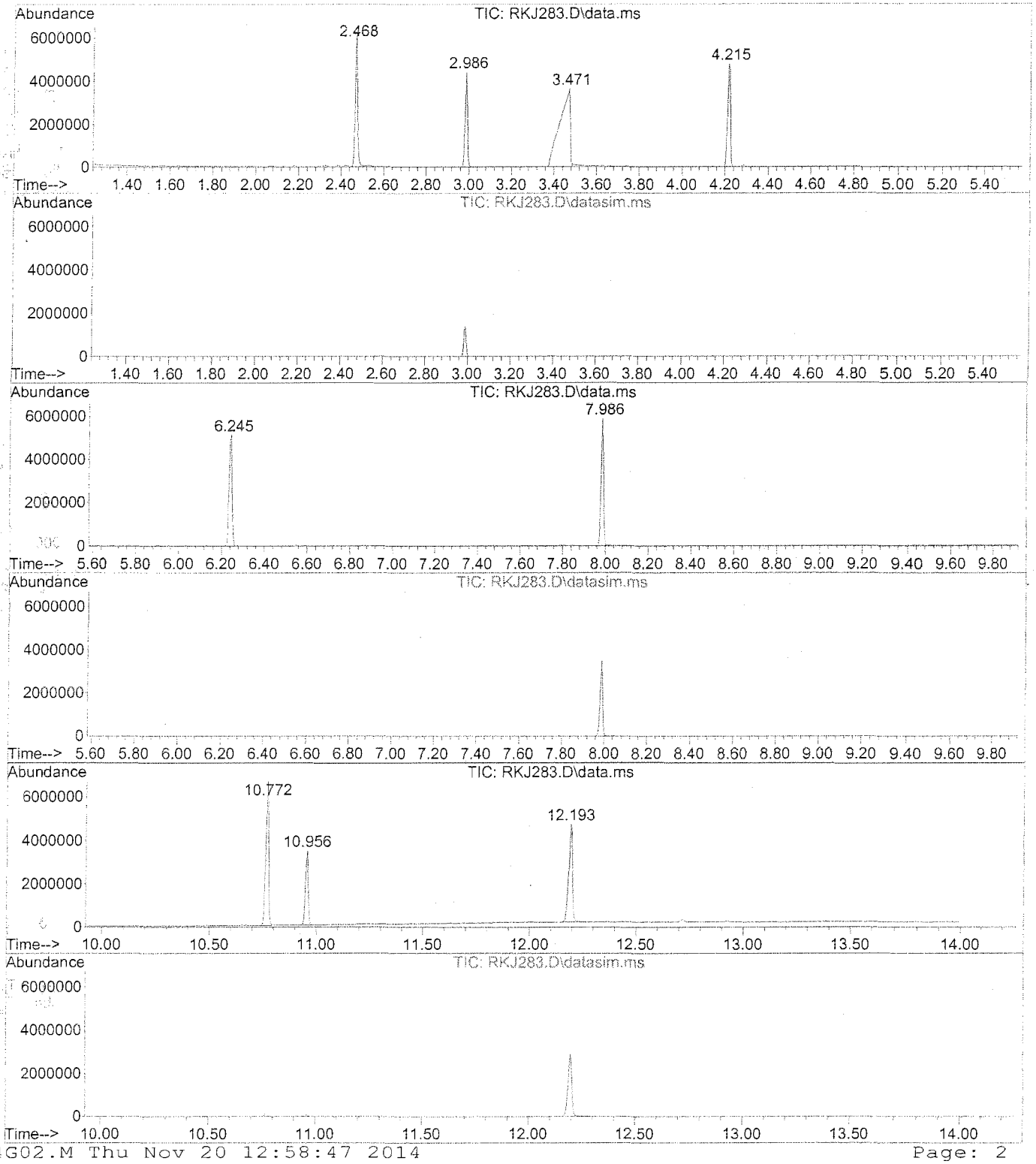
No peaks were detected using the above RTE integration parameters!

LSC Report - Integrated Chromatogram

Data Path : D:\DATA\14K19\
Data File : RKJ283.D
Acq On : 19 Nov 2014 17:42
Operator : KVu
Sample : 14J130-01
Misc : DEISEL EXTRACT
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\SVE4G02.M
Quant Title : SEMIVOLATILES

TIC Library : C:\Database\NIST08.L
TIC Integration Parameters: lscint.p



9804

Library Search Compound Report

Data Path : D:\DATA\14K19\
Data File : RKJ283.D
Acq On : 19 Nov 2014 17:42
Operator : KVu
Sample : 14J130-01
Misc : DEISEL EXTRACT
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\SVE4G02.M
Quant Title : SEMIVOLATILES

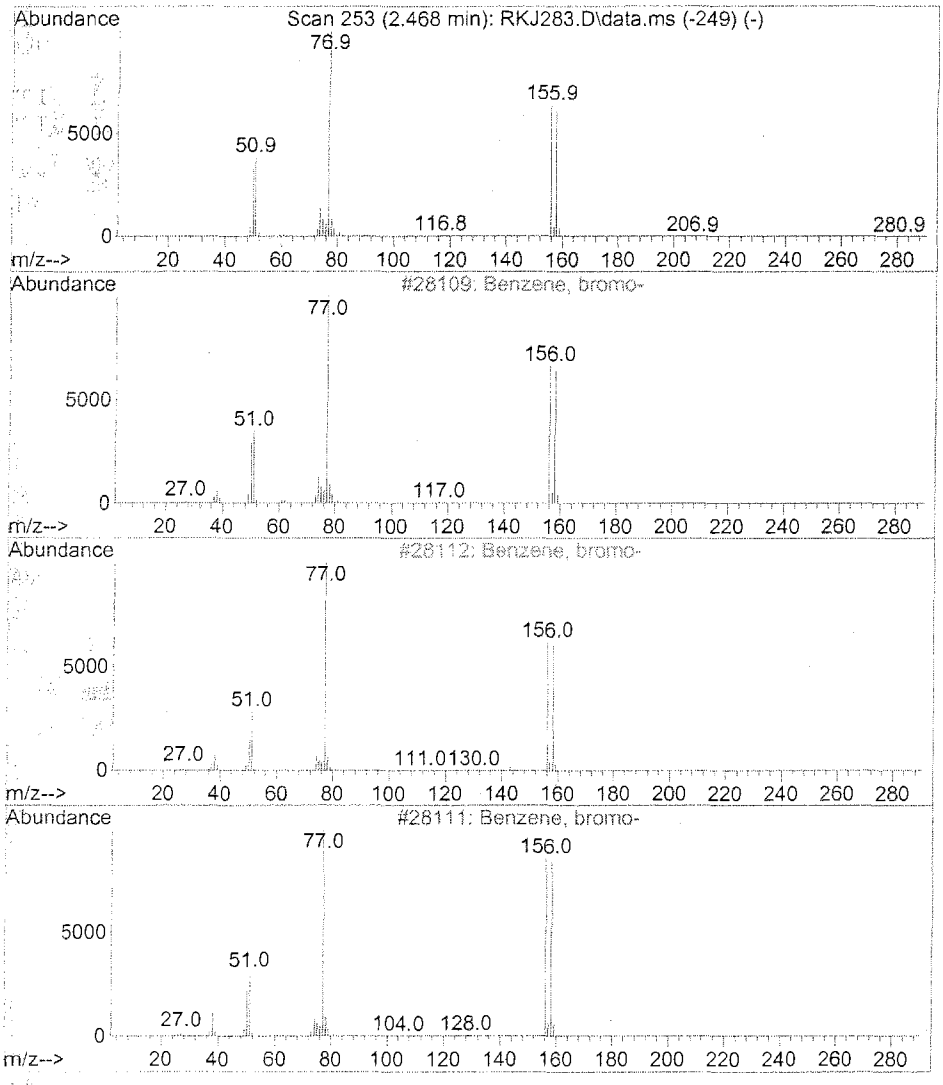
TIC Library : C:\Database\NIST08.L
TIC Integration Parameters: lscint.p

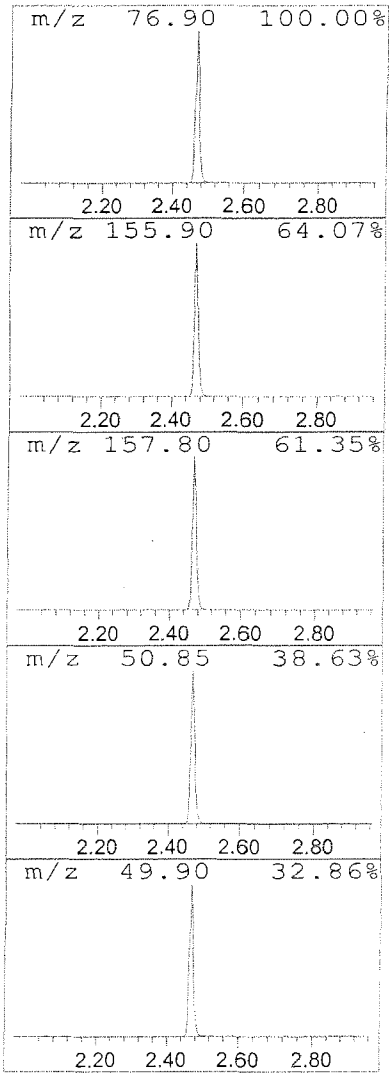
****

Peak Number 1 Benzene, bromo- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.468	57.03 ppm	4758390	1,4-Dichlorobenzene-d4	2.986

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, bromo-	156	C6H5Br	000108-86-1	97
2	Benzene, bromo-	156	C6H5Br	000108-86-1	95
3	Benzene, bromo-	156	C6H5Br	000108-86-1	94
4	Benzene, bromo-	156	C6H5Br	000108-86-1	90
5	s-Hydroxymethylthiobenzoate	168	C8H8O2S	023853-33-0	25





Library Search Compound Report

Data Path : D:\DATA\14K19\
Data File : RKJ283.D
Acq On : 19 Nov 2014 17:42
Operator : KVu
Sample : 14J130-01
Misc : DEISEL EXTRACT
ALS Vial : 2 Sample Multiplier: 1

* is metabolite of ethylene glycol monobutyl ethyl

Quant Method : C:\msdchem\1\METHODS\SVE4G02.M
Quant Title : SEMIVOLATILES

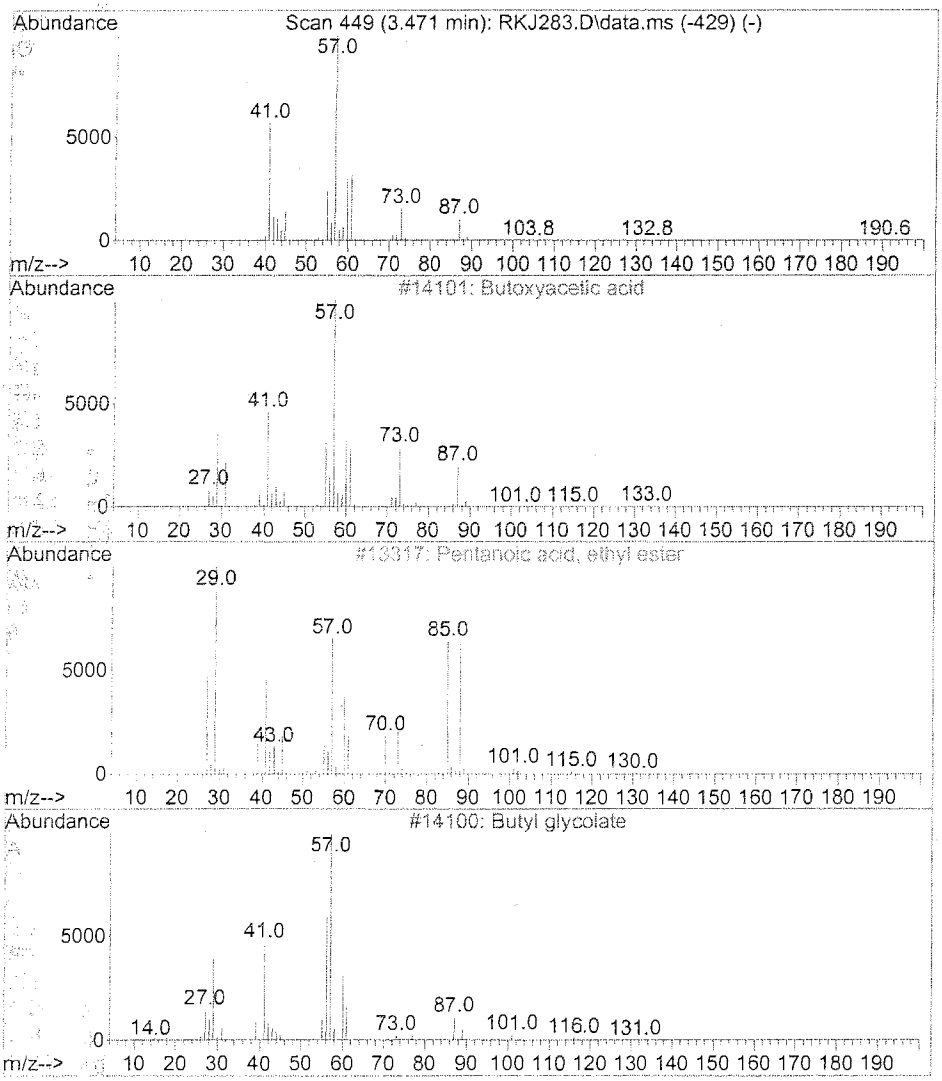
TIC Library : C:\Database\NIST08.L
TIC Integration Parameters: lscint.p

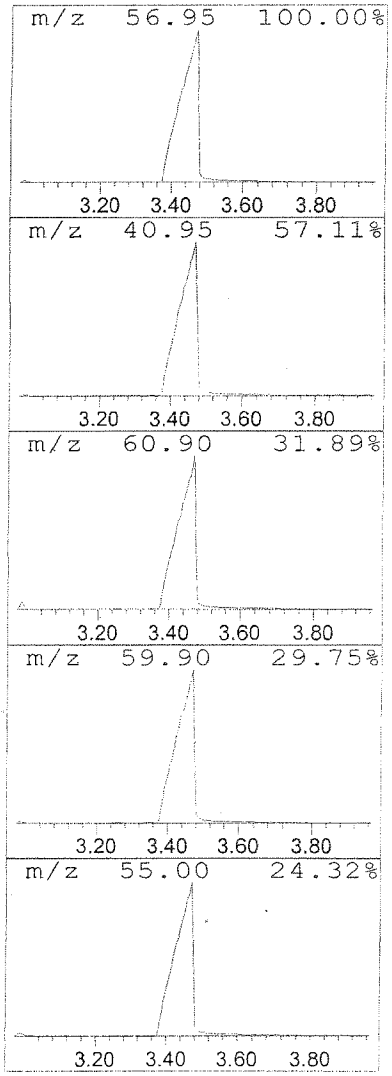
****

Peak Number 2 Butoxyacetic acid Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.471	149.05 ppm	12436900	1,4-Dichlorobenzene-d4	2.986

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Butoxyacetic acid *	132	C6H12O3	002516-93-0	43
2	Pentanoic acid, ethyl ester	130	C7H14O2	000539-82-2	38
3	Butyl glycolate	132	C6H12O3	007397-62-8	33
4	1-Propanol, 2,2-dimethyl-	88	C5H12O	000075-84-3	22
5	1-Propanol, 2,2-dimethyl-	88	C5H12O	000075-84-3	22





5005

Library Search Compound Report

Data Path : D:\DATA\14K19\
Data File : RKJ283.D
Acq On : 19 Nov 2014 17:42
Operator : KVu
Sample : 14J130-01
Misc : DEISEL EXTRACT
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\SVE4G02.M
Quant Title : SEMIVOLATILES

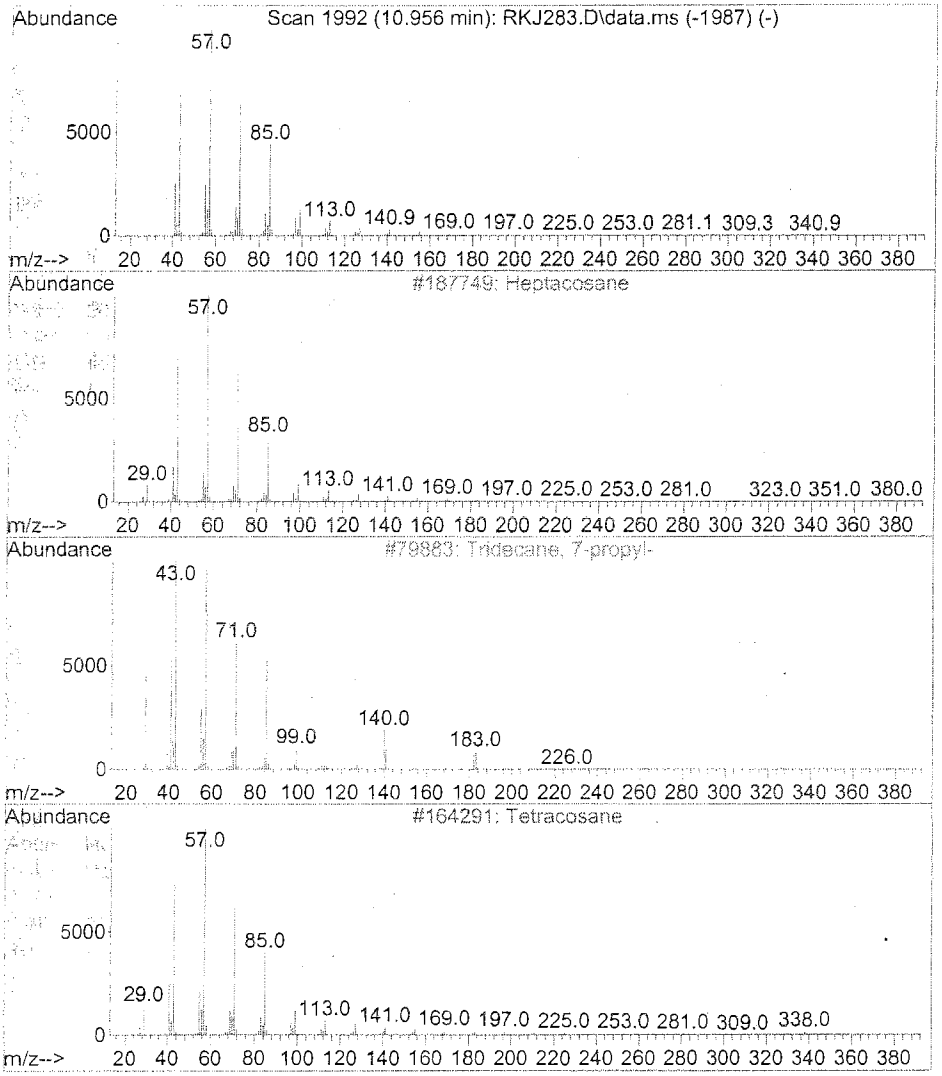
TIC Library : C:\Database\NIST08.L
TIC Integration Parameters: lscint.p

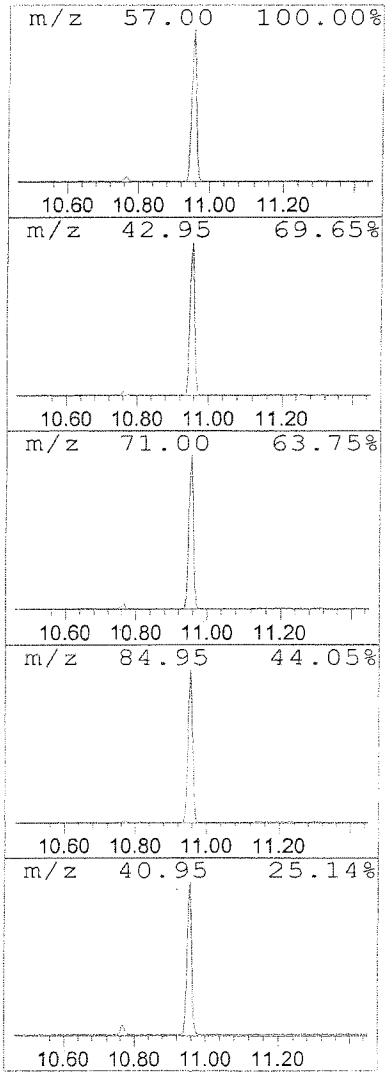
****

Peak Number 3 Heptacosane Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.956	20.78 ppm	3110690	Chrysene-d12	10.772

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Heptacosane	380	C27H56	000593-49-7	91
2	Tridecane, 7-propyl-	226	C16H34	055045-09-5	91
3	Tetracosane	338	C24H50	000646-31-1	91
4	Octacosane	394	C28H58	000630-02-4	91
5	Tridecane, 6-propyl-	226	C16H34	055045-10-8	90





Tentatively Identified Compound (LSC) summary

Data Path : D:\DATA\14K19\
Data File : RKJ283.D
Acq On : 19 Nov 2014 17:42
Operator : KVu
Sample : 14J130-01
Misc : DEISEL EXTRACT
ALS Vial : 2 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\SVE4G02.M
Quant Title : SEMIVOLATILES

TIC Library : C:\Database\NIST08.L
TIC Integration Parameters: lscint.p

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc
Benzene, bromo-	2.468	57.0	ppm	4758390	1	2.986	3337710	40.0
Butoxyacetic acid	3.471	149.0	ppm	12436900	1	2.986	3337710	40.0
Heptacosane	10.956	20.8	ppm	3110690	5	10.772	5987800	40.0

Quantitation Report (QT Reviewed)

Data File : D:\DATA\14K19\RKJ284.D
Acq On : 19 Nov 2014 18:02
Sample : 14J130-02
Misc : DEISEL EXTRACT
Integrator: RTE
Quant Time: Nov 20 12:51:11 2014
Quant Results File: SVE4G02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4G02.M
Quant Title : SEMIVOLATILES
QLast Update : Thu Jul 03 14:34:50 2014
Response via : Initial Calibration
DataAcq Meth:SVE4G02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	2.986	152	565849	40.00	ppm	-0.02
21) Naphthalene-d8	4.215	136	2116743	40.00	ppm	-0.02
41) Acenaphthene-d10	6.245	164	1222581	40.00	ppm	-0.02
71) Phenanthrene-d10	7.986	188	2160718	40.00	ppm	0.00
87) Chrysene-d12	10.767	240	2052945	40.00	ppm	-0.01
97) Perylene-d12	12.188	264	1833544	40.00	ppm	-0.02
System Monitoring Compounds						
5) 2-Fluorophenol	0.000	112	0	0.00	ppm	
Spiked Amount 30.000			Recovery =	0.00%		
6) Phenol-d5	0.000	99	0	0.00	ppm	
Spiked Amount 30.000			Recovery =	0.00%		
12) 1,2-Dichlorobenzene-d4	3.121	152	420	0.03	ppm	-0.03
Spiked Amount 10.000			Recovery =	0.30%		
22) Nitrobenzene-d5	3.442	82	145	0.01	ppm	-0.06
Spiked Amount 10.000			Recovery =	0.10%		
46) 2-Fluorobiphenyl	5.490	172	79	0.00	ppm	0.03
Spiked Amount 10.000			Recovery =	0.00%		
75) 2,4,6-Tribromophenol	0.000	330	0	0.00	ppm	
Spiked Amount 30.000			Recovery =	0.00%		
90) Terphenyl-d14	9.694	244	57	0.00	ppm	0.00
Spiked Amount 10.000			Recovery =	0.00%		

Target Compounds	Qvalue

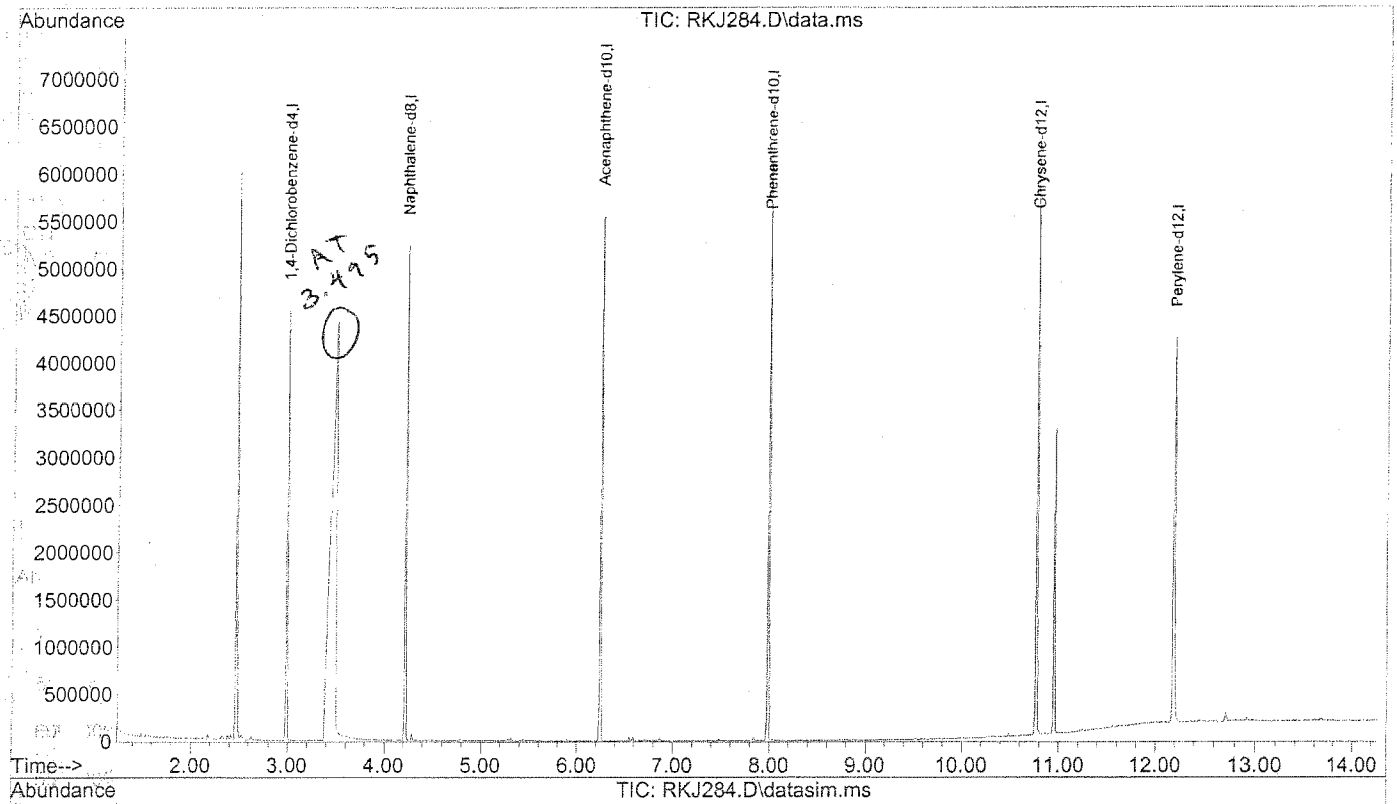
(#) = qualifier out of range (m) = manual integration (+) = signals summed

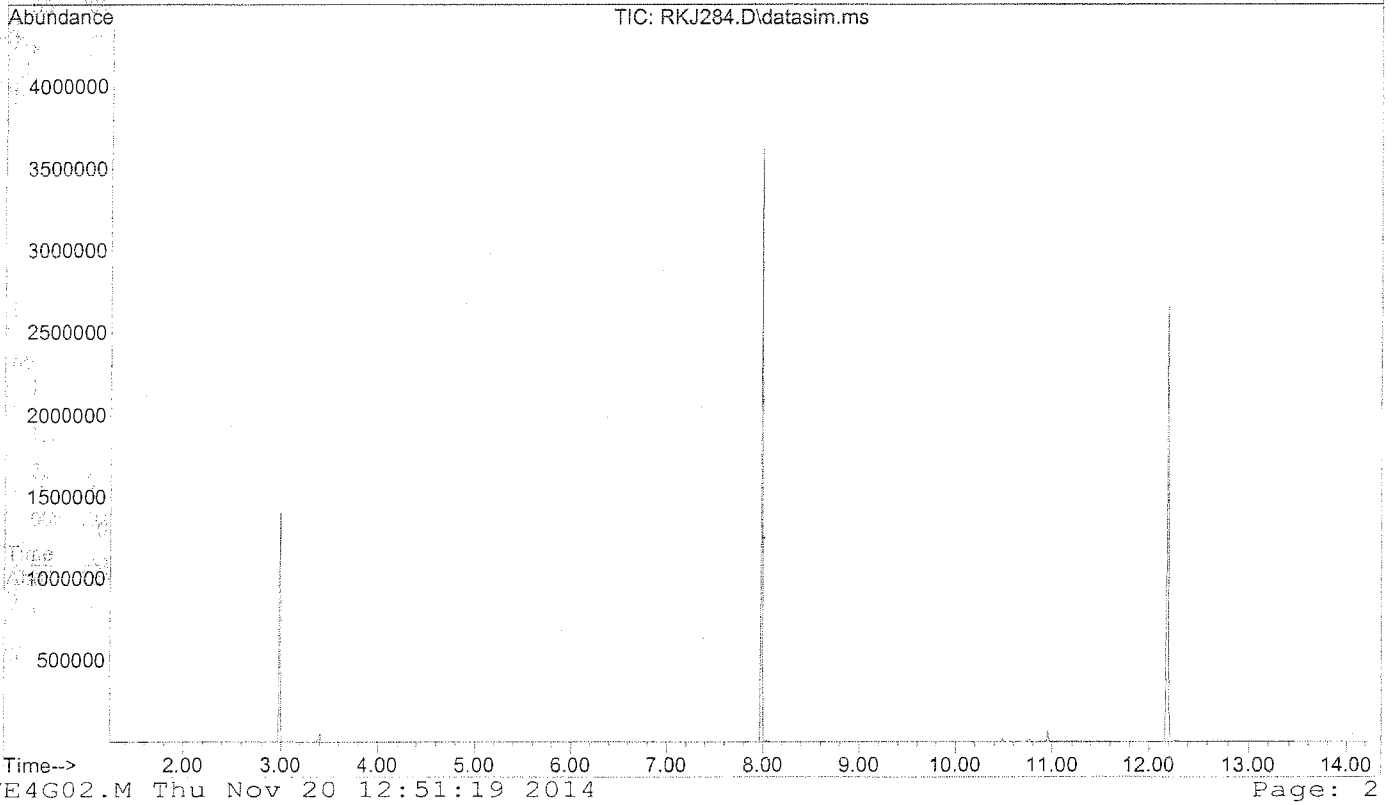
Large peak identification: See # 4 peak on page 9014

Quantitation Report (QT Reviewed)

Data File : D:\DATA\14K19\RKJ284.D
Acq On : 19 Nov 2014 18:02
Sample : 14J130-02
Misc : DEISEL EXTRACT
Integrator: RTE
Quant Time: Nov 20 12:51:11 2014
Quant Results File: SVE4G02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4G02.M
Quant Title : SEMIVOLATILES
QLast Update : Thu Jul 03 14:34:50 2014
Response via : Initial Calibration
DataAcq Meth:SVE4G02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00





9010

LSC Area Percent Report

Data Path : D:\DATA\14K19\
Data File : RKJ284.D
Acq On : 19 Nov 2014 18:02
Operator : KVu
Sample : 14J130-02
Misc : DEISEL EXTRACT
ALS Vial : 3 Sample Multiplier: 1

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : OFF Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\msdchem\1\METHODS\SVE4G02.M
Title : SEMIVOLATILES

Signal : TIC: RKJ284.D\data.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.468	249	253	262	rBV	6024436	4686077	25.60%	8.545%
2	2.986	348	352	358	rBV	4541844	3506279	19.15%	6.394%
3	3.495	429	454	456	rBV	4425201	18307596	100.00%	33.384%
4	4.215	595	600	604	rBV	5232280	4489834	24.52%	8.187%
5	6.245	1002	1008	1012	rBV	5547277	5138045	28.07%	9.369%
6	7.986	1361	1367	1371	rBV	6234607	5432373	29.67%	9.906%
7	10.767	1948	1953	1957	rBV	5962760	5314070	29.03%	9.690%
8	10.951	1986	1991	1996	rBV	3219814	2907322	15.88%	5.302%
9	12.188	2234	2241	2252	rBV	4065867	5057952	27.63%	9.223%

Sum of corrected areas: 54839548

Signal : TIC: RKJ284.D\datasim.ms

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total

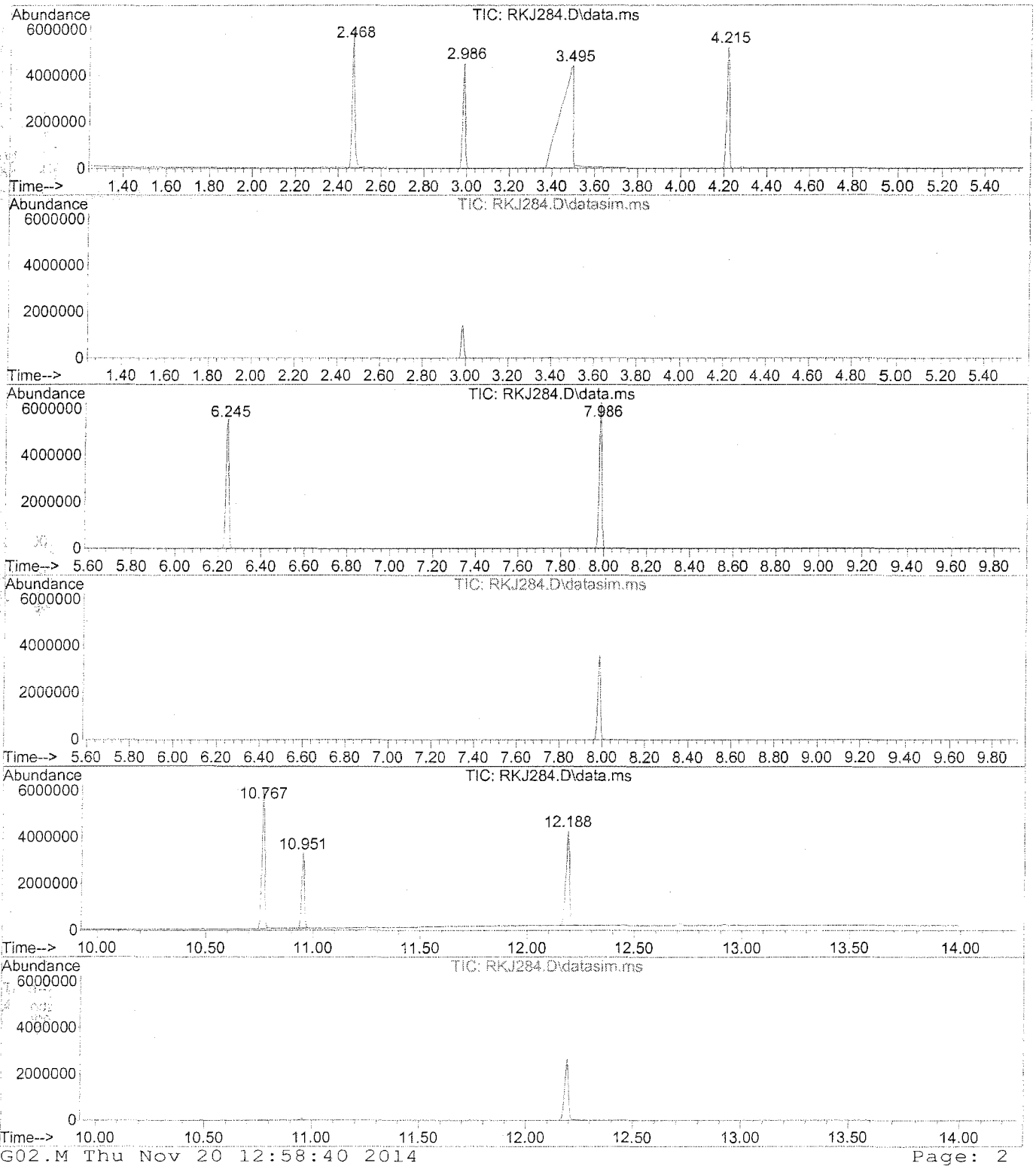
No peaks were detected using the above RTE integration parameters!

LSC Report - Integrated Chromatogram

Data Path : D:\DATA\14K19\
Data File : RKJ284.D
Acq On : 19 Nov 2014 18:02
Operator : KVu
Sample : 14J130-02
Misc : DEISEL EXTRACT
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\SVE4G02.M
Quant Title : SEMIVOLATILES

TIC Library : C:\Database\NIST08.L
TIC Integration Parameters: lscint.p



Library Search Compound Report

Data Path : D:\DATA\14K19\
Data File : RKJ284.D
Acq On : 19 Nov 2014 18:02
Operator : KVu
Sample : 14J130-02
Misc : DEISEL EXTRACT
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\SVE4G02.M
Quant Title : SEMIVOLATILES

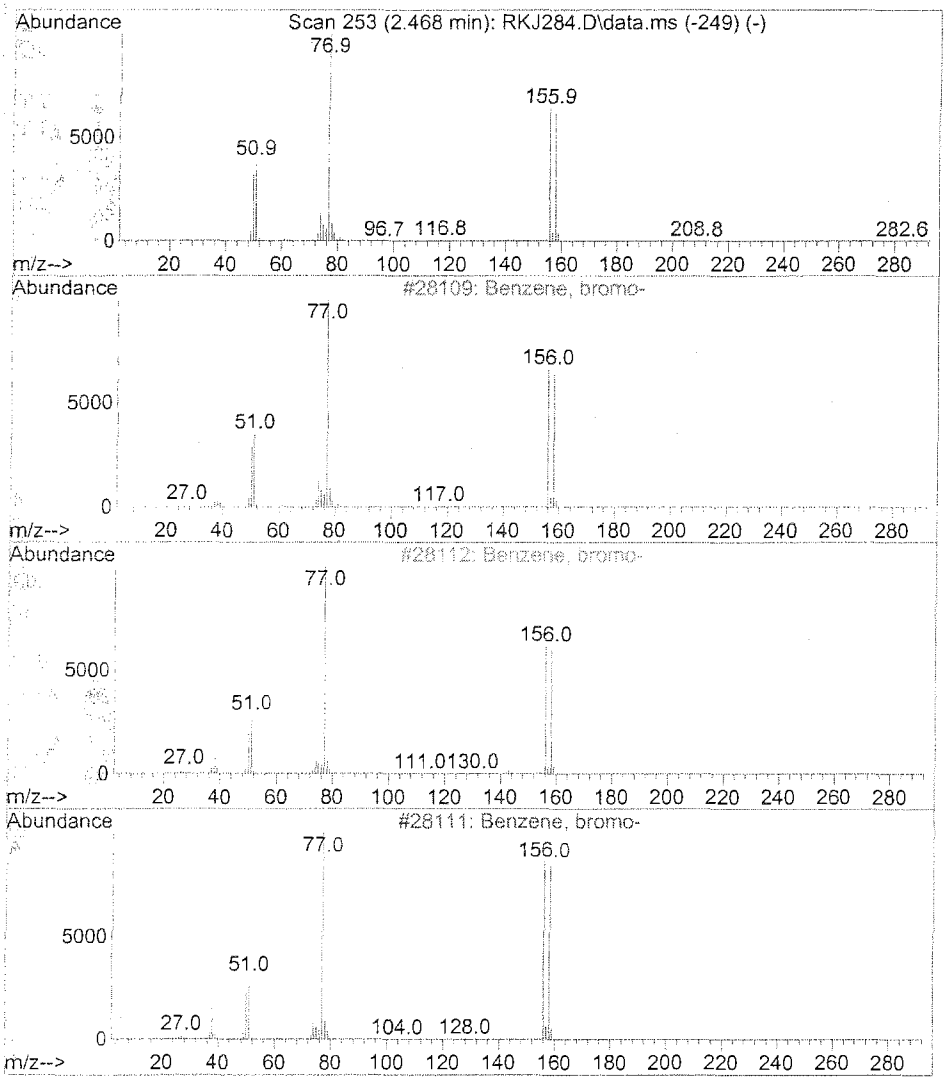
TIC Library : C:\Database\NIST08.L
TIC Integration Parameters: lscint.p

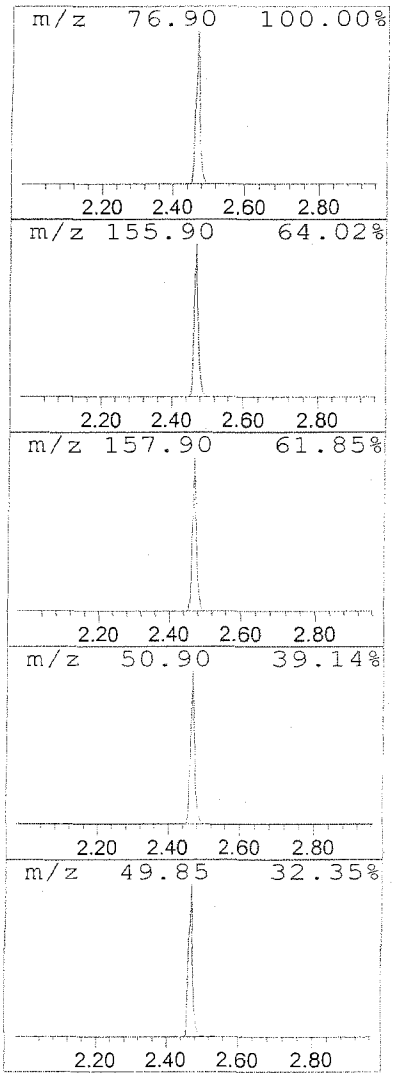
****

Peak Number 1 Benzene, bromo- Concentration Rank 2

R.T.	EstConc	Area	Relative to ISTD	R.T.
2.468	53.46 ppm	4686080	1,4-Dichlorobenzene-d4	2.986

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Benzene, bromo-	156	C6H5Br	000108-86-1	97
2	Benzene, bromo-	156	C6H5Br	000108-86-1	95
3	Benzene, bromo-	156	C6H5Br	000108-86-1	94
4	Benzene, bromo-	156	C6H5Br	000108-86-1	91
5	s-Hydroxymethylthiobenzoate	168	C8H8O2S	023853-33-0	25





Library Search Compound Report

Data Path : D:\DATA\14K19\
Data File : RKJ284.D
Acq On : 19 Nov 2014 18:02
Operator : KVu
Sample : 14J130-02
Misc : DEISEL EXTRACT
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\SVE4G02.M
Quant Title : SEMIVOLATILES

TIC Library : C:\Database\NIST08.L
TIC Integration Parameters: lscint.p

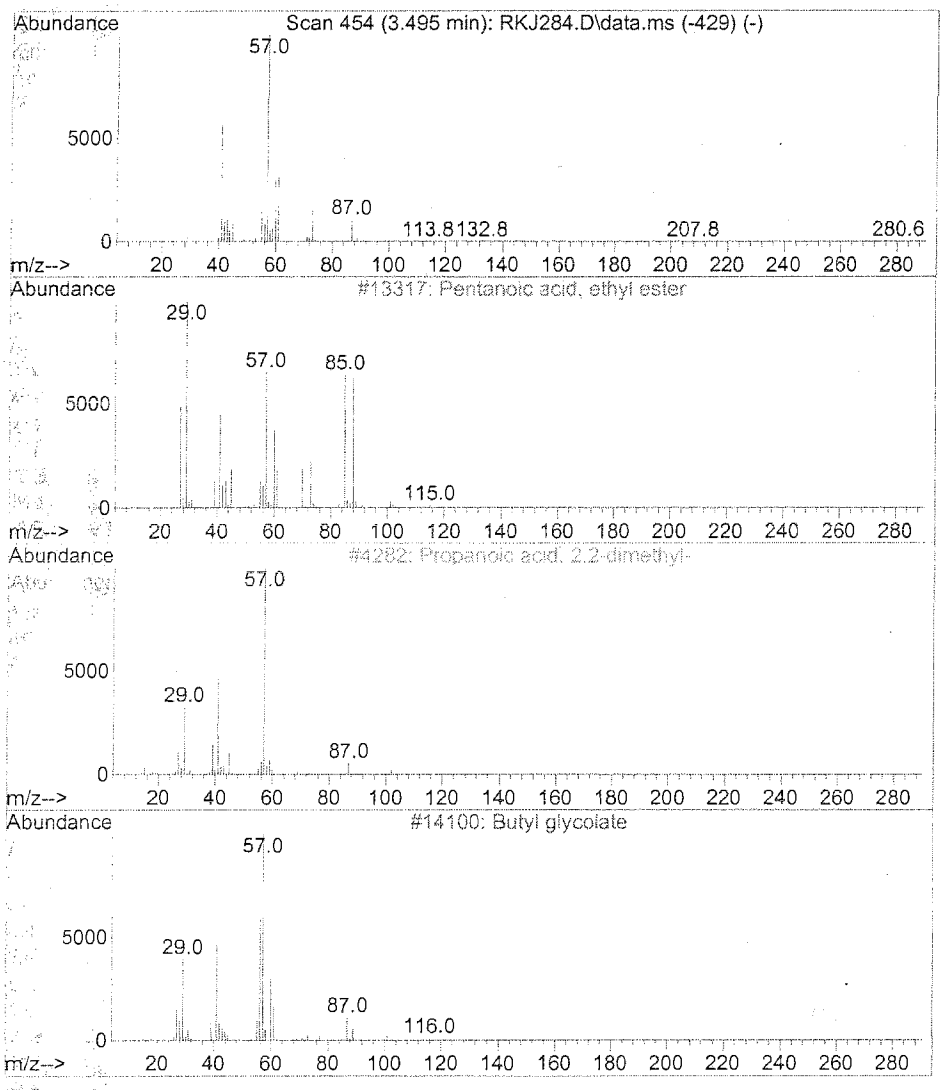
* is metabolite of ethylene glycol monobutyl ether

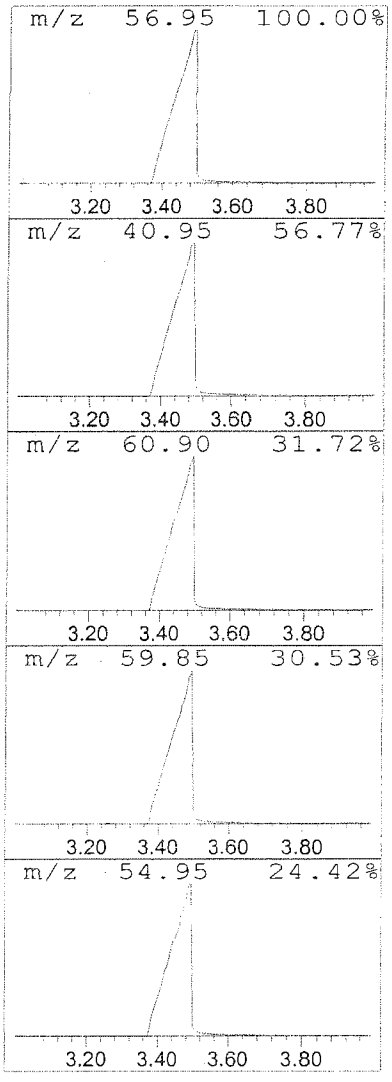
****

Peak Number 2 Pentanoic acid, ethyl ester Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.495	208.85 ppm	18307600	1,4-Dichlorobenzene-d4	2.986

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Pentanoic acid, ethyl ester	130	C7H14O2	000539-82-2	38
2	Propanoic acid, 2,2-dimethyl-	102	C5H10O2	000075-98-9	35
3	Butyl glycolate	132	C6H12O3	007397-62-8	33
4	Butoxyacetic acid *	132	C6H12O3	002516-93-0	32
5	1-Propanol, 2,2-dimethyl-	88	C5H12O	000075-84-3	22





9814

Library Search Compound Report

Data Path : D:\DATA\14K19\
Data File : RKJ284.D
Acq On : 19 Nov 2014 18:02
Operator : KVu
Sample : 14J130-02
Misc : DEISEL EXTRACT
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\SVE4G02.M
Quant Title : SEMIVOLATILES

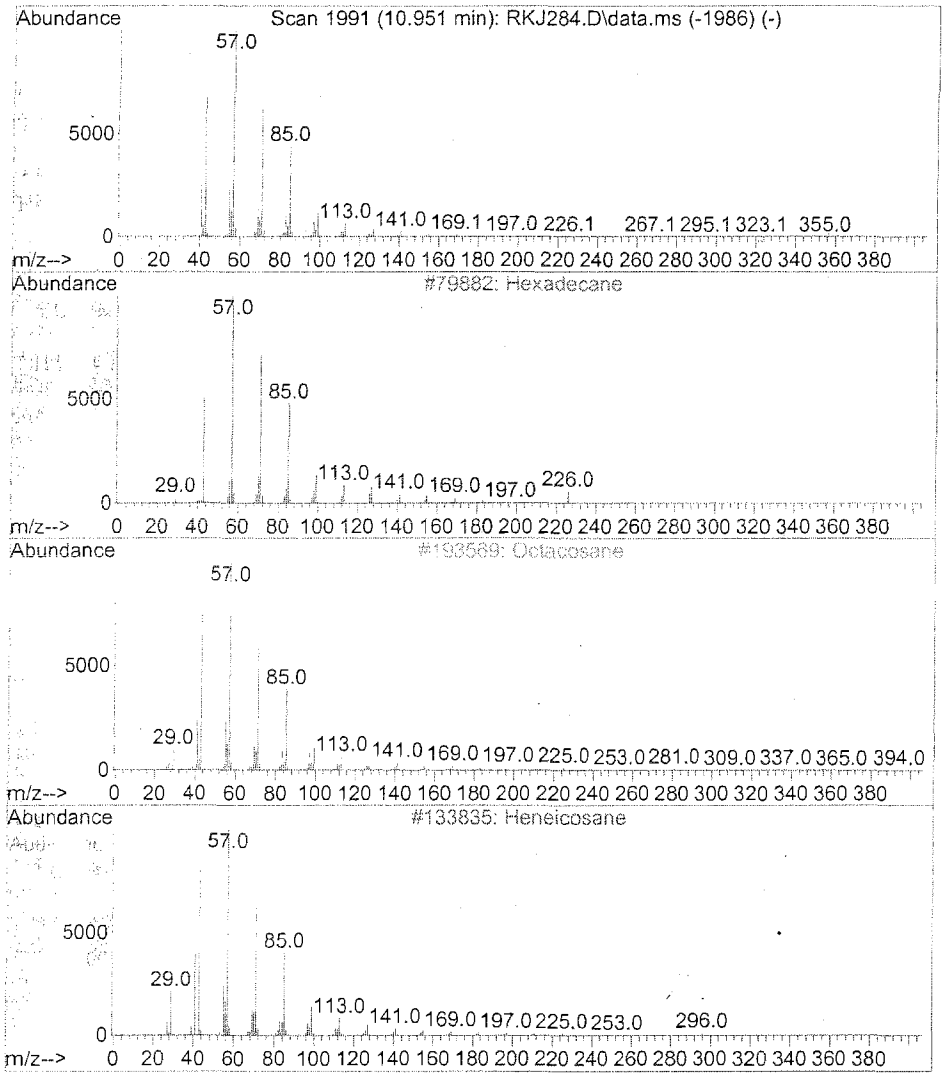
TIC Library : C:\Database\NIST08.L
TIC Integration Parameters: lscint.p

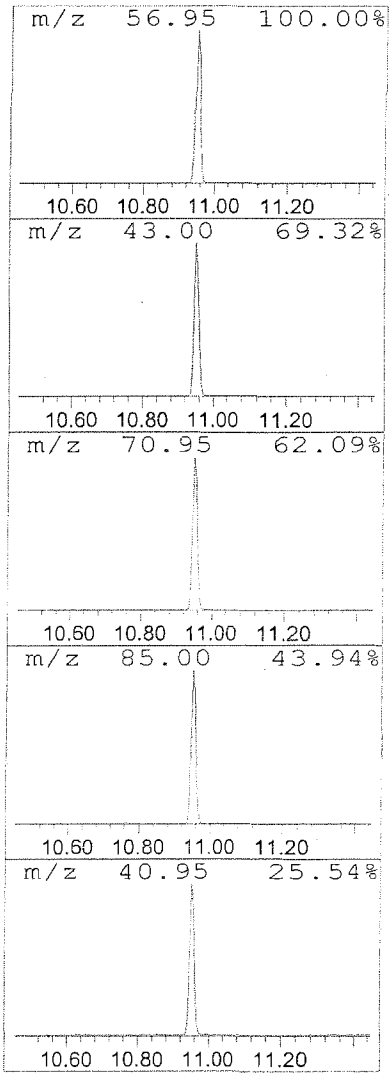
****

Peak Number 3 Hexadecane Concentration Rank 3

R.T.	EstConc	Area	Relative to ISTD	R.T.
10.951	21.88 ppm	2907320	Chrysene-d12	10.767

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Hexadecane	226	C16H34	000544-76-3	93
2	Octacosane	394	C28H58	000630-02-4	91
3	Heneicosane	296	C21H44	000629-94-7	91
4	Heptacosane	380	C27H56	000593-49-7	91
5	Tridecane, 6-propyl-	226	C16H34	055045-10-8	90





Tentatively Identified Compound (LSC) summary

Data Path : D:\DATA\14K19\
Data File : RKJ284.D
Acq On : 19 Nov 2014 18:02
Operator : KVu
Sample : 14J130-02
Misc : DEISEL EXTRACT
ALS Vial : 3 Sample Multiplier: 1

Quant Method : C:\msdchem\1\METHODS\SVE4G02.M
Quant Title : SEMIVOLATILES

TIC Library : C:\Database\NIST08.L
TIC Integration Parameters: lscint.p

TIC Top Hit name	RT	EstConc	Units	Response	Internal Standard #	Internal Standard RT	Internal Standard Resp	Internal Standard Conc
Benzene, bromo- ✓	2.468	53.5	ppm	4686080	1	2.986	3506280	40.0
Pentanoic acid,.. ✓	3.495	208.9	ppm	18307600	1	2.986	3506280	40.0
Hexadecane	10.951	21.9	ppm	2907320	5	10.767	5314070	40.0

See page 9014 for tentatively identified compounds

TABLE OF CONTENTS

CLIENT: **BATTELLE**

PROJECT: **RED HILL PHASE 1B**

SDG: **14J144**

** - Not Requested

LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 11-07-2014
EMAX Batch No.: 14J144

Attn: Carolyn Scala

Battelle
301 South State St., Suite N001
Newton PA 18940

Subject: Laboratory Report
Project: Red Hill Phase 1b

Enclosed is the Laboratory report for samples received on 10/22/14.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
RHMW06-GW-01	J144-01	10/21/14	WATER	TPH GASOLINE
				TPH
				PAH BY 8270C SIM ULTRA LOW
TB102114	J144-02	10/21/14	WATER	TPH GASOLINE
RHMW06-GW-01MS	J144-01M	10/21/14	WATER	TPH GASOLINE
				TPH
				PAH BY 8270C SIM ULTRA LOW
RHMW06-GW-01MSD	J144-01S	10/21/14	WATER	TPH GASOLINE
				TPH
				PAH BY 8270C SIM ULTRA LOW

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all NELAC & DOD requirements unless noted in the Case Narrative.

NELAC Accredited Certificate Number 02116CA
L-A-B Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
1835 W. 205th Street, Torrance, CA 90501
Tel #: 310-618-8889 Fax #: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER:

SAMPLE STORAGE

EMAX CONTROL NO. * 14J144

PROJECT CODE:

CLIENT Battelle c/o Parsons
PROJECT Red Hill 749435
COORDINATOR Mitch Jenser
TEL 801 380-1375 FAX EMAIL
SEND REPORT TO Gan Wright
COMPANY Parsons
ADDRESS
EMAX PM T

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O=	

ANALYSIS REQUIRED: TPH - GRO; TPH - DRO, REO; PAHs

TAT:
- ☐ Rush ____hrs.
- ☐ Rush ____days
- ☐ 7 days
- ☐ 14 days
- ☐ 21 days
- ☐ 30 days
- ☐ ____days
- ☐

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	SIZE	TYPE	MATRIX CODE	QC	PRESERVATIVE CODE	COMMENTS
1	RHMW06-GW-01	Hawaii	10/21/14	1101	7			GW		3 2 2	no preservation
2	RHMW06-GW-01MS	"	10/21/14	1100	7			GW		3 2 2	" "
3	RHMW06-GW-01MSD	"	10/21/14	1100	7			GW		3 2 2	" "
4	TB102114	"	10/21/14	1100	1				✓	1	" "
5											
6											
7											
8											
9											
0											

1
2

Instructions per contract w/ Battelle

Cooler #	Temp. (°C)	Sample #s
1	4.0°	
2	5.7°	

SAMPLER Jim Terry / Environet
COURIER/AIRBILL Fedex

RELINQUISHED BY	Date	Time	RECEIVED BY
	10/21/14	1530	
	10/22/14	09:15	

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepacies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associted with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

SAMPLE RECEIPT FORM 1

Reference Number: SM02.7.3

Type of Delivery	Airbill / Tracking Number	ECN 14J144
☒ Fedex ☐ UPS ☐ GSO ☐ Others	(1) 8033 9937 1587	Recipient I BATEZ
☐ EMAX Courier ☐ Client Delivery	(2) 7801 4900 8803	Date 10/22/14 Time 0915

COC INSPECTION

☒ Client Name	☒ Client PM/FC	☒ Sampler Name	☒ Sampling Date/Time	☒ Sample ID	☒ Matrix
☒ Address	☒ Tel # / Fax #	☐ Courier Signature	☒ Analysis Required	☒ Preservative (if any)	☐ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note:

PACKAGING INSPECTION

Container	☒ Cooler (2)	☐ Box	☐ Other		
Condition	☒ Custody Seal	☒ Intact	☐ Damaged		
Packaging	☒ Bubble Pack	☐ Styrofoam	☐ Popcorn	☒ Sufficient	☒ plastic bag
Temperatures (Cool, ≤6 °C but not frozen)	A ☒ Cooler 1 4.0 °C	A ☒ Cooler 2 5.7 °C	☐ Cooler 3 ____ °C	☐ Cooler 4 ____ °C	☐ Cooler 5 ____ °C
	☐ Cooler 6 ____ °C	☐ Cooler 7 ____ °C	☐ Cooler 8 ____ °C	☐ Cooler 9 ____ °C	☐ Cooler 10 ____ °C
Thermometer:	*A - S/N* 130536505	*B - S/N* ____	*C - S/N* ____	*D - S/N* ____	

Comments: ☐ **Temperature is out of range. PM was informed IMMEDIATELY.**

Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
2	22	D1/D16		R1
1	13,15	D10		R1

10/22/14

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS:

LEGEND:

☐ **Continue to next page.**

Code	Description- Sample Management
D1	Analysis is not indicated in label
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in ____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in ____
D7	Date/Time mismatch COC vs label
D8	Sample listed in COC is not received
D9	Sample received is not listed in COC
D10	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
D12	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in label
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
D22	____
D23	____
D24	____

Code	Description-Sample Management
R1	Proceed as indicated in ☒ COC ☐ Label
R2	Refer to attached instruction
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and time+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	____
R9	____
R10	____
R11	____
R12	____

REVIEWS:

Sample Labeling _____ **Date** 10/22/14 (10-22-14)

SRF _____ **Date** 10/22/14

PM _____ **Date** 10/22/14

FedEx Express Package US Airbill

FedEx Tracking Number 8033 9937 1587

Form ID No. 0215

SLA2

Recipient's Copy

From

Date 6/2/2014

Sender's Name MITCH JENSEN Phone 80[redacted]372-[redacted]99

Company PARSONS 60[redacted]

Address 10235 S JORDAN GTWY STE 300 Dept./Floor/Suite/Room

City SOUTH JORDAN State UT ZIP 84095-4153

Your Internal Billing Reference 64016.0006.74943.[redacted]000.LD20D

To

Recipient's Name Sample Receiving Phone 310 618 9889

Company Emax Laboratories Inc.

Address 1835 W. 205th Street

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City Torrance State CA ZIP 90501

HOLD Weekday FedEx location address REQUIRED. **NOT available** for FedEx First Overnight.

HOLD Saturday FedEx location address REQUIRED. **Available ONLY for** FedEx Priority Overnight and FedEx 2Day to select locations.

0108334348

4 Express Package Service

* To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs.
For packages over 150 lbs., use the FedEx Express Freight US Airbill.

Next Business Day

- ☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☑ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

- ☐ FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
- ☐ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging

* Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☐ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.

☐ Direct Signature — Someone at recipient's address may sign for delivery. ***Fee applies.***

☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. ***Fee applies.***

Does this shipment contain dangerous goods?

☐ No ☐ Yes as attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required.

☐ Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including Dry Ice) cannot be shipped in FedEx packaging or placed in FedEx shipping boxes.

☐ Cargo Aircraft Only

7 Payment Bill to:

Enter FedEx Acct. No. or Credit Card No. below. Obtain recip. Acct. No. ☐

☐ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

Total Packages 2 Total Weight ____ lbs. Credit Card Auth. ____

†Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

611

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5202

Pcs: 2 1 of 1

Emp#: 281073 Rt#: STA

399371587

Part # 156297-435 RIT2 08/14

ORIGIN ID:HNLA (801) 572-5999
PARSONS GOVT

10235 S JORDAN GTWY STE 300

SOUTH JORDAN, UT 840954188
UNITED STATES US

SHIP DATE: 21OCT14
ACTWGT: 46.0 LB
CAD: /POS1525
DIMS: 24x13x13 IN

BILL SENDER

TO **SAMPLE RECEIVING**
EMAX LABORATORIES
1835 W 205TH ST

TORRANCE CA 90501

(310) 618-8889 REF:
INV:
PO: DEPT:

FedE
Expre

Recipient Copy

1 of 2

TRK# 0215 **8033 9937 1587**

MASTER

WZ HHRA

WED - 22 OCT 10:3(
PRIORITY OVERNIGI

9050
CA-US **LA**

1004

ORIGIN ID:HNLA (801) 572-5999
PARSONS GOVT

10235 S JORDAN GTWY STE 300

SOUTH JORDAN, UT 840954188
UNITED STATES US

SHIP DATE:
ACTWGT: 47.3 LB
CAD: /POS1525
DIMS: 24x13x13 IN

BILL SENDER

156297-435 RIT2 06/14

TO **SAMPLE RECEIVING**
EMAX LABORATORIES
1835 W 205TH ST

TORRANCE CA 90501

(310) 618-8889 REF:
INV:
PO: DEPT:

FedEx
Express

2 of 2

MPS# 0681 **7801 4900 8803**

Mstr# 8033 8937 1587 0215

WED - 22 OCT 10:30A
PRIORITY OVERNIGHT

WZ HHRA

90501
CA-US **LAX**

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

BATTELLE

RED HILL PHASE 1B

METHOD 3520C/8270C SIM
SEMI VOLATILE ORGANICS LOW LEVEL BY GC/MS SIM

SDG#: 14J144

CASE NARRATIVE

Client : BATTELLE

Project : RED HILL PHASE 1B

SDG : 14J144

METHOD SW3520C/8270C SIM
SEMI VOLATILE ORGANICS LOW LEVEL BY GC/MS SIM

One (1) water sample was received on 10/22/14 for PAH BY 8270C SIM Ultra Low analysis, Method SW3520C/8270C SIM in accordance with Department of Defense Quality Systems Manual for Environmental Laboratories, Version 4.2 and project SAP August 2014.

Holding Time
The sample was analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Instrument mass ratios were evaluated and results were within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried on at a frequency required by the project. All project calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Results were compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for SVJ034WL/C were all within QC limits.

Matrix QC Sample
A set of MS/MSD was analyzed with the samples in this SDG.
Percent recoveries for J144-01M/S were within project QC limits.

Surrogate
Surrogate was added on QC and field samples. Surrogate recoveries were within project QC limits. Refer to sample result forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter.

LAB CHRONICLE

SEMI VOLATILE ORGANICS LOW LEVEL BY GC/MS SIM

Client : BATTELLE
Project : RED HILL PHASE 1B

SDG NO. : 14J144
Instrument ID : T-OF0

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	SVJ034WB	1	NA	10/28/1410:13	10/23/1410:00	RJF033	REF014	SVJ034W	Method Blank
LCS1W	SVJ034WL	1	NA	10/28/1410:41	10/23/1410:00	RJF034	REF014	SVJ034W	Lab Control Sample (LCS)
LCD1W	SVJ034WC	1	NA	10/28/1411:08	10/23/1410:00	RJF035	REF014	SVJ034W	LCS Duplicate
RHMW06-GW-01	J144-01	1.06	NA	10/28/1412:26	10/23/1410:00	RJF038	REF014	SVJ034W	Field Sample
RHMW06-GW-01MS	J144-01M	1.11	NA	10/28/1413:52	10/23/1410:00	RJF039	REF014	SVJ034W	Matrix Spike Sample (MS)
RHMW06-GW-01MSD	J144-01S	0.98	NA	10/28/1414:22	10/23/1410:00	RJF040	REF014	SVJ034W	MS Duplicate (MSD)

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD SW3520C/8270C SIM
SEMI VOLATILE ORGANICS LOW LEVEL BY GC/MS SIM

Client : BATTELLE	Date Collected: 10/21/14
Project : RED HILL PHASE 1B	Date Received: 10/22/14
Batch No. : 14J144	Date Extracted: 10/23/14 10:00
Sample ID: RHMW06-GW-01	Date Analyzed: 10/28/14 12:26
Lab Samp ID: J144-01	Dilution Factor: 1.06
Lab File ID: RJF038	Matrix : WATER
Ext Btch ID: SVJ034W	% Moisture : NA
Calib. Ref.: REF014	Instrument ID : T-OFO

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
ACENAPHTHENE	ND	0.021	0.0053	0.011
ACENAPHTHYLENE	ND	0.021	0.0053	0.011
ANTHRACENE	ND	0.021	0.0053	0.011
BENZO(A)ANTHRACENE	ND	0.021	0.0053	0.011
BENZO(A)PYRENE	ND	0.021	0.0053	0.011
BENZO(B)FLUORANTHENE	ND	0.021	0.0053	0.011
BENZO(K)FLUORANTHENE	ND	0.021	0.0053	0.011
BENZO(G,H,I)PERYLENE	ND	0.021	0.0053	0.011
CHRYSENE	ND	0.021	0.0053	0.011
DIBENZO(A,H)ANTHRACENE	ND	0.021	0.0053	0.011
FLUORANTHENE	ND	0.021	0.0053	0.011
FLUORENE	ND	0.021	0.0053	0.011
INDENO(1,2,3-CD)PYRENE	ND	0.021	0.0053	0.011
NAPHTHALENE	ND	0.11	0.027	0.053
PHENANTHRENE	ND	0.021	0.0053	0.011
PYRENE	ND	0.021	0.0053	0.011
2-METHYLNAPHTHALENE	0.0064J	0.021	0.0053	0.011
1-METHYLNAPHTHALENE	ND	0.021	0.0053	0.011

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TERPHENYL-D14	0.577	0.5300	109	50-135

Quantitation Report (QT Reviewed)

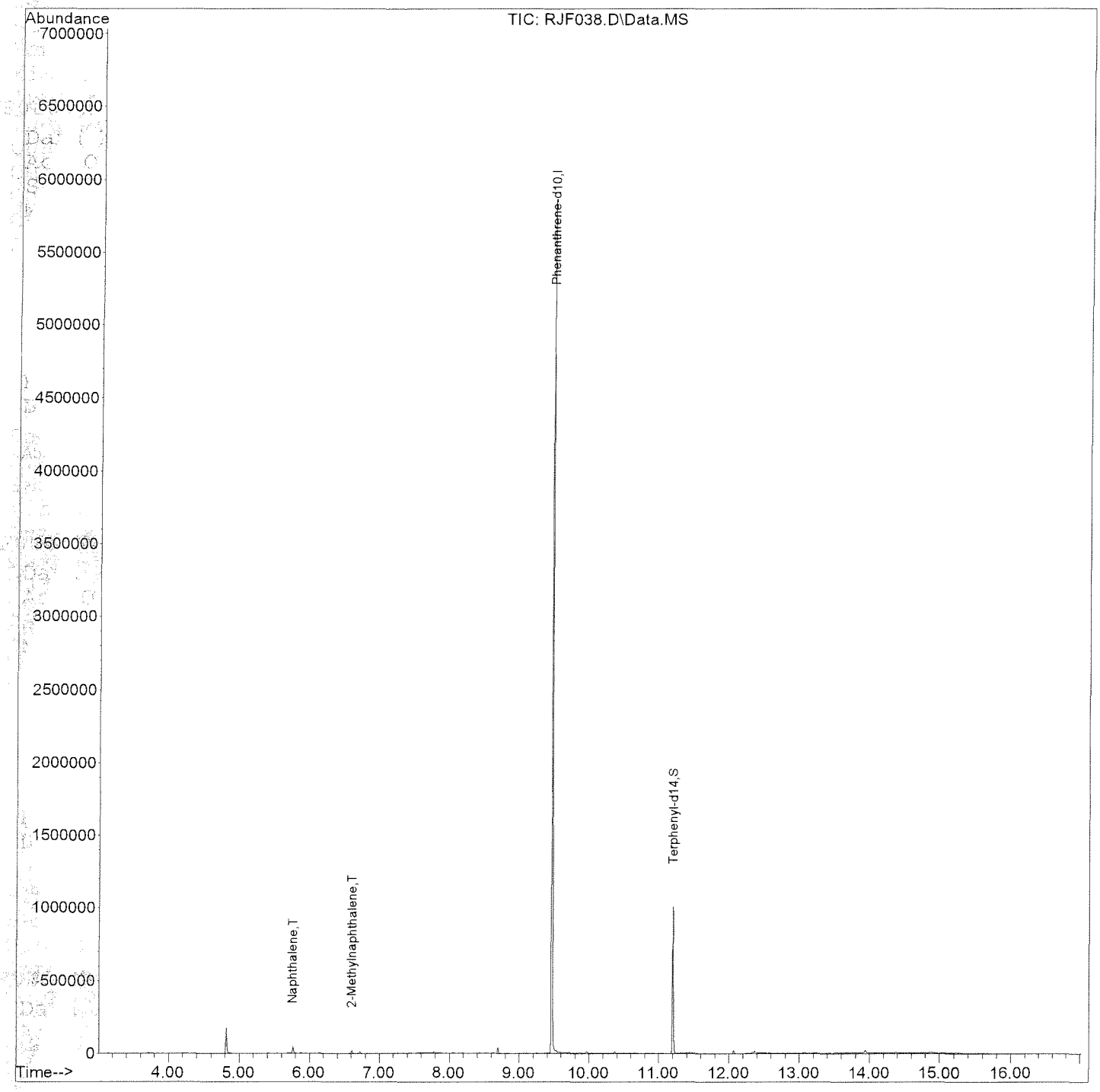
Data File : C:\msdchem\1\DATA\14J28\RJF038.D Vial: 17
Acq On : 28 Oct 2014 12:26 Operator: KVu
Sample : 14J144-01 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 29 17:06:48 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

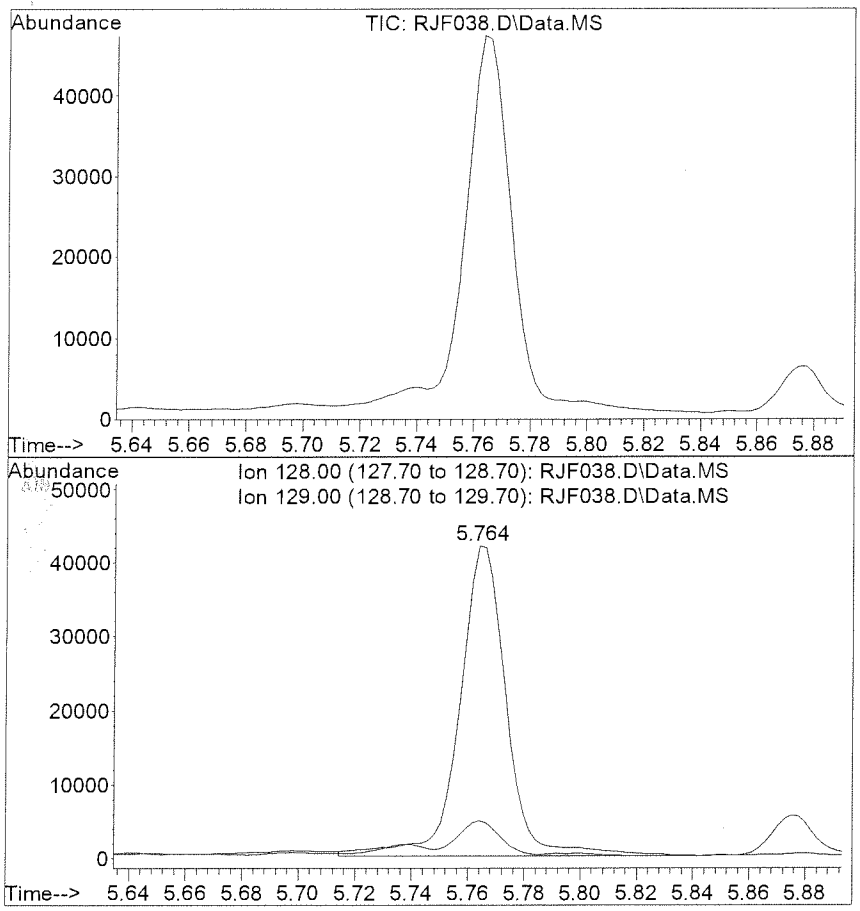
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.466	188	4445779	2000.00	ppb	0.02
System Monitoring Compounds						
13) Terphenyl-d14	11.201	244	895613	544.70	ppb	0.02
Spiked Amount 500.000			Recovery = 108.94%			
Target Compounds						Qvalue
2) Naphthalene	5.764	128	48829	16.05	ppb	96
3) 2-Methylnaphthalene	6.608	142	12377	6.07	ppb	97

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14J28\RJF038.D Vial: 17
Acq On : 28 Oct 2014 12:26 Operator: KVu
Sample : 14J144-01 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 29 17:06:48 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

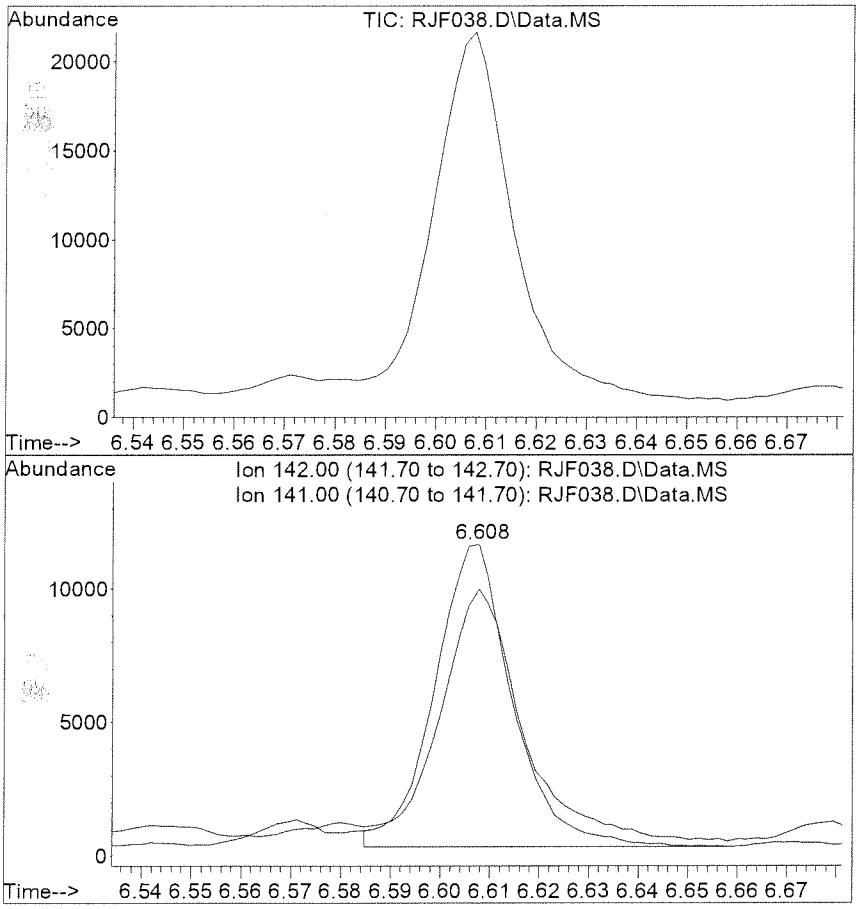




#2
Naphthalene
Concen: 16.05 ppb
RT: 5.764 min Scan# 1219
Delta R.T. 0.023 min
Lab File: RJF038.D
Acq: 28 Oct 2014 12:26

Tgt Ion:128 Resp: 48829

Ion	Ratio	Lower	Upper
128	100		
129	9.5	0.0	41.2



#3
2-Methylnaphthalene
Concen: 6.07 ppb
RT: 6.608 min Scan# 1598
Delta R.T. 0.031 min
Lab File: RJF038.D
Acq: 28 Oct 2014 12:26

Tgt Ion:142 Resp: 12377

Ion	Ratio	Lower	Upper
142	100		
141	86.9	53.9	113.9

QC SUMMARIES

METHOD SW3520C/8270C SIM
SEMI VOLATILE ORGANICS LOW LEVEL BY GC/MS SIM

Client : BATTELLE	Date Collected: NA
Project : RED HILL PHASE 1B	Date Received: 10/23/14
Batch No. : 14J144	Date Extracted: 10/23/14 10:00
Sample ID: MBLK1W	Date Analyzed: 10/28/14 10:13
Lab Samp ID: SVJ034WB	Dilution Factor: 1
Lab File ID: RJF033	Matrix : WATER
Ext Btch ID: SVJ034W	% Moisture : NA
Calib. Ref.: REF014	Instrument ID : T-OFO

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
ACENAPHTHENE	ND	0.020	0.0050	0.010
ACENAPHTHYLENE	ND	0.020	0.0050	0.010
ANTHRACENE	ND	0.020	0.0050	0.010
BENZO(A)ANTHRACENE	ND	0.020	0.0050	0.010
BENZO(A)PYRENE	ND	0.020	0.0050	0.010
BENZO(B)FLUORANTHENE	ND	0.020	0.0050	0.010
BENZO(K)FLUORANTHENE	ND	0.020	0.0050	0.010
BENZO(G,H,I)PERYLENE	ND	0.020	0.0050	0.010
CHRYSENE	ND	0.020	0.0050	0.010
DIBENZO(A,H)ANTHRACENE	ND	0.020	0.0050	0.010
FLUORANTHENE	ND	0.020	0.0050	0.010
FLUORENE	ND	0.020	0.0050	0.010
INDENO(1,2,3-CD)PYRENE	ND	0.020	0.0050	0.010
NAPHTHALENE	ND	0.10	0.025	0.050
PHENANTHRENE	ND	0.020	0.0050	0.010
PYRENE	ND	0.020	0.0050	0.010
2-METHYLNAPHTHALENE	ND	0.020	0.0050	0.010
1-METHYLNAPHTHALENE	ND	0.020	0.0050	0.010

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TERPHENYL-D14	0.395	0.5000	78.9	50-135

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: BATTELLE
PROJECT: RED HILL PHASE 1B
BATCH NO.: 14J144
METHOD: SW3520C/8270C SIM

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	SVJ034WB	SVJ034WL	SVJ034WC		
LAB FILE ID:	RJF033	RJF034	RJF035		
DATE EXTRACTED:	10/23/1410:00	10/23/1410:00	10/23/1410:00	DATE COLLECTED:	NA
DATE ANALYZED:	10/28/1410:13	10/28/1410:41	10/28/1411:08	DATE RECEIVED:	10/23/14
PREP. BATCH:	SVJ034W	SVJ034W	SVJ034W		
CALIB. REF:	REF014	REF014	REF014		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Acenaphthene	ND	0.500	0.462	92	0.500	0.445	89	4	45-110	30
Acenaphthylene	ND	0.500	0.455	91	0.500	0.437	87	4	50-105	30
Anthracene	ND	0.500	0.380	76	0.500	0.368	74	3	55-110	30
Benzo(a)anthracene	ND	0.500	0.490	98	0.500	0.492	98	0	55-110	30
Benzo(a)pyrene	ND	0.500	0.390	78	0.500	0.397	79	2	55-110	30
Benzo(b)fluoranthene	ND	0.500	0.465	93	0.500	0.466	93	0	45-120	30
Benzo(k)fluoranthene	ND	0.500	0.483	97	0.500	0.482	96	0	45-125	30
Benzo(g,h,i)perylene	ND	0.500	0.489	98	0.500	0.493	99	1	40-125	30
Chrysene	ND	0.500	0.461	92	0.500	0.468	94	1	55-110	30
Dibenzo(a,h)anthracene	ND	0.500	0.470	94	0.500	0.478	96	2	40-125	30
Fluoranthene	ND	0.500	0.420	84	0.500	0.409	82	3	55-115	30
Fluorene	ND	0.500	0.423	85	0.500	0.408	82	4	50-110	30
Indeno(1,2,3-cd)pyrene	ND	0.500	0.471	94	0.500	0.472	94	0	45-125	30
Naphthalene	ND	0.500	0.397	79	0.500	0.384	77	3	40-100	30
Phenanthrene	ND	0.500	0.414	83	0.500	0.404	81	3	50-115	30
Pyrene	ND	0.500	0.406	81	0.500	0.396	79	3	50-130	30
2-Methylnaphthalene	ND	0.500	0.455	91	0.500	0.446	89	2	45-105	30
1-Methylnaphthalene	ND	0.500	0.481	96	0.500	0.458	92	5	30-160	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
Terphenyl-d14	0.500	0.551	110	0.500	0.538	108	50-135

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: BATTELLE
PROJECT: RED HILL PHASE 1B
BATCH NO.: 14J144
METHOD: SW3520C/8270C SIM

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1.06 1.11 0.98
SAMPLE ID: RHMW06-GW-01
LAB SAMP ID: J144-01 J144-01M J144-01S
LAB FILE ID: RJF038 RJF039 RJF040
DATE EXTRACTED: 10/23/1410:00 10/23/1410:00 10/23/1410:00 DATE COLLECTED: 10/21/14
DATE ANALYZED: 10/28/1412:26 10/28/1413:52 10/28/1414:22 DATE RECEIVED: 10/22/14
PREP. BATCH: SVJ034W SVJ034W SVJ034W
CALIB. REF: REF014 REF014 REF014

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Acenaphthene	ND	0.555	0.463	83	0.490	0.434	89	7	45-110	30
Acenaphthylene	ND	0.555	0.452	81	0.490	0.417	85	5	50-105	30
Anthracene	ND	0.555	0.395	71	0.490	0.363	74	4	55-110	30
Benzo(a)anthracene	ND	0.555	0.613	110	0.490	0.538	110	0	55-110	30
Benzo(a)pyrene	ND	0.555	0.497	90	0.490	0.449	92	2	55-110	30
Benzo(b)fluoranthene	ND	0.555	0.583	105	0.490	0.530	108	3	45-120	30
Benzo(k)fluoranthene	ND	0.555	0.602	109	0.490	0.527	107	2	45-125	30
Benzo(g,h,i)perylene	ND	0.555	0.613	110	0.490	0.546	111	1	40-125	30
Chrysene	ND	0.555	0.588	106	0.490	0.511	104	2	55-110	30
Dibenzo(a,h)anthracene	ND	0.555	0.586	106	0.490	0.523	107	1	40-125	30
Fluoranthene	ND	0.555	0.495	89	0.490	0.436	89	0	55-115	30
Fluorene	ND	0.555	0.421	76	0.490	0.387	79	4	50-110	30
Indeno(1,2,3-cd)pyrene	ND	0.555	0.582	105	0.490	0.519	106	1	45-125	30
Naphthalene	ND	0.555	0.393	71	0.490	0.360	73	3	40-100	30
Phenanthrene	ND	0.555	0.423	76	0.490	0.388	79	4	50-115	30
Pyrene	ND	0.555	0.480	87	0.490	0.422	86	1	50-130	30
2-Methylnaphthalene	0.00643J	0.555	0.451	80	0.490	0.418	84	8	45-105	30
1-Methylnaphthalene	ND	0.555	0.475	86	0.490	0.447	91	6	30-160	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	QC LIMIT (%)
Terphenyl-d14	0.555	0.598	108	0.490	0.518	106	50-135

QC DATA

Quantitation Report (QT Reviewed)

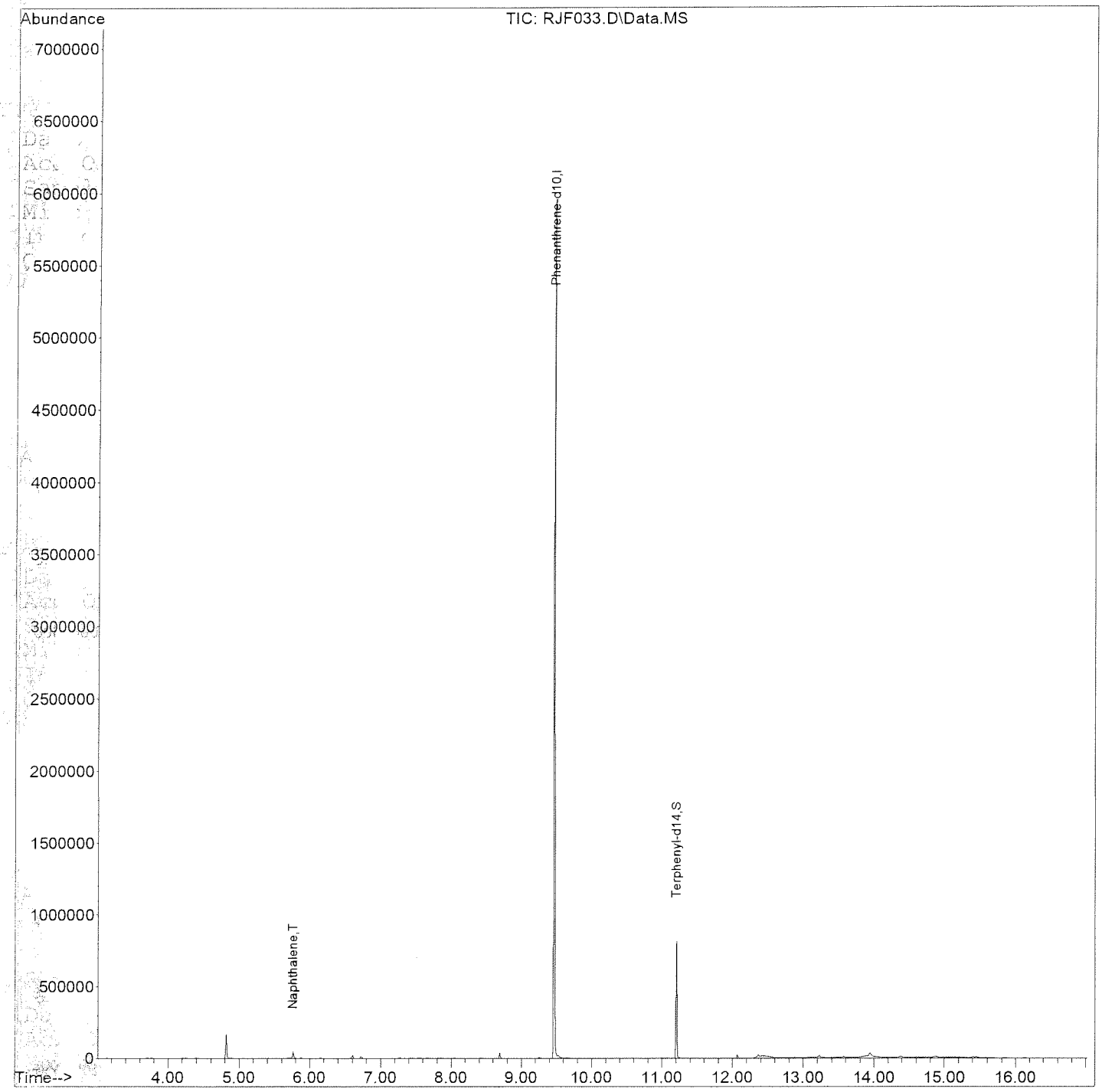
Data File : C:\msdchem\1\DATA\14J28\RJF033.D Vial: 12
Acq On : 28 Oct 2014 10:13 Operator: KVu
Sample : SVJ034WB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 29 17:04:43 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.466	188	4529029	2000.00	ppb	0.02
System Monitoring Compounds						
13) Terphenyl-d14	11.204	244	660903	394.57	ppb	0.02
Spiked Amount 500.000			Recovery = 78.91%			
Target Compounds						Qvalue
2) Naphthalene	5.764	128	46402	14.97	ppb	< DL 94

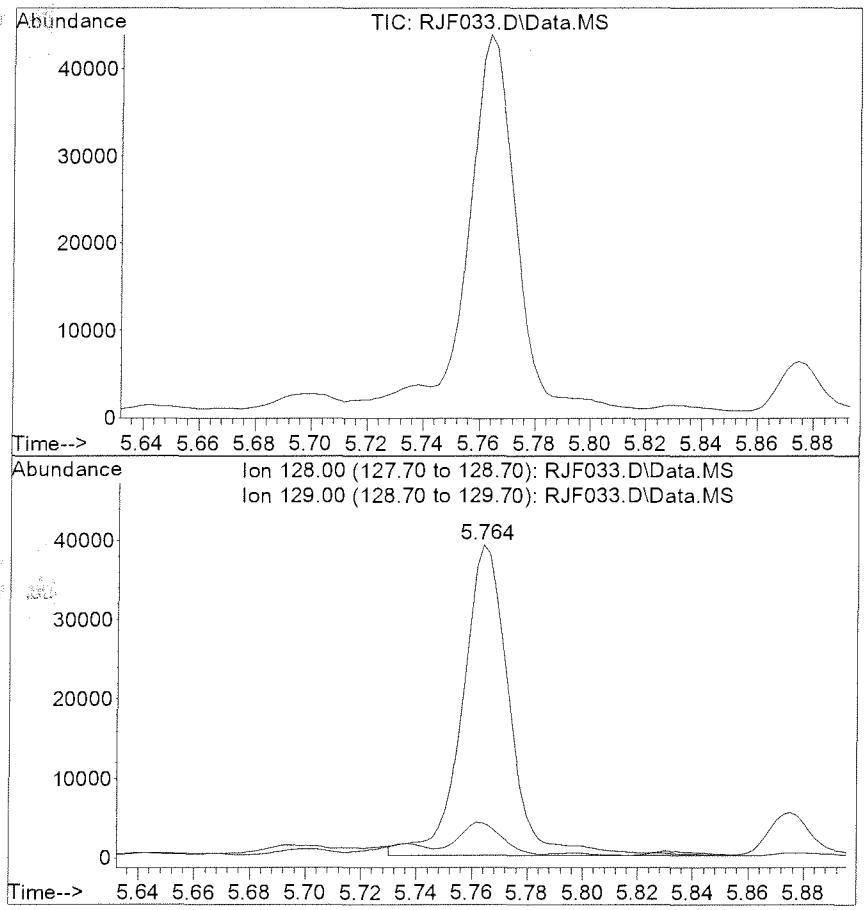
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14J28\RJF033.D Vial: 12
Acq On : 28 Oct 2014 10:13 Operator: KVu
Sample : SVJ034WB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 29 17:04:43 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



3014



#2
Naphthalene
Concen: 14.97 ppb
RT: 5.764 min Scan# 1219
Delta R.T. 0.023 min
Lab File: RJF033.D
Acq: 28 Oct 2014 10:13

Tgt Ion:128 Resp: 46402

Ion	Ratio	Lower	Upper
128	100		
129	9.0	0.0	41.2

Quantitation Report (QT Reviewed)

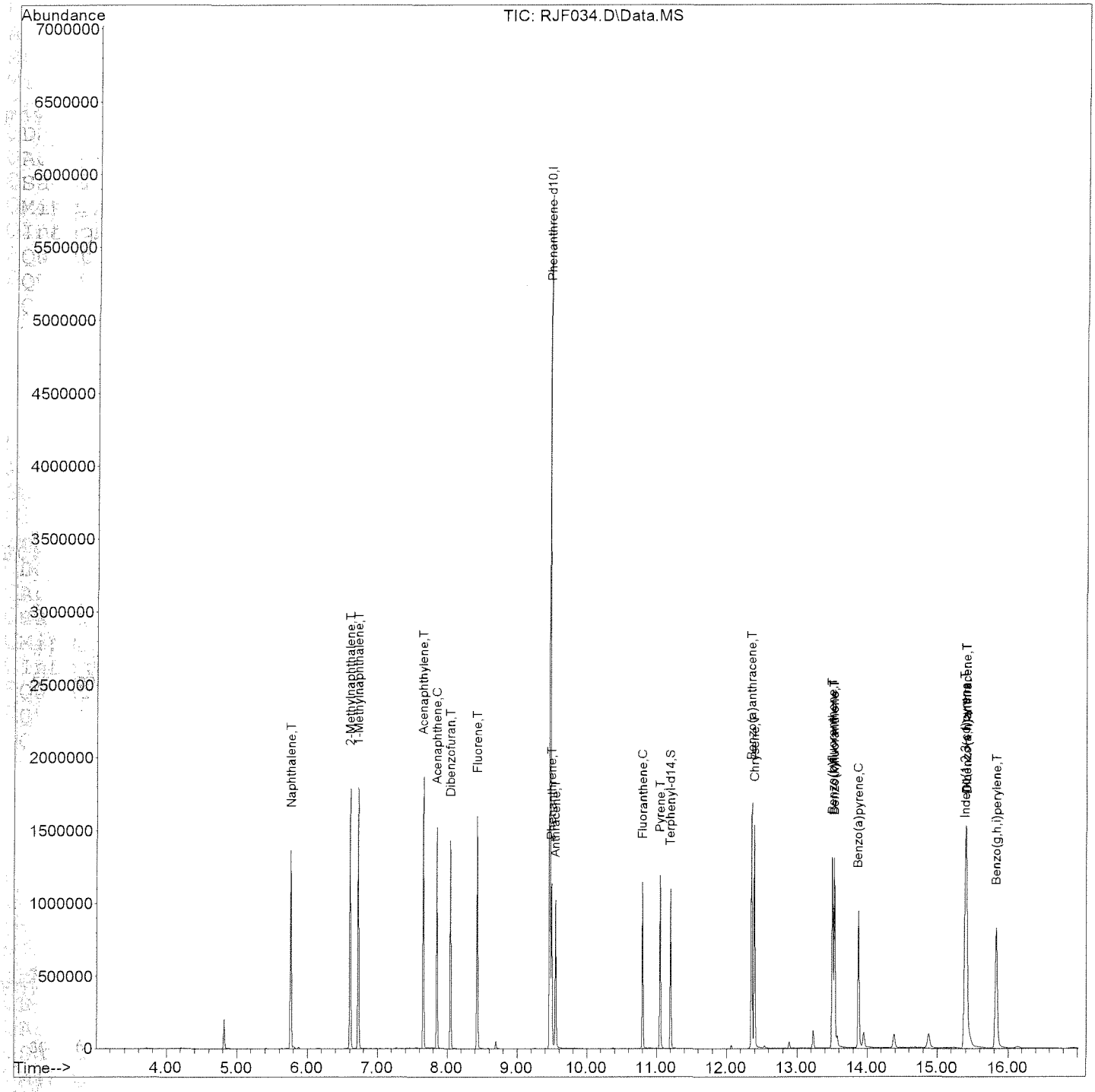
Data File : C:\msdchem\1\DATA\14J28\RJF034.D Vial: 13
Acq On : 28 Oct 2014 10:41 Operator: KVu
Sample : SVJ034WL Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 13:01:41 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.468	188	4565409	2000.00	ppb	0.02
System Monitoring Compounds						
13) Terphenyl-d14	11.204	244	929625	550.57	ppb	0.02
Spiked Amount 500.000			Recovery = 110.11%			
Target Compounds						Qvalue
2) Naphthalene	5.764	128	1239734	396.82	ppb	100
3) 2-Methylnaphthalene	6.606	142	953792	455.22	ppb	98
4) 1-Methylnaphthalene	6.724	142	925848	481.17	ppb	99
5) Acenaphthylene	7.657	152	1266238	454.96	ppb	100
6) Acenaphthene	7.853	153	836576	462.15	ppb	100
7) Dibenzofuran	8.046	168	978378	422.77	ppb	99
8) Fluorene	8.430	166	782257	423.39	ppb	99
9) Phenanthrene	9.495	178	981080	414.43	ppb	100
10) Anthracene	9.551	178	904803	380.45	ppb	99
11) Fluoranthene	10.802	202	923369	420.16	ppb	84
12) Pyrene	11.054	202	965466	406.19	ppb	84
14) Benzo(a)anthracene	12.356	228	1584401	490.39	ppb	76
15) Chrysene	12.395	228	1445766	461.05	ppb	82
16) Benzo(b)fluoranthene	13.502	252	1439754	465.38	ppb	85
17) Benzo(k)fluoranthene	13.534	252	1493502	483.37	ppb	85
18) Benzo(a)pyrene	13.877	252	1144792	389.56	ppb	85
19) Indeno(1,2,3-cd)pyrene	15.392	276	1684931	471.07	ppb	84
20) Dibenzo(a,h)anthracene	15.409	278	1388276	470.28	ppb	95
21) Benzo(g,h,i)perylene	15.829	276	1449682	489.16	ppb	84

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14J28\RJF034.D Vial: 13
Acq On : 28 Oct 2014 10:41 Operator: KVu
Sample : SVJ034WL Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 13:01:41 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



Quantitation Report (QT Reviewed)

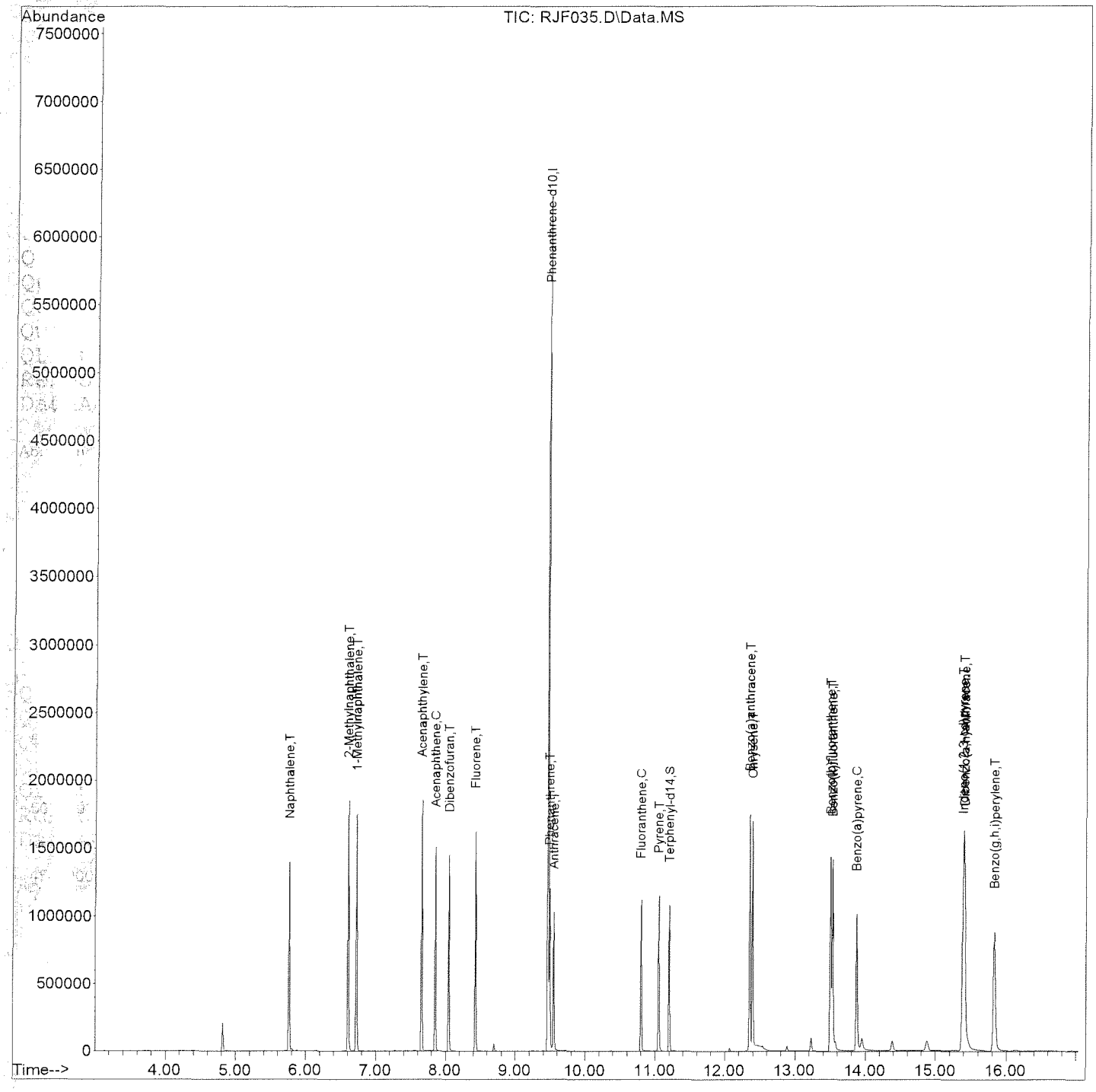
Data File : C:\msdchem\1\DATA\14J28\RJF035.D Vial: 14
Acq On : 28 Oct 2014 11:08 Operator: KVu
Sample : SVJ034WC Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 13:01:44 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.466	188	4726800	2000.00	ppb	0.02
System Monitoring Compounds						
13) Terphenyl-d14	11.204	244	940398	537.94	ppb	0.02
Spiked Amount 500.000			Recovery = 107.59%			
Target Compounds						Qvalue
2) Naphthalene	5.764	128	1242136	384.01	ppb	99
3) 2-Methylnaphthalene	6.606	142	967422	445.96	ppb	99
4) 1-Methylnaphthalene	6.724	142	912671	458.13	ppb	99
5) Acenaphthylene	7.657	152	1260386	437.40	ppb	99
6) Acenaphthene	7.851	153	833893	444.94	ppb	99
7) Dibenzofuran	8.046	168	972632	405.94	ppb	98
8) Fluorene	8.428	166	780462	408.00	ppb	99
9) Phenanthrene	9.493	178	990533	404.14	ppb	99
10) Anthracene	9.551	178	905642	367.81	ppb	100
11) Fluoranthene	10.799	202	931175	409.25	ppb	84
12) Pyrene	11.051	202	973808	395.71	ppb	84
14) Benzo(a)anthracene	12.354	228	1647162	492.44	ppb	79
15) Chrysene	12.395	228	1519075	467.89	ppb	83
16) Benzo(b)fluoranthene	13.504	252	1492343	465.91	ppb	85
17) Benzo(k)fluoranthene	13.534	252	1542693	482.25	ppb	85
18) Benzo(a)pyrene	13.877	252	1207691	396.94	ppb	88
19) Indeno(1,2,3-cd)pyrene	15.392	276	1748657	472.20	ppb	83
20) Dibenzo(a,h)anthracene	15.406	278	1460567	477.88	ppb	91
21) Benzo(g,h,i)perylene	15.829	276	1511924	492.75	ppb	85

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14J28\RJF035.D Vial: 14
Acq On : 28 Oct 2014 11:08 Operator: KVu
Sample : SVJ034WC Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 13:01:44 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



Quantitation Report (QT Reviewed)

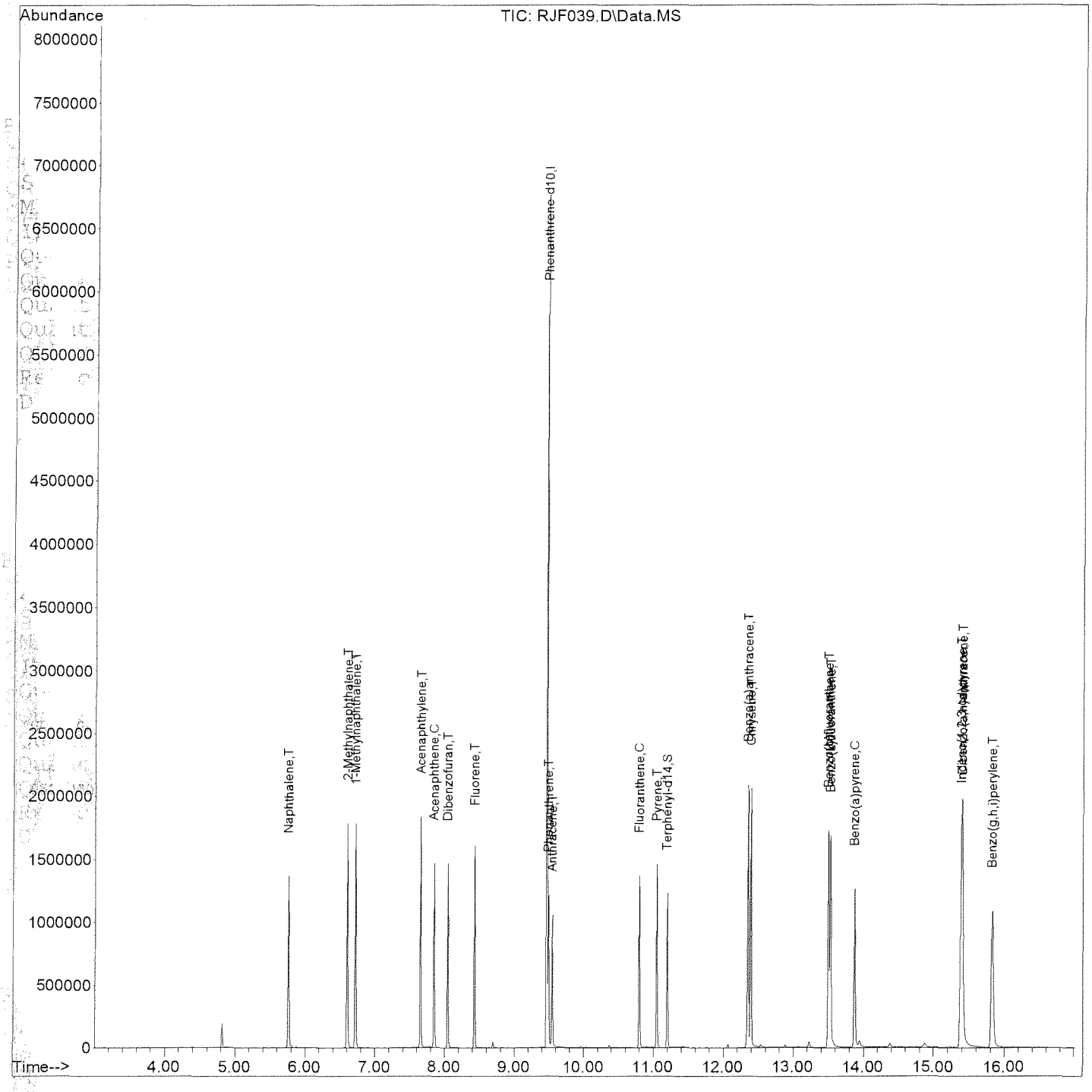
Data File : C:\msdchem\1\DATA\14J28\RJF039.D Vial: 18
Acq On : 28 Oct 2014 13:52 Operator: KVu
Sample : 14J144-01M Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 30 16:17:55 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.466	188	5148446	2000.00	ppb	0.02
System Monitoring Compounds						
13) Terphenyl-d14	11.201	244	1025244	538.44	ppb	0.02
Spiked Amount 500.000			Recovery = 107.69%			
Target Compounds						Qvalue
2) Naphthalene	5.764	128	1246994	353.94	ppb	99
3) 2-Methylnaphthalene	6.606	142	960132	406.35	ppb	98
4) 1-Methylnaphthalene	6.722	142	928483	427.90	ppb	99
5) Acenaphthylene	7.657	152	1278924	407.48	ppb	100
6) Acenaphthene	7.851	153	852112	417.43	ppb	98
7) Dibenzofuran	8.046	168	988194	378.66	ppb	99
8) Fluorene	8.428	166	789598	378.97	ppb	99
9) Phenanthrene	9.493	178	1016938	380.93	ppb	100
10) Anthracene	9.549	178	954004	355.72	ppb	99
11) Fluoranthene	10.799	202	1104850	445.81	ppb	86
12) Pyrene	11.051	202	1159799	432.69	ppb	83
14) Benzo(a)anthracene	12.354	228	2007481	552.01	ppb	81
15) Chrysene	12.395	228	1873981	529.93	ppb	82
16) Benzo(b)fluoranthene	13.502	252	1833020	525.41	ppb	85
17) Benzo(k)fluoranthene	13.531	252	1890393	542.54	ppb	85
18) Benzo(a)pyrene	13.874	252	1485212	448.17	ppb	84
19) Indeno(1,2,3-cd)pyrene	15.392	276	2116490	524.72	ppb	81
20) Dibenzo(a,h)anthracene	15.406	278	1757201	527.85	ppb	85
21) Benzo(g,h,i)perylene	15.827	276	1845258	552.13	ppb	84

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14J28\RJF039.D Vial: 18
Acq On : 28 Oct 2014 13:52 Operator: KVu
Sample : 14J144-01M Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 30 16:17:55 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



Quantitation Report (QT Reviewed)

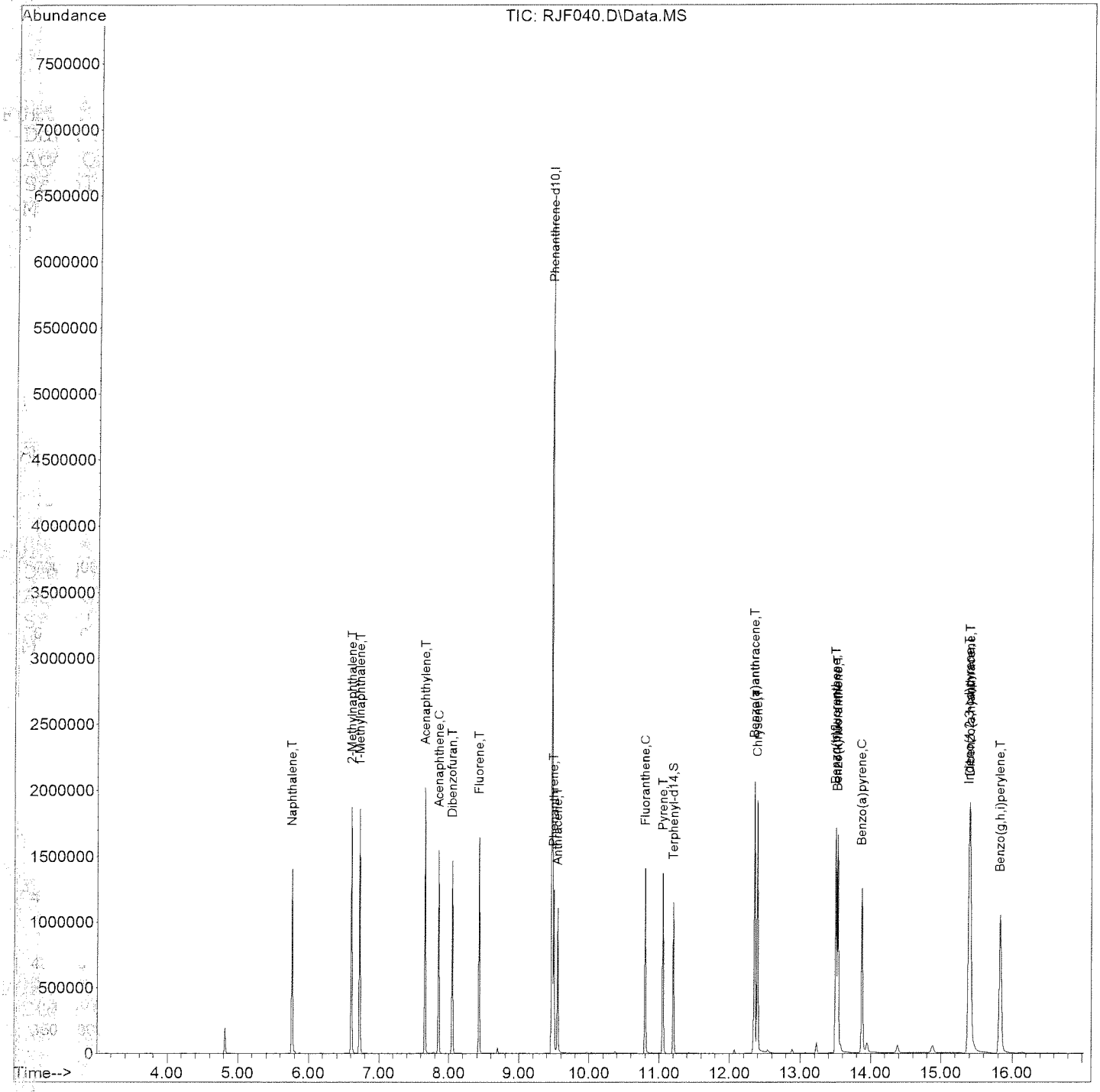
Data File : C:\msdchem\1\DATA\14J28\RJF040.D Vial: 19
Acq On : 28 Oct 2014 14:22 Operator: KVu
Sample : 14J144-01S Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 14:42:17 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.466	188	5072301	2000.00	ppb	0.02
System Monitoring Compounds						
13) Terphenyl-d14	11.204	244	990840	528.18	ppb	0.02
Spiked Amount 500.000			Recovery = 105.64%			
Target Compounds						Qvalue
2) Naphthalene	5.764	128	1275558	367.48	ppb	100
3) 2-Methylnaphthalene	6.606	142	993878	426.95	ppb	98
4) 1-Methylnaphthalene	6.724	142	975127	456.14	ppb	99
5) Acenaphthylene	7.655	152	1315799	425.53	ppb	99
6) Acenaphthene	7.851	153	890064	442.56	ppb	99
7) Dibenzofuran	8.046	168	1027133	399.49	ppb	98
8) Fluorene	8.428	166	809964	394.58	ppb	100
9) Phenanthrene	9.493	178	1040127	395.47	ppb	99
10) Anthracene	9.549	178	979512	370.71	ppb	99
11) Fluoranthene	10.799	202	1086793	445.11	ppb	86
12) Pyrene	11.051	202	1137462	430.73	ppb	83
14) Benzo(a)anthracene	12.354	228	1966375	548.78	ppb	88
15) Chrysene	12.395	228	1817931	521.80	ppb	81
16) Benzo(b)fluoranthene	13.502	252	1859345	540.95	ppb	84
17) Benzo(k)fluoranthene	13.532	252	1844499	537.32	ppb	86
18) Benzo(a)pyrene	13.874	252	1495202	457.96	ppb	84
19) Indeno(1,2,3-cd)pyrene	15.392	276	2104081	529.47	ppb	82
20) Dibenzo(a,h)anthracene	15.407	278	1751685	534.09	ppb	87
21) Benzo(g,h,i)perylene	15.827	276	1833285	556.78	ppb	84

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14J28\RJF040.D Vial: 19
Acq On : 28 Oct 2014 14:22 Operator: KVu
Sample : 14J144-01S Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 14:42:17 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



INITIAL CALIBRATIONS

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: REF012
Instrument ID: TOF0

Project: RED HILL PHASE 1B
SDG No.: 14J144
DFTPP Injection Date: 05/08/14
DFTPP Injection Time: 11:44

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	44.44
68	Less than 2% of mass 69	0.14(0.8)1
69	Relative abundance of mass 198	17.73
70	Less than 2.0% of mass 69	0.02(0.1)1
127	40.0 - 60.0% of mass 198	44.87
197	Less than 1.0% of mass 198	0.67
198	Base Peak, 100% relative abundance	100.00
199	5.0 - 9.0% of mass 198	6.24
275	10.0 - 30.0% of mass 198	22.93
365	Greater than 1.00% of mass 198	1.66
441	Present, but less than mass 443	13.99(81.1)3
442	Greater than 40.0% of mass 198	92.91
443	17.0 - 23.0% of mass 442	17.25(18.6)2

1-Value is % mass 69 2-Value is % mass 442
3-Value is % mass 443

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	SSTD1000	SVF0E081	REF013	05/08/14	12:10
2	SSTD500	SVF0E082	REF014	05/08/14	12:31
3	SSTD100	SVF0E083	REF015	05/08/14	12:54
4	SSTD080	SVF0E084	REF016	05/08/14	13:17
5	SSTD040	SVF0E085	REF017	05/08/14	13:40
6	SSTD020	SVF0E086	REF018	05/08/14	14:03
7	SSTD500	ISVF0E081	REF019	05/08/14	14:26

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: REF014
Instrument ID: TOF0

Project:ICAL
SDG No.:ICAL
Date Analyzed: 05/08/14
Time Analyzed: 12:31

		IS4(PHN)		IS5(CRY)		IS6(PRY)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	5005097	9.44	0	0.00	0	0.00
	UPPER LIMIT	10010194	9.94	0	0.50	0	0.50
	LOWER LIMIT	2502549	8.94	0	-0.50	0	-0.50
	SAMPLE ID						
1	SVF0E081	5187965	9.44	0	0.00	0	0.00
2	SVF0E083	5327101	9.44	0	0.00	0	0.00
3	SVF0E084	7937548	9.44	0	0.00	0	0.00
4	SVF0E085	5477844	9.44	0	0.00	0	0.00
5	SVF0E086	4821286	9.44	0	0.00	0	0.00
6	ISVF0E081	6284290	9.44	0	0.00	0	0.00

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

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

RW 7-11-14

Quantitation Limit from Lowest Initial Calibration Concentration

Instrument ID :FO
Beginning DateTime :05/08/14 12:10
IC File :REF018 4 DJ 10/30/14

Column Spec :ZB-SEMI ID:0.25MM
Ending DateTime :05/08/14 14:03
HPChem Method :SVFOE08

WATER Init. Vol. (ml) : 1000 Final Vol. (ml) : 1
SOIL Init. Weight (gm) : 30 Final Vol. (ml) : 1

IDX	Parameters	ON_COL UG/L	WATER UG/L	SOIL UG/KG	R_FILE
1	Phenanthrene-d10	IntSTD	IntSTD	IntSTD	IntSTD
2	Naphthalene	20	.02	.6667	REF018
3	2-Methylnaphthalene	20	.02	.6667	REF018
4	1-Methylnaphthalene	20	.02	.6667	REF018
5	Acenaphthylene	20	.02	.6667	REF018
6	Acenaphthene	20	.02	.6667	REF018
7	Dibenzofuran	20	.02	.6667	REF018
8	Fluorene	20	.02	.6667	REF018
9	Phenanthrene	20	.02	.6667	REF018
10	Anthracene	20	.02	.6667	REF018
11	Fluoranthene	20	.02	.6667	REF018
12	Pyrene	20	.02	.6667	REF018
13	Terphenyl-d14	20	.02	.6667	REF018
14	Benzo(a)anthracene	20	.02	.6667	REF018
15	Chrysene	20	.02	.6667	REF018
16	Benzo(b)fluoranthene	20	.02	.6667	REF018
17	Benzo(k)fluoranthene	20	.02	.6667	REF018
18	Benzo(a)pyrene	20	.02	.6667	REF018
19	Indeno(1,2,3-cd)pyrene	20	.02	.6667	REF018
20	Dibenzo(a,h)anthracene	20	.02	.6667	REF018
21	Benzo(g,h,i)perylene	20	.02	.6667	REF018

RW 7-1-14

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :F0
Beginning DateTime :05/08/14 12:10
Spike Units :PPB
IC File :REF0184 BJ 10/30/14

Column Spec :ZB-SEMI ID:0.25MM
Ending DateTime :05/08/14 14:03
HPChem Method :SVF0E08

IDX	Parameters	20 14:03 REF018	40 13:40 REF017	80 13:17 REF016	100 12:54 REF015	500 12:31 REF014	1000 12:10 REF013	Av_RRF	%_RSD	Av_Rt_M
1	Phenanthrene-d10	1	1	1	1	1	1	1	0	9.4429
2	Naphthalene	1.584	1.389	1.265	1.344	1.392	1.238	1.369	8.99	5.7405
3	2-Methylnaphthalene	1.049	0.917	0.855	0.919	0.934	0.833	0.918	8.25	6.5772
4	1-Methylnaphthalene	0.978	0.846	0.789	0.836	0.849	0.759	0.843	8.93	6.6945
5	Acenaphthylene	1.353	1.215	1.133	1.232	1.245	1.139	1.219	6.61	7.6248
6	Acenaphthene	0.908	0.800	0.739	0.802	0.787	0.723	0.793	8.22	7.8215
7	Dibenzofuran	1.143	1.026	0.947	1.015	1.018	0.934	1.014	7.34	8.0151
8	Fluorene	0.905	0.823	0.759	0.820	0.805	0.744	0.809	7.05	8.4032
9	Phenanthrene	1.167	1.073	0.982	1.046	1.026	0.928	1.037	7.86	9.4701
10	Anthracene	1.165	1.048	0.987	1.044	1.047	0.960	1.042	6.78	9.5262
11	Fluoranthene	1.107	0.997	0.907	0.952	0.957	0.857	0.963	8.86	10.7756
12	Pyrene	1.199	1.055	0.985	1.029	1.031	0.949	1.041	8.26	11.0270
13	Terphenyl-d14	0.872	0.761	0.690	0.714	0.734	0.667	0.740	9.81	11.1795
14	Benzo(a)anthracene	2.042	1.655	1.458	1.489	1.522	1.358	1.587	15.30	12.3298
15	Chrysene	1.582	1.404	1.292	1.326	1.388	1.250	1.374	8.55	12.3690
16	Benzo(b)fluoranthene	1.516	1.347	1.270	1.310	1.410	1.278	1.355	6.94	13.4730
17	Benzo(k)fluoranthene	1.505	1.292	1.253	1.348	1.449	1.275	1.354	7.55	13.5020
18	Benzo(a)pyrene	1.418	1.249	1.173	1.251	1.378	1.255	1.287	7.12	13.8406
19	Indeno(1,2,3-cd)pyrene	1.722	1.553	1.448	1.510	1.657	1.512	1.567	6.56	15.3334
20	Dibenzo(a,h)anthracene	1.458	1.286	1.193	1.247	1.347	1.229	1.293	7.44	15.3500
21	Benzo(g,h,i)perylene	1.390	1.273	1.236	1.265	1.389	1.237	1.298	5.54	15.7617

Ave_%RSD : 8.1 Max_%RSD : 15.3

Use Least Square Linear Regression with weighting factor of inverse concentration
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
14	Benzo(a)anthracene	0.00585	1.39154	0.9984

JC 9-11-14

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR(%REC)

Instrument ID :FO
Beginning DateTime :05/08/14 12:10
Spike Units :PPB
IC File :REF015 4 DJ 10/30/14

Column Spec :ZB-SEMI ID:0.25MM
Ending DateTime :05/08/14 14:03
HPChem Method :SVFOE08

IDX	Parameters	20 14:03 REF018	40 13:40 REF017	80 13:17 REF016	100 12:54 REF015	500 12:31 REF014	1000 12:10 REF013	AvDRec	%_RSD	Av_Rt_M
1	Phenanthrene-d10	1	1	1	1	1	1	1	0	9.4429
2	Naphthalene	116	101	92	98	102	90	6.3	8.99	5.7405
3	2-Methylnaphthalene	114	100	93	100	102	91	5.4	8.25	6.5772
4	1-Methylnaphthalene	116	100	94	99	101	90	5.7	8.93	6.6945
5	Acenaphthylene	111	100	93	101	102	93	4.7	6.61	7.6248
6	Acenaphthene	115	101	93	101	99	91	5.5	8.22	7.8215
7	Dibenzofuran	113	101	93	100	100	92	4.8	7.34	8.0151
8	Fluorene	112	102	94	101	100	92	4.9	7.05	8.4032
9	Phenanthrene	113	103	95	101	99	89	5.6	7.86	9.4701
10	Anthracene	112	101	95	100	100	92	4.4	6.78	9.5262
11	Fluoranthene	115	104	94	99	99	89	6.2	8.86	10.7756
12	Pyrene	115	101	95	99	99	91	5.5	8.26	11.0270
13	Terphenyl-d14	118	103	93	96	99	90	6.9	9.81	11.1795
14	Benzo(a)anthracene	105	98	94	99	108	97	4.2	5.1	12.3298
15	Chrysene	115	102	94	97	101	91	6.1	8.55	12.3690
16	Benzo(b)fluoranthene	112	99	94	97	104	94	5.3	6.94	13.4730
17	Benzo(k)fluoranthene	111	95	93	100	107	94	6.1	7.55	13.5020
18	Benzo(a)pyrene	110	97	91	97	107	98	5.7	7.12	13.8406
19	Indeno(1,2,3-cd)pyrene	110	99	92	96	106	96	5.2	6.56	15.3334
20	Dibenzo(a,h)anthracene	113	99	92	96	104	95	5.6	7.44	15.3500
21	Benzo(g,h,i)perylene	107	98	95	97	107	95	4.7	5.54	15.7617

7-11-14

Compound List Report DSQ

Method Path : C:\msdchem\1\METHODS\
Method File : SVF0E08.M
Title : SEMIVOLATILES - SIM
Last Update : Thu May 08 14:37:46 2014
Response Via : Initial Calibration

Total Cpnds : 21

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Phenanthrene-d10	188	9.444	1.000	A	1	A	B
2	T	Naphthalene	128	5.741	0.608	A	1	A	B
3	T	2-Methylnaphthalene	142	6.577	0.696	A	1	A	B
4	T	1-Methylnaphthalene	142	6.695	0.709	A	1	A	B
5	T	Acenaphthylene	152	7.626	0.807	A	1	A	B
6	C	Acenaphthene	153	7.821	0.828	A	1	A	B
7	T	Dibenzofuran	168	8.015	0.849	A	1	A	B
8	T	Fluorene	166	8.403	0.890	A	1	A	B
9	T	Phenanthrene	178	9.471	1.003	A	1	A	B
10	T	Anthracene	178	9.527	1.009	A	1	A	B
11	C	Fluoranthene	202	10.777	1.141	A	1	A	B
12	T	Pyrene	202	11.029	1.168	A	1	A	B
13	S	Terphenyl-d14	244	11.181	1.184	A	1	A	B
14	T	Benzo(a)anthracene	228	12.331	1.306	L	1	A	B
15	T	Chrysene	228	12.370	1.310	A	1	A	B
16	T	Benzo(b)fluoranthene	252	13.475	1.427	A	1	A	B
17	T	Benzo(k)fluoranthene	252	13.504	1.430	A	1	A	B
18	C	Benzo(a)pyrene	252	13.842	1.466	A	1	A	B
19	T	Indeno(1,2,3-cd)pyrene	276	15.336	1.624	A	1	A	B
20	T	Dibenzo(a,h)anthracene	278	15.353	1.626	A	1	A	B
21	T	Benzo(g,h,i)perylene	276	15.763	1.669	A	1	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

SVF0E08.M Thu May 08 14:38:06 2014 F0

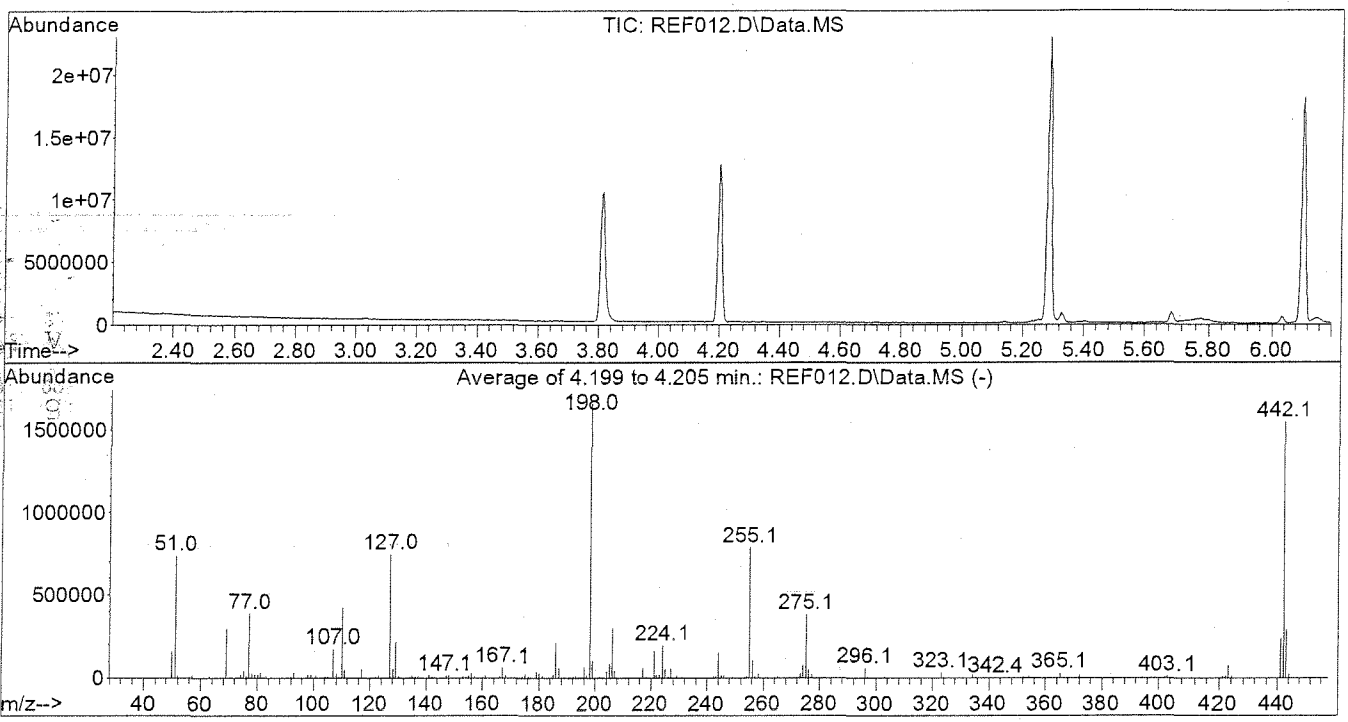
dc 1-1-14

3030

Data Path : C:\msdchem\1\DATA\14E08\
Data File : REF012.D
Acq On : 08 May 2014 11:44
Operator : KV
Sample : DFTF0F0801
Misc : F0
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Title : DFTPP
Last Update : Fri May 09 13:48:37 2014



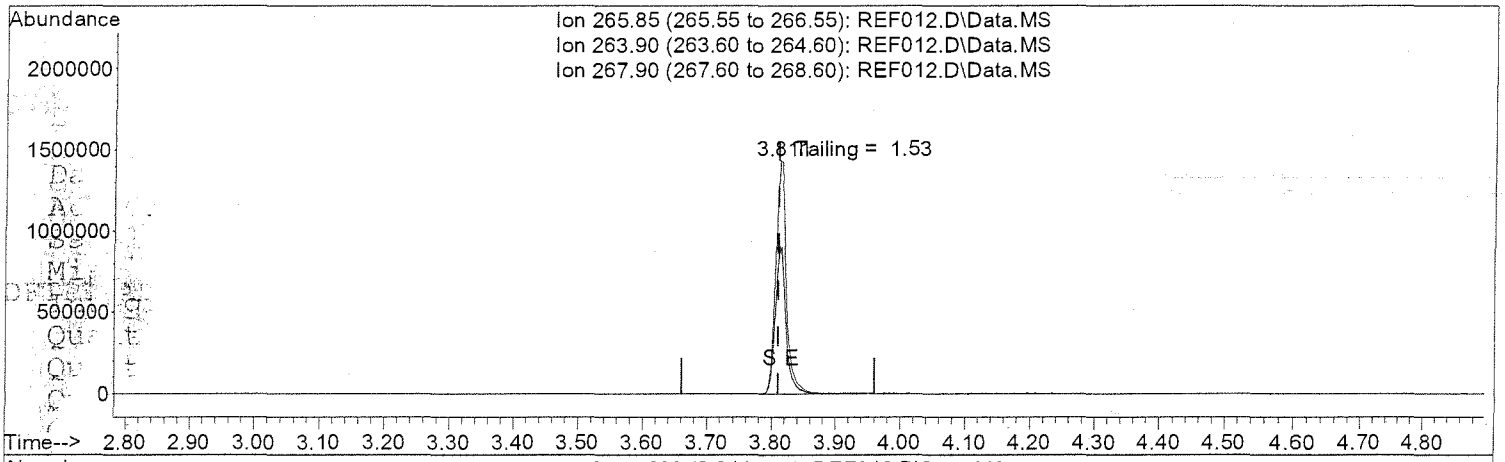
AutoFind: Scans 725, 726, 727; Background Corrected with Scan 716

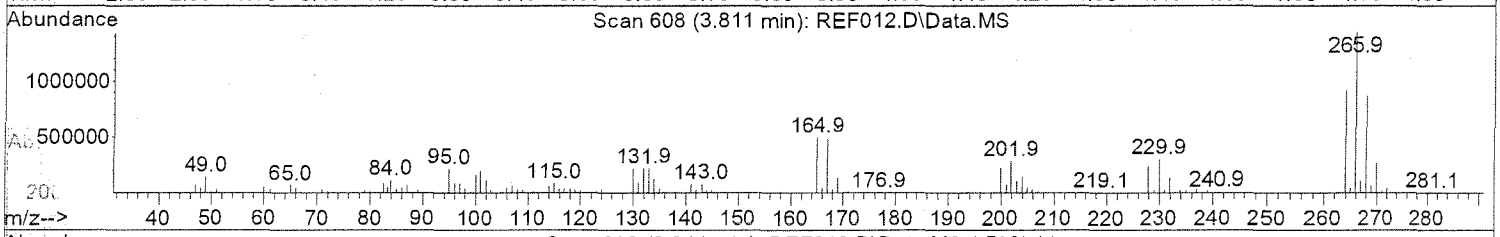
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.4	737448	PASS
68	69	0.00	2	0.8	2241	PASS
69	198	0.00	100	17.7	294208	PASS
70	69	0.00	2	0.1	361	PASS
127	198	40	60	44.9	744448	PASS
197	198	0.00	1	0.7	11039	PASS
198	198	100	100	100.0	1659221	PASS
199	198	5	9	6.2	103579	PASS
275	198	10	30	22.9	380501	PASS
365	198	1	100	1.7	27571	PASS
441	443	0.01	100	81.1	232107	PASS
442	198	40	100	92.9	1541632	PASS
443	442	17	23	18.6	286251	PASS

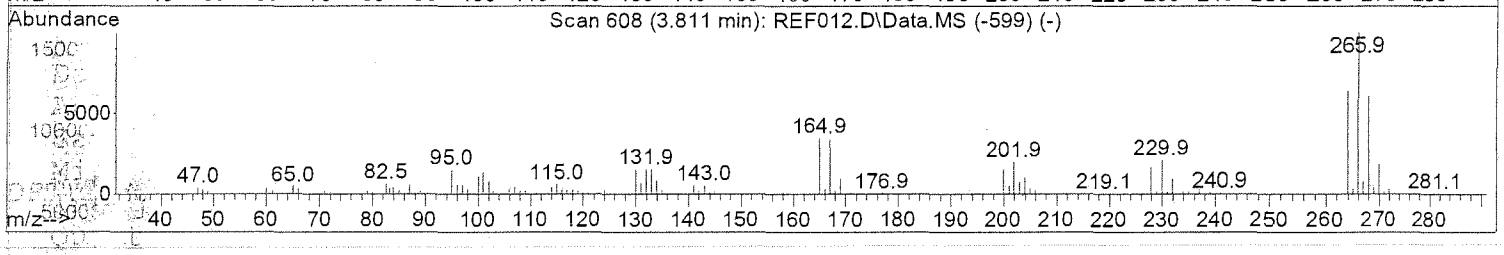
RE 7-11-14

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14E08\REF012.D Vial: 2
Acq On : 08 May 2014 11:44 Operator: KV
Sample : DFTF0F0801 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 09 13:48:40 2014
Quant Results File: DFTPPPAH.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Quant Title : DFTPP
QLast Update : Fri May 09 13:48:38 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M







TIC: REF012.D\Data.MS

(1) Pentachlorophenol (T)

3.811min (+0.000) 50.00 ppm

response 1690635

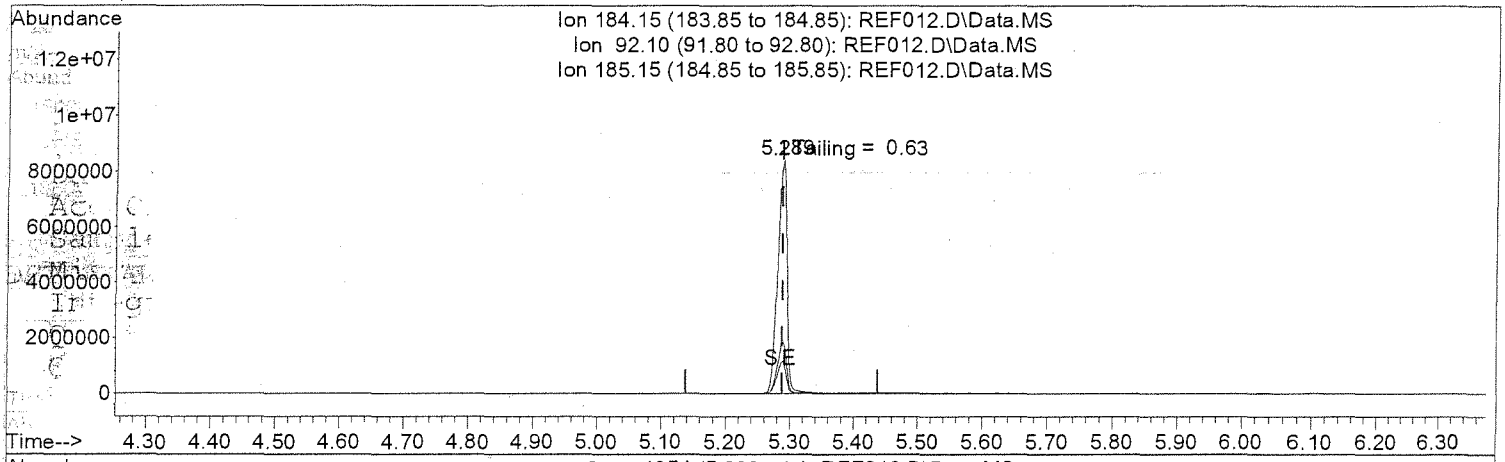
Ion	Exp%	Act%
265.85	100	100
263.90	61.80	61.80
267.90	62.70	62.72
0.00	0.00	0.00

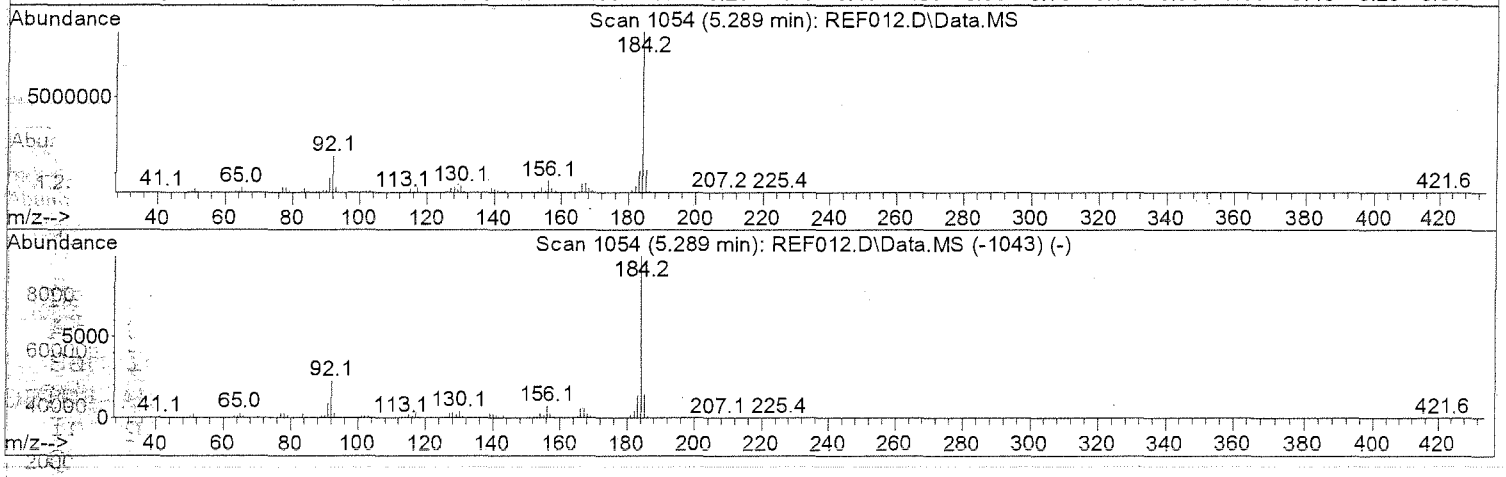
7-11-14

3832

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14E08\REF012.D Vial: 2
Acq On : 08 May 2014 11:44 Operator: KV
Sample : DFTF0F0801 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 09 13:48:40 2014
Quant Results File: DFTPPPAH.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Quant Title : DFTPP
QLast Update : Fri May 09 13:48:38 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M





TIC: REF012.D\Data.MS

(3) Benzidine (T)

5.289min (0.000) 50.00 ppm

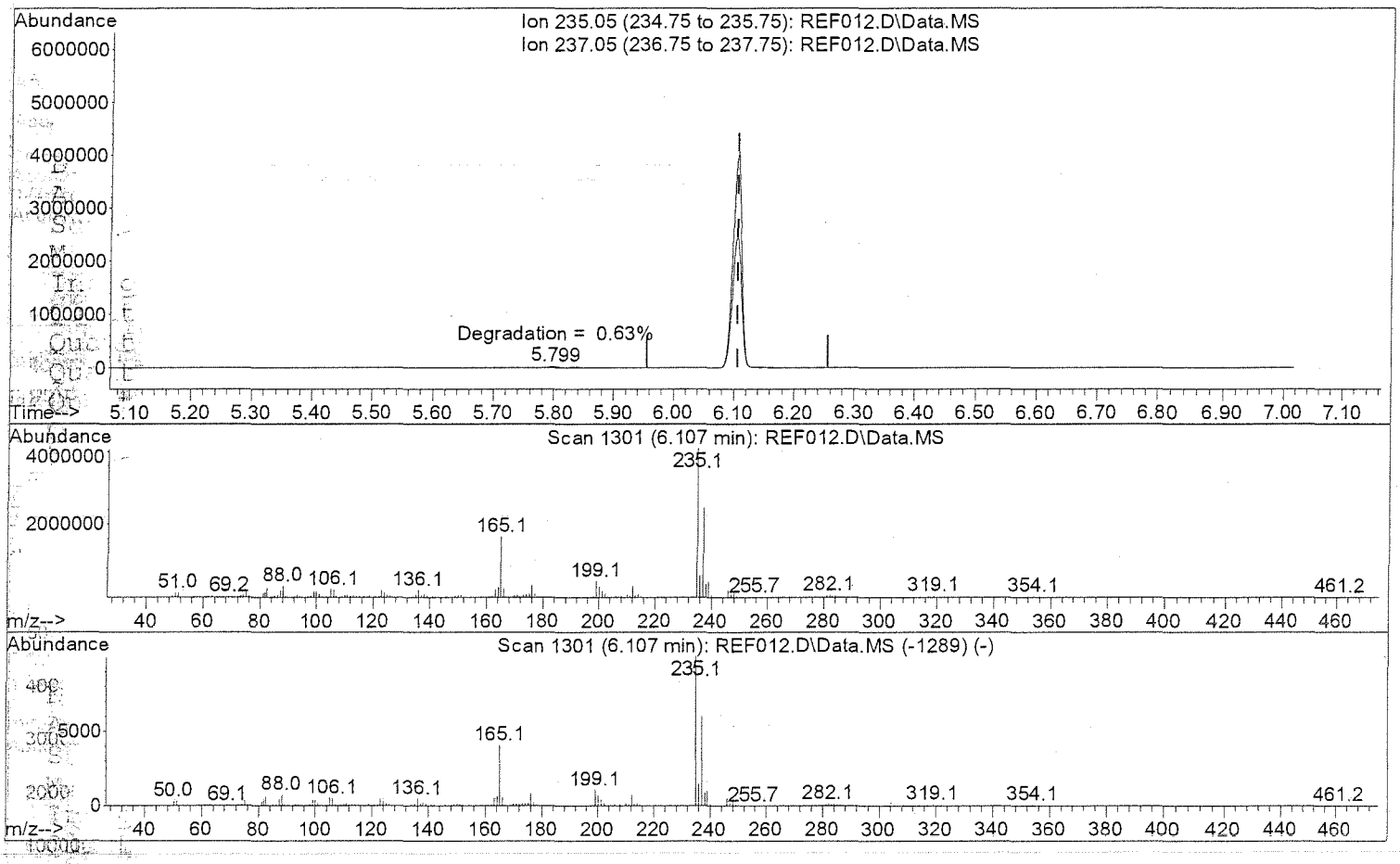
response 8591117

Ion	Exp%	Act%
184.15	100	100
92.10	21.70	21.65
185.15	13.30	13.29
0.00	0.00	0.00

7-11-14

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14E08\REF012.D Vial: 2
Acq On : 08 May 2014 11:44 Operator: KV
Sample : DFTF0F0801 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 09 13:48:40 2014
Quant Results File: DFTPPPAH.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Quant Title : DFTPP
QLast Update : Fri May 09 13:48:38 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



TIC: REF012.D\Data.MS

(6) DDT (T)

6.107min (0.000) 50.00 ppm

response 4079265

Ion	Exp%	Act%
235.05	100	100
237.05	63.20	63.24
0.00	0.00	0.00
0.00	0.00	0.00

7-11-14

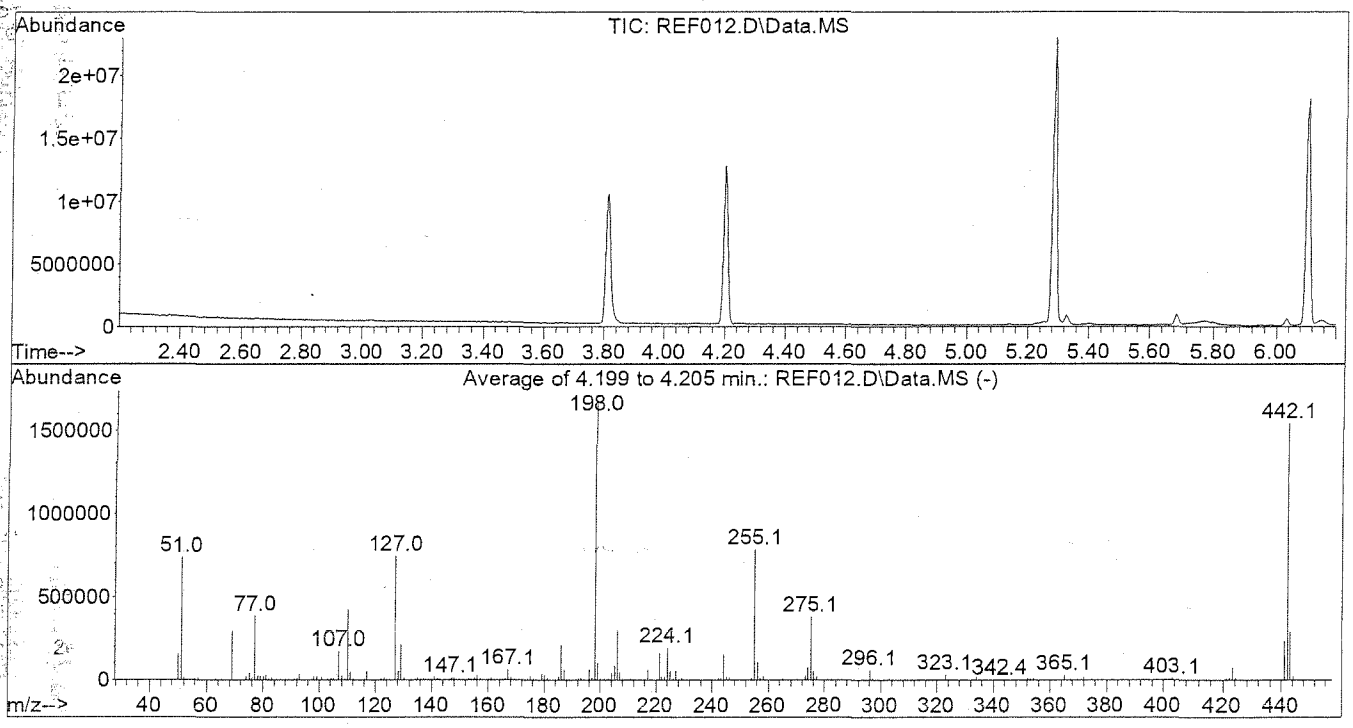
3854

DFTPP

Data Path : C:\msdchem\1\DATA\14E08\
Data File : REF012.D
Acq On : 08 May 2014 11:44
Operator : KV
Sample : DFTF0F0801
Misc : F0
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPD.M
Title : DFTPP-8270D
Last Update : Fri May 09 13:50:01 2014



AutoFind: Scans 725, 726, 727; Background Corrected with Scan 716

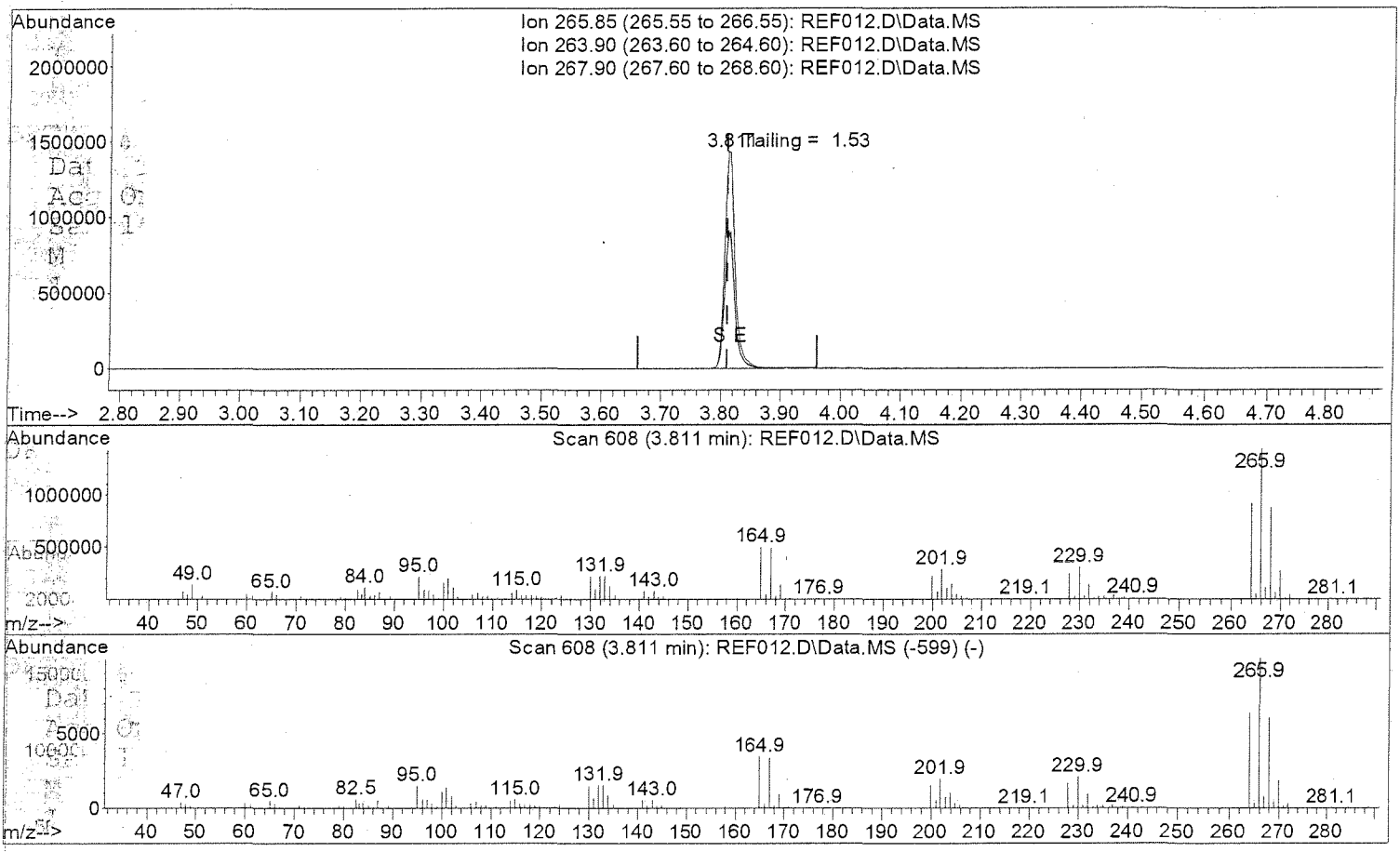
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	44.4	737448	PASS
68	69	0.00	2	0.8	2241	PASS
69	198	0.00	100	17.7	294208	PASS
70	69	0.00	2	0.1	361	PASS
127	198	10	80	44.9	744448	PASS
197	198	0.00	2	0.7	11039	PASS
198	198	100	100	100.0	1659221	PASS
199	198	5	9	6.2	103579	PASS
275	198	10	60	22.9	380501	PASS
365	198	1	100	1.7	27571	PASS
441	442	0.01	24	15.1	232107	PASS
442	198	50	100	92.9	1541632	PASS
443	442	15	24	18.6	286251	PASS

7-11-14

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14E08\REF012.D
Acq On : 08 May 2014 11:44
Sample : DFTF0F0801
Misc : F0
Integrator: RTE
Quant Time: May 09 13:50:04 2014
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : DFTPP-8270D
QLast Update : Fri May 09 13:50:02 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Vial: 2
Operator: KV
Inst : DSQ
Multiplr: 1.00



TIC: REF012.D\Data.MS

(1) Pentachlorophenol (T)

3.811min (+0.000) 50.00 ppm

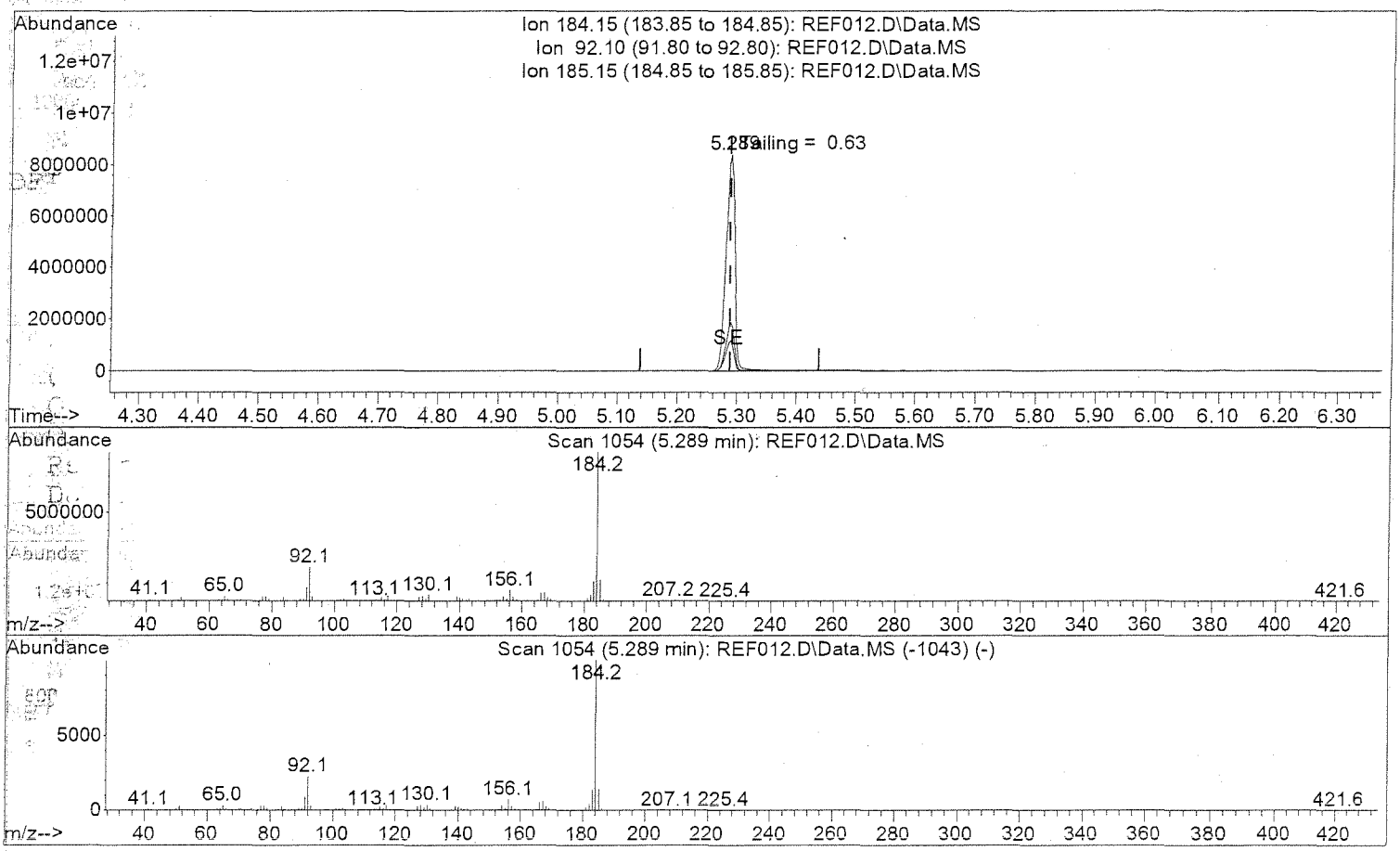
response 1690635

Ion	Exp%	Act%
265.85	100	100
263.90	61.80	61.80
267.90	62.70	62.72#
0.00	0.00	0.00

7-11-14

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14E08\REF012.D Vial: 2
Acq On : 08 May 2014 11:44 Operator: KV
Sample : DFTF0F0801 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 09 13:50:04 2014
Quant Results File: DFTTPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : DFTPP-8270D
QLast Update : Fri May 09 13:50:02 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



TIC: REF012.D\Data.MS

(3) Benzidine (T)

5.289min (0.000) 50.00 ppm

response 8591117

Ion	Exp%	Act%
184.15	100	100
92.10	21.70	21.65
185.15	13.30	13.29#
0.00	0.00	0.00

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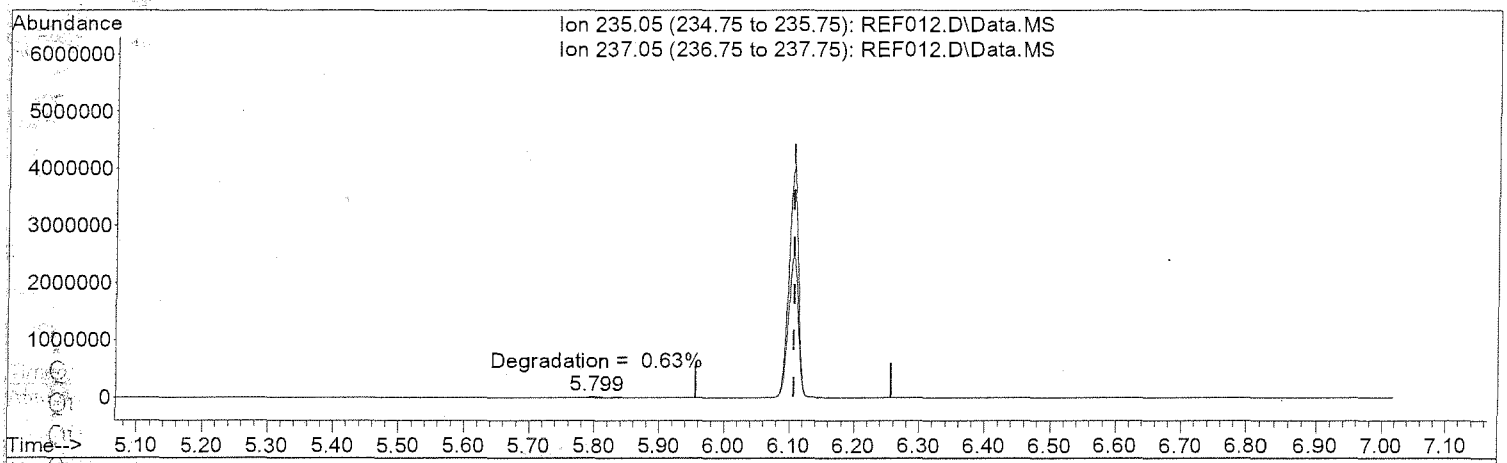
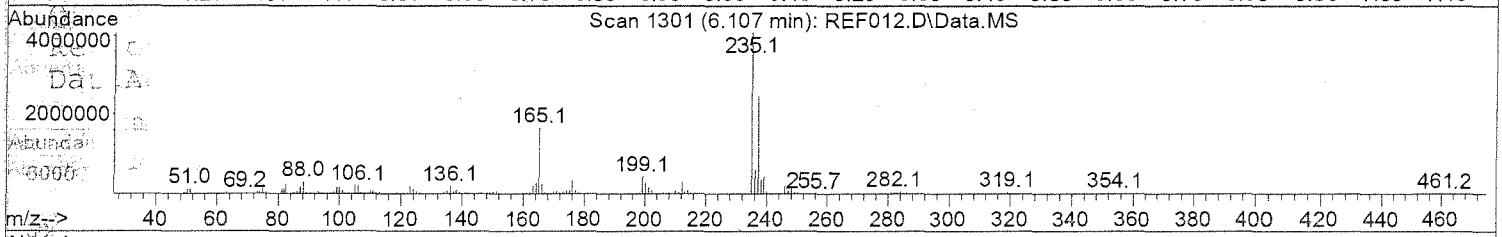
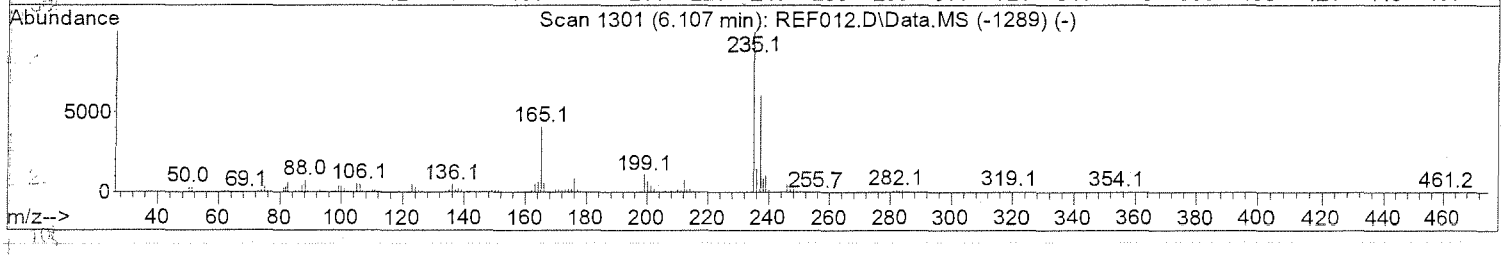
Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14E08\REF012.D Vial: 2
Acq On : 08 May 2014 11:44 Operator: KV
Sample : DFTF0F0801 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 09 13:50:04 2014
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : DFTPP-8270D
QLast Update : Fri May 09 13:50:02 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M







TIC: REF012.D\Data.MS

(6) DDT (T)

6.107min (0.000) 50.00 ppm

response 4079265

Ion	Exp%	Act%
235.05	100	100
237.05	63.20	63.24
0.00	0.00	0.00
0.00	0.00	0.00

PM 7-11-14

3038

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF018.D Vial: 8
Acq On : 08 May 2014 14:03 Operator: KV
Sample : SVF0E086 20PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:40:04 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

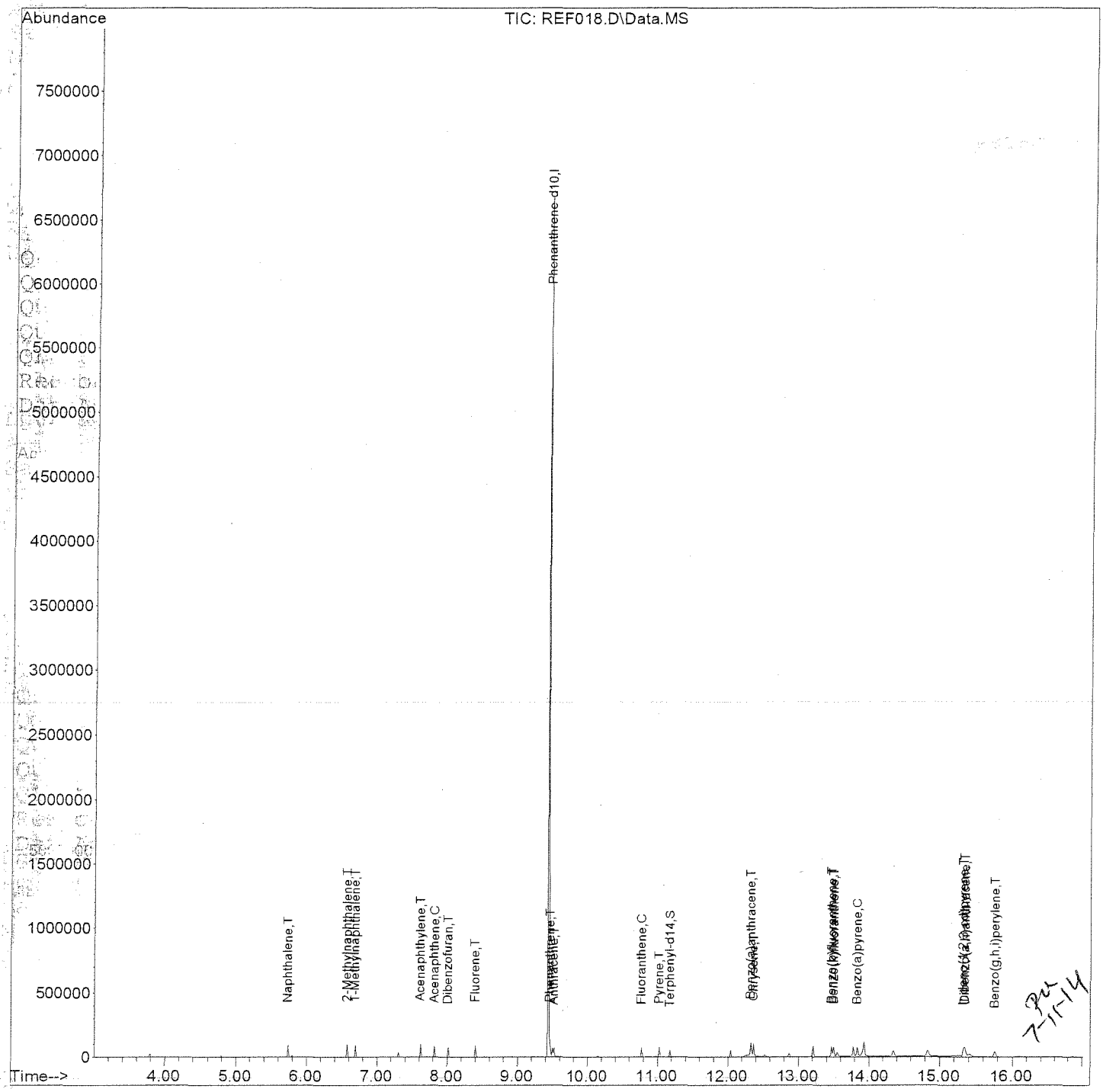
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.442	188	4821286	2000.00	ppb	0.00
System Monitoring Compounds						
13) Terphenyl-d14	11.179	244	42038	23.58	ppb	0.00
Spiked Amount 500.000			Recovery =	4.72%		
Target Compounds						Qvalue
2) Naphthalene	5.741	128	76370	23.15	ppb	99
3) 2-Methylnaphthalene	6.577	142	50590	22.86	ppb	98
4) 1-Methylnaphthalene	6.693	142	47155	23.21	ppb	98
5) Acenaphthylene	7.623	152	65214	22.19	ppb	100
6) Acenaphthene	7.821	153	43775	22.90	ppb	100
7) Dibenzofuran	8.015	168	55096	22.54	ppb	98
8) Fluorene	8.403	166	43644	22.37	ppb	99
9) Phenanthrene	9.469	178	56274	22.51	ppb	99
10) Anthracene	9.524	178	56170	22.37	ppb	98
11) Fluoranthene	10.774	202	53368	23.00	ppb	98
12) Pyrene	11.026	202	57800	23.03	ppb	96
14) Benzo(a)anthracene	12.329	228	98467	20.95	ppb	96
15) Chrysene	12.368	228	76292	23.04	ppb	50
16) Benzo(b)fluoranthene	13.473	252	73104	22.38	ppb	95
17) Benzo(k)fluoranthene	13.500	252	72569	22.24	ppb	98
18) Benzo(a)pyrene	13.838	252	68348	22.02	ppb	92
19) Indeno(1,2,3-cd)pyrene	15.331	276	83032	21.98	ppb	99
20) Dibenzo(a,h)anthracene	15.348	278	70272	22.54	ppb	92
21) Benzo(g,h,i)perylene	15.761	276	67001	21.41	ppb	97

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

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF018.D Vial: 8
Acq On : 08 May 2014 14:03 Operator: KV
Sample : SVF0E086 20PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:40:04 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF017.D Vial: 7
Acq On : 08 May 2014 13:40 Operator: KV
Sample : SVF0E085 40PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:47 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

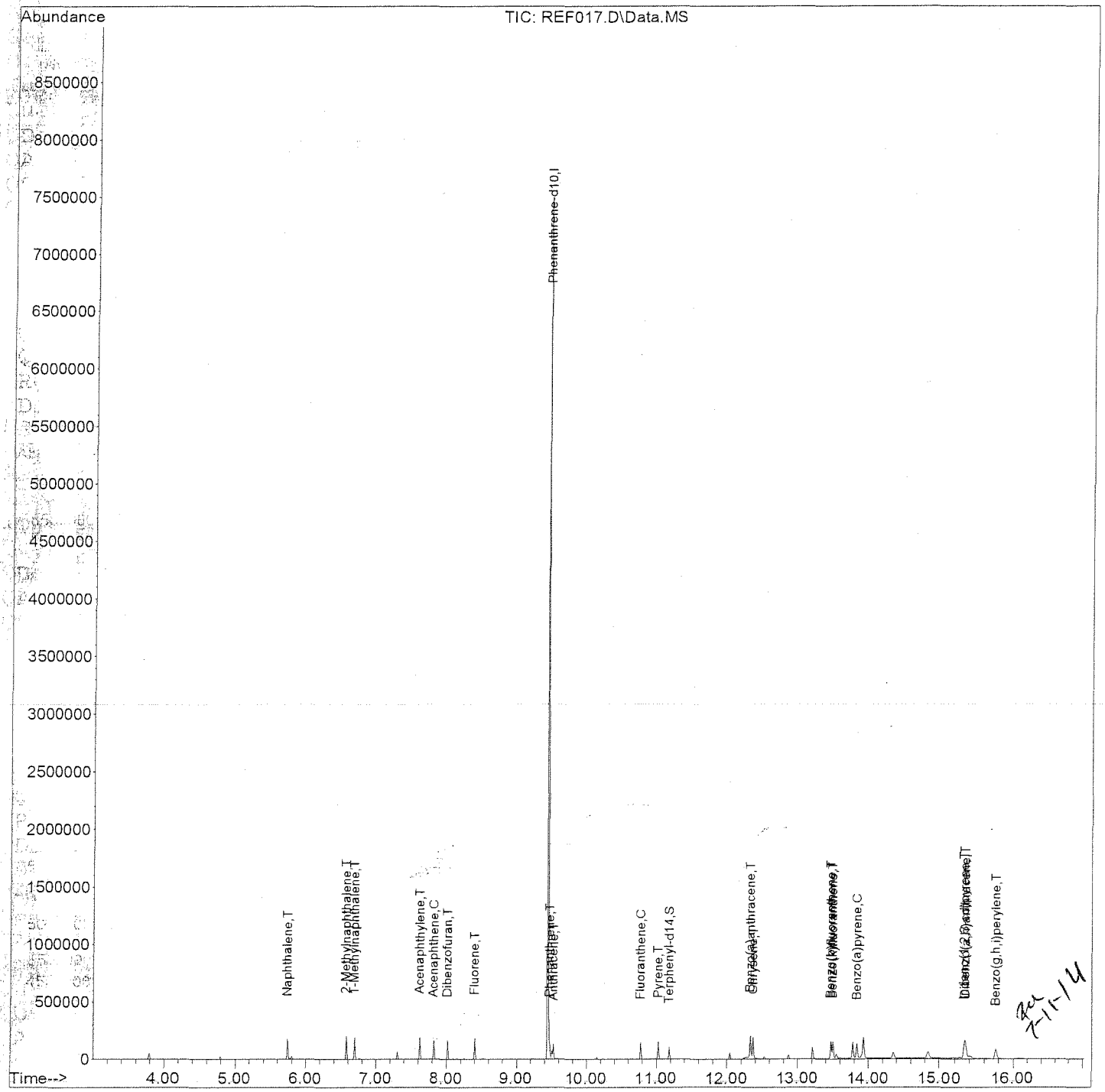
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.443	188	5477844	2000.00	ppb	0.00
System Monitoring Compounds						
13) Terphenyl-d14	11.180	244	83327	41.13	ppb	0.00
Spiked Amount 500.000			Recovery =	8.23%		
Target Compounds						Qvalue
2) Naphthalene	5.741	128	152169	40.59	ppb	99
3) 2-Methylnaphthalene	6.578	142	100467	39.96	ppb	98
4) 1-Methylnaphthalene	6.696	142	92719	40.16	ppb	99
5) Acenaphthylene	7.625	152	133087	39.85	ppb	99
6) Acenaphthene	7.823	153	87608	40.34	ppb	99
7) Dibenzofuran	8.016	168	112420	40.49	ppb	99
8) Fluorene	8.404	166	90161	40.67	ppb	99
9) Phenanthrene	9.470	178	117504	41.37	ppb	98
10) Anthracene	9.526	178	114777	40.22	ppb	99
11) Fluoranthene	10.775	202	109222	41.42	ppb	99
12) Pyrene	11.027	202	115618	40.54	ppb	98
14) Benzo(a)anthracene	12.330	228	181359	39.18	ppb	100
15) Chrysene	12.369	228	153818	40.88	ppb	77
16) Benzo(b)fluoranthene	13.472	252	147590	39.76	ppb	97
17) Benzo(k)fluoranthene	13.501	252	141499	38.17	ppb	98
18) Benzo(a)pyrene	13.842	252	136839	38.81	ppb	95
19) Indeno(1,2,3-cd)pyrene	15.333	276	170119	39.64	ppb	99
20) Dibenzo(a,h)anthracene	15.349	278	140943	39.79	ppb	93
21) Benzo(g,h,i)perylene	15.760	276	139493	39.23	ppb	99

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

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF017.D Vial: 7
Acq On : 08 May 2014 13:40 Operator: KV
Sample : SVF0E085 40PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:47 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF016.D Vial: 6
Acq On : 08 May 2014 13:17 Operator: KV
Sample : SVF0E084 80PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:33 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

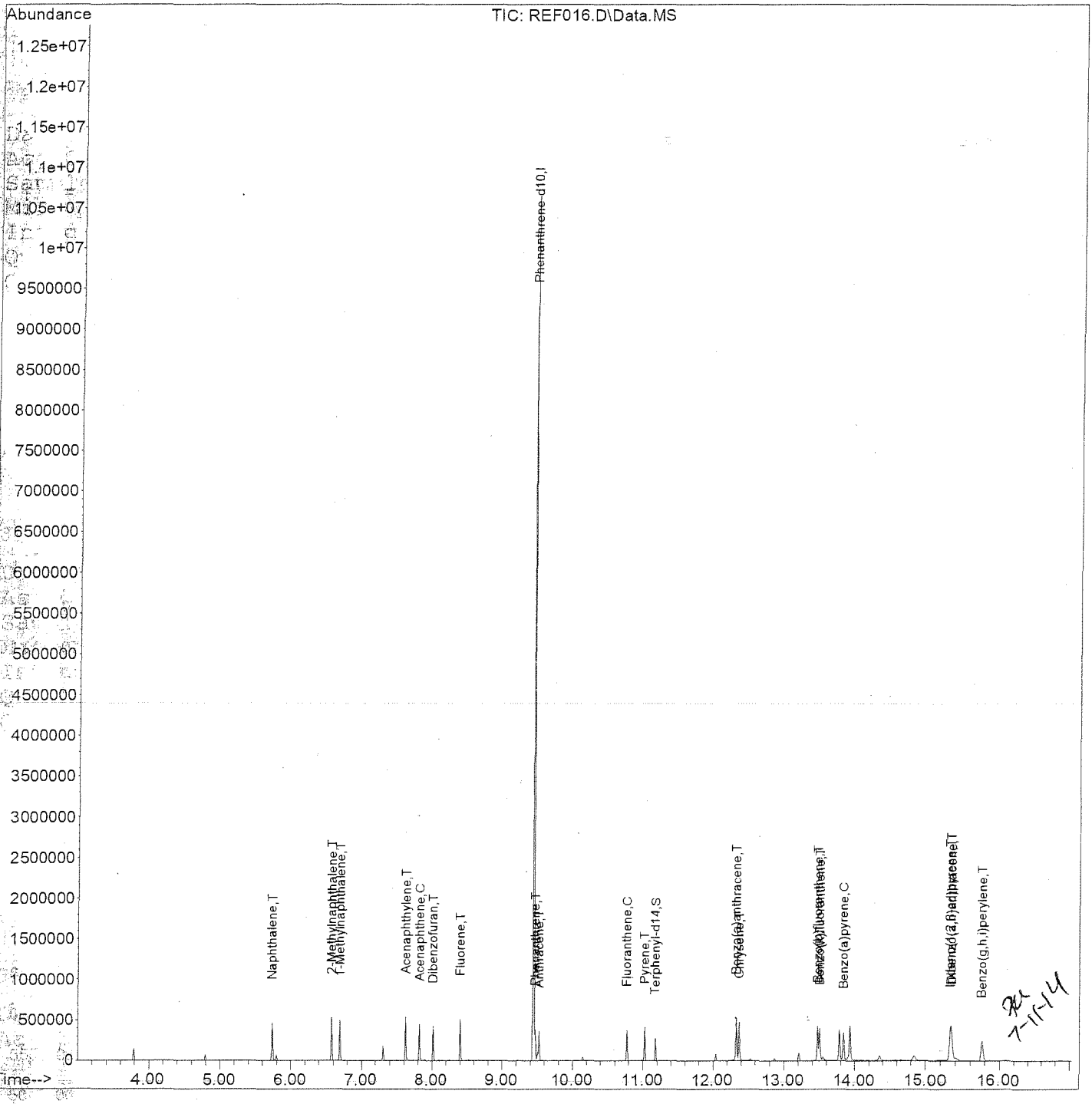
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.442	188	7937548	2000.00	ppb	0.00
System Monitoring Compounds						
13) Terphenyl-d14	11.179	244	219212	74.67	ppb	0.00
Spiked Amount 500.000			Recovery = 14.93%			
Target Compounds						Qvalue
2) Naphthalene	5.739	128	401533	73.92	ppb	98
3) 2-Methylnaphthalene	6.577	142	271326	74.48	ppb	99
4) 1-Methylnaphthalene	6.695	142	250355	74.84	ppb	99
5) Acenaphthylene	7.626	152	359752	74.35	ppb	100
6) Acenaphthene	7.821	153	234592	74.54	ppb	100
7) Dibenzofuran	8.015	168	300779	74.76	ppb	100
8) Fluorene	8.403	166	241130	75.06	ppb	100
9) Phenanthrene	9.471	178	311853	75.77	ppb	100
10) Anthracene	9.527	178	313341	75.78	ppb	99
11) Fluoranthene	10.775	202	288030	75.38	ppb	99
12) Pyrene	11.027	202	312643	75.65	ppb	97
14) Benzo(a)anthracene	12.329	228	462964	75.43	ppb	100
15) Chrysene	12.370	228	410255	75.25	ppb	97
16) Benzo(b)fluoranthene	13.473	252	403227	74.97	ppb	99
17) Benzo(k)fluoranthene	13.502	252	397711	74.04	ppb	99
18) Benzo(a)pyrene	13.841	252	372463	72.90	ppb	99
19) Indeno(1,2,3-cd)pyrene	15.331	276	459641	73.91	ppb	98
20) Dibenzo(a,h)anthracene	15.348	278	378829	73.81	ppb	99
21) Benzo(g,h,i)perylene	15.761	276	392568	76.19	ppb	98

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

AC 7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF016.D Vial: 6
Acq On : 08 May 2014 13:17 Operator: KV
Sample : SVF0E084 80PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:33 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



SVF0E08.M Thu May 08 14:39:44 2014 F0 Page: 2

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF015.D Vial: 5
Acq On : 08 May 2014 12:54 Operator: KV
Sample : SVF0E083 100PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:17 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

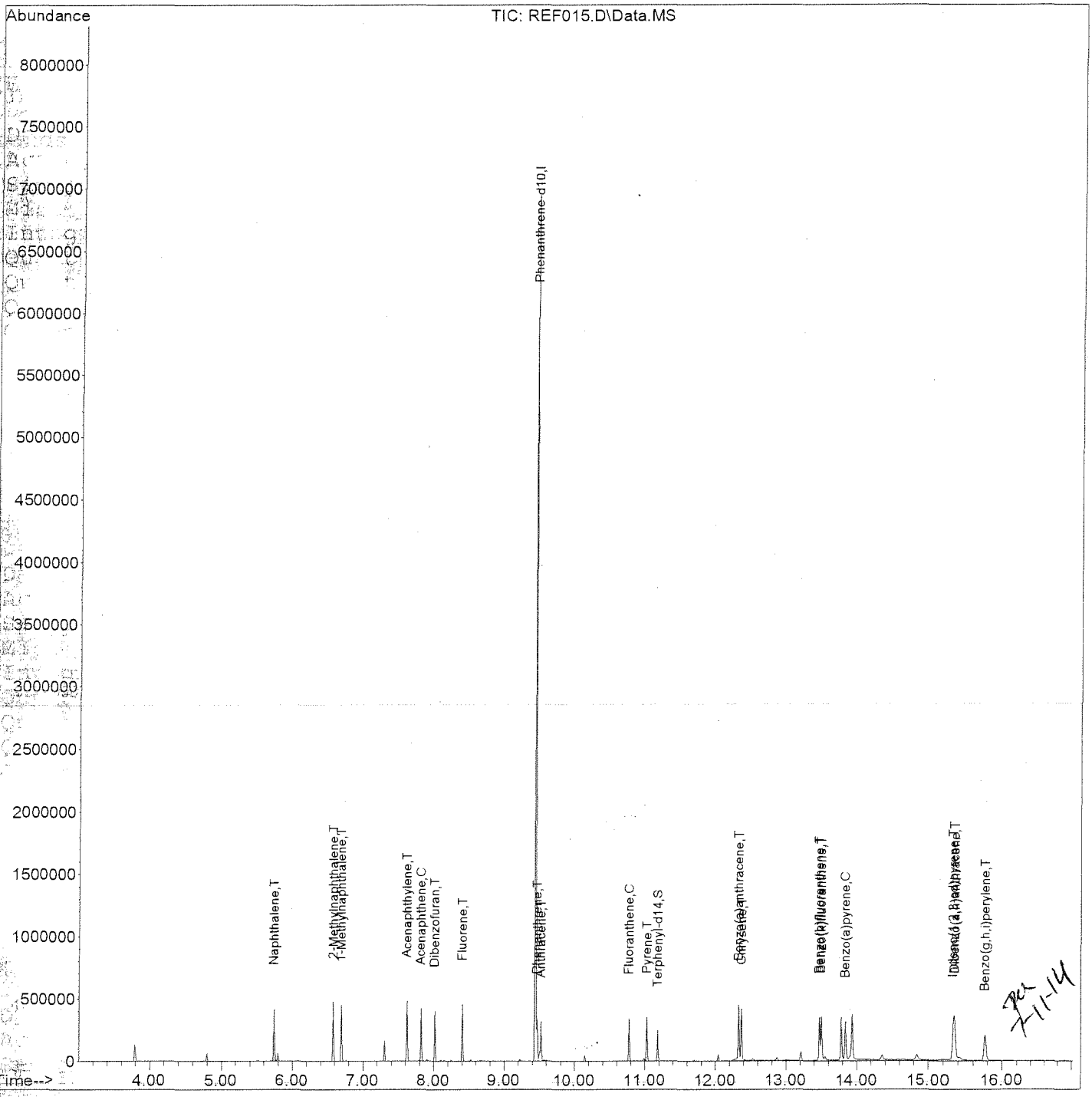
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.444	188	5327101	2000.00	ppb	0.00
System Monitoring Compounds						
13) Terphenyl-d14	11.181	244	190088	96.48	ppb	0.00
Spiked Amount 500.000			Recovery = 19.30%			
Target Compounds						Qvalue
2) Naphthalene	5.742	128	357872	98.17	ppb	99
3) 2-Methylnaphthalene	6.577	142	244851	100.15	ppb	99
4) 1-Methylnaphthalene	6.695	142	222774	99.22	ppb	99
5) Acenaphthylene	7.626	152	328041	101.01	ppb	100
6) Acenaphthene	7.821	153	213620	101.14	ppb	99
7) Dibenzofuran	8.015	168	270411	100.14	ppb	99
8) Fluorene	8.403	166	218467	101.34	ppb	100
9) Phenanthrene	9.471	178	278620	100.87	ppb	99
10) Anthracene	9.527	178	278120	100.22	ppb	99
11) Fluoranthene	10.777	202	253501	98.86	ppb	99
12) Pyrene	11.027	202	274024	98.80	ppb	96
14) Benzo(a)anthracene	12.329	228	396477	98.57	ppb	96
15) Chrysene	12.370	228	353201	96.53	ppb	93
16) Benzo(b)fluoranthene	13.472	252	349041	96.69	ppb	97
17) Benzo(k)fluoranthene	13.502	252	359178	99.63	ppb	98
18) Benzo(a)pyrene	13.840	252	333230	97.18	ppb	100
19) Indeno(1,2,3-cd)pyrene	15.333	276	402132	96.35	ppb	98
20) Dibenzo(a,h)anthracene	15.350	278	332039	96.40	ppb	99
21) Benzo(g,h,i)perylene	15.763	276	337001	97.45	ppb	100

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

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF015.D Vial: 5
Acq On : 08 May 2014 12:54 Operator: KV
Sample : SVF0E083 100PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:17 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF014.D Vial: 4
Acq On : 08 May 2014 12:31 Operator: KV
Sample : SVF0E082 500PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:00 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

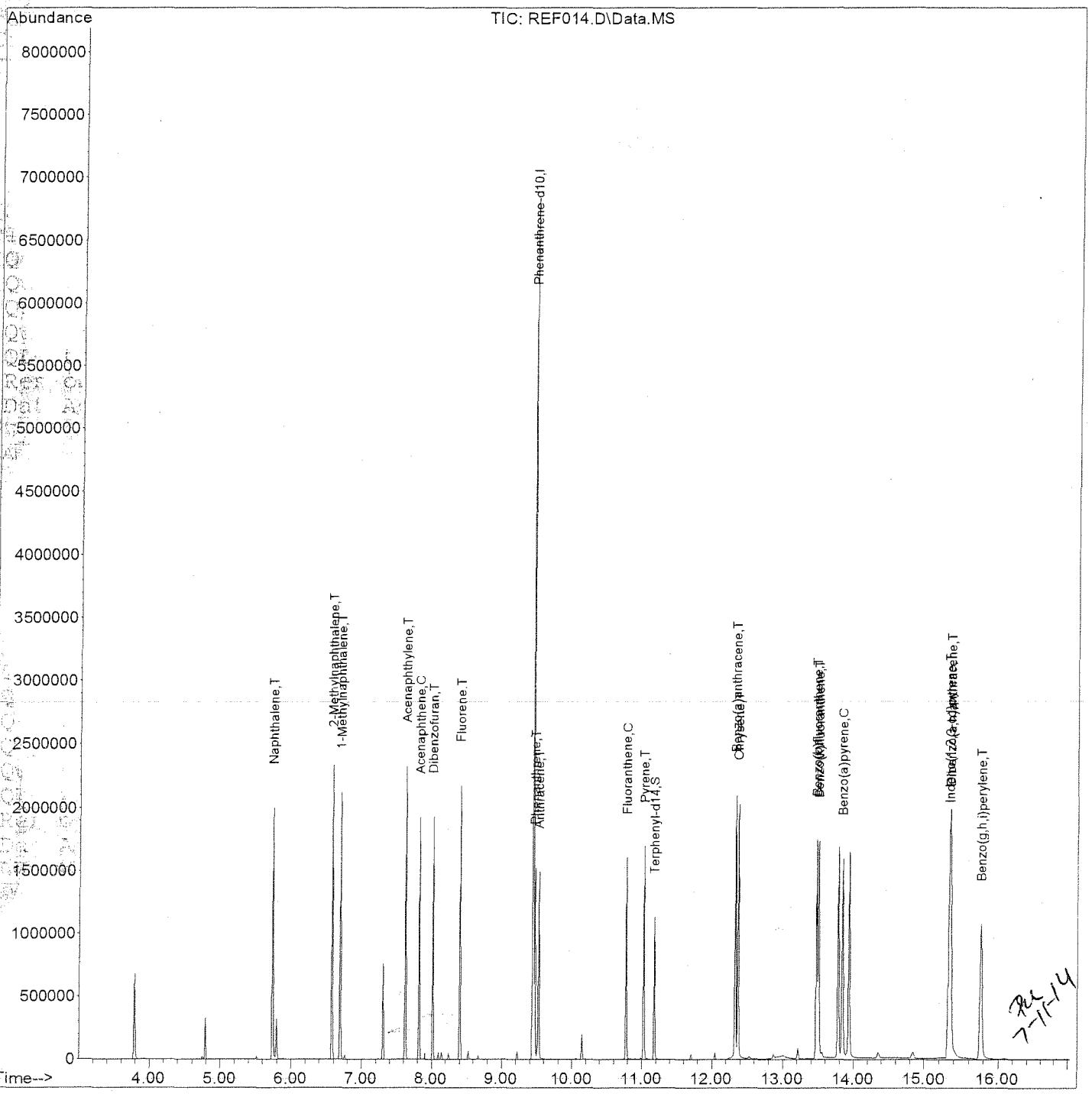
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.444	188	5005097	2000.00	ppb	0.00
System Monitoring Compounds						
13) Terphenyl-d14	11.181	244	918914	496.42	ppb	0.00
Spiked Amount 500.000			Recovery =	99.28%		
Target Compounds						Qvalue
2) Naphthalene	5.741	128	1741943	508.59	ppb	100
3) 2-Methylnaphthalene	6.577	142	1168286	508.61	ppb	100
4) 1-Methylnaphthalene	6.695	142	1062669	503.76	ppb	100
5) Acenaphthylene	7.626	152	1557242	510.37	ppb	100
6) Acenaphthene	7.821	153	984537	496.11	ppb	100
7) Dibenzofuran	8.015	168	1273461	501.94	ppb	100
8) Fluorene	8.403	166	1006867	497.08	ppb	100
9) Phenanthrene	9.471	178	1283892	494.70	ppb	100
10) Anthracene	9.527	178	1310366	502.58	ppb	100
11) Fluoranthene	10.777	202	1197242	496.93	ppb	100
12) Pyrene	11.029	202	1289762	494.96	ppb	100
14) Benzo(a)anthracene	12.331	228	1904241	538.42	ppb	100
15) Chrysene	12.370	228	1736704	505.18	ppb	100
16) Benzo(b)fluoranthene	13.475	252	1763855	520.06	ppb	100
17) Benzo(k)fluoranthene	13.504	252	1812490	535.08	ppb	100
18) Benzo(a)pyrene	13.842	252	1724163	535.18	ppb	100
19) Indeno(1,2,3-cd)pyrene	15.336	276	2073112	528.68	ppb	100
20) Dibenzo(a,h)anthracene	15.353	278	1685316	520.75	ppb	100
21) Benzo(g,h,i)perylene	15.763	276	1737462	534.77	ppb	100

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

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF014.D Vial: 4
Acq On : 08 May 2014 12:31 Operator: KV
Sample : SVF0E082 500PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:00 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



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Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF013.D Vial: 3
Acq On : 08 May 2014 12:10 Operator: KV
Sample : SVF0E081 1000PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:38:33 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

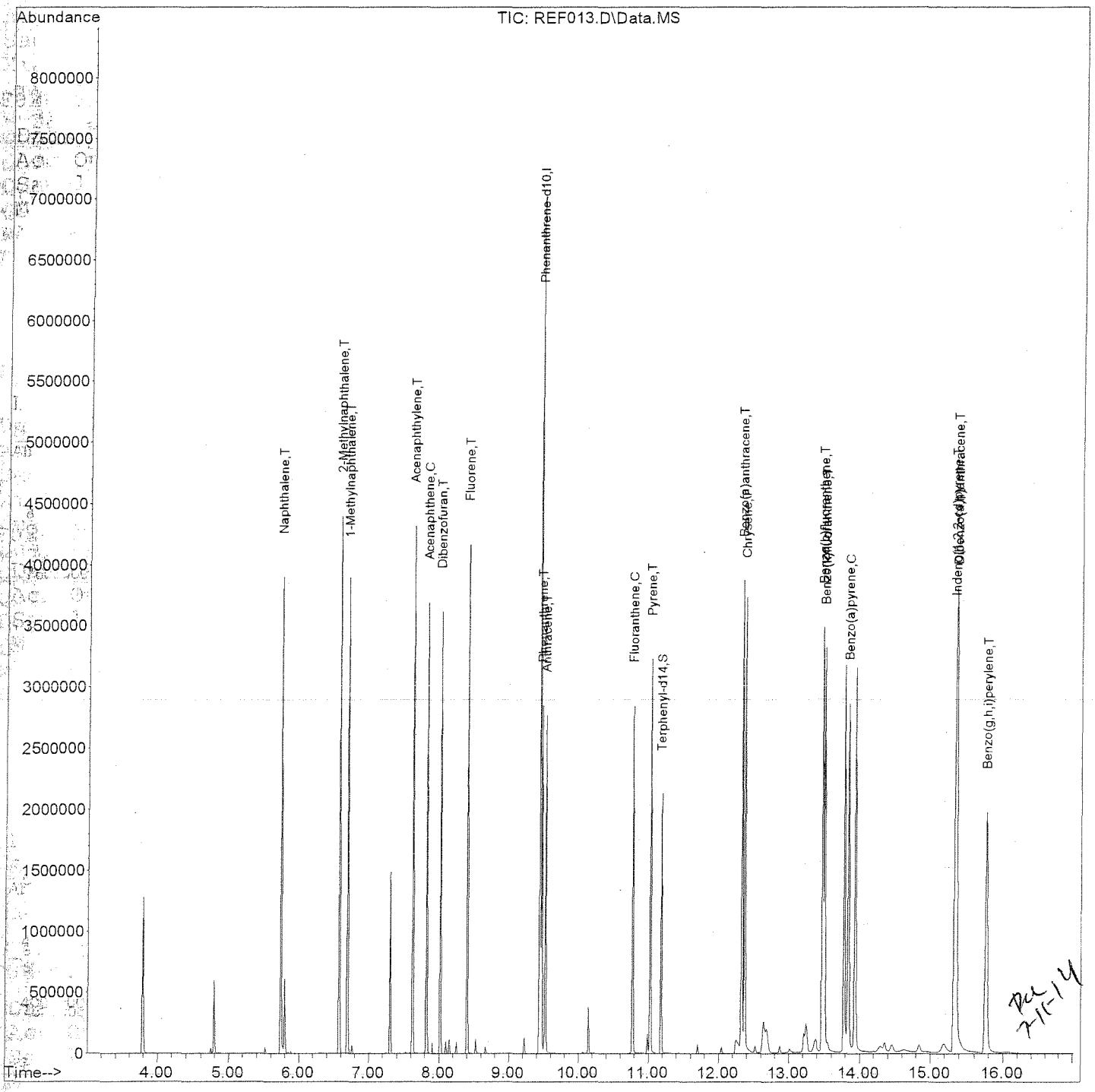
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.442	188	5187965	2000.00	ppb	0.00
System Monitoring Compounds						
13) Terphenyl-d14	11.179	244	1730433	901.87	ppb	0.00
Spiked Amount 500.000			Recovery = 180.37%			
Target Compounds						Qvalue
2) Naphthalene	5.739	128	3212458	904.87	ppb	100
3) 2-Methylnaphthalene	6.577	142	2161799	907.96	ppb	100
4) 1-Methylnaphthalene	6.693	142	1968901	900.47	ppb	100
5) Acenaphthylene	7.623	152	2954163	934.07	ppb	99
6) Acenaphthene	7.821	153	1874579	911.31	ppb	100
7) Dibenzofuran	8.015	168	2421617	920.85	ppb	99
8) Fluorene	8.403	166	1929445	918.98	ppb	100
9) Phenanthrene	9.469	178	2407864	895.09	ppb	100
10) Anthracene	9.525	178	2490401	921.51	ppb	100
11) Fluoranthene	10.775	202	2222593	889.99	ppb	100
12) Pyrene	11.027	202	2462047	911.53	ppb	100
14) Benzo(a)anthracene	12.329	228	3522474	967.45	ppb	94
15) Chrysene	12.368	228	3242045	909.81	ppb	99
16) Benzo(b)fluoranthene	13.473	252	3315418	943.07	ppb	96
17) Benzo(k)fluoranthene	13.503	252	3307129	941.91	ppb	91
18) Benzo(a)pyrene	13.841	252	3256376	975.15	ppb	96
19) Indeno(1,2,3-cd)pyrene	15.336	276	3922801	965.12	ppb	99
20) Dibenzo(a,h)anthracene	15.351	278	3186834	950.01	ppb	100
21) Benzo(g,h,i)perylene	15.763	276	3207572	952.45	ppb	98

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

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF013.D Vial: 3
Acq On : 08 May 2014 12:10 Operator: KV
Sample : SVF0E081 1000PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:38:33 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



SVF0E08.M Thu May 08 14:38:58 2014 F0 Page: 2

SECOND SOURCE VERIFICATION

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\14E08\REF019.D Vial: 9
Acq On : 08 May 2014 14:26 Operator: KV
Sample : ISVF0E081 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:51:50 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Phenanthrene-d10	2000.000	2000.000	0.0	126	0.00
2	T	Naphthalene	500.000	475.713	4.9	117	0.00
3	T	2-Methylnaphthalene	500.000	460.899	7.8	114	0.00
4	T	1-Methylnaphthalene	500.000	479.043	4.2	119	0.00
5	T	Acenaphthylene	500.000	469.742	6.1	116	0.00
6	C	Acenaphthene	500.000	479.360	4.1	121	0.00
7	T	Dibenzofuran	500.000	455.746	8.9	114	0.00
8	T	Fluorene	500.000	469.595	6.1	119	0.00
9	T	Phenanthrene	500.000	470.736	5.9	119	0.00
10	T	Anthracene	500.000	464.238	7.2	116	0.00
11	C	Fluoranthene	500.000	488.088	2.4	123	0.00
12	T	Pyrene	500.000	471.132	5.8	120	0.00
13	S	Terphenyl-d14	500.000	0.000	100.0#	0	-11.18#
14	T	Benzo(a)anthracene	500.000	513.537	-2.7	120	0.00
15	T	Chrysene	500.000	482.748	3.5	120	0.00
16	T	Benzo(b)fluoranthene	500.000	496.628	0.7	120	0.00
17	T	Benzo(k)fluoranthene	500.000	494.243	1.2	116	0.00
18	C	Benzo(a)pyrene	500.000	494.774	1.0	116	0.00
19	T	Indeno(1,2,3-cd)pyrene	500.000	490.776	1.8	117	0.00
20	T	Dibenzo(a,h)anthracene	500.000	488.185	2.4	118	0.00
21	T	Benzo(g,h,i)perylene	500.000	490.934	1.8	115	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

7-1-14

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\14E08\REF019.D Vial: 9
Acq On : 08 May 2014 14:26 Operator: KV
Sample : ISVF0E081 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:51:50 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Phenanthrene-d10	1.000	1.000	0.0	126	0.00
2 T	Naphthalene	1.369	1.302	4.9	117	0.00
3 T	2-Methylnaphthalene	0.918	0.846	7.8	114	0.00
4 T	1-Methylnaphthalene	0.843	0.808	4.2	119	0.00
5 T	Acenaphthylene	1.219	1.145	6.1	116	0.00
6 C	Acenaphthene	0.793	0.760	4.2	121	0.00
7 T	Dibenzofuran	1.014	0.924	8.9	114	0.00
8 T	Fluorene	0.809	0.760	6.1	119	0.00
9 T	Phenanthrene	1.037	0.976	5.9	119	0.00
10 T	Anthracene	1.042	0.967	7.2	116	0.00
11 C	Fluoranthene	0.963	0.940	2.4	123	0.00
12 T	Pyrene	1.041	0.981	5.8	120	0.00
13 S	Terphenyl-d14	0.740	0.000#	100.0#	0#	-11.18#
14 T	Benzo(a)anthracene	1.587	1.453	8.4	120	0.00
15 T	Chrysene	1.374	1.326	3.5	120	0.00
16 T	Benzo(b)fluoranthene	1.355	1.346	0.7	120	0.00
17 T	Benzo(k)fluoranthene	1.354	1.338	1.2	116	0.00
18 C	Benzo(a)pyrene	1.287	1.274	1.0	116	0.00
19 T	Indeno(1,2,3-cd)pyrene	1.567	1.538	1.9	117	0.00
20 T	Dibenzo(a,h)anthracene	1.293	1.263	2.3	118	0.00
21 T	Benzo(g,h,i)perylene	1.298	1.275	1.8	115	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

PW 7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF019.D Vial: 9
Acq On : 08 May 2014 14:26 Operator: KV
Sample : ISVF0E081 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:51:50 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

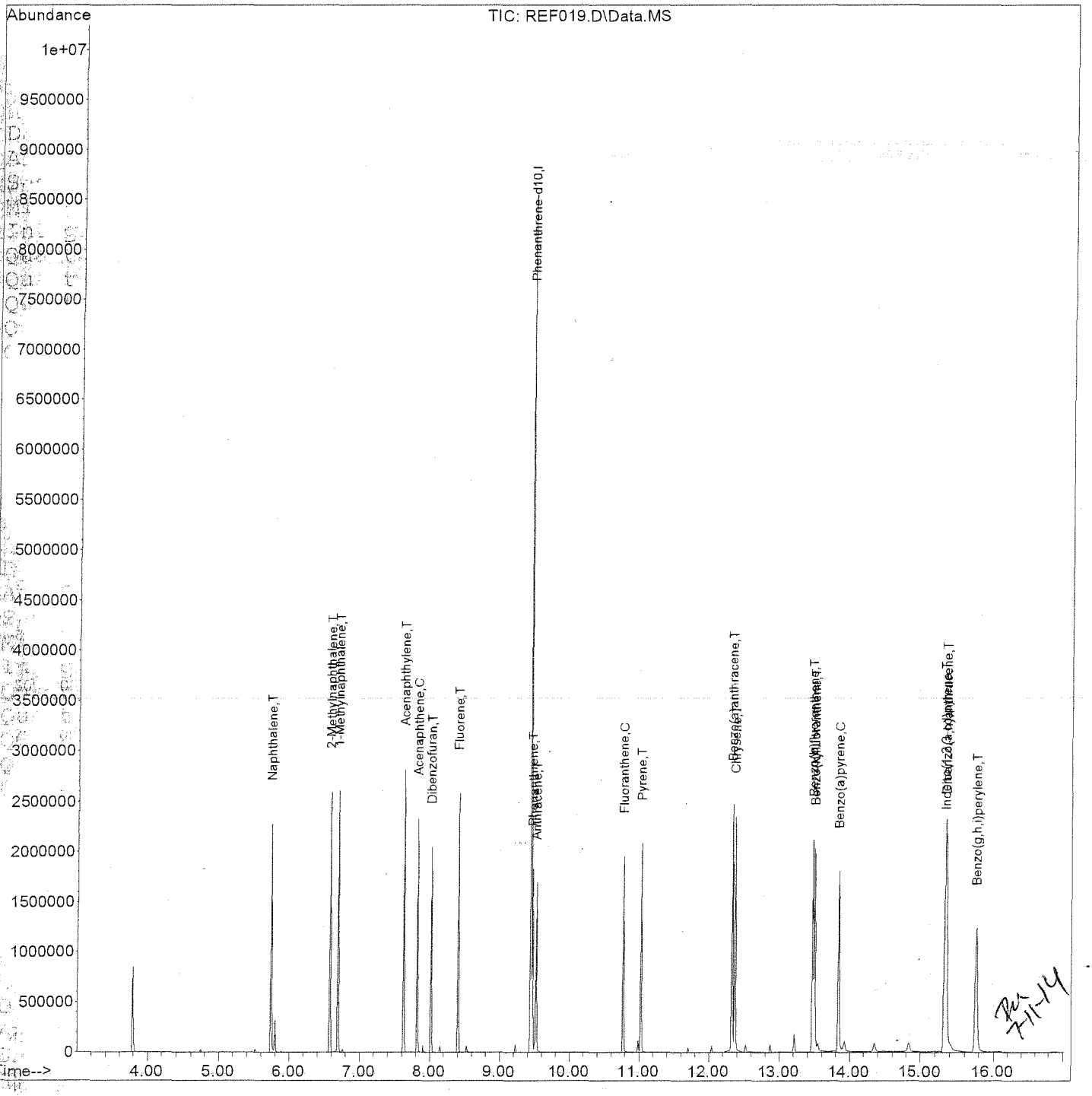
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.442	188	6284290	2000.00	ppb	0.00
System Monitoring Compounds						
13) Terphenyl-d14	0.000	244	0d	0.00	ppb	
Spiked Amount 500.000			Recovery =	0.00%		
Target Compounds						Qvalue
2) Naphthalene	5.739	128	2045775	475.71	ppb	100
3) 2-Methylnaphthalene	6.577	142	1329272	460.90	ppb	99
4) 1-Methylnaphthalene	6.695	142	1268792	479.04	ppb	100
5) Acenaphthylene	7.626	152	1799597	469.74	ppb	100
6) Acenaphthene	7.821	153	1194428	479.36	ppb	100
7) Dibenzofuran	8.015	168	1451767	455.75	ppb	100
8) Fluorene	8.403	166	1194287	469.59	ppb	100
9) Phenanthrene	9.469	178	1533926	470.74	ppb	100
10) Anthracene	9.525	178	1519738	464.24	ppb	100
11) Fluoranthene	10.775	202	1476496	488.09	ppb	100
12) Pyrene	11.027	202	1541444	471.13	ppb	97
14) Benzo(a)anthracene	12.330	228	2282138	513.54	ppb	94
15) Chrysene	12.368	228	2083761	482.75	ppb	98
16) Benzo(b)fluoranthene	13.473	252	2114870	496.63	ppb	97
17) Benzo(k)fluoranthene	13.501	252	2102041	494.24	ppb	100
18) Benzo(a)pyrene	13.841	252	2001383	494.77	ppb	99
19) Indeno(1,2,3-cd)pyrene	15.332	276	2416327	490.78	ppb	97
20) Dibenzo(a,h)anthracene	15.349	278	1983704	488.19	ppb	97
21) Benzo(g,h,i)perylene	15.761	276	2002714	490.93	ppb	99

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

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF019.D Vial: 9
Acq On : 08 May 2014 14:26 Operator: KV
Sample : ISVF0E081 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:51:50 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



7-11-14

30655

DAILY CALIBRATIONS

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: EMAX Inc | Project: RED HILL PHASE 1B

Lab Code: EMXT | SDG No.: 14J144

Lab File ID: RJF031 | DFTPP Injection Date: 10/28/14

Instrument ID: TOF0 | DFTPP Injection Time: 09:33

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	40.81
68	Less than 2% of mass 69	0.25(1.1)1
69	Relative abundance of mass 198	22.34
70	Less than 2.0% of mass 69	0.06(0.3)1
127	40.0 - 60.0% of mass 198	44.74
197	Less than 1.0% of mass 198	0.36
198	Base Peak, 100% relative abundance	100.00
199	5.0 - 9.0% of mass 198	6.52
275	10.0 - 30.0% of mass 198	28.77
365	Greater than 1.00% of mass 198	2.00
441	Present, but less than mass 443	13.28(84.6)3
442	Greater than 40.0% of mass 198	86.46
443	17.0 - 23.0% of mass 442	15.69(18.2)2

1-Value is % mass 69 2-Value is % mass 442

3-Value is % mass 443

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	SSTD500	CSVF0E0807	RJF032	10/28/14	09:48
2	MBLK1W	SVJ034WB	RJF033	10/28/14	10:13
3	LCS1W	SVJ034WL	RJF034	10/28/14	10:41
4	LCD1W	SVJ034WC	RJF035	10/28/14	11:08
5	RHMW06-GW-01	J144-01	RJF038	10/28/14	12:26
6	RHMW06-GW-01MS	J144-01M	RJF039	10/28/14	13:52
7	RHMW06-GW-01MSD	J144-01S	RJF040	10/28/14	14:22

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: REF014
Instrument ID: TOF0

Project:RED HILL PHASE 1B
SDG No.: 14J144
Date Analyzed: 05/08/14
Time Analyzed: 12:31

		IS4(PHN)		IS5(CRY)		IS6(PRY)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	5005097	9.44	0	0.00	0	0.00
	UPPER LIMIT	10010194	9.94	0	0.50	0	0.50
	LOWER LIMIT	2502549	8.94	0	-0.50	0	-0.50
	SAMPLE ID						
1	SSTD500	5332031	9.47	0	0.00	0	0.00
2	MBLK1W	4529029	9.47	0	0.00	0	0.00
3	LCS1W	4565409	9.47	0	0.00	0	0.00
4	LCD1W	4726800	9.47	0	0.00	0	0.00
5	RHMW06-GW-01	4445779	9.47	0	0.00	0	0.00
6	RHMW06-GW-01MS	5148446	9.47	0	0.00	0	0.00
7	RHMW06-GW-01MSD	5072301	9.47	0	0.00	0	0.00

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

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

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :DSQ
IC_Beginning DateTime :05/08/14 12:10
Spike Amount :500 PPB
CC/CV File :RJF032
IC File :REF014

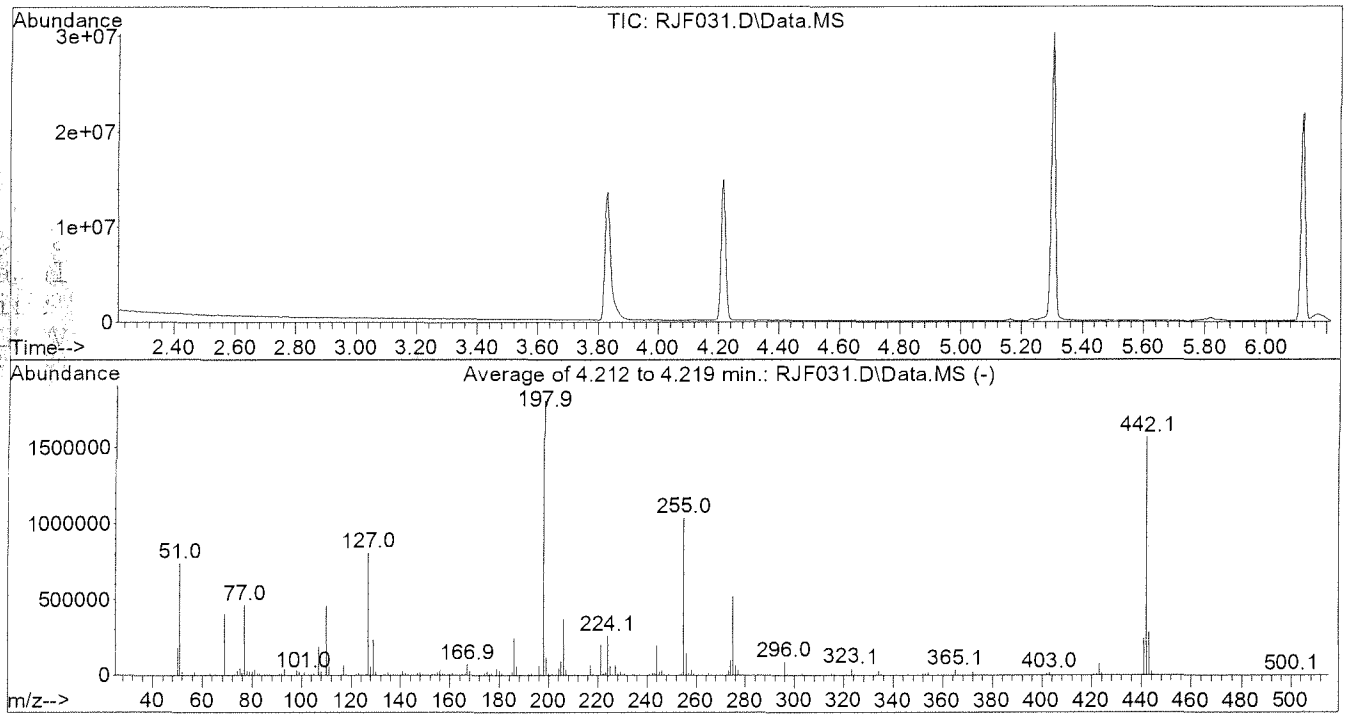
Column Spec :ZB-SEMIVOA ID:0.25MM
IC_Ending DateTime :05/08/14 14:03
HPChem Method :SVF0E08
Date_Time :10/28/14 09:48

M IDX	Parameters	CC_Con	CC%_D	CC_Resp	CCRRF	AvRRF	CC_Rtm	AvRtm	%_RSD	Co_X0	Co_X1	Co_X2	Co_Cor
1	Phenanthrene-d10	2000.00	0	5332031	1	1	9.466	9.443	0				
2	Naphthalene	412.934	-17.4	1506711	1.130	1.369	5.764	5.740	8.99				
3	2-Methylnaphthalene	511.352	2.3	1251309	0.939	0.918	6.604	6.577	8.25				
4	1-Methylnaphthalene	498.046	-0.4	1119237	0.840	0.843	6.722	6.694	8.93				
5	Acenaphthylene	478.943	-4.2	1556810	1.168	1.219	7.655	7.625	6.61				
6	Acenaphthene	482.818	-3.4	1020745	0.766	0.793	7.851	7.821	8.22				
7	Dibenzofuran	441.904	-11.6	1194370	0.896	1.014	8.044	8.015	7.34				
8	Fluorene	436.932	-12.6	942836	0.707	0.809	8.428	8.403	7.05				
9	Phenanthrene	427.129	-14.6	1180924	0.886	1.037	9.493	9.470	7.86				
10	Anthracene	440.114	-12.0	1222445	0.917	1.042	9.549	9.526	6.78				
11	Fluoranthene	434.145	-13.2	1114309	0.836	0.963	10.800	10.776	8.86				
12	Pyrene	425.750	-14.9	1181887	0.887	1.041	11.051	11.027	8.26				
13	Terphenyl-d14	498.345	-0.3	982735	0.737	0.740	11.201	11.179	9.81				
14	Benzo(a)anthracene	519.124	3.8	1957052	1.468	1.587	12.354	12.330	15.30	0.0058	1.3915		0.9984
15	Chrysene	480.578	-3.9	1760060	1.320	1.374	12.395	12.369	8.55				
16	Benzo(b)fluoranthene	479.119	-4.2	1731142	1.299	1.355	13.502	13.473	6.94				
17	Benzo(k)fluoranthene	500.066	0.0	1804529	1.354	1.354	13.529	13.502	7.55				
18	Benzo(a)pyrene	484.697	-3.1	1663528	1.248	1.287	13.875	13.841	7.12				
19	Indeno(1,2,3-cd)pyrene	493.208	-1.4	2060337	1.546	1.567	15.390	15.333	6.56				
20	Dibenzo(a,h)anthracene	495.927	-0.8	1709806	1.283	1.293	15.407	15.350	7.44				
21	Benzo(g,h,i)perylene	506.285	1.3	1752374	1.315	1.298	15.824	15.762	5.54				

Data Path : C:\msdchem\1\DATA\14J28\
Data File : RJF031.D
Acq On : 28 Oct 2014 09:33
Operator : KVu
Sample : DFTF0E0807
Misc : F0
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Title : DFTPP
Last Update : Fri May 09 13:48:37 2014

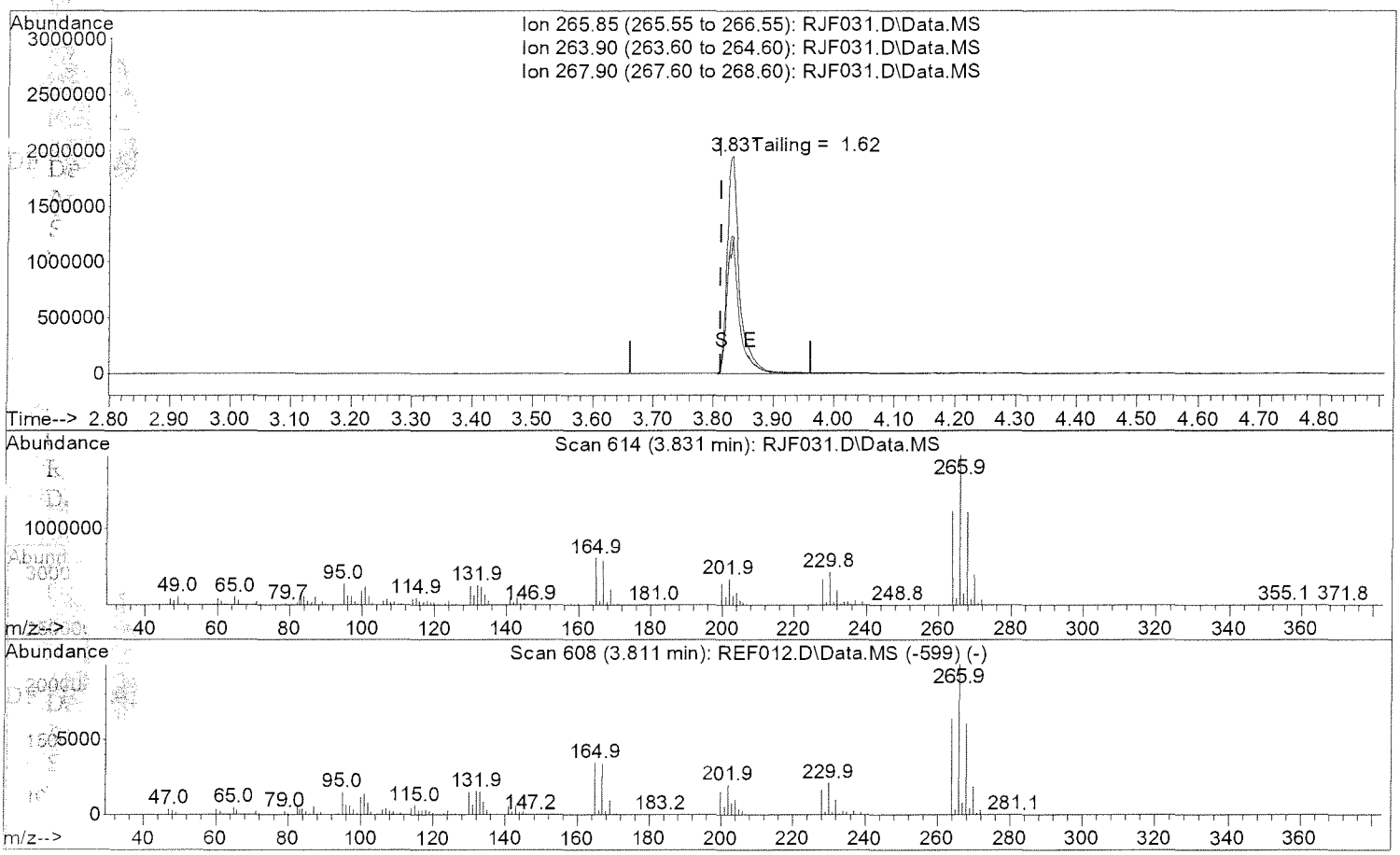


AutoFind: Scans 729, 730, 731; Background Corrected with Scan 720

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	40.8	739293	PASS
68	69	0.00	2	1.1	4595	PASS
69	198	0.00	100	22.3	404669	PASS
70	69	0.00	2	0.3	1081	PASS
127	198	40	60	44.7	810475	PASS
197	198	0.00	1	0.4	6471	PASS
198	198	100	100	100.0	1811627	PASS
199	198	5	9	6.5	118181	PASS
275	198	10	30	28.8	521152	PASS
365	198	1	100	2.0	36144	PASS
441	443	0.01	100	84.6	240512	PASS
442	198	40	100	86.5	1566379	PASS
443	442	17	23	18.2	284331	PASS

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14J28\RJF031.D Vial: 2
Acq On : 28 Oct 2014 09:33 Operator: KVu
Sample : DFTF0E0807 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 09:47:23 2014
Quant Results File: DFTPPPAH.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Quant Title : DFTPP
QLast Update : Fri May 09 13:48:37 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



TIC: RJF031.D\Data.MS

(1) Pentachlorophenol (T)

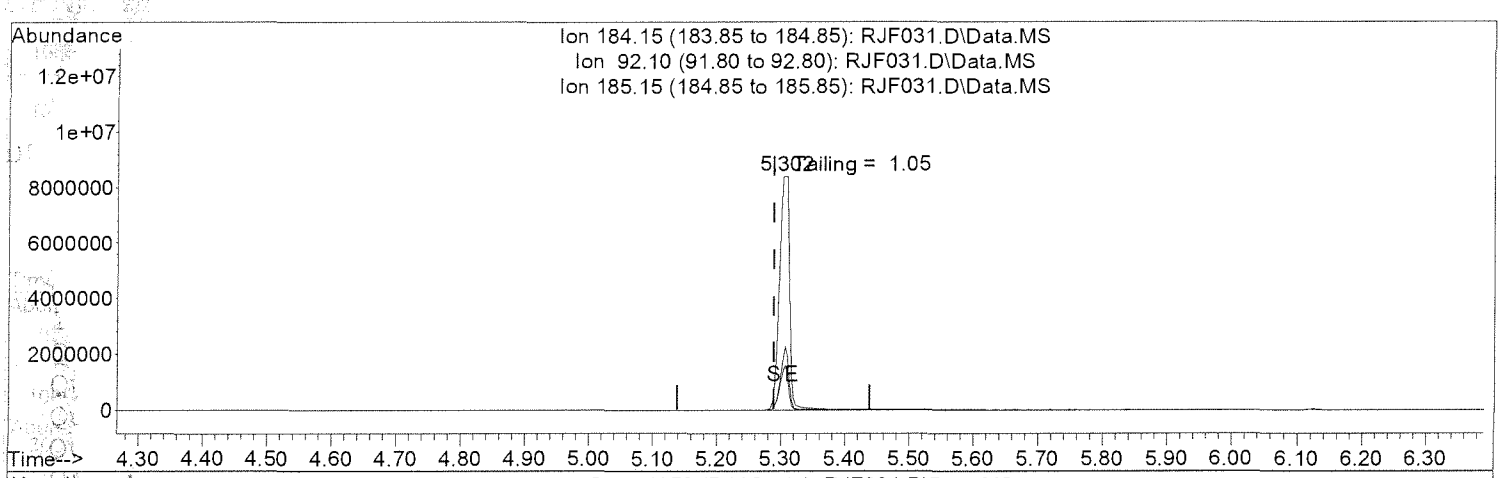
3.831min (+0.020) 82.65 ppm

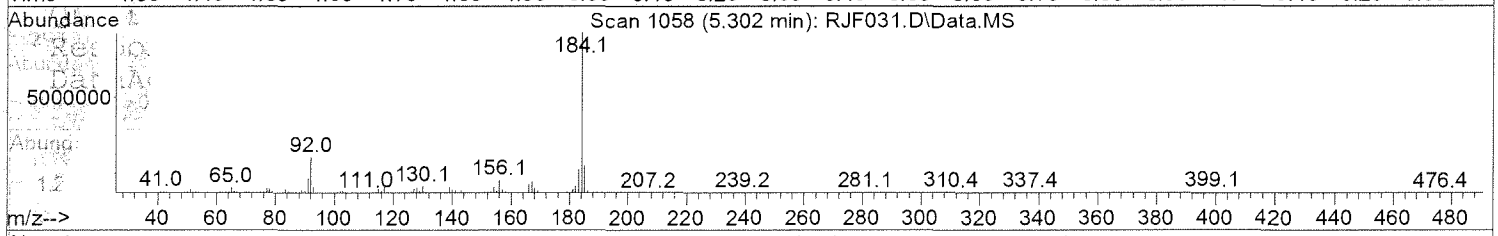
response 2794565

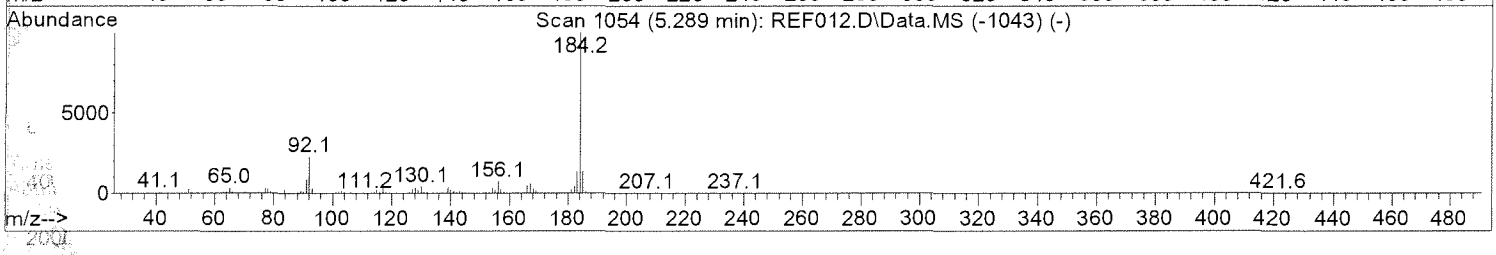
Ion	Exp%	Act%
265.85	100	100
263.90	61.80	63.34
267.90	62.70	61.89
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14J28\RJF031.D Vial: 2
Acq On : 28 Oct 2014 09:33 Operator: KVu
Sample : DFTF0E0807 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 09:47:23 2014
Quant Results File: DFTPPPAH.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Quant Title : DFTPP
QLast Update : Fri May 09 13:48:37 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M







TIC: RJF031.D\Data.MS

(3) Benzidine (T)

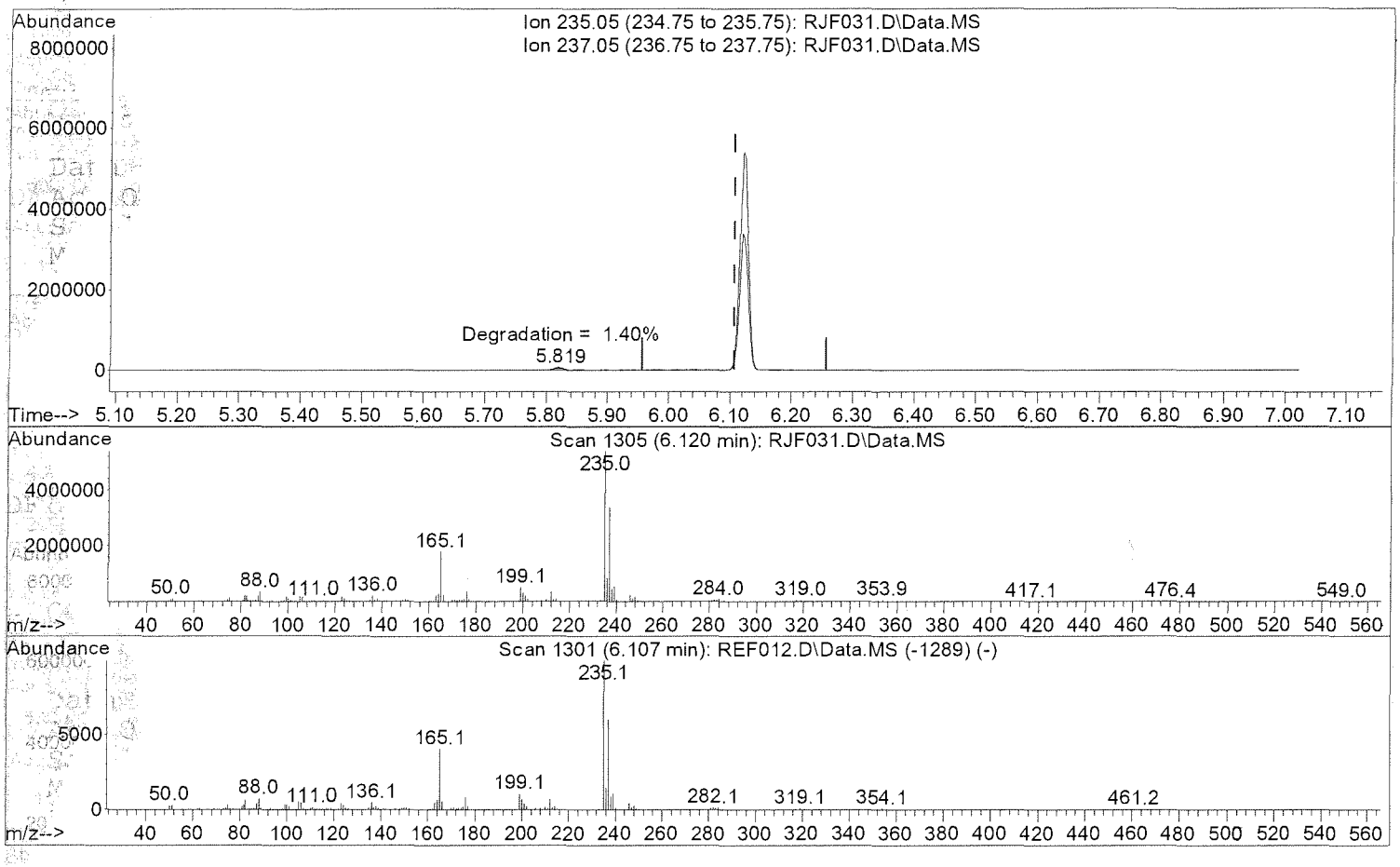
5.302min (+0.014) 54.51 ppm

response 9366019

Ion	Exp%	Act%
184.15	100	100
92.10	21.70	21.69
185.15	13.30	15.56
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14J28\RJF031.D Vial: 2
Acq On : 28 Oct 2014 09:33 Operator: KVu
Sample : DFTF0E0807 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 09:47:23 2014
Quant Results File: DFTPPPAH.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Quant Title : DFTPP
QLast Update : Fri May 09 13:48:37 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



TIC: RJF031.D\Data.MS

(6) DDT (T)

6.120min (+0.014) 64.15 ppm

response 5233404

Ion	Exp%	Act%
235.05	100	100
237.05	63.20	63.58
0.00	0.00	0.00
0.00	0.00	0.00

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\14J28\RJF032.D Vial: 3
Acq On : 28 Oct 2014 09:48 Operator: KVu
Sample : CSVF0E0807 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 10:12:27 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Phenanthrene-d10	2000.000	2000.000	0.0	107	0.02
2	T	Naphthalene	500.000	412.934	17.4	86	0.02
3	T	2-Methylnaphthalene	500.000	511.352	-2.3	107	0.03
4	T	1-Methylnaphthalene	500.000	498.046	0.4	105	0.03
5	T	Acenaphthylene	500.000	478.943	4.2	100	0.03
6	C	Acenaphthene	500.000	482.817	3.4	104	0.03
7	T	Dibenzofuran	500.000	441.904	11.6	94	0.03
8	T	Fluorene	500.000	436.932	12.6	94	0.02
9	T	Phenanthrene	500.000	427.129	14.6	92	0.02
10	T	Anthracene	500.000	440.114	12.0	93	0.02
11	C	Fluoranthene	500.000	434.145	13.2	93	0.02
12	T	Pyrene	500.000	425.749	14.9	92	0.02
13	S	Terphenyl-d14	500.000	498.345	0.3	107	0.02
14	T	Benzo(a)anthracene	500.000	519.124	-3.8	103	0.02
15	T	Chrysene	500.000	480.578	3.9	101	0.02
16	T	Benzo(b)fluoranthene	500.000	479.119	4.2	98	0.03
17	T	Benzo(k)fluoranthene	500.000	500.066	-0.0	100	0.03
18	C	Benzo(a)pyrene	500.000	484.697	3.1	96	0.03
19	T	Indeno(1,2,3-cd)pyrene	500.000	493.208	1.4	99	0.05
20	T	Dibenzo(a,h)anthracene	500.000	495.927	0.8	101	0.05
21	T	Benzo(g,h,i)perylene	500.000	506.285	-1.3	101	0.06

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\14J28\RJF032.D Vial: 3
Acq On : 28 Oct 2014 09:48 Operator: KVu
Sample : CSVF0E0807 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 10:12:27 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Phenanthrene-d10	1.000	1.000	0.0	107	0.02
2	T	Naphthalene	1.369	1.130	17.5	86	0.02
3	T	2-Methylnaphthalene	0.918	0.939	-2.3	107	0.03
4	T	1-Methylnaphthalene	0.843	0.840	0.4	105	0.03
5	T	Acenaphthylene	1.219	1.168	4.2	100	0.03
6	C	Acenaphthene	0.793	0.766	3.4	104	0.03
7	T	Dibenzofuran	1.014	0.896	11.6	94	0.03
8	T	Fluorene	0.809	0.707	12.6	94	0.02
9	T	Phenanthrene	1.037	0.886	14.6	92	0.02
10	T	Anthracene	1.042	0.917	12.0	93	0.02
11	C	Fluoranthene	0.963	0.836	13.2	93	0.02
12	T	Pyrene	1.041	0.887	14.8	92	0.02
13	S	Terphenyl-d14	0.740	0.737	0.4	107	0.02
14	T	Benzo(a)anthracene	1.587	1.468	7.5	103	0.02
15	T	Chrysene	1.374	1.320	3.9	101	0.02
16	T	Benzo(b)fluoranthene	1.355	1.299	4.1	98	0.03
17	T	Benzo(k)fluoranthene	1.354	1.354	0.0	100	0.03
18	C	Benzo(a)pyrene	1.287	1.248	3.0	96	0.03
19	T	Indeno(1,2,3-cd)pyrene	1.567	1.546	1.3	99	0.05
20	T	Dibenzo(a,h)anthracene	1.293	1.283	0.8	101	0.05
21	T	Benzo(g,h,i)perylene	1.298	1.315	-1.3	101	0.06

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

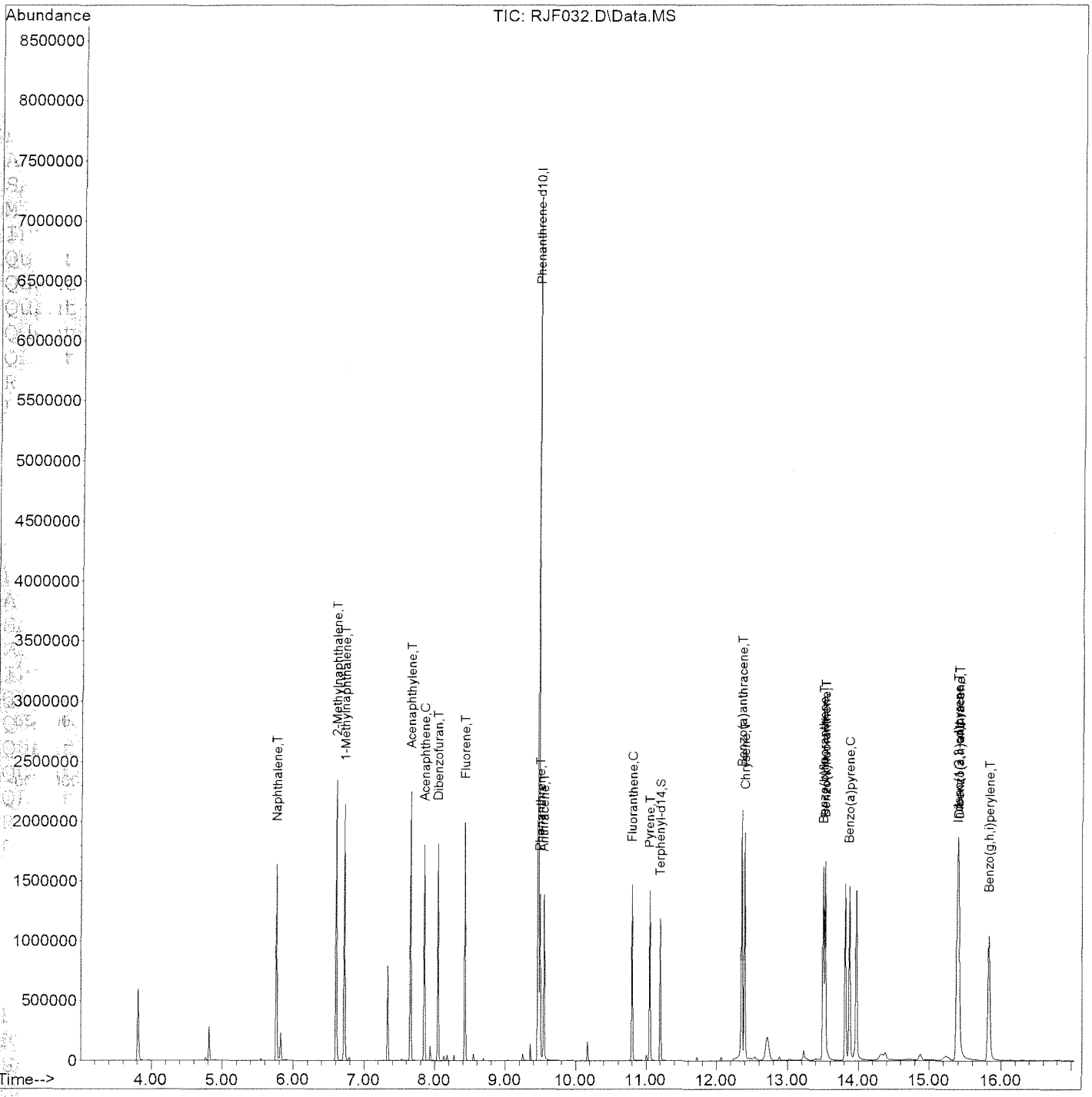
Data File : C:\msdchem\1\DATA\14J28\RJF032.D Vial: 3
Acq On : 28 Oct 2014 09:48 Operator: KVu
Sample : CSVF0E0807 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 10:12:27 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.466	188	5332031	2000.00	ppb	0.02
System Monitoring Compounds						
13) Terphenyl-d14	11.201	244	982735	498.35	ppb	0.02
Spiked Amount 500.000			Recovery = 99.67%			
Target Compounds						Qvalue
2) Naphthalene	5.764	128	1506711	412.93	ppb	99
3) 2-Methylnaphthalene	6.604	142	1251309	511.35	ppb	98
4) 1-Methylnaphthalene	6.722	142	1119237	498.05	ppb	99
5) Acenaphthylene	7.655	152	1556810	478.94	ppb	100
6) Acenaphthene	7.851	153	1020745	482.82	ppb	100
7) Dibenzofuran	8.044	168	1194370	441.90	ppb	98
8) Fluorene	8.428	166	942836	436.93	ppb	99
9) Phenanthrene	9.493	178	1180924	427.13	ppb	100
10) Anthracene	9.549	178	1222445	440.11	ppb	100
11) Fluoranthene	10.799	202	1114309	434.14	ppb	84
12) Pyrene	11.051	202	1181887	425.75	ppb	83
14) Benzo(a)anthracene	12.354	228	1957052	519.12	ppb	85
15) Chrysene	12.395	228	1760060	480.58	ppb	81
16) Benzo(b)fluoranthene	13.502	252	1731142	479.12	ppb	95
17) Benzo(k)fluoranthene	13.529	252	1804529	500.07	ppb	90
18) Benzo(a)pyrene	13.874	252	1663528	484.70	ppb	84
19) Indeno(1,2,3-cd)pyrene	15.390	276	2060337	493.21	ppb	81
20) Dibenzo(a,h)anthracene	15.407	278	1709806	495.93	ppb	86
21) Benzo(g,h,i)perylene	15.824	276	1752374	506.28	ppb	84

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14J28\RJF032.D Vial: 3
Acq On : 28 Oct 2014 09:48 Operator: KVu
Sample : CSVF0E0807 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Oct 28 10:12:27 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



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ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR SEMIVOLATILES

SOP ☐ EMAX-8270 Rev. No. 5 ☑ EMAX-8270SIM Rev. No. 2 ☐ EMAX-CLPSVOA ☐ EMAX-M8270SIM Rev. No. 2 ☐ EMAX-625 Rev. No. 1 ☐ Book #AF0-002

Method File: SVF0E08 Tune File: LOWSIM Start Date/Time: 5/8/14 11:44 End Date/Time: 5/8/14 15:36

ANALYTICAL BATCH: SVF0E082

Preparative Batch	Data File Name	Run ID	DF	Matrix S	Matrix W	Notes
NA	REF011	IBF0E0801	1			
	12	DFTF0E0801				
	13	SVF0E08 1				1000ppb
	14	2				500
	15	3				100
	16	4				80
	17	5				40
	18	6				20
	19	ISVF0E081				ICV
SVD013LL	20	LOQ -11	1		X	
	21	LOD -11				
	22	SVD013WB				
	23	D146-01	2			Cyromazine 8316
	24	02	2			
	25	03	2			
		KV 5/8/14				

Instrument No:	F0

INITIAL CALIBRATION REFERENCE	
Date	5/8/14
ICAL ID	SVF0E08

Standards		
Name	ID	Conc. (mg/L)
DFTPP	SS2C-11-15-01	50
INT. STD.	SS2B-10-37-03	2000
ICV	SS2C-11-18-02	0.5
DCC	SS2C-11-18-01	0.25-1
BENZIDINE	01	
APP 9	KV 5/8/14	
APP 9 ADD		

Solvent	ID
CH_2Cl_2	

DATA FILE	14E08

Electronic Data Archival	
Location	Date
HPCHEM_SVOA/TOF0	

Comments:

Analyzed By: KV

Date Disposed: 5/9/14

Disposed By: KV

This page is checked during data review.

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EMAX LABORATORIES, INC.

ANALYSIS LOG FOR SEMIVOLATILES

SOP ☐ EMAX-8270 Rev. No. 5 ☐ EMAX-8270D Rev. No. 1 ☑ EMAX-8270SIM Rev. No. 2 ☐ EMAX-CLPSVOA ☐ EMAX-M8270SIM Rev. No. 2 ☐ EMAX-625 Rev. No. 1 ☐ Book #: AF0-003

Method File: SVF0 E08 Tune File: LOW SIM Start Date/Time: 10/28/14 9:33 End Date/Time: 10/28/14 14:22

ANALYTICAL BATCH: SVF0E0807

Preparative Batch	Data File Name	Run ID	DF	Matrix S	Matrix W	Notes
	RJF030	IBF0E0807				
	031	DFTF0E0807				
	032	CSVF0E0807				
SVJ0344W	033	SVJ0344WB	1		X	
	034	WL	↓		↓	
	035	WC				
	036	14J130-01				
	037	02				
	038	14J144-01				
	039	01M				
	040	01S	↓		↓	
						DJ 10/28/14

Instrument No:	F0
INITIAL CALIBRATION REFERENCE	
Date	5/8/14
ICAL ID	SVF0 E08

Standards

Name	ID	Conc. (mg/L)
DFTPP	SS2C-11-25-03	50
INT. STD.	SS2B-10-47-02	2000
ICV		
DCC	SS2C-11-28-01	0.5
BENZIDINE		
APP 9		
APP 9 ADD		

Solvent	ID
CH_2Cl_2	541184
DATA FILE	14J28

Electronic Data Archival

Location	Date
HPCHEM_SVOA/TOF0	

Micropipette ID: ☑ PO97A-02 01 KV 10/28/14
☐ PO97A-03
☐ PO00-01

Comments: Naphthalene 15 ppb

Syringe ID: 499766-1
Analyzed By: KV
Date Disposed: 10/29/14
Disposed By: DJ

This page is checked during data review.

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EXTRACTION LOGS

EMAX LABORATORIES, INC.

EXTRACTION LOG
for
SEMIVOLATILES

SOP	Rev. #
☑ EMAX-3520	5
☐ EMAX-3540	2
☐ EMAX-3546	0
☐ EMAX-3550	4
☐ EMAX-3580	2
☐ EMAX-625	1

Note: For samples and relevant QCs/Standards extracted, refer to attached extraction sequence.

Comments:

Book #: ESV-082
Preparation Batch: SVJ034W
Matrix: WATER
Micropipette ID: 1000µL: PE00-04
Micropipette ID: 100µL: PE97C-03

Standards	ID	Amount Added (ml)
Surrogate	SS2A-06-348	0.010
LCS/MS (Spike Ultralow)	SS2A-06-347	0.25
LCS/MS		
LCS/MS		
LCS/MS		

Reagent	Lot# / ID
CH_2Cl_2	54164
Na_2SO_4	SWIB-002-62-14
H_2SO_4	—
NaOH	SPIB-06-77-04
Silica Sand	
Silica Gel	
Reagent Water	SWIA-005-08-22
Residual Chlorine Strip	40719
pH Strip	HC421273
Filter Paper	45873228

Lab Sample ID	Sonicator #	Cell #	Concentrator #
SVJ034WB	10/23/14 JM		1
WL			1
WC			1
J130-01			1
-02			1
J144-01			1
~~-01D~~			1
-01M			1
-01S			1

TUNING	
Sonicator #	Reading

Concentrator	Water Bath Temperature Setting (°C)	Thermometer Reading (°C)
1	35	35
2		
3		
4		
5		
6		
8		

Thermometer ID = SVOC-T1

Prepared By: JM — Witnessed By: MG
Standard Added By: JM — Checked By: ML
Extract Received By: DJ 10/24/14 — Location: VED3-01
Disposed By: — Disposed On:

FileID: SVJ034W

EMAX LABORATORIES, INC.

EXTRACTION LOG FOR SEMIVOLATILES

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Ve(ml)	ExpAmt	ExpVe(ml)	PrepFctr	Comments
14SVJ034W01	SVJ034WB	1000	ml	10/23/14 10:00	1	1000	1	1	
14SVJ034W02	SVJ034WL	1000	ml	10/23/14 10:00	1	1000	1	1	SIM ULTRA LOW
14SVJ034W03	SVJ034WC	1000	ml	10/23/14 10:00	1	1000	1	1	SIM ULTRA LOW
14SVJ034W04	J130-01	1040	ml	10/23/14 10:00	1	1000	1	0.96	
14SVJ034W05	J130-02	1000	ml	10/23/14 10:00	1	1000	1	1	
14SVJ034W06	J144-01	940	ml	10/23/14 10:00	1	1000	1	1.06	
14SVJ034W07	J144-01M	900	ml	10/23/14 10:00	1	1000	1	1.11	SIM ULTRA LOW
14SVJ034W08	J144-01S	1020	ml	10/23/14 10:00	1	1000	1	0.98	SIM ULTRA LOW

Ve=extract volume

PrepFctr=(ExpAmt/Aliquot)(Ve/ExpVe)

☑ Extraction Started @ 10/23/14 10:00 ☐ pHAdj(≤2) @

Prepared By: JMuert

☑ Extraction Ended @ 10/24/14 5:00 ☑ pHAdj(≥11) @ 10/23/14 15:00

Checked By: ML

Comments:

Date 10/24/14

LABORATORY REPORT FOR

BATTELLE

RED HILL PHASE 1B

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

SDG#: 14J144

CASE NARRATIVE

Client : BATTELLE

Project : RED HILL PHASE 1B

SDG : 14J144

METHOD SW5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

A total of two (2) water samples were received on 10/22/14 for TPH Gasoline analysis, Method SW5030B/8015B in accordance with Department of Defense Quality Systems Manual for Environmental Laboratories, Version 4.2 and project SAP August 2014.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for VG39J13L/C were all within QC limits.

Matrix QC Sample
A set of MS/MSD was analyzed with the samples in this SDG.
Percent recoveries for J144-01M/S were within project QC limits.

Surrogate
Surrogate was added on QC and field samples. Surrogate recoveries were within project QC limits. Refer to sample result forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : BATTELLE
Project : RED HILL PHASE 1B
SDG NO. : 14J144
Instrument ID : GCT039

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	WATER Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VG39J13B	1	NA	10/22/1420:07	10/22/1420:07	EJ22007A	EJ22003A	VG39J13	Method Blank
LCS1W	VG39J13L	1	NA	10/22/1418:10	10/22/1418:10	EJ22004A	EJ22003A	VG39J13	Lab Control Sample (LCS)
LCD1W	VG39J13C	1	NA	10/22/1418:49	10/22/1418:49	EJ22005A	EJ22003A	VG39J13	LCS Duplicate
RHMW06-GW-01	J144-01	1	NA	10/22/1422:43	10/22/1422:43	EJ22011A	EJ22003A	VG39J13	Field Sample
TB102114	J144-02	1	NA	10/22/1422:04	10/22/1422:04	EJ22010A	EJ22003A	VG39J13	Field Sample
RHMW06-GW-01MS	J144-01M	1	NA	10/22/1423:22	10/22/1423:22	EJ22012A	EJ22003A	VG39J13	Matrix Spike Sample (MS)
RHMW06-GW-01MSD	J144-01S	1	NA	10/23/1400:01	10/23/1400:01	EJ22013A	EJ22003A	VG39J13	MS Duplicate (MSD)

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD SW5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: BATTELLE	Date Collected:	10/21/14
Project	: RED HILL PHASE 1B	Date Received:	10/22/14
Batch No.	: 14J144	Date Extracted:	10/22/14 22:43
Sample ID:	RHMW06-GW-01	Date Analyzed:	10/22/14 22:43
Lab Samp ID:	J144-01	Dilution Factor:	1
Lab File ID:	EJ22011A	Matrix :	WATER
Ext Btch ID:	VG39J13	% Moisture :	NA
Calib. Ref.:	EJ22003A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
GRO	ND	0.050	0.010	0.020

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	0.0309	0.04000	77.2	70-130

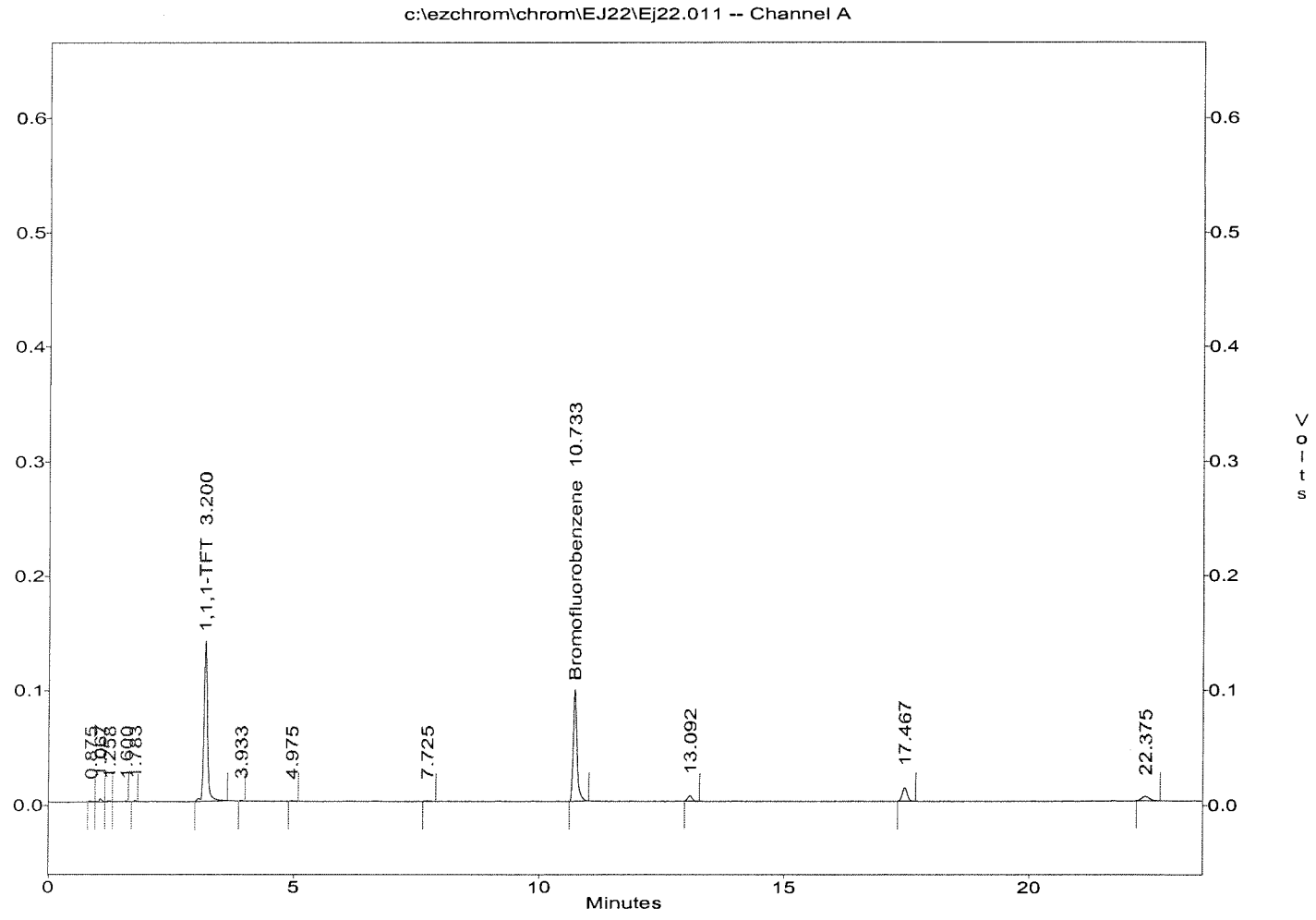
Parameter	H-C Range
GRO	C6-C10

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EJ22\Ej22.011
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : 14J144-01 5.0ML W
Acquired : Oct 22, 2014 22:43:17
Printed : Oct 22, 2014 23:06:49
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
6	1,1,1-TFT	3.200	706392.0	21400.0	33.01
10	Bromofluorobenzene	10.733	516719.0	16725.9	30.89
G1	GASOLINE(TOTAL)		184582.0	28261.9	6.53
G2	GRO(C6-C10)		12778.0	21355.4	0.60
G3	GRO(2MP-124TMB)		16487.0	21297.0	0.77
G4	GRO(C5-C12)		133325.0	27928.9	4.77
G5	GRO(C6-C12)		125362.0	27890.2	4.49
G6	GRO(C5-C10)		20741.0	21396.8	0.97



METHOD SW5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : BATTELLE	Date Collected: 10/21/14
Project : RED HILL PHASE 1B	Date Received: 10/22/14
Batch No. : 14J144	Date Extracted: 10/22/14 22:04
Sample ID: TB102114	Date Analyzed: 10/22/14 22:04
Lab Samp ID: J144-02	Dilution Factor: 1
Lab File ID: EJ22010A	Matrix : WATER
Ext Btch ID: VG39J13	% Moisture : NA
Calib. Ref.: EJ22003A	Instrument ID : GCT039

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
GRO	ND	0.050	0.010	0.020

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	0.0307	0.04000	76.9	70-130

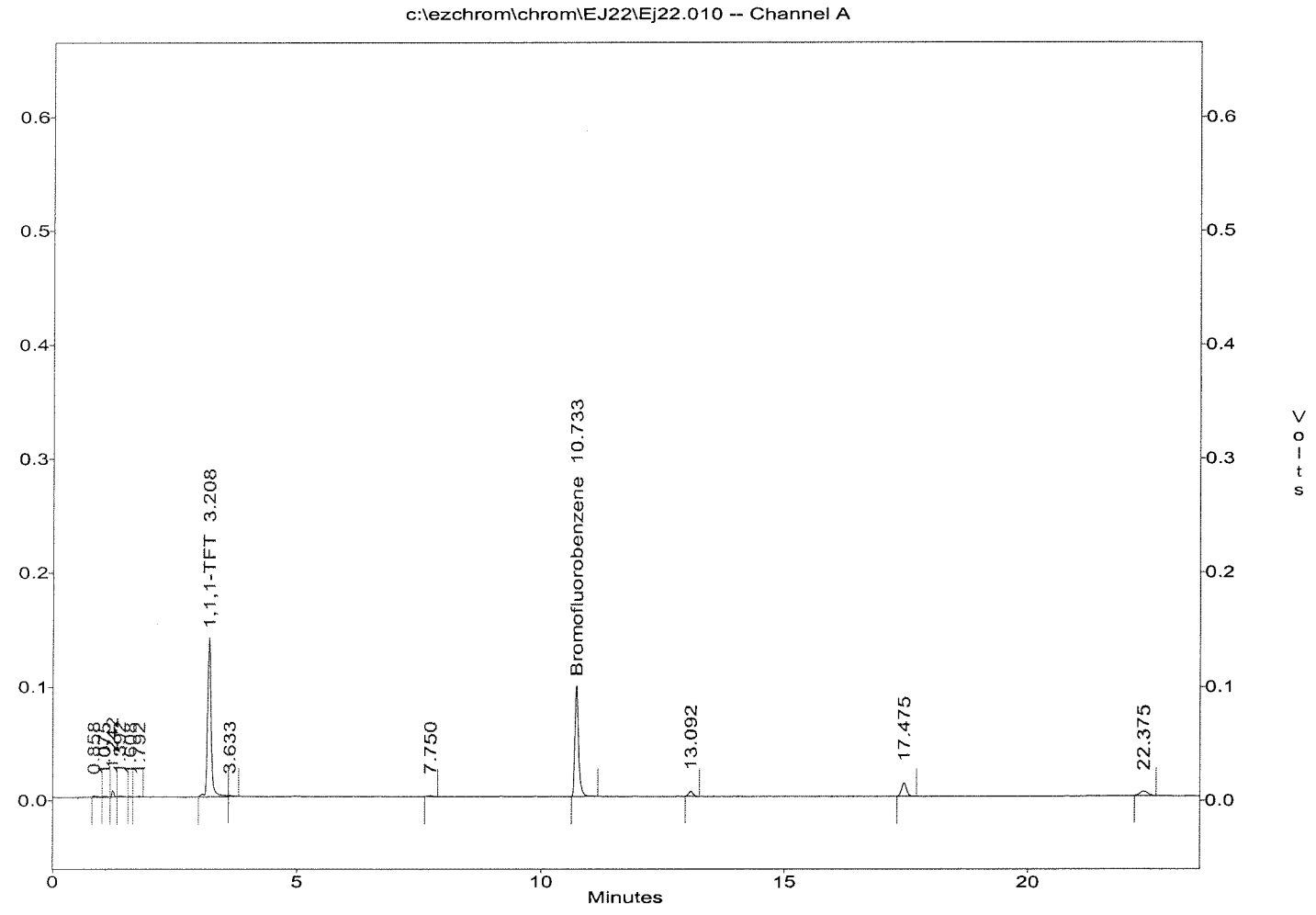
Parameter	H-C Range
GRO	C6-C10

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EJ22\Ej22.010
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : 14J144-02 5.0ML W
Acquired : Oct 22, 2014 22:04:23
Printed : Oct 22, 2014 22:27:56
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
7	1,1,1-TFT	3.208	710071.0	21400.0	33.18
10	Bromofluorobenzene	10.733	514173.0	16725.9	30.74
G1	GASOLINE(TOTAL)		195828.0	28261.9	6.93
G2	GRO(C6-C10)		13891.0	21355.4	0.65
G3	GRO(2MP-124TMB)		15657.0	21297.0	0.74
G4	GRO(C5-C12)		151037.0	27928.9	5.41
G5	GRO(C6-C12)		124829.0	27890.2	4.48
G6	GRO(C5-C10)		40099.0	21396.8	1.87



QC SUMMARIES

METHOD SW5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: BATTELLE	Date Collected:	NA
Project	: RED HILL PHASE 1B	Date Received:	10/22/14
Batch No.	: 14J144	Date Extracted:	10/22/14 20:07
Sample ID:	MBLK1W	Date Analyzed:	10/22/14 20:07
Lab Samp ID:	VG39J13B	Dilution Factor:	1
Lab File ID:	EJ22007A	Matrix :	WATER
Ext Btch ID:	VG39J13	% Moisture :	NA
Calib. Ref.:	EJ22003A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
GRO	ND	0.050	0.010	0.020

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	0.0320	0.04000	79.9	70-130

Parameter	H-C Range
GRO	C6-C10

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: BATTELLE
PROJECT: RED HILL PHASE 1B
BATCH NO.: 14J144
METHOD: SW5030B/8015B

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: VG39J13B VG39J13L VG39J13C
LAB FILE ID: EJ22007A EJ22004A EJ22005A
DATE EXTRACTED: 10/22/1420:07 10/22/1418:10 10/22/1418:49 DATE COLLECTED: NA
DATE ANALYZED: 10/22/1420:07 10/22/1418:10 10/22/1418:49 DATE RECEIVED: 10/22/14
PREP. BATCH: VG39J13 VG39J13 VG39J13
CALIB. REF: EJ22003A EJ22003A EJ22003A

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
GRO	ND	0.500	0.407	81	0.500	0.420	84	3	60-130	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	QC LIMIT (%)
Bromofluorobenzene	0.0400	0.0358	89	0.0400	0.0383	96	70-130

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: BATTELLE
PROJECT: RED HILL PHASE 1B
BATCH NO.: 14J144
METHOD: SW5030B/8015B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	RHMW06-GW-01				
LAB SAMP ID:	J144-01	J144-01M	J144-01S		
LAB FILE ID:	EJ22011A	EJ22012A	EJ22013A		
DATE EXTRACTED:	10/22/1422:43	10/22/1423:22	10/23/1400:01	DATE COLLECTED:	10/21/14
DATE ANALYZED:	10/22/1422:43	10/22/1423:22	10/23/1400:01	DATE RECEIVED:	10/22/14
PREP. BATCH:	VG39J13	VG39J13	VG39J13		
CALIB. REF:	EJ22003A	EJ22003A	EJ22003A		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
GRO	ND	0.500	0.396	79	0.500	0.403	81	2	60-130	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	QC LIMIT (%)
Bromofluorobenzene	0.0400	0.0359	90	0.0400	0.0360	90	70-130

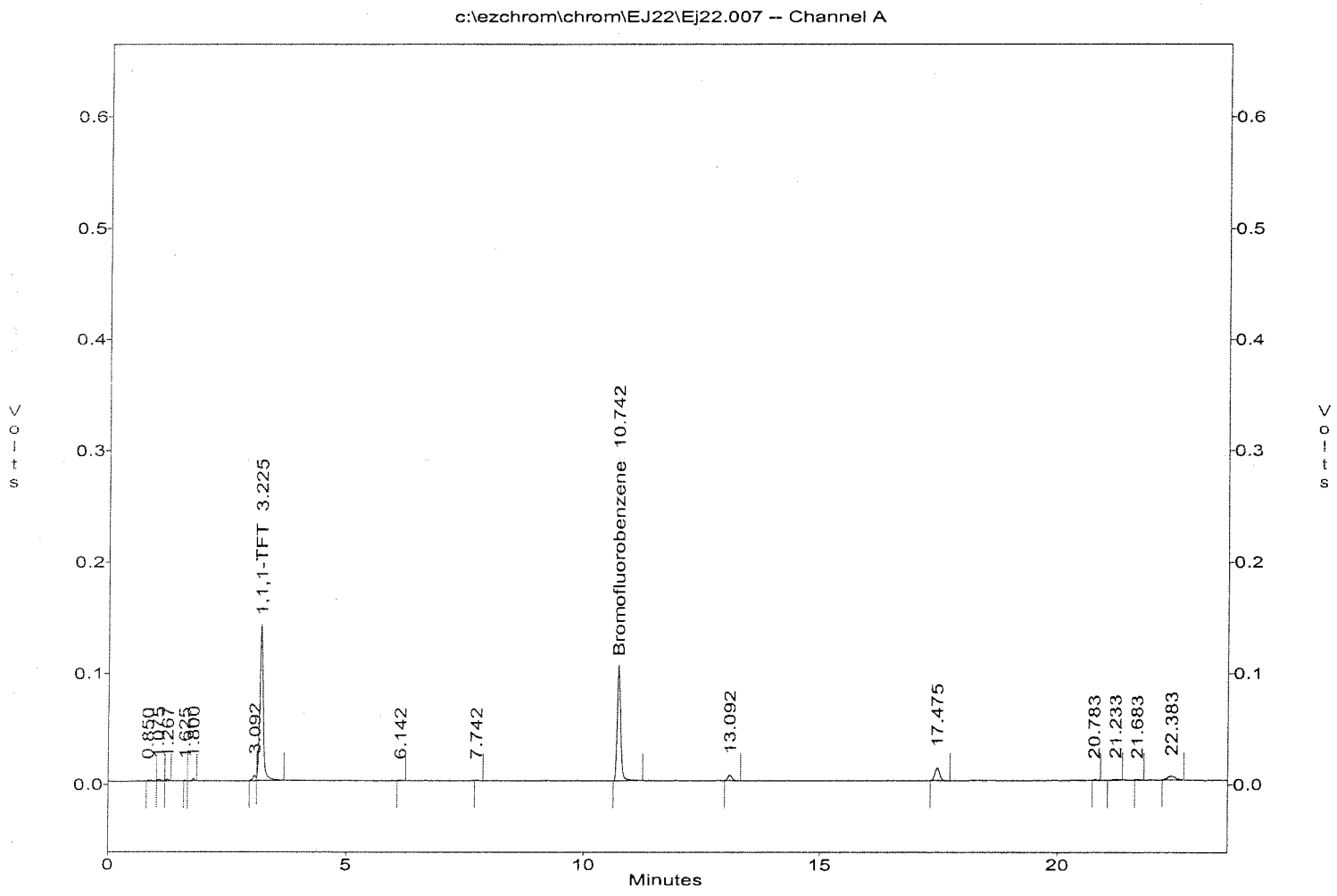
QC DATA

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EJ22\Ej22.007
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : VG39J13B 5.0ML W
Acquired : Oct 22, 2014 20:07:27
Printed : Oct 22, 2014 20:31:00
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
7	1,1,1-TFT	3.225	717036.0	21400.0	33.51
10	Bromofluorobenzene	10.742	534533.0	16725.9	31.96
G1	GASOLINE(TOTAL)		207731.0	28261.9	7.35
G2	GRO(C6-C10)		33285.0	21355.4	1.56
G3	GRO(2MP-124TMB)		33285.0	21297.0	1.56
G4	GRO(C5-C12)		153804.0	27928.9	5.51
G5	GRO(C6-C12)		147049.0	27890.2	5.27
G6	GRO(C5-C10)		40040.0	21396.8	1.87

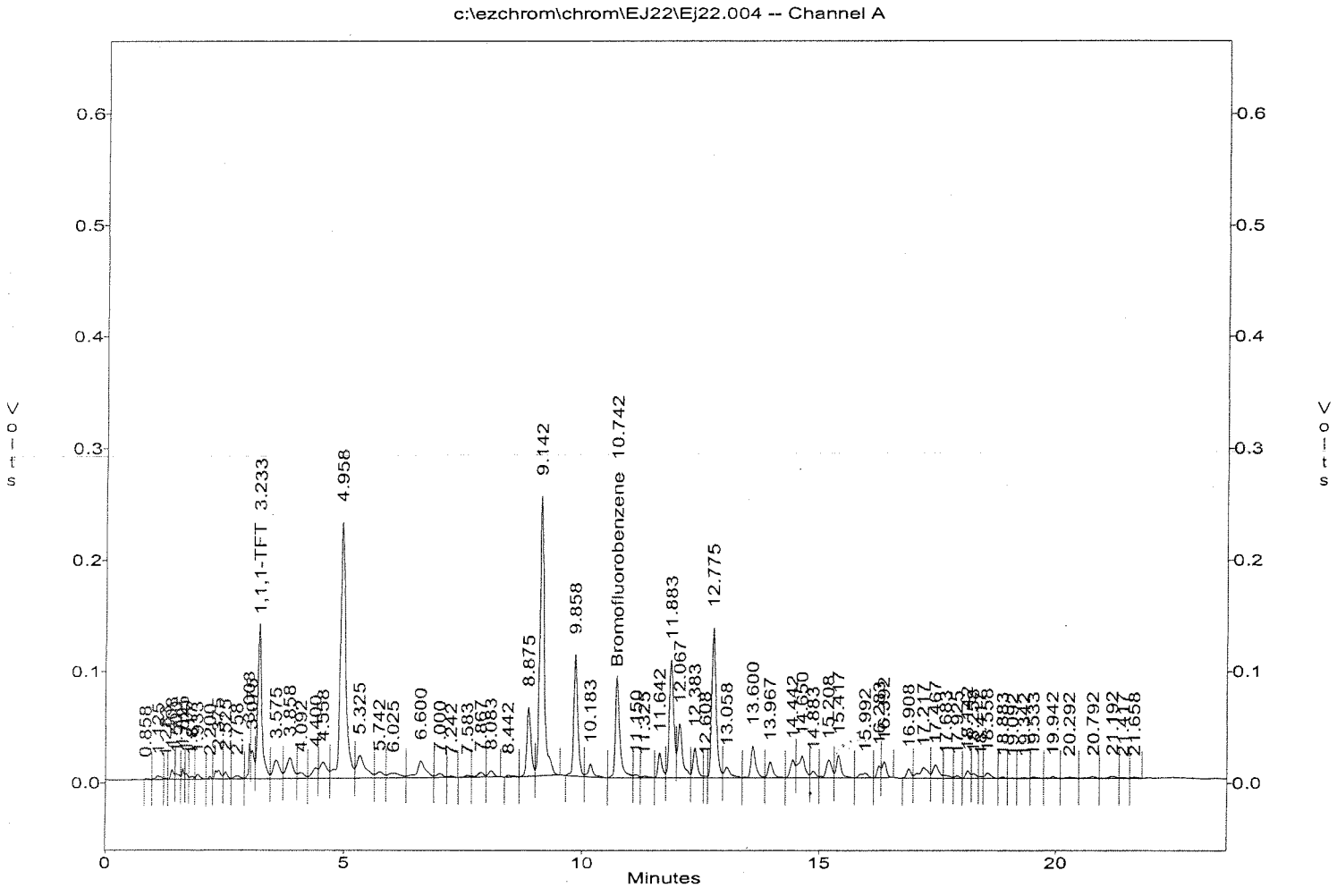


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EJ22\Ej22.004
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : VG39J13L 5.0ML W
Acquired : Oct 22, 2014 18:10:23
Printed : Oct 22, 2014 18:33:55
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
16	1,1,1-TFT	3.233	808778.0	21400.0	37.79
37	Bromofluorobenzene	10.742	598164.0	16725.9	35.76
G1	GASOLINE(TOTAL)		10545995.0	28261.9	373.15
G2	GRO(C6-C10)		8692438.0	21355.4	407.04
G3	GRO(2MP-124TMB)		8758383.0	21297.0	411.25
G4	GRO(C5-C12)		10449204.0	27928.9	374.14
G5	GRO(C6-C12)		10351497.0	27890.2	371.15
G6	GRO(C5-C10)		8790145.0	21396.8	410.82

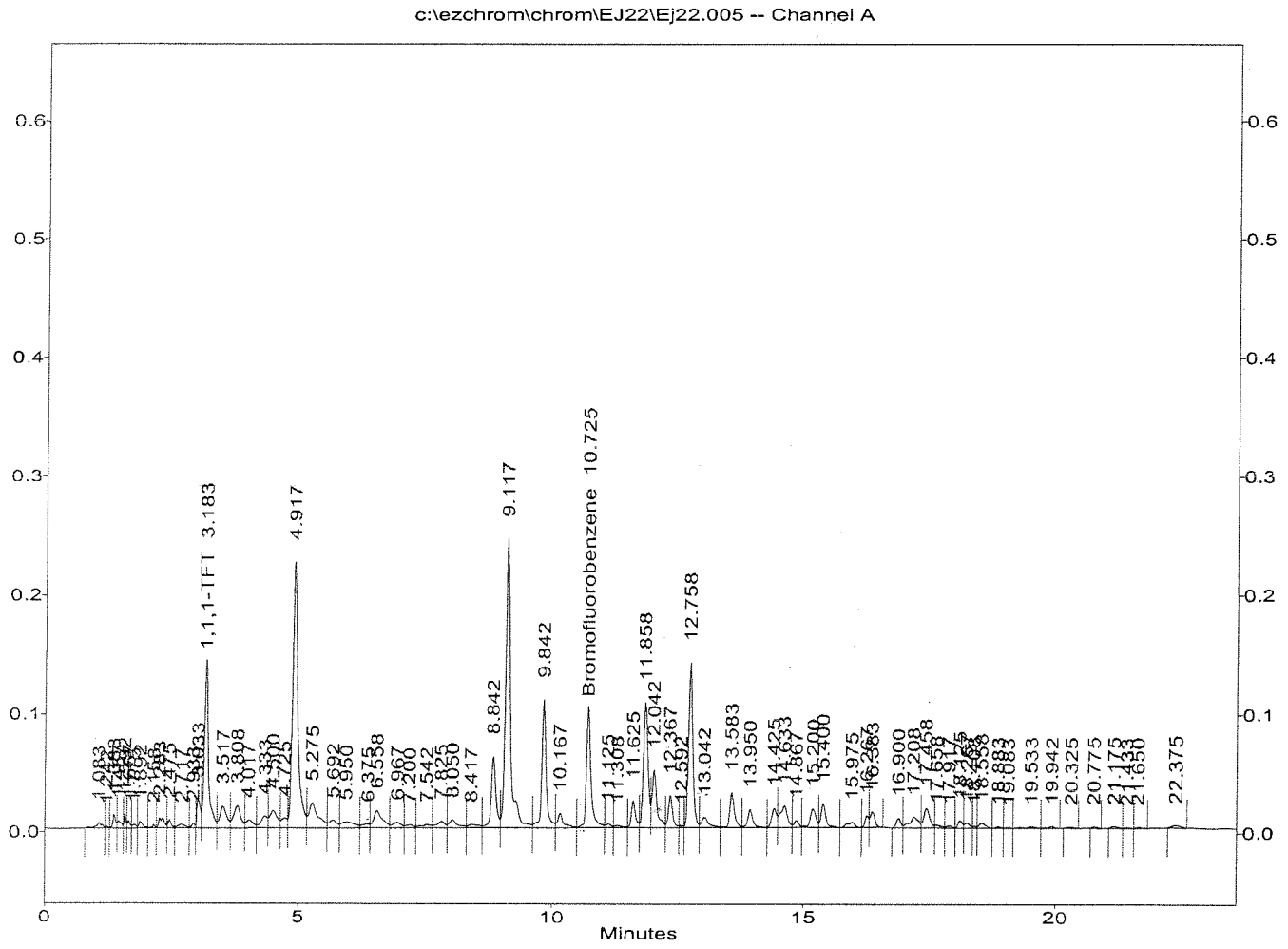


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EJ22\Ej22.005
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : VG39J13C 5.0ML W
Acquired : Oct 22, 2014 18:49:27
Printed : Oct 22, 2014 19:13:00
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
15	1,1,1-TFT	3.183	805462.0	21400.0	37.64
38	Bromofluorobenzene	10.725	640482.0	16725.9	38.29
G1	GASOLINE(TOTAL)		10773542.0	28261.9	381.20
G2	GRO(C6-C10)		8968812.0	21355.4	419.98
G3	GRO(2MP-124TMB)		8938144.0	21297.0	419.69
G4	GRO(C5-C12)		10630718.0	27928.9	380.64
G5	GRO(C6-C12)		10521932.0	27890.2	377.26
G6	GRO(C5-C10)		9077598.0	21396.8	424.25

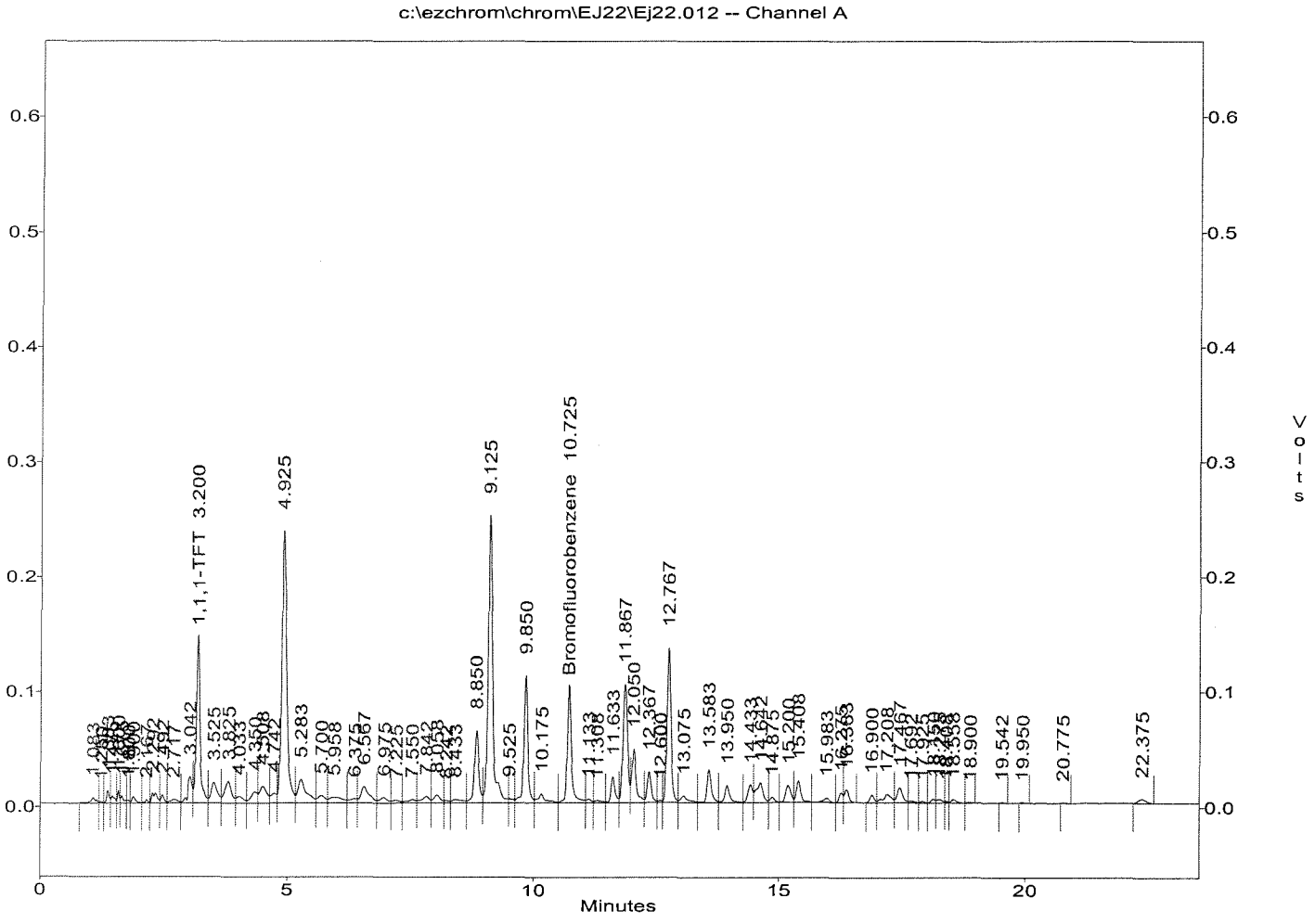


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EJ22\Ej22.012
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : 14J144-01M 5.0ML W
Acquired : Oct 22, 2014 23:22:25
Printed : Oct 22, 2014 23:45:57
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
14	1,1,1-TFT	3.200	777770.0	21400.0	36.34
39	Bromofluorobenzene	10.725	601202.0	16725.9	35.94
G1	GASOLINE(TOTAL)		10003344.0	28261.9	353.95
G2	GRO(C6-C10)		8454938.0	21355.4	395.91
G3	GRO(2MP-124TMB)		8513027.0	21297.0	399.73
G4	GRO(C5-C12)		9915987.0	27928.9	355.04
G5	GRO(C6-C12)		9810818.0	27890.2	351.77
G6	GRO(C5-C10)		8560107.0	21396.8	400.06

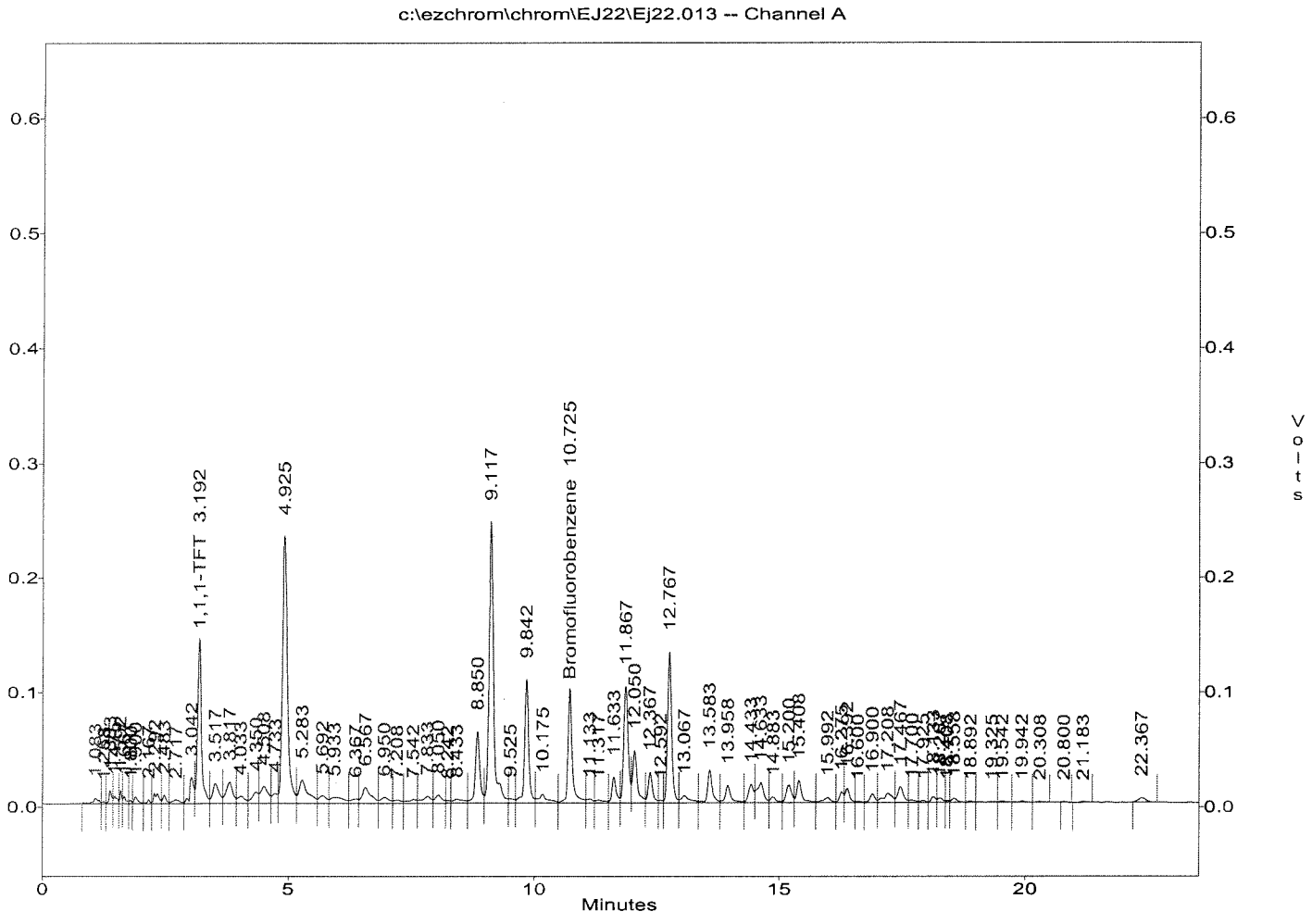


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EJ22\Ej22.013
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : 14J144-01S 5.0ML W
Acquired : Oct 23, 2014 00:01:35
Printed : Oct 23, 2014 00:25:07
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
14	1,1,1-TFT	3.192	771099.0	21400.0	36.03
39	Bromofluorobenzene	10.725	601753.0	16725.9	35.98
G1	GASOLINE(TOTAL)		10438165.0	28261.9	369.34
G2	GRO(C6-C10)		8605738.0	21355.4	402.98
G3	GRO(2MP-124TMB)		8667136.0	21297.0	406.97
G4	GRO(C5-C12)		10308761.0	27928.9	369.11
G5	GRO(C6-C12)		10197948.0	27890.2	365.65
G6	GRO(C5-C10)		8716551.0	21396.8	407.38



INITIAL CALIBRATIONS

INITIAL CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT39
GC Column : DB-5
Column size ID : 30MX.53MM
LFID & Datetime: EE02002A 05/02/14 11:39
LFID & Datetime: EE02003A 05/02/14 12:18
LFID & Datetime: EE02004A 05/02/14 12:57
LFID & Datetime: EE02005A 05/02/14 13:36
LFID & Datetime: EE02006A 05/02/14 14:15
LFID & Datetime: EE02007A 05/02/14 14:54
CONC UNIT: ppb

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 1.00X	2.50X	5.00X	25.00X	50.00X	75.00X	MEAN	%RSD	
Gasoline(TOTAL)	20.00	27801	27719	28723	28893	27835	28600	28261.9	1.9	✓
GRO(C6-C10)	20.00	21440	21614	22072	21470	20441	21095	21355.4	2.6	✓
GRO(2MP-124TMB)	20.00	21440	21614	21962	21379	20360	21028	21297.0	2.6	✓
GRO(C5-C12)	20.00	27412	27451	28534	28563	27415	28199	27928.9	2.0	✓
GRO(C6-C12)	20.00	27293	27392	28506	28556	27411	28184	27890.2	2.1	✓
GRO(C5-C10)	20.00	21558	21673	22100	21481	20451	21117	21396.8	2.6	✓
SURROGATE	X	1.00X	2.00X	3.00X	4.00X	5.00X	8.00X	MEAN	%RSD	
Bromofluorobenzene	10.00	14346	14383	15057	18957	18920	18692	16725.9	14.0	✓
1,1,1-Trifluorotoluene	10.00	21580 ✓	20507 ✓	21018 ✓	21584 ✓	21776 ✓	21933 ✓	21400.0 ✓	2.5 ✓	

VG39E02.MET

AA 05/05/14

INITIAL CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT39
GC Columm : DB-5
Column size ID : 30MX.53MM
LFID & Datetime: EE02002A 05/02/14 11:39
LFID & Datetime: EE02003A 05/02/14 12:18
LFID & Datetime: EE02004A 05/02/14 12:57
LFID & Datetime: EE02005A 05/02/14 13:36
LFID & Datetime: EE02006A 05/02/14 14:15
LFID & Datetime: EE02007A 05/02/14 14:54

COMPOUND	RT OF STANDARDS (MIN) 1.0X	2.5X	5.0X	25.0X	50.0X	75.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
Gasoline(TOTAL)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO(C6-C10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO(2MP-124TMB)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO(C5-C12)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO(C6-C12)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO(C5-C10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SURROGATE	1.0X	2.0X	3.0X	4.0X	5.0X	8.0X	RT	FROM	TO	WIDTH
Bromofluorobenzene	10.733	10.725	10.725	10.725	10.725	10.717	10.725	10.682	10.768	0.043
1,1,1-Trifluorotoluene	3.217	3.217	3.217	3.208	3.208	3.208	3.212	3.088	3.336	0.124

VG39E02.MET

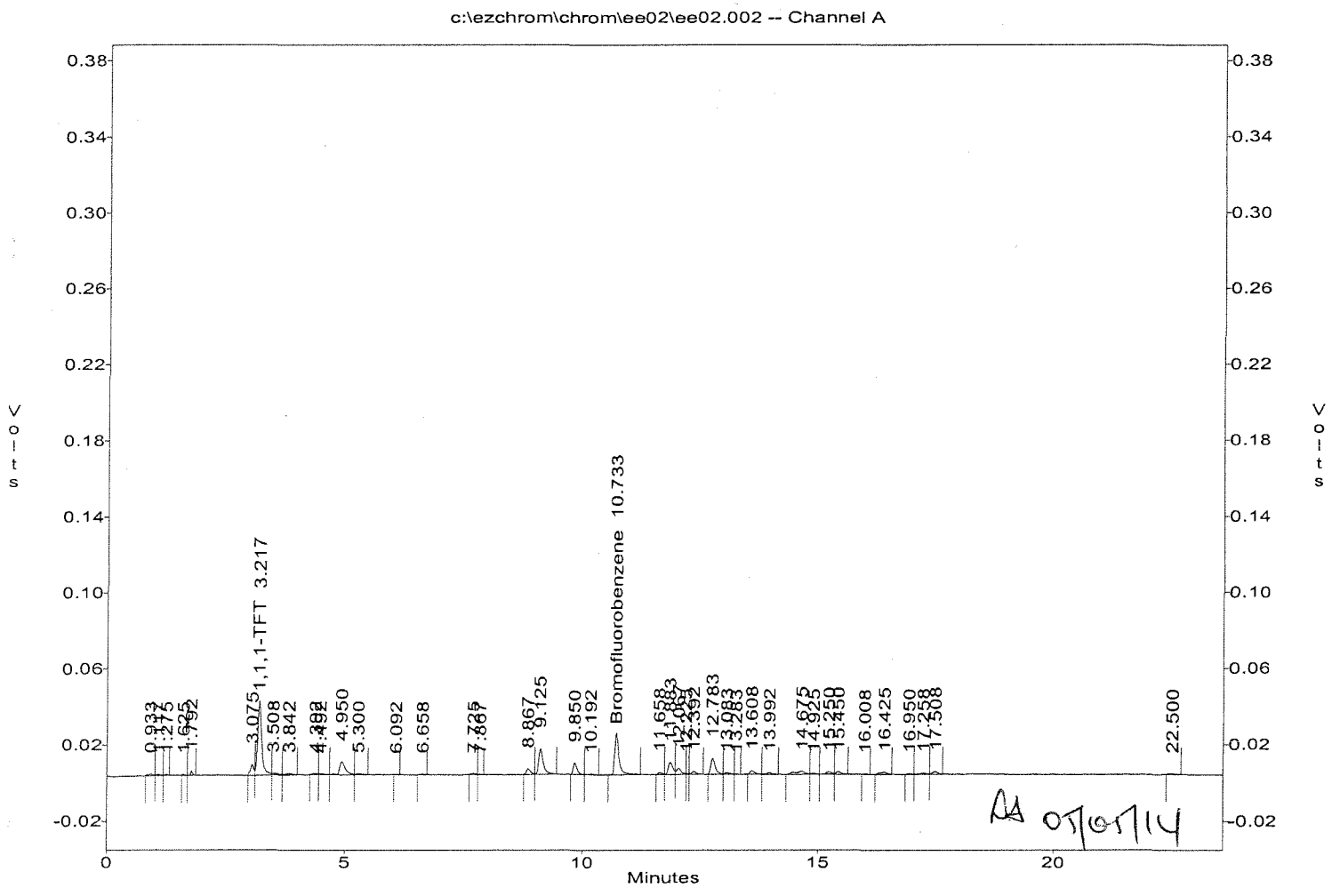
05/05/12

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.002
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39E0201 20/10
Acquired : May 02, 2014 11:39:55
Printed : May 05, 2014 09:31:15
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
7	1,1,1-TFT	3.217	215802.0 ✓	21400.0	10.00
22	Bromofluorobenzene	10.733	143459.0 ✓	16725.9	10.00
G1	GASOLINE(TOTAL)		556018.0 ✓	28261.9	20.00
G2	GRO(C6-C10)		428798.0 ✓	21355.4	20.00
G3	GRO(2MP-124TMB)		428798.0 ✓	21297.0	20.00
G4	GRO(C5-C12)		548233.0 ✓	27928.9	20.00
G5	GRO(C6-C12)		545864.0 ✓	27890.2	20.00
G6	GRO(C5-C10)		431167.0 ✓	21396.8	20.00

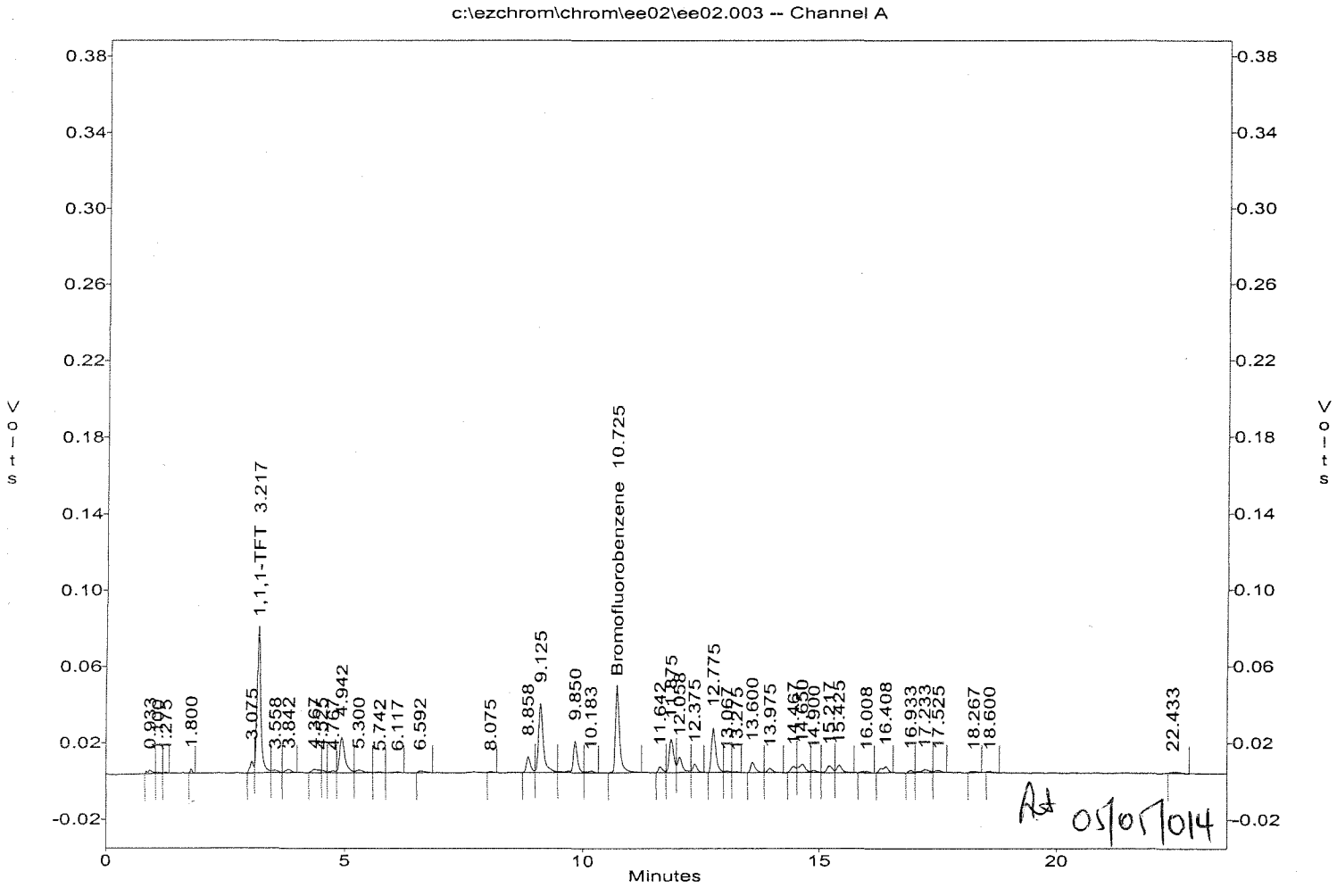


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.003
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39E0202 50/20
Acquired : May 02, 2014 12:18:52
Printed : May 05, 2014 09:31:23
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
6	1,1,1-TFT	3.217	410145.0	21400.0	20.00
22	Bromofluorobenzene	10.725	287659.0	16725.9	20.00
G1	GASOLINE(TOTAL)		1385955.0	28261.9	50.00
G2	GRO(C6-C10)		1080683.0	21355.4	50.00
G3	GRO(2MP-124TMB)		1080683.0	21297.0	50.00
G4	GRO(C5-C12)		1372563.0	27928.9	50.00
G5	GRO(C6-C12)		1369606.0	27890.2	50.00
G6	GRO(C5-C10)		1083640.0	21396.8	50.00



AS 05/07/2014

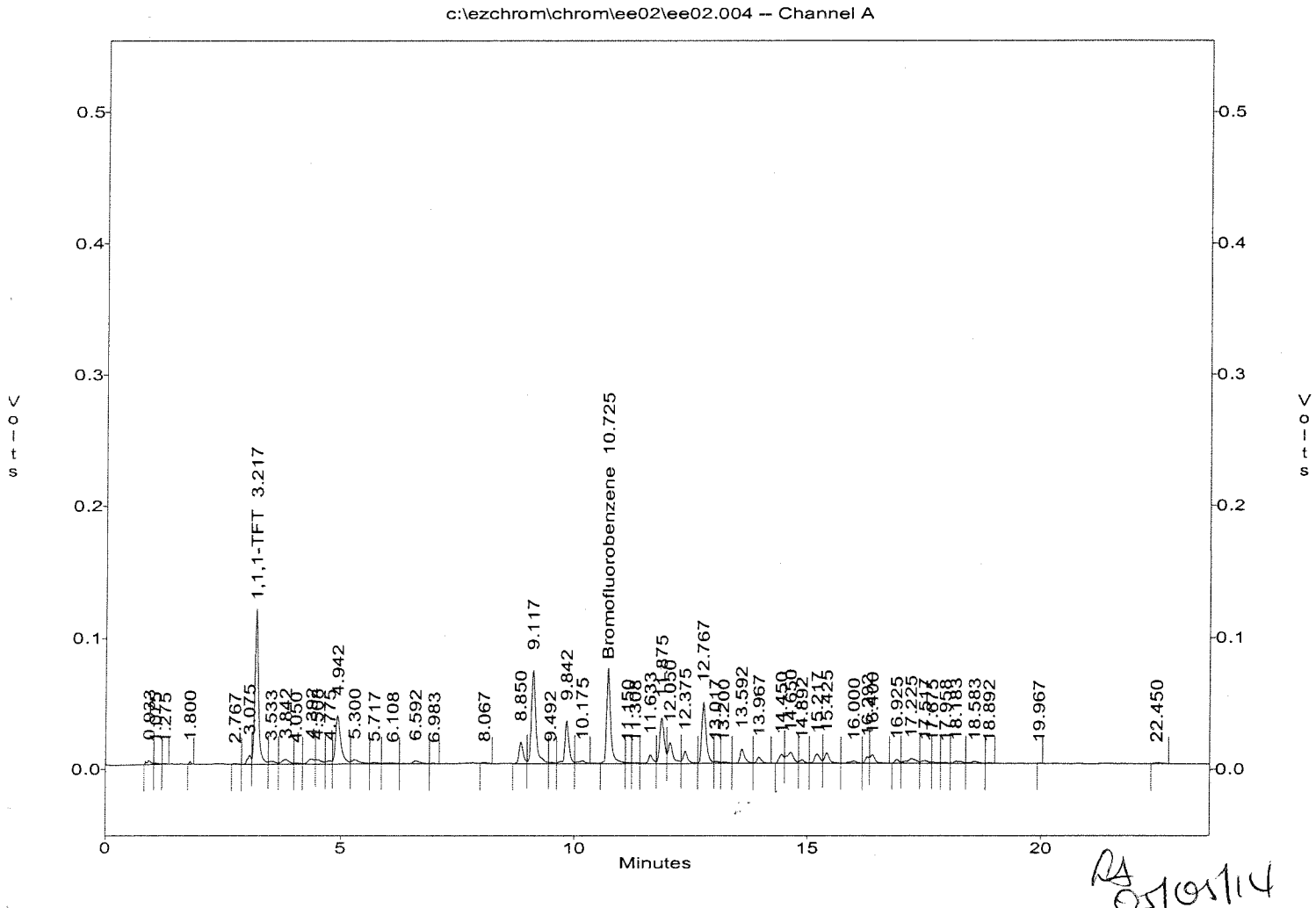
4022

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.004
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39E0203 100/30
Acquired : May 02, 2014 12:57:53
Printed : May 05, 2014 09:31:56
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
7	1,1,1-TFT	3.217	630554.0	21400.0	30.00
26	Bromofluorobenzene	10.725	451712.0	16725.9	30.00
G1	GASOLINE(TOTAL)		2872293.0	28261.9	100.00
G2	GRO(C6-C10)		2207233.0	21355.4	100.00
G3	GRO(2MP-124TMB)		2196184.0	21297.0	100.00
G4	GRO(C5-C12)		2853376.0	27928.9	100.00
G5	GRO(C6-C12)		2850571.0	27890.2	100.00
G6	GRO(C5-C10)		2210038.0	21396.8	100.00



RS 05/05/14

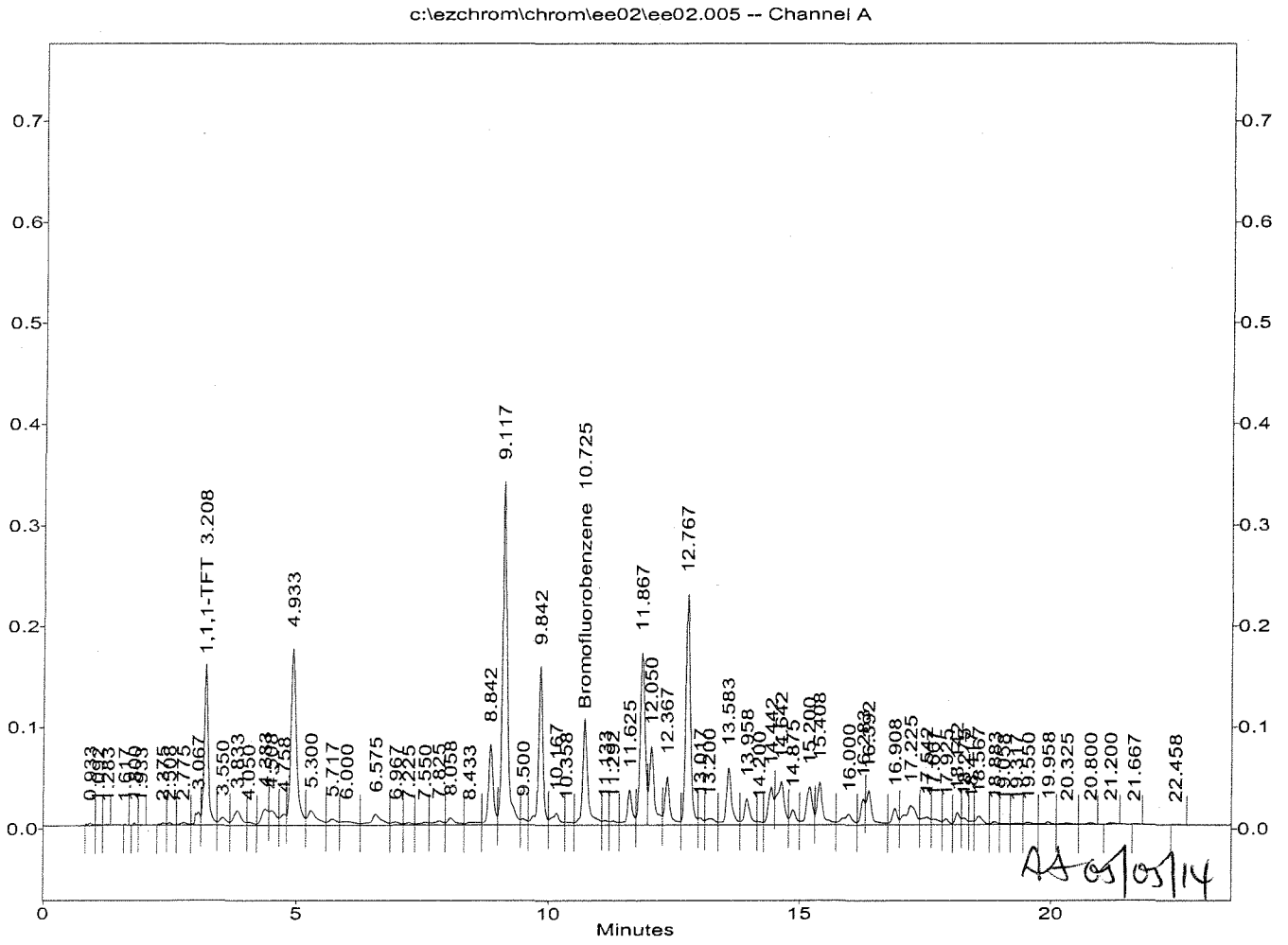
4023

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.005
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39E0204 500/40
Acquired : May 02, 2014 13:36:49
Printed : May 05, 2014 09:32:30
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
11	1,1,1-TFT	3.208	863365.0	21400.0	40.00
35	Bromofluorobenzene	10.725	758288.0	16725.9	40.00
G1	GASOLINE(TOTAL)		14446530.0	28261.9	500.00
G2	GRO(C6-C10)		10735124.0	21355.4	500.00
G3	GRO(2MP-124TMB)		10689338.0	21297.0	500.00
G4	GRO(C5-C12)		14281643.0	27928.9	500.00
G5	GRO(C6-C12)		14278004.0	27890.2	500.00
G6	GRO(C5-C10)		10740735.0	21396.8	500.00

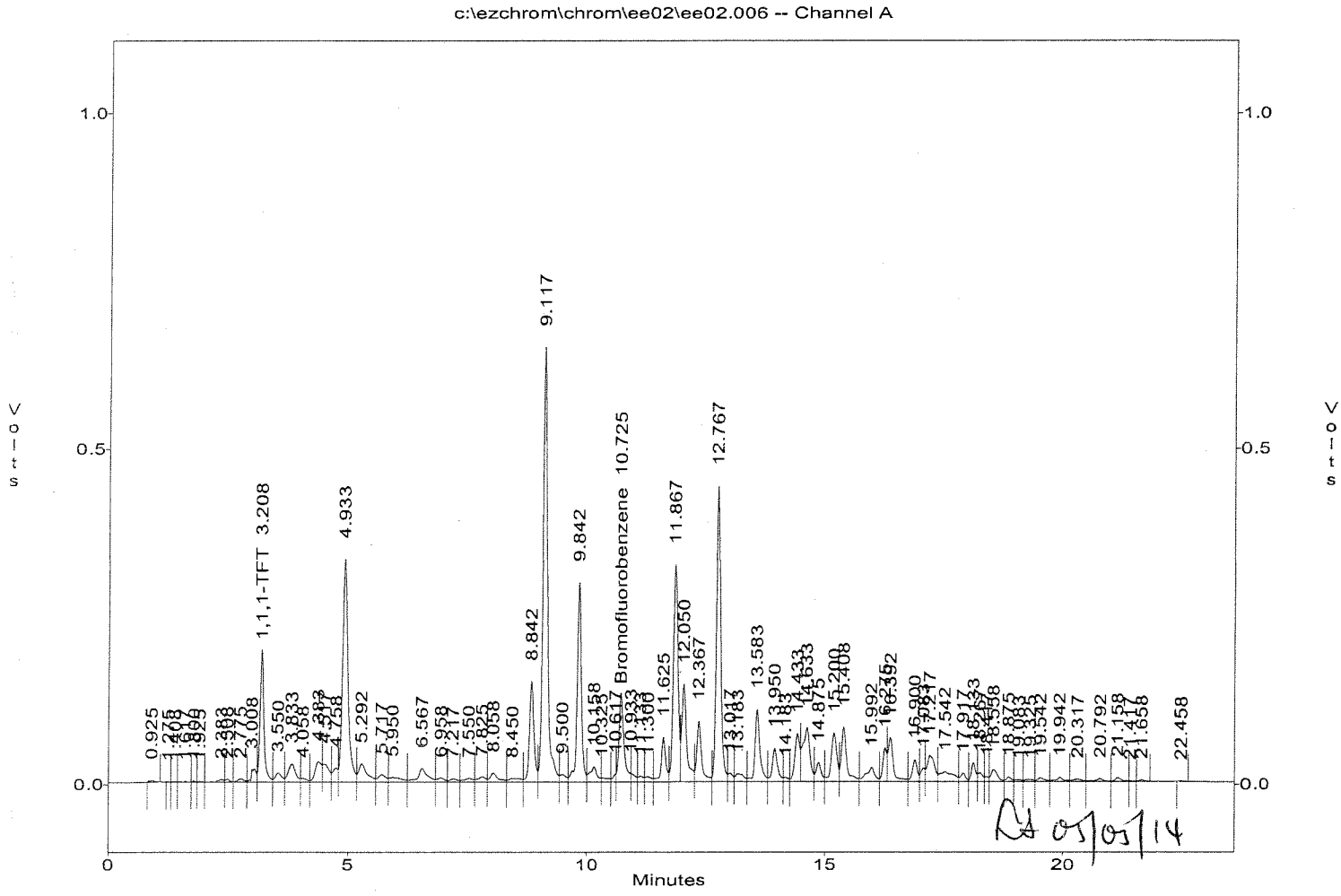


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.006
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39E0205 1000/50
Acquired : May 02, 2014 14:15:41
Printed : May 05, 2014 09:34:01
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
11	1,1,1-TFT	3.208	1088814.0	21400.0	50.00
36	Bromofluorobenzene	10.725	946013.0	16725.9	50.00
G1	GASOLINE(TOTAL)		27834716.0	28261.9	1000.00
G2	GRO(C6-C10)		20441208.0	21355.4	1000.00
G3	GRO(2MP-124TMB)		20359526.0	21297.0	1000.00
G4	GRO(C5-C12)		27414706.0	27928.9	1000.00
G5	GRO(C6-C12)		27410822.0	27890.2	1000.00
G6	GRO(C5-C10)		20451276.0	21396.8	1000.00

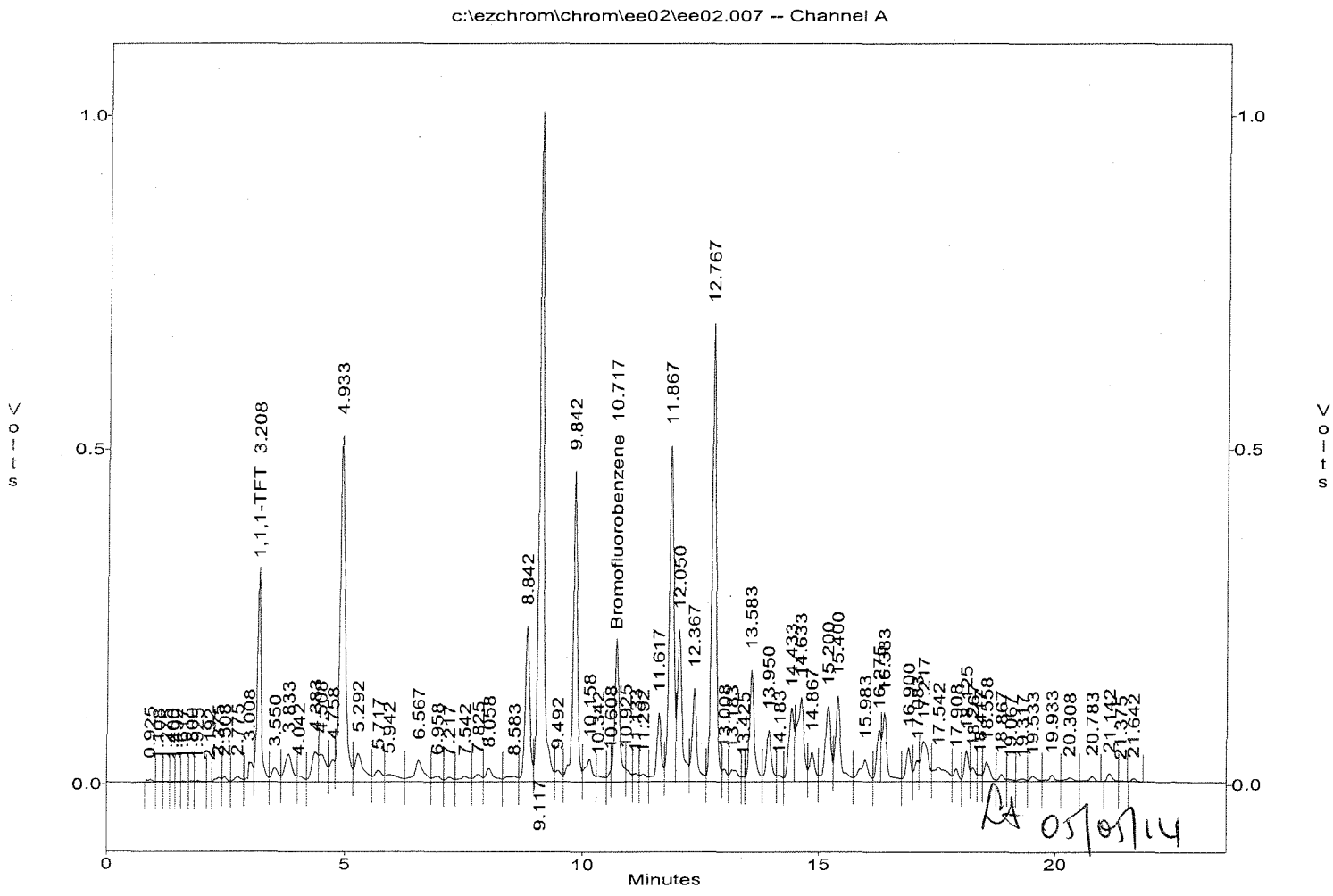


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.007
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39E0206 1500/80
Acquired : May 02, 2014 14:54:32
Printed : May 05, 2014 09:34:29
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
14	1,1,1-TFT	3.208	1754672.0	21400.0	80.00
39	Bromofluorobenzene	10.717	1495364.0	16725.9	80.00
G1	GASOLINE(TOTAL)		42900720.0	28261.9	1500.00
G2	GRO(C6-C10)		31643026.0	21355.4	1500.00
G3	GRO(2MP-124TMB)		31542302.0	21297.0	1500.00
G4	GRO(C5-C12)		42297752.0	27928.9	1500.00
G5	GRO(C6-C12)		42275336.0	27890.2	1500.00
G6	GRO(C5-C10)		31675030.0	21396.8	1500.00



05/05/14

SECOND SOURCE VERIFICATION

INITIAL CALIBRATION VERIFICATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT39
GC Columm : DB-5
Column size ID : 30MX.53MM
Mid Conc Init LFID & Datetime: EE02005A 05/02/2014 13:36
Conc Cont LFID & Datetime: EE02008A 05/02/2014 15:33
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	NA	NA	NA	500.0	28261.9	13053470	461.88	-8		20
GRO(C6-C10)	NA	NA	NA	500.0	21355.4	10134937	474.58	-5		20
GRO(2MP-124TMB)	NA	NA	NA	500.0	21297.0	10247177	481.16	-4		20
GRO(C5-C12)	NA	NA	NA	500.0	27928.9	12590737	450.82	-10		20
GRO(C6-C12)	NA	NA	NA	500.0	27890.2	12493550	447.95	-10		20
GRO(C5-C10)	NA	NA	NA	500.0	21396.8	10304659	481.60	-4		20
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
Bromofluorobenzene	10.717	10.674	10.760	40.0	16725.9	696321	41.63	4		20
1,1,1-Trifluorotoluene	3.208	3.084	3.332	40.0	21400.0	954586	44.61	12		20

VG39E02.MET

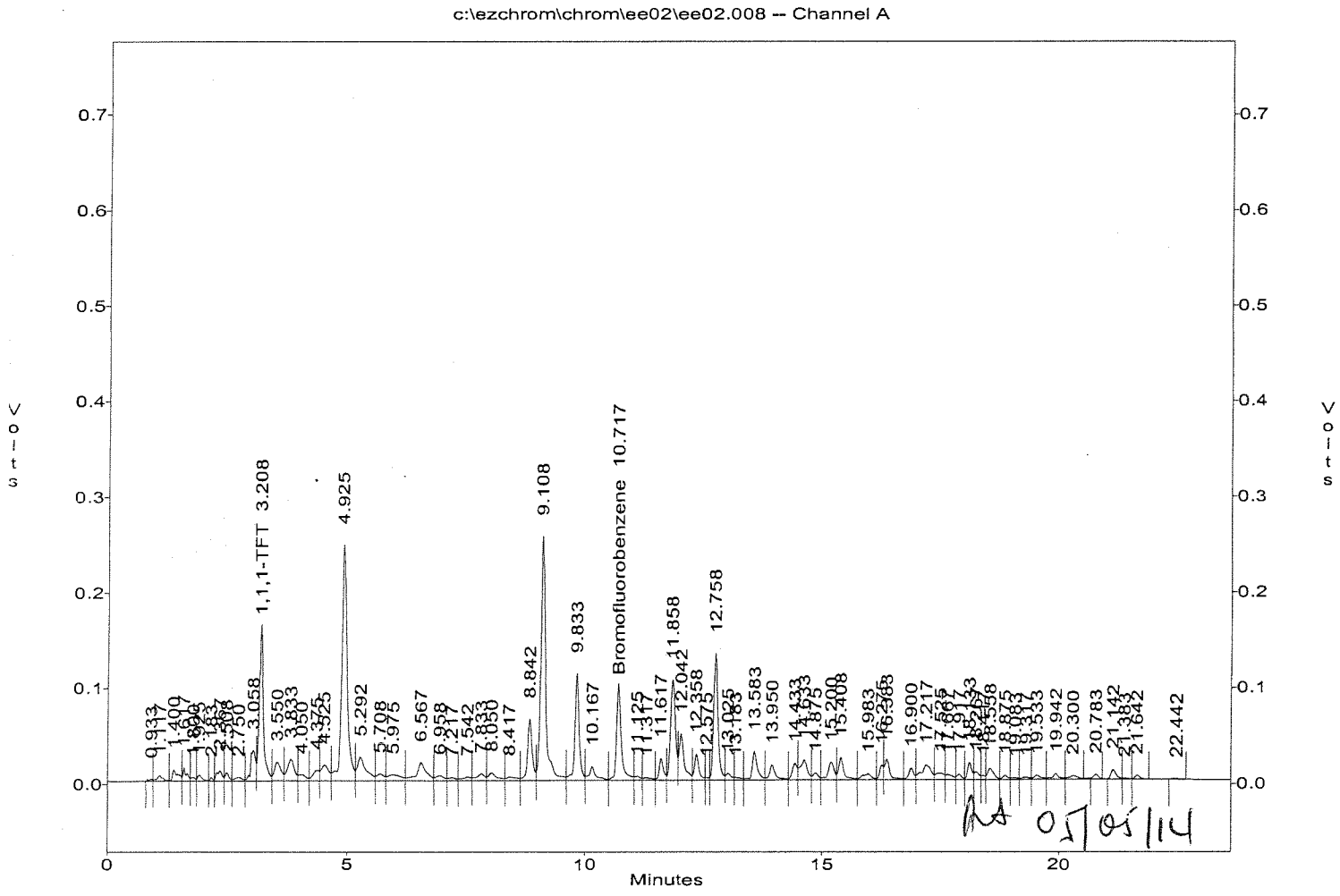
AA
05/05/14

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.008
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : IVG39E02001 500/40
Acquired : May 02, 2014 15:33:24
Printed : May 05, 2014 09:35:55
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
12	1,1,1-TFT	3.208	954586.0	21400.0	44.61
33	Bromofluorobenzene	10.717	696321.0	16725.9	41.63
G1	GASOLINE(TOTAL)		13053470.0	28261.9	461.88
G2	GRO(C6-C10)		10134937.0	21355.4	474.58
G3	GRO(2MP-124TMB)		10247177.0	21297.0	481.16
G4	GRO(C5-C12)		12590737.0	27928.9	450.81
G5	GRO(C6-C12)		12493550.0	27890.2	447.95
G6	GRO(C5-C10)		10304659.0	21396.8	481.60



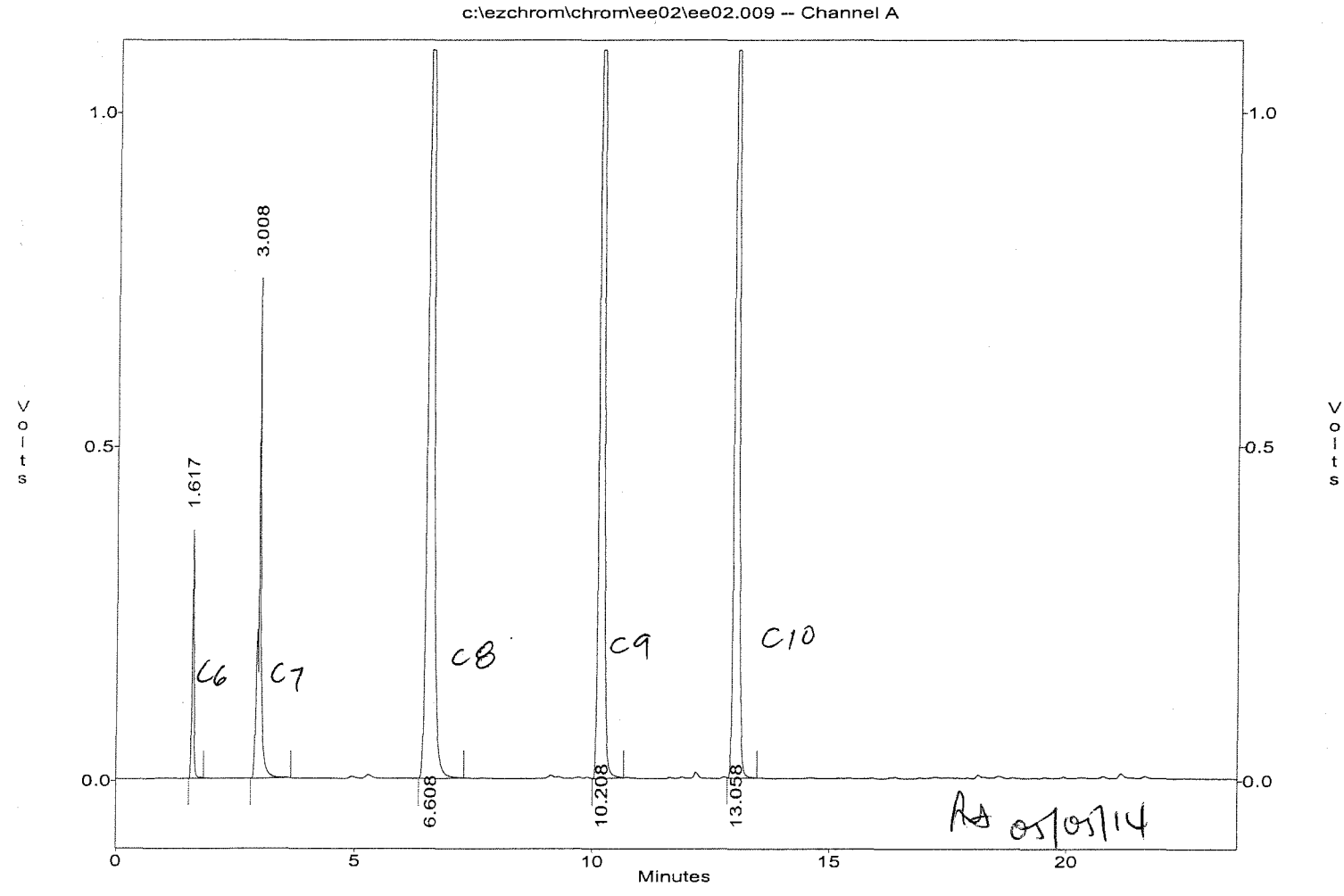
05/05/14

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.009
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : GRO 1UL
Acquired : May 02, 2014 16:12:18
Printed : May 05, 2014 09:36:36
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
--	1,1,1-TFT	3.208	0.0	0.0	0.00
--	Bromofluorobenzene	10.725	0.0	0.0	0.00
G1	GASOLINE(TOTAL)		32746974.0	28261.9	1158.70
G2	GRO(C6-C10)		22835384.0	21355.4	1069.30
G3	GRO(2MP-124TMB)		23874628.0	21297.0	1121.03
G4	GRO(C5-C12)		32746974.0	27928.9	1172.51
G5	GRO(C6-C12)		32746974.0	27890.2	1174.14
G6	GRO(C5-C10)		23874628.0	21396.8	1115.80

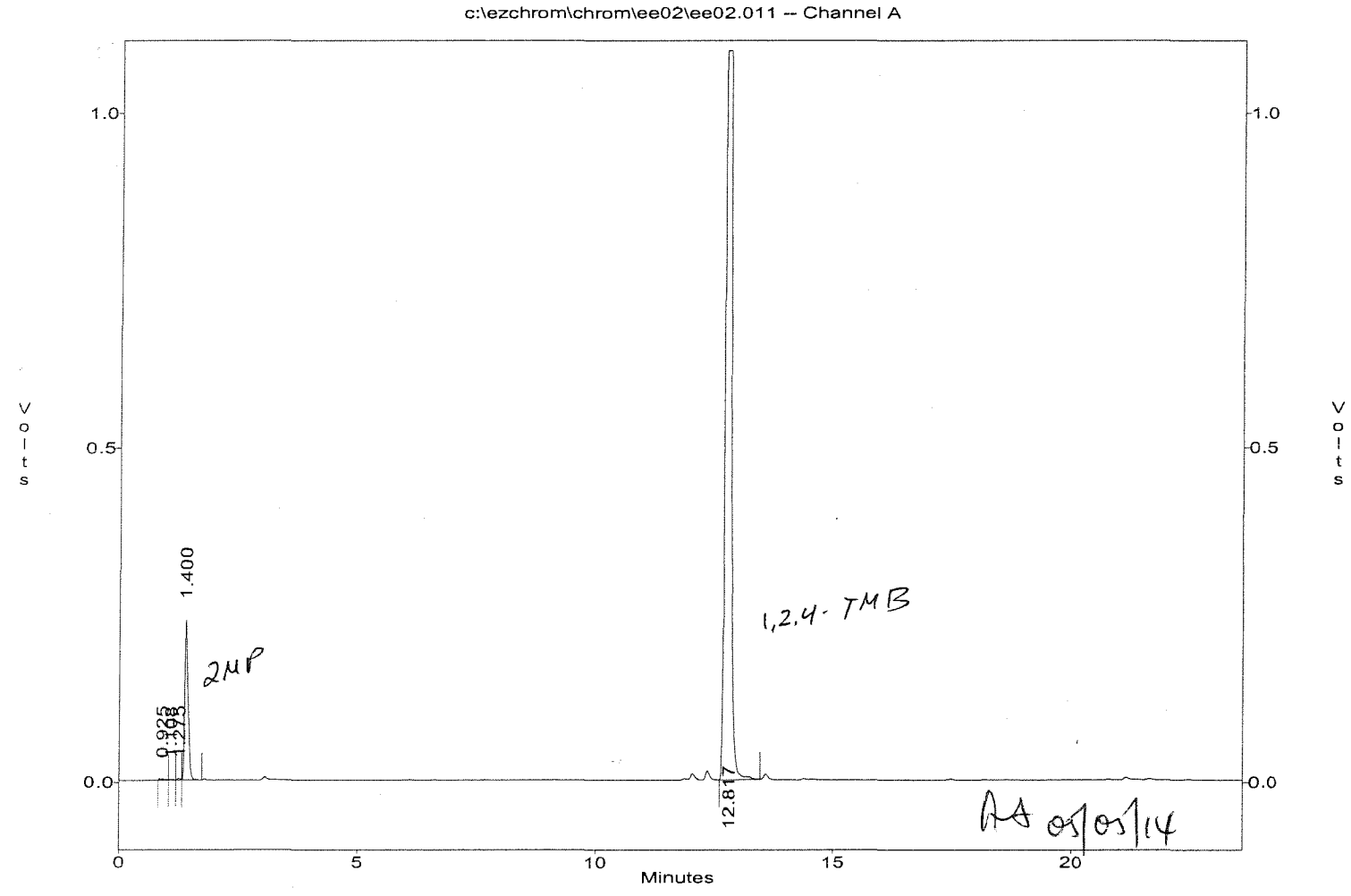


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.011
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : 2MP/1,2,4-TMB
Acquired : May 02, 2014 17:30:38
Printed : May 05, 2014 09:36:43
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
--	1,1,1-TFT	3.208	0.0	0.0	0.00
--	Bromofluorobenzene	10.725	0.0	0.0	0.00
G1	GASOLINE(TOTAL)		11435951.0	28261.9	404.64
G2	GRO(C6-C10)		10280670.0	21355.4	481.41
G3	GRO(2MP-124TMB)		11417507.0	21297.0	536.11
G4	GRO(C5-C12)		11428096.0	27928.9	409.19
G5	GRO(C6-C12)		10280670.0	27890.2	368.61
G6	GRO(C5-C10)		11428096.0	21396.8	534.10



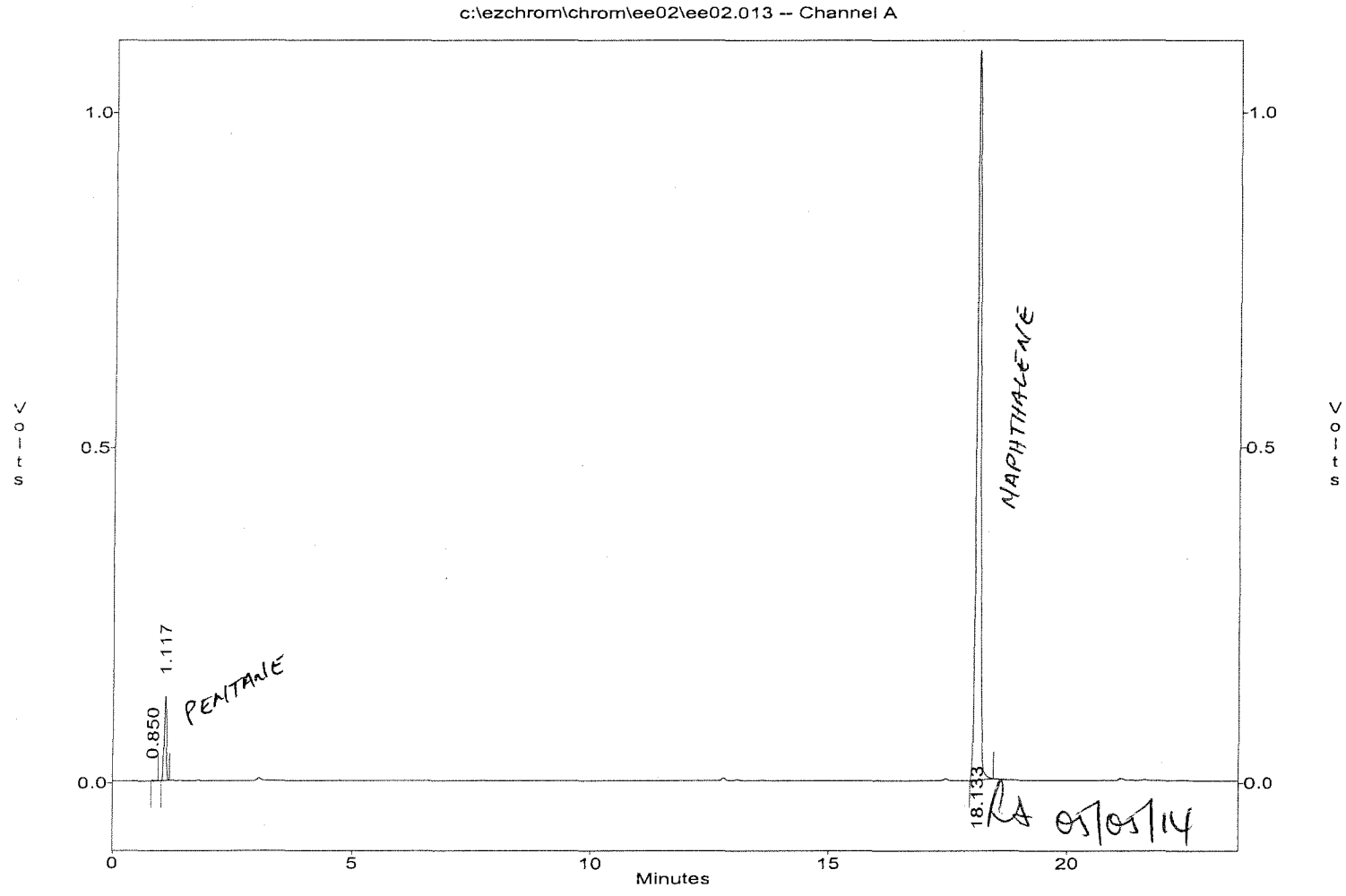
AA 05/05/14

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.013
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : PENTANE/NAPHTHALENE
Acquired : May 02, 2014 18:48:50
Printed : May 05, 2014 09:37:29
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
--	1,1,1-TFT	3.208	0.0	0.0	0.00
--	Bromofluorobenzene	10.725	0.0	0.0	0.00
G1	GASOLINE(TOTAL)		7086992.0	28261.9	250.76
G2	GRO(C6-C10)		0.0	21355.4	0.00
G3	GRO(2MP-124TMB)		0.0	21297.0	0.00
G4	GRO(C5-C12)		6645801.0	27928.9	237.95
G5	GRO(C6-C12)		6645801.0	27890.2	238.28
G6	GRO(C5-C10)		0.0	21396.8	0.00

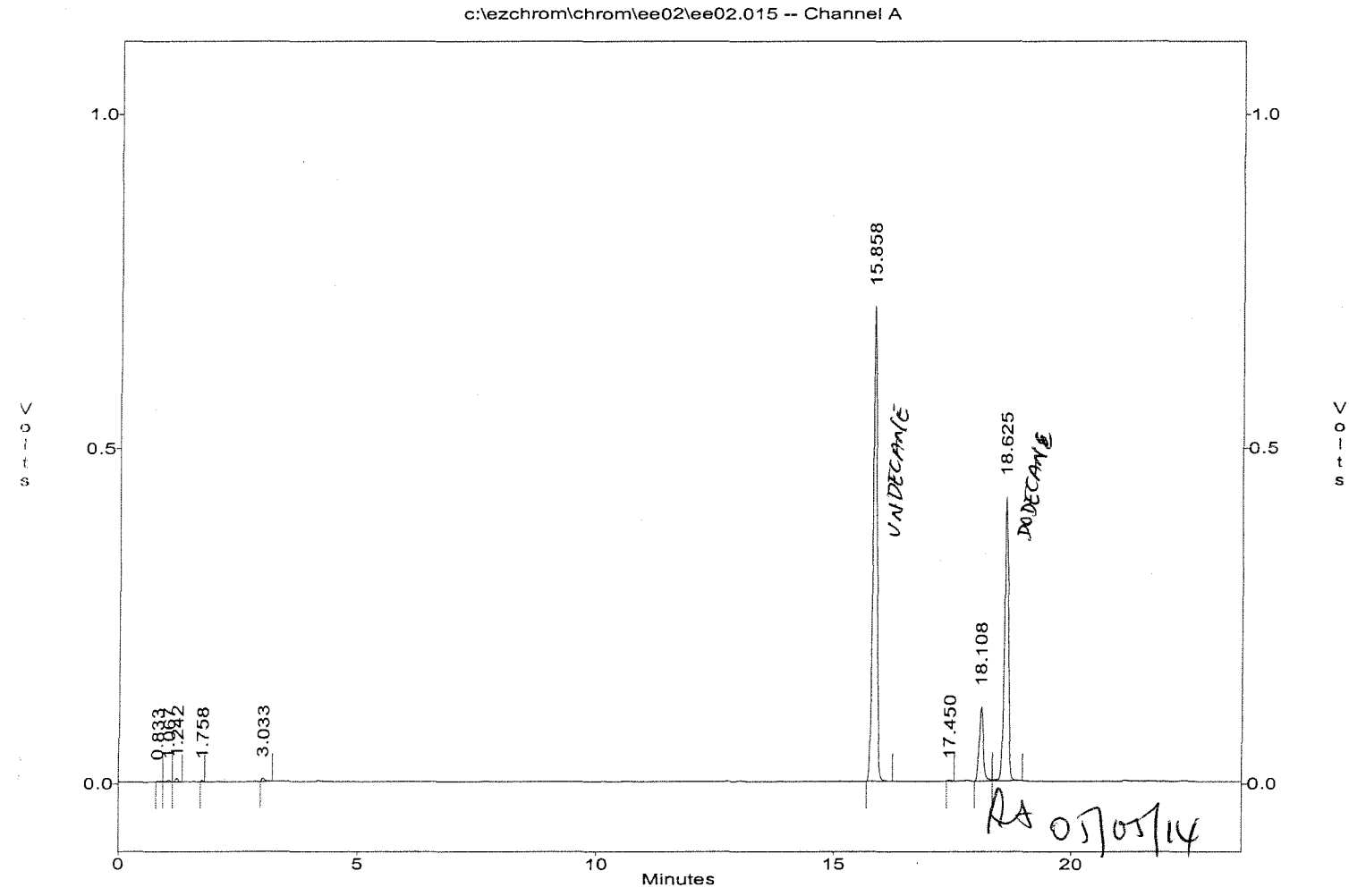


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.015
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : UNDECANE/DODECANE
Acquired : May 02, 2014 20:06:47
Printed : May 05, 2014 09:38:16
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
--	1,1,1-TFT	3.208	0.0	0.0	0.00
--	Bromofluorobenzene	10.725	0.0	0.0	0.00
G1	GASOLINE(TOTAL)		7612846.0	28261.9	269.37
G2	GRO(C6-C10)		30808.0	21355.4	1.44
G3	GRO(2MP-124TMB)		30808.0	21297.0	1.45
G4	GRO(C5-C12)		7599145.0	27928.9	272.09
G5	GRO(C6-C12)		7579660.0	27890.2	271.77
G6	GRO(C5-C10)		50293.0	21396.8	2.35



DAILY CALIBRATIONS

CONTINUE CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT39
GC Column : DB-5
Column size ID : 30MX.53MM
Mid Conc Init LFID & Datetime: EE02005A 05/02/2014 13:36
Conc Cont LFID & Datetime: EJ22003A 10/22/2014 17:31
CONC UNIT : ppb

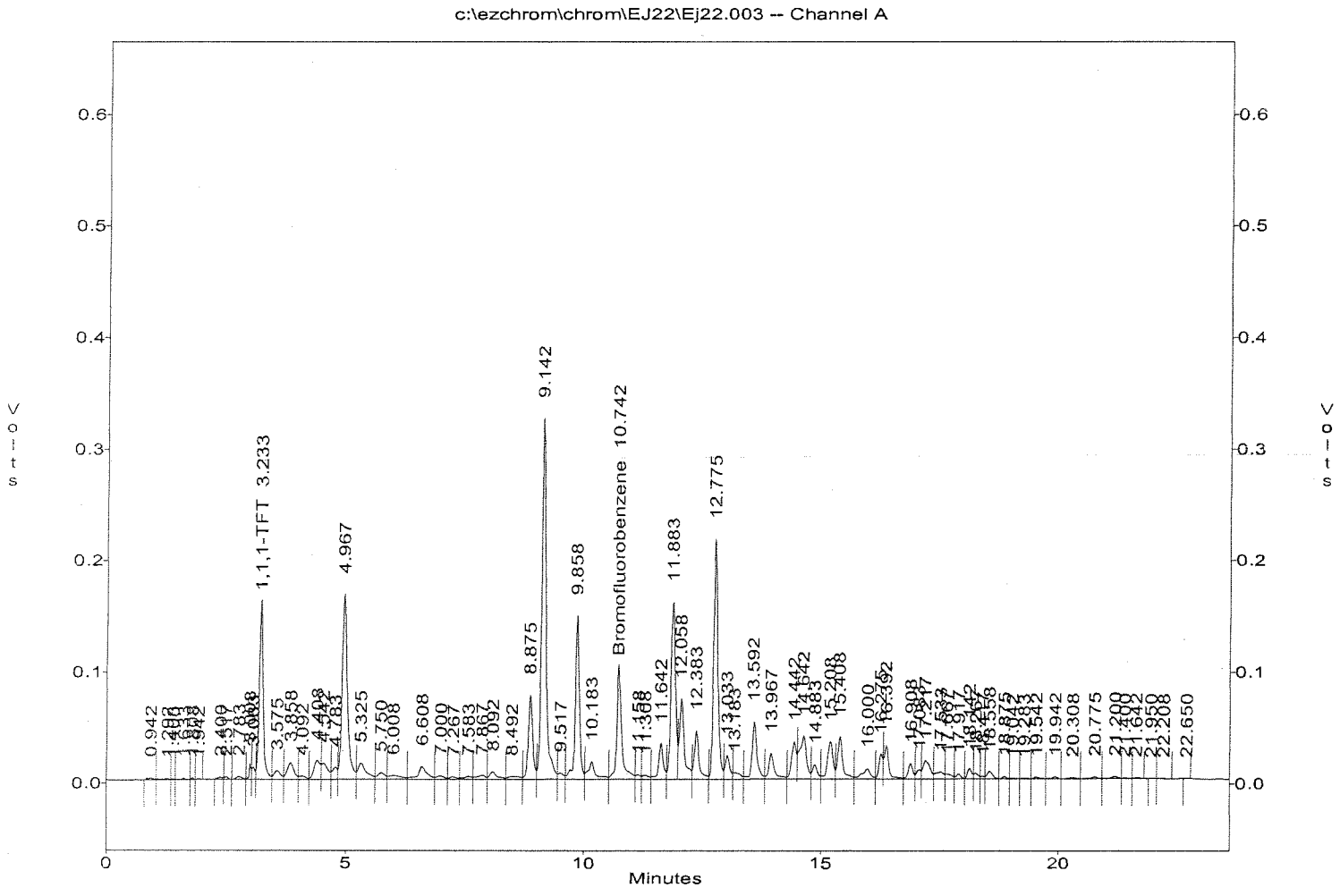
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	NA	NA	NA	500.0	28261.9	13407721	474.41	-5		20
GRO(C6-C10)	NA	NA	NA	500.0	21355.4	10217129	478.43	-4		20
GRO(2MP-124TMB)	NA	NA	NA	500.0	21297.0	10072458	472.95	-5		20
GRO(C5-C12)	NA	NA	NA	500.0	27928.9	13288121	475.79	-5		20
GRO(C6-C12)	NA	NA	NA	500.0	27890.2	13275053	475.98	-5		20
GRO(C5-C10)	NA	NA	NA	500.0	21396.8	10230197	478.12	-4		20
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
Bromofluorobenzene	10.742	10.699	10.785	40.0	16725.9	737748	44.11	10		20
1,1,1-Trifluorotoluene	3.233	3.109	3.357	40.0	21400.0	867309	40.53	1		20

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EJ22\Ej22.003
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : CVG39E02738 500/40
Acquired : Oct 22, 2014 17:31:21
Printed : Oct 22, 2014 17:54:53
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
12	1,1,1-TFT	3.233	867309.0	21400.0	40.53
35	Bromofluorobenzene	10.742	737748.0	16725.9	44.11
G1	GASOLINE(TOTAL)		13407721.0	28261.9	474.41
G2	GRO(C6-C10)		10217129.0	21355.4	478.43
G3	GRO(2MP-124TMB)		10072458.0	21297.0	472.95
G4	GRO(C5-C12)		13288121.0	27928.9	475.78
G5	GRO(C6-C12)		13275053.0	27890.2	475.97
G6	GRO(C5-C10)		10230197.0	21396.8	478.12



CONTINUE CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT39
GC Columm : DB-5
Column size ID : 30MX.53MM
Mid Conc Init LFID & Datetime: EE02005A 05/02/2014 13:36
Conc Cont LFID & Datetime: EJ22014A 10/23/2014 00:40
CONC UNIT : ppb

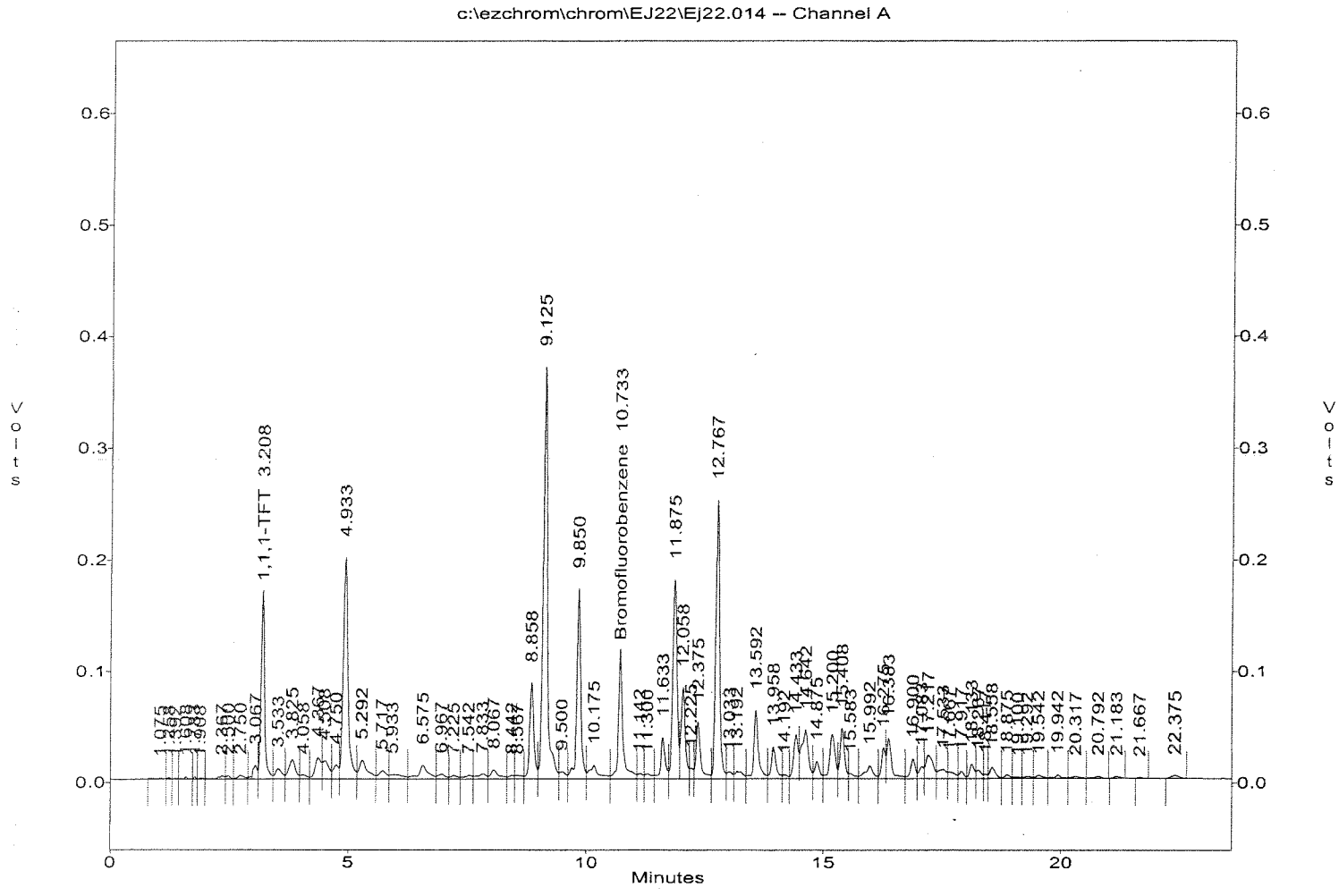
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	NA	NA	NA	500.0	28261.9	14971278	529.73	6		20
GRO(C6-C10)	NA	NA	NA	500.0	21355.4	11114302	520.44	4		20
GRO(2MP-124TMB)	NA	NA	NA	500.0	21297.0	11074576	520.01	4		20
GRO(C5-C12)	NA	NA	NA	500.0	27928.9	14750493	528.15	6		20
GRO(C6-C12)	NA	NA	NA	500.0	27890.2	14731066	528.18	6		20
GRO(C5-C10)	NA	NA	NA	500.0	21396.8	11133729	520.34	4		20
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
Bromofluorobenzene	10.733	10.690	10.776	40.0	16725.9	769700	46.02	15		20
1,1,1-Trifluorotoluene	3.208	3.084	3.332	40.0	21400.0	850608	39.75	-1		20

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EJ22\Ej22.014
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : CVG39E02739 500/40
Acquired : Oct 23, 2014 00:40:42
Printed : Oct 23, 2014 01:04:14
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
11	1,1,1-TFT	3.208	850608.0	21400.0	39.75
35	Bromofluorobenzene	10.733	769700.0	16725.9	46.02
G1	GASOLINE(TOTAL)		14971278.0	28261.9	529.73
G2	GRO(C6-C10)		11114302.0	21355.4	520.44
G3	GRO(2MP-124TMB)		11074576.0	21297.0	520.01
G4	GRO(C5-C12)		14750493.0	27928.9	528.15
G5	GRO(C6-C12)		14731066.0	27890.2	528.18
G6	GRO(C5-C10)		11133729.0	21396.8	520.34



ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
PURGEABLE TPH

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Purge Volume = 5 ml

GASOLIALE ICAL

GRO - SV2-07-02-13
2MP - SV2-09-06-01
TMB - SV2-05-23
PENTANE - SV2-07-01-03
NAPHTHALENE - SV2-05-24
UNDECANE - SV2-07-01-02
DODECANE - SV2-07-01-06

Book #: A39-047
Instrument No.: 39
Analytical Sequence: EE02
Method File: ☑ V639E02 ☐ ☐
Analytical Batch: N/A

SOP #	Rev. #
☑ EMAX-5030B	3
☐ EMAX-BTEXM	1
☑ EMAX-8015G	4
☐ EMAX-AK101	2
☐ EMAX-	

STANDARDS ID		Amt Added (µL)	Conc. (mg/L)
ICAL	—	—	—
ICAL	SV2-07-02-06	See Analysis Runlogbook	5000
ICV	SV2-07-02-04	0.5ml	5000
ICV	—	—	—
DCC GAS	—	—	—
DCC BTEX	—	—	—
DCC	—	—	—
BFB/TFT	SV2-09-08-03 (Sample) ~~(DCC)~~	SC 5/02/14 See Analysis Run Logbook	100
LCS/LCSD	—	—	—
MS/MSD	—	—	—
GRO (HC-Chain)	SV2-07-02-13	1ml	2000

Solvent	ID/Lot #
Methanol	
Reagent Water	RW2-12-001
	Lot #
pH strip	—

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZC-3-BTEX SC	5/05/14

Analyzed By: SC
Date: 5/02/14

Method: Vg39e02.met Batch: Ee02.seq Data: Ee02.030 - [Batch: ee02.seq]

File Edit Method Batch Options Analysis Control Window Help

Method Data Batch Setup Batch Preview Single STOP Recalib Analyze Reports

Run	Sample ID	Method	Filename	Description
1	IB39E0201	vg39e02.met	EE02.001	
2	VG39E0201 20/10 0.02ul GAS ICAL STD / 0.5ul SUM	vg39e02.met	EE02.002	
3	VG39E0202 50/20 0.05ul / 1ul	vg39e02.met	EE02.003	
4	VG39E0203 100/30 0.1ul / 1.5ul	vg39e02.met	EE02.004	
5	VG39E0204 500/40 0.5ul / 2ul	vg39e02.met	EE02.005	GASOLINE ICAL
6	VG39E0205 1000/50 1ul / 2.5ul	vg39e02.met	EE02.006	
7	VG39E0206 1500/80 1.5ul / 4ul	vg39e02.met	EE02.007	
8	IVG39E02001 500/40 0.5ul GAS ICV STD / 2ul SUM	vg39e02.met	EE02.008	GASOLINE ICV
9	GRO 1UL	vg39e02.met	EE02.009	
10	RINSE	vg39e02.met	EE02.010	
11	2MP/1,2,4-TMB	vg39e02.met	EE02.011	
12	RINSE	vg39e02.met	EE02.012	
13	PENTANE/NAPHTHALENE	vg39e02.met	EE02.013	FINAL
14	RINSE	vg39e02.met	EE02.014	
15	UNDECANE/DODECANE	vg39e02.met	EE02.015	
16	RINSE	vg39e02.met	EE02.016	
17	IB	vg39e02.met	EE02.017	
18	IB	vg39e02.met	EE02.018	
19	IB	vg39e02.met	EE02.019	
20	IB	vg39e02.met	EE02.020	
21	IB	vg39e02.met	EE02.021	
22	IB	vg39e02.met	EE02.022	
23	IB SC 5/05/14	vg39e02.met	EE02.023	
24	IB	vg39e02.met	EE02.024	
25	IB	vg39e02.met	EE02.025	
26	IB	vg39e02.met	EE02.026	
27	IB	vg39e02.met	EE02.027	
28	IB	vg39e02.met	EE02.028	
29	IB	vg39e02.met	EE02.029	
30	IB	vg39e02.met	EE02.030	
31	IB	vg39e02.met	EE02.031	
32	IB	vg39e02.met	EE02.032	
33	IB	vg39e02.met	EE02.033	
34	IB	vg39e02.met	EE02.034	

Instrument 1: T-039

Start EZChrom Chromatography... untitled - Paint Exploring - Export Method: Vg39e02.me... Monday, May 05, 2014

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
PURGEABLE TPH

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Purge Volume = 5 ml

VG39J13(water) : J140, J144, J128

6MJ003(soil) : J090 SC 10/23/14

Book #:	A39-049
Instrument No.:	39
Analytical Sequence:	EJ22
Method File:	☑ VG39E02
	☐
	☐
Analytical Batch:	CVG39E02738

SOP #	Rev. #
☑ EMAX-5030B	3
☑ EMAX-8015G	5
☐ EMAX-AK101	3
☐ EMAX-	

STANDARDS ID	Amt Added (µL)	Conc. (mg/L)
ICAL		
ICAL	SC 10/23/14	
ICV		
ICV		
DCC GAS SV2-07-02-24	0.5ml	5000
DCC	SC 10/23/14	
DCC		
BFB/TFT SV2-09-17-03 (Sample)	2ml	100
(DCC)	2ml	100
LCS/LCSD SV2-07-02-20	0.5ml	5000
MS/MSD ↓	↓	↓
GRO (HC-Chain) SV2-07-02-13	1ml	2000

Solvent	ID/Lot #
Methanol	
Reagent Water	RW2-12-001
	Lot #
pH strip	HC412469

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZC-3-BTEX	

Analyzed By: SC

Date: 10/22/14

Method: Vg39e02.met Batch: Ej22.seq Data: Ej22.033 - [Batch: ej22.seq]

File Edit Method Batch Options Analysis Control Window Help

Method | Data | Batch | Setup | Batch | Preview | Single | STOP | Recalib | Analyze | Reports

Run	Sample ID	Method	Filename	Description
1	IB39J2201	vg39e02.met	EJ22.001	
2	GRO 1uL	vg39e02.met	EJ22.002	SV2-07-02-13
3	CVG39E02738 500/40	vg39e02.met	EJ22.003	
4	VG39J13L 5.0ML W	vg39e02.met	EJ22.004	} Conc. 500/40
5	VG39J13C 5.0ML W	vg39e02.met	EJ22.005	
6	VG39J13Q 5.0ML W Not evaluated	vg39e02.met	EJ22.006	
7	VG39J13B 5.0ML W	vg39e02.met	EJ22.007	
8	14J140-01 5.0ML W	vg39e02.met	EJ22.008	PH<2
9	14J140-10 5.0ML W	vg39e02.met	EJ22.009	PH<2
10	14J144-02 5.0ML W	vg39e02.met	EJ22.010	PH~7
11	14J144-01 5.0ML W	vg39e02.met	EJ22.011	PH~7
12	14J144-01M 5.0ML W	vg39e02.met	EJ22.012	PH~7
13	14J144-01S 5.0ML W	vg39e02.met	EJ22.013	PH~7
14	CVG39E02739 500/40	vg39e02.met	EJ22.014	FINAL
15	14J140-08 5.0ML W	vg39e02.met	EJ22.015	PH<2
16	14J140-08M 5.0ML W	vg39e02.met	EJ22.016	PH<2
17	14J140-08S 5.0ML W	vg39e02.met	EJ22.017	PH<2
18	14J140-02 5.0ML W	vg39e02.met	EJ22.018	PH<2
19	14J140-03 5.0ML W	vg39e02.met	EJ22.019	PH<2
20	14J140-04 5.0ML W	vg39e02.met	EJ22.020	PH<2
21	14J140-05 5.0ML W	vg39e02.met	EJ22.021	PH<2
22	14J140-06 5.0ML W	vg39e02.met	EJ22.022	PH<2
23	14J140-07 5.0ML W	vg39e02.met	EJ22.023	PH<2
24	14J140-09 5.0ML W	vg39e02.met	EJ22.024	PH<2
25	RINSE	vg39e02.met	EJ22.025	
26	CVG39E02740 500/40	vg39e02.met	EJ22.026	
27	14J140-02I 1ML W DF=5 Not evaluated	vg39e02.met	EJ22.027	PH<2
28	14J128-07 5.0ML W	vg39e02.met	EJ22.028	PH<2
29	14J128-08 5.0ML W	vg39e02.met	EJ22.029	PH<2
30	14J090-02N 100uL S } Not evaluated	vg39e02.met	EJ22.030	FROM SOIL BATCH # GMJ003S
31	14J099-09N 100uL S }	vg39e02.met	EJ22.031	FROM SOIL BATCH # GPJ003S
32	CVG39E02741 500/40	vg39e02.met	EJ22.032	
33	IB — sc	vg39e02.met	EJ22.033	
34	IB 10/23/14	vg39e02.met	EJ22.034	

Instrument 1: T-039

Start | EZChrom Chromat... | Method: Vg39... | untitled - Paint | Method: Vg39e02... | Exploring - Export | Method: Vg55f27a... | Calculator | Thursday, October 23, 2014

LABORATORY REPORT FOR

BATTELLE

RED HILL PHASE 1B

METHOD 3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 14J144

CASE NARRATIVE

Client : BATTELLE

Project : RED HILL PHASE 1B

SDG : 14J144

METHOD SW3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

One (1) water sample was received on 10/22/14 for TPH analysis, Method SW3520C/8015B in accordance with Department of Defense Quality Systems Manual for Environmental Laboratories, Version 4.2 and project SAP August 2014.

Holding Time
The sample was analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Results were compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for DSJ038WL/C were all within QC limits.

Matrix QC Sample
A set of MS/MSD was analyzed with the samples in this SDG.
Percent recoveries for J144-01M/S were within project QC limits.

Surrogate
Surrogates were added on QC and field samples. Surrogate recoveries were within project QC limits. Refer to sample result forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter.

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : BATTELLE
Project : RED HILL PHASE 1B

SDG NO. : 14J144
Instrument ID : GCT105

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSJ038WB	1	NA	10/30/1410:08	10/28/1415:00	LJ29055A	LJ29052A	DSJ038W	Method Blank
LCS1W	DSJ038WL	1	NA	10/30/1410:25	10/28/1415:00	LJ29056A	LJ29052A	DSJ038W	Lab Control Sample (LCS)
LCD1W	DSJ038WC	1	NA	10/30/1410:42	10/28/1415:00	LJ29057A	LJ29052A	DSJ038W	LCS Duplicate
RHMW06-GW-01	J144-01	1.15	NA	10/30/1413:32	10/28/1415:00	LJ29067A	LJ29065A	DSJ038W	Field Sample
RHMW06-GW-01MS	J144-01M	1.12	NA	10/30/1413:49	10/28/1415:00	LJ29068A	LJ29065A	DSJ038W	Matrix Spike Sample (MS)
RHMW06-GW-01MSD	J144-01S	1.08	NA	10/30/1414:06	10/28/1415:00	LJ29069A	LJ29065A	DSJ038W	MS Duplicate (MSD)

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD SW3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : BATTELLE	Date Collected: 10/21/14
Project : RED HILL PHASE 1B	Date Received: 10/22/14
Batch No. : 14J144	Date Extracted: 10/28/14 15:00
Sample ID: RHMW06-GW-01	Date Analyzed: 10/30/14 13:32
Lab Samp ID: J144-01	Dilution Factor: 1.15
Lab File ID: LJ29067A	Matrix : WATER
Ext Btch ID: DSJ038W	% Moisture : NA
Calib. Ref.: LJ29065A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
DRO	ND	0.12	0.058	0.086
ORO	ND	0.12	0.058	0.086

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	0.932	1.150	81.0	60-130
HEXACOSANE	0.199	0.2875	69.3	60-130

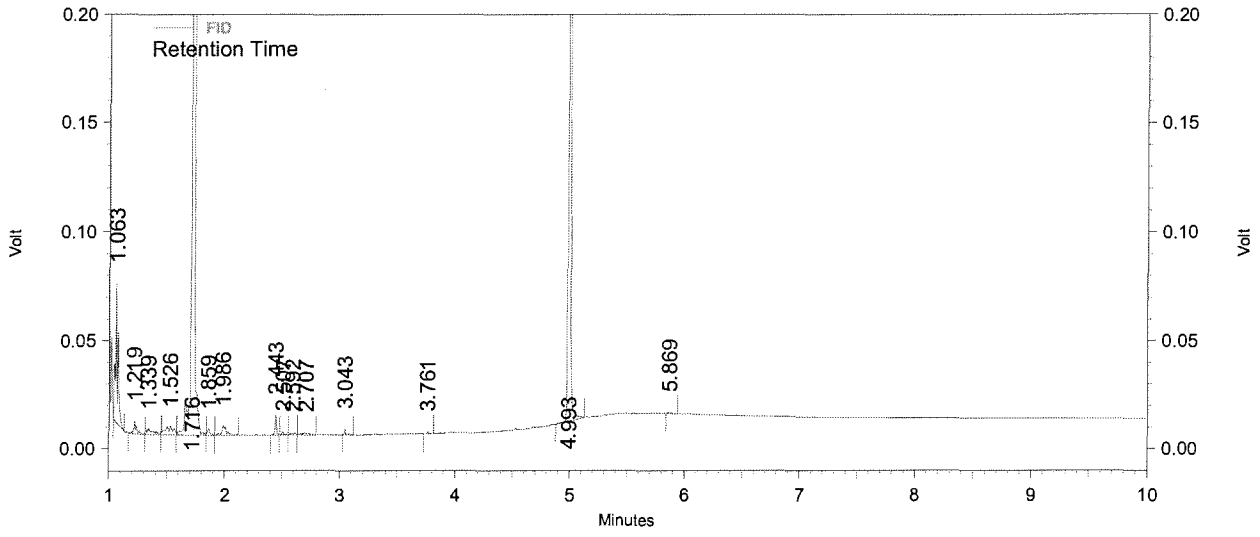
Parameter	H-C Range
DRO	C10-C24
ORO	C24-C36

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LJ29\LJ29067.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16M.met
Sequence: : D:\Projects\EZC331\Sequence\LJ29.seq
Sample ID : 14J144-01
Acquired : 10/30/14 13:32:40
Printed : 10/30/14 15:17:15
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.716	1449485	17891.93900	81.013
HEXACOSANE	4.993	433966	25061.64131	17.316
DIESEL(TOTAL)		74829	33399.78271	2.240
DIESEL(C10-C24)		32464	32585.09943	0.996
M.OIL(C24-C36)		1180	20980.20150	0.056
Totals		1991924		101.622



Software Version: Version 3.3.1

QC SUMMARIES

METHOD SW3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: BATTELLE	Date Collected:	NA
Project	: RED HILL PHASE 1B	Date Received:	10/28/14
Batch No.	: 14J144	Date Extracted:	10/28/14 15:00
Sample ID:	MBLK1W	Date Analyzed:	10/30/14 10:08
Lab Samp ID:	DSJ038WB	Dilution Factor:	1
Lab File ID:	LJ29055A	Matrix :	WATER
Ext Btch ID:	DSJ038W	% Moisture :	NA
Calib. Ref.:	LJ29052A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
DRO	ND	0.10	0.050	0.075
ORO	ND	0.10	0.050	0.075

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	0.711	1.000	71.1	60-130
HEXACOSANE	0.153	0.2500	61.2	60-130

Parameter	H-C Range
DRO	C10-C24
ORO	C24-C36

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: BATTELLE
PROJECT: RED HILL PHASE 1B
BATCH NO.: 14J144
METHOD: SW3520C/8015B

MATRIX: WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	DSJ038WB	DSJ038WL	DSJ038WC		
LAB FILE ID:	LJ29055A	LJ29056A	LJ29057A		
DATE EXTRACTED:	10/28/1415:00	10/28/1415:00	10/28/1415:00	DATE COLLECTED:	NA
DATE ANALYZED:	10/30/1410:08	10/30/1410:25	10/30/1410:42	DATE RECEIVED:	10/28/14
PREP. BATCH:	DSJ038W	DSJ038W	DSJ038W		
CALIB. REF:	LJ29052A	LJ29052A	LJ29052A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
DRO	ND	5.00	3.00	60	5.00	3.42	68	13	60-130	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	QC LIMIT (%)
Bromobenzene	1.00	0.679	68	1.00	0.793	79	60-130
Hexacosane	0.250	0.173	69	0.250	0.201	80	60-130

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: BATTELLE
PROJECT: RED HILL PHASE 1B
BATCH NO.: 14J144
METHOD: SW3520C/8015B

MATRIX: WATER % MOISTURE: NA

DILUTION FACTOR:	1.15	1.12	1.08		
SAMPLE ID:	RHMW06-GW-01				
LAB SAMP ID:	J144-01	J144-01M	J144-01S		
LAB FILE ID:	LJ29067A	LJ29068A	LJ29069A		
DATE EXTRACTED:	10/28/1415:00	10/28/1415:00	10/28/1415:00	DATE COLLECTED:	10/21/14
DATE ANALYZED:	10/30/1413:32	10/30/1413:49	10/30/1414:06	DATE RECEIVED:	10/22/14
PREP. BATCH:	DSJ038W	DSJ038W	DSJ038W		
CALIB. REF:	LJ29065A	LJ29065A	LJ29065A		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
DRO	ND	5.60	4.16	74	5.40	3.97	73	1	60-130	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	QC LIMIT (%)
Bromobenzene	1.12	0.974	87	1.08	0.973	90	60-130
Hexacosane	0.280	0.248	88	0.270	0.229	85	60-130

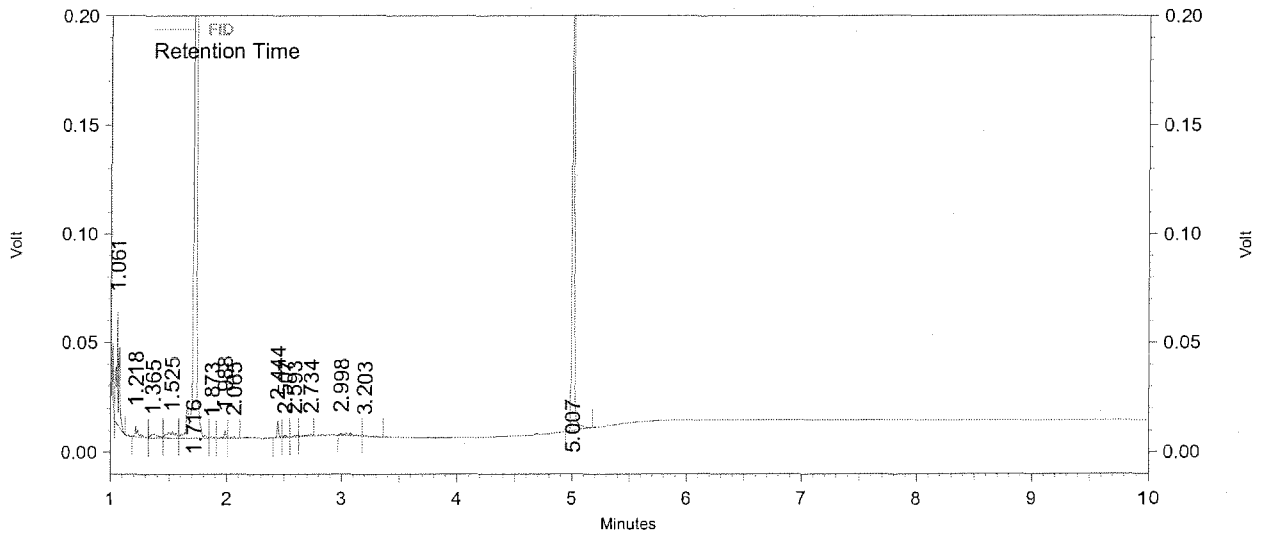
QC DATA

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LJ29\LJ29055.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16M.met
Sequence: : D:\Projects\EZC331\Sequence\LJ29.seq
Sample ID : DSJ038WB
Acquired : 10/30/14 10:08:59
Printed : 10/30/14 15:10:53
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.716	1272575	17891.93900	71.126
HEXACOSANE	5.007	383183	25061.64131	15.290
DIESEL(TOTAL)		59870	33399.78271	1.793
DIESEL(C10-C24)		26855	32585.09943	0.824
M.OIL(C24-C36)		0	20980.20150	0.000
Totals		1742483		89.032



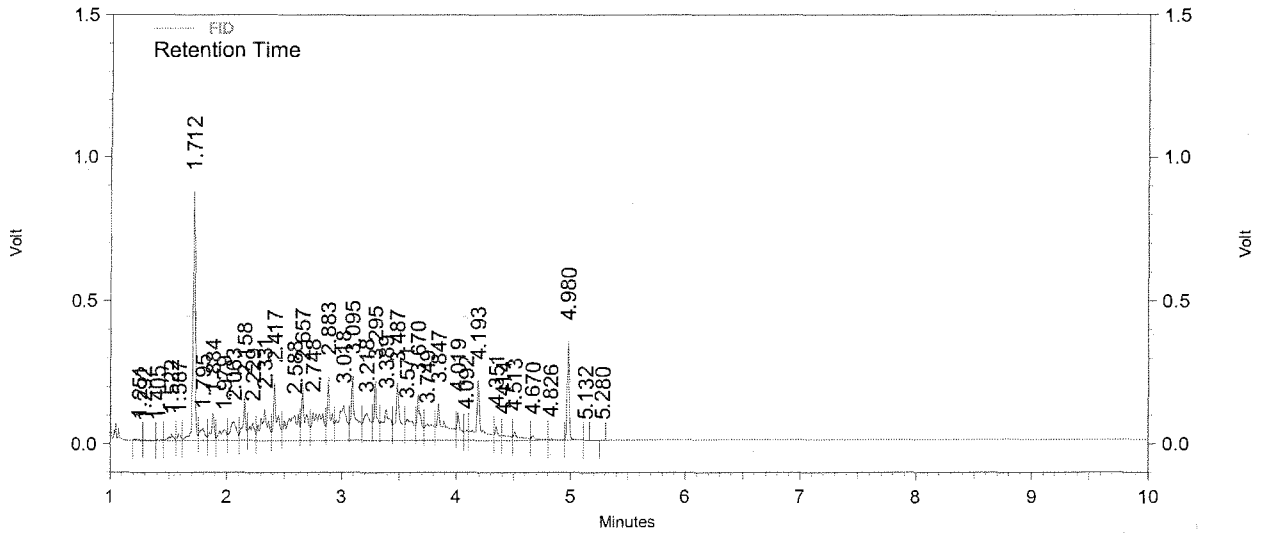
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LJ29\LJ29056.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5I16M.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LJ29.seq**
Sample ID	**: DSJ038WL**
Acquired	**: 10/30/14 10:25:54**
Printed	**: 10/30/14 15:12:38**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.712	1215417	17891.93900	67.931
HEXACOSANE	4.980	433815	25061.64131	17.310
DIESEL(TOTAL)		10257334	33399.78271	307.108
DIESEL(C10-C24)		9786349	32585.09943	300.332
M.OIL(C24-C36)		17749	20980.20150	0.846
Totals		21710664		693.527



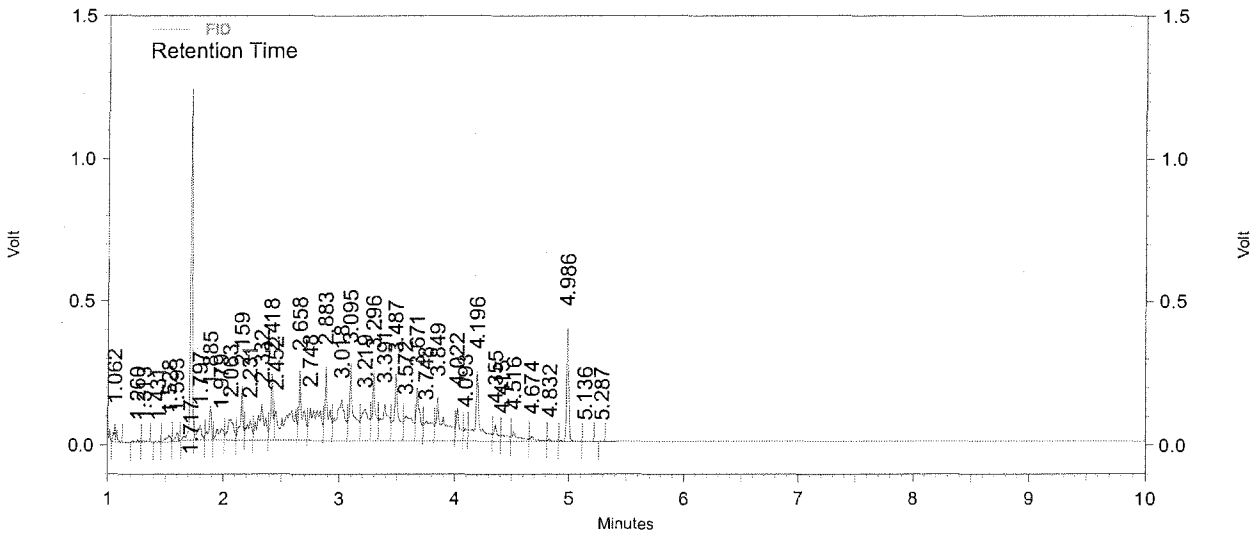
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LJ29\LJ29057.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16M.met
Sequence: : D:\Projects\EZC331\Sequence\LJ29.seq
Sample ID : DSJ038WC
Acquired : 10/30/14 10:42:47
Printed : 10/30/14 15:13:25
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.717	1418325	17891.93900	79.272
HEXACOSANE	4.986	503990	25061.64131	20.110
DIESEL(TOTAL)		11626330	33399.78271	348.096
DIESEL(C10-C24)		11133554	32585.09943	341.676
M.OIL(C24-C36)		19838	20980.20150	0.946
Totals		24702037		790.100



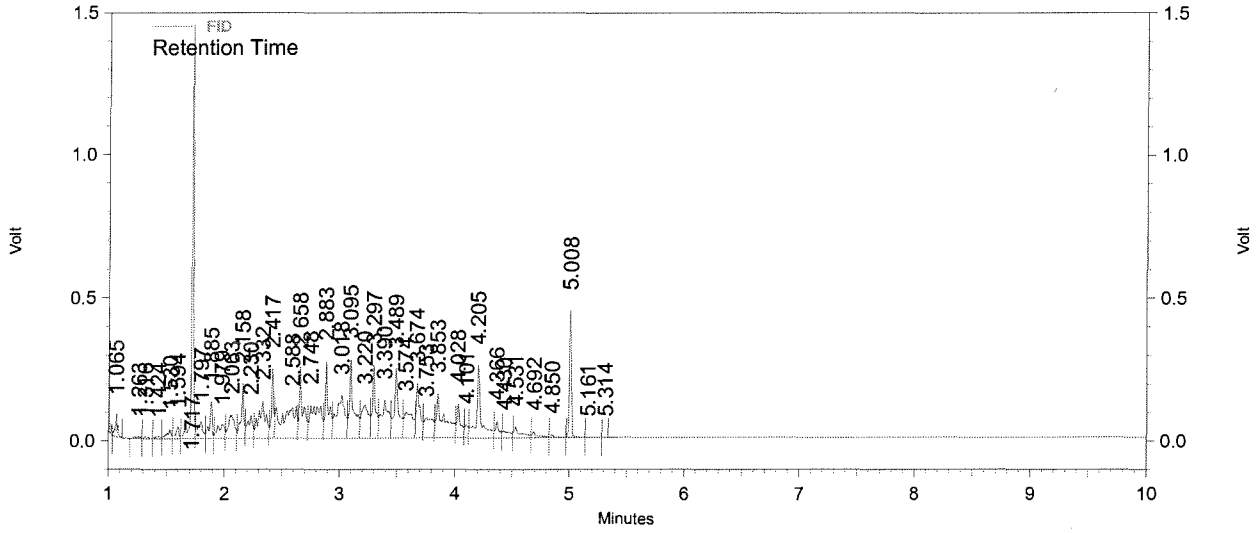
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LJ29\LJ29068.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16M.met
Sequence: : D:\Projects\EZC331\Sequence\LJ29.seq
Sample ID : 14J144-01M
Acquired : 10/30/14 13:49:38
Printed : 10/30/14 15:17:29
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.717	1556466	17891.93900	86.993
HEXACOSANE	5.008	554276	25061.64131	22.117
DIESEL(TOTAL)		12785452	33399.78271	382.800
DIESEL(C10-C24)		12105571	32585.09943	371.506
M.OIL(C24-C36)		30693	20980.20150	1.463
Totals		27032458		864.879



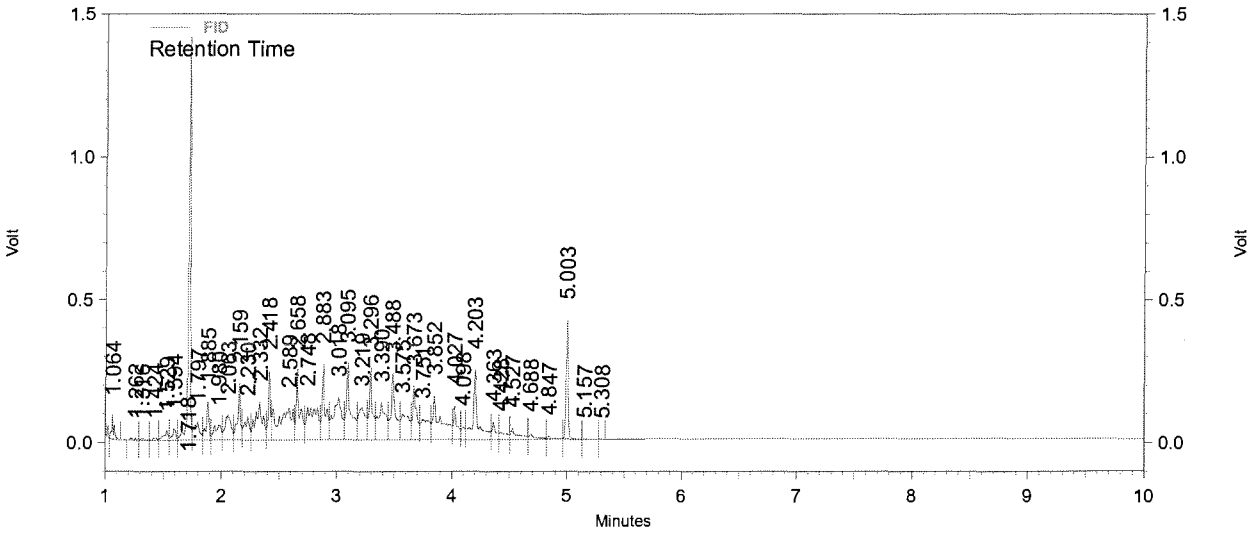
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LJ29\LJ29069.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16M.met
Sequence: : D:\Projects\EZC331\Sequence\LJ29.seq
Sample ID : 14J144-01S
Acquired : 10/30/14 14:06:40
Printed : 10/30/14 15:17:38
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.718	1611566	17891.93900	90.072
HEXACOSANE	5.003	530686	25061.64131	21.175
DIESEL(TOTAL)		12679159	33399.78271	379.618
DIESEL(C10-C24)		11968262	32585.09943	367.292
M.OIL(C24-C36)		32880	20980.20150	1.567
Totals		26822553		859.725



Software Version: Version 3.3.1

INITIAL CALIBRATIONS

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
LFID & Datetime: LI16029A 09/17/14 09:01
LFID & Datetime: LI16030A 09/17/14 09:19
LFID & Datetime: LI16031A 09/17/14 09:36
LFID & Datetime: LI16032A 09/17/14 09:53
LFID & Datetime: LI16033A 09/17/14 10:10
LFID & Datetime: LI16034A 09/17/14 10:27
LFID & Datetime: LI16035A 09/17/14 10:45
CONC UNIT: ppm

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 1.00X	2.00X	10.00X	20.00X	100.00X	300.00X	600.00X	MEAN	%RSD
DIESEL(TOTAL)	5.00	34501	36051	34544	34578	33031	30015	31078	33399.8	6.5
DIESEL(C10-C24)	5.00	34041	35236	33714	33778	32148	29089	30089	32585.1	6.9
DIESEL(C10-C28)	5.00	34041	35323	33752	33816	32216	29153	30172	32639.0	6.9
DIESEL(C10-C25)	5.00	34041	35262	33739	33805	32203	29127	30132	32615.5	6.9
DIESEL(C9-C24)	5.00	34501	35965	34209	34251	32643	29607	30625	33114.4	6.9
DIESEL(C9-C25)	5.00	34501	35990	34234	34278	32698	29645	30668	33144.9	6.9
DIESEL(C10-C36)	5.00	34041	35323	33781	33835	32223	29157	30182	32648.9	6.9
DIESEL(C10-C40)	5.00	34041	35323	33781	33835	32223	29157	30182	32648.9	6.9
SURROGATE	X	0.00X	1.00X	2.00X	3.00X	4.00X	5.00X	11.00X	MEAN	%RSD
BROMOBENZENE	20.00	0	17409	16798	16686	18433	19091	18934	17891.9	6.0
HEXACOSANE	5.00	0	25128	24649	24470	25467	24871	25786	25061.6	2.0

DSD5I16.MET

09/19/14

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
LFID & Datetime: LI16029A 09/17/14 09:01
LFID & Datetime: LI16030A 09/17/14 09:19
LFID & Datetime: LI16031A 09/17/14 09:36
LFID & Datetime: LI16032A 09/17/14 09:53
LFID & Datetime: LI16033A 09/17/14 10:10
LFID & Datetime: LI16034A 09/17/14 10:27
LFID & Datetime: LI16035A 09/17/14 10:45

COMPOUND	RT OF STANDARDS (MIN) 1.0X	2.0X	10.0X	20.0X	100.0X	300.0X	600.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
DIESEL(TOTAL)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C24)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C28)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C25)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C9-C24)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C9-C25)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C36)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C40)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SURROGATE	0.0X	1.0X	2.0X	3.0X	4.0X	5.0X	11.0X	RT	FROM	TO	WIDTH
BROMOBENZENE	0.000	1.730	1.732	1.733	1.732	1.734	1.737	1.733	1.730	1.736	0.003
HEXACOSANE	0.000	5.018	5.037	5.056	5.076	5.088	5.102	5.063	5.015	5.111	0.048

DSD5I16.MET

AT
09/19/14

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
LFID & Datetime: LI16037A 09/17/14 11:19
LFID & Datetime: LI16038A 09/17/14 11:37
LFID & Datetime: LI16039A 09/17/14 11:54
LFID & Datetime: LI16040A 09/17/14 12:11
LFID & Datetime: LI16041A 09/17/14 12:28
LFID & Datetime: LI16042A 09/17/14 12:45
CONC UNIT: ppm

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 2.00X	10.00X	20.00X	100.00X	300.00X	600.00X	MEAN	%RSD	
JP5(C8-C18)	5.00	36105	33167	33441	32566	30501	28904	32447.4	7.7	✓
M.OIL(C18-C36)	5.00	25340	25940	25892	24946	23441	21203	24460.1	7.5	✓
M.OIL(C24-C36)	5.00	22686	22554	22251	21092	19659	17638	20980.2	9.5	✓
M.OIL(C24-C40)	5.00	22686	22554	22251	21280	19659	17980	21068.4	9.0	✓

DSD5I16.MET

09/19/14

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
LFID & Datetime: LI16037A 09/17/14 11:19
LFID & Datetime: LI16038A 09/17/14 11:37
LFID & Datetime: LI16039A 09/17/14 11:54
LFID & Datetime: LI16040A 09/17/14 12:11
LFID & Datetime: LI16041A 09/17/14 12:28
LFID & Datetime: LI16042A 09/17/14 12:45

COMPOUND	RT OF STANDARDS (MIN) 2.0X	10.0X	20.0X	100.0X	300.0X	600.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
JP5(C8-C18)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M.OIL(C18-C36)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M.OIL(C24-C36)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M.OIL(C24-C40)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

DSD5I16.MET

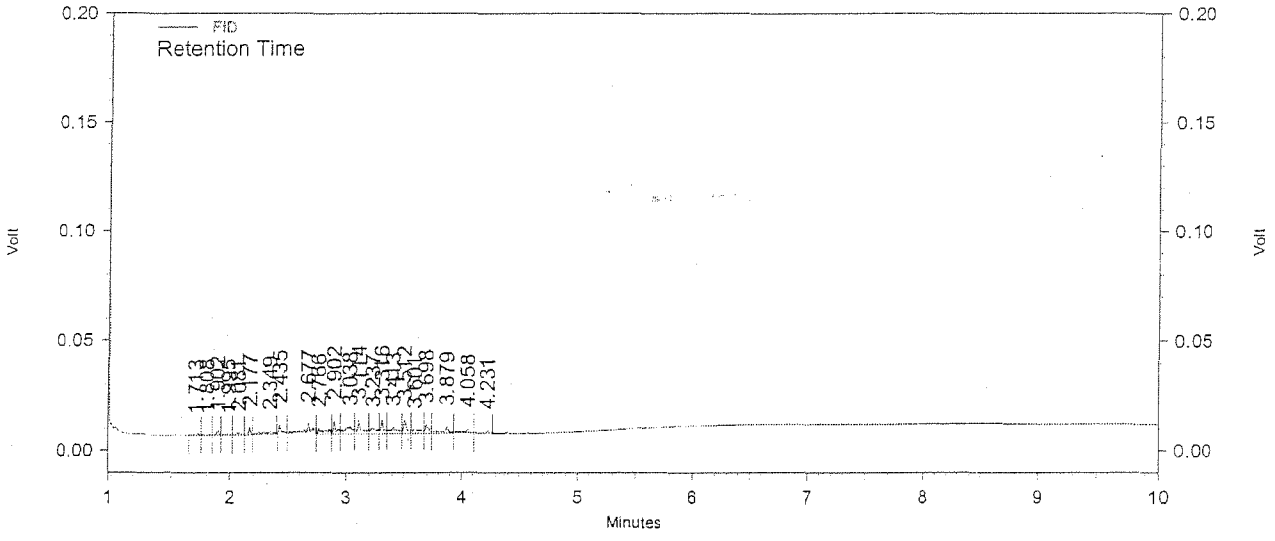
RA
9/19/14

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16029.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1601 DSL 5PPM
Acquired	: 09/17/14 09:01:57
Printed	: 09/17/14 16:55:46
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
DIESEL(TOTAL)		172506 ✓	33399.78271	5.000 CAL
DIESEL(C10-C24)		170205 ✓	32585.09943	5.000 CAL
DIESEL(C10-C28)		170205 ✓	32639.02829	5.000 CAL
DIESEL(C10-C25)		170205 ✓	32615.51857	5.000 CAL
DIESEL(C9-C24)		172506 ✓	33114.42838	5.000 CAL
DIESEL(C9-C25)		172506 ✓	33144.84752	5.000 CAL
DIESEL(C10-C36)		170205 ✓	32648.86105	5.000 CAL
DIESEL(C10-C40)		170205 ✓	32648.86105	5.000 CAL
Totals		1368543		40.000 CAL



DS 09/19/14

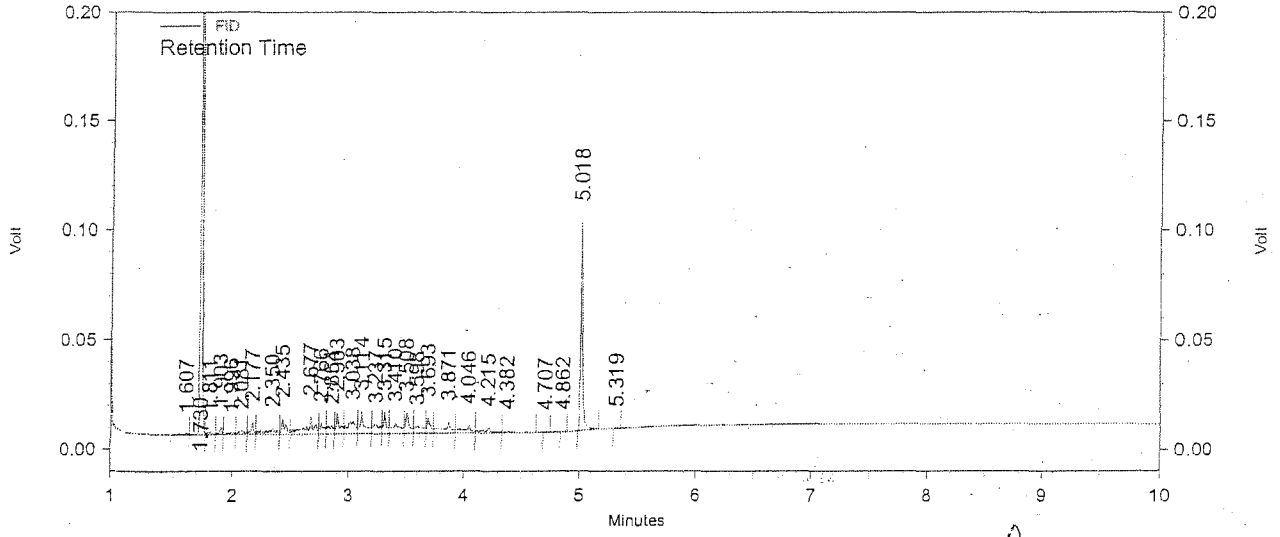
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16030.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1602 DSL 10/20/5PPM
Acquired	: 09/17/14 09:19:04
Printed	: 09/17/14 16:56:22
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.730	348178	17891.93900	20.000 CAL
HEXACOSANE	5.018	125638	25061.64131	5.000 CAL
DIESEL(TOTAL)		360512	33399.78271	10.000 CAL
DIESEL(C10-C24)		352364	32585.09943	10.000 CAL
DIESEL(C10-C28)		353230	32639.02829	10.000 CAL
DIESEL(C10-C25)		352618	32615.51857	10.000 CAL
DIESEL(C9-C24)		359646	33114.42838	10.000 CAL
DIESEL(C9-C25)		359900	33144.84752	10.000 CAL
DIESEL(C10-C36)		353230	32648.86105	10.000 CAL
DIESEL(C10-C40)		353230	32648.86105	10.000 CAL
Totals		3318546		105.000 CAL



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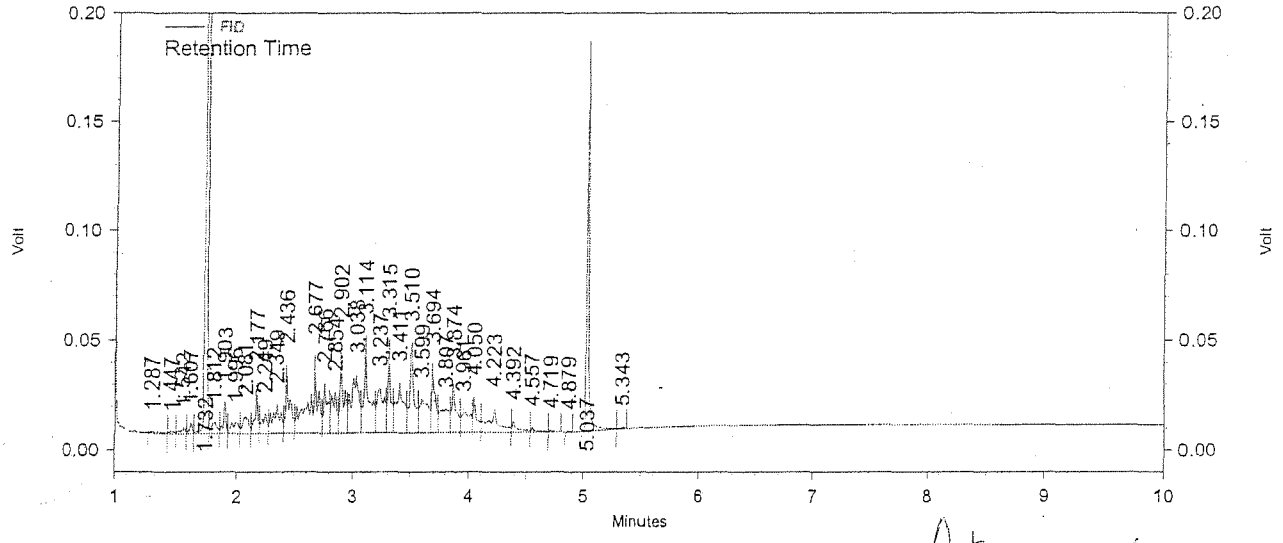
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16031.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1603 DSL 50/40/10PPM
Acquired	: 09/17/14 09:36:14
Printed	: 09/17/14 16:58:34
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.732	671920	17891.93900	40.000 CAL
HEXACOSANE	5.037	246485	25061.64131	10.000 CAL
DIESEL(TOTAL)		1727179	33399.78271	50.000 CAL
DIESEL(C10-C24)		1685709	32585.09943	50.000 CAL
DIESEL(C10-C28)		1687596	32639.02829	50.000 CAL
DIESEL(C10-C25)		1686967	32615.51857	50.000 CAL
DIESEL(C9-C24)		1710453	33114.42838	50.000 CAL
DIESEL(C9-C25)		1711711	33144.84752	50.000 CAL
DIESEL(C10-C36)		1689059	32648.86105	50.000 CAL
DIESEL(C10-C40)		1689059	32648.86105	50.000 CAL
Totals		14506138		450.000 CAL



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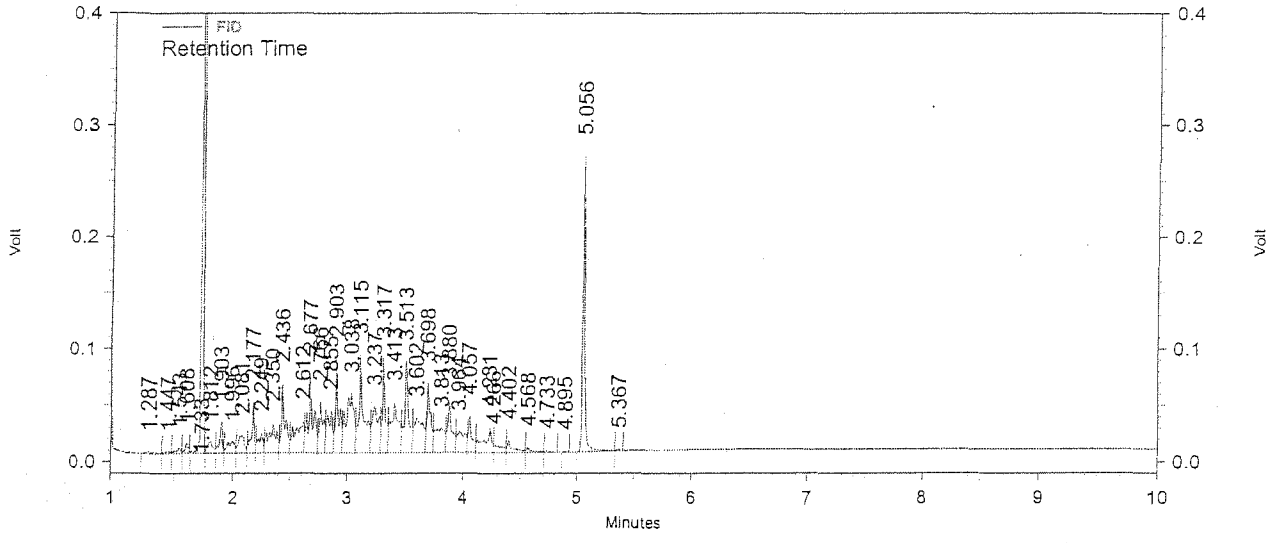
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16032.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1604 DSL 100/60/15PPM
Acquired	: 09/17/14 09:53:33
Printed	: 09/17/14 16:58:44
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.733	1001186	17891.93900	60.000 CAL
HEXACOSANE	5.056	367043	25061.64131	15.000 CAL
DIESEL(TOTAL)		3457812	33399.78271	100.000 CAL
DIESEL(C10-C24)		3377793	32585.09943	100.000 CAL
DIESEL(C10-C28)		3381578	32639.02829	100.000 CAL
DIESEL(C10-C25)		3380463	32615.51857	100.000 CAL
DIESEL(C9-C24)		3425081	33114.42838	100.000 CAL
DIESEL(C9-C25)		3427751	33144.84752	100.000 CAL
DIESEL(C10-C36)		3383510	32648.86105	100.000 CAL
DIESEL(C10-C40)		3383510	32648.86105	100.000 CAL
Totals		28585727		875.000 CAL



AS 09/19/14

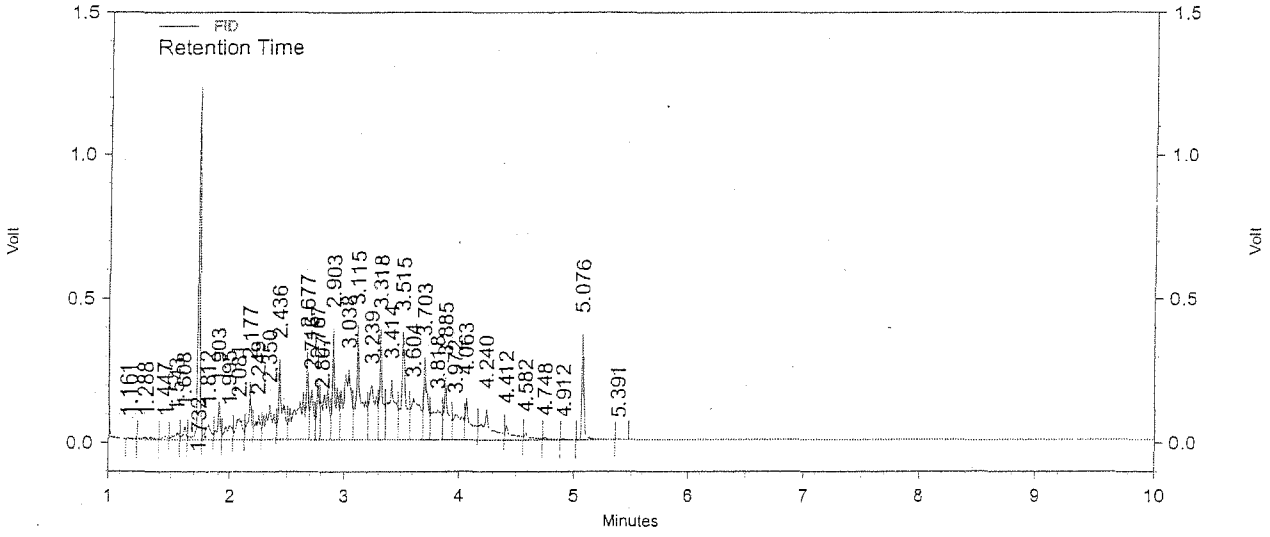
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16033.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1605 DSL 500/80/20PPM
Acquired	: 09/17/14 10:10:43
Printed	: 09/17/14 16:58:54
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.732	1474677	17891.93900	80.000 CAL
HEXACOSANE	5.076	509336	25061.64131	20.000 CAL
DIESEL(TOTAL)		16515495	33399.78271	500.000 CAL
DIESEL(C10-C24)		16073956	32585.09943	500.000 CAL
DIESEL(C10-C28)		16108086	32639.02829	500.000 CAL
DIESEL(C10-C25)		16101262	32615.51857	500.000 CAL
DIESEL(C9-C24)		16321629	33114.42838	500.000 CAL
DIESEL(C9-C25)		16348935	33144.84752	500.000 CAL
DIESEL(C10-C36)		16111304	32648.86105	500.000 CAL
DIESEL(C10-C40)		16111304	32648.86105	500.000 CAL
Totals		131675984		4100.000 CAL



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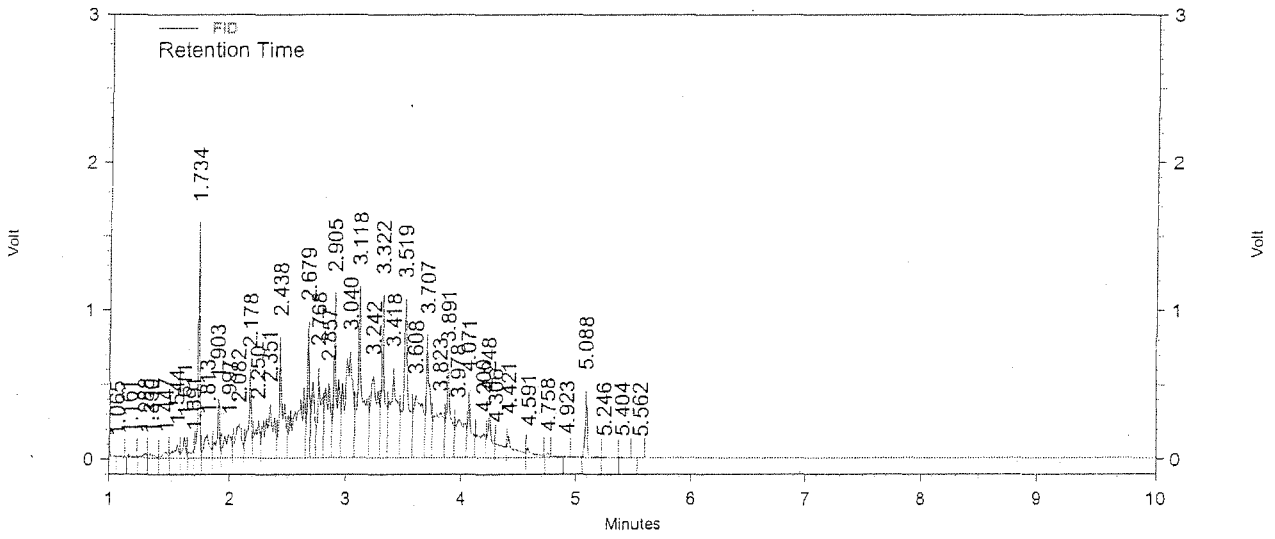
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16034.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1606 DSL 1500/100/25PPM
Acquired	: 09/17/14 10:27:59
Printed	: 09/17/14 16:59:06
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.734	1909057	17891.93900	100.000 CAL
HEXACOSANE	5.088	621784	25061.64131	25.000 CAL
DIESEL(TOTAL)		45022638	33399.78271	1500.000 CAL
DIESEL(C10-C24)		43633851	32585.09943	1500.000 CAL
DIESEL(C10-C28)		43729901	32639.02829	1500.000 CAL
DIESEL(C10-C25)		43690883	32615.51857	1500.000 CAL
DIESEL(C9-C24)		44410692	33114.42838	1500.000 CAL
DIESEL(C9-C25)		44467724	33144.84752	1500.000 CAL
DIESEL(C10-C36)		43735512	32648.86105	1500.000 CAL
DIESEL(C10-C40)		43735512	32648.86105	1500.000 CAL
Totals		354957554		12125.000 CAL



RS 09/19/14

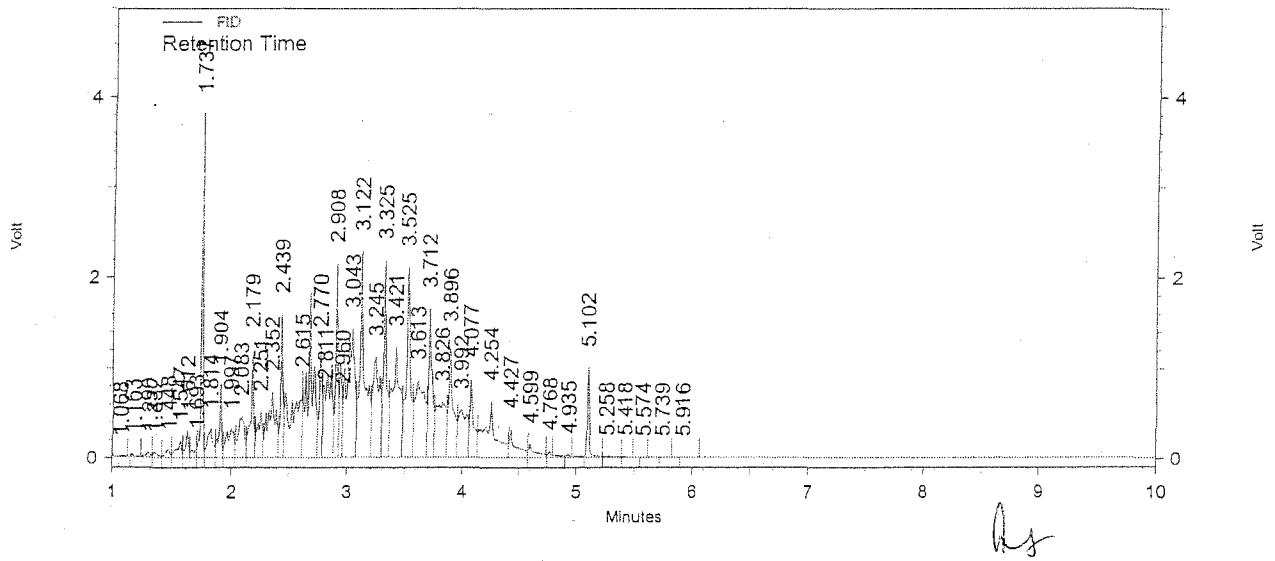
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16035.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1607 DSL 3000/220/55PPM
Acquired	: 09/17/14 10:45:13
Printed	: 09/17/14 16:59:16
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.737	4165539	17891.93900	220.000 CAL
HEXACOSANE	5.102	1418233	25061.64131	55.000 CAL
DIESEL(TOTAL)		93234891	33399.78271	3000.000 CAL
DIESEL(C10-C24)		90267120	32585.09943	3000.000 CAL
DIESEL(C10-C28)		90516176	32639.02829	3000.000 CAL
DIESEL(C10-C25)		90396242	32615.51857	3000.000 CAL
DIESEL(C9-C24)		91874828	33114.42838	3000.000 CAL
DIESEL(C9-C25)		92003950	33144.84752	3000.000 CAL
DIESEL(C10-C36)		90546394	32648.86105	3000.000 CAL
DIESEL(C10-C40)		90546394	32648.86105	3000.000 CAL
Totals		734969767		24275.000 CAL



09/19/14

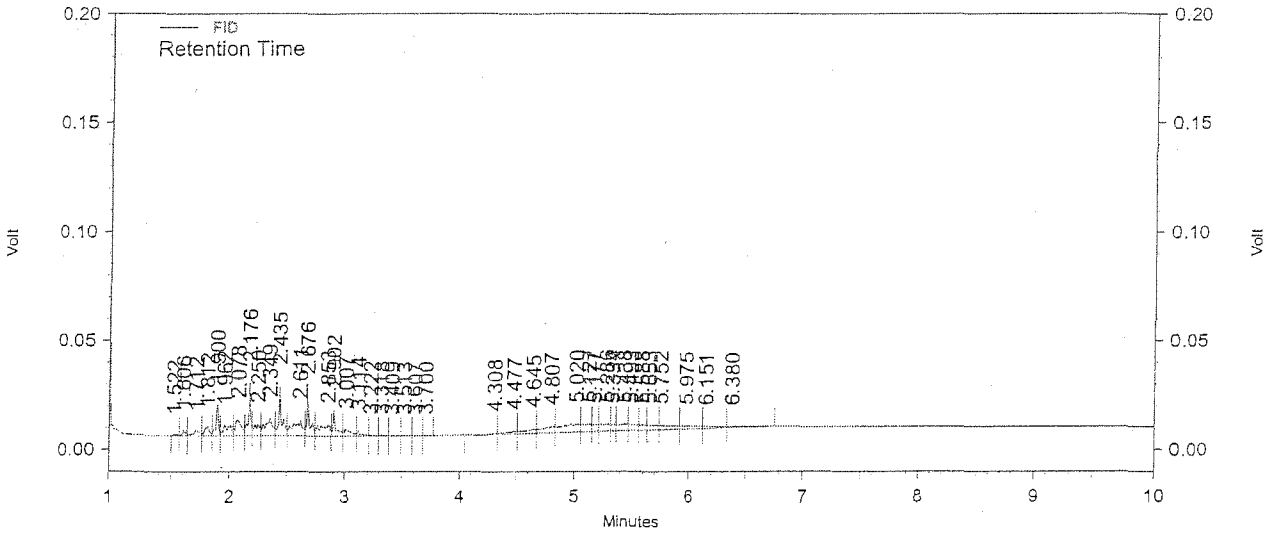
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16037.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1608 JP5/5W30 10/10PPM
Acquired	: 09/17/14 11:19:48
Printed	: 09/17/14 16:46:23
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		361054	32447.41478	10.000 CAL
M.OIL(C18-C36)		253397	24460.06839	10.000 CAL
M.OIL(C24-C36)		226861	20980.20150	10.000 CAL
M.OIL(C24-C40)		226861	21068.39522	10.000 CAL
Totals		1068173		40.000 CAL



AS
09/19/14

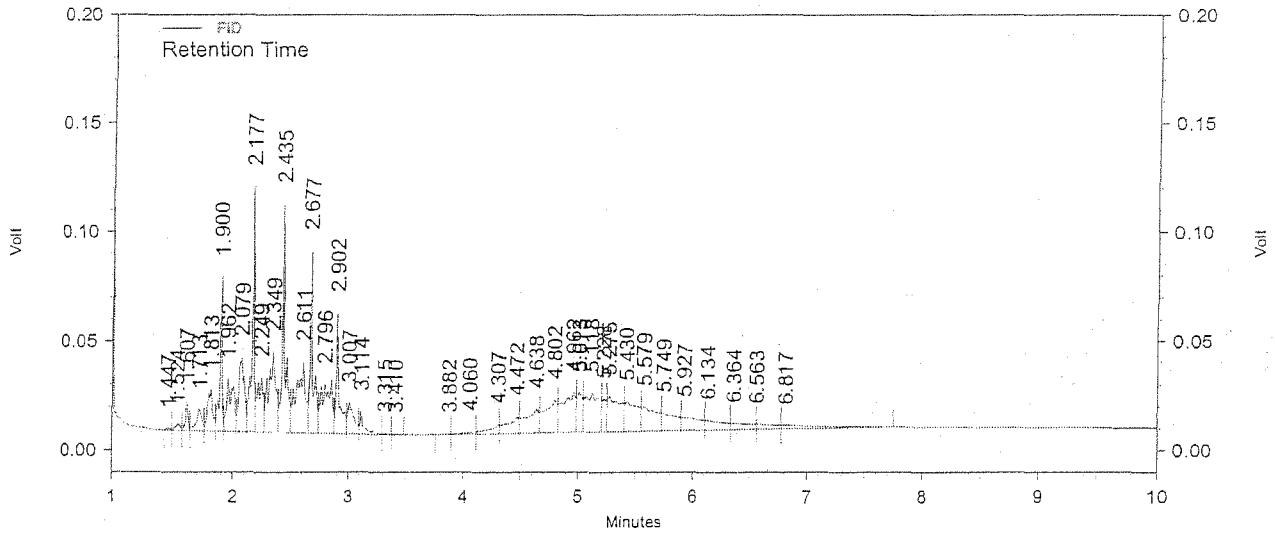
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16038.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1609 JP5/5W30 50/50PPM
Acquired	: 09/17/14 11:37:00
Printed	: 09/17/14 16:46:31
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		1658372	32447.41478	50.000 CAL
M.OIL(C18-C36)		1296976	24460.06839	50.000 CAL
M.OIL(C24-C36)		1127709	20980.20150	50.000 CAL
M.OIL(C24-C40)		1127709	21068.39522	50.000 CAL
Totals		5210766		200.000 CAL



QA
09/19/14

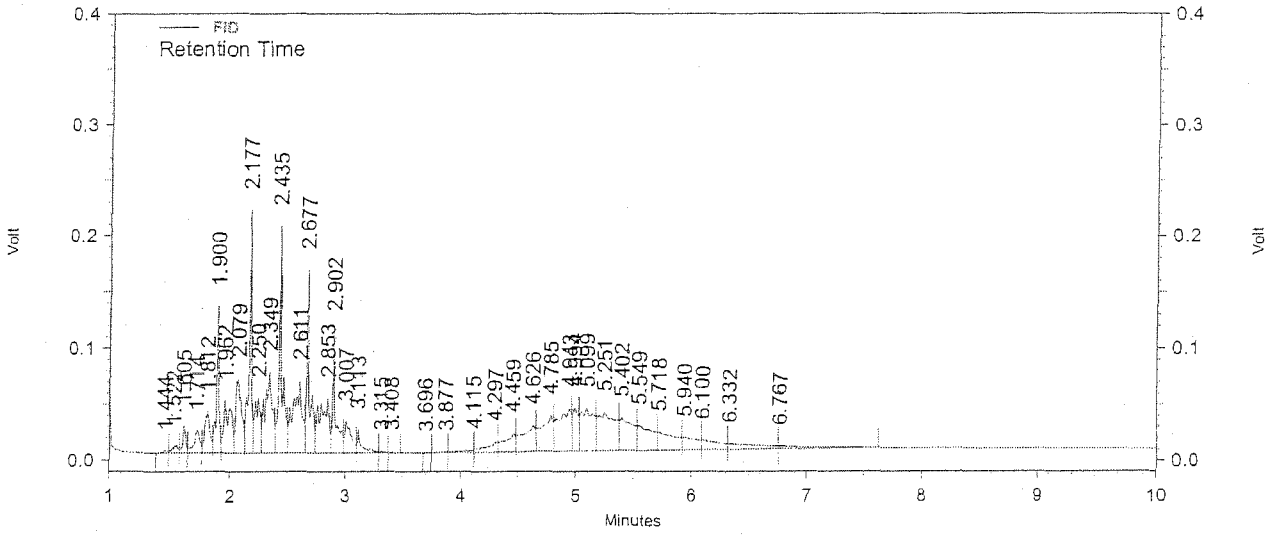
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16039.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1610 JP5/5W30 100/100PPM
Acquired	: 09/17/14 11:54:09
Printed	: 09/17/14 16:46:42
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		3344126	32447.41478	100.000 CAL
M.OIL(C18-C36)		2589166	24460.06839	100.000 CAL
M.OIL(C24-C36)		2225133	20980.20150	100.000 CAL
M.OIL(C24-C40)		2225133	21068.39522	100.000 CAL
Totals		10383558		400.000 CAL



09/14/14

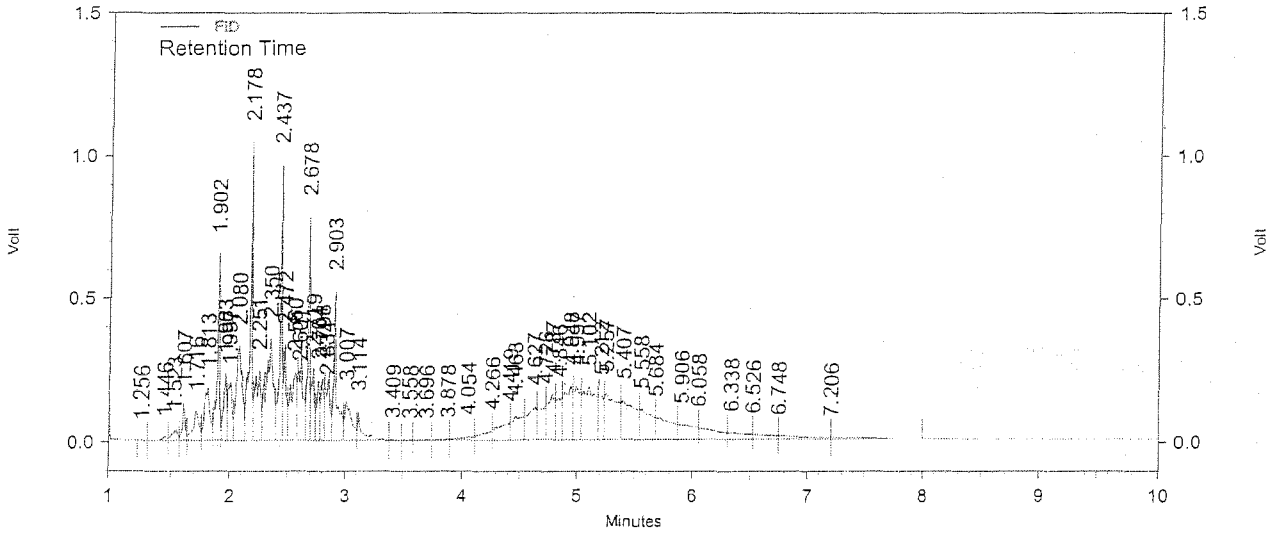
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16040.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1611 JP5/5W30 500/500PPM
Acquired	: 09/17/14 12:11:26
Printed	: 09/17/14 16:46:53
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		16282801	32447.41478	500.000 CAL
M.OIL(C18-C36)		12472992	24460.06839	500.000 CAL
M.OIL(C24-C36)		10546163	20980.20150	500.000 CAL
M.OIL(C24-C40)		10640078	21068.39522	500.000 CAL
Totals		49942034		2000.000 CAL



09/19/14

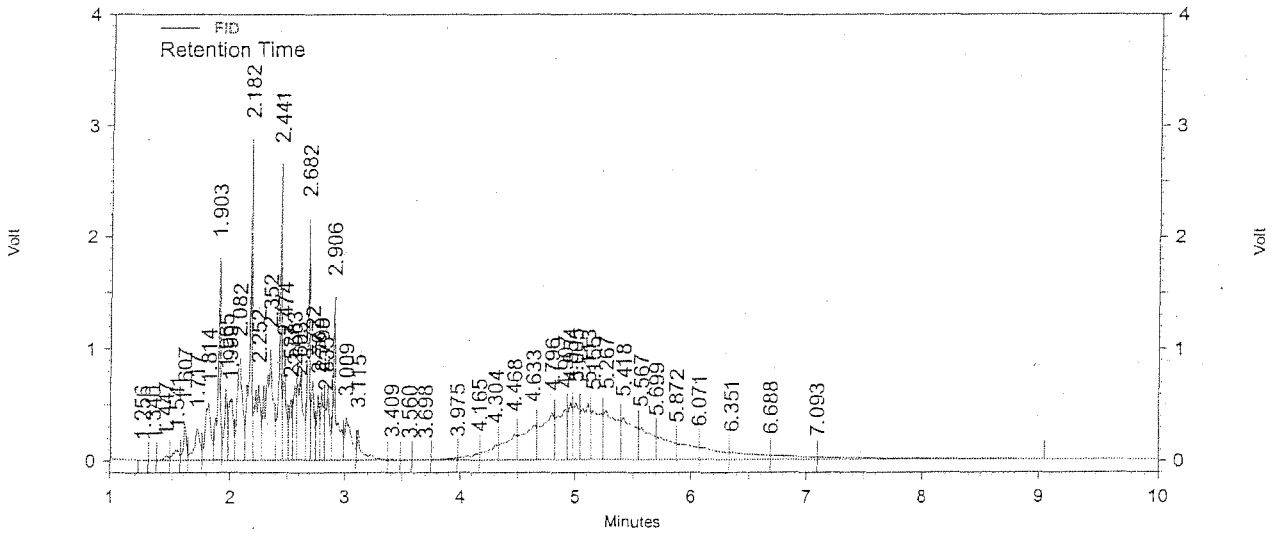
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16041.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1612 JP5/5W30 1500/1500PPM
Acquired	: 09/17/14 12:28:38
Printed	: 09/17/14 16:47:15
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		45751227	32447.41478	1500.000 CAL
M.OIL(C18-C36)		35161093	24460.06839	1500.000 CAL
M.OIL(C24-C36)		29488420	20980.20150	1500.000 CAL
M.OIL(C24-C40)		29488420	21068.39522	1500.000 CAL
Totals		139889160		6000.000 CAL



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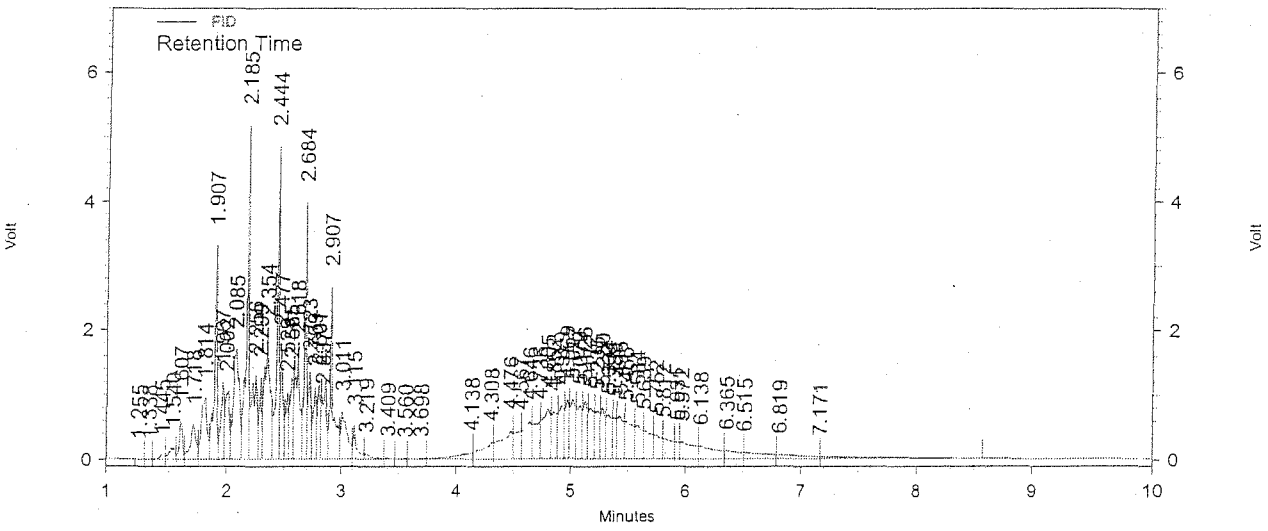
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16042.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DSD5I1613 JP5/5W30 3000/3000PPM
Acquired	: 09/17/14 12:45:43
Printed	: 09/17/14 16:47:25
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		86711906	32447.41478	3000.000 CAL
M.OIL(C18-C36)		63608453	24460.06839	3000.000 CAL
M.OIL(C24-C36)		52914979	20980.20150	3000.000 CAL
M.OIL(C24-C40)		53938976	21068.39522	3000.000 CAL
Totals		257174314		12000.000 CAL



09/19/14

Software Version: Version 3.3.1

SECOND SOURCE VERIFICATION

INITIAL CALIBRATION VERIFICATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LI16033A 09/17/2014 10:10
Conc Cont LFID & Datetime: LI16036A 09/17/2014 11:02
CONC UNIT : ppm

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	NA	NA	NA	500.0	33399.8	14834662	444.15	-11		15
DIESEL(C10-C24)	NA	NA	NA	500.0	32585.1	14111899	433.08	-13		15
DIESEL(C10-C28)	NA	NA	NA	500.0	32639.0	14286046	437.70	-12		15
DIESEL(C10-C25)	NA	NA	NA	500.0	32615.5	14228185	436.24	-13		15
DIESEL(C9-C24)	NA	NA	NA	500.0	33114.4	14426067	435.64	-13		15
DIESEL(C9-C25)	NA	NA	NA	500.0	33144.9	14542353	438.75	-12		15
DIESEL(C10-C36)	NA	NA	NA	500.0	32648.9	14292159	437.75	-12		15
DIESEL(C10-C40)	NA	NA	NA	500.0	32648.9	14292159	437.75	-12		15
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
BROMOBENZENE	1.732	1.729	1.735	80.0	17891.9	1491534	83.36	4		15
HEXACOSANE	5.061	5.013	5.109	20.0	25061.6	541583	21.61	8		15

DSD5I16.MET

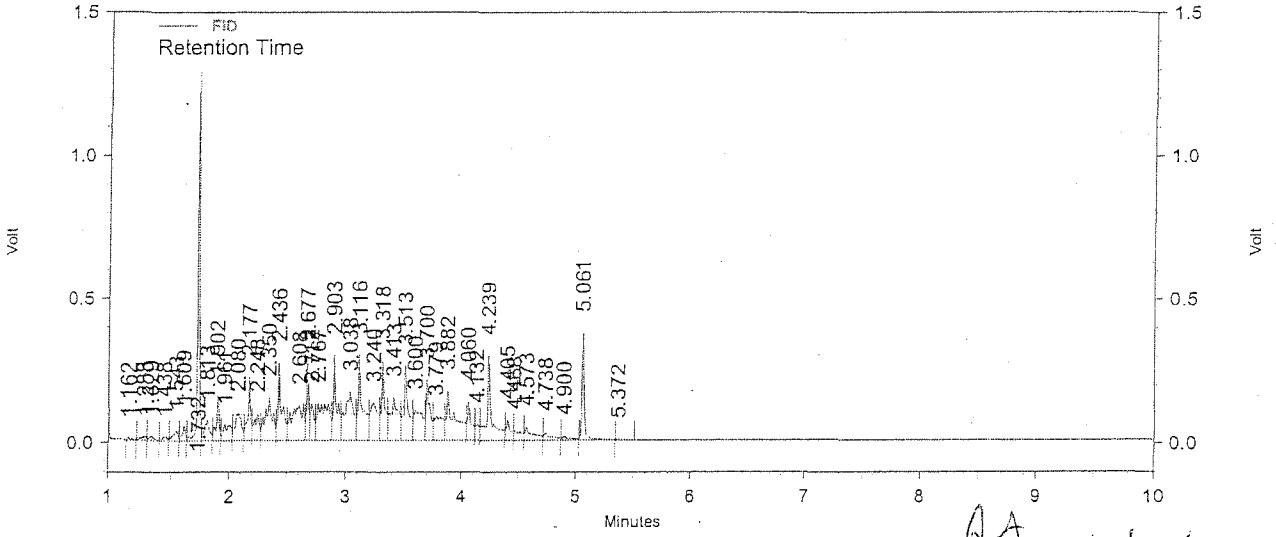
AS 9/19/14

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LI16\LI16036.dat
Method : D:\Projects\EZC331\Method\DSD5I16.met
Sequence: : D:\Projects\EZC331\Sequence\LI16.seq
Sample ID : IDSD5I1601 DSL 500/80/20PPM
Acquired : 09/17/14 11:02:35
Printed : 09/17/14 16:49:55
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.732	1491534	17891.93900	83.363
HEXACOSANE	5.061	541583	25061.64131	21.610
DIESEL(TOTAL)		14834662	33399.78271	444.154
DIESEL(C10-C24)		14111899	32585.09943	433.078
DIESEL(C10-C28)		14286046	32639.02829	437.698
DIESEL(C10-C25)		14228185	32615.51857	436.240
DIESEL(C9-C24)		14426067	33114.42838	435.643
DIESEL(C9-C25)		14542353	33144.84752	438.752
DIESEL(C10-C36)		14292159	32648.86105	437.754
DIESEL(C10-C40)		14292159	32648.86105	437.754
Totals		117046647		3606.046



09/19/14

Software Version: Version 3.3.1

INITIAL CALIBRATION VERIFICATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LI16040A 09/17/2014 12:11
Conc Cont LFID & Datetime: LI16043A 09/17/2014 13:02
CONC UNIT : ppm

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5(C8-C18)	NA	NA	NA	500.0	32447.4	14412814	444.19	-11		15
M.OIL(C18-C36)	NA	NA	NA	500.0	24460.1	10598661	433.30	-13		15
M.OIL(C24-C36)	NA	NA	NA	500.0	20980.2	9003494	429.14	-14		15
M.OIL(C24-C40)	NA	NA	NA	500.0	21068.4	9003494	427.35	-15		15

DSD5I16.MET

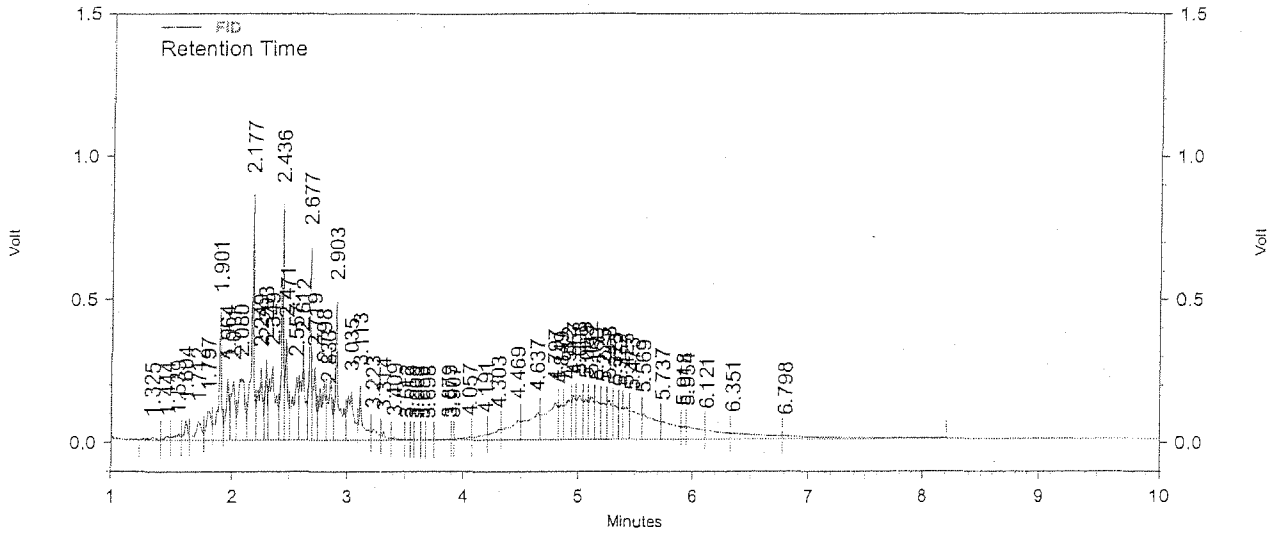
09/19/14

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16043.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: IDSD5I1602 JP5/5W30 500/500PPM
Acquired	: 09/17/14 13:02:52
Printed	: 09/17/14 16:43:12
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		14412814	32447.41478	444.190
M.OIL(C18-C36)		10598661	24460.06839	433.305
M.OIL(C24-C36)		9003494	20980.20150	429.142
M.OIL(C24-C40)		9003494	21068.39522	427.346
Totals		43018463		1733.983



09/19/14

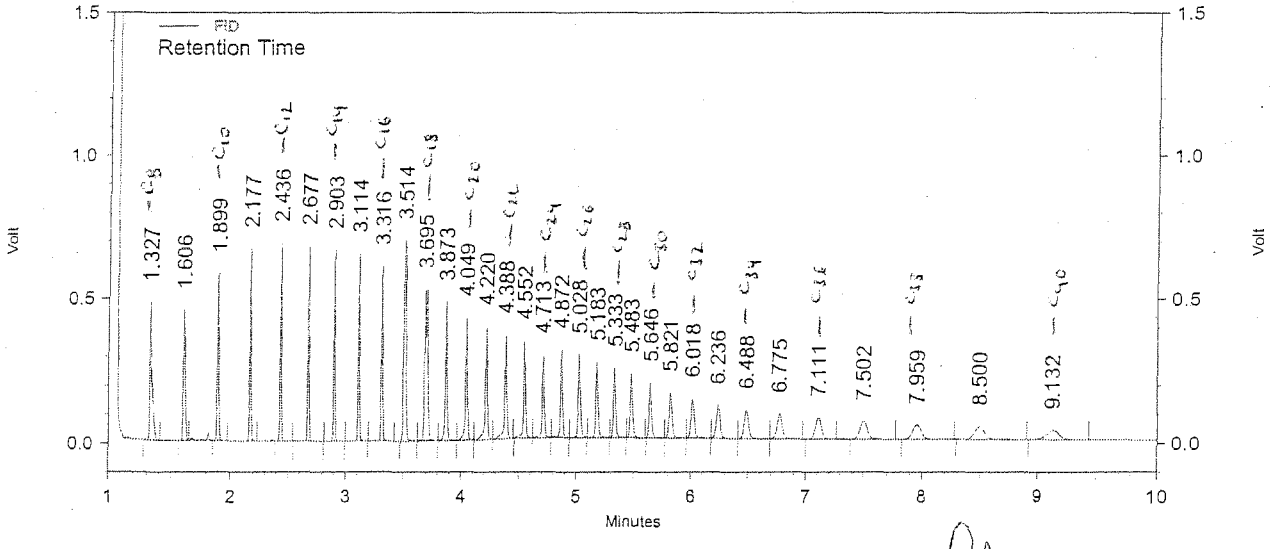
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16045.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: DRO(C8-C40 + C9-C39)
Acquired	: 09/17/14 13:37:11
Printed	: 09/17/14 16:51:25
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE				0.000 BDL
HEXACOSANE	5.028	379323	25061.64131	15.136
DIESEL(TOTAL)		14182377	33399.78271	424.625
DIESEL(C10-C24)		8587176	32585.09943	263.531
DIESEL(C10-C28)		9335081	32639.02829	286.010
DIESEL(C10-C25)		9335081	32615.51857	286.216
DIESEL(C9-C24)		8587176	33114.42838	259.318
DIESEL(C9-C25)		9335081	33144.84752	281.645
DIESEL(C10-C36)		11961304	32648.86105	366.362
DIESEL(C10-C40)		12986226	32648.86105	397.754
Totals		84688825		2580.597



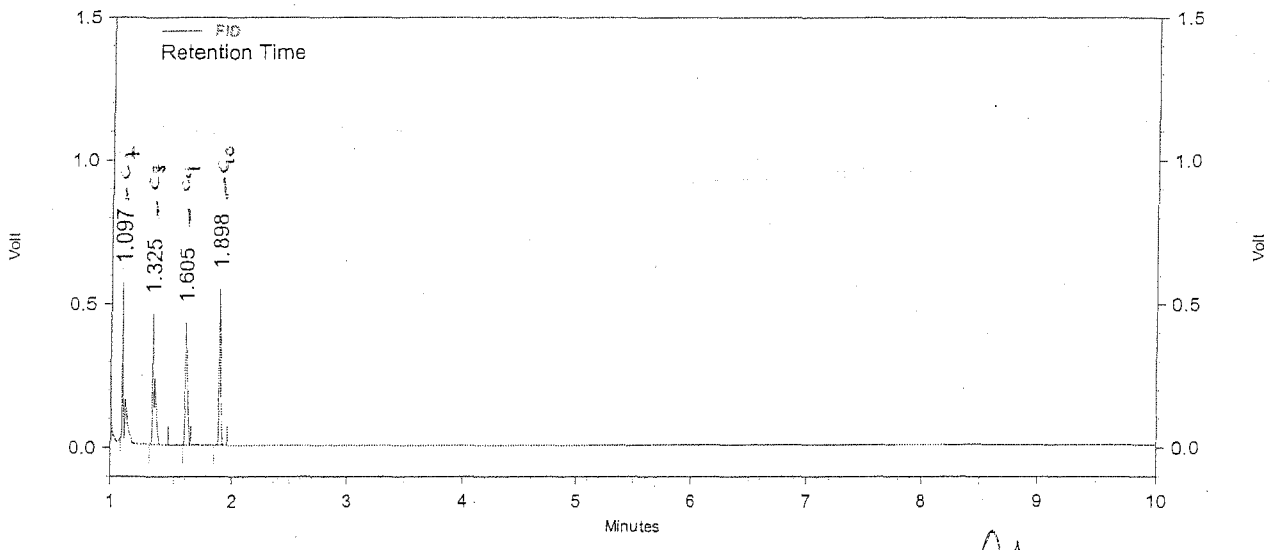
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	: GCT-105 (Offline)
File	: D:\Projects\EZC331\Data\LI16\LI16046.dat
Method	: D:\Projects\EZC331\Method\DSD5I16.met
Sequence:	: D:\Projects\EZC331\Sequence\LI16.seq
Sample ID	: GRO(C6-C10)
Acquired	: 09/17/14 13:54:19
Printed	: 09/17/14 16:51:45
User	: KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE				0.000 BDL
HEXACOSANE				0.000 BDL
DIESEL(TOTAL)		1757412	33399.78271	52.617
DIESEL(C10-C24)		0	32585.09943	0.000
DIESEL(C10-C28)		0	32639.02829	0.000
DIESEL(C10-C25)		0	32615.51857	0.000
DIESEL(C9-C24)		591908	33114.42838	17.875
DIESEL(C9-C25)		591908	33144.84752	17.858
DIESEL(C10-C36)		0	32648.86105	0.000
DIESEL(C10-C40)		0	32648.86105	0.000
Totals		2941228		88.350



09/14/14

Software Version: Version 3.3.1

DAILY CALIBRATIONS

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LI16033A 09/17/2014 10:10
Conc Cont LFID & Datetime: LJ29052A 10/30/2014 09:17
CONC UNIT : ppm

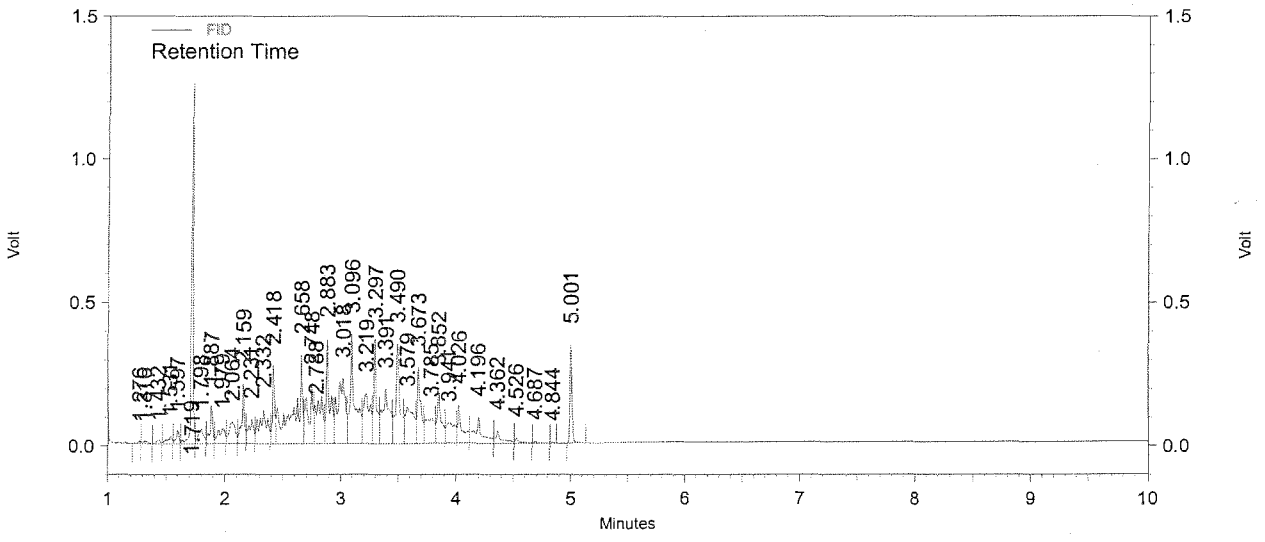
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	NA	NA	NA	500.0	33399.8	15089778	451.79	-10		20
DIESEL(C10-C24)	NA	NA	NA	500.0	32585.1	14452939	443.54	-11		20
DIESEL(C10-C28)	NA	NA	NA	500.0	32639.0	14456876	442.93	-11		20
DIESEL(C10-C25)	NA	NA	NA	500.0	32615.5	14456876	443.25	-11		20
DIESEL(C9-C24)	NA	NA	NA	500.0	33114.4	14843313	448.24	-10		20
DIESEL(C9-C25)	NA	NA	NA	500.0	33144.9	14847250	447.95	-10		20
DIESEL(C10-C36)	NA	NA	NA	500.0	32648.9	14456876	442.80	-11		20
DIESEL(C10-C40)	NA	NA	NA	500.0	32648.9	14456876	442.80	-11		20
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
BROMOBENZENE	1.719	1.716	1.722	80.0	17891.9	1398915	78.19	-2		20
HEXACOSANE	5.001	4.953	5.049	20.0	25061.6	432189	17.25	-14		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LJ29\LJ29052.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5I16.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LJ29.seq**
Sample ID	**: CDSD5I16377 DSL 500/80/20PPM**
Acquired	**: 10/30/14 09:17:50**
Printed	**: 10/30/14 15:53:41**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.719	1398915	17891.93900	78.187
HEXACOSANE	5.001	432189	25061.64131	17.245
DIESEL(TOTAL)		15089778	33399.78271	451.793
DIESEL(C10-C24)		14452939	32585.09943	443.544
DIESEL(C10-C28)		14456876	32639.02829	442.932
DIESEL(C10-C25)		14456876	32615.51857	443.251
DIESEL(C9-C24)		14843313	33114.42838	448.243
DIESEL(C9-C25)		14847250	33144.84752	447.950
DIESEL(C10-C36)		14456876	32648.86105	442.799
DIESEL(C10-C40)		14456876	32648.86105	442.799
Totals		118891888		3658.744



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LI16040A 09/17/2014 12:11
Conc Cont LFID & Datetime: LJ29053A 10/30/2014 09:34
CONC UNIT : ppm

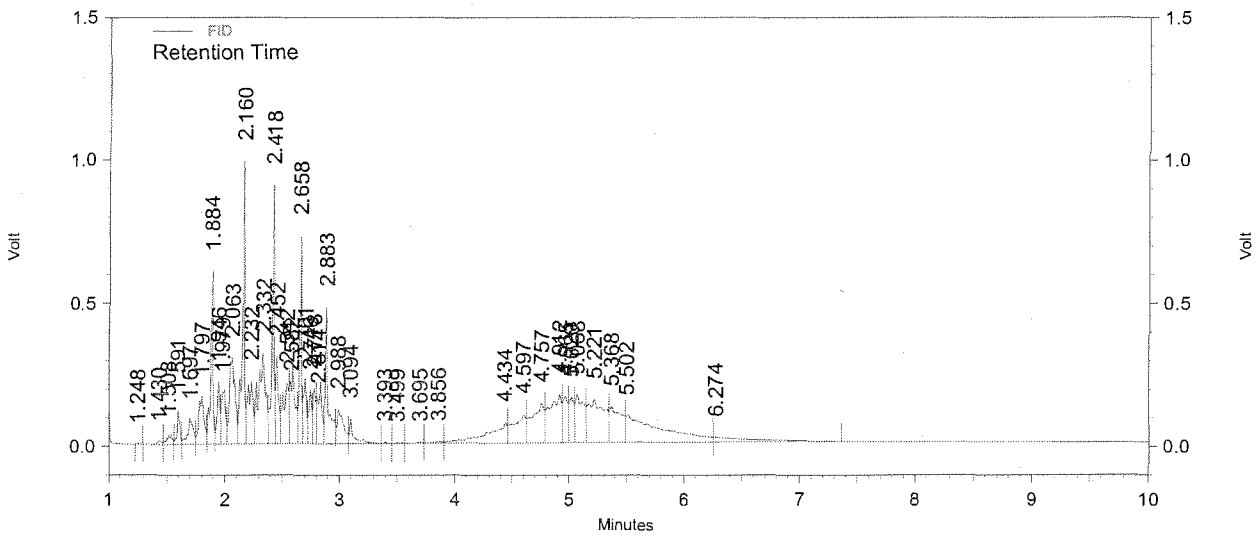
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5(C8-C18)	NA	NA	NA	500.0	32447.4	14839525	457.34	-9		20
M.OIL(C18-C36)	NA	NA	NA	500.0	24460.1	10518753	430.04	-14		20
M.OIL(C24-C36)	NA	NA	NA	500.0	20980.2	8890745	423.77	-15		20
M.OIL(C24-C40)	NA	NA	NA	500.0	21068.4	8890745	421.99	-16		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LJ29\LJ29053.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5I16.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LJ29.seq**
Sample ID	**: CDSD5I16378 JP5/5W30 500/500PPM**
Acquired	**: 10/30/14 09:34:56**
Printed	**: 10/30/14 15:57:10**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		14839525	32447.41478	457.341
M.OIL(C18-C36)		10518753	24460.06839	430.038
M.OIL(C24-C36)		8890745	20980.20150	423.768
M.OIL(C24-C40)		8890745	21068.39522	421.994
Totals		43139768		1733.141



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LI16033A 09/17/2014 10:10
Conc Cont LFID & Datetime: LJ29065A 10/30/2014 12:58
CONC UNIT : ppm

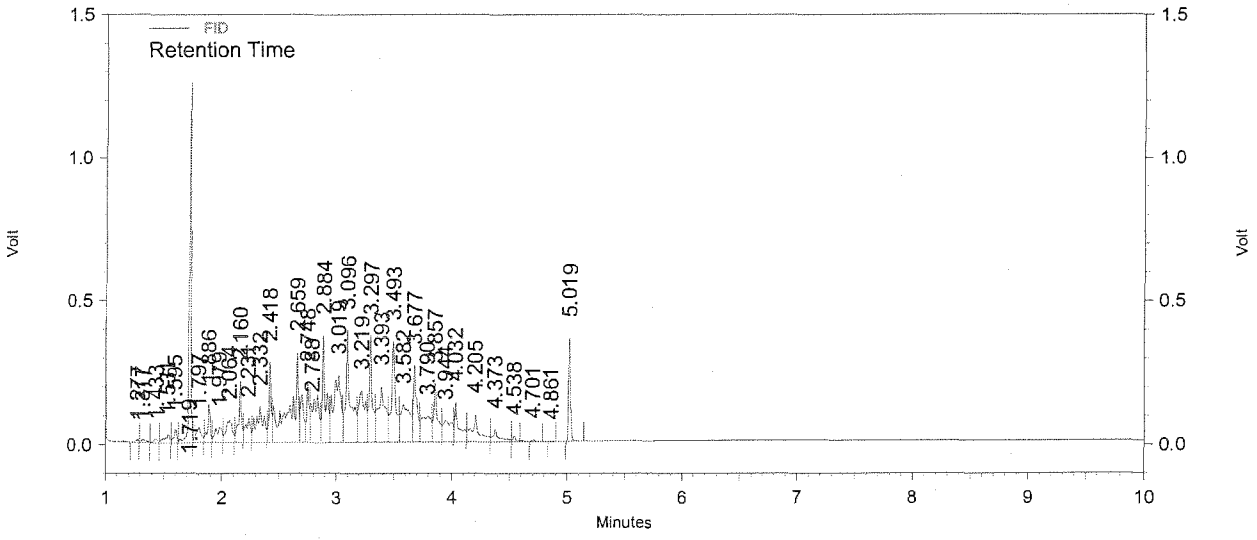
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	NA	NA	NA	500.0	33399.8	15023877	449.82	-10		20
DIESEL(C10-C24)	NA	NA	NA	500.0	32585.1	14375463	441.17	-12		20
DIESEL(C10-C28)	NA	NA	NA	500.0	32639.0	14379454	440.56	-12		20
DIESEL(C10-C25)	NA	NA	NA	500.0	32615.5	14379454	440.88	-12		20
DIESEL(C9-C24)	NA	NA	NA	500.0	33114.4	14771852	446.08	-11		20
DIESEL(C9-C25)	NA	NA	NA	500.0	33144.9	14775843	445.80	-11		20
DIESEL(C10-C36)	NA	NA	NA	500.0	32648.9	14379454	440.43	-12		20
DIESEL(C10-C40)	NA	NA	NA	500.0	32648.9	14379454	440.43	-12		20
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
BROMOBENZENE	1.719	1.716	1.722	80.0	17891.9	1417931	79.25	-1		20
HEXACOSANE	5.019	4.971	5.067	20.0	25061.6	450992	18.00	-10		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LJ29\LJ29065.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16.met
Sequence: : D:\Projects\EZC331\Sequence\LJ29.seq
Sample ID : CDSD5I16380 DSL 500/80/20PPM
Acquired : 10/30/14 12:58:27
Printed : 10/30/14 15:54:29
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.719	1417931	17891.93900	79.250
HEXACOSANE	5.019	450992	25061.64131	17.995
DIESEL(TOTAL)		15023877	33399.78271	449.820
DIESEL(C10-C24)		14375463	32585.09943	441.167
DIESEL(C10-C28)		14379454	32639.02829	440.560
DIESEL(C10-C25)		14379454	32615.51857	440.878
DIESEL(C9-C24)		14771852	33114.42838	446.085
DIESEL(C9-C25)		14775843	33144.84752	445.796
DIESEL(C10-C36)		14379454	32648.86105	440.427
DIESEL(C10-C40)		14379454	32648.86105	440.427
Totals		118333774		3642.405



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LI16040A 09/17/2014 12:11
Conc Cont LFID & Datetime: LJ29066A 10/30/2014 13:15
CONC UNIT : ppm

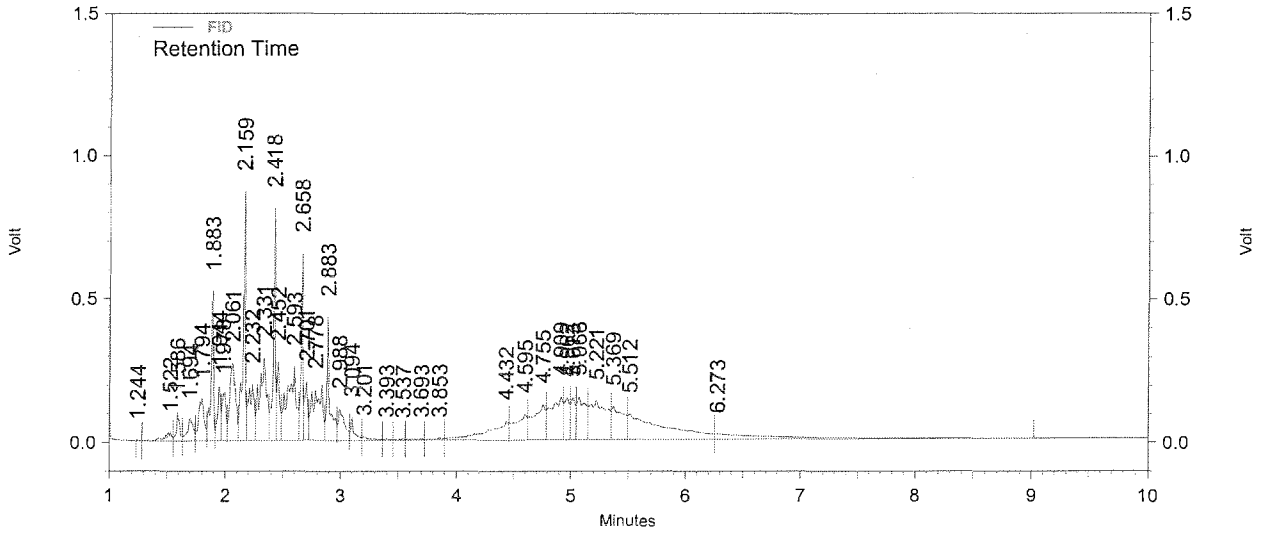
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5(C8-C18)	NA	NA	NA	500.0	32447.4	13338573	411.08	-18		20
M.OIL(C18-C36)	NA	NA	NA	500.0	24460.1	10082330	412.20	-18		20
M.OIL(C24-C36)	NA	NA	NA	500.0	20980.2	8564862	408.23	-18		20
M.OIL(C24-C40)	NA	NA	NA	500.0	21068.4	8564862	406.53	-19		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LJ29\LJ29066.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5I16.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LJ29.seq**
Sample ID	**: CDSD5I16381 JP5/5W30 500/500PPM**
Acquired	**: 10/30/14 13:15:38**
Printed	**: 10/30/14 15:58:55**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		13338573	32447.41478	411.083
M.OIL(C18-C36)		10082330	24460.06839	412.195
M.OIL(C24-C36)		8564862	20980.20150	408.235
M.OIL(C24-C40)		8564862	21068.39522	406.527
Totals		40550627		1638.040



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LI16033A 09/17/2014 10:10
Conc Cont LFID & Datetime: LJ29070A 10/30/2014 14:23
CONC UNIT : ppm

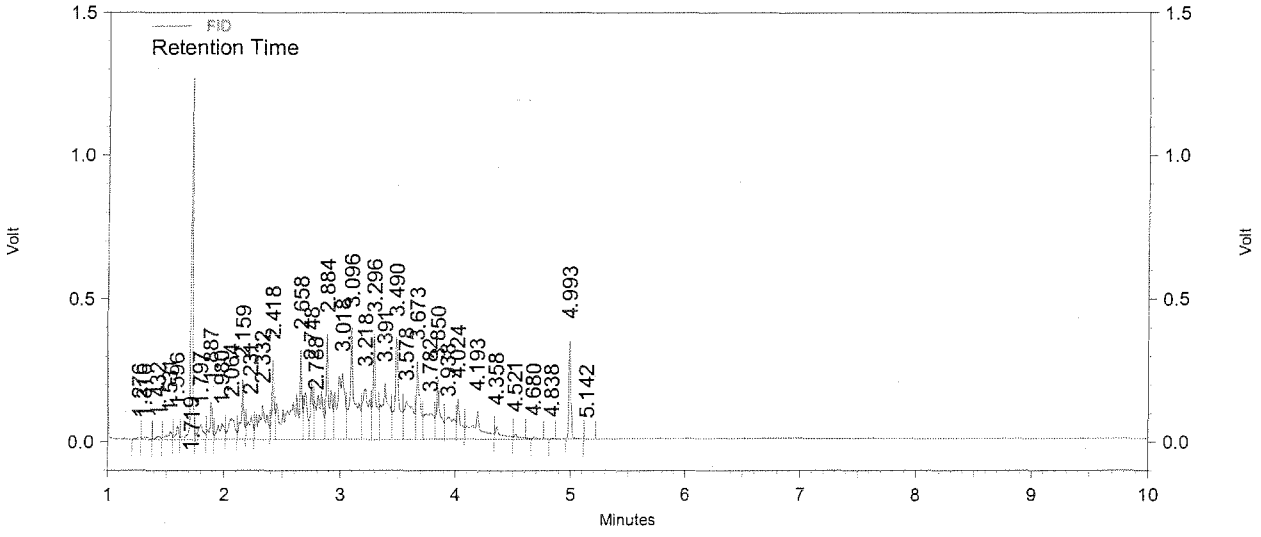
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	NA	NA	NA	500.0	33399.8	15202528	455.17	-9		20
DIESEL(C10-C24)	NA	NA	NA	500.0	32585.1	14561148	446.86	-11		20
DIESEL(C10-C28)	NA	NA	NA	500.0	32639.0	14565595	446.26	-11		20
DIESEL(C10-C25)	NA	NA	NA	500.0	32615.5	14565595	446.58	-11		20
DIESEL(C9-C24)	NA	NA	NA	500.0	33114.4	14954507	451.60	-10		20
DIESEL(C9-C25)	NA	NA	NA	500.0	33144.9	14958954	451.32	-10		20
DIESEL(C10-C36)	NA	NA	NA	500.0	32648.9	14565595	446.13	-11		20
DIESEL(C10-C40)	NA	NA	NA	500.0	32648.9	14565595	446.13	-11		20
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
BROMOBENZENE	1.719	1.716	1.722	80.0	17891.9	1407331	78.66	-2		20
HEXACOSANE	4.993	4.945	5.041	20.0	25061.6	430622	17.18	-14		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LJ29\LJ29070.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5I16.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LJ29.seq**
Sample ID	**: CDSD5I16382 DSL 500/80/20PPM**
Acquired	**: 10/30/14 14:23:45**
Printed	**: 10/30/14 15:54:56**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.719	1407331	17891.93900	78.657
HEXACOSANE	4.993	430622	25061.64131	17.183
DIESEL(TOTAL)		15202528	33399.78271	455.168
DIESEL(C10-C24)		14561148	32585.09943	446.865
DIESEL(C10-C28)		14565595	32639.02829	446.263
DIESEL(C10-C25)		14565595	32615.51857	446.585
DIESEL(C9-C24)		14954507	33114.42838	451.601
DIESEL(C9-C25)		14958954	33144.84752	451.321
DIESEL(C10-C36)		14565595	32648.86105	446.129
DIESEL(C10-C40)		14565595	32648.86105	446.129
Totals		119777470		3685.900



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LI16040A 09/17/2014 12:11
Conc Cont LFID & Datetime: LJ29071A 10/30/2014 14:40
CONC UNIT : ppm

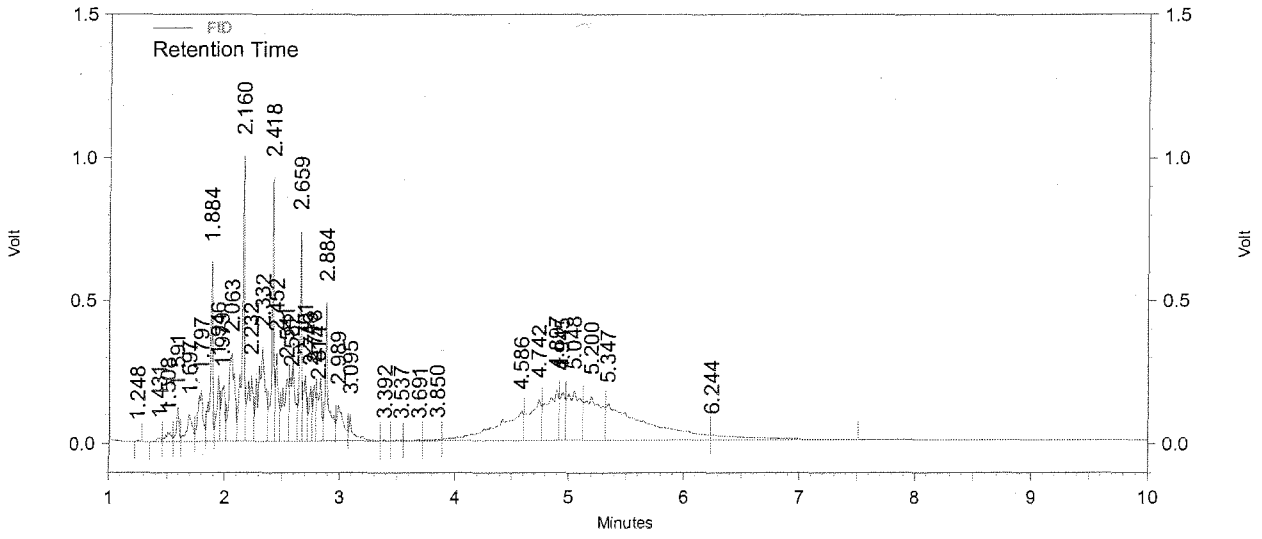
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5(C8-C18)	NA	NA	NA	500.0	32447.4	15036275	463.40	-7		20
M.OIL(C18-C36)	NA	NA	NA	500.0	24460.1	10741697	439.15	-12		20
M.OIL(C24-C36)	NA	NA	NA	500.0	20980.2	9067206	432.18	-14		20
M.OIL(C24-C40)	NA	NA	NA	500.0	21068.4	9067206	430.37	-14		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LJ29\LJ29071.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5I16.met
Sequence: : D:\Projects\EZC331\Sequence\LJ29.seq
Sample ID : CDSD5I16383 JP5/5W30 500/500PPM
Acquired : 10/30/14 14:40:59
Printed : 10/30/14 15:59:12
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		15036275	32447.41478	463.404
M.OIL(C18-C36)		10741697	24460.06839	439.152
M.OIL(C24-C36)		9067206	20980.20150	432.179
M.OIL(C24-C40)		9067206	21068.39522	430.370
Totals		43912384		1765.106



Software Version: Version 3.3.1

ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
EXTRACTABLE TPH

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Book #: AD5-029

Instrument No.: D5

Analytical Sequence: LI16

Method File: DSD5I16

Analytical Batch: N A

SOP #	Rev. #
☑ EMAX-8015D	6
☐ EMAX-AK102/AK103	3
☐ EMAX-	

STANDARDS ID	Conc (mg/L)
ICAL	
☑ Diesel 5538-17-98-01	5 → 3,000
☑ Motor Oil ☑ JP5 5538-17-98-03	10 → 3,000
CH_2Cl_2 54141	Pure
DSL ~~DEC~~ ICV 5538-17-98-02	500/80/20
JP5/5W30 ~~DEC~~ ICV1 5538-17-99-01	500/500
~~Alaska DCC~~ JP5/5W30 ICV2 5538-17-99-02	500/500
Arizona DCC	
DRO (C_8-C_{40} + C_9-C_{40}) 5538-17-32-03	—
GRO (C_6-C_{10}) 5538-17-32-02	—

KHL 9/16/14

KHL 9/16/14

KHL 9/16/14

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZCHROM_GC6890N	
☐ External Hard Drive	

Analyzed By: KHL

Date: 9/16/14

GC-105 (Offline) Method: CCD5I17.met Data: LI17062.dat Project: EZC331 [Sequence: LI16.seq]

File Edit View Method Data Sequence Analysis Control Reports Window Help

1: FID

Run #	Run Type	Level	Vial	Volume	Sample ID	Method	Filename	Action	Description
28	Unknown	0	100	2	IBD5I1602	DSD5I16.met	LI16028.dat		
29	Unknown	0	9	2	DSD5I1601 DSL 5PPM	DSD5I16.met	LI16029.dat		DSL + Surr. ICAL
30	Unknown	0	10	2	DSD5I1602 DSL 10/20/5PPM	DSD5I16.met	LI16030.dat		
31	Unknown	0	11	2	DSD5I1603 DSL 50/40/10PPM	DSD5I16.met	LI16031.dat		
32	Unknown	0	12	2	DSD5I1604 DSL 100/60/15PPM	DSD5I16.met	LI16032.dat		
33	Unknown	0	13	2	DSD5I1605 DSL 500/80/20PPM	DSD5I16.met	LI16033.dat		
34	Unknown	0	14	2	DSD5I1606 DSL 1500/100/25PPM	DSD5I16.met	LI16034.dat		
35	Unknown	0	15	2	DSD5I1607 DSL 3000/220/55PPM	DSD5I16.met	LI16035.dat		
36	Unknown	0	16	2	IDSD5I1601 DSL 500/80/20PPM	DSD5I16.met	LI16036.dat		DSL + Surr. ICV
37	Unknown	0	17	2	DSD5I1608 JP5/5W30 10/10PPM	DSD5I16.met	LI16037.dat		JP5 + SW30 ICAL
38	Unknown	0	18	2	DSD5I1609 JP5/5W30 50/50PPM	DSD5I16.met	LI16038.dat		
39	Unknown	0	19	2	DSD5I1610 JP5/5W30 100/100PPM	DSD5I16.met	LI16039.dat		
40	Unknown	0	20	2	DSD5I1611 JP5/5W30 500/500PPM	DSD5I16.met	LI16040.dat		
41	Unknown	0	21	2	DSD5I1612 JP5/5W30 1500/1500PPM	DSD5I16.met	LI16041.dat		
42	Unknown	0	22	2	DSD5I1613 JP5/5W30 3000/3000PPM	DSD5I16.met	LI16042.dat		
43	Unknown	0	23	2	IDSD5I1602 JP5/5W30 500/500PPM	DSD5I16.met	LI16043.dat		JP5 + SW30 (Replicate) ICV
44	Unknown	0	24	2	IDSD5I1603 JP5/5W30 500/500PPM	DSD5I16.met	LI16044.dat		JP5 + SW30 (Accustandard) ICV
45	Unknown	0	25	2	DRO(C8-C40 + C9-C39)	DSD5I16.met	LI16045.dat		
46	Unknown	0	26	2	GRO(C6-C10)	DSD5I16.met	LI16046.dat		
47	Unknown	0		2		CCD5I16.met	LI16047.dat		
48	Unknown	0		2		CCD5I16.met	LI16048.dat		
49	Unknown	0		2		CCD5I16.met	LI16049.dat		
50	Unknown	0		2		CCD5I16.met	LI16050.dat		
51	Unknown	0		2		CCD5I16.met	LI16051.dat		
52	Unknown	0		2		CCD5I16.met	LI16052.dat		
53	Unknown	0		2		CCD5I16.met	LI16053.dat		
54	Unknown	0		2		CCD5I16.met	LI16054.dat		
55	Unknown	0		2		CCD5I16.met	LI16055.dat		
56	Unknown	0		2		J8D5I16.met	LI16056.dat		
57	Unknown	0		2	KML 9/16/19	J8D5I16.met	LI16057.dat		FINAL
58	Unknown	0		2		J8D5I16.met	LI16058.dat		
59	Unknown	0		2		J8D5I16.met	LI16059.dat		
60	Unknown	0		2		J8D5I16.met	LI16060.dat		
61	Unknown	0		2		J8D5I16.met	LI16061.dat		
62	Unknown	0		2		J8D5I16.met	LI16062.dat		
63	Unknown	0		2		J8D5I16.met	LI16063.dat		
64	Unknown	0		2		J8D5I16.met	LI16064.dat		
65	Unknown	0		2		J8D5I16.met	LI16065.dat		
66	Unknown	0		2		J8D5I16.met	LI16066.dat		
67	Unknown	0		2		J8D5I16.met	LI16067.dat		
68	Unknown	0		2		J8D5I16.met	LI16068.dat		
69	Unknown	0		2		J8D5I16.met	LI16069.dat		
70	Unknown	0		2		J8D5I16.met	LI16070.dat		
71	Unknown	0		2		J8D5I16.met	LI16071.dat		

End 9/16/19

For Help, press F1

MIN

Start | EZChrom Elite | GC-105 | Method DS... | GC-105 (Offline) | untitled - Paint | D:\Projects\EZC331\Met... | 14:46

5056

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
EXTRACTABLE TPH

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

DSJ037W: J175
KM 10/30/14

DSJ036W J176

DSJ038W J178

J173

J144

Book #: AD5-030

Instrument No.: D5

Analytical Sequence: LJ29

Method File: CCDSI17/DSDSI16

Analytical Batch: CCCDSI1737o

SOP #	Rev. #
☑ EMAX-8015D	6
☐ EMAX-AK102/AK103	3
☐ EMAX-	

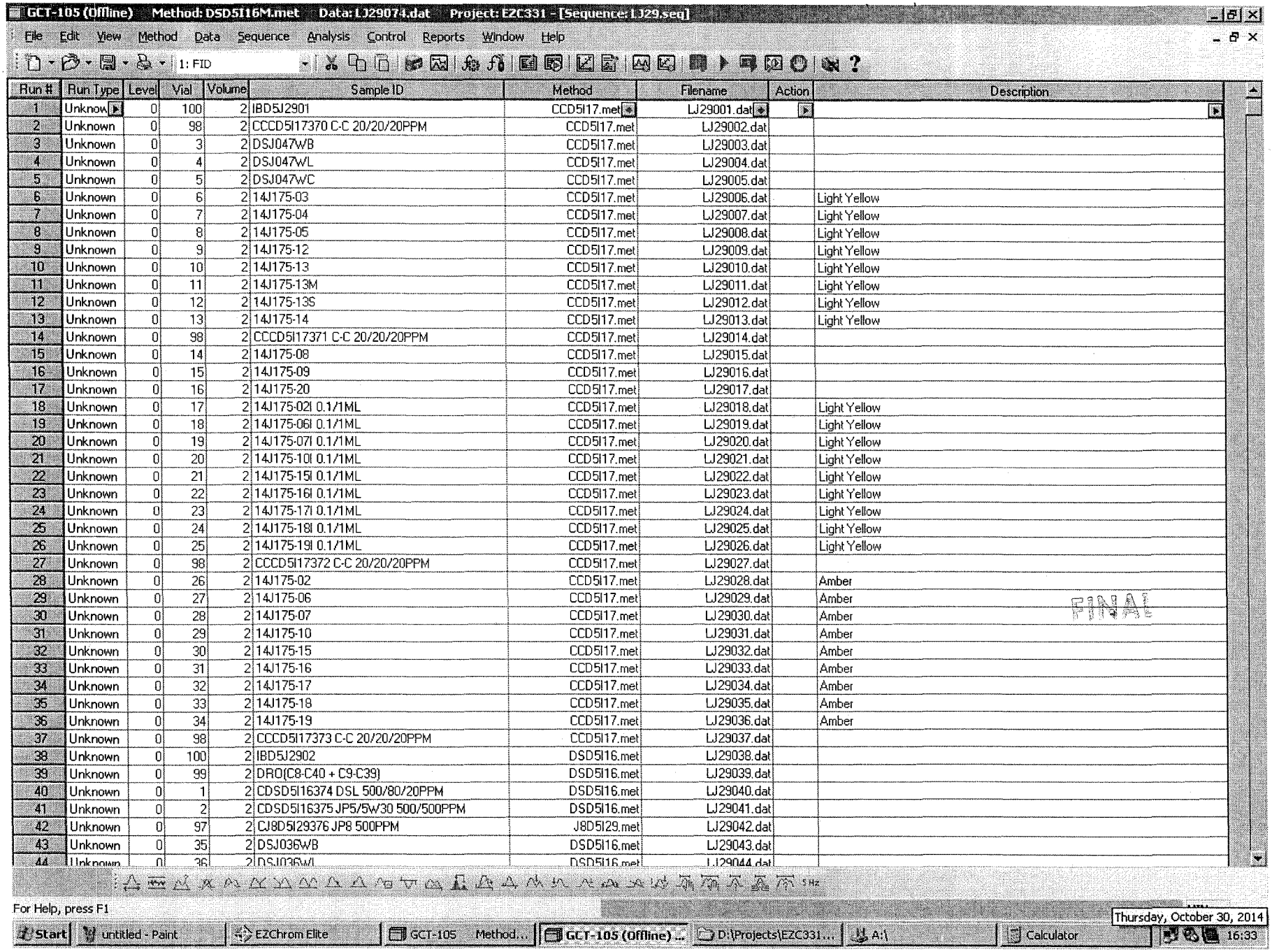
STANDARDS ID		Conc (mg/L)
ICAL		
☐ Diesel		
☐ Motor Oil ☐ JP5		
CH_2Cl_2	54141	Pure
DSL DCC	SS3B-17-96-02	500/50/10
JP5/5W30 DCC	SS3B-17-96-03	500/500
Alaska DCC		
Arizona DCC		
CC DCC	SS3B-19-05-02	20/10/10
DRO	SS3B-17-~~19~~ 91-02 KM 10/29/14	—

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZCHROM_GC6890N	
☐ External Hard Drive	

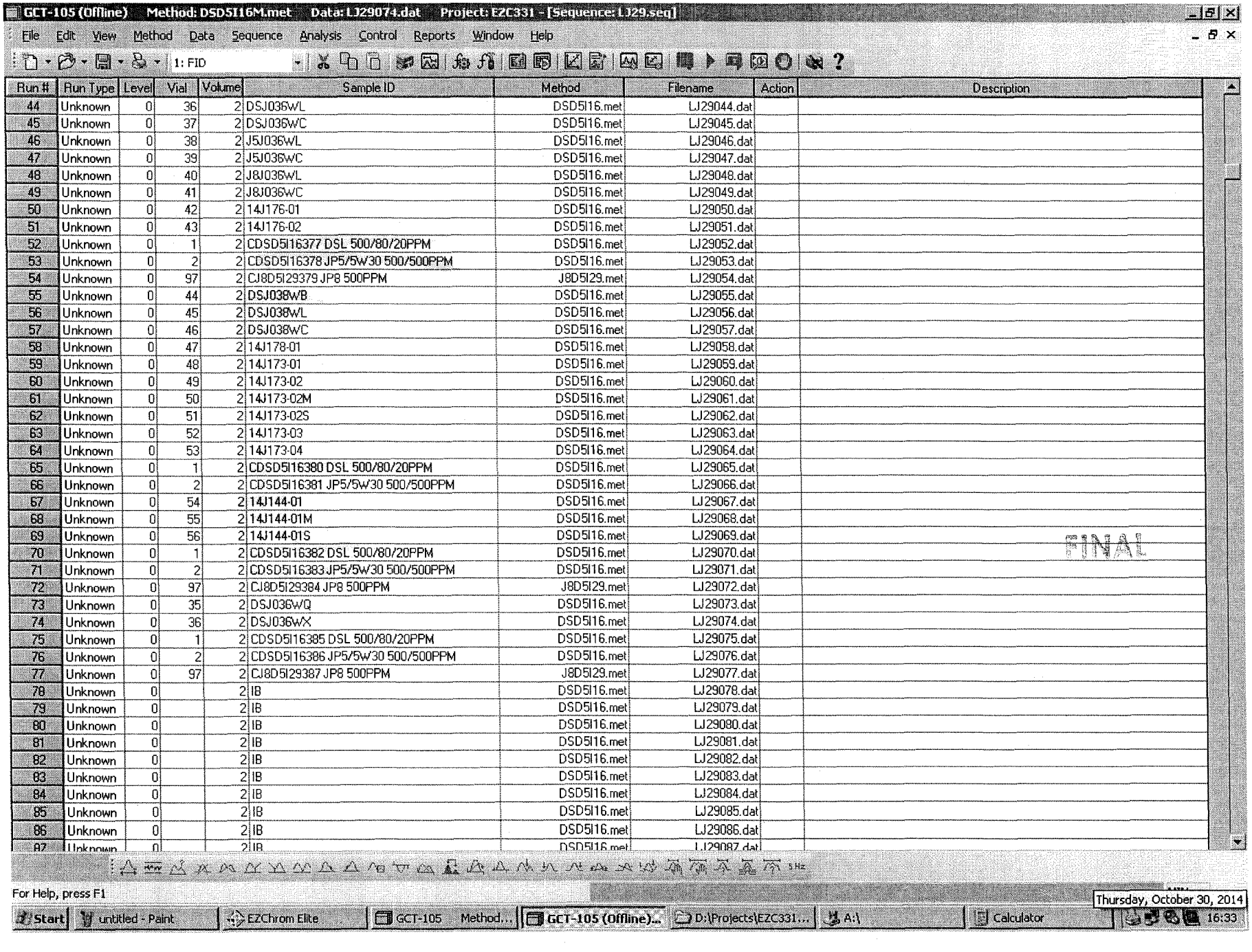
Analyzed By: km

Date: 10/29/14

5857



Run #	Run Type	Level	Vial	Volume	Sample ID	Method	Filename	Action	Description
1	Unknown	0	100	2	IBD5J2901	CCD5I17.met	LJ29001.dat		
2	Unknown	0	98	2	CCCD5I17370 C-C 20/20/20PPM	CCD5I17.met	LJ29002.dat		
3	Unknown	0	3	2	DSJ047WB	CCD5I17.met	LJ29003.dat		
4	Unknown	0	4	2	DSJ047WL	CCD5I17.met	LJ29004.dat		
5	Unknown	0	5	2	DSJ047WC	CCD5I17.met	LJ29005.dat		
6	Unknown	0	6	2	14J175-03	CCD5I17.met	LJ29006.dat		Light Yellow
7	Unknown	0	7	2	14J175-04	CCD5I17.met	LJ29007.dat		Light Yellow
8	Unknown	0	8	2	14J175-05	CCD5I17.met	LJ29008.dat		Light Yellow
9	Unknown	0	9	2	14J175-12	CCD5I17.met	LJ29009.dat		Light Yellow
10	Unknown	0	10	2	14J175-13	CCD5I17.met	LJ29010.dat		Light Yellow
11	Unknown	0	11	2	14J175-13M	CCD5I17.met	LJ29011.dat		Light Yellow
12	Unknown	0	12	2	14J175-13S	CCD5I17.met	LJ29012.dat		Light Yellow
13	Unknown	0	13	2	14J175-14	CCD5I17.met	LJ29013.dat		Light Yellow
14	Unknown	0	98	2	CCCD5I17371 C-C 20/20/20PPM	CCD5I17.met	LJ29014.dat		
15	Unknown	0	14	2	14J175-08	CCD5I17.met	LJ29015.dat		
16	Unknown	0	15	2	14J175-09	CCD5I17.met	LJ29016.dat		
17	Unknown	0	16	2	14J175-20	CCD5I17.met	LJ29017.dat		
18	Unknown	0	17	2	14J175-02I 0.1/1ML	CCD5I17.met	LJ29018.dat		Light Yellow
19	Unknown	0	18	2	14J175-06I 0.1/1ML	CCD5I17.met	LJ29019.dat		Light Yellow
20	Unknown	0	19	2	14J175-07I 0.1/1ML	CCD5I17.met	LJ29020.dat		Light Yellow
21	Unknown	0	20	2	14J175-10I 0.1/1ML	CCD5I17.met	LJ29021.dat		Light Yellow
22	Unknown	0	21	2	14J175-15I 0.1/1ML	CCD5I17.met	LJ29022.dat		Light Yellow
23	Unknown	0	22	2	14J175-16I 0.1/1ML	CCD5I17.met	LJ29023.dat		Light Yellow
24	Unknown	0	23	2	14J175-17I 0.1/1ML	CCD5I17.met	LJ29024.dat		Light Yellow
25	Unknown	0	24	2	14J175-18I 0.1/1ML	CCD5I17.met	LJ29025.dat		Light Yellow
26	Unknown	0	25	2	14J175-19I 0.1/1ML	CCD5I17.met	LJ29026.dat		Light Yellow
27	Unknown	0	98	2	CCCD5I17372 C-C 20/20/20PPM	CCD5I17.met	LJ29027.dat		
28	Unknown	0	26	2	14J175-02	CCD5I17.met	LJ29028.dat		Amber
29	Unknown	0	27	2	14J175-06	CCD5I17.met	LJ29029.dat		Amber
30	Unknown	0	28	2	14J175-07	CCD5I17.met	LJ29030.dat		Amber
31	Unknown	0	29	2	14J175-10	CCD5I17.met	LJ29031.dat		Amber
32	Unknown	0	30	2	14J175-15	CCD5I17.met	LJ29032.dat		Amber
33	Unknown	0	31	2	14J175-16	CCD5I17.met	LJ29033.dat		Amber
34	Unknown	0	32	2	14J175-17	CCD5I17.met	LJ29034.dat		Amber
35	Unknown	0	33	2	14J175-18	CCD5I17.met	LJ29035.dat		Amber
36	Unknown	0	34	2	14J175-19	CCD5I17.met	LJ29036.dat		Amber
37	Unknown	0	98	2	CCCD5I17373 C-C 20/20/20PPM	CCD5I17.met	LJ29037.dat		
38	Unknown	0	100	2	IBD5J2902	DSD5I16.met	LJ29038.dat		
39	Unknown	0	99	2	DRO(C8-C40 + C9-C39)	DSD5I16.met	LJ29039.dat		
40	Unknown	0	1	2	CDSD5I16374 DSL 500/80/20PPM	DSD5I16.met	LJ29040.dat		
41	Unknown	0	2	2	CDSD5I16375 JP5/5W30 500/500PPM	DSD5I16.met	LJ29041.dat		
42	Unknown	0	97	2	CJ8D5I29376 JP8 500PPM	J8D5I29.met	LJ29042.dat		
43	Unknown	0	35	2	DSJ036WB	DSD5I16.met	LJ29043.dat		
44	Unknown	0	36	2	DSJ036WL	DSD5I16.met	LJ29044.dat		



Run #	Run Type	Level	Vial	Volume	Sample ID	Method	Filename	Action	Description
44	Unknown	0	36	2	DSJ036WL	DSD5I16.met	LJ29044.dat		
45	Unknown	0	37	2	DSJ036WC	DSD5I16.met	LJ29045.dat		
46	Unknown	0	38	2	J5J036WL	DSD5I16.met	LJ29046.dat		
47	Unknown	0	39	2	J5J036WC	DSD5I16.met	LJ29047.dat		
48	Unknown	0	40	2	J8J036WL	DSD5I16.met	LJ29048.dat		
49	Unknown	0	41	2	J8J036WC	DSD5I16.met	LJ29049.dat		
50	Unknown	0	42	2	14J176-01	DSD5I16.met	LJ29050.dat		
51	Unknown	0	43	2	14J176-02	DSD5I16.met	LJ29051.dat		
52	Unknown	0	1	2	CDSD5I16377 DSL 500/80/20PPM	DSD5I16.met	LJ29052.dat		
53	Unknown	0	2	2	CDSD5I16378 JP5/5W30 500/500PPM	DSD5I16.met	LJ29053.dat		
54	Unknown	0	97	2	CJ8D5I29379 JP8 500PPM	J8D5I29.met	LJ29054.dat		
55	Unknown	0	44	2	DSJ038WB	DSD5I16.met	LJ29055.dat		
56	Unknown	0	45	2	DSJ038WL	DSD5I16.met	LJ29056.dat		
57	Unknown	0	46	2	DSJ038WC	DSD5I16.met	LJ29057.dat		
58	Unknown	0	47	2	14J178-01	DSD5I16.met	LJ29058.dat		
59	Unknown	0	48	2	14J173-01	DSD5I16.met	LJ29059.dat		
60	Unknown	0	49	2	14J173-02	DSD5I16.met	LJ29060.dat		
61	Unknown	0	50	2	14J173-02M	DSD5I16.met	LJ29061.dat		
62	Unknown	0	51	2	14J173-02S	DSD5I16.met	LJ29062.dat		
63	Unknown	0	52	2	14J173-03	DSD5I16.met	LJ29063.dat		
64	Unknown	0	53	2	14J173-04	DSD5I16.met	LJ29064.dat		
65	Unknown	0	1	2	CDSD5I16380 DSL 500/80/20PPM	DSD5I16.met	LJ29065.dat		
66	Unknown	0	2	2	CDSD5I16381 JP5/5W30 500/500PPM	DSD5I16.met	LJ29066.dat		
67	Unknown	0	54	2	14J144-01	DSD5I16.met	LJ29067.dat		
68	Unknown	0	55	2	14J144-01M	DSD5I16.met	LJ29068.dat		
69	Unknown	0	56	2	14J144-01S	DSD5I16.met	LJ29069.dat		
70	Unknown	0	1	2	CDSD5I16382 DSL 500/80/20PPM	DSD5I16.met	LJ29070.dat		
71	Unknown	0	2	2	CDSD5I16383 JP5/5W30 500/500PPM	DSD5I16.met	LJ29071.dat		
72	Unknown	0	97	2	CJ8D5I29384 JP8 500PPM	J8D5I29.met	LJ29072.dat		
73	Unknown	0	35	2	DSJ036WQ	DSD5I16.met	LJ29073.dat		
74	Unknown	0	36	2	DSJ036WX	DSD5I16.met	LJ29074.dat		
75	Unknown	0	1	2	CDSD5I16385 DSL 500/80/20PPM	DSD5I16.met	LJ29075.dat		
76	Unknown	0	2	2	CDSD5I16386 JP5/5W30 500/500PPM	DSD5I16.met	LJ29076.dat		
77	Unknown	0	97	2	CJ8D5I29387 JP8 500PPM	J8D5I29.met	LJ29077.dat		
78	Unknown	0		2	IB	DSD5I16.met	LJ29078.dat		
79	Unknown	0		2	IB	DSD5I16.met	LJ29079.dat		
80	Unknown	0		2	IB	DSD5I16.met	LJ29080.dat		
81	Unknown	0		2	IB	DSD5I16.met	LJ29081.dat		
82	Unknown	0		2	IB	DSD5I16.met	LJ29082.dat		
83	Unknown	0		2	IB	DSD5I16.met	LJ29083.dat		
84	Unknown	0		2	IB	DSD5I16.met	LJ29084.dat		
85	Unknown	0		2	IB	DSD5I16.met	LJ29085.dat		
86	Unknown	0		2	IB	DSD5I16.met	LJ29086.dat		
87	Unknown	0		2	IB	DSD5I16.met	LJ29087.dat		

EXTRACTION LOGS

EMAX LABORATORIES, INC.

EXTRACTION LOG
for
TPH

SOP	Rev. #
☑ EMAX-3520	5
☐ EMAX-3540	2
☐ EMAX-3550	4
☐ EMAX-3580	2
☐ EMAX-8015AZ	2
☐ EMAX-AK 102/103	3
☐ EMAX-	

Note: For samples and relevant QCs/Standards extracted, refer to attached extraction sequence.

Book #: EDS-070
Preparation Batch: DSJ038W
Matrix: water
Micropipette ID: PE97C-03 (100 µL)
Micropipette ID: PE00-03 (1000 µL)

Standards	ID	Amount Added (ml)
Surrogate	SS3-009-08-30	0.5
Surrogate (		
LCS/MS (diesel)	SS3-009-08-04	0.1
LCS/MS		

Reagent	Lot # / ID
CH_2Cl_2	54184
Na_2SO_4	SW1B-002-62-17
HCl	4113080
Silica Sand	
Silica Gel	
Reagent Water	SW1A-005-10-04
pH strip	HC421273
Filter Paper	95873228

TUNING

Sonicator #	Reading

Concentrator	Water Bath Temperature Setting (°C)	Thermometer Reading (°C)
1		
2	35	35
3	35	35
4	35	35
5		
6		

Lab Sample ID	Sonicator #	Concentrator #
DSJ038WB		4
-WL		4
-WC		4
J144-01		4
-01M		2
-01S		4
J173-01		3
-02		3
-02M		3
-02S		3
-03		3
-04		4
J178-01		3

Comments:

Test thermometer = SVOC-T1

Prepared By: AGG Standard Added By: AGG

Witnessed By: JM Checked By: ML

Extract Received By: km 10/23/14 Extraction Location: EXG-8015-02

Disposal Date: Disposed By:

EMAX LABORATORIES, INC.

FileID: DSJ038W

EXTRACTION LOG FOR EXTRACTABLE TPH

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Ve(ml)	ExpAmt	ExpVe(ml)	PrepFctr	Comments
14DSJ038W01	DSJ038WB	1000	ml	10/28/14 15:28	10	1000	10	1	
14DSJ038W02	DSJ038WL	1000	ml	10/28/14 15:28	10	1000	10	1	
14DSJ038W03	DSJ038WC	1000	ml	10/28/14 15:28	10	1000	10	1	
14DSJ038W04	J144-01	870	ml	10/28/14 15:29	10	1000	10	1.15	
14DSJ038W05	J144-01M	890	ml	10/28/14 15:29	10	1000	10	1.12	
14DSJ038W06	J144-01S	930	ml	10/28/14 15:29	10	1000	10	1.08	
14DSJ038W07	J173-01	800	ml	10/28/14 15:29	10	1000	10	1.25	light yellow
14DSJ038W08	J173-02	910	ml	10/28/14 15:29	10	1000	10	1.1	light yellow
14DSJ038W09	J173-02M	950	ml	10/28/14 15:29	10	1000	10	1.05	light yellow
14DSJ038W10	J173-02S	910	ml	10/28/14 15:29	10	1000	10	1.1	light yellow
14DSJ038W11	J173-03	920	ml	10/28/14 15:29	10	1000	10	1.09	light yellow
14DSJ038W12	J173-04	850	ml	10/28/14 15:29	10	1000	10	1.18	light yellow
14DSJ038W13	J178-01	960	ml	10/28/14 15:29	10	1000	10	1.04	

Ve=extract volume

PrepFctr=(ExpAmt/Aliquot)(Ve/ExpVe)

☑ Extraction Started @ 10/28/14 15:00

Prepared By: AGalan

☑ Extraction Ended @ 10/29/14 9:00

Checked By: ML

Comments: Vol entered after start of extraction. pH adjusted to pH<2 w/ conc HCl for all samples.

Date 10/29/14

TABLE OF CONTENTS

CLIENT: **BATTELLE**

PROJECT: **RED HILL PHASE 1B**

SDG: **14J206**

** - Not Requested

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 11-07-2014
EMAX Batch No.: 14J206

Attn: Carolyn Scala

Battelle
301 South State St., Suite N001
Newton PA 18940

Subject: Laboratory Report
Project: Red Hill Phase 1b

Enclosed is the Laboratory report for samples received on 10/28/14.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
RHMW07-GW-01	J206-01	10/27/14	WATER	TPH GASOLINE
RHMW07-GW-01FD	J206-02	10/27/14	WATER	TPH GASOLINE
TB102714	J206-03	10/27/14	WATER	TPH GASOLINE

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all NELAC & DOD requirements unless noted in the Case Narrative.

NELAC Accredited Certificate Number 02116CA
L-A-B Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
1835 W. 205th Street, Torrance, CA 90501
Tel #: 310-618-8889 Fax #: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER:

SAMPLE STORAGE

EMAX CONTROL NO. *14 J206

PROJECT CODE:

CLIENT Battelle c/o Parsons
PROJECT Red Hill
COORDINATOR Mitch Jensen 801 390 1375
TEL FAX EMAIL Gene.Wright@parsons.com
SEND REPORT TO Gene Wright 801 553 3317
COMPANY Parsons
ADDRESS 10235 S. Jordan Gateway #300, South Jordan, Utah 84095
EMAX PM Nguyen

MATRIX CODE: DW=Drinking Water; GW=Ground Water; WW=Waste Water; SD=Solid Waste SL=Sludge; SS=Soil/ Sediment; WP=Wipes PP=Pure Products; AR=Air; O=

PRESERVATIVE CODE: IC = Ice; HC = HCl; HN=HNO3; SH=NaOH; ST=Na2S2O3; ZA=Zinc Acetate; HS=H_2SO_4

ANALYSIS REQUIRED: TPH-GRO

TAT: ☐ Rush ____hrs. ☐ Rush ____days ☐ 7 days ☐ 14 days ☐ 21 days ☐ 30 days ☐ ____days ☑ per contract / QAPP

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	SIZE	TYPE	MATRIX CODE	QC	PRESERVATIVE CODE	COMMENTS
* 1	RHMW07-GW-01	Oahu, HI	10/27/14	0900	3	40ml	VOA	GW		IC	unpreserved
* 2	RHMW07-GW-01FD		10/27/14	0900	3	"	"	GW		IC	" "
* 3	TB102714		10/27/14	0900	2	"	"		X	IC	" "
* 4											
* 5											
* 6											
* 7											
* 8											
* 9											
* 0											

Instructions

Cooler #	Temp. (°C)	Sample #s
1	3.3	

SAMPLER

COURIER/AIRBILL Fedex

RELINQUISHED BY	Date	Time	RECEIVED BY	
	10/27/14	1030		10/28/14 09:15

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepacies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associted with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

SAMPLE RECEIPT FORM 1

Reference Number: SM02.7.3

Type of Delivery	Airbill / Tracking Number	ECN 14 J 206
☑ Fedex ☐ UPS ☐ GSO ☐ Others	8033 9937 1635	Recipient I ATEL
☐ EMAX Courier ☐ Client Delivery		Date 10/28/14 Time 0915

COC INSPECTION

☑ Client Name	☑ Client PM/FC	NO ☑ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☑ Matrix
☑ Address	☑ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☑ Preservative (if any)	☑ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note: _____

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☑ Custody Seal	☑ Intact	☐ Damaged		
Packaging	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☑ Sufficient	☑ plastic bag
Temperatures (Cool, ≤6 °C but not frozen)	B ☑ Cooler 1 3.3 °C	☐ Cooler 2 _____ °C	☐ Cooler 3 _____ °C	☐ Cooler 4 _____ °C	☐ Cooler 5 _____ °C
	☐ Cooler 6 _____ °C	☐ Cooler 7 _____ °C	☐ Cooler 8 _____ °C	☐ Cooler 9 _____ °C	☐ Cooler 10 _____ °C
Thermometer:	*A - S/N* 130538505	*B - S/N* 140253070	*C - S/N* _____	*D - S/N* _____	

Comments: ☐ **Temperature is out of range. PM was informed IMMEDIATELY.** FM 10/28/14

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
			a 10/28/14	

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS:

LEGEND:

☐ **Continue to next page.**

Code	Description- Sample Management
D1	Analysis is not indicated in _____
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in _____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in _____
D7	Date/Time mismatch COC vs label
D8	Sample listed in COC is not received
D9	Sample received is not listed in COC
D10	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
D12	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
D22	_____
D23	_____
D24	_____

Code	Description-Sample Management
R1	Proceed as indicated in ☐ COC ☐ Label
R2	Refer to attached instruction
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and time+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	_____
R9	_____
R10	_____
R11	_____
R12	_____

REVIEWS:

Sample Labeling _____ Date 10/28/14

10-28-14

SRF _____ Date 10/28/14

PM _____ Date 10/28/14

00029

00052

FedEx Express Package US Airbill

FedEx Tracking Number 8033 9937 1635

Form ID No. 0215

Recipient's Copy

1 From

Date 10-27-14

Sender's Name MITCH JENSEN Phone 801 572-5999

Company PARSONS GOVT

Address 10235 S JORDAN GTWY STE 300 Dept./Floor/Suite/Room

City SOUTH JORDAN State UT ZIP 84095-4188

2 Your Internal Billing Reference

64016.0006.7449425.05201.4280

3 To

Recipient's Name Sample Receiving / Nguyen Phone 310 618 8889

Company Emax Laboratories, Inc.

Address 1835 W. 205th Street Dept./Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City Torrance State CA ZIP 90501

0108334348

HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

8033 9937 1635

4 Express Package Service * To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs. For packages over 150 lbs., use the FedEx Express Freight US Airbill.

Next Busines

- FedEx First Ov Earliest next busines locations. Friday ship Monday unless SAT
- FedEx Priority Next business morn delivered on Monda is selected.
- FedEx Standa Next business after Saturday Delivery N

5 Packaging

- FedEx Envelo

6 Special Ha

- SATURDAY D NOT available for
- No Signature Package may be le obtaining a signatu

Does this ship

- No

Dangerous goods (includi or placed in a FedEx Expr

7 Payment

- Sender Acct. No. in Sectio will be billed

Total Packages

†Our liability is limited to U

Rev. Date 2/12 • Part #1

ORIGIN ID:HNLA (801) 572-5999
PARSONS GOVT
10235 S JORDAN GTWY STE 300
SOUTH JORDAN, UT 840954188
UNITED STATES US

SHIP DATE: 27OCT14
ACTWGT: 36.5 LB
CAD: /POS1525
DIMS: 25x14x14 IN
BILL SENDER

TO SAMPLE RECEIVING
EMAX LABORTORIES
1835 W 205TH ST

TORRANCE CA 90501
(310) 618-8889 REF:
INV:
PO: DEPT:

FedEx Express

J14221409230101uv

TRK# 0215 8033 9937 1635

TUE - 28 OCT 10:30A
PRIORITY OVERNIGHT

WZ HHRA

90501
CA-US LAX

fedex.com 1.800.GoFedEx 1.800.463.3339

#725802 10/27 522GV DF64 8ACC

6951

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

BATTELLE

RED HILL PHASE 1B

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

SDG#: 14J206

CASE NARRATIVE

Client : BATTELLE

Project : RED HILL PHASE 1B

SDG : 14J206

METHOD SW5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

A total of three (3) water samples were received on 10/28/14 for TPH Gasoline analysis, Method SW5030B/8015B in accordance with Department of Defense Quality Systems Manual for Environmental Laboratories, Version 4.2 and project SAP August 2014.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for VG39J18L/Y were all within QC limits.

Matrix QC Sample
No matrix QC sample was designated in this SDG.

Surrogate
Surrogate was added on QC and field samples. Surrogate recoveries were within project QC limits. Refer to sample result forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : BATTELLE
Project : RED HILL PHASE 1B
SDG NO. : 14J206
Instrument ID : GCT039

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	WATER Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VG39J18B	1	NA	10/28/1418:33	10/28/1418:33	EJ28008A	EJ28003A	VG39J18	Method Blank
LCS1W	VG39J18L	1	NA	10/28/1415:21	10/28/1415:21	EJ28004A	EJ28003A	VG39J18	Lab Control Sample (LCS)
LCD1W	VG39J18Y	1	NA	10/28/1417:15	10/28/1417:15	EJ28006A	EJ28003A	VG39J18	LCS Duplicate
RHMW07-GW-01	J206-01	1	NA	10/28/1419:12	10/28/1419:12	EJ28009A	EJ28003A	VG39J18	Field Sample
RHMW07-GW-01FD	J206-02	1	NA	10/28/1419:51	10/28/1419:51	EJ28010A	EJ28003A	VG39J18	Field Sample
TB102714	J206-03	1	NA	10/28/1420:30	10/28/1420:30	EJ28011A	EJ28003A	VG39J18	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD SW5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : BATTELLE	Date Collected: 10/27/14
Project : RED HILL PHASE 1B	Date Received: 10/28/14
Batch No. : 14J206	Date Extracted: 10/28/14 19:12
Sample ID: RHMW07-GW-01	Date Analyzed: 10/28/14 19:12
Lab Samp ID: J206-01	Dilution Factor: 1
Lab File ID: EJ28009A	Matrix : WATER
Ext Btch ID: VG39J18	% Moisture : NA
Calib. Ref.: EJ28003A	Instrument ID : GCT039

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
GRO	ND	0.050	0.010	0.020

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	0.0358	0.04000	89.4	70-130

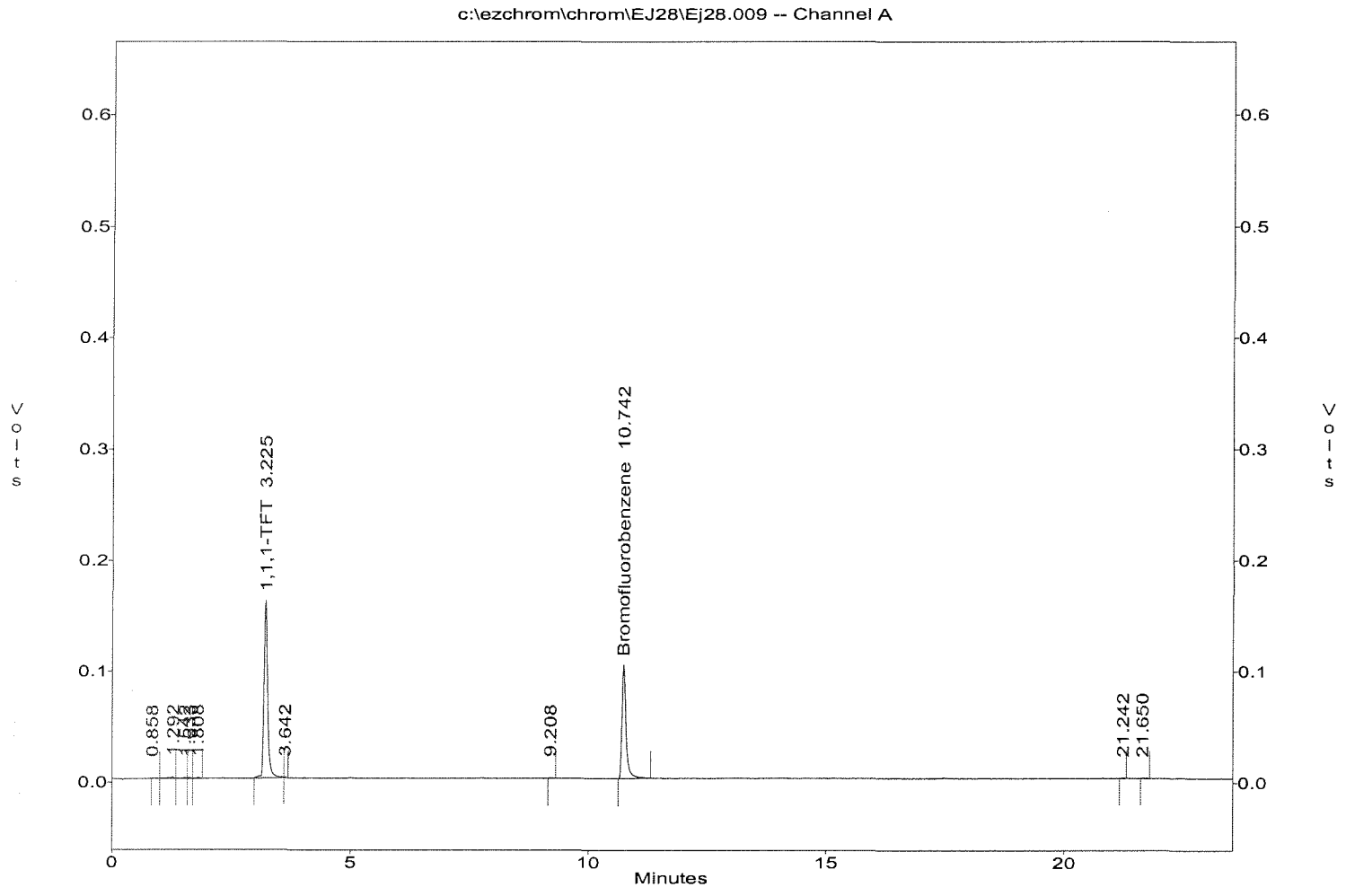
Parameter	H-C Range
GRO	C6-C10

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EJ28\Ej28.009
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : 14J206-01 5.0ML W
Acquired : Oct 28, 2014 19:12:21
Printed : Oct 28, 2014 19:35:53
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
6	1,1,1-TFT	3.225	859371.0	21400.0	40.16
9	Bromofluorobenzene	10.742	598394.0	16725.9	35.78
G1	GASOLINE(TOTAL)		25523.0	28261.9	0.90
G2	GRO(C6-C10)		9849.0	21355.4	0.46
G3	GRO(2MP-124TMB)		13257.0	21297.0	0.62
G4	GRO(C5-C12)		21209.0	27928.9	0.76
G5	GRO(C6-C12)		9849.0	27890.2	0.35
G6	GRO(C5-C10)		21209.0	21396.8	0.99



METHOD SW5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : BATTELLE	Date Collected: 10/27/14
Project : RED HILL PHASE 1B	Date Received: 10/28/14
Batch No. : 14J206	Date Extracted: 10/28/14 19:51
Sample ID: RHMW07-GW-01FD	Date Analyzed: 10/28/14 19:51
Lab Samp ID: J206-02	Dilution Factor: 1
Lab File ID: EJ28010A	Matrix : WATER
Ext Btch ID: VG39J18	% Moisture : NA
Calib. Ref.: EJ28003A	Instrument ID : GCT039

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
GRO	ND	0.050	0.010	0.020

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	0.0373	0.04000	93.4	70-130

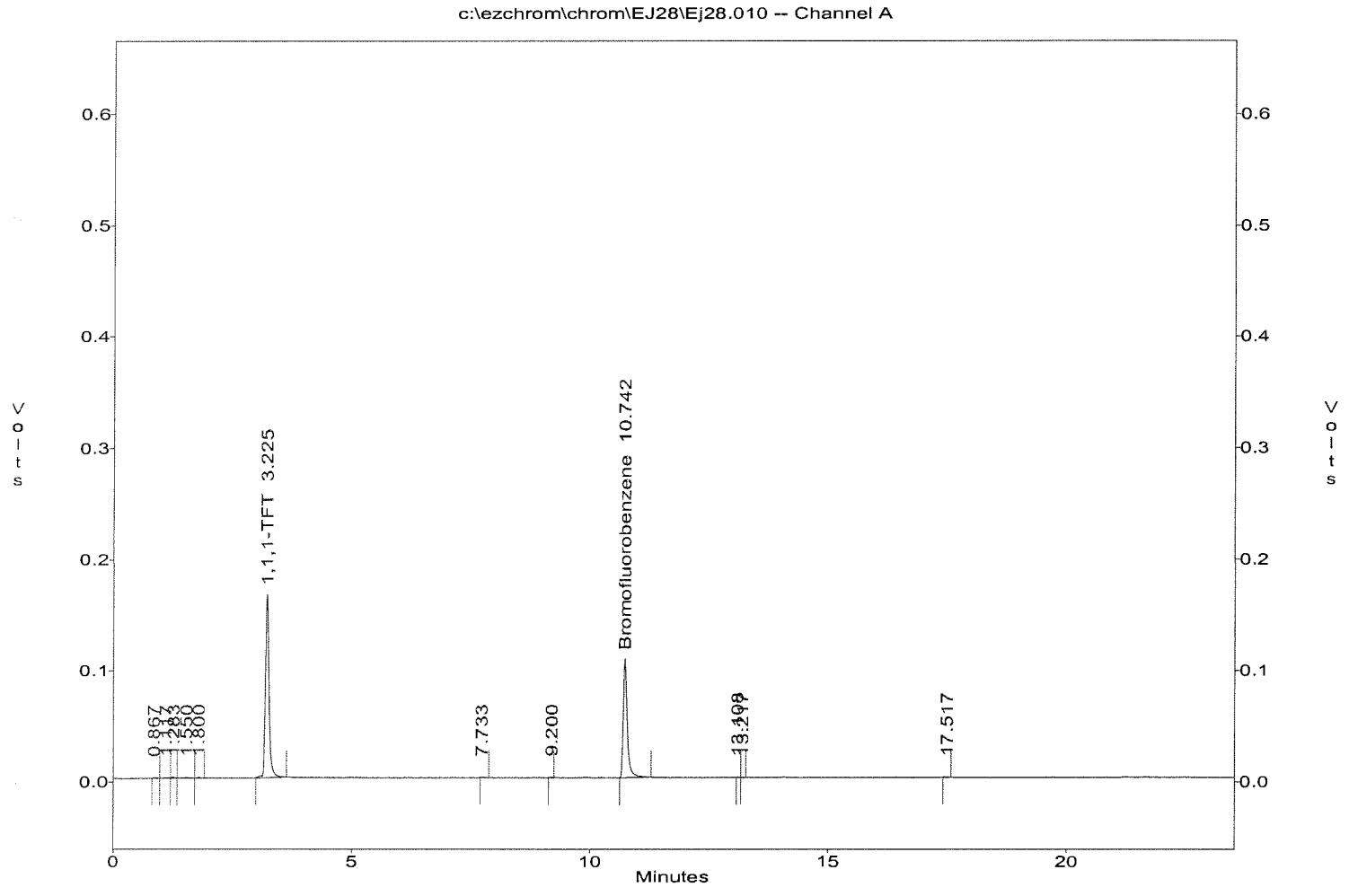
Parameter	H-C Range
GRO	C6-C10

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EJ28\Ej28.010
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : 14J206-02 5.0ML W
Acquired : Oct 28, 2014 19:51:17
Printed : Oct 28, 2014 20:14:49
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
6	1,1,1-TFT	3.225	882773.0	21400.0	41.25
9	Bromofluorobenzene	10.742	624570.0	16725.9	37.34
G1	GASOLINE(TOTAL)		28922.0	28261.9	1.02
G2	GRO(C6-C10)		7033.0	21355.4	0.33
G3	GRO(2MP-124TMB)		14991.0	21297.0	0.70
G4	GRO(C5-C12)		24071.0	27928.9	0.86
G5	GRO(C6-C12)		11015.0	27890.2	0.39
G6	GRO(C5-C10)		20089.0	21396.8	0.94



METHOD SW5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : BATTELLE	Date Collected: 10/27/14
Project : RED HILL PHASE 1B	Date Received: 10/28/14
Batch No. : 14J206	Date Extracted: 10/28/14 20:30
Sample ID: TB102714	Date Analyzed: 10/28/14 20:30
Lab Samp ID: J206-03	Dilution Factor: 1
Lab File ID: EJ28011A	Matrix : WATER
Ext Btch ID: VG39J18	% Moisture : NA
Calib. Ref.: EJ28003A	Instrument ID : GCT039

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
GRO	ND	0.050	0.010	0.020

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	0.0389	0.04000	97.3	70-130

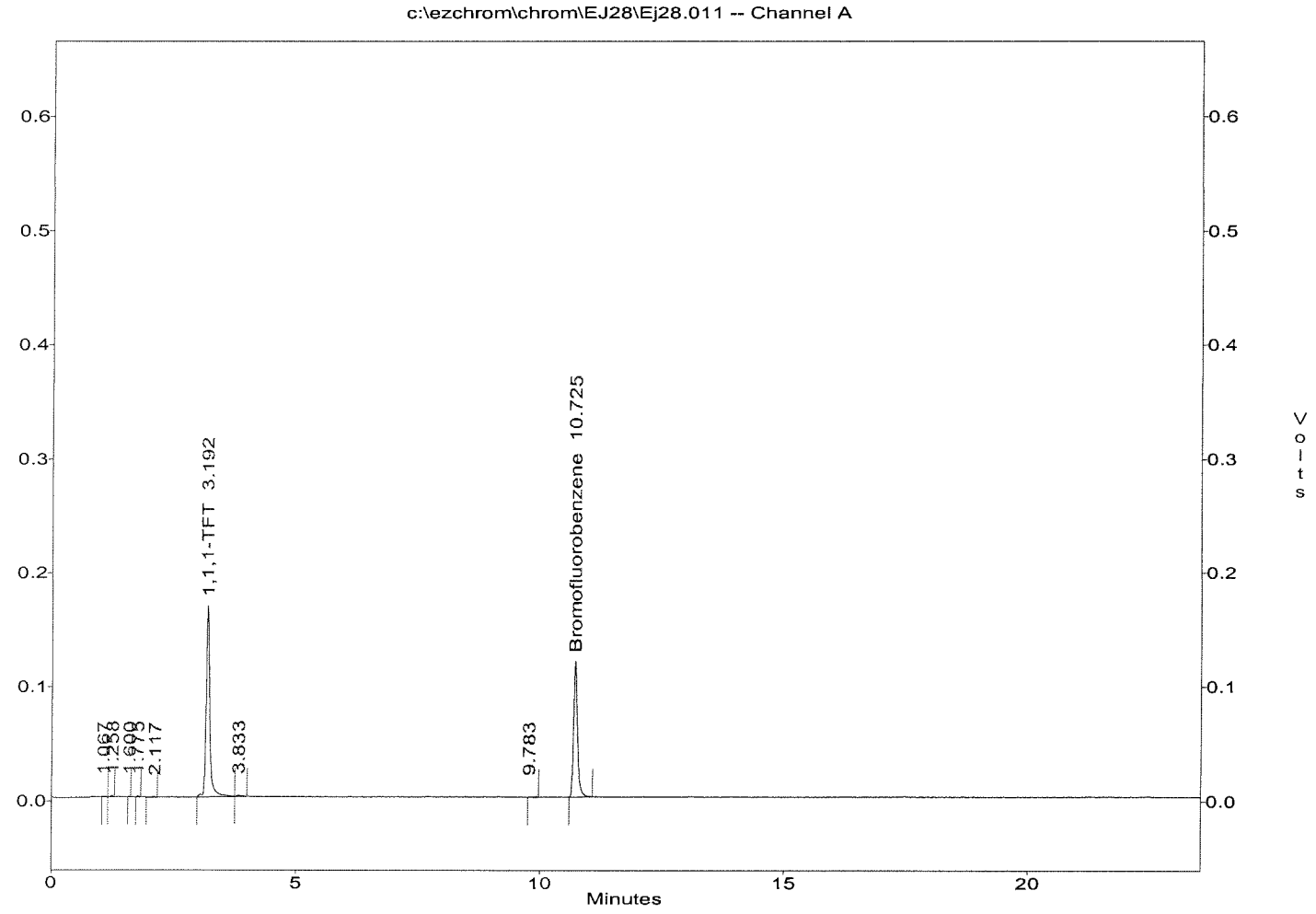
Parameter	H-C Range
GRO	C6-C10

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EJ28\Ej28.011
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : 14J206-03 5.0ML W
Acquired : Oct 28, 2014 20:30:09
Printed : Oct 28, 2014 20:53:41
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
6	1,1,1-TFT	3.192	899284.0	21400.0	42.02
9	Bromofluorobenzene	10.725	651145.0	16725.9	38.93
G1	GASOLINE(TOTAL)		24291.0	28261.9	0.86
G2	GRO(C6-C10)		15817.0	21355.4	0.74
G3	GRO(2MP-124TMB)		16688.0	21297.0	0.78
G4	GRO(C5-C12)		21324.0	27928.9	0.76
G5	GRO(C6-C12)		15817.0	27890.2	0.57
G6	GRO(C5-C10)		21324.0	21396.8	1.00



QC SUMMARIES

METHOD SW5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: BATTELLE	Date Collected:	NA
Project	: RED HILL PHASE 1B	Date Received:	10/28/14
Batch No.	: 14J206	Date Extracted:	10/28/14 18:33
Sample ID:	MBLK1W	Date Analyzed:	10/28/14 18:33
Lab Samp ID:	VG39J18B	Dilution Factor:	1
Lab File ID:	EJ28008A	Matrix :	WATER
Ext Btch ID:	VG39J18	% Moisture :	NA
Calib. Ref.:	EJ28003A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
GRO	ND	0.050	0.010	0.020

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	0.0382	0.04000	95.6	70-130

Parameter	H-C Range
GRO	C6-C10

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: BATTELLE
PROJECT: RED HILL PHASE 1B
BATCH NO.: 14J206
METHOD: SW5030B/8015B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	VG39J18B	VG39J18L	VG39J18Y		
LAB FILE ID:	EJ28008A	EJ28004A	EJ28006A		
DATE EXTRACTED:	10/28/1418:33	10/28/1415:21	10/28/1417:15	DATE COLLECTED:	NA
DATE ANALYZED:	10/28/1418:33	10/28/1415:21	10/28/1417:15	DATE RECEIVED:	10/28/14
PREP. BATCH:	VG39J18	VG39J18	VG39J18		
CALIB. REF:	EJ28003A	EJ28003A	EJ28003A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
GRO	ND	0.500	0.443	89	0.500	0.445	89	0	60-130	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	QC LIMIT (%)
Bromofluorobenzene	0.0400	0.0411	103	0.0400	0.0413	103	70-130

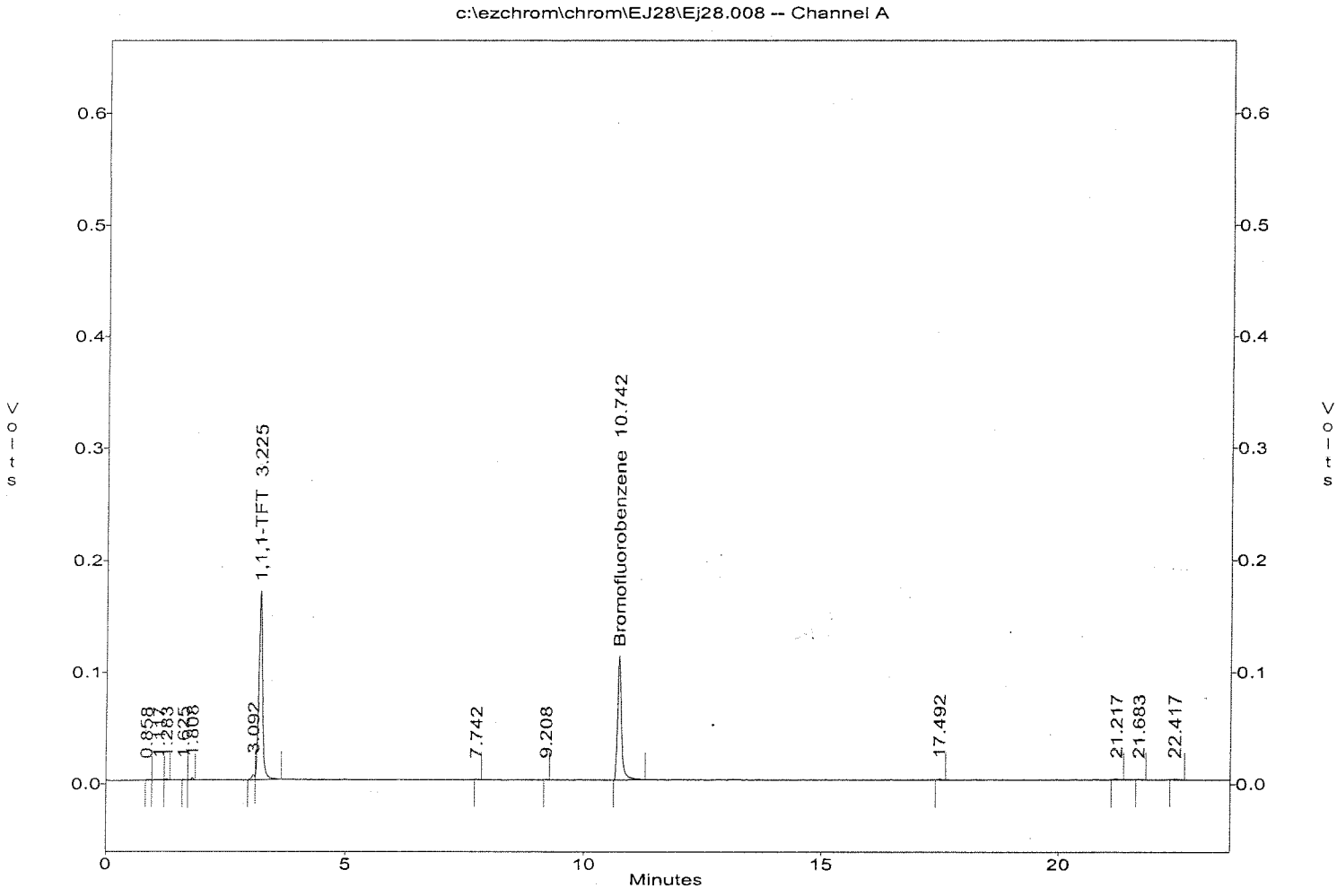
QC DATA

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EJ28\Ej28.008
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : VG39J18B 5.0ML W
Acquired : Oct 28, 2014 18:33:19
Printed : Oct 28, 2014 18:56:51
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
7	1,1,1-TFT	3.225	886631.0	21400.0	41.43
10	Bromofluorobenzene	10.742	639406.0	16725.9	38.23
G1	GASOLINE(TOTAL)		57840.0	28261.9	2.05
G2	GRO(C6-C10)		32440.0	21355.4	1.52
G3	GRO(2MP-124TMB)		32440.0	21297.0	1.52
G4	GRO(C5-C12)		39873.0	27928.9	1.43
G5	GRO(C6-C12)		36124.0	27890.2	1.30
G6	GRO(C5-C10)		36189.0	21396.8	1.69

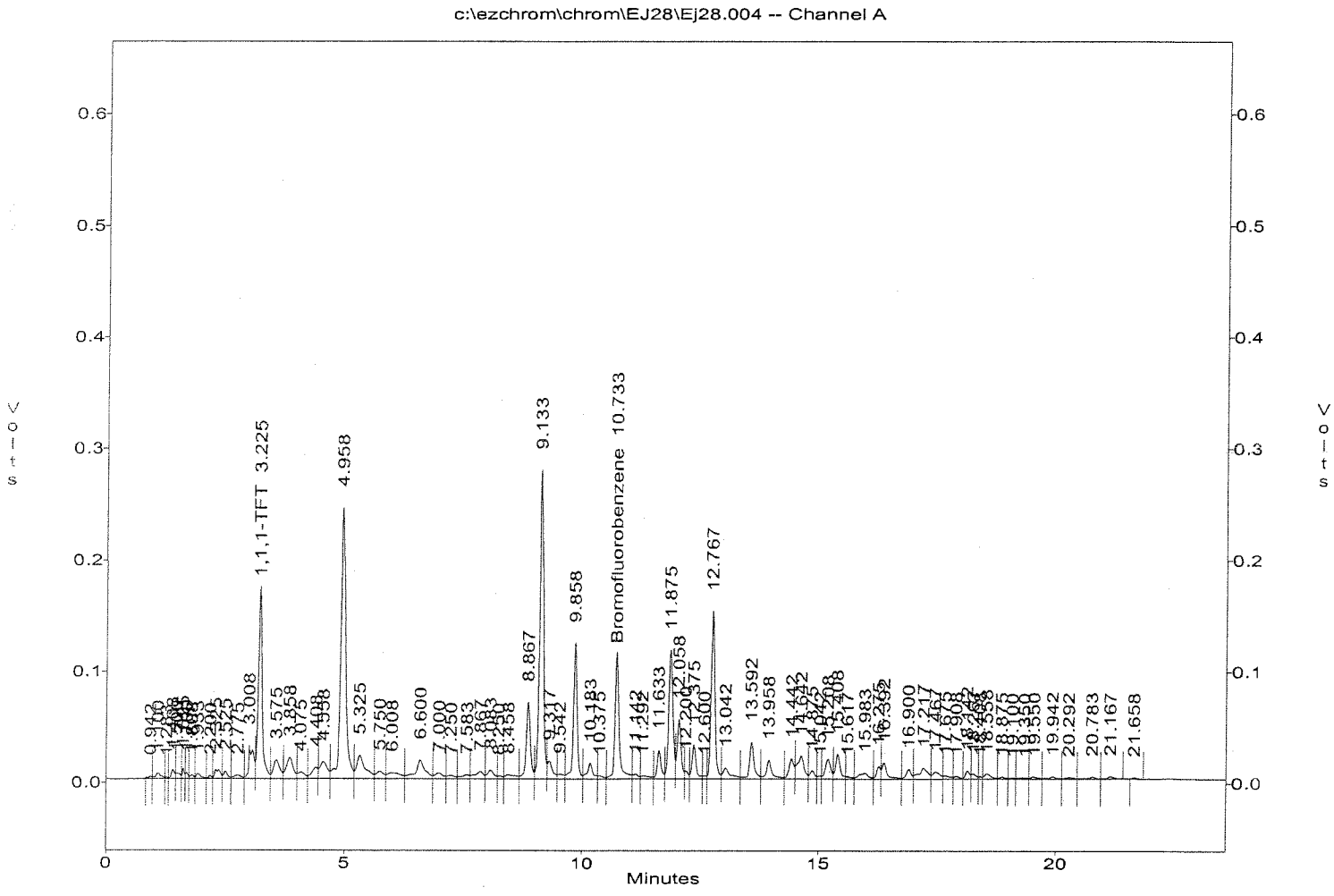


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EJ28\Ej28.004
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : VG39J18L 5.0ML W
Acquired : Oct 28, 2014 15:21:14
Printed : Oct 28, 2014 15:44:45
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
15	1,1,1-TFT	3.225	945326.0	21400.0	44.17
40	Bromofluorobenzene	10.733	688207.0	16725.9	41.15
G1	GASOLINE(TOTAL)		11491775.0	28261.9	406.62
G2	GRO(C6-C10)		9466023.0	21355.4	443.26
G3	GRO(2MP-124TMB)		9427327.0	21297.0	442.66
G4	GRO(C5-C12)		11312188.0	27928.9	405.04
G5	GRO(C6-C12)		11237812.0	27890.2	402.93
G6	GRO(C5-C10)		9540399.0	21396.8	445.88

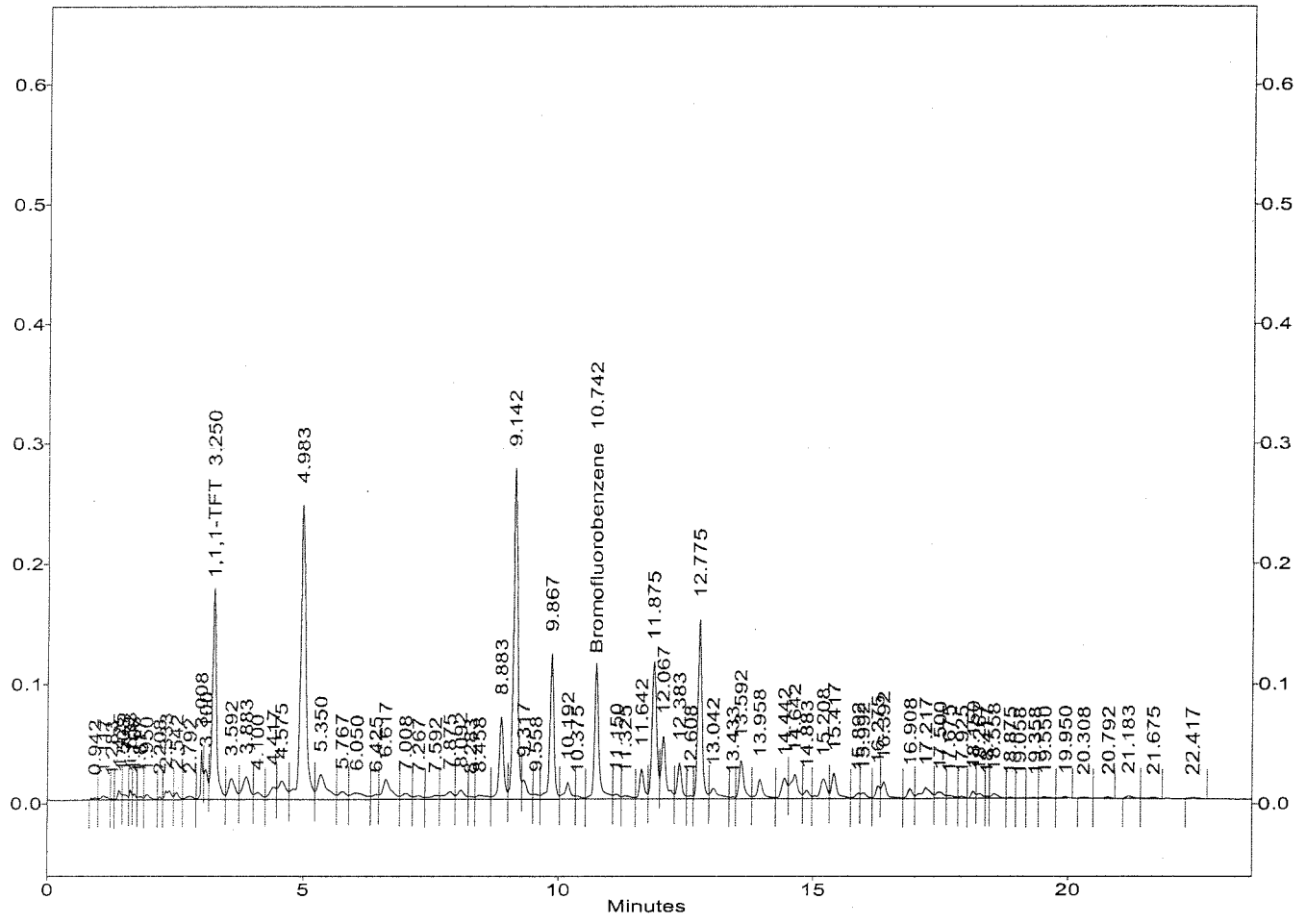


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EJ28\Ej28.006
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : VG39J18Y 5.0ML W
Acquired : Oct 28, 2014 17:15:26
Printed : Oct 28, 2014 17:38:58
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
16	1,1,1-TFT	3.250	958307.0	21400.0	44.78
42	Bromofluorobenzene	10.742	690118.0	16725.9	41.26
G1	GASOLINE(TOTAL)		11339694.0	28261.9	401.24
G2	GRO(C6-C10)		9510058.0	21355.4	445.32
G3	GRO(2MP-124TMB)		9473824.0	21297.0	444.84
G4	GRO(C5-C12)		11222687.0	27928.9	401.83
G5	GRO(C6-C12)		11155657.0	27890.2	399.98
G6	GRO(C5-C10)		9577088.0	21396.8	447.59



INITIAL CALIBRATIONS

INITIAL CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT39
GC Columm : DB-5
Column size ID : 30MX.53MM
LFID & Datetime: EE02002A 05/02/14 11:39
LFID & Datetime: EE02003A 05/02/14 12:18
LFID & Datetime: EE02004A 05/02/14 12:57
LFID & Datetime: EE02005A 05/02/14 13:36
LFID & Datetime: EE02006A 05/02/14 14:15
LFID & Datetime: EE02007A 05/02/14 14:54
CONC UNIT: ppb

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 1.00X	2.50X	5.00X	25.00X	50.00X	75.00X	MEAN	%RSD	
Gasoline(TOTAL)	20.00	27801	27719	28723	28893	27835	28600	28261.9	1.9	✓
GRO(C6-C10)	20.00	21440	21614	22072	21470	20441	21095	21355.4	2.6	✓
GRO(2MP-124TMB)	20.00	21440	21614	21962	21379	20360	21028	21297.0	2.6	✓
GRO(C5-C12)	20.00	27412	27451	28534	28563	27415	28199	27928.9	2.0	✓
GRO(C6-C12)	20.00	27293	27392	28506	28556	27411	28184	27890.2	2.1	✓
GRO(C5-C10)	20.00	21558	21673	22100	21481	20451	21117	21396.8	2.6	✓
SURROGATE	X	1.00X	2.00X	3.00X	4.00X	5.00X	8.00X	MEAN	%RSD	
Bromofluorobenzene	10.00	14346	14383	15057	18957	18920	18692	16725.9	14.0	✓
1,1,1-Trifluorotoluene	10.00	21580 ✓	20507 ✓	21018 ✓	21584 ✓	21776	21933 ✓	21400.0 ✓	2.5 ✓	

VG39E02.MET

AA 05/05/14

FORM VI 8015P -2 1/96

INITIAL CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT39
GC Column : DB-5
Column size ID : 30MX.53MM
LFID & Datetime: EE02002A 05/02/14 11:39
LFID & Datetime: EE02003A 05/02/14 12:18
LFID & Datetime: EE02004A 05/02/14 12:57
LFID & Datetime: EE02005A 05/02/14 13:36
LFID & Datetime: EE02006A 05/02/14 14:15
LFID & Datetime: EE02007A 05/02/14 14:54

COMPOUND	RT OF STANDARDS (MIN) 1.0X	2.5X	5.0X	25.0X	50.0X	75.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
Gasoline(TOTAL)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO(C6-C10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO(2MP-124TMB)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO(C5-C12)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO(C6-C12)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO(C5-C10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SURROGATE	1.0X	2.0X	3.0X	4.0X	5.0X	8.0X	RT	FROM	TO	WIDTH
Bromofluorobenzene	10.733	10.725	10.725	10.725	10.725	10.717	10.725	10.682	10.768	0.043
1,1,1-Trifluorotoluene	3.217	3.217	3.217	3.208	3.208	3.208	3.212	3.088	3.336	0.124

VG39E02.MET

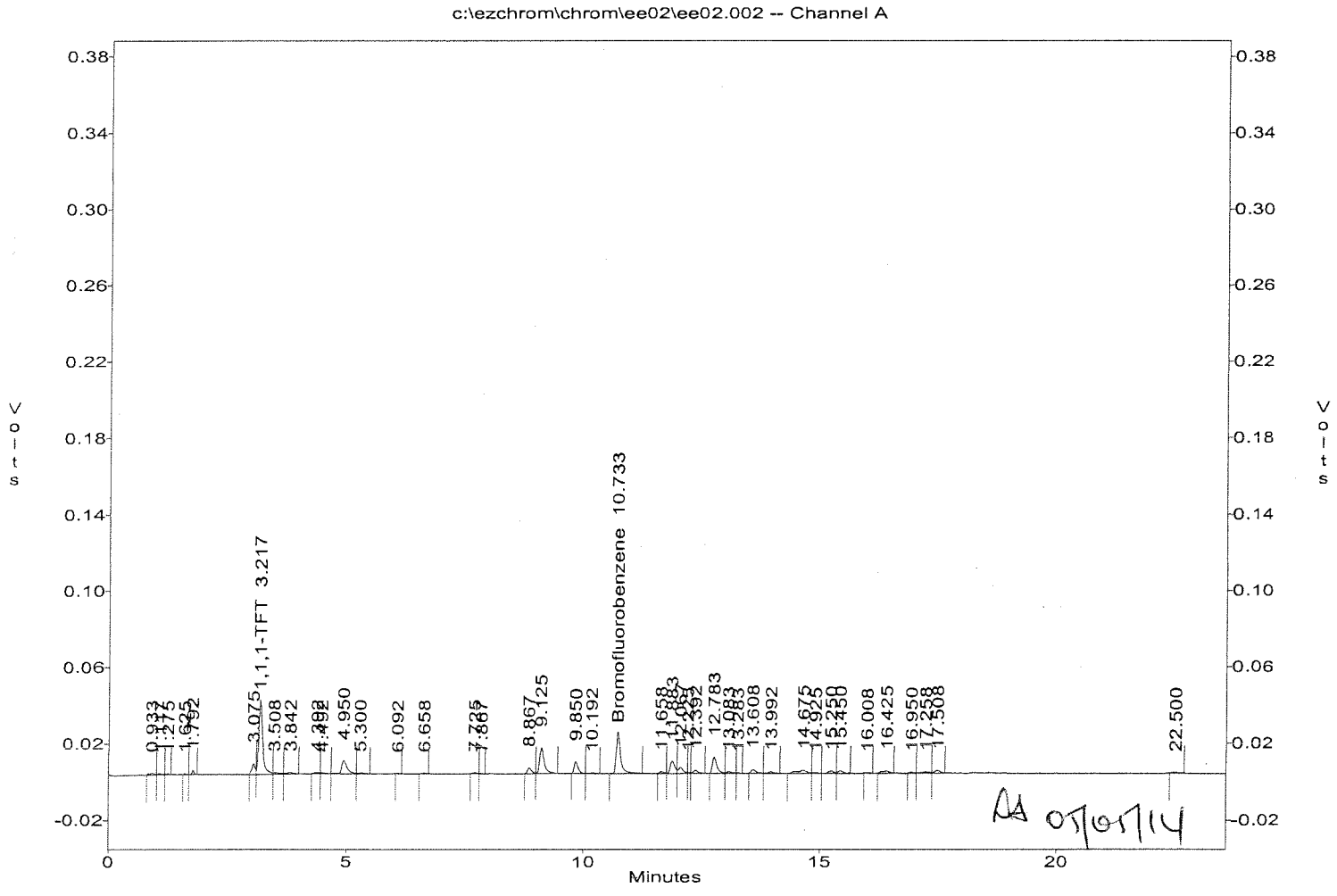
05/05/12

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.002
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39E0201 20/10
Acquired : May 02, 2014 11:39:55
Printed : May 05, 2014 09:31:15
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
7	1,1,1-TFT	3.217	215802.0 ✓	21400.0	10.00
22	Bromofluorobenzene	10.733	143459.0 ✓	16725.9	10.00
G1	GASOLINE(TOTAL)		556018.0 ✓	28261.9	20.00
G2	GRO(C6-C10)		428798.0 ✓	21355.4	20.00
G3	GRO(2MP-124TMB)		428798.0 ✓	21297.0	20.00
G4	GRO(C5-C12)		548233.0 ✓	27928.9	20.00
G5	GRO(C6-C12)		545864.0 ✓	27890.2	20.00
G6	GRO(C5-C10)		431167.0 ✓	21396.8	20.00



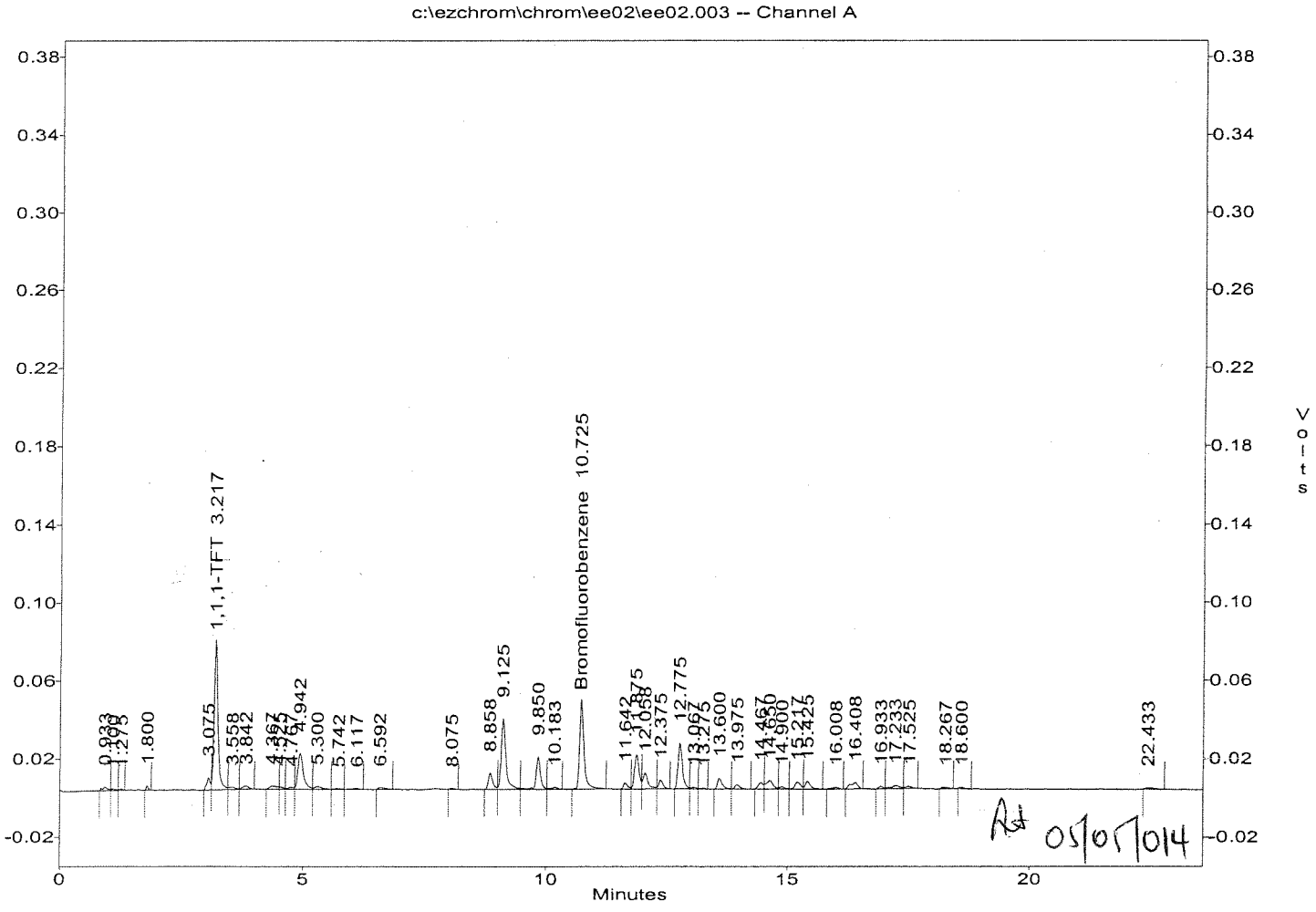
4020

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.003
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39E0202 50/20
Acquired : May 02, 2014 12:18:52
Printed : May 05, 2014 09:31:23
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
6	1,1,1-TFT	3.217	410145.0	21400.0	20.00
22	Bromofluorobenzene	10.725	287659.0	16725.9	20.00
G1	GASOLINE(TOTAL)		1385955.0	28261.9	50.00
G2	GRO(C6-C10)		1080683.0	21355.4	50.00
G3	GRO(2MP-124TMB)		1080683.0	21297.0	50.00
G4	GRO(C5-C12)		1372563.0	27928.9	50.00
G5	GRO(C6-C12)		1369606.0	27890.2	50.00
G6	GRO(C5-C10)		1083640.0	21396.8	50.00



AA 05/07/2014

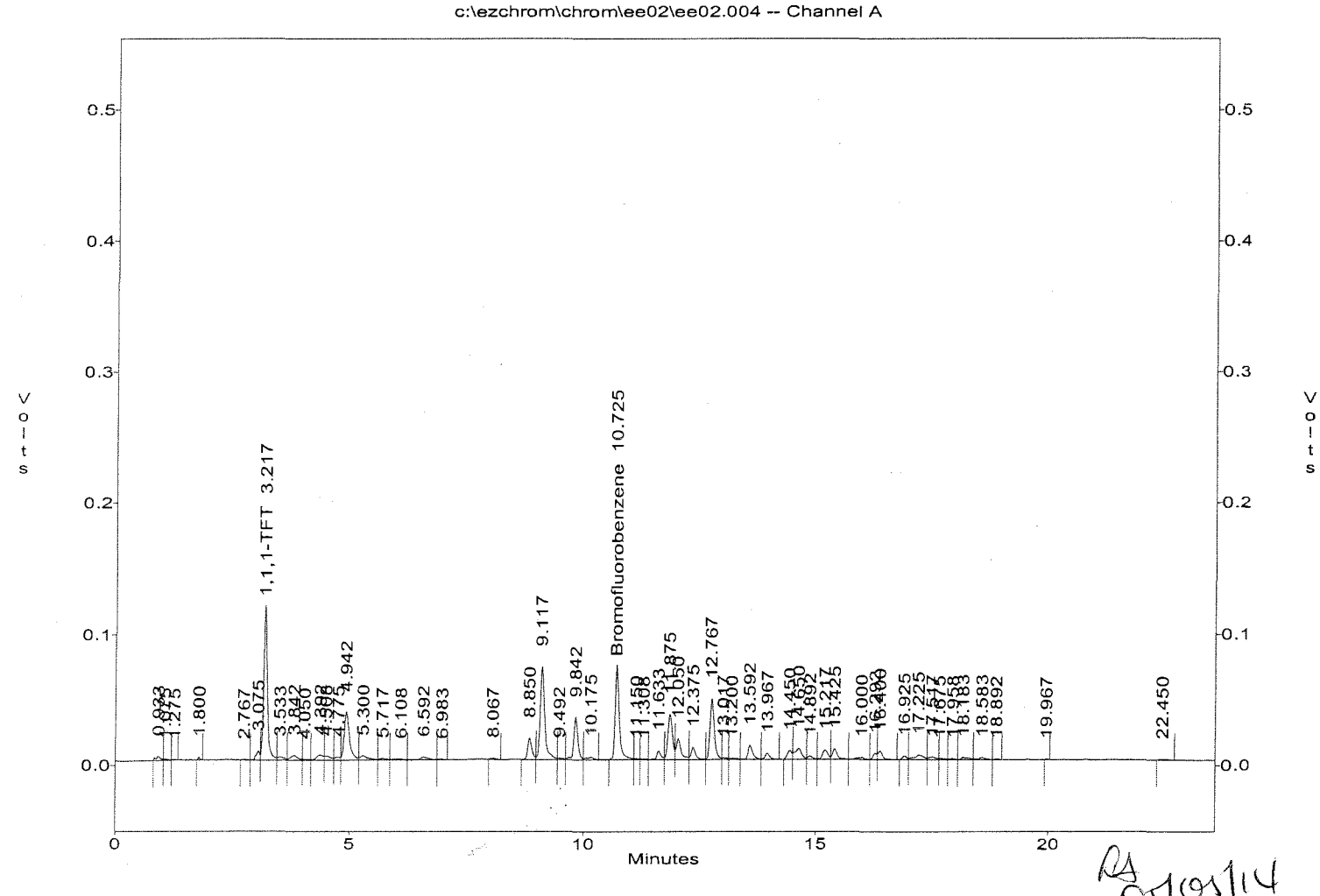
4021

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.004
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39E0203 100/30
Acquired : May 02, 2014 12:57:53
Printed : May 05, 2014 09:31:56
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
7	1,1,1-TFT	3.217	630554.0	21400.0	30.00
26	Bromofluorobenzene	10.725	451712.0	16725.9	30.00
G1	GASOLINE(TOTAL)		2872293.0	28261.9	100.00
G2	GRO(C6-C10)		2207233.0	21355.4	100.00
G3	GRO(2MP-124TMB)		2196184.0	21297.0	100.00
G4	GRO(C5-C12)		2853376.0	27928.9	100.00
G5	GRO(C6-C12)		2850571.0	27890.2	100.00
G6	GRO(C5-C10)		2210038.0	21396.8	100.00



RS 05/09/14

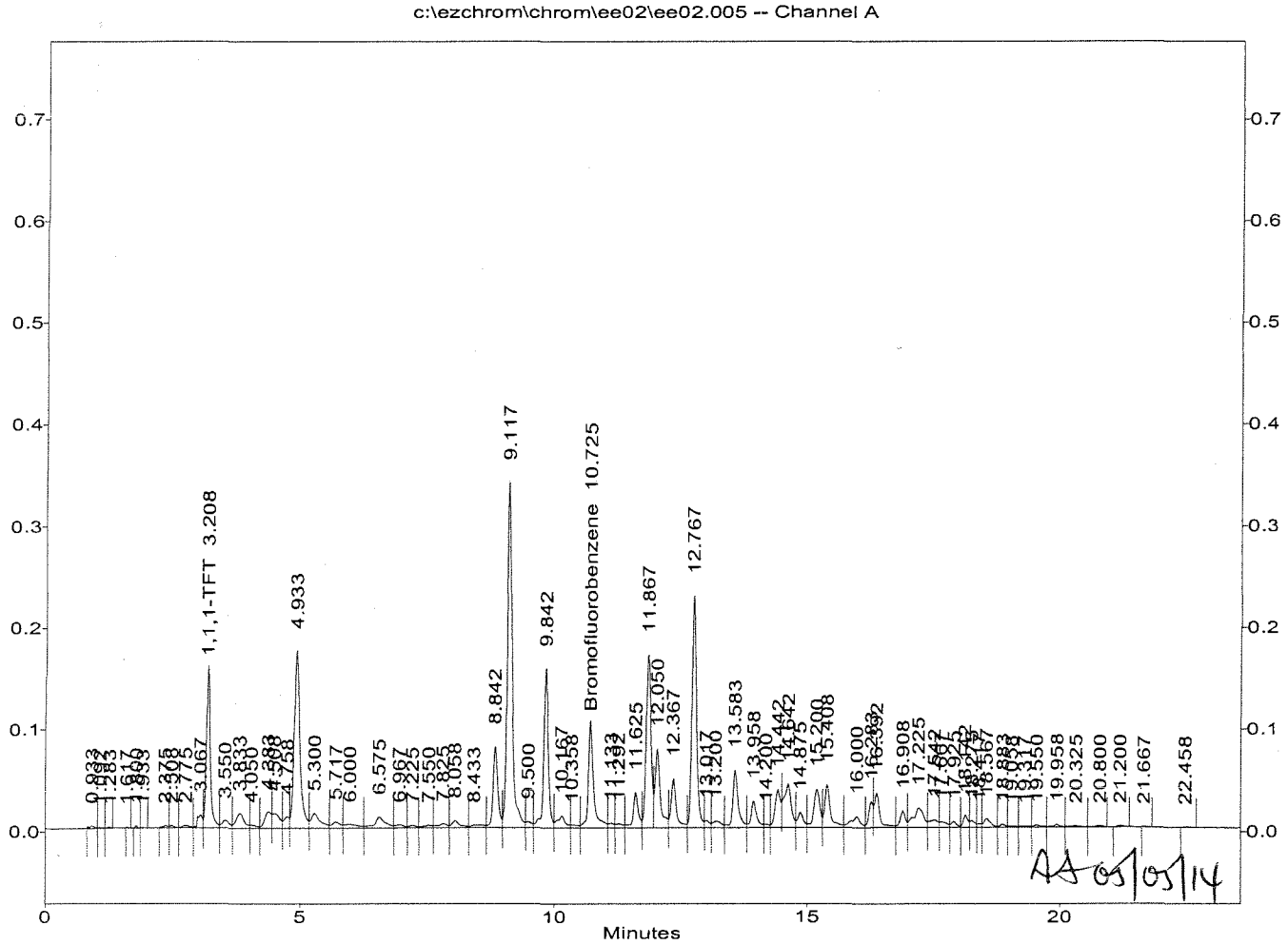
4022

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.005
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39E0204 500/40
Acquired : May 02, 2014 13:36:49
Printed : May 05, 2014 09:32:30
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
11	1,1,1-TFT	3.208	863365.0	21400.0	40.00
35	Bromofluorobenzene	10.725	758288.0	16725.9	40.00
G1	GASOLINE(TOTAL)		14446530.0	28261.9	500.00
G2	GRO(C6-C10)		10735124.0	21355.4	500.00
G3	GRO(2MP-124TMB)		10689338.0	21297.0	500.00
G4	GRO(C5-C12)		14281643.0	27928.9	500.00
G5	GRO(C6-C12)		14278004.0	27890.2	500.00
G6	GRO(C5-C10)		10740735.0	21396.8	500.00

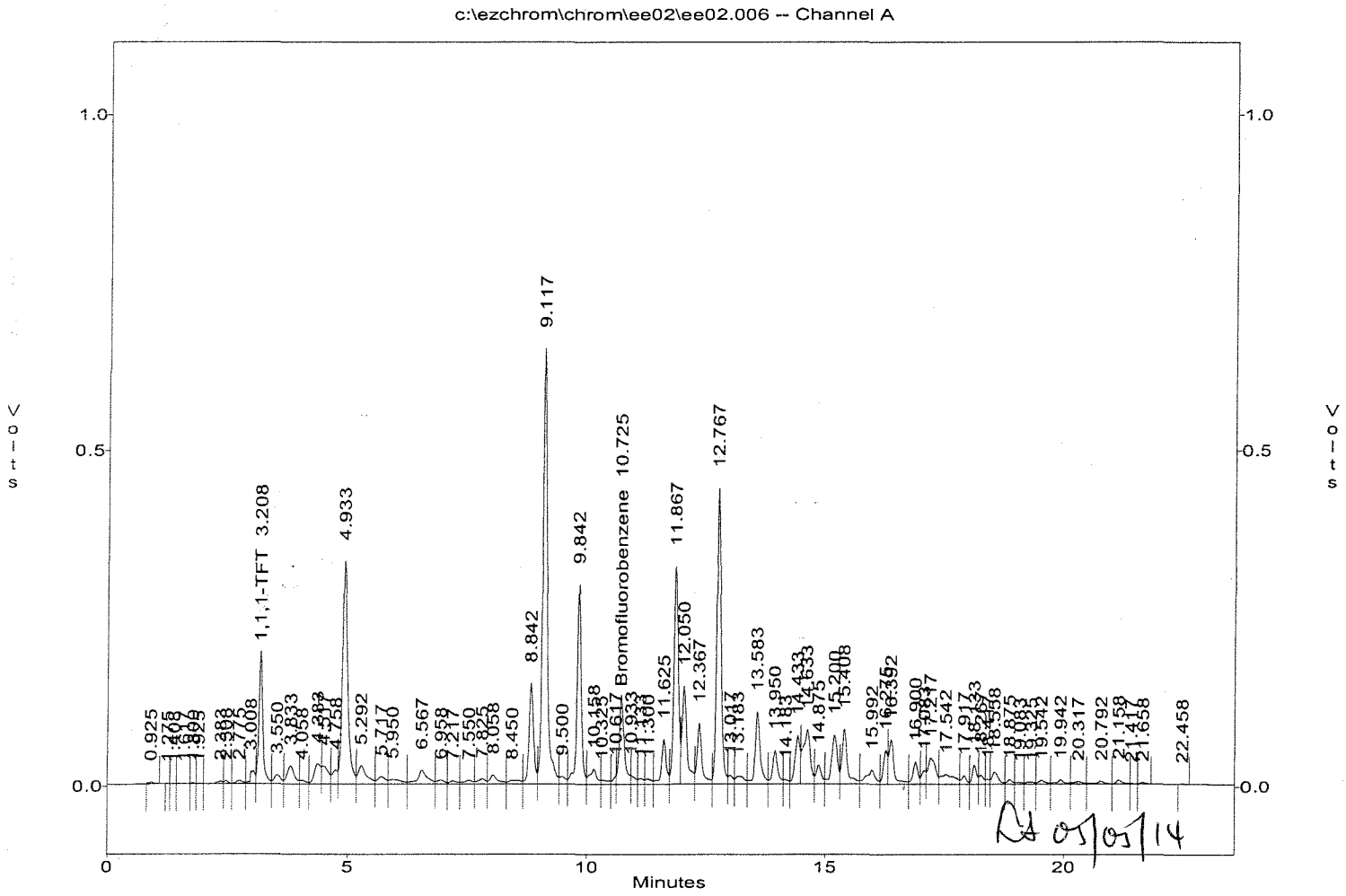


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.006
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39E0205 1000/50
Acquired : May 02, 2014 14:15:41
Printed : May 05, 2014 09:34:01
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
11	1,1,1-TFT	3.208	1088814.0	21400.0	50.00
36	Bromofluorobenzene	10.725	946013.0	16725.9	50.00
G1	GASOLINE(TOTAL)		27834716.0	28261.9	1000.00
G2	GRO(C6-C10)		20441208.0	21355.4	1000.00
G3	GRO(2MP-124TMB)		20359526.0	21297.0	1000.00
G4	GRO(C5-C12)		27414706.0	27928.9	1000.00
G5	GRO(C6-C12)		27410822.0	27890.2	1000.00
G6	GRO(C5-C10)		20451276.0	21396.8	1000.00

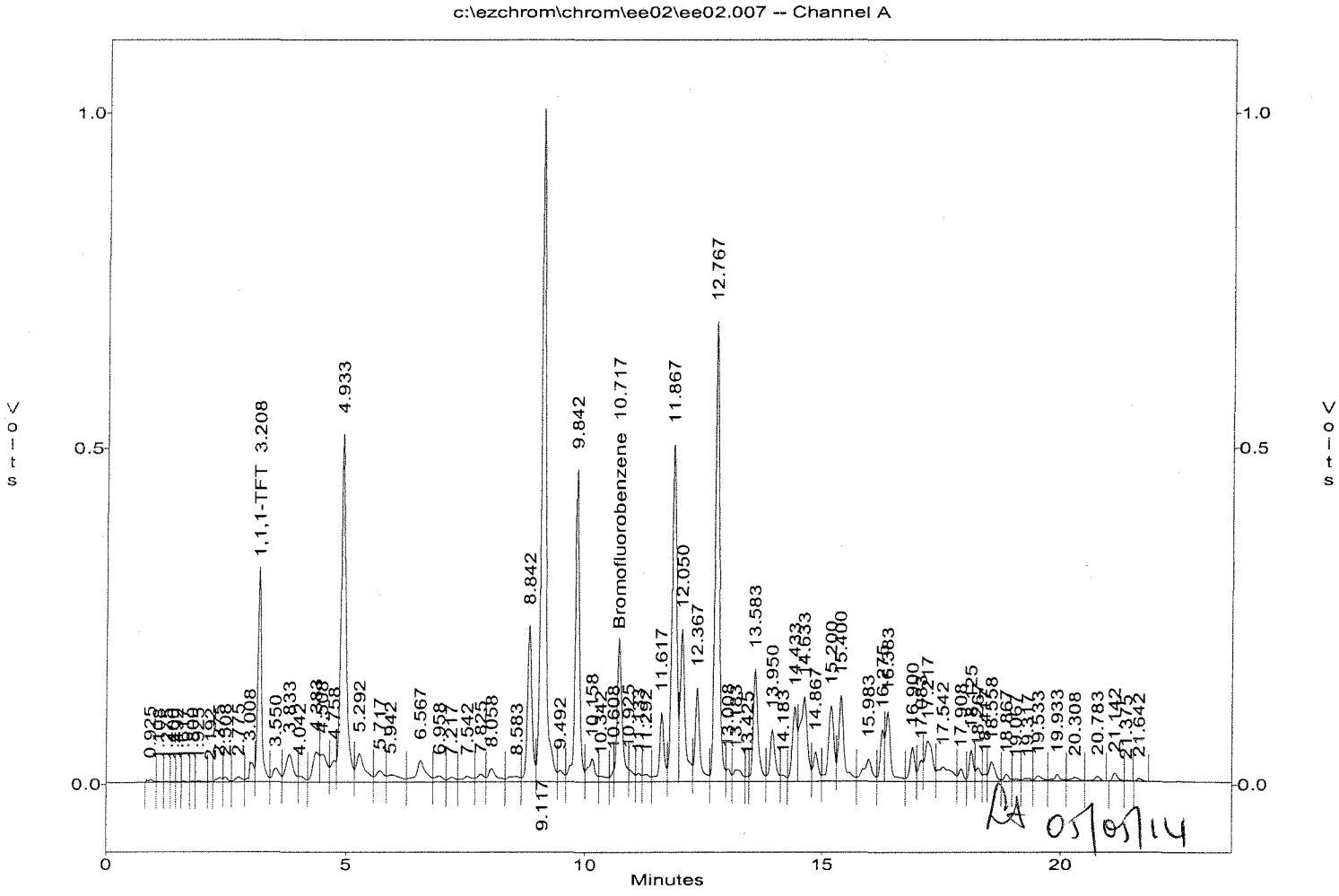


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.007
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39E0206 1500/80
Acquired : May 02, 2014 14:54:32
Printed : May 05, 2014 09:34:29
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
14	1,1,1-TFT	3.208	1754672.0	21400.0	80.00
39	Bromofluorobenzene	10.717	1495364.0	16725.9	80.00
G1	GASOLINE(TOTAL)		42900720.0	28261.9	1500.00
G2	GRO(C6-C10)		31643026.0	21355.4	1500.00
G3	GRO(2MP-124TMB)		31542302.0	21297.0	1500.00
G4	GRO(C5-C12)		42297752.0	27928.9	1500.00
G5	GRO(C6-C12)		42275336.0	27890.2	1500.00
G6	GRO(C5-C10)		31675030.0	21396.8	1500.00



SECOND SOURCE VERIFICATION

INITIAL CALIBRATION VERIFICATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT39
GC Column : DB-5
Column size ID : 30MX.53MM
Mid Conc Init LFID & Datetime: EE02005A 05/02/2014 13:36
Conc Cont LFID & Datetime: EE02008A 05/02/2014 15:33
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	NA	NA	NA	500.0	28261.9	13053470	461.88	-8		20
GRO(C6-C10)	NA	NA	NA	500.0	21355.4	10134937	474.58	-5		20
GRO(2MP-124TMB)	NA	NA	NA	500.0	21297.0	10247177	481.16	-4		20
GRO(C5-C12)	NA	NA	NA	500.0	27928.9	12590737	450.82	-10		20
GRO(C6-C12)	NA	NA	NA	500.0	27890.2	12493550	447.95	-10		20
GRO(C5-C10)	NA	NA	NA	500.0	21396.8	10304659	481.60	-4		20
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
Bromofluorobenzene	10.717	10.674	10.760	40.0	16725.9	696321	41.63	4		20
1,1,1-Trifluorotoluene	3.208	3.084	3.332	40.0	21400.0	954586	44.61	12		20

VG39E02.MET

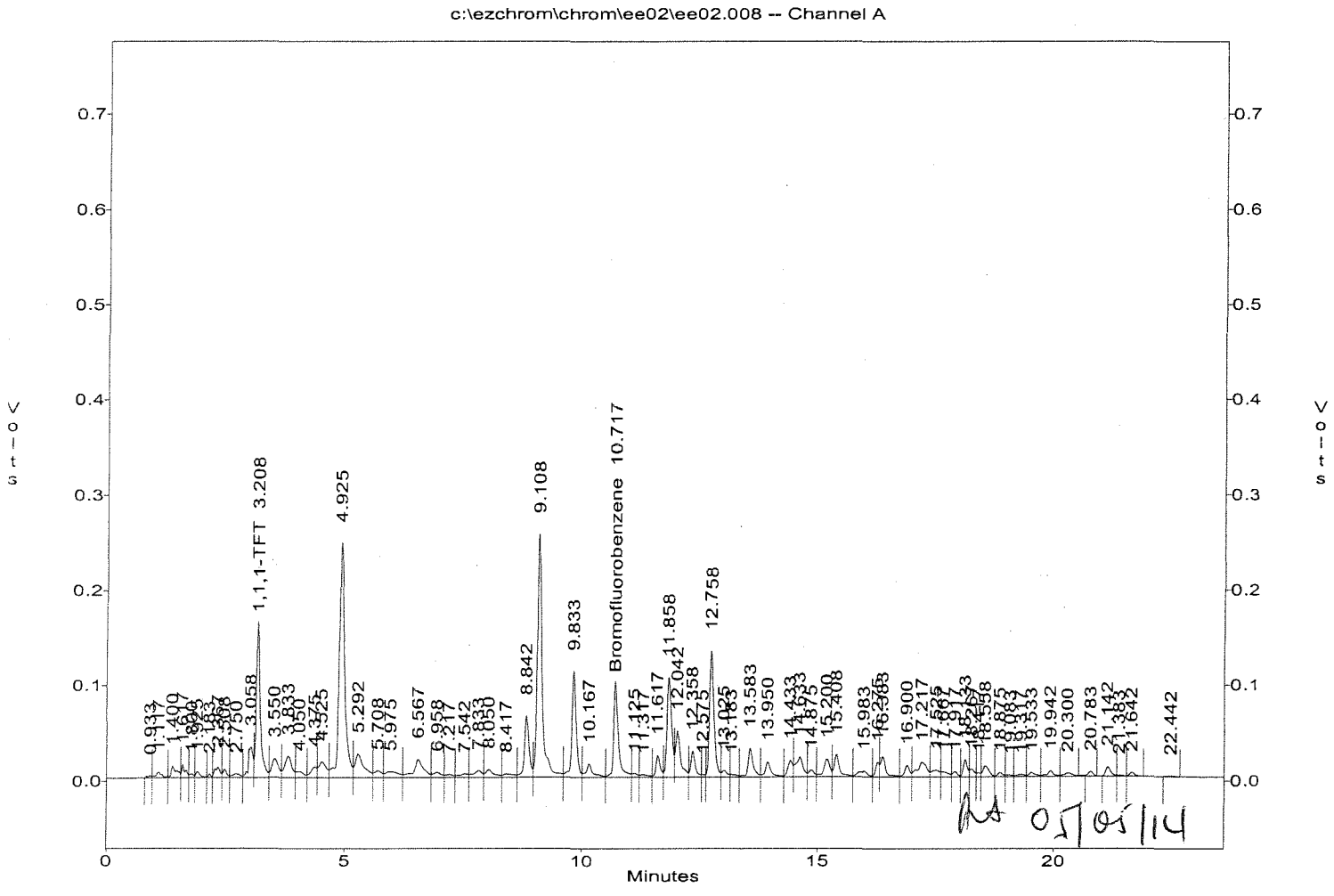
AA
05/05/14

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.008
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : IVG39E02001 500/40
Acquired : May 02, 2014 15:33:24
Printed : May 05, 2014 09:35:55
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
12	1,1,1-TFT	3.208	954586.0	21400.0	44.61
33	Bromofluorobenzene	10.717	696321.0	16725.9	41.63
G1	GASOLINE(TOTAL)		13053470.0	28261.9	461.88
G2	GRO(C6-C10)		10134937.0	21355.4	474.58
G3	GRO(2MP-124TMB)		10247177.0	21297.0	481.16
G4	GRO(C5-C12)		12590737.0	27928.9	450.81
G5	GRO(C6-C12)		12493550.0	27890.2	447.95
G6	GRO(C5-C10)		10304659.0	21396.8	481.60



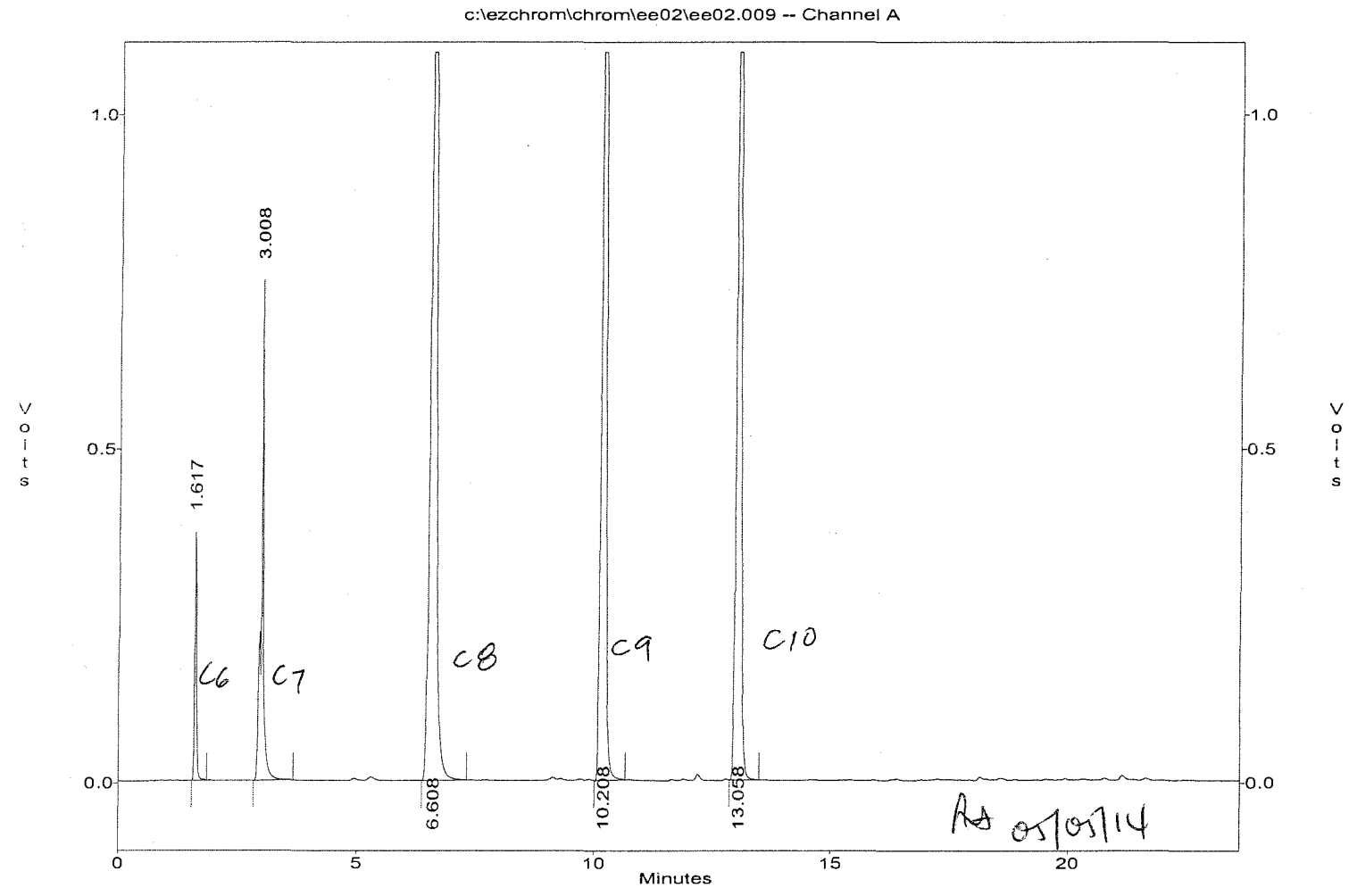
05/05/14

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.009
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : GRO 1UL
Acquired : May 02, 2014 16:12:18
Printed : May 05, 2014 09:36:36
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
--	1,1,1-TFT	3.208	0.0	0.0	0.00
--	Bromofluorobenzene	10.725	0.0	0.0	0.00
G1	GASOLINE(TOTAL)		32746974.0	28261.9	1158.70
G2	GRO(C6-C10)		22835384.0	21355.4	1069.30
G3	GRO(2MP-124TMB)		23874628.0	21297.0	1121.03
G4	GRO(C5-C12)		32746974.0	27928.9	1172.51
G5	GRO(C6-C12)		32746974.0	27890.2	1174.14
G6	GRO(C5-C10)		23874628.0	21396.8	1115.80

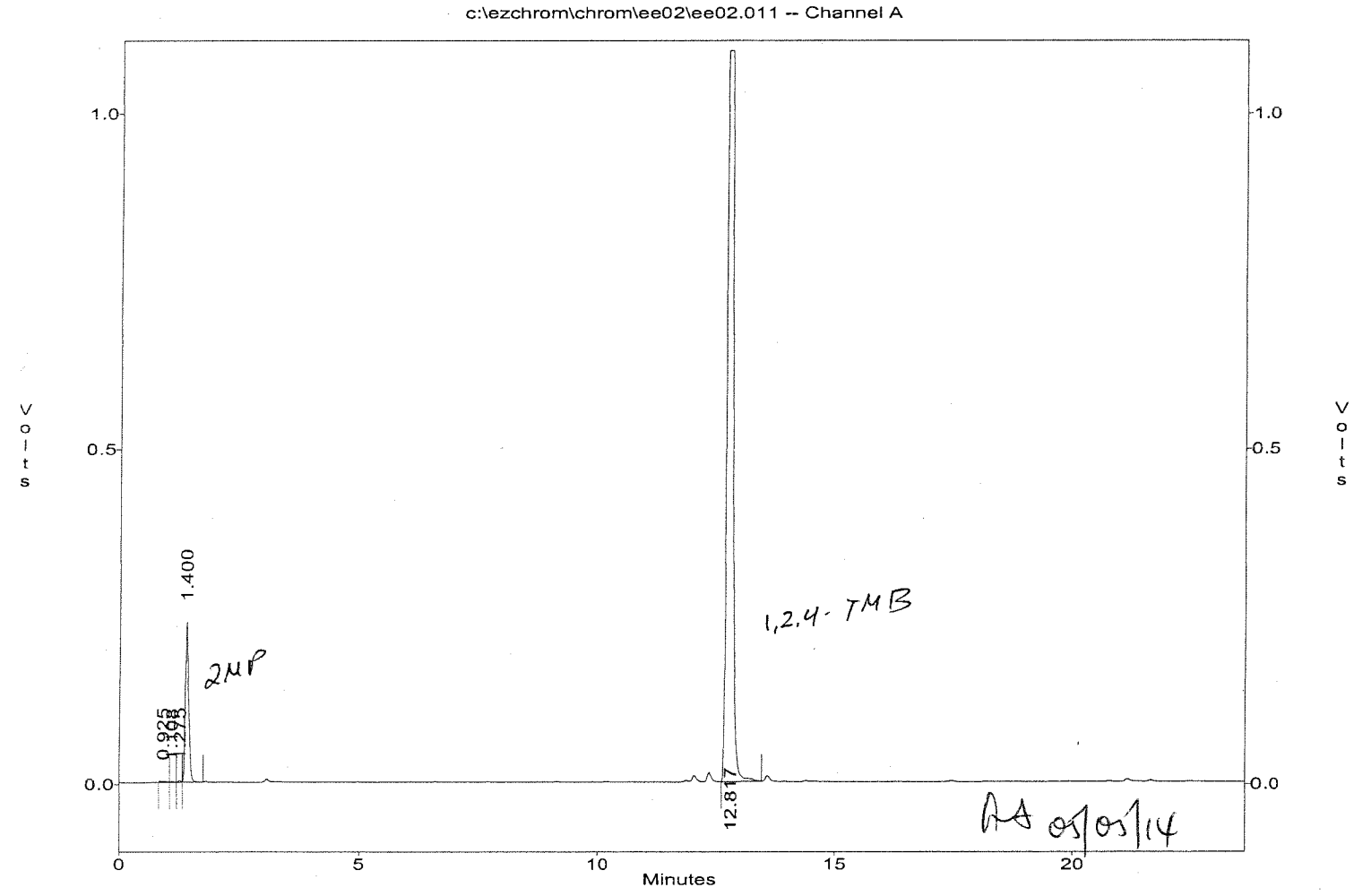


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.011
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : 2MP/1,2,4-TMB
Acquired : May 02, 2014 17:30:38
Printed : May 05, 2014 09:36:43
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
--	1,1,1-TFT	3.208	0.0	0.0	0.00
--	Bromofluorobenzene	10.725	0.0	0.0	0.00
G1	GASOLINE(TOTAL)		11435951.0	28261.9	404.64
G2	GRO(C6-C10)		10280670.0	21355.4	481.41
G3	GRO(2MP-124TMB)		11417507.0	21297.0	536.11
G4	GRO(C5-C12)		11428096.0	27928.9	409.19
G5	GRO(C6-C12)		10280670.0	27890.2	368.61
G6	GRO(C5-C10)		11428096.0	21396.8	534.10



RA 05/05/14

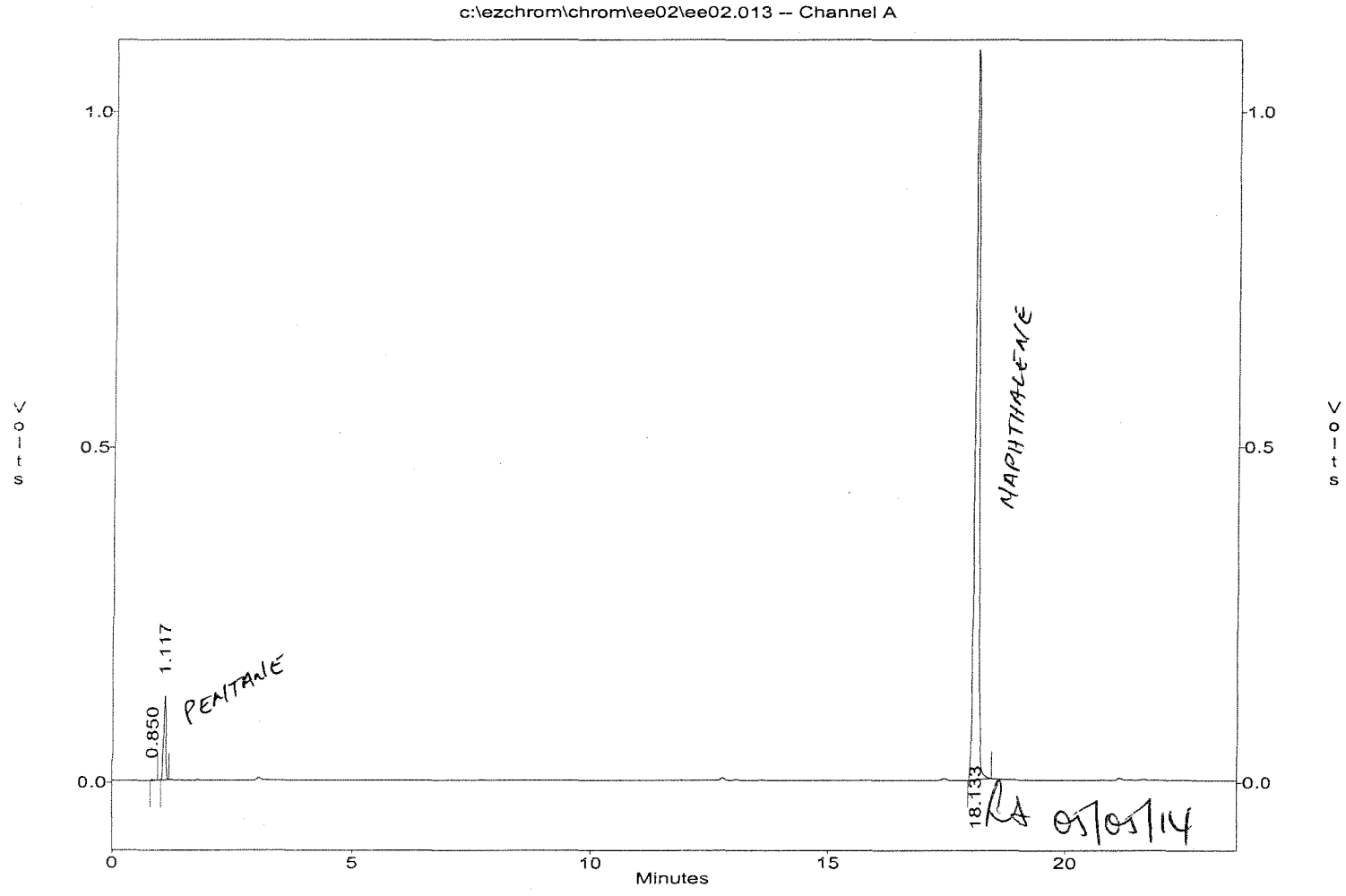
4030

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.013
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : PENTANE/NAPHTHALENE
Acquired : May 02, 2014 18:48:50
Printed : May 05, 2014 09:37:29
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
--	1,1,1-TFT	3.208	0.0	0.0	0.00
--	Bromofluorobenzene	10.725	0.0	0.0	0.00
G1	GASOLINE(TOTAL)		7086992.0	28261.9	250.76
G2	GRO(C6-C10)		0.0	21355.4	0.00
G3	GRO(2MP-124TMB)		0.0	21297.0	0.00
G4	GRO(C5-C12)		6645801.0	27928.9	237.95
G5	GRO(C6-C12)		6645801.0	27890.2	238.28
G6	GRO(C5-C10)		0.0	21396.8	0.00



RA 05/05/14

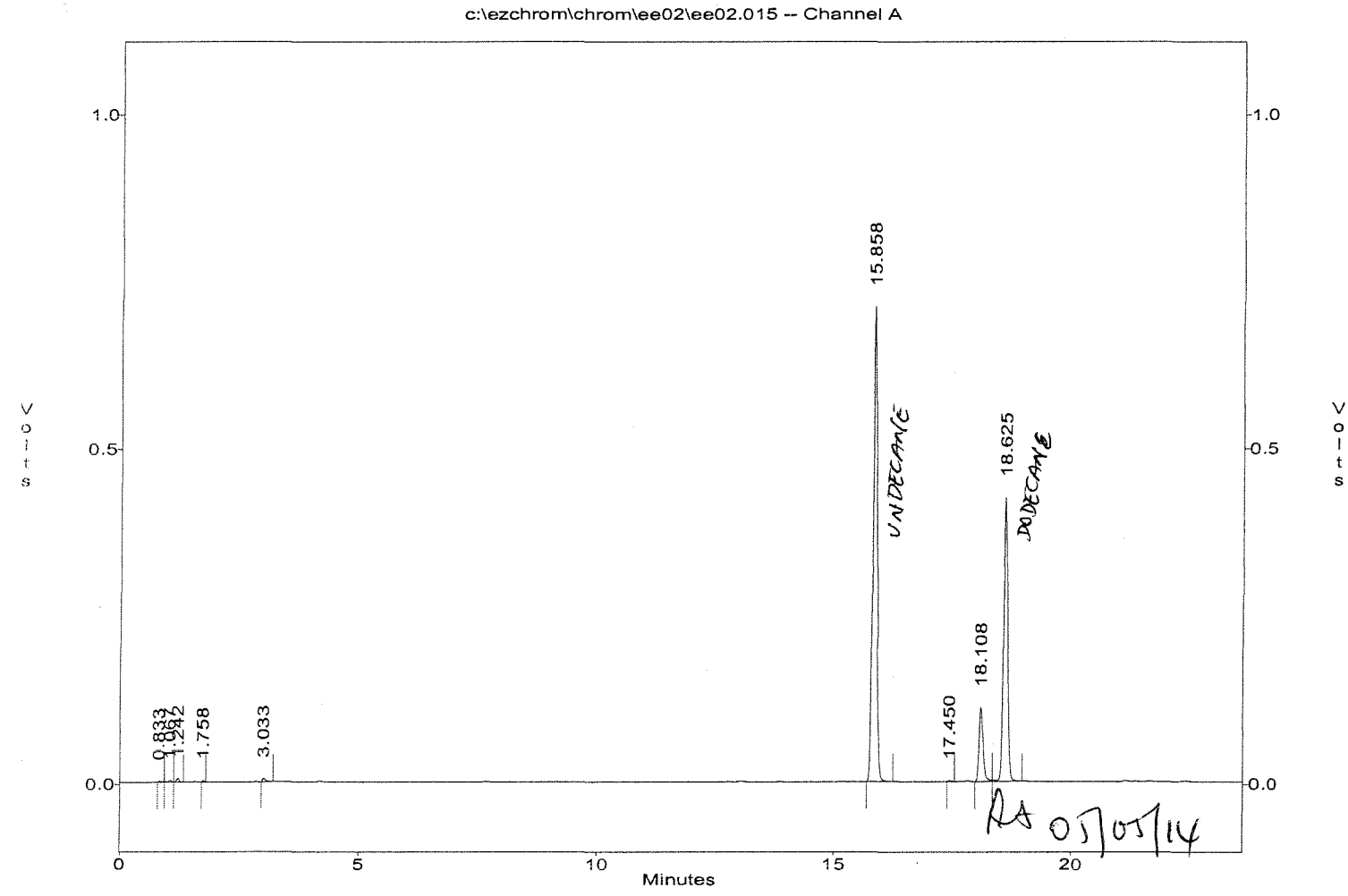
4031

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.015
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : UNDECANE/DODECANE
Acquired : May 02, 2014 20:06:47
Printed : May 05, 2014 09:38:16
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
--	1,1,1-TFT	3.208	0.0	0.0	0.00
--	Bromofluorobenzene	10.725	0.0	0.0	0.00
G1	GASOLINE(TOTAL)		7612846.0	28261.9	269.37
G2	GRO(C6-C10)		30808.0	21355.4	1.44
G3	GRO(2MP-124TMB)		30808.0	21297.0	1.45
G4	GRO(C5-C12)		7599145.0	27928.9	272.09
G5	GRO(C6-C12)		7579660.0	27890.2	271.77
G6	GRO(C5-C10)		50293.0	21396.8	2.35



DAILY CALIBRATIONS

CONTINUE CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT39
GC Columm : DB-5
Column size ID : 30MX.53MM
Mid Conc Init LFID & Datetime: EE02005A 05/02/2014 13:36
Conc Cont LFID & Datetime: EJ28003A 10/28/2014 14:42
CONC UNIT : ppb

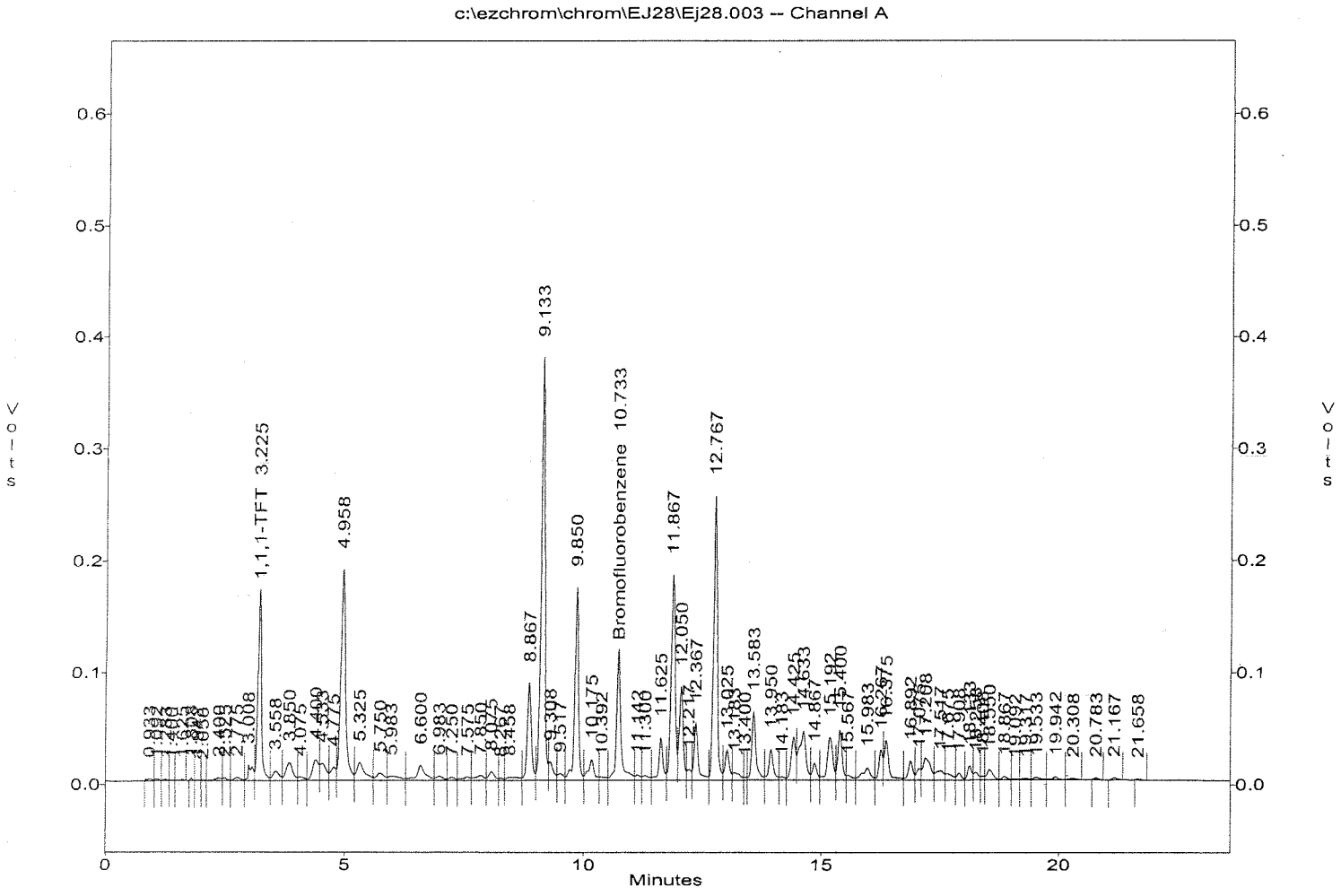
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	NA	NA	NA	500.0	28261.9	14282132	505.35	1		20
GRO(C6-C10)	NA	NA	NA	500.0	21355.4	10720391	502.00	0		20
GRO(2MP-124TMB)	NA	NA	NA	500.0	21297.0	10548734	495.32	-1		20
GRO(C5-C12)	NA	NA	NA	500.0	27928.9	14139696	506.27	1		20
GRO(C6-C12)	NA	NA	NA	500.0	27890.2	14131865	506.70	1		20
GRO(C5-C10)	NA	NA	NA	500.0	21396.8	10728222	501.39	0		20
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
Bromofluorobenzene	10.733	10.690	10.776	40.0	16725.9	744173	44.49	11		20
1,1,1-Trifluorotoluene	3.225	3.101	3.349	40.0	21400.0	867709	40.55	1		20

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EJ28\Ej28.003
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : CVG39E02751 500/40
Acquired : Oct 28, 2014 14:42:02
Printed : Oct 28, 2014 15:05:34
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
13	1,1,1-TFT	3.225	867709.0	21400.0	40.55
39	Bromofluorobenzene	10.733	744173.0	16725.9	44.49
G1	GASOLINE(TOTAL)		14282132.0	28261.9	505.35
G2	GRO(C6-C10)		10720391.0	21355.4	502.00
G3	GRO(2MP-124TMB)		10548734.0	21297.0	495.32
G4	GRO(C5-C12)		14139696.0	27928.9	506.28
G5	GRO(C6-C12)		14131865.0	27890.2	506.70
G6	GRO(C5-C10)		10728222.0	21396.8	501.39



CONTINUE CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT39
GC Columm : DB-5
Column size ID : 30MX.53MM
Mid Conc Init LFID & Datetime: EE02005A 05/02/2014 13:36
Conc Cont LFID & Datetime: EJ28015A 10/28/2014 23:05
CONC UNIT : ppb

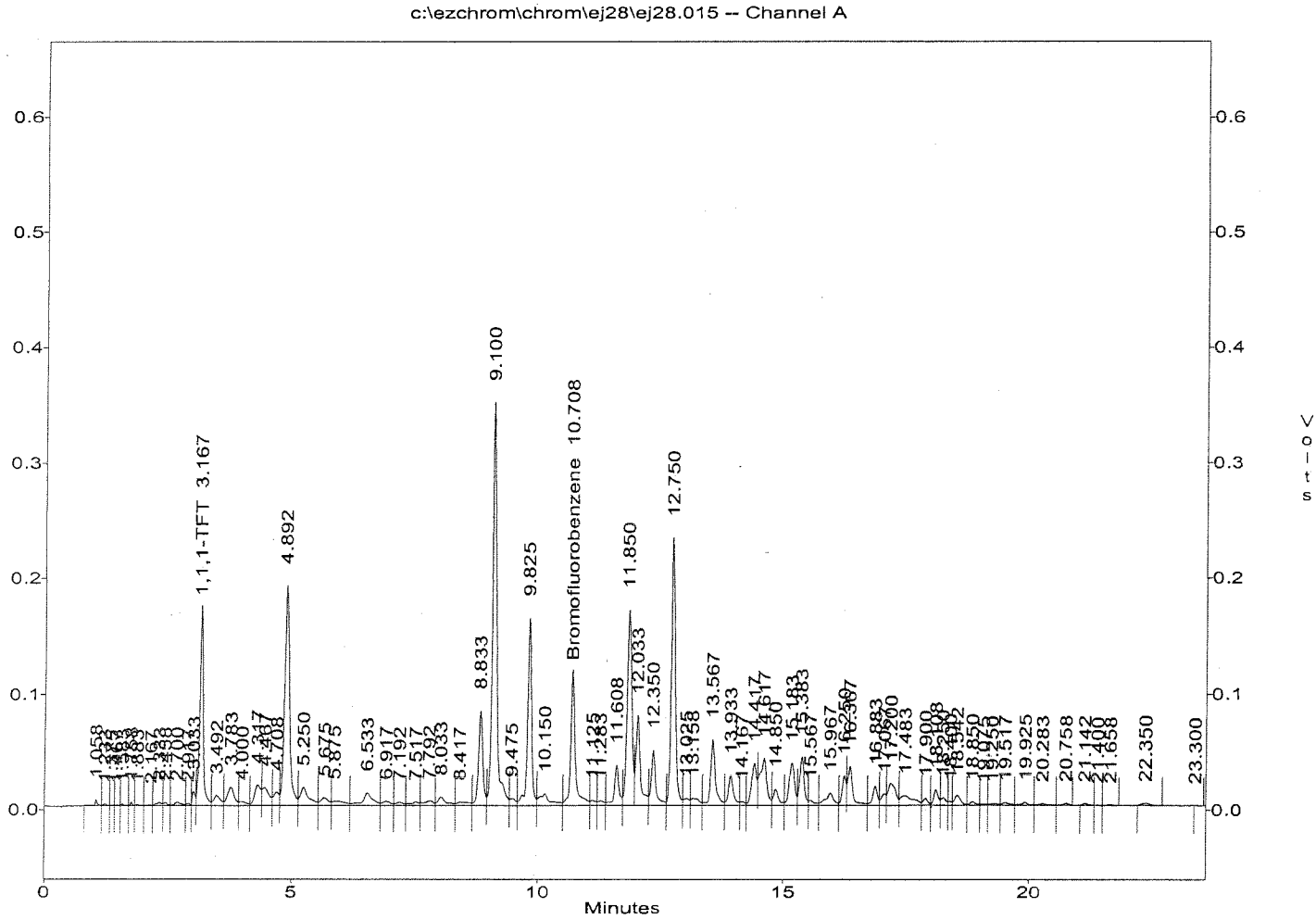
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	NA	NA	NA	500.0	28261.9	14031133	496.47	-1		20
GRO(C6-C10)	NA	NA	NA	500.0	21355.4	10467119	490.14	-2		20
GRO(2MP-124TMB)	NA	NA	NA	500.0	21297.0	10425062	489.51	-2		20
GRO(C5-C12)	NA	NA	NA	500.0	27928.9	13833343	495.31	-1		20
GRO(C6-C12)	NA	NA	NA	500.0	27890.2	13815455	495.35	-1		20
GRO(C5-C10)	NA	NA	NA	500.0	21396.8	10485007	490.03	-2		20
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
Bromofluorobenzene	10.708	10.665	10.751	40.0	16725.9	765132	45.74	14		20
1,1,1-Trifluorotoluene	3.167	3.043	3.291	40.0	21400.0	866965	40.51	1		20

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ej28\ej28.015
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : CVG39E02752 500/40
Acquired : Oct 28, 2014 23:05:20
Printed : Oct 29, 2014 09:18:19
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
14	1,1,1-TFT	3.167	866965.0	21400.0	40.51
37	Bromofluorobenzene	10.708	765132.0	16725.9	45.75
G1	GASOLINE(TOTAL)		14031133.0	28261.9	496.47
G2	GRO(C6-C10)		10467119.0	21355.4	490.14
G3	GRO(2MP-124TMB)		10425062.0	21297.0	489.51
G4	GRO(C5-C12)		13833343.0	27928.9	495.31
G5	GRO(C6-C12)		13815455.0	27890.2	495.35
G6	GRO(C5-C10)		10485007.0	21396.8	490.03



ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
PURGEABLE TPH

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Purge Volume = 5 ml

GASOLIALE ICAL

GRO - SV2-07-02-13
2MP - SV2-09-06-01
TMB - SV2-05-23
PENTANE - SV2-07-01-03
NAPHTHALENE - SV2-05-24
UNDECANE - SV2-07-01-02
DODECANE - SV2-07-01-06

Book #: A39-047
Instrument No.: 39
Analytical Sequence: EE02
Method File: ☑ V639E02 ☐ ☐
Analytical Batch: N/A

SOP #	Rev. #
☑ EMAX-5030B	3
☐ EMAX-BTEXM	1
☑ EMAX-8015G	4
☐ EMAX-AK101	2
☐ EMAX-	

STANDARDS ID	Amt Added (µL)	Conc. (mg/L)
ICAL —	—	—
ICAL SV2-07-02-06	See Analysis Run logbook	5000
ICV SV2-07-02-04	0.5ml	5000
ICV —	—	—
DCC GAS —	—	—
DCC BTEX —	—	—
DCC —	—	—
BFB/TFT SV2-09-08-03 (Sample) (~~DCC~~)	SC 5/02/14 See Analysis Run Logbook	100
LCS/LCSD —	—	—
MS/MSD —	—	—
GRO (HC-Chain) SV2-07-02-13	1ml	2000

Solvent	ID/Lot #
Methanol	
Reagent Water	RW2-12-001
	Lot #
pH strip	—

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZC-3-BTEX SC	5/05/14

Analyzed By: SC
Date: 5/02/14

Method: Vg39e02.met Batch: Ee02.seq Data: Ee02.030 - [Batch: ee02.seq]

File Edit Method Batch Options Analysis Control Window Help

Method | Data | Batch | Setup | Batch | Preview | Single | STOP | Recalib | Analyse | Reports

Run	Sample ID	Method	Filename	Description
1	IB39E0201	vg39e02.met	EE02.001	
2	VG39E0201 20/10 0.02ul GAS ICAL STD / 0.5ul SUM	vg39e02.met	EE02.002	
3	VG39E0202 50/20 0.05ul / 1ul	vg39e02.met	EE02.003	
4	VG39E0203 100/30 0.1ul / 1.5ul	vg39e02.met	EE02.004	
5	VG39E0204 500/40 0.5ul / 2ul	vg39e02.met	EE02.005	GASOLINE ICAL
6	VG39E0205 1000/50 1ul / 2.5ul	vg39e02.met	EE02.006	
7	VG39E0206 1500/80 1.5ul / 4ul	vg39e02.met	EE02.007	
8	IVG39E02001 500/40 0.5ul GAS ICV STD / 2ul SUM	vg39e02.met	EE02.008	GASOLINE ICV
9	GRO 1UL	vg39e02.met	EE02.009	
10	RINSE	vg39e02.met	EE02.010	
11	2MP/1,2,4-TMB	vg39e02.met	EE02.011	
12	RINSE	vg39e02.met	EE02.012	
13	PENTANE/NAPHTHALENE	vg39e02.met	EE02.013	FINAL
14	RINSE	vg39e02.met	EE02.014	
15	UNDECANE/DODECANE	vg39e02.met	EE02.015	
16	RINSE	vg39e02.met	EE02.016	
17	IB	vg39e02.met	EE02.017	
18	IB	vg39e02.met	EE02.018	
19	IB	vg39e02.met	EE02.019	
20	IB	vg39e02.met	EE02.020	
21	IB	vg39e02.met	EE02.021	
22	IB	vg39e02.met	EE02.022	
23	IB SC 5/09/14	vg39e02.met	EE02.023	
24	IB	vg39e02.met	EE02.024	
25	IB	vg39e02.met	EE02.025	
26	IB	vg39e02.met	EE02.026	
27	IB	vg39e02.met	EE02.027	
28	IB	vg39e02.met	EE02.028	
29	IB	vg39e02.met	EE02.029	
30	IB	vg39e02.met	EE02.030	
31	IB	vg39e02.met	EE02.031	
32	IB	vg39e02.met	EE02.032	
33	IB	vg39e02.met	EE02.033	
34	IB	vg39e02.met	EE02.034	

Instrument 1: T-039

Start | EZChrom Chromatography | Untitled - Paint | Exploring - Export | Method: Vg39e02.me... | Monday, May 05, 2014

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
PURGEABLE TPH

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Purge Volume = 5 ml

V639J18 (water): J206, J208, J200

Book #: A39-049

Instrument No.: 39

Analytical Sequence: EJ28

Method File: ☑ V639E02 ☐ ☐

Analytical Batch: CV639E02751

SOP #	Rev. #
☑ EMAX-5030B	3
☑ EMAX-8015G	5
☐ EMAX-AK101	3
☐ EMAX-	

STANDARDS ID	Amt Added (µL)	Conc. (mg/L)
ICAL		
ICAL		SC 10/29/14
ICV		
ICV		
DCC GAS SV2-07-02-24	0.5ml	5000
DCC		SC 10/29/14
DCC		
BFB/TFT SV2-09-17-03 (Sample)	2ml	100
(DCC)	2ml	100
LCS/LCSD SV2-07-02-20	0.5ml	5000
MS/MSD ↓	↓	↓
GRO (HC-Chain) SV2-07-02-13	1ml	2000

Solvent	ID/Lot #
Methanol	
Reagent Water	RW2-12-001
	Lot #
pH strip	HC 412469

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZC-3-BTEX	

Analyzed By: SC

Date: 10/28/14

Method: Vg39e02.met Batch: Ej28.seq Data: Ej28.006 - [Batch: ej28.seq]

File Edit Method Batch Options Analysis Control Window Help

Method | Data | Batch | Setup | Batch | Preview | Single | STOP | Recalib | Analyses | Reports

Run	Sample ID	Method	Filename	Description
1	IB39J2801	vg39e02.met	EJ28.001	
2	GRO 1uL	vg39e02.met	EJ28.002	SV2-07-02-13
3	CVG39E02751 500/40	vg39e02.met	EJ28.003	
4	VG39J18L 5.0ML W	vg39e02.met	EJ28.004	Conc. 500/40
5	VG39J18C 5.0ML W NOT evaluated	vg39e02.met	EJ28.005	AIR PROBLEM, NOT EVALUATED
6	VG39J18Y 5.0ML W	vg39e02.met	EJ28.006	Conc. 500/40
7	VG39J18Q 5.0ML W NOT evaluated	vg39e02.met	EJ28.007	
8	VG39J18B 5.0ML W	vg39e02.met	EJ28.008	
9	14J206-01 5.0ML W	vg39e02.met	EJ28.009	PH~7
10	14J206-02 5.0ML W	vg39e02.met	EJ28.010	PH~7
11	14J206-03 5.0ML W	vg39e02.met	EJ28.011	PH~7
12	14J208-01 5.0ML W	vg39e02.met	EJ28.012	PH<2 FINAL
13	14J208-02 5.0ML W	vg39e02.met	EJ28.013	PH<2
14	14J208-03 5.0ML W	vg39e02.met	EJ28.014	PH<2
15	CVG39E02752 500/40	vg39e02.met	EJ28.015	
16	BLANK	vg39e02.met	EJ28.016	
17	14J200-05 5.0ML W	vg39e02.met	EJ28.017	PH<2
18	14J200-02 5.0ML W	vg39e02.met	EJ28.018	PH<2
19	14J200-02M 5.0ML W	vg39e02.met	EJ28.019	PH<2
20	14J200-02S 5.0ML W	vg39e02.met	EJ28.020	PH<2
21	14J200-01 5.0ML W	vg39e02.met	EJ28.021	PH<2
22	14J200-03 5.0ML W	vg39e02.met	EJ28.022	PH<2
23	14J200-04 5.0ML W	vg39e02.met	EJ28.023	PH<2
24	CVG39E02753 500/40	vg39e02.met	EJ28.024	
25	IB	vg39e02.met	EJ28.025	
26	IB	vg39e02.met	EJ28.026	
27	IB	vg39e02.met	EJ28.027	
28	IB SC 10/29/14	vg39e02.met	EJ28.028	
29	IB	vg39e02.met	EJ28.029	
30	IB	vg39e02.met	EJ28.030	
31	IB	vg39e02.met	EJ28.031	
32	IB	vg39e02.met	EJ28.032	
33	IB	vg39e02.met	EJ28.033	
34	IB	vg39e02.met	EJ28.034	

Waiting For Trigger...

Start | EZChrom Chromatogra... | Method: Vg55h01b.met... | untitled - Paint | Method: Vg39e02.met... | Exploring - Export | Method: Vg39e02...

Tuesday, October 28, 2014

TABLE OF CONTENTS

CLIENT: **BATTELLE**

PROJECT: **RED HILL PHASE IB**

SDG: **14K089**

** - Not Requested

LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 12-02-2014
EMAX Batch No.: 14K089

Attn: Carolyn Scala

Battelle
301 South State St., Suite N001
Newton PA 18940

Subject: Laboratory Report
Project: Red Hill Phase 1b

Enclosed is the Laboratory report for samples received on 11/13/14.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
TR1P111214	K089-01	11/12/14	WATER	TPH GASOLINE
HW111214-01	K089-02	11/12/14	WATER	TPH GASOLINE
				TPH
				PAH BY 8270C SIM ULTRA LOW
HW111214-02	K089-03	11/12/14	WATER	TPH GASOLINE
				TPH
				PAH BY 8270C SIM ULTRA LOW

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

EMAX certifies that results included in this report meets all NELAC & DOD requirements unless noted in the Case Narrative.

NELAC Accredited Certificate Number 02116CA
L-A-B Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
1835 W. 205th Street, Torrance, CA 90501
Tel #: 310-618-8889 Fax #: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER:

SAMPLE STORAGE

EMAX CONTROL NO. * 14K089

PROJECT CODE:

CLIENT Battelle
PROJECT Red Hill Phase 1b
COORDINATOR Carolyn Scala
TEL 215-504-5003 FAX 614-458-6620 EMAIL scalac@battelle.com
SEND REPORT TO Carolyn Scala
COMPANY Battelle
ADDRESS 301 South State St., Ste. N001, Newtown, PA 18940
EMAX PM Andy Mai

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O=	

ANALYSIS REQUIRED: PAHs (SW8270C); TPH-GRO (EPA 8015B-P); TPH-DRO,MRO (EPA 8015B m-E)

TAT:
- ☐ Rush ____hrs.
- ☐ Rush ____days
- ☐ 7 days
- ☐ 14 days
- ☒ 21 days
- ☐ 30 days
- ☐ ____days
- ☐

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	CONTAINER SIZE	CONTAINER TYPE	MATRIX CODE	QC	PRESERVATIVE CODE	COMMENTS
1	TRIP111214		11/12/14	0930	3	40 mL	VOA	O	X	IC	
2	HW111214-01	99-088 Koaka Way	↓	1000	7	40 mL 1-L	VOA + Amber	O		IC	
3	HW111214-02	↓	↓	1015	7	↓	↓	O		IC	
4											
5											
6											
7											
8											
9											
0											

Instructions

Cooler #	Temp. (°C)	Sample #s
1	5.4	

SAMPLER

COURIER/AIRBILL

RELINQUISHED BY	Date	Time	RECEIVED BY
James Terry / James Terry	11/12/14	1400	
	11-13-14	0930	Shelton

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

SAMPLE RECEIPT FORM 1

Reference Number: SM02.7.3

Type of Delivery	Airbill / Tracking Number	ECN 141089
☑ Fedex ☐ UPS ☐ GSO ☐ Others	8764 1243 2545	Recipient Stephanie
☐ EMAX Courier ☐ Client Delivery		Date 11-13-14 Time 0931

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☐ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☑ Matrix
☑ Address	☑ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☑ Preservative (if any)	☑ TAT
☑ Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note: _____

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other _____		
Condition	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☑ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 5.4 °C	☐ Cooler 2 _____ °C	☐ Cooler 3 _____ °C	☐ Cooler 4 _____ °C	☐ Cooler 5 _____ °C
	☐ Cooler 6 _____ °C	☐ Cooler 7 _____ °C	☐ Cooler 8 _____ °C	☐ Cooler 9 _____ °C	☐ Cooler 10 _____ °C
Thermometer:	*A - S/N* 130538205	*B - S/N* 140257070	*C - S/N* _____	*D - S/N* _____	

Comments: ☐ **Temperature is out of range. PM was informed IMMEDIATELY.** FW 10/27/14

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
2-3	4-17	D14		36

11/13/14

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS:

LEGEND:

☐ **Continue to next page.**

Code	Description- Sample Management
D1	Analysis is not indicated in _____
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in _____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in _____
D7	Date/Time mismatch COC vs label
D8	Sample listed in COC is not received
D9	Sample received is not listed in COC
D10	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
D12	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
D22	_____
D23	_____
D24	_____

Code	Description-Sample Management
R1	Proceed as indicated in ☐ COC ☐ Label
R2	Refer to attached instruction
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and time+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	_____
R9	_____
R10	_____
R11	_____
R12	_____

REVIEWS:

Sample Labeling _____ **SRF** _____ **PM** _____

Date 11/13/14 **Date** 11/13/14 **Date** 11/13/14

00016

00100

FedEx Express NEW Package US Airbill

FedEx Tracking Number 8764 1243 2545

RECIPIENT: PEEL HERE

fedex.com 1.800.GoFedEx 1.800.463.3339

1 From This portion can be removed for Recipient's records.

Date 11/12/14 FedEx Tracking Number 876412432545

Sender's Name CARLINE HIGAKI Phone 808 833-2225

Company ENVIRONET, INCORPORATED

Address 650 IWILEI RD STE 204 Dept./Floor/Suite/Room

City HONOLULU State HI ZIP 96817-5512

2 Your Internal Billing Reference

3 To

Recipient's Name Phone

Company

Address 1435 W. 205th Street

We cannot deliver to P.O. boxes or P. O. ZIP codes. Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City State ZIP

HOLD Weekday
FedEx location address REQUIRED. NOT available for FedEx First Overnight.

HOLD Saturday
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

0441295593

8764 1243 2545

Shipper's Copy

4 Express Package Service

Next Business Day

- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [x] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

- [ ] NEW FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
- [ ] FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

- [ ] FedEx Envelope*
- [ ] FedEx Pak*
- [ ] FedEx Box
- [ ] FedEx Tube
- [x] Other

6 Special Handling and Delivery Signature Options

- [ ] SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. Fee applies.
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

Does this shipment contain dangerous goods? One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below. Obtain recip. Acct. No. [ ]

- [x] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

Total Packages 1 Total Weight 5.0 lbs. Credit Card Auth.

†Our liability is limited to $100 unless you declare a higher value. See the current FedEx Service Guide for details.

611

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fedex.com 1.800.GoFedEx 1.800.463.3339

555

ORIGIN ID:HNLA (801) 572-5999
PARSONS GOVT
10235 S JORDAN GTWY STE 300
SOUTH JORDAN, UT 840954188
UNITED STATES US

SHIP DATE: 12NOV14
ACTWGT: 55.2 LB
CAD: /POS1525
DIMS: 24x16x14 IN
BILL SENDER

TO **SAMPLE RECEIVING**
EMAX LABORATORIES
1835 W 205TH ST

TORRANCE CA 90501
(310) 618-8888 REF:
INV:
PO: DEPT:

FedEx Express

J14221409280101en

TRK# 0215 **8764 1243 2545**

THU - 13 NOV 10:30A
PRIORITY OVERNIGHT

WZ HHRA

90501
CA-US **LAX**

Part # 156297-765 RIT 12/14 ESRNSA 11/13 •

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

BATTELLE

RED HILL PHASE 1B

METHOD 3520C/8270C SIM
PAH BY 8270S SIM ULTRA LOW

SDG#: 14K089

CASE NARRATIVE

Client : BATTELLE

Project: RED HILL PHASE 1B

SDG : 14K089

METHOD SW3520C/8270C SIM
PAH BY 8270C SIM ULTRA LOW

A total of two(2) water samples were received on 11/13/14 to be analyzed for PAH BY 8270C SIM Ultra Low in accordance with Method SW3520C/8270C SIM and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried on at a frequency required by the project. There was one(1)CCV associated with this SDG: Target analytes in CCV(Datafile ID:RKF112) were within calibration acceptance criteria. All calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. SVK020WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. SVK020WL/SVK020WC - all analytes were within of LCS QC limits. %RPD of Benzo(b)fluoranthene was above the limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was designated on this SDG.

Surrogate
Surrogate was added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE

SEMI VOLATILE ORGANICS LOW LEVEL BY GC/MS SIM

Client : BATTELLE
Project : RED HILL PHASE 1B

SDG NO. : 14K089
Instrument ID : T-OFO

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
LCS1W	SVK020WL	1	NA	11/20/1412:02	11/17/1410:00	RKF113	RKF112	SVK020W	Lab Control Sample (LCS)
LCD1W	SVK020WC	1	NA	11/20/1412:20	11/17/1410:00	RKF114	RKF112	SVK020W	LCS Duplicate
MBLK1W	SVK020WB	1	NA	11/20/1412:44	11/17/1410:00	RKF115	RKF112	SVK020W	Method Blank
HW111214-01	K089-02	1.05	NA	11/20/1413:08	11/17/1410:00	RKF116	RKF112	SVK020W	Field Sample
HW111214-02	K089-03	1.1	NA	11/20/1413:31	11/17/1410:00	RKF117	RKF112	SVK020W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD SW3520C/8270C SIM
SEMI VOLATILE ORGANICS LOW LEVEL BY GC/MS SIM

Client	: BATTELLE	Date Collected:	11/12/14
Project	: RED HILL PHASE 1B	Date Received:	11/13/14
Batch No.	: 14K089	Date Extracted:	11/17/14 10:00
Sample ID:	HW111214-01	Date Analyzed:	11/20/14 13:08
Lab Samp ID:	K089-02	Dilution Factor:	1.05
Lab File ID:	RKF116	Matrix :	WATER
Ext Btch ID:	SVK020W	% Moisture :	NA
Calib. Ref.:	RKF112	Instrument ID :	T-OFO

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
ACENAPHTHENE	ND	0.021	0.0052	0.011
ACENAPHTHYLENE	ND	0.021	0.0052	0.011
ANTHRACENE	ND	0.021	0.0052	0.011
BENZO(A)ANTHRACENE	ND	0.021	0.0052	0.011
BENZO(A)PYRENE	ND	0.021	0.0052	0.011
BENZO(B)FLUORANTHENE	ND	0.021	0.0052	0.011
BENZO(K)FLUORANTHENE	ND	0.021	0.0052	0.011
BENZO(G,H,I)PERYLENE	ND	0.021	0.0052	0.011
CHRYSENE	ND	0.021	0.0052	0.011
DIBENZO(A,H)ANTHRACENE	ND	0.021	0.0052	0.011
FLUORANTHENE	ND	0.021	0.0052	0.011
FLUORENE	ND	0.021	0.0052	0.011
INDENO(1,2,3-CD)PYRENE	ND	0.021	0.0052	0.011
NAPHTHALENE	ND	0.10	0.026	0.052
PHENANTHRENE	ND	0.021	0.0052	0.011
PYRENE	ND	0.021	0.0052	0.011
2-METHYLNAPHTHALENE	ND	0.021	0.0052	0.011
1-METHYLNAPHTHALENE	ND	0.021	0.0052	0.011

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TERPHENYL-D14	0.598	0.5250	114	50-135

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14K20\RKF116.D Vial: 7
Acq On : 20 Nov 2014 13:08 Operator: KVu
Sample : 14K089-02 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Nov 20 13:38:40 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

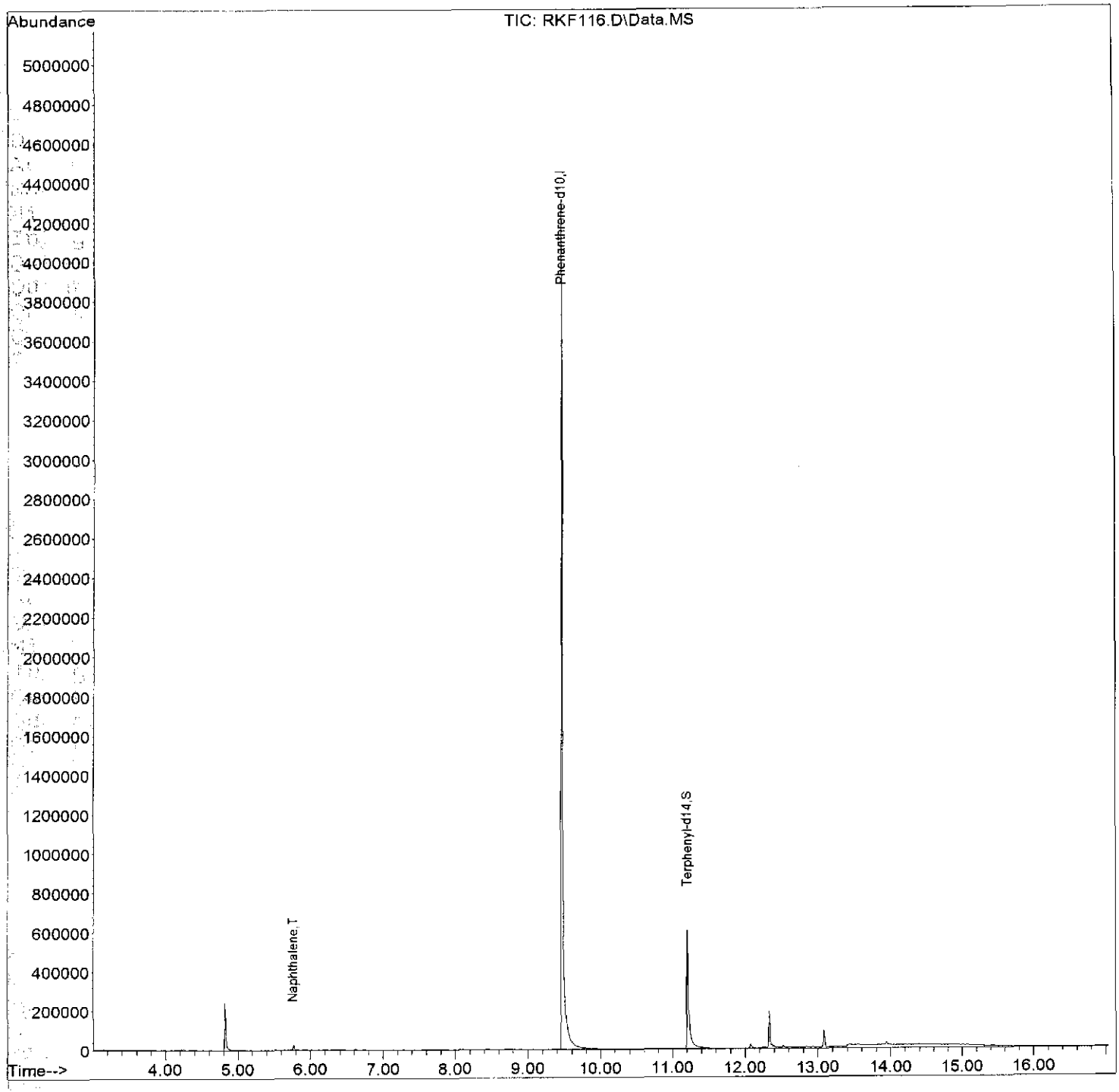
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.469	188	4443986	2000.00	ppb	0.02
System Monitoring Compounds						
13) Terphenyl-d14	11.208	244	935660	569.29	ppb	0.03
Spiked Amount 500.000			Recovery = 113.86%			
Target Compounds						Qvalue
2) Naphthalene	5.766	128	33738	11.09	ppb	99

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14K20\RKF116.D
Acq On : 20 Nov 2014 13:08
Sample : 14K089-02
Misc : F0
Integrator: RTE
Quant Time: Nov 20 13:38:40 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Vial: 7
Operator: KVu
Inst : DSQ
Multiplr: 1.00



METHOD SW3520C/8270C SIM
SEMI VOLATILE ORGANICS LOW LEVEL BY GC/MS SIM

Client : BATTELLE	Date Collected: 11/12/14
Project : RED HILL PHASE 1B	Date Received: 11/13/14
Batch No. : 14K089	Date Extracted: 11/17/14 10:00
Sample ID: HW111214-02	Date Analyzed: 11/20/14 13:31
Lab Samp ID: K089-03	Dilution Factor: 1.1
Lab File ID: RKF117	Matrix : WATER
Ext Btch ID: SVK020W	% Moisture : NA
Calib. Ref.: RKF112	Instrument ID : T-OFO

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
ACENAPHTHENE	ND	0.022	0.0055	0.011
ACENAPHTHYLENE	ND	0.022	0.0055	0.011
ANTHRACENE	ND	0.022	0.0055	0.011
BENZO(A)ANTHRACENE	ND	0.022	0.0055	0.011
BENZO(A)PYRENE	ND	0.022	0.0055	0.011
BENZO(B)FLUORANTHENE	ND	0.022	0.0055	0.011
BENZO(K)FLUORANTHENE	ND	0.022	0.0055	0.011
BENZO(G,H,I)PERYLENE	ND	0.022	0.0055	0.011
CHRYSENE	ND	0.022	0.0055	0.011
DIBENZO(A,H)ANTHRACENE	ND	0.022	0.0055	0.011
FLUORANTHENE	ND	0.022	0.0055	0.011
FLUORENE	ND	0.022	0.0055	0.011
INDENO(1,2,3-CD)PYRENE	ND	0.022	0.0055	0.011
NAPHTHALENE	ND	0.11	0.028	0.055
PHENANTHRENE	ND	0.022	0.0055	0.011
PYRENE	ND	0.022	0.0055	0.011
2-METHYLNAPHTHALENE	ND	0.022	0.0055	0.011
1-METHYLNAPHTHALENE	ND	0.022	0.0055	0.011

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TERPHENYL-D14	0.649	0.5500	118	50-135

Quantitation Report (QT Reviewed)

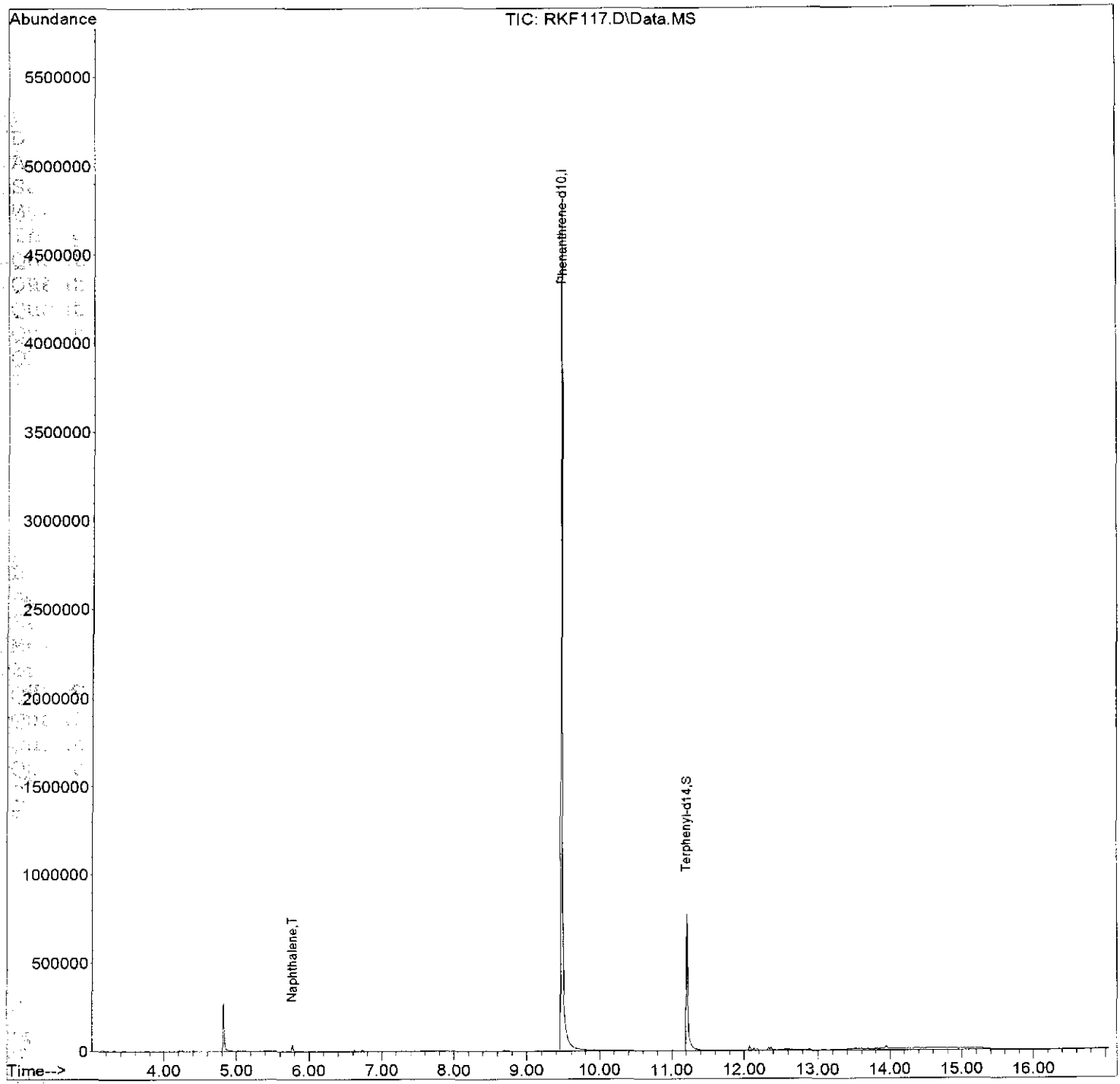
Data File : C:\msdchem\1\DATA\14K20\RKF117.D Vial: 8
Acq On : 20 Nov 2014 13:31 Operator: KVu
Sample : 14K089-03 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Nov 20 13:56:56 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.469	188	4949157	2000.00	ppb	0.02
System Monitoring Compounds						
13) Terphenyl-d14	11.206	244	1080449	590.28	ppb	0.03
Spiked Amount 500.000			Recovery = 118.06%			
Target Compounds						Qvalue
2) Naphthalene	5.767	128	45478	13.43	ppb	< RL 98

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14K20\RKF117.D Vial: 8
Acq On : 20 Nov 2014 13:31 Operator: KVu
Sample : 14K089-03 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Nov 20 13:56:56 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



QC SUMMARIES

METHOD SW3520C/8270C SIM
SEMI VOLATILE ORGANICS LOW LEVEL BY GC/MS SIM

Client : BATTELLE	Date Collected: NA
Project : RED HILL PHASE 1B	Date Received: 11/17/14
Batch No. : 14KD89	Date Extracted: 11/17/14 10:00
Sample ID: MBLK1W	Date Analyzed: 11/20/14 12:44
Lab Samp ID: SVK020WB	Dilution Factor: 1
Lab File ID: RKF115	Matrix : WATER
Ext Btch ID: SVK020W	% Moisture : NA
Calib. Ref.: RKF112	Instrument ID : T-OFO

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
ACENAPHTHENE	ND	0.020	0.0050	0.010
ACENAPHTHYLENE	ND	0.020	0.0050	0.010
ANTHRACENE	ND	0.020	0.0050	0.010
BENZO(A)ANTHRACENE	ND	0.020	0.0050	0.010
BENZO(A)PYRENE	ND	0.020	0.0050	0.010
BENZO(B)FLUORANTHENE	ND	0.020	0.0050	0.010
BENZO(K)FLUORANTHENE	ND	0.020	0.0050	0.010
BENZO(G,H,I)PERYLENE	ND	0.020	0.0050	0.010
CHRYSENE	ND	0.020	0.0050	0.010
DIBENZO(A,H)ANTHRACENE	ND	0.020	0.0050	0.010
FLUORANTHENE	ND	0.020	0.0050	0.010
FLUORENE	ND	0.020	0.0050	0.010
INDENO(1,2,3-CD)PYRENE	ND	0.020	0.0050	0.010
NAPHTHALENE	ND	0.10	0.025	0.050
PHENANTHRENE	ND	0.020	0.0050	0.010
PYRENE	ND	0.020	0.0050	0.010
2-METHYLNAPHTHALENE	ND	0.020	0.0050	0.010
1-METHYLNAPHTHALENE	ND	0.020	0.0050	0.010

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TERPHENYL-D14	0.670	0.5000	134	50-135

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: BATTELLE
PROJECT: RED HILL PHASE 1B
BATCH NO.: 14K089
METHOD: SW3520C/8270C SIM

MATRIX: WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	SVK020WB	SVK020WL	SVK020WC		
LAB FILE ID:	RKF115	RKF113	RKF114		
DATE EXTRACTED:	11/17/1410:00	11/17/1410:00	11/17/1410:00	DATE COLLECTED:	NA
DATE ANALYZED:	11/20/1412:44	11/20/1412:02	11/20/1412:20	DATE RECEIVED:	11/17/14
PREP. BATCH:	SVK020W	SVK020W	SVK020W		
CALIB. REF:	RKF112	RKF112	RKF112		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Acenaphthene	ND	0.500	0.388	78	0.500	0.355	71	9	45-110	30
Acenaphthylene	ND	0.500	0.372	74	0.500	0.353	71	5	50-105	30
Anthracene	ND	0.500	0.342	68	0.500	0.326	65	5	55-110	30
Benzo(a)anthracene	ND	0.500	0.414	83	0.500	0.437	87	5	55-110	30
Benzo(a)pyrene	ND	0.500	0.362	72	0.500	0.432	86	18	55-110	30
Benzo(b)fluoranthene	ND	0.500	0.368	74	0.500	0.587	117	46*	45-120	30
Benzo(k)fluoranthene	ND	0.500	0.447	89	0.500	0.596	119	29	45-125	30
Benzo(g,h,i)perylene	ND	0.500	0.359	72	0.500	0.383	77	7	40-125	30
Chrysene	ND	0.500	0.441	88	0.500	0.464	93	5	55-110	30
Dibenzo(a,h)anthracene	ND	0.500	0.286	57	0.500	0.307	61	7	40-125	30
Fluoranthene	ND	0.500	0.347	69	0.500	0.323	65	7	55-115	30
Fluorene	ND	0.500	0.335	67	0.500	0.311	62	7	50-110	30
Indeno(1,2,3-cd)pyrene	ND	0.500	0.320	64	0.500	0.341	68	6	45-125	30
Naphthalene	ND	0.500	0.414	83	0.500	0.396	79	4	40-100	30
Phenanthrene	ND	0.500	0.323	65	0.500	0.302	60	7	50-115	30
Pyrene	ND	0.500	0.328	66	0.500	0.319	64	3	50-130	30
2-Methylnaphthalene	ND	0.500	0.337	67	0.500	0.335	67	1	45-105	30
1-Methylnaphthalene	ND	0.500	0.378	76	0.500	0.367	73	3	30-160	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
Terphenyl-d14	0.500	0.542	108	0.500	0.464	93	50-135

QC DATA

Quantitation Report (QT Reviewed)

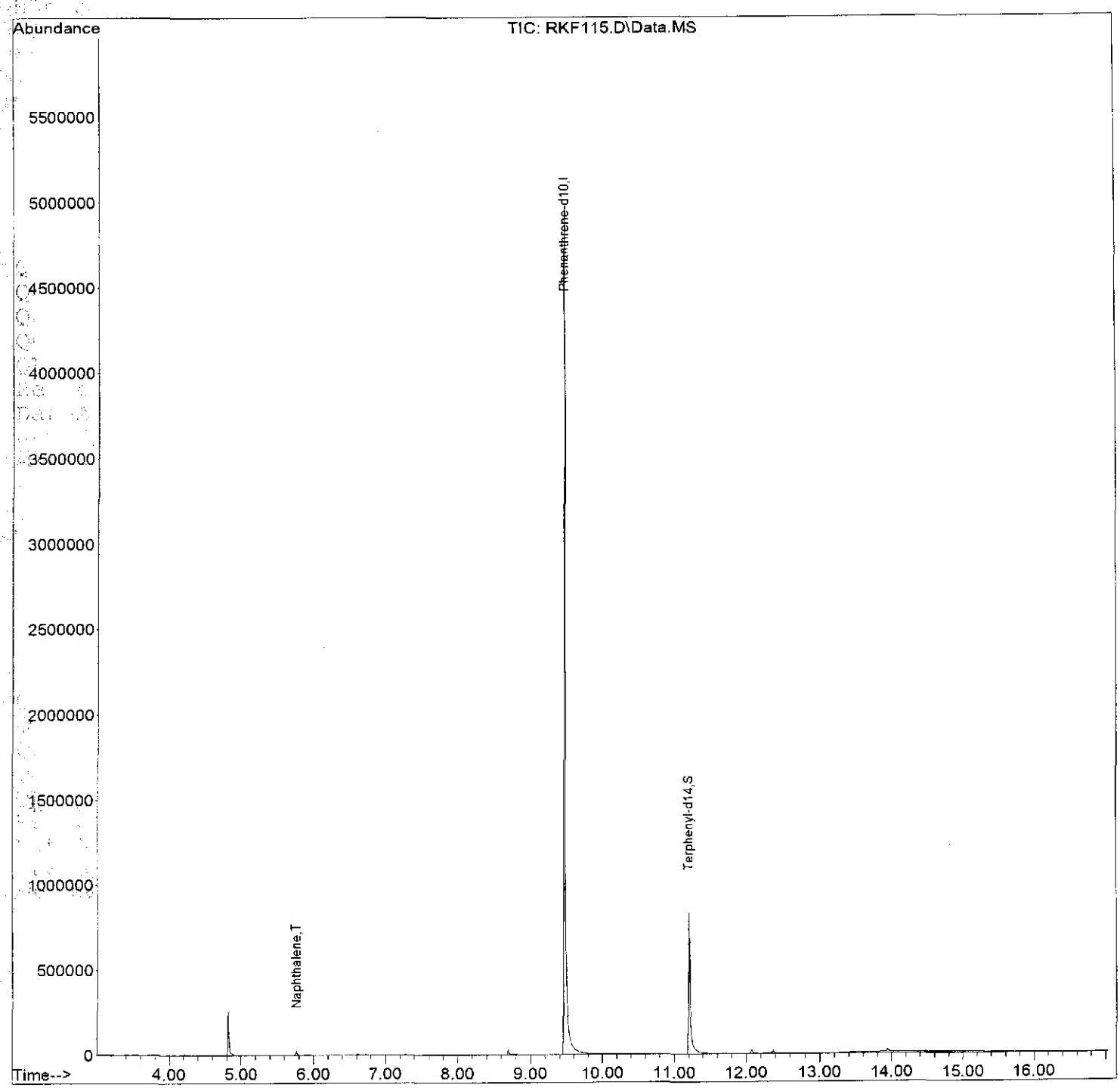
Data File : C:\msdchem\1\DATA\14K20\RKF115.D Vial: 6
Acq On : 20 Nov 2014 12:44 Operator: KVu
Sample : SVK020WB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Nov 20 13:37:41 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.469	188	4966584	2000.00	ppb	0.02
System Monitoring Compounds						
13) Terphenyl-d14	11.208	244	1231073	670.21	ppb	0.03
Spiked Amount 500.000			Recovery =	134.04%		
Target Compounds						Qvalue
2) Naphthalene	5.766	128	28910	8.51	ppb	< DL 91

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14K20\RKF115.D Vial: 6
Acq On : 20 Nov 2014 12:44 Operator: KVu
Sample : SVK020WB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Nov 20 13:37:41 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



Quantitation Report (QT Reviewed)

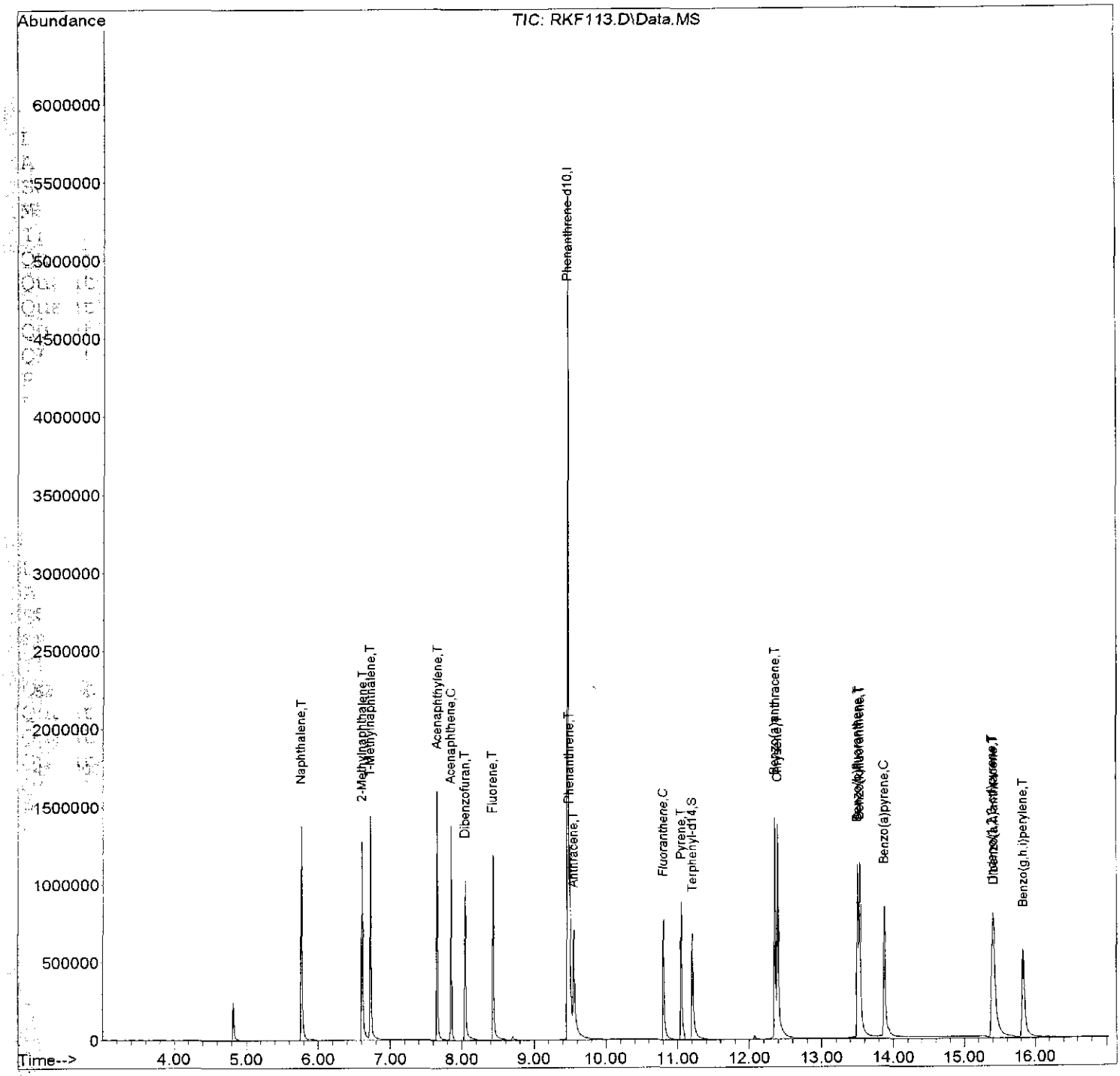
Data File : C:\msdchem\1\DATA\14K20\RKF113.D Vial: 4
Acq On : 20 Nov 2014 12:02 Operator: KVu
Sample : SVK020WL Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Nov 20 12:45:06 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.469	188	5218746	2000.00	ppb	0.02
System Monitoring Compounds						
13) Terphenyl-d14	11.208	244	1046821	542.37	ppb	0.03
Spiked Amount 500.000			Recovery =	108.47%		
Target Compounds						Qvalue
2) Naphthalene	5.766	128	1478034	413.87	ppb	99
3) 2-Methylnaphthalene	6.608	142	807588	337.19	ppb	96
4) 1-Methylnaphthalene	6.724	142	830388	377.53	ppb	97
5) Acenaphthylene	7.657	152	1184532	372.32	ppb	99
6) Acenaphthene	7.853	153	803707	388.41	ppb	98
7) Dibenzofuran	8.049	168	920904	348.12	ppb	97
8) Fluorene	8.430	166	707984	335.22	ppb	99
9) Phenanthrene	9.495	178	873605	322.83	ppb	97
10) Anthracene	9.554	178	930906	342.43	ppb	95
11) Fluoranthene	10.804	202	871160	346.78	ppb	88
12) Pyrene	11.054	202	890926	327.90	ppb	89
14) Benzo(a)anthracene	12.356	228	1533675	413.98	ppb	82
15) Chrysene	12.397	228	1580486	440.91	ppb	86
16) Benzo(b)fluoranthene	13.504	252	1300772	367.82	ppb	86
17) Benzo(k)fluoranthene	13.534	252	1579976	447.34	ppb	86
18) Benzo(a)pyrene	13.877	252	1215777	361.93	ppb	92
19) Indeno(1,2,3-cd)pyrene	15.397	276	1309111	320.18	ppb	67
20) Dibenzo(a,h)anthracene	15.416	278	965293	286.06	ppb	70
21) Benzo(g,h,i)perylene	15.829	276	1215310	358.74	ppb	74

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14K20\RKF113.D Vial: 4
Acq On : 20 Nov 2014 12:02 Operator: KVu
Sample : SVK020WL Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Nov 20 12:45:06 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



Quantitation Report (QT Reviewed)

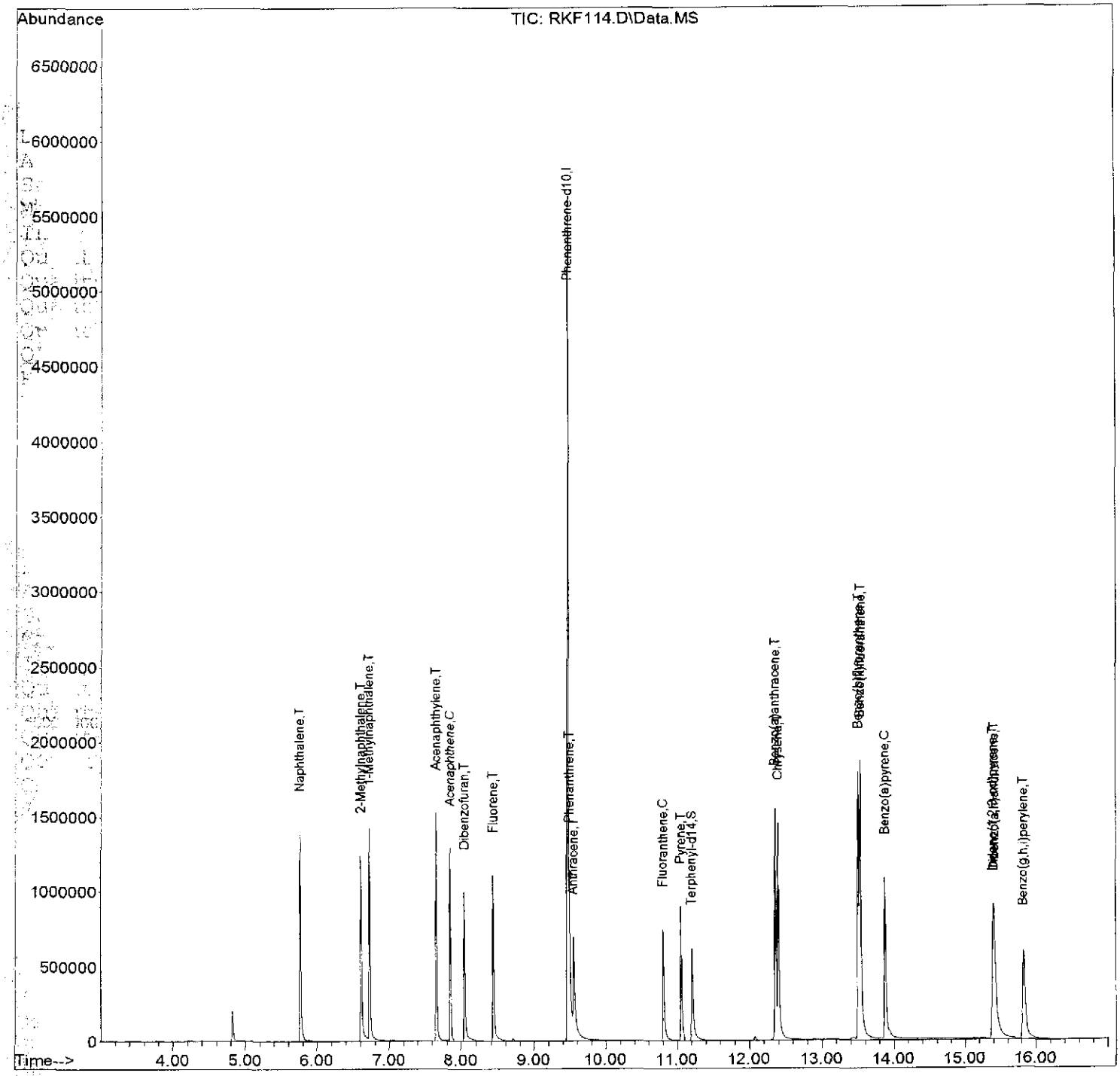
Data File : C:\msdchem\1\DATA\14K20\RKF114.D Vial: 5
Acq On : 20 Nov 2014 12:20 Operator: KVu
Sample : SVK020WC Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Nov 20 12:47:36 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.468	188	5354199	2000.00	ppb	0.0
System Monitoring Compounds						
13) Terphenyl-d14	11.210	244	919278	464.24	ppb	0.03
Spiked Amount 500.000			Recovery =	92.85%		
Target Compounds						Qvalue
2) Naphthalene	5.769	128	1452631	396.46	ppb	99
3) 2-Methylnaphthalene	6.610	142	822761	334.83	ppb	98
4) 1-Methylnaphthalene	6.726	142	828701	367.23	ppb	99
5) Acenaphthylene	7.657	152	1151093	352.66	ppb	99
6) Acenaphthene	7.853	153	754553	355.43	ppb	97
7) Dibenzofuran	8.049	168	876507	322.96	ppb	96
8) Fluorene	8.432	166	673942	311.03	ppb	99
9) Phenanthrene	9.498	178	837826	301.78	ppb	98
10) Anthracene	9.553	178	908524	325.74	ppb	95
11) Fluoranthene	10.804	202	833489	323.39	ppb	90
12) Pyrene	11.055	202	888347	318.68	ppb	89
14) Benzo(a)anthracene	12.356	228	1657596	436.56	ppb	74
15) Chrysene	12.397	228	1705280	463.69	ppb	84
16) Benzo(b)fluoranthene	13.506	252	2131465	587.47	ppb	80
17) Benzo(k)fluoranthene	13.535	252	2160123	596.13	ppb	81
18) Benzo(a)pyrene	13.878	252	1488885	432.02	ppb	85
19) Indeno(1,2,3-cd)pyrene	15.398	276	1432245	341.43	ppb	70
20) Dibenzo(a,h)anthracene	15.416	278	1063237	307.11	ppb	73
21) Benzo(g,h,i)perylene	15.833	276	1332787	383.47	ppb	74

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14K20\RKF114.D Vial: 5
Acq On : 20 Nov 2014 12:20 Operator: KVu
Sample : SVK020WC Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Nov 20 12:47:36 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



INITIAL CALIBRATIONS

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: REF012
Instrument ID: TOF0

Project: RED HILL PHASE 1B
SDG No.: 14K089
DFTPP Injection Date: 05/08/14
DFTPP Injection Time: 11:44

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	44.44
68	Less than 2% of mass 69	0.14(0.8)1
69	Relative abundance of mass 198	17.73
70	Less than 2.0% of mass 69	0.02(0.1)1
127	40.0 - 60.0% of mass 198	44.87
197	Less than 1.0% of mass 198	0.67
198	Base Peak, 100% relative abundance	100.00
199	5.0 - 9.0% of mass 198	6.24
275	10.0 - 30.0% of mass 198	22.93
365	Greater than 1.00% of mass 198	1.66
441	Present, but less than mass 443	13.99(81.1)3
442	Greater than 40.0% of mass 198	92.91
443	17.0 - 23.0% of mass 442	17.25(18.6)2

1-Value is % mass 69 2-Value is % mass 442
3-Value is % mass 443

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	SSTD1000	SVF0E081	REF013	05/08/14	12:10
2	SSTD500	SVF0E082	REF014	05/08/14	12:31
3	SSTD100	SVF0E083	REF015	05/08/14	12:54
4	SSTD080	SVF0E084	REF016	05/08/14	13:17
5	SSTD040	SVF0E085	REF017	05/08/14	13:40
6	SSTD020	SVF0E086	REF018	05/08/14	14:03
7	SSTD500	ISVF0E081	REF019	05/08/14	14:26

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: REF014
Instrument ID: TOF0

Project:ICAL
SDG No.:ICAL
Date Analyzed: 05/08/14
Time Analyzed: 12:31

		IS4(PHN)		IS5(CRY)		IS6(PRY)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	5005097	9.44	0	0.00	0	0.00
	UPPER LIMIT	10010194	9.94	0	0.50	0	0.50
	LOWER LIMIT	2502549	8.94	0	-0.50	0	-0.50
	SAMPLE ID						
1	SVF0E081	5187965	9.44	0	0.00	0	0.00
2	SVF0E083	5327101	9.44	0	0.00	0	0.00
3	SVF0E084	7937548	9.44	0	0.00	0	0.00
4	SVF0E085	5477844	9.44	0	0.00	0	0.00
5	SVF0E086	4821286	9.44	0	0.00	0	0.00
6	ISVF0E081	6284290	9.44	0	0.00	0	0.00

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

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

7-11-14

Quantitation Limit from Lowest Initial Calibration Concentration

Instrument ID :FO
Beginning DateTime :05/08/14 12:10
IC File :REF015

Column Spec :ZB-SEMI ID:0.25MM
Ending DateTime :05/08/14 14:03
HPChem Method :SVF0E08

WATER Init. Vol. (ml) : 1000 Final Vol. (ml) : 1
SOIL Init. Weight (gm) : 30 Final Vol. (ml) : 1

IDX	Parameters	ON_COL UG/L	WATER UG/L	SOIL UG/KG	R_FILE
1	Phenanthrene-d10	IntSTD	IntSTD	IntSTD	IntSTD
2	Naphthalene	20	.02	.6667	REF018
3	2-Methylnaphthalene	20	.02	.6667	REF018
4	1-Methylnaphthalene	20	.02	.6667	REF018
5	Acenaphthylene	20	.02	.6667	REF018
6	Acenaphthene	20	.02	.6667	REF018
7	Dibenzofuran	20	.02	.6667	REF018
8	Fluorene	20	.02	.6667	REF018
9	Phenanthrene	20	.02	.6667	REF018
10	Anthracene	20	.02	.6667	REF018
11	Fluoranthene	20	.02	.6667	REF018
12	Pyrene	20	.02	.6667	REF018
13	Terphenyl-d14	20	.02	.6667	REF018
14	Benzo(a)anthracene	20	.02	.6667	REF018
15	Chrysene	20	.02	.6667	REF018
16	Benzo(b)fluoranthene	20	.02	.6667	REF018
17	Benzo(k)fluoranthene	20	.02	.6667	REF018
18	Benzo(a)pyrene	20	.02	.6667	REF018
19	Indeno(1,2,3-cd)pyrene	20	.02	.6667	REF018
20	Dibenzo(a,h)anthracene	20	.02	.6667	REF018
21	Benzo(g,h,i)perylene	20	.02	.6667	REF018

RW 7-11-14

3023

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :FO
Beginning DateTime :05/08/14 12:10
Spike Units :PPB
IC File :REF015

Column Spec :ZB-SEMI ID:0.25MM
Ending DateTime :05/08/14 14:03
HPChem Method :SVFOE08

IDX	Parameters	20 14:03 REF018	40 13:40 REF017	80 13:17 REF016	100 12:54 REF015	500 12:31 REF014	1000 12:10 REF013	Av_RRF	%_RSD	Av_Rt_M
1	Phenanthrene-d10	1	1	1	1	1	1	1	0	9.4429
2	Naphthalene	1.584	1.389	1.265	1.344	1.392	1.238	1.369	8.99	5.7405
3	2-Methylnaphthalene	1.049	0.917	0.855	0.919	0.934	0.833	0.918	8.25	6.5772
4	1-Methylnaphthalene	0.978	0.846	0.789	0.836	0.849	0.759	0.843	8.93	6.6945
5	Acenaphthylene	1.353	1.215	1.133	1.232	1.245	1.139	1.219	6.61	7.6248
6	Acenaphthene	0.908	0.800	0.739	0.802	0.787	0.723	0.793	8.22	7.8215
7	Dibenzofuran	1.143	1.026	0.947	1.015	1.018	0.934	1.014	7.34	8.0151
8	Fluorene	0.905	0.823	0.759	0.820	0.805	0.744	0.809	7.05	8.4032
9	Phenanthrene	1.167	1.073	0.982	1.046	1.026	0.928	1.037	7.86	9.4701
10	Anthracene	1.165	1.048	0.987	1.044	1.047	0.960	1.042	6.78	9.5262
11	Fluoranthene	1.107	0.997	0.907	0.952	0.957	0.857	0.963	8.86	10.7756
12	Pyrene	1.199	1.055	0.985	1.029	1.031	0.949	1.041	8.26	11.0270
13	Terphenyl-d14	0.872	0.761	0.690	0.714	0.734	0.667	0.740	9.81	11.1795
14	Benzo(a)anthracene	2.042	1.655	1.458	1.489	1.522	1.358	1.587	15.30	12.3298
15	Chrysene	1.582	1.404	1.292	1.326	1.388	1.250	1.374	8.55	12.3690
16	Benzo(b)fluoranthene	1.516	1.347	1.270	1.310	1.410	1.278	1.355	6.94	13.4730
17	Benzo(k)fluoranthene	1.505	1.292	1.253	1.348	1.449	1.275	1.354	7.55	13.5020
18	Benzo(a)pyrene	1.418	1.249	1.173	1.251	1.378	1.255	1.287	7.12	13.8406
19	Indeno(1,2,3-cd)pyrene	1.722	1.553	1.448	1.510	1.657	1.512	1.567	6.56	15.3334
20	Dibenzo(a,h)anthracene	1.458	1.286	1.193	1.247	1.347	1.229	1.293	7.44	15.3500
21	Benzo(g,h,i)perylene	1.390	1.273	1.236	1.265	1.389	1.237	1.298	5.54	15.7617

Ave_%RSD : 8.1 Max_%RSD : 15.3

Use Least Square Linear Regression with weighting factor of inverse concentration
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
14	Benzo(a)anthracene	0.00585	1.39154	0.9984

7-11-14

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR(%REC)

Instrument ID :F0
Beginning DateTime :05/08/14 12:10
Spike Units :PPB
IC File :REF015

Column Spec :ZB-SEMI ID:0.25MM
Ending DateTime :05/08/14 14:03
HPChem Method :SVF0E08

IDX	Parameters	20 14:03 REF018	40 13:40 REF017	80 13:17 REF016	100 12:54 REF015	500 12:31 REF014	1000 12:10 REF013	AvDRec	%_RSD	Av_Rt_M
1	*Phenanthrene-d10*	1	1	1	1	1	1	1	0	9.4429
2	Naphthalene	116	101	92	98	102	90	6.3	8.99	5.7405
3	2-Methylnaphthalene	114	100	93	100	102	91	5.4	8.25	6.5772
4	1-Methylnaphthalene	116	100	94	99	101	90	5.7	8.93	6.6945
5	Acenaphthylene	111	100	93	101	102	93	4.7	6.61	7.6248
6	Acenaphthene	115	101	93	101	99	91	5.5	8.22	7.8215
7	Dibenzofuran	113	101	93	100	100	92	4.8	7.34	8.0151
8	Fluorene	112	102	94	101	100	92	4.9	7.05	8.4032
9	Phenanthrene	113	103	95	101	99	89	5.6	7.86	9.4701
10	Anthracene	112	101	95	100	100	92	4.4	6.78	9.5262
11	Fluoranthene	115	104	94	99	99	89	6.2	8.86	10.7756
12	Pyrene	115	101	95	99	99	91	5.5	8.26	11.0270
13	Terphenyl-d14	118	103	93	96	99	90	6.9	9.81	11.1795
14	Benzo(a)anthracene	105	98	94	99	108	97	4.2	5.1	12.3298
15	Chrysene	115	102	94	97	101	91	6.1	8.55	12.3690
16	Benzo(b)fluoranthene	112	99	94	97	104	94	5.3	6.94	13.4730
17	Benzo(k)fluoranthene	111	95	93	100	107	94	6.1	7.55	13.5020
18	Benzo(a)pyrene	110	97	91	97	107	98	5.7	7.12	13.8406
19	Indeno(1,2,3-cd)pyrene	110	99	92	96	106	96	5.2	6.56	15.3334
20	Dibenzo(a,h)anthracene	113	99	92	96	104	95	5.6	7.44	15.3500
21	Benzo(g,h,i)perylene	107	98	95	97	107	95	4.7	5.54	15.7617

7-11-14

Compound List Report DSQ

Method Path : C:\msdchem\1\METHODS\
Method File : SVF0E08.M
Title : SEMIVOLATILES - SIM
Last Update : Thu May 08 14:37:46 2014
Response Via : Initial Calibration

Total Cpnds : 21

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Phenanthrene-d10	188	9.444	1.000	A	1	A	B
2	T	Naphthalene	128	5.741	0.608	A	1	A	B
3	T	2-Methylnaphthalene	142	6.577	0.696	A	1	A	B
4	T	1-Methylnaphthalene	142	6.695	0.709	A	1	A	B
5	T	Acenaphthylene	152	7.626	0.807	A	1	A	B
6	C	Acenaphthene	153	7.821	0.828	A	1	A	B
7	T	Dibenzofuran	168	8.015	0.849	A	1	A	B
8	T	Fluorene	166	8.403	0.890	A	1	A	B
9	T	Phenanthrene	178	9.471	1.003	A	1	A	B
10	T	Anthracene	178	9.527	1.009	A	1	A	B
11	C	Fluoranthene	202	10.777	1.141	A	1	A	B
12	T	Pyrene	202	11.029	1.168	A	1	A	B
13	S	Terphenyl-d14	244	11.181	1.184	A	1	A	B
14	T	Benzo(a)anthracene	228	12.331	1.306	L	1	A	B
15	T	Chrysene	228	12.370	1.310	A	1	A	B
16	T	Benzo(b)fluoranthene	252	13.475	1.427	A	1	A	B
17	T	Benzo(k)fluoranthene	252	13.504	1.430	A	1	A	B
18	C	Benzo(a)pyrene	252	13.842	1.466	A	1	A	B
19	T	Indeno(1,2,3-cd)pyrene	276	15.336	1.624	A	1	A	B
20	T	Dibenzo(a,h)anthracene	278	15.353	1.626	A	1	A	B
21	T	Benzo(g,h,i)perylene	276	15.763	1.669	A	1	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

SVF0E08.M Thu May 08 14:38:06 2014 F0

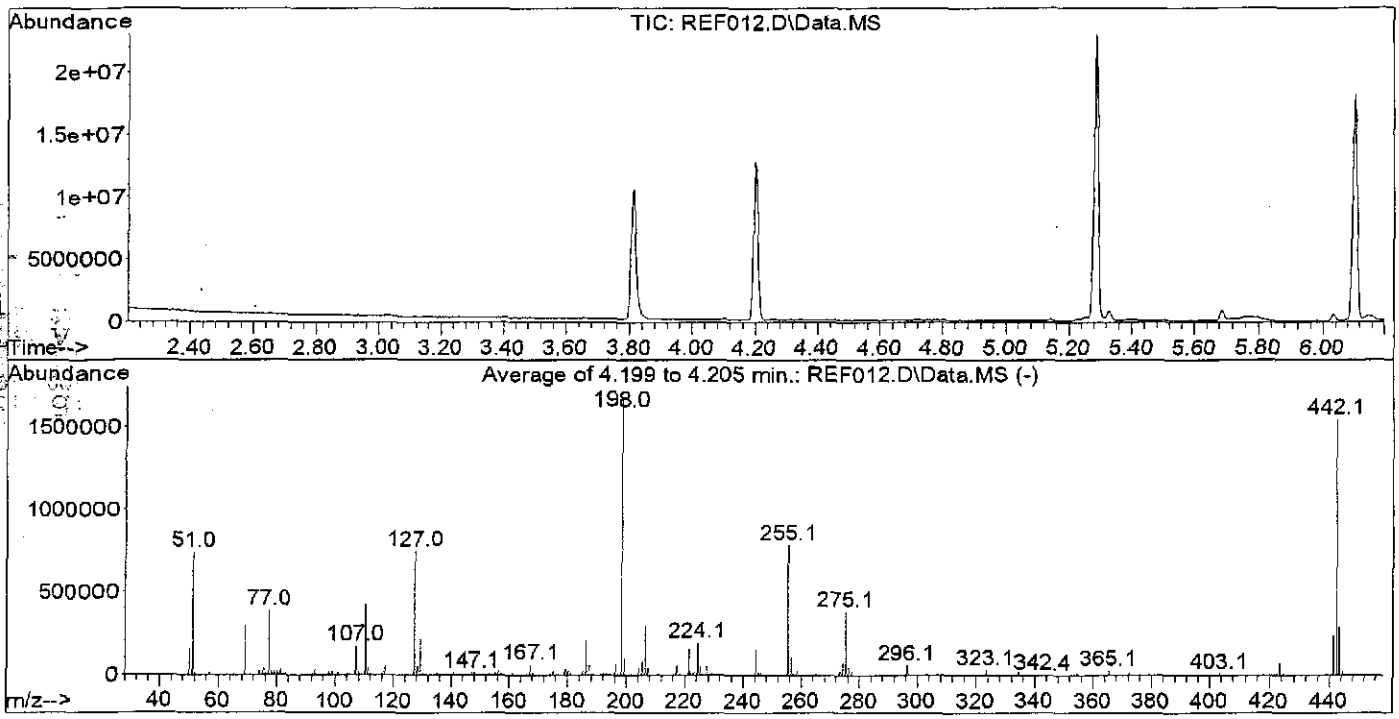
7-11-14

3625

Data Path : C:\msdchem\1\DATA\14E08\
Data File : REF012.D
Acq On : 08 May 2014 11:44
Operator : KV
Sample : DFTF0F0801
Misc : F0
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Title : DFTPP
Last Update : Fri May 09 13:48:37 2014



AutoFind: Scans 725, 726, 727; Background Corrected with Scan 716

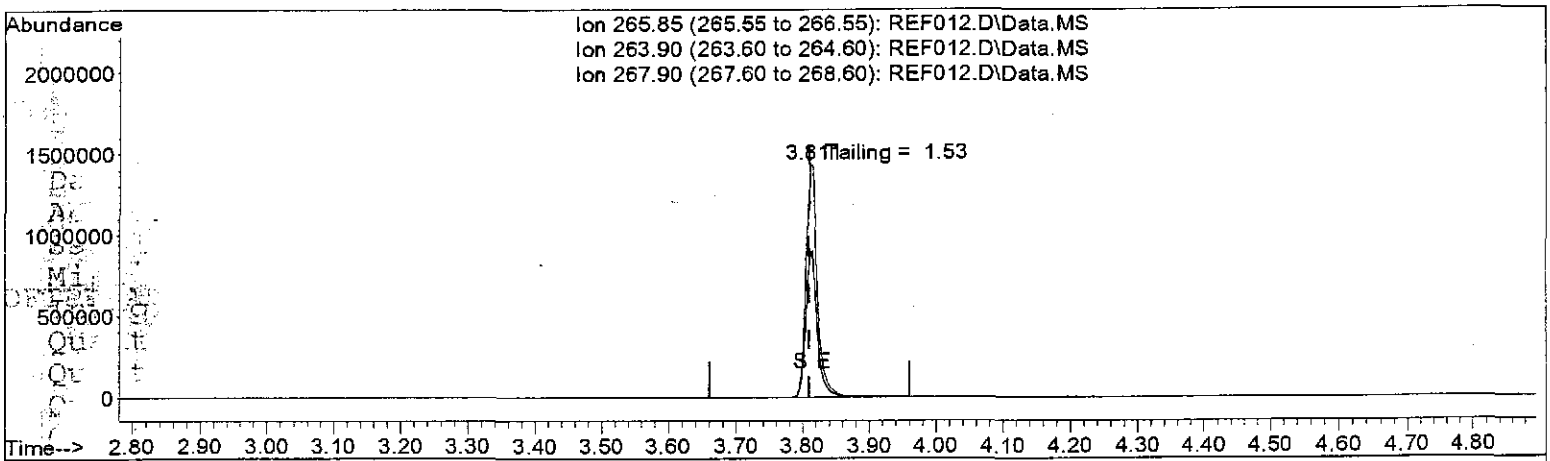
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.4	737448	PASS
68	69	0.00	2	0.8	2241	PASS
69	198	0.00	100	17.7	294208	PASS
70	69	0.00	2	0.1	361	PASS
127	198	40	60	44.9	744448	PASS
197	198	0.00	1	0.7	11039	PASS
198	198	100	100	100.0	1659221	PASS
199	198	5	9	6.2	103579	PASS
275	198	10	30	22.9	380501	PASS
365	198	1	100	1.7	27571	PASS
441	443	0.01	100	81.1	232107	PASS
442	198	40	100	92.9	1541632	PASS
443	442	17	23	18.6	286251	PASS

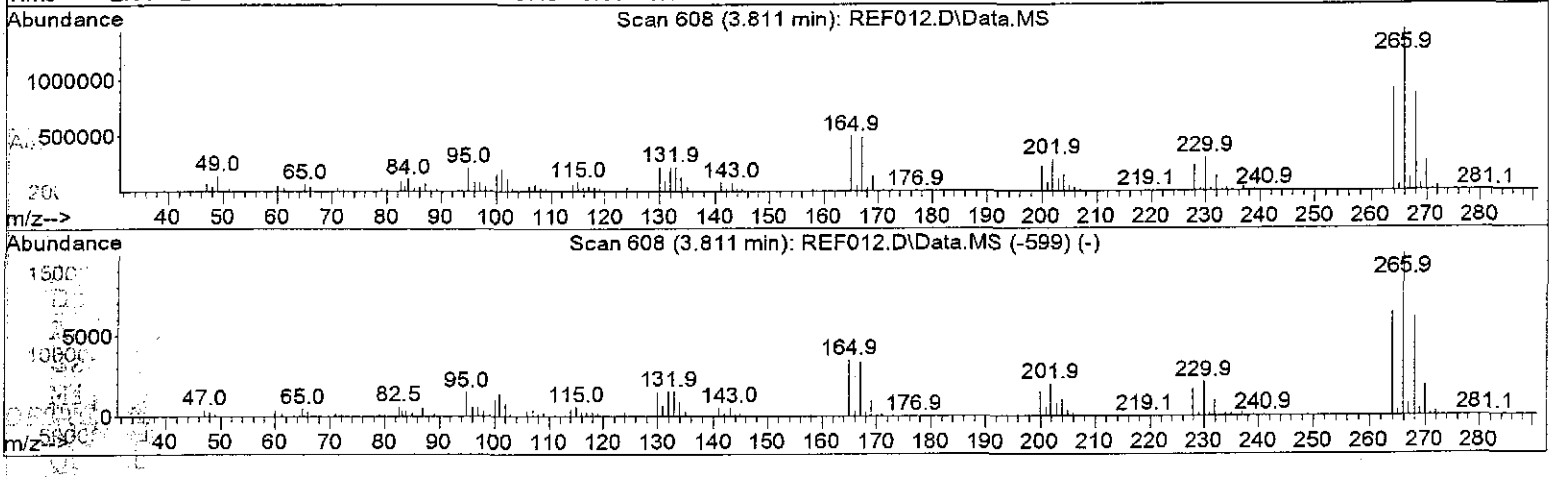
RE 7-11-14

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14E08\REF012.D
Acq On : 08 May 2014 11:44
Sample : DFTF0F0801
Misc : F0
Integrator: RTE
Quant Time: May 09 13:48:40 2014
Quant Results File: DFTPPPAH.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Quant Title : DFTPP
QLast Update : Fri May 09 13:48:38 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Vial: 2
Operator: KV
Inst : DSQ
Multiplr: 1.00





TIC: REF012.D\Data.MS

(1) Pentachlorophenol (T)

3.811min (+0.000) 50.00 ppm

response 1690635

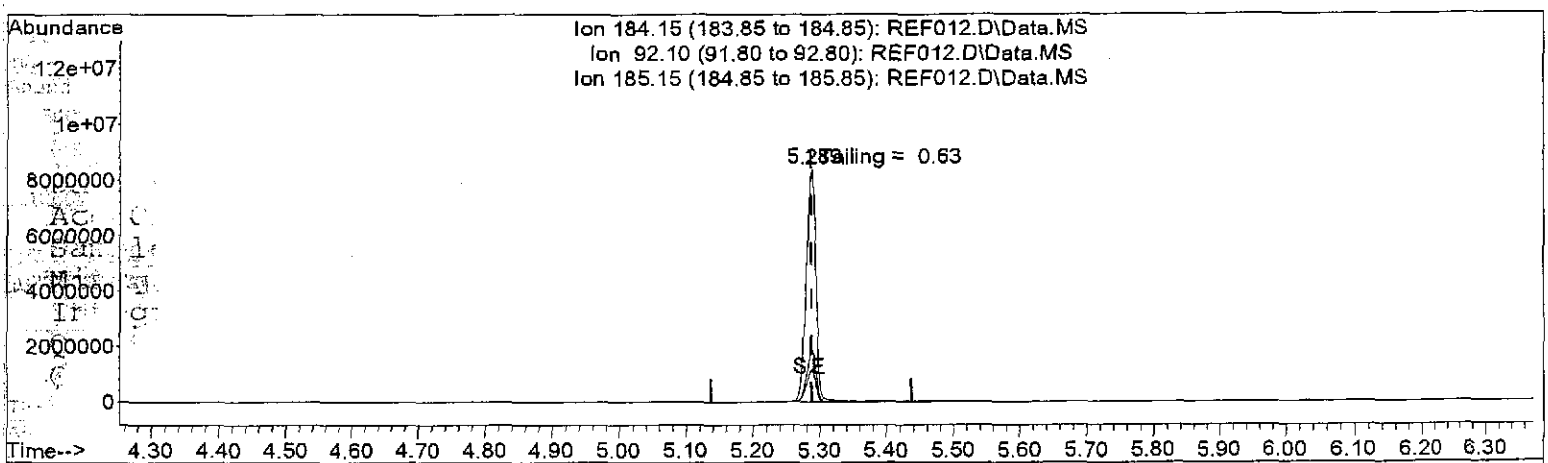
Ion	Exp%	Act%
265.85	100	100
263.90	61.80	61.80
267.90	62.70	62.72
0.00	0.00	0.00

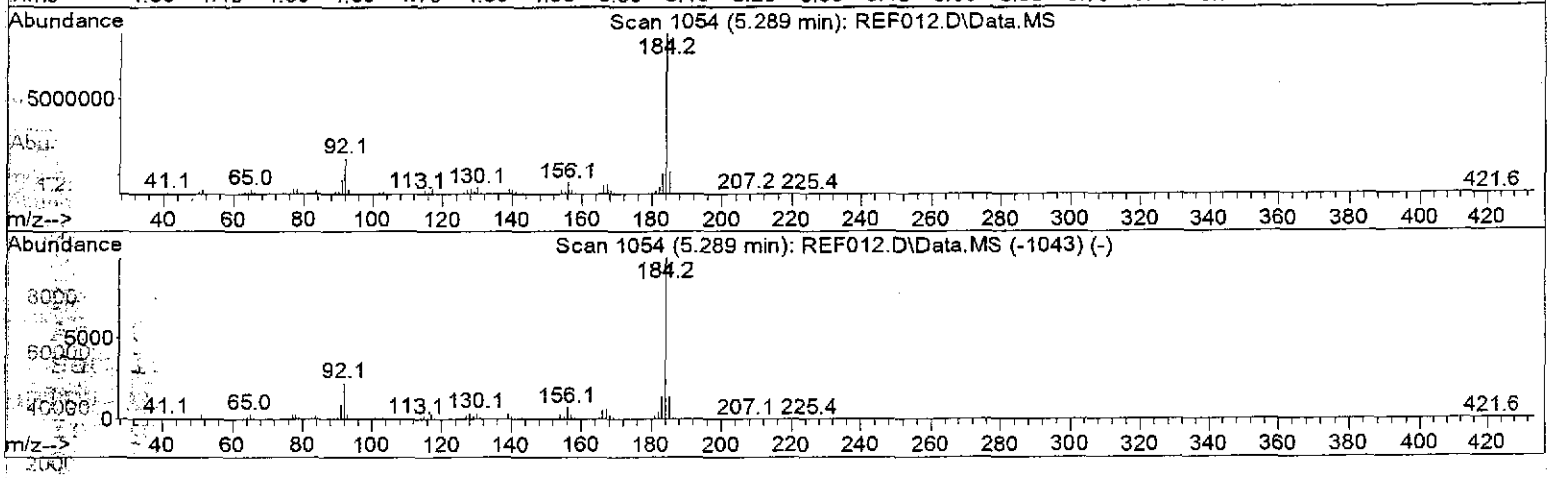
7-11-14

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14E08\REF012.D
Acq On : 08 May 2014 11:44
Sample : DFTF0F0801
Misc : F0
Integrator: RTE
Quant Time: May 09 13:48:40 2014
Quant Results File: DFTPPPAH.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Quant Title : DFTPP
QLast Update : Fri May 09 13:48:38 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Vial: 2
Operator: KV
Inst : DSQ
Multiplr: 1.00





TIC: REF012.D\Data.MS

(3) Benzidine (T)

5.289min (0.000) 50.00 ppm

response 8591117

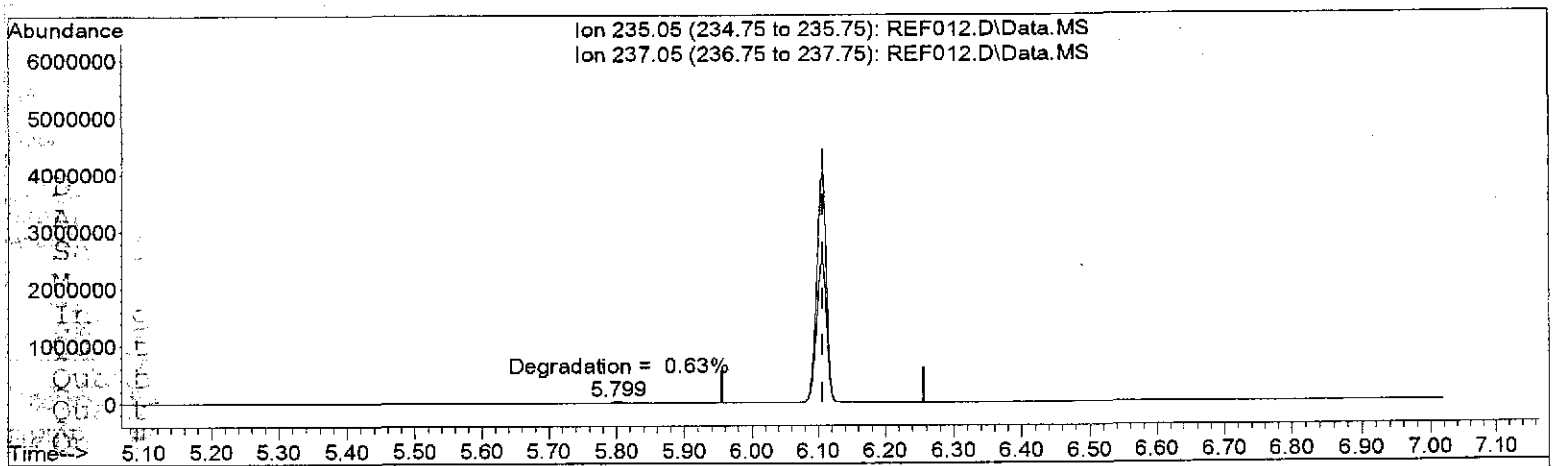
Ion	Exp%	Act%
184.15	100	100
92.10	21.70	21.65
185.15	13.30	13.29
0.00	0.00	0.00

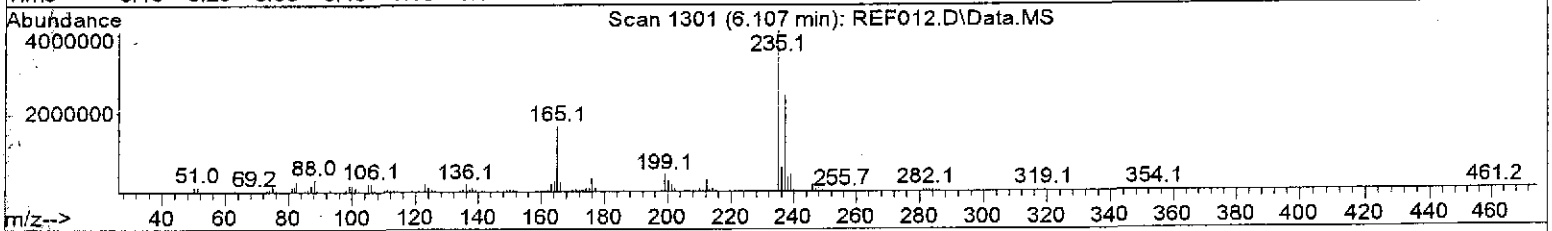
7-11-14

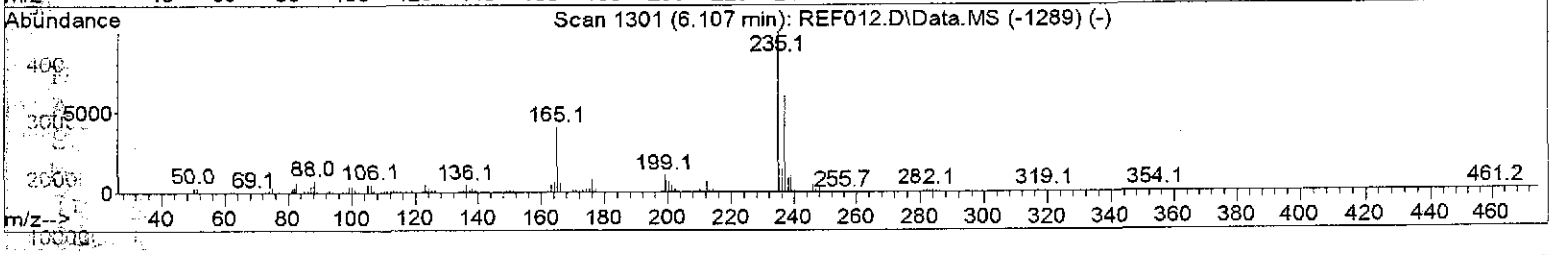
Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14E08\REF012.D
Acq On : 08 May 2014 11:44
Sample : DFTF0F0801
Misc : F0
Integrator: RTE
Quant Time: May 09 13:48:40 2014
Quant Results File: DFTPPPAH.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Quant Title : DFTPP
QLast Update : Fri May 09 13:48:38 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Vial: 2
Operator: KV
Inst : DSQ
Multiplr: 1.00







TIC: REF012.D\Data.MS

(6) DDT (T)

6.107min (0.000) 50.00 ppm

response 4079265

Ion	Exp%	Act%
235.05	100	100
237.05	63.20	63.24
0.00	0.00	0.00
0.00	0.00	0.00

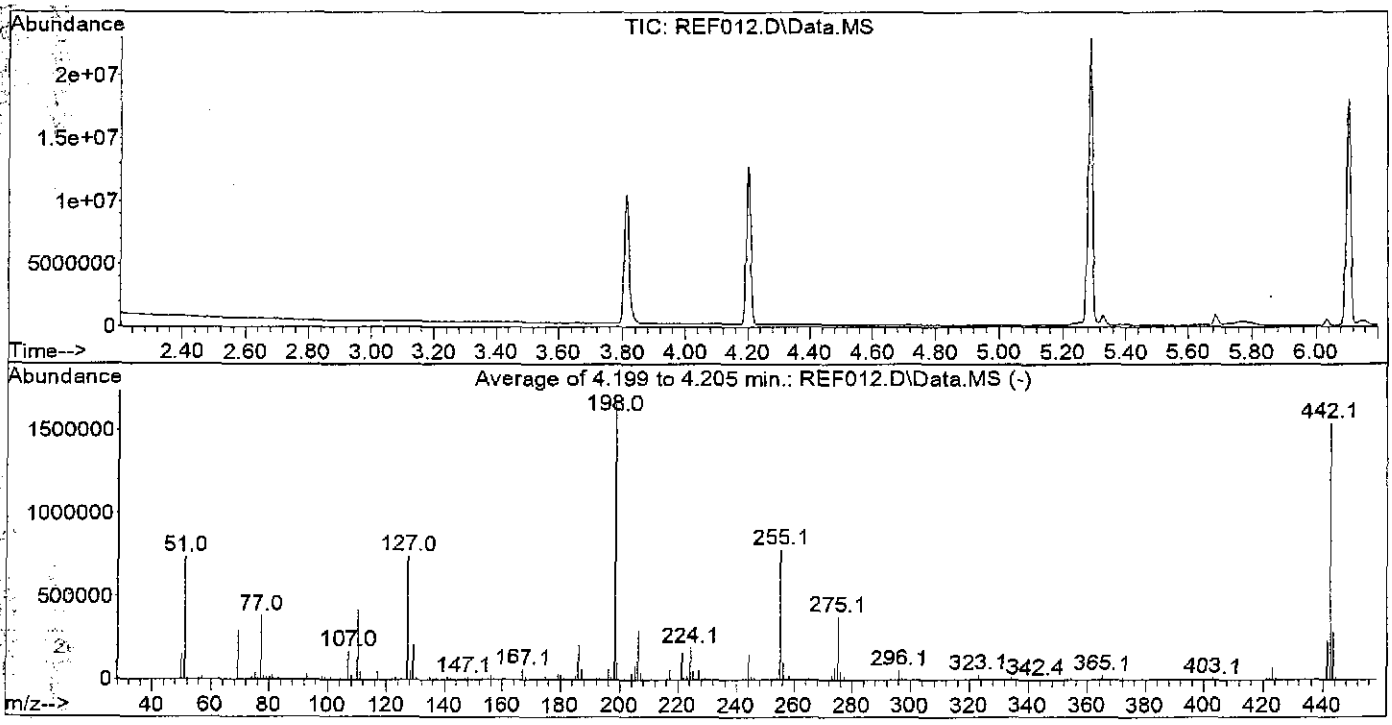
7-11-14

DFTPP

Data Path : C:\msdchem\1\DATA\14E08\
Data File : REF012.D
Acq On : 08 May 2014 11:44
Operator : KV
Sample : DFTF0F0801
Misc : F0
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPD.M
Title : DFTPP-8270D
Last Update : Fri May 09 13:50:01 2014



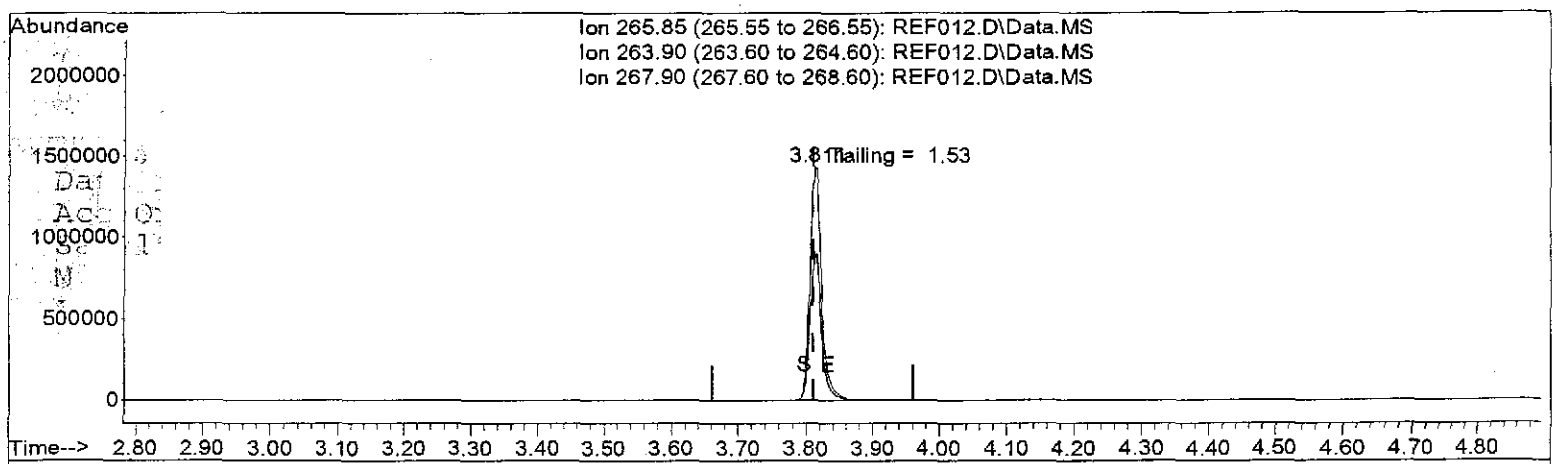
AutoFind: Scans 725, 726, 727; Background Corrected with Scan 716

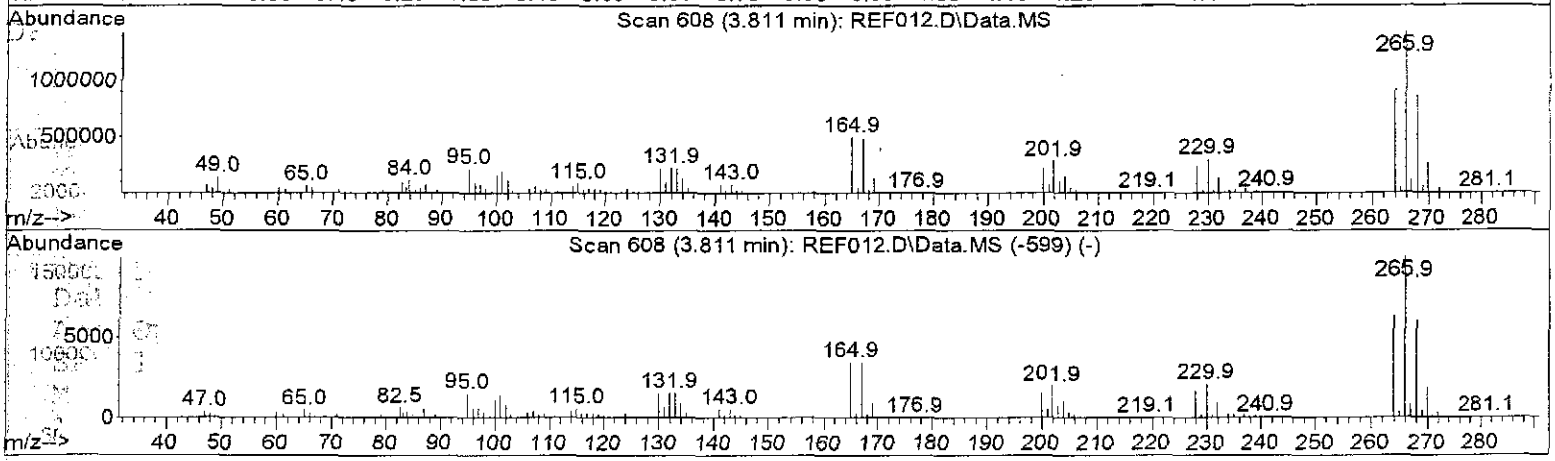
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	44.4	737448	PASS
68	69	0.00	2	0.8	2241	PASS
69	198	0.00	100	17.7	294208	PASS
70	69	0.00	2	0.1	361	PASS
127	198	10	80	44.9	744448	PASS
197	198	0.00	2	0.7	11039	PASS
198	198	100	100	100.0	1659221	PASS
199	198	5	9	6.2	103579	PASS
275	198	10	60	22.9	380501	PASS
365	198	1	100	1.7	27571	PASS
441	442	0.01	24	15.1	232107	PASS
442	198	50	100	92.9	1541632	PASS
443	442	15	24	18.6	286251	PASS

pe 7-11-14

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14E08\REF012.D Vial: 2
Acq On : 08 May 2014 11:44 Operator: KV
Sample : DFTF0F0801 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 09 13:50:04 2014
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : DFTPP-8270D
QLast Update : Fri May 09 13:50:02 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M





TIC: REF012.D\Data.MS

(1) Pentachlorophenol (T)

3.811min (+0.000) 50.00 ppm

response 1690635

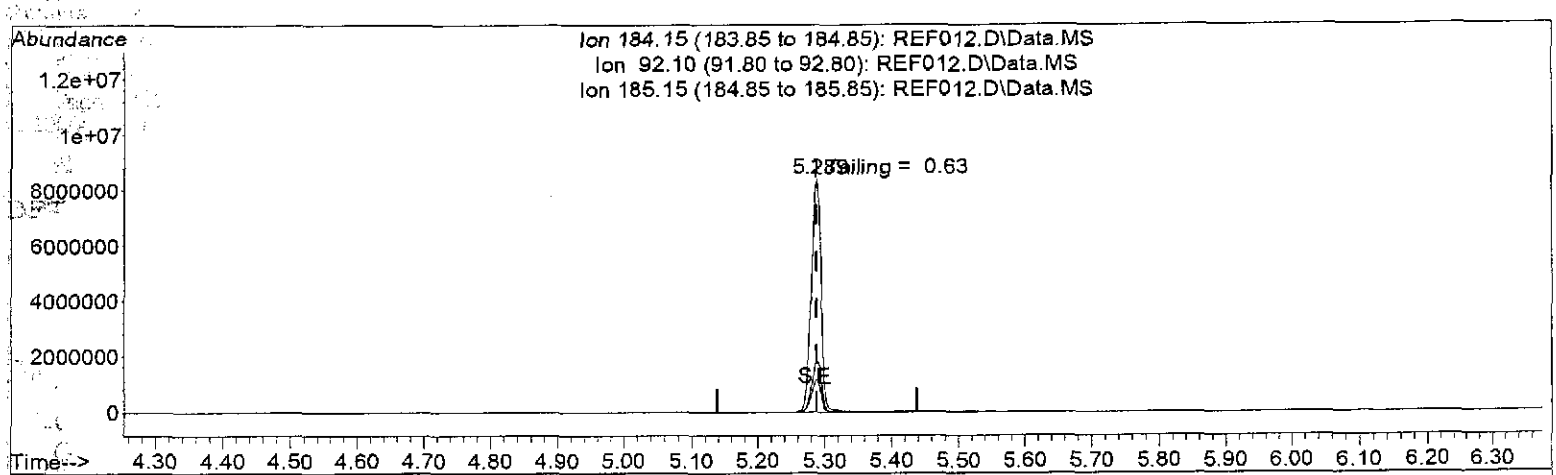
Ion	Exp%	Act%
265.85	100	100
263.90	61.80	61.80
267.90	62.70	62.72#
0.00	0.00	0.00

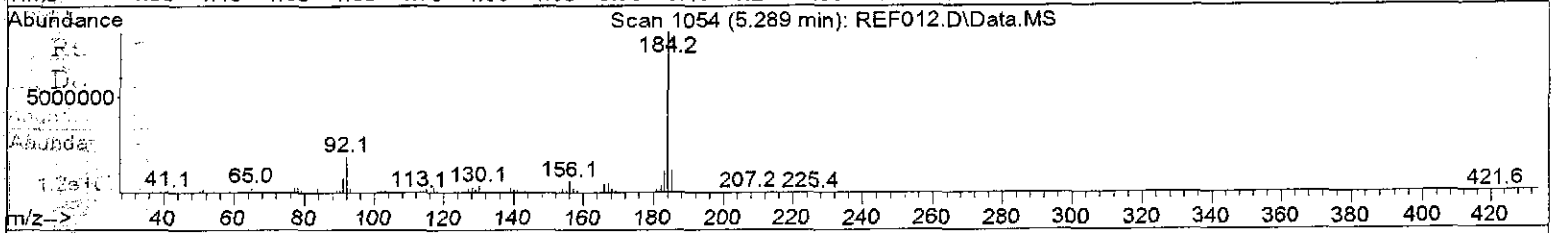
7-11-14

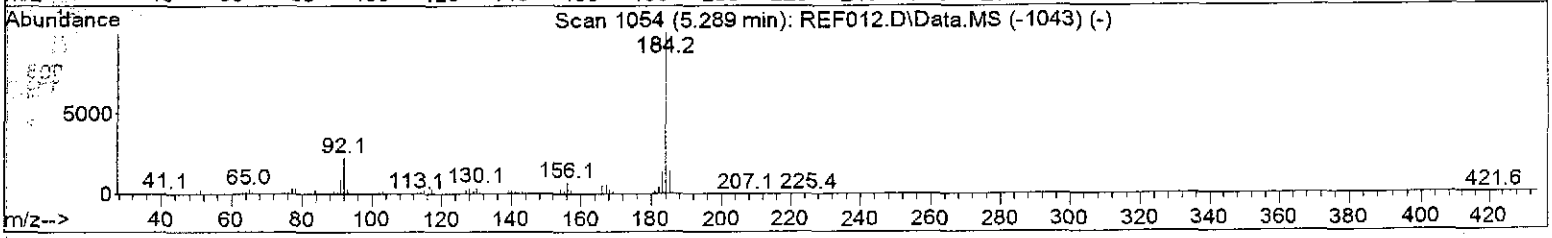
Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14E08\REF012.D
Acq On : 08 May 2014 11:44
Sample : DFTF0F0801
Misc : F0
Integrator: RTE
Quant Time: May 09 13:50:04 2014
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : DFTPP-8270D
QLast Update : Fri May 09 13:50:02 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Vial: 2
Operator: KV
Inst : DSQ
Multiplr: 1.00







TIC: REF012.D\Data.MS

(3) Benzidine (T)

5.289min (0.000) 50.00 ppm

response 8591117

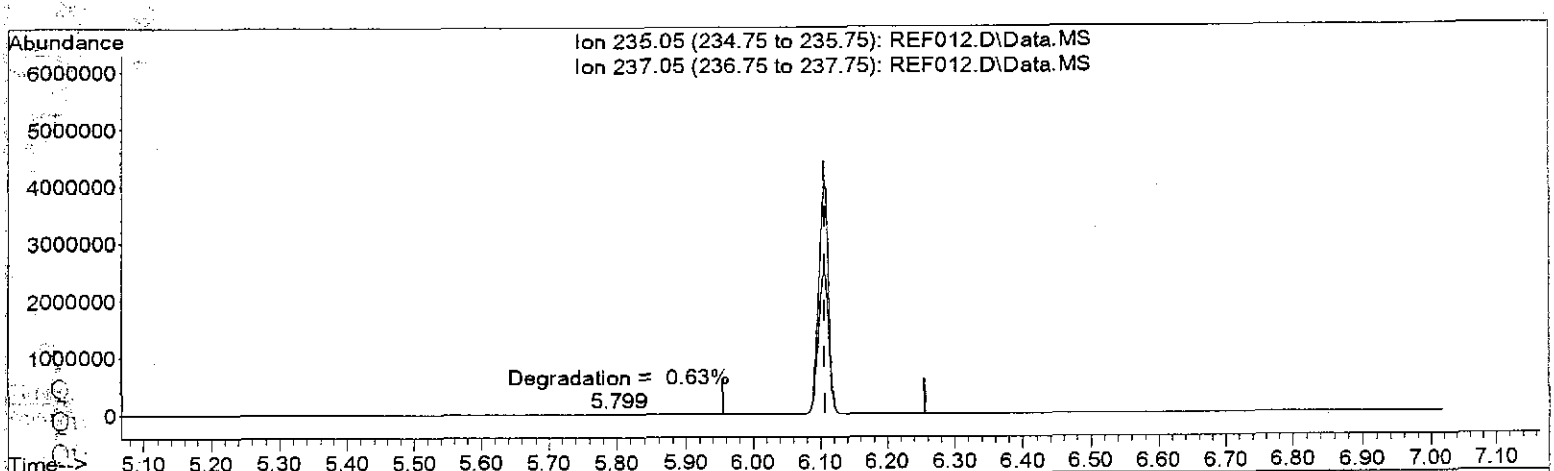
Ion	Exp%	Act%
184.15	100	100
92.10	21.70	21.65
185.15	13.30	13.29#
0.00	0.00	0.00

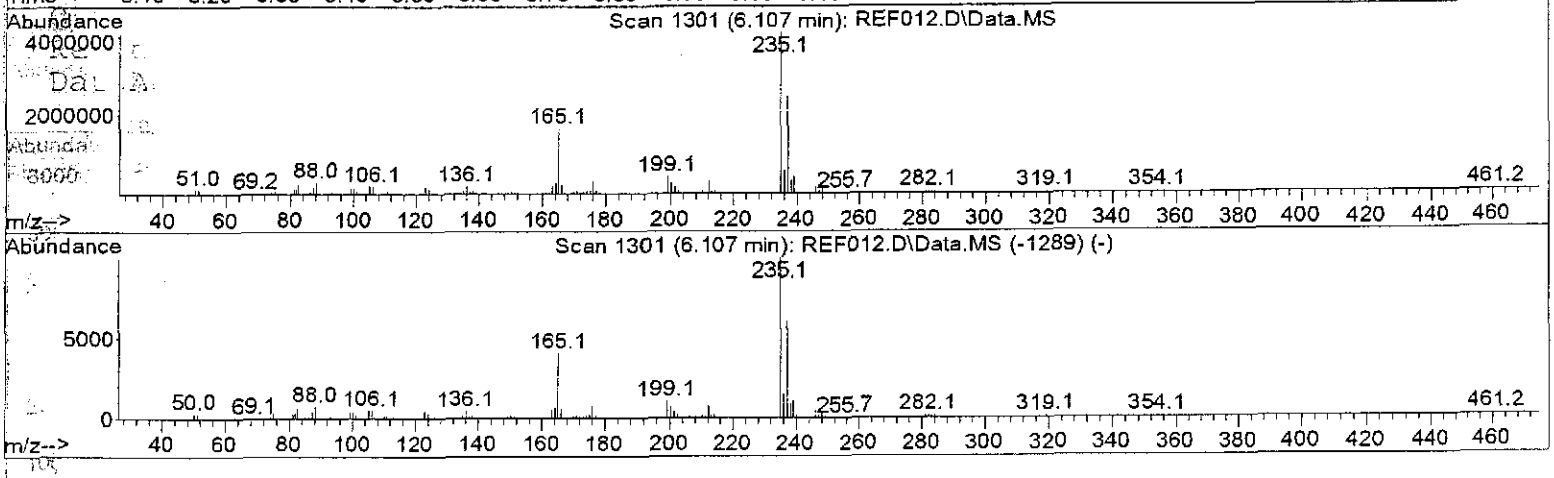
7-11-14

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14E08\REF012.D
Acq On : 08 May 2014 11:44
Sample : DFTF0F0801
Misc : F0
Integrator: RTE
Quant Time: May 09 13:50:04 2014
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : DFTPP-8270D
QLast Update : Fri May 09 13:50:02 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Vial: 2
Operator: KV
Inst : DSQ
Multiplr: 1.00





TIC: REF012.D\Data.MS

(6) DDT (T)

6.107min (0.000) 50.00 ppm

response 4079265

Ion	Exp%	Act%
235.05	100	100
237.05	63.20	63.24
0.00	0.00	0.00
0.00	0.00	0.00

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF018.D Vial: 8
Acq On : 08 May 2014 14:03 Operator: KV
Sample : SVF0E086 20PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:40:04 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

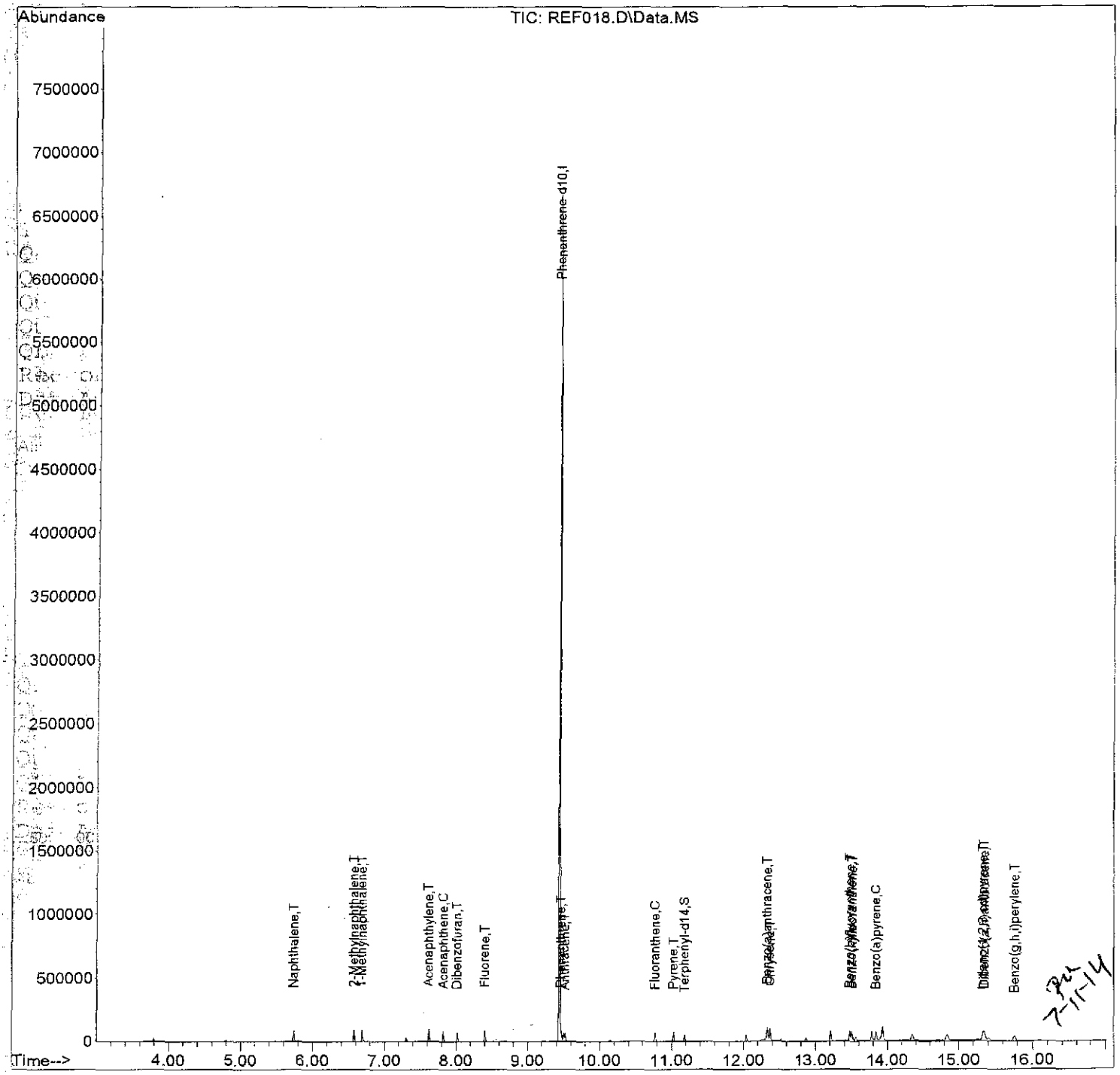
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.442	188	4821286	2000.00	ppb	0.0
System Monitoring Compounds						
13) Terphenyl-d14	11.179	244	42038	23.58	ppb	0.00
Spiked Amount 500.000			Recovery =	4.72%		
Target Compounds						Qvalue
2) Naphthalene	5.741	128	76370	23.15	ppb	99
3) 2-Methylnaphthalene	6.577	142	50590	22.86	ppb	98
4) 1-Methylnaphthalene	6.693	142	47155	23.21	ppb	98
5) Acenaphthylene	7.623	152	65214	22.19	ppb	100
6) Acenaphthene	7.821	153	43775	22.90	ppb	100
7) Dibenzofuran	8.015	168	55096	22.54	ppb	98
8) Fluorene	8.403	166	43644	22.37	ppb	99
9) Phenanthrene	9.469	178	56274	22.51	ppb	99
10) Anthracene	9.524	178	56170	22.37	ppb	98
11) Fluoranthene	10.774	202	53368	23.00	ppb	98
12) Pyrene	11.026	202	57800	23.03	ppb	96
14) Benzo(a)anthracene	12.329	228	98467	20.95	ppb	96
15) Chrysene	12.368	228	76292	23.04	ppb	50
16) Benzo(b)fluoranthene	13.473	252	73104	22.38	ppb	95
17) Benzo(k)fluoranthene	13.500	252	72569	22.24	ppb	98
18) Benzo(a)pyrene	13.838	252	68348	22.02	ppb	92
19) Indeno(1,2,3-cd)pyrene	15.331	276	83032	21.98	ppb	99
20) Dibenzo(a,h)anthracene	15.348	278	70272	22.54	ppb	92
21) Benzo(g,h,i)perylene	15.761	276	67001	21.41	ppb	97

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

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF018.D Vial: 8
Acq On : 08 May 2014 14:03 Operator: KV
Sample : SVF0E086 20PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:40:04 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF017.D Vial: 7
Acq On : 08 May 2014 13:40 Operator: KV
Sample : SVF0E085 40PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:47 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

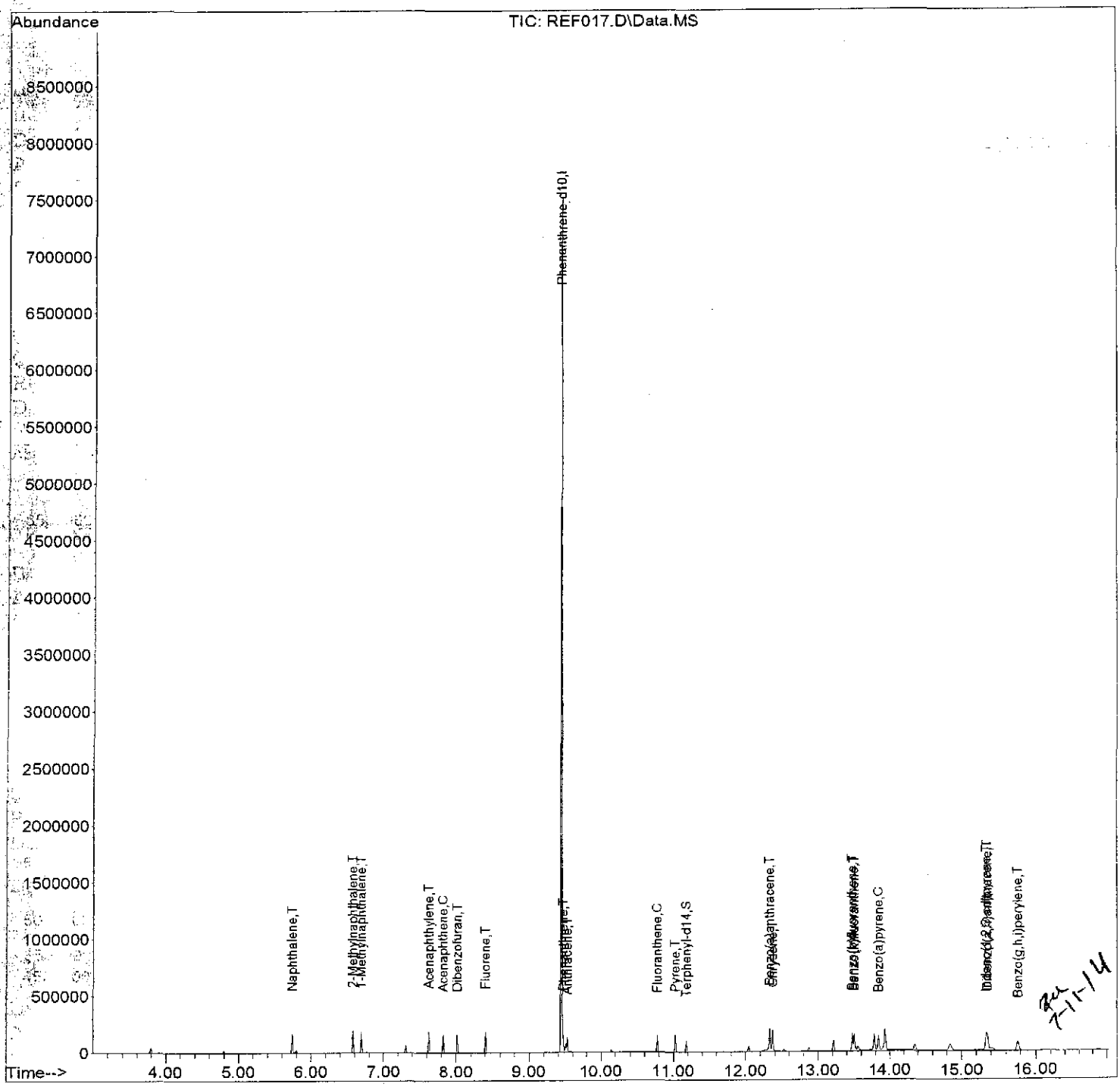
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.443	188	5477844	2000.00	ppb	0.0
System Monitoring Compounds						
13) Terphenyl-d14	11.180	244	83327	41.13	ppb	0.00
Spiked Amount 500.000			Recovery =	8.23%		
Target Compounds						Qvalue
2) Naphthalene	5.741	128	152169	40.59	ppb	99
3) 2-Methylnaphthalene	6.578	142	100467	39.96	ppb	98
4) 1-Methylnaphthalene	6.696	142	92719	40.16	ppb	99
5) Acenaphthylene	7.625	152	133087	39.85	ppb	99
6) Acenaphthene	7.823	153	87608	40.34	ppb	99
7) Dibenzofuran	8.016	168	112420	40.49	ppb	99
8) Fluorene	8.404	166	90161	40.67	ppb	99
9) Phenanthrene	9.470	178	117504	41.37	ppb	98
10) Anthracene	9.526	178	114777	40.22	ppb	99
11) Fluoranthene	10.775	202	109222	41.42	ppb	99
12) Pyrene	11.027	202	115618	40.54	ppb	98
14) Benzo(a)anthracene	12.330	228	181359	39.18	ppb	100
15) Chrysene	12.369	228	153818	40.88	ppb	77
16) Benzo(b)fluoranthene	13.472	252	147590	39.76	ppb	97
17) Benzo(k)fluoranthene	13.501	252	141499	38.17	ppb	98
18) Benzo(a)pyrene	13.842	252	136839	38.81	ppb	95
19) Indeno(1,2,3-cd)pyrene	15.333	276	170119	39.64	ppb	99
20) Dibenzo(a,h)anthracene	15.349	278	140943	39.79	ppb	93
21) Benzo(g,h,i)perylene	15.760	276	139493	39.23	ppb	99

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

PM 7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF017.D Vial: 7
Acq On : 08 May 2014 13:40 Operator: KV
Sample : SVF0E085 40PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:47 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF016.D Vial: 6
Acq On : 08 May 2014 13:17 Operator: KV
Sample : SVF0E084 80PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:33 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

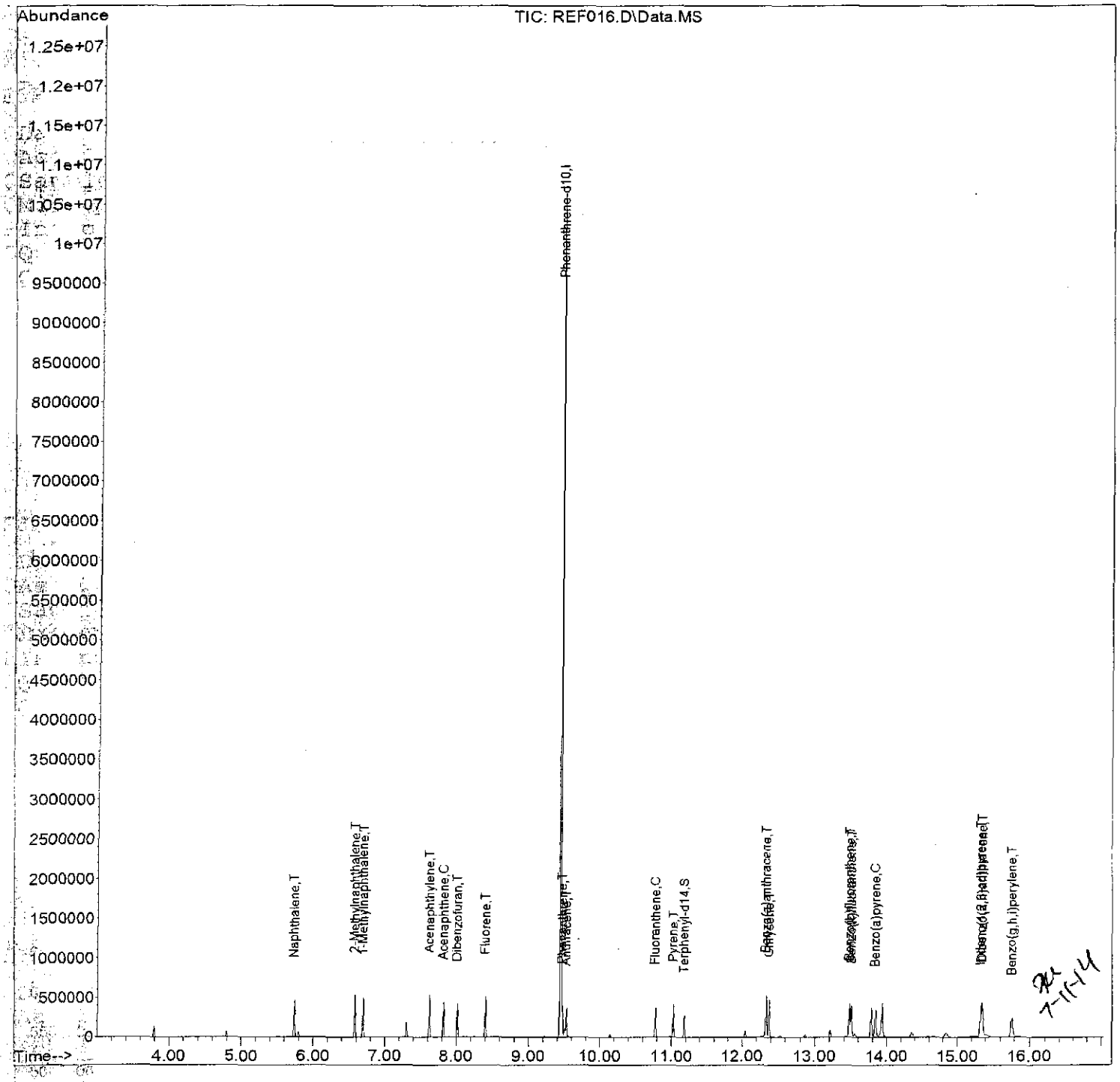
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.442	188	7937548	2000.00	ppb	0.0
System Monitoring Compounds						
13) Terphenyl-d14	11.179	244	219212	74.67	ppb	0.00
Spiked Amount 500.000			Recovery =	14.93%		
Target Compounds						Qvalue
2) Naphthalene	5.739	128	401533	73.92	ppb	98
3) 2-Methylnaphthalene	6.577	142	271326	74.48	ppb	99
4) 1-Methylnaphthalene	6.695	142	250355	74.84	ppb	99
5) Acenaphthylene	7.626	152	359752	74.35	ppb	100
6) Acenaphthene	7.821	153	234592	74.54	ppb	100
7) Dibenzofuran	8.015	168	300779	74.76	ppb	100
8) Fluorene	8.403	166	241130	75.06	ppb	100
9) Phenanthrene	9.471	178	311853	75.77	ppb	100
10) Anthracene	9.527	178	313341	75.78	ppb	99
11) Fluoranthene	10.775	202	288030	75.38	ppb	99
12) Pyrene	11.027	202	312643	75.65	ppb	97
14) Benzo(a)anthracene	12.329	228	462964	75.43	ppb	100
15) Chrysene	12.370	228	410255	75.25	ppb	97
16) Benzo(b)fluoranthene	13.473	252	403227	74.97	ppb	99
17) Benzo(k)fluoranthene	13.502	252	397711	74.04	ppb	99
18) Benzo(a)pyrene	13.841	252	372463	72.90	ppb	99
19) Indeno(1,2,3-cd)pyrene	15.331	276	459641	73.91	ppb	98
20) Dibenzo(a,h)anthracene	15.348	278	378829	73.81	ppb	99
21) Benzo(g,h,i)perylene	15.761	276	392568	76.19	ppb	98

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

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF016.D Vial: 6
Acq On : 08 May 2014 13:17 Operator: KV
Sample : SVF0E084 80PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:33 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF015.D Vial: 5
Acq On : 08 May 2014 12:54 Operator: KV
Sample : SVF0E083 100PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:17 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

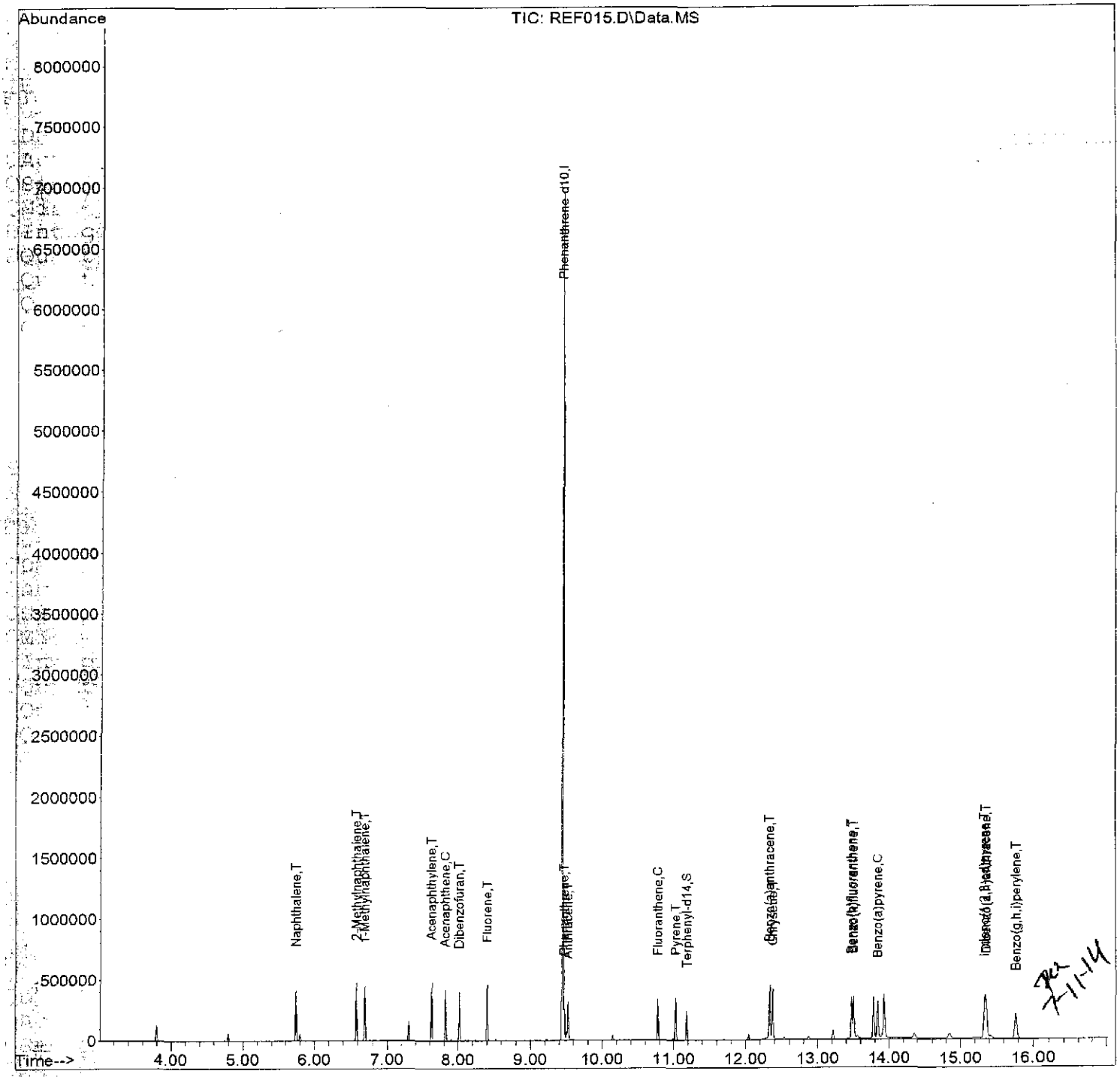
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.444	188	5327101	2000.00	ppb	0.0
System Monitoring Compounds						
13) Terphenyl-d14	11.181	244	190088	96.48	ppb	0.00
Spiked Amount 500.000			Recovery =	19.30%		
Target Compounds						Qvalue
2) Naphthalene	5.742	128	357872	98.17	ppb	99
3) 2-Methylnaphthalene	6.577	142	244851	100.15	ppb	99
4) 1-Methylnaphthalene	6.695	142	222774	99.22	ppb	99
5) Acenaphthylene	7.626	152	328041	101.01	ppb	100
6) Acenaphthene	7.821	153	213620	101.14	ppb	99
7) Dibenzofuran	8.015	168	270411	100.14	ppb	99
8) Fluorene	8.403	166	218467	101.34	ppb	100
9) Phenanthrene	9.471	178	278620	100.87	ppb	99
10) Anthracene	9.527	178	278120	100.22	ppb	99
11) Fluoranthene	10.777	202	253501	98.86	ppb	99
12) Pyrene	11.027	202	274024	98.80	ppb	96
14) Benzo(a)anthracene	12.329	228	396477	98.57	ppb	96
15) Chrysene	12.370	228	353201	96.53	ppb	93
16) Benzo(b)fluoranthene	13.472	252	349041	96.69	ppb	97
17) Benzo(k)fluoranthene	13.502	252	359178	99.63	ppb	98
18) Benzo(a)pyrene	13.840	252	333230	97.18	ppb	100
19) Indeno(1,2,3-cd)pyrene	15.333	276	402132	96.35	ppb	98
20) Dibenzo(a,h)anthracene	15.350	278	332039	96.40	ppb	99
21) Benzo(g,h,i)perylene	15.763	276	337001	97.45	ppb	100

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

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF015.D Vial: 5
Acq On : 08 May 2014 12:54 Operator: KV
Sample : SVF0E083 100PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:17 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



SVF0E08.M Thu May 08 14:39:31 2014 F0

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF014.D Vial: 4
Acq On : 08 May 2014 12:31 Operator: KV
Sample : SVF0E082 500PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:00 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

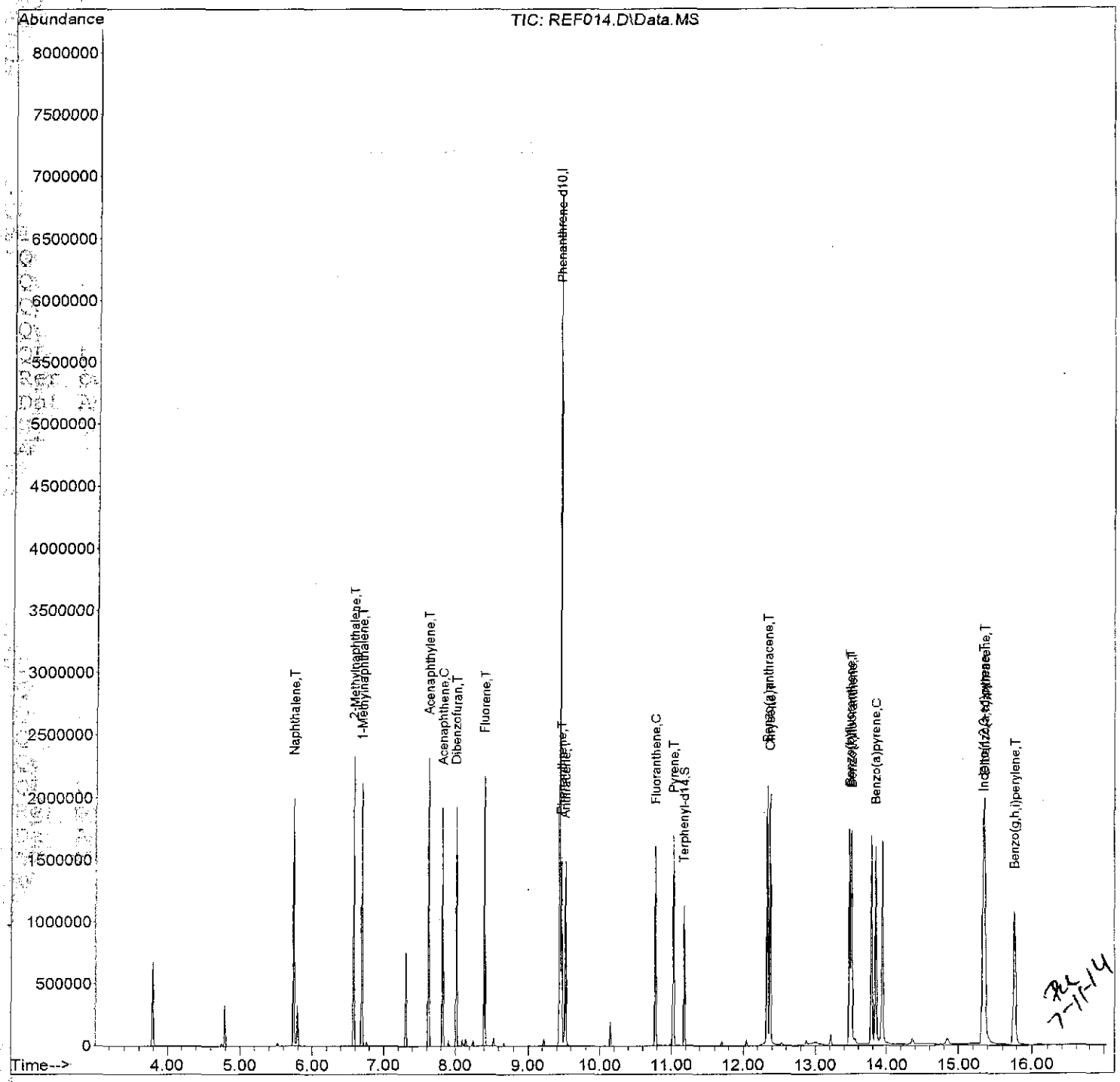
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.444	188	5005097	2000.00	ppb	0.0(
System Monitoring Compounds						
13) Terphenyl-d14	11.181	244	918914	496.42	ppb	0.00
Spiked Amount 500.000			Recovery =	99.28%		
Target Compounds						Qvalue
2) Naphthalene	5.741	128	1741943	508.59	ppb	100
3) 2-Methylnaphthalene	6.577	142	1168286	508.61	ppb	100
4) 1-Methylnaphthalene	6.695	142	1062669	503.76	ppb	100
5) Acenaphthylene	7.626	152	1557242	510.37	ppb	100
6) Acenaphthene	7.821	153	984537	496.11	ppb	100
7) Dibenzofuran	8.015	168	1273461	501.94	ppb	100
8) Fluorene	8.403	166	1006867	497.08	ppb	100
9) Phenanthrene	9.471	178	1283892	494.70	ppb	100
10) Anthracene	9.527	178	1310366	502.58	ppb	100
11) Fluoranthene	10.777	202	1197242	496.93	ppb	100
12) Pyrene	11.029	202	1289762	494.96	ppb	100
14) Benzo(a)anthracene	12.331	228	1904241	538.42	ppb	100
15) Chrysene	12.370	228	1736704	505.18	ppb	100
16) Benzo(b)fluoranthene	13.475	252	1763855	520.06	ppb	100
17) Benzo(k)fluoranthene	13.504	252	1812490	535.08	ppb	100
18) Benzo(a)pyrene	13.842	252	1724163	535.18	ppb	100
19) Indeno(1,2,3-cd)pyrene	15.336	276	2073112	528.68	ppb	100
20) Dibenzo(a,h)anthracene	15.353	278	1685316	520.75	ppb	100
21) Benzo(g,h,i)perylene	15.763	276	1737462	534.77	ppb	100

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

7-1-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF014.D Vial: 4
Acq On : 08 May 2014 12:31 Operator: KV
Sample : SVF0E082 500PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:39:00 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF013.D Vial: 3
Acq On : 08 May 2014 12:10 Operator: KV
Sample : SVF0E081 1000PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:38:33 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

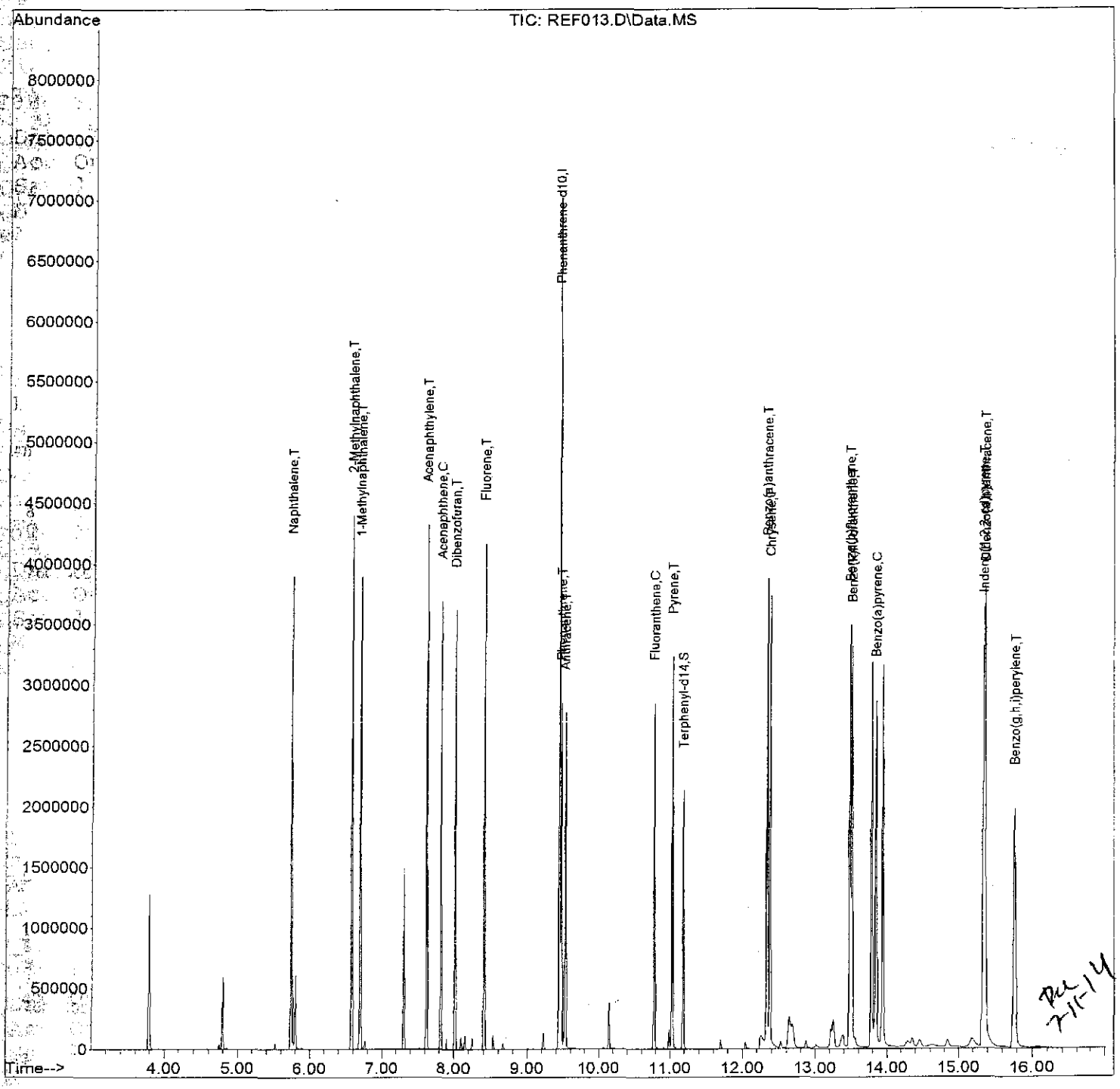
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.442	188	5187965	2000.00	ppb	0.0(
System Monitoring Compounds						
13) Terphenyl-d14	11.179	244	1730433	901.87	ppb	0.00
Spiked Amount 500.000			Recovery =	180.37%		
Target Compounds						Qvalue
2) Naphthalene	5.739	128	3212458	904.87	ppb	100
3) 2-Methylnaphthalene	6.577	142	2161799	907.96	ppb	100
4) 1-Methylnaphthalene	6.693	142	1968901	900.47	ppb	100
5) Acenaphthylene	7.623	152	2954163	934.07	ppb	99
6) Acenaphthene	7.821	153	1874579	911.31	ppb	100
7) Dibenzofuran	8.015	168	2421617	920.85	ppb	99
8) Fluorene	8.403	166	1929445	918.98	ppb	100
9) Phenanthrene	9.469	178	2407864	895.09	ppb	100
10) Anthracene	9.525	178	2490401	921.51	ppb	100
11) Fluoranthene	10.775	202	2222593	889.99	ppb	100
12) Pyrene	11.027	202	2462047	911.53	ppb	100
14) Benzo(a)anthracene	12.329	228	3522474	967.45	ppb	94
15) Chrysene	12.368	228	3242045	909.81	ppb	99
16) Benzo(b)fluoranthene	13.473	252	3315418	943.07	ppb	96
17) Benzo(k)fluoranthene	13.503	252	3307129	941.91	ppb	91
18) Benzo(a)pyrene	13.841	252	3256376	975.15	ppb	96
19) Indeno(1,2,3-cd)pyrene	15.336	276	3922801	965.12	ppb	99
20) Dibenzo(a,h)anthracene	15.351	278	3186834	950.01	ppb	100
21) Benzo(g,h,i)perylene	15.763	276	3207572	952.45	ppb	98

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

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF013.D Vial: 3
Acq On : 08 May 2014 12:10 Operator: KV
Sample : SVF0E081 1000PPB Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:38:33 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



SVF0E08.M Thu May 08 14:38:58 2014 F0

SECOND SOURCE VERIFICATION

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\14E08\REF019.D Vial: 9
Acq On : 08 May 2014 14:26 Operator: KV
Sample : ISVF0E081 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:51:50 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Phenanthrene-d10	2000.000	2000.000	0.0	126	0.00
2	T	Naphthalene	500.000	475.713	4.9	117	0.00
3	T	2-Methylnaphthalene	500.000	460.899	7.8	114	0.00
4	T	1-Methylnaphthalene	500.000	479.043	4.2	119	0.00
5	T	Acenaphthylene	500.000	469.742	6.1	116	0.00
6	C	Acenaphthene	500.000	479.360	4.1	121	0.00
7	T	Dibenzofuran	500.000	455.746	8.9	114	0.00
8	T	Fluorene	500.000	469.595	6.1	119	0.00
9	T	Phenanthrene	500.000	470.736	5.9	119	0.00
10	T	Anthracene	500.000	464.238	7.2	116	0.00
11	C	Fluoranthene	500.000	488.088	2.4	123	0.00
12	T	Pyrene	500.000	471.132	5.8	120	0.00
13	S	Terphenyl-d14	500.000	0.000	100.0#	0	-11.18#
14	T	Benzo(a)anthracene	500.000	513.537	-2.7	120	0.00
15	T	Chrysene	500.000	482.748	3.5	120	0.00
16	T	Benzo(b)fluoranthene	500.000	496.628	0.7	120	0.00
17	T	Benzo(k)fluoranthene	500.000	494.243	1.2	116	0.00
18	C	Benzo(a)pyrene	500.000	494.774	1.0	116	0.00
19	T	Indeno(1,2,3-cd)pyrene	500.000	490.776	1.8	117	0.00
20	T	Dibenzo(a,h)anthracene	500.000	488.185	2.4	118	0.00
21	T	Benzo(g,h,i)perylene	500.000	490.934	1.8	115	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

7-1-14

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\14E08\REF019.D Vial: 9
Acq On : 08 May 2014 14:26 Operator: KV
Sample : ISVF0E081 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:51:50 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1 I	Phenanthrene-d10	1.000	1.000	0.0	126	0.00
2 T	Naphthalene	1.369	1.302	4.9	117	0.00
3 T	2-Methylnaphthalene	0.918	0.846	7.8	114	0.00
4 T	1-Methylnaphthalene	0.843	0.808	4.2	119	0.00
5 T	Acenaphthylene	1.219	1.145	6.1	116	0.00
6 C	Acenaphthene	0.793	0.760	4.2	121	0.00
7 T	Dibenzofuran	1.014	0.924	8.9	114	0.00
8 T	Fluorene	0.809	0.760	6.1	119	0.00
9 T	Phenanthrene	1.037	0.976	5.9	119	0.00
10 T	Anthracene	1.042	0.967	7.2	116	0.00
11 C	Fluoranthene	0.963	0.940	2.4	123	0.00
12 T	Pyrene	1.041	0.981	5.8	120	0.00
13 S	Terphenyl-d14	0.740	0.000#	100.0#	0#	-11.18#
14 T	Benzo(a)anthracene	1.587	1.453	8.4	120	0.00
15 T	Chrysene	1.374	1.326	3.5	120	0.00
16 T	Benzo(b)fluoranthene	1.355	1.346	0.7	120	0.00
17 T	Benzo(k)fluoranthene	1.354	1.338	1.2	116	0.00
18 C	Benzo(a)pyrene	1.287	1.274	1.0	116	0.00
19 T	Indeno(1,2,3-cd)pyrene	1.567	1.538	1.9	117	0.00
20 T	Dibenzo(a,h)anthracene	1.293	1.263	2.3	118	0.00
21 T	Benzo(g,h,i)perylene	1.298	1.275	1.8	115	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

pw 7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF019.D Vial: 9
Acq On : 08 May 2014 14:26 Operator: KV
Sample : ISVF0E081 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:51:50 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

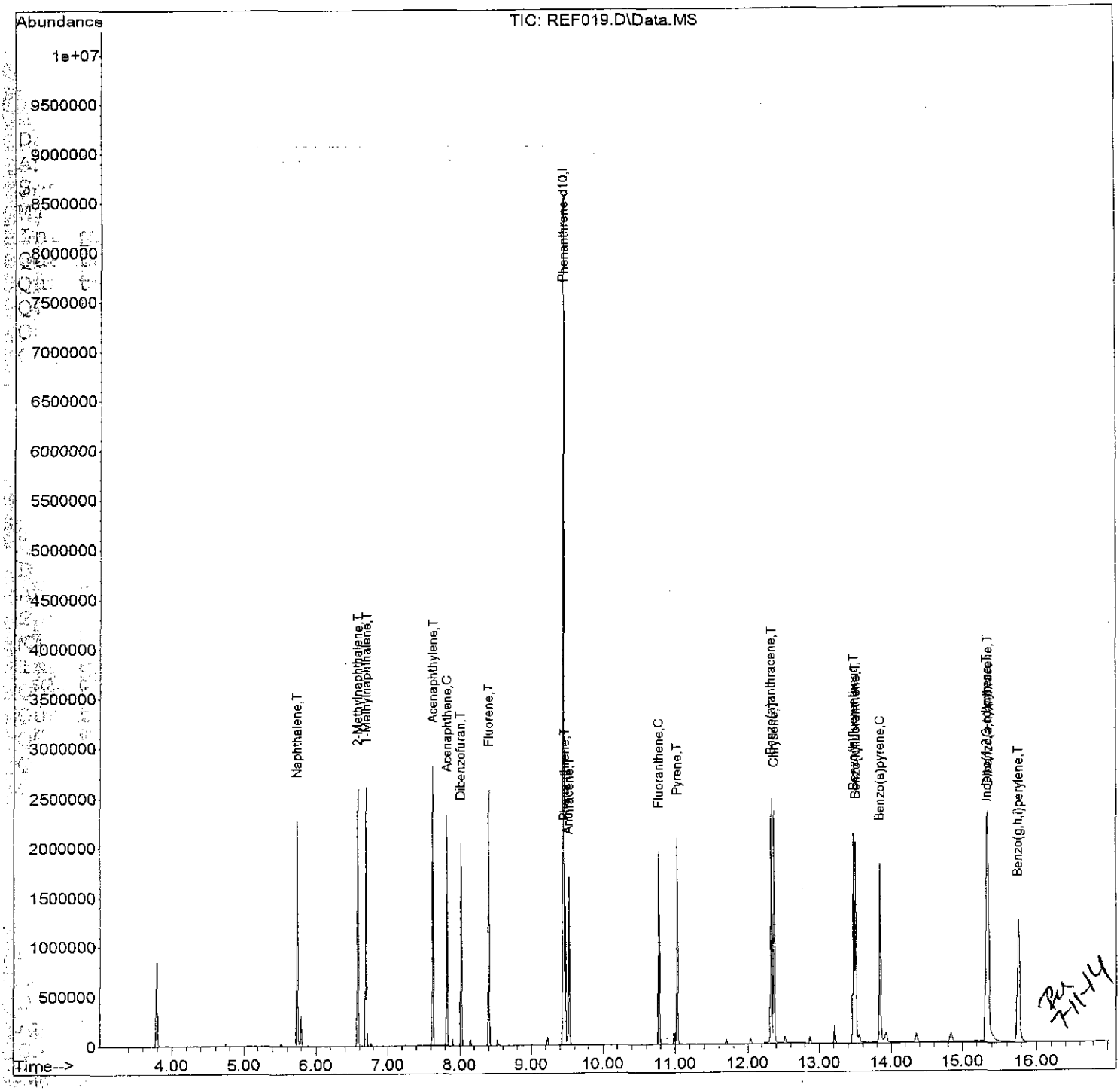
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Phenanthrene-d10	9.442	188	6284290	2000.00 ppb	0.0
System Monitoring Compounds					
13) Terphenyl-d14	0.000	244	0d	0.00 ppb	
Spiked Amount 500.000			Recovery =	0.00%	
Target Compounds					Qvalue
2) Naphthalene	5.739	128	2045775	475.71 ppb	100
3) 2-Methylnaphthalene	6.577	142	1329272	460.90 ppb	99
4) 1-Methylnaphthalene	6.695	142	1268792	479.04 ppb	100
5) Acenaphthylene	7.626	152	1799597	469.74 ppb	100
6) Acenaphthene	7.821	153	1194428	479.36 ppb	100
7) Dibenzofuran	8.015	168	1451767	455.75 ppb	100
8) Fluorene	8.403	166	1194287	469.59 ppb	100
9) Phenanthrene	9.469	178	1533926	470.74 ppb	100
10) Anthracene	9.525	178	1519738	464.24 ppb	100
11) Fluoranthene	10.775	202	1476496	488.09 ppb	100
12) Pyrene	11.027	202	1541444	471.13 ppb	97
14) Benzo(a)anthracene	12.330	228	2282138	513.54 ppb	94
15) Chrysene	12.368	228	2083761	482.75 ppb	98
16) Benzo(b)fluoranthene	13.473	252	2114870	496.63 ppb	97
17) Benzo(k)fluoranthene	13.501	252	2102041	494.24 ppb	100
18) Benzo(a)pyrene	13.841	252	2001383	494.77 ppb	99
19) Indeno(1,2,3-cd)pyrene	15.332	276	2416327	490.78 ppb	97
20) Dibenzo(a,h)anthracene	15.349	278	1983704	488.19 ppb	97
21) Benzo(g,h,i)perylene	15.761	276	2002714	490.93 ppb	99

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

7-11-14

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14E08\REF019.D Vial: 9
Acq On : 08 May 2014 14:26 Operator: KV
Sample : ISVF0E081 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: May 08 14:51:50 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



SVF0E08.M Thu May 08 14:52:17 2014 F0

DAILY CALIBRATIONS

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RKF111
Instrument ID: TOFO

Project: RED HILL PHASE 1B
SDG No.: 14K089
DFTPP Injection Date: 11/20/14
DFTPP Injection Time: 10:03

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	30.94
68	Less than 2% of mass 69	0.20(1.2)1
69	Relative abundance of mass 198	16.69
70	Less than 2.0% of mass 69	0.01(0.1)1
127	40.0 - 60.0% of mass 198	42.38
197	Less than 1.0% of mass 198	0.33
198	Base Peak, 100% relative abundance	100.00
199	5.0 - 9.0% of mass 198	6.46
275	10.0 - 30.0% of mass 198	23.64
365	Greater than 1.00% of mass 198	1.83
441	Present, but less than mass 443	12.79(76.4)3
442	Greater than 40.0% of mass 198	94.88
443	17.0 - 23.0% of mass 442	16.73(17.6)2

1-Value is % mass 69 2-Value is % mass 442
3-Value is % mass 443

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	SSTD500	CSVF0E0808	RKF112	11/20/14	11:32
2	LCS1W	SVK020WL	RKF113	11/20/14	12:02
3	LCD1W	SVK020WC	RKF114	11/20/14	12:20
4	MBLK1W	SVK020WB	RKF115	11/20/14	12:44
5	HW111214-01	K089-02	RKF116	11/20/14	13:08
6	HW111214-02	K089-03	RKF117	11/20/14	13:31

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RKF112
Instrument ID: TOFO

Project:RED HILL PHASE 1B
SDG No.: 14K089
Date Analyzed: 11/20/14
Time Analyzed: 11:32

	IS4(PHN) AREA	#	RT	#	IS5(CRY) AREA	#	RT	#	IS6(PRY) AREA	#	RT	#
12 HOUR STD	6894091		9.47		0		0.00		0		0.00	
UPPER LIMIT	13788182		9.97		0		0.50		0		0.50	
LOWER LIMIT	3447046		8.97		0		-0.50		0		-0.50	
SAMPLE ID												
1 SSTD500	6894091		9.47		0		0.00		0		0.00	
2 LCS1W	5218746		9.47		0		0.00		0		0.00	
3 LCD1W	5354199		9.47		0		0.00		0		0.00	
4 MBLK1W	4966584		9.47		0		0.00		0		0.00	
5 HW111214-01	4443986		9.47		0		0.00		0		0.00	
6 HW111214-02	4949157		9.47		0		0.00		0		0.00	

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

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

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :DSQ
IC_Beginning DateTime :05/08/14 12:10
Spike Amount :500 PPB
CC/CV File :RKF112
IC File :REF014

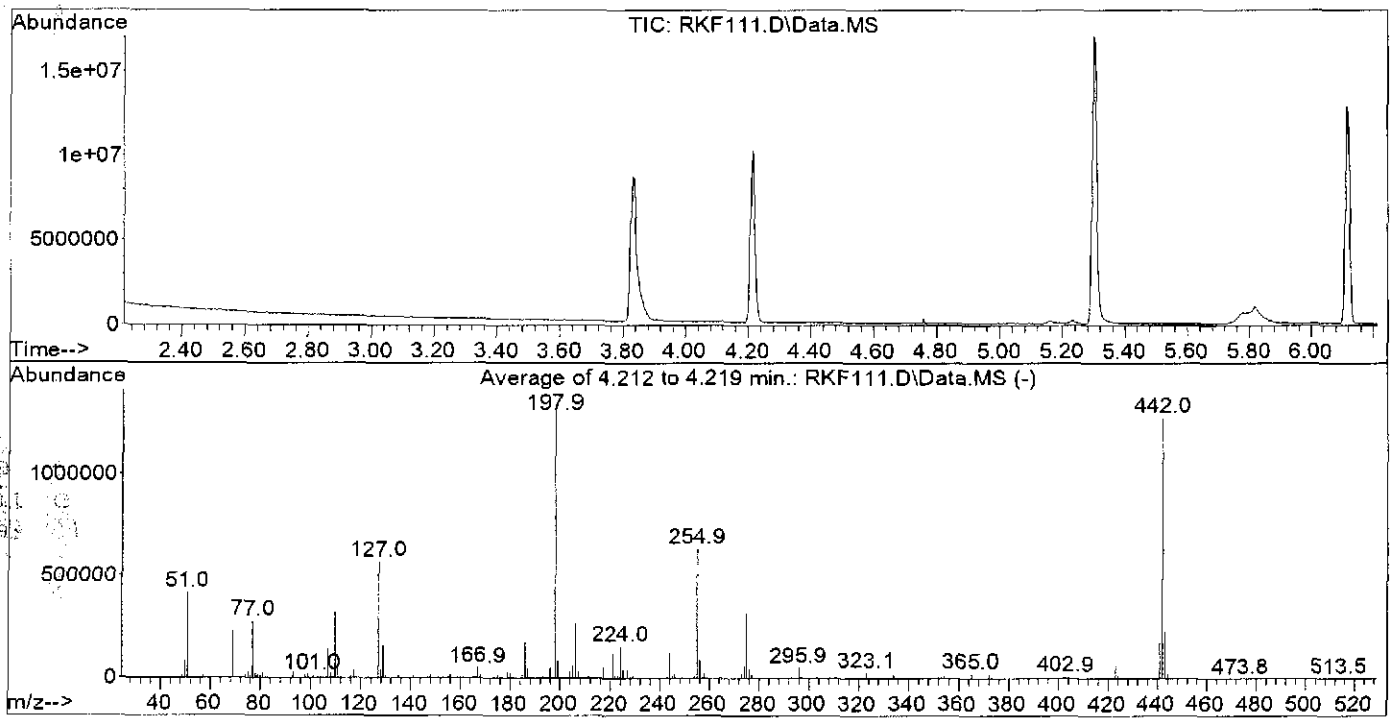
Column Spec :ZB-SEMIVOA ID:0.25MM
IC_Ending DateTime :05/08/14 14:03
HPChem Method :SVF0E08
Date_Time :11/20/14 11:32

M IDX	Parameters	CC_Con	CC%_D	CC_Resp	CCRRF	AvRRF	CC_Rtm	AvRtm	%_RSD	Co_X0	Co_X1	Co_X2	Co_Cor
1	Phenanthrene-d10	2000.00	0	6894091	1	1	9.469	9.443	0				
2	Naphthalene	497.272	-0.5	2345996	1.361	1.369	5.766	5.740	8.99				
3	2-Methylnaphthalene	492.069	-1.6	1556882	0.903	0.918	6.608	6.577	8.25				
4	1-Methylnaphthalene	467.461	-6.5	1358258	0.788	0.843	6.724	6.694	8.93				
5	Acenaphthylene	478.056	-4.4	2009164	1.166	1.219	7.657	7.625	6.61				
6	Acenaphthene	482.543	-3.5	1319029	0.765	0.793	7.852	7.821	8.22				
7	Dibenzofuran	433.374	-13.3	1514460	0.879	1.014	8.046	8.015	7.34				
8	Fluorene	424.711	-15.1	1184948	0.688	0.809	8.430	8.403	7.05				
9	Phenanthrene	414.606	-17.1	1482118	0.860	1.037	9.495	9.470	7.86				
10	Anthracene	453.048	-9.4	1627019	0.944	1.042	9.554	9.526	6.78				
11	Fluoranthene	436.283	-12.7	1447849	0.840	0.963	10.802	10.776	8.86				
12	Pyrene	419.507	-16.1	1505723	0.874	1.041	11.053	11.027	8.26				
13	Terphenyl-d14	570.905	14.2	1455642	0.845	0.740	11.206	11.179	9.81				
14	Benzo(a)anthracene	530.227	6.0	2583641	1.499	1.587	12.356	12.330	15.30	0.0058	1.3915		0.9984
15	Chrysene	524.677	4.9	2484505	1.442	1.374	12.395	12.369	8.55				
16	Benzo(b)fluoranthene	487.658	-2.5	2278182	1.322	1.355	13.502	13.473	6.94				
17	Benzo(k)fluoranthene	557.079	11.4	2599189	1.508	1.354	13.531	13.502	7.55				
18	Benzo(a)pyrene	483.344	-3.3	2144869	1.244	1.287	13.877	13.841	7.12				
19	Indeno(1,2,3-cd)pyrene	435.002	-13.0	2349548	1.363	1.567	15.392	15.333	6.56				
20	Dibenzo(a,h)anthracene	405.023	-19.0	1805482	1.048	1.293	15.411	15.350	7.44				
21	Benzo(g,h,i)perylene	468.961	-6.2	2098711	1.218	1.298	15.829	15.762	5.54				

Data Path : C:\msdchem\1\DATA\14K20\
Data File : RKF111.D
Acq On : 20 Nov 2014 10:03
Operator : KVu
Sample : DFTF0E0808
Misc : F0
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Title : DFTPP
Last Update : Fri May 09 13:48:37 2014



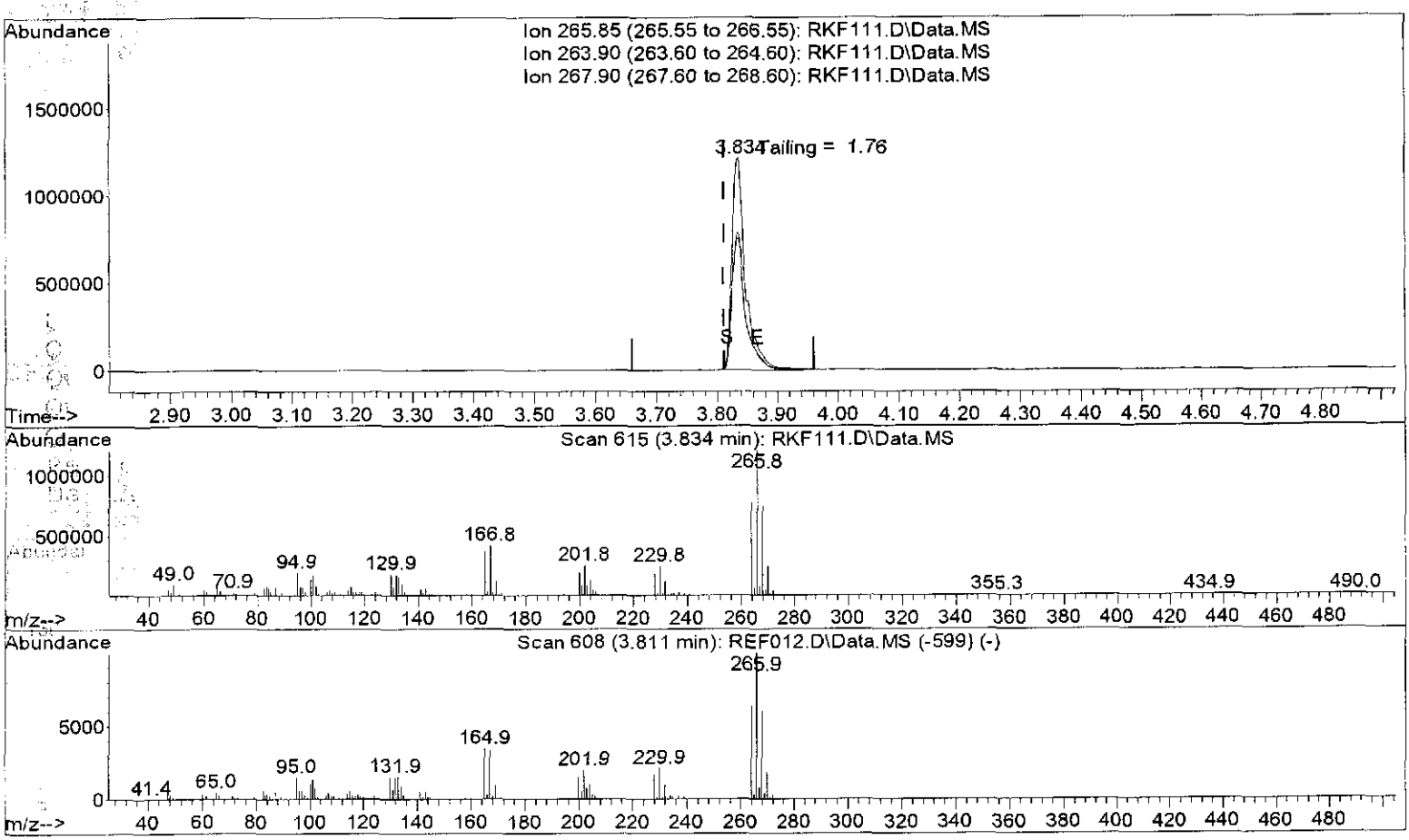
AutoFind: Scans 729, 730, 731; Background Corrected with Scan 717

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	30.9	416915	PASS
68	69	0.00	2	1.2	2739	PASS
69	198	0.00	100	16.7	224853	PASS
70	69	0.00	2	0.1	153	PASS
127	198	40	60	42.4	570965	PASS
197	198	0.00	1	0.3	4468	PASS
198	198	100	100	100.0	1347413	PASS
199	198	5	9	6.5	87024	PASS
275	198	10	30	23.6	318507	PASS
365	198	1	100	1.8	24637	PASS
441	443	0.01	100	76.4	172288	PASS
442	198	40	100	94.9	1278464	PASS
443	442	17	23	17.6	225387	PASS

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14K20\RKF111.D
Acq On : 20 Nov 2014 10:03
Sample : DFTF0E0808
Misc : F0
Integrator: RTE
Quant Time: Nov 20 10:13:57 2014
Quant Results File: DFTPPPAH.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Quant Title : DFTPP
QLast Update : Fri May 09 13:48:37 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Vial: 2
Operator: KVu
Inst : DSQ
Multiplr: 1.00



TIC: RKF111.D\Data.MS

(1) Pentachlorophenol (T)

3.834min (+0.023) 56.27 ppm

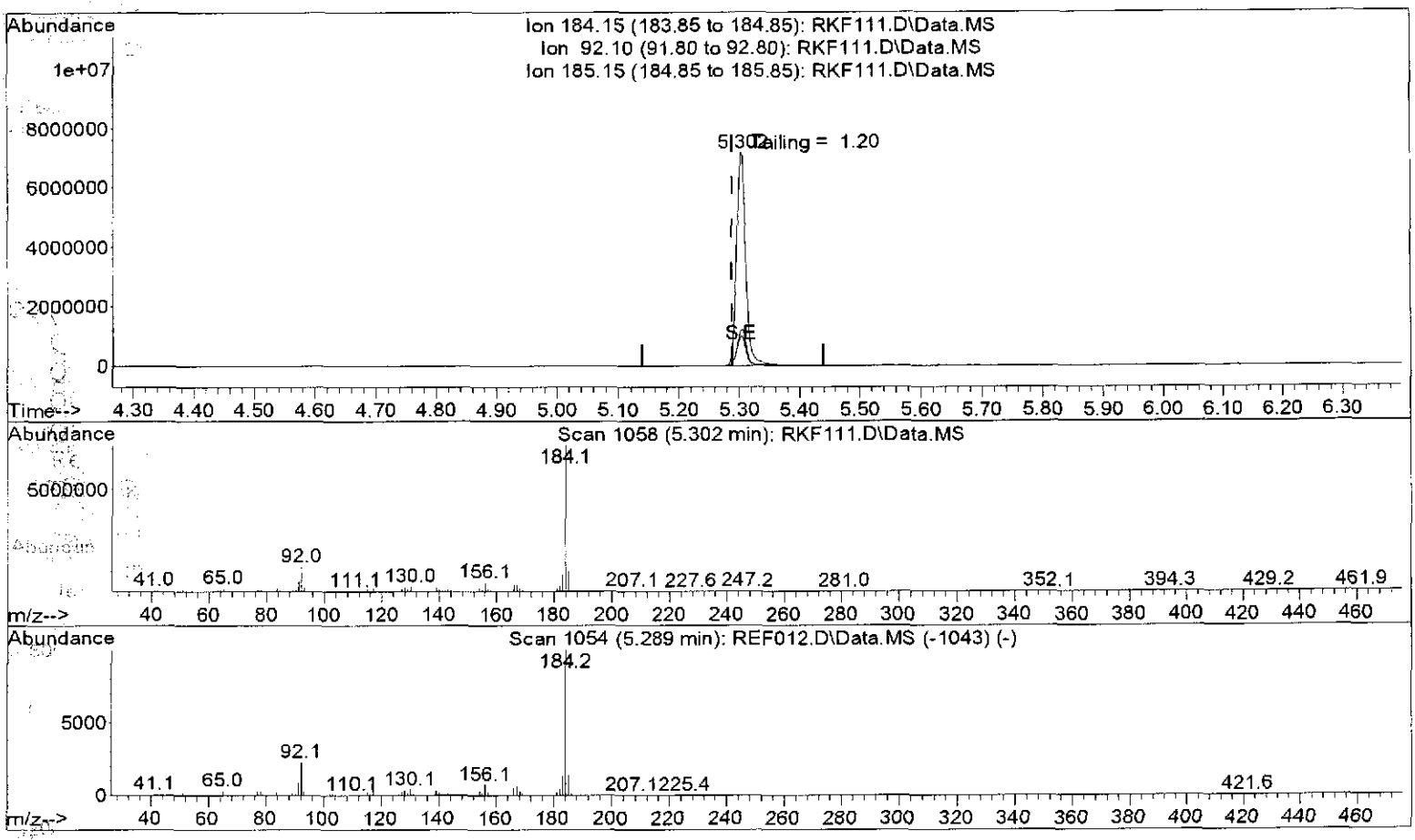
response 1902610

Ion	Exp%	Act%
265.85	100	100
263.90	61.80	62.67
267.90	62.70	63.33
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14K20\RKF111.D
Acq On : 20 Nov 2014 10:03
Sample : DFTF0E0808
Misc : F0
Integrator: RTE
Quant Time: Nov 20 10:13:57 2014
Quant Results File: DFTPPPAH.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Quant Title : DFTPP
QLast Update : Fri May 09 13:48:37 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Vial: 2
Operator: KVu
Inst : DSQ
Multiplr: 1.00



TIC: RKF111.D\Data.MS

(3) Benzidine (T)

5.302min (+0.013) 44.10 ppm

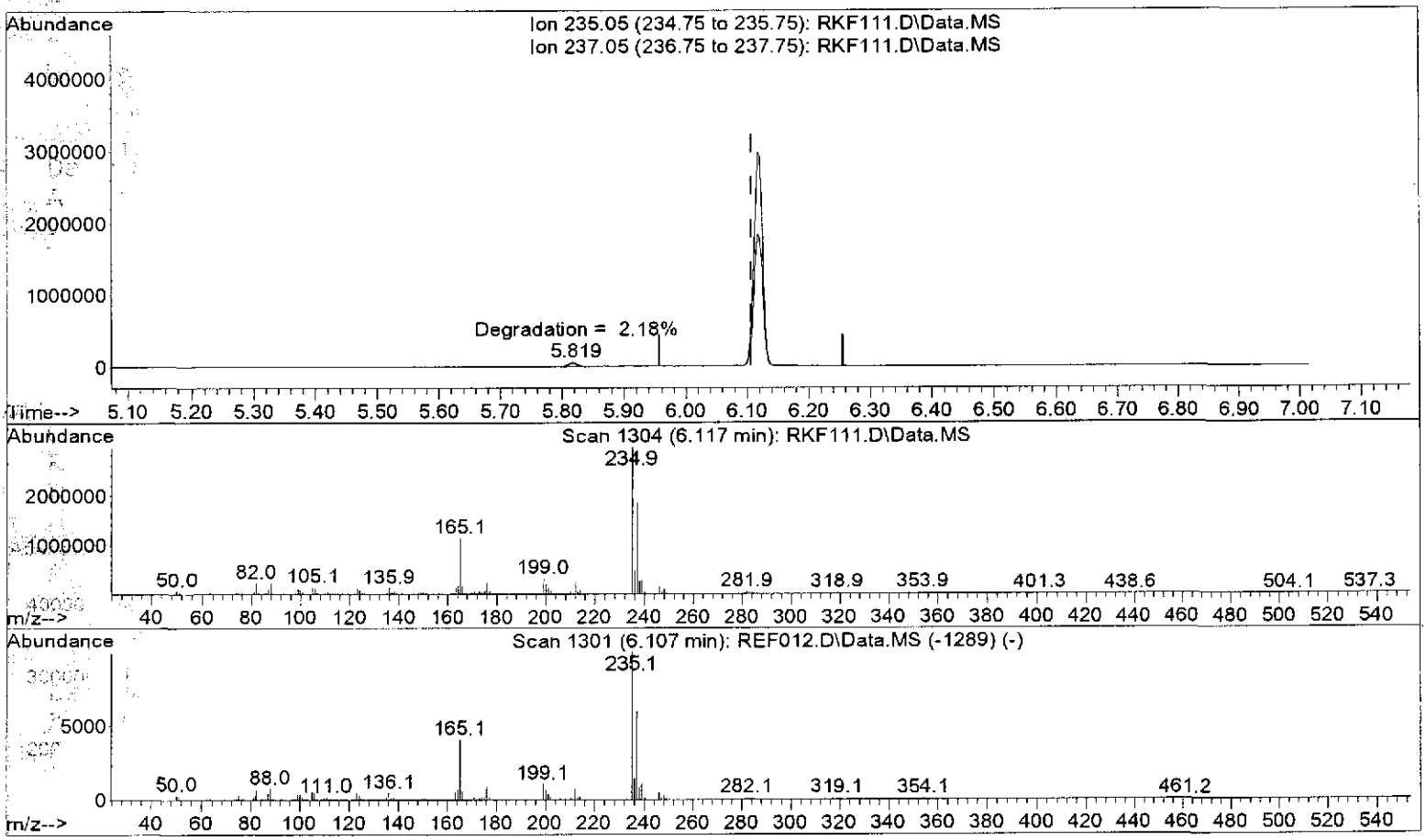
response 7577260

Ion	Exp%	Act%
184.15	100	100
92.10	21.70	16.40
185.15	13.30	13.45
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : C:\msdchem\1\DATA\14K20\RKF111.D
Acq On : 20 Nov 2014 10:03
Sample : DFTF0E0808
Misc : F0
Integrator: RTE
Quant Time: Nov 20 10:13:57 2014
Quant Results File: DFTPPPAH.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPPAH.M
Quant Title : DFTPP
QLast Update : Fri May 09 13:48:37 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Vial: 2
Operator: KVu
Inst : DSQ
Multiplr: 1.00



TIC: RKF111.D\Data.MS

(6) DDT (T)

6.117min (+0.010) 35.21 ppm

response 2872975

Ion	Exp%	Act%
235.05	100	100
237.05	63.20	63.45
0.00	0.00	0.00
0.00	0.00	0.00

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\14K20\RKF112.D Vial: 3
Acq On : 20 Nov 2014 11:32 Operator: KVu
Sample : CSVF0E0808 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Nov 20 12:01:15 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Phenanthrene-d10	2000.000	2000.000	0.0	138	0.02
2	T	Naphthalene	500.000	497.272	0.5	135	0.02
3	T	2-Methylnaphthalene	500.000	492.070	1.6	133	0.03
4	T	1-Methylnaphthalene	500.000	467.461	6.5	128	0.03
5	T	Acenaphthylene	500.000	478.056	4.4	129	0.03
6	C	Acenaphthene	500.000	482.543	3.5	134	0.03
7	T	Dibenzofuran	500.000	433.374	13.3	119	0.03
8	T	Fluorene	500.000	424.711	15.1	118	0.03
9	T	Phenanthrene	500.000	414.606	17.1	115	0.02
10	T	Anthracene	500.000	453.048	9.4	124	0.03
11	C	Fluoranthene	500.000	436.283	12.7	121	0.02
12	T	Pyrene	500.000	419.507	16.1	117	0.02
13	S	Terphenyl-d14	500.000	570.905	-14.2	158	0.02
14	T	Benzo(a)anthracene	500.000	530.227	-6.0	136	0.02
15	T	Chrysene	500.000	524.677	-4.9	143	0.02
16	T	Benzo(b)fluoranthene	500.000	487.658	2.5	129	0.03
17	T	Benzo(k)fluoranthene	500.000	557.079	-11.4	143	0.03
18	C	Benzo(a)pyrene	500.000	483.344	3.3	124	0.03
19	T	Indeno(1,2,3-cd)pyrene	500.000	435.002	13.0	113	0.06
20	T	Dibenzo(a,h)anthracene	500.000	405.023	19.0	107	0.06
21	T	Benzo(g,h,i)perylene	500.000	468.961	6.2	121	0.07

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\14K20\RKF112.D Vial: 3
Acq On : 20 Nov 2014 11:32 Operator: KVu
Sample : CSVF0E0808 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Nov 20 12:01:15 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Phenanthrene-d10	1.000	1.000	0.0	138	0.02
2	T	Naphthalene	1.369	1.361	0.6	135	0.02
3	T	2-Methylnaphthalene	0.918	0.903	1.6	133	0.03
4	T	1-Methylnaphthalene	0.843	0.788	6.5	128	0.03
5	T	Acenaphthylene	1.219	1.166	4.3	129	0.03
6	C	Acenaphthene	0.793	0.765	3.5	134	0.03
7	T	Dibenzofuran	1.014	0.879	13.3	119	0.03
8	T	Fluorene	0.809	0.688	15.0	118	0.03
9	T	Phenanthrene	1.037	0.860	17.1	115	0.02
10	T	Anthracene	1.042	0.944	9.4	124	0.03
11	C	Fluoranthene	0.963	0.840	12.8	121	0.02
12	T	Pyrene	1.041	0.874	16.0	117	0.02
13	S	Terphenyl-d14	0.740	0.845	-14.2	158	0.02
14	T	Benzo(a)anthracene	1.587	1.499	5.5	136	0.02
15	T	Chrysene	1.374	1.442	-4.9	143	0.02
16	T	Benzo(b)fluoranthene	1.355	1.322	2.4	129	0.03
17	T	Benzo(k)fluoranthene	1.354	1.508	-11.4	143	0.03
18	C	Benzo(a)pyrene	1.287	1.244	3.3	124	0.03
19	T	Indeno(1,2,3-cd)pyrene	1.567	1.363	13.0	113	0.06
20	T	Dibenzo(a,h)anthracene	1.293	1.048	18.9	107	0.06
21	T	Benzo(g,h,i)perylene	1.298	1.218	6.2	121	0.07

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

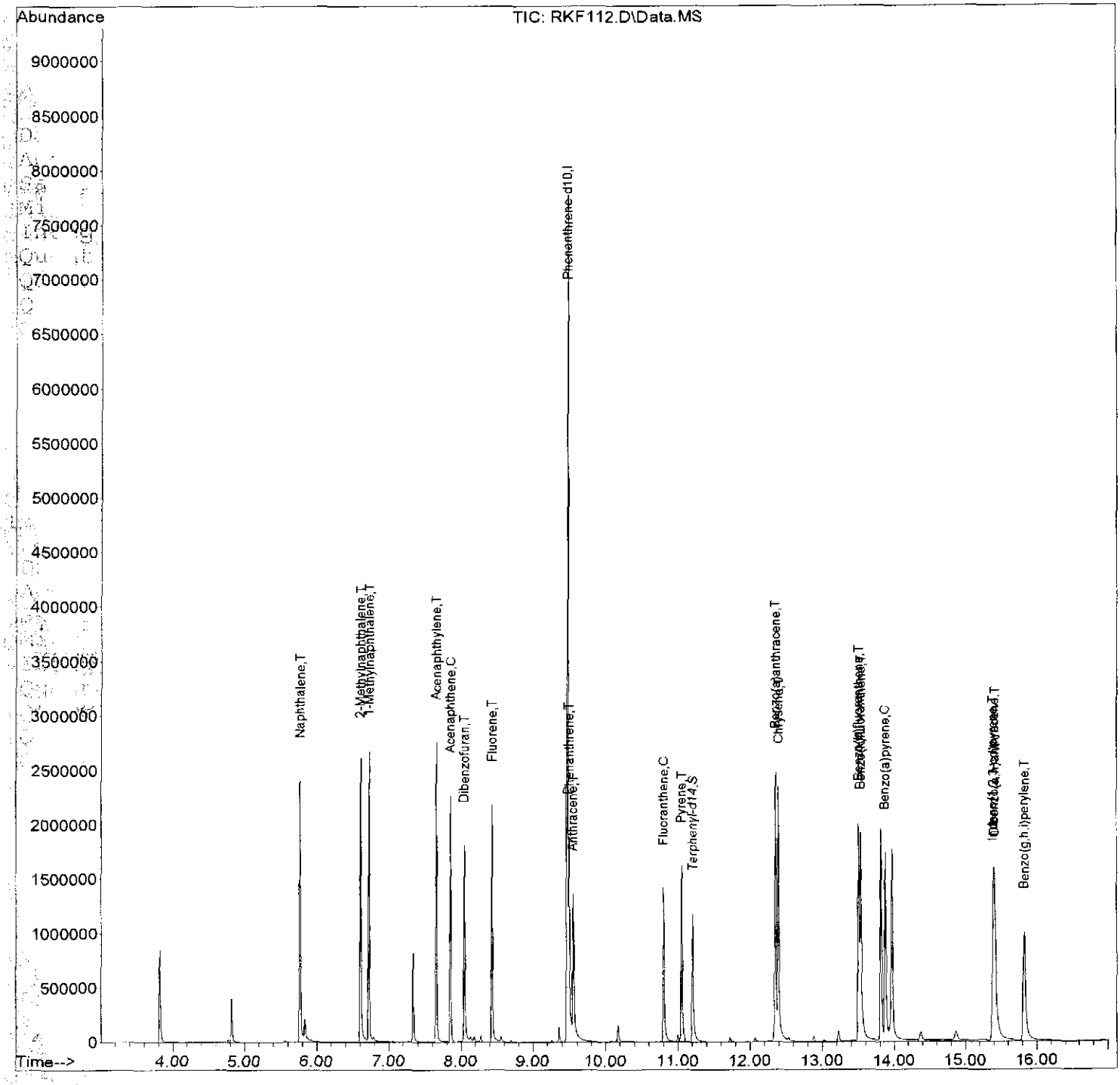
Data File : C:\msdchem\1\DATA\14K20\RKF112.D Vial: 3
Acq On : 20 Nov 2014 11:32 Operator: KVu
Sample : CSVF0E0808 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Nov 20 12:01:15 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Phenanthrene-d10	9.468	188	6894091	2000.00	ppb	0.02
System Monitoring Compounds						
13) Terphenyl-d14	11.206	244	1455642	570.91	ppb	0.02
Spiked Amount 500.000			Recovery =	114.18%		
Target Compounds						Qvalue
2) Naphthalene	5.766	128	2345996	497.27	ppb	99
3) 2-Methylnaphthalene	6.608	142	1556882	492.07	ppb	97
4) 1-Methylnaphthalene	6.724	142	1358258	467.46	ppb	99
5) Acenaphthylene	7.657	152	2009164	478.06	ppb	99
6) Acenaphthene	7.852	153	1319029	482.54	ppb	98
7) Dibenzofuran	8.046	168	1514460	433.37	ppb	99
8) Fluorene	8.430	166	1184948	424.71	ppb	99
9) Phenanthrene	9.495	178	1482118	414.61	ppb	97
10) Anthracene	9.554	178	1627019	453.05	ppb	97
11) Fluoranthene	10.802	202	1447849	436.28	ppb	89
12) Pyrene	11.053	202	1505723	419.51	ppb	89
14) Benzo(a)anthracene	12.356	228	2583641	530.23	ppb	76
15) Chrysene	12.395	228	2484505	524.68	ppb	85
16) Benzo(b)fluoranthene	13.502	252	2278182	487.66	ppb	85
17) Benzo(k)fluoranthene	13.531	252	2599189	557.08	ppb	79
18) Benzo(a)pyrene	13.877	252	2144869	483.34	ppb	85
19) Indeno(1,2,3-cd)pyrene	15.392	276	2349548	435.00	ppb	71
20) Dibenzo(a,h)anthracene	15.411	278	1805482	405.02	ppb	78
21) Benzo(g,h,i)perylene	15.829	276	2098711	468.96	ppb	74

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

Quantitation Report (QT Reviewed)

Data File : C:\msdchem\1\DATA\14K20\RKF112.D Vial: 3
Acq On : 20 Nov 2014 11:32 Operator: KVu
Sample : CSVF0E0808 Inst : DSQ
Misc : F0 Multiplr: 1.00
Integrator: RTE
Quant Time: Nov 20 12:01:15 2014
Quant Results File: SVF0E08.RES
Quant Method : C:\msdchem\1\METHODS\SVF0E08.M
Quant Title : SEMIVOLATILES - SIM
QLast Update : Thu May 08 14:37:46 2014
Response via : Initial Calibration
DataAcq Meth:Adron.M



ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR SEMIVOLATILES

SOP ☐ EMAX-8270 Rev. No. 5 ☑ EMAX-8270SIM Rev. No. 2 ☐ EMAX-CLPSVOA ☐ EMAX-M8270SIM Rev. No. 2 ☐ EMAX-625 Rev. No. 1 ☐ Book #AF0-002

Method File: SVF0E08 Tune File: LOWSIM Start Date/Time: 5/8/14 11:44 End Date/Time: 5/8/14 15:36

ANALYTICAL BATCH: SVF0E082

Preparative Batch	Data File Name	Run ID	DF	Matrix S	Matrix W	Notes
MA	REF011	IBF0E0801	1			
	12	DFTF0E0801				
	13	SVF0E08 1				1000ppb
	14	2				500
	15	3				100
	16	4				80
	17	5				40
	18	6				20
	19	ISVF0E081				ICV
SVD013W	20	LOQ -11	1		X	
	21	LOD -11				
	22	SVD013WB				
	23	D14K-01	2			Cyanazine 8316
	24	02	2			
	25	03	2			
		KV 5/8/14				

Instrument No:	F0

INITIAL CALIBRATION REFERENCE	
Date	5/8/14
ICAL ID	SVF0E08

Standards		
Name	ID	Conc. (mg/L)
DFTPP	SS2C-11-15-01	50
INT. STD.	SS2B-10-37-03	2000
ICV	SS2C-11-18-02	0.5
DCC	SS2C-11-18-01	0.25-1
BENZIDINE	01	
APP 9	KV 5/8/14	
APP 9 ADD		

Solvent	ID
CH_2Cl_2	

DATA FILE	14E08

Electronic Data Archival	
Location	Date
HPCHEM_SVOA/TOF0	

Comments:

Analyzed By: KV

Date Disposed: 5/9/14

Disposed By: KV

This page is checked during data review.

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR SEMIVOLATILES

SOP ☐ EMAX-8270 Rev. No. 5 ☐ EMAX-8270D Rev. No. 1 ☑ EMAX-8270SIM Rev. No. 2 ☐ EMAX-CLPSVOA ☐ EMAX-M8270SIM Rev. No. 2 ☐ EMAX-625 Rev. No. 1 ☐ Book #: AF0-003

Method File: SVF0E08 Tune File: LOWSIM Start Date/Time: 11/20/14 10:03 End Date/Time: 11/20/14 13:31

ANALYTICAL BATCH: CSVF0F0X04

Preparative Batch	Data File Name	Run ID	DF	Matrix S	Matrix W	Notes
	RKF110	IBF0E0808				
	111	DFTF0E0808				
	112	CSVF0E0808				
SVK020W	113	SVK020WL	1		x	
↓	114	↓ WC	↓		↓	
	115	↓ WB				
	116	14K089-02				
↓	117	↓ 03	↓		↓	
		VK 11/20/14				

Instrument No:	F0
INITIAL CALIBRATION REFERENCE	
Date	5/8/14
ICAL ID	SVF0E08
Standards	
Name	ID / Conc. (mg/L)
DFTPP	SS2C-11-25-03 / 50
INT. STD.	SS2B-10-47-02 / 2000
ICV	
DCC	SS2C-11-28-01 / 0.5
BENZIDINE	
APP 9	
APP 9 ADD	
Solvent	ID
CH_2Cl_2	54184
DATA FILE	14K20
Electronic Data Archival	
Location	Date
HPCHEM_SVOA/TOF0	

Micropipette ID: ☑ PO97A-02 ☐ PO97A-03 ☐ PO00-01

Comments: Syringe ID: 499766-1

Analyzed By: VK

Date Disposed: 11/20/14

Disposed By: VK

This page is checked during data review.

EXTRACTION LOGS

EMAX LABORATORIES, INC.

EXTRACTION LOG
for
SEMIVOLATILES

SOP	Rev. #
☑ EMAX-3520	5
☐ EMAX-3540	2
☐ EMAX-3546	0
☐ EMAX-3550	4
☐ EMAX-3580	2
☐ EMAX-625	1

Note: *For samples and relevant QCs/Standards* extracted, refer to attached extraction sequence.

Comments:

Book #: ESV-083
Preparation Batch: SVK020W
Matrix: water
Micropipette ID: PE 00-03 (1000 µL)
Micropipette ID: PE97C-03 (100 µL)

Standards	ID	Amount Added (ml)
Surrogate	SS2A-06-348 AGG 11/14/14	0.4 0.01
LCS/MS SIM ultra low	SS2A-06-347	0.25
LCS/MS		
LCS/MS	✓	
LCS/MS		

Reagent	Lot# / ID
CH_2Cl_2	54184
Na_2SO_4	SWB-002-63-06
H_2SO_4	
NaOH	SPIB-06-77-04
Silica Sand	
Silica Gel	
Reagent Water	SWA-005-~~10-05~~ 05-22 AGG 11/17/14
Residual Chlorine Strip	42422
pH Strip	HC421273
Filter Paper	QC 87322 B

Lab Sample ID	Sonicator #	Cell #	Concentrator #
SVK020WB			1
WL			1
WC			1
KD89-02			1
-03			1

TUNING	
Sonicator #	Reading

Concentrator	Water Bath Temperature Setting (°C)	Thermometer Reading (°C)
1	35	35
2		
3		
4		
5		
6		
8		

Thermometer ID = SVOC-T1 MM/DD/YY

Prepared By: JM Witnessed By: AGG
Standard Added By: JM Checked By: ML
Extract Received By: KV 11/18/14 Location: SC03-05
Disposed By: Disposed On:

EMAX LABORATORIES, INC.

FileID: SVK020W

EXTRACTION LOG FOR SEMIVOLATILES

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Ve(ml)	ExpAmt	ExpVe(ml)	PrepFctr	Comments
14SVK020W01	SVK020WB	1000	ml	11/17/14 14:13	1	1000	1	1	
14SVK020W02	SVK020WL	1000	ml	11/17/14 14:13	1	1000	1	1	SIM ULTRA LOW
14SVK020W03	SVK020WC	1000	ml	11/17/14 14:13	1	1000	1	1	SIM ULTRA LOW
14SVK020W04	K089-02	950	ml	11/17/14 14:13	1	1000	1	1.05	yellow
14SVK020W05	K089-03	910	ml	11/17/14 14:13	1	1000	1	1.1	light yellow

Ve=extract volume

PrepFctr=(ExpAmt/Aliquot)(Ve/ExpVe

☑ Extraction Started @ 11/17/14 10:00 ☐ pHAdj(≤2) @ Prepared By: JMuert

☑ Extraction Ended @ 11/18/14 5:15 ☑ pHAdj(≥11) @ 11/17/14 15:15 Checked By: ML

Comments: Vol entered after extraction started, pH 6, Cl not detected in all samples. Date 11/18/14

LABORATORY REPORT FOR

BATTELLE

RED HILL PHASE 1B

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

SDG#: 14K089

CASE NARRATIVE

Client : BATTELLE

Project : RED HILL PHASE 1B

SDG : 14K089

METHOD SW5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

A total of three (3) water samples were received on 11/13/14 for TPH Gasoline analysis, Method SW5030B/8015B in accordance with Department of Defense Quality Systems Manual for Environmental Laboratories, Version 4.2 and project SAP August 2014.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for VG39K07L/C were all within QC limits.

Matrix QC Sample
No matrix QC sample was designated in this SDG.

Surrogate
Surrogate was added on QC and field samples. Surrogate recoveries were within project QC limits. Refer to sample result forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met; otherwise, anomalies were discussed within the associated QC parameter.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : BATTELLE
Project : RED HILL PHASE 1B
SDG NO. : 14K089
Instrument ID : GCT039

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VG39K07B	1	NA	11/13/1414:03	11/13/1414:03	EK12044A	EK12036A	VG39K07	Method Blank
LCS1W	VG39K07L	1	NA	11/13/1414:50	11/13/1414:50	EK12045A	EK12036A	VG39K07	Lab Control Sample (LCS)
LCD1W	VG39K07C	1	NA	11/13/1415:28	11/13/1415:28	EK12046A	EK12036A	VG39K07	LCS Duplicate
TRIP111214	K089-01	1	NA	11/13/1416:53	11/13/1416:53	EK12048A	EK12047A	VG39K07	Field Sample
HW111214-01	K089-02	1	NA	11/13/1417:31	11/13/1417:31	EK12049A	EK12047A	VG39K07	Field Sample
HW111214-02	K089-03	1	NA	11/13/1418:10	11/13/1418:10	EK12050A	EK12047A	VG39K07	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD SW5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : BATTELLE	Date Collected: 11/12/14
Project : RED HILL PHASE 1B	Date Received: 11/13/14
Batch No. : 14K089	Date Extracted: 11/13/14 16:53
Sample ID: TRIP111214	Date Analyzed: 11/13/14 16:53
Lab Samp ID: K089-01	Dilution Factor: 1
Lab File ID: EK12048A	Matrix : WATER
Ext Btch ID: VG39K07	% Moisture : NA
Calib. Ref.: EK12047A	Instrument ID : GCT039

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
GRO	ND	0.050	0.010	0.020

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	0.0344	0.04000	85.9	70-130

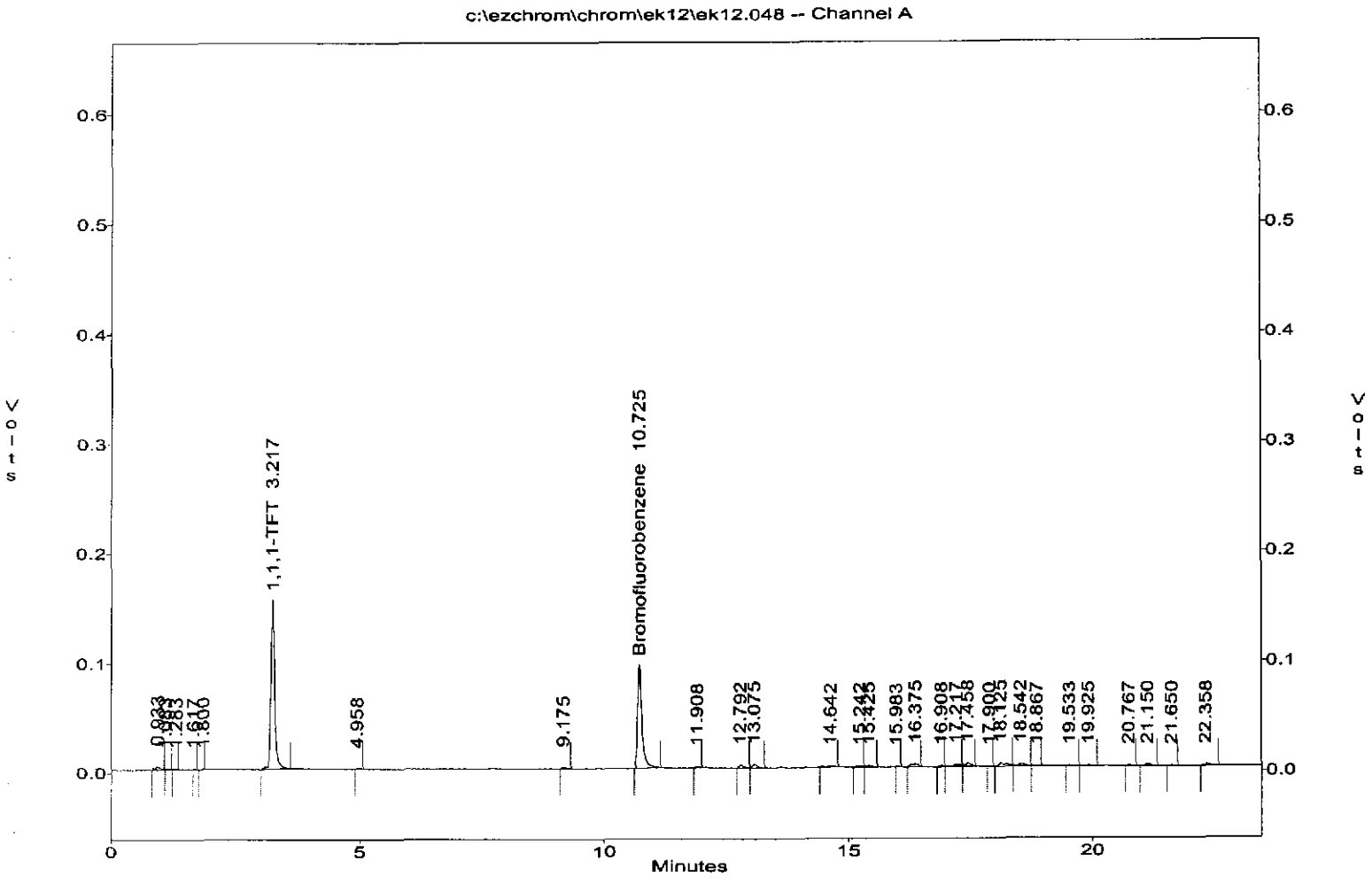
Parameter	H-C Range
GRO	C6-C10

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ek12\ek12.048
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : 14K089-01 5.0ML W
Acquired : Nov 13, 2014 16:53:00
Printed : Nov 14, 2014 09:46:05
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
6	1,1,1-TFT	3.217	827642.0	21400.0	38.67
9	Bromofluorobenzene	10.725	575014.0	16725.9	34.38
G1	GASOLINE(TOTAL)		311220.0	28261.9	11.01
G2	GRO(C6-C10)		35755.0	21355.4	1.67
G3	GRO(2MP-124TMB)		37676.0	21297.0	1.77
G4	GRO(C5-C12)		245790.0	27928.9	8.80
G5	GRO(C6-C12)		240605.0	27890.2	8.63
G6	GRO(C5-C10)		40940.0	21396.8	1.91



METHOD SW5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : BATTELLE	Date Collected: 11/12/14
Project : RED HILL PHASE 1B	Date Received: 11/13/14
Batch No. : 14K089	Date Extracted: 11/13/14 17:31
Sample ID: HW111214-01	Date Analyzed: 11/13/14 17:31
Lab Samp ID: K089-02	Dilution Factor: 1
Lab File ID: EK12049A	Matrix : WATER
Ext Btch ID: VG39K07	% Moisture : NA
Calib. Ref.: EK12047A	Instrument ID : GCT039

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
GRO	ND	0.050	0.010	0.020

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	0.0310	0.04000	77.6	70-130

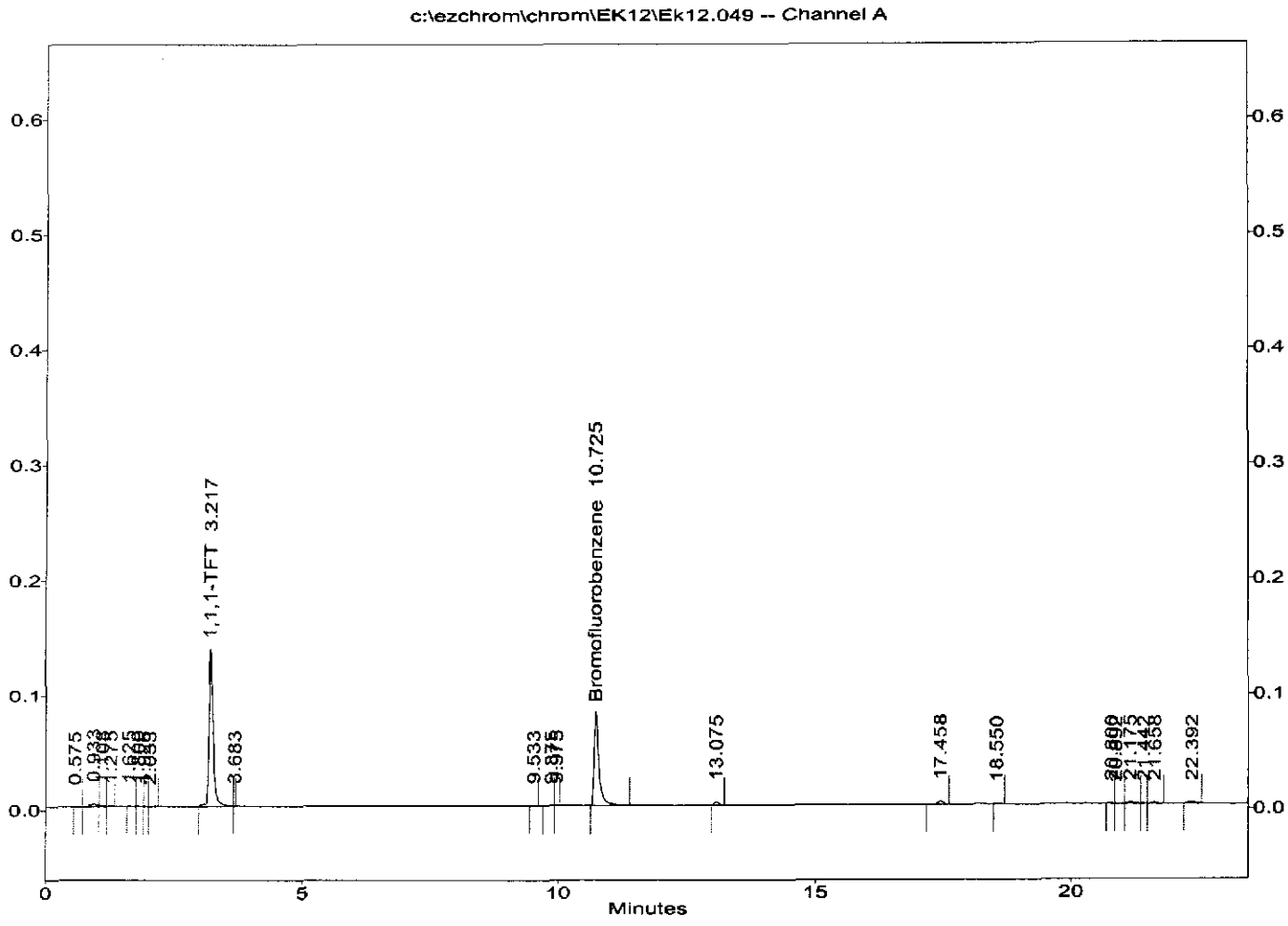
Parameter	H-C Range
GRO	C6-C10

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EK12\Ek12.049
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : 14K089-02 5.0ML W
Acquired : Nov 13, 2014 17:31:50
Printed : Nov 13, 2014 17:55:23
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
9	1,1,1-TFT	3.217	751497.0	21400.0	35.12
14	Bromofluorobenzene	10.725	518860.0	16725.9	31.02
G1	GASOLINE(TOTAL)		113648.0	28261.9	4.02
G2	GRO(C6-C10)		19290.0	21355.4	0.90
G3	GRO(2MP-124TMB)		19290.0	21297.0	0.91
G4	GRO(C5-C12)		65902.0	27928.9	2.36
G5	GRO(C6-C12)		61309.0	27890.2	2.20
G6	GRO(C5-C10)		23883.0	21396.8	1.12



METHOD SW5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : BATTELLE	Date Collected: 11/12/14
Project : RED HILL PHASE 1B	Date Received: 11/13/14
Batch No. : 14K089	Date Extracted: 11/13/14 18:10
Sample ID: HW111214-02	Date Analyzed: 11/13/14 18:10
Lab Samp ID: K089-03	Dilution Factor: 1
Lab File ID: EK12050A	Matrix : WATER
Ext Btch ID: VG39K07	% Moisture : NA
Calib. Ref.: EK12047A	Instrument ID : GCT039

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
GRO	ND	0.050	0.010	0.020

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	0.0306	0.04000	76.6	70-130

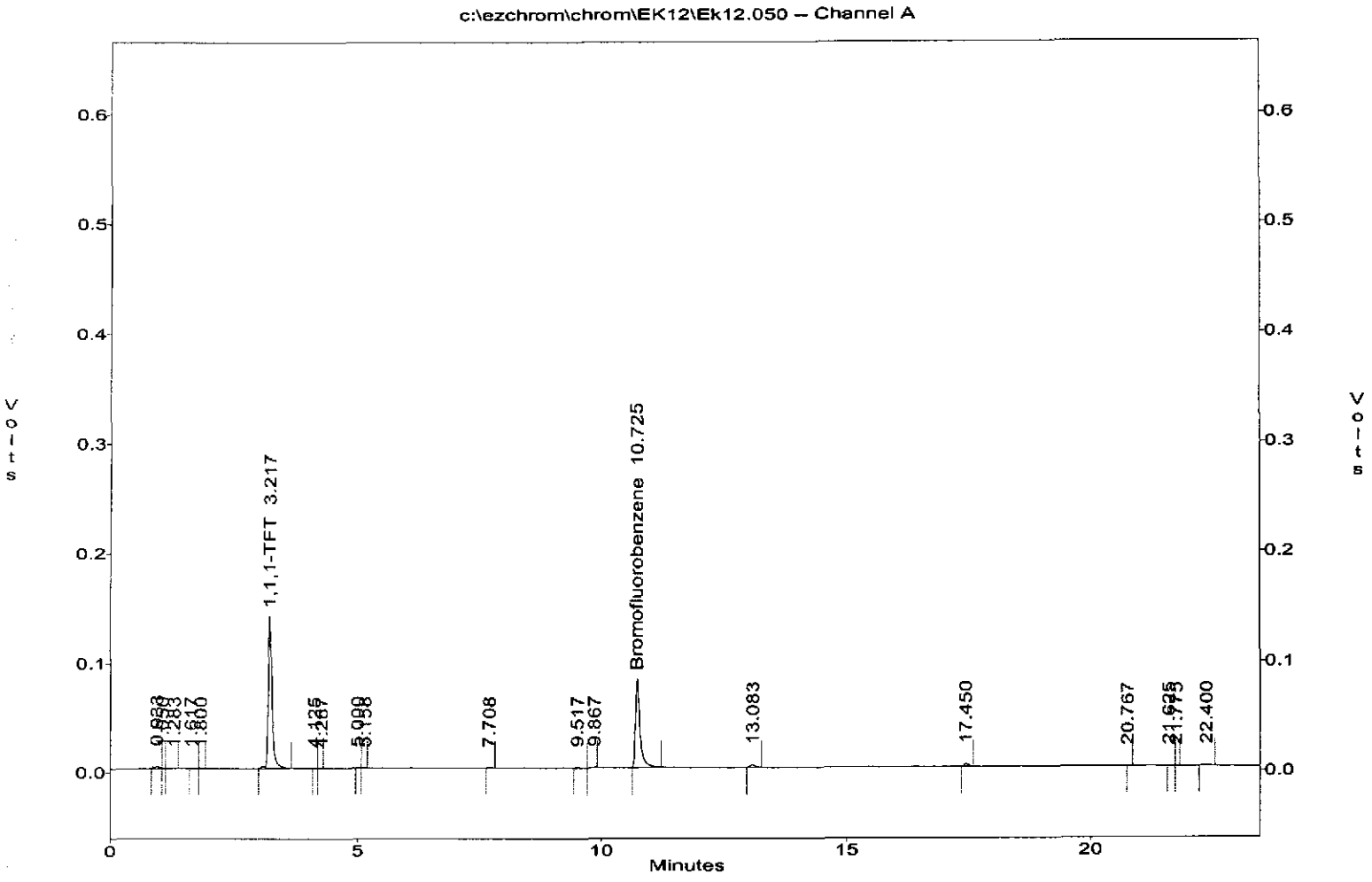
Parameter	H-C Range
GRO	C6-C10

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EK12\Ek12.050
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : 14K089-03 5.0ML W
Acquired : Nov 13, 2014 18:10:40
Printed : Nov 13, 2014 18:34:12
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
6	1,1,1-TFT	3.217	753177.0	21400.0	35.20
14	Bromofluorobenzene	10.725	512535.0	16725.9	30.64
G1	GASOLINE(TOTAL)		81776.0	28261.9	2.89
G2	GRO(C6-C10)		21098.0	21355.4	0.99
G3	GRO(2MP-124TMB)		24368.0	21297.0	1.14
G4	GRO(C5-C12)		66202.0	27928.9	2.37
G5	GRO(C6-C12)		58598.0	27890.2	2.10
G6	GRO(C5-C10)		28702.0	21396.8	1.34



QC SUMMARIES

METHOD SW5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : BATTELLE	Date Collected: NA
Project : RED HILL PHASE 1B	Date Received: 11/13/14
Batch No. : 14K089	Date Extracted: 11/13/14 14:03
Sample ID: MBLK1W	Date Analyzed: 11/13/14 14:03
Lab Samp ID: VG39KD7B	Dilution Factor: 1
Lab File ID: EK12044A	Matrix : WATER
Ext Btch ID: VG39K07	% Moisture : NA
Calib. Ref.: EK12036A	Instrument ID : GCT039

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
GRO	ND	0.050	0.010	0.020

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	0.0336	0.04000	84.1	70-130

Parameter	H-C Range
GRO	C6-C10

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: BATTELLE
PROJECT: RED HILL PHASE 1B
BATCH NO.: 14K089
METHOD: SW5030B/8015B

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: VG39K07B VG39K07L VG39K07C
LAB FILE ID: EK12044A EK12045A EK12046A
DATE EXTRACTED: 11/13/1414:03 11/13/1414:50 11/13/1415:28 DATE COLLECTED: NA
DATE ANALYZED: 11/13/1414:03 11/13/1414:50 11/13/1415:28 DATE RECEIVED: 11/13/14
PREP. BATCH: VG39K07 VG39K07 VG39K07
CALIB. REF: EK12036A EK12036A EK12036A

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
GRO	ND	0.500	0.421	84	0.500	0.498	100	17	60-130	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	QC LIMIT (%)
Bromofluorobenzene	0.0400	0.0354	88	0.0400	0.0397	99	70-130

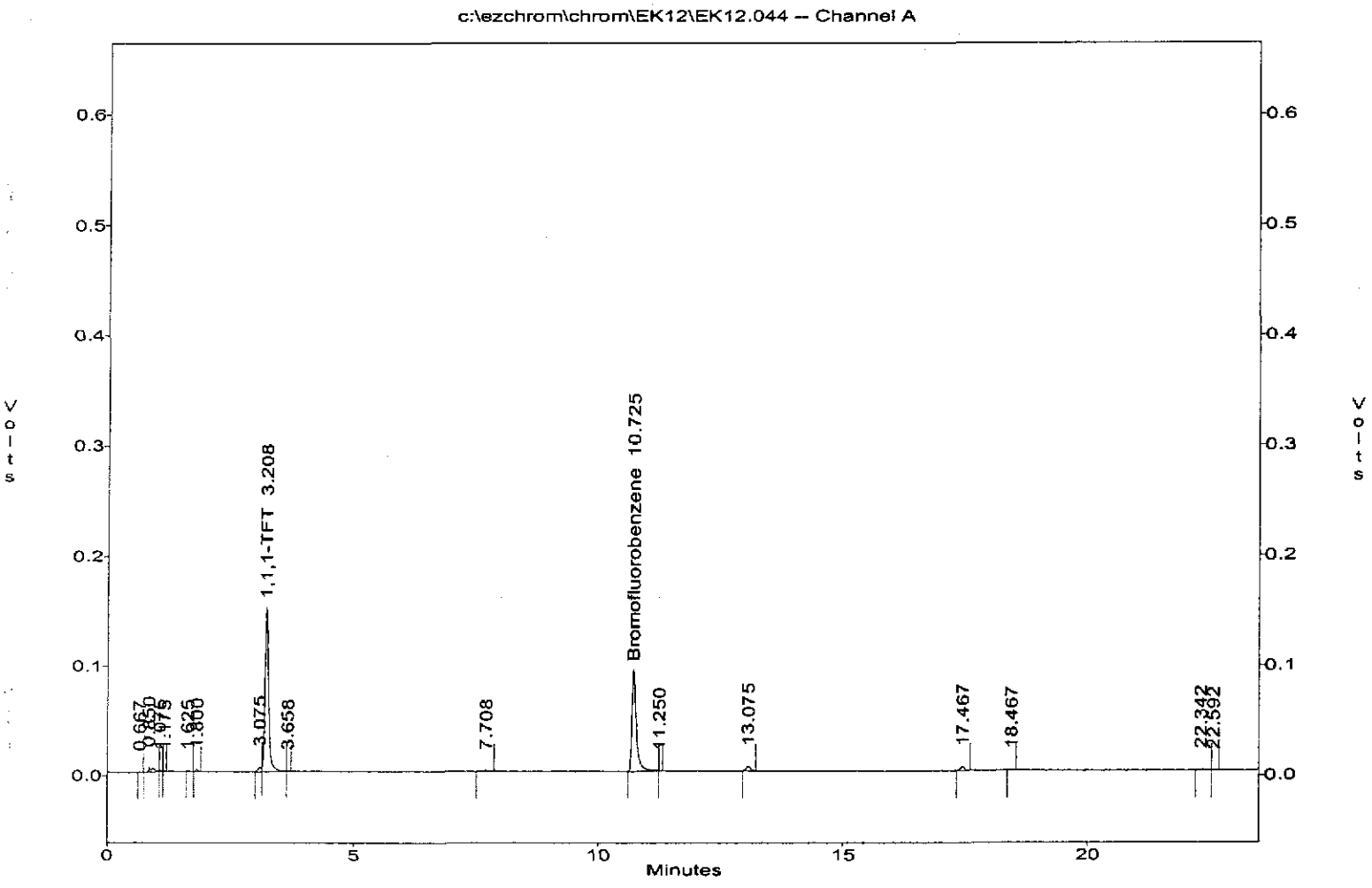
QC DATA

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EK12\EK12.044
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39K07B 5.0ML W
Acquired : Nov 13, 2014 14:03:42
Printed : Nov 13, 2014 16:26:12
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
8	1,1,1-TFT	3.208	797455.0	21400.0	37.26
11	Bromofluorobenzene	10.725	562594.0	16725.9	33.64
G1	GASOLINE(TOTAL)		112906.0	28261.9	3.99
G2	GRO(C6-C10)		38285.0	21355.4	1.79
G3	GRO(2MP-124TMB)		38285.0	21297.0	1.80
G4	GRO(C5-C12)		95900.0	27928.9	3.43
G5	GRO(C6-C12)		94833.0	27890.2	3.40
G6	GRO(C5-C10)		39352.0	21396.8	1.84

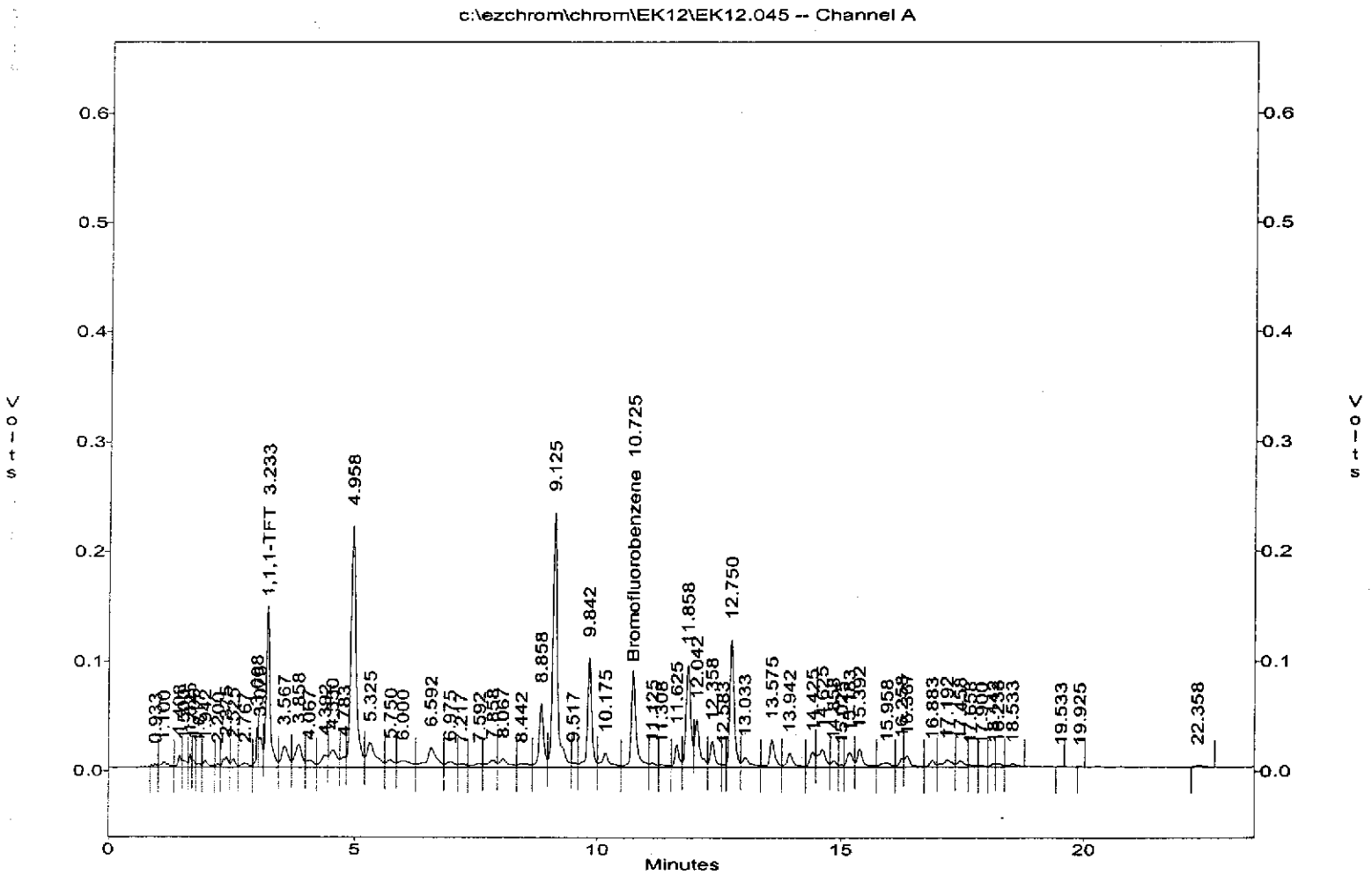


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EK12\EK12.045
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39K07L 5.0ML W
Acquired : Nov 13, 2014 14:50:09
Printed : Nov 13, 2014 16:26:15
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
15	1,1,1-TFT	3.233	843405.0	21400.0	39.41
38	Bromofluorobenzene	10.725	591679.0	16725.9	35.38
G1	GASOLINE(TOTAL)		10443746.0	28261.9	369.53
G2	GRO(C6-C10)		8997571.0	21355.4	421.32
G3	GRO(2MP-124TMB)		8978945.0	21297.0	421.61
G4	GRO(C5-C12)		10380862.0	27928.9	371.69
G5	GRO(C6-C12)		10301308.0	27890.2	369.35
G6	GRO(C5-C10)		9077125.0	21396.8	424.23

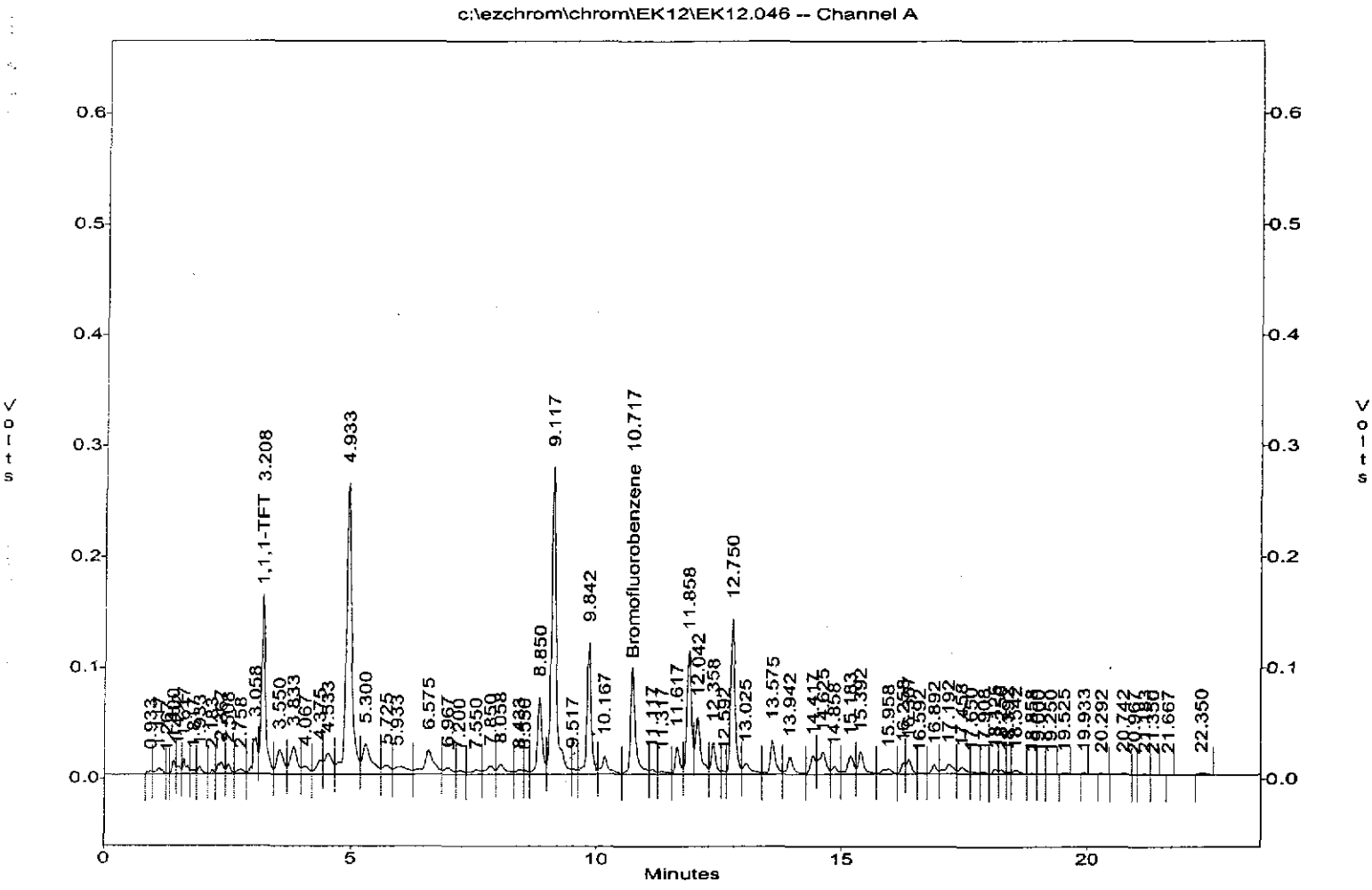


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EK12\EK12.046
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39K07C 5.0ML W
Acquired : Nov 13, 2014 15:28:52
Printed : Nov 13, 2014 16:26:18
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
14	1,1,1-TFT	3.208	942845.0	21400.0	44.06
37	Bromofluorobenzene	10.717	664748.0	16725.9	39.74
G1	GASOLINE(TOTAL)		12574294.0	28261.9	444.92
G2	GRO(C6-C10)		10645048.0	21355.4	498.47
G3	GRO(2MP-124TMB)		10701228.0	21297.0	502.48
G4	GRO(C5-C12)		12458057.0	27928.9	446.06
G5	GRO(C6-C12)		12285088.0	27890.2	440.48
G6	GRO(C5-C10)		10818017.0	21396.8	505.59



INITIAL CALIBRATIONS

INITIAL CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT39
GC Column : DB-5
Column size ID : 30MX.53MM
LFID & Datetime: EE02002A 05/02/14 11:39
LFID & Datetime: EE02003A 05/02/14 12:18
LFID & Datetime: EE02004A 05/02/14 12:57
LFID & Datetime: EE02005A 05/02/14 13:36
LFID & Datetime: EE02006A 05/02/14 14:15
LFID & Datetime: EE02007A 05/02/14 14:54
CONC UNIT: ppb

COMPOUND	CONC X	CALIBRATION FACTORS 1.00X	2.50X	5.00X	25.00X	(AREA)/UNIT 50.00X	75.00X	MEAN	%RSD	
Gasoline(TOTAL)	20.00	27801	27719	28723	28893	27835	28600	28261.9	1.9	✓
GRO(C6-C10)	20.00	21440	21614	22072	21470	20441	21095	21355.4	2.6	✓
GRO(2MP-124TMB)	20.00	21440	21614	21962	21379	20360	21028	21297.0	2.6	✓
GRO(C5-C12)	20.00	27412	27451	28534	28563	27415	28199	27928.9	2.0	✓
GRO(C6-C12)	20.00	27293	27392	28506	28556	27411	28184	27890.2	2.1	✓
GRO(C5-C10)	20.00	21558	21673	22100	21481	20451	21117	21396.8	2.6	✓
SURROGATE	X	1.00X	2.00X	3.00X	4.00X	5.00X	8.00X	MEAN	%RSD	
Bromofluorobenzene	10.00	14346	14383	15057	18957	18920	18692	16725.9	14.0	✓
1,1,1-Trifluorotoluene	10.00	21580 ✓	20507 ✓	21018 ✓	21584 ✓	21776 ✓	21933 ✓	21400.0 ✓	2.5 ✓	

VG39E02.MET

AA 05/05/14

INITIAL CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT39
GC Column : DB-5
Column size ID : 30MX.53MM
LFID & Datetime: EE02002A 05/02/14 11:39
LFID & Datetime: EE02003A 05/02/14 12:18
LFID & Datetime: EE02004A 05/02/14 12:57
LFID & Datetime: EE02005A 05/02/14 13:36
LFID & Datetime: EE02006A 05/02/14 14:15
LFID & Datetime: EE02007A 05/02/14 14:54

COMPOUND	RT OF STANDARDS (MIN) 1.0X	2.5X	5.0X	25.0X	50.0X	75.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
Gasoline(TOTAL)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO(C6-C10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO(2MP-124TMB)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO(C5-C12)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO(C6-C12)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO(C5-C10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SURROGATE	**1.0X**	**2.0X**	**3.0X**	**4.0X**	**5.0X**	**8.0X**	**RT**	**FROM**	**TO**	**WIDTH**
Bromofluorobenzene	10.733	10.725	10.725	10.725	10.725	10.717	10.725	10.682	10.768	0.043
1,1,1-Trifluorotoluene	3.217	3.217	3.217	3.208	3.208	3.208	3.212	3.088	3.336	0.124

VG39E02.MET

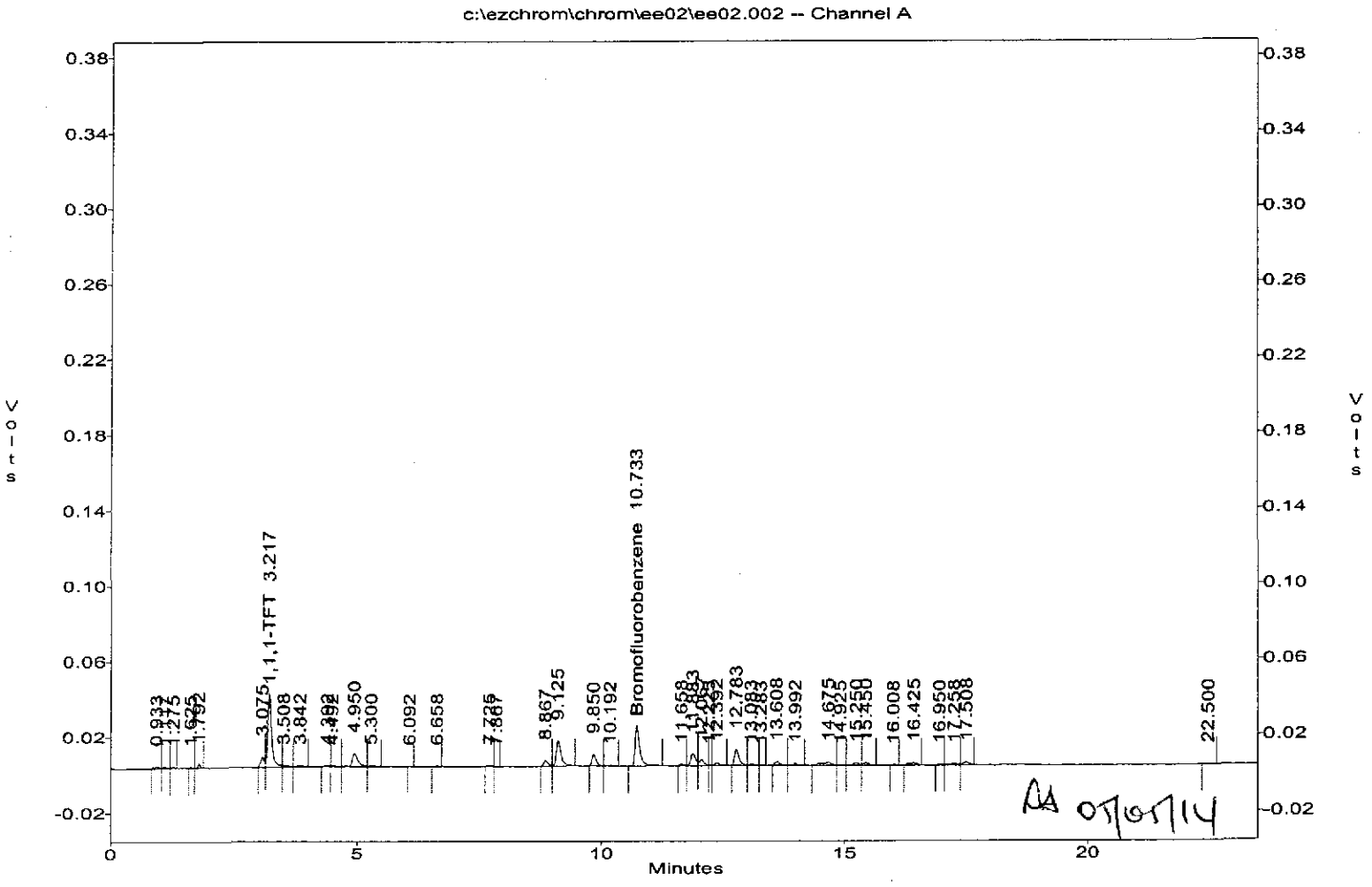
05/05/12

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.002
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39E0201 20/10
Acquired : May 02, 2014 11:39:55
Printed : May 05, 2014 09:31:15
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
7	1,1,1-TFT	3.217	215802.0 ✓	21400.0	10.00
22	Bromofluorobenzene	10.733	143459.0 ✓	16725.9	10.00
G1	GASOLINE(TOTAL)		556018.0 ✓	28261.9	20.00
G2	GRO(C6-C10)		428798.0 ✓	21355.4	20.00
G3	GRO(2MP-124TMB)		428798.0 ✓	21297.0	20.00
G4	GRO(C5-C12)		548233.0 ✓	27928.9	20.00
G5	GRO(C6-C12)		545864.0 ✓	27890.2	20.00
G6	GRO(C5-C10)		431167.0 ✓	21396.8	20.00

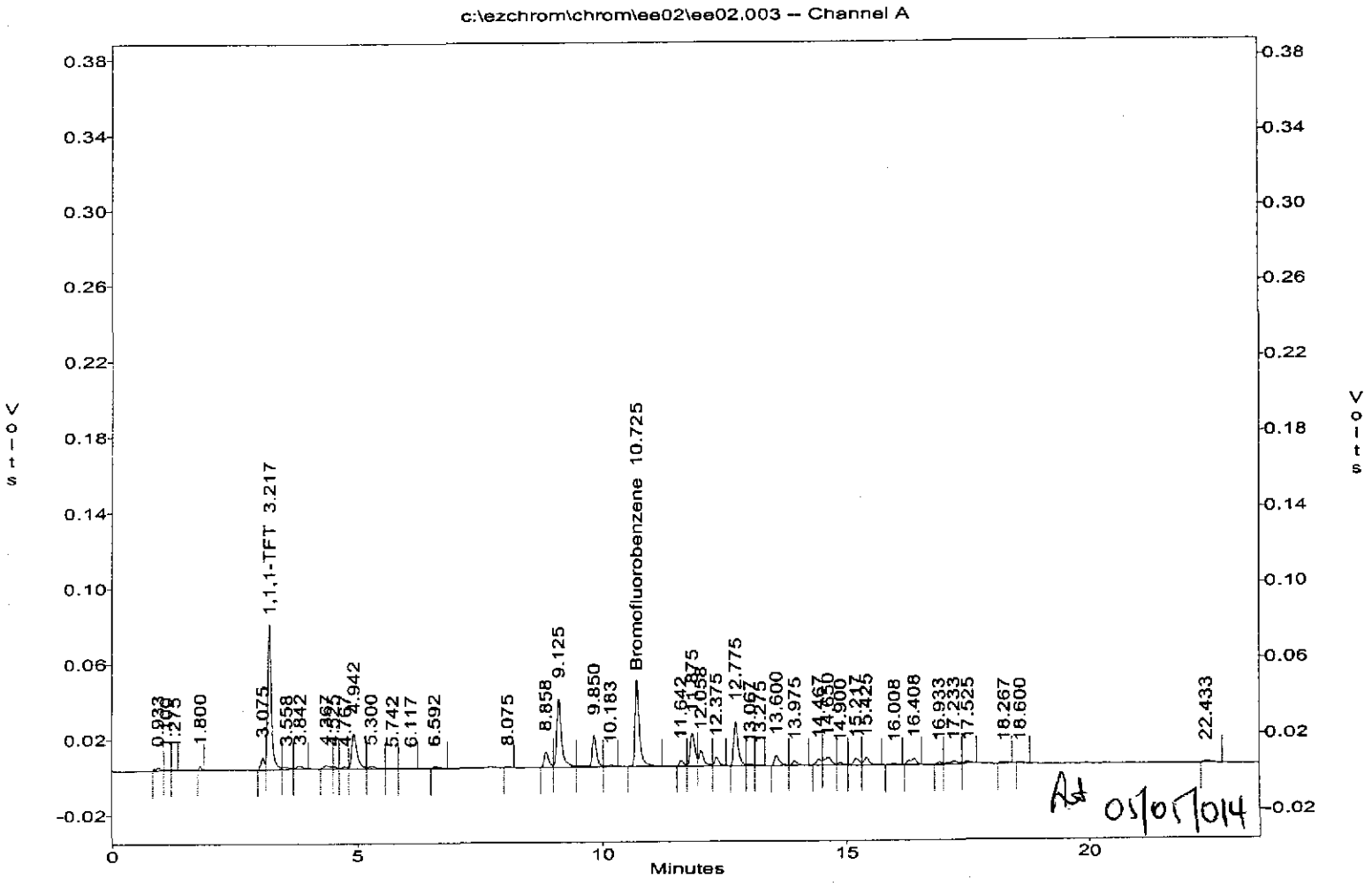


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.003
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39E0202 50/20
Acquired : May 02, 2014 12:18:52
Printed : May 05, 2014 09:31:23
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
6	1,1,1-TFT	3.217	410145.0	21400.0	20.00
22	Bromofluorobenzene	10.725	287659.0	16725.9	20.00
G1	GASOLINE(TOTAL)		1385955.0	28261.9	50.00
G2	GRO(C6-C10)		1080683.0	21355.4	50.00
G3	GRO(2MP-124TMB)		1080683.0	21297.0	50.00
G4	GRO(C5-C12)		1372563.0	27928.9	50.00
G5	GRO(C6-C12)		1369606.0	27890.2	50.00
G6	GRO(C5-C10)		1083640.0	21396.8	50.00



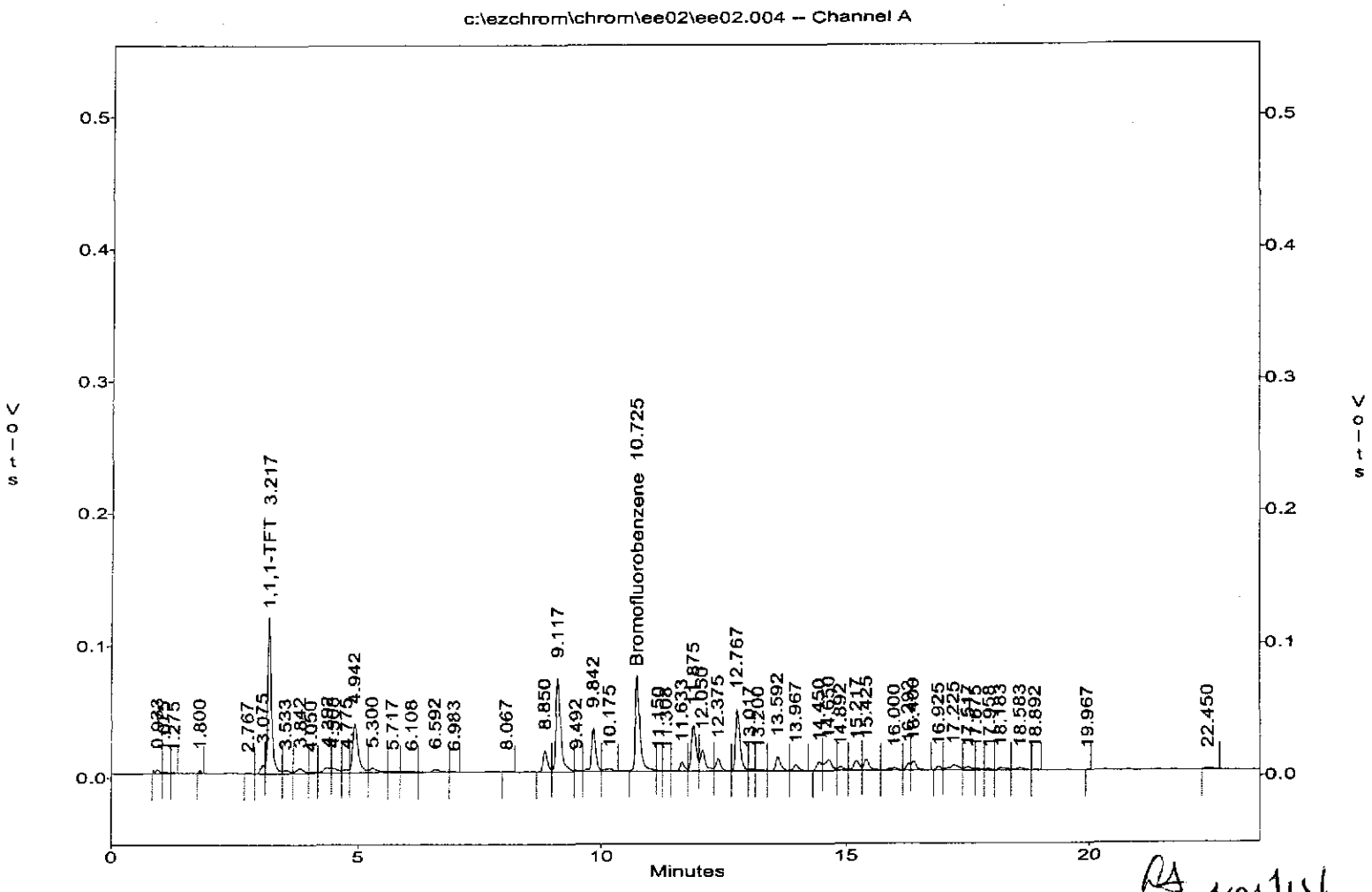
AA 05/07/2014

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.004
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39E0203 100/30
Acquired : May 02, 2014 12:57:53
Printed : May 05, 2014 09:31:56
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
7	1,1,1-TFT	3.217	630554.0	21400.0	30.00
26	Bromofluorobenzene	10.725	451712.0	16725.9	30.00
G1	GASOLINE(TOTAL)		2872293.0	28261.9	100.00
G2	GRO(C6-C10)		2207233.0	21355.4	100.00
G3	GRO(2MP-124TMB)		2196184.0	21297.0	100.00
G4	GRO(C5-C12)		2853376.0	27928.9	100.00
G5	GRO(C6-C12)		2850571.0	27890.2	100.00
G6	GRO(C5-C10)		2210038.0	21396.8	100.00



05/01/14

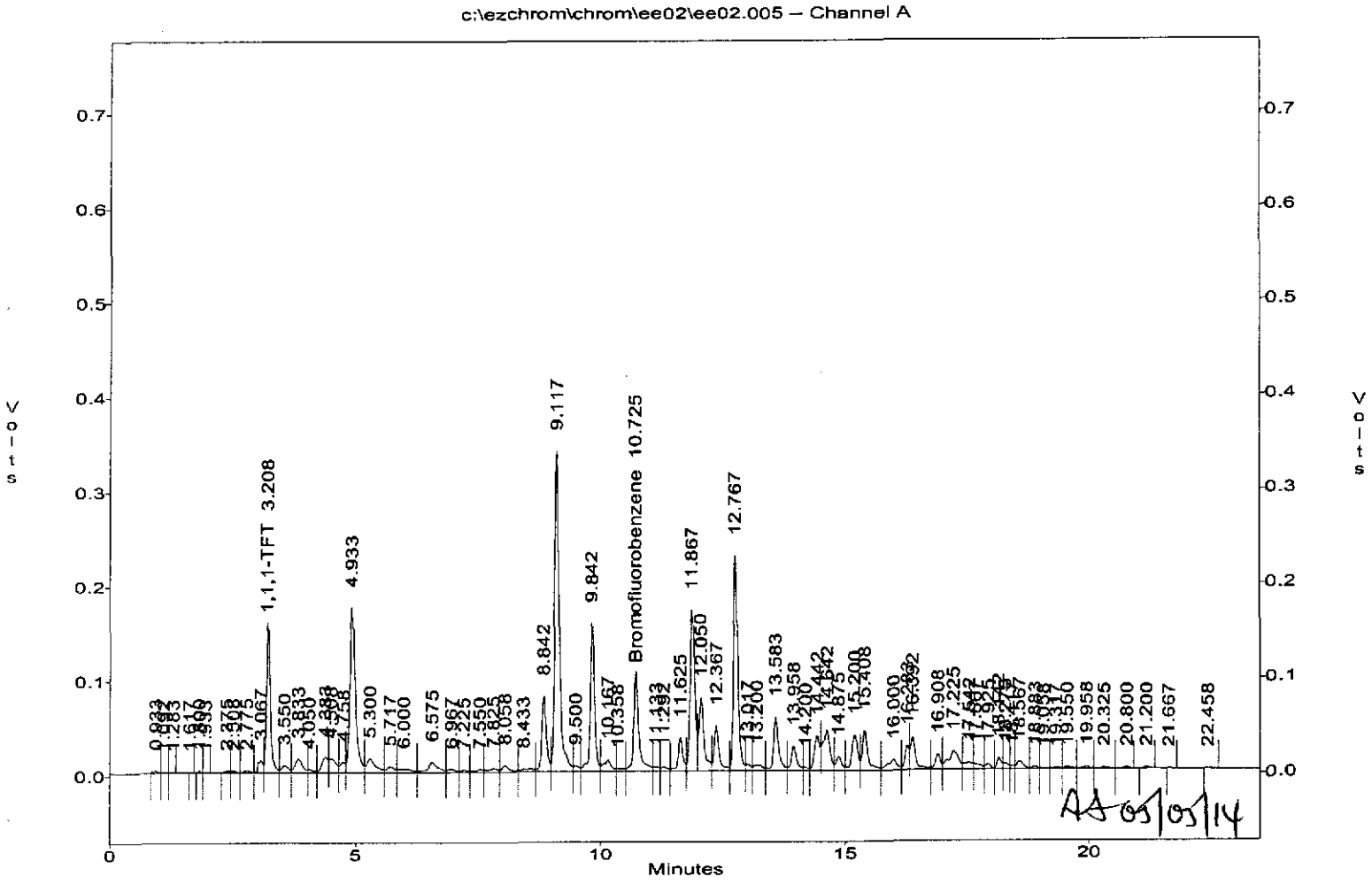
LSD22

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.005
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39E0204 500/40
Acquired : May 02, 2014 13:36:49
Printed : May 05, 2014 09:32:30
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
11	1,1,1-TFT	3.208	863365.0	21400.0	40.00
35	Bromofluorobenzene	10.725	758288.0	16725.9	40.00
G1	GASOLINE(TOTAL)		14446530.0	28261.9	500.00
G2	GRO(C6-C10)		10735124.0	21355.4	500.00
G3	GRO(2MP-124TMB)		10689338.0	21297.0	500.00
G4	GRO(C5-C12)		14281643.0	27928.9	500.00
G5	GRO(C6-C12)		14278004.0	27890.2	500.00
G6	GRO(C5-C10)		10740735.0	21396.8	500.00

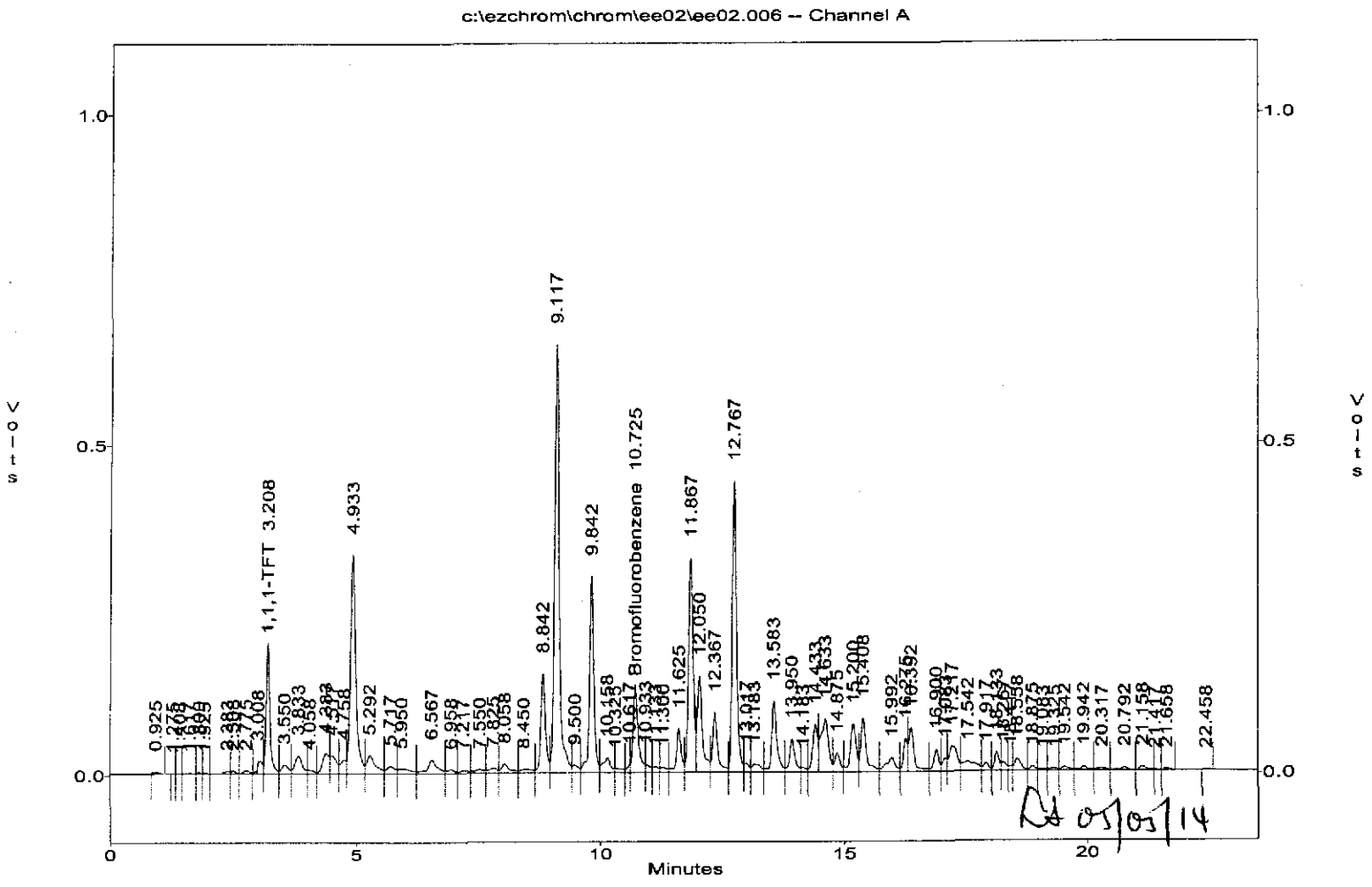


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.006
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39E0205 1000/50
Acquired : May 02, 2014 14:15:41
Printed : May 05, 2014 09:34:01
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
11	1,1,1-TFT	3.208	1088814.0	21400.0	50.00
36	Bromofluorobenzene	10.725	946013.0	16725.9	50.00
G1	GASOLINE(TOTAL)		27834716.0	28261.9	1000.00
G2	GRO(C6-C10)		20441208.0	21355.4	1000.00
G3	GRO(2MP-124TMB)		20359526.0	21297.0	1000.00
G4	GRO(C5-C12)		27414706.0	27928.9	1000.00
G5	GRO(C6-C12)		27410822.0	27890.2	1000.00
G6	GRO(C5-C10)		20451276.0	21396.8	1000.00



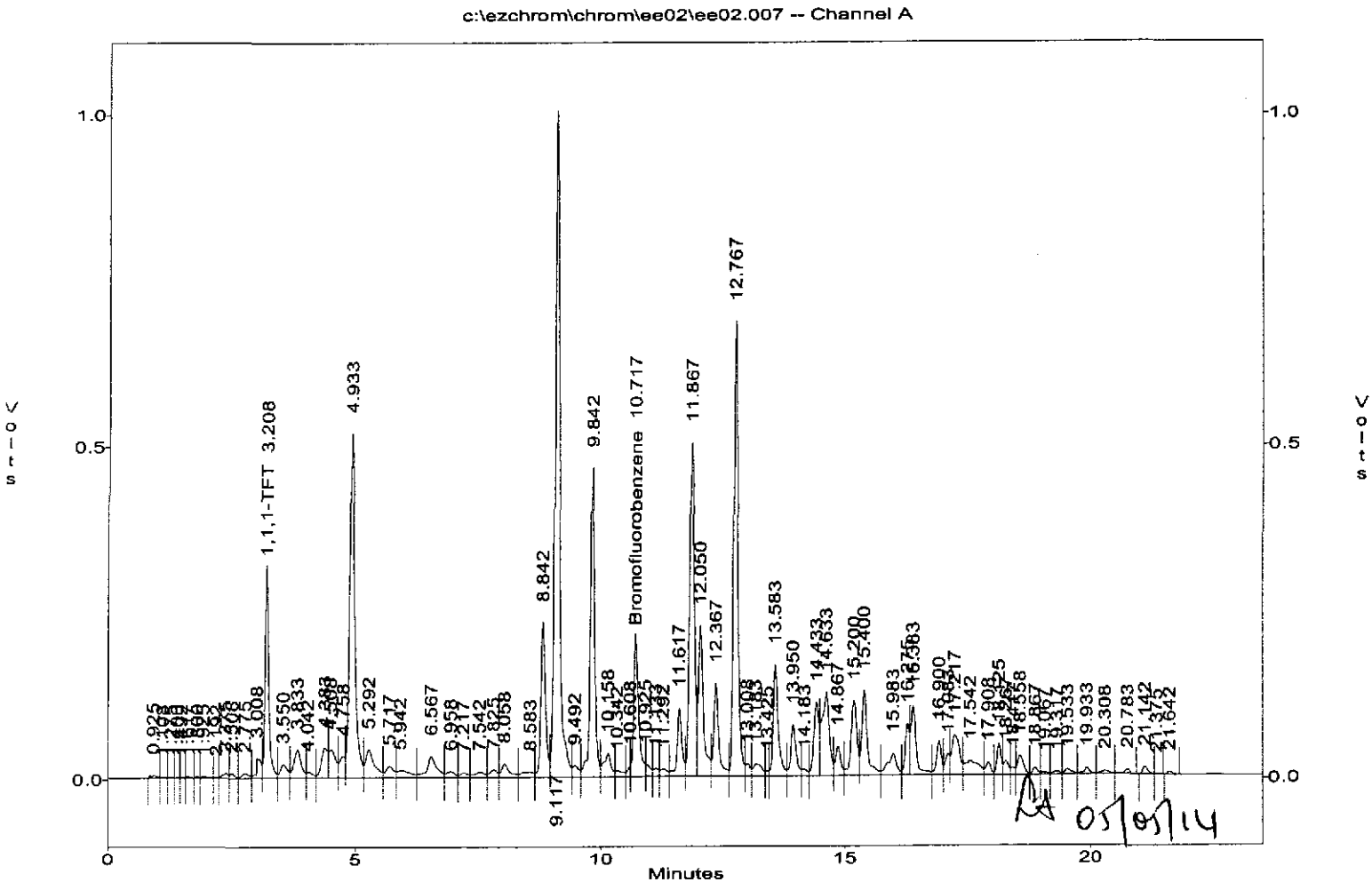
05/07/14

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.007
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : VG39E0206 1500/80
Acquired : May 02, 2014 14:54:32
Printed : May 05, 2014 09:34:29
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
14	1,1,1-TFT	3.208	1754672.0	21400.0	80.00
39	Bromofluorobenzene	10.717	1495364.0	16725.9	80.00
G1	GASOLINE(TOTAL)		42900720.0	28261.9	1500.00
G2	GRO(C6-C10)		31643026.0	21355.4	1500.00
G3	GRO(2MP-124TMB)		31542302.0	21297.0	1500.00
G4	GRO(C5-C12)		42297752.0	27928.9	1500.00
G5	GRO(C6-C12)		42275336.0	27890.2	1500.00
G6	GRO(C5-C10)		31675030.0	21396.8	1500.00



05/05/14

SECOND SOURCE VERIFICATION

INITIAL CALIBRATION VERIFICATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT39
GC Column : DB-5
Column size ID : 30MX.53MM
Mid Conc Init LFID & Datetime: EE02005A 05/02/2014 13:36
Conc Cont LFID & Datetime: EE02008A 05/02/2014 15:33
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	NA	NA	NA	500.0	28261.9	13053470	461.88	-8		20
GRO(C6-C10)	NA	NA	NA	500.0	21355.4	10134937	474.58	-5		20
GRO(2MP-124TMB)	NA	NA	NA	500.0	21297.0	10247177	481.16	-4		20
GRO(C5-C12)	NA	NA	NA	500.0	27928.9	12590737	450.82	-10		20
GRO(C6-C12)	NA	NA	NA	500.0	27890.2	12493550	447.95	-10		20
GRO(C5-C10)	NA	NA	NA	500.0	21396.8	10304659	481.60	-4		20
SURROGATE	**MINUTES**	**FROM**	**TO**	**TRUECON**	**CF**	**AREA**	**CONC**	**%D**	**QL**	**LIMITS**
Bromofluorobenzene	10.717	10.674	10.760	40.0	16725.9	696321	41.63	4		20
1,1,1-Trifluorotoluene	3.208	3.084	3.332	40.0	21400.0	954586	44.61	12		20

VG39E02.MET

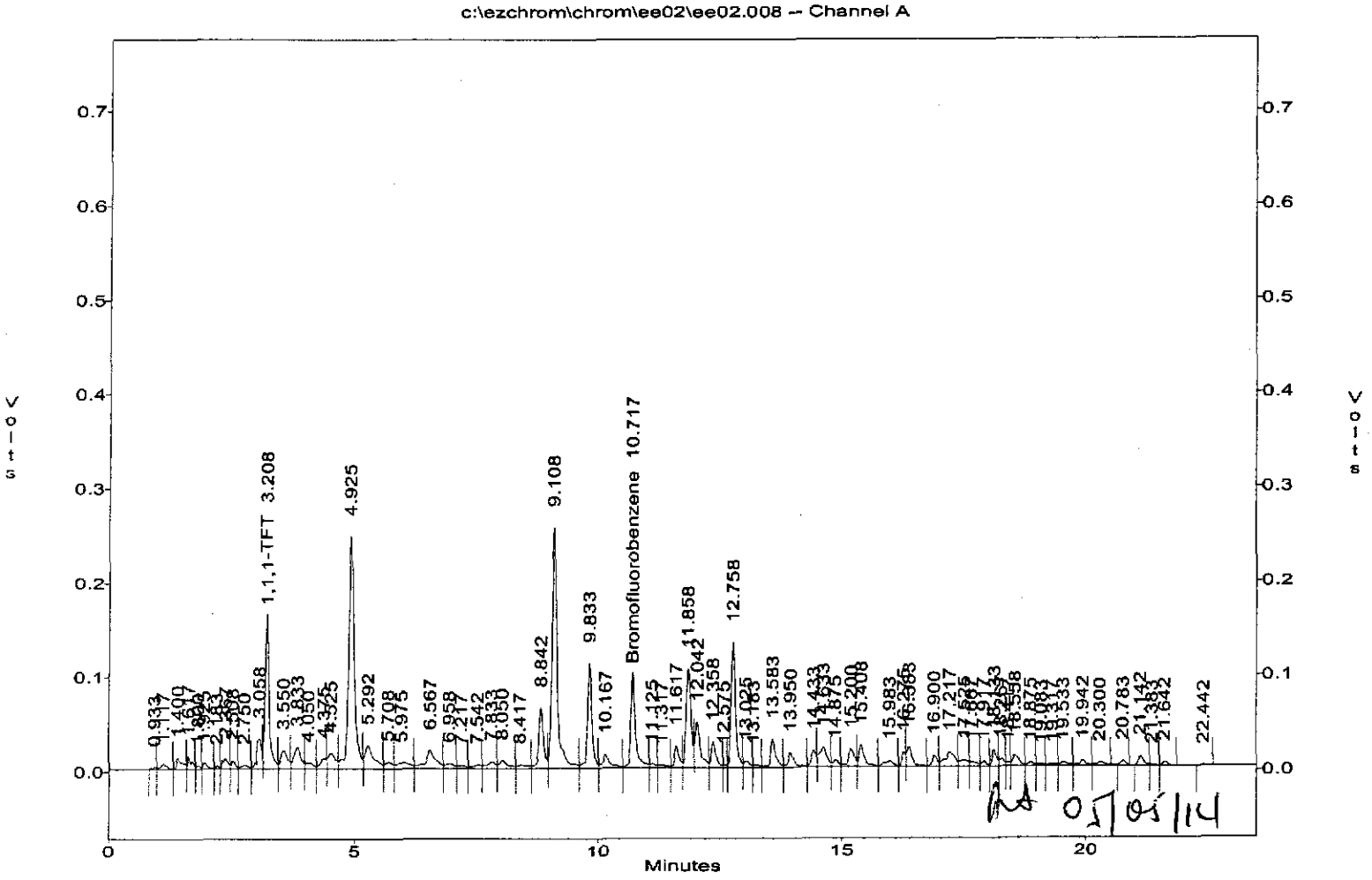
AA
05/05/14

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.008
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : IVG39E02001 500/40
Acquired : May 02, 2014 15:33:24
Printed : May 05, 2014 09:35:55
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
12	1,1,1-TFT	3.208	954586.0	21400.0	44.61
33	Bromofluorobenzene	10.717	696321.0	16725.9	41.63
G1	GASOLINE(TOTAL)		13053470.0	28261.9	461.88
G2	GRO(C6-C10)		10134937.0	21355.4	474.58
G3	GRO(2MP-124TMB)		10247177.0	21297.0	481.16
G4	GRO(C5-C12)		12590737.0	27928.9	450.81
G5	GRO(C6-C12)		12493550.0	27890.2	447.95
G6	GRO(C5-C10)		10304659.0	21396.8	481.60



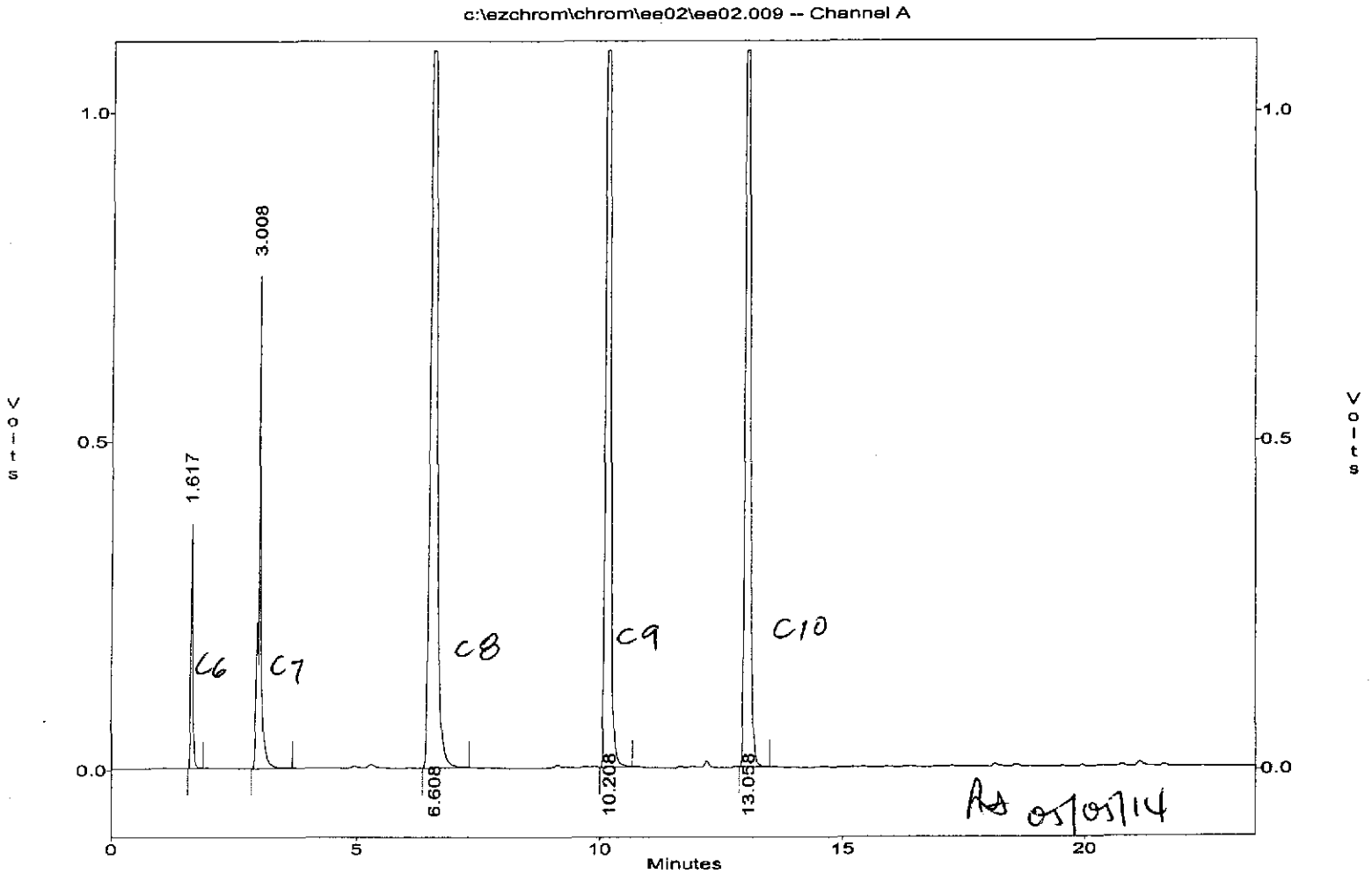
05/05/14

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.009
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : GRO 1UL
Acquired : May 02, 2014 16:12:18
Printed : May 05, 2014 09:36:36
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
--	1,1,1-TFT	3.208	0.0	0.0	0.00
--	Bromofluorobenzene	10.725	0.0	0.0	0.00
G1	GASOLINE(TOTAL)		32746974.0	28261.9	1158.70
G2	GRO(C6-C10)		22835384.0	21355.4	1069.30
G3	GRO(2MP-124TMB)		23874628.0	21297.0	1121.03
G4	GRO(C5-C12)		32746974.0	27928.9	1172.51
G5	GRO(C6-C12)		32746974.0	27890.2	1174.14
G6	GRO(C5-C10)		23874628.0	21396.8	1115.80

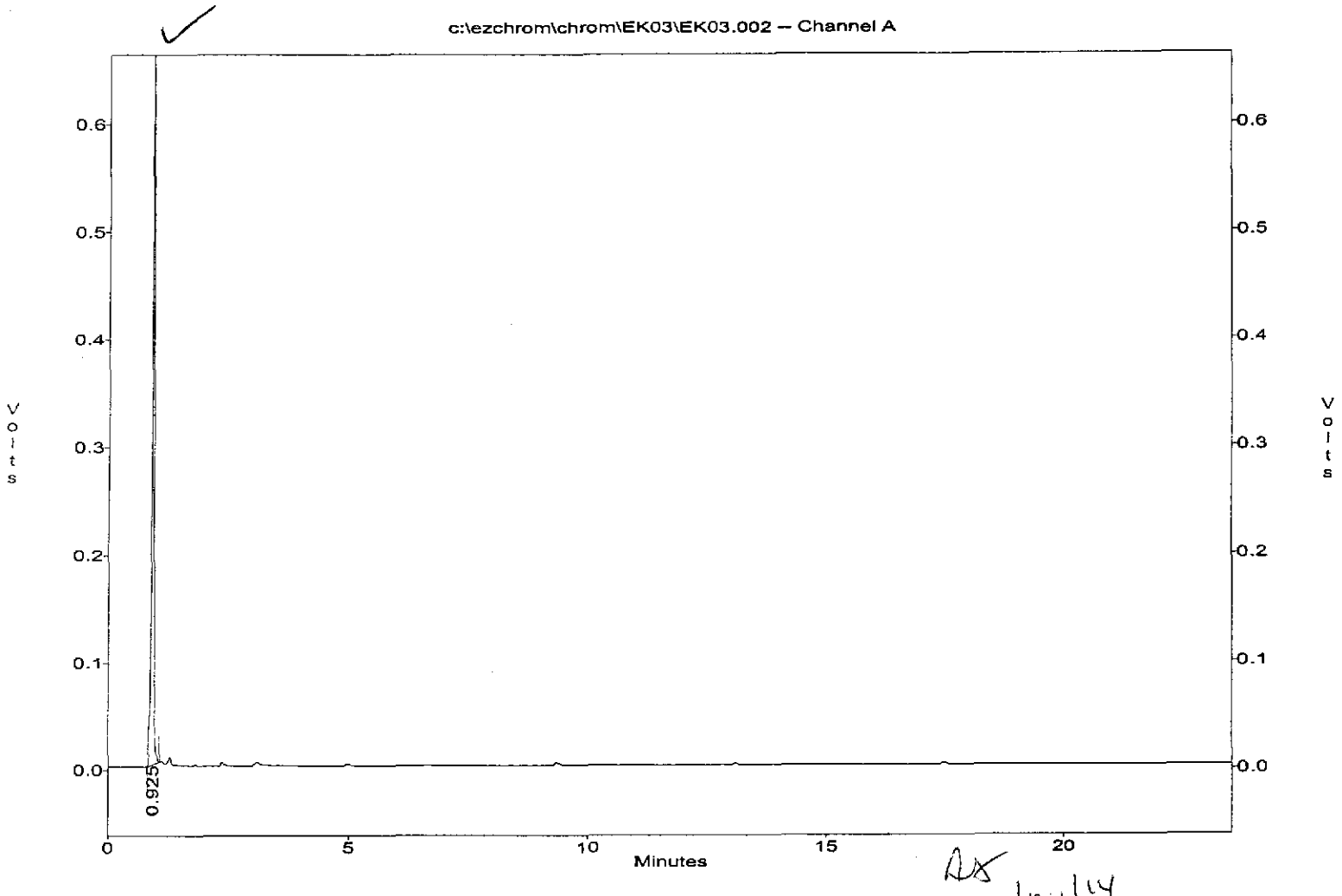


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EK03\EK03.002
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : N-BUTANE 100uL
Acquired : Nov 03, 2014 10:53:47
Printed : Nov 04, 2014 10:42:29
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
--	1,1,1-TFT	3.225	0.0	0.0	0.00
--	Bromofluorobenzene	10.742	0.0	0.0	0.00
G1	GASOLINE(TOTAL)		0.0	28261.9	0.00
G2	GRO(C6-C10)		0.0	21355.4	0.00
G3	GRO(2MP-124TMB)		0.0	21297.0	0.00
G4	GRO(C5-C12)		0.0	27928.9	0.00
G5	GRO(C6-C12)		0.0	27890.2	0.00
G6	GRO(C5-C10)		0.0	21396.8	0.00



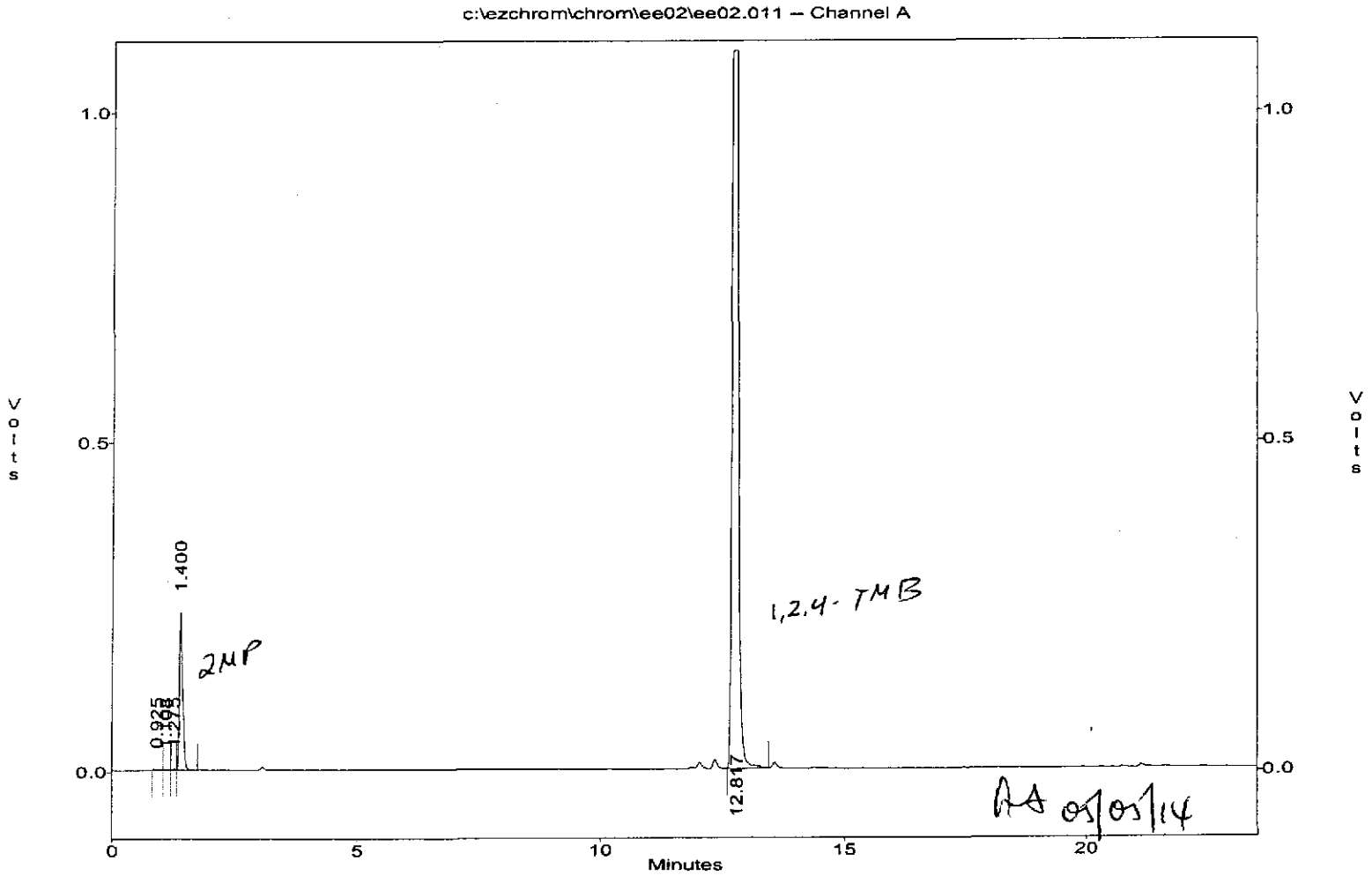
11/04/14

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.011
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : 2MP/1,2,4-TMB
Acquired : May 02, 2014 17:30:38
Printed : May 05, 2014 09:36:43
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
--	1,1,1-TFT	3.208	0.0	0.0	0.00
--	Bromofluorobenzene	10.725	0.0	0.0	0.00
G1	GASOLINE(TOTAL)		11435951.0	28261.9	404.64
G2	GRO(C6-C10)		10280670.0	21355.4	481.41
G3	GRO(2MP-124TMB)		11417507.0	21297.0	536.11
G4	GRO(C5-C12)		11428096.0	27928.9	409.19
G5	GRO(C6-C12)		10280670.0	27890.2	368.61
G6	GRO(C5-C10)		11428096.0	21396.8	534.10

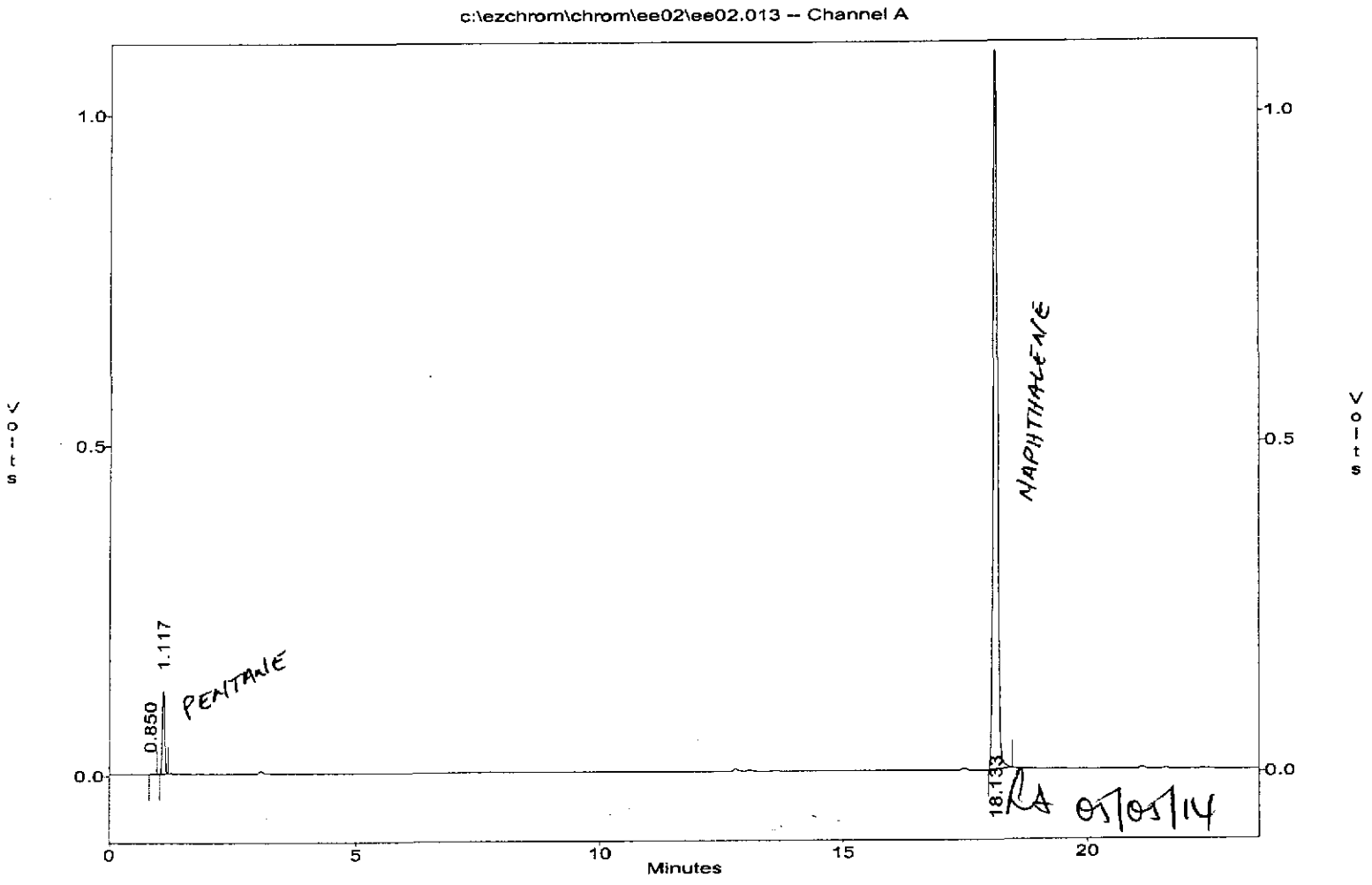


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.013
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : PENTANE/NAPHTHALENE
Acquired : May 02, 2014 18:48:50
Printed : May 05, 2014 09:37:29
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
--	1,1,1-TFT	3.208	0.0	0.0	0.00
--	Bromofluorobenzene	10.725	0.0	0.0	0.00
G1	GASOLINE(TOTAL)		7086992.0	28261.9	250.76
G2	GRO(C6-C10)		0.0	21355.4	0.00
G3	GRO(2MP-124TMB)		0.0	21297.0	0.00
G4	GRO(C5-C12)		6645801.0	27928.9	237.95
G5	GRO(C6-C12)		6645801.0	27890.2	238.28
G6	GRO(C5-C10)		0.0	21396.8	0.00



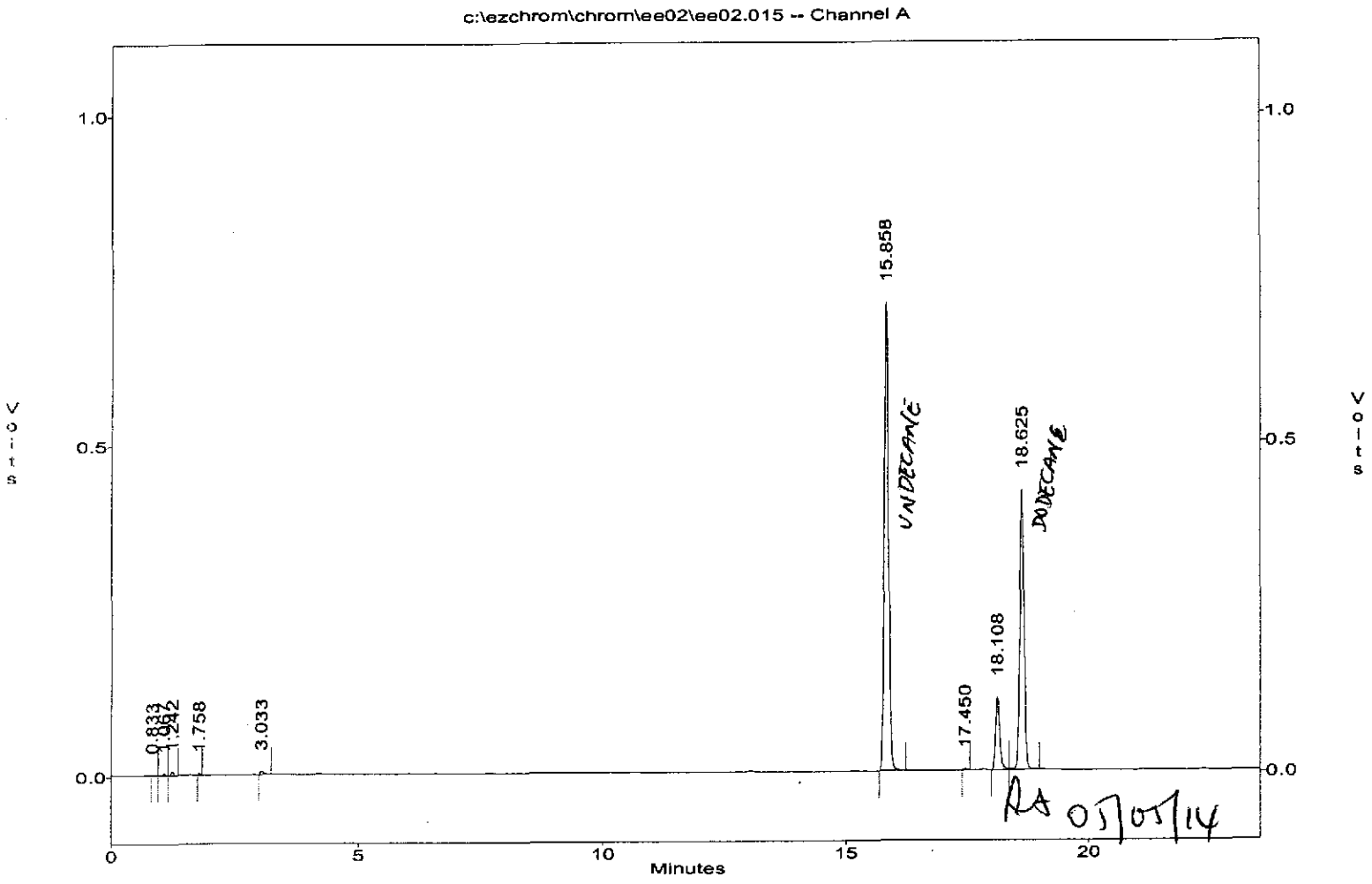
RA 05/05/14

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ee02\ee02.015
Method : c:\ezchrom\methods\vg39e02.met
Sample ID : UNDECANE/DODECANE
Acquired : May 02, 2014 20:06:47
Printed : May 05, 2014 09:38:16
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
--	1,1,1-TFT	3.208	0.0	0.0	0.00
--	Bromofluorobenzene	10.725	0.0	0.0	0.00
G1	GASOLINE(TOTAL)		7612846.0	28261.9	269.37
G2	GRO(C6-C10)		30808.0	21355.4	1.44
G3	GRO(2MP-124TMB)		30808.0	21297.0	1.45
G4	GRO(C5-C12)		7599145.0	27928.9	272.09
G5	GRO(C6-C12)		7579660.0	27890.2	271.77
G6	GRO(C5-C10)		50293.0	21396.8	2.35



DAILY CALIBRATIONS

CONTINUE CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT39
GC Column : DB-5
Column size ID : 30MX.53MM
Mid Conc Init LFID & Datetime: EE02005A 05/02/2014 13:36
Conc Cont LFID & Datetime: EK12036A 11/13/2014 08:53
CONC UNIT : ppb

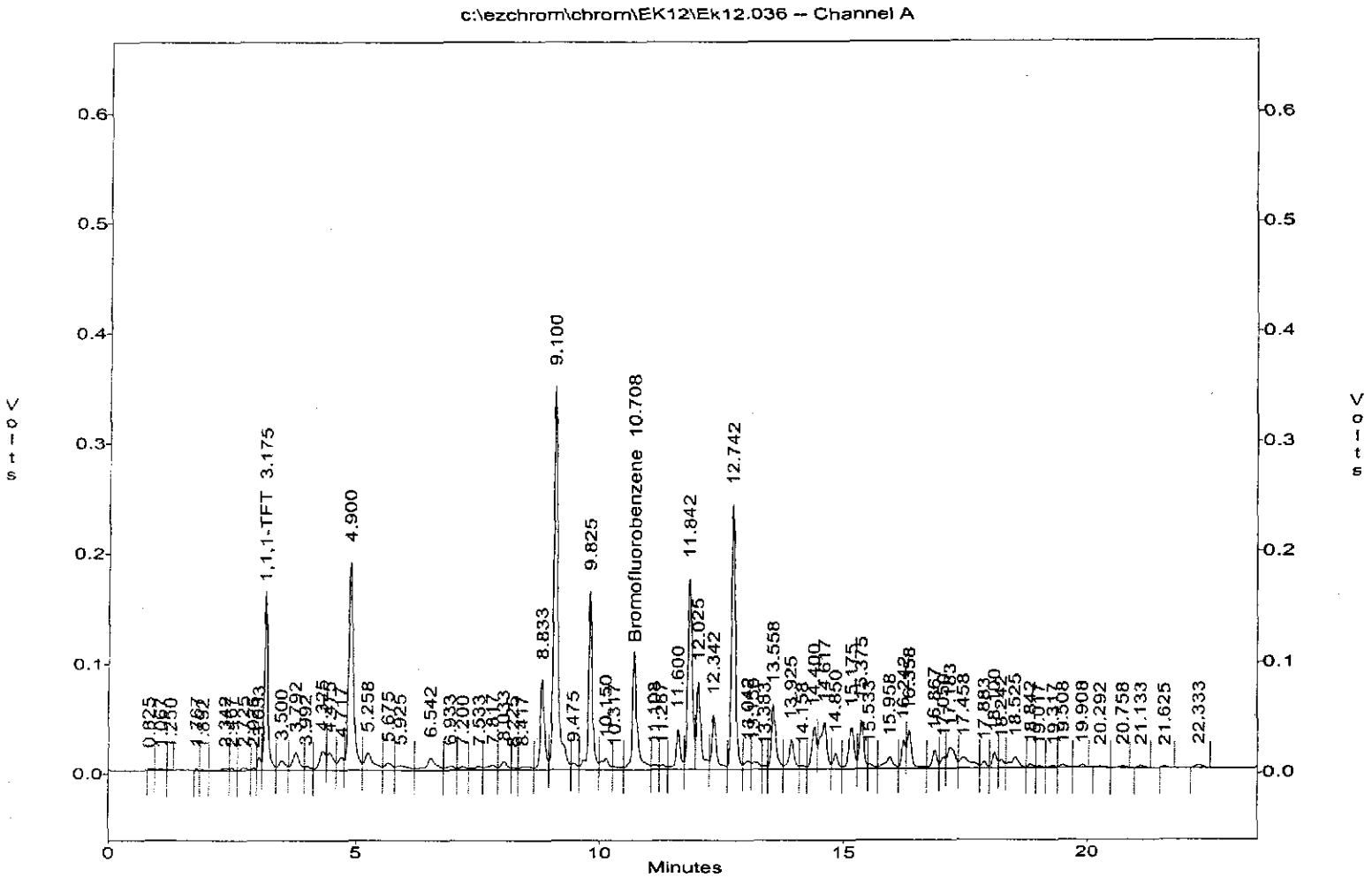
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	NA	NA	NA	500.0	28261.9	14011621	495.78	-1		20
GRO(C6-C10)	NA	NA	NA	500.0	21355.4	10441501	488.94	-2		20
GRO(2MP-124TMB)	NA	NA	NA	500.0	21297.0	10376179	487.21	-3		20
GRO(C5-C12)	NA	NA	NA	500.0	27928.9	13825159	495.01	-1		20
GRO(C6-C12)	NA	NA	NA	500.0	27890.2	13821433	495.57	-1		20
GRO(C5-C10)	NA	NA	NA	500.0	21396.8	10445227	488.17	-2		20
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
Bromofluorobenzene	10.708	10.665	10.751	40.0	16725.9	707504	42.30	6		20
1,1,1-Trifluorotoluene	3.175	3.051	3.299	40.0	21400.0	814522	38.06	-5		20

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EK12\Ek12.036
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : CVG39E02780 500/40
Acquired : Nov 13, 2014 08:53:04
Printed : Nov 13, 2014 09:16:37
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
11	1,1,1-TFT	3.175	814522.0	21400.0	38.06
36	Bromofluorobenzene	10.708	707504.0	16725.9	42.30
G1	GASOLINE(TOTAL)		14011621.0	28261.9	495.78
G2	GRO(C6-C10)		10441501.0	21355.4	488.94
G3	GRO(2MP-124TMB)		10376179.0	21297.0	487.21
G4	GRO(C5-C12)		13825159.0	27928.9	495.01
G5	GRO(C6-C12)		13821433.0	27890.2	495.57
G6	GRO(C5-C10)		10445227.0	21396.8	488.17



CONTINUE CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GC139
GC Column : DB-5
Column size ID : 30MX.53MM
Mid Conc Init LFID & Datetime: EE02005A 05/02/2014 13:36
Conc Cont LFID & Datetime: EK12047A 11/13/2014 16:09
CONC UNIT : ppb

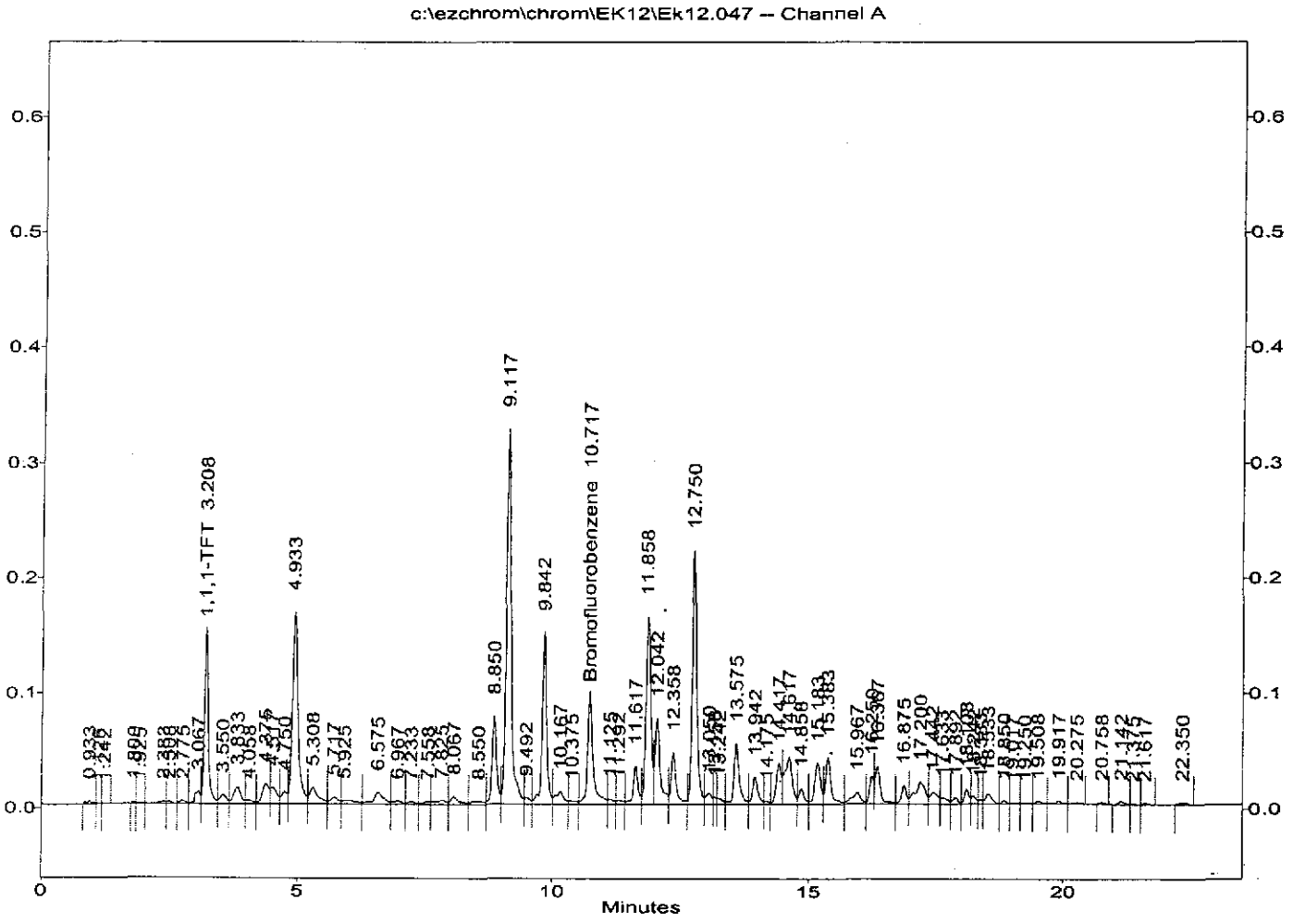
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	NA	NA	NA	500.0	28261.9	13870495	490.79	-2		20
GRO(C6-C10)	NA	NA	NA	500.0	21355.4	10300568	482.34	-4		20
GRO(2MP-124TMB)	NA	NA	NA	500.0	21297.0	10219037	479.83	-4		20
GRO(C5-C12)	NA	NA	NA	500.0	27928.9	13697232	490.43	-2		20
GRO(C6-C12)	NA	NA	NA	500.0	27890.2	13690172	490.86	-2		20
GRO(C5-C10)	NA	NA	NA	500.0	21396.8	10307628	481.74	-4		20
SURROGATE	**MINUTES**	**FROM**	**TO**	**TRUECON**	**CF**	**AREA**	**CONC**	**%D**	**QL**	**LIMITS**
Bromofluorobenzene	10.717	10.674	10.760	40.0	16725.9	715316	42.77	7		20
1,1,1-Trifluorotoluene	3.208	3.084	3.332	40.0	21400.0	823354	38.47	-4		20

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EK12\Ek12.047
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : CVG39E02781 500/40
Acquired : Nov 13, 2014 16:09:52
Printed : Nov 13, 2014 16:33:23
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
10	1,1,1-TFT	3.208	823354.0	21400.0	38.47
34	Bromofluorobenzene	10.717	715316.0	16725.9	42.77
G1	GASOLINE(TOTAL)		13870495.0	28261.9	490.78
G2	GRO(C6-C10)		10300568.0	21355.4	482.34
G3	GRO(2MP-124TMB)		10219037.0	21297.0	479.84
G4	GRO(C5-C12)		13697232.0	27928.9	490.43
G5	GRO(C6-C12)		13690172.0	27890.2	490.86
G6	GRO(C5-C10)		10307628.0	21396.8	481.74



CONTINUE CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT39
GC Column : DB-5
Column size ID : 3DMX.53MM
Mid Conc Init LFID & Datetime: EE02005A 05/02/2014 13:36
Conc Cont LFID & Datetime: EK12058A 11/13/2014 23:20
CONC UNIT : ppb

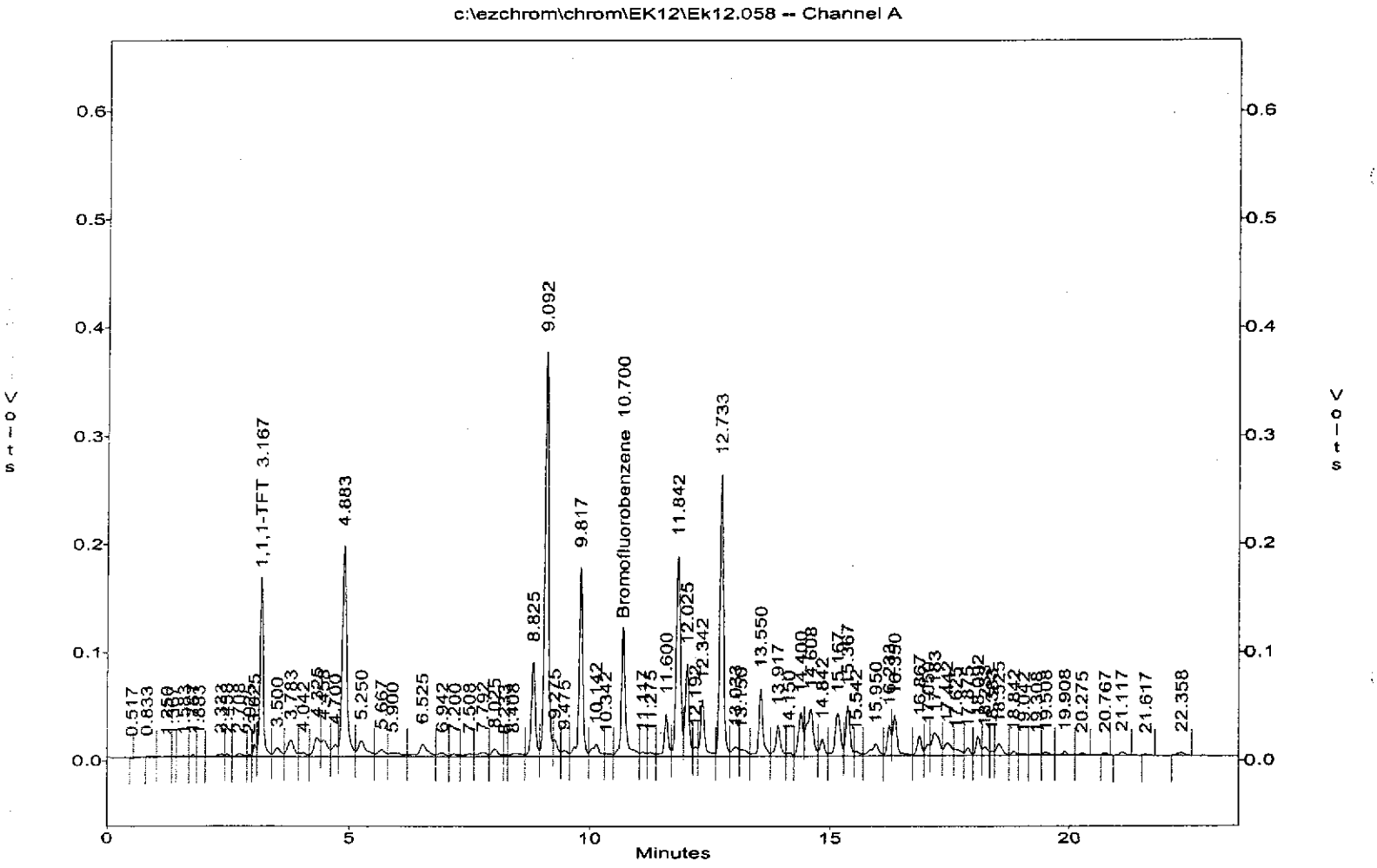
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	NA	NA	NA	500.0	28261.9	14193951	502.23	0		20
GRO(C6-C10)	NA	NA	NA	500.0	21355.4	10429919	488.40	-2		20
GRO(2MP-124TMB)	NA	NA	NA	500.0	21297.0	10362258	486.56	-3		20
GRO(C5-C12)	NA	NA	NA	500.0	27928.9	13985526	500.76	0		20
GRO(C6-C12)	NA	NA	NA	500.0	27890.2	13966328	500.76	0		20
GRO(C5-C10)	NA	NA	NA	500.0	21396.8	10449117	488.35	-2		20
SURROGATE	**MINUTES**	**FROM**	**TO**	**TRUECON**	**CF**	**AREA**	**CONC**	**%D**	**QL**	**LIMITS**
Bromofluorobenzene	10.700	10.657	10.743	40.0	16725.9	724991	43.35	8		20
1,1,1-Trifluorotoluene	3.167	3.043	3.291	40.0	21400.0	808461	37.78	-6		20

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EK12\Ek12.058
Method : c:\ezchrom\methods\Vg39e02.met
Sample ID : CVG39E02782 500/40
Acquired : Nov 13, 2014 23:20:52
Printed : Nov 13, 2014 23:44:25
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
13	1,1,1-TFT	3.167	808461.0	21400.0	37.78
39	Bromofluorobenzene	10.700	724991.0	16725.9	43.35
G1	GASOLINE(TOTAL)		14193951.0	28261.9	502.23
G2	GRO(C6-C10)		10429919.0	21355.4	488.40
G3	GRO(2MP-124TMB)		10362258.0	21297.0	486.56
G4	GRO(C5-C12)		13985526.0	27928.9	500.76
G5	GRO(C6-C12)		13966328.0	27890.2	500.76
G6	GRO(C5-C10)		10449117.0	21396.8	488.35



ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
PURGEABLE TPH

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Purge Volume = 5 ml

GASOLINE ICAL

GRO - SV2-07-02-13
2MP - SV2-09-06-01
TMB - SV2-05-23
PENTANE - SV2-07-01-03
NAPHTHALENE - SV2-05-24
UNDECANE - SV2-07-01-02
DODECANE - SV2-07-01-06

Book #: A39-047
Instrument No.: 39
Analytical Sequence: EE02
Method File: ☑ VG39E02 ☐ ☐
Analytical Batch: N/A

SOP #	Rev. #
☑ EMAX-5030B	3
☐ EMAX-BTEXM	1
☑ EMAX-8015G	4
☐ EMAX-AK101	2
☐ EMAX-	

STANDARDS ID	Amt Added (µL)	Conc. (mg/L)
ICAL —	—	—
ICAL SV2-07-02-06	See Analysis Run Logbook	5000
ICV SV2-07-02-04	0.5ml	5000
ICV —	—	—
DCC GAS —	—	—
DCC BTEX —	—	—
DCC —	—	—
BFB/TFT SV2-09-08-03 (Sample) (DCC)	SC 5/02/14 See Analysis Run Logbook	100
LCS/LCSD —	—	—
MS/MSD —	—	—
GRO (HC-Chain) SV2-07-02-13	1ml	2000

Solvent	ID/Lot #
Methanol	
Reagent Water	RW2-12-001
	Lot #
pH strip	—

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZC-3-BTEX SC	5/05/14

Analyzed By: SC
Date: 5/02/14

Method: Vg39e02.met Batch: Ee02.seq Data: Ee02.030 - [Batch: ee02.seq]

File Edit Method Batch Options Analysis Control Window Help

Method Data Batch Setup Batch Preview Single STOP Results Analyst Reports

Run	Sample ID	Method	Filename	Description
1	IB39E0201	vg39e02.met	EE02.001	
2	VG39E0201 20/10 0.02ul GAS ICAL STD / 0.5ul SVW	vg39e02.met	EE02.002	
3	VG39E0202 50/20 0.05ul / 1ul	vg39e02.met	EE02.003	
4	VG39E0203 100/30 0.1ul / 1.5ul	vg39e02.met	EE02.004	
5	VG39E0204 500/40 0.5ul / 2ul	vg39e02.met	EE02.005	GASOLINE ICAL
6	VG39E0205 1000/50 1ul / 2.5ul	vg39e02.met	EE02.006	
7	VG39E0206 1500/80 1.5ul / 4ul	vg39e02.met	EE02.007	
8	IVG39E02001 500/40 0.5ul GAS ICV STD / 2ul SVW	vg39e02.met	EE02.008	GASOLINE ICV
9	GRO 1UL	vg39e02.met	EE02.009	
10	RINSE	vg39e02.met	EE02.010	
11	2MP/1,2,4-TMB	vg39e02.met	EE02.011	
12	RINSE	vg39e02.met	EE02.012	
13	PENTANE/NAPHTHALENE	vg39e02.met	EE02.013	FINAL
14	RINSE	vg39e02.met	EE02.014	
15	UNDECANE/DODECANE	vg39e02.met	EE02.015	
16	RINSE	vg39e02.met	EE02.016	
17	IB	vg39e02.met	EE02.017	
18	IB	vg39e02.met	EE02.018	
19	IB	vg39e02.met	EE02.019	
20	IB	vg39e02.met	EE02.020	
21	IB	vg39e02.met	EE02.021	
22	IB	vg39e02.met	EE02.022	
23	IB SC 5/05/14	vg39e02.met	EE02.023	
24	IB	vg39e02.met	EE02.024	
25	IB	vg39e02.met	EE02.025	
26	IB	vg39e02.met	EE02.026	
27	IB	vg39e02.met	EE02.027	
28	IB	vg39e02.met	EE02.028	
29	IB	vg39e02.met	EE02.029	
30	IB	vg39e02.met	EE02.030	
31	IB	vg39e02.met	EE02.031	
32	IB	vg39e02.met	EE02.032	
33	IB	vg39e02.met	EE02.033	
34	IB	vg39e02.met	EE02.034	

Instrument 1: T-039

Monday, May 05, 2014

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
PURGEABLE TPH

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Purge Volume = 5 ml

Book #: A39-049

Instrument No.: 39

Analytical Sequence: EK12

Method File: ☑ VG39E02 ☐ ☐

Analytical Batch: CVG39E02777

SOP #	Rev. #
☑ EMAX-5030B	3
☐ EMAX-8015G	5
☐ EMAX-AK101	3
☐ EMAX-	

Prewetgrued vials

GPK009 (Soil): K074

NOTE: 2µl surrogate TFT/BFB (SV2-09-17-03) added prior to analysis.

VG39K06 (water): K068, K074

Prewetgrued vials

GPK011 (Soil): K075

NOTE: 2µl surrogate TFT/BFB (SV2-09-17-03) added prior to analysis.

VG39K07

VG39K06 (water): K087, K089

SC 11/13/14

STANDARDS ID	Amt Added (µL)	Conc. (mg/L)
ICAL		
ICAL	SC	11/13/14
ICV		
ICV		
DCC GAS SV2-07-02-24	0.5ml	5000
DCC		
DCC	SC	11/13/14
BFB/TFT SV2-09-17-03 water (Sample)	2µl	100
BFB/TFT SV2-09-17-03 (DCC)	2µl	100
water { LCS/LCSD SV2-07-02-20	0.5µl	5000
MS/MSD ↓	↓	↓
GRO (HC-Chain) SV2-07-02-13	1µl	2000

Solvent	ID/Lot #
Methanol	
Reagent Water	RW2-12-001
	Lot #
pH strip	HC412469

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZC-3-BTEX	

Analyzed By: SC

Date: 11/12/14

Method: Vg39e02.met Batch: Ek12.seq Data: Ek12.050 - [Batch: ek12.seq]

File Edit Method Batch Options Analysis Control Window Help

Method Data Batch Setup Batch Preview Single STOP Re-Lib Analyse Reports

Run	Sample ID	Method	Filename	Description
35	14K075-07 100uL S	vg39e02.met	EK12.035	
36	CVG39E02780 500/40	vg39e02.met	EK12.036	
37	14K075-08 100uL S	vg39e02.met	EK12.037	
38	IB39K1202	vg39e02.met	EK12.038	VIAL QC CHECK LOT# 071414-03 VWR
39	14K075-09 100uL S	vg39e02.met	EK12.039	
40	14K075-10 100uL S	vg39e02.met	EK12.040	
41	14K075-11 100uL S	vg39e02.met	EK12.041	
42	14K075-12 100uL S	vg39e02.met	EK12.042	
43	14K075-07N 100uL S Confirmation only	vg39e02.met	EK12.043	
44	VG39K07B 5.0ML W	vg39e02.met	EK12.044	
45	VG39K07L 5.0ML W	vg39e02.met	EK12.045	3 Conc. 500/40
46	VG39K07C 5.0ML W	vg39e02.met	EK12.046	5
47	CVG39E02781 500/40	vg39e02.met	EK12.047	
48	14K089-01 5.0ML W	vg39e02.met	EK12.048	PH~7
49	14K089-02 5.0ML W	vg39e02.met	EK12.049	PH~7
50	14K089-03 5.0ML W	vg39e02.met	EK12.050	PH~7
51	14K087-01 5.0ML W	vg39e02.met	EK12.051	PH<2
52	14K087-02 5.0ML W	vg39e02.met	EK12.052	PH<2
53	14K087-03 5.0ML W	vg39e02.met	EK12.053	PH<2
54	14K087-04 5.0ML W	vg39e02.met	EK12.054	PH<2 FINAL
55	14K087-05 5.0ML W	vg39e02.met	EK12.055	PH<2
56	14K087-06 5.0ML W	vg39e02.met	EK12.056	PH<2
57	14K087-07 5.0ML W	vg39e02.met	EK12.057	PH<2
58	CVG39E02782 500/40	vg39e02.met	EK12.058	
59	14K087-07M 5.0ML W	vg39e02.met	EK12.059	PH<2
60	14K087-07S 5.0ML W	vg39e02.met	EK12.060	PH<2
61	14K087-08 5.0ML W	vg39e02.met	EK12.061	PH<2
62	14K087-09 5.0ML W	vg39e02.met	EK12.062	PH<2
63	14K087-10 5.0ML W	vg39e02.met	EK12.063	PH<2
64	14K087-11 5.0ML W	vg39e02.met	EK12.064	PH<2
65	14K087-12 5.0ML W	vg39e02.met	EK12.065	PH<2
66	14K087-13 5.0ML W	vg39e02.met	EK12.066	PH<2
67	14K087-14 5.0ML W	vg39e02.met	EK12.067	PH<2
68	14K087-15 5.0ML W	vg39e02.met	EK12.068	PH<2

Instrument 1 - T-039

Thursday, November 13, 2014

LABORATORY REPORT FOR

BATTELLE

RED HILL PHASE 1B

METHOD 3520C/8015B
TPH

SDG#: 14K089

CASE NARRATIVE

Client : BATTELLE

Project: RED HILL PHASE 1B

SDG : 14K089

METHOD SW3520C/8015B
TPH

A total of two(2) water samples were received on 11/13/14 to be analyzed for TPH in accordance with Method SW3520C/8015B and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. DSK021WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. DRO was within LCS QC limits in DSK021WL/DSK021WC. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was designated on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

LAB CHRONICLE
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : BATTELLE
Project : RED HILL PHASE 1B

SDG NO. : 14K089
Instrument ID : GCT105

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSK021WB	1	NA	11/18/1412:41	11/17/1413:30	LK18005A	LK18003A	DSK021W	Method Blank
LCS1W	DSK021WL	1	NA	11/18/1412:58	11/17/1413:30	LK18006A	LK18003A	DSK021W	Lab Control Sample (LCS)
LCD1W	DSK021WC	1	NA	11/18/1413:15	11/17/1413:30	LK18007A	LK18003A	DSK021W	LCS Duplicate
HW111214-01	K089-02	1	NA	11/18/1413:32	11/17/1413:30	LK18008A	LK18003A	DSK021W	Field Sample
HW111214-02	K089-03	1	NA	11/18/1413:49	11/17/1413:30	LK18009A	LK18003A	DSK021W	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD SW3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : BATTELLE	Date Collected: 11/12/14
Project : RED HILL PHASE 1B	Date Received: 11/13/14
Batch No. : 14K089	Date Extracted: 11/17/14 13:30
Sample ID: HW111214-01	Date Analyzed: 11/18/14 13:32
Lab Samp ID: K089-02	Dilution Factor: 1
Lab File ID: LK18008A	Matrix : WATER
Ext Btch ID: DSK021W	% Moisture : NA
Calib. Ref.: LK18003A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
DRO	ND	0.10	0.050	0.075
ORO	ND	0.10	0.050	0.075

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	0.926	1.000	92.6	60-130
HEXACOSANE	0.224	0.2500	89.7	60-130

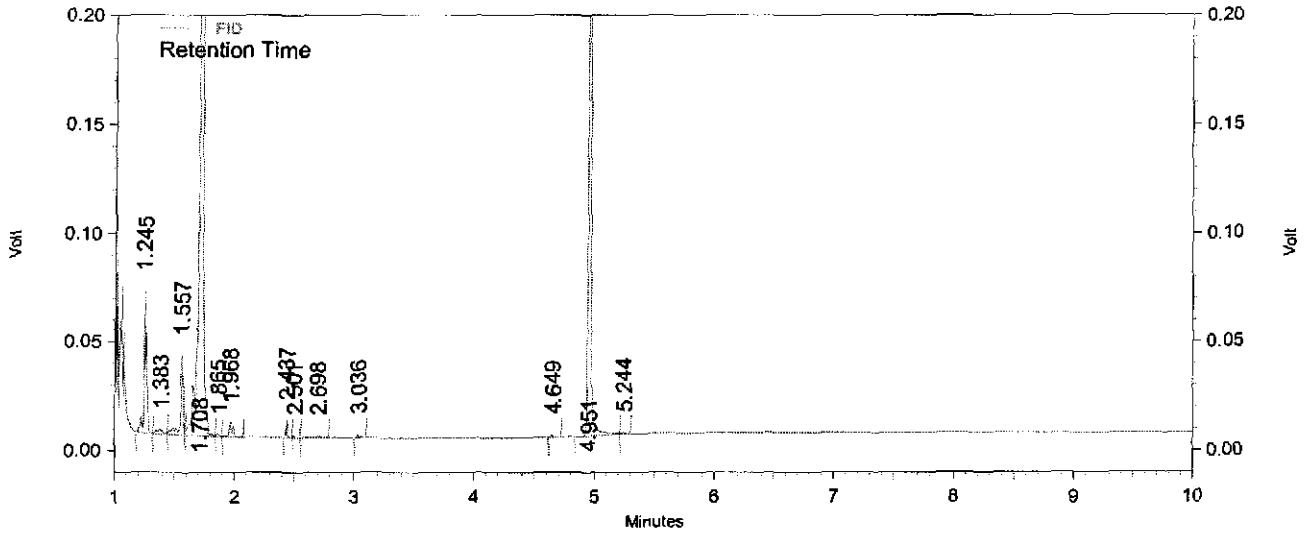
Parameter	H-C Range
DRO	C10-C24
ORO	C24-C36

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LK18\LK18008.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5K05M.met
Sequence: : D:\Projects\EZC331\Sequence\LK17.seq
Sample ID : 14K089-02
Acquired : 11/18/14 13:32:30
Printed : 11/19/14 09:17:58
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.708	1550233	16736.07261	92.628
HEXACOSANE	4.951	535131	23858.57389	22.429
DIESEL(TOTAL)		185397	28620.13271	6.478
DIESEL(C10-C24)		28351	27919.60062	1.015
M.OIL(C24-C36)		1330	18035.59361	0.074
Totals		2300442		122.625



Software Version: Version 3.3.1

METHOD SW3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : BATTELLE	Date Collected: 11/12/14
Project : RED HILL PHASE 1B	Date Received: 11/13/14
Batch No. : 14K089	Date Extracted: 11/17/14 13:30
Sample ID: HW111214-02	Date Analyzed: 11/18/14 13:49
Lab Samp ID: K089-03	Dilution Factor: 1
Lab File ID: LK18009A	Matrix : WATER
Ext Btch ID: DSK021W	% Moisture : NA
Calib. Ref.: LK18003A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
DRO	ND	0.10	0.050	0.075
ORO	ND	0.10	0.050	0.075

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	0.855	1.000	85.5	60-130
HEXACOSANE	0.215	0.2500	85.8	60-130

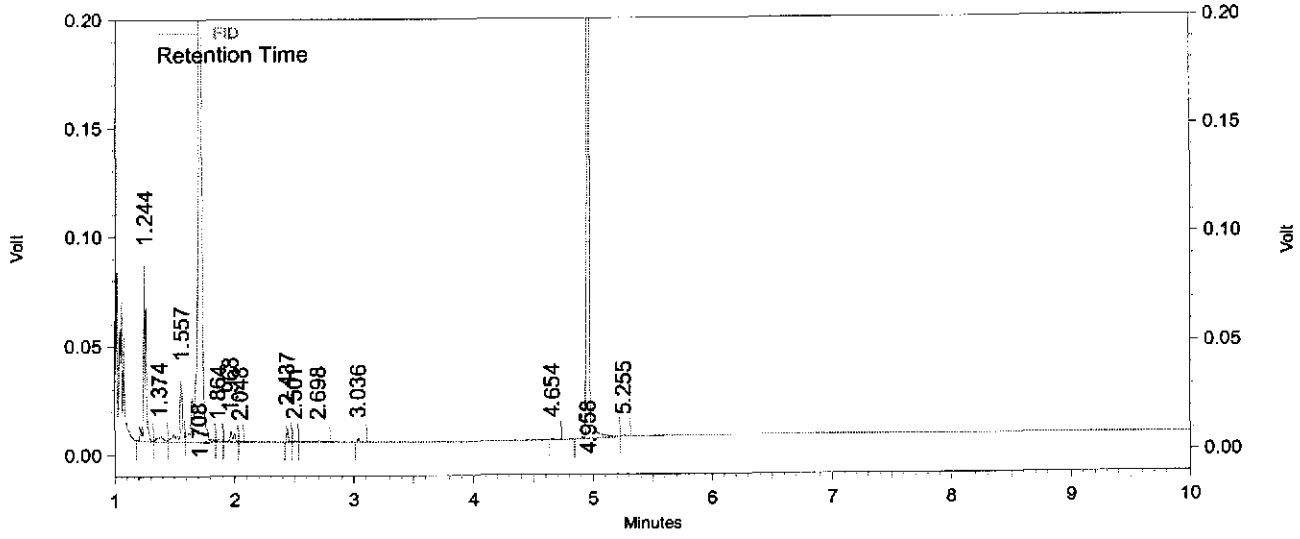
Parameter	H-C Range
DRO	C10-C24
ORO	C24-C36

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LK18\LK18009.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5K05M.met
Sequence: : D:\Projects\EZC331\Sequence\LK17.seq
Sample ID : 14K089-03
Acquired : 11/18/14 13:49:34
Printed : 11/19/14 09:18:04
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.708	1430239	16736.07261	85.458
HEXACOSANE	4.958	511783	23858.57389	21.451
DIESEL(TOTAL)		194843	28620.13271	6.808
DIESEL(C10-C24)		25846	27919.60062	0.926
M.OIL(C24-C36)		1386	18035.59361	0.077
Totals		2164097		114.720



Software Version: Version 3.3.1

QC SUMMARIES

METHOD SW3520C/8015B
PETROLEUM HYDROCARBONS BY EXTRACTION

Client : BATTELLE	Date Collected: NA
Project : RED HILL PHASE 1B	Date Received: 11/17/14
Batch No. : 14K089	Date Extracted: 11/17/14 13:30
Sample ID: MBLK1W	Date Analyzed: 11/18/14 12:41
Lab Samp ID: DSK021WB	Dilution Factor: 1
Lab File ID: LK18005A	Matrix : WATER
Ext Btch ID: DSK021W	% Moisture : NA
Calib. Ref.: LK18003A	Instrument ID : GCT105

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
DRO	ND	0.10	0.050	0.075
ORO	ND	0.10	0.050	0.075

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	0.834	1.000	83.4	60-130
HEXACOSANE	0.233	0.2500	93.2	60-130

Parameter	H-C Range
DRO	C10-C24
ORO	C24-C36

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: BATTELLE
PROJECT: RED HILL PHASE 1B
BATCH NO.: 14K089
METHOD: SW3520C/8015B

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: DSK021WB DSK021WL DSK021WC
LAB FILE ID: LK18005A LK18006A LK18007A
DATE EXTRACTED: 11/17/1413:30 11/17/1413:30 11/17/1413:30 DATE COLLECTED: NA
DATE ANALYZED: 11/18/1412:41 11/18/1412:58 11/18/1413:15 DATE RECEIVED: 11/17/14
PREP. BATCH: DSK021W DSK021W DSK021W
CALIB. REF: LK18003A LK18003A LK18003A

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
DRO	ND	5.00	4.70	94	5.00	4.71	94	0	60-130	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	QC LIMIT (%)
Bromobenzene	1.00	0.934	93	1.00	0.967	97	60-130
Hexacosane	0.250	0.247	99	0.250	0.253	101	60-130

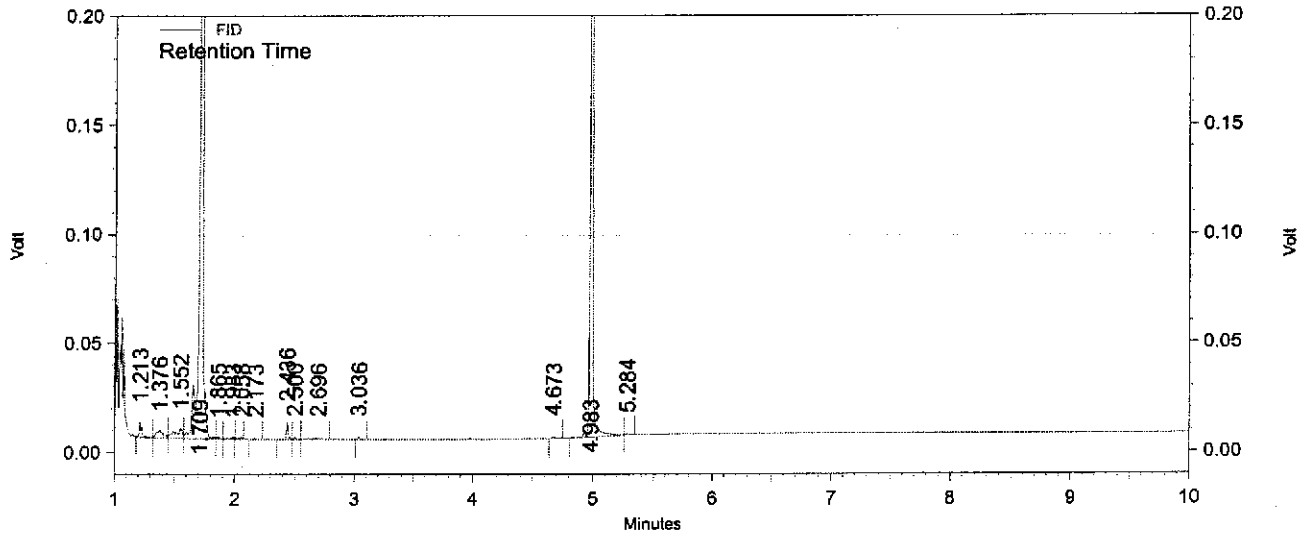
QC DATA

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LK18\LK18005.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5K05M.met
Sequence: : D:\Projects\EZC331\Sequence\LK17.seq
Sample ID : DSK021WB
Acquired : 11/18/14 12:41:26
Printed : 11/19/14 10:05:42
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.709	1395408	16736.07261	83.377
HEXACOSANE	4.983	556030	23858.57389	23.305
DIESEL(TOTAL)		65128	28620.13271	2.276
DIESEL(C10-C24)		19419	27919.60062	0.696
M.OIL(C24-C36)		1257	18035.59361	0.070
M.OIL(C24-C40)		1257	18035.59361	0.070
Totals		2038499		109.793



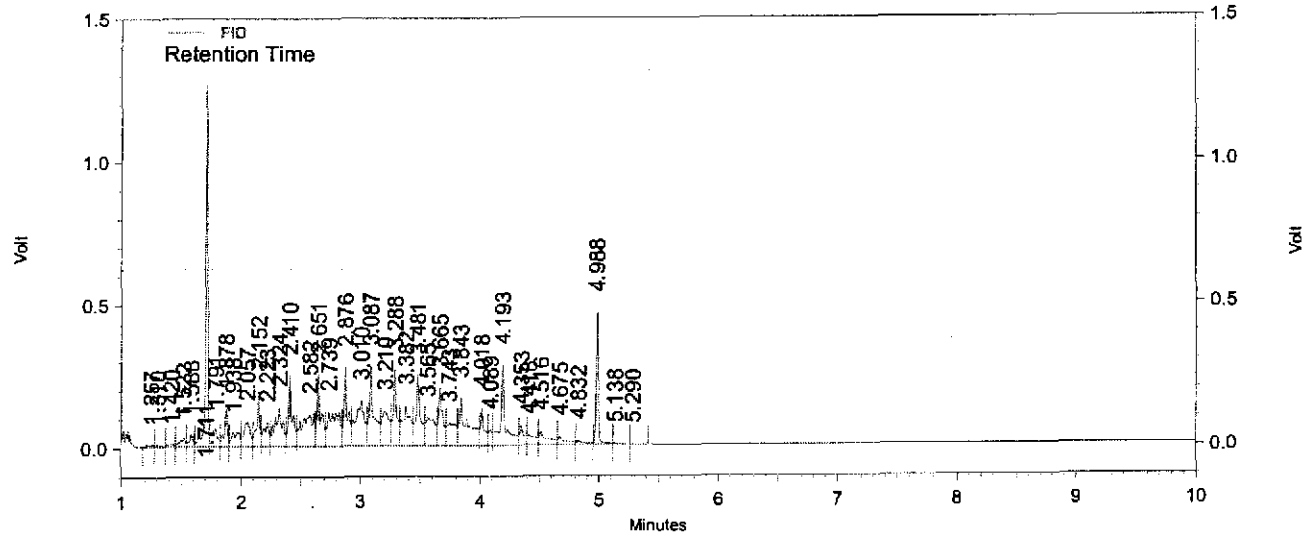
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LK18\LK18006.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5K05M.met
Sequence: : D:\Projects\EZC331\Sequence\LK17.seq
Sample ID : DSK021WL
Acquired : 11/18/14 12:58:31
Printed : 11/19/14 09:17:34
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.711	1563588	16736.07261	93.426
HEXACOSANE	4.988	589050	23858.57389	24.689
DIESEL(TOTAL)		13669994	28620.13271	477.636
DIESEL(C10-C24)		13130573	27919.60062	470.299
M.OIL(C24-C36)		82281	18035.59361	4.562
Totals		29035486		1070.613



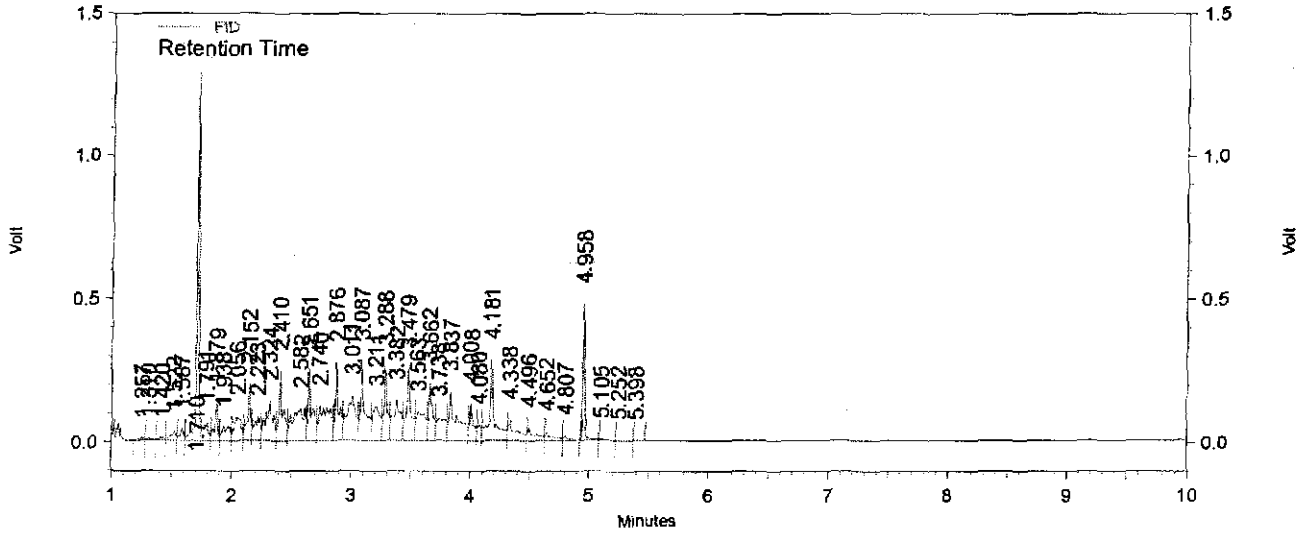
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK18\LK18007.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05M.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK17.seq**
Sample ID	**: DSK021WC**
Acquired	**: 11/18/14 13:15:31**
Printed	**: 11/19/14 09:17:41**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.710	1618988	16736.07261	96.736
HEXACOSANE	4.958	602747	23858.57389	25.263
DIESEL(TOTAL)		13704859	28620.13271	478.854
DIESEL(C10-C24)		13149699	27919.60062	470.984 ✓
M.OIL(C24-C36)		87145	18035.59361	4.832
Totals		29163438		1076.670



Software Version: Version 3.3.1

INITIAL CALIBRATIONS

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
LFID & Datetime: LK05003A 11/05/14 09:50
LFID & Datetime: LK05004A 11/05/14 10:07
LFID & Datetime: LK05005A 11/05/14 10:24
LFID & Datetime: LK05006A 11/05/14 10:41
LFID & Datetime: LK05007A 11/05/14 10:58
LFID & Datetime: LK05008A 11/05/14 11:15
LFID & Datetime: LK05009A 11/05/14 11:32
CONC UNIT: ppm

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 1.00X	2.00X	10.00X	20.00X	100.00X	300.00X	600.00X	MEAN	%RSD	
DIESEL(TOTAL)	5.00	30684	33548	29932	29947	26877	24217	25136	28620.1	11.6	✓
DIESEL(C10-C24)	5.00	30428	32621	29320	29249	26041	23422	24357	27919.6	12.1	✓
DIESEL(C10-C28)	5.00	30428	32683	29345	29299	26090	23472	24413	27961.5	12.1	✓
DIESEL(C10-C25)	5.00	30428	32683	29345	29299	26083	23465	24405	27958.5	12.1	✓
DIESEL(C9-C24)	5.00	30684	33302	29851	29674	26513	23703	24787	28359.1	12.2	✓
DIESEL(C9-C25)	5.00	30684	33365	29876	29715	26544	23733	24820	28390.9	12.2	✓
DIESEL(C10-C36)	5.00	30428	32683	29345	29299	26093	23474	24417	27962.7	12.1	✓
DIESEL(C10-C40)	5.00	30428	32683	29345	29299	26093	23474	24417	27962.7	12.1	✓
SURROGATE	X	0.00X	1.00X	2.00X	3.00X	4.00X	5.00X	11.00X	MEAN	%RSD	
BROMOBENZENE	20.00	0	16322	16474	16110	17270	17167	17074	16736.1	2.9	✓
HEXACOSANE	5.00	0	23912	24484	24145	24476	23217	22918	23858.6	2.8	✓

DSD5K05.MET

AS 11/06/14

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : 05
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
LFID & Datetime: LK05003A 11/05/14 09:50
LFID & Datetime: LK05004A 11/05/14 10:07
LFID & Datetime: LK05005A 11/05/14 10:24
LFID & Datetime: LK05006A 11/05/14 10:41
LFID & Datetime: LK05007A 11/05/14 10:58
LFID & Datetime: LK05008A 11/05/14 11:15
LFID & Datetime: LK05009A 11/05/14 11:32

COMPOUND	RT OF STANDARDS (MIN) 1.0X	2.0X	10.0X	20.0X	100.0X	300.0X	600.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
DIESEL(TOTAL)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C24)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C28)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C25)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C9-C24)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C9-C25)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C36)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C40)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SURROGATE	0.0X	1.0X	2.0X	3.0X	4.0X	5.0X	11.0X	RT	FROM	TO	WIDTH
BROMOBENZENE	0.000	1.712	1.712	1.712	1.713	1.711	1.715	1.712	1.709	1.715	0.003
HEXACOSANE	0.000	5.006	4.989	5.002	4.993	5.003	4.997	4.998	4.950	5.046	0.048

DSD5K05.MET

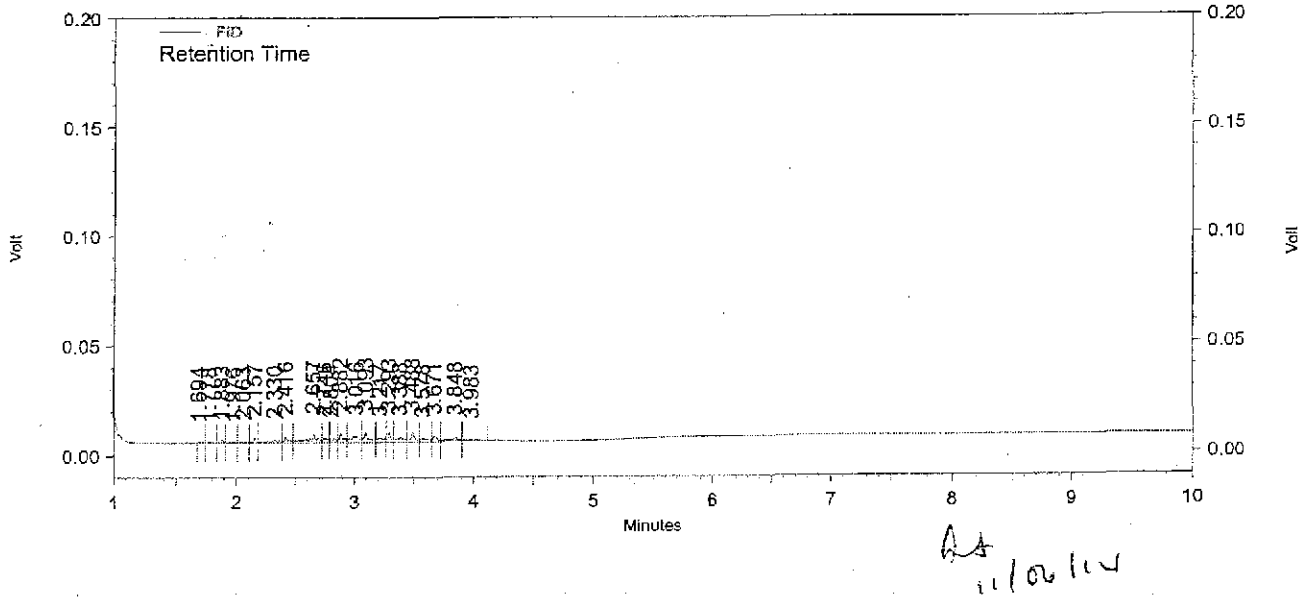
11/06/14

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK05\LK05003.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK05.seq**
Sample ID	**: DSD5K0501 DSL 5PPM**
Acquired	**: 11/05/14 09:50:32**
Printed	**: 11/06/14 09:49:00**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
DIESEL(TOTAL)		153419	28620.13271	5.000 CAL
DIESEL(C10-C24)		152142	27919.60062	5.000 CAL
DIESEL(C10-C28)		152142	27961.51805	5.000 CAL
DIESEL(C10-C25)		152142	27958.48881	5.000 CAL
DIESEL(C9-C24)		153419	28359.12910	5.000 CAL
DIESEL(C9-C25)		153419	28390.94238	5.000 CAL
DIESEL(C10-C36)		152142	27962.70357	5.000 CAL
DIESEL(C10-C40)		152142	27962.70357	5.000 CAL
Totals		1220967		40.000 CAL



11/06/14

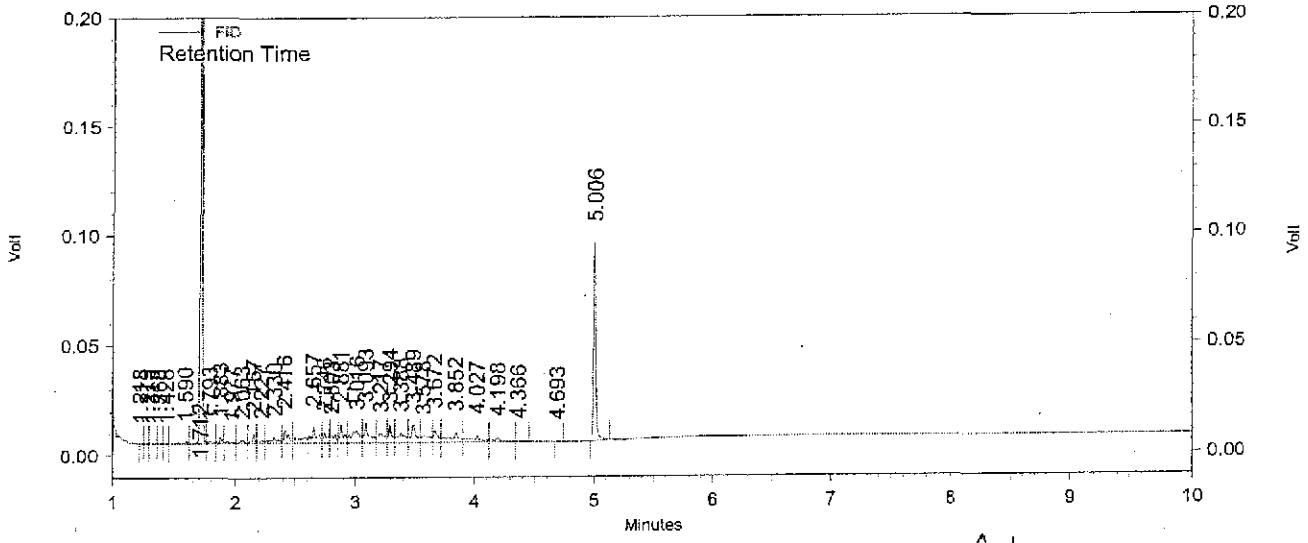
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK05\LK05004.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK05.seq**
Sample ID	**: DSD5K0502 DSL 10/20/5PPM**
Acquired	**: 11/05/14 10:07:27**
Printed	**: 11/06/14 09:49:07**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.712	326432	16736.07261	20.000 CAL
HEXACOSANE	5.006	119562	23858.57389	5.000 CAL
DIESEL(TOTAL)		335480	28620.13271	10.000 CAL
DIESEL(C10-C24)		326205	27919.60062	10.000 CAL
DIESEL(C10-C28)		326834	27961.51805	10.000 CAL
DIESEL(C10-C25)		326834	27958.48881	10.000 CAL
DIESEL(C9-C24)		333020	28359.12910	10.000 CAL
DIESEL(C9-C25)		333649	28390.94238	10.000 CAL
DIESEL(C10-C36)		326834	27962.70357	10.000 CAL
DIESEL(C10-C40)		326834	27962.70357	10.000 CAL
Totals		3081684		105.000 CAL



11/06/14

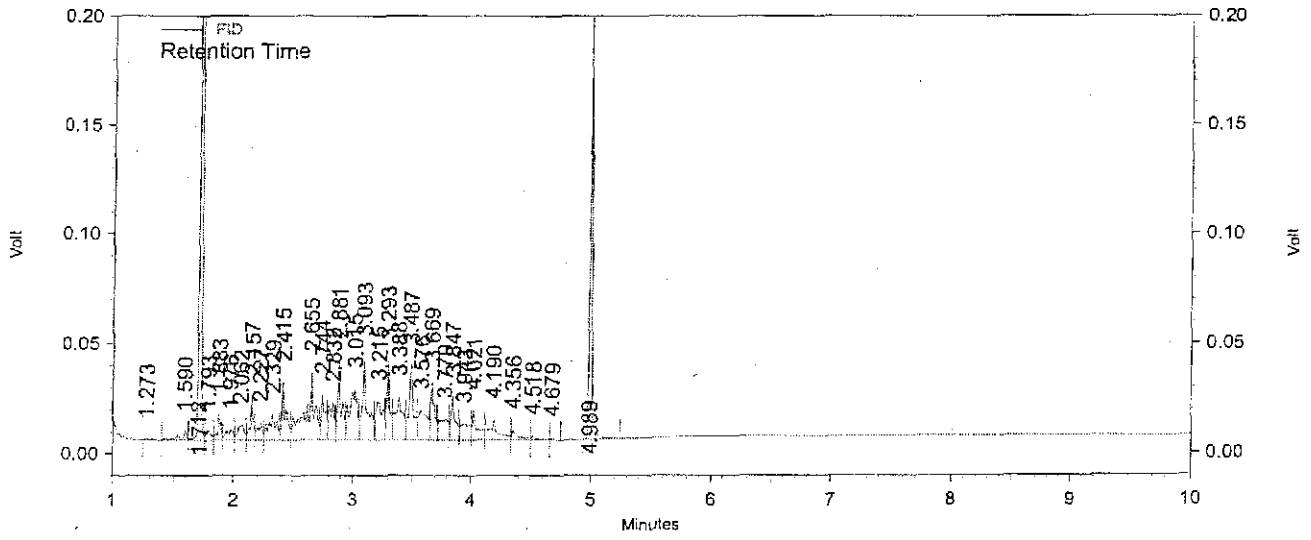
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK05\LK05005.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK05.seq**
Sample ID	**: DSD5K0503 DSL 50/40/10PPM**
Acquired	**: 11/05/14 10:24:37**
Printed	**: 11/06/14 09:49:15**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.712	658957	16736.07261	40.000 CAL
HEXACOSANE	4.989	244835	23858.57389	10.000 CAL
DIESEL(TOTAL)		1496602	28620.13271	50.000 CAL
DIESEL(C10-C24)		1465992	27919.60062	50.000 CAL
DIESEL(C10-C28)		1467244	27961.51805	50.000 CAL
DIESEL(C10-C25)		1467244	27958.48881	50.000 CAL
DIESEL(C9-C24)		1492529	28359.12910	50.000 CAL
DIESEL(C9-C25)		1493781	28390.94238	50.000 CAL
DIESEL(C10-C36)		1467244	27962.70357	50.000 CAL
DIESEL(C10-C40)		1467244	27962.70357	50.000 CAL
Totals		12721672		450.000 CAL



11/06/14

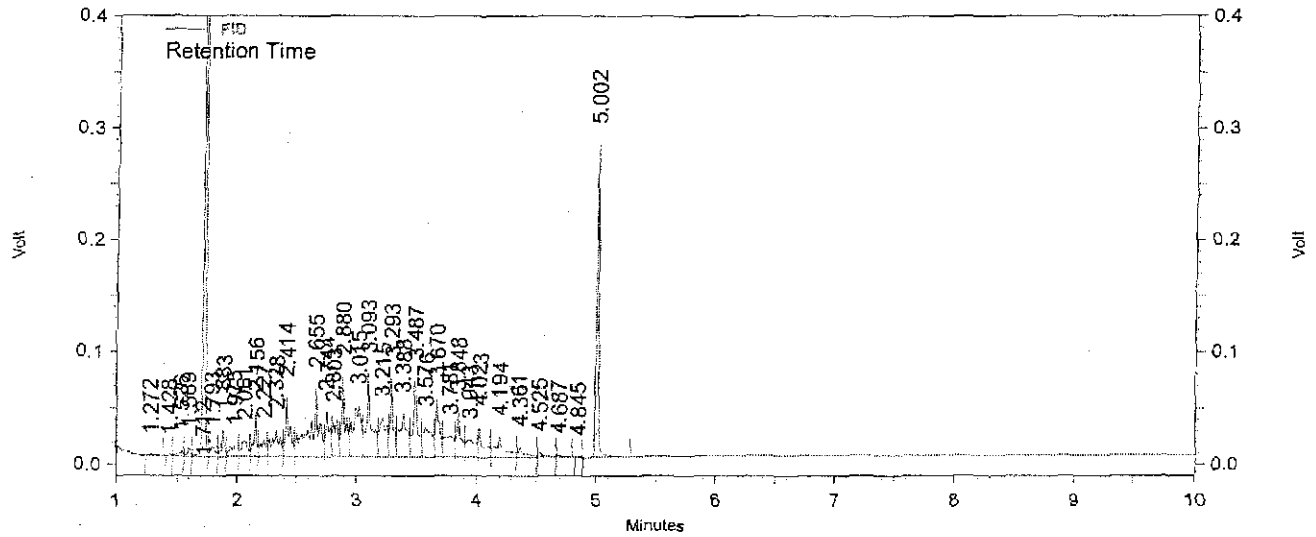
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK05\LK05006.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK05.seq**
Sample ID	**: DSD5K0504 DSL 100/60/15PPM**
Acquired	**: 11/05/14 10:41:30**
Printed	**: 11/06/14 09:49:27**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.712	966609	16736.07261	60.000 CAL
HEXACOSANE	5.002	362168	23858.57389	15.000 CAL
DIESEL(TOTAL)		2994680	28620.13271	100.000 CAL
DIESEL(C10-C24)		2924901	27919.60062	100.000 CAL
DIESEL(C10-C28)		2929916	27961.51805	100.000 CAL
DIESEL(C10-C25)		2929916	27958.48881	100.000 CAL
DIESEL(C9-C24)		2967397	28359.12910	100.000 CAL
DIESEL(C9-C25)		2971468	28390.94238	100.000 CAL
DIESEL(C10-C36)		2929916	27962.70357	100.000 CAL
DIESEL(C10-C40)		2929916	27962.70357	100.000 CAL
Totals		24906887		875.000 CAL



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11/06/14

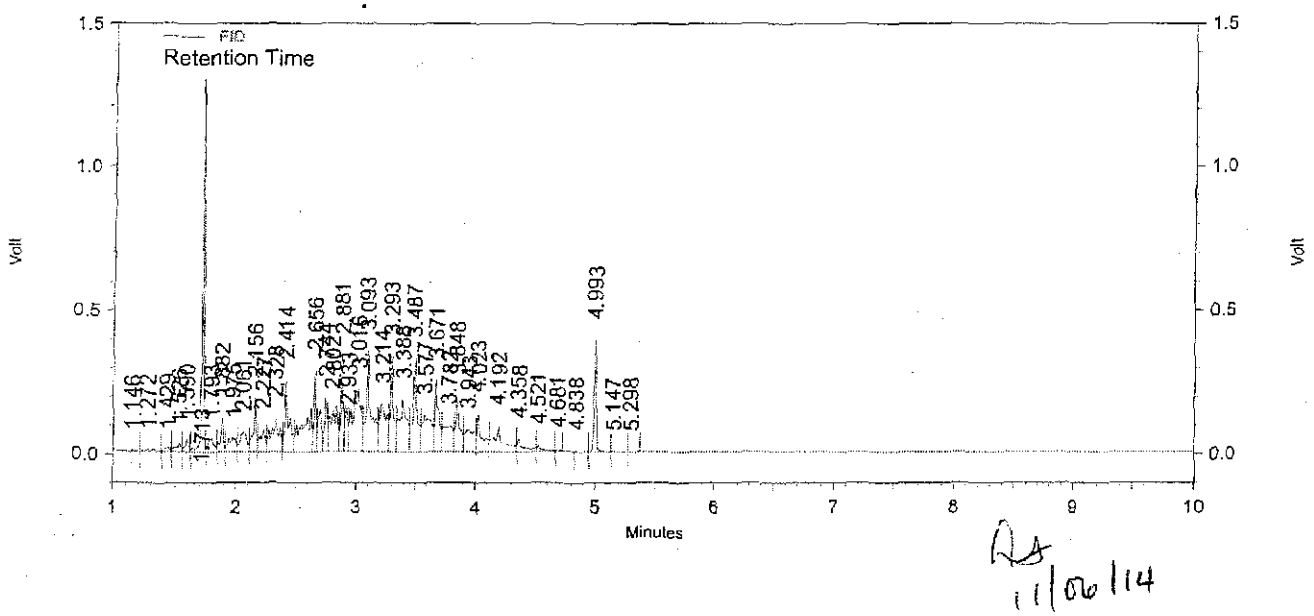
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK05\LK05007.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK05.seq**
Sample ID	**: DSD5K0505 DSL 500/80/20PPM**
Acquired	**: 11/05/14 10:58:28**
Printed	**: 11/06/14 09:49:41**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.713	1381565	16736.07261	80.000 CAL
HEXACOSANE	4.993	489517	23858.57389	20.000 CAL
DIESEL(TOTAL)		13438668	28620.13271	500.000 CAL
DIESEL(C10-C24)		13020338	27919.60062	500.000 CAL
DIESEL(C10-C28)		13045121 ✓	27961.51805	500.000 CAL
DIESEL(C10-C25)		13041741 ✓	27958.48881	500.000 CAL
DIESEL(C9-C24)		13256375	28359.12910	500.000 CAL
DIESEL(C9-C25)		13272243	28390.94238	500.000 CAL
DIESEL(C10-C36)		13046358	27962.70357	500.000 CAL
DIESEL(C10-C40)		13046358 ✓	27962.70357	500.000 CAL
Totals		107038284		4100.000 CAL



11/06/14

Software Version: Version 3.3.1

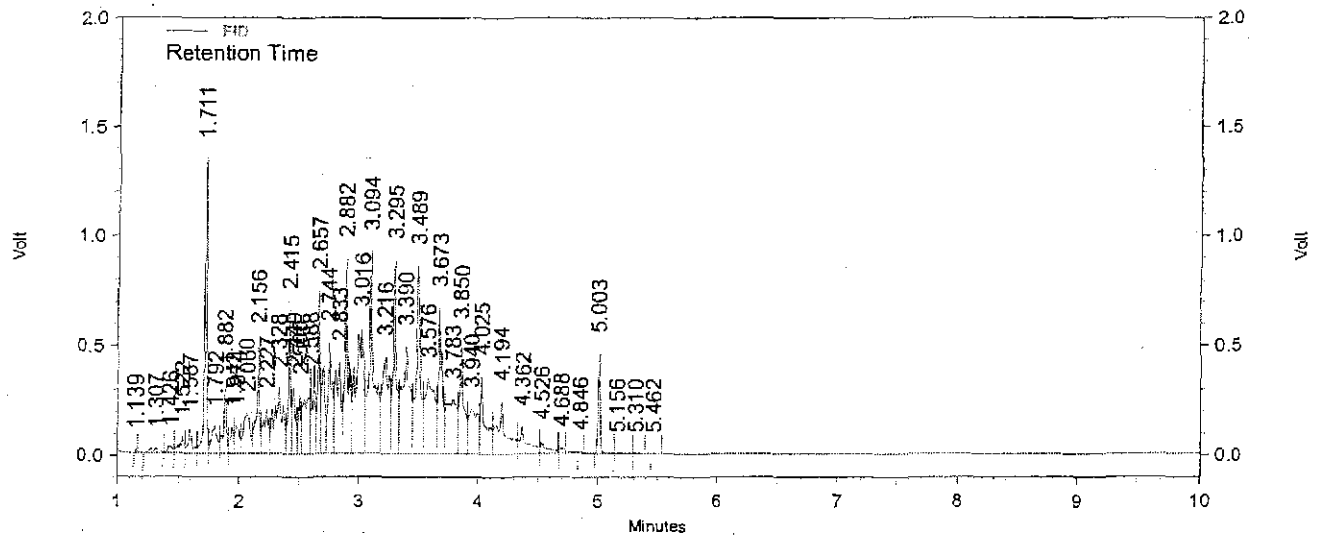
5022

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK05\LK05008.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK05.seq**
Sample ID	**: DSD5K0506 DSL 1500/100/25PPM**
Acquired	**: 11/05/14 11:15:24**
Printed	**: 11/06/14 09:49:56**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.711	1716683 ✓	16736.07261	100.000 CAL
HEXACOSANE	5.003	580434 ✓	23858.57389	25.000 CAL
DIESEL(TOTAL)		36325296 ✓	28620.13271	1500.000 CAL
DIESEL(C10-C24)		35132708 ✓	27919.60062	1500.000 CAL
DIESEL(C10-C28)		35207349	27961.51805	1500.000 CAL
DIESEL(C10-C25)		35198098	27958.48881	1500.000 CAL
DIESEL(C9-C24)		35555234 ✓	28359.12910	1500.000 CAL
DIESEL(C9-C25)		35599912	28390.94238	1500.000 CAL
DIESEL(C10-C36)		35210674	27962.70357	1500.000 CAL
DIESEL(C10-C40)		35210674	27962.70357	1500.000 CAL
Totals		285737062		12125.000 CAL



QA 11/06/14

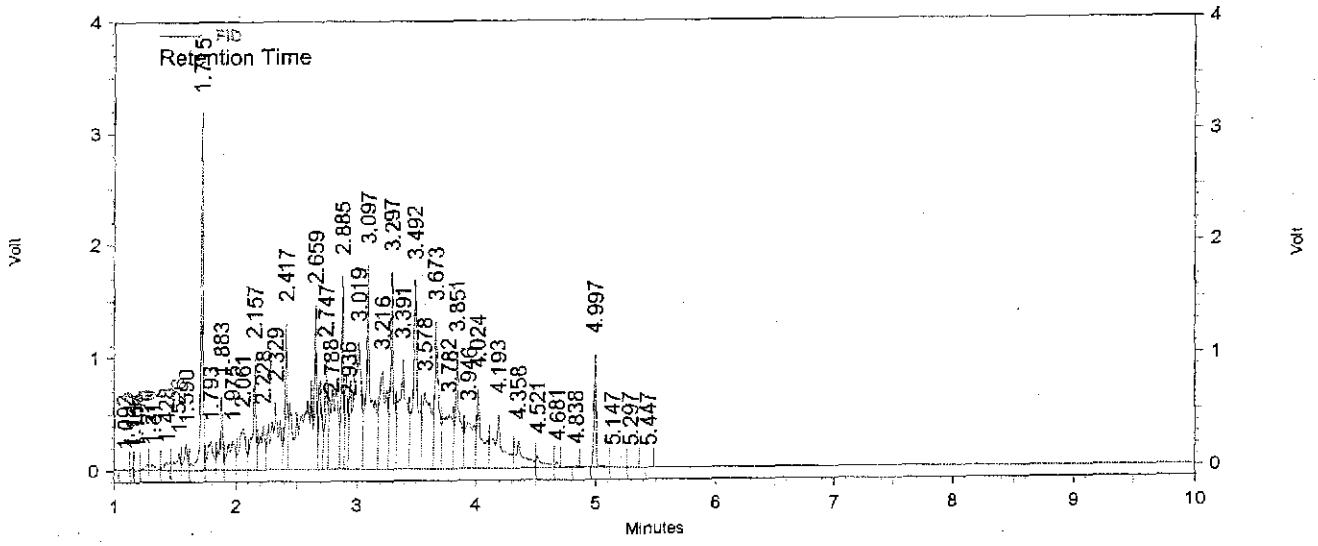
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK05\LK05009.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK05.seq**
Sample ID	**: DSD5K0507 DSL 3000/220/55PPM**
Acquired	**: 11/05/14 11:32:14**
Printed	**: 11/06/14 09:51:33**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.715	3756361	16736.07261	220.000 CAL
HEXACOSANE	4.997	1260479	23858.57389	55.000 CAL
DIESEL(TOTAL)		75408267	28620.13271	3000.000 CAL
DIESEL(C10-C24)		73070919	27919.60062	3000.000 CAL
DIESEL(C10-C28)		73238935	27961.51805	3000.000 CAL
DIESEL(C10-C25)		73214103	27958.48881	3000.000 CAL
DIESEL(C9-C24)		74361943	28359.12910	3000.000 CAL
DIESEL(C9-C25)		74459508	28390.94238	3000.000 CAL
DIESEL(C10-C36)		73249759	27962.70357	3000.000 CAL
DIESEL(C10-C40)		73249759	27962.70357	3000.000 CAL
Totals		595270033		24275.000 CAL



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Software Version: Version 3.3.1

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
LFID & Datetime: LK05011A 11/05/14 12:06
LFID & Datetime: LK05012A 11/05/14 12:23
LFID & Datetime: LK05013A 11/05/14 12:39
LFID & Datetime: LK05014A 11/05/14 12:56
LFID & Datetime: LK05015A 11/05/14 13:13
LFID & Datetime: LK05016A 11/05/14 13:30
CONC UNIT: ppm

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 2.00X	10.00X	20.00X	100.00X	300.00X	600.00X	MEAN	%RSD
JP5(C8-C18)	5.00	25279	28997	26507	27549	24954	27295	26763.6	5.6
M.OIL(C18-C36)	5.00	21271	21529	20230	22087	18839	21396	20892.0	5.6
M.OIL(C24-C36)	5.00	19438	18662	17110	18899	16149	17956	18035.6	6.8
M.OIL(C24-C40)	5.00	19438	18662	17110	18899	16149	17956	18035.6	6.8

DSD5K05.MET

11/06/14

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
LFID & Datetime: LK05011A 11/05/14 12:06
LFID & Datetime: LK05012A 11/05/14 12:23
LFID & Datetime: LK05013A 11/05/14 12:39
LFID & Datetime: LK05014A 11/05/14 12:56
LFID & Datetime: LK05015A 11/05/14 13:13
LFID & Datetime: LK05016A 11/05/14 13:30

COMPOUND	RT OF STANDARDS (MIN) 2.0X	10.0X	20.0X	100.0X	300.0X	600.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
JP5(C8-C18)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M.OIL(C18-C36)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M.OIL(C24-C36)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M.OIL(C24-C40)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

DSD5K05.MET

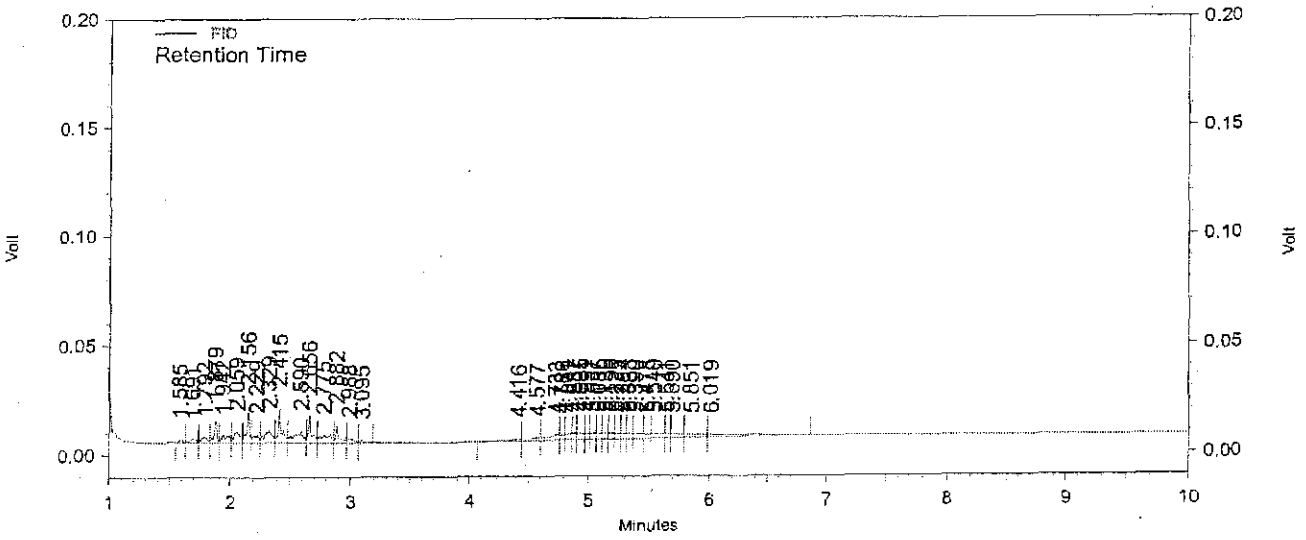
AS
11/06/14

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK05\LK05011.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK05.seq**
Sample ID	**: DSD5K0508 JP5/5W30 10/10PPM**
Acquired	**: 11/05/14 12:06:05**
Printed	**: 11/06/14 09:51:46**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		252786 ✓	26763.57150	10.000 CAL
M.OIL(C18-C36)		212707 ✓	20892.01950	10.000 CAL
M.OIL(C24-C36)		194381 ✓	18035.59361	10.000 CAL
M.OIL(C24-C40)		194381	18035.59361	10.000 CAL
Totals		854255		40.000 CAL



11/06/14

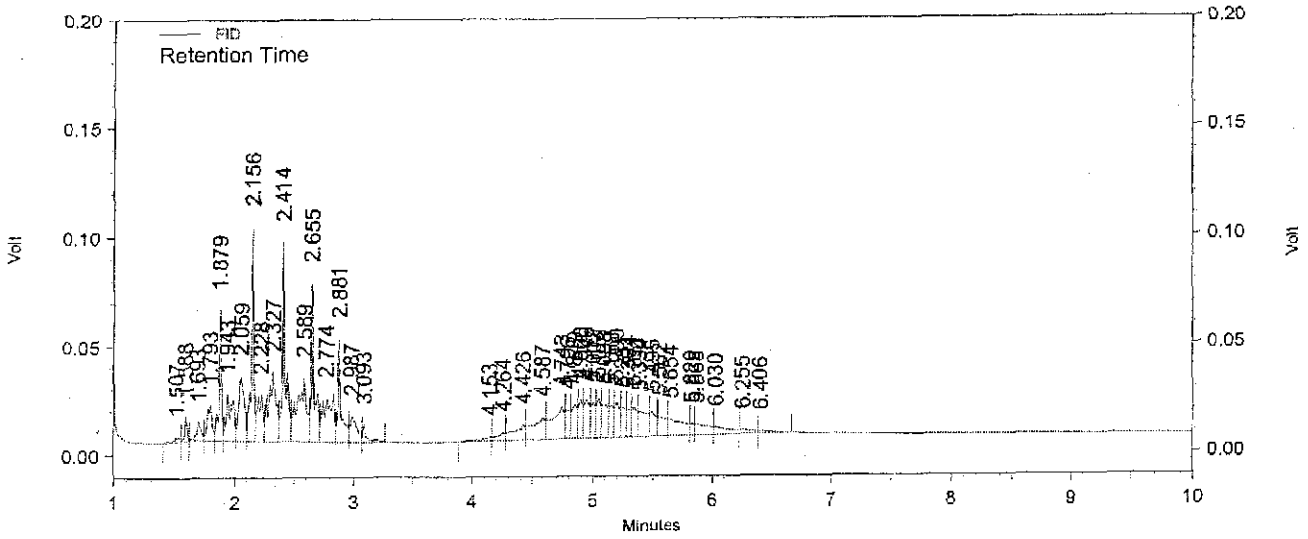
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK05\LK05012.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK05.seq**
Sample ID	**: DSD5K0509 JP5/5W30 50/50PPM**
Acquired	**: 11/05/14 12:23:02**
Printed	**: 11/06/14 09:51:51**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		1449845 ✓	26763.57150	50.000 CAL
M.OIL(C18-C36)		1076439 ✓	20892.01950	50.000 CAL
M.OIL(C24-C36)		933084 ✓	18035.59361	50.000 CAL
M.OIL(C24-C40)		933084 ✓	18035.59361	50.000 CAL
Totals		4392452		200.000 CAL



AS 11/06/14

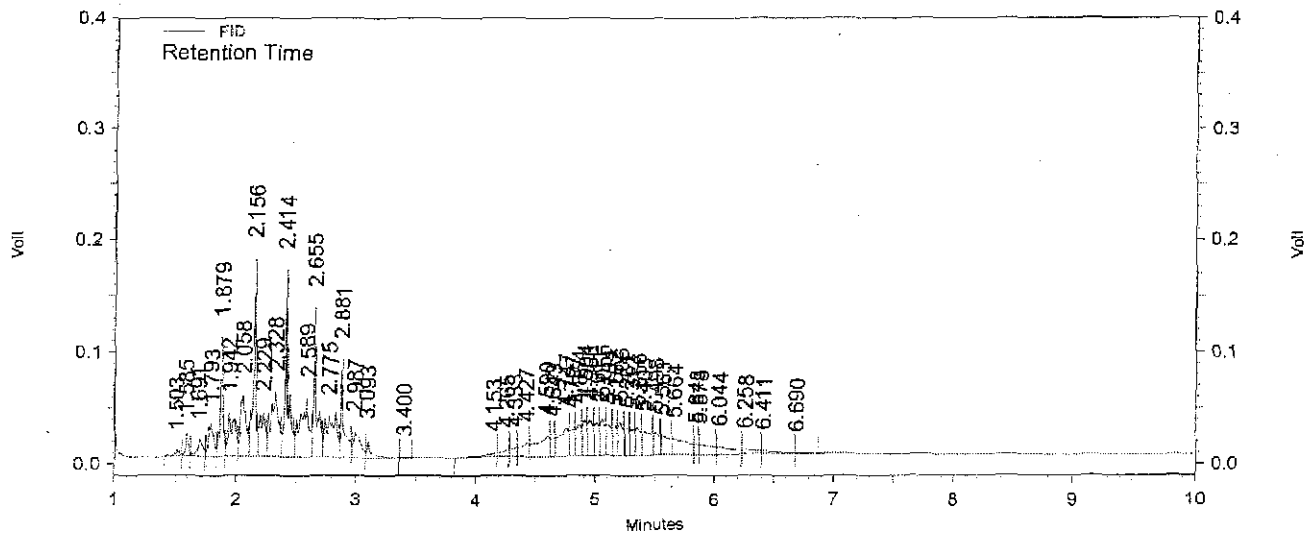
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK05\LK05013.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK05.seq**
Sample ID	**: DSD5K0510 JP5/5W30 100/100PPM**
Acquired	**: 11/05/14 12:39:58**
Printed	**: 11/06/14 09:52:06**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		2650748	26763.57150	100.000 CAL
M.OIL(C18-C36)		2023033	20892.01950	100.000 CAL
M.OIL(C24-C36)		1710977	18035.59361	100.000 CAL
M.OIL(C24-C40)		1710977	18035.59361	100.000 CAL
Totals		8095735		400.000 CAL



11/06/14

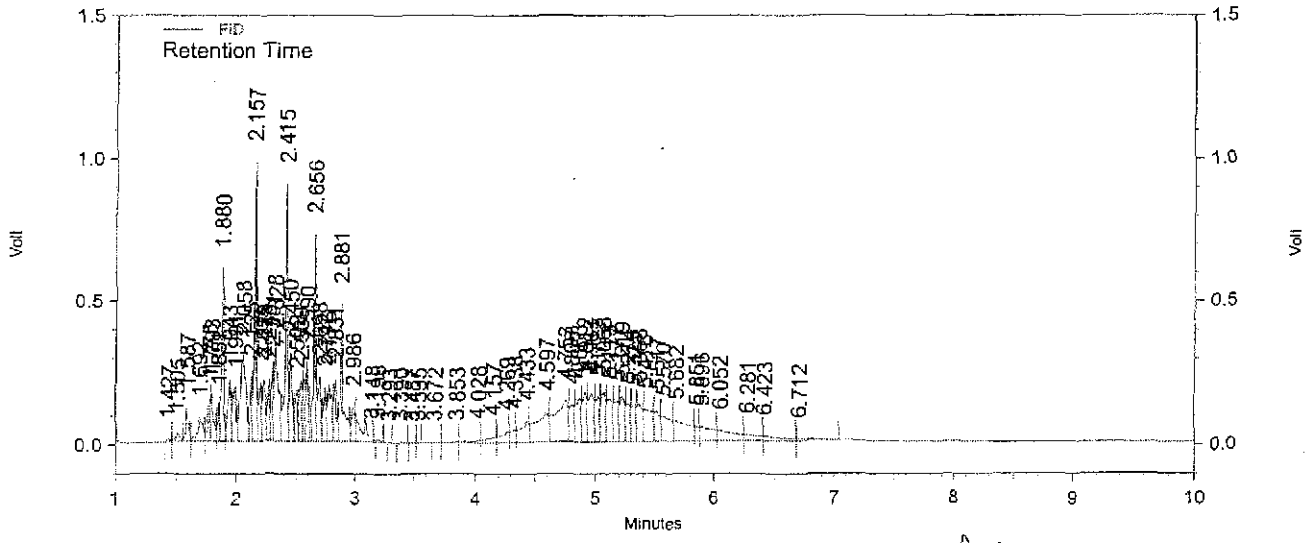
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK05\LK05014.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK05.seq**
Sample ID	**: DSD5K0511 JP5/5W30 500/500PPM**
Acquired	**: 11/05/14 12:56:55**
Printed	**: 11/06/14 09:52:18**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		13774736 ✓	26763.57150	500.000 CAL
M.OIL(C18-C36)		11043302 ✓	20892.01950	500.000 CAL
M.OIL(C24-C36)		9449693 ✓	18035.59361	500.000 CAL
M.OIL(C24-C40)		9449693 ✓	18035.59361	500.000 CAL
Totals		43717424		2000.000 CAL



AA 11/06/14

Software Version: Version 3.3.1

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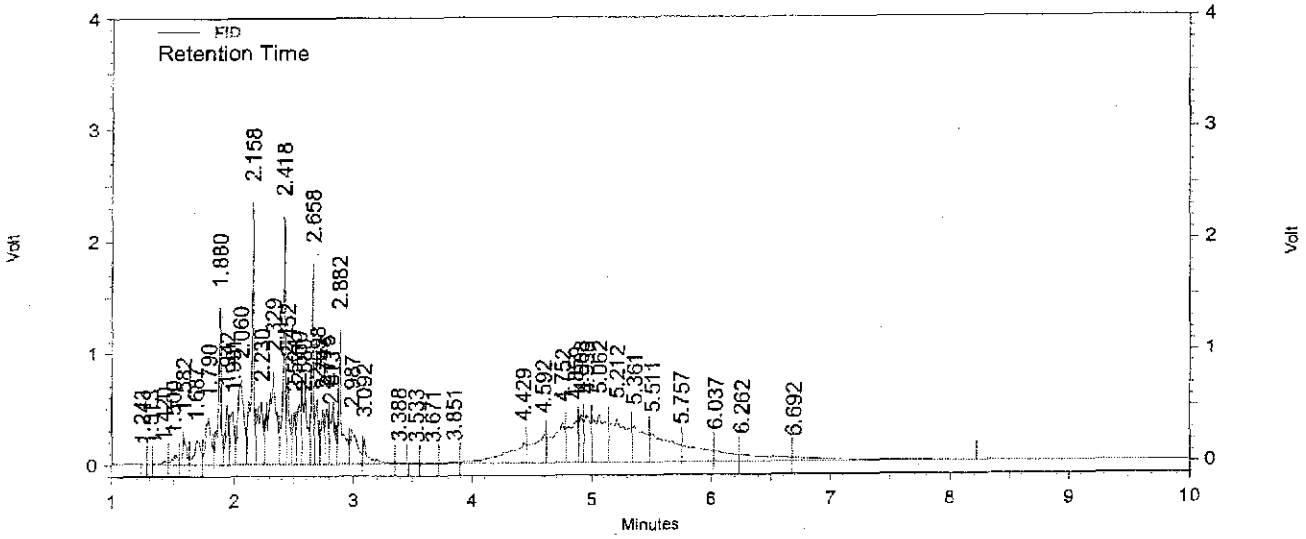
METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK05\LK05015.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK05.seq**
Sample ID	**: DSD5K0512 JP5/5W30 1500/1500PPM**
Acquired	**: 11/05/14 13:13:54**
Printed	**: 11/06/14 09:52:32**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		37431293 ✓	26763.57150	1500.000 CAL
M.OIL(C18-C36)		28258896 ✓	20892.01950	1500.000 CAL
M.OIL(C24-C36)		24223446 ✓	18035.59361	1500.000 CAL
M.OIL(C24-C40)		24223446 ✓	18035.59361	1500.000 CAL
Totals		114137081		6000.000 CAL



QA 11/06/14

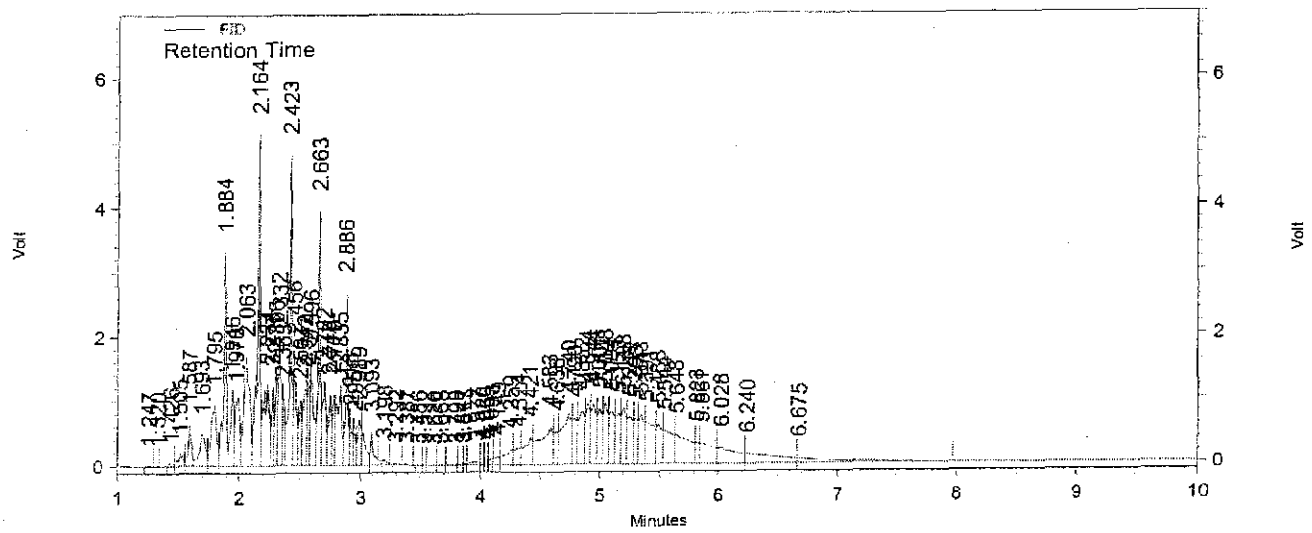
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK05\LK05016.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK05.seq**
Sample ID	**: DSD5K0513 JP5/5W30 3000/3000PPM**
Acquired	**: 11/05/14 13:30:48**
Printed	**: 11/06/14 09:52:46**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		81884345 ✓	26763.57150	3000.000 CAL
M.OIL(C18-C36)		64189317 ✓	20892.01950	3000.000 CAL
M.OIL(C24-C36)		53866985 ✓	18035.59361	3000.000 CAL
M.OIL(C24-C40)		53866985 ✓	18035.59361	3000.000 CAL
Totals		253807632		12000.000 CAL



DS
11/06/14

Software Version: Version 3.3.1

SECOND SOURCE VERIFICATION

INITIAL CALIBRATION VERIFICATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LK05007A 11/05/2014 10:58
Conc Cont LFID & Datetime: LK05010A 11/05/2014 11:49
CONC UNIT : ppm

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	NA	NA	NA	500.0	28620.1	14475834	505.79	1		15
DIESEL(C10-C24)	NA	NA	NA	500.0	27919.6	13846358	495.94	-1		15
DIESEL(C10-C28)	NA	NA	NA	500.0	27961.5	13919850	497.82	-0		15
DIESEL(C10-C25)	NA	NA	NA	500.0	27958.5	13905021	497.35	-1		15
DIESEL(C9-C24)	NA	NA	NA	500.0	28359.1	14166762	499.55	-0		15
DIESEL(C9-C25)	NA	NA	NA	500.0	28390.9	14225425	501.05	0		15
DIESEL(C10-C36)	NA	NA	NA	500.0	27962.7	13924214	497.96	-0		15
DIESEL(C10-C40)	NA	NA	NA	500.0	27962.7	13924214	497.96	-0		15
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
BROMOBENZENE	1.713	1.710	1.716	80.0	16736.1	1381725	82.56	3		15
HEXACOSANE	4.990	4.942	5.038	20.0	23858.6	521606	21.86	9		15

DSD5K05.MET

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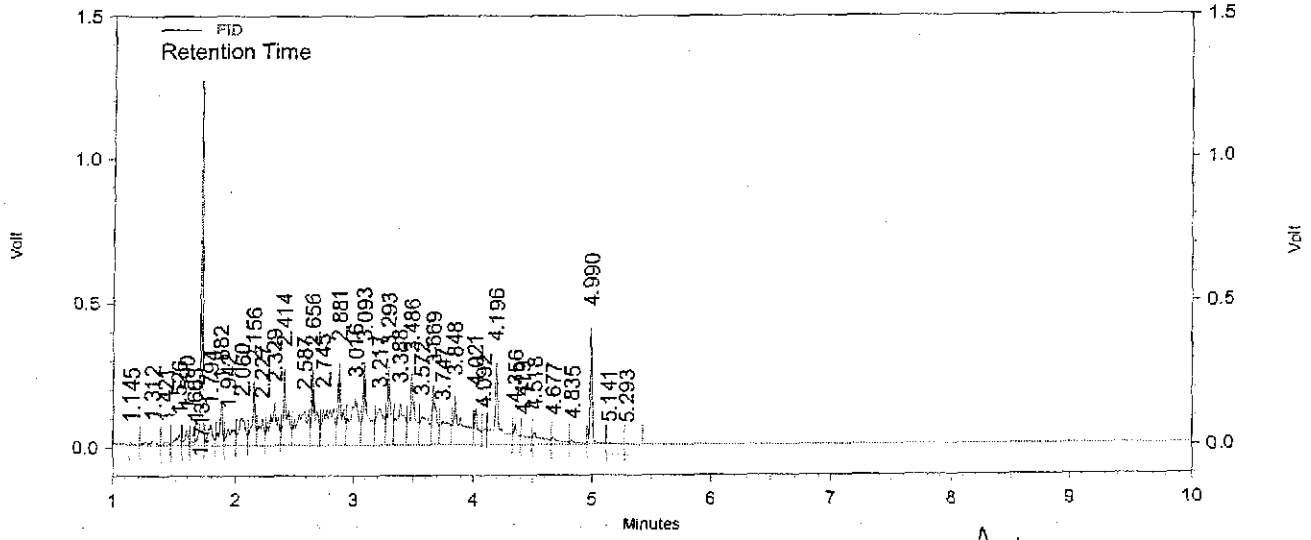
METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK05\LK05010.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK05.seq**
Sample ID	**: IDSD5K0501 DSL 500/80/20PPM**
Acquired	**: 11/05/14 11:49:11**
Printed	**: 11/06/14 09:04:57**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.713	1381725	16736.07261	82.560
HEXACOSANE	4.990	521606	23858.57389	21.862
DIESEL(TOTAL)		14475834	28620.13271	505.792
DIESEL(C10-C24)		13846358	27919.60062	495.937
DIESEL(C10-C28)		13919850	27961.51805	497.822
DIESEL(C10-C25)		13905021	27958.48881	497.345
DIESEL(C9-C24)		14166762	28359.12910	499.549
DIESEL(C9-C25)		14225425	28390.94238	501.055
DIESEL(C10-C36)		13924214	27962.70357	497.957
DIESEL(C10-C40)		13924214	27962.70357	497.957
Totals		114291009		4097.835



11/06/14

Software Version: Version 3.3.1

INITIAL CALIBRATION VERIFICATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LK05014A 11/05/2014 12:56
Conc Cont LFID & Datetime: LK05017A 11/05/2014 13:47
CONC UNIT : ppm

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5(C8-C18)	NA	NA	NA	500.0	26763.6	11381114	425.25	-15		15
M.OIL(C18-C36)	NA	NA	NA	500.0	20892.0	9825630	470.30	-6		15
M.OIL(C24-C36)	NA	NA	NA	500.0	18035.6	8414955	466.58	-7		15
M.OIL(C24-C40)	NA	NA	NA	500.0	18035.6	8414955	466.58	-7		15

DSD5K05.MET

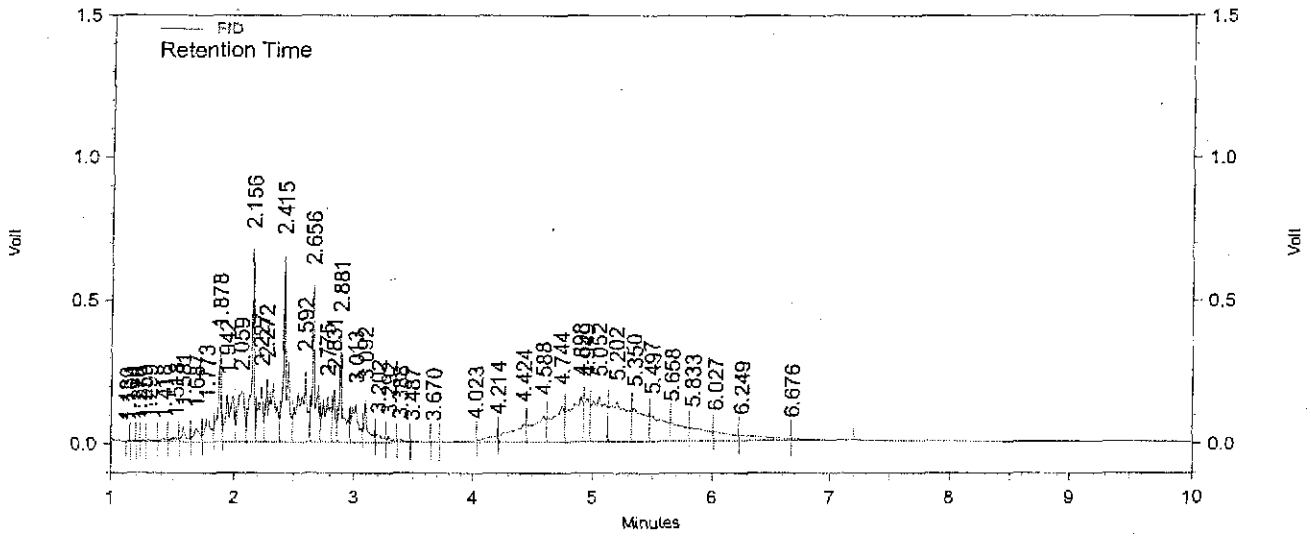
11/06/14

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK05\LK05017.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK05.seq**
Sample ID	**: IDSD5K0502 JP5/5W30 500/500PPM**
Acquired	**: 11/05/14 13:47:50**
Printed	**: 11/06/14 09:46:58**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		11381114	26763.57150	425.246
M.OIL(C18-C36)		9825630	20892.01950	470.305
M.OIL(C24-C36)		8414955	18035.59361	466.575
M.OIL(C24-C40)		8414955	18035.59361	466.575
Totals		38036654		1828.702



11/06/14

Software Version: Version 3.3.1

INITIAL CALIBRATION VERIFICATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LK05014A 11/05/2014 12:56
Conc Cont LFID & Datetime: LK05018A 11/05/2014 14:04
CONC UNIT : ppm

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5(C8-C18)	NA	NA	NA	500.0	26763.6	14925291	557.67	12		15
M.OIL(C18-C36)	NA	NA	NA	500.0	20892.0	11193330	535.77	7		15
M.OIL(C24-C36)	NA	NA	NA	500.0	18035.6	7814356	433.27	-13		15
M.OIL(C24-C40)	NA	NA	NA	500.0	18035.6	7814356	433.27	-13		15

DSD5K05.MET

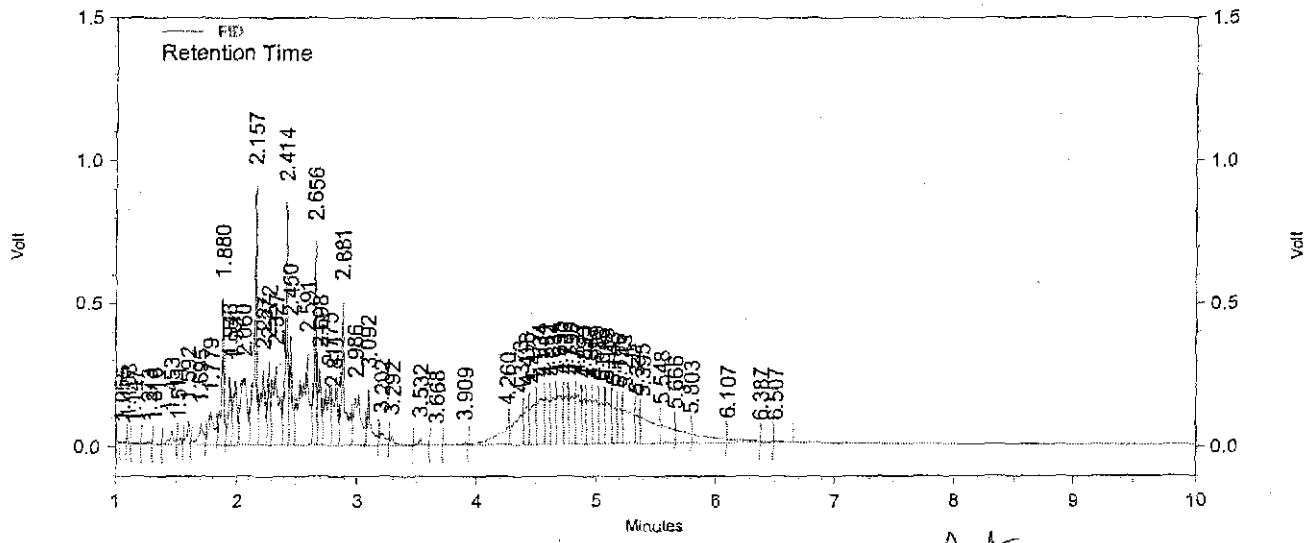
AA 11/06/14

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK05\LK05018.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK05.seq**
Sample ID	**: IDSD5K0503 JP5/5W30 500/500PPM**
Acquired	**: 11/05/14 14:04:43**
Printed	**: 11/06/14 09:47:12**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		14925291	26763.57150	557.672
M.OIL(C18-C36)		11193330	20892.01950	535.771
M.OIL(C24-C36)		7814356	18035.59361	433.274
M.OIL(C24-C40)		7814356	18035.59361	433.274
Totals		41747333		1959.991



11/06/14

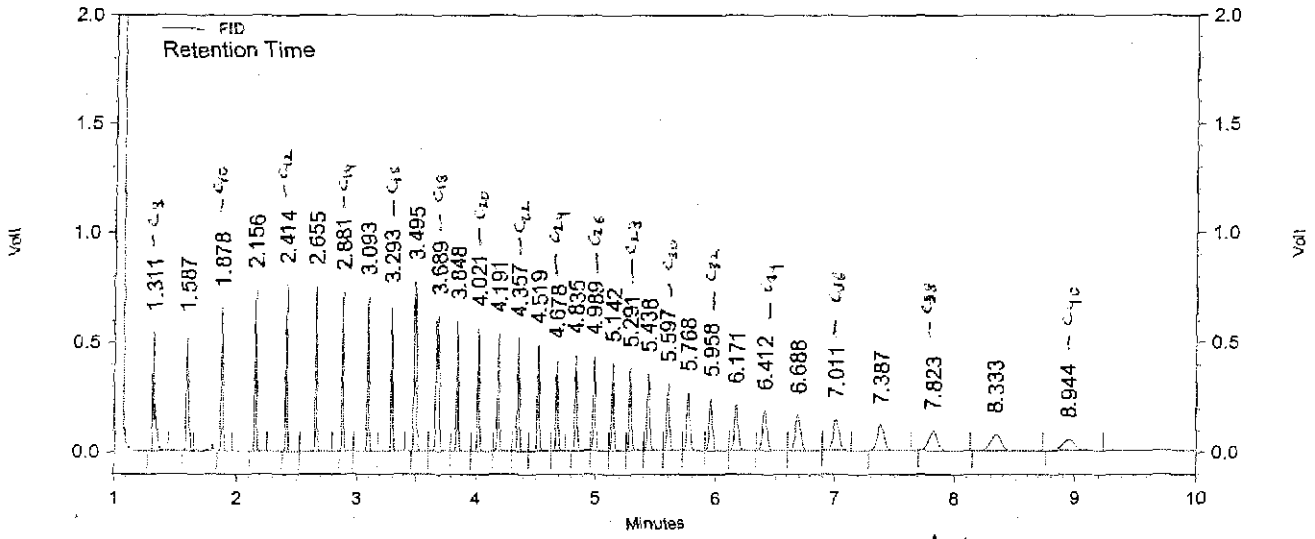
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK05\LK05019.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK05.seq**
Sample ID	**: DRO(C8-C40 + C9-C39)**
Acquired	**: 11/05/14 14:21:43**
Printed	**: 11/06/14 09:56:28**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE				0.000 BDL
HEXACOSANE	4.989	533787	23858.57389	22.373
DIESEL(TOTAL)		18433417	28620.13271	644.072
DIESEL(C10-C24)		9564207	27919.60062	342.562
DIESEL(C10-C28)		11576768	27961.51805	414.025
DIESEL(C10-C25)		10575219	27958.48881	378.247
DIESEL(C9-C24)		10214552	28359.12910	360.186
DIESEL(C9-C25)		11225564	28390.94238	395.392
DIESEL(C10-C36)		15453996	27962.70357	552.665
DIESEL(C10-C40)		16794424	27962.70357	600.601
Totals		104371934		3710.123



11/6/14

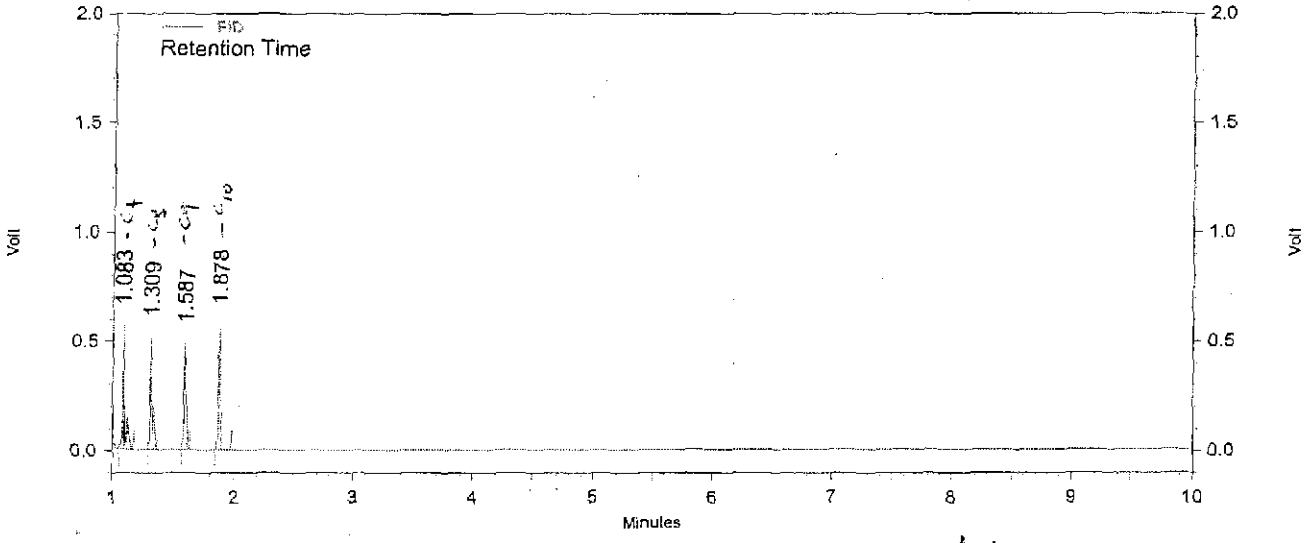
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LK05\LK05020.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met
Sequence: : D:\Projects\EZC331\Sequence\LK05.seq
Sample ID : GRO(C6-C10)
Acquired : 11/05/14 14:38:43
Printed : 11/06/14 09:57:07
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE				0.000 BDL
HEXACOSANE				0.000 BDL
DIESEL(TOTAL)		1773382	28620.13271	61.963
DIESEL(C10-C24)		0	27919.60062	0.000
DIESEL(C10-C28)		0	27961.51805	0.000
DIESEL(C10-C25)		0	27958.48881	0.000
DIESEL(C9-C24)		601971	28359.12910	21.227
DIESEL(C9-C25)		601971	28390.94238	21.203
DIESEL(C10-C36)		0	27962.70357	0.000
DIESEL(C10-C40)		0	27962.70357	0.000
Totals		2977324		104.392



11/06/14

Software Version: Version 3.3.1

5841

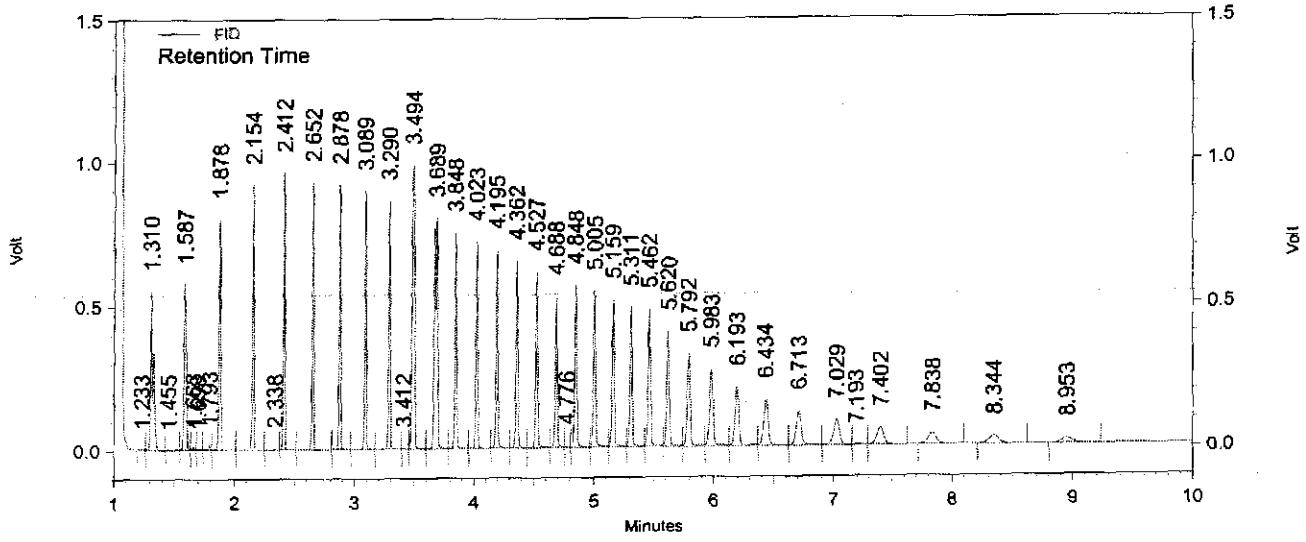
DAILY CALIBRATIONS

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105
File : D:\Projects\EZC331\Data\LK18\LK18001.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met
Sequence: : D:\Projects\EZC331\Sequence\LK18.seq
Sample ID : DRO(C8-C40 + C9-C39)
Acquired : 11/18/14 11:33:37
Printed : 11/18/14 11:43:45
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.698	4529	16736.07261	0.271
HEXACOSANE	5.005	700543	23858.57389	29.362
DIESEL(TOTAL)		21165560	28620.13271	739.534
DIESEL(C10-C24)		11322442	27919.60062	405.537
DIESEL(C10-C28)		13321402	27961.51805	476.419
DIESEL(C10-C25)		12645946	27958.48881	452.311
DIESEL(C9-C24)		12164279	28359.12910	428.937
DIESEL(C9-C25)		12798510	28390.94238	450.796
DIESEL(C10-C36)		17694980	27962.70357	632.806
DIESEL(C10-C40)		18611463	27962.70357	665.582
Totals		120429654		4281.556



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LK05007A 11/05/2014 10:58
Conc Cont LFID & Datetime: LK18003A 11/18/2014 12:07
CONC UNIT : ppm

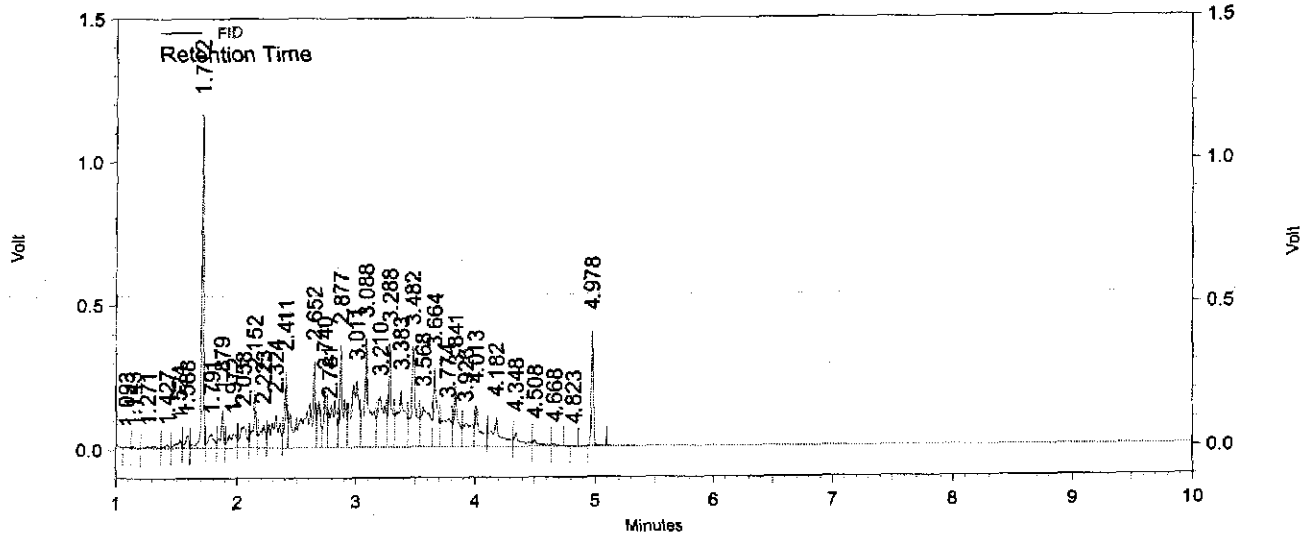
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	NA	NA	NA	500.0	28620.1	15111427	528.00	6		20
DIESEL(C10-C24)	NA	NA	NA	500.0	27919.6	14692108	526.23	5		20
DIESEL(C10-C28)	NA	NA	NA	500.0	27961.5	14696985	525.61	5		20
DIESEL(C10-C25)	NA	NA	NA	500.0	27958.5	14696985	525.67	5		20
DIESEL(C9-C24)	NA	NA	NA	500.0	28359.1	14944694	526.98	5		20
DIESEL(C9-C25)	NA	NA	NA	500.0	28390.9	14949571	526.56	5		20
DIESEL(C10-C36)	NA	NA	NA	500.0	27962.7	14696985	525.59	5		20
DIESEL(C10-C40)	NA	NA	NA	500.0	27962.7	14696985	525.59	5		20
SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
BROMOBENZENE	1.712	1.709	1.715	80.0	16736.1	1353038	80.85	1		20
HEXACOSANE	4.978	4.930	5.026	20.0	23858.6	482617	20.23	1		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LK18\LK18003.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met
Sequence: : D:\Projects\EZC331\Sequence\LK18.seq
Sample ID : CDSD5K05479 DSL 500/80/20PPM
Acquired : 11/18/14 12:07:30
Printed : 11/19/14 10:17:23
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.712	1353038	16736.07261	80.846
HEXACOSANE	4.978	482617	23858.57389	20.228
DIESEL(TOTAL)		15111427	28620.13271	528.000
DIESEL(C10-C24)		14692108	27919.60062	526.229
DIESEL(C10-C28)		14696985	27961.51805	525.615
DIESEL(C10-C25)		14696985	27958.48881	525.672
DIESEL(C9-C24)		14944694	28359.12910	526.980
DIESEL(C9-C25)		14949571	28390.94238	526.561
DIESEL(C10-C36)		14696985	27962.70357	525.592
DIESEL(C10-C40)		14696985	27962.70357	525.592
Totals		120321395		4311.315



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LK05014A 11/05/2014 12:56
Conc Cont LFID & Datetime: LK18004A 11/18/2014 12:24
CONC UNIT : ppm

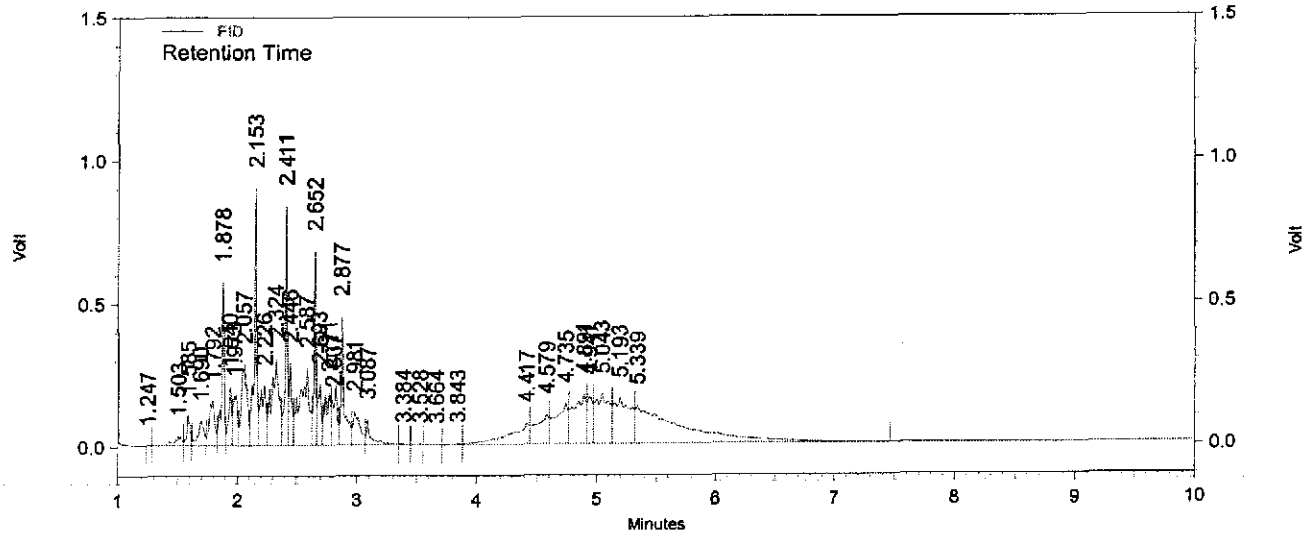
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5(C8-C18)	NA	NA	NA	500.0	26763.6	13899393	519.34	4		20
M.OIL(C18-C36)	NA	NA	NA	500.0	20892.0	10761154	515.08	3		20
M.OIL(C24-C36)	NA	NA	NA	500.0	18035.6	9207253	510.51	2		20
M.OIL(C24-C40)	NA	NA	NA	500.0	18035.6	9207253	510.51	2		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LK18\LK18004.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met
Sequence: : D:\Projects\EZC331\Sequence\LK18.seq
Sample ID : CDSD5K05480 JP5/5W30 500/500PPM
Acquired : 11/18/14 12:24:32
Printed : 11/19/14 10:17:31
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		13899393	26763.57150	519.340
M.OIL(C18-C36)		10761154	20892.01950	515.084
M.OIL(C24-C36)		9207253	18035.59361	510.505
M.OIL(C24-C40)		9207253	18035.59361	510.505
Totals		43075053		2055.434



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LK05007A 11/05/2014 10:58
Conc Cont LFID & Datetime: LK18015A 11/18/2014 15:32
CONC UNIT : ppm

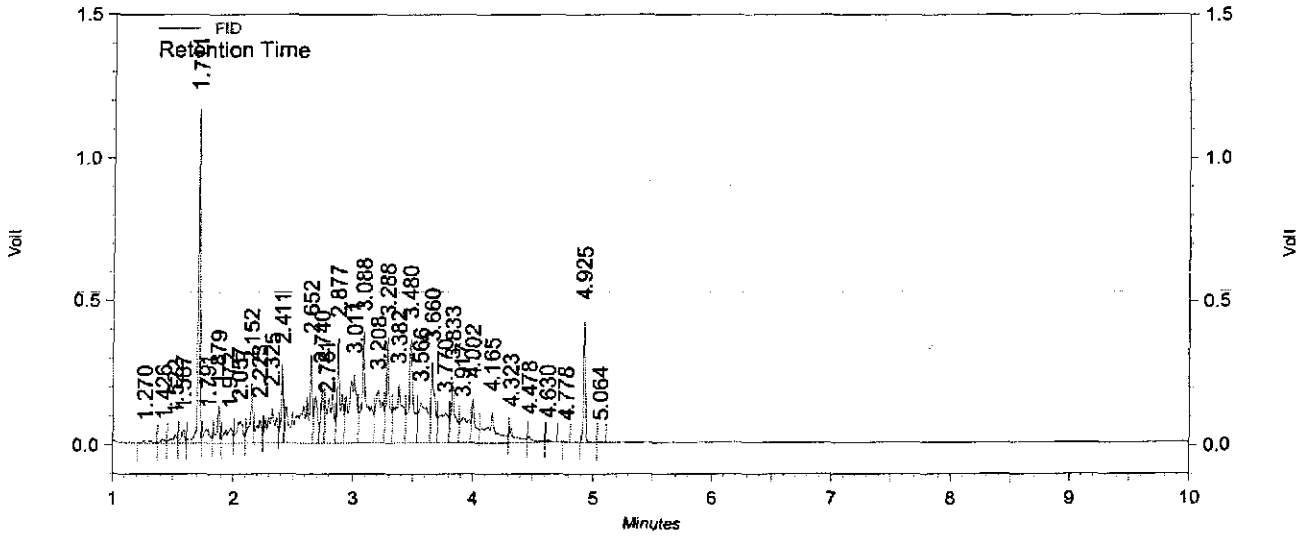
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	NA	NA	NA	500.0	28620.1	15365966	536.89	7		20
DIESEL(C10-C24)	NA	NA	NA	500.0	27919.6	14942185	535.19	7		20
DIESEL(C10-C28)	NA	NA	NA	500.0	27961.5	14952453	534.75	7		20
DIESEL(C10-C25)	NA	NA	NA	500.0	27958.5	14946651	534.60	7		20
DIESEL(C9-C24)	NA	NA	NA	500.0	28359.1	15111307	532.85	7		20
DIESEL(C9-C25)	NA	NA	NA	500.0	28390.9	15115773	532.41	6		20
DIESEL(C10-C36)	NA	NA	NA	500.0	27962.7	14952453	534.73	7		20
DIESEL(C10-C40)	NA	NA	NA	500.0	27962.7	14952453	534.73	7		20
SURROGATE	**MINUTES**	**FROM**	**TO**	**TRUECON**	**CF**	**AREA**	**CONC**	**%D**	**QL**	**LIMITS**
BROMOBENZENE	1.711	1.708	1.714	80.0	16736.1	1394563	83.33	4		20
HEXACOSANE	4.925	4.877	4.973	20.0	23858.6	498609	20.90	4		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : GCT-105 (Offline)
File : D:\Projects\EZC331\Data\LK18\LK18015.dat
Method : D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met
Sequence: : D:\Projects\EZC331\Sequence\LK18.seq
Sample ID : CDSD5K05481 DSL 500/80/20PPM
Acquired : 11/18/14 15:32:04
Printed : 11/19/14 10:17:48
User : KLinn

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.711	1394563	16736.07261	83.327
HEXACOSANE	4.925	498609	23858.57389	20.899
DIESEL(TOTAL)		15365966	28620.13271	536.894
DIESEL(C10-C24)		14942185	27919.60062	535.186
DIESEL(C10-C28)		14952453	27961.51805	534.751
DIESEL(C10-C25)		14946651	27958.48881	534.602
DIESEL(C9-C24)		15111307	28359.12910	532.855
DIESEL(C9-C25)		15115773	28390.94238	532.415
DIESEL(C10-C36)		14952453	27962.70357	534.728
DIESEL(C10-C40)		14952453	27962.70357	534.728
Totals		122232413		4380.385



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LK05014A 11/05/2014 12:56
Conc Cont LFID & Datetime: LK18016A 11/18/2014 15:49
CONC UNIT : ppm

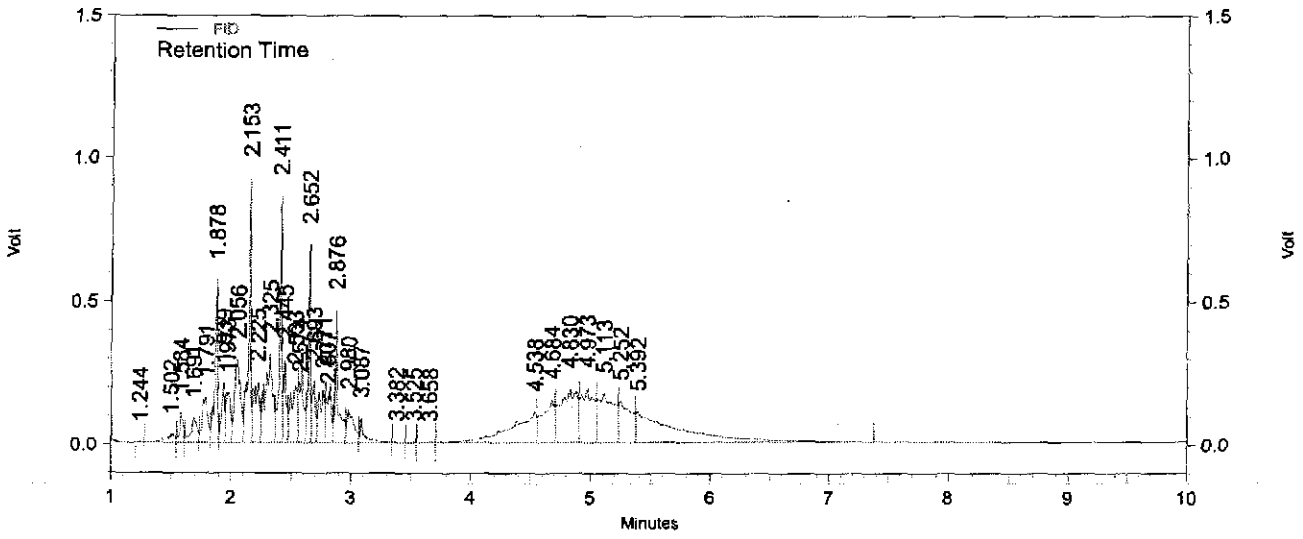
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5(C8-C18)	NA	NA	NA	500.0	26763.6	14240481	532.08	6		20
M.OIL(C18-C36)	NA	NA	NA	500.0	20892.0	11052111	529.01	6		20
M.OIL(C24-C36)	NA	NA	NA	500.0	18035.6	9482209	525.75	5		20
M.OIL(C24-C40)	NA	NA	NA	500.0	18035.6	9482209	525.75	5		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: GCT-105 (Offline)**
File	**: D:\Projects\EZC331\Data\LK18\LK18016.dat**
Method	**: D:\Projects\EZC331\Method\2014 METHODS\DSD5K05.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LK18.seq**
Sample ID	**: CDSD5K05482 JP5/5W30 500/500PPM**
Acquired	**: 11/18/14 15:49:04**
Printed	**: 11/19/14 10:17:53**
User	**: KLinn**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		14240481	26763.57150	532.084
M.OIL(C18-C36)		11052111	20892.01950	529.011
M.OIL(C24-C36)		9482209	18035.59361	525.750
M.OIL(C24-C40)		9482209	18035.59361	525.750
Totals		44257010		2112.595



Software Version: Version 3.3.1

ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
EXTRACTABLE TPH

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

DSK005W : K015
J216
DSK007S: LOQ-6, LOD-6 [AK102/AK103]
DSK004W: LOQ-5, LOD-5
J226
DSK006S: J226 [AK102, AK103]

KHL 11/5/19

Book #:	AD5-030
Instrument No.:	D5
Analytical Sequence:	LK05
Method File:	DSD5K05, AKD5I25
Analytical Batch:	CD5D5K054OF

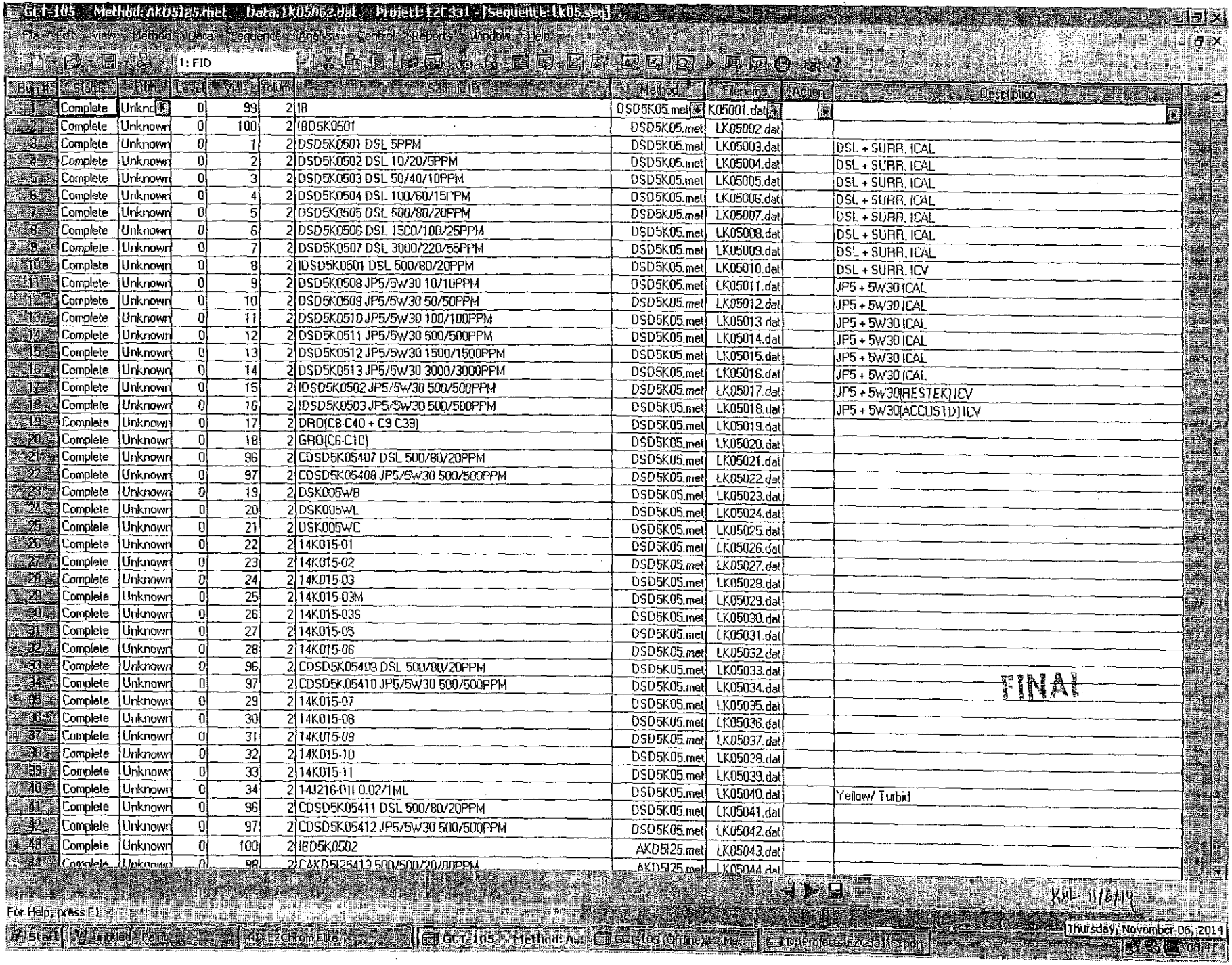
SOP #	Rev. #
☑ EMAX-8015D	6
☑ EMAX-AK102/AK103	3
☐ EMAX-	

STANDARDS ID	Conc (mg/L)
ICAL	
☑ Diesel SS3B-19-06-01	5→3000
☑ Motor Oil ☑ JP5 SS3B-19-06-03	10→3000
CH_2Cl_2 54184	Pure
DSL DCC SS3B-17-96-02	500/80/20
JP5/SW30 DCC SS3B-17-96-03	500/500
Alaska DCC SS3B-17-90-02	500/500/20/80
~~Arizona DCC~~ DRO SS3B-17-91-02 GRO SS3B-17-82-02	—— ——
DSL ICV SS3B-19-06-02	500/80/20
JP5/SW30 ICV1 SS3B-19-07-01	500/500
JP5/SW30 ICV2 SS3B-19-09-02	500/500

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZCHROM_GC6890N	
☐ External Hard Drive	

Analyzed By: KHL

Date: 11/5/19


GC1-105 Method: AKD5125.met Data: LK05062.dat Project: ezt331 - [Sequence: LK05.seq]

File Edit View Method Data Sequence Analysis Control Reports Window Help

1: FID

Run #	Status	Run	Level	Vial	Column	Sample ID	Method	Filename	Action	Description
1	Complete	Unknown	0	99	2	IB	DSD5K05.met	LK05001.dat		
2	Complete	Unknown	0	100	2	IBD5K0501	DSD5K05.met	LK05002.dat		
3	Complete	Unknown	0	1	2	DSD5K0501 DSL 5PPM	DSD5K05.met	LK05003.dat		DSL + SURR. ICAL
4	Complete	Unknown	0	2	2	DSD5K0502 DSL 10/20/5PPM	DSD5K05.met	LK05004.dat		DSL + SURR. ICAL
5	Complete	Unknown	0	3	2	DSD5K0503 DSL 50/40/10PPM	DSD5K05.met	LK05005.dat		DSL + SURR. ICAL
6	Complete	Unknown	0	4	2	DSD5K0504 DSL 100/60/15PPM	DSD5K05.met	LK05006.dat		DSL + SURR. ICAL
7	Complete	Unknown	0	5	2	DSD5K0505 DSL 500/80/20PPM	DSD5K05.met	LK05007.dat		DSL + SURR. ICAL
8	Complete	Unknown	0	6	2	DSD5K0506 DSL 1500/100/25PPM	DSD5K05.met	LK05008.dat		DSL + SURR. ICAL
9	Complete	Unknown	0	7	2	DSD5K0507 DSL 3000/220/55PPM	DSD5K05.met	LK05009.dat		DSL + SURR. ICAL
10	Complete	Unknown	0	8	2	IDSD5K0501 DSL 500/80/20PPM	DSD5K05.met	LK05010.dat		DSL + SURR. ICV
11	Complete	Unknown	0	9	2	DSD5K0508 JP5/5W30 10/10PPM	DSD5K05.met	LK05011.dat		JP5 + 5W30 ICAL
12	Complete	Unknown	0	10	2	DSD5K0509 JP5/5W30 50/50PPM	DSD5K05.met	LK05012.dat		JP5 + 5W30 ICAL
13	Complete	Unknown	0	11	2	DSD5K0510 JP5/5W30 100/100PPM	DSD5K05.met	LK05013.dat		JP5 + 5W30 ICAL
14	Complete	Unknown	0	12	2	DSD5K0511 JP5/5W30 500/500PPM	DSD5K05.met	LK05014.dat		JP5 + 5W30 ICAL
15	Complete	Unknown	0	13	2	DSD5K0512 JP5/5W30 1500/1500PPM	DSD5K05.met	LK05015.dat		JP5 + 5W30 ICAL
16	Complete	Unknown	0	14	2	DSD5K0513 JP5/5W30 3000/3000PPM	DSD5K05.met	LK05016.dat		JP5 + 5W30 ICAL
17	Complete	Unknown	0	15	2	IDSD5K0502 JP5/5W30 500/500PPM	DSD5K05.met	LK05017.dat		JP5 + 5W30(RESTEK) ICV
18	Complete	Unknown	0	16	2	IDSD5K0503 JP5/5W30 500/500PPM	DSD5K05.met	LK05018.dat		JP5 + 5W30(ACCUSTD) ICV
19	Complete	Unknown	0	17	2	DRO(C8-C40 + C9-C39)	DSD5K05.met	LK05019.dat		
20	Complete	Unknown	0	18	2	GRO(C6-C10)	DSD5K05.met	LK05020.dat		
21	Complete	Unknown	0	96	2	CDSD5K05407 DSL 500/80/20PPM	DSD5K05.met	LK05021.dat		
22	Complete	Unknown	0	97	2	CDSD5K05408 JP5/5W30 500/500PPM	DSD5K05.met	LK05022.dat		
23	Complete	Unknown	0	19	2	DSK005WB	DSD5K05.met	LK05023.dat		
24	Complete	Unknown	0	20	2	DSK005WL	DSD5K05.met	LK05024.dat		
25	Complete	Unknown	0	21	2	DSK005WC	DSD5K05.met	LK05025.dat		
26	Complete	Unknown	0	22	2	14K015-01	DSD5K05.met	LK05026.dat		
27	Complete	Unknown	0	23	2	14K015-02	DSD5K05.met	LK05027.dat		
28	Complete	Unknown	0	24	2	14K015-03	DSD5K05.met	LK05028.dat		
29	Complete	Unknown	0	25	2	14K015-03M	DSD5K05.met	LK05029.dat		
30	Complete	Unknown	0	26	2	14K015-03S	DSD5K05.met	LK05030.dat		
31	Complete	Unknown	0	27	2	14K015-05	DSD5K05.met	LK05031.dat		
32	Complete	Unknown	0	28	2	14K015-06	DSD5K05.met	LK05032.dat		
33	Complete	Unknown	0	96	2	CDSD5K05409 DSL 500/80/20PPM	DSD5K05.met	LK05033.dat		
34	Complete	Unknown	0	97	2	CDSD5K05410 JP5/5W30 500/500PPM	DSD5K05.met	LK05034.dat		
35	Complete	Unknown	0	29	2	14K015-07	DSD5K05.met	LK05035.dat		
36	Complete	Unknown	0	30	2	14K015-08	DSD5K05.met	LK05036.dat		
37	Complete	Unknown	0	31	2	14K015-09	DSD5K05.met	LK05037.dat		
38	Complete	Unknown	0	32	2	14K015-10	DSD5K05.met	LK05038.dat		
39	Complete	Unknown	0	33	2	14K015-11	DSD5K05.met	LK05039.dat		
40	Complete	Unknown	0	34	2	14J216-01I 0.02/1ML	DSD5K05.met	LK05040.dat		Yellow/ Turbid
41	Complete	Unknown	0	96	2	CDSD5K05411 DSL 500/80/20PPM	DSD5K05.met	LK05041.dat		
42	Complete	Unknown	0	97	2	CDSD5K05412 JP5/5W30 500/500PPM	DSD5K05.met	LK05042.dat		
43	Complete	Unknown	0	100	2	IBD5K0502	AKD5125.met	LK05043.dat		
44	Complete	Unknown	0	98	2	CAKD5125413 500/500/20/80PPM	AKD5125.met	LK05044.dat		

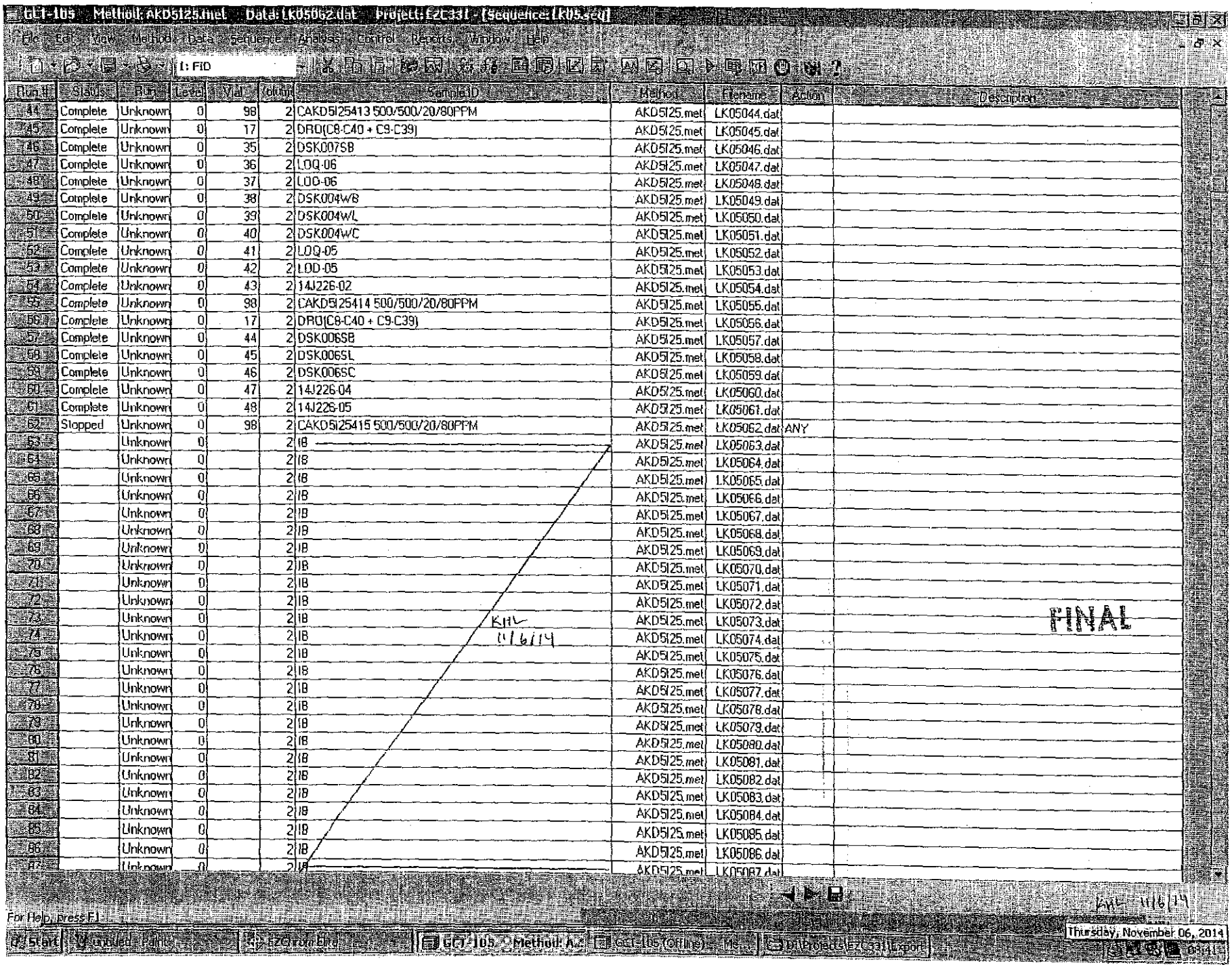
FINAL

KHL 11/6/14

For Help, press F1

Start | Untitled - Paint | EZChrom Elite | GC-105 - Method: A... | GC-105 (Offline) - Mes... | D:\Projects\EZChrom\Export | Thursday, November 06, 2014 | 3:57 PM

3:57 PM


GC1-105 Method: AKD5125.met Data: LK05062.dat Project: EZC331 (Sequence: LK05.seq)
File Edit View Method Data Sequence Analysis Control Reports Window Help
1: FID
Run # Status Run Level Vial Volume Sample ID Method Filename Action Description
44 Complete Unknown 0 98 2 CAKD5I25413 500/500/20/80PPM AKD5I25.met LK05044.dat
45 Complete Unknown 0 17 2 DRO(C8-C40 + C9-C39) AKD5I25.met LK05045.dat
46 Complete Unknown 0 35 2 DSK007SB AKD5I25.met LK05046.dat
47 Complete Unknown 0 36 2 LOQ-06 AKD5I25.met LK05047.dat
48 Complete Unknown 0 37 2 LOD-06 AKD5I25.met LK05048.dat
49 Complete Unknown 0 38 2 DSK004WB AKD5I25.met LK05049.dat
50 Complete Unknown 0 39 2 DSK004WL AKD5I25.met LK05050.dat
51 Complete Unknown 0 40 2 DSK004WC AKD5I25.met LK05051.dat
52 Complete Unknown 0 41 2 LOQ-05 AKD5I25.met LK05052.dat
53 Complete Unknown 0 42 2 LOD-05 AKD5I25.met LK05053.dat
54 Complete Unknown 0 43 2 14J226-02 AKD5I25.met LK05054.dat
55 Complete Unknown 0 98 2 CAKD5I25414 500/500/20/80PPM AKD5I25.met LK05055.dat
56 Complete Unknown 0 17 2 DRO(C8-C40 + C9-C39) AKD5I25.met LK05056.dat
57 Complete Unknown 0 44 2 DSK006SB AKD5I25.met LK05057.dat
58 Complete Unknown 0 45 2 DSK006SL AKD5I25.met LK05058.dat
59 Complete Unknown 0 46 2 DSK006SC AKD5I25.met LK05059.dat
60 Complete Unknown 0 47 2 14J226-04 AKD5I25.met LK05060.dat
61 Complete Unknown 0 48 2 14J226-05 AKD5I25.met LK05061.dat
62 Stopped Unknown 0 98 2 CAKD5I25415 500/500/20/80PPM AKD5I25.met LK05062.dat ANY
63 Unknown 0 2 IB AKD5I25.met LK05063.dat
64 Unknown 0 2 IB AKD5I25.met LK05064.dat
65 Unknown 0 2 IB AKD5I25.met LK05065.dat
66 Unknown 0 2 IB AKD5I25.met LK05066.dat
67 Unknown 0 2 IB AKD5I25.met LK05067.dat
68 Unknown 0 2 IB AKD5I25.met LK05068.dat
69 Unknown 0 2 IB AKD5I25.met LK05069.dat
70 Unknown 0 2 IB AKD5I25.met LK05070.dat
71 Unknown 0 2 IB AKD5I25.met LK05071.dat
72 Unknown 0 2 IB AKD5I25.met LK05072.dat
73 Unknown 0 2 IB AKD5I25.met LK05073.dat
74 Unknown 0 2 IB AKD5I25.met LK05074.dat
75 Unknown 0 2 IB AKD5I25.met LK05075.dat
76 Unknown 0 2 IB AKD5I25.met LK05076.dat
77 Unknown 0 2 IB AKD5I25.met LK05077.dat
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79 Unknown 0 2 IB AKD5I25.met LK05079.dat
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82 Unknown 0 2 IB AKD5I25.met LK05082.dat
83 Unknown 0 2 IB AKD5I25.met LK05083.dat
84 Unknown 0 2 IB AKD5I25.met LK05084.dat
85 Unknown 0 2 IB AKD5I25.met LK05085.dat
86 Unknown 0 2 IB AKD5I25.met LK05086.dat
87 Unknown 0 2 IB AKD5I25.met LK05087.dat
KHL 11/6/14
FINAL
KHL 11/6/14
For Help, press F1
Start
GC1-105 Method: A...
gc1-105 (offline) - Hi...
D:\Projects\EZC331\Export
Thursday, November 06, 2014

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
EXTRACTABLE TPH

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

DSK021W: K059
K093

DSK0255 : K094
K106

Book #: AD5-030

Instrument No.: D5

Analytical Sequence: LK18

Method File: DSD5K05

Analytical Batch: CDS05K05479

SOP #	Rev. #
☑ EMAX-8015D	6
☐ EMAX-AK102/AK103	3
☐ EMAX-	

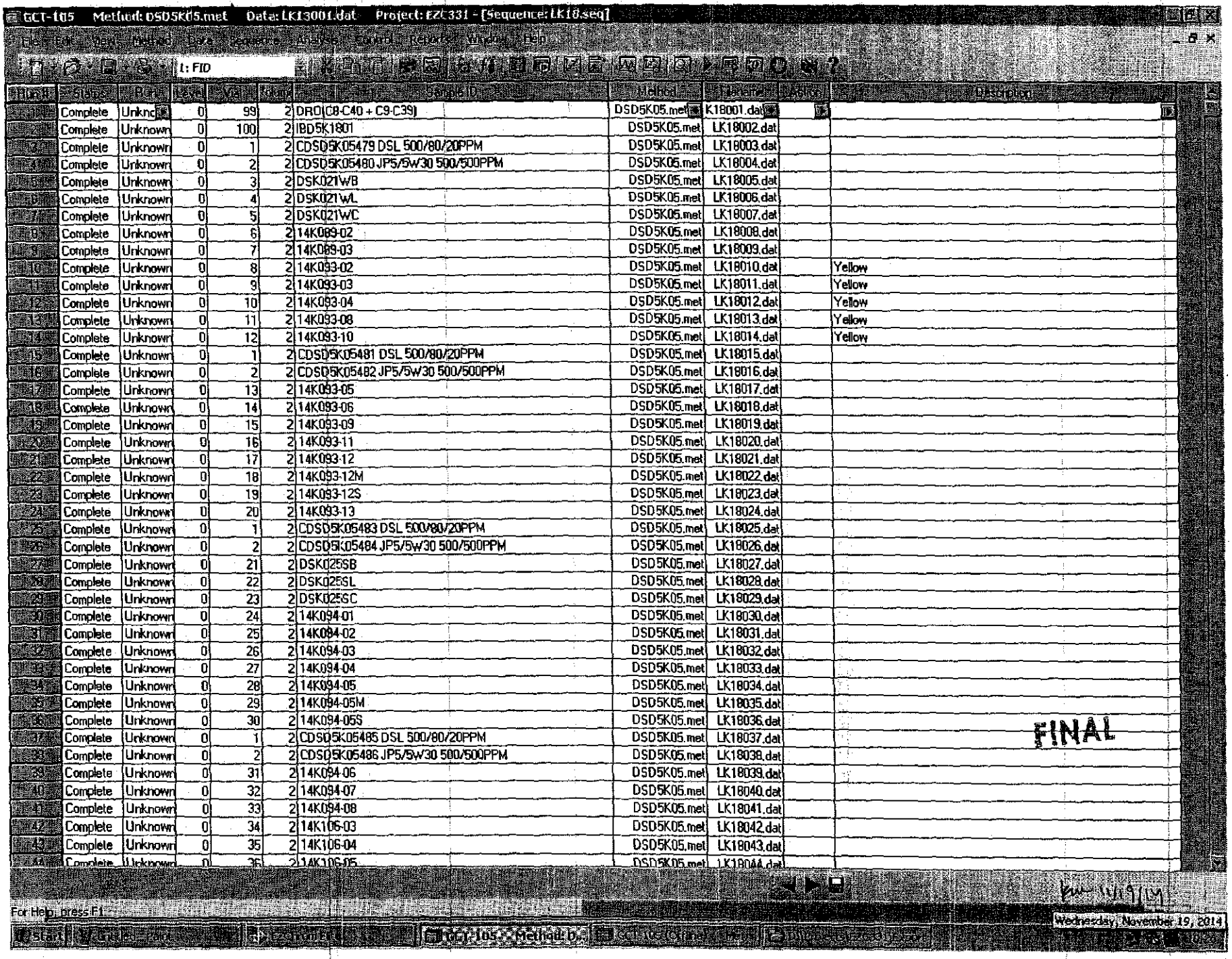
STANDARDS ID		Conc (mg/L)
ICAL		
☐ Diesel		
☐ Motor Oil ☐ JP5		
CH_2Cl_2	54184	Pure
DSL DCC	SSSB-19-08-02	500/250/20
JP5/5W30 DCC	SS3B-19-08-03	500/1000
Alaska DCC		
Arizona DCC		
DRO	SS3B-19-91-02	–

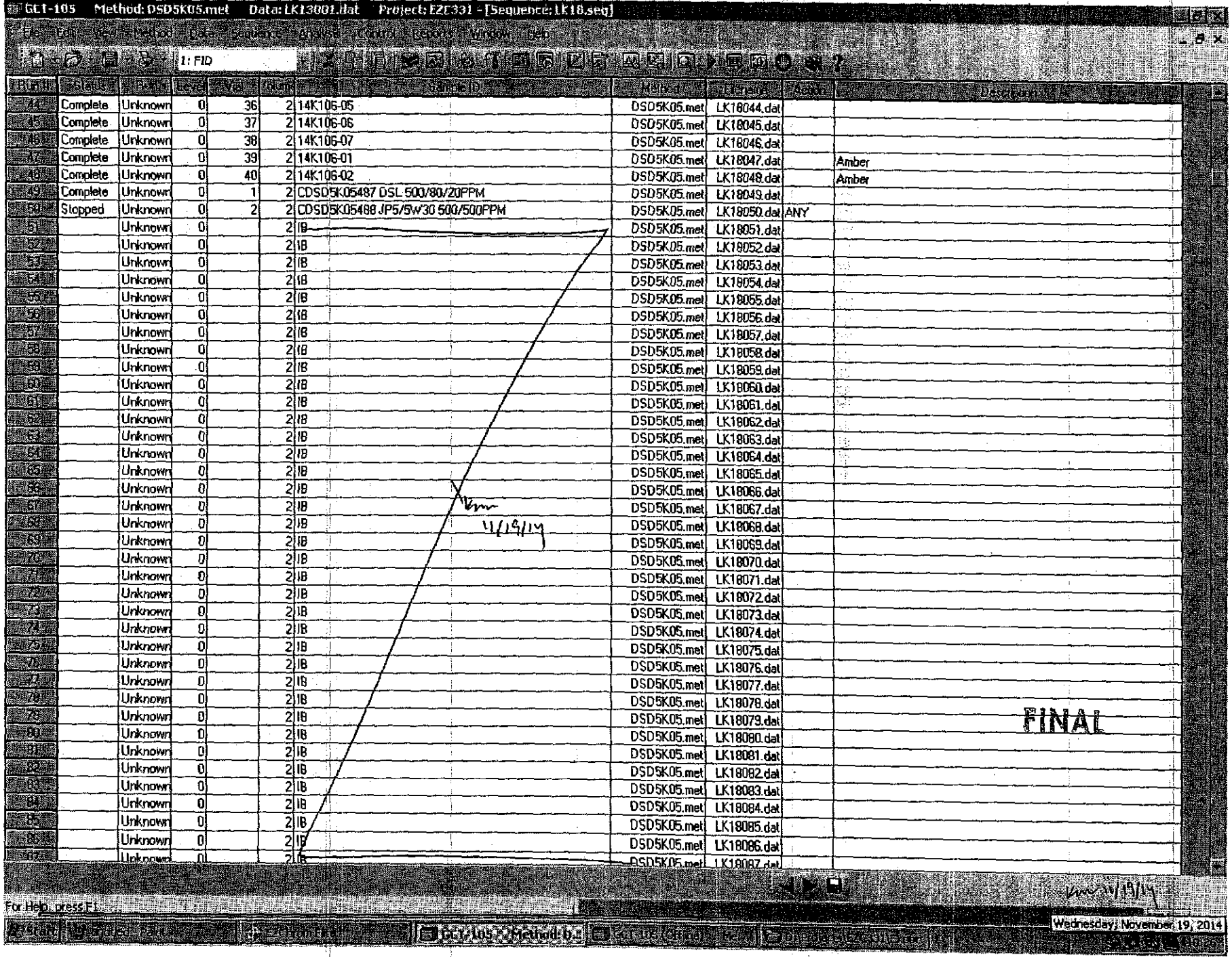
ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZCHROM_GC6890N	
☐ External Hard Drive	

Analyzed By: KHL

Date: 11/18/14

5056


GCT-105 Method: DSD5K05.met Data: LK13001.dat Project: EZC331 - [Sequence: LK18.seq]
File Edit View Method Data Sequence Analysis Export Reports Window Help
L: FID
Run # | Status | Barc | Level | Vial | Rep | Sample ID | Method | Data | Actual | Description
1 Complete Unknown 0 99 2 DRO(C8-C40 + C9-C39) DSD5K05.met K18001.dat
2 Complete Unknown 0 100 2 IBD5K1801 DSD5K05.met LK18002.dat
3 Complete Unknown 0 1 2 CDSD5K05479 DSL 500/80/20PPM DSD5K05.met LK18003.dat
4 Complete Unknown 0 2 2 CDSD5K05480 JP5/5W30 500/500PPM DSD5K05.met LK18004.dat
5 Complete Unknown 0 3 2 DSK021WB DSD5K05.met LK18005.dat
6 Complete Unknown 0 4 2 DSK021WL DSD5K05.met LK18006.dat
7 Complete Unknown 0 5 2 DSK021WC DSD5K05.met LK18007.dat
8 Complete Unknown 0 6 2 14K089-02 DSD5K05.met LK18008.dat
9 Complete Unknown 0 7 2 14K089-03 DSD5K05.met LK18009.dat
10 Complete Unknown 0 8 2 14K093-02 DSD5K05.met LK18010.dat Yellow
11 Complete Unknown 0 9 2 14K093-03 DSD5K05.met LK18011.dat Yellow
12 Complete Unknown 0 10 2 14K093-04 DSD5K05.met LK18012.dat Yellow
13 Complete Unknown 0 11 2 14K093-08 DSD5K05.met LK18013.dat Yellow
14 Complete Unknown 0 12 2 14K093-10 DSD5K05.met LK18014.dat Yellow
15 Complete Unknown 0 1 2 CDSD5K05481 DSL 500/80/20PPM DSD5K05.met LK18015.dat
16 Complete Unknown 0 2 2 CDSD5K05482 JP5/5W30 500/500PPM DSD5K05.met LK18016.dat
17 Complete Unknown 0 13 2 14K093-05 DSD5K05.met LK18017.dat
18 Complete Unknown 0 14 2 14K093-06 DSD5K05.met LK18018.dat
19 Complete Unknown 0 15 2 14K093-09 DSD5K05.met LK18019.dat
20 Complete Unknown 0 16 2 14K093-11 DSD5K05.met LK18020.dat
21 Complete Unknown 0 17 2 14K093-12 DSD5K05.met LK18021.dat
22 Complete Unknown 0 18 2 14K093-12M DSD5K05.met LK18022.dat
23 Complete Unknown 0 19 2 14K093-12S DSD5K05.met LK18023.dat
24 Complete Unknown 0 20 2 14K093-13 DSD5K05.met LK18024.dat
25 Complete Unknown 0 1 2 CDSD5K05483 DSL 500/80/20PPM DSD5K05.met LK18025.dat
26 Complete Unknown 0 2 2 CDSD5K05484 JP5/5W30 500/500PPM DSD5K05.met LK18026.dat
27 Complete Unknown 0 21 2 DSK025SB DSD5K05.met LK18027.dat
28 Complete Unknown 0 22 2 DSK025SL DSD5K05.met LK18028.dat
29 Complete Unknown 0 23 2 DSK025SC DSD5K05.met LK18029.dat
30 Complete Unknown 0 24 2 14K094-01 DSD5K05.met LK18030.dat
31 Complete Unknown 0 25 2 14K094-02 DSD5K05.met LK18031.dat
32 Complete Unknown 0 26 2 14K094-03 DSD5K05.met LK18032.dat
33 Complete Unknown 0 27 2 14K094-04 DSD5K05.met LK18033.dat
34 Complete Unknown 0 28 2 14K094-05 DSD5K05.met LK18034.dat
35 Complete Unknown 0 29 2 14K094-05M DSD5K05.met LK18035.dat
36 Complete Unknown 0 30 2 14K094-05S DSD5K05.met LK18036.dat
37 Complete Unknown 0 1 2 CDSD5K05485 DSL 500/80/20PPM DSD5K05.met LK18037.dat
38 Complete Unknown 0 2 2 CDSD5K05486 JP5/5W30 500/500PPM DSD5K05.met LK18038.dat
39 Complete Unknown 0 31 2 14K094-06 DSD5K05.met LK18039.dat
40 Complete Unknown 0 32 2 14K094-07 DSD5K05.met LK18040.dat
41 Complete Unknown 0 33 2 14K094-08 DSD5K05.met LK18041.dat
42 Complete Unknown 0 34 2 14K106-03 DSD5K05.met LK18042.dat
43 Complete Unknown 0 35 2 14K106-04 DSD5K05.met LK18043.dat
44 Complete Unknown 0 36 2 14K106-05 DSD5K05.met LK18044.dat
FINAL
For Help, press F1
Wednesday, November 19, 2014


GC1-105 Method: DSD5K05.met Data: LK13001.dat Project: EZC331 - [Sequence: LK18.seq]
File Edit View Method Data Sequence Analysis Control Reports Window Help
1: FID
Run # | Status | Type | Level | Vial | Rack | Sample ID | Method | Data file | Action | Description
44 Complete Unknown 0 36 2 14K106-05 DSD5K05.met LK18044.dat
45 Complete Unknown 0 37 2 14K106-06 DSD5K05.met LK18045.dat
46 Complete Unknown 0 38 2 14K106-07 DSD5K05.met LK18046.dat
47 Complete Unknown 0 39 2 14K106-01 DSD5K05.met LK18047.dat Amber
48 Complete Unknown 0 40 2 14K106-02 DSD5K05.met LK18048.dat Amber
49 Complete Unknown 0 1 2 CDSD5K05487 DSL 500/80/20PPM DSD5K05.met LK18049.dat
50 Stopped Unknown 0 2 2 CDSD5K05488 JP5/5W30 500/500PPM DSD5K05.met LK18050.dat ANY
51 Unknown 0 2 IB DSD5K05.met LK18051.dat
52 Unknown 0 2 IB DSD5K05.met LK18052.dat
53 Unknown 0 2 IB DSD5K05.met LK18053.dat
54 Unknown 0 2 IB DSD5K05.met LK18054.dat
55 Unknown 0 2 IB DSD5K05.met LK18055.dat
56 Unknown 0 2 IB DSD5K05.met LK18056.dat
57 Unknown 0 2 IB DSD5K05.met LK18057.dat
58 Unknown 0 2 IB DSD5K05.met LK18058.dat
59 Unknown 0 2 IB DSD5K05.met LK18059.dat
60 Unknown 0 2 IB DSD5K05.met LK18060.dat
61 Unknown 0 2 IB DSD5K05.met LK18061.dat
62 Unknown 0 2 IB DSD5K05.met LK18062.dat
63 Unknown 0 2 IB DSD5K05.met LK18063.dat
64 Unknown 0 2 IB DSD5K05.met LK18064.dat
65 Unknown 0 2 IB DSD5K05.met LK18065.dat
66 Unknown 0 2 IB DSD5K05.met LK18066.dat
67 Unknown 0 2 IB DSD5K05.met LK18067.dat
68 Unknown 0 2 IB DSD5K05.met LK18068.dat
69 Unknown 0 2 IB DSD5K05.met LK18069.dat
70 Unknown 0 2 IB DSD5K05.met LK18070.dat
71 Unknown 0 2 IB DSD5K05.met LK18071.dat
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73 Unknown 0 2 IB DSD5K05.met LK18073.dat
74 Unknown 0 2 IB DSD5K05.met LK18074.dat
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76 Unknown 0 2 IB DSD5K05.met LK18076.dat
77 Unknown 0 2 IB DSD5K05.met LK18077.dat
78 Unknown 0 2 IB DSD5K05.met LK18078.dat
79 Unknown 0 2 IB DSD5K05.met LK18079.dat
80 Unknown 0 2 IB DSD5K05.met LK18080.dat
81 Unknown 0 2 IB DSD5K05.met LK18081.dat
82 Unknown 0 2 IB DSD5K05.met LK18082.dat
83 Unknown 0 2 IB DSD5K05.met LK18083.dat
84 Unknown 0 2 IB DSD5K05.met LK18084.dat
85 Unknown 0 2 IB DSD5K05.met LK18085.dat
86 Unknown 0 2 IB DSD5K05.met LK18086.dat
87 Unknown 0 2 IB DSD5K05.met LK18087.dat
11/19/14
FINAL
11/19/14
For Help, press F1
Wednesday, November 19, 2014

EXTRACTION LOGS

EMAX LABORATORIES, INC.

EXTRACTION LOG
for
TPH

SOP	Rev. #
☑ EMAX-3520	5
☐ EMAX-3540	2
☐ EMAX-3550	4
☐ EMAX-3580	2
☐ EMAX-8015AZ	2
☐ EMAX-AK 102/103	3
☐ EMAX-	

Note: For samples and relevant QCs/Standards extracted, refer to attached extraction sequence.

Book #: EDS-070
Preparation Batch: DSK021W
Matrix: WATER
Micropipette ID: 1000µL PE40-03
Micropipette ID: 100µL PE97C-03

Standards	ID	Amount Added (ml)
Surrogate		
Surrogate	SS3-009-08-30	0.5
LCS/MS DS	MSS3-009-08-04	0.1
LCS/MS		

Reagent	Lot # / ID
CH_2Cl_2	54484
Na_2SO_4	SW1B-002-03-06
HCl	411 3080
Silica Sand	
Silica Gel	
Reagent Water	SW1A-005-10-05
pH strip	HC421273
Filter Paper	2587322B

TUNING

Sonicator #	Reading

Concentrator	Water Bath Temperature Setting (°C)	Thermometer Reading (°C)
1		
2	35	35
3	35	35
4	35	35
5	35	35
6		

Lab Sample ID	Sonicator #	Concentrator #
DSK021WB		5
WC		5
WE		5
K089-02		5
-03		5
K093-02		4
-03		4
-04		4
-05		4
-06		4
-08		4
-09		3
-10		3
-11		3
-12		3
-12MS		3
-12S		3
-13		2

Comments:

Test thermometer = SVOC-T1

Prepared By: JM Standard Added By: JZ
Witnessed By: AAG Checked By: ML
Extract Received By: DS 11/15/19 Extraction Location: EDS-10
Disposal Date: Disposed By:

EMAX LABORATORIES, INC.

FileID: DSK021W

EXTRACTION LOG FOR EXTRACTABLE TPH

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Ve(ml)	ExpAmt	ExpVe(ml)	PrepFctr	Comments
14DSK021W01	DSK021WB	1000	ml	11/17/14 14:39	10	1000	10	1	
14DSK021W02	DSK021WL	1000	ml	11/17/14 14:39	10	1000	10	1	
14DSK021W03	DSK021WC	1000	ml	11/17/14 14:39	10	1000	10	1	
14DSK021W04	K089-02	1000	ml	11/17/14 14:39	10	1000	10	1	✓
14DSK021W05	K089-03	1000	ml	11/17/14 14:40	10	1000	10	1	✓
14DSK021W06	K093-02	970	ml	11/17/14 14:40	10	1000	10	1.03	orange
14DSK021W07	K093-03	970	ml	11/17/14 14:40	10	1000	10	1.03	black
14DSK021W08	K093-04	950	ml	11/17/14 14:40	10	1000	10	1.05	yellow
14DSK021W09	K093-05	880	ml	11/17/14 14:40	10	1000	10	1.14	light yellow
14DSK021W10	K093-06	970	ml	11/17/14 14:40	10	1000	10	1.03	yellow
14DSK021W11	K093-08	960	ml	11/17/14 14:40	10	1000	10	1.04	yellow green
14DSK021W12	K093-09	1020	ml	11/17/14 14:40	10	1000	10	0.98	yellow
14DSK021W13	K093-10	940	ml	11/17/14 14:40	10	1000	10	1.06	orange
14DSK021W14	K093-11	1030	ml	11/17/14 14:40	10	1000	10	0.97	yellow
14DSK021W15	K093-12	1040	ml	11/17/14 14:40	10	1000	10	0.96	yellow
14DSK021W16	K093-12M	980	ml	11/17/14 14:40	10	1000	10	1.02	yellow
14DSK021W17	K093-12S	950	ml	11/17/14 14:51	10	1000	10	1.05	yellow
14DSK021W18	K093-13	1080	ml	11/17/14 14:51	10	1000	10	0.93	

Ve=extract volume PrepFctr=(ExpAmt/Aliquot)(Ve/ExpV

☑ Extraction Started @ 11/17/14 13:30 Prepared By: JMuert

☑ Extraction Ended @ 11/18/14 7:30 Checked By: ML

Comments: Vol entered after extraction started, pH adjusted to pH<2 w/ conc. HCl. Date 11/18/14

DATA QUALITY ASSESSMENT REPORT

DATA QUALITY ASSESSMENT REPORT
FOR GROUNDWATER AND POTABLE WATER SAMPLES
COLLECTED AT RED HILL BULK FUEL STORAGE FACILITY
DURING OCTOBER AND NOVEMBER 2014
AT JOINT BASE PEARL HARBOR-HICKAM, HAWAII

Data Validator: Tammy Chang, Project Chemist (Parsons, Austin)

1.0 INTRODUCTION

The following data quality assessment report (DQAR) covers data validation results for groundwater (RHMW06-GW-01 and RHMW07-GW-01) and potable water (HW111214-01) samples including field duplicates collected from October 20 to November 12, 2014 from two monitoring wells at the Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, Hawaii and from a fire hydrant, a source for potable drilling water located in Aeia, Hawaii. Samples were analyzed using definitive analytical methods and laboratory reporting requirements in the *Final Work Plan/Sampling and Analysis Plan, Monitoring Well Installation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam, Hawaii* (work plan) (Battelle and Parsons, 2014) conducted under Contract No. N62583-11-D-0515, Task Order (TO) KB01. The analytical results for all collected samples were validated. A project-specific "Level IV" data validation procedure, evaluating the summarized sample and quality control (QC) data, was performed. The Level IV review involved review and evaluation of the summarized data reported, including sample results and all QC data, as well as the analysis case narratives and internal standard recovery information (for applicable analyses). As a result of the data validation process, Department of Defense (DoD) Quality System Manual (QSM), version 4.2 (2010), data qualifiers were applied as necessary to the sample results. In addition, data validation qualifiers and final qualifiers (i.e., "VALIDATOR_QUALIFIER" and "FINAL_QUALIFIER" fields in the Naval Electronic Data Deliverable [NEDD]) were assigned to samples affected by the identified data quality deficiencies and were used in data summary tables.

Analyses of samples were performed in accordance with the project Quality Assurance Project Plan (QAPP) in the work plan (Battelle and Parsons, 2014), as well as the DoD QSM version 4.2. The laboratory analytical data packages were provided in "Level IV" format (i.e., sample data, QC data summaries, and associated raw data). The validated samples are listed in Section 3.0, which provides sample numbers, Sample Delivery Group (SDG) numbers, sampling dates, and trip blanks. Level IV reports were reviewed for all non-compliant issues, instrument print-out for all positively identified analytes, and for all manual integrations.

All water samples for definitive analyses used to generate definitive data were performed by APPL Laboratories, Inc. (APPL), Clovis, California and EMAX Laboratories, Inc., Torrance, California. Each laboratory performed the following analyses:

APPL: Volatile Organic Organics (VOCs), Ethylene Dibromide (EDB), 1,2-Dibromo-3-chloropropane (DBCP), Methane, Alkalinity, Chloride (this parameter was

requested for sample RHMW07-GW-01 only), and Sulfate, Nitrite/Nitrate, and Dissolved Lead. All samples collected for the dissolved lead groundwater analysis in October were filtered on site. Both fire hydrant samples collected for dissolved lead analysis in November were filtered and acidified by APPL upon receipt.

EMAX: Total Petroleum Hydrocarbons-Gasoline (TPH-GRO), Total Petroleum Hydrocarbons-Diesel Range Organics and TPH-Residual Range Organics (TPH-DRO/RRO), and Polynuclear Aromatic Hydrocarbons (PAHs).

This DQAR presents a review of data quality in relation to the project data quality objectives (DQOs) of precision, accuracy, representativeness, comparability, completeness, and sensitivity (PARCCS) parameters. There were no data rejected due to non-compliant issues relating to data quality.

2.0 EVALUATION CRITERIA

The analyses and findings presented in this report are based on the documentation outlined in the data quality specifications within the project QAPP or the analytical methods.

When both parent and field duplicate (FD) samples have results at or above the Limit of Quantification (LOQ), the relative percent difference (%RPD) of parent/FD results should be less than 20% (below 50% as recommended in the Naval Facilities Engineering Command (NAVFAC) Project Procedures Manual [DON 2007]).

Results of parent and FD samples with %RPDs between 20% - 50% have been flagged with "J"; above 50% have been flagged with "R".

2.1 Validation Qualifiers

Data qualification decisions were made in accordance with the procedures specified in the project QAPP and the laboratory subcontract statement of work (SOW).

The following data flags are used in this report:

"J" = Estimated: the compound was positively identified; the quantitation is an estimation due to discrepancies in meeting certain compound-specific QC criteria or because the concentration was between the LOQ and Detection Limit (DL).

"UJ" = The compound was not detected; however, the result is estimated due to discrepancies in meeting certain compound-specific QC criteria.

"B" = Blank contamination: The compound was found at a similar concentration in an associated blank above the DL, as well as in the sample.

"U" = Undetected: The compound was analyzed for, but not detected.

"R" = Rejected: The compound was analyzed for, but due to a major QC non-compliance, results were rejected.

3.0 SAMPLE IDS AND RELATED INFORMATION

SDG	Field Sample ID	Colletion Date	Cooler Rec. Temp.	Lab
14J130*	RHMW07-GW-01 RHMW07-GW-01 FD	October 20, 2014	5.7°C	EMAX
14J144	RHMW06-GW-01** TB102114	October 21, 2014	4.0°C & 5.7°C	EMAX
14J206***	RHMW07-GW-01 RHMW07-GW-01 FD TB102714	October 27, 2014	3.3°C	EMAX
14K089	HW111214-01 HW111214-02**** TRIP111214	November 12, 2014	5.4°C	EMAX
74672	RHMW07-GW-01 RHMW07-GW-01 FD TB102014	October 20, 2014	2.5°C	APPL
74701	RHMW06-GW-01** TB102114	October 21, 2014	2.5°C	APPL
74924	HW111214-01 HW111214-02**** TRIP111214	November 12, 2014	4.0°C	APPL

* Due to the lack of a trip blank, neither sample was analyzed for TPH-GRO.

** Sample was designated as the parent sample for the matrix spike/matrix spike duplicate (MS/MSD) analyses.

*** Both samples and trip blank were recollected and analyzed for TPH-GRO only.

**** Sample HW111214-02 is the FD of HW111214-01.

All water samples were analyzed using the following extraction/analytical methods:

- VOCs by SW5030B/8260C;
- PAHs by SW3520C/8270C-SIM;
- TPH-GRO ($C_6 – C_{10}$) by SW5030B/8015B;
- TPH-DRO ($C_{10} – C_{24}$) and TPH-RRO ($C_{24} – C_{36}$) by SW3520C/8015B;
- EDB and DBCP by EPA Method 8011;

- Dissolved methane by RSK-175;
- Dissolved lead by SW3015/6020A;
- Nitrate-Nitrite by EPA Method 353.2;
- Total alkalinity by Standard Method (SM) 2320B; and
- Chloride and sulfate by EPA Method 9056D; chloride was only requested for sample RHMW07-GW-01.

All trip blanks were analyzed for VOCs by SW8260C or TPH-GRO by SW8015B.

Detailed validation results for each analytical method are presented in the following sections.

3.1 Sampling, Chain-of-Custody, and Sample Identification

Water samples were received in good condition, with no sample identification discrepancies, and were analyzed for the parameters noted on the chains-of-custody (CoCs). Samples collected on October 20, 2014 from RHMW07, were shipped without a trip blank for TPH-GRO analyses; therefore, the TPH-GRO analyses were cancelled. A sample for TPH-GRO analysis was re-collected from RHMW07 and shipped with a trip blank on October 27, 2014.

3.2 Method SW8011 – EDB and DBCP

All water samples collected were analyzed for EDB and DBCP using method SW8011.

3.2.1 Accuracy

Accuracy was evaluated using the %recovery (%R) obtained from the laboratory control samples (LCSs), MS/MSD, and surrogate analyses.

- **LCS:** Both %R results were within the QC acceptance limits.
- **MS/MSD:** Both %Rs were compliant.
- **Surrogate recoveries:** All %Rs of surrogate were compliant.

3.2.2 Precision

Precision was evaluated based on the relative percent difference (%RPD) of MS/MSD, and parent/FD sample results.

Both %RPDs of MS/MSD were compliant.

Both sets of parent and FD sample had no detections of these two target compounds at DLs.

3.2.3 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represent actual site conditions. Analytical representativeness meets project DQOs for the EDB and DBCP results. The following parameters were assessed for representativeness and results of the data review are noted:

- **Sample holding times and preservation**: The water samples were shipped on ice and were received at the laboratory at the appropriate temperature. Water samples were not acid-preserved. Analytical holding times (7 days) were met for all samples.
- **Initial calibration, Initial Calibration Verification, and Continuing Calibration Verification results**: Initial calibration, initial calibration verification (ICV) results, and continuing calibration verification (CCV) results met QC acceptance criteria. ICVs were prepared with secondary source standard.
- **Method blanks**: Target analytes were not detected at or above ½ of the LOQ in the method blanks (MBs).
- **Calibration Range Exceedance:** All sample results were within the calibration range.

3.2.4 Sensitivity

Sensitivity was evaluated using the LOQ and DL for each sample as compared to the project practical quantitation limit (PQL). The laboratory LOQ met project PQL requirements.

3.2.5 Comparability

Comparability was evaluated based on the analytical method requested on the CoC and performed by the laboratory compared to those described in the project QAPP and laboratory SOW. All samples were analyzed by the appropriate method requested on the CoC. Water sample results were reported in units of micrograms per liter (µg/L).

3.2.6 Completeness

Completeness was evaluated by comparing the total number of samples collected to the total number of samples reported with valid analytical data. No data were qualified as "R" (rejected) according to the project QAPP protocol. Completeness is 100% and meets project DQOs for the water EDB and DBCP results.

3.3 Method SW8260C-VOCs

All water samples were analyzed for VOCs using method SW8260C. Samples were analyzed for a project-specific list of 41 VOCs.

3.3.1 Accuracy

Accuracy was evaluated using the %R obtained from the surrogate spikes, LCS analyses, and MS/MSD analyses. Sample RHMW06-GW-01 was designated for the MS/MSD analyses. Evaluation results are shown below.

- **LCS recoveries:** All LCS %Rs met QC acceptance criteria.
- **Surrogate recoveries:** Surrogate compound recoveries for each field and lab QC samples met QC acceptance criteria**.**
- **MS/MSD %Rs:** In the MS, 12 analytes recovered above their upper control limit; in the MSD, 9 analytes recovered above their upper control limits. All other %Rs were compliant.

The parent sample had no detections of any of these non-compliant analytes; therefore flagging was not required.

3.3.2 Precision

Precision was evaluated based on the %RPD of the parent/FD results and MS/MSD results. The criterion for precision is %RPDs ≤20% for the parent/FD. Samples RHMW07-GW-01 and HW111214-01 were collected in duplicate.

All %RPDs of MS/MSD were compliant. None of the target VOCs were detected above the LOQ in the parent and FD samples of the RHMW07-GW-01 set; therefore, the %RPD calculation was not applicable.

Bromoform was detected in both parent and FD samples of HW111214-01 set with %RPD of 7.4%.

3.3.3 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represent actual site conditions. Analytical representativeness meets project DQOs for the VOC results. The following parameters were assessed for representativeness and results of the data review are noted:

- **Sample holding times and preservation**: The water samples were shipped on ice and were received at the laboratory at the appropriate temperature. Water samples and trip blank samples were not acid-preserved. All samples met project QAPP requirements for analysis holding times (7 days).
- **Instrument tuning data**: Mass spectral ion intensities met QC acceptance criteria.
- **Initial calibration and ICV results**: Initial calibration and ICV results met QC acceptance criteria. ICVs were also used as LCSs which were prepared with secondary source standard.
- **CCV results**: CCV results met QC acceptance criteria.
- **Internal standards**: Internal standard results met QC acceptance criteria.
- **Method blanks**: Target compounds were not detected at or above ½ of the LOQ in the MBs.
- **Trip blanks**: All trip blanks (denoted with "TB" in the sample name) were free of target compounds at DL except TB102014 and TB102114 have bromomethane detected at 1.5 µg/L and 1.2 µg/L respectively (LOQ = 2.0 µg/L and DL = 0.24 µg/L). None of the associated samples have this compound detected; therefore, flagging was not required.
- **Calibration Range Exceedance:** Final reported sample results were within the calibration range including diluted runs.

3.3.4 Sensitivity

Sensitivity was evaluated using the LOQs and DLs for each sample as compared to project maximum allowable PQLs. The laboratory LOQs met PQL requirements listed in the QAPP.

3.3.5 Comparability

Comparability was evaluated based on the analytical method requested on the CoC, and performed by the laboratory compared to those described in the project QAPP and DoD QSM Version 4.2. All samples were analyzed by the appropriate method requested on the CoC. Results were reported in units of µg/L.

3.3.6 Completeness

Completeness was evaluated by comparing the total number of samples collected with the total number of samples reported with valid analytical data. No data were qualified as "R" (rejected) according to the project QAPP protocol. Completeness is 100% and meets project DQOs for the water VOC results.

3.4 Method SW8270C-SIM PAHs

All water samples collected were analyzed for PAHs using method SW8270C-SIM. The project-specific compound list included 18 PAHs.

3.4.1 Accuracy

Accuracy was evaluated using the %R obtained from the surrogate spikes, LCS, LCS duplicate (LCSD), MS/MSD analyses. Sample RHMW06-MW-01 was designated for the MS/MSD analyses.

- **LCS/LCSD recoveries:** All LCS/LCSD %Rs met QC acceptance criteria.
- **Surrogate recoveries:** Surrogate compound recoveries for all field and lab QC samples met QC acceptance criteria.

3.4.2 Precision

Precision was evaluated based on the %RPD of the parent/FD, LCS/LCSD, and MS/MSD results.

For the parent/FD sample of RHMW06-GW-01 and HW111214-01, none of the target compounds were detected at or above the LOQ, therefore, the %RPD calculation is not applicable.

All %RPDs of MS/MSD were compliant.

The only non-compliant %RPD of LCS/LCSD was benzo(b)fluoranthene in the batch associated with samples HW111214-01 and HW111214-02. Since %Rs of the LCS and LCSD were compliant, and this compound was not detected in the two associated field samples; therefore flagging was not required.

3.4.3 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represent actual site conditions. Analytical representativeness met project DQOs for the PAH results. The following parameters were assessed for representativeness and results of the data review are noted:

- **Sample holding times and preservation**: The water samples were shipped on ice and were received at the laboratory at the appropriate temperature. Analytical holding times (7 days for extraction, 40 days for analysis) were met for all samples.
- **Instrument tuning data**: Mass spectral ion intensities met QC acceptance criteria.
- **Initial calibration, ICV, and CCV results**: Initial calibration, ICV results, and CCV results all met QC acceptance criteria. ICVs were prepared with secondary source standard.
- **Internal Standards:** All internal standard results met QC acceptance criteria.
- **Method blanks**: Target compounds were not detected at or above ½ of the LOQ in the MBs.
- **Calibration Range Exceedance:** Sample results were within the calibration range.
- **Naphthalene:** Due to the commonly observed lab contamination of this compound, Battelle agreed to raise the LOQ, LOD, and DL five times. The raised LOQ, 0.10 µg/L, is less than the PQL of 1.7 µg/L

3.4.4 Sensitivity

Sensitivity was evaluated using the LOQs and DLs for each sample as compared to project PQLs. The laboratory LOQs met QAPP PQLs for all target compounds.

3.4.5 Comparability

Comparability was evaluated based on the analytical method requested on the CoC and performed by the laboratory compared to those described in the project QAPP. All samples were analyzed by the appropriate method requested on the CoC. Results were reported in units of µg/L.

3.4.6 Completeness

Completeness was evaluated by comparing the total number of samples collected with the total number of samples reported with valid analytical data. No data were qualified as "R" (rejected) according to the project QAPP protocol. Completeness is 100% and meets project DQOs for the water PAH results.

3.5 Method SW8015B TPH - GRO

All water samples collected were analyzed for TPH-GRO (C_6-C_{10}) using method SW8015B, with results reported as "TPH-GRO (C_6-C_{10})."

3.5.1 Accuracy

Accuracy was evaluated using the %R obtained from the surrogate spikes, LCS/LCSD, and MS/MSD analyses. Evaluation results are shown below.

- **LCS/LCSD recoveries:** All LCS/LCSD %R results met QC acceptance criteria.
- **MS/MSD recoveries:** Both MS and MSD %Rs were compliant.

- **Surrogate recoveries:** Surrogate compound recoveries for all field and lab QC samples met QC acceptance.

3.5.2 Precision

Precision was evaluated based on %RPD of the parent/FD samples and parent/FD results. The %RPD of LCS/LCSD and MS/MSD results were compliant.

TPH-GRO was not detected at or above the LOQ in both sets of parent and FD samples; therefore, the %RPD calculation was not applicable.

3.5.3 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represent actual site conditions. Analytical representativeness met project DQOs for the TPH-GRO results. The following parameters were assessed for representativeness and results of the data review are noted.

- **Sample holding times and preservation**: The water samples were shipped on ice and were received at the laboratory at the appropriate temperature. Water samples were not acid-preserved. Analytical holding times (7 days) were met for all samples.
- **Initial calibration, ICV and CCV results**: Initial calibration, ICV results, and CCV results met QC acceptance criteria. ICV was prepared with secondary source standard.
- **Method blanks**: No target compounds were detected in the MBs at or above ½ of the LOQ.
- **Trip blanks**: No target compounds were detected in the trip blanks at or above ½ of the LOQ.
- **Calibration Range Exceedance:** All sample results were within the calibration range.

3.5.4 Sensitivity

Sensitivity was evaluated using the RLs and MDLs for each sample as compared to project maximum allowable RLs. Sample-specific RLs and MDLs were adjusted for sample dilution.

3.5.5 Comparability

Comparability was evaluated based on analytical method requested on the CoC and performed by the laboratory compared to those described in the project QAPP and laboratory SOW. Results for water samples were reported in units of milligrams per liter (mg/L).

3.5.6 Completeness

Completeness was evaluated by comparing the total number of samples collected with the total number of samples reported with valid analytical data. No data were qualified as "R" (rejected) according to the project QAPP protocol. Completeness is 100% and meets project DQOs for the water TPH-GRO results.

3.6 Method SW8015B TPH-DRO ($C_{10} – C_{24}$) and TPH-RRO ($C_{24} – C_{36}$)

All water samples collected were analyzed for TPH-DRO ($C_{10} – C_{24}$) organics and TPH-RRO ($C_{24} – C_{36}$) organics by method SW8015B.

3.6.1 Accuracy

Accuracy was evaluated using the %R obtained from the surrogate spikes, LCS, LCSD, and MS/MSD analyses. Evaluation results are shown below.

- **LCS/LCSD recoveries:** All LCS/LCSD %R results for TPH-DRO and TPH-RRO met QC acceptance criteria.
- **Surrogate recoveries:** Surrogate compound recoveries for each sample met QC acceptance criteria.
- **MS/MSD:** %R of TPH-DRO and TPH-RRO were all compliant.

3.6.2 Precision

Precision was evaluated based on the %RPD of the parent/FD sample results, LCS/LCSD, and MS/MSD results.

The %RPDs of MS/MSD and LCS/LCSD for TPH-DRO and TPH-RRO were compliant.

None of the results of the two sets of parent and FD samples had TPH-DRO or TPH-RRO detected at or above the LOQ.

3.6.3 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represent actual site conditions. Analytical representativeness meets project DQOs for the TPH-DRO and TPH-RRO. The following parameters were assessed for representativeness and results of the data review are noted.

- **Sample holding times and preservation:** The water samples were shipped on ice and were received at the laboratory at an appropriate temperature. Analytical holding times (7 days for extraction, 40 days for analysis) were met for all analyses of the water samples.
- **Initial calibration, ICV and CCV results:** Initial calibration, ICV results, and CCV results met QC acceptance criteria. ICVs were prepared with secondary source standard.
- **Method blanks**: TPH-DRO and TPH-RRO were not detected at or above ½ of the LOQ in the MBs.
- **Calibration Range Exceedance:** All sample results were within the calibration range.
- There was a discrete peak in parent sample RHMW07-GW-01 and its FD. The TPH-DRO pattern of parent and FD did not match the pattern of the diesel standard used by the lab.
- The lab injected the TPH-DRO extract into the gas chromatography/mass spectrometry (GC/MS), ran the SW8260C, and looked for tentatively identified compounds (TICs). Initial evaluation found that the detected non-VOC target compound was butoxyacetic acid which was identified as one of the breakdown products of glycol drilling foam used during the drilling process of this well. This was concluded based on the results from a TIC approach.

- The lab recalculated the TPH-DRO result of the parent and FD samples without the discrete peak of each sample. Both samples had TPH-DRO detected below the LOQ, at 0.057 mg/L and 0.066 mg/L, respectively.

3.6.4 Sensitivity

Sensitivity was evaluated using the LOQs and DLs for each group of TPH as compared to project PQLs. The laboratory LOQs met contract PQL requirements.

3.6.5 Comparability

Comparability was evaluated based on the analytical method requested on the CoC and performed by the laboratory compared to those described in the project QAPP and laboratory SOW. All samples were analyzed for TPH-DRO and TPH-RRO as requested on the CoC. Results for water samples were reported in units of mg/L.

3.5.6 Completeness

Completeness was evaluated by comparing the total number of samples collected to the total number of samples reported with valid analytical data. No data were qualified as "R" (rejected) according to the project QAPP protocol. Completeness is 100% and meets project DQOs for the water TPH-DRO and TPH-RRO results.

3.7 Method RSK-175 for Dissolved Methane

All water samples collected were analyzed for dissolved methane using method RSK-175.

3.7.1 Accuracy

Accuracy was evaluated using the %R obtained from the LCS/LCSD and MS/MSD analyses.

- **LCS/LCSD recoveries:** The %R results were within the QC acceptance limits.
- **MS/MSD recoveries:** Lab did not run the requested MS/MSD by mistake.

3.7.2 Precision

Precision was evaluated based on the %RPD of LCS/LCSD and parent/FD sample results.

The %RPD of the LCS/LCSD was compliant.

The %RPD for the parent/FD of sample RHMW07-GW-01 is 38% which is less than the 50% limit, but greater than 20%. Both parent and FD sample results were flagged with "J."

Methane was not detected in the parent/FD of sample HW111214-01.

3.7.3 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represent actual site conditions. Analytical representativeness meets project DQOs for the methane results. The following parameters were assessed for representativeness and results of the data review are noted:

- **Sample holding times and preservation**: The water samples were shipped on ice and were received at the laboratory at appropriate temperature. Water samples were not acid-preserved. Analytical holding times (7 days) were met for all samples.
- **Initial calibration, ICV and CCV results**: Initial calibration, ICV results, and CCV results met QC acceptance criteria. ICV was prepared with secondary source standard.
- **Method blanks**: Methane was not detected at or above ½ of the LOQ in the MBs.
- **Calibration Range Exceedance:** All sample results were within the calibration range.

3.7.4 Sensitivity

Sensitivity was evaluated using the LOQ and DL for each sample as compared to project PQL. The laboratory LOQ met project PQL requirements.

3.7.5 Comparability

Comparability was evaluated based on the analytical method requested on the CoC and performed by the laboratory compared to those described in the project QAPP and laboratory SOW. All samples were analyzed by the appropriate method requested on the CoC. Methane results were reported in units of µg/L.

3.7.6 Completeness

Completeness was evaluated by comparing the total number of samples collected with the total number of samples reported with valid analytical data. No data were qualified as "R" (rejected) according to the project QAPP protocol. Completeness is 100% and meets project DQOs for the water methane results.

3.8 Sulfate, Chloride, Nitrate-Nitrite as Nitrogen and Total Alkalinity (as CaCO3)

Water samples were analyzed for sulfate and chloride by method SW9056, nitrate-nitrite-N by EPA method 353.2, and total alkalinity by SM 2320B.

Sample RHMW07-GW-01 was the only sample requested for chloride analysis.

3.8.1 Accuracy

Accuracy was evaluated using the %R obtained from LCS and/or LCSD analyses and MS/MSD analyses. LCSD was not performed for the sulfate and chloride analysis. Accuracy meets project DQOs. Evaluation results are shown below.

- **LCS/LCSD:** All %Rs were compliant.
- **MS/MSD:** All %Rs were compliant

3.8.2 Precision

Analytical precision for alkalinity and nitrate-nitrite analyses was evaluated using the %RPD obtained from the LCS/LCSD analyses, MS/MSD, and parent/FD samples. For sulfate, the precision was evaluated based on MS/MSD and parent/FD results.

All %RPDs were met for all LCS/LCSD pairs and for all MS/MSD pairs.

For total alkalinity, %RPD for the parent/FD of sample RHMW07-GW-01 was compliant at 3.8% and for the parent/FD of sample HW111214-01 was compliant at 1.3%.

For nitrate-nitrite, the %RPD of the parent/FD results of sample HW111214-01 was compliant. Neither the parent nor FD result of sample RHMW07-GW-01 was detected at or above the LOQ.

For sulfate, the %RPDs for both sets of parent/FD results were compliant.

3.8.3 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represent actual site conditions. Analytical representativeness meets project DQOs for the sulfate, nitrate-nitrite, and alkalinity results.

The following parameters were assessed for representativeness and results of the data review are noted.

- **Sample holding times and preservation**: The water samples were shipped on ice and were received at the laboratory at appropriate temperature. Analytical holding times (sulfate, chloride, nitrate-nitrite-N, 28 days; total alkalinity, 14 days) were met for all samples.
- **Initial calibration, ICV and CCV results**: Initial calibration, ICV results, and CCV results met QC acceptance criteria. ICVs were prepared with secondary source standard.
- **Method blanks**: No target compounds were detected at or above ½ of the LOQ in the MBs.
- **Calibration range exceedance:** All sample results were within calibration range.

3.8.4 Sensitivity

Sensitivity was evaluated using the LOQs and DLs for each sample as compared to project PQLs. The laboratory LOQs met project PQL requirements for all results.

3.8.5 Comparability

Comparability was evaluated based on the analytical method requested on the CoC and performed by the laboratory compared to those described in the project QAPP. All samples were analyzed by the appropriate method requested on the CoC. Results were reported in units of mg/L.

3.8.6 Completeness

Completeness was evaluated by comparing the total number of samples collected to the total number of samples reported with valid analytical data. No data were qualified as "R" (rejected) according to the project QAPP protocol. Completeness is 100% and meets project DQOs for the nitrate-nitrite, sulfate, and alkalinity results.

3.9 SW6020A - Dissolved Lead

Filtered and acidified water samples were analyzed for dissolved lead by Method 6020A. All samples collected in October 2014 were field filtered. The two samples collected in November were not field filtered. APPL filtered and acidified those samples upon receipt.

Due to high sodium content in the samples, the digestate of groundwater was diluted with 2-fold dilution. All limits were elevated twice. Elevated LOQ was still lower than the project-required PQL. Potable water samples were analyzed without any dilution.

3.9.1 Accuracy

Accuracy was evaluated using the %R obtained from LCS and MS/MSD analyses. Accuracy meets project DQOs. Other than the requested MS/MSD for sample RHMW06-GW-01, the lab also performed MS/MSD analysis with sample HW111214-02. Evaluation results are shown below.

- **LCSs:** The %Rs were compliant.
- **MS/MSD:** Both %Rs were compliant for both sets of MS/MSD analyses.

3.9.2 Precision

Analytical precision was evaluated using the %RPD obtained from the MS/MSD and parent/FD samples.

The %RPDs of both set of MS/MSD were compliant.

Both the parent and FD of sample RHMW07-GW-01 had dissolved lead reported as non-detect; therefore the %RPD calculation was not applicable.

Sample HW111214-01 had dissolved lead reported as 12.2 µg/L and its FD had dissolved lead reported as 0.67 µg/L which is below the LOQ. The %RPD calculation is only applicable when both results are greater than LOQ. However, a "J" flag was applied by the data validator to the parent sample result due to the large difference between the two results.

3.9.3 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represent actual site conditions. Analytical representativeness meets project DQOs for the lead results.

The following parameters were assessed for representativeness and results of the data review are noted.

- **Sample holding times and preservation**: The water samples were shipped on ice and were received at the laboratory at appropriate temperature. Analytical holding times (180 days) were met for all samples.
- **Initial calibration, ICV and CCV results**: Initial calibration, ICV results, and CCV results met QC acceptance criteria. ICV was prepared with secondary source standard.
- **Interference Check Solution A (ICSA) and Interference Check Solution AB (ICSAB)** results were compliant.
- **Method blanks**: Lead was not detected at or above ½ of the LOQ in the MBs.
- **Calibration range exceedance:** All sample results were within calibration range.

- A **Dilution Test (DT)** was performed with sample RHMW06-GW-01, but it was not applicable. A second DT was performed with sample HW111214-02 and it also was not applicable.
- A **Post-Digestion Spike (PDS) Analysis** was performed with the same samples and the %Rs were compliant for both sets of analyses.

3.9.4 Sensitivity

Sensitivity was evaluated using the LOQs and DLs for each sample as compared to project PQLs. The laboratory LOQs met project PQL requirements for all results.

3.9.5 Comparability

Comparability was evaluated based on the analytical method requested on the CoC, and performed by the laboratory compared to those described in the project QAPP. All samples were analyzed by the appropriate method requested on the CoC. Results were reported in units of µg/L.

3.9.6 Completeness

Completeness was evaluated by comparing the total number of samples collected to the total number of samples reported with valid analytical data. No data were qualified as "R" (rejected) according to the project QAPP protocol. Completeness is 100% and meets project DQOs for the lead results.

4.0 DATA QUALITY ASSESSMENT

DQA criteria were used to evaluate the quality of the field sampling efforts and laboratory results for compliance with project DQOs. The DQA criteria were expressed in terms of analytical precision, accuracy, representativeness, sensitivity, comparability, and completeness by analytical method. Data qualification decisions were made in accordance with the procedures specified in the project QAPP and the DoD QSM Version 4.2 and professional judgment.

4.1 Precision

Precision is the measure of variability between individual sample measurements under prescribed conditions. The RPD for the LCS/LCSD and laboratory duplicate analyses demonstrate the precision of the analytical methods. An RPD within the DoD QSM-specific control limit indicates satisfactory precision in a measurement system. The RPD for the parent/FD demonstrates the precision of sampling technique.

Analytical precision RPD results (i.e. LCS/LCSD) for all methods for water samples were all in control except one of the target PAHs, benzo(b)fluoranthene, had %RPD greater than the criteria. However, it is the data validator's professional opinion that there was no impact to the data quality.

RPDs of MS/MSD results were evaluated for matrix effect.

The results for methane in sample RHMW07-GW-01 and its FD, and dissolved lead in sample HW111214-01 and its FD, had non-compliant %RPD and "J" flags have been applied to both parent and FD sample results.

4.2 Accuracy

Accuracy is the degree of agreement of a measurement with an accepted reference or true value. The results of surrogate and LCS/LCSD analyses, when expressed in terms of percent recovery, demonstrate the accuracy of the method. LCS spike recoveries indicate accuracy relevant to an analytical batch lot, and are strictly a measure of laboratory analytical accuracy conditions independent of samples and matrices. Surrogate spike recoveries provide a measure of accuracy for the analysis of each individual sample and also provide an indication of sample matrix effects. MS/MSD results were evaluated for sample matrix effect on the accuracy.

For VOC analysis, 12 analytes recovered above their upper control limit in the MS; 9 analytes recovered above their upper control limits in the MSD. The parent sample, RHMW06-GW-01, had no detections of any of these non-compliant analytes; therefore flagging was not required.

4.3 Representativeness

All sample data are believed to be representative of the site conditions prevailing at the time of sample collection because samples were properly collected, stored, and preserved. For samples having dilutions for a given analyte, only the diluted result was reported by the laboratory for project decision-making.

4.4 Sensitivity

Sensitivity is the ability of an analytical method or instrument to discriminate between measurement responses representing different concentrations. Sensitivity requirements include the establishment of various limits such as calibration requirements, MDLs and RLs. Sensitivity requirements were established in accordance with the project-specific QAPP and DoD QSM Version 4.2. The QAPP-required PQLs were met. Sample-specific LOQs, LODs, and DLs for this data set were adjusted for the sample volume used in each analysis and the dilution factor, when applicable.

4.5 Comparability

All samples were reported in either µg/L or mg/L. Analytical protocols for the methods were adhered to according to the project QAPP, and analytical results are considered comparable under the compliant lab and field QC requirements.

4.6 Completeness

Completeness is defined as the percentage of laboratory measurements judged to be valid on a method-by-method basis. Valid data are defined as all data and/or qualified data considered to meet the DQOs for this project. Data completeness is expressed as percent complete, which is (the number of usable samples per compound ÷ total number of samples per compound) x 100. Completeness for this sampling event was 100% for all compounds and all water samples, understanding that all results qualified as estimated are usable to meet project objectives.

4.7 Conclusion

The overall quality assurance objective for all measurement data is to maximize the probability that the data generated are of documented quality, and are defensible for the intended

data uses. In order to meet these objectives, data shall be: (1) representative of actual site physical and chemical conditions; (2) comparable to the QAPP-required criteria; (3) complete to the extent that necessary conclusions may be reached; and (4) of known quantitative statistical significance in terms of precision and accuracy, at levels appropriate for each stated data use for the project. In general, these objectives have been met.

The water data are of acceptable quality and are considered usable to support project objectives. Samples are representative of the site when used in accordance with the validation qualifiers.

5.0 REFERENCES

Battelle and Parsons. 2014. *Final Work Plan/Sampling and Analysis Plan, Monitoring Well Installation, Red Hill Bulk Fuel Storage Facility, Joint Base Pearl Harbor-Hickam*, Hawaii. Prepared for Naval Facilities Engineering Command, Hawaii. August.

Department of the Navy (DON), 2007. *Project Procedures Manual, U.S. Navy Installation Restoration Program, NAVFAC Pacific*, Prepared for Pacific Division, Naval Facilities Engineering Command (NAVFAC Pacific). February.

Department of Defense (DoD). 2010. *Department of Defense Quality Systems Manual for Environmental Laboratories, Version 4.2*. October.