Columbia Analytical Services™ 1 Mustard Street, Suite 250, Rochester, NY 14609-6925 | 585.288.5380 | www.caslab.com

December 22, 2009

Mr. Frank Hagar
Northgate Environmental
1100 Quail Street
Suite 102
Newport Beach, CA 92660

Re: Tronox LLC Henderson #2027.001
Service Request #R0906270

Dear Mr. Hagar:

Enclosed is the analytical data report for the above referenced facility. A total of four samples were received by our laboratory on November 3, 2009.

Any problems encountered with this project are addressed in a case narrative section which is presented later in this report.

This report consists of two (2) packages: the sample data package and the sample data summary package. All data presented in this package has been reviewed prior to report submission. If you should have any questions or concerns, please contact me at (585) 288-5380.

Thank you for your continued use of our services.

Sincerely,
COLUMBIA ANALYTICAL SERVICES

Janice M. Jaeger
Project Chemist

enc.

cc: Ms. Cindy Arnold
Northgate Environmental
2501 Geigel Avenue
Orlando, FL 32806

This report contains a total of 65 pages.

CASE NARRATIVE

COMPANY: Northgate Environmental
Tronox LLC Henderson Project #2027.001
SERVICE REQUEST #: R0906270

Northgate samples were collected on 11/02/09 and received at CAS on 11/03/09 in good condition. Columbia Analytical Services' (CAS) reporting limit has been expressed as the Method Reporting Limit (MRL) rather than the Practical Quantitation Limit (PQL). At the client's request, all results have been reported to the Method Detection Limit (MDL) where an MDL is performed on that parameter. The MDL reported for the Alkalinity Carbonate, Alkalinity Carbonate and Alkalinity Hydroxide is the Alkalinity MDL. The software used for the 1030E calculations is Rockware AqQA. All data has been checked and verified.

INORGANICS

Three water samples were analyzed for a site specific list of inorganics. Please see attached data pages for method numbers.

Site specific QC was not requested for these samples. All Blank spike recoveries were within limits except Nitrite on the 10/31/09 LCS was outside limits low. EB103009-GWA4 was reanalyzed outside the recommended holding time of 48 hours under a compliant LCS. Both sets of data have been reported. All outlying QC has been flagged with an "*".

The Laboratory blanks associated with these analyses were free of contamination except the 11/13/09 blank had a low level hit for Alkalinity and Bicarbonate alkalinity and the 11/03/09 blank had a low level hit for Chloride. All affected data has been flagged with a "B".

All samples were analyzed within holding time.

No other analytical or QC problems were encountered.

VOLATILE ORGANICS

Four water samples were analyzed for a site specific list of Volatiles by Methods 5030/8260B from SW-846.

All the initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within QC limits.

All surrogate standard recoveries were within Tronox limits.

Site specific QC was not requested for these samples. All Reference spike recoveries were within Tronox limits.

The Laboratory blanks associated with these samples were free of contamination except for 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene and Naphthalene on the 11/11/09 blank and 1,2,3-Trichlorobenzene and Hexachlorobutadiene on the 11/12/09 blank. No data was affected.

All samples were analyzed within required holding times.

No other analytical or QC problems were encountered.

SEMIVOLATILE ORGANICS

Three water samples were analyzed for a site specific list of Semivolatiles by method 8270C low level from SW-846.

All the initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within QC limits.

All surrogate standard recoveries were within Tronox limits.

Site specific QC was not requested for these samples. All Blank spike/Blank spike duplicate recoveries were within Tronox limits except Pyridine and 1,4-Dioxane were outside limits on the 11/04/09 LCS/LCSD. The outliers were within 10-150%. All RPD's were within limits.

The Laboratory Blanks associated with these analyses were free of contamination except the 11/04/09 blank had a low level hit for Butyl benzyl phthalate. No data was affected.

All samples were extracted and analyzed within holding times.

No other analytical or QC problems were encountered.

PESTICIDES

Three water samples were analyzed for a site specific list of Pesticides by method 8081 from SW-846.

All the initial and continuing calibration criteria were met for all analytes.

All surrogate standard recoveries were within Tronox limits.

Site specific QC was not requested for these samples. All Blank spike/Blank spike duplicate recoveries were within limits. All RPD's were within limits.

The Laboratory Blanks associated with these analyses were free of contamination.

All samples were extracted and analyzed within required holding times.

No other analytical or QC problems were encountered.

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 details conditioned above. Release of the data contained in this hard copy data package have by authorized by the Laboratory Manager or his designee, as verified by the following signature.

CAS ASP/CLP Batching Form/Login Sheet

Client Proj #: 2027.001	Batch Complete: Yes	Date Revised:
Submission: R0906270	Diskette Requested: Yes	Date Due: 12/3/09
Client: Northgate Environmental	Date: 11/16/09	Protocol: SW846
Client Rep: JJAEGER	Custody Seal: Present/Absent:	Shipping No.:
Project: Tronox LLC Henderson	Chain of Custody: Present/Absent:	SDG #: M-147B

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R0906270-001	M-147B	Water	8260B, 120.1, SM 2320 B, 6020, 8081A, 7470A, 9056, 9040B, 353.2, 9012A, 314.0, 218.6, SM 2540 C, 8270C, SM 5540 C, 365.1, 350.1, 300.1, SM 2540 D, 9060, 6010B LL, SM 1030 E	11/2/09	11/3/09			
R0906270-002	M-147009B	Water	8260B, 120.1, SM 2320 B, 6020, 8081A, 7470A, 9056, 9040B, 353.2, 9012A, 314.0, 218.6, SM 2540 C, 8270C, SM 5540 C, 365.1, 350.1, 300.1, SM 2540 D, 9060, 6010B LL, SM 1030 E	11/2/09	11/3/09			
R0906270-003	EB110209-GWA3	Water	8260B, 120.1, SM 2320 B, 6020, 8081A, 7470A, 9056, 9040B, 353.2, 9012A, 314.0, 218.6, SM 2540 C, 8270C, SM 5540 C, 365.1, 350.1, 300.1, SM 2540 D, 9060, 6010B LL	11/2/09	11/3/09			
R0906270-004	TB110209-GWA3	Water	8260B	11/2/09	11/3/09			

Folder Comments:

Columbia Analytical Services™

REPORT QUALIFIERS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Pesticide/Aroclors: Concentration >40% (25% for CLP) difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.

CAS/Rochester Lab ID # for State Certifications[1]

NELAP Accredited
Delaware Accredited
Connecticut ID # PH0556
Florida ID # E87674
Illinois ID #200047
Maine ID #NY0032
Nebraska Accredited
Navy Facilities Engineering Service Center Approved
Nevada ID # NY-00032
New Jersey ID # NY004
New York ID # 10145
New Hampshire ID # 294100 A/B
Pennsylvania ID# 68-786
Rhode Island ID # 158
West Virginia ID # 292

[1] Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at www.caslab.com.

northgate
environmental management, inc.
1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

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COC No. 2027.001.01105
Page: 1 of 4
Cooler # ____ of ____

Collection Area: III

Required Ship to Lab:

Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.
Address:	1 Mustard Street, Suite 250
	Rochester, NY 14609
Lab PM:	Janice Jaeger
Phone/Fax:	(585)288-5380
Lab PM email	jjaeger@caslab.com
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	TRONOX LLC. HENDERSON
Project #	2027.001
Site Address	560 W. Lake Mead Drive
City	Henderson
State	NV
Site PM Name	Derrick Willis
Phone/Fax:	949-375-7004
Site PM Email:	derrick.willis@ngem.com

Required Invoice Information:

Send Invoice to:	Susan Crowley, Tronox LLC
Address:	PO Box 55
City/State	Henderson, NV 89009
Phone #:	(949)260-9293
Reimbursement project?	X
Non-reimbursement project?	Mark one
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to	PDF Electronic Version Only
CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush	Mark One
If Rush, Date due			
QC level Required: Standard		Special	EPA Stage 4 / Mark one
NJ Reduced Deliverable Package?			
MA MCP Cert?		CT RCP Cert?	Mark One

Lab Project ID (lab use)

Valid Matrix Codes: MATRIX — DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LF; SOIL SO; OIL SW; WIPE AA; AMBIENT AIR AE; BVE AIR OS; SOIL GAS. MATRIX — WATER W; SURFACE WATER WS; WATER QC WQ; SLUDGE SL; OIL, RINSEATE WH; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 8260B VOC	EPA 8060 TOC	EPA 8270C SVOC	EPA 8081 OCP	EPA 8010B/8020	EPA 314.0 Perchlorate	EPA 9056 Chloride	EPA 218.6 Hex Chrom	Comments/Lab Sample I.D.
1	M-147B	WG	G	11/2/2009	1000	3	N				X					X								3 x 40 ml VOAs
2	M-147B	WG	G	11/2/2009	"	2	N		X								X							2 x 40 ml VOAs
3	M-147B	WG	G	11/2/2009	"	2	N	X										X						2 x 1 L Amber Glass
4	M-147B	WG	G	11/2/2009	"	2	N	X											X					2 x 1 L Amber Glass
5	M-147B	WG	G	11/2/2009	"	1	N			X										X				500 ml Plastic
6	~~M-147BDISS~~	~~WG~~	~~G~~	~~11/2/2009~~		~~1~~	~~Y~~			X										X				500 ml Plastic JWO
7	M-147B	WG	G	11/2/2009	1000	1	N	X													X			250 ml Plastic
8	M-147B	WG	G	11/2/2009	"	1	N								X							X		250 ml Amber Glass
9	M-147B	WG	G	11/2/2009	"	1	Y								X								X	125 ml Plastic
10	JWO																							
11																								
12																								

Additional Comments/Special Instructions:

Omit As and Se from Metals 6010/6020
All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	11/2	1400	[signature]	11/2	1400
[signature] GES	11/2	1600	[signature] (A)	11/3/09	0820

Sample Receipt Conditions

	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
Temp in C	Samples on Ice?	Sample intact?	Trip Blank?

SHIPPING METHOD (mark as appropriate): UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER: [signature]
DATE Signed: 11/2 Time: 1210

R0906270
Northgate Environmental
Tronox LLC Henderson

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COC No. 2027.001.01105
Page: 2 of 4
Cooler # ____ of ____
Collection Area: III

Required Ship to Lab:		Required Project Information:		Required Invoice Information:	
Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.	Site ID #:	TRONOX LLC. HENDERSON	Send Invoice to:	Susan Crowley Tronox LLC
Address:	1 Mustard Street, Suite 250	Project #	2027.001	Address:	PO Box 55
	Rochester, NY 14609	Site Address	560 W. Lake Mead Drive	City/State	Henderson, NV 89009; Phone #: (949)260-9293
Lab PM:	Janice Jaeger	City	Henderson; State: NV	Reimbursement project?	X; Non-reimbursement project? ___ Mark one
Phone/Fax:	(585)288-5380	Site PM Name	Derrick Willis	Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
Lab PM email	jjaeger@caslab.com	Phone/Fax:	949-375-7004	CC Hardcopy report to	PDF Electronic Version Only
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush	Mark One
If Rush, Date due			
QC level Required: Standard		Special; EPA Stage 4	Mark one
NJ Reduced Deliverable Package?			
MA MCP Cert?		CT RCP Cert?	Mark One
Lab Project ID (lab use)			

SAMPLE ID
One Character per box.
(A-Z, 0-9 / ,-)
Samples IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX: DRINKING WATER WP, GROUND WATER WG, WASTE WATER WW, FREE PRODUCT LF, SOIL SO, OIL SW, WIPE AA, AMBIENT AIR AE, SVE AIR, SOIL GAS; MATRIX: WATER W, SURFACE WATER WS, WATER QC WQ, SLUDGE SL, OIL RINSEATE WH, OTHER OT, ANIMAL TISSUE TA, QI

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	EPA 9012 A Cyanide	EPA 350.1/365.1	EPA 9056/SM 2540C	SM 5540C	SM 2320B Alkalinity	EPA 9045C pH	SM 2540D TSS	Comments/Lab Sample I.D.
1	M-147B	WG	G	11/2/2009	1000	1	N					X				X							250 ml Plastic
2	M-147B	WG	G	11/2/2009		1	N		X								X						250 ml Plastic
3	M-147B	WG	G	11/2/2009		1	N	X										X					250 ml Plastic
4	M-147B	WG	G	11/2/2009		1	N	X											X				500 ml Plastic
5	M-147B	WG	G	11/2/2009		1	N	X												X			250 ml Plastc
6	M-147B	WG	G	11/2/2009		1	N	X													X		125 ml Plastic
7	M-147B	WG	G	11/2/2009		1	N	X														X	1 L Plastic
8																							
9																							
10																							
11																							
12																							

JWO

Additional Comments/Special Instructions:

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frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	11/2	1400	GES	11/2	1400
GES	11/2	1600	Matt Cun CA	11/3	0820

SHIPPING METHOD (mark as appropriate): UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER: ___ DATE Signed: 11/2 Time: 1210

Sample Receipt Conditions			
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
Temp in °C	Samples on Ice?	Sample intact?	Trip Blank?

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Tronox LLC Henderson

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Address:	1 Mustard Street, Suite 250	Project #	2027.001	Address:	PO Box 55	If Rush, Date due			
Rochester, NY 14609		Site Address	560 W. Lake Mead Drive	City/State	Henderson, NV 89009	Phone #:	(949)260-9293	QC level Required: Standard	Special / EPA Stage 4 / Mark one
Lab PM:	Janice Jaeger	City	Henderson	State	NV	Reimbursement project?	X	Non-reimbursement project?	Mark one
Phone/Fax:	(585)288-5380	Site PM Name	Derrick Willis	Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com	NJ Reduced Deliverable Package?			
Lab PM email	jjaeger@caslab.com	Phone/Fax:	949-375-7004	CC Hardcopy report to	PDF Electronic Version Only	MA MCP Cert?		CT RCP Cert?	Mark One
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	CC Hardcopy report to	see additional comments below	Lab Project ID (lab use)			

Valid Matrix Codes: MATRIX — DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LF; SOIL SO; OIL OL; WIPE WI; AMBIENT AIR AE; SOIL GAS GS; WATER W; SURFACE WATER WS; WATER QC WQ; SLUDGE SL; RINSEATE WR; OTHER OT; ANIMAL TISSUE TA

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1	M-147009B	WG	G	11/2/2009	1000	3	N				X					X								3 x 40 ml VOAs
2	M-147009B	WG	G	11/2/2009	"	2	N		X								X							2 x 40 ml VOAs
3	M-147009B	WG	G	11/2/2009	"	2	N	X										X						2 x 1 L Amber Glass
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5	M-147009B	WG	G	11/2/2009	"	1	N			X										X				500 ml Plastic
6	~~M-147009BDISS~~	~~WG~~	~~G~~	~~11/2/2009~~		1	Y			X										X				500 ml Plastic JWO
7	M-147009B	WG	G	11/2/2009	1000	1	N	X													X			250 ml Plastic
8	M-147009B	WG	G	11/2/2009	"	1	N								X							X		250 ml Amber Glass
9	M-147009B	WG	G	11/2/2009	"	1	Y								X								X	125 ml Plastic
10	JWO																							
11																								
12																								

Additional Comments/Special Instructions:
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frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
GRS	11/2	1400	GRS	11/2	1400
GRS	11/2	1600	CAS	11/3	0820

SHIPPING METHOD (mark as appropriate): UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE: PRINT Name of SAMPLER: Josh W Otis; SIGNATURE of SAMPLER: [signature]; DATE Signed 11/2; Time: 1210

Sample Receipt Conditions	Temp in °C	Samples on Ice?	Sample intact?	Trip Blank?
	Y/N	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N	Y/N

80505

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Tronox LLC Henderson

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Lab PM: Janice Jaeger
Phone/Fax: (585)288-5380
Lab PM email: jjaeger@caslab.com
Applicable Lab Quote #:

Required Project Information:
Site ID #: TRONOX LLC. HENDERSON
Project #: 2027.001
Site Address: 560 W. Lake Mead Drive
City: Henderson State: NV
Site PM Name: Derrick Willis
Phone/Fax: 949-375-7004
Site PM Email: derrick.willis@ngem.com

Required Invoice Information:
Send Invoice to: Susan Crowley, Tronox LLC
Address: PO Box 55
City/State: Henderson, NV 89009 Phone #: (949)260-9293
Reimbursement project? X Non-reimbursement project? ____ Mark one
Send EDD to: Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to: PDF Electronic Version Only
CC Hardcopy report to: see additional comments below

TAT: Standard 30 day X Rush ____ Mark One
If Rush, Date due
QC level Required: Standard ____ Special EPA Stage 4 Mark one
NJ Reduced Deliverable Package?
MA MCP Cert? ____ CT RCP Cert? ____ Mark One
Lab Project ID (lab use)

Valid Matrix Codes: MATRIX — DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LF; SOIL SO; OIL OL; WIPE WI; AMBIENT AIR AA; BVS AIR AB; SOIL GAS SG; WATER W; SURFACE WATER WS; WATER OC WO; SLUDGE SL; SEDIMENT/SEATE WH; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID — One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 9012A Cyanide	EPA 350.1/365.1	EPA 9056/SM 4500C	SM 5540C	SM 2320B Alkalinity	EPA 9045C PH	SM 2540D TSS	Comments/Lab Sample I.D.
1	M-147009B	WG	G	11/2/2009	1000	1	N					X				X							250 ml Plastic
2	M-147009B	WG	G	11/2/2009		1	N		X								X						250 ml Plastic
3	M-147009B	WG	G	11/2/2009		1	N	X										X					250 ml Plastic
4	M-147009B	WG	G	11/2/2009		1	N	X											X				500 ml Plastic
5	M-147009B	WG	G	11/2/2009		1	N	X												X			250 ml Plastic
6	M-147009B	WG	G	11/2/2009		1	N	X													X		125 ml Plastic
7	M-147009B	WG	G	11/2/2009		2	N	X														X	~~1L Plastic~~ 2 x 500 mL plastic
8																							
9																							
10																							
11																							
12																							

JWO

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frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Josh W Otis GPS	11/2	1400	GPS CAS	11/2	1400
GPS	11/2	1600	Matt Cun CAS	11/3/09	0820

Sample Receipt Conditions

	Temp in OC	Samples on Ice?	Sample intact?	Trip Blank?
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	

SHIPPING METHOD (mark as appropriate): UPS COURIER FEDEX US MAIL
SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER: Josh W Otis DATE Signed 11/2 Time: 1210

60559

R0906270

northgate
environmental management, inc.
1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

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COC No. 2027.001.01133
Page: 1 of 2
Cooler # ____ of ____

Collection Area: III

Required Ship to Lab:		Required Project Information:		Required Invoice Information:			
Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.	Site ID #:	TRONOX LLC. HENDERSON	Send invoice to:	Susan Crowley Tronox LLC		
Address:	1 Mustard Street, Suite 250	Project #	2027.001	Address:	PO Box 55		
Rochester, NY 14609		Site Address	560 W. Lake Mead Drive	City/State	Henderson, NV 89009	Phone #:	(949)260-9293
Lab PM:	Janice Jaeger	City	Henderson	State	NV	Reimbursement project?	X
Phone/Fax:	(585)288-5380	Site PM Name	Derrick Willis	Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com		
Lab PM email	jjaeger@caslab.com	Phone/Fax:	949-375-7004	CC Hardcopy report to	PDF Electronic Version Only		
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	CC Hardcopy report to	see additional comments below		

TAT: Standard 30 day	X	Rush		Mark One
If Rush, Date due				
QC level Required: Standard		Special	EPA Stage 4	Mark one
NJ Reduced Deliverable Package?				
MA MCP Cert?		CT RCP Cert?		Mark One
Lab Project ID (lab use)				

Valid Matrix Codes: DRINKING WATER (WP), GROUND WATER (WG), WASTE WATER (WW), FREE PRODUCT (LF), SOIL (SO), OIL (OL), WIPE (SW), OIL (AA), WIPE (AE), AMBIENT AIR (GS), SVE AIR, BOIL GAS, SURFACE WATER (WS), WATER QC (WQ), BLUDGE (SL), RINSEATE (WH), OTHER (OT), ANIMAL TISSUE (TA)

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 8260B VOC	EPA 9060 TOC	EPA 8270C SVOC	EPA 8081 OCP	EPA 6010B/6020	EPA 314.0 Perchlorate	EPA 9056 Chlorate	EPA 7199 Hex Chrom	Comments/Lab Sample I.D.
1	EB110209-GWA3	W	G	11/2/2009	1240	3	N				X					X								3 x 40 ml VOAs
2	EB110209-GWA3	W	G	11/2/2009		2	N		X								X							2 x 40 ml VOAs
3	EB110209-GWA3	W	G	11/2/2009		2	N	X										X						2 x 1 L Amber Glass
4	EB110209-GWA3	W	G	11/2/2009		2	N	X											X					2 x 1 L Amber Glass
5	EB110209-GWA3	W	G	11/2/2009		1	N			X										X				500 ml Plastic
6	EB110209-GWA3	W	G	11/2/2009		1	N	X													X			250 ml Plastic
7	EB110209-GWA3	W	G	11/2/2009		1	N								X							X		250 ml Amber Glass
8	EB110209-GWA3	W	G	11/2/2009		1	N	X															X	125 ml Plastic
9	TB110209-GWA3	W	G	11/2/2009	0930	1	N				X					X								2x 40 ml VOA
10																								
11																								
12																								

Additional Comments/Special Instructions:
Omit As and Se from Metals 6010/6020
All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	11/2	1400	[signature] GES	11/2	1400
[signature] GES	11/2	1600	[signature] CAS	11/3/09	0821

Sample Receipt Conditions			
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
Temp in OC	Samples on Ice?	Sample intact?	Trip Blank?

SHIPPING METHOD: (mark as appropriate) UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER: [signature]
DATE Signed: 11/2
Time: 1210

R0901771D

northgate
environmental management, inc.
1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

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COC No. 2027.001.01133
Page: 2 of 2
Cooler # ____ of ____

Collection Area: III

Required Ship to Lab:		Required Project Information:		Required Invoice Information:					
Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.	Site ID #:	TRONOX LLC. HENDERSON	Send Invoice to:	Susan Crowley Tronox LLC	TAT: Standard 30 day	X	Rush	Mark One
Address:	1 Mustard Street, Suite 250	Project #	2027.001	Address:	PO Box 55	If Rush, Date due			
Rochester, NY 14609		Site Address	560 W. Lake Mead Drive	City/State	Henderson, NV 89009	Phone #:	(949)260-9293	QC level Required: Standard	Special / EPA Stage 4 / Mark one
Lab PM:	Janice Jaeger	City	Henderson	State	NV	Reimbursement project?	X	Non-reimbursement project?	Mark one
Phone/Fax:	(585)288-5380	Site PM Name	Derrick Willis	Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com	NJ Reduced Deliverable Package?			
Lab PM email	jjaeger@caslab.com	Phone/Fax:	949-375-7004	CC Hardcopy report to	PDF Electronic Version Only	MA MCP Cert?		CT RCP Cert?	Mark One
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	CC Hardcopy report to	see additional comments below	Lab Project ID (lab use)			

Valid Matrix Codes
MATRIX: DRINKING WATER DW; GROUND WATER GW; WASTE WATER WW; FREE PRODUCT FP; SOIL SO; OIL OL; WIPE WP; AMBIENT AIR AA; SOIL GAS SG; WATER WA; WATER QC WQ; BLUDGE SL; RINSEATE SW; OTHER OT; ANIMAL TISSUE AT
MATRIX: SURFACE WATER WS; WATER QC WQ; BLUDGE SL; RINSEATE WH; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 9012 A Cyanide	EPA 350.1/365.1	EPA 9056/SM 4500C	SM 5540C	SM 2320B Alkalinity	EPA 9045C pH	SM 2540D TSS	Comments/Lab Sample I.D.
1	EB110209-GWA3	WG	G	11/2/2009	1240	1	N					X				X							250 ml Plastic
2	EB110209-GWA3	WG	G	11/2/2009		1	N		X								X						250 ml Plastic
3	EB110209-GWA3	WG	G	11/2/2009		1	N	X										X					250 ml Plastic
4	EB110209-GWA3	WG	G	11/2/2009		1	N	X											X				500 ml Plastic
5	EB110209-GWA3	WG	G	11/2/2009		1	N	X												X			250 ml Plastc
6	EB110209-GWA3	WG	G	11/2/2009		1	N	X													X		125 ml Plastic
7	EB110209-GWA3	WG	G	11/2/2009		1	N	X														X	1 L Plastic
8																							
9																							
10	JWO																						
11																							
12																							

Additional Comments/Special Instructions:
Omit As and Se from Metals 6010/6020
All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
JWO	11/2	1400	GES	11/2	1400
GES	11/2	1600	Matt Cun CAS	11/3	0820

Sample Receipt Conditions

	Temp in °C	Samples on Ice?	Sample intact?	Trip Blank?
	Y / N	Y / N	Y / N	
	Y / N	Y / N	Y / N	
	Y / N	Y / N	Y / N	
	Y / N	Y / N	Y / N	

SHIPPING METHOD: (mark as appropriate) UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER: JWO
DATE Signed 11/2 Time: 1330

R0906270

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CHAIN-OF-CUSTODY / Analytical Request Document
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COC No. 2027.001.01105
Page: 2 of 4
Cooler # ____ of ____
Collection Area: III

Required Ship to Lab:		Required Project Information:		Required Invoice Information:			
Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.	Site ID #:	TRONOX LLC, HENDERSON	Send Invoice to:	Susan Crowley Tronox LLC		
Address:	1 Mustard Street, Suite 250	Project #	2027.001	Address:	PO Box 55		
Rochester, NY 14609		Site Address	560 W. Lake Mead Drive	City/State	Henderson, NV 89009	Phone #:	(949)260-9293
Lab PM:	Janice Jaeger	City	Henderson, State NV	Reimbursement project?	X	Non-reimbursement project?	Mark one
Phone/Fax:	(585)288-5380	Site PM Name	Derrick Willis	Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com		
Lab PM email	jjaeger@caslab.com	Phone/Fax:	949-375-7004	CC Hardcopy report to	PDF Electronic Version Only		
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	CC Hardcopy report to	see additional comments below		

TAT: Standard 30 day	X	Rush		Mark One	
If Rush, Date due					
QC level Required: Standard		Special	EPA Stage 4	Mark one	
NJ Reduced Deliverable Package?					
MA MCP Cert?		CT RCP Cert?		Mark One	
Lab Project ID (lab use)					

SAMPLE ID — One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX — DRINKING WATER WP, GROUND WATER WG, WASTE WATER WW, FREE PRODUCT LF, SOIL SO, OIL OL, WIPE AA, AMBIENT AIR AE, SVE AIR, SOIL GAS; MATRIX — WATER W, SURFACE WATER WS, WATER QC WQ, SLUDGE SL, RINSEATE WH, OTHER OT, ANIMAL TISSUE TA

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	EPA 9012 A Cyanide	EPA 350.1/365.1	EPA 9056/SM 2540C	SM 5540C	SM 2320B Alkalinity	EPA 9045C pH	SM 2540D TSS	Comments/Lab Sample I.D.
1	M-147B	WG	G	11/2/2009	1000	1	N					X				X							250 ml Plastic
2	M-147B	WG	G	11/2/2009		1	N		X								X						250 ml Plastic
3	M-147B	WG	G	11/2/2009		1	N	X										X					250 ml Plastic
4	M-147B	WG	G	11/2/2009		1	N	X											X				500 ml Plastic
5	M-147B	WG	G	11/2/2009		1	N	X												X			250 ml Plastc
6	M-147B	WG	G	11/2/2009		1	N	X													X		125 ml Plastic
7	M-147B	WG	G	11/2/2009		1	N	X														X	1 L Plastic
8																							
9	JWO																						
10																							
11																							
12																							

Additional Comments/Special Instructions:
Omit As and Se from Metals 6010/6020
All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	11/2	1400	[signature] GES	11/2	1400
[signature] GES	11/2	1600	Matt [signature] CAS	11/3/09	0940

SHIPPING METHOD (mark as appropriate): UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER: [signature] DATE Signed 11/2 Time: 1210

Sample Receipt Conditions			
Temp in °C	Samples on Ice?	Sample intact?	Trip Blank?
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

R0906270

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(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

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COC No. 2027.001.01105
Page: 1 of 4
Cooler # ____ of ____

Collection Area: III

Required Ship to Lab:

Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.
Address:	1 Mustard Street, Suite 250
	Rochester, NY 14609
Lab PM:	Janice Jaeger
Phone/Fax:	(585)288-5380
Lab PM email	jjaeger@caslab.com
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	TRONOX LLC. HENDERSON
Project #	2027.001
Site Address	560 W. Lake Mead Drive
City	Henderson
State	NV
Site PM Name	Derrick Willis
Phone/Fax:	949-375-7004
Site PM Email:	derrick.willis@ngem.com

Required Invoice Information:

Send Invoice to:	Susan Crowley Tronox LLC
Address:	PO Box 55
City/State	Henderson, NV 89009
Phone #:	(949)260-9293
Reimbursement project?	X
Non-reimbursement project?	Mark one
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to	PDF Electronic Version Only
CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush		Mark One	
If Rush, Date due					
QC level Required: Standard		Special	EPA Stage 4	Mark one	
NJ Reduced Deliverable Package?					
MA MCP Cert?		CT RCP Cert?		Mark One	

Lab Project ID (lab use)

Valid Matrix Codes: MATRIX — DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LF; SOIL SO; OIL SW; WIPE AA; AMBIENT AIR AE; SVE AIR GS; SOIL GAS — MATRIX — WATER W; SURFACE WATER WS; WATER QC WQ; SLUDGE SL; RINSEATE WN; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 8260B VOC	EPA 8060 TOC	EPA 8270C SVOC	EPA 8081 OCP	EPA 6010B/6020	EPA 314.0 Perchlorate	EPA 9056 Chloride	EPA 218.6 Hex Chrom	Comments/Lab Sample I.D.
1	M-147B	WG	G	11/2/2009	1000	3	N				X					X								3 x 40 ml VOAs
2	M-147B	WG	G	11/2/2009		2	N		X								X							2 x 40 ml VOAs
3	M-147B	WG	G	11/2/2009		2	N	X										X						2 x 1 L Amber Glass
4	M-147B	WG	G	11/2/2009		2	N	X											X					2 x 1 L Amber Glass
5	M-147B	WG	G	11/2/2009		1	N			X										X				500 ml Plastic
6	~~M-147BDISS~~	~~WG~~	~~G~~	~~11/2/2009~~		~~1~~	~~Y~~			~~X~~										~~X~~				~~500 ml Plastic~~ JWO
7	M-147B	WG	G	11/2/2009	1000	1	N	X													X			250 ml Plastic
8	M-147B	WG	G	11/2/2009		1	N								X							X		250 ml Amber Glass
9	M-147B	WG	G	11/2/2009		1	Y								X								X	125 ml Plastic
10																								
11	JWO																							
12																								

Additional Comments/Special Instructions:

Omit As and Se from Metals 6010/6020
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Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	11/2	1400		11/2	1400
GES	11/2	1600	CAS	11/3/09	0940

Sample Receipt Conditions

	Temp in °C	Samples on Ice?	Sample intact?	Trip Blank?
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N

SHIPPING METHOD: (mark as appropriate) UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER:
DATE Signed 11/2 Time: 1210

CT005

R0906276

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environmental management, inc.
1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

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COC No. 2027.001.01105
Page: 4 of 4
Cooler # ____ of ____
Collection Area: III

Required Ship to Lab:

Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.
Address:	1 Mustard Street, Suite 250
	Rochester, NY 14609
Lab PM:	Janice Jaeger
Phone/Fax:	(585)288-5380
Lab PM email	jjaeger@caslab.com
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	TRONOX LLC. HENDERSON		
Project #	2027.001		
Site Address	560 W. Lake Mead Drive		
City	Henderson	State	NV
Site PM Name	Derrick Willis		
Phone/Fax:	949-375-7004		
Site PM Email:	derrick.willis@ngem.com		

Required Invoice Information:

Send Invoice to:	Susan Crowley Tronox LLC		
Address:	PO Box 55		
City/State	Henderson, NV 89009	Phone #:	(949)260-9293
Reimbursement project?	X	Non-reimbursement project?	Mark one
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com		
CC Hardcopy report to	PDF Electronic Version Only		
CC Hardcopy report to	see additional comments below		

TAT: Standard 30 day	X	Rush		Mark One	
If Rush, Date due					
QC level Required: Standard		Special	EPA Stage 4	Mark one	
NJ Reduced Deliverable Package?					
MA MCP Cert?		CT RCP Cert?		Mark One	

Lab Project ID (lab use)

Valid Matrix Codes: MATRIX — DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LF; SOIL SO; OIL OL; WIPE WI; AMBIENT AIR AA; SVE AIR AS; SOIL GAS SG; WATER W; SURFACE WATER WS; WATER QC WQ; SLUDGE SL; RINSEATE RI; OTHER OT; ANNUAL TISSUE TA

ITEM #	SAMPLE ID — One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 9012A Cyanide	EPA 350.1/365.1	EPA 9056/6M 25/40C	SM 554NC	SM 2320B Alkalinity	EPA 9040C pH	SM 2540D TSS	Comments/Lab Sample I.D.
1	M-147009B	WG	G	11/2/2009	1000	1	N					X				X							250 ml Plastic
2	M-147009B	WG	G	11/2/2009		1	N		X								X						250 ml Plastic
3	M-147009B	WG	G	11/2/2009		1	N	X										X					250 ml Plastic
4	M-147009B	WG	G	11/2/2009		1	N	X											X				500 ml Plastic
5	M-147009B	WG	G	11/2/2009		1	N	X												X			250 ml Plastic
6	M-147009B	WG	G	11/2/2009		1	N	X													X		125 ml Plastic
7	M-147009B	WG	G	11/2/2009		2	N	X														X	~~1L Plastic~~ 2x500 mL plastic
8	JWO																						
9																							
10																							
11																							
12																							

Additional Comments/Special Instructions:
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cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Josh W Otis GBS	11/2	1400	GBS	11/2	1400
GBS	11/2	1600	MWH Conn CAL	11/3/09	0940

Sample Receipt Conditions

	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SHIPPING METHOD: (mark as appropriate) UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER: DATE Signed 11/2 Time: 1210

Temp in OC | Samples on Ice? | Sample Intact? | Trip Blank?

T9369

R0906270

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COC No. 2027.001.01105
Page: 3 of 4
Cooler # ____ of ____
Collection Area: III

Required Ship to Lab:

Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.
Address:	1 Mustard Street, Suite 250
	Rochester, NY 14609
Lab PM:	Janice Jaeger
Phone/Fax:	(585)288-5380
Lab PM email	jjaeger@caslab.com
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	TRONOX LLC. HENDERSON
Project #	2027.001
Site Address	560 W. Lake Mead Drive
City	Henderson
State	NV
Site PM Name	Derrick Willis
Phone/Fax:	949-375-7004
Site PM Email:	derrick.willis@ngem.com

Required Invoice Information:

Send Invoice to:	Susan Crowley Tronox LLC
Address:	PO Box 55
City/State	Henderson, NV 89009
Phone #:	(949)260-9293
Reimbursement project?	X
Non-reimbursement project?	Mark one
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to	PDF Electronic Version Only
CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush		Mark One
If Rush, Date due				
QC level Required: Standard		Special	EPA Stage 4	Mark one
NJ Reduced Deliverable Package?				
MA MCP Cert?		CT RCP Cert?		Mark One
Lab Project ID (lab use)				

Valid Matrix Codes: DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LF; SOIL SO; OIL SL; WIPE WI; AMBIENT AIR AE; SVE AIR GS; WATER W; SURFACE WATER W3; WATER QC W3; SLUDGE SL; RINSEATE WI; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 8260B VOC	EPA 8260 TOC	EPA 8270C SVOC	EPA 8081 OCP	EPA 6010/6020	EPA 314.0 Perchlorate	EPA 8056 Chloride	EPA 218.6 Hex Chrom	Comments/Lab Sample I.D.
1	M-147009B	WG	G	11/2/2009	1000	3	N				X					X								3 x 40 ml VOAs
2	M-147009B	WG	G	11/2/2009		2	N		X								X							2 x 40 ml VOAs
3	M-147009B	WG	G	11/2/2009		2	N	X										X						2 x 1 L Amber Glass
4	M-147009B	WG	G	11/2/2009		2	N	X											X					2 x 1 L Amber Glass
5	M-147009B	WG	G	11/2/2009		1	N			X										X				500 ml Plastic
6	~~M-147009BDISS~~	~~WG~~	~~G~~	~~11/2/2009~~		~~1~~	Y			X										X				500 ml Plastic JWO
7	M-147009B	WG	G	11/2/2009	1000	1	N	X													X			250 ml Plastic
8	M-147009B	WG	G	11/2/2009		1	N								X							X		250 ml Amber Glass
9	M-147009B	WG	G	11/2/2009		1	Y								X								X	125 ml Plastic
10																								
11	JWO																							
12																								

Additional Comments/Special Instructions:

Omit As and Se from Metals 6010/6020
All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	11/2	1400	[signature] GRS	11/2	1400
[signature] GRS	11/2	1600	Matt Cun CAS	11/3	0940

SHIPPING METHOD: (mark as appropriate) UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER: [signature] DATE Signed 11/2 Time: 1210

Sample Receipt Conditions	Temp in OC	Samples on Ice?	Sample Intact?	Trip Blank?
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N

9021509

R0906270

northgate
environmental management, inc.

1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.01133
Page: 2 of 2
Cooler # ____ of ____

Collection Area: III

Required Ship to Lab:		Required Project Information:		Required Invoice Information:			
Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.	Site ID #:	TRONOX LLC. HENDERSON	Send Invoice to:	Susan Crowley Tronox LLC	TAT: Standard 30 day	X
Address:	1 Mustard Street, Suite 250	Project #	2027.001	Address:	PO Box 55	If Rush, Date due	
Rochester, NY 14609		Site Address	560 W. Lake Mead Drive	City/State	Henderson, NV 89009	Phone #:	(949)260-9293
Lab PM:	Janice Jaeger	City	Henderson	State	NV	Reimbursement project?	X
Phone/Fax:	(585)288-5380	Site PM Name	Derrick Willis	Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com		
Lab PM email	jjaeger@caslab.com	Phone/Fax:	949-375-7004	CC Hardcopy report to	PDF Electronic Version Only		
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	CC Hardcopy report to	see additional comments below		

TAT: Standard 30 day	X	Rush		Mark One
If Rush, Date due				
QC level Required: Standard		Special	EPA Stage 4	Mark one
NJ Reduced Deliverable Package?				
MA MCP Cert?		CT RCP Cert?		Mark One

Lab Project ID (lab use)

Valid Matrix Codes: MATRIX — DRINKING WATER WP; GROUND WATER WG; WASTE WATER LF; FREE PRODUCT SO; SOIL SW; OIL AA; WIPE AE; AMBIENT AIR; SOIL GAS; WATER W; WATER QC WQ; SLUDGE SL; RINSEATE RW; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID — One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 8012 A Cyanide	EPA 350.1/365.1	EPA 9056/SM 4500C	SM 5540C	SM 2320B Alkalinity	EPA 6010C pR	SM 2540D TSS	Comments/Lab Sample I.D.
1	EB110209-GWA3	WG	G	11/2/2009	1240	1	N					X				X							250 ml Plastic
2	EB110209-GWA3	WG	G	11/2/2009		1	N		X								X						250 ml Plastic
3	EB110209-GWA3	WG	G	11/2/2009		1	N	X										X					250 ml Plastic
4	EB110209-GWA3	WG	G	11/2/2009		1	N	X											X				500 ml Plastic
5	EB110209-GWA3	WG	G	11/2/2009		1	N	X												X			250 ml Plastc
6	EB110209-GWA3	WG	G	11/2/2009		1	N	X													X		125 ml Plastic
7	EB110209-GWA3	WG	G	11/2/2009		1	N	X														X	1 L Plastic
8																							
9																							
10	JWO																						
11																							
12																							

Additional Comments/Special Instructions:
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Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	11/2	1400	[signature] GES	11/2	1400
[signature] GES	11/2	1600	[signature] CAS	11/3/09	0940

SHIPPING METHOD: (mark as appropriate) UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER: [signature]
DATE Signed 11/2 Time: 1330

Sample Receipt Conditions

	Temp in OC	Samples on Ice?	Sample Intact?	Trip Blank?
	Y / N	Y / N	Y / N	
	Y / N	Y / N	Y / N	
	Y / N	Y / N	Y / N	
	Y / N	Y / N	Y / N	

5995

R0906270

northgate environmental management, inc.
1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

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COC No. 2027.001.01133
Page: 1 of 2
Cooler # ____ of ____
Collection Area: III

Required Ship to Lab:		Required Project Information:		Required Invoice Information:	
Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.	Site ID #:	TRONOX LLC. HENDERSON	Send Invoice to:	Susan Crowley, Tronox LLC
Address:	1 Mustard Street, Suite 250	Project #	2027.001	Address:	PO Box 55
	Rochester, NY 14609	Site Address	560 W. Lake Mead Drive	City/State	Henderson, NV 89009; Phone #: (949)260-9293
Lab PM:	Janice Jaeger	City	Henderson; State NV	Reimbursement project?	X; Non-reimbursement project? ___ Mark one
Phone/Fax:	(585)288-5380	Site PM Name	Derrick Willis	Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
Lab PM email	jjaeger@caslab.com	Phone/Fax:	949-375-7004	CC Hardcopy report to	PDF Electronic Version Only
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X; Rush ___ Mark One
If Rush, Date due	
QC level Required: Standard	Special; EPA Stage 4; Mark one
NJ Reduced Deliverable Package?	
MA MCP Cert?	CT RCP Cert? ___ Mark One
Lab Project ID (lab use)	

SAMPLE ID: One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE

Valid Matrix Codes — MATRIX: DRINKING WATER, GROUND WATER, WASTE WATER, FREE PRODUCT, SOIL, OIL, WIPE, AMBIENT AIR, SVE AIR, SOIL GAS; MATRIX: WATER (W), SURFACE WATER (WS), WATER QC (WQ), SLUDGE (SL), RINSEATE (WH), OTHER (OT), ANIMAL TISSUE (TA)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	FIELD FILTERED? (Y/N)	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	EPA 8260B VOC	EPA 9060 TOC	EPA 8270C SVOC	EPA 8081 OCP	EPA 6010B/6020	EPA 314.0 Perchlorate	EPA 9056 Chloride	EPA 7199 Hex Chrom	Comments/Lab Sample I.D.
1	EB110209-GWA3	W	G	11/2/2009	1240	3	N				X					X								3 x 40 ml VOAs
2	EB110209-GWA3	W	G	11/2/2009		2	N		X								X							2 x 40 ml VOAs
3	EB110209-GWA3	W	G	11/2/2009		2	N	X										X						2 x 1 L Amber Glass
4	EB110209-GWA3	W	G	11/2/2009		2	N	X											X					2 x 1 L Amber Glass
5	EB110209-GWA3	W	G	11/2/2009		1	N			X										X				500 ml Plastic
6	EB110209-GWA3	W	G	11/2/2009		1	N	X													X			250 ml Plastic
7	EB110209-GWA3	W	G	11/2/2009		1	N								X							X		250 ml Amber Glass
8	EB110209-GWA3	W	G	11/2/2009		1	N	X						JWO	~~X~~								X	125 ml Plastic
9	TB110209-GWA3	W	G	11/2/2009	0930	1	N				X					X								2x 40 ml VOA
10	JWO																							
11																								
12																								

Additional Comments/Special Instructions:
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frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	11/2	1400	[signature] GES	11/2	1400
[signature] GES	11/2	1600	[signature] (CA)	11/3	0940

SHIPPING METHOD: (mark as appropriate) UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER: [signature] DATE Signed 11/2 Time 1210

Sample Receipt Conditions			
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
Temp in OC	Samples on Ice?	Sample intact?	Trip Blank?

00017

K0901171

Cooler Receipt And Preservation Check Form

Project/Client Henderson groundwater Submission Number R0906270

Cooler received on 11/3/09 by: KLC **COURIER:** CAS UPS (FEDEX) VELOCITY CLIENT

1.	Were custody seals on outside of cooler?	(YES)	NO			
2.	Were custody papers properly filled out (ink, signed, etc.)?	(YES)	NO			
3.	Did all bottles arrive in good condition (unbroken)?	(YES)	NO			
4.	Did any VOA vials have significant* air bubbles?	YES	(NO)	N/A		
5.	Were Ice or **Ice packs** present?	(YES)	NO			
6.	Where did the bottles originate?		(CAS/ROC.)	CLIENT		
7.	Temperature of cooler(s) upon receipt:	4°	3°	3°	3°	4°
	Is the temperature within 0° - 6° C?:	(Yes)	(Yes)	(Yes)	(Yes)	(Yes)
	If No, Explain Below	No	No	No	No	No

Date/Time Temperatures Taken: 11/3/09 0945

Thermometer ID: 161 / IR GUN#2 / (IR GUN#3) Reading From: (Temp Blank) / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: _____

PC Secondary Review: MRP 11/3/09

Cooler Breakdown: Date: 11/3/09 by: MRP / BD

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO
2.	Did all bottle labels and tags agree with custody papers?	(YES)	NO
3.	Were correct containers used for the tests indicated?	(YES)	NO
4.	Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated		(N/A)

Explain any discrepancies: _____

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH	✓		WX85302G	5/14				
≤2	HNO_3	✓		BDB2696A	9/10				
≤2	H_2SO_4	✓		WC92064B	10/10				
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid					
	$Na_2S_2O_3$	-	-						
	Zn Aceta	-	-						
	HCl	*	*						

*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 100509-1NN, 100509-2NN, 090709-2JJ, 081009-1FF

Other Comments:

PC Secondary Review: JNS 11/9/09 *significant air bubbles are greater than 5-6 mm

H:\SMODOCS\Cooler Receipt 2.doc

Cooler Receipt And Preservation Check Form

Project/Client Henderson Submission Number R0906270

Cooler received on 111309 by: MVC **COURIER:** CAS UPS (FEDEX) VELOCITY CLIENT

1.	Were custody seals on outside of cooler?	(YES)	NO			
2.	Were custody papers properly filled out (ink, signed, etc.)?	(YES)	NO			
3.	Did all bottles arrive in good condition (unbroken)?	(YES)	NO			
4.	Did any VOA vials have significant* air bubbles?	YES	NO	(N/A)		
5.	Were **Ice** or **Ice packs** present?	(YES)	NO			
6.	Where did the bottles originate?	(CAS/ROC)	CLIENT			
7.	Temperature of cooler(s) upon receipt:	1°				
	Is the temperature within 0° - 6° C?:	(Yes)	Yes	Yes	Yes	Yes
	If No, Explain Below	No	No	No	No	No

Date/Time Temperatures Taken: 111309 0830

Thermometer ID: 161 / IR GUN#2 / (IR GUN#3) Reading From: (Temp Blank) / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: _____

PC Secondary Review: _____

Cooler Breakdown: Date: 11/3/09 by: MRP/BD

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO
2.	Did all bottle labels and tags agree with custody papers?	(YES)	NO
3.	Were correct containers used for the tests indicated?	(YES)	NO
4.	Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated		(N/A)

Explain any discrepancies: _____

pH	Reagent	YES	NO	Lot Received	Exp
≥12	NaOH	✓		WC853026	5/14
≤2	HNO_3	✓		BDB2696A	9/10
≤2	H_2SO_4	✓		WC92064B	10/10
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid	
	$Na_2S_2O_3$	-	-		
	Zn Aceta	-	-		
	HCl	*	*		

Sample ID	Vol. Added	Lot Added	Final pH

*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 100509-1NN, 100509-2NN, 090709-2JJ, 081009-1FF

Other Comments:

PC Secondary Review: JMS 11/9/09 *significant air bubbles are greater than 5-6 mm

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147B	**Units:**	µg/L
Lab Code:	R0906270-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	0.18	U	1.0	0.18	1	NA	11/11/09 12:54		178949	
1,1,1-Trichloroethane (TCA)	0.32	U	1.0	0.32	1	NA	11/11/09 12:54		178949	
1,1,2,2-Tetrachloroethane	0.090	U	1.0	0.090	1	NA	11/11/09 12:54		178949	
1,1,2-Trichloroethane	0.20	U	1.0	0.20	1	NA	11/11/09 12:54		178949	
1,1-Dichloroethane (1,1-DCA)	0.14	U	1.0	0.14	1	NA	11/11/09 12:54		178949	
1,1-Dichloroethene (1,1-DCE)	0.37	U	1.0	0.37	1	NA	11/11/09 12:54		178949	
1,1-Dichloropropene	0.21	U	2.0	0.21	1	NA	11/11/09 12:54		178949	
1,2,3-Trichlorobenzene	0.25	U	2.0	0.25	1	NA	11/11/09 12:54		178949	
1,2,3-Trichloropropane	0.30	U	2.0	0.30	1	NA	11/11/09 12:54		178949	
1,2,4-Trichlorobenzene	0.19	U	2.0	0.19	1	NA	11/11/09 12:54		178949	
1,2,4-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/11/09 12:54		178949	
1,2-Dibromo-3-chloropropane (DBCP)	0.43	U	5.0	0.43	1	NA	11/11/09 12:54		178949	
1,2-Dibromoethane	0.18	U	1.0	0.18	1	NA	11/11/09 12:54		178949	
1,2-Dichlorobenzene	0.40	U	2.0	0.40	1	NA	11/11/09 12:54		178949	
1,2-Dichloroethane	0.14	U	1.0	0.14	1	NA	11/11/09 12:54		178949	
1,2-Dichloropropane	0.15	U	1.0	0.15	1	NA	11/11/09 12:54		178949	
1,3,5-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/11/09 12:54		178949	
1,3-Dichlorobenzene	0.36	U	2.0	0.36	1	NA	11/11/09 12:54		178949	
1,3-Dichloropropane	0.12	U	2.0	0.12	1	NA	11/11/09 12:54		178949	
1,4-Dichlorobenzene	0.34	U	2.0	0.34	1	NA	11/11/09 12:54		178949	
2,2-Dichloropropane	0.20	U	2.0	0.20	1	NA	11/11/09 12:54		178949	
2-Butanone (MEK)	1.0	U	10	1.0	1	NA	11/11/09 12:54		178949	
2-Chlorotoluene	0.38	U	5.0	0.38	1	NA	11/11/09 12:54		178949	
2-Hexanone	0.40	U	10	0.40	1	NA	11/11/09 12:54		178949	
2-Methyl-2-propanol	3.0	U	100	3.0	1	NA	11/11/09 12:54		178949	
4-Chlorotoluene	0.37	U	5.0	0.37	1	NA	11/11/09 12:54		178949	
4-Isopropyltoluene	0.22	U	2.0	0.22	1	NA	11/11/09 12:54		178949	
4-Methyl-2-pentanone	0.34	U	10	0.34	1	NA	11/11/09 12:54		178949	
Acetone	1.6	U	20	1.6	1	NA	11/11/09 12:54		178949	
Benzene	0.18	U	1.0	0.18	1	NA	11/11/09 12:54		178949	
Bromobenzene	0.33	U	2.0	0.33	1	NA	11/11/09 12:54		178949	
Bromochloromethane	0.18	U	2.0	0.18	1	NA	11/11/09 12:54		178949	
Bromodichloromethane	0.17	U	1.0	0.17	1	NA	11/11/09 12:54		178949	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147B	**Units:**	µg/L
Lab Code:	R0906270-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	0.20	U	1.0	0.20	1	NA	11/11/09 12:54		178949	
Bromomethane	0.40	U	2.0	0.40	1	NA	11/11/09 12:54		178949	
Carbon Tetrachloride	0.36	U	1.0	0.36	1	NA	11/11/09 12:54		178949	
Chlorobenzene	0.26	U	1.0	0.26	1	NA	11/11/09 12:54		178949	
Chloroethane	0.21	U	2.0	0.21	1	NA	11/11/09 12:54		178949	
Chloroform	**43**		1.0	0.16	1	NA	11/11/09 12:54		178949	
Chloromethane	0.18	U	2.0	0.18	1	NA	11/11/09 12:54		178949	
Dibromochloromethane	0.11	U	1.0	0.11	1	NA	11/11/09 12:54		178949	
Dibromomethane	0.18	U	1.0	0.18	1	NA	11/11/09 12:54		178949	
Dichlorodifluoromethane (CFC 12)	0.18	U	1.0	0.18	1	NA	11/11/09 12:54		178949	
Dichloromethane	0.13	U	2.0	0.13	1	NA	11/11/09 12:54		178949	
Diisopropyl Ether	0.090	U	1.0	0.090	1	NA	11/11/09 12:54		178949	
Ethyl tert-Butyl Ether	0.12	U	1.0	0.12	1	NA	11/11/09 12:54		178949	
Ethylbenzene	0.42	U	1.0	0.42	1	NA	11/11/09 12:54		178949	
Hexachlorobutadiene	0.27	U	5.0	0.27	1	NA	11/11/09 12:54		178949	
Isopropylbenzene (Cumene)	0.34	U	2.0	0.34	1	NA	11/11/09 12:54		178949	
Methyl tert-Butyl Ether	0.13	U	1.0	0.13	1	NA	11/11/09 12:54		178949	
Naphthalene	0.31	U	2.0	0.31	1	NA	11/11/09 12:54		178949	
Styrene	0.36	U	1.0	0.36	1	NA	11/11/09 12:54		178949	
Tetrachloroethene (PCE)	**0.48**	J	1.0	0.42	1	NA	11/11/09 12:54		178949	
Toluene	0.21	U	1.0	0.21	1	NA	11/11/09 12:54		178949	
Trichloroethene (TCE)	0.19	U	1.0	0.19	1	NA	11/11/09 12:54		178949	
Trichlorofluoromethane (CFC 11)	0.16	U	1.0	0.16	1	NA	11/11/09 12:54		178949	
Vinyl Chloride	0.22	U	1.0	0.22	1	NA	11/11/09 12:54		178949	
cis-1,2-Dichloroethene	0.14	U	1.0	0.14	1	NA	11/11/09 12:54		178949	
cis-1,3-Dichloropropene	0.14	U	1.0	0.14	1	NA	11/11/09 12:54		178949	
m,p-Xylenes	0.81	U	2.0	0.81	1	NA	11/11/09 12:54		178949	
n-Butylbenzene	0.20	U	5.0	0.20	1	NA	11/11/09 12:54		178949	
n-Propylbenzene	0.32	U	2.0	0.32	1	NA	11/11/09 12:54		178949	
o-Xylene	0.40	U	1.0	0.40	1	NA	11/11/09 12:54		178949	
sec-Butylbenzene	0.23	U	2.0	0.23	1	NA	11/11/09 12:54		178949	
tert-Amyl Methyl Ether	0.13	U	1.0	0.13	1	NA	11/11/09 12:54		178949	
tert-Butylbenzene	0.28	U	2.0	0.28	1	NA	11/11/09 12:54		178949	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147B	**Units:**	µg/L
Lab Code:	R0906270-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
trans-1,2-Dichloroethene	0.16	U	1.0	0.16	1	NA	11/11/09 12:54		178949	
trans-1,3-Dichloropropene	0.17	U	1.0	0.17	1	NA	11/11/09 12:54		178949	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	105	70-130	11/11/09 12:54		
Dibromofluoromethane	115	70-130	11/11/09 12:54		
Toluene-d8	111	70-130	11/11/09 12:54		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147009B	**Units:**	µg/L
Lab Code:	R0906270-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	0.18	U	1.0	0.18	1	NA	11/12/09 14:29		179136	
1,1,1-Trichloroethane (TCA)	0.32	U	1.0	0.32	1	NA	11/12/09 14:29		179136	
1,1,2,2-Tetrachloroethane	0.090	U	1.0	0.090	1	NA	11/12/09 14:29		179136	
1,1,2-Trichloroethane	0.20	U	1.0	0.20	1	NA	11/12/09 14:29		179136	
1,1-Dichloroethane (1,1-DCA)	0.14	U	1.0	0.14	1	NA	11/12/09 14:29		179136	
1,1-Dichloroethene (1,1-DCE)	0.37	U	1.0	0.37	1	NA	11/12/09 14:29		179136	
1,1-Dichloropropene	0.21	U	2.0	0.21	1	NA	11/12/09 14:29		179136	
1,2,3-Trichlorobenzene	0.25	U	2.0	0.25	1	NA	11/12/09 14:29		179136	
1,2,3-Trichloropropane	0.30	U	2.0	0.30	1	NA	11/12/09 14:29		179136	
1,2,4-Trichlorobenzene	0.19	U	2.0	0.19	1	NA	11/12/09 14:29		179136	
1,2,4-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/12/09 14:29		179136	
1,2-Dibromo-3-chloropropane (DBCP)	0.43	U	5.0	0.43	1	NA	11/12/09 14:29		179136	
1,2-Dibromoethane	0.18	U	1.0	0.18	1	NA	11/12/09 14:29		179136	
1,2-Dichlorobenzene	0.40	U	2.0	0.40	1	NA	11/12/09 14:29		179136	
1,2-Dichloroethane	0.14	U	1.0	0.14	1	NA	11/12/09 14:29		179136	
1,2-Dichloropropane	0.15	U	1.0	0.15	1	NA	11/12/09 14:29		179136	
1,3,5-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/12/09 14:29		179136	
1,3-Dichlorobenzene	0.36	U	2.0	0.36	1	NA	11/12/09 14:29		179136	
1,3-Dichloropropane	0.12	U	2.0	0.12	1	NA	11/12/09 14:29		179136	
1,4-Dichlorobenzene	0.34	U	2.0	0.34	1	NA	11/12/09 14:29		179136	
2,2-Dichloropropane	0.20	U	2.0	0.20	1	NA	11/12/09 14:29		179136	
2-Butanone (MEK)	1.0	U	10	1.0	1	NA	11/12/09 14:29		179136	
2-Chlorotoluene	0.38	U	5.0	0.38	1	NA	11/12/09 14:29		179136	
2-Hexanone	0.40	U	10	0.40	1	NA	11/12/09 14:29		179136	
2-Methyl-2-propanol	3.0	U	100	3.0	1	NA	11/12/09 14:29		179136	
4-Chlorotoluene	0.37	U	5.0	0.37	1	NA	11/12/09 14:29		179136	
4-Isopropyltoluene	0.22	U	2.0	0.22	1	NA	11/12/09 14:29		179136	
4-Methyl-2-pentanone	0.34	U	10	0.34	1	NA	11/12/09 14:29		179136	
Acetone	1.6	U	20	1.6	1	NA	11/12/09 14:29		179136	
Benzene	0.18	U	1.0	0.18	1	NA	11/12/09 14:29		179136	
Bromobenzene	0.33	U	2.0	0.33	1	NA	11/12/09 14:29		179136	
Bromochloromethane	0.18	U	2.0	0.18	1	NA	11/12/09 14:29		179136	
Bromodichloromethane	0.17	U	1.0	0.17	1	NA	11/12/09 14:29		179136	

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147009B	**Units:**	µg/L
Lab Code:	R0906270-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	0.20	U	1.0	0.20	1	NA	11/12/09 14:29		179136	
Bromomethane	0.40	U	2.0	0.40	1	NA	11/12/09 14:29		179136	
Carbon Tetrachloride	0.36	U	1.0	0.36	1	NA	11/12/09 14:29		179136	
Chlorobenzene	0.26	U	1.0	0.26	1	NA	11/12/09 14:29		179136	
Chloroethane	0.21	U	2.0	0.21	1	NA	11/12/09 14:29		179136	
Chloroform	**41**		1.0	0.16	1	NA	11/12/09 14:29		179136	
Chloromethane	0.18	U	2.0	0.18	1	NA	11/12/09 14:29		179136	
Dibromochloromethane	0.11	U	1.0	0.11	1	NA	11/12/09 14:29		179136	
Dibromomethane	0.18	U	1.0	0.18	1	NA	11/12/09 14:29		179136	
Dichlorodifluoromethane (CFC 12)	0.18	U	1.0	0.18	1	NA	11/12/09 14:29		179136	
Dichloromethane	0.13	U	2.0	0.13	1	NA	11/12/09 14:29		179136	
Diisopropyl Ether	0.090	U	1.0	0.090	1	NA	11/12/09 14:29		179136	
Ethyl tert-Butyl Ether	0.12	U	1.0	0.12	1	NA	11/12/09 14:29		179136	
Ethylbenzene	0.42	U	1.0	0.42	1	NA	11/12/09 14:29		179136	
Hexachlorobutadiene	0.27	U	5.0	0.27	1	NA	11/12/09 14:29		179136	
Isopropylbenzene (Cumene)	0.34	U	2.0	0.34	1	NA	11/12/09 14:29		179136	
Methyl tert-Butyl Ether	0.13	U	1.0	0.13	1	NA	11/12/09 14:29		179136	
Naphthalene	0.31	U	2.0	0.31	1	NA	11/12/09 14:29		179136	
Styrene	0.36	U	1.0	0.36	1	NA	11/12/09 14:29		179136	
Tetrachloroethene (PCE)	**0.55**	J	1.0	0.42	1	NA	11/12/09 14:29		179136	
Toluene	0.21	U	1.0	0.21	1	NA	11/12/09 14:29		179136	
Trichloroethene (TCE)	0.19	U	1.0	0.19	1	NA	11/12/09 14:29		179136	
Trichlorofluoromethane (CFC 11)	0.16	U	1.0	0.16	1	NA	11/12/09 14:29		179136	
Vinyl Chloride	0.22	U	1.0	0.22	1	NA	11/12/09 14:29		179136	
cis-1,2-Dichloroethene	0.14	U	1.0	0.14	1	NA	11/12/09 14:29		179136	
cis-1,3-Dichloropropene	0.14	U	1.0	0.14	1	NA	11/12/09 14:29		179136	
m,p-Xylenes	0.81	U	2.0	0.81	1	NA	11/12/09 14:29		179136	
n-Butylbenzene	0.20	U	5.0	0.20	1	NA	11/12/09 14:29		179136	
n-Propylbenzene	0.32	U	2.0	0.32	1	NA	11/12/09 14:29		179136	
o-Xylene	0.40	U	1.0	0.40	1	NA	11/12/09 14:29		179136	
sec-Butylbenzene	0.23	U	2.0	0.23	1	NA	11/12/09 14:29		179136	
tert-Amyl Methyl Ether	0.13	U	1.0	0.13	1	NA	11/12/09 14:29		179136	
tert-Butylbenzene	0.28	U	2.0	0.28	1	NA	11/12/09 14:29		179136	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147009B	**Units:**	µg/L
Lab Code:	R0906270-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
trans-1,2-Dichloroethene	0.16	U	1.0	0.16	1	NA	11/12/09 14:29		179136	
trans-1,3-Dichloropropene	0.17	U	1.0	0.17	1	NA	11/12/09 14:29		179136	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	99	70-130	11/12/09 14:29		
Dibromofluoromethane	110	70-130	11/12/09 14:29		
Toluene-d8	104	70-130	11/12/09 14:29		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1240
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	EB110209-GWA3	**Units:**	µg/L
Lab Code:	R0906270-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	0.18	U	1.0	0.18	1	NA	11/11/09 13:49		178949	
1,1,1-Trichloroethane (TCA)	0.32	U	1.0	0.32	1	NA	11/11/09 13:49		178949	
1,1,2,2-Tetrachloroethane	0.090	U	1.0	0.090	1	NA	11/11/09 13:49		178949	
1,1,2-Trichloroethane	0.20	U	1.0	0.20	1	NA	11/11/09 13:49		178949	
1,1-Dichloroethane (1,1-DCA)	0.14	U	1.0	0.14	1	NA	11/11/09 13:49		178949	
1,1-Dichloroethene (1,1-DCE)	0.37	U	1.0	0.37	1	NA	11/11/09 13:49		178949	
1,1-Dichloropropene	0.21	U	2.0	0.21	1	NA	11/11/09 13:49		178949	
1,2,3-Trichlorobenzene	0.25	U	2.0	0.25	1	NA	11/11/09 13:49		178949	
1,2,3-Trichloropropane	0.30	U	2.0	0.30	1	NA	11/11/09 13:49		178949	
1,2,4-Trichlorobenzene	0.19	U	2.0	0.19	1	NA	11/11/09 13:49		178949	
1,2,4-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/11/09 13:49		178949	
1,2-Dibromo-3-chloropropane (DBCP)	0.43	U	5.0	0.43	1	NA	11/11/09 13:49		178949	
1,2-Dibromoethane	0.18	U	1.0	0.18	1	NA	11/11/09 13:49		178949	
1,2-Dichlorobenzene	0.40	U	2.0	0.40	1	NA	11/11/09 13:49		178949	
1,2-Dichloroethane	0.14	U	1.0	0.14	1	NA	11/11/09 13:49		178949	
1,2-Dichloropropane	0.15	U	1.0	0.15	1	NA	11/11/09 13:49		178949	
1,3,5-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/11/09 13:49		178949	
1,3-Dichlorobenzene	0.36	U	2.0	0.36	1	NA	11/11/09 13:49		178949	
1,3-Dichloropropane	0.12	U	2.0	0.12	1	NA	11/11/09 13:49		178949	
1,4-Dichlorobenzene	0.34	U	2.0	0.34	1	NA	11/11/09 13:49		178949	
2,2-Dichloropropane	0.20	U	2.0	0.20	1	NA	11/11/09 13:49		178949	
2-Butanone (MEK)	1.0	U	10	1.0	1	NA	11/11/09 13:49		178949	
2-Chlorotoluene	0.38	U	5.0	0.38	1	NA	11/11/09 13:49		178949	
2-Hexanone	0.40	U	10	0.40	1	NA	11/11/09 13:49		178949	
2-Methyl-2-propanol	3.0	U	100	3.0	1	NA	11/11/09 13:49		178949	
4-Chlorotoluene	0.37	U	5.0	0.37	1	NA	11/11/09 13:49		178949	
4-Isopropyltoluene	0.22	U	2.0	0.22	1	NA	11/11/09 13:49		178949	
4-Methyl-2-pentanone	0.34	U	10	0.34	1	NA	11/11/09 13:49		178949	
Acetone	**4.0**	J	20	1.6	1	NA	11/11/09 13:49		178949	
Benzene	0.18	U	1.0	0.18	1	NA	11/11/09 13:49		178949	
Bromobenzene	0.33	U	2.0	0.33	1	NA	11/11/09 13:49		178949	
Bromochloromethane	0.18	U	2.0	0.18	1	NA	11/11/09 13:49		178949	
Bromodichloromethane	0.17	U	1.0	0.17	1	NA	11/11/09 13:49		178949	

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1240
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	EB110209-GWA3	**Units:**	µg/L
Lab Code:	R0906270-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	0.20	U	1.0	0.20	1	NA	11/11/09 13:49		178949	
Bromomethane	0.40	U	2.0	0.40	1	NA	11/11/09 13:49		178949	
Carbon Tetrachloride	0.36	U	1.0	0.36	1	NA	11/11/09 13:49		178949	
Chlorobenzene	0.26	U	1.0	0.26	1	NA	11/11/09 13:49		178949	
Chloroethane	0.21	U	2.0	0.21	1	NA	11/11/09 13:49		178949	
Chloroform	0.16	U	1.0	0.16	1	NA	11/11/09 13:49		178949	
Chloromethane	0.18	U	2.0	0.18	1	NA	11/11/09 13:49		178949	
Dibromochloromethane	0.11	U	1.0	0.11	1	NA	11/11/09 13:49		178949	
Dibromomethane	0.18	U	1.0	0.18	1	NA	11/11/09 13:49		178949	
Dichlorodifluoromethane (CFC 12)	0.18	U	1.0	0.18	1	NA	11/11/09 13:49		178949	
Dichloromethane	0.13	U	2.0	0.13	1	NA	11/11/09 13:49		178949	
Diisopropyl Ether	0.090	U	1.0	0.090	1	NA	11/11/09 13:49		178949	
Ethyl tert-Butyl Ether	0.12	U	1.0	0.12	1	NA	11/11/09 13:49		178949	
Ethylbenzene	0.42	U	1.0	0.42	1	NA	11/11/09 13:49		178949	
Hexachlorobutadiene	0.27	U	5.0	0.27	1	NA	11/11/09 13:49		178949	
Isopropylbenzene (Cumene)	0.34	U	2.0	0.34	1	NA	11/11/09 13:49		178949	
Methyl tert-Butyl Ether	0.13	U	1.0	0.13	1	NA	11/11/09 13:49		178949	
Naphthalene	0.31	U	2.0	0.31	1	NA	11/11/09 13:49		178949	
Styrene	0.36	U	1.0	0.36	1	NA	11/11/09 13:49		178949	
Tetrachloroethene (PCE)	0.42	U	1.0	0.42	1	NA	11/11/09 13:49		178949	
Toluene	0.21	U	1.0	0.21	1	NA	11/11/09 13:49		178949	
Trichloroethene (TCE)	0.19	U	1.0	0.19	1	NA	11/11/09 13:49		178949	
Trichlorofluoromethane (CFC 11)	0.16	U	1.0	0.16	1	NA	11/11/09 13:49		178949	
Vinyl Chloride	0.22	U	1.0	0.22	1	NA	11/11/09 13:49		178949	
cis-1,2-Dichloroethene	0.14	U	1.0	0.14	1	NA	11/11/09 13:49		178949	
cis-1,3-Dichloropropene	0.14	U	1.0	0.14	1	NA	11/11/09 13:49		178949	
m,p-Xylenes	0.81	U	2.0	0.81	1	NA	11/11/09 13:49		178949	
n-Butylbenzene	0.20	U	5.0	0.20	1	NA	11/11/09 13:49		178949	
n-Propylbenzene	0.32	U	2.0	0.32	1	NA	11/11/09 13:49		178949	
o-Xylene	0.40	U	1.0	0.40	1	NA	11/11/09 13:49		178949	
sec-Butylbenzene	0.23	U	2.0	0.23	1	NA	11/11/09 13:49		178949	
tert-Amyl Methyl Ether	0.13	U	1.0	0.13	1	NA	11/11/09 13:49		178949	
tert-Butylbenzene	0.28	U	2.0	0.28	1	NA	11/11/09 13:49		178949	

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1240
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	EB110209-GWA3	**Units:**	µg/L
Lab Code:	R0906270-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
trans-1,2-Dichloroethene	0.16	U	1.0	0.16	1	NA	11/11/09 13:49		178949	
trans-1,3-Dichloropropene	0.17	U	1.0	0.17	1	NA	11/11/09 13:49		178949	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	105	70-130	11/11/09 13:49		
Dibromofluoromethane	116	70-130	11/11/09 13:49		
Toluene-d8	111	70-130	11/11/09 13:49		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 0930
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	TB110209-GWA3	**Units:**	µg/L
Lab Code:	R0906270-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	0.18	U	1.0	0.18	1	NA	11/12/09 14:57		179136	
1,1,1-Trichloroethane (TCA)	0.32	U	1.0	0.32	1	NA	11/12/09 14:57		179136	
1,1,2,2-Tetrachloroethane	0.090	U	1.0	0.090	1	NA	11/12/09 14:57		179136	
1,1,2-Trichloroethane	0.20	U	1.0	0.20	1	NA	11/12/09 14:57		179136	
1,1-Dichloroethane (1,1-DCA)	0.14	U	1.0	0.14	1	NA	11/12/09 14:57		179136	
1,1-Dichloroethene (1,1-DCE)	0.37	U	1.0	0.37	1	NA	11/12/09 14:57		179136	
1,1-Dichloropropene	0.21	U	2.0	0.21	1	NA	11/12/09 14:57		179136	
1,2,3-Trichlorobenzene	0.25	U	2.0	0.25	1	NA	11/12/09 14:57		179136	
1,2,3-Trichloropropane	0.30	U	2.0	0.30	1	NA	11/12/09 14:57		179136	
1,2,4-Trichlorobenzene	0.19	U	2.0	0.19	1	NA	11/12/09 14:57		179136	
1,2,4-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/12/09 14:57		179136	
1,2-Dibromo-3-chloropropane (DBCP)	0.43	U	5.0	0.43	1	NA	11/12/09 14:57		179136	
1,2-Dibromoethane	0.18	U	1.0	0.18	1	NA	11/12/09 14:57		179136	
1,2-Dichlorobenzene	0.40	U	2.0	0.40	1	NA	11/12/09 14:57		179136	
1,2-Dichloroethane	0.14	U	1.0	0.14	1	NA	11/12/09 14:57		179136	
1,2-Dichloropropane	0.15	U	1.0	0.15	1	NA	11/12/09 14:57		179136	
1,3,5-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/12/09 14:57		179136	
1,3-Dichlorobenzene	0.36	U	2.0	0.36	1	NA	11/12/09 14:57		179136	
1,3-Dichloropropane	0.12	U	2.0	0.12	1	NA	11/12/09 14:57		179136	
1,4-Dichlorobenzene	0.34	U	2.0	0.34	1	NA	11/12/09 14:57		179136	
2,2-Dichloropropane	0.20	U	2.0	0.20	1	NA	11/12/09 14:57		179136	
2-Butanone (MEK)	1.0	U	10	1.0	1	NA	11/12/09 14:57		179136	
2-Chlorotoluene	0.38	U	5.0	0.38	1	NA	11/12/09 14:57		179136	
2-Hexanone	0.40	U	10	0.40	1	NA	11/12/09 14:57		179136	
2-Methyl-2-propanol	3.0	U	100	3.0	1	NA	11/12/09 14:57		179136	
4-Chlorotoluene	0.37	U	5.0	0.37	1	NA	11/12/09 14:57		179136	
4-Isopropyltoluene	0.22	U	2.0	0.22	1	NA	11/12/09 14:57		179136	
4-Methyl-2-pentanone	0.34	U	10	0.34	1	NA	11/12/09 14:57		179136	
Acetone	1.6	U	20	1.6	1	NA	11/12/09 14:57		179136	
Benzene	0.18	U	1.0	0.18	1	NA	11/12/09 14:57		179136	
Bromobenzene	0.33	U	2.0	0.33	1	NA	11/12/09 14:57		179136	
Bromochloromethane	0.18	U	2.0	0.18	1	NA	11/12/09 14:57		179136	
Bromodichloromethane	0.17	U	1.0	0.17	1	NA	11/12/09 14:57		179136	

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 0930
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	TB110209-GWA3	**Units:**	µg/L
Lab Code:	R0906270-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	0.20	U	1.0	0.20	1	NA	11/12/09 14:57		179136	
Bromomethane	0.40	U	2.0	0.40	1	NA	11/12/09 14:57		179136	
Carbon Tetrachloride	0.36	U	1.0	0.36	1	NA	11/12/09 14:57		179136	
Chlorobenzene	0.26	U	1.0	0.26	1	NA	11/12/09 14:57		179136	
Chloroethane	0.21	U	2.0	0.21	1	NA	11/12/09 14:57		179136	
Chloroform	0.16	U	1.0	0.16	1	NA	11/12/09 14:57		179136	
Chloromethane	0.18	U	2.0	0.18	1	NA	11/12/09 14:57		179136	
Dibromochloromethane	0.11	U	1.0	0.11	1	NA	11/12/09 14:57		179136	
Dibromomethane	0.18	U	1.0	0.18	1	NA	11/12/09 14:57		179136	
Dichlorodifluoromethane (CFC 12)	0.18	U	1.0	0.18	1	NA	11/12/09 14:57		179136	
Dichloromethane	0.13	U	2.0	0.13	1	NA	11/12/09 14:57		179136	
Diisopropyl Ether	0.090	U	1.0	0.090	1	NA	11/12/09 14:57		179136	
Ethyl tert-Butyl Ether	0.12	U	1.0	0.12	1	NA	11/12/09 14:57		179136	
Ethylbenzene	0.42	U	1.0	0.42	1	NA	11/12/09 14:57		179136	
Hexachlorobutadiene	0.27	U	5.0	0.27	1	NA	11/12/09 14:57		179136	
Isopropylbenzene (Cumene)	0.34	U	2.0	0.34	1	NA	11/12/09 14:57		179136	
Methyl tert-Butyl Ether	0.13	U	1.0	0.13	1	NA	11/12/09 14:57		179136	
Naphthalene	0.31	U	2.0	0.31	1	NA	11/12/09 14:57		179136	
Styrene	0.36	U	1.0	0.36	1	NA	11/12/09 14:57		179136	
Tetrachloroethene (PCE)	0.42	U	1.0	0.42	1	NA	11/12/09 14:57		179136	
Toluene	0.21	U	1.0	0.21	1	NA	11/12/09 14:57		179136	
Trichloroethene (TCE)	0.19	U	1.0	0.19	1	NA	11/12/09 14:57		179136	
Trichlorofluoromethane (CFC 11)	0.16	U	1.0	0.16	1	NA	11/12/09 14:57		179136	
Vinyl Chloride	0.22	U	1.0	0.22	1	NA	11/12/09 14:57		179136	
cis-1,2-Dichloroethene	0.14	U	1.0	0.14	1	NA	11/12/09 14:57		179136	
cis-1,3-Dichloropropene	0.14	U	1.0	0.14	1	NA	11/12/09 14:57		179136	
m,p-Xylenes	0.81	U	2.0	0.81	1	NA	11/12/09 14:57		179136	
n-Butylbenzene	0.20	U	5.0	0.20	1	NA	11/12/09 14:57		179136	
n-Propylbenzene	0.32	U	2.0	0.32	1	NA	11/12/09 14:57		179136	
o-Xylene	0.40	U	1.0	0.40	1	NA	11/12/09 14:57		179136	
sec-Butylbenzene	0.23	U	2.0	0.23	1	NA	11/12/09 14:57		179136	
tert-Amyl Methyl Ether	0.13	U	1.0	0.13	1	NA	11/12/09 14:57		179136	
tert-Butylbenzene	0.28	U	2.0	0.28	1	NA	11/12/09 14:57		179136	

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 0930
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	TB110209-GWA3	**Units:**	µg/L
Lab Code:	R0906270-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
trans-1,2-Dichloroethene	0.16	U	1.0	0.16	1	NA	11/12/09 14:57		179136	
trans-1,3-Dichloropropene	0.17	U	1.0	0.17	1	NA	11/12/09 14:57		179136	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	96	70-130	11/12/09 14:57		
Dibromofluoromethane	110	70-130	11/12/09 14:57		
Toluene-d8	103	70-130	11/12/09 14:57		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ0911303-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	0.18	U	1.0	0.18	1	NA	11/11/09 12:26		178949	
1,1,1-Trichloroethane (TCA)	0.32	U	1.0	0.32	1	NA	11/11/09 12:26		178949	
1,1,2,2-Tetrachloroethane	0.090	U	1.0	0.090	1	NA	11/11/09 12:26		178949	
1,1,2-Trichloroethane	0.20	U	1.0	0.20	1	NA	11/11/09 12:26		178949	
1,1-Dichloroethane (1,1-DCA)	0.14	U	1.0	0.14	1	NA	11/11/09 12:26		178949	
1,1-Dichloroethene (1,1-DCE)	0.37	U	1.0	0.37	1	NA	11/11/09 12:26		178949	
1,1-Dichloropropene	0.21	U	2.0	0.21	1	NA	11/11/09 12:26		178949	
1,2,3-Trichlorobenzene	**0.29**	J	2.0	0.25	1	NA	11/11/09 12:26		178949	
1,2,3-Trichloropropane	0.30	U	2.0	0.30	1	NA	11/11/09 12:26		178949	
1,2,4-Trichlorobenzene	**0.27**	J	2.0	0.19	1	NA	11/11/09 12:26		178949	
1,2,4-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/11/09 12:26		178949	
1,2-Dibromo-3-chloropropane (DBCP)	0.43	U	5.0	0.43	1	NA	11/11/09 12:26		178949	
1,2-Dibromoethane	0.18	U	1.0	0.18	1	NA	11/11/09 12:26		178949	
1,2-Dichlorobenzene	0.40	U	2.0	0.40	1	NA	11/11/09 12:26		178949	
1,2-Dichloroethane	0.14	U	1.0	0.14	1	NA	11/11/09 12:26		178949	
1,2-Dichloropropane	0.15	U	1.0	0.15	1	NA	11/11/09 12:26		178949	
1,3,5-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/11/09 12:26		178949	
1,3-Dichlorobenzene	0.36	U	2.0	0.36	1	NA	11/11/09 12:26		178949	
1,3-Dichloropropane	0.12	U	2.0	0.12	1	NA	11/11/09 12:26		178949	
1,4-Dichlorobenzene	0.34	U	2.0	0.34	1	NA	11/11/09 12:26		178949	
2,2-Dichloropropane	0.20	U	2.0	0.20	1	NA	11/11/09 12:26		178949	
2-Butanone (MEK)	1.0	U	10	1.0	1	NA	11/11/09 12:26		178949	
2-Chlorotoluene	0.38	U	5.0	0.38	1	NA	11/11/09 12:26		178949	
2-Hexanone	0.40	U	10	0.40	1	NA	11/11/09 12:26		178949	
2-Methyl-2-propanol	3.0	U	100	3.0	1	NA	11/11/09 12:26		178949	
4-Chlorotoluene	0.37	U	5.0	0.37	1	NA	11/11/09 12:26		178949	
4-Isopropyltoluene	0.22	U	2.0	0.22	1	NA	11/11/09 12:26		178949	
4-Methyl-2-pentanone	0.34	U	10	0.34	1	NA	11/11/09 12:26		178949	
Acetone	1.6	U	20	1.6	1	NA	11/11/09 12:26		178949	
Benzene	0.18	U	1.0	0.18	1	NA	11/11/09 12:26		178949	
Bromobenzene	0.33	U	2.0	0.33	1	NA	11/11/09 12:26		178949	
Bromochloromethane	0.18	U	2.0	0.18	1	NA	11/11/09 12:26		178949	
Bromodichloromethane	0.17	U	1.0	0.17	1	NA	11/11/09 12:26		178949	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ0911303-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	0.20	U	1.0	0.20	1	NA	11/11/09 12:26		178949	
Bromomethane	0.40	U	2.0	0.40	1	NA	11/11/09 12:26		178949	
Carbon Tetrachloride	0.36	U	1.0	0.36	1	NA	11/11/09 12:26		178949	
Chlorobenzene	0.26	U	1.0	0.26	1	NA	11/11/09 12:26		178949	
Chloroethane	0.21	U	2.0	0.21	1	NA	11/11/09 12:26		178949	
Chloroform	0.16	U	1.0	0.16	1	NA	11/11/09 12:26		178949	
Chloromethane	0.18	U	2.0	0.18	1	NA	11/11/09 12:26		178949	
Dibromochloromethane	0.11	U	1.0	0.11	1	NA	11/11/09 12:26		178949	
Dibromomethane	0.18	U	1.0	0.18	1	NA	11/11/09 12:26		178949	
Dichlorodifluoromethane (CFC 12)	0.18	U	1.0	0.18	1	NA	11/11/09 12:26		178949	
Dichloromethane	0.13	U	2.0	0.13	1	NA	11/11/09 12:26		178949	
Diisopropyl Ether	0.090	U	1.0	0.090	1	NA	11/11/09 12:26		178949	
Ethyl tert-Butyl Ether	0.12	U	1.0	0.12	1	NA	11/11/09 12:26		178949	
Ethylbenzene	0.42	U	1.0	0.42	1	NA	11/11/09 12:26		178949	
Hexachlorobutadiene	0.27	U	5.0	0.27	1	NA	11/11/09 12:26		178949	
Isopropylbenzene (Cumene)	0.34	U	2.0	0.34	1	NA	11/11/09 12:26		178949	
Methyl tert-Butyl Ether	0.13	U	1.0	0.13	1	NA	11/11/09 12:26		178949	
Naphthalene	**0.31**	J	2.0	0.31	1	NA	11/11/09 12:26		178949	
Styrene	0.36	U	1.0	0.36	1	NA	11/11/09 12:26		178949	
Tetrachloroethene (PCE)	0.42	U	1.0	0.42	1	NA	11/11/09 12:26		178949	
Toluene	0.21	U	1.0	0.21	1	NA	11/11/09 12:26		178949	
Trichloroethene (TCE)	0.19	U	1.0	0.19	1	NA	11/11/09 12:26		178949	
Trichlorofluoromethane (CFC 11)	0.16	U	1.0	0.16	1	NA	11/11/09 12:26		178949	
Vinyl Chloride	0.22	U	1.0	0.22	1	NA	11/11/09 12:26		178949	
cis-1,2-Dichloroethene	0.14	U	1.0	0.14	1	NA	11/11/09 12:26		178949	
cis-1,3-Dichloropropene	0.14	U	1.0	0.14	1	NA	11/11/09 12:26		178949	
m,p-Xylenes	0.81	U	2.0	0.81	1	NA	11/11/09 12:26		178949	
n-Butylbenzene	0.20	U	5.0	0.20	1	NA	11/11/09 12:26		178949	
n-Propylbenzene	0.32	U	2.0	0.32	1	NA	11/11/09 12:26		178949	
o-Xylene	0.40	U	1.0	0.40	1	NA	11/11/09 12:26		178949	
sec-Butylbenzene	0.23	U	2.0	0.23	1	NA	11/11/09 12:26		178949	
tert-Amyl Methyl Ether	0.13	U	1.0	0.13	1	NA	11/11/09 12:26		178949	
tert-Butylbenzene	0.28	U	2.0	0.28	1	NA	11/11/09 12:26		178949	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ0911303-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
trans-1,2-Dichloroethene	0.16	U	1.0	0.16	1	NA	11/11/09 12:26		178949	
trans-1,3-Dichloropropene	0.17	U	1.0	0.17	1	NA	11/11/09 12:26		178949	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	104	70-130	11/11/09 12:26		
Dibromofluoromethane	116	70-130	11/11/09 12:26		
Toluene-d8	113	70-130	11/11/09 12:26		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ0911347-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	0.18	U	1.0	0.18	1	NA	11/12/09 13:07		179136	
1,1,1-Trichloroethane (TCA)	0.32	U	1.0	0.32	1	NA	11/12/09 13:07		179136	
1,1,2,2-Tetrachloroethane	0.090	U	1.0	0.090	1	NA	11/12/09 13:07		179136	
1,1,2-Trichloroethane	0.20	U	1.0	0.20	1	NA	11/12/09 13:07		179136	
1,1-Dichloroethane (1,1-DCA)	0.14	U	1.0	0.14	1	NA	11/12/09 13:07		179136	
1,1-Dichloroethene (1,1-DCE)	0.37	U	1.0	0.37	1	NA	11/12/09 13:07		179136	
1,1-Dichloropropene	0.21	U	2.0	0.21	1	NA	11/12/09 13:07		179136	
1,2,3-Trichlorobenzene	**0.34**	J	2.0	0.25	1	NA	11/12/09 13:07		179136	
1,2,3-Trichloropropane	0.30	U	2.0	0.30	1	NA	11/12/09 13:07		179136	
1,2,4-Trichlorobenzene	0.19	U	2.0	0.19	1	NA	11/12/09 13:07		179136	
1,2,4-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/12/09 13:07		179136	
1,2-Dibromo-3-chloropropane (DBCP)	0.43	U	5.0	0.43	1	NA	11/12/09 13:07		179136	
1,2-Dibromoethane	0.18	U	1.0	0.18	1	NA	11/12/09 13:07		179136	
1,2-Dichlorobenzene	0.40	U	2.0	0.40	1	NA	11/12/09 13:07		179136	
1,2-Dichloroethane	0.14	U	1.0	0.14	1	NA	11/12/09 13:07		179136	
1,2-Dichloropropane	0.15	U	1.0	0.15	1	NA	11/12/09 13:07		179136	
1,3,5-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/12/09 13:07		179136	
1,3-Dichlorobenzene	0.36	U	2.0	0.36	1	NA	11/12/09 13:07		179136	
1,3-Dichloropropane	0.12	U	2.0	0.12	1	NA	11/12/09 13:07		179136	
1,4-Dichlorobenzene	0.34	U	2.0	0.34	1	NA	11/12/09 13:07		179136	
2,2-Dichloropropane	0.20	U	2.0	0.20	1	NA	11/12/09 13:07		179136	
2-Butanone (MEK)	1.0	U	10	1.0	1	NA	11/12/09 13:07		179136	
2-Chlorotoluene	0.38	U	5.0	0.38	1	NA	11/12/09 13:07		179136	
2-Hexanone	0.40	U	10	0.40	1	NA	11/12/09 13:07		179136	
2-Methyl-2-propanol	3.0	U	100	3.0	1	NA	11/12/09 13:07		179136	
4-Chlorotoluene	0.37	U	5.0	0.37	1	NA	11/12/09 13:07		179136	
4-Isopropyltoluene	0.22	U	2.0	0.22	1	NA	11/12/09 13:07		179136	
4-Methyl-2-pentanone	0.34	U	10	0.34	1	NA	11/12/09 13:07		179136	
Acetone	1.6	U	20	1.6	1	NA	11/12/09 13:07		179136	
Benzene	0.18	U	1.0	0.18	1	NA	11/12/09 13:07		179136	
Bromobenzene	0.33	U	2.0	0.33	1	NA	11/12/09 13:07		179136	
Bromochloromethane	0.18	U	2.0	0.18	1	NA	11/12/09 13:07		179136	
Bromodichloromethane	0.17	U	1.0	0.17	1	NA	11/12/09 13:07		179136	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ0911347-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	0.20	U	1.0	0.20	1	NA	11/12/09 13:07		179136	
Bromomethane	0.40	U	2.0	0.40	1	NA	11/12/09 13:07		179136	
Carbon Tetrachloride	0.36	U	1.0	0.36	1	NA	11/12/09 13:07		179136	
Chlorobenzene	0.26	U	1.0	0.26	1	NA	11/12/09 13:07		179136	
Chloroethane	0.21	U	2.0	0.21	1	NA	11/12/09 13:07		179136	
Chloroform	0.16	U	1.0	0.16	1	NA	11/12/09 13:07		179136	
Chloromethane	0.18	U	2.0	0.18	1	NA	11/12/09 13:07		179136	
Dibromochloromethane	0.11	U	1.0	0.11	1	NA	11/12/09 13:07		179136	
Dibromomethane	0.18	U	1.0	0.18	1	NA	11/12/09 13:07		179136	
Dichlorodifluoromethane (CFC 12)	0.18	U	1.0	0.18	1	NA	11/12/09 13:07		179136	
Dichloromethane	0.13	U	2.0	0.13	1	NA	11/12/09 13:07		179136	
Diisopropyl Ether	0.090	U	1.0	0.090	1	NA	11/12/09 13:07		179136	
Ethyl tert-Butyl Ether	0.12	U	1.0	0.12	1	NA	11/12/09 13:07		179136	
Ethylbenzene	0.42	U	1.0	0.42	1	NA	11/12/09 13:07		179136	
Hexachlorobutadiene	**0.28**	J	5.0	0.27	1	NA	11/12/09 13:07		179136	
Isopropylbenzene (Cumene)	0.34	U	2.0	0.34	1	NA	11/12/09 13:07		179136	
Methyl tert-Butyl Ether	0.13	U	1.0	0.13	1	NA	11/12/09 13:07		179136	
Naphthalene	0.31	U	2.0	0.31	1	NA	11/12/09 13:07		179136	
Styrene	0.36	U	1.0	0.36	1	NA	11/12/09 13:07		179136	
Tetrachloroethene (PCE)	0.42	U	1.0	0.42	1	NA	11/12/09 13:07		179136	
Toluene	0.21	U	1.0	0.21	1	NA	11/12/09 13:07		179136	
Trichloroethene (TCE)	0.19	U	1.0	0.19	1	NA	11/12/09 13:07		179136	
Trichlorofluoromethane (CFC 11)	0.16	U	1.0	0.16	1	NA	11/12/09 13:07		179136	
Vinyl Chloride	0.22	U	1.0	0.22	1	NA	11/12/09 13:07		179136	
cis-1,2-Dichloroethene	0.14	U	1.0	0.14	1	NA	11/12/09 13:07		179136	
cis-1,3-Dichloropropene	0.14	U	1.0	0.14	1	NA	11/12/09 13:07		179136	
m,p-Xylenes	0.81	U	2.0	0.81	1	NA	11/12/09 13:07		179136	
n-Butylbenzene	0.20	U	5.0	0.20	1	NA	11/12/09 13:07		179136	
n-Propylbenzene	0.32	U	2.0	0.32	1	NA	11/12/09 13:07		179136	
o-Xylene	0.40	U	1.0	0.40	1	NA	11/12/09 13:07		179136	
sec-Butylbenzene	0.23	U	2.0	0.23	1	NA	11/12/09 13:07		179136	
tert-Amyl Methyl Ether	0.13	U	1.0	0.13	1	NA	11/12/09 13:07		179136	
tert-Butylbenzene	0.28	U	2.0	0.28	1	NA	11/12/09 13:07		179136	

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ0911347-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
trans-1,2-Dichloroethene	0.16	U	1.0	0.16	1	NA	11/12/09 13:07		179136	
trans-1,3-Dichloropropene	0.17	U	1.0	0.17	1	NA	11/12/09 13:07		179136	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	95	70-130	11/12/09 13:07		
Dibromofluoromethane	110	70-130	11/12/09 13:07		
Toluene-d8	102	70-130	11/12/09 13:07		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001
Sample Matrix: Water

Service Request: R0906270
Date Analyzed: 11/11/09

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L
Basis: NA

Analysis Lot: 178949

Analyte Name	Lab Control Sample RQ0911303-02 Result	Expected	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	**21.0**	20.0	105	75 - 125
1,1,1-Trichloroethane (TCA)	**22.1**	20.0	111	75 - 125
1,1,2,2-Tetrachloroethane	**20.2**	20.0	101	75 - 125
1,1,2-Trichloroethane	**20.1**	20.0	101	75 - 125
1,1-Dichloroethane (1,1-DCA)	**20.4**	20.0	102	75 - 125
1,1-Dichloroethene (1,1-DCE)	**20.8**	20.0	104	75 - 125
1,1-Dichloropropene	**20.6**	20.0	103	75 - 125
1,2,3-Trichlorobenzene	**18.6**	20.0	93	75 - 125
1,2,3-Trichloropropane	**20.5**	20.0	103	75 - 125
1,2,4-Trichlorobenzene	**19.9**	20.0	99	75 - 125
1,2,4-Trimethylbenzene	**20.9**	20.0	104	75 - 125
1,2-Dibromo-3-chloropropane (DBCP)	**18.7**	20.0	94	75 - 125
1,2-Dibromoethane	**19.9**	20.0	100	75 - 125
1,2-Dichlorobenzene	**19.9**	20.0	100	75 - 125
1,2-Dichloroethane	**22.1**	20.0	110	75 - 125
1,2-Dichloropropane	**19.8**	20.0	99	75 - 125
1,3,5-Trimethylbenzene	**21.7**	20.0	108	75 - 125
1,3-Dichlorobenzene	**20.1**	20.0	100	75 - 125
1,3-Dichloropropane	**19.3**	20.0	97	75 - 125
1,4-Dichlorobenzene	**20.4**	20.0	102	75 - 125
2,2-Dichloropropane	**21.7**	20.0	109	75 - 125
2-Butanone (MEK)	**19.5**	20.0	97	75 - 125
2-Chlorotoluene	**20.7**	20.0	103	75 - 125
2-Hexanone	**18.8**	20.0	94	75 - 125
2-Methyl-2-propanol	**411**	400	103	75 - 125
4-Chlorotoluene	**20.9**	20.0	104	75 - 125
4-Isopropyltoluene	**21.5**	20.0	108	75 - 125
4-Methyl-2-pentanone	**20.4**	20.0	102	75 - 125
Acetone	**18.7**	20.0	94	75 - 125
Benzene	**19.2**	20.0	96	75 - 125
Bromobenzene	**19.9**	20.0	100	75 - 125
Bromochloromethane	**21.3**	20.0	106	75 - 125
Bromodichloromethane	**20.5**	20.0	102	75 - 125
Bromoform	**21.7**	20.0	108	75 - 125
Bromomethane	**20.3**	20.0	101	75 - 125
Carbon Tetrachloride	**22.0**	20.0	110	75 - 125

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001
Sample Matrix: Water

Service Request: R0906270
Date Analyzed: 11/11/09

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L
Basis: NA

Analysis Lot: 178949

Analyte Name	Lab Control Sample RQ0911303-02 Result	Expected	% Rec	% Rec Limits
Chlorobenzene	**20.3**	20.0	101	75 - 125
Chloroethane	**22.2**	20.0	111	75 - 125
Chloroform	**22.1**	20.0	110	75 - 125
Chloromethane	**18.1**	20.0	90	75 - 125
Dibromochloromethane	**21.7**	20.0	109	75 - 125
Dibromomethane	**21.5**	20.0	108	75 - 125
Dichlorodifluoromethane (CFC 12)	**21.0**	20.0	105	75 - 125
Dichloromethane	**18.8**	20.0	94	75 - 125
Diisopropyl Ether	**19.8**	20.0	99	75 - 125
Ethyl tert-Butyl Ether	**20.9**	20.0	104	75 - 125
Ethylbenzene	**20.7**	20.0	104	75 - 125
Hexachlorobutadiene	**18.1**	20.0	91	75 - 125
Isopropylbenzene (Cumene)	**22.5**	20.0	112	75 - 125
Methyl tert-Butyl Ether	**20.5**	20.0	102	75 - 125
Naphthalene	**19.3**	20.0	97	75 - 125
Styrene	**21.2**	20.0	106	75 - 125
Tetrachloroethene (PCE)	**21.6**	20.0	108	75 - 125
Toluene	**20.6**	20.0	103	75 - 125
Trichloroethene (TCE)	**20.4**	20.0	102	75 - 125
Trichlorofluoromethane (CFC 11)	**23.1**	20.0	116	75 - 125
Vinyl Chloride	**20.8**	20.0	104	75 - 125
cis-1,2-Dichloroethene	**18.7**	20.0	94	75 - 125
cis-1,3-Dichloropropene	**19.8**	20.0	99	75 - 125
m,p-Xylenes	**42.9**	40.0	107	75 - 125
n-Butylbenzene	**20.3**	20.0	102	75 - 125
n-Propylbenzene	**20.3**	20.0	101	75 - 125
o-Xylene	**21.2**	20.0	106	75 - 125
sec-Butylbenzene	**20.9**	20.0	104	75 - 125
tert-Amyl Methyl Ether	**20.7**	20.0	104	75 - 125
tert-Butylbenzene	**21.8**	20.0	109	75 - 125
trans-1,2-Dichloroethene	**19.0**	20.0	95	75 - 125
trans-1,3-Dichloropropene	**20.8**	20.0	104	75 - 125

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001
Sample Matrix: Water

Service Request: R0906270
Date Analyzed: 11/12/09

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L
Basis: NA

Analysis Lot: 179136

Analyte Name	Lab Control Sample RQ0911347-02 Result	Expected	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	**20.3**	20.0	102	75 - 125
1,1,1-Trichloroethane (TCA)	**20.8**	20.0	104	75 - 125
1,1,2,2-Tetrachloroethane	**19.2**	20.0	96	75 - 125
1,1,2-Trichloroethane	**18.8**	20.0	94	75 - 125
1,1-Dichloroethane (1,1-DCA)	**18.9**	20.0	95	75 - 125
1,1-Dichloroethene (1,1-DCE)	**19.9**	20.0	99	75 - 125
1,1-Dichloropropene	**19.5**	20.0	97	75 - 125
1,2,3-Trichlorobenzene	**18.2**	20.0	91	75 - 125
1,2,3-Trichloropropane	**18.9**	20.0	94	75 - 125
1,2,4-Trichlorobenzene	**18.7**	20.0	94	75 - 125
1,2,4-Trimethylbenzene	**19.5**	20.0	97	75 - 125
1,2-Dibromo-3-chloropropane (DBCP)	**17.9**	20.0	89	75 - 125
1,2-Dibromoethane	**18.6**	20.0	93	75 - 125
1,2-Dichlorobenzene	**19.7**	20.0	98	75 - 125
1,2-Dichloroethane	**21.3**	20.0	107	75 - 125
1,2-Dichloropropane	**18.1**	20.0	90	75 - 125
1,3,5-Trimethylbenzene	**19.5**	20.0	97	75 - 125
1,3-Dichlorobenzene	**19.0**	20.0	95	75 - 125
1,3-Dichloropropane	**18.7**	20.0	94	75 - 125
1,4-Dichlorobenzene	**18.9**	20.0	95	75 - 125
2,2-Dichloropropane	**21.9**	20.0	109	75 - 125
2-Butanone (MEK)	**20.2**	20.0	101	75 - 125
2-Chlorotoluene	**19.3**	20.0	96	75 - 125
2-Hexanone	**17.9**	20.0	90	75 - 125
2-Methyl-2-propanol	**390**	400	97	75 - 125
4-Chlorotoluene	**19.3**	20.0	97	75 - 125
4-Isopropyltoluene	**20.4**	20.0	102	75 - 125
4-Methyl-2-pentanone	**19.4**	20.0	97	75 - 125
Acetone	**20.2**	20.0	101	75 - 125
Benzene	**18.3**	20.0	91	75 - 125
Bromobenzene	**19.8**	20.0	99	75 - 125
Bromochloromethane	**19.4**	20.0	97	75 - 125
Bromodichloromethane	**19.8**	20.0	99	75 - 125
Bromoform	**21.6**	20.0	108	75 - 125
Bromomethane	**18.8**	20.0	94	75 - 125
Carbon Tetrachloride	**21.2**	20.0	106	75 - 125

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001
Sample Matrix: Water

Service Request: R0906270
Date Analyzed: 11/12/09

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L
Basis: NA

Analysis Lot: 179136

Analyte Name	Lab Control Sample RQ0911347-02 Result	Expected	% Rec	% Rec Limits
Chlorobenzene	**19.1**	20.0	96	75 - 125
Chloroethane	**19.1**	20.0	95	75 - 125
Chloroform	**20.8**	20.0	104	75 - 125
Chloromethane	**18.3**	20.0	91	75 - 125
Dibromochloromethane	**20.9**	20.0	104	75 - 125
Dibromomethane	**21.0**	20.0	105	75 - 125
Dichlorodifluoromethane (CFC 12)	**20.7**	20.0	103	75 - 125
Dichloromethane	**18.4**	20.0	92	75 - 125
Diisopropyl Ether	**17.8**	20.0	89	75 - 125
Ethyl tert-Butyl Ether	**18.5**	20.0	93	75 - 125
Ethylbenzene	**19.4**	20.0	97	75 - 125
Hexachlorobutadiene	**18.0**	20.0	90	75 - 125
Isopropylbenzene (Cumene)	**20.5**	20.0	103	75 - 125
Methyl tert-Butyl Ether	**19.3**	20.0	97	75 - 125
Naphthalene	**17.2**	20.0	86	75 - 125
Styrene	**20.1**	20.0	100	75 - 125
Tetrachloroethene (PCE)	**19.7**	20.0	98	75 - 125
Toluene	**19.2**	20.0	96	75 - 125
Trichloroethene (TCE)	**18.7**	20.0	94	75 - 125
Trichlorofluoromethane (CFC 11)	**22.2**	20.0	111	75 - 125
Vinyl Chloride	**20.2**	20.0	101	75 - 125
cis-1,2-Dichloroethene	**18.0**	20.0	90	75 - 125
cis-1,3-Dichloropropene	**18.2**	20.0	91	75 - 125
m,p-Xylenes	**39.3**	40.0	98	75 - 125
n-Butylbenzene	**19.3**	20.0	97	75 - 125
n-Propylbenzene	**19.0**	20.0	95	75 - 125
o-Xylene	**19.5**	20.0	97	75 - 125
sec-Butylbenzene	**19.1**	20.0	95	75 - 125
tert-Amyl Methyl Ether	**18.7**	20.0	93	75 - 125
tert-Butylbenzene	**19.7**	20.0	98	75 - 125
trans-1,2-Dichloroethene	**17.7**	20.0	88	75 - 125
trans-1,3-Dichloropropene	**19.6**	20.0	98	75 - 125

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147B	**Units:**	µg/L
Lab Code:	R0906270-001	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
2-Methylnaphthalene	0.048	U	0.19	0.048	1	11/ 4/09	11/12/09 12:08	99893	179311	
Acenaphthene	0.053	U	0.19	0.053	1	11/ 4/09	11/12/09 12:08	99893	179311	
Acenaphthylene	0.076	U	0.19	0.076	1	11/ 4/09	11/12/09 12:08	99893	179311	
Anthracene	0.041	U	0.19	0.041	1	11/ 4/09	11/12/09 12:08	99893	179311	
Benz(a)anthracene	0.041	U	0.19	0.041	1	11/ 4/09	11/12/09 12:08	99893	179311	
Benzo(a)pyrene	0.042	U	0.19	0.042	1	11/ 4/09	11/12/09 12:08	99893	179311	
Benzo(b)fluoranthene	0.027	U	0.19	0.027	1	11/ 4/09	11/12/09 12:08	99893	179311	
Benzo(g,h,i)perylene	0.030	U	0.19	0.030	1	11/ 4/09	11/12/09 12:08	99893	179311	
Benzo(k)fluoranthene	0.029	U	0.19	0.029	1	11/ 4/09	11/12/09 12:08	99893	179311	
Bis(2-ethylhexyl) Phthalate	0.23	U	4.7	0.23	1	11/ 4/09	11/12/09 12:08	99893	179311	
Butyl Benzyl Phthalate	0.11	U	4.7	0.11	1	11/ 4/09	11/12/09 12:08	99893	179311	
Chrysene	0.029	U	0.19	0.029	1	11/ 4/09	11/12/09 12:08	99893	179311	
Di-n-butyl Phthalate	0.76	U	4.7	0.76	1	11/ 4/09	11/12/09 12:08	99893	179311	
Di-n-octyl Phthalate	0.041	U	4.7	0.041	1	11/ 4/09	11/12/09 12:08	99893	179311	
Dibenz(a,h)anthracene	0.046	U	0.19	0.046	1	11/ 4/09	11/12/09 12:08	99893	179311	
Diethyl Phthalate	0.20	U	4.7	0.20	1	11/ 4/09	11/12/09 12:08	99893	179311	
Dimethyl Phthalate	0.044	U	4.7	0.044	1	11/ 4/09	11/12/09 12:08	99893	179311	
Fluoranthene	0.040	U	0.19	0.040	1	11/ 4/09	11/12/09 12:08	99893	179311	
Fluorene	0.055	U	0.19	0.055	1	11/ 4/09	11/12/09 12:08	99893	179311	
Hexachlorobenzene	0.035	U	0.19	0.035	1	11/ 4/09	11/12/09 12:08	99893	179311	
Indeno(1,2,3-cd)pyrene	0.049	U	0.19	0.049	1	11/ 4/09	11/12/09 12:08	99893	179311	
Naphthalene	0.14	U	0.19	0.14	1	11/ 4/09	11/12/09 12:08	99893	179311	
Nitrobenzene	0.046	U	0.19	0.046	1	11/ 4/09	11/12/09 12:08	99893	179311	
Phenanthrene	0.062	U	0.19	0.062	1	11/ 4/09	11/12/09 12:08	99893	179311	
Pyrene	0.029	U	0.19	0.029	1	11/ 4/09	11/12/09 12:08	99893	179311	
Pyridine	0.89	U	1.9	0.89	1	11/ 4/09	11/12/09 12:08	99893	179311	
1,4-Dioxane	0.13	U	1.9	0.13	1	11/ 4/09	11/12/09 12:08	99893	179311	
Octachlorostyrene	0.13	U	0.19	0.13	1	11/ 4/09	11/12/09 12:08	99893	179311	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147B	**Units:**	Percent
Lab Code:	R0906270-001	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
2-Fluorobiphenyl	87	45-135	11/12/09 12:08		
Nitrobenzene-d5	86	45-135	11/12/09 12:08		
Terphenyl-d14	101	45-135	11/12/09 12:08		

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147009B	**Units:**	µg/L
Lab Code:	R0906270-002	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
2-Methylnaphthalene	0.048	U	0.19	0.048	1	11/ 4/09	11/12/09 12:49	99893	179311	
Acenaphthene	0.053	U	0.19	0.053	1	11/ 4/09	11/12/09 12:49	99893	179311	
Acenaphthylene	0.076	U	0.19	0.076	1	11/ 4/09	11/12/09 12:49	99893	179311	
Anthracene	0.041	U	0.19	0.041	1	11/ 4/09	11/12/09 12:49	99893	179311	
Benz(a)anthracene	0.041	U	0.19	0.041	1	11/ 4/09	11/12/09 12:49	99893	179311	
Benzo(a)pyrene	0.042	U	0.19	0.042	1	11/ 4/09	11/12/09 12:49	99893	179311	
Benzo(b)fluoranthene	0.027	U	0.19	0.027	1	11/ 4/09	11/12/09 12:49	99893	179311	
Benzo(g,h,i)perylene	0.030	U	0.19	0.030	1	11/ 4/09	11/12/09 12:49	99893	179311	
Benzo(k)fluoranthene	0.029	U	0.19	0.029	1	11/ 4/09	11/12/09 12:49	99893	179311	
Bis(2-ethylhexyl) Phthalate	0.23	U	4.7	0.23	1	11/ 4/09	11/12/09 12:49	99893	179311	
Butyl Benzyl Phthalate	0.11	U	4.7	0.11	1	11/ 4/09	11/12/09 12:49	99893	179311	
Chrysene	0.029	U	0.19	0.029	1	11/ 4/09	11/12/09 12:49	99893	179311	
Di-n-butyl Phthalate	0.76	U	4.7	0.76	1	11/ 4/09	11/12/09 12:49	99893	179311	
Di-n-octyl Phthalate	0.041	U	4.7	0.041	1	11/ 4/09	11/12/09 12:49	99893	179311	
Dibenz(a,h)anthracene	0.046	U	0.19	0.046	1	11/ 4/09	11/12/09 12:49	99893	179311	
Diethyl Phthalate	0.20	U	4.7	0.20	1	11/ 4/09	11/12/09 12:49	99893	179311	
Dimethyl Phthalate	0.044	U	4.7	0.044	1	11/ 4/09	11/12/09 12:49	99893	179311	
Fluoranthene	0.040	U	0.19	0.040	1	11/ 4/09	11/12/09 12:49	99893	179311	
Fluorene	0.055	U	0.19	0.055	1	11/ 4/09	11/12/09 12:49	99893	179311	
Hexachlorobenzene	0.035	U	0.19	0.035	1	11/ 4/09	11/12/09 12:49	99893	179311	
Indeno(1,2,3-cd)pyrene	0.049	U	0.19	0.049	1	11/ 4/09	11/12/09 12:49	99893	179311	
Naphthalene	0.14	U	0.19	0.14	1	11/ 4/09	11/12/09 12:49	99893	179311	
Nitrobenzene	0.046	U	0.19	0.046	1	11/ 4/09	11/12/09 12:49	99893	179311	
Phenanthrene	0.062	U	0.19	0.062	1	11/ 4/09	11/12/09 12:49	99893	179311	
Pyrene	0.029	U	0.19	0.029	1	11/ 4/09	11/12/09 12:49	99893	179311	
Pyridine	0.89	U	1.9	0.89	1	11/ 4/09	11/12/09 12:49	99893	179311	
1,4-Dioxane	0.13	U	1.9	0.13	1	11/ 4/09	11/12/09 12:49	99893	179311	
Octachlorostyrene	0.13	U	0.19	0.13	1	11/ 4/09	11/12/09 12:49	99893	179311	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147009B	**Units:**	Percent
Lab Code:	R0906270-002	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
2-Fluorobiphenyl	87	45-135	11/12/09 12:49		
Nitrobenzene-d5	77	45-135	11/12/09 12:49		
Terphenyl-d14	101	45-135	11/12/09 12:49		

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1240
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	EB110209-GWA3	**Units:**	µg/L
Lab Code:	R0906270-003	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
2-Methylnaphthalene	0.048	U	0.19	0.048	1	11/ 4/09	11/11/09 18:19	99893	179066	
Acenaphthene	0.053	U	0.19	0.053	1	11/ 4/09	11/11/09 18:19	99893	179066	
Acenaphthylene	0.076	U	0.19	0.076	1	11/ 4/09	11/11/09 18:19	99893	179066	
Anthracene	0.041	U	0.19	0.041	1	11/ 4/09	11/11/09 18:19	99893	179066	
Benz(a)anthracene	0.041	U	0.19	0.041	1	11/ 4/09	11/11/09 18:19	99893	179066	
Benzo(a)pyrene	0.042	U	0.19	0.042	1	11/ 4/09	11/11/09 18:19	99893	179066	
Benzo(b)fluoranthene	0.027	U	0.19	0.027	1	11/ 4/09	11/11/09 18:19	99893	179066	
Benzo(g,h,i)perylene	0.030	U	0.19	0.030	1	11/ 4/09	11/11/09 18:19	99893	179066	
Benzo(k)fluoranthene	0.029	U	0.19	0.029	1	11/ 4/09	11/11/09 18:19	99893	179066	
Bis(2-ethylhexyl) Phthalate	0.23	U	4.7	0.23	1	11/ 4/09	11/11/09 18:19	99893	179066	
Butyl Benzyl Phthalate	0.11	U	4.7	0.11	1	11/ 4/09	11/11/09 18:19	99893	179066	
Chrysene	0.029	U	0.19	0.029	1	11/ 4/09	11/11/09 18:19	99893	179066	
Di-n-butyl Phthalate	0.76	U	4.7	0.76	1	11/ 4/09	11/11/09 18:19	99893	179066	
Di-n-octyl Phthalate	0.041	U	4.7	0.041	1	11/ 4/09	11/11/09 18:19	99893	179066	
Dibenz(a,h)anthracene	0.046	U	0.19	0.046	1	11/ 4/09	11/11/09 18:19	99893	179066	
Diethyl Phthalate	0.20	U	4.7	0.20	1	11/ 4/09	11/11/09 18:19	99893	179066	
Dimethyl Phthalate	0.044	U	4.7	0.044	1	11/ 4/09	11/11/09 18:19	99893	179066	
Fluoranthene	0.040	U	0.19	0.040	1	11/ 4/09	11/11/09 18:19	99893	179066	
Fluorene	0.055	U	0.19	0.055	1	11/ 4/09	11/11/09 18:19	99893	179066	
Hexachlorobenzene	0.035	U	0.19	0.035	1	11/ 4/09	11/11/09 18:19	99893	179066	
Indeno(1,2,3-cd)pyrene	0.049	U	0.19	0.049	1	11/ 4/09	11/11/09 18:19	99893	179066	
Naphthalene	0.14	U	0.19	0.14	1	11/ 4/09	11/11/09 18:19	99893	179066	
Nitrobenzene	0.046	U	0.19	0.046	1	11/ 4/09	11/11/09 18:19	99893	179066	
Phenanthrene	0.062	U	0.19	0.062	1	11/ 4/09	11/11/09 18:19	99893	179066	
Pyrene	0.029	U	0.19	0.029	1	11/ 4/09	11/11/09 18:19	99893	179066	
Pyridine	0.89	U	1.9	0.89	1	11/ 4/09	11/11/09 18:19	99893	179066	
1,4-Dioxane	0.13	U	1.9	0.13	1	11/ 4/09	11/11/09 18:19	99893	179066	
Octachlorostyrene	0.13	U	0.19	0.13	1	11/ 4/09	11/11/09 18:19	99893	179066	

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1240
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	EB110209-GWA3	**Units:**	Percent
Lab Code:	R0906270-003	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
2-Fluorobiphenyl	79	45-135	11/11/09 18:19		
Nitrobenzene-d5	95	45-135	11/11/09 18:19		
Terphenyl-d14	97	45-135	11/11/09 18:19		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ0910904-01	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
2-Methylnaphthalene	0.048	U	0.20	0.048	1	11/ 4/09	11/11/09 15:16	99893	179066	
Acenaphthene	0.053	U	0.20	0.053	1	11/ 4/09	11/11/09 15:16	99893	179066	
Acenaphthylene	0.076	U	0.20	0.076	1	11/ 4/09	11/11/09 15:16	99893	179066	
Anthracene	0.041	U	0.20	0.041	1	11/ 4/09	11/11/09 15:16	99893	179066	
Benz(a)anthracene	0.041	U	0.20	0.041	1	11/ 4/09	11/11/09 15:16	99893	179066	
Benzo(a)pyrene	0.042	U	0.20	0.042	1	11/ 4/09	11/11/09 15:16	99893	179066	
Benzo(b)fluoranthene	0.027	U	0.20	0.027	1	11/ 4/09	11/11/09 15:16	99893	179066	
Benzo(g,h,i)perylene	0.030	U	0.20	0.030	1	11/ 4/09	11/11/09 15:16	99893	179066	
Benzo(k)fluoranthene	0.029	U	0.20	0.029	1	11/ 4/09	11/11/09 15:16	99893	179066	
Bis(2-ethylhexyl) Phthalate	0.23	U	5.0	0.23	1	11/ 4/09	11/11/09 15:16	99893	179066	
Butyl Benzyl Phthalate	0.11	J	5.0	0.11	1	11/ 4/09	11/11/09 15:16	99893	179066	
Chrysene	0.029	U	0.20	0.029	1	11/ 4/09	11/11/09 15:16	99893	179066	
Di-n-butyl Phthalate	0.76	U	5.0	0.76	1	11/ 4/09	11/11/09 15:16	99893	179066	
Di-n-octyl Phthalate	0.041	U	5.0	0.041	1	11/ 4/09	11/11/09 15:16	99893	179066	
Dibenz(a,h)anthracene	0.046	U	0.20	0.046	1	11/ 4/09	11/11/09 15:16	99893	179066	
Diethyl Phthalate	0.20	U	5.0	0.20	1	11/ 4/09	11/11/09 15:16	99893	179066	
Dimethyl Phthalate	0.044	U	5.0	0.044	1	11/ 4/09	11/11/09 15:16	99893	179066	
Fluoranthene	0.040	U	0.20	0.040	1	11/ 4/09	11/11/09 15:16	99893	179066	
Fluorene	0.055	U	0.20	0.055	1	11/ 4/09	11/11/09 15:16	99893	179066	
Hexachlorobenzene	0.035	U	0.20	0.035	1	11/ 4/09	11/11/09 15:16	99893	179066	
Indeno(1,2,3-cd)pyrene	0.049	U	0.20	0.049	1	11/ 4/09	11/11/09 15:16	99893	179066	
Naphthalene	0.14	U	0.20	0.14	1	11/ 4/09	11/11/09 15:16	99893	179066	
Nitrobenzene	0.046	U	0.20	0.046	1	11/ 4/09	11/11/09 15:16	99893	179066	
Phenanthrene	0.062	U	0.20	0.062	1	11/ 4/09	11/11/09 15:16	99893	179066	
Pyrene	0.029	U	0.20	0.029	1	11/ 4/09	11/11/09 15:16	99893	179066	
Pyridine	0.89	U	2.0	0.89	1	11/ 4/09	11/11/09 15:16	99893	179066	
1,4-Dioxane	0.13	U	2.0	0.13	1	11/ 4/09	11/11/09 15:16	99893	179066	
Octachlorostyrene	0.13	U	0.20	0.13	1	11/ 4/09	11/11/09 15:16	99893	179066	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	RQ0910904-01	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
2-Fluorobiphenyl	82	45-135	11/11/09 15:16		
Nitrobenzene-d5	94	45-135	11/11/09 15:16		
Terphenyl-d14	96	45-135	11/11/09 15:16		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001
Sample Matrix: Water

Service Request: R0906270
Date Analyzed: 11/11/09

Lab Control Sample Summary
Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Units: µg/L
Basis: NA

Extraction Lot: 99893

Analyte Name	Lab Control Sample RQ0910904-02 Result	Expected	% Rec		Duplicate Lab Control Sample RQ0910904-03 Result	Expected	% Rec		% Rec Limits	RPD	RPD Limit
2-Methylnaphthalene	**3.23**	4.00	81		**3.36**	4.00	84		50 - 120	4	30
Acenaphthene	**3.15**	4.00	79		**3.30**	4.00	83		50 - 120	5	30
Acenaphthylene	**3.24**	4.00	81		**3.42**	4.00	86		50 - 120	5	30
Anthracene	**3.44**	4.00	86		**3.47**	4.00	87		50 - 120	1	30
Benz(a)anthracene	**3.65**	4.00	91		**3.72**	4.00	93		50 - 120	2	30
Benzo(a)pyrene	**3.17**	4.00	79		**3.26**	4.00	82		50 - 120	3	30
Benzo(b)fluoranthene	**3.67**	4.00	92		**3.76**	4.00	94		50 - 120	2	30
Benzo(g,h,i)perylene	**3.59**	4.00	90		**3.68**	4.00	92		50 - 120	2	30
Benzo(k)fluoranthene	**3.55**	4.00	89		**3.61**	4.00	90		50 - 120	2	30
Bis(2-ethylhexyl) Phthalate	**3.84**	4.00	96		**3.98**	4.00	100		50 - 120	4	30
Butyl Benzyl Phthalate	**3.31**	4.00	83		**3.42**	4.00	86		50 - 120	3	30
Chrysene	**3.54**	4.00	89		**3.59**	4.00	90		50 - 120	1	30
Di-n-butyl Phthalate	**2.92**	4.00	73		**2.97**	4.00	74		50 - 120	2	30
Di-n-octyl Phthalate	**3.64**	4.00	91		**3.70**	4.00	93		50 - 120	2	30
Dibenz(a,h)anthracene	**3.98**	4.00	100		**4.06**	4.00	102		50 - 120	2	30
Diethyl Phthalate	**3.65**	4.00	91		**3.75**	4.00	94		50 - 120	3	30
Dimethyl Phthalate	**3.50**	4.00	88		**3.67**	4.00	92		50 - 120	5	30
Fluoranthene	**3.53**	4.00	88		**3.54**	4.00	89		50 - 120	0	30
Fluorene	**3.42**	4.00	86		**3.57**	4.00	89		50 - 120	4	30
Hexachlorobenzene	**2.77**	4.00	69		**2.79**	4.00	70		50 - 120	1	30
Indeno(1,2,3-cd)pyrene	**3.76**	4.00	94		**3.84**	4.00	96		50 - 120	2	30
Naphthalene	**3.00**	4.00	75		**3.17**	4.00	79		50 - 120	6	30
Nitrobenzene	**3.55**	4.00	89		**3.72**	4.00	93		50 - 120	5	30
Phenanthrene	**3.25**	4.00	81		**3.34**	4.00	84		50 - 120	3	30
Pyrene	**3.93**	4.00	98		**4.07**	4.00	102		50 - 120	4	30
Pyridine	**1.06**	4.00	27	*	**1.21**	4.00	30	*	50 - 120	13	30
1,4-Dioxane	**2.09**	5.00	42	*	**2.20**	5.00	44	*	50 - 120	5	30
Octachlorostyrene	**2.46**	4.00	62		**2.45**	4.00	61		50 - 120	0	30

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147B	**Units:**	µg/L
Lab Code:	R0906270-001	**Basis:**	NA

Organochlorine Pesticides by Gas Chromatography

Analytical Method: 8081A
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
4,4'-DDD	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 02:56	99996	179493	
4,4'-DDE	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 02:56	99996	179493	
4,4'-DDT	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 02:56	99996	179493	
Aldrin	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	
Chlordane	0.13	U	0.24	0.13	1	11/ 9/09	11/15/09 02:56	99996	179493	
Dieldrin	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 02:56	99996	179493	
Endosulfan I	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	
Endosulfan II	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 02:56	99996	179493	
Endosulfan Sulfate	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 02:56	99996	179493	
Endrin	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 02:56	99996	179493	
Endrin Aldehyde	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 02:56	99996	179493	
Endrin Ketone	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 02:56	99996	179493	
Heptachlor	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	
Heptachlor Epoxide	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	
Hexachlorobenzene	0.028	U	0.047	0.028	1	11/ 9/09	11/15/09 02:56	99996	179493	
Methoxychlor	0.25	U	0.47	0.25	1	11/ 9/09	11/15/09 02:56	99996	179493	
Toxaphene	0.50	U	0.94	0.50	1	11/ 9/09	11/15/09 02:56	99996	179493	
alpha-BHC	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	
alpha-Chlordane	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	
beta-BHC	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	
delta-BHC	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	
gamma-BHC (Lindane)	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	
gamma-Chlordane	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
Decachlorobiphenyl	93	40-140	11/15/09 02:56		
Tetrachloro-m-xylene	77	40-140	11/15/09 02:56		

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147009B	**Units:**	µg/L
Lab Code:	R0906270-002	**Basis:**	NA

Organochlorine Pesticides by Gas Chromatography

Analytical Method: 8081A
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
4,4'-DDD	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 03:31	99996	179493	
4,4'-DDE	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 03:31	99996	179493	
4,4'-DDT	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 03:31	99996	179493	
Aldrin	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	
Chlordane	0.13	U	0.24	0.13	1	11/ 9/09	11/15/09 03:31	99996	179493	
Dieldrin	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 03:31	99996	179493	
Endosulfan I	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	
Endosulfan II	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 03:31	99996	179493	
Endosulfan Sulfate	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 03:31	99996	179493	
Endrin	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 03:31	99996	179493	
Endrin Aldehyde	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 03:31	99996	179493	
Endrin Ketone	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 03:31	99996	179493	
Heptachlor	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	
Heptachlor Epoxide	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	
Hexachlorobenzene	0.028	U	0.047	0.028	1	11/ 9/09	11/15/09 03:31	99996	179493	
Methoxychlor	0.25	U	0.47	0.25	1	11/ 9/09	11/15/09 03:31	99996	179493	
Toxaphene	0.50	U	0.94	0.50	1	11/ 9/09	11/15/09 03:31	99996	179493	
alpha-BHC	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	
alpha-Chlordane	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	
beta-BHC	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	
delta-BHC	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	
gamma-BHC (Lindane)	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	
gamma-Chlordane	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
Decachlorobiphenyl	94	40-140	11/15/09 03:31		
Tetrachloro-m-xylene	62	40-140	11/15/09 03:31		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1240
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	EB110209-GWA3	**Units:**	µg/L
Lab Code:	R0906270-003	**Basis:**	NA

Organochlorine Pesticides by Gas Chromatography

Analytical Method: 8081A
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
4,4'-DDD	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 04:07	99996	179493	
4,4'-DDE	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 04:07	99996	179493	
4,4'-DDT	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 04:07	99996	179493	
Aldrin	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	
Chlordane	0.13	U	0.24	0.13	1	11/ 9/09	11/15/09 04:07	99996	179493	
Dieldrin	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 04:07	99996	179493	
Endosulfan I	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	
Endosulfan II	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 04:07	99996	179493	
Endosulfan Sulfate	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 04:07	99996	179493	
Endrin	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 04:07	99996	179493	
Endrin Aldehyde	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 04:07	99996	179493	
Endrin Ketone	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 04:07	99996	179493	
Heptachlor	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	
Heptachlor Epoxide	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	
Hexachlorobenzene	0.028	U	0.047	0.028	1	11/ 9/09	11/15/09 04:07	99996	179493	
Methoxychlor	0.25	U	0.47	0.25	1	11/ 9/09	11/15/09 04:07	99996	179493	
Toxaphene	0.50	U	0.94	0.50	1	11/ 9/09	11/15/09 04:07	99996	179493	
alpha-BHC	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	
alpha-Chlordane	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	
beta-BHC	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	
delta-BHC	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	
gamma-BHC (Lindane)	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	
gamma-Chlordane	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
Decachlorobiphenyl	53	40-140	11/15/09 04:07		
Tetrachloro-m-xylene	75	40-140	11/15/09 04:07		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ0911121-01	**Basis:**	NA

Organochlorine Pesticides by Gas Chromatography

Analytical Method: 8081A
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
4,4'-DDD	0.050	U	0.10	0.050	1	11/ 9/09	11/14/09 20:23	99996	179493	
4,4'-DDE	0.050	U	0.10	0.050	1	11/ 9/09	11/14/09 20:23	99996	179493	
4,4'-DDT	0.050	U	0.10	0.050	1	11/ 9/09	11/14/09 20:23	99996	179493	
Aldrin	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	
Chlordane	0.13	U	0.25	0.13	1	11/ 9/09	11/14/09 20:23	99996	179493	
Dieldrin	0.050	U	0.10	0.050	1	11/ 9/09	11/14/09 20:23	99996	179493	
Endosulfan I	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	
Endosulfan II	0.050	U	0.10	0.050	1	11/ 9/09	11/14/09 20:23	99996	179493	
Endosulfan Sulfate	0.050	U	0.10	0.050	1	11/ 9/09	11/14/09 20:23	99996	179493	
Endrin	0.050	U	0.10	0.050	1	11/ 9/09	11/14/09 20:23	99996	179493	
Endrin Aldehyde	0.050	U	0.10	0.050	1	11/ 9/09	11/14/09 20:23	99996	179493	
Endrin Ketone	0.050	U	0.10	0.050	1	11/ 9/09	11/14/09 20:23	99996	179493	
Heptachlor	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	
Heptachlor Epoxide	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	
Hexachlorobenzene	0.028	U	0.050	0.028	1	11/ 9/09	11/14/09 20:23	99996	179493	
Methoxychlor	0.25	U	0.50	0.25	1	11/ 9/09	11/14/09 20:23	99996	179493	
Toxaphene	0.50	U	1.0	0.50	1	11/ 9/09	11/14/09 20:23	99996	179493	
alpha-BHC	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	
alpha-Chlordane	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	
beta-BHC	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	
delta-BHC	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	
gamma-BHC (Lindane)	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	
gamma-Chlordane	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
Decachlorobiphenyl	100	40-140	11/14/09 20:23		
Tetrachloro-m-xylene	93	40-140	11/14/09 20:23		

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001
Sample Matrix: Water

Service Request: R0906270
Date Analyzed: 11/14/09

Lab Control Sample Summary
Organochlorine Pesticides by Gas Chromatography

Analytical Method: 8081A
Prep Method: EPA 3510C

Units: µg/L
Basis: NA

Extraction Lot: 99996

Analyte Name	Lab Control Sample RQ0911121-02 Result	Expected	% Rec	Duplicate Lab Control Sample RQ0911121-03 Result	Expected	% Rec	% Rec Limits	RPD	RPD Limit
4,4'-DDD	**0.209**	0.200	104	**0.224**	0.200	112	50 - 130	7	30
4,4'-DDE	**0.179**	0.200	89	**0.197**	0.200	98	50 - 130	10	30
4,4'-DDT	**0.185**	0.200	92	**0.196**	0.200	98	50 - 130	6	30
Aldrin	**0.140**	0.200	70	**0.149**	0.200	74	50 - 130	6	30
Dieldrin	**0.193**	0.200	96	**0.212**	0.200	106	50 - 130	10	30
Endosulfan I	**0.200**	0.200	100	**0.203**	0.200	102	50 - 130	1	30
Endosulfan II	**0.196**	0.200	98	**0.213**	0.200	107	50 - 130	8	30
Endosulfan Sulfate	**0.194**	0.200	97	**0.206**	0.200	103	50 - 130	6	30
Endrin	**0.204**	0.200	102	**0.215**	0.200	108	50 - 130	5	30
Endrin Aldehyde	**0.138**	0.200	69	**0.150**	0.200	75	50 - 130	8	30
Endrin Ketone	**0.202**	0.200	101	**0.206**	0.200	103	50 - 130	2	30
Heptachlor	**0.164**	0.200	82	**0.174**	0.200	87	50 - 130	6	30
Heptachlor Epoxide	**0.179**	0.200	89	**0.195**	0.200	97	50 - 130	9	30
Hexachlorobenzene	**0.288**	0.500	58	**0.310**	0.500	62	50 - 130	7	30
Methoxychlor	**1.00**	1.00	100	**1.05**	1.00	105	50 - 130	5	30
alpha-BHC	**0.180**	0.200	90	**0.193**	0.200	96	50 - 130	6	30
alpha-Chlordane	**0.176**	0.200	88	**0.193**	0.200	96	50 - 130	9	30
beta-BHC	**0.184**	0.200	92	**0.196**	0.200	98	50 - 130	6	30
delta-BHC	**0.179**	0.200	89	**0.193**	0.200	97	50 - 130	8	30
gamma-BHC (Lindane)	**0.183**	0.200	91	**0.196**	0.200	98	50 - 130	7	30
gamma-Chlordane	**0.176**	0.200	88	**0.190**	0.200	95	50 - 130	8	30

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147B		
Lab Code:	R0906270-001	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Alkalinity as CaCO3, Total	SM 2320 B	**106**		mg/L	2.0	0.3	1	NA	11/13/09 09:24
Ammonia as Nitrogen	350.1	**0.022**	J	mg/L	0.050	0.007	1	NA	11/23/09 12:35
Anion-Cation Balance Difference	SM 1030 E	**2.287**		Percent			1	NA	12/22/09
Bicarbonate Alkalinity as CaCO3	SM 2320 B	**106**		mg/L	2.0	0.3	1	NA	11/13/09 09:24
Bromide	9056	**1.4**		mg/L	1.0	0.2	10	NA	11/3/09 17:35
Calculated TDS/EC Ratio	SM 1030 E	**0.817**		NONE			1	NA	12/22/09
Carbon, Total Organic (TOC)	9060	**1.5**		mg/L	1.0	0.1	1	NA	11/7/09 11:55
Carbon, Total Organic (TOC)	9060	**1.4**		mg/L	1.0	0.1	1	NA	11/7/09 12:03
Carbon, Total Organic (TOC)	9060	**1.3**		mg/L	1.0	0.1	1	NA	11/7/09 12:13
Carbon, Total Organic (TOC)	9060	**1.1**		mg/L	1.0	0.1	1	NA	11/7/09 11:47
Carbon, Total Organic (TOC), Average	9060	**1.3**		mg/L	1.0	0.1	1	NA	11/7/09 11:47
Carbonate Alkalinity as CaCO3	SM 2320 B	0.3	U	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Chloride	9056	**583**		mg/L	20	5	100	NA	11/5/09 14:04
Chromium, Hexavalent, Dissolved	218.6	**0.142**		mg/L	0.010	0.004	1	NA	11/3/09 17:48
Conductivity	120.1	**5170**		µMHOS/cm	0.050		1	NA	11/3/09 10:40
Conductivity Ratio	SM 1030 E	**1.030**		NONE			1	NA	12/22/09
Cyanide, Total	9012A	0.005	U	mg/L	0.010	0.005	1	11/10/09	11/11/09 16:40
Hydroxide Alkalinity as CaCO3	SM 2320 B	0.3	U	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Measured TDS/EC Ratio	SM 1030 E	**0.866**		NONE			1	NA	12/22/09
Nitrate as Nitrogen	9056	**12.4**		mg/L	0.50	0.04	10	NA	11/3/09 17:35
Nitrite as Nitrogen	353.2	0.007	U	mg/L	0.010	0.007	1	NA	11/3/09 20:09
pH	9040B	**7.41**		pH Units			1	NA	11/3/09 10:40
Phosphorus, Total	365.1	**0.020**	J	mg/L	0.050	0.005	1	11/ 9/09	11/10/09 10:28
Solids, Total Dissolved	SM 2540 C	**4480**		mg/L	29	16	1	NA	11/6/09 10:40
Solids, Total Suspended (TSS)	SM 2540 D	1.0	U	mg/L	1.0		1	NA	11/5/09 14:40
Sulfate	9056	**2280**		mg/L	80	18	400	NA	11/5/09 14:19
Surfactants	SM 5540 C	**0.010**	J	mg/L	0.020	0.005	1	NA	11/3/09 09:20
TDS Ratio	SM 1030 E	**1.060**		NONE			1	NA	12/22/09

Comments:

M-147B

Water Type	$Ca\text{-}SO_4$		
Dissolved Solids	4478.2 mg/kg	4480 mg/L	Measured
Density	1.0004 g/cm^3		Calculated
Conductivity	5170 µmho/cm		Measured
Hardness (as $CaCO_3$)			
Total	2110.3 mg/kg	2111.2 mg/L	Calculated
Carbonate	173.81	173.88	
Non-Carbonate	1936.5	1937.3	

Primary Tests

Anion-Cation Balance		
Anions	66.3	
Cations	63.4	
% Difference	2.287	OK
Measured TDS = Calculated TDS		
Measured	4478.209	
Calculated	4225.560	
Ratio	1.060	OK
Measured EC = Calculated EC		
Measured	5170.000	
Calculated	5019.921	
Ratio	1.030	OK

Secondary Tests

Measured EC and Ion Sums:		
Anions	1.282757	Not within preferred range (0.9-1.1)
Cations	1.225400	Not within preferred range (0.9-1.1)
Calculated TDS to EC ratio	0.817	Not within preferred range (0.55-0.7)
Measured TDS to EC ratio	0.866	Not within preferred range (0.55-0.7)

Organic Mass Balance

DOC ≥ Sum of Organics

DOC unavailable

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001
Sample Matrix: Water

Service Request: R0906270
Date Collected: 11/ 2/09 1000
Date Received: 11/ 3/09

Sample Name: M-147009B
Lab Code: R0906270-002

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Alkalinity as CaCO3, Total	SM 2320 B	**108**		mg/L	2.0	0.3	1	NA	11/13/09 09:24
Ammonia as Nitrogen	350.1	**0.031**	J	mg/L	0.050	0.007	1	NA	11/23/09 12:36
Anion-Cation Balance Difference	SM 1030 E	**0.250**		Percent			1	NA	12/22/09
Bicarbonate Alkalinity as CaCO3	SM 2320 B	**108**		mg/L	2.0	0.3	1	NA	11/13/09 09:24
Bromide	9056	**1.4**		mg/L	1.0	0.2	10	NA	11/3/09 18:24
Calculated TDS/EC Ratio	SM 1030 E	**0.822**		NONE			1	NA	12/22/09
Carbon, Total Organic (TOC)	9060	**1.1**		mg/L	1.0	0.1	1	NA	11/7/09 12:22
Carbon, Total Organic (TOC)	9060	**1.4**		mg/L	1.0	0.1	1	NA	11/7/09 12:30
Carbon, Total Organic (TOC)	9060	**1.4**		mg/L	1.0	0.1	1	NA	11/7/09 12:38
Carbon, Total Organic (TOC)	9060	**1.3**		mg/L	1.0	0.1	1	NA	11/7/09 12:47
Carbon, Total Organic (TOC), Average	9060	**1.3**		mg/L	1.0	0.1	1	NA	11/7/09 12:22
Carbonate Alkalinity as CaCO3	SM 2320 B	0.3	U	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Chloride	9056	**572**		mg/L	20	5	100	NA	11/5/09 15:38
Chromium, Hexavalent, Dissolved	218.6	**0.139**		mg/L	0.010	0.004	1	NA	11/3/09 18:20
Conductivity	120.1	**5150**		µMHOS/cm	0.050		1	NA	11/3/09 10:40
Conductivity Ratio	SM 1030 E	**1.022**		NONE			1	NA	12/22/09
Cyanide, Total	9012A	0.005	U	mg/L	0.010	0.005	1	11/10/09	11/11/09 16:40
Hydroxide Alkalinity as CaCO3	SM 2320 B	0.3	U	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Measured TDS/EC Ratio	SM 1030 E	**0.885**		NONE			1	NA	12/22/09
Nitrate as Nitrogen	9056	**12.3**		mg/L	0.50	0.04	10	NA	11/3/09 18:24
Nitrite as Nitrogen	353.2	**0.008**	J	mg/L	0.010	0.007	1	NA	11/3/09 20:15
pH	9040B	**7.48**		pH Units			1	NA	11/3/09 10:40
Phosphorus, Total	365.1	**0.019**	J	mg/L	0.050	0.005	1	11/ 9/09	11/10/09 10:29
Solids, Total Dissolved	SM 2540 C	**4560**		mg/L	27	15	1	NA	11/6/09 10:40
Solids, Total Suspended (TSS)	SM 2540 D	1.0	U	mg/L	1.0		1	NA	11/5/09 14:40
Sulfate	9056	**2260**		mg/L	80	18	400	NA	11/5/09 15:54
Surfactants	SM 5540 C	**0.009**	J	mg/L	0.020	0.005	1	NA	11/3/09 09:20
TDS Ratio	SM 1030 E	**1.076**		NONE			1	NA	12/22/09

Comments:

M-147009B

Water Type	$Ca\text{-}SO_4$		
Dissolved Solids	4557.9 mg/kg	4560 mg/L	Measured
Density	1.0005 g/cm^3		Calculated
Conductivity	5150 µmho/cm		Measured
Hardness (as $CaCO_3$)			
Total	2168.2 mg/kg	2169.2 mg/L	Calculated
Carbonate	177.08	177.16	
Non-Carbonate	1991.1	1992.1	

Primary Tests

Anion-Cation Balance		
Anions	65.6	
Cations	65.3	
% Difference	0.250	OK
Measured TDS = Calculated TDS		
Measured	4557.905	
Calculated	4235.162	
Ratio	1.076	OK
Measured EC = Calculated EC		
Measured	5150.000	
Calculated	5040.676	
Ratio	1.022	OK

Secondary Tests

Measured EC and Ion Sums:		
Anions	1.274386	Not within preferred range (0.9-1.1)
Cations	1.268032	Not within preferred range (0.9-1.1)
Calculated TDS to EC ratio	0.822	Not within preferred range (0.55-0.7)
Measured TDS to EC ratio	0.885	Not within preferred range (0.55-0.7)

Organic Mass Balance

DOC ≥ Sum of Organics

DOC unavailable

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1240
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	EB110209-GWA3		
Lab Code:	R0906270-003	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Alkalinity as CaCO3, Total	SM 2320 B	**1.2**	BJ	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Ammonia as Nitrogen	350.1	**0.206**		mg/L	0.050	0.007	1	NA	11/23/09 12:37
Bicarbonate Alkalinity as CaCO3	SM 2320 B	**1.2**	BJ	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Bromide	9056	0.02	U	mg/L	0.10	0.02	1	NA	11/3/09 16:30
Carbon, Total Organic (TOC)	9060	0.1	U	mg/L	1.0	0.1	1	NA	11/7/09 13:04
Carbon, Total Organic (TOC)	9060	0.1	U	mg/L	1.0	0.1	1	NA	11/7/09 13:12
Carbon, Total Organic (TOC)	9060	0.1	U	mg/L	1.0	0.1	1	NA	11/7/09 13:22
Carbon, Total Organic (TOC)	9060	**0.1**	J	mg/L	1.0	0.1	1	NA	11/7/09 12:56
Carbon, Total Organic (TOC), Average	9060	0.1	U	mg/L	1.0	0.1	1	NA	11/7/09 12:56
Carbonate Alkalinity as CaCO3	SM 2320 B	0.3	U	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Chloride	9056	**0.08**	BJ	mg/L	0.20	0.05	1	NA	11/3/09 16:30
Chromium, Hexavalent, Dissolved	218.6	0.004	U	mg/L	0.010	0.004	1	NA	11/3/09 18:30
Conductivity	120.1	**1.28**		µMHOS/cm	0.050		1	NA	11/3/09 10:40
Cyanide, Total	9012A	0.005	U	mg/L	0.010	0.005	1	11/10/09	11/11/09 16:40
Hydroxide Alkalinity as CaCO3	SM 2320 B	0.3	U	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Nitrate as Nitrogen	9056	0.004	U	mg/L	0.050	0.004	1	NA	11/3/09 16:30
Nitrite as Nitrogen	353.2	0.007	U	mg/L	0.010	0.007	1	NA	11/3/09 20:15
pH	9040B	**7.20**		pH Units			1	NA	11/3/09 10:40
Phosphorus, Total	365.1	0.005	U	mg/L	0.050	0.005	1	11/ 9/09	11/10/09 10:30
Solids, Total Dissolved	SM 2540 C	**9**	BJ	mg/L	10	6	1	NA	11/6/09 10:40
Solids, Total Suspended (TSS)	SM 2540 D	1.0	U	mg/L	1.0		1	NA	11/5/09 14:40
Sulfate	9056	**0.11**	J	mg/L	0.20	0.05	1	NA	11/3/09 16:30
Surfactants	SM 5540 C	**0.008**	J	mg/L	0.020	0.005	1	NA	11/3/09 09:20

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001
Sample Matrix: Water

Service Request: R0906270
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: R0906270-MB1

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Alkalinity as CaCO3, Total	SM 2320 B	**0.8**	J	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Ammonia as Nitrogen	350.1	0.007	U	mg/L	0.050	0.007	1	NA	11/23/09 11:28
Bicarbonate Alkalinity as CaCO3	SM 2320 B	**0.8**	J	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Bromide	9056	0.02	U	mg/L	0.10	0.02	1	NA	11/3/09 10:29
Carbon, Total Organic (TOC)	9060	0.1	U	mg/L	1.0	0.1	1	NA	11/7/09 10:38
Carbon, Total Organic (TOC)	9060	0.1	U	mg/L	1.0	0.1	1	NA	11/7/09 10:46
Carbon, Total Organic (TOC)	9060	0.1	U	mg/L	1.0	0.1	1	NA	11/7/09 10:55
Carbon, Total Organic (TOC)	9060	0.1	U	mg/L	1.0	0.1	1	NA	11/7/09 11:04
Carbonate Alkalinity as CaCO3	SM 2320 B	0.3	U	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Chloride	9056	**0.09**	J	mg/L	0.20	0.05	1	NA	11/3/09 10:29
Chromium, Hexavalent, Dissolved	218.6	0.004	U	mg/L	0.010	0.004	1	NA	11/3/09 11:55
Cyanide, Total	9012A	0.005	U	mg/L	0.010	0.005	1	11/10/09	11/11/09 16:40
Hydroxide Alkalinity as CaCO3	SM 2320 B	0.3	U	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Nitrate as Nitrogen	9056	0.004	U	mg/L	0.050	0.004	1	NA	11/3/09 10:29
Nitrite as Nitrogen	353.2	0.007	U	mg/L	0.010	0.007	1	NA	11/3/09 20:08
Phosphorus, Total	365.1	0.005	U	mg/L	0.050	0.005	1	11/ 9/09	11/10/09 10:12
Solids, Total Dissolved	SM 2540 C	7	J	mg/L	10	6	1	NA	11/6/09 10:40
Solids, Total Suspended (TSS)	SM 2540 D	1.0	U	mg/L	1.0		1	NA	11/5/09 14:40
Sulfate	9056	0.05	U	mg/L	0.20	0.05	1	NA	11/3/09 10:29
Surfactants	SM 5540 C	0.005	U	mg/L	0.020	0.005	1	NA	11/3/09 09:20

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R0906270-MB2	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Bromide	9056	0.02	U	mg/L	0.10	0.02	1	NA	11/3/09 17:02
Chloride	9056	0.05	U	mg/L	0.20	0.05	1	NA	11/5/09 11:16
Nitrate as Nitrogen	9056	0.004	U	mg/L	0.050	0.004	1	NA	11/3/09 17:02
Sulfate	9056	0.05	U	mg/L	0.20	0.05	1	NA	11/5/09 11:16

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001
Sample Matrix: Water

Service Request: R0906270
Date Analyzed: 11/ 3/09 - 11/23/09

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R0906270-LCS1 Result	Expected	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	**0.495**	0.500	99	90 - 110
Bromide	9056	**0.975**	1.00	98	90 - 110
Carbon, Total Organic (TOC)	9060	**9.00**	10.0	90	86 - 117
Carbon, Total Organic (TOC)	9060	**9.57**	10.0	96	86 - 117
Carbon, Total Organic (TOC)	9060	**10.1**	10.0	101	86 - 117
Carbon, Total Organic (TOC)	9060	**9.86**	10.0	99	86 - 117
Chloride	9056	**1.87**	2.00	94	90 - 110
Chromium, Hexavalent, Dissolved	218.6	**0.185**	0.200	93	90 - 110
Cyanide, Total	9012A	**0.0903**	0.100	90	85 - 115
Nitrite as Nitrogen	353.2	**0.238**	0.250	95	90 - 110
Phosphorus, Total	365.1	**0.807**	0.800	101	90 - 110
Solids, Total Dissolved	SM 2540 C	**914**	913	100	80 - 120
Solids, Total Suspended (TSS)	SM 2540 D	**212**	215	99	80 - 120
Sulfate	9056	**1.89**	2.00	94	90 - 110
Surfactants	SM 5540 C	**0.0208**	0.020	104	75 - 125
Alkalinity as CaCO3, Total	SM 2320 B	**18.0**	20.0	90	90 - 108
Carbon, Total Organic (TOC), Average	9060	**9.64**	10.0	96	86 - 117
Nitrate as Nitrogen	9056	**0.947**	1.00	95	90 - 110

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001
Sample Matrix: Water

Service Request: R0906270
Date Analyzed: 11/ 3/09 - 11/11/09

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R0906270-LCS2 Result	Expected	% Rec	% Rec Limits
Bromide	9056	**1.01**	1.00	101	90 - 110
Chloride	9056	**1.88**	2.00	94	90 - 110
Cyanide, Total	9012A	**0.405**	0.400	101	85 - 115
Sulfate	9056	**2.01**	2.00	101	90 - 110
Surfactants	SM 5540 C	**0.335**	0.350	96	75 - 125
Nitrate as Nitrogen	9056	**0.968**	1.00	97	90 - 110

Comments:

Name	Unit	M-147B	M-147009B
Sample ID	text	M-147B	M-147009B
LIMs ID	text	R0906270-001	R0906270-002
Calcium	µg/L	514000	529000
Magnesium	µg/L	201000	206000
Potassium	µg/L	11000.0	11300.0
Sodium	µg/L	480000	498000
Chlorate	µg/L	35300.0	35900.0
Perchlorate	µg/L	4530	4590
Bicarbonate	mg/L	106	108
Carbonate	mg/L	ND	ND
Chloride	mg/L	583	572
Conductivity	µmho/cm	5170	5150
Fluoride	mg/L		
Hydroxide	mg/L	ND	ND
Nitrate	mg/L	12.4	12.3
Phosphorus	mg/L	0.02	0.019
Dissolved Solids	mg/L	4480	4560
Sulfate	mg/L	2280	2260

Columbia Analytical Services™ 1 Mustard Street, Suite 250, Rochester, NY 14609-6925 | 585.288.5380 | www.caslab.com

December 22, 2009

Mr. Frank Hagar
Northgate Environmental
1100 Quail Street
Suite 102
Newport Beach, CA 92660

Re: Tronox LLC Henderson #2027.001
Service Request #R0906270

Dear Mr. Hagar:

Enclosed is the analytical data report for the above referenced facility. A total of four samples were received by our laboratory on November 3, 2009.

Any problems encountered with this project are addressed in a case narrative section which is presented later in this report.

This report consists of two (2) packages: the sample data package and the sample data summary package. All data presented in this package has been reviewed prior to report submission. If you should have any questions or concerns, please contact me at (585) 288-5380.

Thank you for your continued use of our services.

Sincerely,
COLUMBIA ANALYTICAL SERVICES

Janice M. Jaeger
Project Chemist

enc.

cc: Ms. Cindy Arnold
Northgate Environmental
2501 Geigel Avenue
Orlando, FL 32806

This report contains a total of 1234 pages.

SDG NARRATIVE

CASE NARRATIVE

COMPANY: Northgate Environmental
Tronox LLC Henderson Project #2027.001
SERVICE REQUEST #: R0906270

Northgate samples were collected on 11/02/09 and received at CAS on 11/03/09 in good condition. Columbia Analytical Services' (CAS) reporting limit has been expressed as the Method Reporting Limit (MRL) rather than the Practical Quantitation Limit (PQL). At the client's request, all results have been reported to the Method Detection Limit (MDL) where an MDL is performed on that parameter. The MDL reported for the Alkalinity Carbonate, Alkalinity Carbonate and Alkalinity Hydroxide is the Alkalinity MDL. The software used for the 1030E calculations is Rockware AqQA. All data has been checked and verified.

INORGANICS

Three water samples were analyzed for a site specific list of inorganics. Please see attached data pages for method numbers.

Site specific QC was not requested for these samples. All Blank spike recoveries were within limits except Nitrite on the 10/31/09 LCS was outside limits low. EB103009-GWA4 was reanalyzed outside the recommended holding time of 48 hours under a compliant LCS. Both sets of data have been reported. All outlying QC has been flagged with an "*".

The Laboratory blanks associated with these analyses were free of contamination except the 11/13/09 blank had a low level hit for Alkalinity and Bicarbonate alkalinity and the 11/03/09 blank had a low level hit for Chloride. All affected data has been flagged with a "B".

All samples were analyzed within holding time.

No other analytical or QC problems were encountered.

VOLATILE ORGANICS

Four water samples were analyzed for a site specific list of Volatiles by Methods 5030/8260B from SW-846.

All the initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within QC limits.

All surrogate standard recoveries were within Tronox limits.

Site specific QC was not requested for these samples. All Reference spike recoveries were within Tronox limits.

The Laboratory blanks associated with these samples were free of contamination except for 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene and Naphthalene on the 11/11/09 blank and 1,2,3-Trichlorobenzene and Hexachlorobutadiene on the 11/12/09 blank. No data was affected.

All samples were analyzed within required holding times.

No other analytical or QC problems were encountered.

SEMIVOLATILE ORGANICS

Three water samples were analyzed for a site specific list of Semivolatiles by method 8270C low level from SW-846.

All the initial and continuing calibration criteria were met for all analytes.

All internal standard areas were within QC limits.

All surrogate standard recoveries were within Tronox limits.

Site specific QC was not requested for these samples. All Blank spike/Blank spike duplicate recoveries were within Tronox limits except Pyridine and 1,4-Dioxane were outside limits on the 11/04/09 LCS/LCSD. The outliers were within 10-150%. All RPD's were within limits.

The Laboratory Blanks associated with these analyses were free of contamination except the 11/04/09 blank had a low level hit for Butyl benzyl phthalate. No data was affected.

All samples were extracted and analyzed within holding times.

No other analytical or QC problems were encountered.

PESTICIDES

Three water samples were analyzed for a site specific list of Pesticides by method 8081 from SW-846.

All the initial and continuing calibration criteria were met for all analytes.

All surrogate standard recoveries were within Tronox limits.

Site specific QC was not requested for these samples. All Blank spike/Blank spike duplicate recoveries were within limits. All RPD's were within limits.

The Laboratory Blanks associated with these analyses were free of contamination.

All samples were extracted and analyzed within required holding times.

No other analytical or QC problems were encountered.

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 details conditioned above. Release of the data contained in this hard copy data package have by authorized by the Laboratory Manager or his designee, as verified by the following signature.

CAS ASP/CLP Batching Form/Login Sheet

Client Proj #:	2027.001	Batch Complete:	Yes	Date Revised:	
Submission:	R0906270	Diskette Requested:	Yes	Date Due:	12/3/09
Client:	Northgate Environmental	Date:	11/16/09	Protocol:	SW846
Client Rep:	JJAEGER	Custody Seal: Present/Absent:		Shipping No.:	
Project:	Tronox LLC Henderson	Chain of Custody: Present/Absent:		SDG #:	M-147B

CAS Job #	Client/EPA ID	Matrix	Requested Parameters	Date Sampled	Date Received	pH (Solids)	% Solids	Remarks Sample Condition
R0906270-001	M-147B	Water	8260B, 120.1, SM 2320 B, 6020, 8081A, 7470A, 9056, 9040B, 353.2, 9012A, 314.0, 218.6, SM 2540 C, 8270C, SM 5540 C, 365.1, 350.1, 300.1, SM 2540 D, 9060, 6010B LL, SM 1030 E	11/2/09	11/3/09			
R0906270-002	M-147009B	Water	8260B, 120.1, SM 2320 B, 6020, 8081A, 7470A, 9056, 9040B, 353.2, 9012A, 314.0, 218.6, SM 2540 C, 8270C, SM 5540 C, 365.1, 350.1, 300.1, SM 2540 D, 9060, 6010B LL, SM 1030 E	11/2/09	11/3/09			
R0906270-003	EB110209-GWA3	Water	8260B, 120.1, SM 2320 B, 6020, 8081A, 7470A, 9056, 9040B, 353.2, 9012A, 314.0, 218.6, SM 2540 C, 8270C, SM 5540 C, 365.1, 350.1, 300.1, SM 2540 D, 9060, 6010B LL	11/2/09	11/3/09			
R0906270-004	TB110209-GWA3	Water	8260B	11/2/09	11/3/09			

5555

Folder Comments:

Columbia Analytical Services™

REPORT QUALIFIERS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Pesticide/Aroclors: Concentration >40% (25% for CLP) difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.

ACCREDITED IN ACCORDANCE WITH nelac

CAS/Rochester Lab ID # for State Certifications[1]

NELAP Accredited
Delaware Accredited
Connecticut ID # PH0556
Florida ID # E87674
Illinois ID #200047
Maine ID #NY0032
Nebraska Accredited
Navy Facilities Engineering Service Center Approved
Nevada ID # NY-00032
New Jersey ID # NY004
New York ID # 10145
New Hampshire ID # 294100 A/B
Pennsylvania ID# 68-786
Rhode Island ID # 158
West Virginia ID # 292

[1] Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at www.caslab.com.

CHAINS OF CUSTODY

INTERNAL CHAINS

northgate
environmental management, inc.
1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.01105
Page: 1 of 4
Cooler # ____ of ____

Collection Area: III

Required Ship to Lab:		Required Project Information:		Required Invoice Information:			
Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.	Site ID #:	TRONOX LLC. HENDERSON	Send Invoice to:	Susan Crowley Tronox LLC	TAT: Standard 30 day	X
Address:	1 Mustard Street, Suite 250	Project #	2027.001	Address:	PO Box 55	If Rush, Date due	
Rochester, NY 14609		Site Address	560 W. Lake Mead Drive	City/State	Henderson, NV 89009	Phone #:	(949)260-9293
Lab PM:	Janice Jaeger	City	Henderson	State	NV	Reimbursement project?	X
Phone/Fax:	(585)288-5380	Site PM Name	Derrick Willis	Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com		
Lab PM email	jjaeger@caslab.com	Phone/Fax:	949-375-7004	CC Hardcopy report to	PDF Electronic Version Only		
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	CC Hardcopy report to	see additional comments below		

Rush		Mark One
QC level Required: Standard		Special
EPA Stage 4		Mark one
NJ Reduced Deliverable Package?		
MA MCP Cert?		CT RCP Cert?
		Mark One

Lab Project ID (lab use)

Valid Matrix Codes: MATRIX — DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LP; SOIL SO; OIL OL; WIPE WI; AMBIENT AIR AE; SVE AIR GS; SOIL GAS SG; WATER W; SURFACE WATER WS; WATER QC WQ; SLUDGE SL; RINSEATE WH; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID — One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 8260B VOC	EPA 9060 TOC	EPA 8270C SVOC	EPA 8081 OCP's	EPA 6010B/6020	EPA 314.0 Perchlorate	EPA 9056 Chloride	EPA 218.6 Hex Chrom	Comments/Lab Sample I.D.
1	M-147B	WG	G	11/2/2009	1000	3	N				X					X								3 x 40 ml VOAs
2	M-147B	WG	G	11/2/2009		2	N		X								X							2 x 40 ml VOAs
3	M-147B	WG	G	11/2/2009		2	N	X										X						2 x 1 L Amber Glass
4	M-147B	WG	G	11/2/2009		2	N	X											X					2 x 1 L Amber Glass
5	M-147B	WG	G	11/2/2009		1	N			X										X				500 ml Plastic
6	~~M-147BDISS~~	~~WG~~	~~G~~	~~11/2/2009~~		1	~~Y~~			X										X				500 ml Plastic JWO
7	M-147B	WG	G	11/2/2009	1000	1	N	X													X			250 ml Plastic
8	M-147B	WG	G	11/2/2009		1	N								X							X		250 ml Amber Glass
9	M-147B	WG	G	11/2/2009		1	Y								X								X	125 ml Plastic
10																								
11	JWO																							
12																								

Additional Comments/Special Instructions:
Omit As and Se from Metals 6010/6020
All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
JWO GES	11/2	1400	GES	11/2	1400
DEO GES	11/2	1600	Matt Conn CAL	11/3/09	0820

Sample Receipt Conditions

	Temp in C°	Samples on Ice?	Sample intact?	Trip Blank?
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	

SHIPPING METHOD: (mark as appropriate) — UPS COURIER FEDEX / US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER: JWO
DATE Signed: 11/2 Time: 1210

R0906270
Northgate Environmental
Tronox LLC Henderson

northgate
environmental management, inc.

1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COC No. 2027.001.01105
Page: 2 of 4
Cooler # ____ of ____

Collection Area: III

Required Ship to Lab:		Required Project Information:		Required Invoice Information:			
Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.	Site ID #:	TRONOX LLC. HENDERSON	Send Invoice to:	Susan Crowley Tronox LLC	TAT: Standard 30 day	X
Address:	1 Mustard Street, Suite 250	Project #	2027.001	Address:	PO Box 55	If Rush, Date due	
Rochester, NY 14609		Site Address	560 W. Lake Mead Drive	City/State	Henderson, NV 89009	Phone #:	(949)260-9293
Lab PM:	Janice Jaeger	City	Henderson	State	NV	Reimbursement project?	X
Phone/Fax:	(585)288-5380	Site PM Name	Derrick Willis	Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com		
Lab PM email	jjaeger@caslab.com	Phone/Fax:	949-375-7004	CC Hardcopy report to	PDF Electronic Version Only		
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	CC Hardcopy report to	see additional comments below		

TAT: Standard 30 day	X	Rush		Mark One
If Rush, Date due				
QC level Required: Standard		Special	EPA Stage 4	Mark one
NJ Reduced Deliverable Package?				
MA MCP Cert?		CT RCP Cert?		Mark One

Lab Project ID (lab use)

Valid Matrix Codes: MATRIX — DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LF; SOIL SO; OIL OL; WIPE SW; AIR/RENT AIR AA; SVE AIR AE; SOIL GAS GI; WATER W; SURFACE WATER WB; WATER OC WO; SLUDGE SL; RINSEATE WH; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID — One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 9012 A Cyanide	EPA 350.1/365.1	EPA 9056/SM 2320C	SM 5540C	SM 2320B Alkalinity	EPA 9040C pH	SM 2540D TSS	Comments/Lab Sample I.D.
1	M-147B	WG	G	11/2/2009	1000	1	N					X				X							250 ml Plastic
2	M-147B	WG	G	11/2/2009		1	N		X								X						250 ml Plastic
3	M-147B	WG	G	11/2/2009		1	N	X										X					250 ml Plastic
4	M-147B	WG	G	11/2/2009		1	N	X											X				500 ml Plastic
5	M-147B	WG	G	11/2/2009		1	N	X												X			250 ml Plastc
6	M-147B	WG	G	11/2/2009		1	N	X													X		125 ml Plastic
7	M-147B	WG	G	11/2/2009		1	N	X														X	1 L Plastic
8																							
9																							
10																							
11																							
12																							

JWO

Additional Comments/Special Instructions:

Omit As and Se from Metals 6010/6020
All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
GBS	11/2	1400	GBS	11/2	1400
GBS	11/2	1600	CAS	11/3	0820

Sample Receipt Conditions

	Temp in °C	Samples on Ice?	Sample intact?	Trip Blank?
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	

SHIPPING METHOD (mark as appropriate): UPS COURIER FEDEX / US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER:
DATE Signed: 4/2 Time: 1210

6666

R0906270
Northgate Environmental
Tronox LLC Henderson

northgate
environmental management, inc.
1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

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COC No. 2027.001.01105
Page: 3 of 4
Cooler # ____ of ____
Collection Area: III

Required Ship to Lab:

Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.
Address:	1 Mustard Street, Suite 250
	Rochester, NY 14609
Lab PM:	Janice Jaeger
Phone/Fax:	(585)288-5380
Lab PM email	jjaeger@caslab.com
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	TRONOX LLC. HENDERSON
Project #	2027.001
Site Address	560 W. Lake Mead Drive
City	Henderson
State	NV
Site PM Name	Derrick Willis
Phone/Fax:	949-375-7004
Site PM Email:	derrick.willis@ngem.com

Required Invoice Information:

Send Invoice to:	Susan Crowley Tronox LLC
Address:	PO Box 55
City/State	Henderson, NV 89009
Phone #:	(949)260-9293
Reimbursement project?	X
Non-reimbursement project?	
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to	PDF Electronic Version Only
CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush		Mark One	
If Rush, Date due					
QC level Required: Standard		Special	EPA Stage 4	Mark one	
NJ Reduced Deliverable Package?					
MA MCP Cert?		CT RCP Cert?		Mark One	

Lab Project ID (lab use)

Valid Matrix Codes: MATRIX — DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LP; SOIL SO; OIL OL; WIPE WI; AMBIENT AIR AE; SVE AIR VA; SOIL GAS GS; WATER W; SURFACE WATER WS; WATER QC WQ; SLUDGE SL; RINSEATE WH; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 8260B VOC	EPA 8260 TOC	EPA 8270C SVOC	EPA 8081 OCP	EPA 6010B/6020	EPA 314.0 Perchlorate	EPA 8056 Chloride	EPA 218.6 Hex Chrom	Comments/Lab Sample I.D.
1	M-147009B	WG	G	11/2/2009	1000	3	N				X					X								3 x 40 ml VOAs
2	M-147009B	WG	G	11/2/2009	"	2	N		X								X							2 x 40 ml VOAs
3	M-147009B	WG	G	11/2/2009	"	2	N	X										X						2 x 1 L Amber Glass
4	M-147009B	WG	G	11/2/2009	"	2	N	X											X					2 x 1 L Amber Glass
5	M-147009B	WG	G	11/2/2009	"	1	N			X										X				500 ml Plastic
6	~~M-147009BDISS~~	~~WG~~	~~G~~	~~11/2/2009~~		1	Y			X										X				500 ml Plastic JWO
7	M-147009B	WG	G	11/2/2009	1000	1	N	X													X			250 ml Plastic
8	M-147009B	WG	G	11/2/2009	"	1	N								X							X		250 ml Amber Glass
9	M-147009B	WG	G	11/2/2009	"	1	Y								X								X	125 ml Plastic
10	JWO																							
11																								
12																								

Additional Comments/Special Instructions:

Omit As and Se from Metals 6010/6020
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Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	11/2	1400	[signature] GRS	11/2	1400
[signature] GRS	11/2	1600	[signature] CAS	11/3	0820

Sample Receipt Conditions

	Temp in C°	Samples on Ice?	Sample intact?	Trip Blank?
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	

SHIPPING METHOD: (mark as appropriate) SAMPLER NAME AND SIGNATURE

UPS COURIER FEDEX US MAIL

PRINT Name of SAMPLER: Josh W Otis

SIGNATURE of SAMPLER: [signature] DATE Signed 11/2 Time: 1210

5 of 5

R0906270
Northgate Environmental
Tronox LLC Henderson

northgate
environmental management, inc.

1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

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COC No. 2027.001.01105
Page: 4 of 4
Cooler # ____ of ____

Collection Area: III

Required Ship to Lab:

Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.
Address:	1 Mustard Street, Suite 250
	Rochester, NY 14609
Lab PM:	Janice Jaeger
Phone/Fax:	(585)288-5380
Lab PM email	jjaeger@caslab.com
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	TRONOX LLC, HENDERSON
Project #	2027.001
Site Address	560 W. Lake Mead Drive
City	Henderson
State	NV
Site PM Name	Derrick Willis
Phone/Fax:	949-375-7004
Site PM Email:	derrick.willis@ngem.com

Required Invoice Information:

Send Invoice to:	Susan Crowley, Tronox LLC
Address:	PO Box 55
City/State	Henderson, NV 89009
Phone #:	(949)260-9293
Reimbursement project?	X
Non-reimbursement project?	Mark one
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to	PDF Electronic Version Only
CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush	Mark One
If Rush, Date due			
QC level Required: Standard		Special	EPA Stage 4 / Mark one
NJ Reduced Deliverable Package?			
MA MCP Cert?		CT RCP Cert?	Mark One
Lab Project ID (lab use)			

Valid Matrix Codes: MATRIX — DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LF; SOIL SO; OIL OL; OIL SW; WIPE WP; AMBIENT AIR AE; SVE/ AIR SG; SOIL GAS 03; WATER W; SURFACE WATER WS; WATER DC WG; SLUDGE SL; RINSEATE WR; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 9012 A Cyanide	EPA 350.1/365.1	EPA 9056/SM 4500C	SM 5540C	SM 2320B Alkalinity	EPA 9045C pH	SM 2540D TSS	Comments/Lab Sample I.D.
1	M-147009B	WG	G	11/2/2009	1000	1	N					X				X							250 ml Plastic
2	M-147009B	WG	G	11/2/2009		1	N		X								X						250 ml Plastic
3	M-147009B	WG	G	11/2/2009		1	N	X										X					250 ml Plastic
4	M-147009B	WG	G	11/2/2009		1	N	X											X				500 ml Plastic
5	M-147009B	WG	G	11/2/2009		1	N	X												X			250 ml Plastic
6	M-147009B	WG	G	11/2/2009		1	N	X													X		125 ml Plastic
7	M-147009B	WG	G	11/2/2009		2	N	X														X	~~1L~~ Plastic 2 x 500 mL plastic
8	JWO																						
9																							
10																							
11																							
12																							

Additional Comments/Special Instructions:

Omit As and Se from Metals 6010/6020
All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY : AFFILIATION	DATE	TIME	ACCEPTED BY : AFFILIATION	DATE	TIME
Josh W Otis GPS	11/2	1400	GPS	11/2	1400
GPS	11/2	1600	Matt Cun CAS	11/3/09	0820

Sample Receipt Conditions

Temp in C	Samples on Ice?	Sample intact?	Trip Blank?
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SHIPPING METHOD: (mark as appropriate) UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Josh W Otis

SIGNATURE of SAMPLER: Josh W Otis DATE Signed 11/2 Time: 1210

T1000

R0906270

northgate
environmental management, inc.
1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

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COC No. 2027.001.01133
Page: 1 of 2
Cooler # ____ of ____

Collection Area: III

Required Ship to Lab:		Required Project Information:		Required Invoice Information:			
Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.	Site ID #:	TRONOX LLC. HENDERSON	Send Invoice to:	Susan Crowley Tronox LLC	TAT: Standard 30 day	X
Address:	1 Mustard Street, Suite 250	Project #	2027.001	Address:	PO Box 55	If Rush, Date due	
Rochester, NY 14609		Site Address	560 W. Lake Mead Drive	City/State	Henderson, NV 89009	Phone #:	(949)260-9293
Lab PM:	Janice Jaeger	City	Henderson	State	NV	Reimbursement project?	X
Phone/Fax:	(585)288-5380	Site PM Name	Derrick Willis	Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com		
Lab PM email	jjaeger@caslab.com	Phone/Fax:	949-375-7004	CC Hardcopy report to	PDF Electronic Version Only		
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	CC Hardcopy report to	see additional comments below		

Rush		Mark One
QC level Required: Standard		Special
NJ Reduced Deliverable Package?		
MA MCP Cert?		CT RCP Cert?

EPA Stage 4	Mark one
	Mark One

Lab Project ID (lab use)

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 8260B VOC	EPA 9060 TOC	EPA 8270C SVOC	EPA 8081 OCP	EPA 6010B/6020	EPA 314.0 Perchlorate	EPA 9056 Chlorate	EPA 7199 Hex Chrom	Comments/Lab Sample I.D.
1	EB110209-GWA3	W	G	11/2/2009	1240	3	N				X					X								3 x 40 ml VOAs
2	EB110209-GWA3	W	G	11/2/2009		2	N		X								X							2 x 40 ml VOAs
3	EB110209-GWA3	W	G	11/2/2009		2	N	X										X						2 x 1 L Amber Glass
4	EB110209-GWA3	W	G	11/2/2009		2	N	X											X					2 x 1 L Amber Glass
5	EB110209-GWA3	W	G	11/2/2009		1	N			X										X				500 ml Plastic
6	EB110209-GWA3	W	G	11/2/2009		1	N	X													X			250 ml Plastic
7	EB110209-GWA3	W	G	11/2/2009		1	N								X							X		250 ml Amber Glass
8	EB110209-GWA3	W	G	11/2/2009		1	N	X															X	125 ml Plastic
9	TB110209-GWA3	W	G	11/2/2009	0930	1	N				X					X								2x 40 ml VOA
10																								
11																								
12																								

Valid Matrix Codes
MATRIX: DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LF; SOIL SO; OIL OL; SW; GIL AA; WIPE AE; AMBIENT AIR; SVE AIR; SOIL GAS
MATRIX: WATER W; SURFACE WATER WS; WATER QC WQ; BLUDGE SL; RINSEATE WH; OTHER OT; GS ANIMAL TISSUE TA

Additional Comments/Special Instructions:
Omit As and Se from Metals 6010/6020
All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Josh W Otis GES	11/2	1400	[illegible] GES	11/2	1400
[illegible] GES	11/2	1600	[illegible] CAS	11/3/09	0821

Sample Receipt Conditions			
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
Temp in OC	Samples on Ice?	Sample intact?	Trip Blank?

SHIPPING METHOD: (mark as appropriate) UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER: [signature] DATE Signed 11/2 Time 1210

R0901270

northgate
environmental management, inc.
1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

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COC No. 2027.001.01133
Page: 2 of 2
Cooler # ____ of ____

Collection Area: III

Required Ship to Lab:		Required Project Information:		Required Invoice Information:							
Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.	Site ID #:	TRONOX LLC. HENDERSON	Send Invoice to:	Susan Crowley Tronox LLC			TAT: Standard 30 day	X	Rush	Mark One
Address:	1 Mustard Street, Suite 250	Project #	2027.001	Address:	PO Box 55			If Rush, Date due			
Rochester, NY 14609		Site Address	560 W. Lake Mead Drive	City/State	Henderson, NV 89009	Phone #:	(949)260-9293	QC level Required: Standard		Special	EPA Stage 4 / Mark one
Lab PM:	Janice Jaeger	City	Henderson / State NV	Reimbursement project?	X	Non-reimbursement project?	Mark one	NJ Reduced Deliverable Package?			
Phone/Fax:	(585)288-5380	Site PM Name	Derrick Willis	Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com			MA MCP Cert?		CT RCP Cert?	Mark One
Lab PM email	jjaeger@caslab.com	Phone/Fax:	949-375-7004	CC Hardcopy report to	PDF Electronic Version Only			Lab Project ID (lab use)			
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	CC Hardcopy report to	see additional comments below						

Valid Matrix Codes: MATRIX — DRINKING WATER WP; WATER W; GROUND WATER WG; WW; SURFACE WATER WS; WASTE WATER LF; WATER QC WQ; FREE PRODUCT SO; OIL; SLUDGE SL; SOIL SW; RINSEATE WH; OIL AA; OTHER OT; WIPE AE; GS; ANIMAL TISSUE TA; AMBIENT AIR; SVE AIR; SOIL GAS

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 9012 A Cyanide	EPA 350.1/365.1	EPA 9056/SM 4500C	SM 5540C	SM 2320B Alkalinity	EPA 9045C pH	SM 2540D TSS	Comments/Lab Sample I.D.
1	EB110209-GWA3	WG	G	11/2/2009	1240	1	N					X				X							250 ml Plastic
2	EB110209-GWA3	WG	G	11/2/2009		1	N		X								X						250 ml Plastic
3	EB110209-GWA3	WG	G	11/2/2009		1	N	X										X					250 ml Plastic
4	EB110209-GWA3	WG	G	11/2/2009		1	N	X											X				500 ml Plastic
5	EB110209-GWA3	WG	G	11/2/2009		1	N	X												X			250 ml Plastc
6	EB110209-GWA3	WG	G	11/2/2009		1	N	X													X		125 ml Plastic
7	EB110209-GWA3	WG	G	11/2/2009		1	N	X														X	1 L Plastic
8																							
9																							
10	JWO																						
11																							
12																							

Additional Comments/Special Instructions:
Omit As and Se from Metals 6010/6020
All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
JWO GES	11/2	1400	GES	11/2	1400
GES	11/2	1600	Matt Cun CAS	11/3	0820

Sample Receipt Conditions

	Temp in OC	Samples on Ice?	Sample intact?	Trip Blank?
	Y / N	Y / N	Y / N	
	Y / N	Y / N	Y / N	
	Y / N	Y / N	Y / N	
	Y / N	Y / N	Y / N	

SHIPPING METHOD (mark as appropriate): UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER: JWO DATE Signed 11/2 Time: 1330

R0906270

northgate
environmental management, inc.
1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

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COC No. 2027.001.01105
Page: 2 of 4
Cooler # ____ of ____

Collection Area: III

Required Ship to Lab:

Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.
Address:	1 Mustard Street, Suite 250
	Rochester, NY 14609
Lab PM:	Janice Jaeger
Phone/Fax:	(585)288-5380
Lab PM email	jjaeger@caslab.com
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	TRONOX LLC. HENDERSON
Project #	2027.001
Site Address	560 W. Lake Mead Drive
City	Henderson
State	NV
Site PM Name	Derrick Willis
Phone/Fax:	949-375-7004
Site PM Email:	derrick.willis@ngem.com

Required Invoice Information:

Send Invoice to:	Susan Crowley Tronox LLC
Address:	PO Box 55
City/State	Henderson, NV 89009
Phone #:	(949)260-9293
Reimbursement project?	X
Non-reimbursement project?	Mark one
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to	PDF Electronic Version Only
CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush		Mark One	
If Rush, Date due					
QC level Required: Standard		Special	EPA Stage 4	Mark one	
NJ Reduced Deliverable Package?					
MA MCP Cert?		CT RCP Cert?		Mark One	

Lab Project ID (lab use)

Valid Matrix Codes: DRINKING WATER (WP), GROUND WATER (WG), WASTE WATER (WW), FREE PRODUCT (LF), SOIL (SO), OIL (SW), WIPE (AA), AMBIENT AIR (AS), SVE AIR, SOIL GAS, WATER (W), SURFACE WATER (WS), WATER QC (WQ), SLUDGE (SL), RINSEATE (WI), OTHER (OT), ANIMAL TISSUE (TA), OIL (OI)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 9012 A Cyanide	EPA 350.1/365.1	EPA 9056/SM 2540C	SM 5540C	SM 2320B Alkalinity	EPA 9045C pH	SM 2540D TSS	Comments/Lab Sample I.D.
1	M-147B	WG	G	11/2/2009	1000	1	N					X				X							250 ml Plastic
2	M-147B	WG	G	11/2/2009		1	N		X								X						250 ml Plastic
3	M-147B	WG	G	11/2/2009		1	N	X										X					250 ml Plastic
4	M-147B	WG	G	11/2/2009		1	N	X											X				500 ml Plastic
5	M-147B	WG	G	11/2/2009		1	N	X												X			250 ml Plastic
6	M-147B	WG	G	11/2/2009		1	N	X													X		125 ml Plastic
7	M-147B	WG	G	11/2/2009		1	N	X														X	1 L Plastic
8																							
9	JWO																						
10																							
11																							
12																							

Additional Comments/Special Instructions:

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cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	11/2	1400	GBS	11/2	1400
GBS	11/2	1600	CAS	11/3/09	0940

Sample Receipt Conditions

	Temp in OC	Samples on Ice?	Sample intact?	Trip Blank?
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	

SHIPPING METHOD (mark as appropriate): UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER:
DATE Signed: 11/2 Time: 1210

1 of 1

R0906270

northgate
environmental management, inc.
1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

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COC No. 2027.001.01105
Page: 1 of 4
Cooler # ____ of ____
Collection Area: III

Required Ship to Lab:		Required Project Information:		Required Invoice Information:	
Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.	Site ID #:	TRONOX LLC. HENDERSON	Send Invoice to:	Susan Crowley, Tronox LLC
Address:	1 Mustard Street, Suite 250	Project #	2027.001	Address:	PO Box 55
	Rochester, NY 14609	Site Address	560 W. Lake Mead Drive	City/State	Henderson, NV 89009; Phone #: (949)260-9293
Lab PM:	Janice Jaeger	City	Henderson; State NV	Reimbursement project?	X; Non-reimbursement project? ___ Mark one
Phone/Fax:	(585)288-5380	Site PM Name	Derrick Willis	Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
Lab PM email	jjaeger@caslab.com	Phone/Fax:	949-375-7004	CC Hardcopy report to	PDF Electronic Version Only
Applicable Lab Quote #:		Site PM Email:	derrick.willis@ngem.com	CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush	Mark One
If Rush, Date due			
QC level Required: Standard		Special; EPA Stage 4	Mark one
NJ Reduced Deliverable Package?			
MA MCP Cert?		CT RCP Cert?	Mark One
Lab Project ID (lab use)			

SAMPLE ID — One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX — DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LF; SOIL SO; OIL SW; WIPE AA; AMBIENT AIR AE; SVE AIR GS; SOIL GAS. MATRIX — WATER W; SURFACE WATER WS; WATER QC WQ; SLUDGE SL; OIL RINSEATE WH; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	EPA 8260B VOC	EPA 9060 TOC	EPA 8270C SVOC	EPA 8081 OCP	EPA 6010B/6020	EPA 314.0 Perchlorate	EPA 9056 Chloride	EPA 218.6 Hex Chrom	Comments/Lab Sample I.D.
1	M-147B	WG	G	11/2/2009	1000	3	N				X					X								3 x 40 ml VOAs
2	M-147B	WG	G	11/2/2009		2	N		X								X							2 x 40 ml VOAs
3	M-147B	WG	G	11/2/2009		2	N	X										X						2 x 1 L Amber Glass
4	M-147B	WG	G	11/2/2009		2	N	X											X					2 x 1 L Amber Glass
5	M-147B	WG	G	11/2/2009		1	N			X										X				500 ml Plastic
6	~~M-147BDISS~~	~~WG~~	~~G~~	~~11/2/2009~~		~~1~~	~~Y~~			~~X~~										~~X~~				~~500 ml Plastic~~ JWO
7	M-147B	WG	G	11/2/2009	1000	1	N	X													X			250 ml Plastic
8	M-147B	WG	G	11/2/2009		1	N								X							X		250 ml Amber Glass
9	M-147B	WG	G	11/2/2009		1	Y								X								X	125 ml Plastic
10	JWO																							
11																								
12																								

Additional Comments/Special Instructions:
Omit As and Se from Metals 6010/6020
All PDF reports and EDDs will be uploaded to:
Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	11/2	1400	[signature] GES	11/2	1400
[signature] GES	11/2	1600	[signature] CAS	11/3/09	0940

Sample Receipt Conditions			
Temp in °C	Samples on Ice?	Sample intact?	Trip Blank?
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SHIPPING METHOD: (mark as appropriate) UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER: [signature] DATE Signed 11/2 Time: 1210

00015

R0906276

northgate
environmental management, inc.

1100 Quail Street, Suite 102, Newport Beach, CA 92660
(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

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COC No. 2027.001.01105
Page: 4 of 4
Cooler # ____ of ____

Collection Area: III

Required Ship to Lab:

Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.
Address:	1 Mustard Street, Suite 250
	Rochester, NY 14609
Lab PM:	Janice Jaeger
Phone/Fax:	(585)288-5380
Lab PM email	jjaeger@caslab.com
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	TRONOX LLC. HENDERSON
Project #	2027.001
Site Address	560 W. Lake Mead Drive
City	Henderson
State	NV
Site PM Name	Derrick Willis
Phone/Fax:	949-375-7004
Site PM Email:	derrick.willis@ngem.com

Required Invoice Information:

Send Invoice to:	Susan Crowley Tronox LLC
Address:	PO Box 55
City/State	Henderson, NV 89009
Phone #:	(949)260-9293
Reimbursement project?	X
Non-reimbursement project?	Mark one
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to	PDF Electronic Version Only
CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush	Mark One
If Rush, Date due			
QC level Required: Standard		Special	EPA Stage 4 / Mark one
NJ Reduced Deliverable Package?			
MA MCP Cert?		CT RCP Cert?	Mark One
Lab Project ID (lab use)			

Valid Matrix Codes: MATRIX — DRINKING WATER WP; GROUND WATER WG; WASTE WATER WW; FREE PRODUCT LF; SOIL SO; OIL OL; WIPE WI; AMBIENT AIR AIR; SVE AIR SVE; BOIL GAS GS; WATER W; SURFACE WATER WS; WATER QC WQ; SLUDGE SL; RINSEATE WH; OTHER OT; ANIMAL TISSUE TA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 9012 A Cyanide	EPA 350.1/7605.1	EPA 9056/SM 4500C	SM 5540C	SM 2320B Alkalinity	EPA 9045C pH	SM 2540D TSS	Comments/Lab Sample I.D.
1	M-147009B	WG	G	11/2/2009	1000	1	N					X					X						250 ml Plastic
2	M-147009B	WG	G	11/2/2009		1	N		X									X					250 ml Plastic
3	M-147009B	WG	G	11/2/2009		1	N	X											X				250 ml Plastic
4	M-147009B	WG	G	11/2/2009		1	N	X												X			500 ml Plastic
5	M-147009B	WG	G	11/2/2009		1	N	X													X		250 ml Plastic
6	M-147009B	WG	G	11/2/2009		1	N	X														X	125 ml Plastic
7	M-147009B	WG	G	11/2/2009		2	N	X														X	~~1L Plastic~~ 2x500mL plastic
8																							
9																							
10																							
11																							
12																							

JWO

Additional Comments/Special Instructions:

Omit As and Se from Metals 6010/6020
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Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Josh W Otis GPS	11/2	1400	GPS	11/2	1400
GPS	11/2	1600	Matt Cass CAL	11/3/09	0940

Sample Receipt Conditions

	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SHIPPING METHOD (mark as appropriate): UPS COURIER FEDEX / US MAIL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Josh W Otis

SIGNATURE of SAMPLER: Josh W Otis DATE Signed 11/2 Time: 1210

Temp in OC | Samples on Ice? | Sample intact? | Trip Blank?

9506

A0906270

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(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

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COC No. 2027.001.01105
Page: 3 of 4
Cooler # ____ of ____
Collection Area: III

Required Ship to Lab:

Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.
Address:	1 Mustard Street, Suite 250
Rochester, NY 14609	
Lab PM:	Janice Jaeger
Phone/Fax:	(585)288-5380
Lab PM email	jjaeger@caslab.com
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	TRONOX LLC. HENDERSON
Project #	2027.001
Site Address	560 W. Lake Mead Drive
City	Henderson
State	NV
Site PM Name	Derrick Willis
Phone/Fax:	949-375-7004
Site PM Email:	derrick.willis@ngem.com

Required Invoice Information:

Send Invoice to:	Susan Crowley Tronox LLC
Address:	PO Box 55
City/State	Henderson, NV 89009
Phone #:	(949)260-9293
Reimbursement project?	X
Non-reimbursement project?	Mark one
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to	PDF Electronic Version Only
CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush		Mark One	
If Rush, Date due					
QC level Required: Standard		Special	EPA Stage 4	Mark one	
NJ Reduced Deliverable Package?					
MA MCP Cert?		CT RCP Cert?		Mark One	
Lab Project ID (lab use)					

Valid Matrix Codes

MATRIX		MATRIX	
DRINKING WATER	WP	WATER	W
GROUND WATER	WG	SURFACE WATER	WS
WASTE WATER	WW	WATER QC	WQ
FREE PRODUCT	LF	SLUDGE	SL
SOIL	SO	RINSEATE	WR
OIL	SW	OTHER	OT
WIPE	AA	ANNUAL TISSUE	TA
AMBIENT AIR	AC		
SVE A/R	GS		
SOIL GAS			

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 8260B VOC	EPA 8260 TCC	EPA 8270C SVOC	EPA 8081 OCP	EPA 6010B/6020	EPA 314.0 Perchlorate	EPA 9056 Chloride	EPA 218.6 Hex Chrom	Comments/Lab Sample I.D.
1	M-147009B	WG	G	11/2/2009	1000	3	N				X						X							3 x 40 ml VOAs
2	M-147009B	WG	G	11/2/2009		2	N		X									X						2 x 40 ml VOAs
3	M-147009B	WG	G	11/2/2009		2	N	X											X					2 x 1 L Amber Glass
4	M-147009B	WG	G	11/2/2009		2	N	X												X				2 x 1 L Amber Glass
5	M-147009B	WG	G	11/2/2009		1	N			X											X			500 ml Plastic
6	~~M-147009BDISS~~	~~WG~~	~~G~~	~~11/2/2009~~		1	Y			X											X			500 ml Plastic JWO
7	M-147009B	WG	G	11/2/2009	1000	1	N	X														X		250 ml Plastic
8	M-147009B	WG	G	11/2/2009		1	N								X								X	250 ml Amber Glass
9	M-147009B	WG	G	11/2/2009		1	Y								X									X	125 ml Plastic
10	JWO																							
11																								
12																								

Additional Comments/Special Instructions:

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Northgate Environmental Management, Inc.
FTP site address provided to labs
Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	11/2	1400	[signature] GRS	11/2	1400
[signature] GRS	11/2	1600	[signature] CAS	11/3/09	0940

SHIPPING METHOD: (mark as appropriate) UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER: [signature] DATE Signed 11/2 Time: 1210

Sample Receipt Conditions

	Temp in OC	Samples on Ice?	Sample intact?	Trip Blank?
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	

J1005

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(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

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COC No. 2027.001.01133
Page: 2 of 2
Cooler # ____ of ____
Collection Area: III

Required Ship to Lab:

Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.
Address:	1 Mustard Street, Suite 250
	Rochester, NY 14609
Lab PM:	Janice Jaeger
Phone/Fax:	(585)288-5380
Lab PM email	jjaeger@caslab.com
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	TRONOX LLC. HENDERSON
Project #	2027.001
Site Address	560 W. Lake Mead Drive
City	Henderson
State	NV
Site PM Name	Derrick Willis
Phone/Fax:	949-375-7004
Site PM Email:	derrick.willis@ngem.com

Required Invoice Information:

Send Invoice to:	Susan Crowley Tronox LLC
Address:	PO Box 55
City/State	Henderson, NV 89009
Phone #:	(949)260-9293
Reimbursement project?	X
Non-reimbursement project?	Mark one
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to	PDF Electronic Version Only
CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush		Mark One	
If Rush, Date due					
QC level Required: Standard		Special	EPA Stage 4	Mark one	
NJ Reduced Deliverable Package?					
MA MCP Cert?		CT RCP Cert?		Mark One	

Lab Project ID (lab use)

Valid Matrix Codes: MATRIX — DRINKING WATER WP; GROUND WATER WG; WASTE WATER LF; FREE PRODUCT SO; SOIL SW; OIL AA; WIPE AE; AMBIENT AIR BVE AIR SOIL GAS; WATER W; WATER QC WQ; BLUDGE BL; RINSEATE WH; OTHER OT; 05 ANIMAL TISSUE TA

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 9012 A Cyanide	EPA 350.1/365.1	EPA 9056/SM 2320C	SM 5540C	SM 2320B Alkalinity	EPA 9045C pH	SM 2540D TSS	Comments/Lab Sample I.D.
1	EB110209-GWA3	WG	G	11/2/2009	1240	1	N					X				X							250 ml Plastic
2	EB110209-GWA3	WG	G	11/2/2009		1	N		X								X						250 ml Plastic
3	EB110209-GWA3	WG	G	11/2/2009		1	N	X										X					250 ml Plastic
4	EB110209-GWA3	WG	G	11/2/2009		1	N	X											X				500 ml Plastic
5	EB110209-GWA3	WG	G	11/2/2009		1	N	X												X			250 ml Plastc
6	EB110209-GWA3	WG	G	11/2/2009		1	N	X													X		125 ml Plastic
7	EB110209-GWA3	WG	G	11/2/2009		1	N	X														X	1 L Plastic
8																							
9																							
10	JWO																						
11																							
12																							

Additional Comments/Special Instructions:

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Notifications provided to:
cindy.arnold@ngem.com
frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	11/2	1400	[signature] GES	11/2	1400
[signature] GES	11/2	1600	[signature] CAS	11/3/09	0940

Sample Receipt Conditions

	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
	Y / N	Y / N	Y / N
Temp in OC	Samples on Ice?	Sample intact?	Trip Blank?

SHIPPING METHOD: (mark as appropriate) — SAMPLER NAME AND SIGNATURE

UPS COURIER FEDEX
US MAIL

PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER: [signature] DATE Signed 11/2 Time: 1330

81505

R0906270

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environmental management, inc.
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(949) 260-9293

CHAIN-OF-CUSTODY / Analytical Request Document

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COC No. 2027.001.01133
Page: 1 of 2
Cooler # ____ of ____
Collection Area: III

Required Ship to Lab:

Lab Name:	COLUMBIA ANALYTICAL SERVICES, INC.
Address:	1 Mustard Street, Suite 250
	Rochester, NY 14609
Lab PM:	Janice Jaeger
Phone/Fax:	(585)288-5380
Lab PM email	jjaeger@caslab.com
Applicable Lab Quote #:	

Required Project Information:

Site ID #:	TRONOX LLC. HENDERSON
Project #	2027.001
Site Address	560 W. Lake Mead Drive
City	Henderson
State	NV
Site PM Name	Derrick Willis
Phone/Fax:	949-375-7004
Site PM Email:	derrick.willis@ngem.com

Required Invoice Information:

Send Invoice to:	Susan Crowley, Tronox LLC
Address:	PO Box 55
City/State	Henderson, NV 89009
Phone #:	(949)260-9293
Reimbursement project?	X
Non-reimbursement project?	Mark one
Send EDD to	Frank Hagar Northgate Environmental Management, Inc frank.hagar@ngem.com
CC Hardcopy report to	PDF Electronic Version Only
CC Hardcopy report to	see additional comments below

TAT: Standard 30 day	X	Rush		Mark One	
If Rush, Date due					
QC level Required: Standard		Special	EPA Stage 4	Mark one	
NJ Reduced Deliverable Package?					
MA MCP Cert?		CT RCP Cert?		Mark One	

Lab Project ID (lab use)

Valid Matrix Codes: MATRIX — DRINKING WATER (WP), GROUND WATER (WG), WASTE WATER (WW), FREE PRODUCT (FP), SOIL (SO), OIL (OL), WIPE (WI), AMBIENT AIR (AA), SOIL GAS (SG); MATRIX — WATER (W), SURFACE WATER (WS), WATER QC (WQ), OIL, SLUDGE (SL), RINSEATE (WH), OTHER (OT), ANIMAL TISSUE (TA)

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	SAMPLE DATE	SAMPLE TIME	#OF CONTAINERS	FIELD FILTERED? (Y/N)	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analyses: EPA 8260B VOC	EPA 9060 TOC	EPA 8270C SVOC	EPA 8081 OCP	EPA 6010B/6020	EPA 314.0 Perchlorate	EPA 9056 Chlorate	EPA 7199 Hex Chrom	Comments/Lab Sample I.D.
1	EB110209-GWA3	W	G	11/2/2009	1240	3	N				X					X								3 x 40 ml VOAs
2	EB110209-GWA3	W	G	11/2/2009		2	N		X								X							2 x 40 ml VOAs
3	EB110209-GWA3	W	G	11/2/2009		2	N	X										X						2 x 1 L Amber Glass
4	EB110209-GWA3	W	G	11/2/2009		2	N	X											X					2 x 1 L Amber Glass
5	EB110209-GWA3	W	G	11/2/2009		1	N			X										X				500 ml Plastic
6	EB110209-GWA3	W	G	11/2/2009		1	N	X													X			250 ml Plastic
7	EB110209-GWA3	W	G	11/2/2009		1	N								X							X		250 ml Amber Glass
8	EB110209-GWA3	W	G	11/2/2009		1	N	X															X	125 ml Plastic
9	TB110209-GWA3	W	G	11/2/2009	0930	1	N				X					X								2x 40 ml VOA
10																								
11																								
12																								

Additional Comments/Special Instructions:
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frank.hagar@ngem.com

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	11/2	1400	GES	11/2	1400
GES	11/2	1600	Multi Cam CA	11/3	0940

Sample Receipt Conditions

	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
	Y/N	Y/N	Y/N	
Temp in C°	Samples on Ice?	Sample intact?	Trip Blank?	

SHIPPING METHOD: (mark as appropriate) UPS COURIER FEDEX US MAIL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Josh W Otis
SIGNATURE of SAMPLER:
DATE Signed 11/2 Time 1210

51909

R0901270

Cooler Receipt And Preservation Check Form

Project/Client: Henderson groundwater   Submission Number: R0906270.

Cooler received on: 11/3/09   by: KLC   COURIER: CAS   UPS   (FEDEX)   VELOCITY   CLIENT

1. Were custody seals on outside of cooler? (YES) NO
2. Were custody papers properly filled out (ink, signed, etc.)? (YES) NO
3. Did all bottles arrive in good condition (unbroken)? (YES) NO
4. Did any VOA vials have significant* air bubbles? YES (NO) N/A
5. Were Ice or **Ice packs** present? (YES) NO
6. Where did the bottles originate? (CAS/ROC,) CLIENT
7. Temperature of cooler(s) upon receipt: 4° 3° 3° 3° 4°

Is the temperature within 0° - 6° C?: (Yes) No | (Yes) No | (Yes) No | (Yes) No | (Yes) No

If No, Explain Below

Date/Time Temperatures Taken: 11/3/09 0945

Thermometer ID: 161 / IR GUN#2 / (IR GUN#3)   Reading From: (Temp Blank) / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: ______

PC Secondary Review: JMS 11/3/09

Cooler Breakdown: Date: 11/3/09 by: MRP / BD

1. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
2. Did all bottle labels and tags agree with custody papers? (YES) NO
3. Were correct containers used for the tests indicated? (YES) NO
4. Air Samples: Cassettes / Tubes Intact   Canisters Pressurized   Tedlar® Bags Inflated   (N/A)

Explain any discrepancies: ______

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH	√		WC853026	5/14				
≤2	HNO_3	√		BDB2696A	9/10				
≤2	H_2SO_4	√		WC92064B	10/10				
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid					
	$Na_2S_2O_3$	-	-						
	Zn Aceta	-	-						
	HCl	*	*						

Yes = All samples OK

No = Samples were preserved at lab as listed

*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet

PM OK to Adjust: ______

Bottle lot numbers: 100509-1NN, 100509-2NN, 090709-2JJ, 081009-1FF

Other Comments:

PC Secondary Review: JMS 11/9/09   *significant air bubbles are greater than 5-6 mm

H:\SMODOCS\Cooler Receipt 2.doc

Cooler Receipt And Preservation Check Form

Project/Client Henderson Submission Number R0906270

Cooler received on 11/3/09 by: MVC **COURIER:** CAS UPS (FEDEX) VELOCITY CLIENT

1.	Were custody seals on outside of cooler?	(YES)	NO		
2.	Were custody papers properly filled out (ink, signed, etc.)?	(YES)	NO		
3.	Did all bottles arrive in good condition (unbroken)?	(YES)	NO		
4.	Did any VOA vials have significant* air bubbles?	YES	NO	(N/A)	
5.	Were **Ice** or **Ice packs** present?	(YES)	NO		
6.	Where did the bottles originate?	(CAS/ROC)	CLIENT		
7.	Temperature of cooler(s) upon receipt:	1°			
	Is the temperature within 0° - 6° C?:	(Yes)	Yes	Yes	Yes
	If No, Explain Below	No	No	No	No

Date/Time Temperatures Taken: 11/3/09 0830

Thermometer ID: 161 / IR GUN#2 / ~~IR GUN#3~~ Reading From: ~~Temp Blank~~ / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: _____

PC Secondary Review: _____

Cooler Breakdown: Date: 11/3/09 by: MRP/BD

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO
2.	Did all bottle labels and tags agree with custody papers?	(YES)	NO
3.	Were correct containers used for the tests indicated?	(YES)	NO
4.	Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated		(~~N/A~~)

Explain any discrepancies: _____

pH	Reagent	YES	NO	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH	✓		WC85302G	5/14				
≤2	HNO_3	✓		BDB2696A	9/10				
≤2	H_2SO_4	✓		WC92064B	10/10				
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid					
	$Na_2S_2O_3$	-	-						
	Zn Aceta	-	-						
	HCl	*	*						

*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 100509-1NN, 100509-2NN, 090709-2JJ, 081009-1FF

Other Comments:

PC Secondary Review: MRP 11/9/09 *significant air bubbles are greater than 5-6 mm

Columbia Analytical Services, Inc.
Chain of Custody Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001

Service Request: R0906270

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
R0906270-001.01					
	120.1, 9040B				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1355	R-004 / MCARRERA	
R0906270-001.02					
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1352	R-001 / MCARRERA	
R0906270-001.03					
	8260B				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1352	R-001 / MCARRERA	
		11/10/09	1155	In Lab / DZIMPFER	
		11/10/09	1208	R-001-S08 / DZIMPFER	
		11/11/09	1558	In Lab / DZIMPFER	
		11/11/09	1607	R-001-S08 / DZIMPFER	
R0906270-001.04					
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1352	R-001 / MCARRERA	
R0906270-001.05					
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1358	R-003-EXT / MCARRERA	
R0906270-001.06					
	8081A				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1358	R-003-EXT / MCARRERA	
		11/9/09	0733	In Lab / DMURPHY	
R0906270-001.07					
	8270C				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1358	R-003-EXT / MCARRERA	
R0906270-001.08					
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1358	R-003-EXT / MCARRERA	
		11/4/09	1507	In Lab / DMURPHY	
R0906270-001.09					
	300.1				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1355	R-004 / MCARRERA	
		11/10/09	1407	SUBBED / MPETERS	

Columbia Analytical Services, Inc.
Chain of Custody Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001

Service Request: R0906270

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
		11/12/09	0927	K-Delilah-31 / FADAIR	
		11/13/09	0945	In Lab / ECROMWELL	
		11/13/09	1307	K-Delilah-31 / KSMITH	
R0906270-001.10					
	SM 5540 C				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1822	R-Dumpster / DWARD	
R0906270-001.11					
	SM 2540 D				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1355	R-004 / MCARRERA	
		11/5/09	1407	In Lab / EWOLFE	
		11/5/09	1612	R-Dumpster / EWOLFE	
R0906270-001.12					
	350.1, 365.1				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1355	R-004 / MCARRERA	
		11/9/09	0917	In Lab / BBOWE	
		11/9/09	1529	R-004 / BBOWE	
		11/23/09	0909	In Lab / NMEAD	
		11/23/09	1530	R-002 / NMEAD	
		11/23/09	1530	R-004 / NMEAD	
R0906270-001.13					
	9012A				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1355	R-004 / MCARRERA	
		11/10/09	0842	In Lab / HLOVEJOY	
		11/10/09	1622	R-004 / HLOVEJOY	
R0906270-001.14					
	353.2, 9056, SM 2540 C				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	2006	R-004 / HLOVEJOY	
		11/5/09	1108	In Lab / RPAWL	
		11/5/09	1508	R-002 / RPAWL	
		11/6/09	1003	In Lab / EWOLFE	
		11/6/09	1610	R-004 / EWOLFE	
R0906270-001.16					
	314.0				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1355	R-004 / MCARRERA	
		11/10/09	1407	SUBBED / MPETERS	
		11/12/09	0927	K-Delilah-31 / FADAIR	

Columbia Analytical Services, Inc.
Chain of Custody Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001

Service Request: R0906270

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
		11/25/09	0806	Custodian / KSMITH	
		11/25/09	0806	In Lab / ECROMWELL	
		11/25/09	1639	K-Delilah-31 / SDAVIS	
		12/2/09	1557	In Lab / ECROMWELL	
		12/3/09	0848	K-Delilah-31 / SDAVIS	
R0906270-001.17					
	SM 2320 B				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1355	R-004 / MCARRERA	
		11/13/09	0904	In Lab / KREYNOLDS	
		11/13/09	1612	R-004 / KREYNOLDS	
R0906270-001.19					
	6010B LL, 6020, 7470A				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1355	R-004 / MCARRERA	
		11/10/09	1407	SUBBED / MPETERS	
		11/12/09	0927	K-Delilah-31 / FADAIR	
		11/17/09	1419	Custodian / KSMITH	
		11/17/09	1419	In Lab / EJOHNSTONBAUGH	
		11/17/09	1805	K-Delilah-31 / SDAVIS	
		11/19/09	0857	Custodian / KSMITH	
		11/19/09	0857	In Lab / MSMITH	
		11/19/09	1316	K-Delilah-31 / KSMITH	
R0906270-001.20					
	9060				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1355	R-004 / MCARRERA	
		11/7/09	0957	In Lab / CSCHRADER	
		11/9/09	1414	R-Dumpster / CSCHRADER	
R0906270-001.21					
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1355	R-004 / MCARRERA	
R0906270-001.23					
	218.6				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1355	R-004 / MCARRERA	
		11/3/09	1407	In Lab / CWOODS	
		11/3/09	1429	R-004 / CWOODS	
R0906270-002.01					
	120.1, 9040B				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1355	R-004 / MCARRERA	

Columbia Analytical Services, Inc.
Chain of Custody Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001

Service Request: R0906270

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
R0906270-002.02					
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1357	R-001 / MCARRERA	
		11/10/09	1155	In Lab / DZIMPFER	
		11/10/09	1208	R-001-S08 / DZIMPFER	
		11/11/09	1558	In Lab / DZIMPFER	
		11/11/09	1607	R-001-S08 / DZIMPFER	
R0906270-002.03					
	8260B				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1357	R-001 / MCARRERA	
		11/12/09	1407	In Lab / DZIMPFER	
R0906270-002.04					
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1357	R-001 / MCARRERA	
R0906270-002.05					
	8081A				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1358	R-003-EXT / MCARRERA	
		11/9/09	0733	In Lab / DMURPHY	
R0906270-002.06					
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1358	R-003-EXT / MCARRERA	
R0906270-002.07					
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1358	R-003-EXT / MCARRERA	
R0906270-002.08					
	8270C				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1358	R-003-EXT / MCARRERA	
		11/4/09	1507	In Lab / DMURPHY	
R0906270-002.09					
	300.1				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1356	R-004 / MCARRERA	
		11/10/09	1407	SUBBED / MPETERS	
		11/12/09	0927	K-Delilah-31 / FADAIR	
		11/13/09	0945	In Lab / ECROMWELL	
		11/13/09	1307	K-Delilah-31 / KSMITH	

Columbia Analytical Services, Inc.
Chain of Custody Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001

Service Request: R0906270

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
R0906270-002.10					
	SM 5540 C				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1822	R-Dumpster / DWARD	
R0906270-002.12					
	350.1, 365.1				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1356	R-004 / MCARRERA	
		11/9/09	0917	In Lab / BBOWE	
		11/9/09	1529	R-004 / BBOWE	
		11/23/09	0909	In Lab / NMEAD	
		11/23/09	1530	R-004 / NMEAD	
R0906270-002.13					
	9012A				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1356	R-004 / MCARRERA	
		11/10/09	0842	In Lab / HLOVEJOY	
		11/10/09	1622	R-004 / HLOVEJOY	
R0906270-002.14					
	353.2, 9056, SM 2540 C				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	2006	R-004 / HLOVEJOY	
		11/5/09	1108	In Lab / RPAWL	
		11/5/09	1508	R-002 / RPAWL	
		11/6/09	1610	R-004 / EWOLFE	
R0906270-002.16					
	314.0				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1356	R-004 / MCARRERA	
		11/10/09	1407	SUBBED / MPETERS	
		11/12/09	0927	K-Delilah-31 / FADAIR	
		11/25/09	0806	Custodian / KSMITH	
		11/25/09	0806	In Lab / ECROMWELL	
		11/25/09	1639	K-Delilah-31 / SDAVIS	
		12/2/09	1557	In Lab / ECROMWELL	
		12/3/09	0849	K-Delilah-31 / SDAVIS	
R0906270-002.17					
	SM 2320 B				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1356	R-004 / MCARRERA	
		11/6/09	1003	In Lab / EWOLFE	
		11/13/09	0904	In Lab / KREYNOLDS	

Columbia Analytical Services, Inc.
Chain of Custody Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001

Service Request: R0906270

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
		11/13/09	1612	R-004 / KREYNOLDS	
R0906270-002.19					
	6010B LL, 6020, 7470A				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1356	R-004 / MCARRERA	
		11/10/09	1407	SUBBED / MPETERS	
		11/12/09	0927	K-Delilah-31 / FADAIR	
		11/17/09	1419	Custodian / KSMITH	
		11/17/09	1419	In Lab / EJOHNSTONBAUGH	
		11/17/09	1805	K-Delilah-31 / SDAVIS	
		11/19/09	0857	Custodian / KSMITH	
		11/19/09	0857	In Lab / MSMITH	
		11/19/09	1316	K-Delilah-31 / KSMITH	
R0906270-002.20					
	9060				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1356	R-004 / MCARRERA	
		11/7/09	0957	In Lab / CSCHRADER	
R0906270-002.21					
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1356	R-004 / MCARRERA	
R0906270-002.23					
	218.6				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1356	R-004 / MCARRERA	
		11/3/09	1407	In Lab / CWOODS	
		11/3/09	1429	R-004 / CWOODS	
R0906270-002.24					
	SM 2540 D				
		11/3/09	1331	SMO / AHENTSCHKE	
		11/3/09	1356	R-004 / MCARRERA	
		11/5/09	1407	In Lab / EWOLFE	
		11/5/09	1612	R-Dumpster / EWOLFE	
R0906270-002.25					
		11/3/09	1331	SMO / AHENTSCHKE	
		11/3/09	1356	R-004 / MCARRERA	
		11/5/09	1407	In Lab / EWOLFE	
		11/5/09	1612	R-Dumpster / EWOLFE	
R0906270-003.01					
	120.1, 9040B				
		11/3/09	1328	SMO / AHENTSCHKE	

Columbia Analytical Services, Inc.
Chain of Custody Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001

Service Request: R0906270

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
		11/3/09	1356	R-004 / MCARRERA	
R0906270-003.02					
	8260B				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1357	R-001 / MCARRERA	
		11/10/09	1155	In Lab / DZIMPFER	
		11/10/09	1208	R-001-S08 / DZIMPFER	
		11/11/09	1558	In Lab / DZIMPFER	
		11/11/09	1607	R-001-S08 / DZIMPFER	
R0906270-003.03					
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1357	R-001 / MCARRERA	
R0906270-003.04					
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1357	R-001 / MCARRERA	
R0906270-003.05					
	8081A				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1358	R-003-EXT / MCARRERA	
		11/9/09	0733	In Lab / DMURPHY	
R0906270-003.06					
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1358	R-003-EXT / MCARRERA	
R0906270-003.07					
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1358	R-003-EXT / MCARRERA	
R0906270-003.08					
	8270C				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1358	R-003-EXT / MCARRERA	
		11/4/09	1507	In Lab / DMURPHY	
R0906270-003.09					
	300.1				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1356	R-004 / MCARRERA	
		11/10/09	1407	SUBBED / MPETERS	
		11/12/09	0927	K-Delilah-31 / FADAIR	
		11/13/09	0945	In Lab / ECROMWELL	
		11/13/09	1307	K-Delilah-31 / KSMITH	

Columbia Analytical Services, Inc.
Chain of Custody Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001

Service Request: R0906270

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
R0906270-003.10					
	SM 5540 C				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1822	R-Dumpster / DWARD	
R0906270-003.11					
	SM 2540 D				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1356	R-004 / MCARRERA	
		11/5/09	1407	In Lab / EWOLFE	
		11/5/09	1612	R-Dumpster / EWOLFE	
R0906270-003.12					
	350.1, 365.1				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1356	R-004 / MCARRERA	
		11/9/09	0917	In Lab / BBOWE	
		11/9/09	1529	R-004 / BBOWE	
		11/23/09	0909	In Lab / NMEAD	
		11/23/09	1530	R-004 / NMEAD	
R0906270-003.13					
	9012A				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1356	R-004 / MCARRERA	
		11/10/09	0842	In Lab / HLOVEJOY	
		11/10/09	1622	R-004 / HLOVEJOY	
R0906270-003.14					
	353.2, 9056, SM 2540 C				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	2006	R-004 / HLOVEJOY	
		11/6/09	1003	In Lab / EWOLFE	
		11/6/09	1610	R-004 / EWOLFE	
R0906270-003.15					
	314.0				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1357	R-004 / MCARRERA	
		11/10/09	1407	SUBBED / MPETERS	
		11/12/09	0927	K-Delilah-31 / FADAIR	
		11/25/09	0806	Custodian / KSMITH	
		11/25/09	0806	In Lab / ECROMWELL	
		11/25/09	1639	K-Delilah-31 / SDAVIS	
		12/2/09	1557	In Lab / ECROMWELL	
		12/3/09	0849	K-Delilah-31 / SDAVIS	
R0906270-003.16					

Columbia Analytical Services, Inc.
Chain of Custody Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001

Service Request: R0906270

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
	SM 2320 B				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1357	R-004 / MCARRERA	
		11/13/09	0904	In Lab / KREYNOLDS	
		11/13/09	1612	R-004 / KREYNOLDS	
R0906270-003.18					
	6010B LL, 6020, 7470A				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1357	R-004 / MCARRERA	
		11/10/09	1407	SUBBED / MPETERS	
		11/12/09	0927	K-Delilah-31 / FADAIR	
		11/17/09	1419	Custodian / KSMITH	
		11/17/09	1419	In Lab / EJOHNSTONBAUGH	
		11/17/09	1805	K-Delilah-31 / SDAVIS	
		11/19/09	0857	Custodian / KSMITH	
		11/19/09	0857	In Lab / MSMITH	
		11/19/09	1316	K-Delilah-31 / KSMITH	
R0906270-003.19					
	9060				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1358	R-004 / MCARRERA	
		11/7/09	0957	In Lab / CSCHRADER	
		11/9/09	1414	R-Dumpster / CSCHRADER	
R0906270-003.20					
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1358	R-004 / MCARRERA	
R0906270-003.22					
	218.6				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1407	In Lab / CWOODS	
		11/3/09	1429	R-004 / CWOODS	
R0906270-004.01					
	8260B				
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1358	R-001 / MCARRERA	
		11/10/09	1155	In Lab / DZIMPFER	
		11/10/09	1208	R-001-S08 / DZIMPFER	
		11/11/09	1558	In Lab / DZIMPFER	
		11/11/09	1607	R-001-S08 / DZIMPFER	
		11/12/09	1407	In Lab / DZIMPFER	
		11/12/09	1417	R-001-S08 / DZIMPFER	
R0906270-004.02					

Columbia Analytical Services, Inc.
Chain of Custody Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001

Service Request: R0906270

Bottle ID	Tests	Date	Time	Sample Location / User	Disposed On
		11/3/09	1328	SMO / AHENTSCHKE	
		11/3/09	1358	R-001 / MCARRERA	
		11/12/09	1417	R-001-S08 / DZIMPFER	

VOLATILE ORGANICS

QC SUMMARY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001
Sample Matrix: Water

Service Request: R0906270
Date Analyzed: 11/11/09

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L
Basis: NA

Analysis Lot: 178949

Analyte Name	Lab Control Sample RQ0911303-02 Result	Expected	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	**21.0**	20.0	105	75 - 125
1,1,1-Trichloroethane (TCA)	**22.1**	20.0	111	75 - 125
1,1,2,2-Tetrachloroethane	**20.2**	20.0	101	75 - 125
1,1,2-Trichloroethane	**20.1**	20.0	101	75 - 125
1,1-Dichloroethane (1,1-DCA)	**20.4**	20.0	102	75 - 125
1,1-Dichloroethene (1,1-DCE)	**20.8**	20.0	104	75 - 125
1,1-Dichloropropene	**20.6**	20.0	103	75 - 125
1,2,3-Trichlorobenzene	**18.6**	20.0	93	75 - 125
1,2,3-Trichloropropane	**20.5**	20.0	103	75 - 125
1,2,4-Trichlorobenzene	**19.9**	20.0	99	75 - 125
1,2,4-Trimethylbenzene	**20.9**	20.0	104	75 - 125
1,2-Dibromo-3-chloropropane (DBCP)	**18.7**	20.0	94	75 - 125
1,2-Dibromoethane	**19.9**	20.0	100	75 - 125
1,2-Dichlorobenzene	**19.9**	20.0	100	75 - 125
1,2-Dichloroethane	**22.1**	20.0	110	75 - 125
1,2-Dichloropropane	**19.8**	20.0	99	75 - 125
1,3,5-Trimethylbenzene	**21.7**	20.0	108	75 - 125
1,3-Dichlorobenzene	**20.1**	20.0	100	75 - 125
1,3-Dichloropropane	**19.3**	20.0	97	75 - 125
1,4-Dichlorobenzene	**20.4**	20.0	102	75 - 125
2,2-Dichloropropane	**21.7**	20.0	109	75 - 125
2-Butanone (MEK)	**19.5**	20.0	97	75 - 125
2-Chlorotoluene	**20.7**	20.0	103	75 - 125
2-Hexanone	**18.8**	20.0	94	75 - 125
2-Methyl-2-propanol	**411**	400	103	75 - 125
4-Chlorotoluene	**20.9**	20.0	104	75 - 125
4-Isopropyltoluene	**21.5**	20.0	108	75 - 125
4-Methyl-2-pentanone	**20.4**	20.0	102	75 - 125
Acetone	**18.7**	20.0	94	75 - 125
Benzene	**19.2**	20.0	96	75 - 125
Bromobenzene	**19.9**	20.0	100	75 - 125
Bromochloromethane	**21.3**	20.0	106	75 - 125
Bromodichloromethane	**20.5**	20.0	102	75 - 125
Bromoform	**21.7**	20.0	108	75 - 125
Bromomethane	**20.3**	20.0	101	75 - 125
Carbon Tetrachloride	**22.0**	20.0	110	75 - 125

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001
Sample Matrix: Water

Service Request: R0906270
Date Analyzed: 11/11/09

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L
Basis: NA

Analysis Lot: 178949

Analyte Name	Lab Control Sample RQ0911303-02 Result	Expected	% Rec	% Rec Limits
Chlorobenzene	**20.3**	20.0	101	75 - 125
Chloroethane	**22.2**	20.0	111	75 - 125
Chloroform	**22.1**	20.0	110	75 - 125
Chloromethane	**18.1**	20.0	90	75 - 125
Dibromochloromethane	**21.7**	20.0	109	75 - 125
Dibromomethane	**21.5**	20.0	108	75 - 125
Dichlorodifluoromethane (CFC 12)	**21.0**	20.0	105	75 - 125
Dichloromethane	**18.8**	20.0	94	75 - 125
Diisopropyl Ether	**19.8**	20.0	99	75 - 125
Ethyl tert-Butyl Ether	**20.9**	20.0	104	75 - 125
Ethylbenzene	**20.7**	20.0	104	75 - 125
Hexachlorobutadiene	**18.1**	20.0	91	75 - 125
Isopropylbenzene (Cumene)	**22.5**	20.0	112	75 - 125
Methyl tert-Butyl Ether	**20.5**	20.0	102	75 - 125
Naphthalene	**19.3**	20.0	97	75 - 125
Styrene	**21.2**	20.0	106	75 - 125
Tetrachloroethene (PCE)	**21.6**	20.0	108	75 - 125
Toluene	**20.6**	20.0	103	75 - 125
Trichloroethene (TCE)	**20.4**	20.0	102	75 - 125
Trichlorofluoromethane (CFC 11)	**23.1**	20.0	116	75 - 125
Vinyl Chloride	**20.8**	20.0	104	75 - 125
cis-1,2-Dichloroethene	**18.7**	20.0	94	75 - 125
cis-1,3-Dichloropropene	**19.8**	20.0	99	75 - 125
m,p-Xylenes	**42.9**	40.0	107	75 - 125
n-Butylbenzene	**20.3**	20.0	102	75 - 125
n-Propylbenzene	**20.3**	20.0	101	75 - 125
o-Xylene	**21.2**	20.0	106	75 - 125
sec-Butylbenzene	**20.9**	20.0	104	75 - 125
tert-Amyl Methyl Ether	**20.7**	20.0	104	75 - 125
tert-Butylbenzene	**21.8**	20.0	109	75 - 125
trans-1,2-Dichloroethene	**19.0**	20.0	95	75 - 125
trans-1,3-Dichloropropene	**20.8**	20.0	104	75 - 125

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001
Sample Matrix: Water

Service Request: R0906270
Date Analyzed: 11/12/09

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L
Basis: NA

Analysis Lot: 179136

Analyte Name	Lab Control Sample RQ0911347-02 Result	Expected	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	**20.3**	20.0	102	75 - 125
1,1,1-Trichloroethane (TCA)	**20.8**	20.0	104	75 - 125
1,1,2,2-Tetrachloroethane	**19.2**	20.0	96	75 - 125
1,1,2-Trichloroethane	**18.8**	20.0	94	75 - 125
1,1-Dichloroethane (1,1-DCA)	**18.9**	20.0	95	75 - 125
1,1-Dichloroethene (1,1-DCE)	**19.9**	20.0	99	75 - 125
1,1-Dichloropropene	**19.5**	20.0	97	75 - 125
1,2,3-Trichlorobenzene	**18.2**	20.0	91	75 - 125
1,2,3-Trichloropropane	**18.9**	20.0	94	75 - 125
1,2,4-Trichlorobenzene	**18.7**	20.0	94	75 - 125
1,2,4-Trimethylbenzene	**19.5**	20.0	97	75 - 125
1,2-Dibromo-3-chloropropane (DBCP)	**17.9**	20.0	89	75 - 125
1,2-Dibromoethane	**18.6**	20.0	93	75 - 125
1,2-Dichlorobenzene	**19.7**	20.0	98	75 - 125
1,2-Dichloroethane	**21.3**	20.0	107	75 - 125
1,2-Dichloropropane	**18.1**	20.0	90	75 - 125
1,3,5-Trimethylbenzene	**19.5**	20.0	97	75 - 125
1,3-Dichlorobenzene	**19.0**	20.0	95	75 - 125
1,3-Dichloropropane	**18.7**	20.0	94	75 - 125
1,4-Dichlorobenzene	**18.9**	20.0	95	75 - 125
2,2-Dichloropropane	**21.9**	20.0	109	75 - 125
2-Butanone (MEK)	**20.2**	20.0	101	75 - 125
2-Chlorotoluene	**19.3**	20.0	96	75 - 125
2-Hexanone	**17.9**	20.0	90	75 - 125
2-Methyl-2-propanol	**390**	400	97	75 - 125
4-Chlorotoluene	**19.3**	20.0	97	75 - 125
4-Isopropyltoluene	**20.4**	20.0	102	75 - 125
4-Methyl-2-pentanone	**19.4**	20.0	97	75 - 125
Acetone	**20.2**	20.0	101	75 - 125
Benzene	**18.3**	20.0	91	75 - 125
Bromobenzene	**19.8**	20.0	99	75 - 125
Bromochloromethane	**19.4**	20.0	97	75 - 125
Bromodichloromethane	**19.8**	20.0	99	75 - 125
Bromoform	**21.6**	20.0	108	75 - 125
Bromomethane	**18.8**	20.0	94	75 - 125
Carbon Tetrachloride	**21.2**	20.0	106	75 - 125

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001
Sample Matrix: Water

Service Request: R0906270
Date Analyzed: 11/12/09

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Units: µg/L
Basis: NA

Analysis Lot: 179136

Analyte Name	Lab Control Sample RQ0911347-02 Result	Expected	% Rec	% Rec Limits
Chlorobenzene	**19.1**	20.0	96	75 - 125
Chloroethane	**19.1**	20.0	95	75 - 125
Chloroform	**20.8**	20.0	104	75 - 125
Chloromethane	**18.3**	20.0	91	75 - 125
Dibromochloromethane	**20.9**	20.0	104	75 - 125
Dibromomethane	**21.0**	20.0	105	75 - 125
Dichlorodifluoromethane (CFC 12)	**20.7**	20.0	103	75 - 125
Dichloromethane	**18.4**	20.0	92	75 - 125
Diisopropyl Ether	**17.8**	20.0	89	75 - 125
Ethyl tert-Butyl Ether	**18.5**	20.0	93	75 - 125
Ethylbenzene	**19.4**	20.0	97	75 - 125
Hexachlorobutadiene	**18.0**	20.0	90	75 - 125
Isopropylbenzene (Cumene)	**20.5**	20.0	103	75 - 125
Methyl tert-Butyl Ether	**19.3**	20.0	97	75 - 125
Naphthalene	**17.2**	20.0	86	75 - 125
Styrene	**20.1**	20.0	100	75 - 125
Tetrachloroethene (PCE)	**19.7**	20.0	98	75 - 125
Toluene	**19.2**	20.0	96	75 - 125
Trichloroethene (TCE)	**18.7**	20.0	94	75 - 125
Trichlorofluoromethane (CFC 11)	**22.2**	20.0	111	75 - 125
Vinyl Chloride	**20.2**	20.0	101	75 - 125
cis-1,2-Dichloroethene	**18.0**	20.0	90	75 - 125
cis-1,3-Dichloropropene	**18.2**	20.0	91	75 - 125
m,p-Xylenes	**39.3**	40.0	98	75 - 125
n-Butylbenzene	**19.3**	20.0	97	75 - 125
n-Propylbenzene	**19.0**	20.0	95	75 - 125
o-Xylene	**19.5**	20.0	97	75 - 125
sec-Butylbenzene	**19.1**	20.0	95	75 - 125
tert-Amyl Methyl Ether	**18.7**	20.0	93	75 - 125
tert-Butylbenzene	**19.7**	20.0	98	75 - 125
trans-1,2-Dichloroethene	**17.7**	20.0	88	75 - 125
trans-1,3-Dichloropropene	**19.6**	20.0	98	75 - 125

Comments:

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

MBLK 1

Lab Name: CASROCH Contract: NG

Lab Code: 10145 Case No.: R9-6270 SAS No.: SDG No.: M-147B

Lab File ID: F4272.D Lab Sample ID: RQ0911303-01

Date Analyzed: 11/11/09 Time Analyzed: 12:26

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Instrument ID: MSVOA8

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS 1	RQ0911303-02	F4270.D	11:31
02	M-147B	R0906270-001|1.0	F4273.D	12:54
03	EB-GWA3	R0906270-003|1.0	F4275.D	13:49

COMMENTS

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

MBLK 2

Lab Name: CASROCH Contract: NG

Lab Code: 10145 Case No.: R9-6270 SAS No.: _____ SDG No.: M-147B

Lab File ID: F4324.D Lab Sample ID: RQ0911347-01

Date Analyzed: 11/12/09 Time Analyzed: 13:07

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

Instrument ID: MSVOA8

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LCS 2	RQ0911347-02	F4322.D	12:13
02	M-147009B	R0906270-002|1.0	F4327.D	14:29
03	TB-GWA3	R0906270-004|1.0	F4328.D	14:57

COMMENTS

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CASROCH Contract: Norhgate

Lab Code: 10145 Case No.: R-6270 SAS No.: SDG No.: M-174B

Lab File ID: F4096.D BFB Injection Date: 11/07/09.

Instrument ID: MSVOA8 BFB Injection Time: 14:11

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.7
75	30.0 - 60.0% of mass 95	47.7
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.8
173	Less than 2.0% of mass 174	0.4 (0.5)1
174	50.0 - 120.0% of mass 95	87.5
175	5.0 - 9.0% of mass 174	6.4 (7.3)1
176	95.0 - 101.0% of mass 174	86.1 (98.3)1
177	5.0 - 9.0% of mass 176	4.8 (5.6)2

1-Value is % mass 174 2-Value is % mass 176

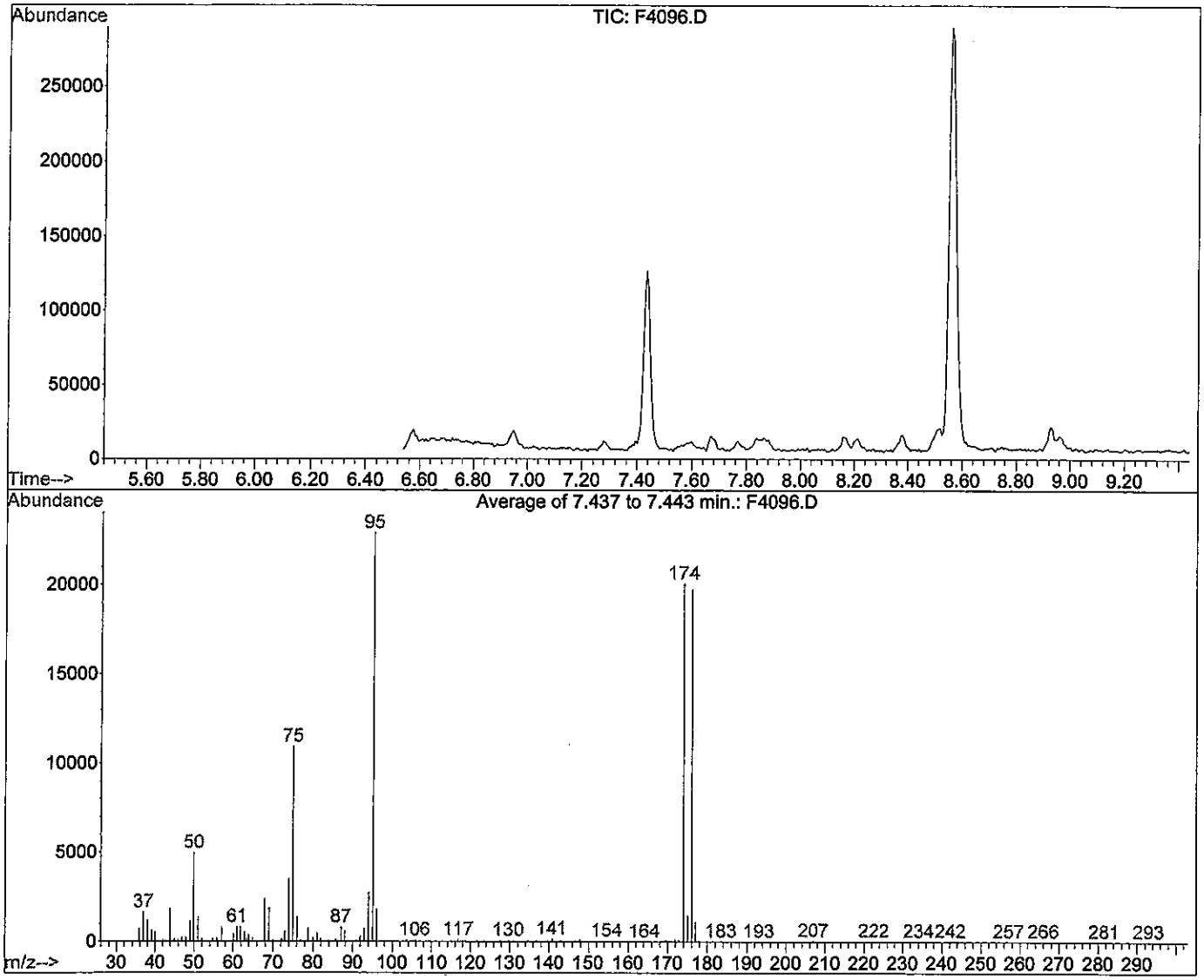
THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	INST BLK	INST BLK	F4100.D	11/07/09	16:13
02	0.5 STD	0.5 PPB STD	F4101.D	11/07/09	16:40
03	1.0 STD	1.0 PPB STD	F4102.D	11/07/09	17:08
04	2.0 STD	2.0 PPB STD	F4103.D	11/07/09	17:35
05	5.0 STD	5.0 PPB STD	F4104.D	11/07/09	18:03
06	10 STD	10 PPB STD	F4105.D	11/07/09	18:30
07	50 STD	50 PPB STD	F4106.D	11/07/09	18:57
08	100 STD	100 PPB STD	F4107.D	11/07/09	19:25
09	200 STD	200 PPB STD	F4108.D	11/07/09	19:52

BFB

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4096.D Vial: 9
Acq On : 7 Nov 2009 2:11 pm Operator: D.ZIMPFER
Sample : TUNE Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa

D2 11.7



Spectrum Information: Average of 7.437 to 7.443 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.7	4982	PASS
75	95	30	60	47.7	10938	PASS
95	95	100	100	100.0	22944	PASS
96	95	5	9	7.8	1797	PASS
173	174	0.00	2	0.5	93	PASS
174	95	50	120	87.5	20084	PASS
175	174	5	9	7.3	1475	PASS
176	174	95	101	98.3	19752	PASS
177	176	5	9	5.6	1101	PASS

F4096.D W110709.M Sun Nov 08 12:28:35 2009

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CASROCH Contract: NG

Lab Code: 10145 Case No.: R9-6270 SAS No.: _____ SDG No.: M-147B

Lab File ID: F4267.D BFB Injection Date: 11/11/09

Instrument ID: MSVOA8 BFB Injection Time: 09:55

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.0
75	30.0 - 60.0% of mass 95	49.6
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	8.7
173	Less than 2.0% of mass 174	1.1 (1.2)1
174	50.0 - 120.0% of mass 95	87.7
175	5.0 - 9.0% of mass 174	7.8 (8.9)1
176	95.0 - 101.0% of mass 174	85.8 (97.9)1
177	5.0 - 9.0% of mass 176	6.2 (7.2)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

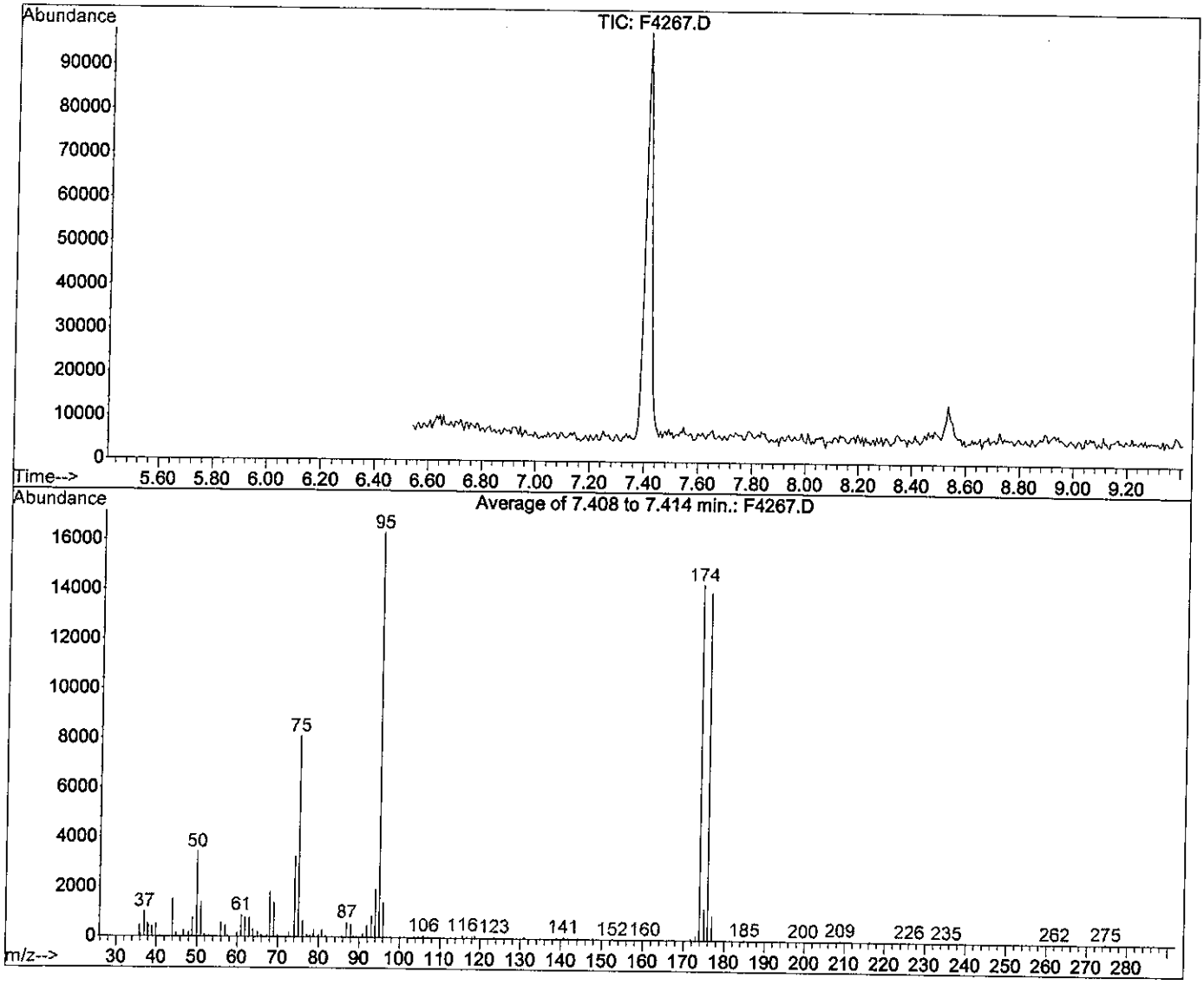
	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD 1	CCV	F4268.D	11/11/09	10:37
02	LCS 1	RQ0911303-02	F4270.D	11/11/09	11:31
03	MBLK 1	RQ0911303-01	F4272.D	11/11/09	12:26
04	M-147B	R0906270-001|1.0	F4273.D	11/11/09	12:54
05	EB-GWA3	R0906270-003|1.0	F4275.D	11/11/09	13:49

BFB

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4267.D
Acq On : 11 Nov 2009 9:55 am
Sample : TUNE
Misc :
MS Integration Params: RTEINT.P
Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa

Vial: 4
Operator: D.ZIMPFER
Inst : MS #8
Multiplr: 1.00

DC 11.11



Spectrum Information: Average of 7.408 to 7.414 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.0	3427	PASS
75	95	30	60	49.6	8095	PASS
95	95	100	100	100.0	16324	PASS
96	95	5	9	8.7	1416	PASS
173	174	0.00	2	1.2	174	PASS
174	95	50	120	87.7	14321	PASS
175	174	5	9	8.9	1273	PASS
176	174	95	101	97.9	14014	PASS
177	176	5	9	7.2	1006	PASS

F4267.D W110709.M Wed Nov 11 10:06:38 2009

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CASROCH Contract: NG

Lab Code: 10145 Case No.: R9-6270 SAS No.: _____ SDG No.: M-147B

Lab File ID: F4318.D BFB Injection Date: 11/12/09

Instrument ID: MSVOA8 BFB Injection Time: 10:14

GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.7
75	30.0 - 60.0% of mass 95	57.0
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	5.3
173	Less than 2.0% of mass 174	0.8 (1.0)1
174	50.0 - 120.0% of mass 95	81.2
175	5.0 - 9.0% of mass 174	6.9 (8.5)1
176	95.0 - 101.0% of mass 174	79.6 (97.9)1
177	5.0 - 9.0% of mass 176	5.2 (6.5)2

1-Value is % mass 174 2-Value is % mass 176

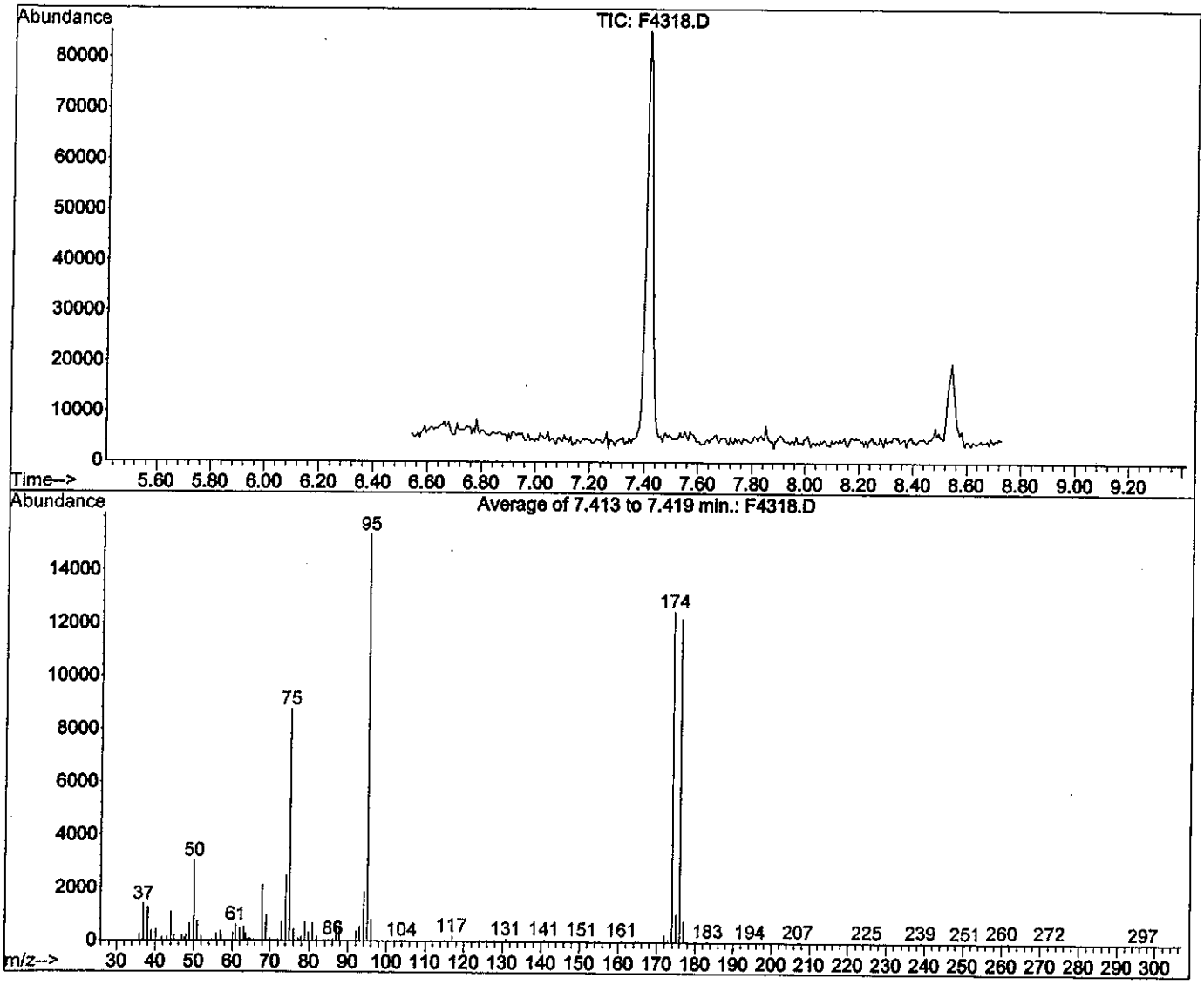
THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD 2	CCV	F4319.D	11/12/09	10:51
02	LCS 2	RQ0911347-02	F4322.D	11/12/09	12:13
03	MBLK 2	RQ0911347-01	F4324.D	11/12/09	13:07
04	M-147009B	R0906270-002|1.0	F4327.D	11/12/09	14:29
05	TB-GWA3	R0906270-004|1.0	F4328.D	11/12/09	14:57

BFB

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4318.D Vial: 4
Acq On : 12 Nov 2009 10:14 am Operator: D.ZIMPFER
Sample : TUNE Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : J:\ACQUDATA\MSVOA8\METHODS\W102709.M (RTE Integrator)
Title : 8260voa

12.12.09



Spectrum Information: Average of 7.413 to 7.419 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.7	3029	PASS
75	95	30	60	57.0	8754	PASS
95	95	100	100	100.0	15368	PASS
96	95	5	9	5.3	814	PASS
173	174	0.00	2	1.0	128	PASS
174	95	50	120	81.2	12486	PASS
175	174	5	9	8.5	1058	PASS
176	174	95	101	97.9	12226	PASS
177	176	5	9	6.5	799	PASS

F4318.D W102709.M Thu Nov 12 10:23:21 2009

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CASROCH Contract: NG

Lab Code: 10145 Case No.: R9-6270 SAS No.: SDG No.: M-147B

Lab File ID (Standard): F4268.D Date Analyzed: 11/11/09

Instrument ID: MSVOA8 Time Analyzed: 10:37

GC Column: DB-624 ID: 0.18 (mm) Heated Purge (Y/N): N

		IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	12 HOUR STD	610611	3.45	895848	3.96	769181	6.33
	UPPER LIMIT	1221222	2.95	1791696	3.46	1538362	5.83
	LOWER LIMIT	305306	3.95	447924	4.46	384591	6.83
	EPA SAMPLE NO.						
01	LCS 1	613261	3.44	901752	3.97	766815	6.33
02	MBLK 1	607915	3.44	899459	3.97	762214	6.33
03	M-147B	606399	3.44	892350	3.97	754840	6.33
04	EB-GWA3	587031	3.44	869747	3.97	737276	6.33

IS1 = Pentafluorobenzene
IS2 = 1,4 - Difluorobenzene
IS3 = d5 - Chlorobenzene
IS4 = d4 - Dichlorobenzene

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 to be used to flag values outside QC limit with an asterisk.
* Values outside of contract required QC limits

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CASROCH Contract: NG

Lab Code: 10145 Case No.: R9-6270 SAS No.: SDG No.: M-147B

Lab File ID (Standard): F4268.D Date Analyzed: 11/11/09

Instrument ID: MSVOA8 Time Analyzed: 10:37

GC Column: DB-624 ID: 0.18 (mm) Heated Purge (Y/N): N

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	376242	8.54				
	UPPER LIMIT	752484	8.04				
	LOWER LIMIT	188121	9.04				
	EPA SAMPLE NO.						
01	LCS 1	363053	8.53				
02	MBLK 1	335674	8.53				
03	M-147B	324911	8.54				
04	EB-GWA3	320426	8.54				

IS1 = Pentafluorobenzene
IS2 = 1,4 - Difluorobenzene
IS3 = d5 - Chlorobenzene
IS4 = d4 - Dichlorobenzene

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 to be used to flag values outside QC limit with an asterisk.
* Values outside of contract required QC limits

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CASROCH Contract: NG

Lab Code: 10145 Case No.: R9-6270 SAS No.: SDG No.: M-147B

Lab File ID (Standard): F4319.D Date Analyzed: 11/12/09

Instrument ID: MSVOA8 Time Analyzed: 10:51

GC Column: DB-624 ID: 0.18 (mm) Heated Purge (Y/N): N

		IS1 AREA	#	RT	#	IS2 AREA	#	RT	#	IS3 AREA	#	RT	#
	12 HOUR STD	495437		3.45		736999		3.97		638580		6.34	
	UPPER LIMIT	990874		2.95		1473998		3.47		1277160		5.84	
	LOWER LIMIT	247719		3.95		368500		4.47		319290		6.84	
	EPA SAMPLE NO.												
01	LCS 2	567967		3.45		826609		3.97		703403		6.34	
02	MBLK 2	552829		3.45		808539		3.97		697219		6.34	
03	M-147009B	546650		3.45		797168		3.98		676654		6.34	
04	TB-GWA3	546827		3.45		795312		3.97		670980		6.34	

IS1 = Pentafluorobenzene
IS2 = 1,4 - Difluorobenzene
IS3 = d5 - Chlorobenzene
IS4 = d4 - Dichlorobenzene

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 to be used to flag values outside QC limit with an asterisk.
* Values outside of contract required QC limits

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CASROCH Contract: NG

Lab Code: 10145 Case No.: R9-6270 SAS No.: SDG No.: M-147B

Lab File ID (Standard): F4319.D Date Analyzed: 11/12/09

Instrument ID: MSVOA8 Time Analyzed: 10:51

GC Column: DB-624 ID: 0.18 (mm) Heated Purge (Y/N): N

		IS4 AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	325148	8.54				
	UPPER LIMIT	650296	8.04				
	LOWER LIMIT	162574	9.04				
	EPA SAMPLE NO.						
01	LCS 2	338627	8.54				
02	MBLK 2	303634	8.55				
03	M-147009B	297080	8.55				
04	TB-GWA3	295466	8.55				

IS1 = Pentafluorobenzene
IS2 = 1,4 - Difluorobenzene
IS3 = d5 - Chlorobenzene
IS4 = d4 - Dichlorobenzene

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 to be used to flag values outside QC limit with an asterisk.
* Values outside of contract required QC limits

VOLATILE ORGANICS

SAMPLE DATA

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147B	**Units:**	µg/L
Lab Code:	R0906270-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	0.18	U	1.0	0.18	1	NA	11/11/09 12:54		178949	
1,1,1-Trichloroethane (TCA)	0.32	U	1.0	0.32	1	NA	11/11/09 12:54		178949	
1,1,2,2-Tetrachloroethane	0.090	U	1.0	0.090	1	NA	11/11/09 12:54		178949	
1,1,2-Trichloroethane	0.20	U	1.0	0.20	1	NA	11/11/09 12:54		178949	
1,1-Dichloroethane (1,1-DCA)	0.14	U	1.0	0.14	1	NA	11/11/09 12:54		178949	
1,1-Dichloroethene (1,1-DCE)	0.37	U	1.0	0.37	1	NA	11/11/09 12:54		178949	
1,1-Dichloropropene	0.21	U	2.0	0.21	1	NA	11/11/09 12:54		178949	
1,2,3-Trichlorobenzene	0.25	U	2.0	0.25	1	NA	11/11/09 12:54		178949	
1,2,3-Trichloropropane	0.30	U	2.0	0.30	1	NA	11/11/09 12:54		178949	
1,2,4-Trichlorobenzene	0.19	U	2.0	0.19	1	NA	11/11/09 12:54		178949	
1,2,4-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/11/09 12:54		178949	
1,2-Dibromo-3-chloropropane (DBCP)	0.43	U	5.0	0.43	1	NA	11/11/09 12:54		178949	
1,2-Dibromoethane	0.18	U	1.0	0.18	1	NA	11/11/09 12:54		178949	
1,2-Dichlorobenzene	0.40	U	2.0	0.40	1	NA	11/11/09 12:54		178949	
1,2-Dichloroethane	0.14	U	1.0	0.14	1	NA	11/11/09 12:54		178949	
1,2-Dichloropropane	0.15	U	1.0	0.15	1	NA	11/11/09 12:54		178949	
1,3,5-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/11/09 12:54		178949	
1,3-Dichlorobenzene	0.36	U	2.0	0.36	1	NA	11/11/09 12:54		178949	
1,3-Dichloropropane	0.12	U	2.0	0.12	1	NA	11/11/09 12:54		178949	
1,4-Dichlorobenzene	0.34	U	2.0	0.34	1	NA	11/11/09 12:54		178949	
2,2-Dichloropropane	0.20	U	2.0	0.20	1	NA	11/11/09 12:54		178949	
2-Butanone (MEK)	1.0	U	10	1.0	1	NA	11/11/09 12:54		178949	
2-Chlorotoluene	0.38	U	5.0	0.38	1	NA	11/11/09 12:54		178949	
2-Hexanone	0.40	U	10	0.40	1	NA	11/11/09 12:54		178949	
2-Methyl-2-propanol	3.0	U	100	3.0	1	NA	11/11/09 12:54		178949	
4-Chlorotoluene	0.37	U	5.0	0.37	1	NA	11/11/09 12:54		178949	
4-Isopropyltoluene	0.22	U	2.0	0.22	1	NA	11/11/09 12:54		178949	
4-Methyl-2-pentanone	0.34	U	10	0.34	1	NA	11/11/09 12:54		178949	
Acetone	1.6	U	20	1.6	1	NA	11/11/09 12:54		178949	
Benzene	0.18	U	1.0	0.18	1	NA	11/11/09 12:54		178949	
Bromobenzene	0.33	U	2.0	0.33	1	NA	11/11/09 12:54		178949	
Bromochloromethane	0.18	U	2.0	0.18	1	NA	11/11/09 12:54		178949	
Bromodichloromethane	0.17	U	1.0	0.17	1	NA	11/11/09 12:54		178949	

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147B	**Units:**	µg/L
Lab Code:	R0906270-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	0.20	U	1.0	0.20	1	NA	11/11/09 12:54		178949	
Bromomethane	0.40	U	2.0	0.40	1	NA	11/11/09 12:54		178949	
Carbon Tetrachloride	0.36	U	1.0	0.36	1	NA	11/11/09 12:54		178949	
Chlorobenzene	0.26	U	1.0	0.26	1	NA	11/11/09 12:54		178949	
Chloroethane	0.21	U	2.0	0.21	1	NA	11/11/09 12:54		178949	
Chloroform	**43**		1.0	0.16	1	NA	11/11/09 12:54		178949	
Chloromethane	0.18	U	2.0	0.18	1	NA	11/11/09 12:54		178949	
Dibromochloromethane	0.11	U	1.0	0.11	1	NA	11/11/09 12:54		178949	
Dibromomethane	0.18	U	1.0	0.18	1	NA	11/11/09 12:54		178949	
Dichlorodifluoromethane (CFC 12)	0.18	U	1.0	0.18	1	NA	11/11/09 12:54		178949	
Dichloromethane	0.13	U	2.0	0.13	1	NA	11/11/09 12:54		178949	
Diisopropyl Ether	0.090	U	1.0	0.090	1	NA	11/11/09 12:54		178949	
Ethyl tert-Butyl Ether	0.12	U	1.0	0.12	1	NA	11/11/09 12:54		178949	
Ethylbenzene	0.42	U	1.0	0.42	1	NA	11/11/09 12:54		178949	
Hexachlorobutadiene	0.27	U	5.0	0.27	1	NA	11/11/09 12:54		178949	
Isopropylbenzene (Cumene)	0.34	U	2.0	0.34	1	NA	11/11/09 12:54		178949	
Methyl tert-Butyl Ether	0.13	U	1.0	0.13	1	NA	11/11/09 12:54		178949	
Naphthalene	0.31	U	2.0	0.31	1	NA	11/11/09 12:54		178949	
Styrene	0.36	U	1.0	0.36	1	NA	11/11/09 12:54		178949	
Tetrachloroethene (PCE)	**0.48**	J	1.0	0.42	1	NA	11/11/09 12:54		178949	
Toluene	0.21	U	1.0	0.21	1	NA	11/11/09 12:54		178949	
Trichloroethene (TCE)	0.19	U	1.0	0.19	1	NA	11/11/09 12:54		178949	
Trichlorofluoromethane (CFC 11)	0.16	U	1.0	0.16	1	NA	11/11/09 12:54		178949	
Vinyl Chloride	0.22	U	1.0	0.22	1	NA	11/11/09 12:54		178949	
cis-1,2-Dichloroethene	0.14	U	1.0	0.14	1	NA	11/11/09 12:54		178949	
cis-1,3-Dichloropropene	0.14	U	1.0	0.14	1	NA	11/11/09 12:54		178949	
m,p-Xylenes	0.81	U	2.0	0.81	1	NA	11/11/09 12:54		178949	
n-Butylbenzene	0.20	U	5.0	0.20	1	NA	11/11/09 12:54		178949	
n-Propylbenzene	0.32	U	2.0	0.32	1	NA	11/11/09 12:54		178949	
o-Xylene	0.40	U	1.0	0.40	1	NA	11/11/09 12:54		178949	
sec-Butylbenzene	0.23	U	2.0	0.23	1	NA	11/11/09 12:54		178949	
tert-Amyl Methyl Ether	0.13	U	1.0	0.13	1	NA	11/11/09 12:54		178949	
tert-Butylbenzene	0.28	U	2.0	0.28	1	NA	11/11/09 12:54		178949	

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147B	**Units:**	µg/L
Lab Code:	R0906270-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
trans-1,2-Dichloroethene	0.16	U	1.0	0.16	1	NA	11/11/09 12:54		178949	
trans-1,3-Dichloropropene	0.17	U	1.0	0.17	1	NA	11/11/09 12:54		178949	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	105	70-130	11/11/09 12:54		
Dibromofluoromethane	115	70-130	11/11/09 12:54		
Toluene-d8	111	70-130	11/11/09 12:54		

Comments:

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4273.D Vial: 9
Acq On : 11 Nov 2009 12:54 pm Operator: D.ZIMPFER
Sample : R0906270-001|1.0 Inst : MS #8
Misc : NG 8260B.4060 T4 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 13:06 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration
DataAcq Meth : W110709

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene	3.44	168	606399	50.00	ppb		-0.02
42) 1,4 - Difluorobenzene	3.97	114	892350	50.00	ppb		-0.02
63) d5 - Chlorobenzene	6.33	117	754840	50.00	ppb		-0.03
83) d4 - Dichlorobenzene	8.54	152	324911	50.00	ppb		-0.03
System Monitoring Compounds							
43) surr4,Dibrflmethane	3.44	113	300034	57.58	ppb		-0.02
Spiked Amount 50.000	Range 89 - 119		Recovery = 115.16%				
48) surr1,1,2-Diclethane	3.68	65	324621	63.15	ppb		-0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 126.30%#				
69) surr3,Toluene-d8	5.09	98	1024471	55.68	ppb		-0.02
Spiked Amount 50.000	Range 87 - 121		Recovery = 111.36%				
70) surr2,bfb	7.41	95	382358	52.25	ppb		-0.02
Spiked Amount 50.000	Range 85 - 122		Recovery = 104.50%				
Target Compounds							Qvalue
~~7) Chloroethane~~	~~1.68~~	~~64~~	~~3842~~	~~0.35~~	~~ppb~~		~~52~~
15) 1,1-Diclethene	2.11	96	801	0.21	ppb	#	53
~~16) Acetone~~	~~2.13~~	~~43~~	~~2972~~	~~4.03~~	~~ppb~~		~~67~~
~~36) Propionitrile~~	~~3.20~~	~~54~~	~~110~~	~~0.42~~	~~ppb~~		~~59~~
39) Chloroform	3.34	83	357793	42.92	ppb		97
~~40) Tetrahydrofuran~~	~~3.34~~	~~42~~	~~1839~~	~~3.28~~	~~ppb~~	~~#~~	~~1~~
~~55) 1,2-Dielpropane~~	~~4.33~~	~~63~~	~~1169~~	~~0.27~~	~~ppb~~		~~80~~
~~57) 1,4-Dioxane~~	~~4.55~~	~~88~~	~~251~~	~~11.40~~	~~ppb~~		~~99~~
71) Tetrachloroethene	5.61	166	2441	0.48	ppb		81
86) Cyclohexanone	7.36	55	326	1.89	ppb		87
108) Hexachlorobu	10.68	225	584	0.25	ppb	#	43

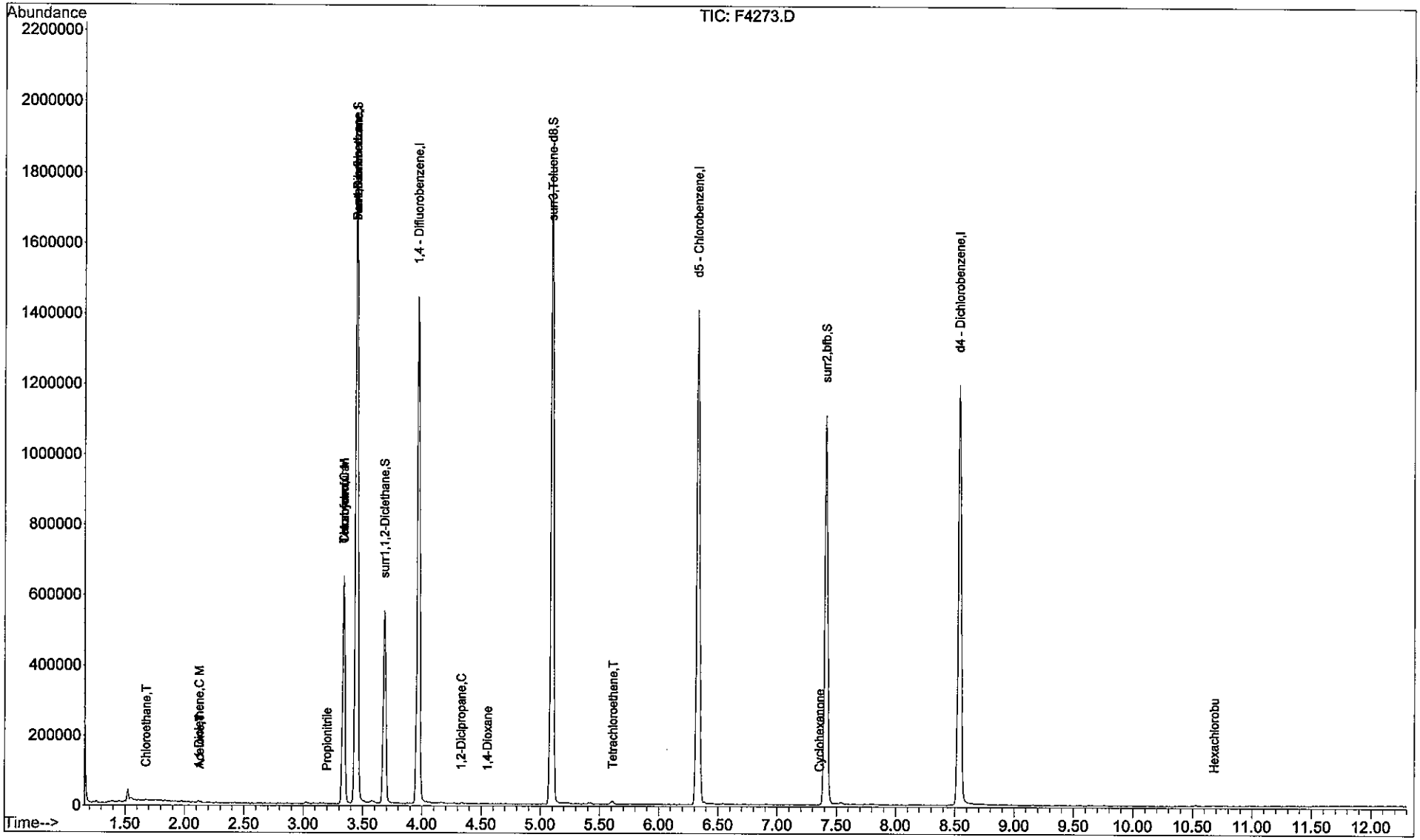
SL 11/25/09

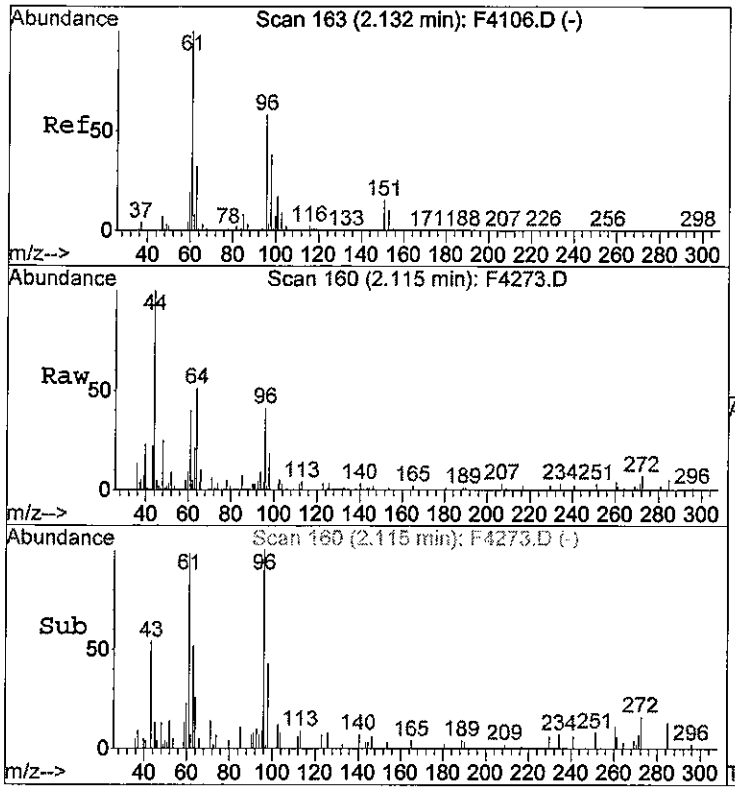
(#) = qualifier out of range (m) = manual integration
F4273.D W110709.M Wed Nov 11 13:06:57 2009

Quantitation Report

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4273.D Vial: 9
Acq On : 11 Nov 2009 12:54 pm Operator: D.ZIMPFER
Sample : R0906270-001|1.0 Inst : MS #8
Misc : NG 8260B.4060 T4 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 13:06 2009 Quant Results File: W110709.RES

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration

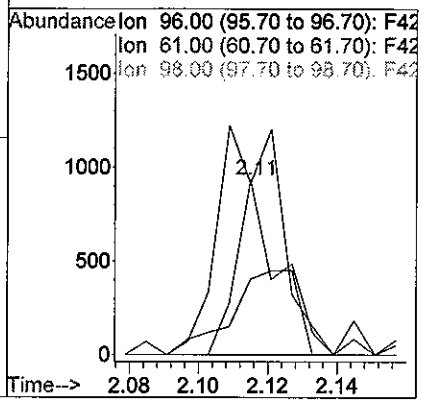


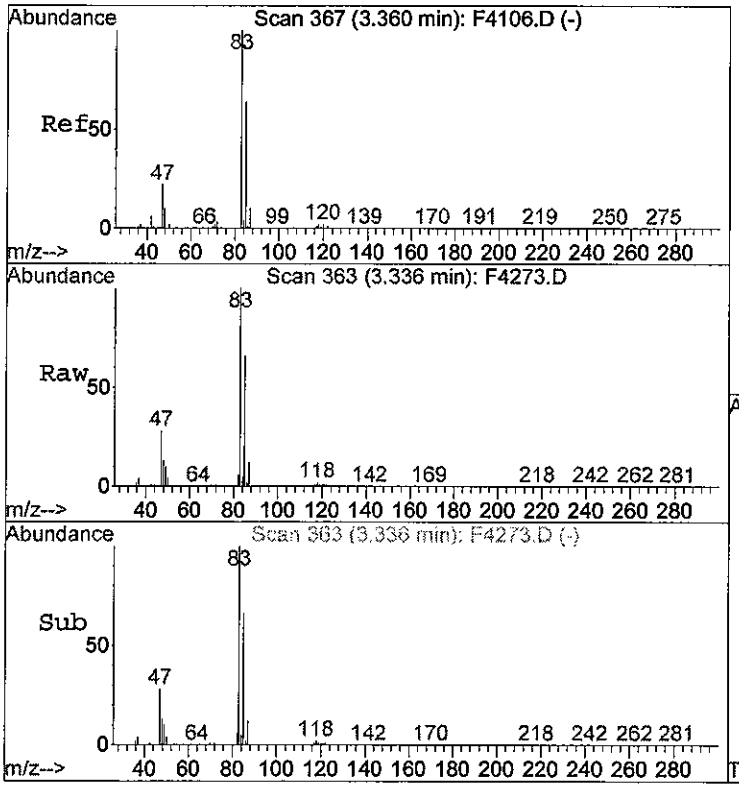


#15
1,1-Diclethene
Concen: 0.21 ppb
RT: 2.11 min Scan# 160
Delta R.T. -0.02 min
Lab File: F4273.D
Acq: 11 Nov 2009 12:54 pm

Tgt Ion: 96 Resp: 801

Ion	Ratio	Lower	Upper
96	100		
61	97.8	142.1	202.1#
98	43.1	35.2	95.2

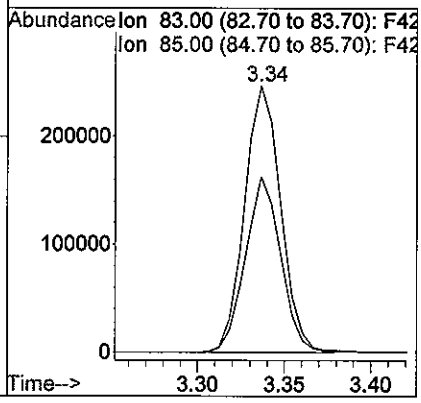


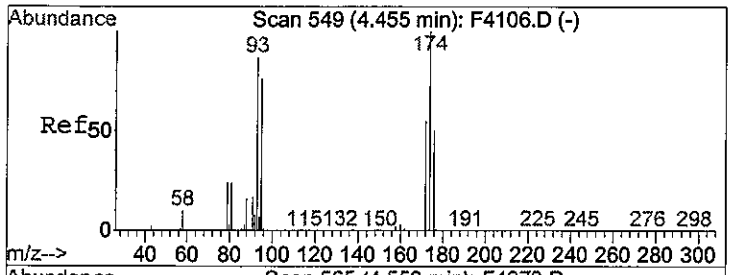


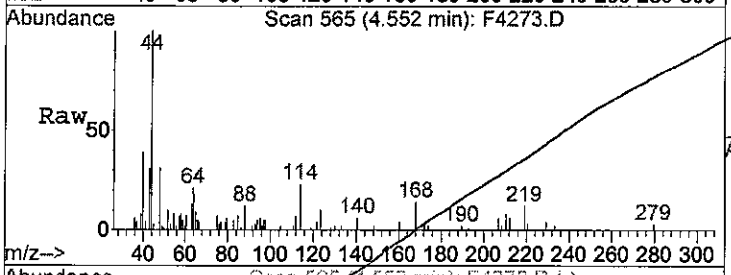
#39
Chloroform
Concen: 42.92 ppb
RT: 3.34 min Scan# 363
Delta R.T. -0.02 min
Lab File: F4273.D
Acq: 11 Nov 2009 12:54 pm

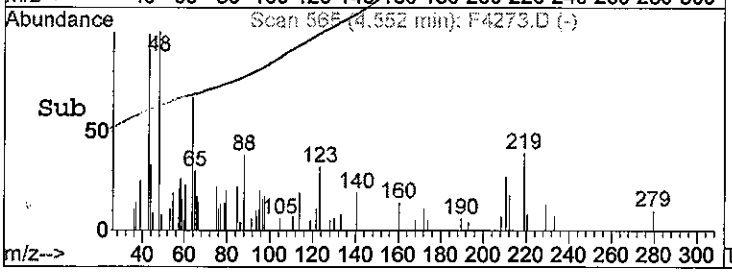
Tgt Ion: 83 Resp: 357793

Ion	Ratio	Lower	Upper
83	100		
85	65.9	33.9	93.9





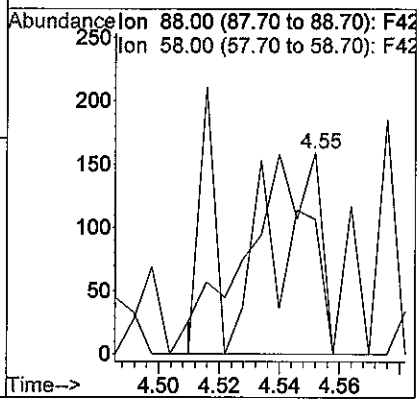


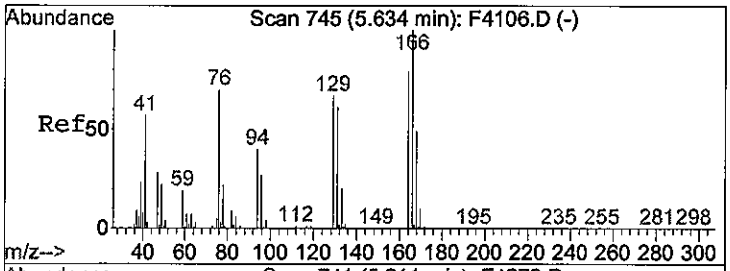


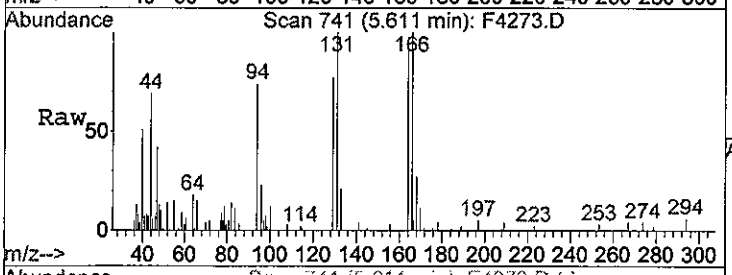
#57
1,4-Dioxane
Concen: 11.40 ppb
RT: 4.55 min Scan# 565
Delta R.T. 0.10 min
Lab File: F4273.D
Acq: 11 Nov 2009 12:54 pm

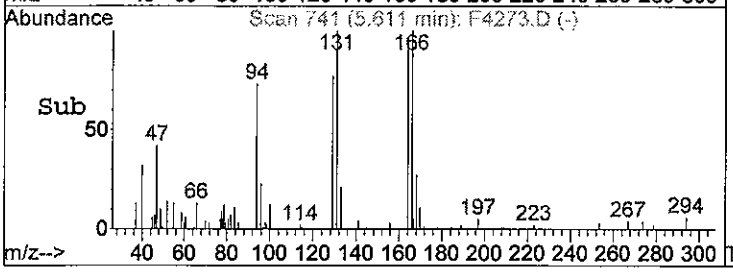
Tgt Ion: 88 Resp: 251

Ion	Ratio	Lower	Upper
88	100		
58	67.3	38.4	98.4





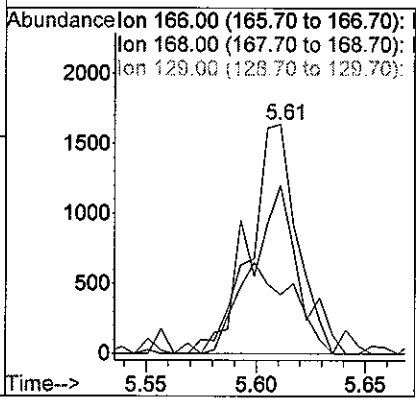




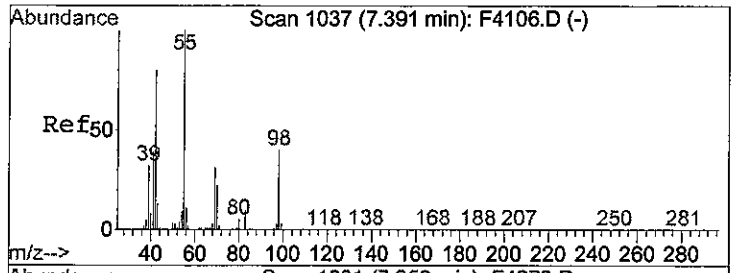
#71
Tetrachloroethene
Concen: 0.48 ppb
RT: 5.61 min Scan# 741
Delta R.T. -0.02 min
Lab File: F4273.D
Acq: 11 Nov 2009 12:54 pm

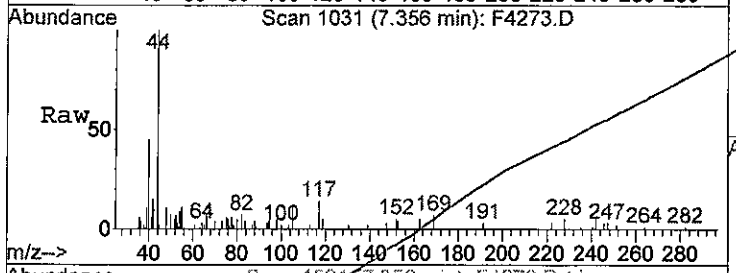
Tgt Ion:166 Resp: 2441

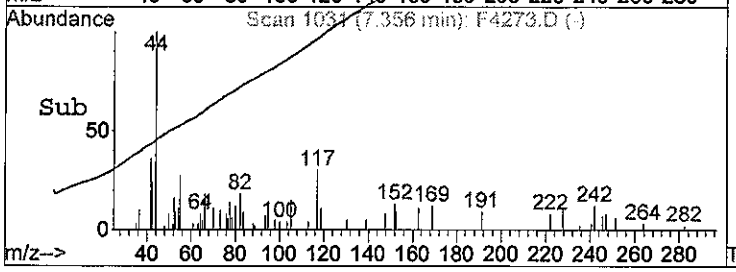
Ion	Ratio	Lower	Upper
166	100		
168	25.7	18.8	78.8
129	73.2	36.5	96.5



00056



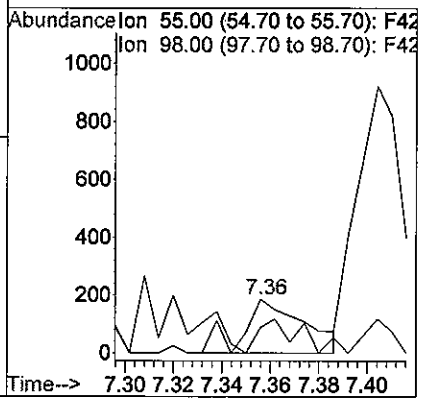


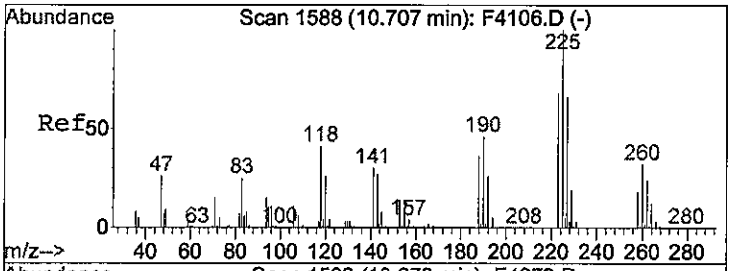


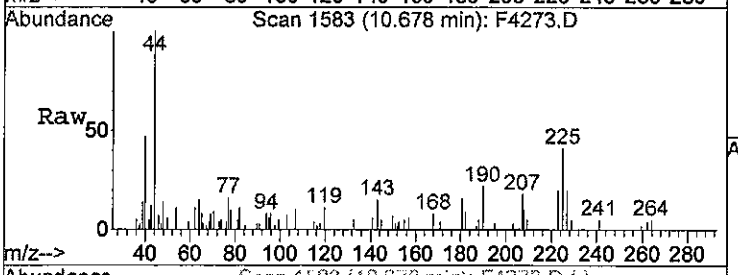
#86
Cyclohexanone
Concen: 1.89 ppb
RT: 7.36 min Scan# 1031
Delta R.T. -0.04 min
Lab File: F4273.D
Acq: 11 Nov 2009 12:54 pm

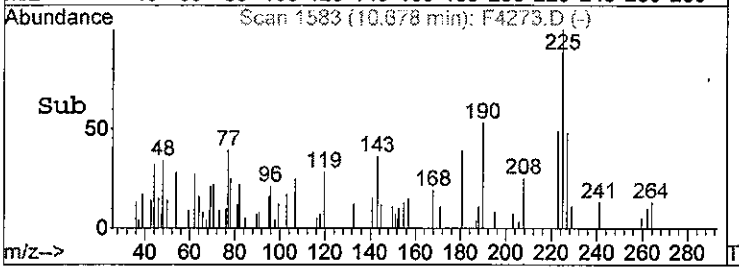
Tgt Ion: 55 Resp: 326

Ion	Ratio	Lower	Upper
55	100		
98	47.8	9.8	69.8





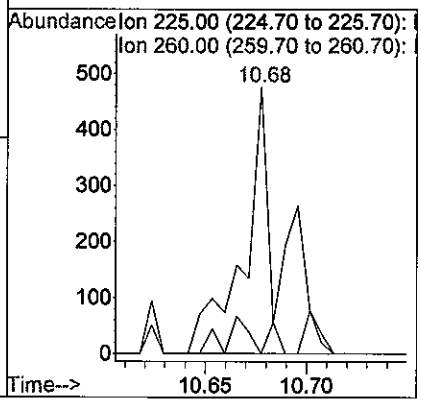




#108
Hexachlorobu
Concen: 0.25 ppb
RT: 10.68 min Scan# 1583
Delta R.T. -0.03 min
Lab File: F4273.D
Acq: 11 Nov 2009 12:54 pm

Tgt Ion:225 Resp: 584

Ion	Ratio	Lower	Upper
225	100		
260	0.0	1.7	61.7#



Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147009B	**Units:**	µg/L
Lab Code:	R0906270-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	0.18	U	1.0	0.18	1	NA	11/12/09 14:29		179136	
1,1,1-Trichloroethane (TCA)	0.32	U	1.0	0.32	1	NA	11/12/09 14:29		179136	
1,1,2,2-Tetrachloroethane	0.090	U	1.0	0.090	1	NA	11/12/09 14:29		179136	
1,1,2-Trichloroethane	0.20	U	1.0	0.20	1	NA	11/12/09 14:29		179136	
1,1-Dichloroethane (1,1-DCA)	0.14	U	1.0	0.14	1	NA	11/12/09 14:29		179136	
1,1-Dichloroethene (1,1-DCE)	0.37	U	1.0	0.37	1	NA	11/12/09 14:29		179136	
1,1-Dichloropropene	0.21	U	2.0	0.21	1	NA	11/12/09 14:29		179136	
1,2,3-Trichlorobenzene	0.25	U	2.0	0.25	1	NA	11/12/09 14:29		179136	
1,2,3-Trichloropropane	0.30	U	2.0	0.30	1	NA	11/12/09 14:29		179136	
1,2,4-Trichlorobenzene	0.19	U	2.0	0.19	1	NA	11/12/09 14:29		179136	
1,2,4-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/12/09 14:29		179136	
1,2-Dibromo-3-chloropropane (DBCP)	0.43	U	5.0	0.43	1	NA	11/12/09 14:29		179136	
1,2-Dibromoethane	0.18	U	1.0	0.18	1	NA	11/12/09 14:29		179136	
1,2-Dichlorobenzene	0.40	U	2.0	0.40	1	NA	11/12/09 14:29		179136	
1,2-Dichloroethane	0.14	U	1.0	0.14	1	NA	11/12/09 14:29		179136	
1,2-Dichloropropane	0.15	U	1.0	0.15	1	NA	11/12/09 14:29		179136	
1,3,5-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/12/09 14:29		179136	
1,3-Dichlorobenzene	0.36	U	2.0	0.36	1	NA	11/12/09 14:29		179136	
1,3-Dichloropropane	0.12	U	2.0	0.12	1	NA	11/12/09 14:29		179136	
1,4-Dichlorobenzene	0.34	U	2.0	0.34	1	NA	11/12/09 14:29		179136	
2,2-Dichloropropane	0.20	U	2.0	0.20	1	NA	11/12/09 14:29		179136	
2-Butanone (MEK)	1.0	U	10	1.0	1	NA	11/12/09 14:29		179136	
2-Chlorotoluene	0.38	U	5.0	0.38	1	NA	11/12/09 14:29		179136	
2-Hexanone	0.40	U	10	0.40	1	NA	11/12/09 14:29		179136	
2-Methyl-2-propanol	3.0	U	100	3.0	1	NA	11/12/09 14:29		179136	
4-Chlorotoluene	0.37	U	5.0	0.37	1	NA	11/12/09 14:29		179136	
4-Isopropyltoluene	0.22	U	2.0	0.22	1	NA	11/12/09 14:29		179136	
4-Methyl-2-pentanone	0.34	U	10	0.34	1	NA	11/12/09 14:29		179136	
Acetone	1.6	U	20	1.6	1	NA	11/12/09 14:29		179136	
Benzene	0.18	U	1.0	0.18	1	NA	11/12/09 14:29		179136	
Bromobenzene	0.33	U	2.0	0.33	1	NA	11/12/09 14:29		179136	
Bromochloromethane	0.18	U	2.0	0.18	1	NA	11/12/09 14:29		179136	
Bromodichloromethane	0.17	U	1.0	0.17	1	NA	11/12/09 14:29		179136	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147009B	**Units:**	µg/L
Lab Code:	R0906270-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	0.20	U	1.0	0.20	1	NA	11/12/09 14:29		179136	
Bromomethane	0.40	U	2.0	0.40	1	NA	11/12/09 14:29		179136	
Carbon Tetrachloride	0.36	U	1.0	0.36	1	NA	11/12/09 14:29		179136	
Chlorobenzene	0.26	U	1.0	0.26	1	NA	11/12/09 14:29		179136	
Chloroethane	0.21	U	2.0	0.21	1	NA	11/12/09 14:29		179136	
Chloroform	**41**		1.0	0.16	1	NA	11/12/09 14:29		179136	
Chloromethane	0.18	U	2.0	0.18	1	NA	11/12/09 14:29		179136	
Dibromochloromethane	0.11	U	1.0	0.11	1	NA	11/12/09 14:29		179136	
Dibromomethane	0.18	U	1.0	0.18	1	NA	11/12/09 14:29		179136	
Dichlorodifluoromethane (CFC 12)	0.18	U	1.0	0.18	1	NA	11/12/09 14:29		179136	
Dichloromethane	0.13	U	2.0	0.13	1	NA	11/12/09 14:29		179136	
Diisopropyl Ether	0.090	U	1.0	0.090	1	NA	11/12/09 14:29		179136	
Ethyl tert-Butyl Ether	0.12	U	1.0	0.12	1	NA	11/12/09 14:29		179136	
Ethylbenzene	0.42	U	1.0	0.42	1	NA	11/12/09 14:29		179136	
Hexachlorobutadiene	0.27	U	5.0	0.27	1	NA	11/12/09 14:29		179136	
Isopropylbenzene (Cumene)	0.34	U	2.0	0.34	1	NA	11/12/09 14:29		179136	
Methyl tert-Butyl Ether	0.13	U	1.0	0.13	1	NA	11/12/09 14:29		179136	
Naphthalene	0.31	U	2.0	0.31	1	NA	11/12/09 14:29		179136	
Styrene	0.36	U	1.0	0.36	1	NA	11/12/09 14:29		179136	
Tetrachloroethene (PCE)	**0.55**	J	1.0	0.42	1	NA	11/12/09 14:29		179136	
Toluene	0.21	U	1.0	0.21	1	NA	11/12/09 14:29		179136	
Trichloroethene (TCE)	0.19	U	1.0	0.19	1	NA	11/12/09 14:29		179136	
Trichlorofluoromethane (CFC 11)	0.16	U	1.0	0.16	1	NA	11/12/09 14:29		179136	
Vinyl Chloride	0.22	U	1.0	0.22	1	NA	11/12/09 14:29		179136	
cis-1,2-Dichloroethene	0.14	U	1.0	0.14	1	NA	11/12/09 14:29		179136	
cis-1,3-Dichloropropene	0.14	U	1.0	0.14	1	NA	11/12/09 14:29		179136	
m,p-Xylenes	0.81	U	2.0	0.81	1	NA	11/12/09 14:29		179136	
n-Butylbenzene	0.20	U	5.0	0.20	1	NA	11/12/09 14:29		179136	
n-Propylbenzene	0.32	U	2.0	0.32	1	NA	11/12/09 14:29		179136	
o-Xylene	0.40	U	1.0	0.40	1	NA	11/12/09 14:29		179136	
sec-Butylbenzene	0.23	U	2.0	0.23	1	NA	11/12/09 14:29		179136	
tert-Amyl Methyl Ether	0.13	U	1.0	0.13	1	NA	11/12/09 14:29		179136	
tert-Butylbenzene	0.28	U	2.0	0.28	1	NA	11/12/09 14:29		179136	

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147009B	**Units:**	µg/L
Lab Code:	R0906270-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
trans-1,2-Dichloroethene	0.16	U	1.0	0.16	1	NA	11/12/09 14:29		179136	
trans-1,3-Dichloropropene	0.17	U	1.0	0.17	1	NA	11/12/09 14:29		179136	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	99	70-130	11/12/09 14:29		
Dibromofluoromethane	110	70-130	11/12/09 14:29		
Toluene-d8	104	70-130	11/12/09 14:29		

Comments:

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4327.D Vial: 11
Acq On : 12 Nov 2009 2:29 pm Operator: D.ZIMPFER
Sample : R0906270-002|1.0 Inst : MS #8
Misc : NG 8260B.4060 T4 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:41 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration
DataAcq Meth : W110709

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene	3.45	168	546650	50.00	ppb		-0.02
42) 1,4 - Difluorobenzene	3.98	114	797168	50.00	ppb		-0.02
63) d5 - Chlorobenzene	6.34	117	676654	50.00	ppb		-0.02
83) d4 - Dichlorobenzene	8.55	152	297080	50.00	ppb		-0.02
System Monitoring Compounds							
43) surr4,Dibrflmethane	3.45	113	255476	54.88	ppb		-0.02
Spiked Amount 50.000	Range 89 - 119		Recovery = 109.76%				
48) surr1,1,2-Diclethane	3.69	65	276294	60.16	ppb		-0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 120.32%#				
69) surr3,Toluene-d8	5.10	98	858713	52.06	ppb		-0.02
Spiked Amount 50.000	Range 87 - 121		Recovery = 104.12%				
70) surr2,bfb	7.42	95	324956	49.53	ppb		-0.02
Spiked Amount 50.000	Range 85 - 122		Recovery = 99.06%				
Target Compounds							Qvalue
~~7) Chloroethane~~	~~1.69~~	~~64~~	~~5313~~	~~0.99~~	~~ppb~~		~~48~~
~~13) Acrolein~~	~~2.06~~	~~56~~	~~78~~	~~0.28~~	~~ppb~~	~~#~~	~~15~~
15) 1,1-Diclethene	2.12	96	935	0.28	ppb	#	65
~~16) Acetone~~	~~2.15~~	~~43~~	~~1040~~	~~1.57~~	~~ppb~~		~~84~~
~~20) Acetonitrile~~	~~2.30~~	~~40~~	~~1489~~	~~Below Cal~~	~~#~~		~~1~~
~~36) Propionitrile~~	~~3.16~~	~~54~~	~~74~~	~~0.31~~	~~ppb~~		~~59~~
39) Chloroform	3.34	83	311619	41.44	ppb		96
~~40) Tetrahydrofuran~~	~~3.36~~	~~42~~	~~2160~~	~~4.27~~	~~ppb~~	~~#~~	~~47~~
~~45) Carbontetrachloride~~	~~3.60~~	~~117~~	~~2038~~	~~0.37~~	~~ppb~~	~~#~~	~~39~~
71) Tetrachloroethene	5.62	166	2533	0.55	ppb		81
~~86) Cyclohexanone~~	~~7.37~~	~~55~~	~~260~~	~~1.65~~	~~ppb~~	~~#~~	~~48~~

DR 11.25.09

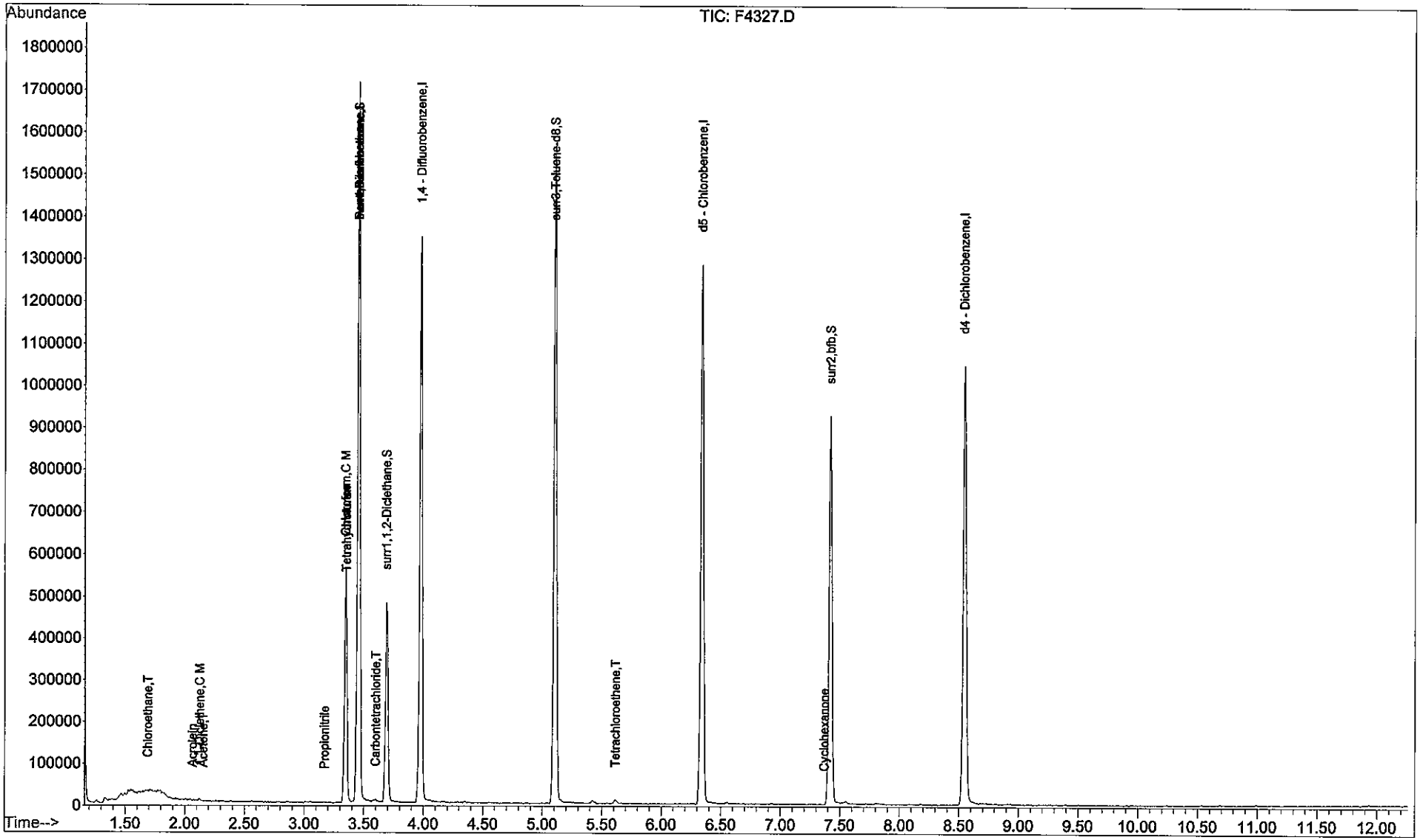
(#) = qualifier out of range (m) = manual integration
F4327.D W110709.M Thu Nov 12 14:42:23 2009 Page 1

00061

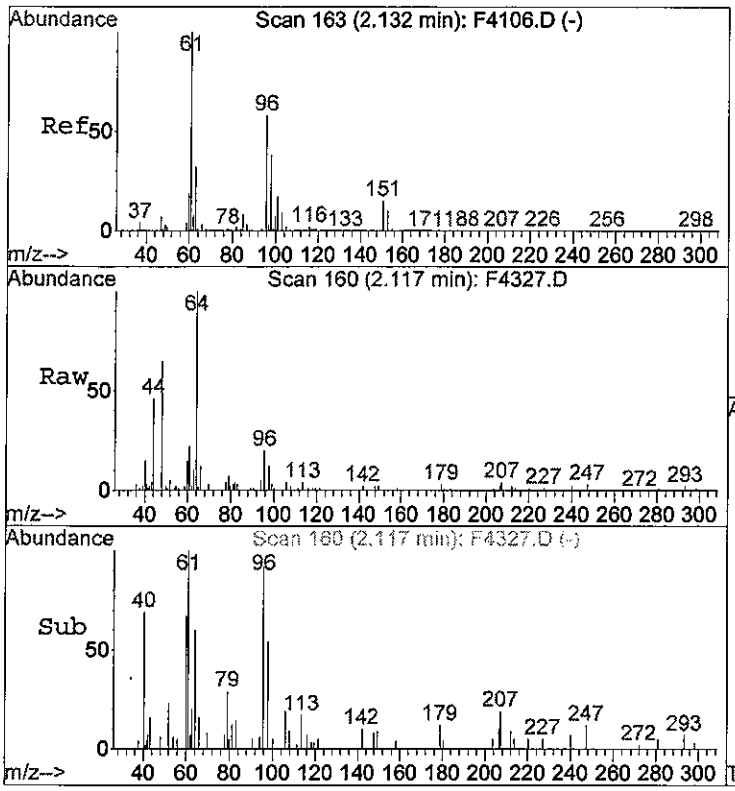
Quantitation Report

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4327.D Vial: 11
Acq On : 12 Nov 2009 2:29 pm Operator: D.ZIMPFER
Sample : R0906270-002|1.0 Inst : MS #8
Misc : NG 8260B.4060 T4 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:41 2009 Quant Results File: W110709.RES

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration



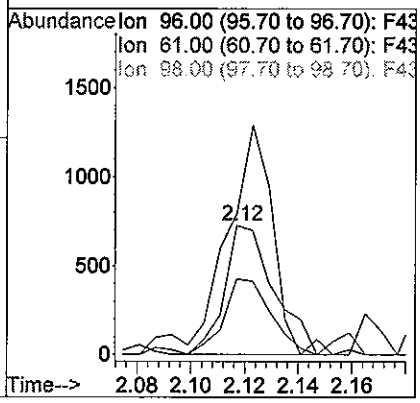
25909

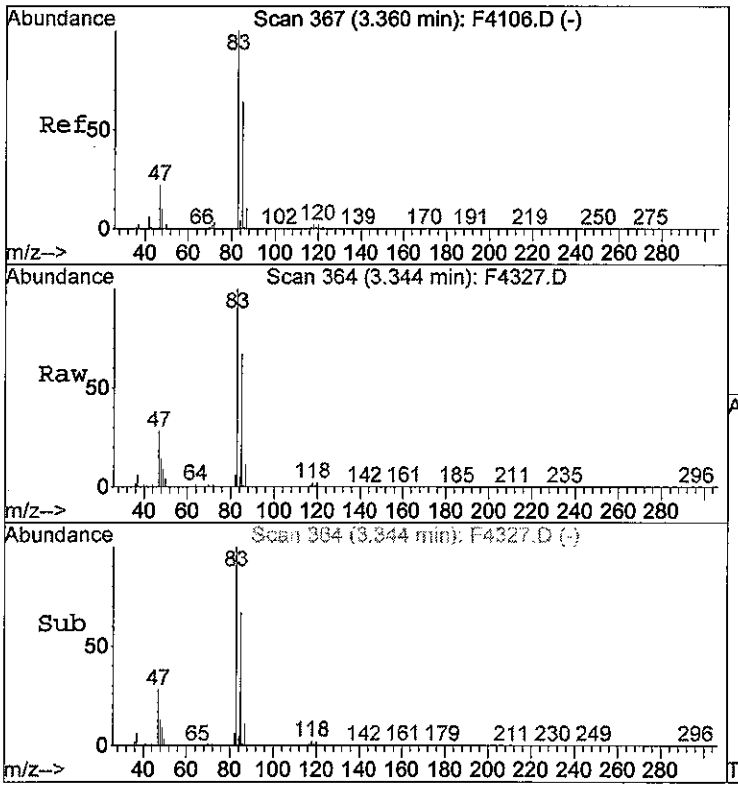


#15
1,1-Diclethene
Concen: 0.28 ppb
RT: 2.12 min Scan# 160
Delta R.T. -0.02 min
Lab File: F4327.D
Acq: 12 Nov 2009 2:29 pm

Tgt Ion: 96 Resp: 935

Ion	Ratio	Lower	Upper
96	100		
61	109.1	142.1	202.1#
98	58.5	35.2	95.2

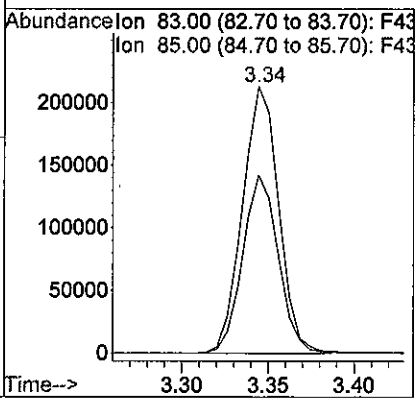




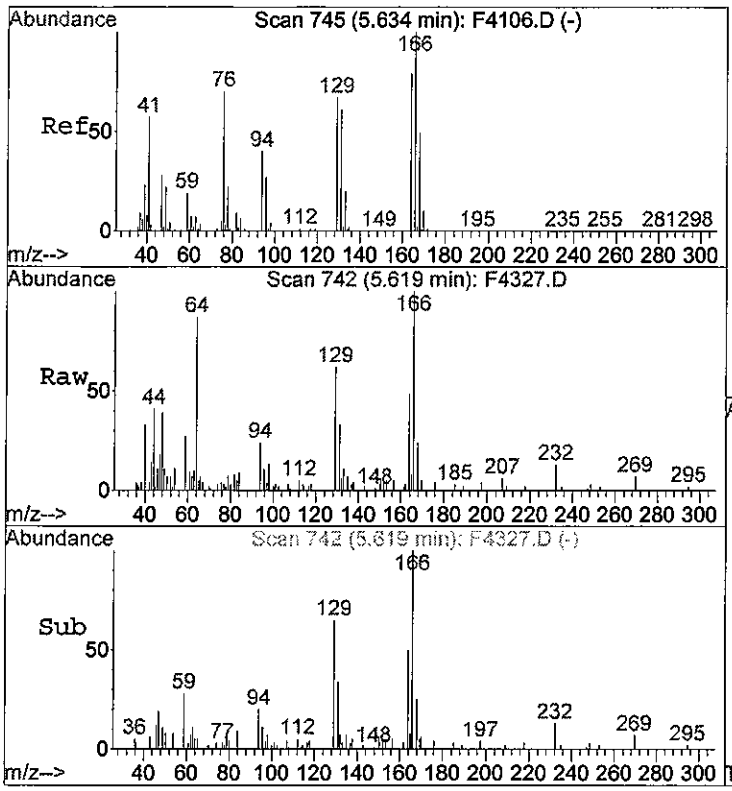
#39
Chloroform
Concen: 41.44 ppb
RT: 3.34 min Scan# 364
Delta R.T. -0.01 min
Lab File: F4327.D
Acq: 12 Nov 2009 2:29 pm

Tgt Ion: 83 Resp: 311619

Ion	Ratio	Lower	Upper
83	100		
85	66.7	33.9	93.9



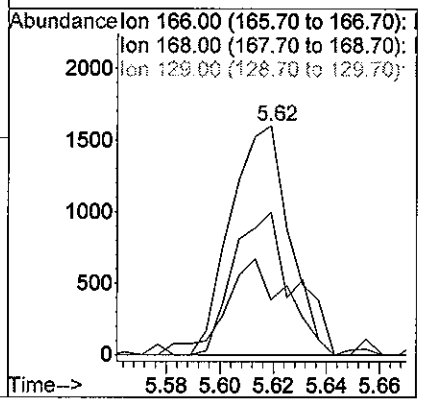
00063



#71
Tetrachloroethene
Concen: 0.55 ppb
RT: 5.62 min Scan# 742
Delta R.T. -0.02 min
Lab File: F4327.D
Acq: 12 Nov 2009 2:29 pm

Tgt Ion:166 Resp: 2533

Ion	Ratio	Lower	Upper
166	100		
168	24.0	18.8	78.8
129	62.2	36.5	96.5



Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1240
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	EB110209-GWA3	**Units:**	µg/L
Lab Code:	R0906270-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	0.18	U	1.0	0.18	1	NA	11/11/09 13:49		178949	
1,1,1-Trichloroethane (TCA)	0.32	U	1.0	0.32	1	NA	11/11/09 13:49		178949	
1,1,2,2-Tetrachloroethane	0.090	U	1.0	0.090	1	NA	11/11/09 13:49		178949	
1,1,2-Trichloroethane	0.20	U	1.0	0.20	1	NA	11/11/09 13:49		178949	
1,1-Dichloroethane (1,1-DCA)	0.14	U	1.0	0.14	1	NA	11/11/09 13:49		178949	
1,1-Dichloroethene (1,1-DCE)	0.37	U	1.0	0.37	1	NA	11/11/09 13:49		178949	
1,1-Dichloropropene	0.21	U	2.0	0.21	1	NA	11/11/09 13:49		178949	
1,2,3-Trichlorobenzene	0.25	U	2.0	0.25	1	NA	11/11/09 13:49		178949	
1,2,3-Trichloropropane	0.30	U	2.0	0.30	1	NA	11/11/09 13:49		178949	
1,2,4-Trichlorobenzene	0.19	U	2.0	0.19	1	NA	11/11/09 13:49		178949	
1,2,4-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/11/09 13:49		178949	
1,2-Dibromo-3-chloropropane (DBCP)	0.43	U	5.0	0.43	1	NA	11/11/09 13:49		178949	
1,2-Dibromoethane	0.18	U	1.0	0.18	1	NA	11/11/09 13:49		178949	
1,2-Dichlorobenzene	0.40	U	2.0	0.40	1	NA	11/11/09 13:49		178949	
1,2-Dichloroethane	0.14	U	1.0	0.14	1	NA	11/11/09 13:49		178949	
1,2-Dichloropropane	0.15	U	1.0	0.15	1	NA	11/11/09 13:49		178949	
1,3,5-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/11/09 13:49		178949	
1,3-Dichlorobenzene	0.36	U	2.0	0.36	1	NA	11/11/09 13:49		178949	
1,3-Dichloropropane	0.12	U	2.0	0.12	1	NA	11/11/09 13:49		178949	
1,4-Dichlorobenzene	0.34	U	2.0	0.34	1	NA	11/11/09 13:49		178949	
2,2-Dichloropropane	0.20	U	2.0	0.20	1	NA	11/11/09 13:49		178949	
2-Butanone (MEK)	1.0	U	10	1.0	1	NA	11/11/09 13:49		178949	
2-Chlorotoluene	0.38	U	5.0	0.38	1	NA	11/11/09 13:49		178949	
2-Hexanone	0.40	U	10	0.40	1	NA	11/11/09 13:49		178949	
2-Methyl-2-propanol	3.0	U	100	3.0	1	NA	11/11/09 13:49		178949	
4-Chlorotoluene	0.37	U	5.0	0.37	1	NA	11/11/09 13:49		178949	
4-Isopropyltoluene	0.22	U	2.0	0.22	1	NA	11/11/09 13:49		178949	
4-Methyl-2-pentanone	0.34	U	10	0.34	1	NA	11/11/09 13:49		178949	
Acetone	4.0	J	20	1.6	1	NA	11/11/09 13:49		178949	
Benzene	0.18	U	1.0	0.18	1	NA	11/11/09 13:49		178949	
Bromobenzene	0.33	U	2.0	0.33	1	NA	11/11/09 13:49		178949	
Bromochloromethane	0.18	U	2.0	0.18	1	NA	11/11/09 13:49		178949	
Bromodichloromethane	0.17	U	1.0	0.17	1	NA	11/11/09 13:49		178949	

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1240
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	EB110209-GWA3	**Units:**	µg/L
Lab Code:	R0906270-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	0.20	U	1.0	0.20	1	NA	11/11/09 13:49		178949	
Bromomethane	0.40	U	2.0	0.40	1	NA	11/11/09 13:49		178949	
Carbon Tetrachloride	0.36	U	1.0	0.36	1	NA	11/11/09 13:49		178949	
Chlorobenzene	0.26	U	1.0	0.26	1	NA	11/11/09 13:49		178949	
Chloroethane	0.21	U	2.0	0.21	1	NA	11/11/09 13:49		178949	
Chloroform	0.16	U	1.0	0.16	1	NA	11/11/09 13:49		178949	
Chloromethane	0.18	U	2.0	0.18	1	NA	11/11/09 13:49		178949	
Dibromochloromethane	0.11	U	1.0	0.11	1	NA	11/11/09 13:49		178949	
Dibromomethane	0.18	U	1.0	0.18	1	NA	11/11/09 13:49		178949	
Dichlorodifluoromethane (CFC 12)	0.18	U	1.0	0.18	1	NA	11/11/09 13:49		178949	
Dichloromethane	0.13	U	2.0	0.13	1	NA	11/11/09 13:49		178949	
Diisopropyl Ether	0.090	U	1.0	0.090	1	NA	11/11/09 13:49		178949	
Ethyl tert-Butyl Ether	0.12	U	1.0	0.12	1	NA	11/11/09 13:49		178949	
Ethylbenzene	0.42	U	1.0	0.42	1	NA	11/11/09 13:49		178949	
Hexachlorobutadiene	0.27	U	5.0	0.27	1	NA	11/11/09 13:49		178949	
Isopropylbenzene (Cumene)	0.34	U	2.0	0.34	1	NA	11/11/09 13:49		178949	
Methyl tert-Butyl Ether	0.13	U	1.0	0.13	1	NA	11/11/09 13:49		178949	
Naphthalene	0.31	U	2.0	0.31	1	NA	11/11/09 13:49		178949	
Styrene	0.36	U	1.0	0.36	1	NA	11/11/09 13:49		178949	
Tetrachloroethene (PCE)	0.42	U	1.0	0.42	1	NA	11/11/09 13:49		178949	
Toluene	0.21	U	1.0	0.21	1	NA	11/11/09 13:49		178949	
Trichloroethene (TCE)	0.19	U	1.0	0.19	1	NA	11/11/09 13:49		178949	
Trichlorofluoromethane (CFC 11)	0.16	U	1.0	0.16	1	NA	11/11/09 13:49		178949	
Vinyl Chloride	0.22	U	1.0	0.22	1	NA	11/11/09 13:49		178949	
cis-1,2-Dichloroethene	0.14	U	1.0	0.14	1	NA	11/11/09 13:49		178949	
cis-1,3-Dichloropropene	0.14	U	1.0	0.14	1	NA	11/11/09 13:49		178949	
m,p-Xylenes	0.81	U	2.0	0.81	1	NA	11/11/09 13:49		178949	
n-Butylbenzene	0.20	U	5.0	0.20	1	NA	11/11/09 13:49		178949	
n-Propylbenzene	0.32	U	2.0	0.32	1	NA	11/11/09 13:49		178949	
o-Xylene	0.40	U	1.0	0.40	1	NA	11/11/09 13:49		178949	
sec-Butylbenzene	0.23	U	2.0	0.23	1	NA	11/11/09 13:49		178949	
tert-Amyl Methyl Ether	0.13	U	1.0	0.13	1	NA	11/11/09 13:49		178949	
tert-Butylbenzene	0.28	U	2.0	0.28	1	NA	11/11/09 13:49		178949	

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1240
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	EB110209-GWA3	**Units:**	µg/L
Lab Code:	R0906270-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
trans-1,2-Dichloroethene	0.16	U	1.0	0.16	1	NA	11/11/09 13:49		178949	
trans-1,3-Dichloropropene	0.17	U	1.0	0.17	1	NA	11/11/09 13:49		178949	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	105	70-130	11/11/09 13:49		
Dibromofluoromethane	116	70-130	11/11/09 13:49		
Toluene-d8	111	70-130	11/11/09 13:49		

Comments:

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4275.D Vial: 11
Acq On : 11 Nov 2009 1:49 pm Operator: D.ZIMPFER
Sample : R0906270-003|1.0 Inst : MS #8
Misc : NG 8260B.4060 T4 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 14:00 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration
DataAcq Meth : W110709

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	3.44	168	587031	50.00	ppb	-0.02
42) 1,4 - Difluorobenzene	3.97	114	869747	50.00	ppb	-0.02
63) d5 - Chlorobenzene	6.33	117	737276	50.00	ppb	-0.02
83) d4 - Dichlorobenzene	8.54	152	320426	50.00	ppb	-0.03
System Monitoring Compounds						
43) surr4,Dibrflmethane	3.44	113	294798	58.05	ppb	-0.02
Spiked Amount 50.000	Range 89 - 119		Recovery = 116.10%			
48) surr1,1,2-Diclethane	3.69	65	311429	62.15	ppb	-0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 124.30%#			
69) surr3,Toluene-d8	5.09	98	1001414	55.72	ppb	-0.02
Spiked Amount 50.000	Range 87 - 121		Recovery = 111.44%			
70) surr2,bfb	7.41	95	374529	52.40	ppb	-0.02
Spiked Amount 50.000	Range 85 - 122		Recovery = 104.80%			
Target Compounds						Qvalue
~~7) Chloroethane~~	~~1.68~~	~~64~~	~~2047~~	~~Below Cal~~		51
~~13) Acrolein~~	~~2.04~~	~~56~~	~~100~~	~~0.33 ppb~~		~~78~~
16) Acetone	2.14	43	2836	3.97	ppb	91
39) Chloroform	3.34	83	2117	Below Cal		94
~~40) Tetrahydrofuran~~	~~3.36~~	~~42~~	~~527~~	~~0.97 ppb~~	#	~~29~~
~~86) Cyclohexanone~~	~~7.41~~	~~55~~	~~1393~~	~~8.19 ppb~~		~~64~~

5/11/25/09

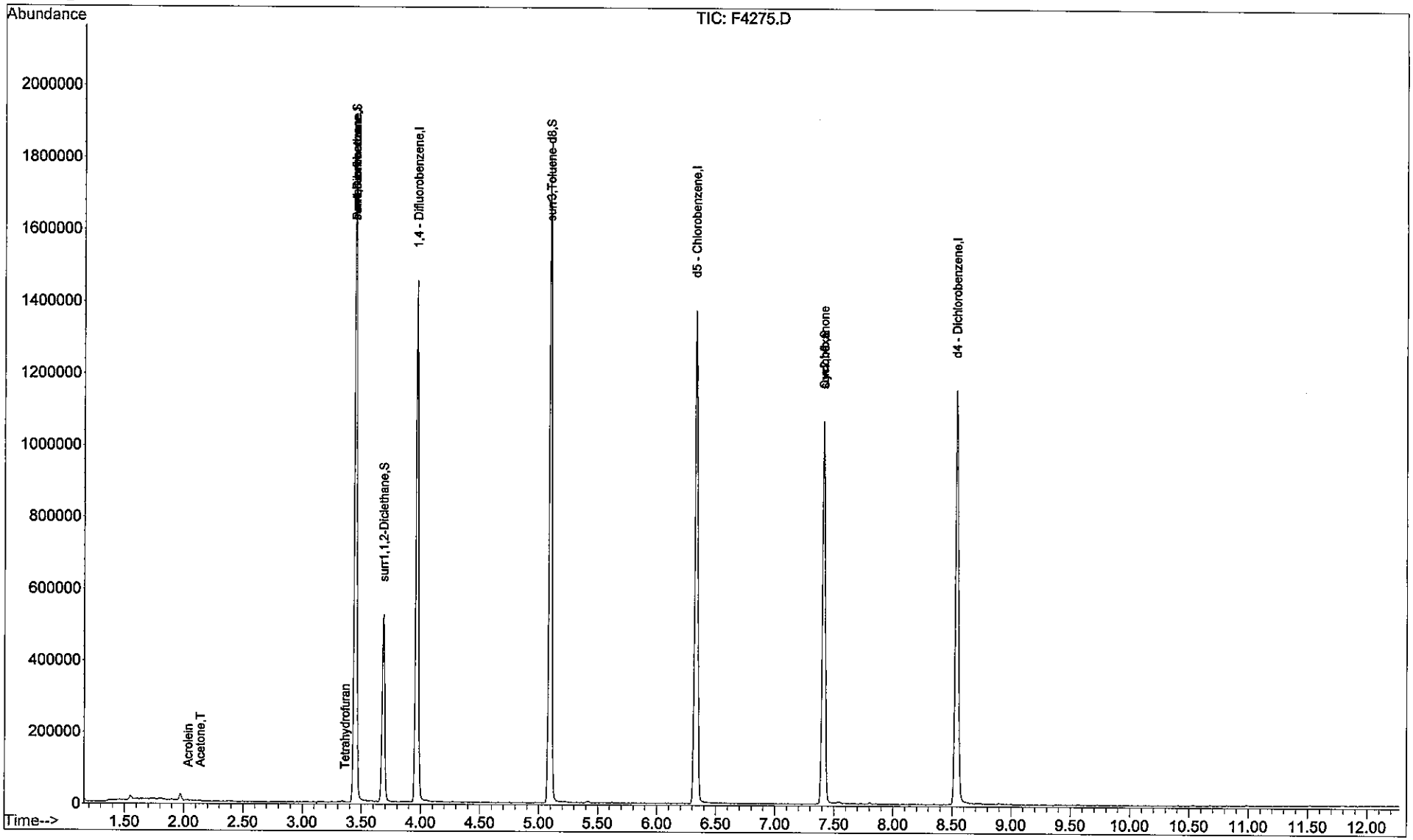
(#) = qualifier out of range (m) = manual integration
F4275.D W110709.M Wed Nov 11 14:01:29 2009 Page 1

00068

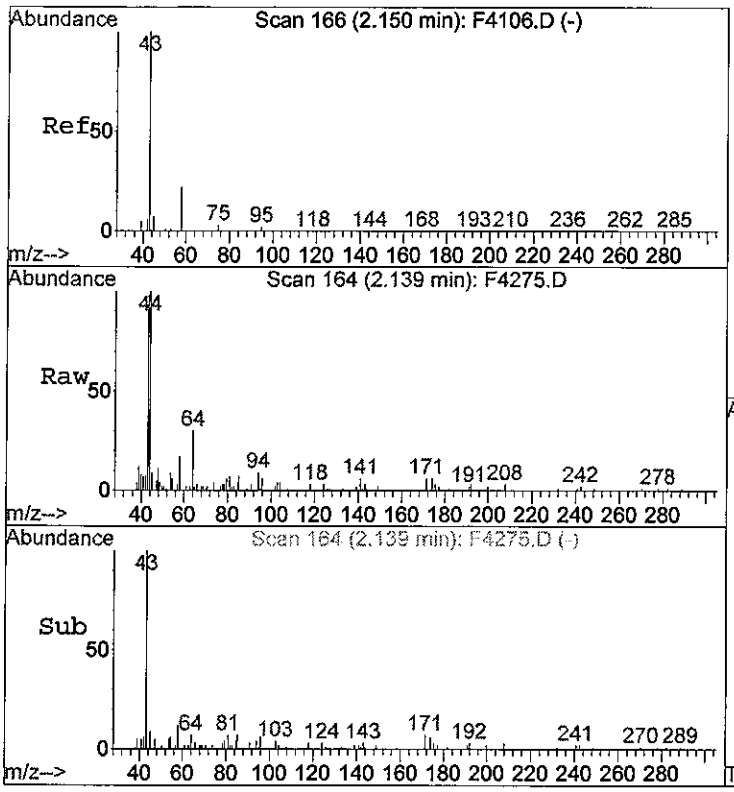
Quantitation Report

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4275.D Vial: 11
Acq On : 11 Nov 2009 1:49 pm Operator: D.ZIMPFER
Sample : R0906270-003|1.0 Inst : MS #8
Misc : NG 8260B.4060 T4 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 14:00 2009 Quant Results File: W110709.RES

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration



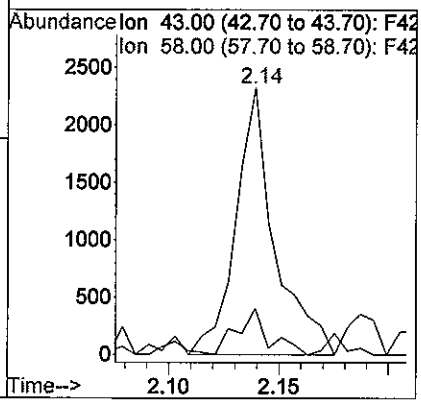
63569

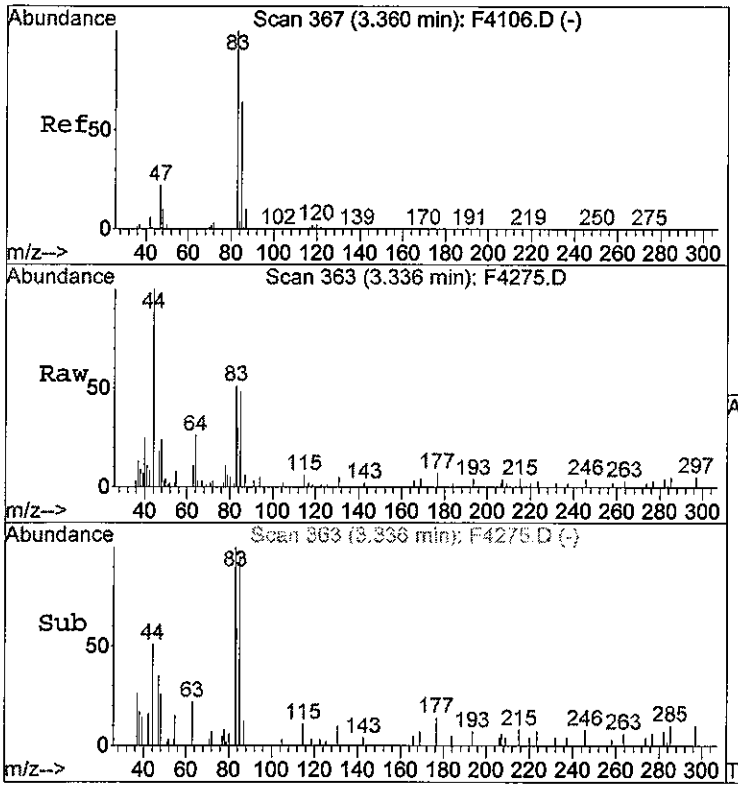


#16
Acetone
Concen: 3.97 ppb
RT: 2.14 min Scan# 164
Delta R.T. -0.01 min
Lab File: F4275.D
Acq: 11 Nov 2009 1:49 pm

Tgt Ion: 43 Resp: 2836

Ion	Ratio	Lower	Upper
43	100		
58	17.4	0.0	51.4

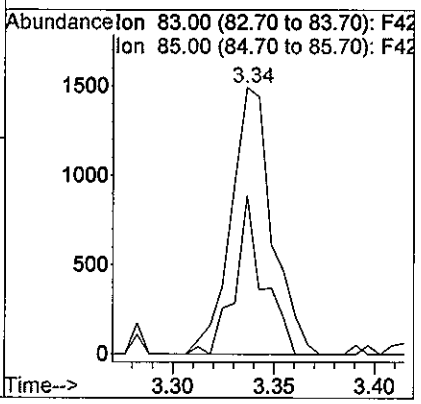




#39
Chloroform
Concen: Below Cal
RT: 3.34 min Scan# 363
Delta R.T. -0.02 min
Lab File: F4275.D
Acq: 11 Nov 2009 1:49 pm

Tgt Ion: 83 Resp: 2117

Ion	Ratio	Lower	Upper
83	100		
85	59.5	33.9	93.9



00070

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 0930
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	TB110209-GWA3	**Units:**	µg/L
Lab Code:	R0906270-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	0.18	U	1.0	0.18	1	NA	11/12/09 14:57		179136	
1,1,1-Trichloroethane (TCA)	0.32	U	1.0	0.32	1	NA	11/12/09 14:57		179136	
1,1,2,2-Tetrachloroethane	0.090	U	1.0	0.090	1	NA	11/12/09 14:57		179136	
1,1,2-Trichloroethane	0.20	U	1.0	0.20	1	NA	11/12/09 14:57		179136	
1,1-Dichloroethane (1,1-DCA)	0.14	U	1.0	0.14	1	NA	11/12/09 14:57		179136	
1,1-Dichloroethene (1,1-DCE)	0.37	U	1.0	0.37	1	NA	11/12/09 14:57		179136	
1,1-Dichloropropene	0.21	U	2.0	0.21	1	NA	11/12/09 14:57		179136	
1,2,3-Trichlorobenzene	0.25	U	2.0	0.25	1	NA	11/12/09 14:57		179136	
1,2,3-Trichloropropane	0.30	U	2.0	0.30	1	NA	11/12/09 14:57		179136	
1,2,4-Trichlorobenzene	0.19	U	2.0	0.19	1	NA	11/12/09 14:57		179136	
1,2,4-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/12/09 14:57		179136	
1,2-Dibromo-3-chloropropane (DBCP)	0.43	U	5.0	0.43	1	NA	11/12/09 14:57		179136	
1,2-Dibromoethane	0.18	U	1.0	0.18	1	NA	11/12/09 14:57		179136	
1,2-Dichlorobenzene	0.40	U	2.0	0.40	1	NA	11/12/09 14:57		179136	
1,2-Dichloroethane	0.14	U	1.0	0.14	1	NA	11/12/09 14:57		179136	
1,2-Dichloropropane	0.15	U	1.0	0.15	1	NA	11/12/09 14:57		179136	
1,3,5-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/12/09 14:57		179136	
1,3-Dichlorobenzene	0.36	U	2.0	0.36	1	NA	11/12/09 14:57		179136	
1,3-Dichloropropane	0.12	U	2.0	0.12	1	NA	11/12/09 14:57		179136	
1,4-Dichlorobenzene	0.34	U	2.0	0.34	1	NA	11/12/09 14:57		179136	
2,2-Dichloropropane	0.20	U	2.0	0.20	1	NA	11/12/09 14:57		179136	
2-Butanone (MEK)	1.0	U	10	1.0	1	NA	11/12/09 14:57		179136	
2-Chlorotoluene	0.38	U	5.0	0.38	1	NA	11/12/09 14:57		179136	
2-Hexanone	0.40	U	10	0.40	1	NA	11/12/09 14:57		179136	
2-Methyl-2-propanol	3.0	U	100	3.0	1	NA	11/12/09 14:57		179136	
4-Chlorotoluene	0.37	U	5.0	0.37	1	NA	11/12/09 14:57		179136	
4-Isopropyltoluene	0.22	U	2.0	0.22	1	NA	11/12/09 14:57		179136	
4-Methyl-2-pentanone	0.34	U	10	0.34	1	NA	11/12/09 14:57		179136	
Acetone	1.6	U	20	1.6	1	NA	11/12/09 14:57		179136	
Benzene	0.18	U	1.0	0.18	1	NA	11/12/09 14:57		179136	
Bromobenzene	0.33	U	2.0	0.33	1	NA	11/12/09 14:57		179136	
Bromochloromethane	0.18	U	2.0	0.18	1	NA	11/12/09 14:57		179136	
Bromodichloromethane	0.17	U	1.0	0.17	1	NA	11/12/09 14:57		179136	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 0930
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	TB110209-GWA3	**Units:**	µg/L
Lab Code:	R0906270-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	0.20	U	1.0	0.20	1	NA	11/12/09 14:57		179136	
Bromomethane	0.40	U	2.0	0.40	1	NA	11/12/09 14:57		179136	
Carbon Tetrachloride	0.36	U	1.0	0.36	1	NA	11/12/09 14:57		179136	
Chlorobenzene	0.26	U	1.0	0.26	1	NA	11/12/09 14:57		179136	
Chloroethane	0.21	U	2.0	0.21	1	NA	11/12/09 14:57		179136	
Chloroform	0.16	U	1.0	0.16	1	NA	11/12/09 14:57		179136	
Chloromethane	0.18	U	2.0	0.18	1	NA	11/12/09 14:57		179136	
Dibromochloromethane	0.11	U	1.0	0.11	1	NA	11/12/09 14:57		179136	
Dibromomethane	0.18	U	1.0	0.18	1	NA	11/12/09 14:57		179136	
Dichlorodifluoromethane (CFC 12)	0.18	U	1.0	0.18	1	NA	11/12/09 14:57		179136	
Dichloromethane	0.13	U	2.0	0.13	1	NA	11/12/09 14:57		179136	
Diisopropyl Ether	0.090	U	1.0	0.090	1	NA	11/12/09 14:57		179136	
Ethyl tert-Butyl Ether	0.12	U	1.0	0.12	1	NA	11/12/09 14:57		179136	
Ethylbenzene	0.42	U	1.0	0.42	1	NA	11/12/09 14:57		179136	
Hexachlorobutadiene	0.27	U	5.0	0.27	1	NA	11/12/09 14:57		179136	
Isopropylbenzene (Cumene)	0.34	U	2.0	0.34	1	NA	11/12/09 14:57		179136	
Methyl tert-Butyl Ether	0.13	U	1.0	0.13	1	NA	11/12/09 14:57		179136	
Naphthalene	0.31	U	2.0	0.31	1	NA	11/12/09 14:57		179136	
Styrene	0.36	U	1.0	0.36	1	NA	11/12/09 14:57		179136	
Tetrachloroethene (PCE)	0.42	U	1.0	0.42	1	NA	11/12/09 14:57		179136	
Toluene	0.21	U	1.0	0.21	1	NA	11/12/09 14:57		179136	
Trichloroethene (TCE)	0.19	U	1.0	0.19	1	NA	11/12/09 14:57		179136	
Trichlorofluoromethane (CFC 11)	0.16	U	1.0	0.16	1	NA	11/12/09 14:57		179136	
Vinyl Chloride	0.22	U	1.0	0.22	1	NA	11/12/09 14:57		179136	
cis-1,2-Dichloroethene	0.14	U	1.0	0.14	1	NA	11/12/09 14:57		179136	
cis-1,3-Dichloropropene	0.14	U	1.0	0.14	1	NA	11/12/09 14:57		179136	
m,p-Xylenes	0.81	U	2.0	0.81	1	NA	11/12/09 14:57		179136	
n-Butylbenzene	0.20	U	5.0	0.20	1	NA	11/12/09 14:57		179136	
n-Propylbenzene	0.32	U	2.0	0.32	1	NA	11/12/09 14:57		179136	
o-Xylene	0.40	U	1.0	0.40	1	NA	11/12/09 14:57		179136	
sec-Butylbenzene	0.23	U	2.0	0.23	1	NA	11/12/09 14:57		179136	
tert-Amyl Methyl Ether	0.13	U	1.0	0.13	1	NA	11/12/09 14:57		179136	
tert-Butylbenzene	0.28	U	2.0	0.28	1	NA	11/12/09 14:57		179136	

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 0930
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	TB110209-GWA3	**Units:**	µg/L
Lab Code:	R0906270-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
trans-1,2-Dichloroethene	0.16	U	1.0	0.16	1	NA	11/12/09 14:57		179136	
trans-1,3-Dichloropropene	0.17	U	1.0	0.17	1	NA	11/12/09 14:57		179136	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	96	70-130	11/12/09 14:57		
Dibromofluoromethane	110	70-130	11/12/09 14:57		
Toluene-d8	103	70-130	11/12/09 14:57		

Comments:

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4328.D Vial: 12
Acq On : 12 Nov 2009 2:57 pm Operator: D.ZIMPFER
Sample : R0906270-004|1.0 Inst : MS #8
Misc : NG 8260B.4060 T4 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 15:09 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration
DataAcq Meth : W110709

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene	3.45	168	546827	50.00	ppb		-0.02
42) 1,4 - Difluorobenzene	3.97	114	795312	50.00	ppb		-0.02
63) d5 - Chlorobenzene	6.34	117	670980	50.00	ppb		-0.02
83) d4 - Dichlorobenzene	8.55	152	295466	50.00	ppb		-0.02
System Monitoring Compounds							
43) surr4,Dibrflmethane	3.45	113	254876	54.88	ppb		-0.02
Spiked Amount 50.000	Range 89 - 119		Recovery = 109.76%				
48) surr1,1,2-Diclethane	3.69	65	269261	58.77	ppb		-0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 117.54%				
69) surr3,Toluene-d8	5.11	98	840314	51.38	ppb		-0.01
Spiked Amount 50.000	Range 87 - 121		Recovery = 102.76%				
70) surr2,bfb	7.42	95	313805	48.24	ppb		-0.02
Spiked Amount 50.000	Range 85 - 122		Recovery = 96.48%				
Target Compounds							Qvalue
~~4) Chloromethane~~	1.37	50	1059	0.25	ppb		96
~~7) Chloroethane~~	1.66	64	837	Below Cal			52
13) Acrolein	2.02	56	68	0.24	ppb		71
40) Tetrahydrofuran	~~3.35~~	~~42~~	523	1.03	ppb	#	29
57) 1,4-Dioxane	4.52	88	~~310~~	15.79	ppb		94
61) 2-Chloroethylvinyl Ether	4.80	63	363	~~0.26~~	ppb		87
86) Cyclohexanone	7.39	55	296	1.89	ppb		~~69~~

DR 11.25.09

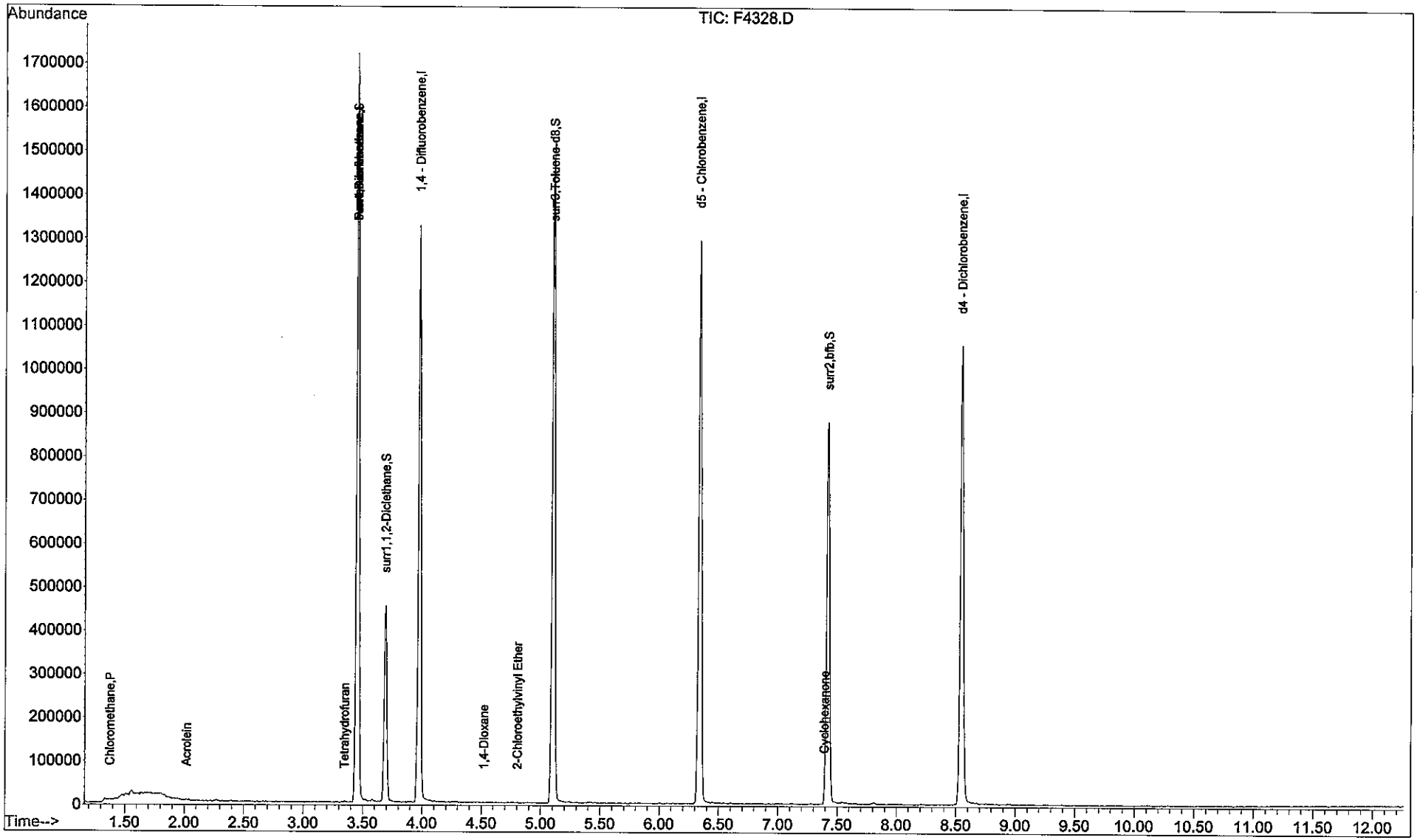
(#) = qualifier out of range (m) = manual integration
F4328.D W110709.M Thu Nov 12 15:09:42 2009 Page 1

00074

Quantitation Report

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4328.D Vial: 12
Acq On : 12 Nov 2009 2:57 pm Operator: D.ZIMPFER
Sample : R0906270-004|1.0 Inst : MS #8
Misc : NG 8260B.4060 T4 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 15:09 2009 Quant Results File: W110709.RES

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration



S1000

VOLATILE ORGANICS

STANDARDS DATA

Initial Calibration - Summary Report

DL 11.8.2009

Calibration ID: CAL1025 8260B.H2O
Method ID: MJ164 W110709 / T110709
Instrument ID: MS #8
Column Name: MS

Parameter Name	Type	Curve Fit	Min RF	Mean RF	Max %RSD	%RSD	Min COD	COD	MRL Check	Conc ½ Low pt.
Dichlorodifluoromethane	TRG	AverageRF		0.416	15	5.1			OK	
Chloromethane	TRG	AverageRF	0.100	0.390	15	14.4			OK	
Vinyl Chloride	TRG	AverageRF		0.388	15	3.4			OK	
Bromomethane	TRG	AverageRF		0.271	15	13.8			OK	
Chloroethane	TRG	Linear		0.355			.99	0.9999	OK	-0.26 *
Dichlorofluoromethane (CFC 21)	TRG	AverageRF		0.792	15	5.6			OK	
Trichlorofluoromethane	TRG	AverageRF		0.603	15	3.9			OK	
Diethyl Ether	TRG	AverageRF		0.204	15	3.6			OK	
1,2-Dichloro-1,1,2-trifluoroethane (CF	TRG	AverageRF		0.199	15	11.5			OK	
2,2-Dichloro-1,1,1-trifluoroethane (CF	TRG	AverageRF		0.379	15	8.5			OK	
Acrolein	TRG	AverageRF		0.026	15	9.4			OK	
Trichlorotrifluoroethane	TRG	AverageRF		0.156	15	12.9			OK	
1,1-Dichloroethene	MS	AverageRF		0.310	15	4.9			OK	
Acetone	TRG	AverageRF		0.061	15	12.2			OK	
2-Propanol	TRG	AverageRF		0.010	15	2.3			OK	
Iodomethane (Methyl Iodide)	TRG	AverageRF		0.222	15	8.9			OK	
Carbon Disulfide	TRG	AverageRF		1.026	15	7.3			OK	
Acetonitrile	TRG	Linear		0.013			.99	0.9926	*	-7.61 *
Allyl Chloride	TRG	AverageRF		0.182	15	4.0			OK	
Methyl Acetate	TRG	AverageRF		0.170	15	6.5			OK	
Methylene Chloride	TRG	AverageRF		0.384	15	6.5			OK	
tert-Butyl Alcohol	TRG	AverageRF		0.015	15	6.2			OK	
Acrylonitrile	TRG	AverageRF		0.063	15	6.8			OK	
Methyl tert-Butyl Ether	TRG	AverageRF		0.712	15	4.6			OK	
trans-1,2-Dichloroethene	TRG	AverageRF		0.389	15	4.1			OK	
1,1-Dichloroethane	TRG	AverageRF	0.100	0.702	15	7.4			OK	
Diisopropyl Ether	TRG	AverageRF		1.267	15	6.0			OK	
Vinyl Acetate	TRG	AverageRF		0.043	15	8.6			OK	
2-Chloro-1,3-butadiene	TRG	AverageRF		0.576	15	8.9			OK	
ETBE	TRG	AverageRF		1.002	15	6.5			OK	
2,2-Dichloropropane	TRG	AverageRF		0.609	15	4.1			OK	
2-Butanone (MEK)	TRG	AverageRF		0.092	15	9.5			OK	
cis-1,2-Dichloroethene	TRG	AverageRF		0.429	15	8.3			OK	
Propionitrile	TRG	AverageRF		0.022	15	6.8			OK	
Methacrylonitrile	TRG	AverageRF		0.069	15	8.6			OK	
Bromochloromethane	TRG	AverageRF		0.170	15	5.1			OK	
Chloroform	TRG	Linear		0.843			.99	0.9998	OK	-0.43 *
Tetrahydrofuran	TRG	AverageRF		0.046	15	4.6			OK	
1,1,1-Trichloroethane (TCA)	TRG	AverageRF		0.616	15	3.1			OK	
Dibromofluoromethane	SURR	AverageRF		0.292	15	9.1			NA	
Cyclohexane	TRG	AverageRF		0.434	15	8.9			OK	
Carbon Tetrachloride	TRG	AverageRF		0.346	15	13.0			OK	
1,1-Dichloropropene	TRG	AverageRF		0.378	15	5.3			OK	
Isobutyl Alcohol	TRG	AverageRF		0.005	15	11.8			OK	
1,2-Dichloroethane-d4	SURR	AverageRF		0.288	15	8.0			NA	
Benzene	MS	AverageRF		1.025	15	2.7			OK	
1,2-Dichloroethane (EDC)	TRG	AverageRF		0.325	15	6.0			OK	
TAME	TRG	AverageRF		0.526	15	8.5			OK	
n-Heptane	TRG	AverageRF		0.349	15	9.6			OK	
Trichloroethene (TCE)	MS	AverageRF		0.280	15	7.4			OK	
Methylcyclohexane	TRG	AverageRF		0.377	15	5.5			OK	

Initial Calibration - Summary Report

Calibration ID:	CAL1025	**Instrument ID:**	MS #8
Method ID:	MJ164	**Column Name:**	MS

Parameter Name	Type	Curve Fit	Min RF	Mean RF	Max %RSD	%RSD	Min COD	COD	MRL Check	Conc ½ Low pt.
1,2-Dichloropropane	TRG	AverageRF		0.246	15	5.5			OK	
Methyl Methacrylate	TRG	AverageRF		0.092	15	7.1			OK	
1,4-Dioxane	TRG	AverageRF		0.001	15	11.9			OK	
Dibromomethane	TRG	Linear		0.130			.99	1.0000	OK	-0.04 *
Bromodichloromethane	TRG	AverageRF		0.345	15	9.9			OK	
2-Chloroethyl Vinyl Ether	TRG	AverageRF		0.088	15	7.8			OK	
cis-1,3-Dichloropropene	TRG	AverageRF		0.371	15	8.8			OK	
4-Methyl-2-pentanone (MIBK)	TRG	AverageRF		0.150	15	4.5			OK	
Toluene	MS	AverageRF		1.247	15	4.3			OK	
trans-1,3-Dichloropropene	TRG	AverageRF		0.350	15	6.8			OK	
Ethyl Methacrylate	TRG	AverageRF		0.222	15	8.4			OK	
1,1,2-Trichloroethane	TRG	AverageRF		0.155	15	4.4			OK	
Toluene-d8	SURR	AverageRF		1.219	15	10.6			NA	
4-Bromofluorobenzene	SURR	AverageRF		0.485	15	10.7			NA	
Tetrachloroethene (PCE)	TRG	AverageRF		0.339	15	4.2			OK	
2-Hexanone	TRG	AverageRF		0.104	15	7.4			OK	
n-Butyl Acetate	TRG	AverageRF		0.249	15	7.7			OK	
1,3-Dichloropropane	TRG	AverageRF		0.350	15	6.6			OK	
Dibromochloromethane	TRG	AverageRF		0.220	15	6.4			OK	
1,2-Dibromoethane (EDB)	TRG	AverageRF		0.189	15	5.9			OK	
Chlorobenzene	MS	AverageRF	0.300	0.792	15	2.2			OK	
1,1,1,2-Tetrachloroethane	TRG	AverageRF		0.256	15	4.1			OK	
Ethylbenzene	TRG	AverageRF		1.422	15	4.3			OK	
m,p-Xylenes	TRG	AverageRF		0.515	15	6.0			OK	
o-Xylene	TRG	AverageRF		0.481	15	8.1			OK	
Styrene	TRG	AverageRF		0.811	15	8.3			OK	
Bromoform	TRG	AverageRF	0.100	0.245	15	11.5			OK	
Isopropylbenzene	TRG	AverageRF		2.679	15	6.9			OK	
Cyclohexanone	TRG	AverageRF		0.027	15	5.1			*	
1,1,2,2-Tetrachloroethane	TRG	AverageRF	0.300	0.416	15	7.6			OK	
trans-1,4-Dichloro-2-butene	TRG	AverageRF		0.120	15	5.9			OK	
1,2,3-Trichloropropane	TRG	AverageRF		0.130	15	10.2			OK	
n-Propylbenzene	TRG	AverageRF		3.333	15	7.1			OK	
Bromobenzene	TRG	AverageRF		0.636	15	4.4			OK	
1,3,5-Trimethylbenzene	TRG	AverageRF		2.272	15	6.8			OK	
2-Chlorotoluene	TRG	AverageRF		1.999	15	6.0			OK	
4-Chlorotoluene	TRG	AverageRF		2.286	15	5.0			OK	
tert-Butylbenzene	TRG	AverageRF		1.951	15	6.5			OK	
1,2,4-Trimethylbenzene	TRG	AverageRF		2.265	15	6.6			OK	
sec-Butylbenzene	TRG	AverageRF		2.986	15	7.7			OK	
4-Isopropyltoluene	TRG	AverageRF		2.391	15	7.9			OK	
1,3-Dichlorobenzene	TRG	AverageRF		1.219	15	5.6			OK	
1,4-Dichlorobenzene	TRG	AverageRF		1.237	15	8.5			OK	
n-Butylbenzene	TRG	AverageRF		2.175	15	10.1			OK	
1,2-Dichlorobenzene	TRG	AverageRF		1.063	15	7.6			OK	
1,2-Dibromo-3-chloropropane (DBCP)	TRG	AverageRF		0.069	15	8.8			OK	
1,2,4-Trichlorobenzene	TRG	AverageRF		0.665	15	11.8			OK	
Hexachlorobutadiene	TRG	AverageRF		0.366	15	14.4			OK	
Naphthalene	TRG	AverageRF		1.102	15	12.3			OK	
1,2,3-Trichlorobenzene	TRG	AverageRF		0.573	15	13.2			OK	

Initial Calibration - Summary Report

Calibration ID:	CAL1025	**Instrument ID:**	MS #8
Method ID:	MJ164	**Column Name:**	MS

SPCC and CCC Evaluations

Parameter Name	Type	SPCC Criteria	SPCC Result	CCC Criteria	CCC Result
Chloromethane	SPCC	0.100	0.390		
Vinyl Chloride	CCC			30	3.4
1,1-Dichloroethene	CCC			30	4.9
1,1-Dichloroethane	SPCC	0.100	0.702		
Chloroform	CCC			30	29.2
1,2-Dichloropropane	CCC			30	5.5
Toluene	CCC			30	4.3
Chlorobenzene	SPCC	0.300	0.792		
Ethylbenzene	CCC			30	4.3
Bromoform	SPCC	0.100	0.245		
1,1,2,2-Tetrachloroethane	SPCC	0.300	0.416		

Initial Calibration - Detailed Report

Calibration ID:	CAL1025	**Instrument ID:**	MS #8
Method ID:	MJ164	**Column Name:**	MS
		Calibration Fit:	AverageRF

FileID	File Location	Acquisition Date	Quantitation Date	Last Updated
8238	J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D	11/07/2009 16:40	11/08/2009 11:59	11/08/2009 13:20
8239	J:\ACQUDATA\MSVOA8\DATA\110709\F4102.D	11/07/2009 17:08	11/08/2009 11:37	11/08/2009 13:20
8240	J:\ACQUDATA\MSVOA8\DATA\110709\F4103.D	11/07/2009 17:35	11/08/2009 11:42	11/08/2009 13:20
8241	J:\ACQUDATA\MSVOA8\DATA\110709\F4104.D	11/07/2009 18:03	11/08/2009 11:53	11/08/2009 13:20
8242	J:\ACQUDATA\MSVOA8\DATA\110709\F4105.D	11/07/2009 18:30	11/08/2009 11:53	11/08/2009 13:20
8243	J:\ACQUDATA\MSVOA8\DATA\110709\F4106.D	11/07/2009 18:57	11/08/2009 11:07	11/08/2009 13:20
8244	J:\ACQUDATA\MSVOA8\DATA\110709\F4107.D	11/07/2009 19:25	11/08/2009 11:09	11/08/2009 13:20
8245	J:\ACQUDATA\MSVOA8\DATA\110709\F4108.D	11/07/2009 19:52	11/08/2009 11:17	11/08/2009 13:20

	FileID								Mean	
Parameter Name	**8238**	**8239**	**8240**	**8241**	**8242**	**8243**	**8244**	**8245**	**RF**	**%RSD**
Dichlorodifluoromethane	0.407	0.374	0.402	0.437	0.430	0.429	0.433	0.415	0.416	5.1
Chloromethane	0.510	0.326	0.366	0.383	0.366	0.361	0.383	0.428	0.390	14.4
Vinyl Chloride	0.376	0.375	0.381	0.394	0.377	0.387	0.400	0.412	0.388	3.4
Bromomethane	0.356	0.251	0.263	0.253	0.239	0.249	0.272	0.286	0.271	13.8
Chloroethane	0.620	0.406	0.378	0.319	0.318	0.262	0.268	0.266	0.355	33.8#L.L
Dichlorofluoromethane (CFC 21)	0.748	0.781	0.794	0.832	0.881	0.781	0.770	0.751	0.792	5.6
Trichlorofluoromethane	0.623	0.640	0.597	0.600	0.597	0.603	0.604	0.558	0.603	3.9
Diethyl Ether	0.219	0.202	0.194	0.201	0.203	0.202	0.203	0.209	0.204	3.6
1,2-Dichloro-1,1,2-trifluoroethane (	0.167	0.168	0.197	0.225	0.231	0.205	0.203	0.199	0.199	11.5
2,2-Dichloro-1,1,1-trifluoroethane (	0.434	0.382	0.365	0.368	0.420	0.371	0.347	0.345	0.379	8.5
Acrolein		0.024	0.025	0.022	0.025	0.029	0.027	0.029	0.026	9.4
Trichlorotrifluoroethane	0.204	0.159	0.149	0.141	0.149	0.150	0.148	0.145	0.156	12.9
1,1-Dichloroethene	0.326	0.282	0.328	0.300	0.306	0.303	0.314	0.320	0.310	4.9
Acetone				0.071	0.065	0.059	0.055	0.053	0.061	12.2
2-Propanol			0.010	0.010	0.010	0.009	0.010	0.010	0.010	2.3
Iodomethane (Methyl Iodide)		0.229	0.207	0.230	0.210	0.253	0.229	0.193	0.222	8.9
Carbon Disulfide	1.080	1.066	1.060	1.017	0.853	1.088	1.014	1.032	1.026	7.3
Acetonitrile				0.011	0.012	0.016	0.013	0.012	0.013	15.5#L.A
Allyl Chloride	0.192	0.192	0.182	0.182	0.176	0.172	0.180	0.180	0.182	4.0
Methyl Acetate			0.191	0.169	0.172	0.167	0.160	0.162	0.170	6.5
Methylene Chloride	0.441	0.385	0.386	0.385	0.378	0.363	0.364	0.371	0.384	6.5
tert-Butyl Alcohol	0.016	0.014	0.013	0.016	0.014	0.016	0.014	0.015	0.015	6.2
Acrylonitrile	0.067	0.054	0.060	0.065	0.066	0.065	0.062	0.066	0.063	6.8
Methyl tert-Butyl Ether	0.784	0.691	0.677	0.692	0.711	0.712	0.707	0.720	0.712	4.6
trans-1,2-Dichloroethene	0.418	0.379	0.375	0.409	0.377	0.380	0.386	0.386	0.389	4.1
1,1-Dichloroethane	0.806	0.634	0.676	0.746	0.694	0.686	0.681	0.694	0.702	7.4
Diisopropyl Ether	1.318	1.240	1.110	1.288	1.226	1.346	1.287	1.324	1.267	6.0
Vinyl Acetate		0.040	0.047	0.047	0.040	0.046	0.039	0.040	0.043	8.6
2-Chloro-1,3-butadiene	0.615	0.592	0.526	0.554	0.482	0.634	0.604	0.600	0.576	8.9
ETBE	1.092	0.954	0.878	0.998	1.005	1.057	1.004	1.027	1.002	6.5
2,2-Dichloropropane	0.653	0.636	0.591	0.603	0.617	0.594	0.595	0.580	0.609	4.1
2-Butanone (MEK)			0.108	0.091	0.089	0.091	0.084	0.086	0.092	9.5
cis-1,2-Dichloroethene	0.502	0.445	0.394	0.450	0.411	0.404	0.407	0.417	0.429	8.3
Propionitrile		0.020	0.020	0.023	0.022	0.023	0.022	0.023	0.022	6.8
Methacrylonitrile	0.073	0.079	0.060	0.066	0.066	0.068	0.068	0.075	0.069	8.6
Bromochloromethane	0.173	0.178	0.159	0.184	0.171	0.170	0.166	0.159	0.170	5.1
Chloroform	1.359	1.077	0.719	0.803	0.717	0.712	0.683	0.673	0.843	29.2#L.A
Tetrahydrofuran			0.042	0.047	0.047	0.047	0.047	0.048	0.046	4.6

Initial Calibration - Detailed Report

Calibration ID:	CAL1025	**Instrument ID:**	MS #8
Method ID:	MJ164	**Column Name:**	MS
		Calibration Fit:	AverageRF

	FileID								Mean	
Parameter Name	**8238**	**8239**	**8240**	**8241**	**8242**	**8243**	**8244**	**8245**	**RF**	**%RSD**
1,1,1-Trichloroethane (TCA)	0.615	0.652	0.618	0.629	0.603	0.614	0.610	0.585	0.616	3.1
Dibromofluoromethane			0.240	0.289	0.314	0.302	0.305	0.302	0.292	9.1
Cyclohexane	0.514	0.382	0.407	0.421	0.457	0.433	0.433	0.429	0.434	8.9
Carbon Tetrachloride	0.451	0.361	0.322	0.335	0.323	0.328	0.334	0.312	0.346	13.0
1,1-Dichloropropene	0.420	0.387	0.379	0.371	0.357	0.358	0.379	0.372	0.378	5.3
Isobutyl Alcohol		0.006	0.005	0.006	0.005	0.005	0.005	0.005	0.005	11.8
1,2-Dichloroethane-d4			0.247	0.287	0.314	0.304	0.289	0.287	0.288	8.0
Benzene	1.072	1.029	0.975	1.041	1.014	1.008	1.033	1.030	1.025	2.7
1,2-Dichloroethane (EDC)	0.352	0.314	0.323	0.337	0.349	0.321	0.312	0.295	0.325	6.0
TAME	0.597	0.488	0.443	0.534	0.529	0.547	0.536	0.537	0.526	8.5
n-Heptane		0.319	0.317	0.322	0.351	0.346	0.384	0.401	0.349	9.6
Trichloroethene (TCE)	0.329	0.287	0.270	0.271	0.268	0.269	0.275	0.273	0.280	7.4
Methylcyclohexane	0.370	0.346	0.356	0.386	0.413	0.383	0.385	0.376	0.377	5.5
1,2-Dichloropropane	0.269	0.238	0.241	0.267	0.244	0.235	0.239	0.238	0.246	5.5
Methyl Methacrylate	0.104	0.081	0.091	0.091	0.090	0.089	0.092	0.095	0.092	7.1
1,4-Dioxane			0.001	0.001	0.001	0.001	0.001	0.001	0.001	11.9
Dibromomethane	0.177	0.129	0.122	0.129	0.129	0.118	0.117	0.117	0.130	15.3# LG
Bromodichloromethane	0.424	0.346	0.316	0.352	0.333	0.335	0.331	0.319	0.345	9.9
2-Chloroethyl Vinyl Ether		0.086	0.082	0.083	0.079	0.097	0.092	0.094	0.088	7.8
cis-1,3-Dichloropropene	0.436	0.390	0.320	0.355	0.369	0.363	0.365	0.371	0.371	8.8
4-Methyl-2-pentanone (MIBK)		0.159	0.155	0.140	0.144	0.156	0.147	0.150	0.150	4.5
Toluene	1.226	1.141	1.237	1.279	1.253	1.233	1.298	1.312	1.247	4.3
trans-1,3-Dichloropropene	0.373	0.338	0.297	0.357	0.353	0.360	0.356	0.366	0.350	6.8
Ethyl Methacrylate	0.221	0.205	0.189	0.217	0.233	0.234	0.234	0.247	0.222	8.4
1,1,2-Trichloroethane	0.151	0.161	0.147	0.167	0.160	0.153	0.149	0.153	0.155	4.4
Toluene-d8			0.982	1.161	1.296	1.264	1.277	1.332	1.219	10.6
4-Bromofluorobenzene			0.393	0.453	0.507	0.514	0.520	0.523	0.485	10.7
Tetrachloroethene (PCE)	0.359	0.354	0.319	0.328	0.343	0.326	0.346	0.340	0.339	4.2
2-Hexanone			0.117	0.106	0.097	0.103	0.098	0.099	0.104	7.4
n-Butyl Acetate		0.290	0.238	0.239	0.252	0.233	0.244	0.247	0.249	7.7
1,3-Dichloropropane		0.392	0.326	0.368	0.355	0.336	0.334	0.340	0.350	6.6
Dibromochloromethane	0.232	0.193	0.207	0.229	0.236	0.223	0.221	0.222	0.220	6.4
1,2-Dibromoethane (EDB)	0.211	0.195	0.184	0.186	0.198	0.185	0.176	0.180	0.189	5.9
Chlorobenzene	0.813	0.771	0.789	0.812	0.799	0.765	0.791	0.799	0.792	2.2
1,1,1,2-Tetrachloroethane	0.250	0.276	0.239	0.258	0.262	0.253	0.256	0.254	0.256	4.1
Ethylbenzene	1.491	1.372	1.328	1.390	1.403	1.422	1.490	1.481	1.422	4.3
m,p-Xylenes	0.483	0.486	0.482	0.506	0.521	0.533	0.558	0.554	0.515	6.0
o-Xylene	0.447	0.420	0.449	0.491	0.488	0.500	0.525	0.529	0.481	8.1
Styrene	0.721	0.764	0.745	0.797	0.806	0.862	0.893	0.899	0.811	8.3
Bromoform	0.278	0.254	0.182	0.249	0.251	0.243	0.243	0.261	0.245	11.5
Isopropylbenzene	2.763	2.527	2.463	2.561	2.676	2.581	2.853	3.010	2.679	6.9
Cyclohexanone			0.027	0.027	0.029	0.026	0.026	0.025	0.027	5.1
1,1,2,2-Tetrachloroethane	0.470	0.413	0.391	0.436	0.443	0.383	0.382	0.410	0.416	7.6
trans-1,4-Dichloro-2-butene		0.124	0.131	0.125	0.116	0.114	0.110	0.120	0.120	5.9
1,2,3-Trichloropropane	0.139	0.154	0.112	0.133	0.135	0.126	0.119	0.122	0.130	10.2
n-Propylbenzene	3.158	3.118	3.130	3.290	3.347	3.257	3.577	3.788	3.333	7.1
Bromobenzene	0.674	0.605	0.621	0.612	0.660	0.609	0.638	0.666	0.636	4.4
1,3,5-Trimethylbenzene	2.207	2.127	2.066	2.236	2.309	2.267	2.426	2.542	2.272	6.8
2-Chlorotoluene	2.128	1.903	1.826	1.993	1.962	1.925	2.077	2.177	1.999	6.0
4-Chlorotoluene	2.351	2.242	2.113	2.221	2.300	2.207	2.381	2.473	2.286	5.0

Initial Calibration - Detailed Report

Calibration ID:	CAL1025	**Instrument ID:**	MS #8
Method ID:	MJ164	**Column Name:**	MS
		Calibration Fit:	AverageRF

	FileID									
Parameter Name	**8238**	**8239**	**8240**	**8241**	**8242**	**8243**	**8244**	**8245**	**Mean RF**	**%RSD**
tert-Butylbenzene	1.923	1.781	1.835	1.936	1.931	1.938	2.088	2.175	1.951	6.5
1,2,4-Trimethylbenzene	2.093	2.156	2.118	2.225	2.342	2.258	2.411	2.514	2.265	6.6
sec-Butylbenzene	3.007	2.668	2.739	2.904	2.951	3.020	3.252	3.350	2.986	7.7
4-Isopropyltoluene	2.462	2.202	2.118	2.287	2.349	2.444	2.582	2.680	2.391	7.9
1,3-Dichlorobenzene	1.352	1.181	1.132	1.197	1.243	1.170	1.215	1.261	1.219	5.6
1,4-Dichlorobenzene	1.452	1.319	1.122	1.208	1.222	1.158	1.175	1.237	1.237	8.5
n-Butylbenzene	2.174	1.947	1.886	2.066	2.145	2.231	2.437	2.516	2.175	10.1
1,2-Dichlorobenzene	1.230	1.075	0.940	1.035	1.063	1.032	1.047	1.080	1.063	7.6
1,2-Dibromo-3-chloropropane (DBC	0.059	0.078	0.076	0.067	0.064	0.070	0.067	0.070	0.069	8.8
1,2,4-Trichlorobenzene	0.803	0.587	0.617	0.593	0.633	0.636	0.701	0.749	0.665	11.8
Hexachlorobutadiene	0.483	0.389	0.349	0.347	0.349	0.305	0.343	0.358	0.366	14.4
Naphthalene	1.300	1.151	0.922	0.942	1.015	1.084	1.169	1.233	1.102	12.3
1,2,3-Trichlorobenzene	0.695	0.607	0.462	0.512	0.518	0.555	0.597	0.638	0.573	13.2

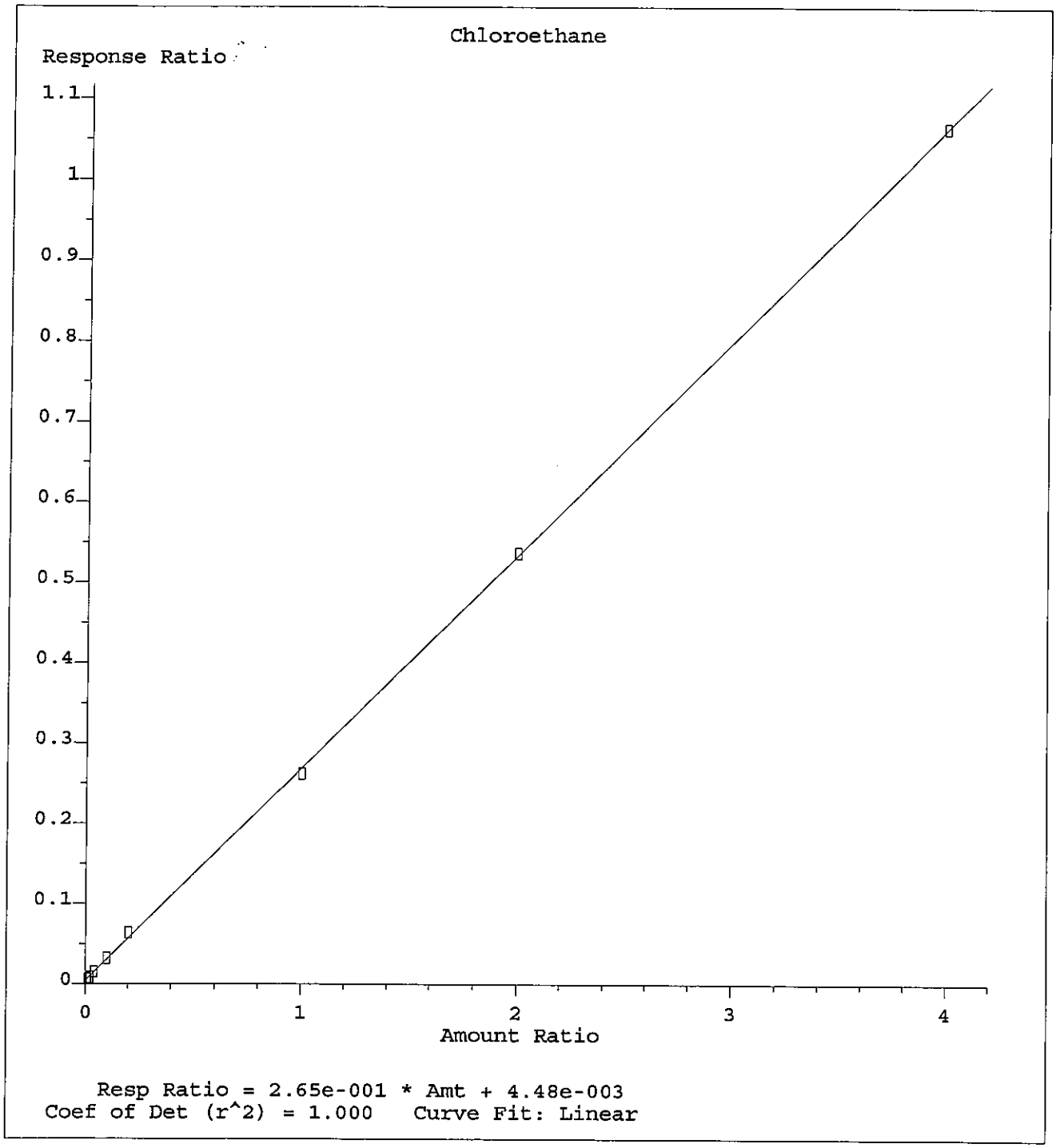
 # RSD Not Applicable. Compound being quantitated from curve. Included in Average RF summary for Average %RSD calculation.

Initial Calibration - Detailed Report

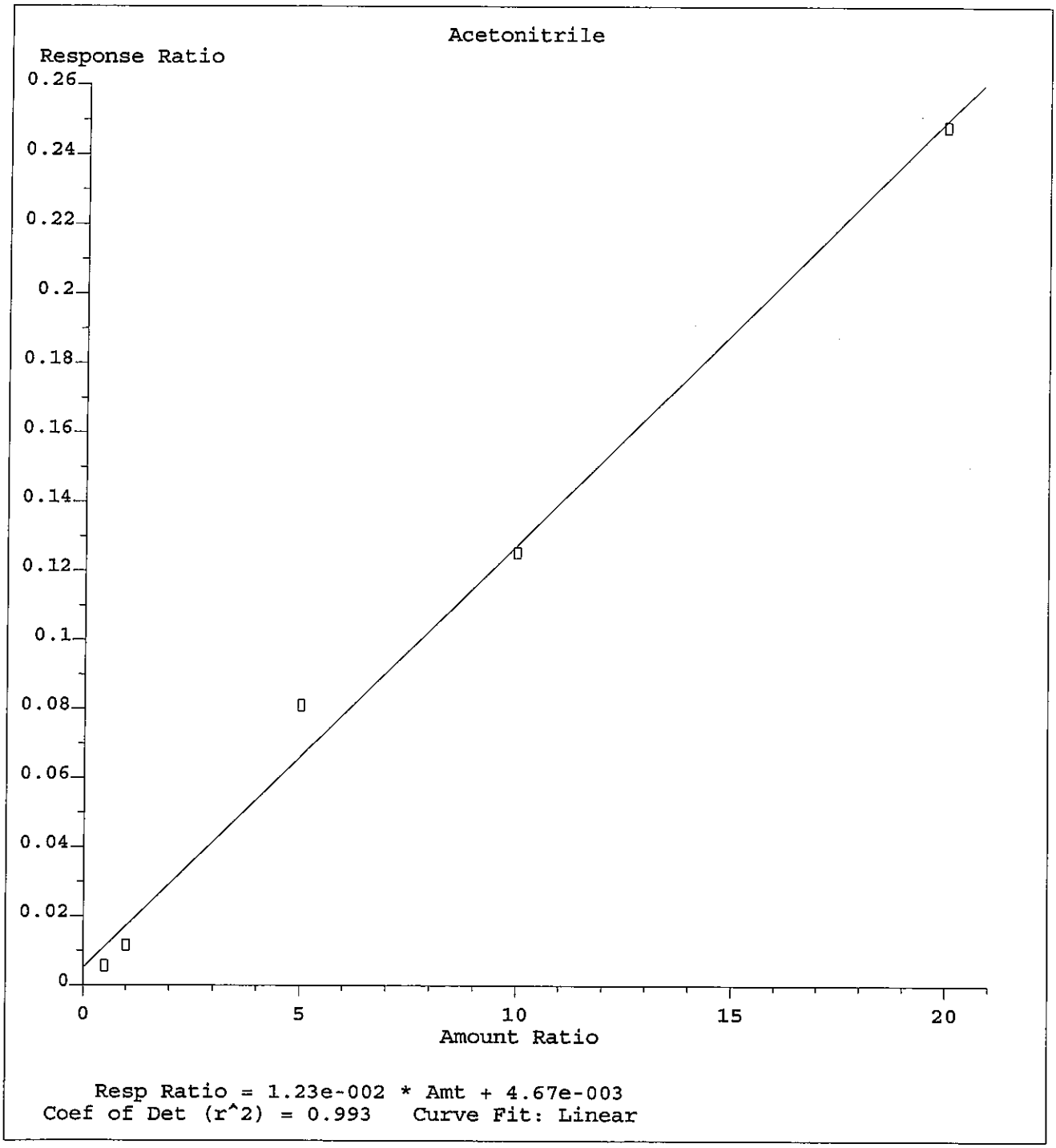
Calibration ID:	CAL1025	**Instrument ID:**	MS #8
Method ID:	MJ164	**Column Name:**	MS
		Calibration Fit:	Linear

FileID	File Location	Acquisition Date	Quantitation Date	Last Updated
8238	J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D	11/07/2009 16:40	11/08/2009 11:59	11/08/2009 13:20
8239	J:\ACQUDATA\MSVOA8\DATA\110709\F4102.D	11/07/2009 17:08	11/08/2009 11:37	11/08/2009 13:20
8240	J:\ACQUDATA\MSVOA8\DATA\110709\F4103.D	11/07/2009 17:35	11/08/2009 11:42	11/08/2009 13:20
8241	J:\ACQUDATA\MSVOA8\DATA\110709\F4104.D	11/07/2009 18:03	11/08/2009 11:53	11/08/2009 13:20
8242	J:\ACQUDATA\MSVOA8\DATA\110709\F4105.D	11/07/2009 18:30	11/08/2009 11:53	11/08/2009 13:20
8243	J:\ACQUDATA\MSVOA8\DATA\110709\F4106.D	11/07/2009 18:57	11/08/2009 11:07	11/08/2009 13:20
8244	J:\ACQUDATA\MSVOA8\DATA\110709\F4107.D	11/07/2009 19:25	11/08/2009 11:09	11/08/2009 13:20
8245	J:\ACQUDATA\MSVOA8\DATA\110709\F4108.D	11/07/2009 19:52	11/08/2009 11:17	11/08/2009 13:20

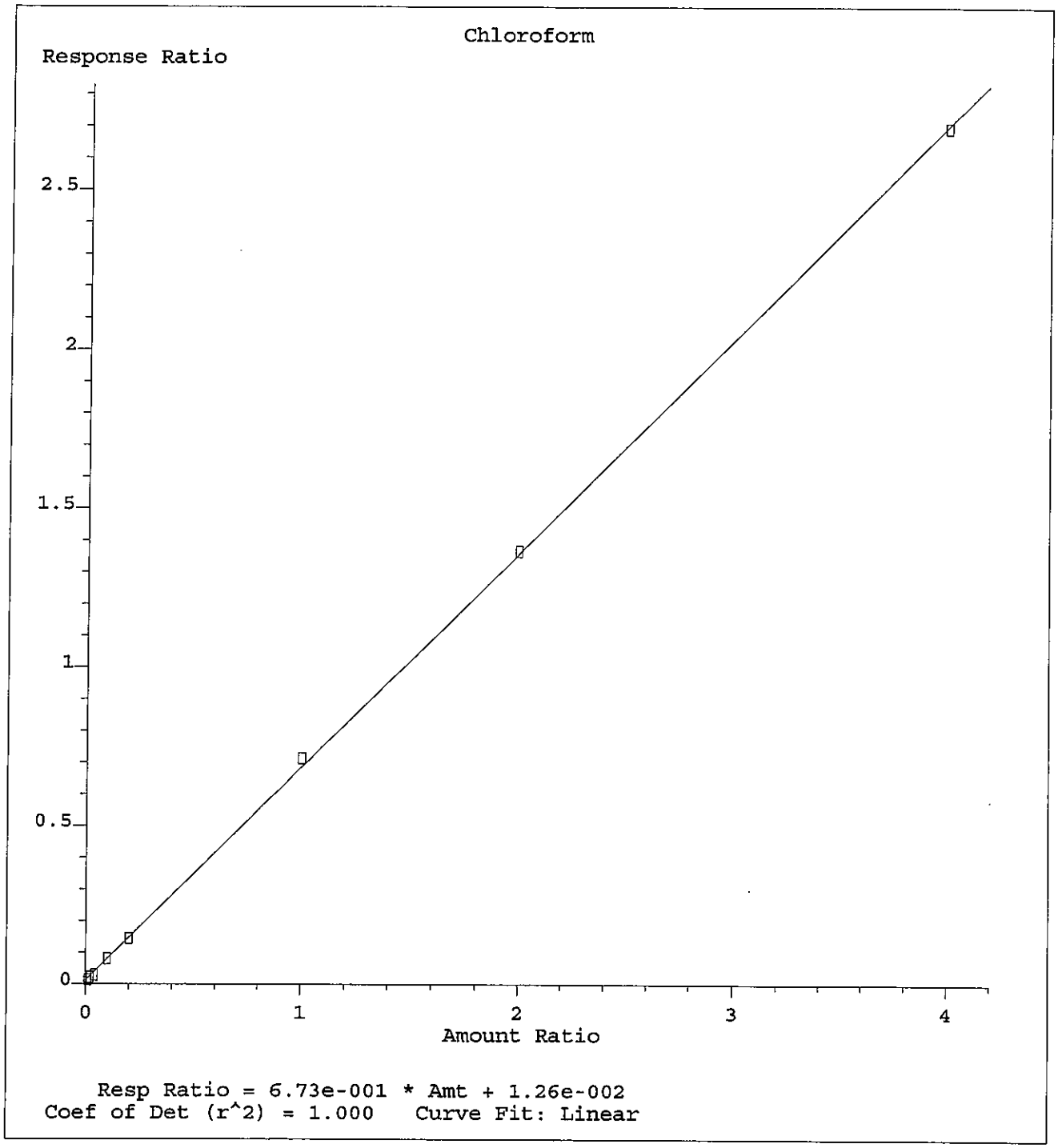
Parameter Name	CoefX2	CoefX	Y-intercept	COD	Mean RF
Chloroethane		0.265	0.004	0.9999	0.355
Acetonitrile		0.012	0.005	0.9926	0.013
Chloroform		0.673	0.013	0.9998	0.843
Dibromomethane		0.117	0.001	1.0000	0.130



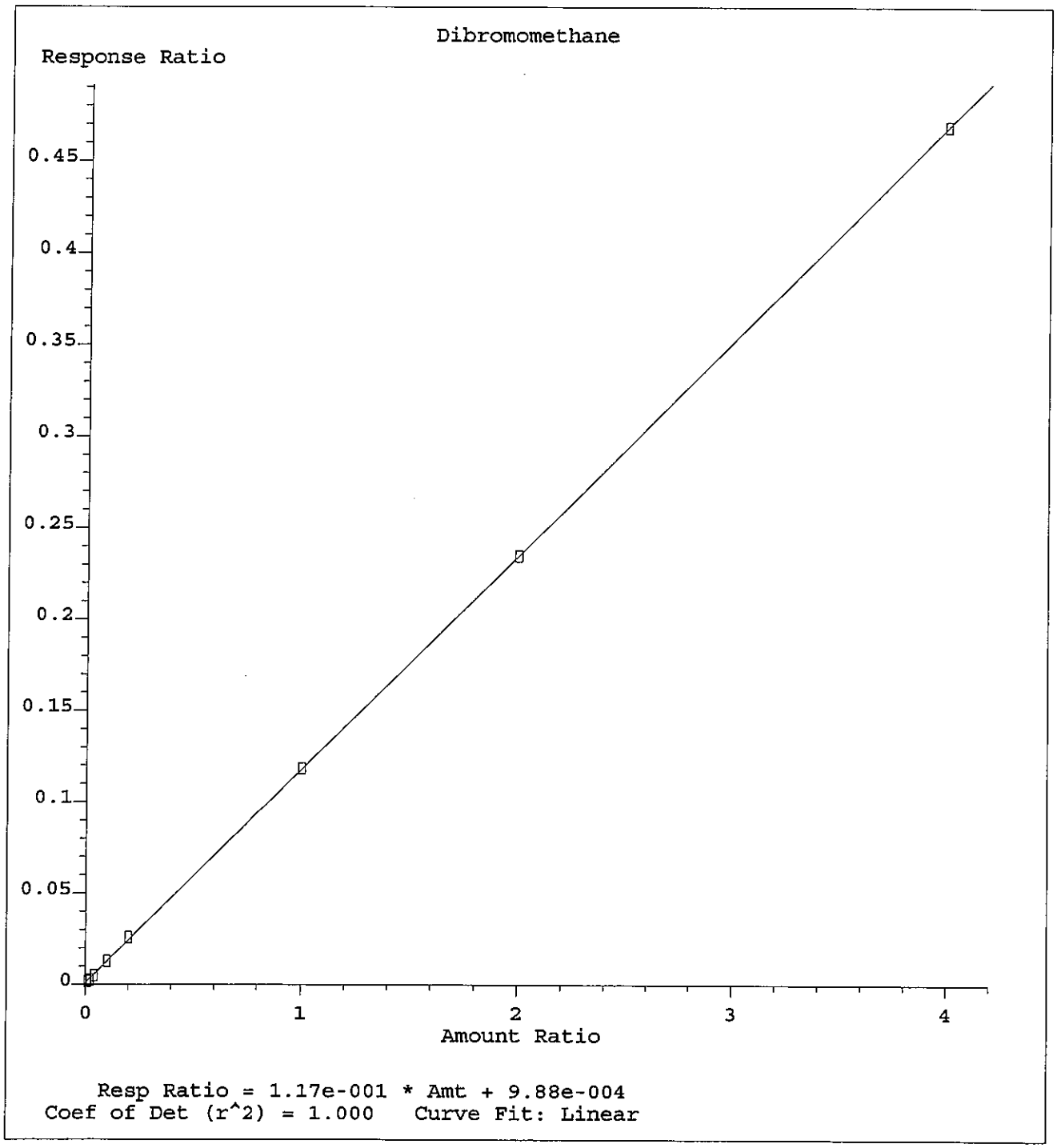
Method Name: J:\ACQUDATA\MSVOA8\METHODS\W110709.M
Calibration Table Last Updated: Sun Nov 08 12:00:02 2009



Method Name: J:\ACQUDATA\MSVOA8\METHODS\W110709.M
Calibration Table Last Updated: Sun Nov 08 12:01:09 2009



Method Name: J:\ACQUDATA\MSVOA8\METHODS\W110709.M
Calibration Table Last Updated: Sun Nov 08 12:18:07 2009



Method Name: J:\ACQUDATA\MSVOA8\METHODS\W110709.M
Calibration Table Last Updated: Sun Nov 08 12:06:58 2009

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:59 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:08:29 2009
Response via : Initial Calibration
DataAcq Meth : W110709

11.8

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene	3.47	168	663714	50.00	ppb		0.00
42) 1,4 - Difluorobenzene	3.99	114	979623	50.00	ppb		0.00
63) d5 - Chlorobenzene	6.36	117	838972	50.00	ppb		0.00
83) d4 - Dichlorobenzene	8.57	152	377574	50.00	ppb		0.00
System Monitoring Compounds							
43) surr4,Dibrflmethane	3.46	113	300981	52.62	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 105.24%				
48) surr1,1,2-Diclethane	3.71	65	296678	52.57	ppb		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 105.14%				
69) surr3,Toluene-d8	5.12	98	1059729	51.82	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 103.64%				
70) surr2,bfb	7.44	95	407524	50.10	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 100.20%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.26	85	2700	0.49	ppb		98
4) Chloromethane	1.38	50	3388m	0.65	ppb		
5) Vinyl Chloride	1.44	62	2493	0.48	ppb		91
6) Bromomethane	1.64	96	2365	0.66	ppb		85
7) Chloroethane	1.70	64	4118m	0.88	ppb		
8) FREON 21	1.80	67	4964	0.47	ppb		90
9) Trichlorofluoromethane	1.84	101	4132	0.52	ppb		83
10) Diethyl Ether	1.99	59	1454	0.54	ppb		84
11) FREON 123A	1.98	85	1110	0.42	ppb	#	50
12) FREON 123	2.01	85	2878	0.57	ppb	#	75
13) Acrolein	2.07	56	952	2.78	ppb		89
14) FREON 113	2.12	85	1352	0.65	ppb	#	29
15) 1,1-Diclethene	2.13	96	2167	0.53	ppb	#	72
17) 2-Propanol	2.21	45	1808m	14.11	ppb		
18) Iodomethane	2.24	127	1436	0.49	ppb	#	79
19) Carbon Disulfide	2.29	76	7168	0.53	ppb		94
20) Acetonitrile	2.32	40	814m	2.49	ppb		
21) Allyl Chloride	2.33	76	1277	0.53	ppb	#	76
22) Methyl Acetate	2.33	43	1360	0.55	ppb		94
23) Methylene Chloride	2.40	84	2930	0.57	ppb	#	71
24) TBA	2.44	59	2128	10.79	ppb		98
25) Acrylonitrile	2.54	53	2218	2.65	ppb		96
26) Methyl-t-Butyl Ether	2.55	73	5206	0.55	ppb		90
27) trans-1,2-Dichloroethene	2.57	96	2773	0.54	ppb	#	72
28) 1,1-Diclethane	2.81	63	5350	0.57	ppb		90
29) DIPE	2.83	45	8749	0.52	ppb		91
30) Vinyl Acetate	2.84	86	443m	0.82	ppb		
31) 2-Chloro-1,3-butadiene	2.87	53	4083	0.53	ppb		90
32) ETBE	3.05	59	7249	0.55	ppb		87
33) 2,2-Dichloropropane	3.18	77	4335	0.54	ppb		98
35) cis-1,2-Dichloroethene	3.17	96	3333	0.59	ppb		92
36) Propionitrile	3.22	54	649	2.24	ppb		80
37) Methacrylonitrile	3.30	67	484m	0.53	ppb		
38) Bromochloromethane	3.33	128	1151	0.51	ppb	#	73
39) Chloroform	3.36	83	9018	0.81	ppb		99

(#) = qualifier out of range (m) = manual integration
F4101.D W110709.M Sun Nov 08 12:24:20 2009

00088

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:59 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:08:29 2009
Response via : Initial Calibration
DataAcq Meth : W110709

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
40)	Tetrahydrofuran	3.37	42	842	1.35	ppb	#	29
41)	1,1,1-Trichloroethane	3.51	97	4085	0.50	ppb	#	58
44)	cyclohexane	3.54	56	5031	0.59	ppb		91
45)	Carbontetrachloride	3.62	117	4416	0.65	ppb	#	61
46)	1,1-Dichloropropene	3.62	75	4115	0.56	ppb		94
47)	Iso-Butyl Alcohol	3.63	43	1982m	19.04	ppb		
49)	Benzene	3.75	78	10499	0.52	ppb		90
50)	1,2-Dichloroethane	3.75	62	3452	0.54	ppb		100
51)	TAME	3.80	73	5849	0.57	ppb		93
52)	N-Heptane	3.89	43	4510	0.65	ppb		87
53)	Trichloroethene	4.20	95	3225	0.59	ppb		78
54)	methylcyclohexane	4.34	55	3624	0.49	ppb		99
55)	1,2-Diclpropane	4.36	63	2633	0.55	ppb		92
56)	Methyl Methacrylate	4.42	69	1022	0.57	ppb	#	67
58)	Dibromomethane	4.45	93	1736	0.68	ppb	#	70
59)	Bromodichloromethane	4.55	83	4149	0.62	ppb		92
61)	2-Chloroethylvinyl Ether	4.76	63	1226m	0.67	ppb		
62)	cis-1,3-Dichloropropene	4.90	75	4268	0.59	ppb		90
65)	Toluene	5.17	91	10289	0.49	ppb		96
66)	trans-1,3-Dichloropropene	5.34	75	3132	0.53	ppb		79
67)	Ethyl Methacrylate	5.39	69	1854m	0.49	ppb		
68)	1,1,2-Trichloroethane	5.49	83	1266	0.49	ppb		93
71)	Tetrachloroethene	5.64	166	3013	0.53	ppb		89
72)	2-Hexanone	5.70	43	1550	0.89	ppb		59
73)	N-Butyl Acetate	5.79	43	2650	0.63	ppb		94
74)	1,3-Dichloropropane	5.64	76	3112	0.53	ppb		66
75)	Dibromochloromethane	5.85	129	1948m	0.60	ppb		
76)	1,2-Dibromoethane	5.96	107	1767	0.56	ppb		87
77)	Chlorobenzene	6.38	112	6822	0.51	ppb		75
78)	1,1,1,2-Tetrachloroethane	6.45	131	2095	0.49	ppb		84
79)	Ethylbenzene	6.47	91	12510	0.52	ppb		95
80)	(m+p)Xylene	6.57	106	8106	0.94	ppb		88
81)	o-Xylene	6.94	106	3748	0.46	ppb		87
82)	Styrene	6.95	104	6051	0.44	ppb		91
84)	Bromoform	7.14	173	1051	0.57	ppb		100
85)	Isopropylbenzene	7.29	105	10431	0.52	ppb		100
86)	Cyclohexanone	7.39	55	2472m	12.33	ppb		
87)	1,1,2,2-Tetrachloroethane	7.56	83	1776	0.57	ppb		91
89)	1,2,3-Trichloropropane	7.62	110	524	0.54	ppb		71
90)	n-Propylbenzene	7.68	91	11922	0.47	ppb		86
91)	Bromobenzene	7.59	156	2543	0.53	ppb	#	73
93)	1,3,5-Trimethylbenzene	7.85	105	8333	0.49	ppb		87
94)	2-Chlorotoluene	7.77	91	8034	0.53	ppb		81
95)	4-Chlorotoluene	7.88	91	8878	0.51	ppb		91
96)	tert-Butylbenzene	8.17	119	7260	0.49	ppb		79
97)	1,2,4-Trimethylbenzene	8.21	105	7904	0.46	ppb		91
98)	sec-Butylbenzene	8.39	105	11352	0.50	ppb		97
99)	p-Isopropyltoluene	8.52	119	9296	0.51	ppb		93
100)	1,3-Dclbenz	8.51	146	5106	0.55	ppb		85
101)	1,4-Dclbenz	8.59	146	5481	0.59	ppb		71

(#) = qualifier out of range (m) = manual integration
F4101.D W110709.M Sun Nov 08 12:24:22 2009

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:59 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:08:29 2009
Response via : Initial Calibration
DataAcq Meth : W110709

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
103)	n-Butylbenzene	8.93	91	8208	0.50	ppb	88
104)	1,2-Dclbenz	8.97	146	4645	0.58	ppb	92
105)	1,2-Dibromo-3-chloropropan	9.75	157	224m	0.49	ppb	
107)	1,2,4-Tcbenzene	10.56	180	3032	0.60	ppb	71
108)	Hexachlorobu	10.70	225	1825	0.69	ppb	70
109)	Naphthalen	10.79	128	4910	0.59	ppb	96
110)	1,2,3-Tclbenzene	11.02	180	2623	0.60	ppb	95

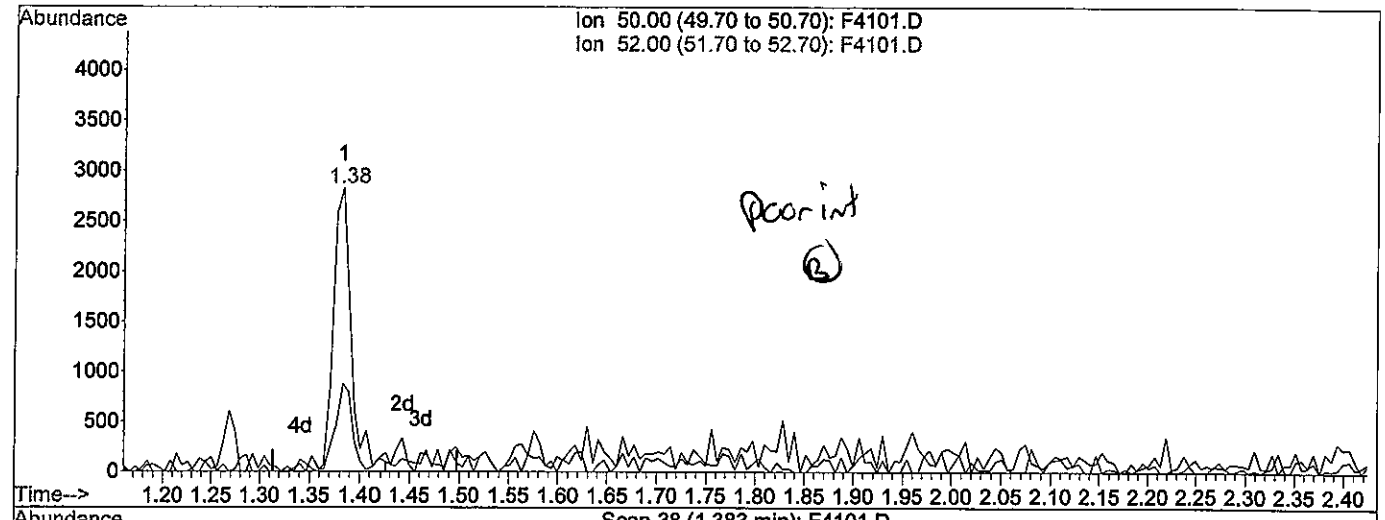
(#) = qualifier out of range (m) = manual integration
F4101.D W110709.M Sun Nov 08 12:24:22 2009

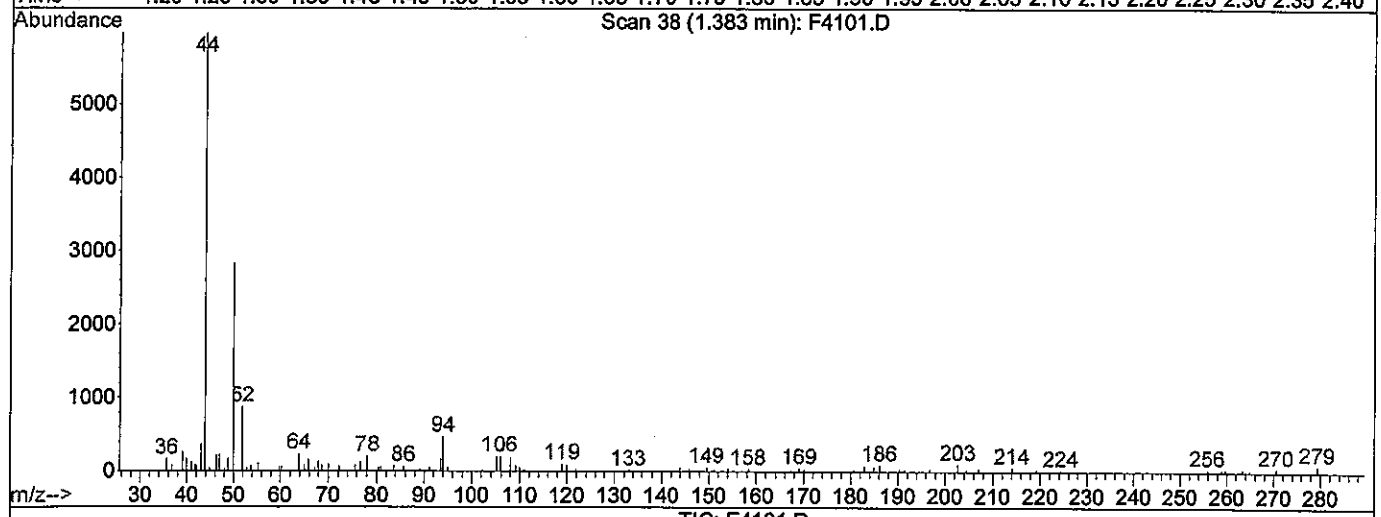
00090

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:34 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:55:57 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(4) Chloromethane (P)

1.38min 0.67ppb

response 3469

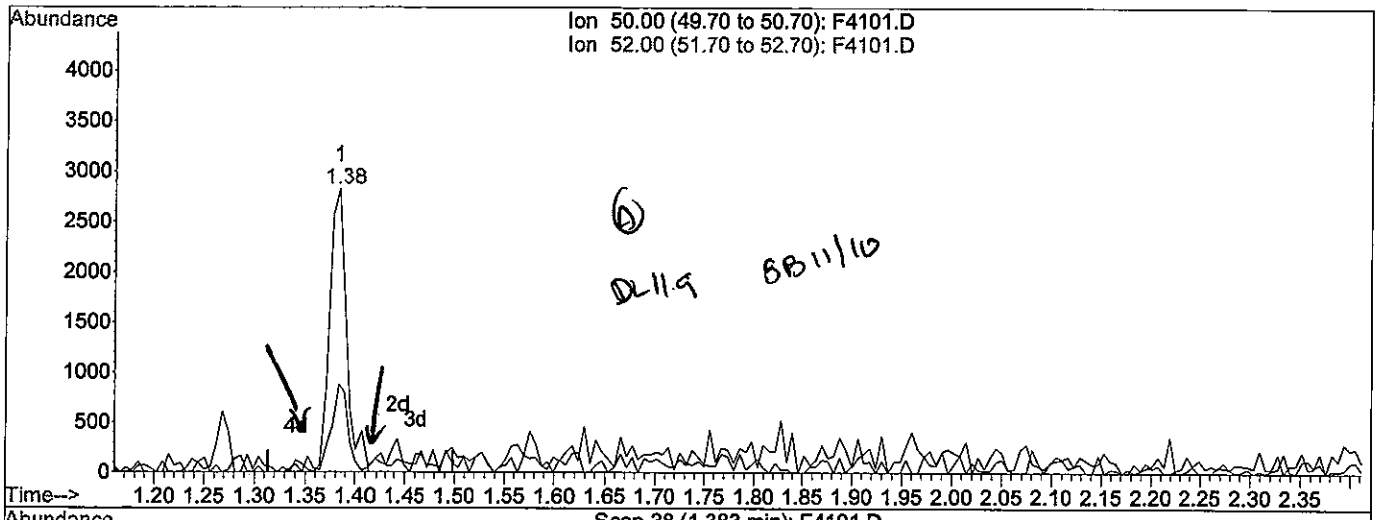
Ion	Exp%	Act%
50.00	100	100
52.00	31.60	30.97
0.00	0.00	0.00
0.00	0.00	0.00

F4101.D W110709.M Sun Nov 08 11:59:08 2009

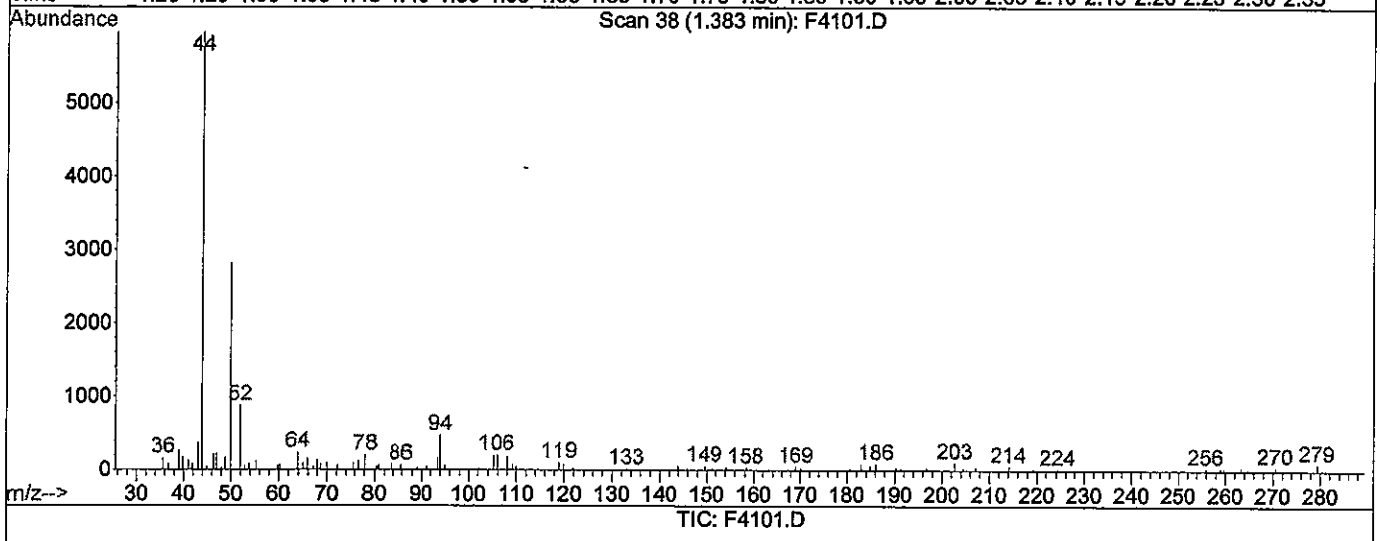
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:59 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:55:57 2009
Response via : Multiple Level Calibration



6
DL 11.9 BB 11/10



TIC: F4101.D

(4) Chloromethane (P)

1.38min 0.65ppb m

response 3388

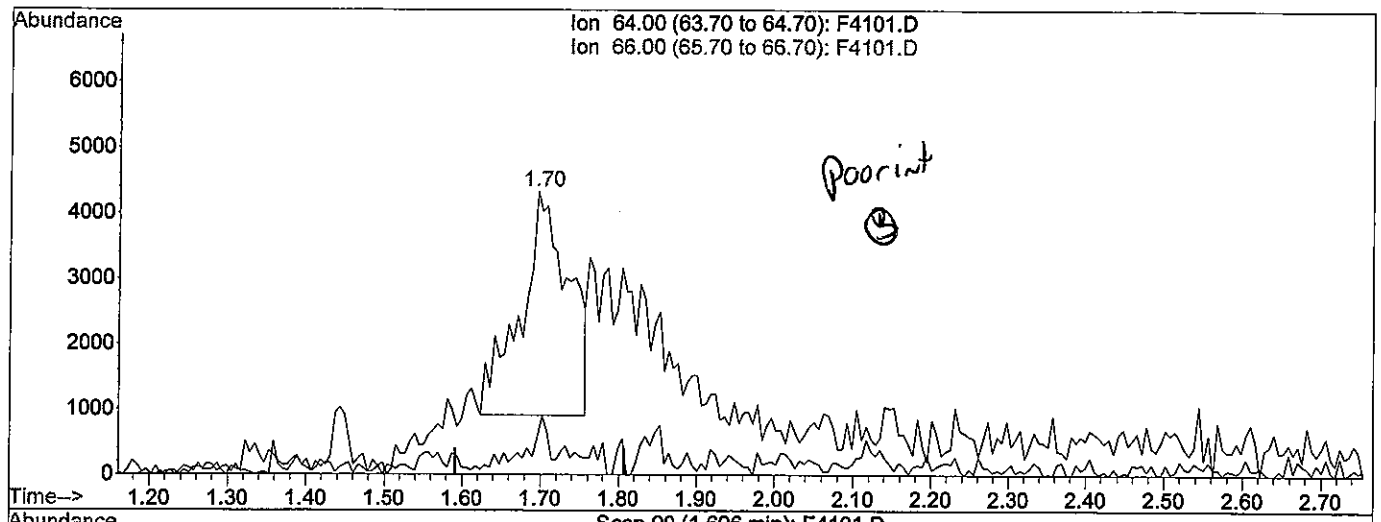
Ion	Exp%	Act%
50.00	100	100
52.00	31.60	30.97
0.00	0.00	0.00
0.00	0.00	0.00

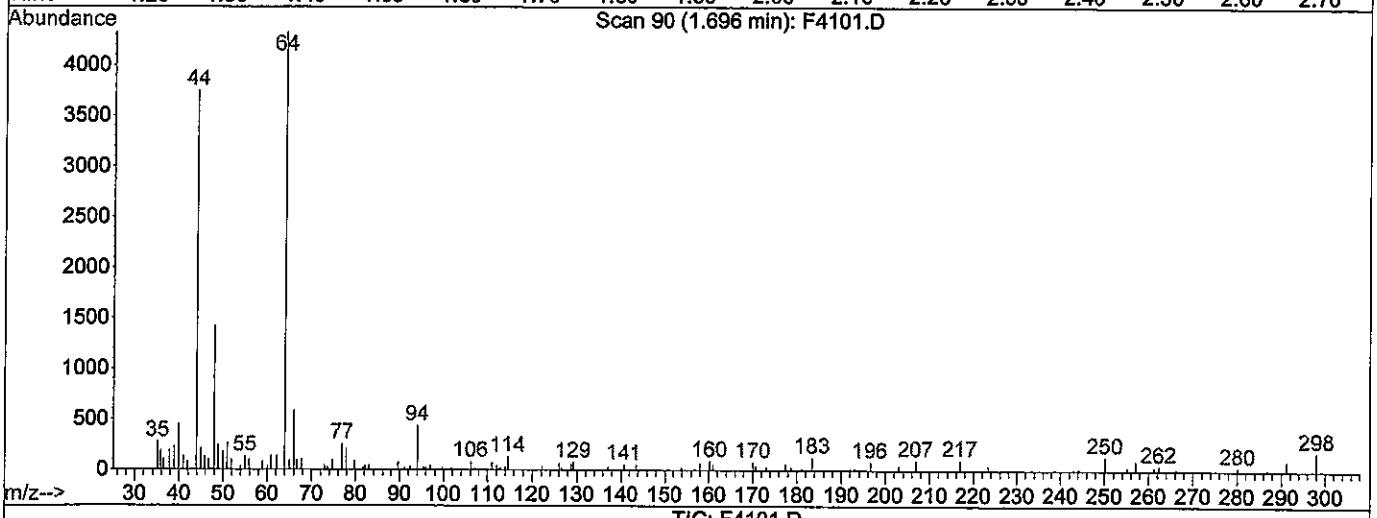
F4101.D W110709.M Sun Nov 08 11:59:20 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:17 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(7) Chloroethane (T)

1.70min 3.09ppb

response 14472

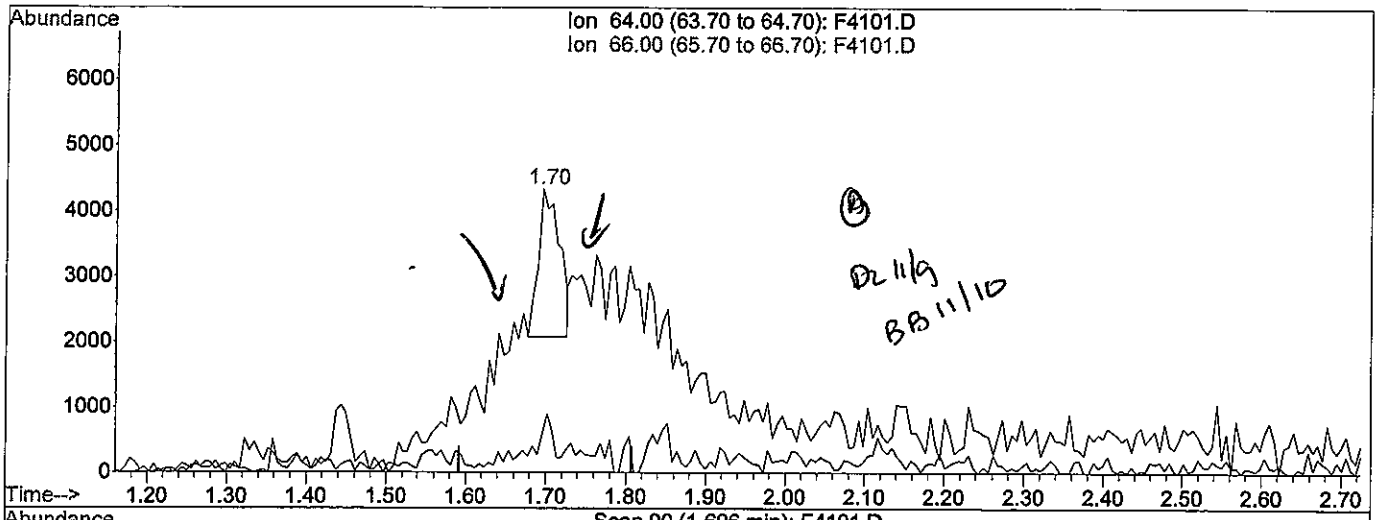
Ion	Exp%	Act%
64.00	100	100
66.00	32.00	15.75
0.00	0.00	0.00
0.00	0.00	0.00

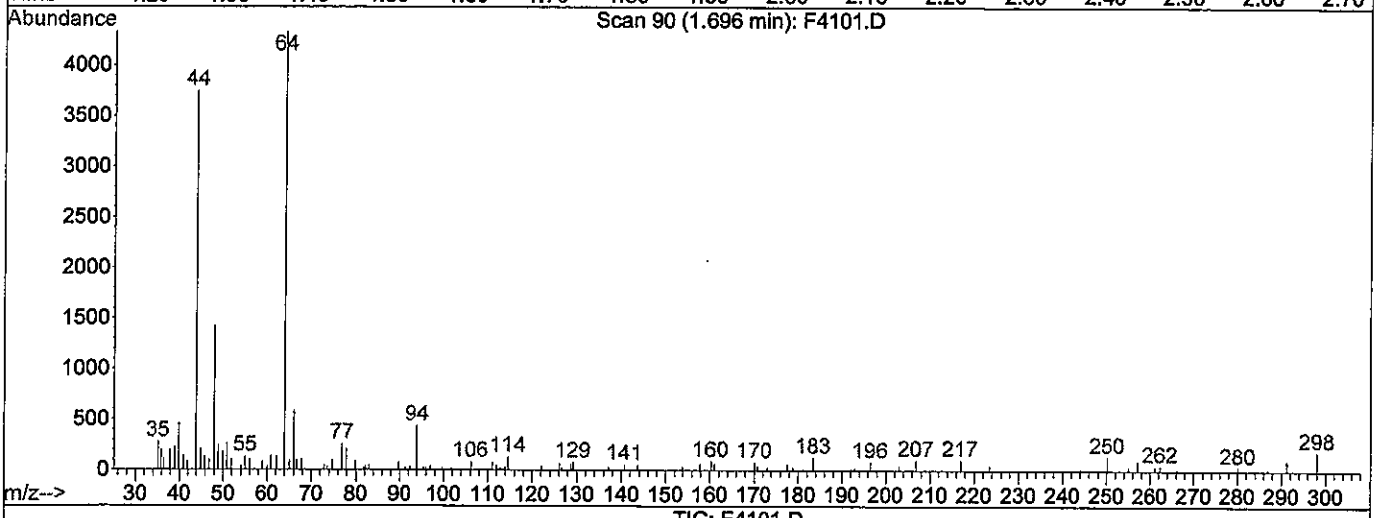
F4101.D W110709.M Sun Nov 08 11:29:03 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:29 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(7) Chloroethane (T)

1.70min 0.88ppb m

response 4118

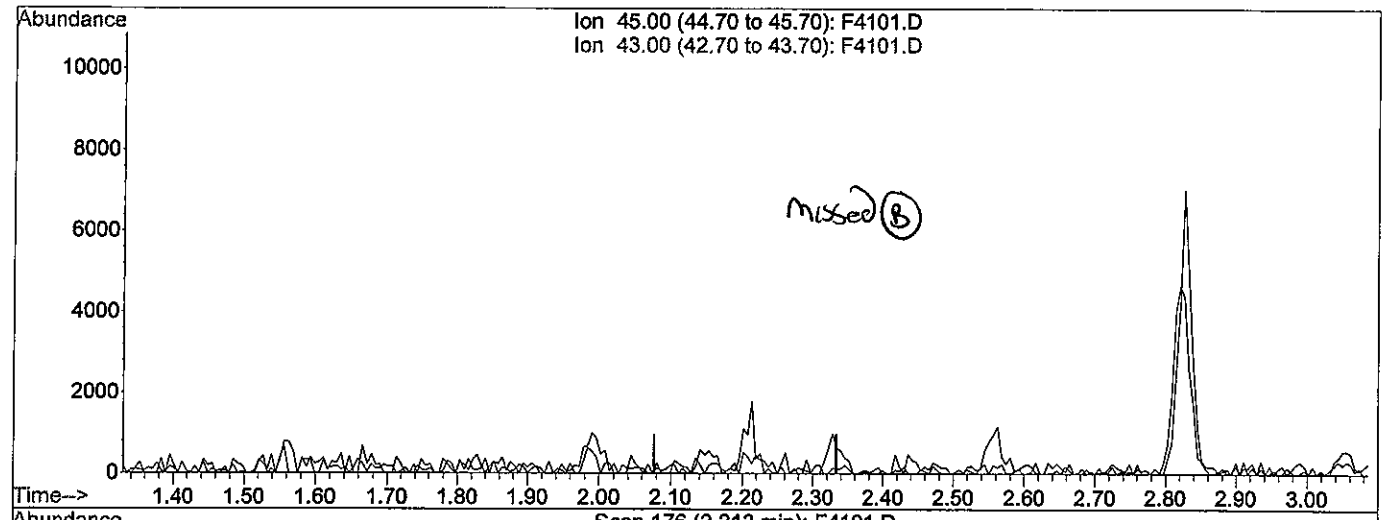
Ion	Exp%	Act%
64.00	100	100
66.00	32.00	13.53
0.00	0.00	0.00
0.00	0.00	0.00

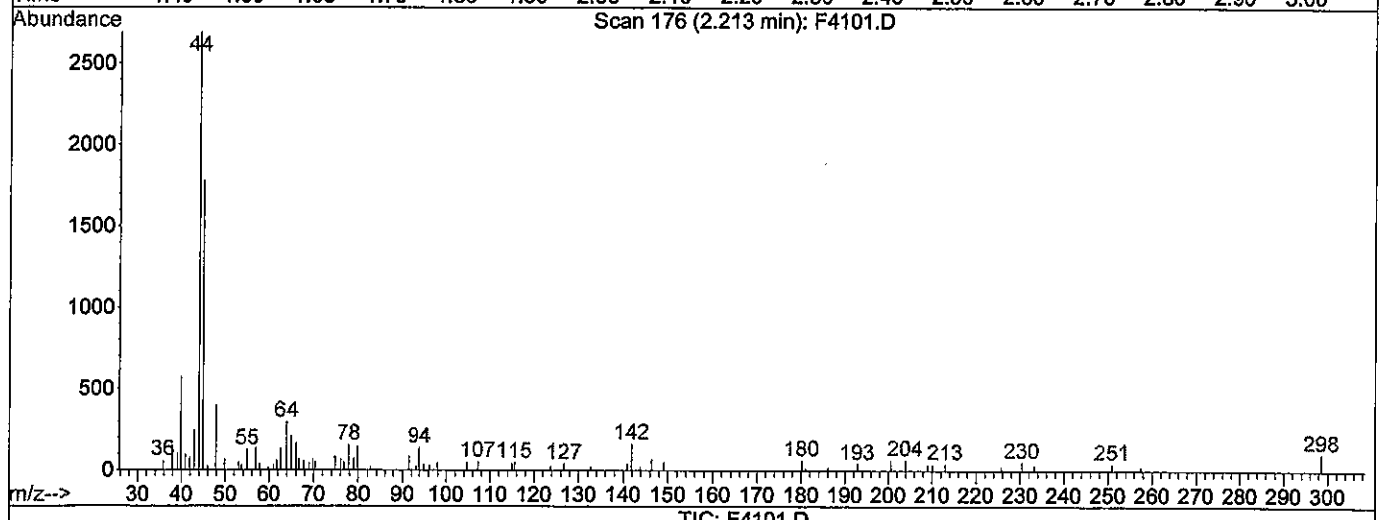
F4101.D W110709.M Sun Nov 08 11:29:25 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:29 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(17) 2-Propanol

2.21min 0.00ppb

response 0

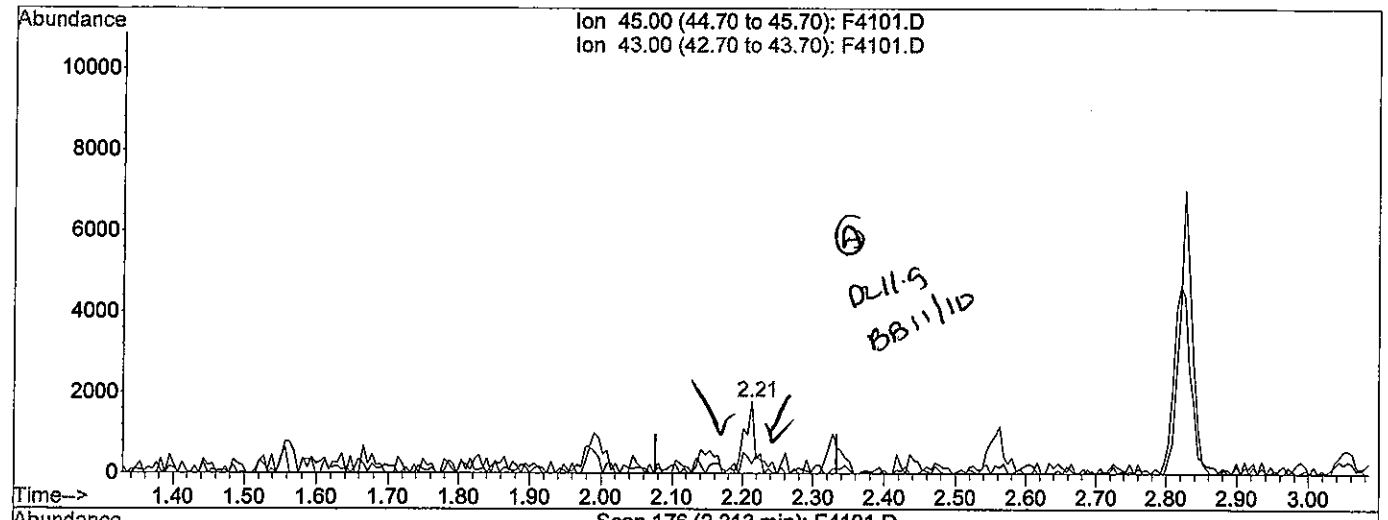
Ion	Exp%	Act%
45.00	100	0.00
43.00	23.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

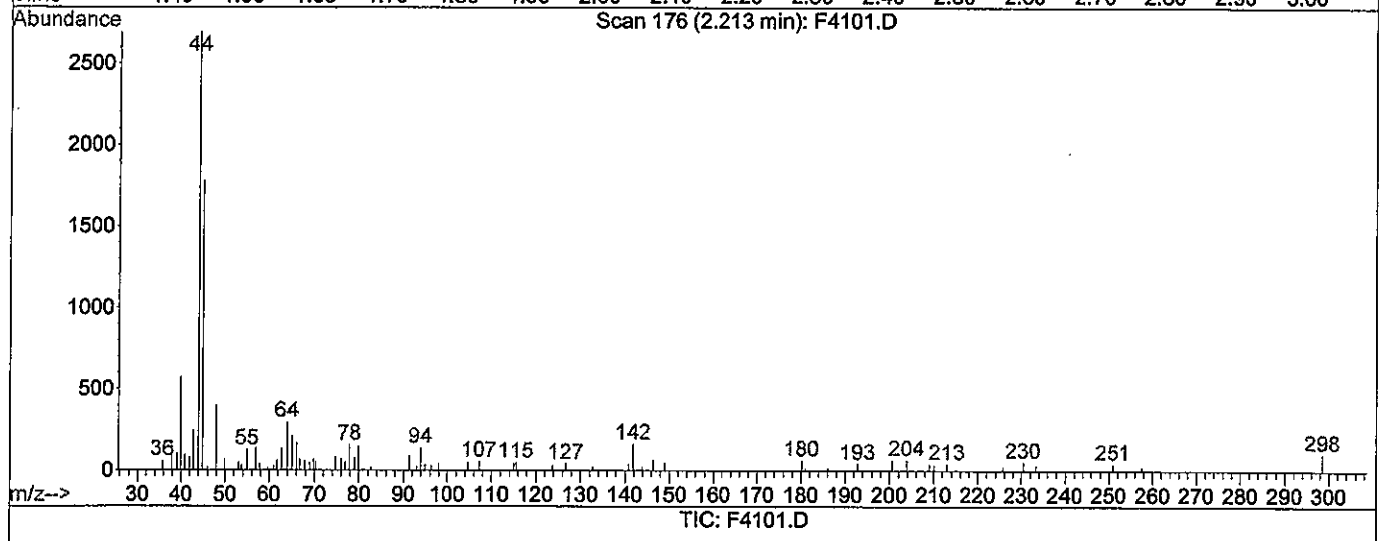
F4101.D W110709.M Sun Nov 08 11:29:38 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:29 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(17) 2-Propanol

2.21min 14.11ppb m

response 1808

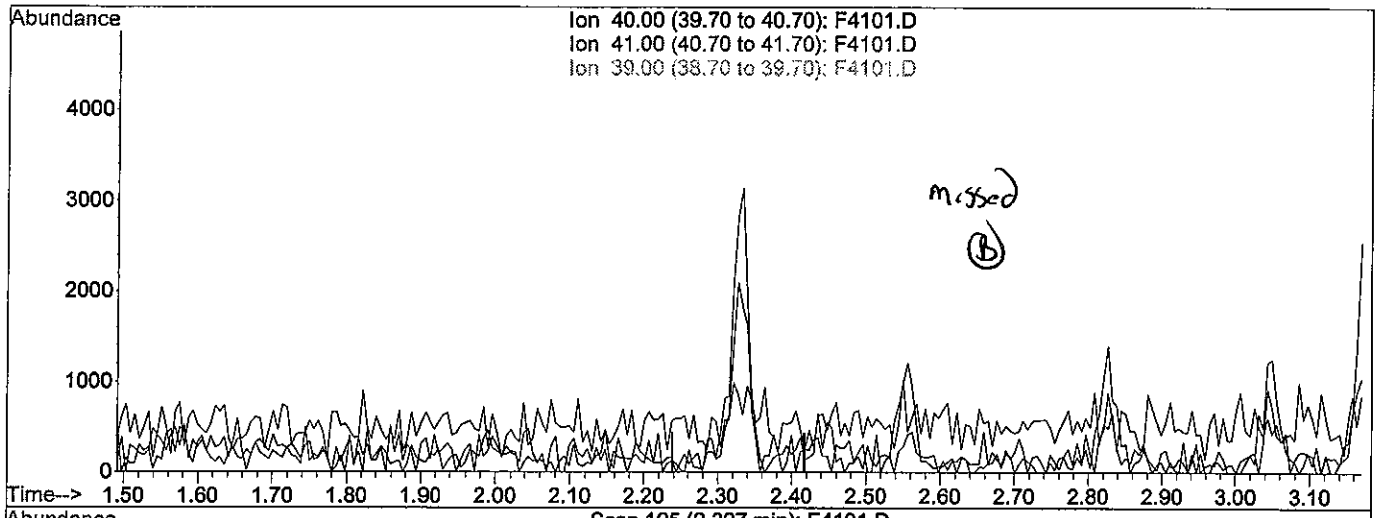
Ion	Exp%	Act%
45.00	100	100
43.00	23.00	13.82
0.00	0.00	0.00
0.00	0.00	0.00

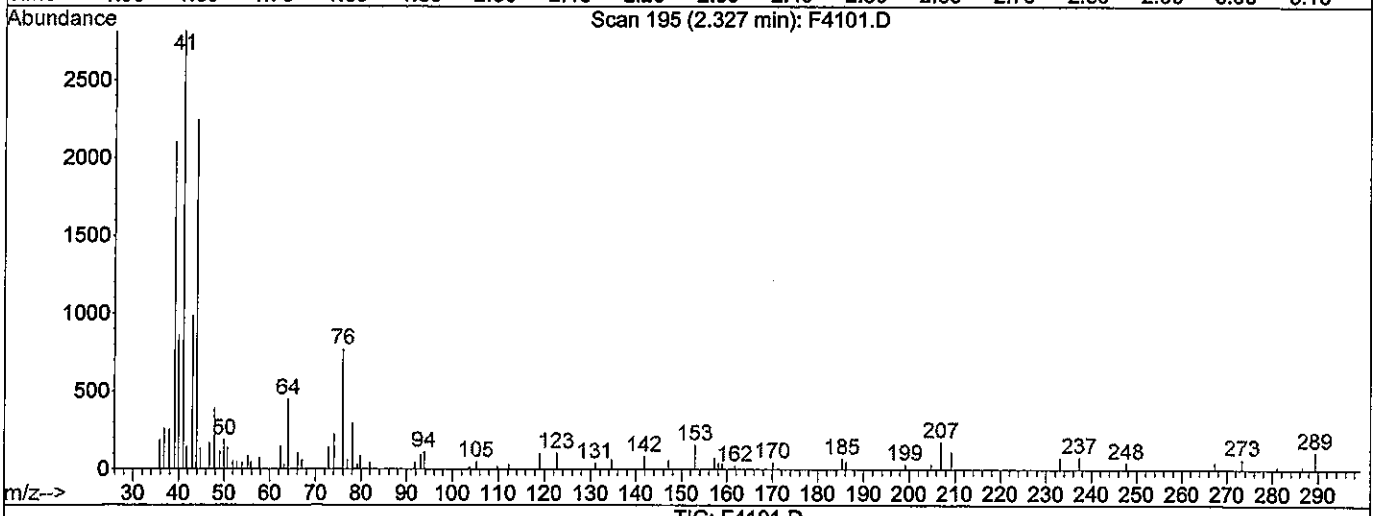
F4101.D W110709.M Sun Nov 08 11:29:44 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:29 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(20) Acetonitrile

2.32min 0.00ppb

response 0

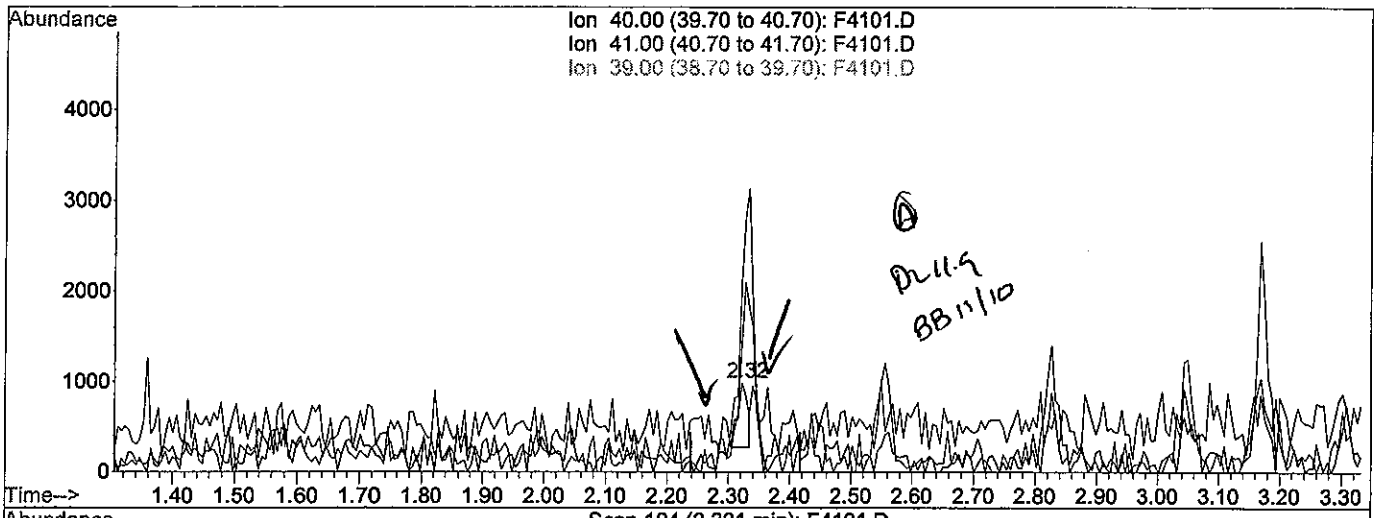
Ion	Exp%	Act%
40.00	100	0.00
41.00	666.00	0.00#
39.00	495.30	0.00#
0.00	0.00	0.00

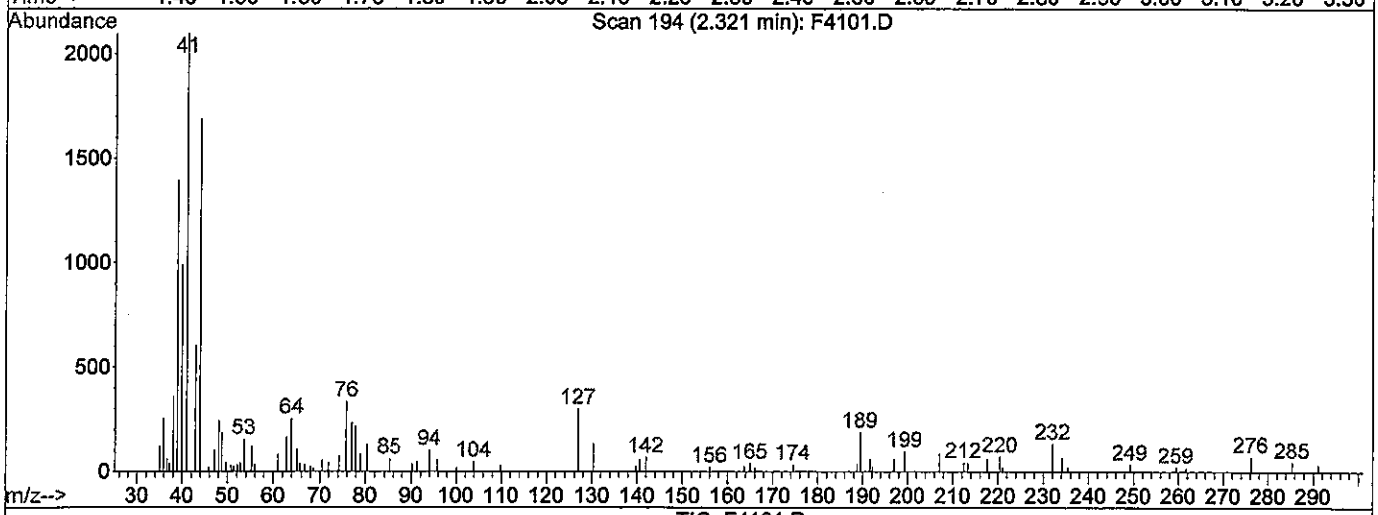
F4101.D W110709.M Sun Nov 08 11:29:50 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:29 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(20) Acetonitrile

2.32min 2.49ppb m

response 814

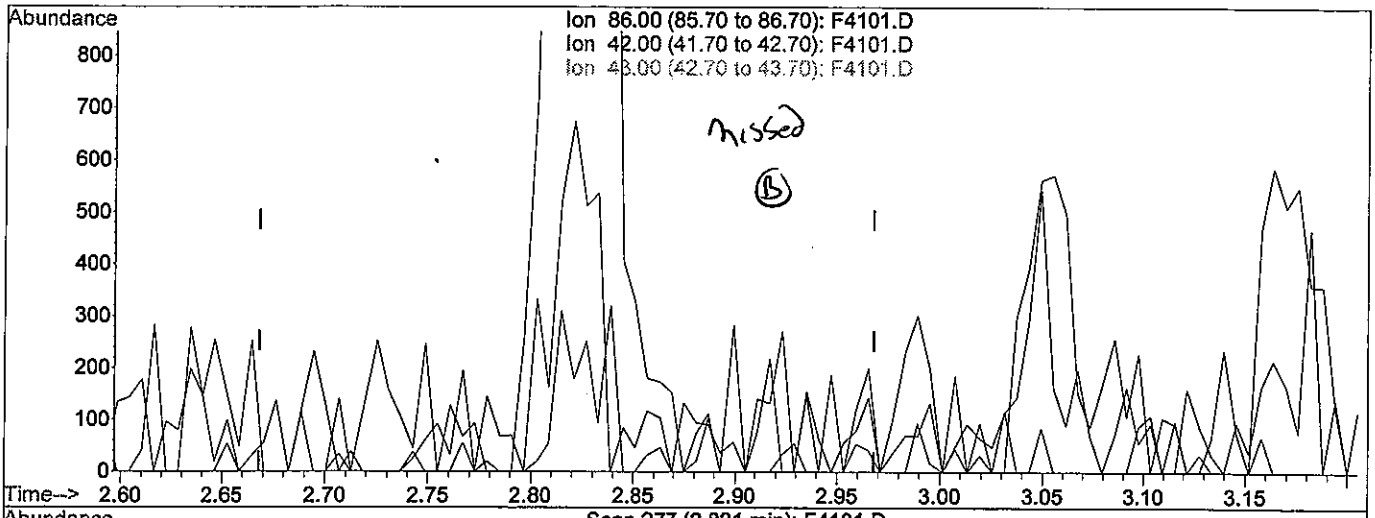
Ion	Exp%	Act%
40.00	100	100
41.00	666.00	212.25#
39.00	495.30	140.99#
0.00	0.00	0.00

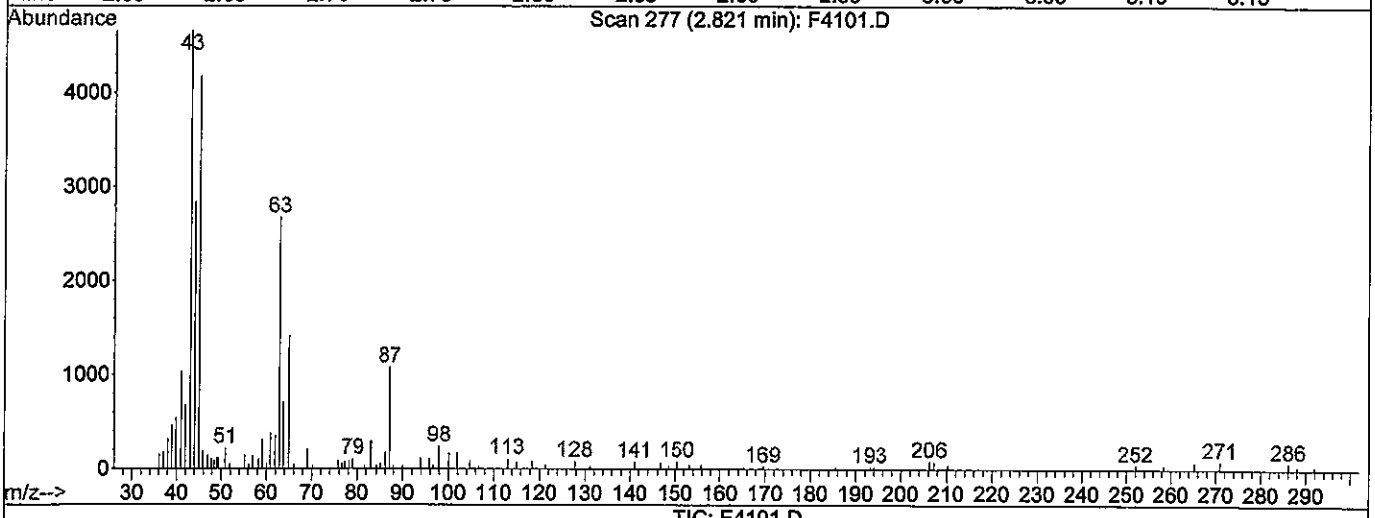
F4101.D W110709.M Sun Nov 08 11:30:03 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:29 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(30) Vinyl Acetate

2.82min 0.00ppb

response 0

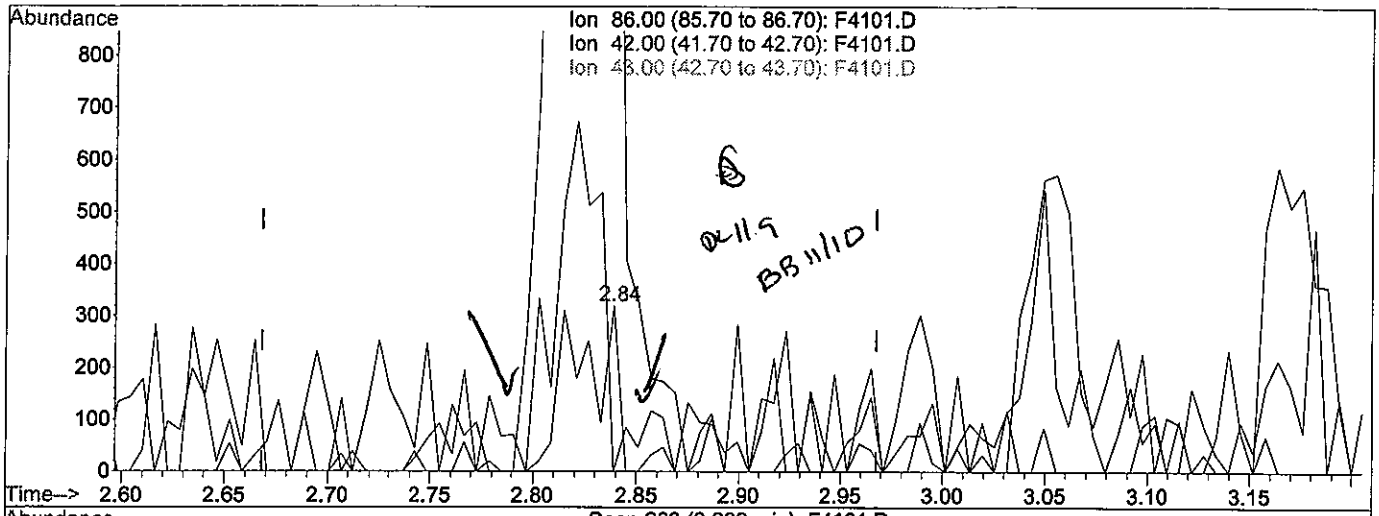
Ion	Exp%	Act%
86.00	100	0.00
42.00	194.10	0.00#
43.00	1842.80	0.00#
0.00	0.00	0.00

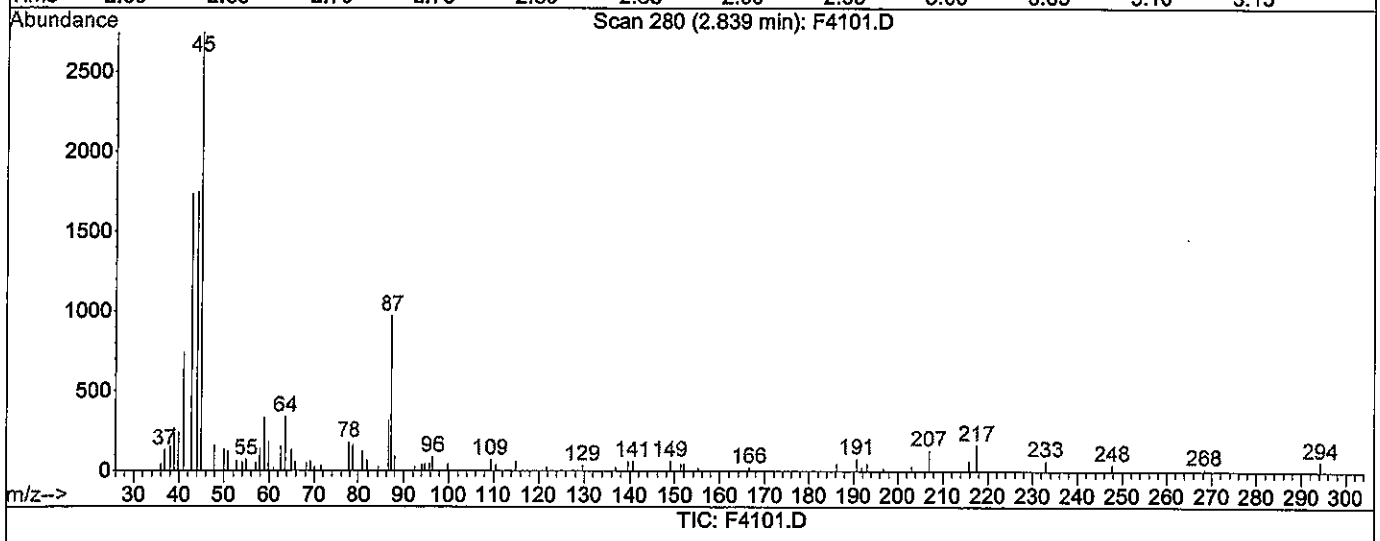
F4101.D W110709.M Sun Nov 08 11:30:18 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:30 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(30) Vinyl Acetate

2.84min 0.82ppb m

response 443

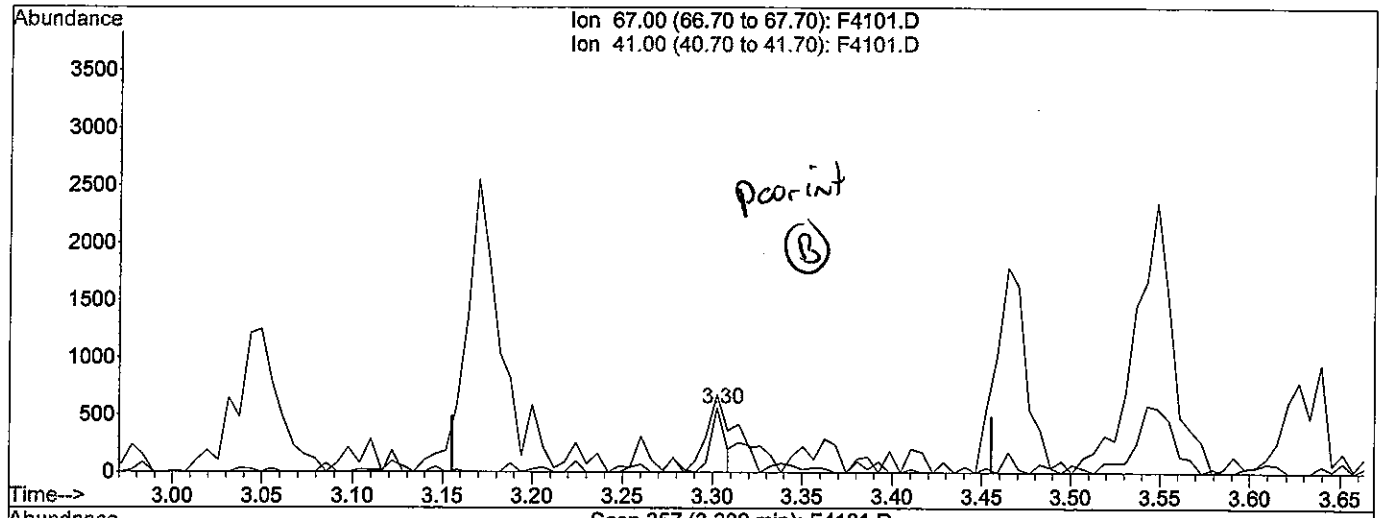
Ion	Exp%	Act%
86.00	100	100
42.00	194.10	0.00#
43.00	1842.80	544.51#
0.00	0.00	0.00

F4101.D W110709.M Sun Nov 08 11:30:24 2009

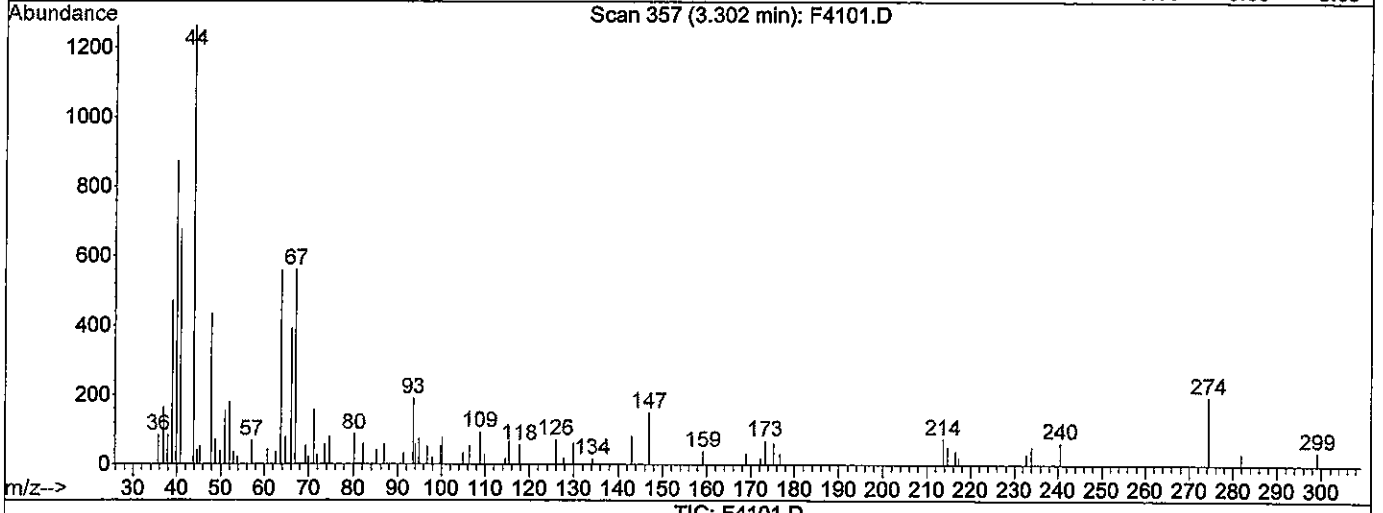
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:30 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration



pcorint
(B)



TIC: F4101.D

(37) Methacrylonitrile

3.30min 0.33ppb

response 305

Ion	Exp%	Act%
67.00	100	100
41.00	183.40	120.71#
0.00	0.00	0.00
0.00	0.00	0.00

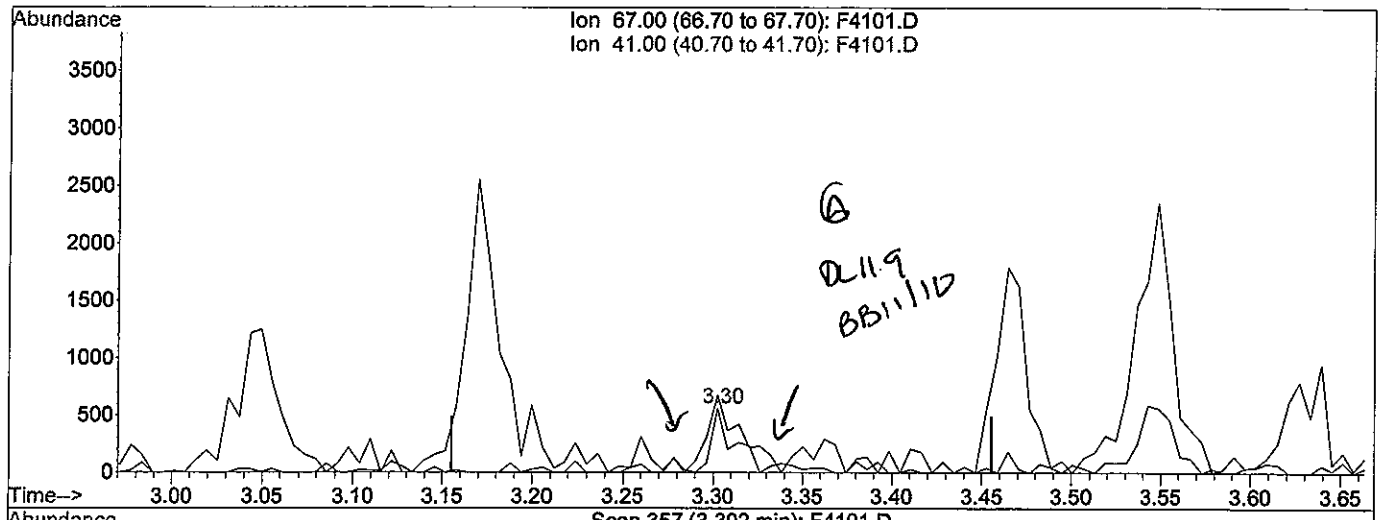
F4101.D W110709.M Sun Nov 08 11:30:41 2009

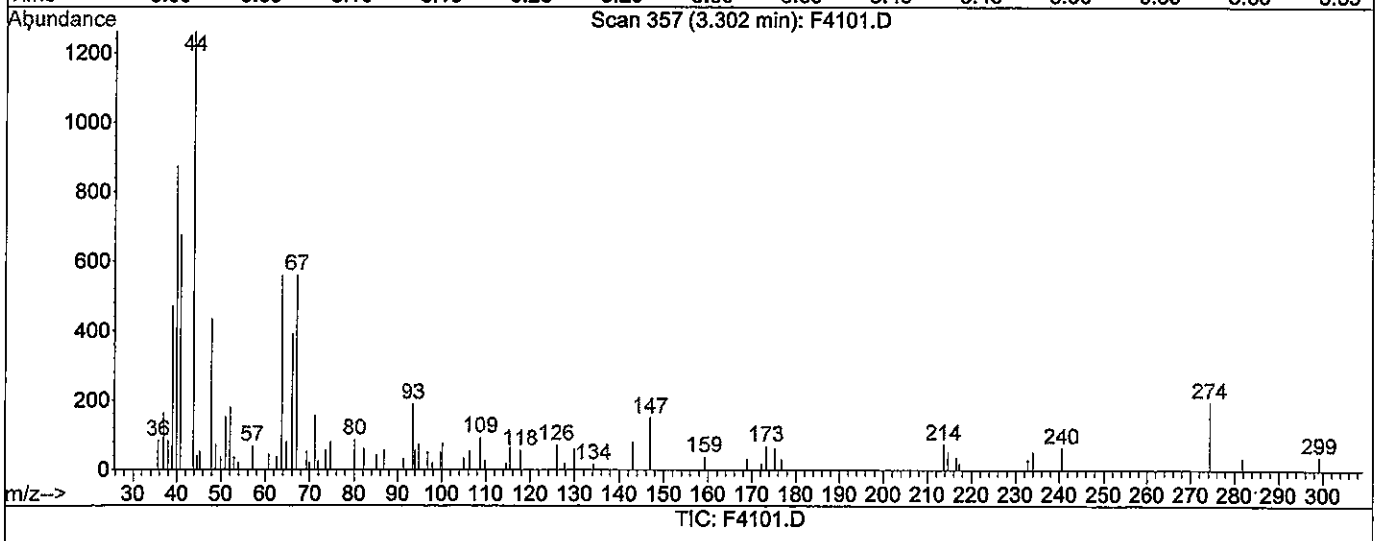
00101

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:30 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(37) Methacrylonitrile

3.30min 0.53ppb m

response 484

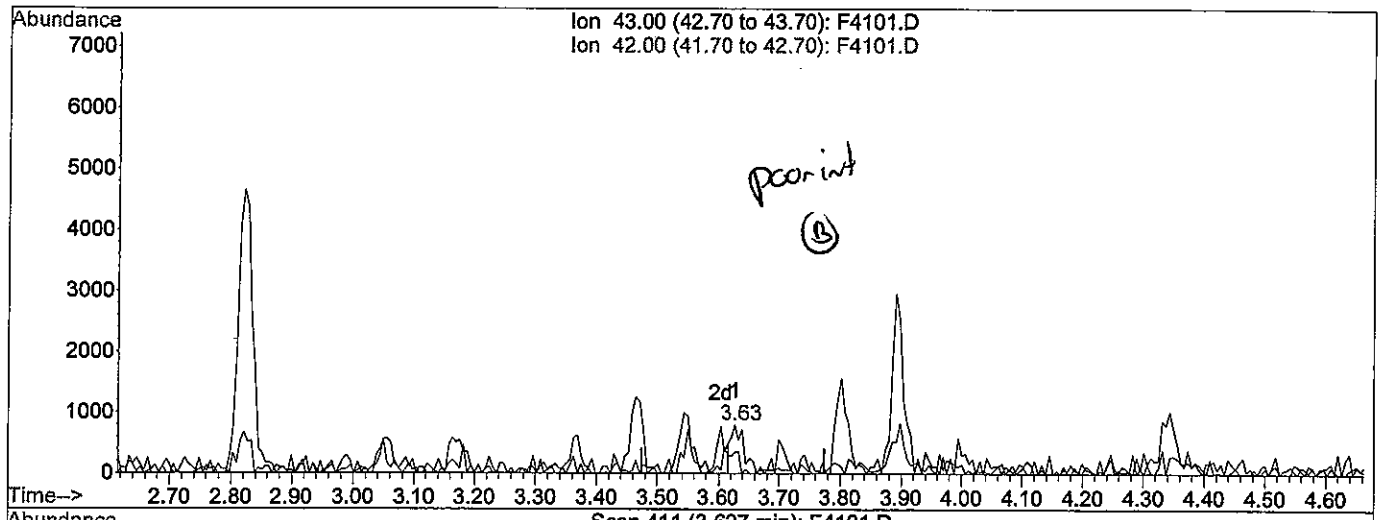
Ion	Exp%	Act%
67.00	100	100
41.00	183.40	120.71#
0.00	0.00	0.00
0.00	0.00	0.00

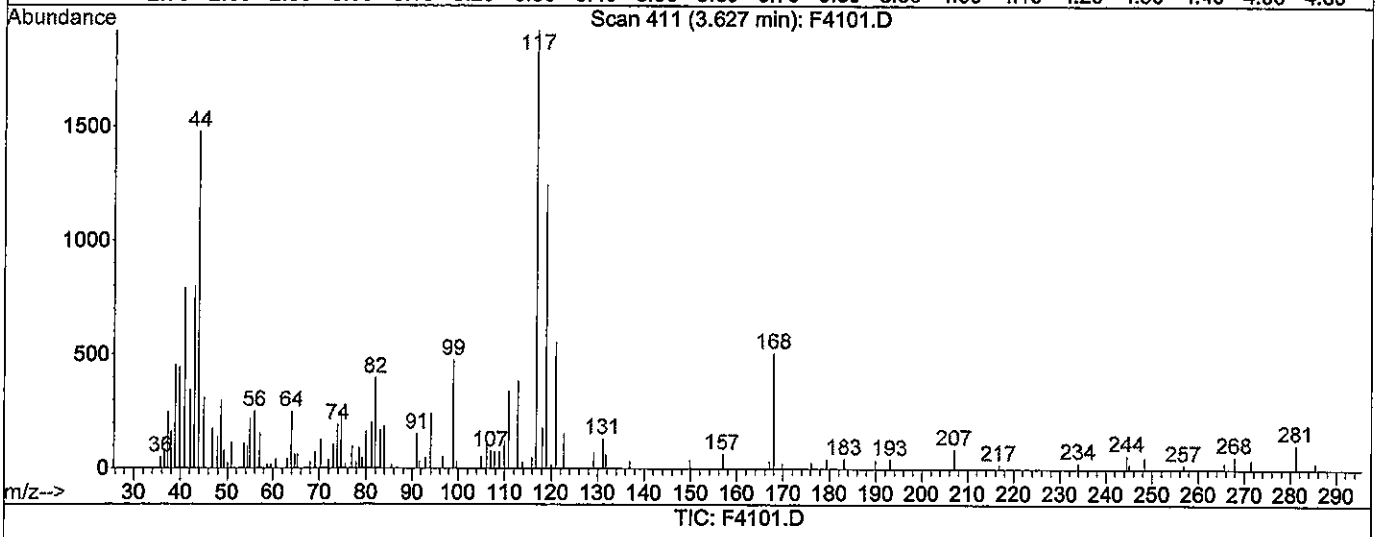
F4101.D W110709.M Sun Nov 08 11:30:47 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:30 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(47) Iso-Butyl Alcohol

3.63min 11.33ppb

response 1179

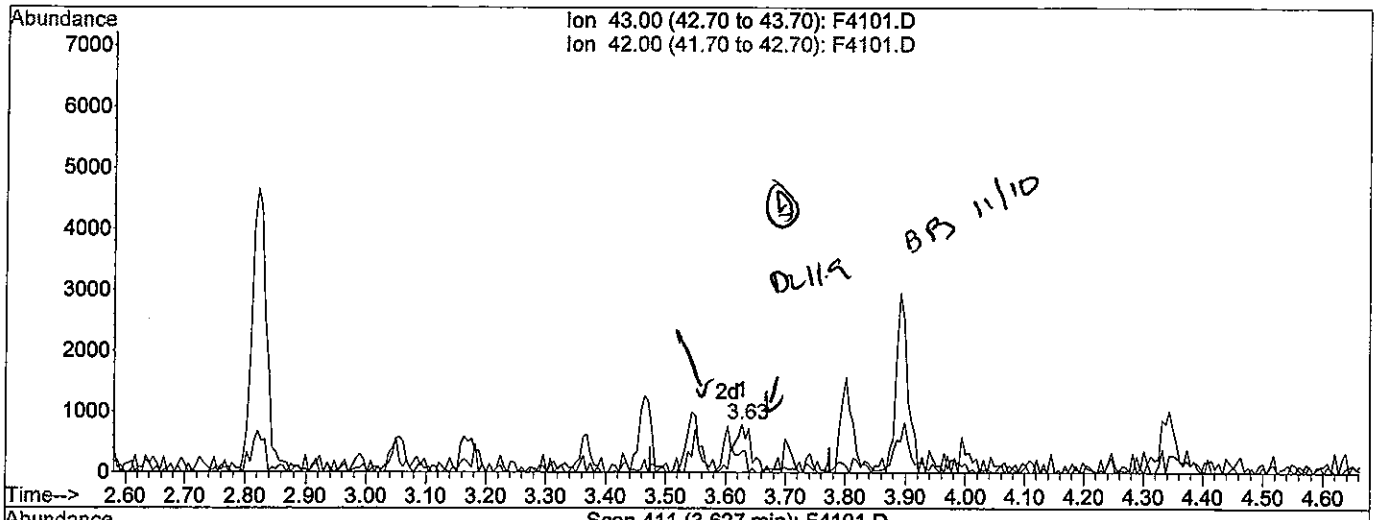
Ion	Exp%	Act%
43.00	100	100
42.00	63.90	43.05
0.00	0.00	0.00
0.00	0.00	0.00

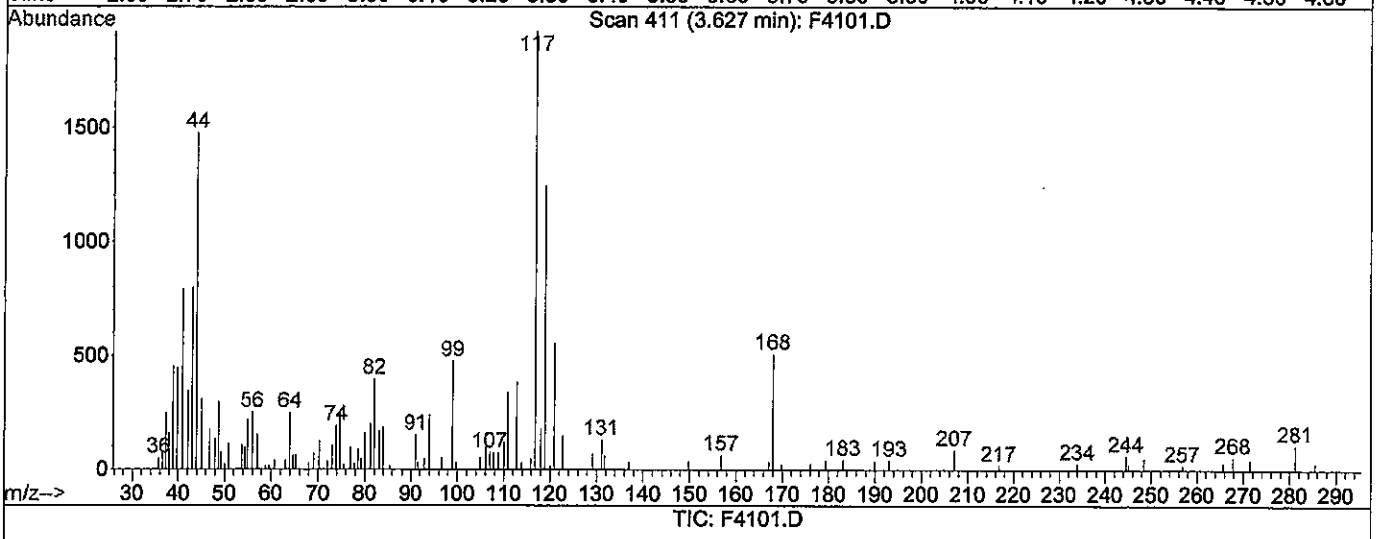
F4101.D W110709.M Sun Nov 08 11:31:02 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:31 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(47) Iso-Butyl Alcohol

3.63min 19.04ppb m

response 1982

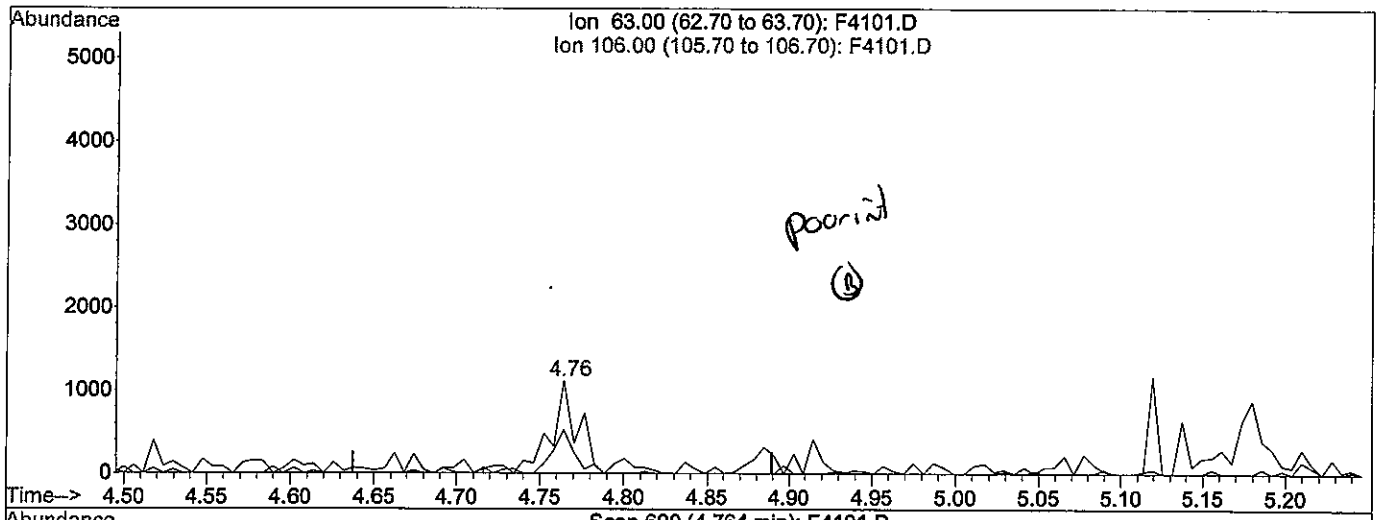
Ion	Exp%	Act%
43.00	100	100
42.00	63.90	43.05
0.00	0.00	0.00
0.00	0.00	0.00

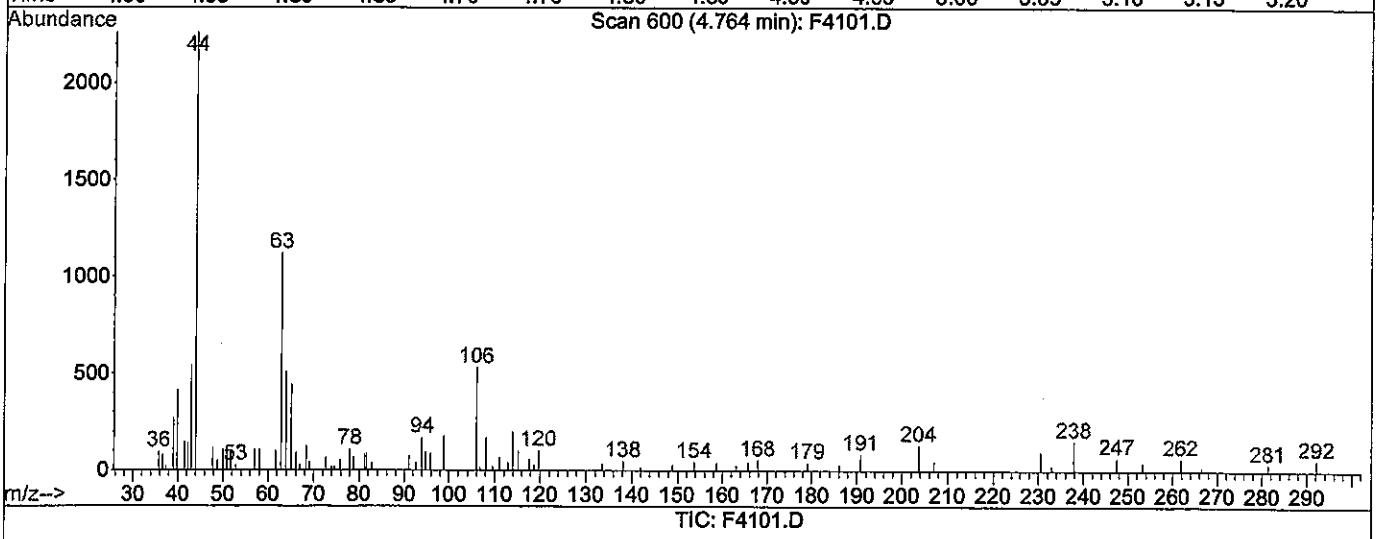
F4101.D W110709.M Sun Nov 08 11:31:13 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:31 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(61) 2-Chloroethylvinyl Ether

4.76min 0.71ppb

response 1287

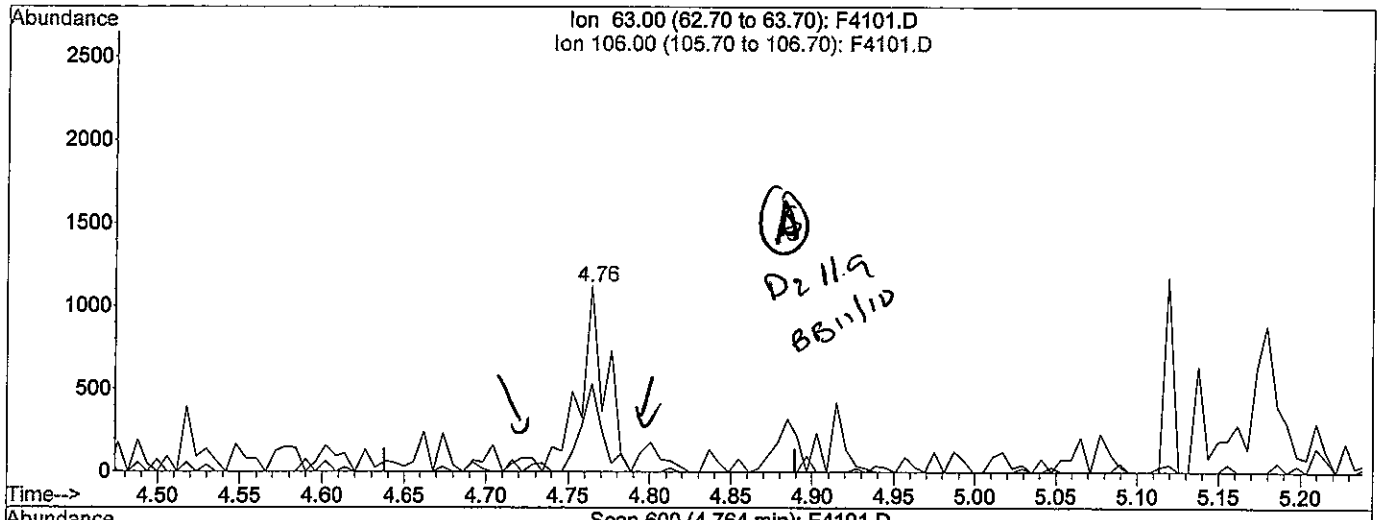
Ion	Exp%	Act%
63.00	100	100
106.00	32.40	47.23
0.00	0.00	0.00
0.00	0.00	0.00

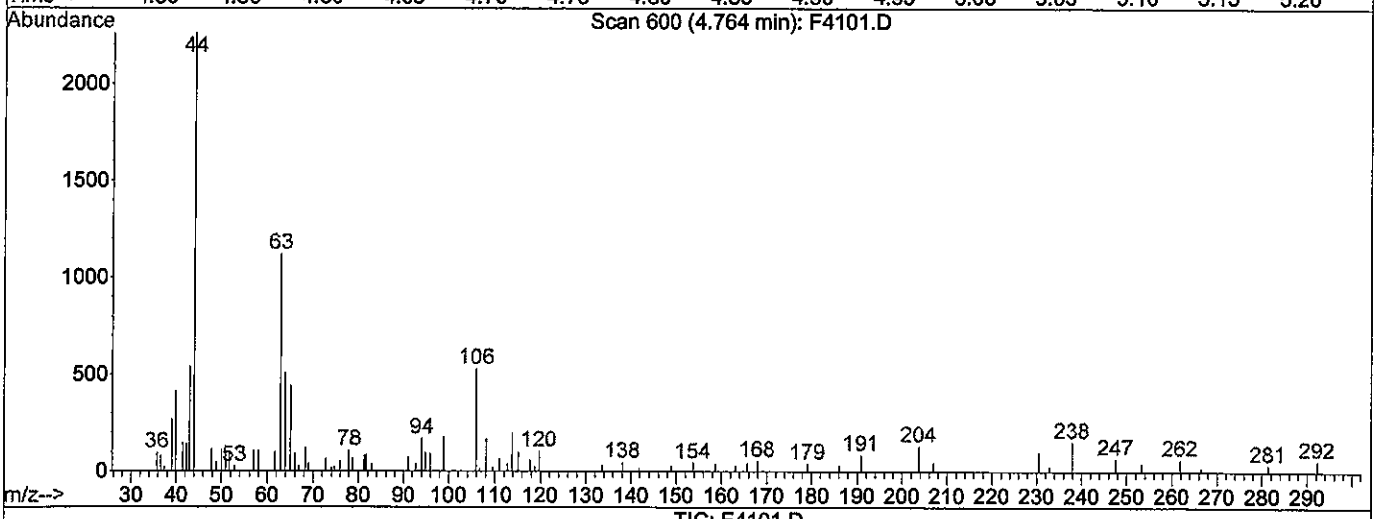
F4101.D W110709.M Sun Nov 08 11:32:06 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:32 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(61) 2-Chloroethylvinyl Ether

4.76min 0.67ppb m

response 1226

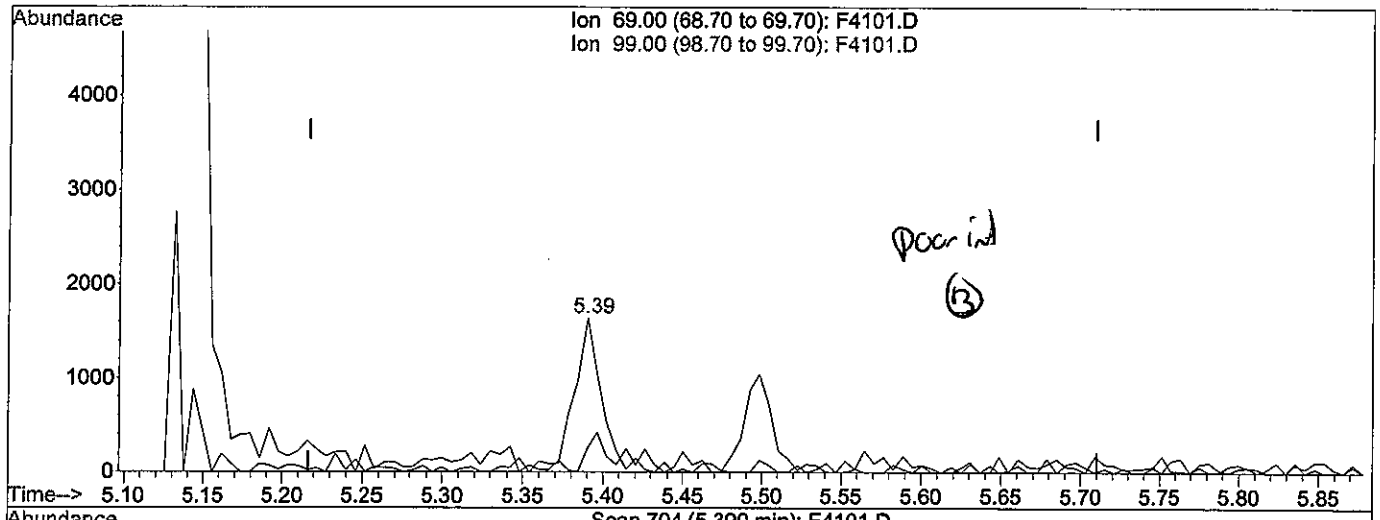
Ion	Exp%	Act%
63.00	100	100
106.00	32.40	47.23
0.00	0.00	0.00
0.00	0.00	0.00

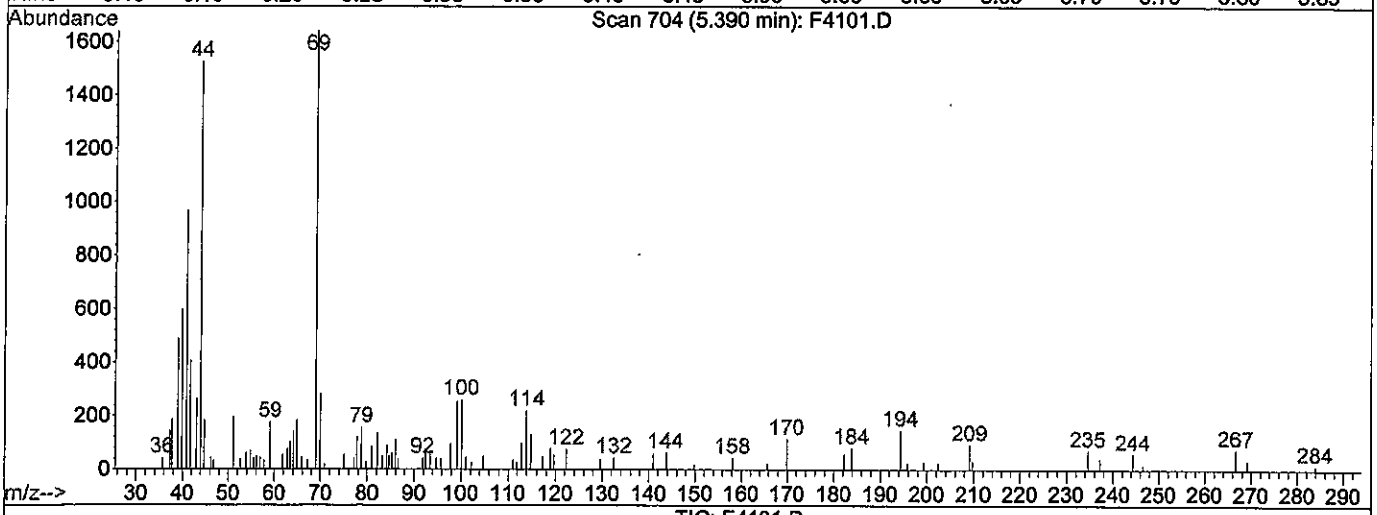
F4101.D W110709.M Sun Nov 08 11:32:19 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:32 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(67) Ethyl Methacrylate

5.39min 0.56ppb

response 2113

Ion	Exp%	Act%
69.00	100	100
99.00	18.70	15.50
0.00	0.00	0.00
0.00	0.00	0.00

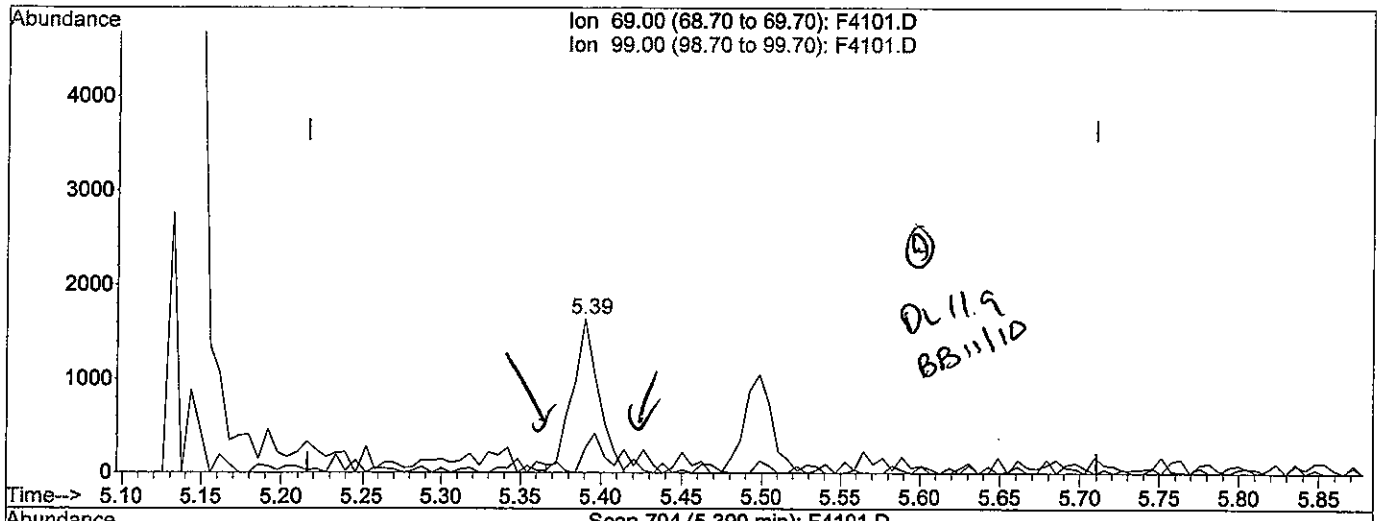
F4101.D W110709.M Sun Nov 08 11:32:38 2009

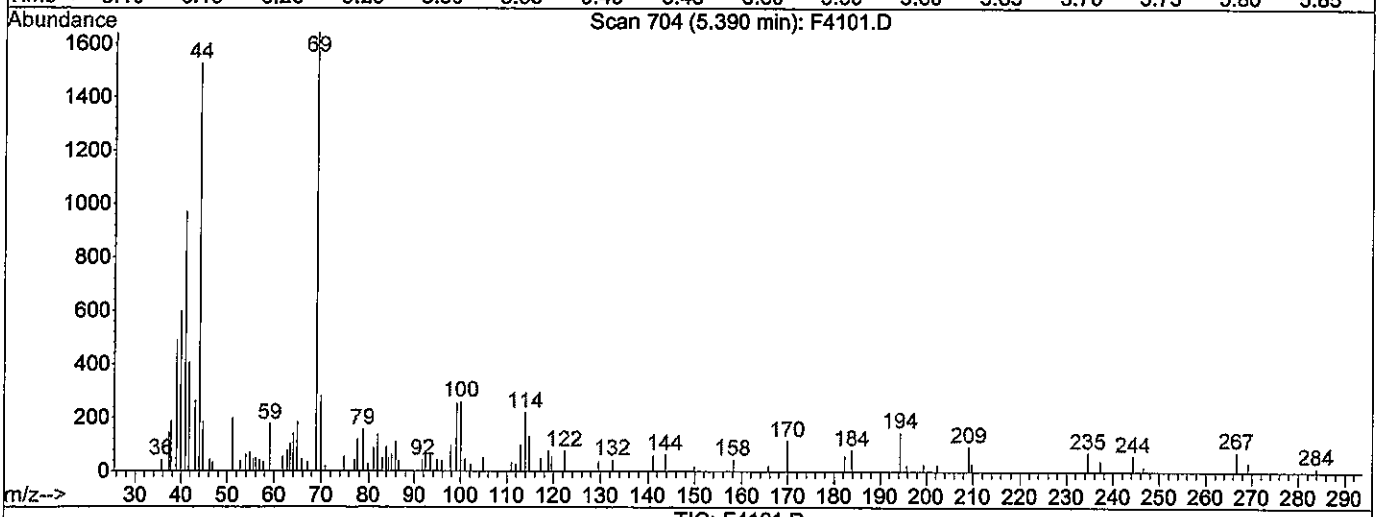
00107

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:32 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(67) Ethyl Methacrylate

5.39min 0.49ppb m

response 1854

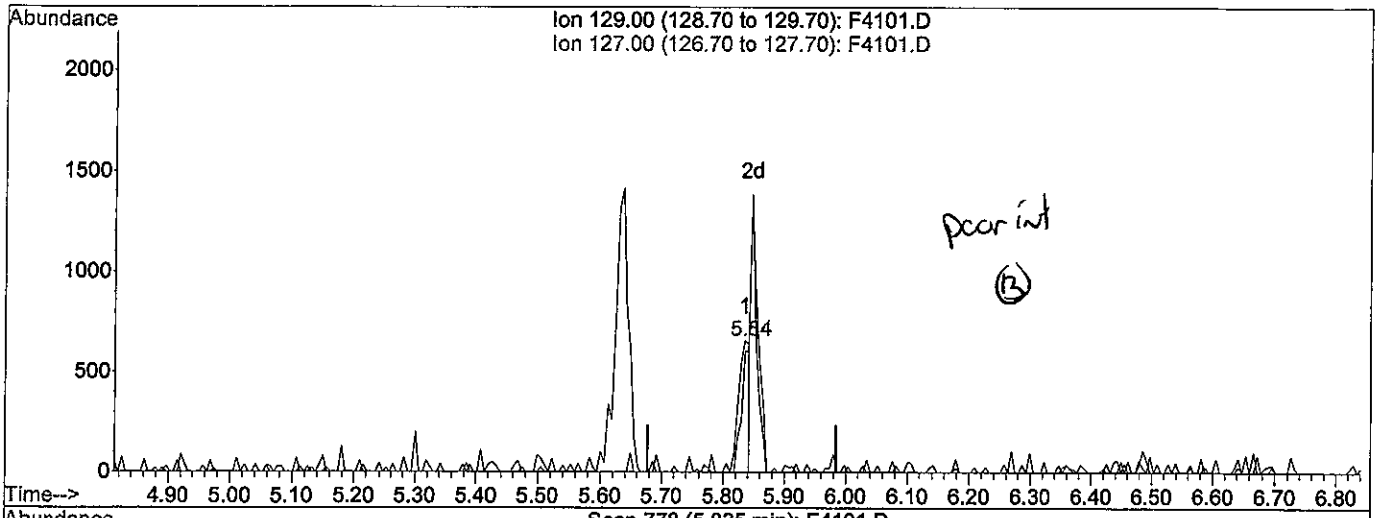
Ion	Exp%	Act%
69.00	100	100
99.00	18.70	15.50
0.00	0.00	0.00
0.00	0.00	0.00

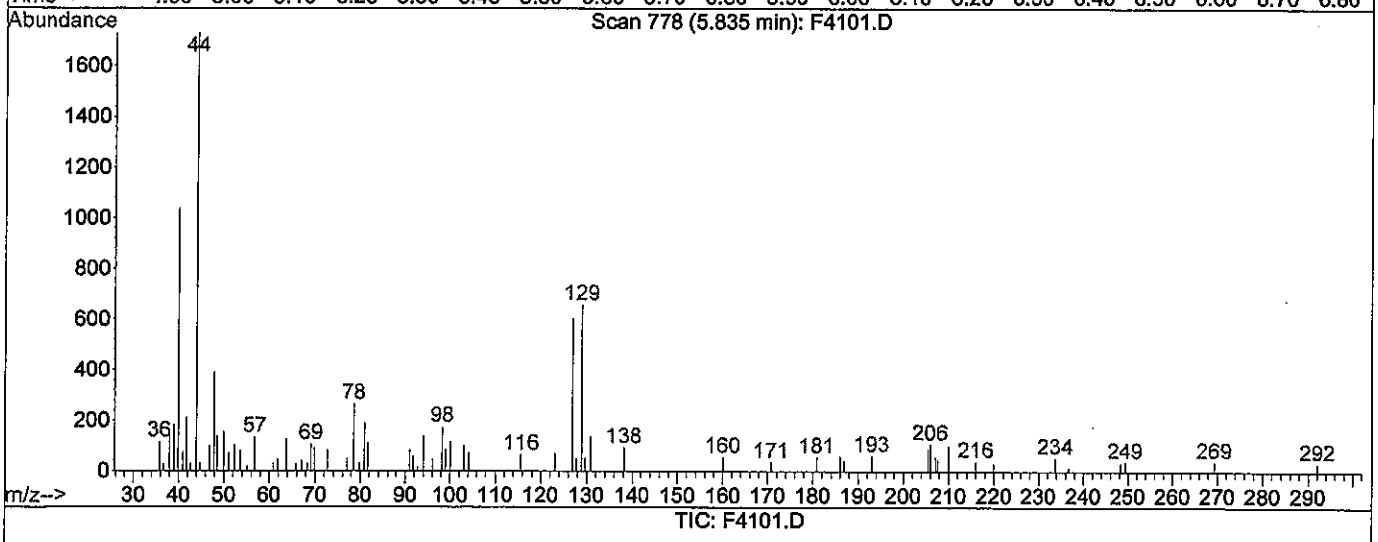
F4101.D W110709.M Sun Nov 08 11:32:44 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:32 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(75) Dibromochloromethane (T)

5.84min 0.25ppb

response 820

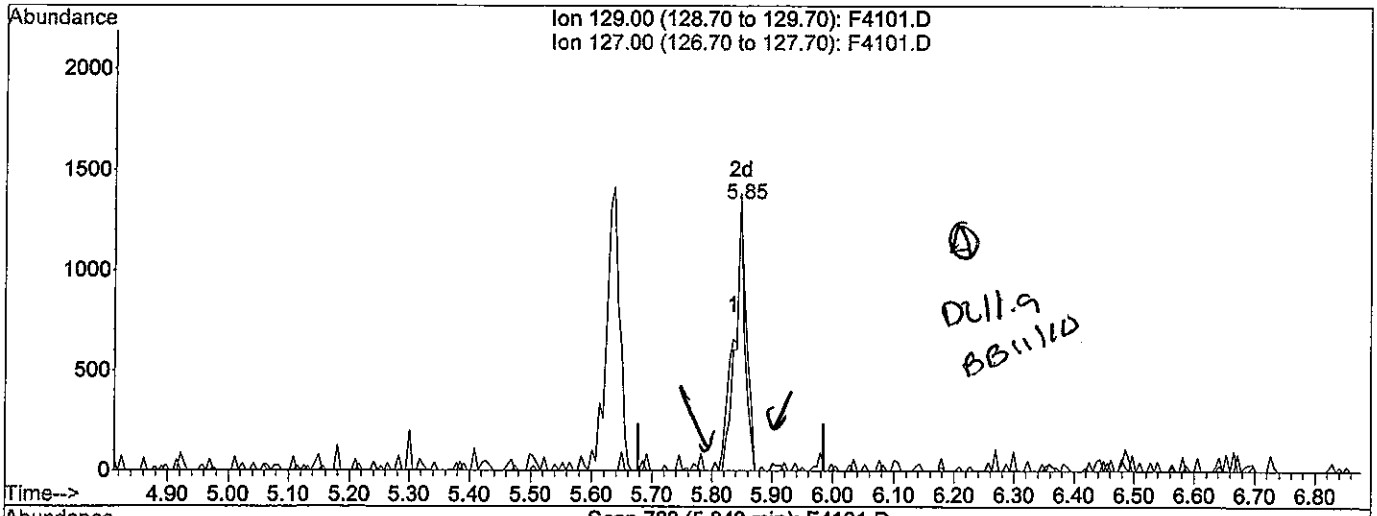
Ion	Exp%	Act%
129.00	100	100
127.00	72.70	92.37
0.00	0.00	0.00
0.00	0.00	0.00

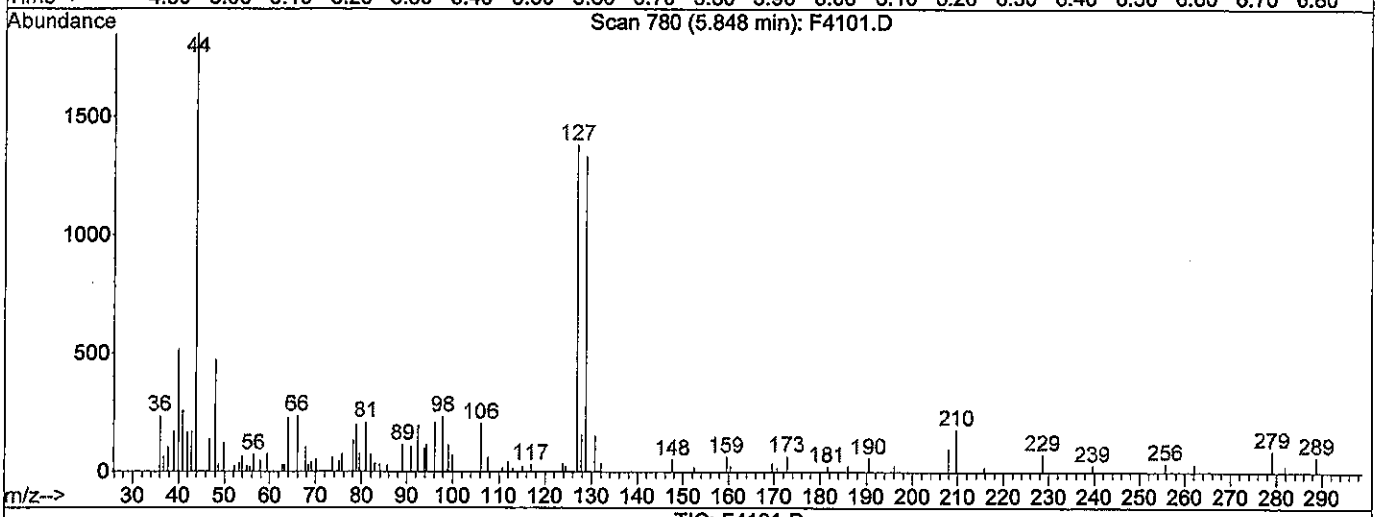
F4101.D W110709.M Sun Nov 08 11:33:04 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:33 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(75) Dibromochloromethane (T)

5.85min 0.60ppb m

response 1948

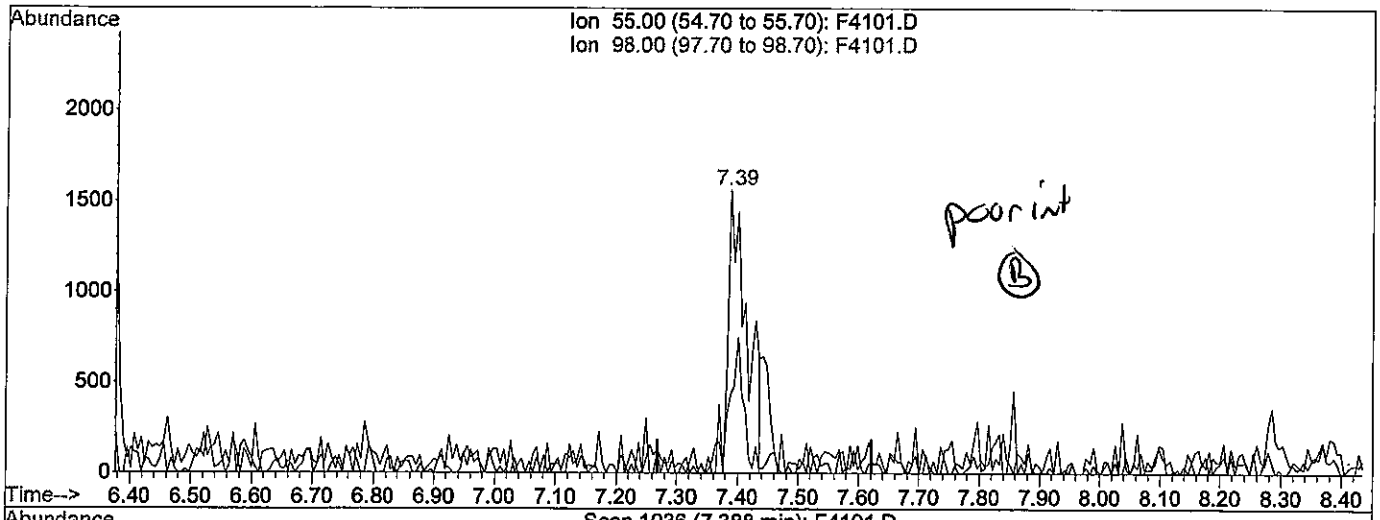
Ion	Exp%	Act%
129.00	100	100
127.00	72.70	103.83#
0.00	0.00	0.00
0.00	0.00	0.00

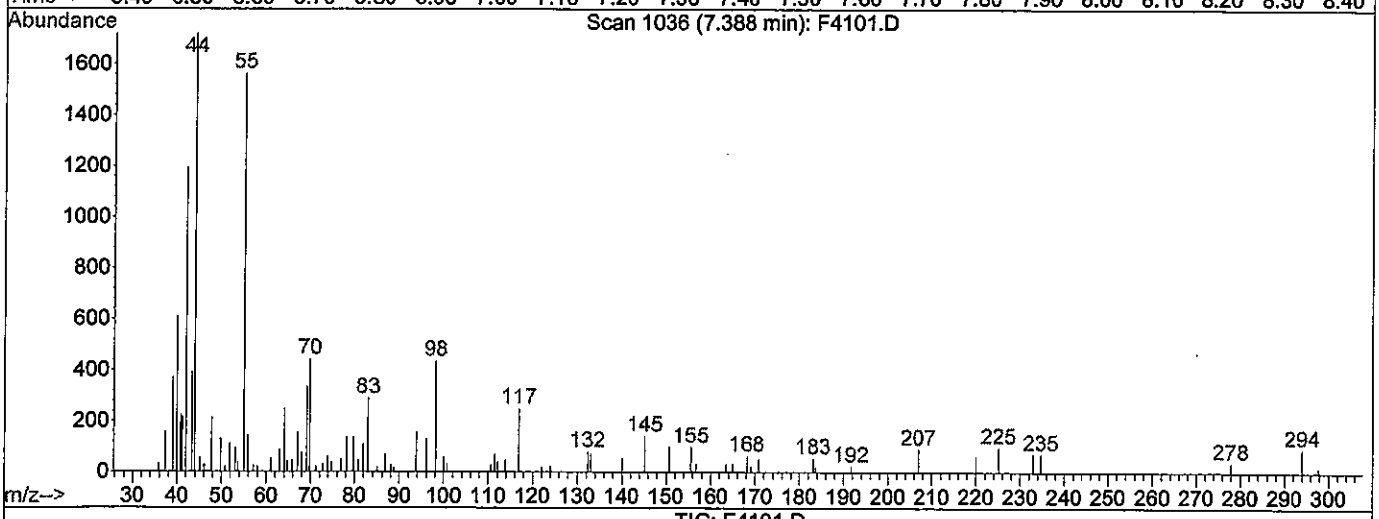
F4101.D W110709.M Sun Nov 08 11:33:13 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:33 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(86) Cyclohexanone

7.39min 16.17ppb

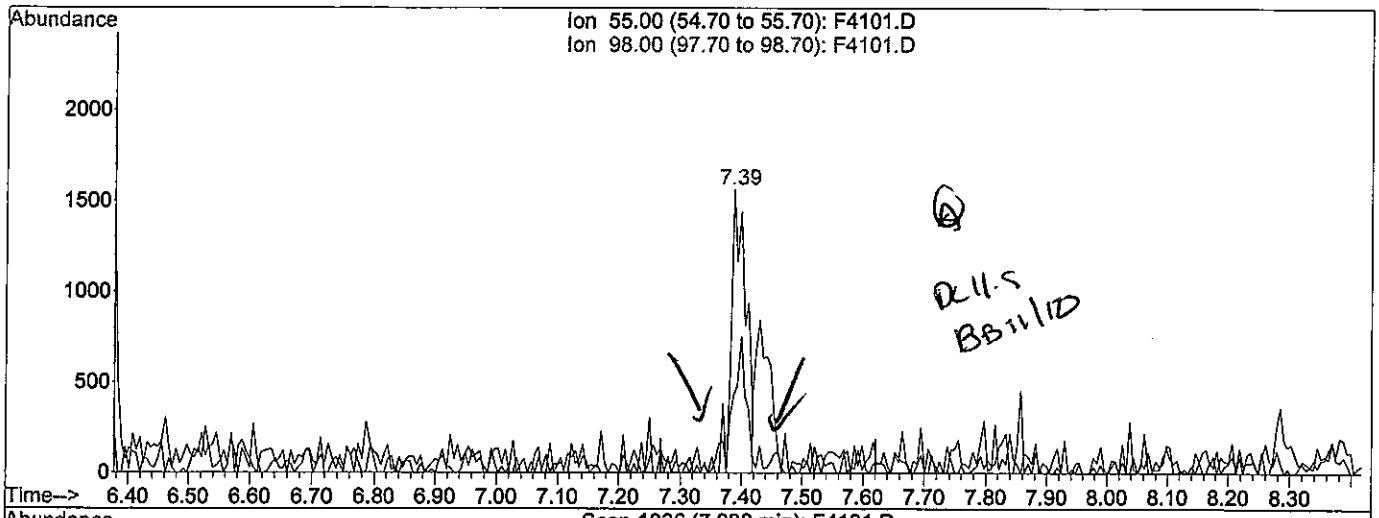
response 3242

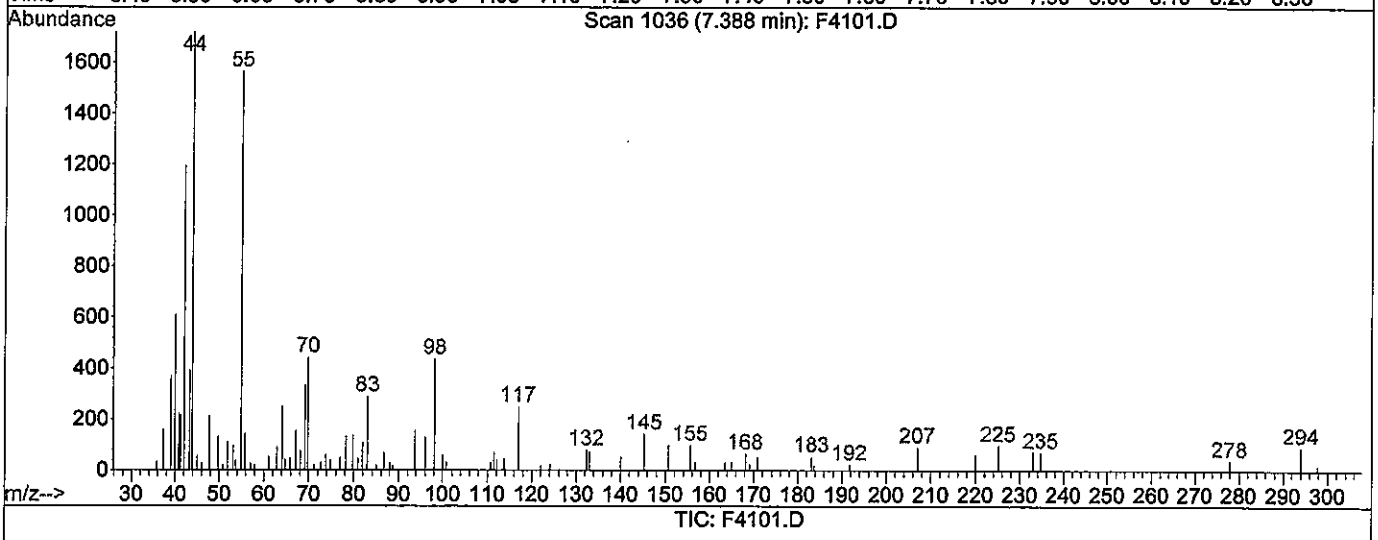
Ion	Exp%	Act%
55.00	100	100
98.00	39.80	27.83
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:33 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(86) Cyclohexanone

7.39min 12.33ppb m

response 2472

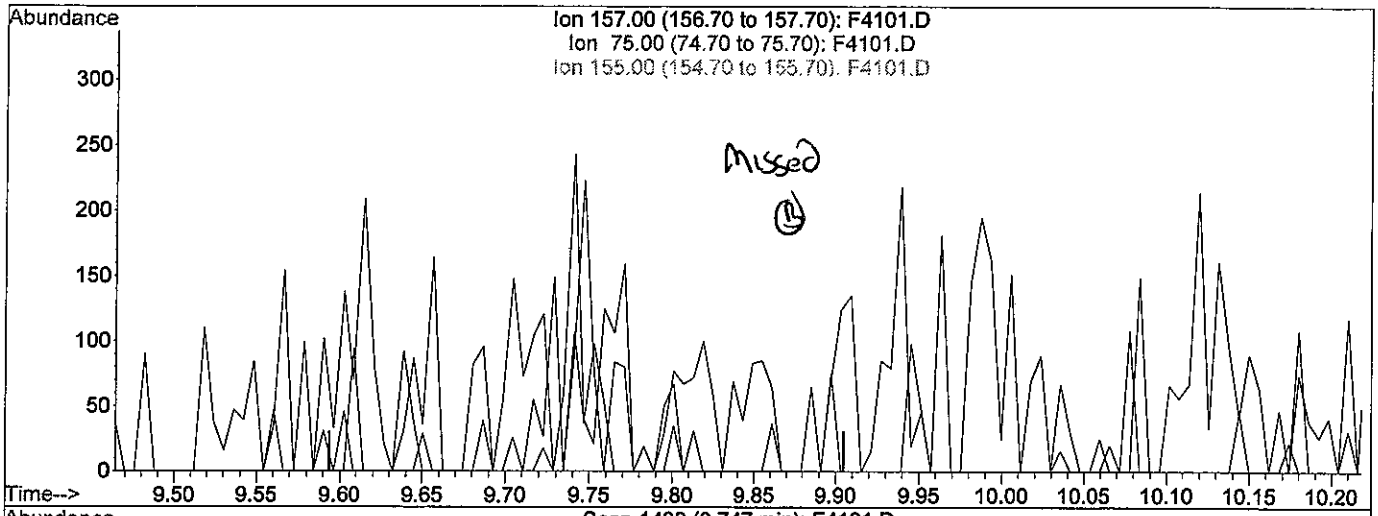
Ion	Exp%	Act%
55.00	100	100
98.00	39.80	27.83
0.00	0.00	0.00
0.00	0.00	0.00

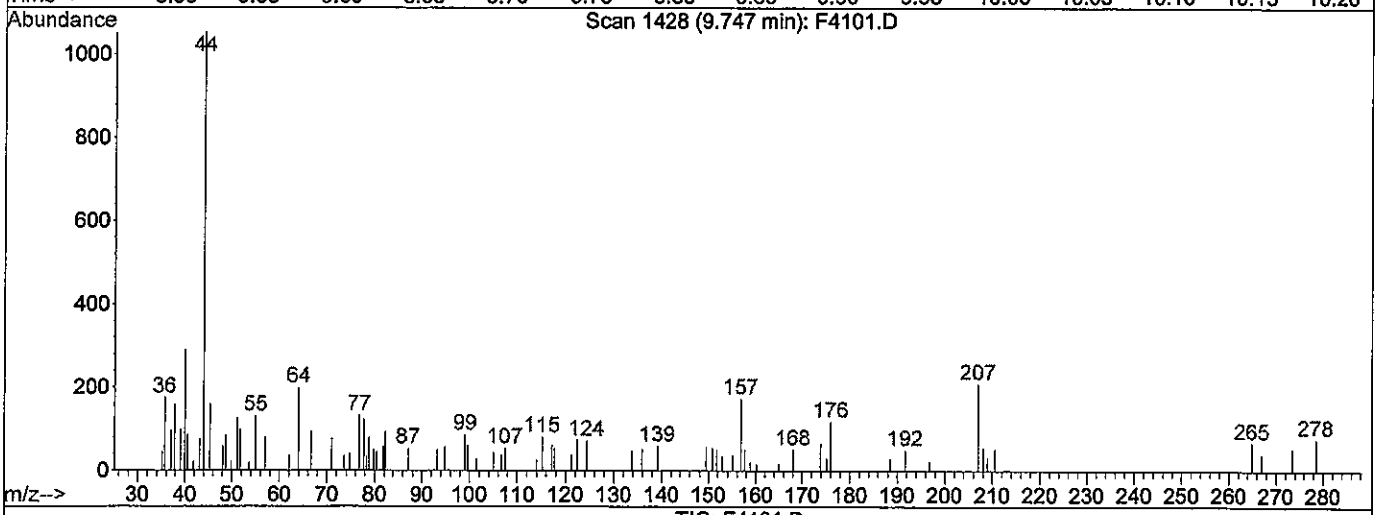
F4101.D W110709.M Sun Nov 08 11:33:41 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:33 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(105) 1,2-Dibromo-3-chloropropane (T)

9.74min 0.00ppb

response 0

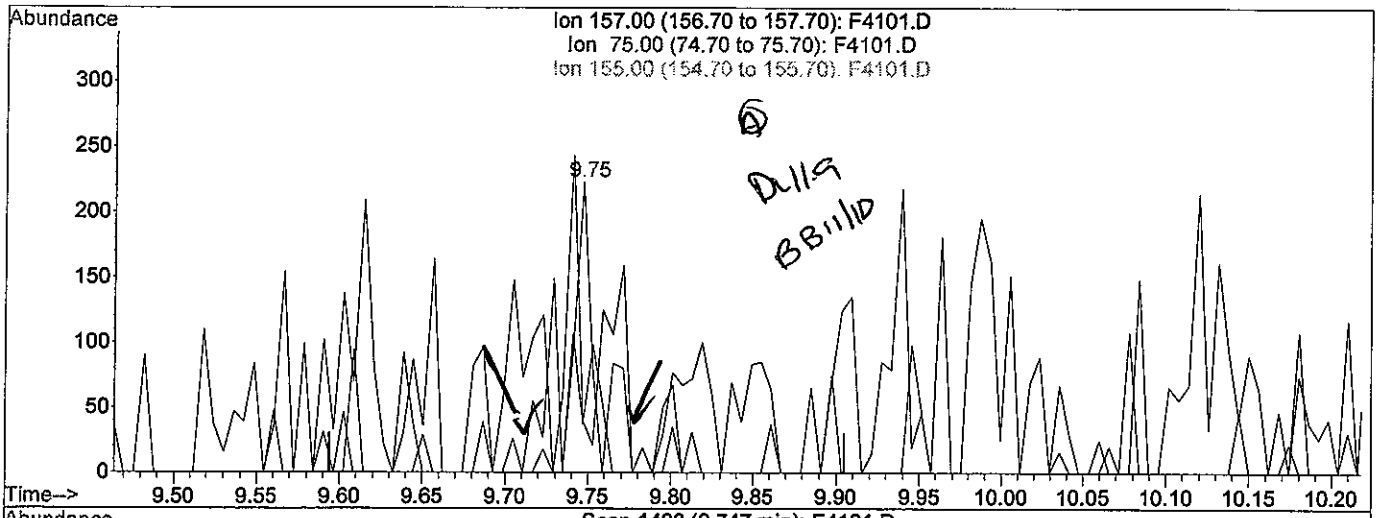
Ion	Exp%	Act%
157.00	100	0.00
75.00	81.20	0.00#
155.00	65.20	0.00#
0.00	0.00	0.00

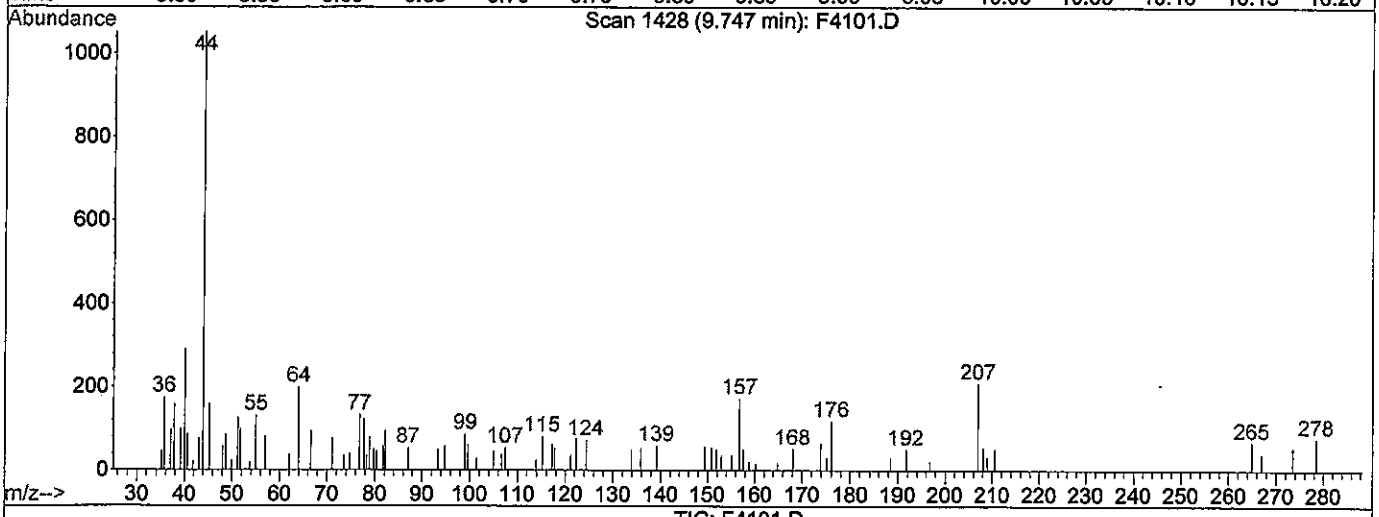
F4101.D W110709.M Sun Nov 08 11:34:35 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:34 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4101.D

(105) 1,2-Dibromo-3-chloropropane (T)

9.75min 0.49ppb m

response 224

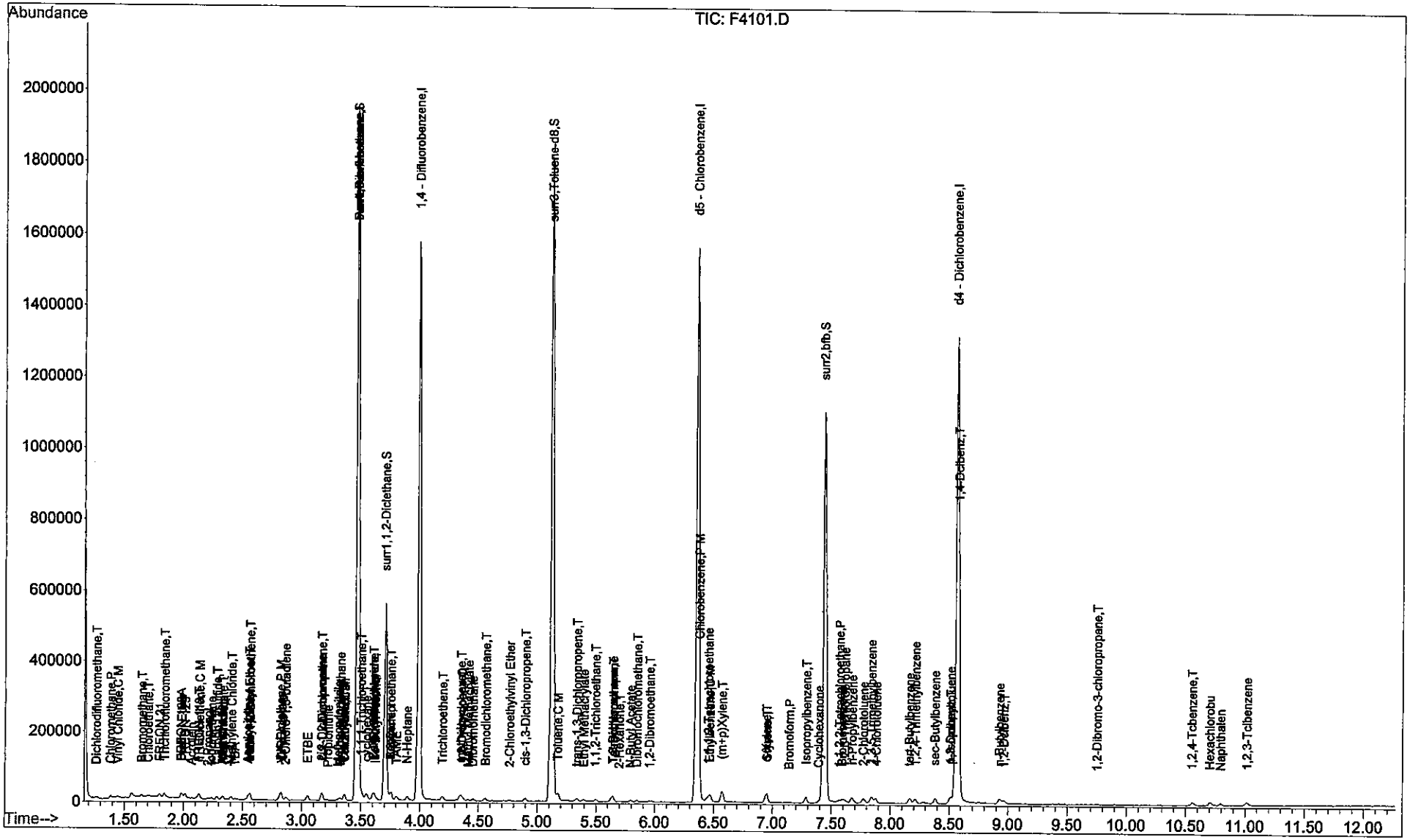
Ion	Exp%	Act%
157.00	100	100
75.00	81.20	23.12#
155.00	65.20	21.39#
0.00	0.00	0.00

F4101.D W110709.M Sun Nov 08 11:34:54 2009

Quantitation Report

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4101.D Vial: 4
Acq On : 7 Nov 2009 4:40 pm Operator: D.ZIMPFER
Sample : 0.5 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:59 2009 Quant Results File: W110709.RES

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4102.D Vial: 5
Acq On : 7 Nov 2009 5:08 pm Operator: D.ZIMPFER
Sample : 1.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:37 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Initial Calibration
DataAcq Meth : W110709

D11.9

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene	3.47	168	671764	50.00	ppb		0.00
42) 1,4 - Difluorobenzene	3.99	114	988153	50.00	ppb		0.00
63) d5 - Chlorobenzene	6.36	117	837889	50.00	ppb		0.00
83) d4 - Dichlorobenzene	8.57	152	375168	50.00	ppb		0.00
System Monitoring Compounds							
43) surr4,Dibrflmethane	3.47	113	293735	50.91	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 101.82%				
48) surr1,1,2-Diclethane	3.71	65	292470	49.56	ppb		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 99.12%				
69) surr3,Toluene-d8	5.12	98	1025265	50.20	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 100.40%				
70) surr2,bfb	7.44	95	402928	49.60	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 99.20%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.26	85	5027	0.88	ppb		96
4) Chloromethane	1.38	50	4385	0.85	ppb		76
5) Vinyl Chloride	1.45	62	5033	0.95	ppb		77
6) Bromomethane	1.64	96	3375	0.96	ppb		98
7) Chloroethane	1.70	64	5459m	1.46	ppb		
8) FREON 21	1.79	67	10491	0.98	ppb		91
9) Trichlorofluoromethane	1.84	101	8592	1.08	ppb		96
10) Diethyl Ether	1.99	59	2719	0.99	ppb		87
11) FREON 123A	1.98	85	2263	0.80	ppb	#	73
12) FREON 123	2.02	85	5129	1.03	ppb		96
13) Acrolein	2.07	56	1640	4.47	ppb		93
14) FREON 113	2.12	85	2135	1.07	ppb	#	80
15) 1,1-Diclethene	2.14	96	3791	0.91	ppb		95
16) Acetone	2.16	43	1598	2.03	ppb		99
17) 2-Propanol	2.21	45	2566	20.04	ppb		53
18) Iodomethane	2.24	127	3083	1.04	ppb	#	73
19) Carbon Disulfide	2.28	76	14320	1.07	ppb		96
20) Acetonitrile	2.31	40	874m	2.78	ppb		
21) Allyl Chloride	2.34	76	2584	1.09	ppb	#	75
22) Methyl Acetate	2.33	43	3579	1.61	ppb		93
23) Methylene Chloride	2.40	84	5175	1.04	ppb		89
24) TBA	2.44	59	3883	19.40	ppb		96
25) Acrylonitrile	2.54	53	3621	4.16	ppb		69
26) Methyl-t-Butyl Ether	2.56	73	9282	0.97	ppb		92
27) trans-1,2-Dichloroethene	2.56	96	5087	0.99	ppb		84
28) 1,1-Diclethane	2.81	63	8514	0.92	ppb		95
29) DIPE	2.83	45	16656	0.96	ppb		97
30) Vinyl Acetate	2.82	86	540m	0.98	ppb		
31) 2-Chloro-1,3-butadiene	2.87	53	7960	1.02	ppb		95
32) ETBE	3.05	59	12818	0.93	ppb		93
33) 2,2-Dichloropropane	3.17	77	8540	1.07	ppb		100
34) 2-Butanone	3.17	43	1746	1.49	ppb		91
35) cis-1,2-Dichloroethene	3.17	96	5978	1.09	ppb		96
36) Propionitrile	3.21	54	1310	4.35	ppb		79
37) Methacrylonitrile	3.32	67	1058	1.14	ppb	#	65

(#) = qualifier out of range (m) = manual integration
F4102.D W110709.M Sun Nov 08 11:38:27 2009 Page 1

00116

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4102.D Vial: 5
Acq On : 7 Nov 2009 5:08 pm Operator: D.ZIMPFER
Sample : 1.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:37 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Initial Calibration
DataAcq Meth : W110709

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	Bromochloromethane	3.33	128	2387	1.07	ppb		94
39)	Chloroform	3.36	83	14466	1.55	ppb		89
40)	Tetrahydrofuran	3.37	42	1075	1.70	ppb	#	29
41)	1,1,1-Trichloroethane	3.50	97	8755	1.08	ppb		78
44)	cyclohexane	3.55	56	7559	0.87	ppb		92
45)	Carbontetrachloride	3.61	117	7134	1.11	ppb		95
46)	1,1-Dichloropropene	3.61	75	7639	1.05	ppb		93
47)	Iso-Butyl Alcohol	3.63	43	2464	25.85	ppb	#	59
49)	Benzene	3.76	78	20341	1.01	ppb		95
50)	1,2-Dichloroethane	3.76	62	6215	0.99	ppb		89
51)	TAME	3.80	73	9645	0.91	ppb		76
52)	N-Heptane	3.89	43	6299	0.86	ppb		92
53)	Trichloroethene	4.20	95	5678	1.06	ppb		99
54)	methylcyclohexane	4.35	55	6830	0.89	ppb		97
55)	1,2-Diclpropane	4.37	63	4706	0.99	ppb		77
56)	Methyl Methacrylate	4.41	69	1602	0.89	ppb		76
57)	1,4-Dioxane	4.45	88	738	31.97	ppb	#	43
58)	Dibromomethane	4.46	93	2547	1.07	ppb	#	81
59)	Bromodichloromethane	4.56	83	6845	1.05	ppb		91
61)	2-Chloroethylvinyl Ether	4.76	63	1696	0.94	ppb		91
62)	cis-1,3-Dichloropropene	4.89	75	7709	1.06	ppb		71
64)	4-Methyl-2-Pentanone	5.01	43	2657	1.06	ppb		97
65)	Toluene	5.18	91	19117	0.90	ppb		86
66)	trans-1,3-Dichloropropene	5.34	75	5660	0.94	ppb		97
67)	Ethyl Methacrylate	5.39	69	3428	0.86	ppb		78
68)	1,1,2-Trichloroethane	5.50	83	2697	1.05	ppb	#	72
71)	Tetrachloroethene	5.64	166	5937	1.05	ppb		86
72)	2-Hexanone	5.70	43	2875	1.73	ppb		84
73)	N-Butyl Acetate	5.79	43	4867	1.19	ppb		79
74)	1,3-Dichloropropane	5.64	76	6563	1.14	ppb		74
75)	Dibromochloromethane	5.84	129	3234	0.86	ppb		78
76)	1,2-Dibromoethane	5.96	107	3275	1.06	ppb		93
77)	Chlorobenzene	6.39	112	12922	0.98	ppb		80
78)	1,1,1,2-Tetrachloroethane	6.45	131	4626	1.08	ppb		91
79)	Ethylbenzene	6.47	91	22999	0.95	ppb		95
80)	(m+p)Xylene	6.57	106	16289	1.80	ppb		95
81)	o-Xylene	6.95	106	7038	0.82	ppb	#	78
82)	Styrene	6.96	104	12796	0.88	ppb		83
84)	Bromoform	7.14	173	1906	1.02	ppb		70
85)	Isopropylbenzene	7.28	105	18958	0.91	ppb		96
86)	Cyclohexanone	7.39	55	4238m	21.29	ppb		
87)	1,1,2,2-Tetrachloroethane	7.57	83	3101	1.02	ppb		82
88)	Trans-1,4-Dichloro-2-buten	7.62	53	927	1.07	ppb		86
89)	1,2,3-Trichloropropane	7.62	110	1159	1.23	ppb		67
90)	n-Propylbenzene	7.68	91	23394	0.89	ppb		97
91)	Bromobenzene	7.60	156	4537	0.94	ppb	#	72
93)	1,3,5-Trimethylbenzene	7.85	105	15958	0.89	ppb		93
94)	2-Chlorotoluene	7.77	91	14276	0.93	ppb		95
95)	4-Chlorotoluene	7.88	91	16824	0.96	ppb		94
96)	tert-Butylbenzene	8.17	119	13365	0.88	ppb		94

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4102.D Vial: 5
Acq On : 7 Nov 2009 5:08 pm Operator: D.ZIMPFER
Sample : 1.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:37 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Initial Calibration
DataAcq Meth : W110709

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
97)	1,2,4-Trimethylbenzene	8.21	105	16174	0.91	ppb		94
98)	sec-Butylbenzene	8.38	105	20019	0.85	ppb		95
99)	p-Isopropyltoluene	8.52	119	16525	0.88	ppb		97
100)	1,3-Dclbenz	8.51	146	8860	0.97	ppb		95
101)	1,4-Dclbenz	8.59	146	9898	1.10	ppb		97
103)	n-Butylbenzene	8.93	91	14607	0.83	ppb		90
104)	1,2-Dclbenz	8.97	146	8065	1.02	ppb		80
105)	1,2-Dibromo-3-chloropropan	9.74	157	584	1.32	ppb		94
107)	1,2,4-Tcbenzene	10.56	180	4407	0.86	ppb		82
108)	Hexachlorobu	10.71	225	2922	1.15	ppb		85
109)	Naphthalen	10.80	128	8640	1.02	ppb		96
110)	1,2,3-Tclbenzene	11.01	180	4556	1.05	ppb	#	53

(#) = qualifier out of range (m) = manual integration
F4102.D W110709.M Sun Nov 08 11:38:28 2009 Page 3

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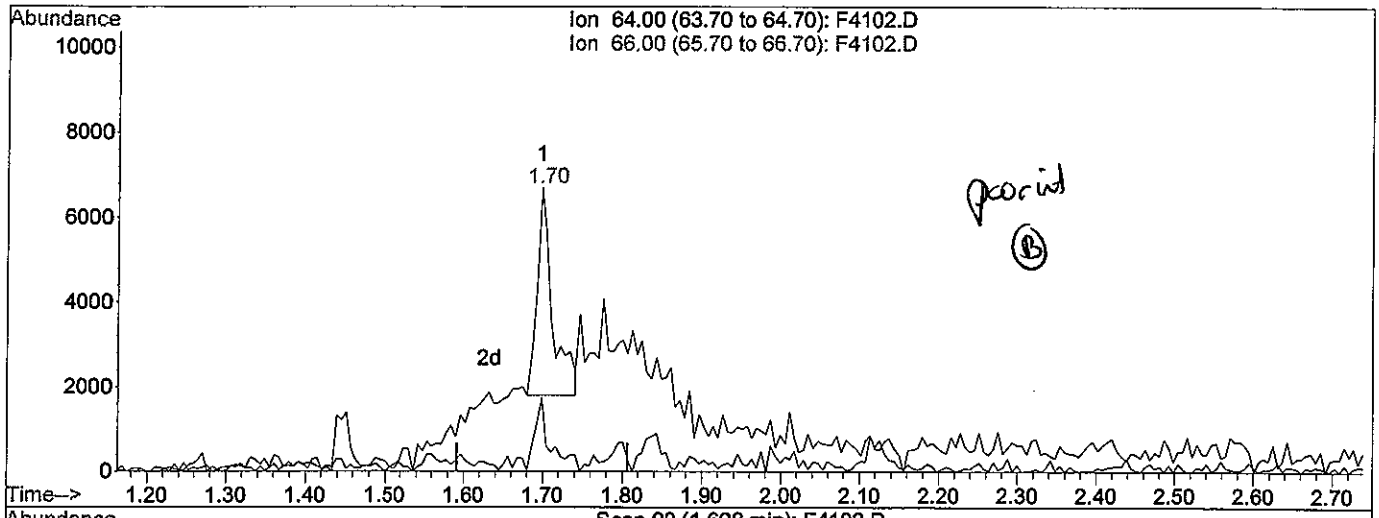
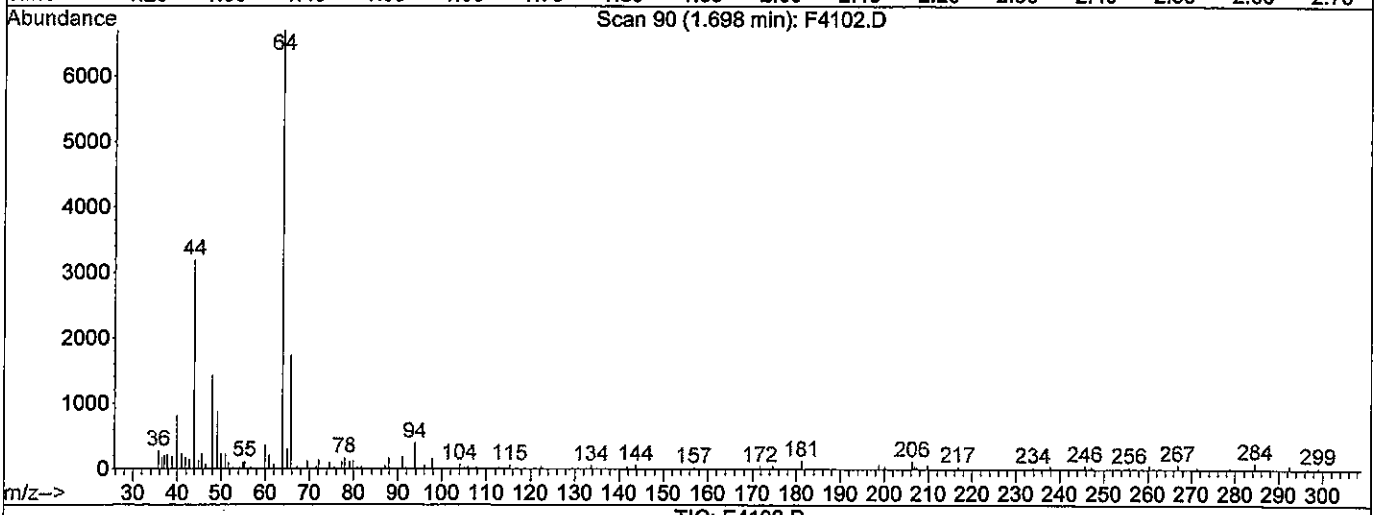
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4102.D Vial: 5
Acq On : 7 Nov 2009 5:08 pm Operator: D.ZIMPFER
Sample : 1.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:35 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4102.D

(7) Chloroethane (T)

1.70min 1.79ppb

response 6711

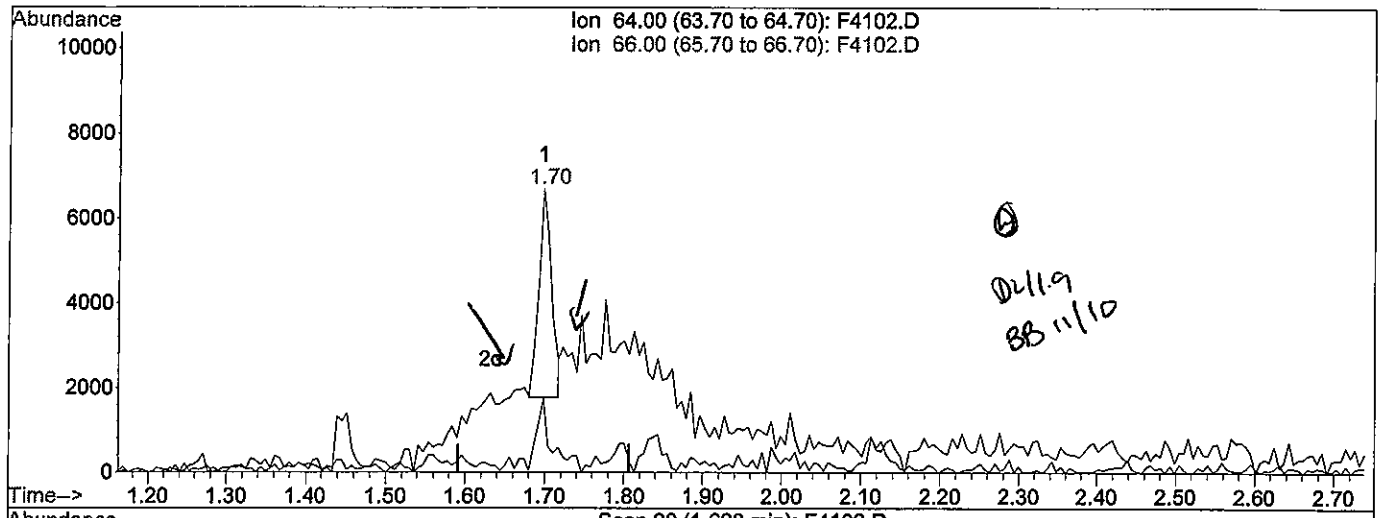
Ion	Exp%	Act%
64.00	100	100
66.00	32.00	26.02
0.00	0.00	0.00
0.00	0.00	0.00

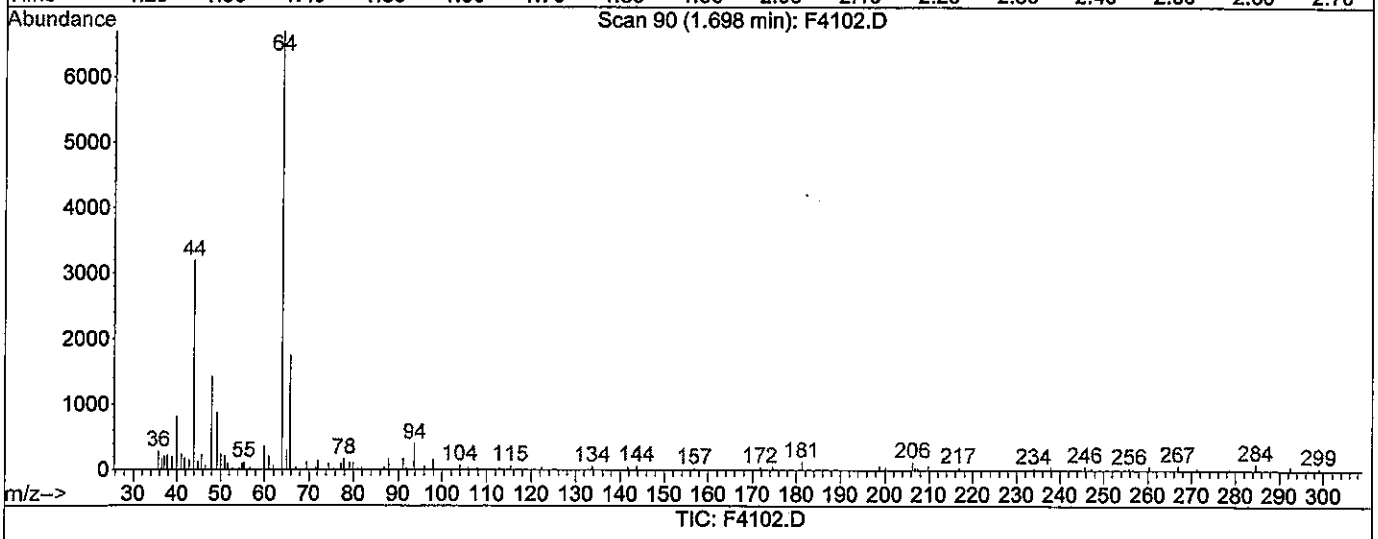
F4102.D W110709.M Sun Nov 08 11:35:36 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4102.D Vial: 5
Acq On : 7 Nov 2009 5:08 pm Operator: D.ZIMPFER
Sample : 1.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:35 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4102.D

(7) Chloroethane (T)

1.70min 1.46ppb m

response 5459

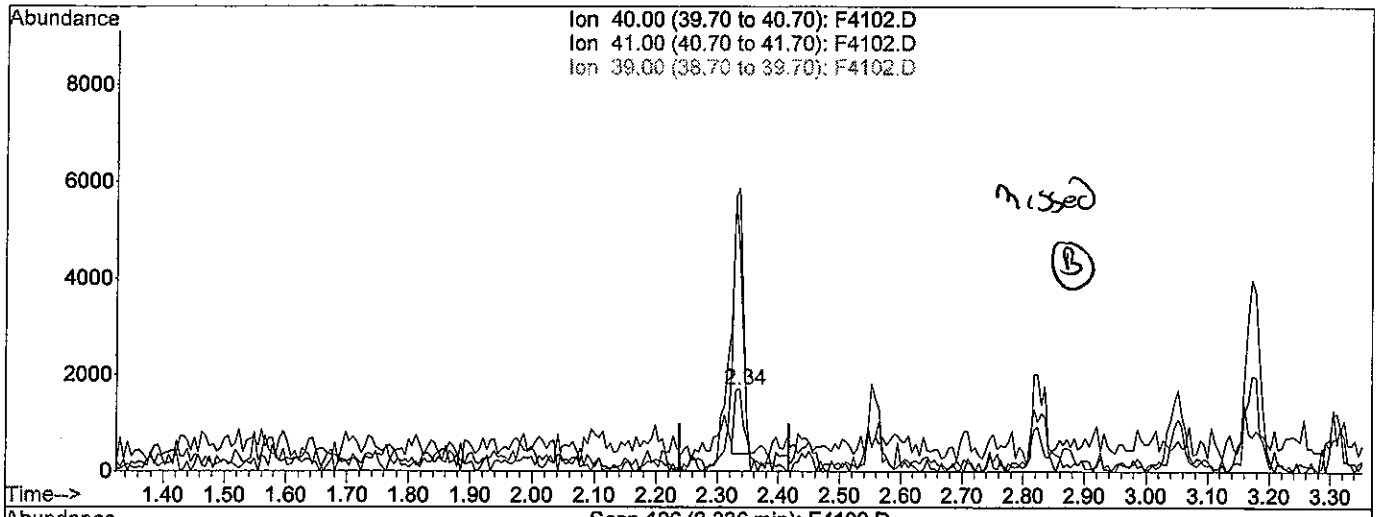
Ion	Exp%	Act%
64.00	100	100
66.00	32.00	26.02
0.00	0.00	0.00
0.00	0.00	0.00

F4102.D W110709.M Sun Nov 08 11:35:47 2009

Quantitation Report (Qedit)

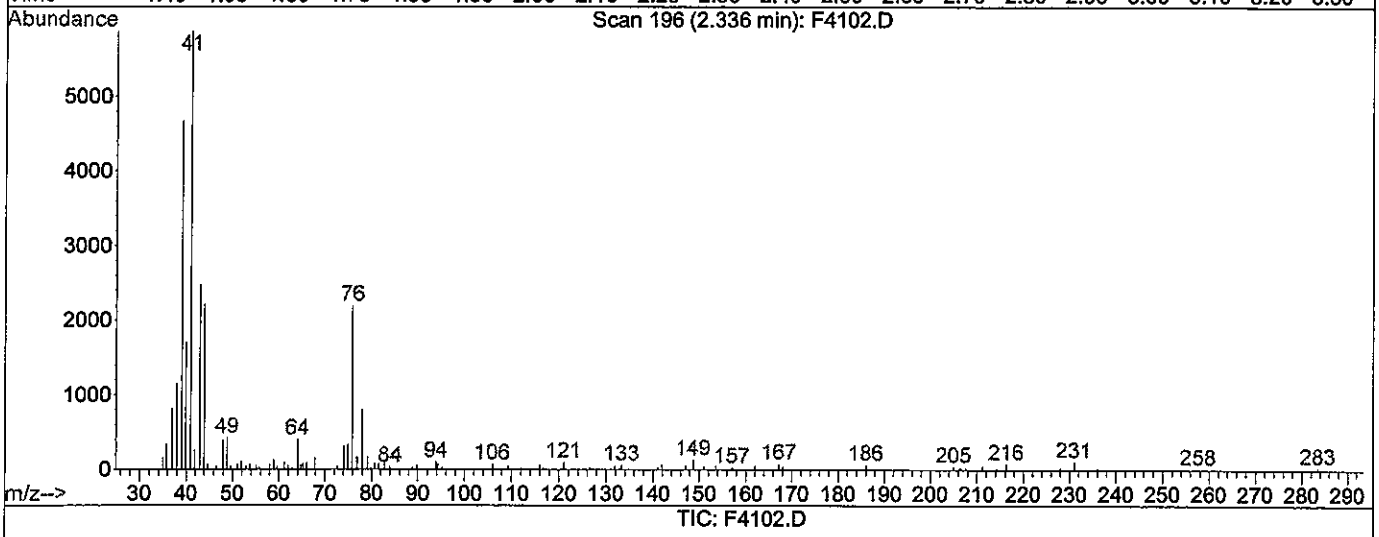
Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4102.D Vial: 5
Acq On : 7 Nov 2009 5:08 pm Operator: D.ZIMPFER
Sample : 1.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:35 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration



Mixed

(B)



TIC: F4102.D

(20) Acetonitrile

2.34min 4.07ppb

response 1280

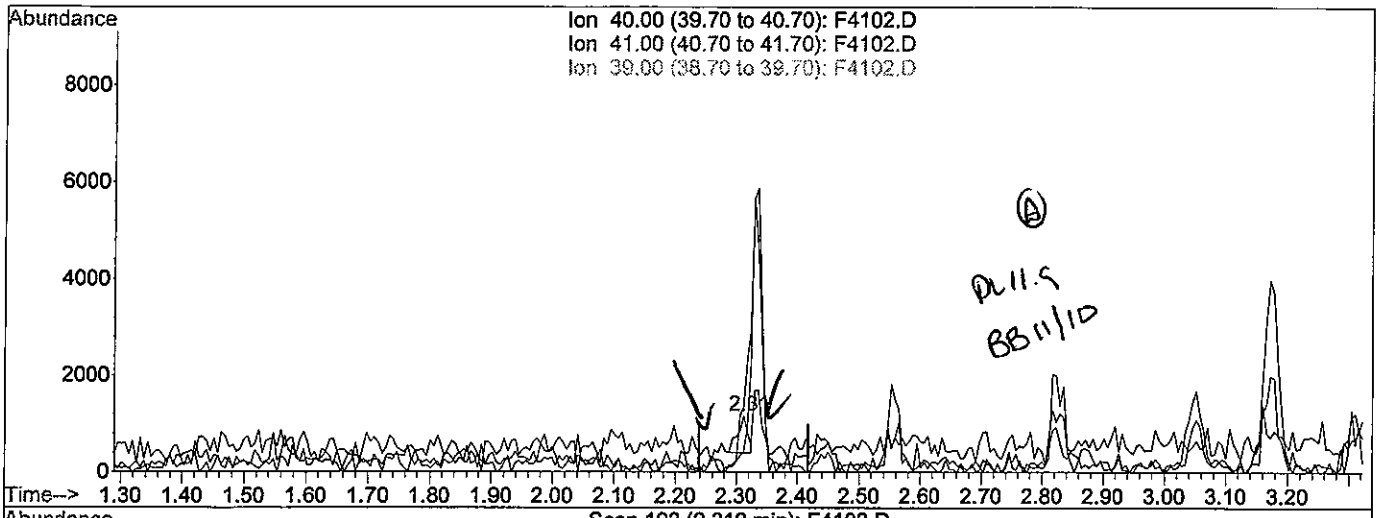
Ion	Exp%	Act%
40.00	100	100
41.00	666.00	344.42#
39.00	495.30	274.18#
0.00	0.00	0.00

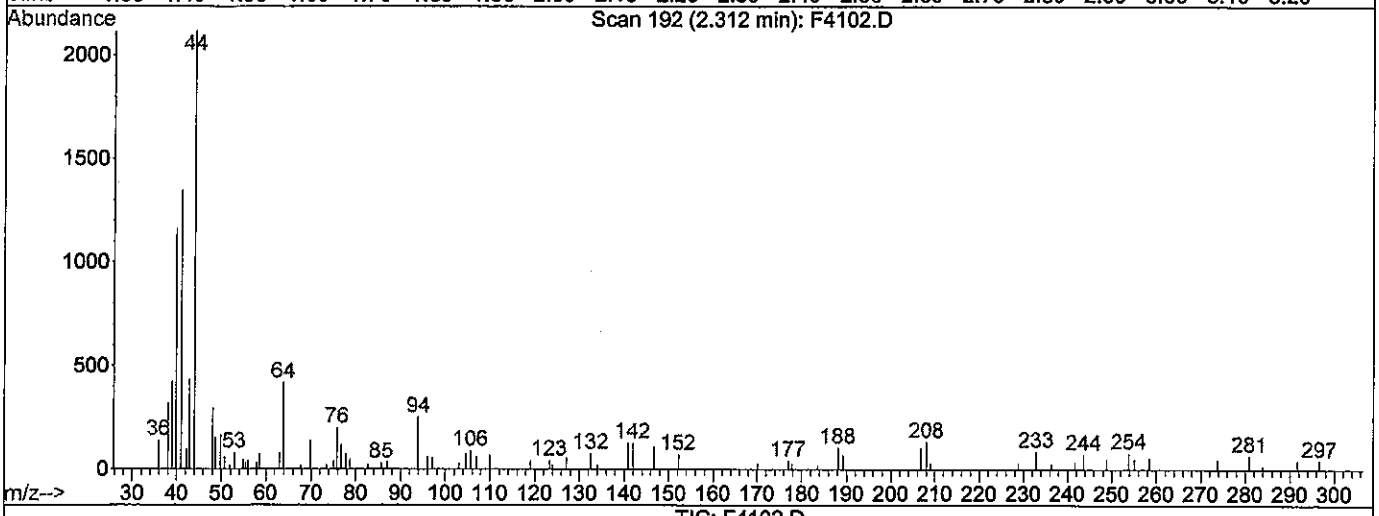
F4102.D W110709.M Sun Nov 08 11:36:09 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4102.D Vial: 5
Acq On : 7 Nov 2009 5:08 pm Operator: D.ZIMPFER
Sample : 1.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:36 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4102.D

(20) Acetonitrile

2.31min 2.78ppb m

response 874

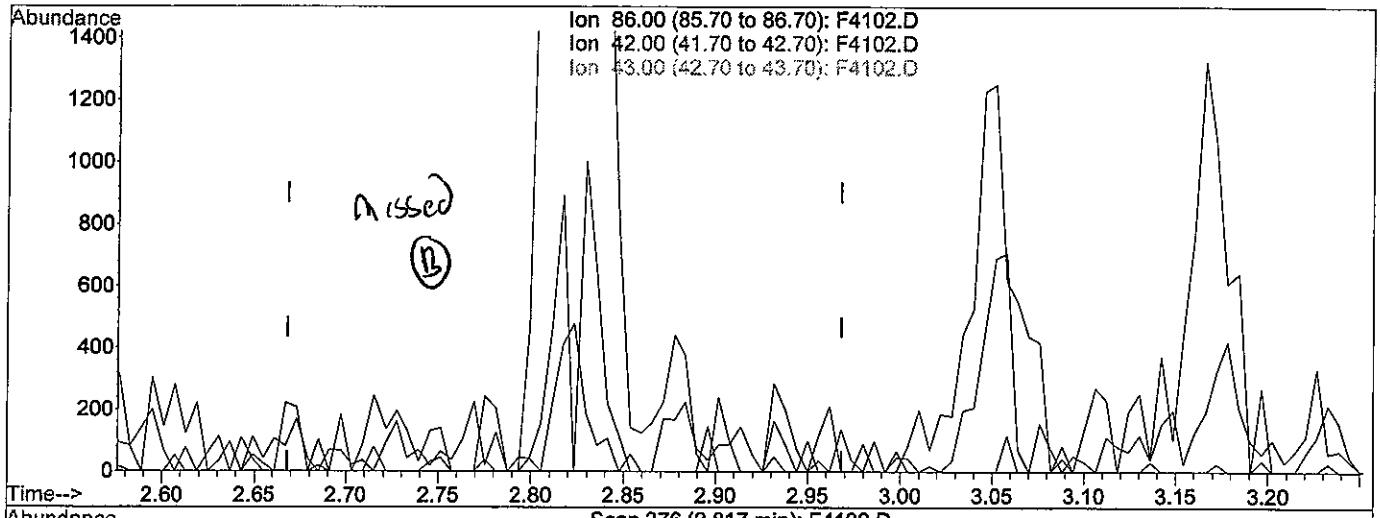
Ion	Exp%	Act%
40.00	100	100
41.00	666.00	115.64#
39.00	495.30	36.51#
0.00	0.00	0.00

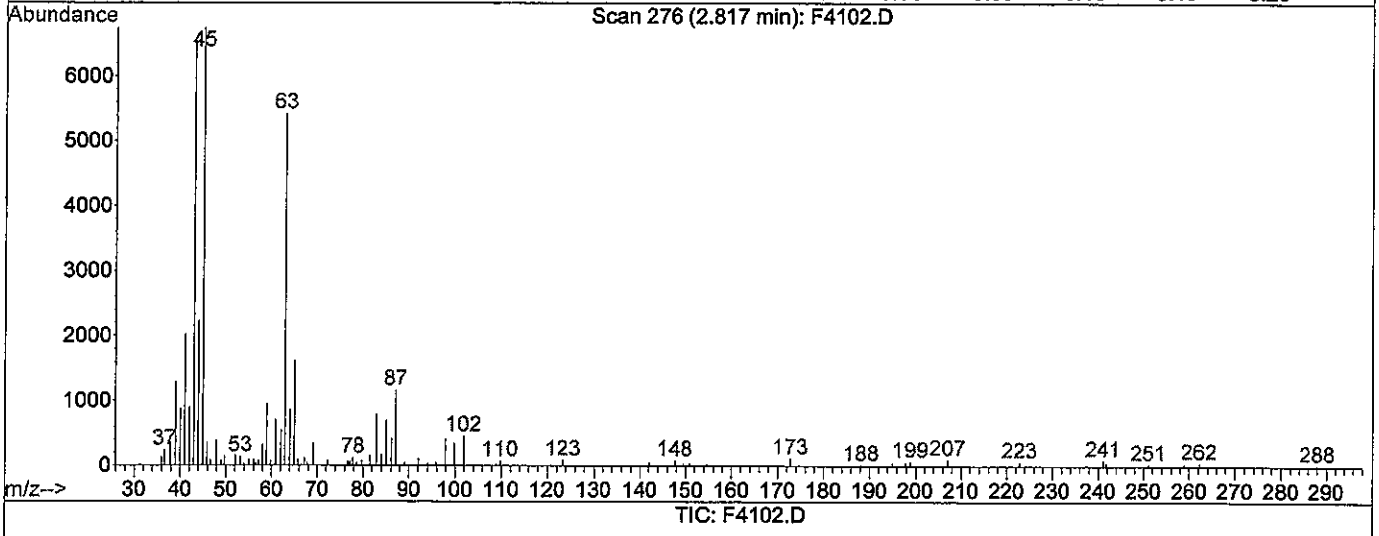
F4102.D W110709.M Sun Nov 08 11:36:21 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4102.D Vial: 5
Acq On : 7 Nov 2009 5:08 pm Operator: D.ZIMPFER
Sample : 1.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:36 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4102.D

(30) Vinyl Acetate

2.82min 0.00ppb

response 0

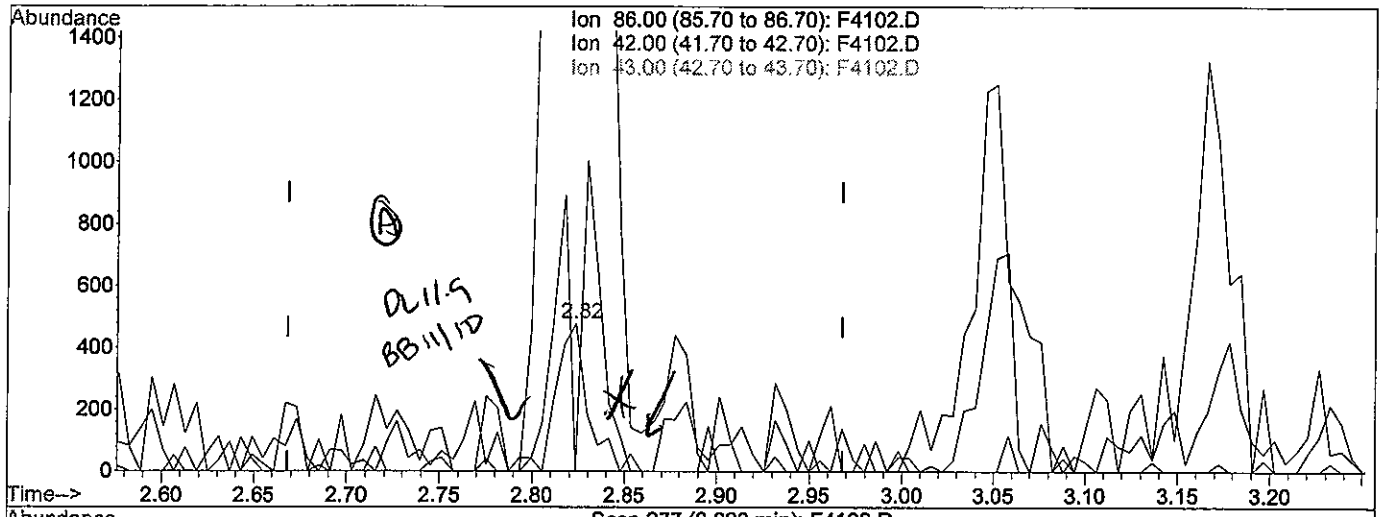
Ion	Exp%	Act%
86.00	100	0.00
42.00	194.10	0.00#
43.00	1842.80	0.00#
0.00	0.00	0.00

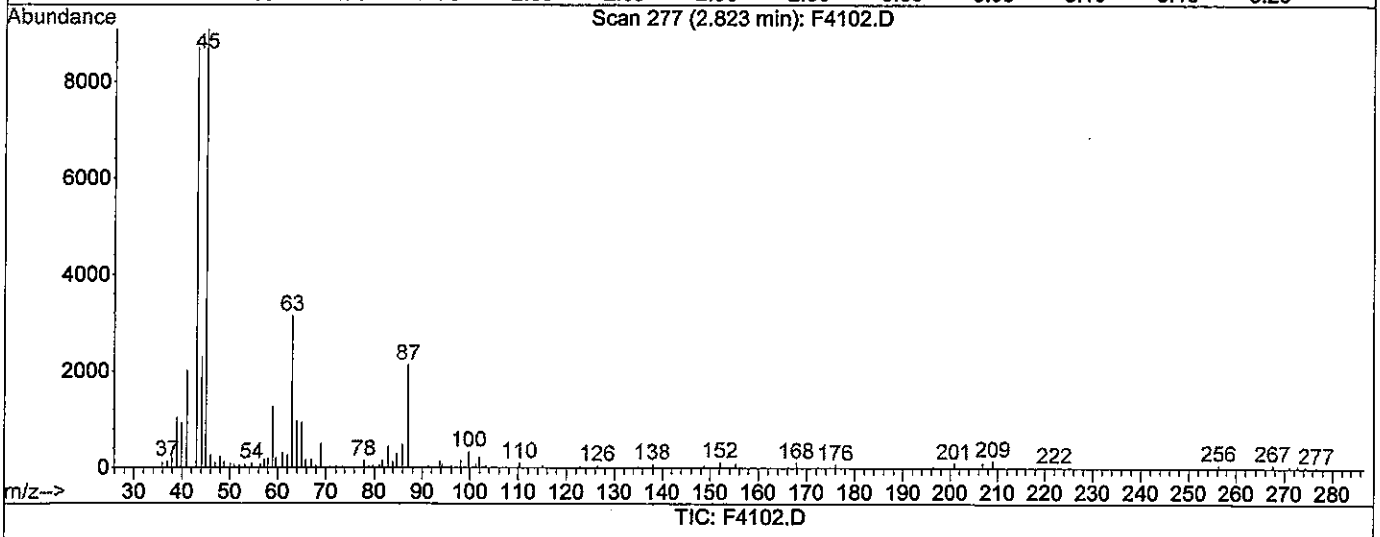
F4102.D W110709.M Sun Nov 08 11:36:34 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4102.D Vial: 5
Acq On : 7 Nov 2009 5:08 pm Operator: D.ZIMPFER
Sample : 1.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:36 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4102.D

(30) Vinyl Acetate

2.82min 0.98ppb m

response 540

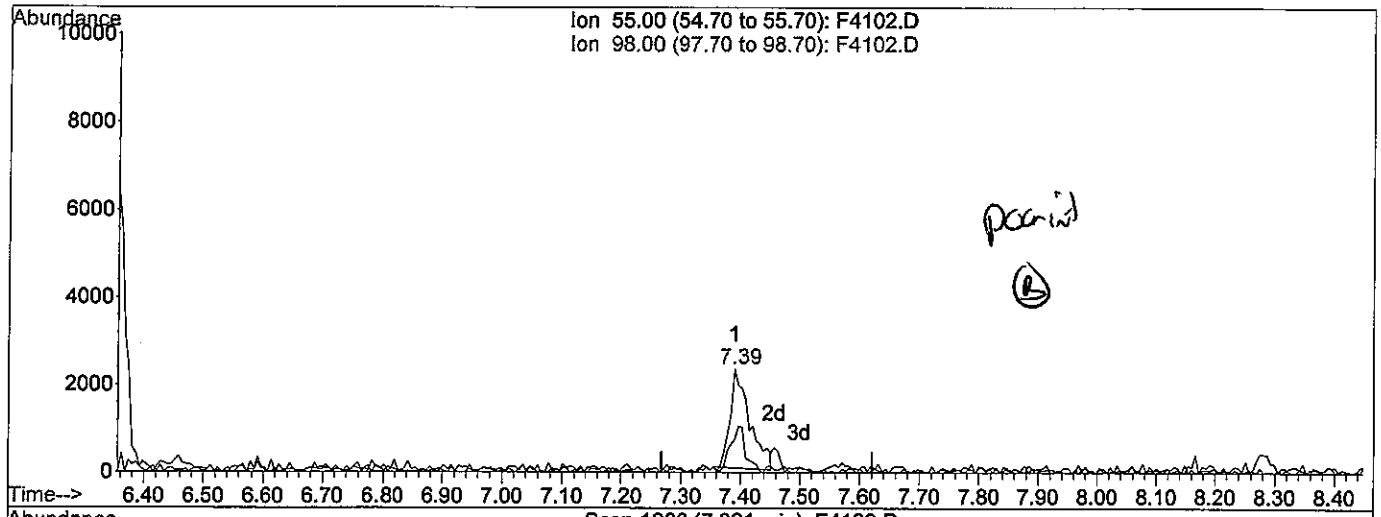
Ion	Exp%	Act%
86.00	100	100
42.00	194.10	0.00#
43.00	1842.80	1813.99
0.00	0.00	0.00

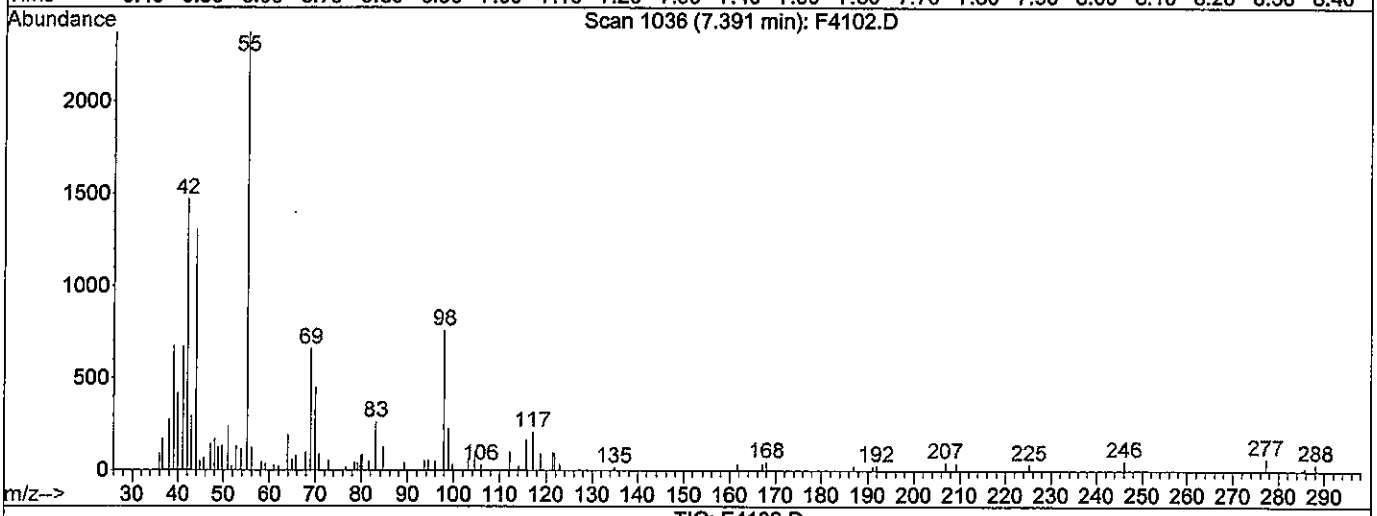
F4102.D W110709.M Sun Nov 08 11:36:40 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4102.D Vial: 5
Acq On : 7 Nov 2009 5:08 pm Operator: D.ZIMPFER
Sample : 1.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:36 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4102.D

(86) Cyclohexanone

7.39min 25.82ppb

response 5138

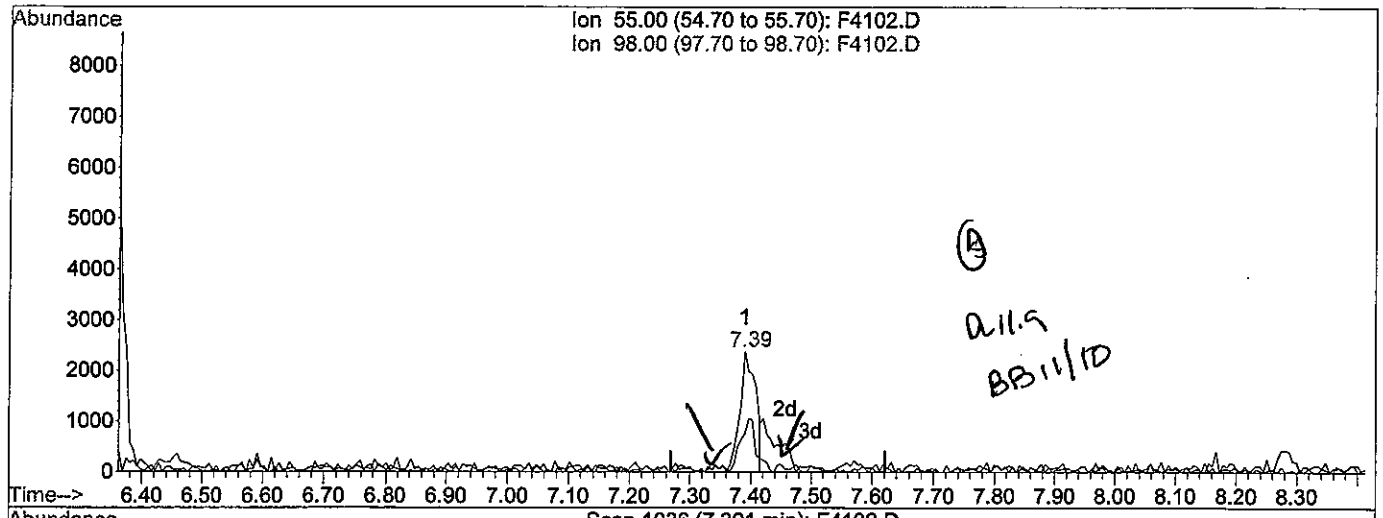
Ion	Exp%	Act%
55.00	100	100
98.00	39.80	32.00
0.00	0.00	0.00
0.00	0.00	0.00

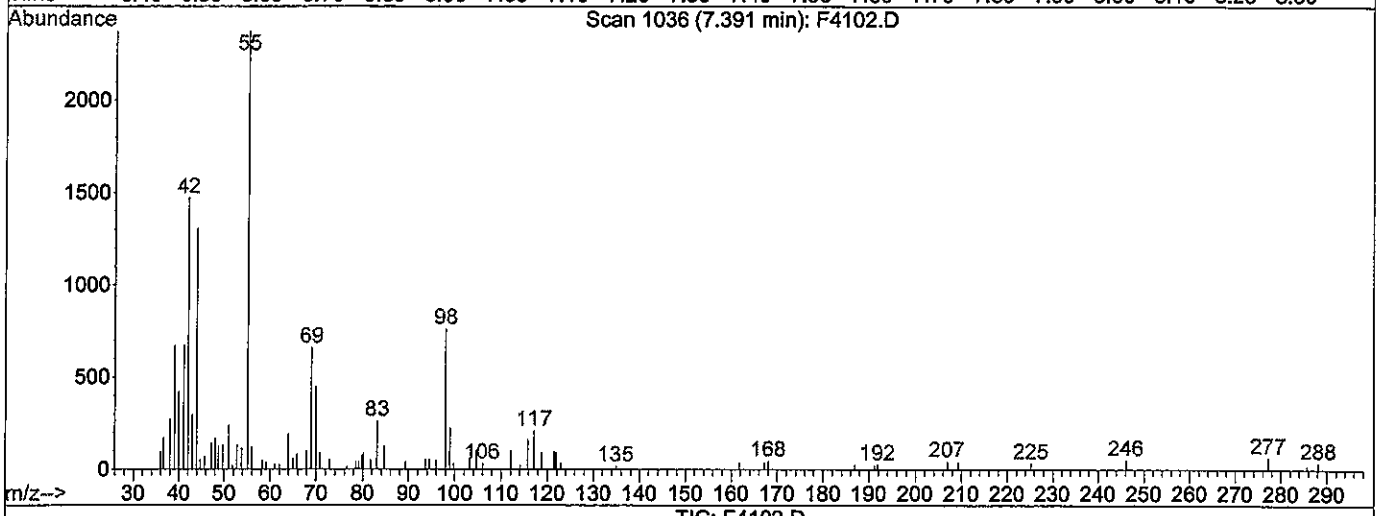
F4102.D W110709.M Sun Nov 08 11:37:43 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4102.D Vial: 5
Acq On : 7 Nov 2009 5:08 pm Operator: D.ZIMPFER
Sample : 1.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:37 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4102.D

(86) Cyclohexanone

7.39min 21.29ppb m

response 4238

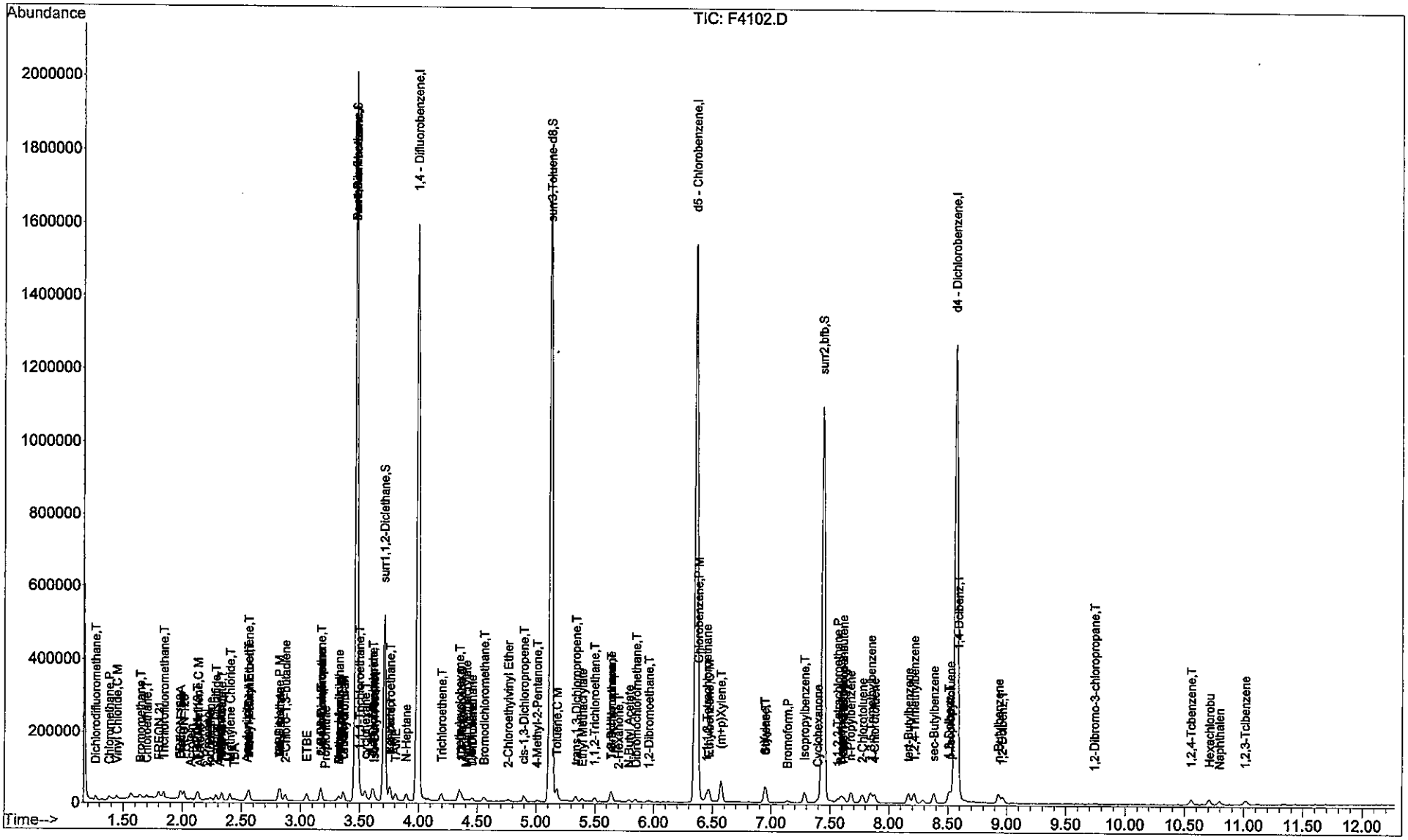
Ion	Exp%	Act%
55.00	100	100
98.00	39.80	32.00
0.00	0.00	0.00
0.00	0.00	0.00

F4102.D W110709.M Sun Nov 08 11:37:56 2009

Quantitation Report

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4102.D Vial: 5
Acq On : 7 Nov 2009 5:08 pm Operator: D.ZIMPFER
Sample : 1.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:37 2009 Quant Results File: W110709.RES

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Initial Calibration



F4102.D W110709.M Sun Nov 08 11:38:32 2009

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4103.D Vial: 6
Acq On : 7 Nov 2009 5:35 pm Operator: D.ZIMPFER
Sample : 2.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:42 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Initial Calibration
DataAcq Meth : W110709

DC 11-9

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene	3.47	168	674259	50.00	ppb		0.00
42) 1,4 - Difluorobenzene	3.99	114	997236	50.00	ppb		0.00
63) d5 - Chlorobenzene	6.36	117	834478	50.00	ppb		0.00
83) d4 - Dichlorobenzene	8.56	152	375813	50.00	ppb		0.00
System Monitoring Compounds							
43) surr4,Dibrflmethane	3.47	113	59912	10.29	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 20.58%#				
48) surr1,1,2-Diclethane	3.71	65	61505	10.33	ppb		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 20.66%#				
69) surr3,Toluene-d8	5.12	98	204811	10.07	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 20.14%#				
70) surr2,bfb	7.44	95	81900	10.12	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 20.24%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.27	85	10845	1.88	ppb		90
4) Chloromethane	1.38	50	9873	1.90	ppb		89
5) Vinyl Chloride	1.44	62	10277	1.93	ppb		98
6) Bromomethane	1.64	96	7094	2.01	ppb		74
7) Chloroethane	1.70	64	10186m	2.71	ppb		
8) FREON 21	1.80	67	21405	1.99	ppb		98
9) Trichlorofluoromethane	1.84	101	16094	2.02	ppb		96
10) Diethyl Ether	1.99	59	5223	1.90	ppb		77
11) FREON 123A	1.98	85	5310	1.88	ppb		91
12) FREON 123	2.01	85	9838	1.97	ppb		94
13) Acrolein	2.07	56	3305	8.98	ppb		75
14) FREON 113	2.12	85	4032	2.02	ppb	#	69
15) 1,1-Diclethene	2.13	96	8839	2.11	ppb	#	63
16) Acetone	2.16	43	2145	2.71	ppb		93
17) 2-Propanol	2.21	45	5399	42.01	ppb		96
18) Iodomethane	2.23	127	5587	1.87	ppb	#	77
19) Carbon Disulfide	2.28	76	28578	2.13	ppb		95
20) Acetonitrile	2.31	40	1103m	3.50	ppb		
21) Allyl Chloride	2.34	76	4913	2.06	ppb	#	69
22) Methyl Acetate	2.34	43	5150	2.31	ppb		93
23) Methylene Chloride	2.40	84	10401	2.09	ppb		90
24) TBA	2.44	59	7097	35.33	ppb		89
25) Acrylonitrile	2.54	53	8136	9.31	ppb		88
26) Methyl-t-Butyl Ether	2.55	73	18265	1.90	ppb		91
27) trans-1,2-Dichloroethene	2.56	96	10127	1.96	ppb		83
28) 1,1-Diclethane	2.81	63	18242	1.96	ppb		94
29) DIPE	2.82	45	29949	1.71	ppb		98
30) Vinyl Acetate	2.81	86	1279	2.30	ppb	#	1
31) 2-Chloro-1,3-butadiene	2.87	53	14189	1.81	ppb		97
32) ETBE	3.05	59	23674	1.72	ppb		96
33) 2,2-Dichloropropane	3.17	77	15952	1.98	ppb		100
34) 2-Butanone	3.17	43	2925	2.48	ppb		77
35) cis-1,2-Dichloroethene	3.17	96	10635	1.92	ppb		95
36) Propionitrile	3.21	54	2731	9.05	ppb		91
37) Methacrylonitrile	3.31	67	1611	1.72	ppb	#	56

(#) = qualifier out of range (m) = manual integration
F4103.D W110709.M Sun Nov 08 11:43:19 2009

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4103.D Vial: 6
Acq On : 7 Nov 2009 5:35 pm Operator: D.ZIMPFER
Sample : 2.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:42 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Initial Calibration
DataAcq Meth : W110709

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	Bromochloromethane	3.32	128	4286	1.91	ppb		85
39)	Chloroform	3.36	83	19403	2.07	ppb		97
40)	Tetrahydrofuran	3.37	42	1134	1.79	ppb		92
41)	1,1,1-Trichloroethane	3.50	97	16671	2.05	ppb		90
44)	cyclohexane	3.55	56	16254	1.86	ppb		99
45)	Carbontetrachloride	3.62	117	12827	1.98	ppb		95
46)	1,1-Dichloropropene	3.61	75	15108	2.07	ppb		96
47)	Iso-Butyl Alcohol	3.63	43	4223	43.90	ppb		99
49)	Benzene	3.76	78	38904	1.91	ppb		98
50)	1,2-Dichloroethane	3.76	62	12887	2.02	ppb		94
51)	TAME	3.80	73	17669	1.65	ppb		96
52)	N-Heptane	3.90	43	12630	1.71	ppb		87
53)	Trichloroethene	4.20	95	10783	1.99	ppb		92
54)	methylcyclohexane	4.34	55	14215	1.83	ppb		89
55)	1,2-Diclpropane	4.36	63	9601	2.01	ppb		89
56)	Methyl Methacrylate	4.41	69	3632	1.99	ppb		87
57)	1,4-Dioxane	4.45	88	1145	49.15	ppb	#	62
58)	Dibromomethane	4.45	93	4868	2.02	ppb	#	74
59)	Bromodichloromethane	4.56	83	12603	1.91	ppb		95
61)	2-Chloroethylvinyl Ether	4.77	63	3275	1.80	ppb		98
62)	cis-1,3-Dichloropropene	4.90	75	12761	1.74	ppb		83
64)	4-Methyl-2-Pentanone	5.01	43	5179	2.08	ppb		92
65)	Toluene	5.17	91	41288	1.94	ppb		97
66)	trans-1,3-Dichloropropene	5.33	75	9908	1.66	ppb		97
67)	Ethyl Methacrylate	5.39	69	6302	1.59	ppb		100
68)	1,1,2-Trichloroethane	5.50	83	4905	1.91	ppb		93
71)	Tetrachloroethene	5.63	166	10647	1.88	ppb		87
72)	2-Hexanone	5.69	43	3916	2.36	ppb		86
73)	N-Butyl Acetate	5.79	43	7943	1.95	ppb		92
74)	1,3-Dichloropropane	5.64	76	10894	1.91	ppb		88
75)	Dibromochloromethane	5.85	129	6903m	1.83	ppb		
76)	1,2-Dibromoethane	5.96	107	6145	1.99	ppb		92
77)	Chlorobenzene	6.38	112	26322	2.00	ppb		99
78)	1,1,1,2-Tetrachloroethane	6.45	131	7978	1.86	ppb		81
79)	Ethylbenzene	6.46	91	44329	1.83	ppb		96
80)	(m+p)Xylene	6.57	106	32184	3.56	ppb		87
81)	o-Xylene	6.95	106	14975	1.76	ppb		92
82)	Styrene	6.95	104	24854	1.72	ppb		100
84)	Bromoform	7.14	173	2729	1.46	ppb		61
85)	Isopropylbenzene	7.28	105	37021	1.77	ppb		99
86)	Cyclohexanone	7.39	55	7997	40.11	ppb		98
87)	1,1,2,2-Tetrachloroethane	7.57	83	5871	1.93	ppb		88
88)	Trans-1,4-Dichloro-2-buten	7.61	53	1965	2.27	ppb		79
89)	1,2,3-Trichloropropane	7.62	110	1686	1.79	ppb		99
90)	n-Propylbenzene	7.67	91	47045	1.79	ppb		99
91)	Bromobenzene	7.59	156	9341	1.93	ppb		89
93)	1,3,5-Trimethylbenzene	7.84	105	31057	1.73	ppb		97
94)	2-Chlorotoluene	7.77	91	27455	1.79	ppb		96
95)	4-Chlorotoluene	7.88	91	31762	1.81	ppb		89
96)	tert-Butylbenzene	8.16	119	27585	1.81	ppb		91

(#) = qualifier out of range (m) = manual integration
F4103.D W110709.M Sun Nov 08 11:43:20 2009

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4103.D Vial: 6
Acq On : 7 Nov 2009 5:35 pm Operator: D.ZIMPFER
Sample : 2.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:42 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Initial Calibration
DataAcq Meth : W110709

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97)	1,2,4-Trimethylbenzene	8.21	105	31837	1.78	ppb	98
98)	sec-Butylbenzene	8.38	105	41178	1.74	ppb	99
99)	p-Isopropyltoluene	8.52	119	31846	1.69	ppb	97
100)	1,3-Dclbenz	8.50	146	17020	1.85	ppb	89
101)	1,4-Dclbenz	8.59	146	16868	1.87	ppb	82
103)	n-Butylbenzene	8.93	91	28346	1.62	ppb	93
104)	1,2-Dclbenz	8.97	146	14136	1.78	ppb	92
105)	1,2-Dibromo-3-chloropropan	9.76	157	1140m	2.56	ppb	
107)	1,2,4-Tcbenzene	10.56	180	9276	1.82	ppb	85
108)	Hexachlorobu	10.70	225	5253	2.06	ppb	75
109)	Naphthalen	10.79	128	13860	1.64	ppb	89
110)	1,2,3-Tclbenzene	11.01	180	6939	1.59	ppb	83

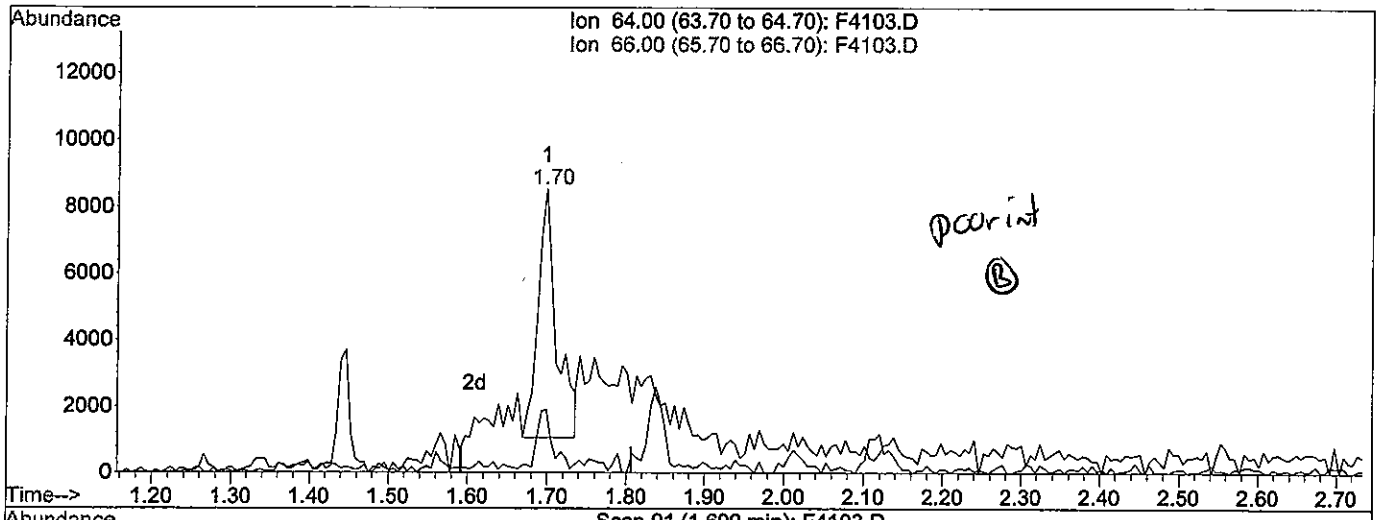
(#) = qualifier out of range (m) = manual integration
F4103.D W110709.M Sun Nov 08 11:43:21 2009

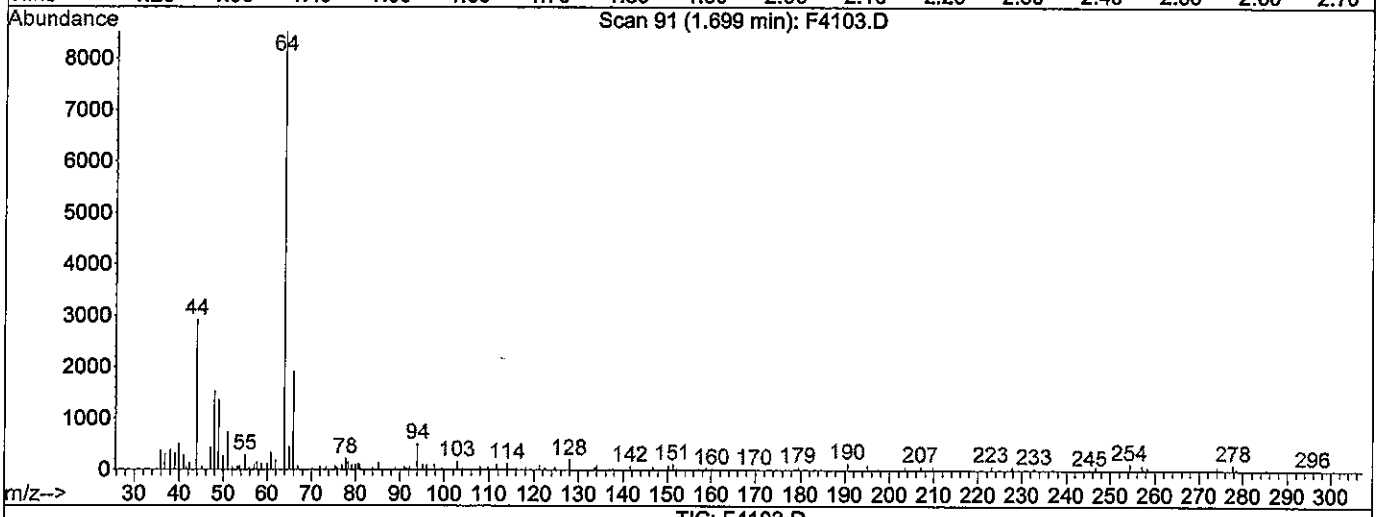
00130

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4103.D Vial: 6
Acq On : 7 Nov 2009 5:35 pm Operator: D.ZIMPFER
Sample : 2.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:38 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4103.D

(7) Chloroethane (T)

1.70min 3.23ppb

response 12119

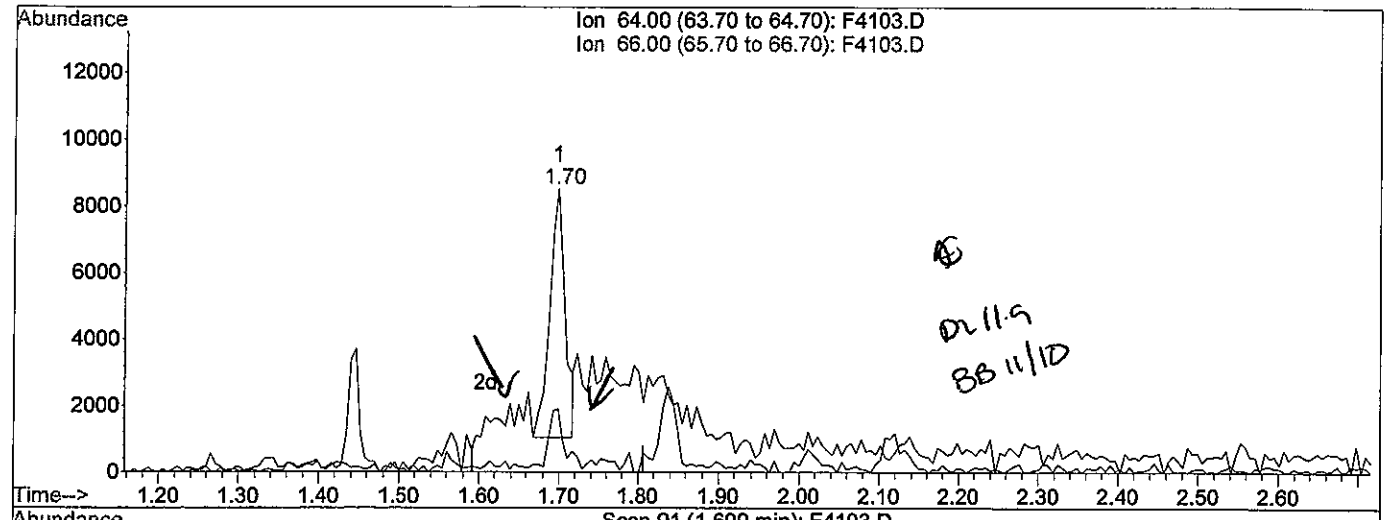
Ion	Exp%	Act%
64.00	100	100
66.00	32.00	22.32
0.00	0.00	0.00
0.00	0.00	0.00

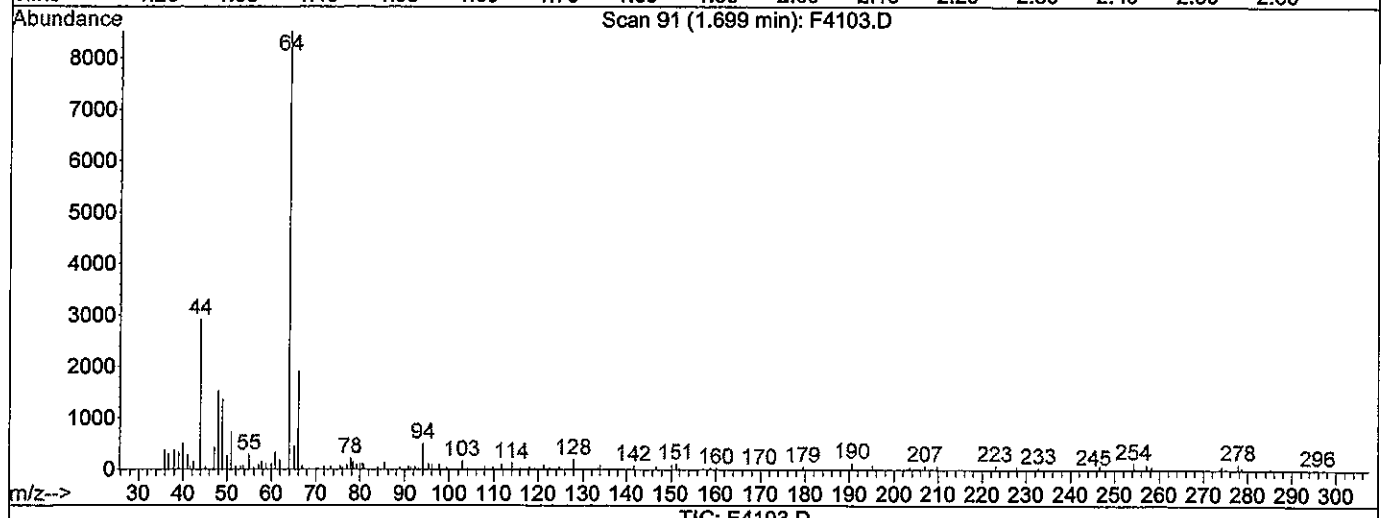
F4103.D W110709.M Sun Nov 08 11:40:42 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4103.D Vial: 6
Acq On : 7 Nov 2009 5:35 pm Operator: D.ZIMPFER
Sample : 2.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:41 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4103.D

(7) Chloroethane (T)

1.70min 2.71ppb m

response 10186

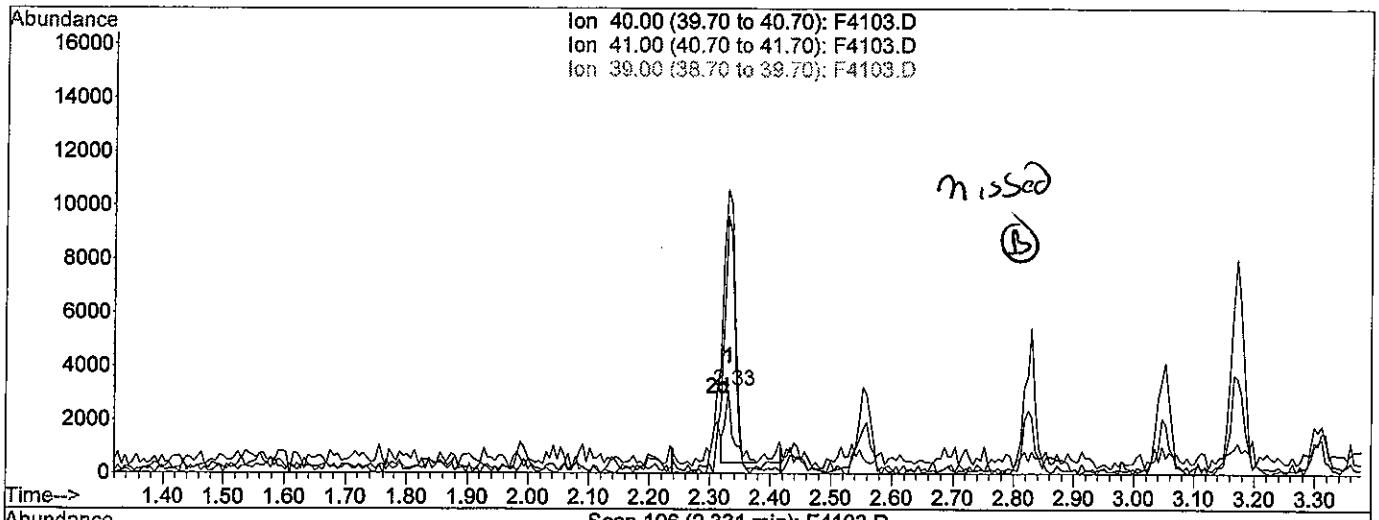
Ion	Exp%	Act%
64.00	100	100
66.00	32.00	22.32
0.00	0.00	0.00
0.00	0.00	0.00

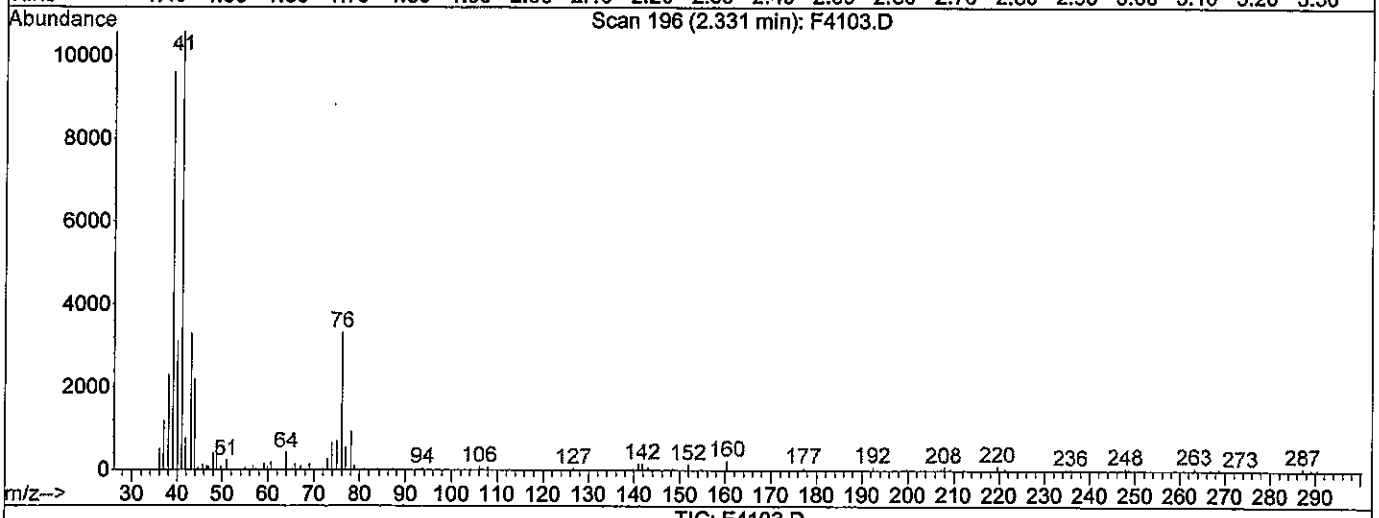
F4103.D W110709.M Sun Nov 08 11:41:09 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4103.D Vial: 6
Acq On : 7 Nov 2009 5:35 pm Operator: D.ZIMPFER
Sample : 2.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:41 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4103.D

(20) Acetonitrile

2.33min 8.23ppb

response 2596

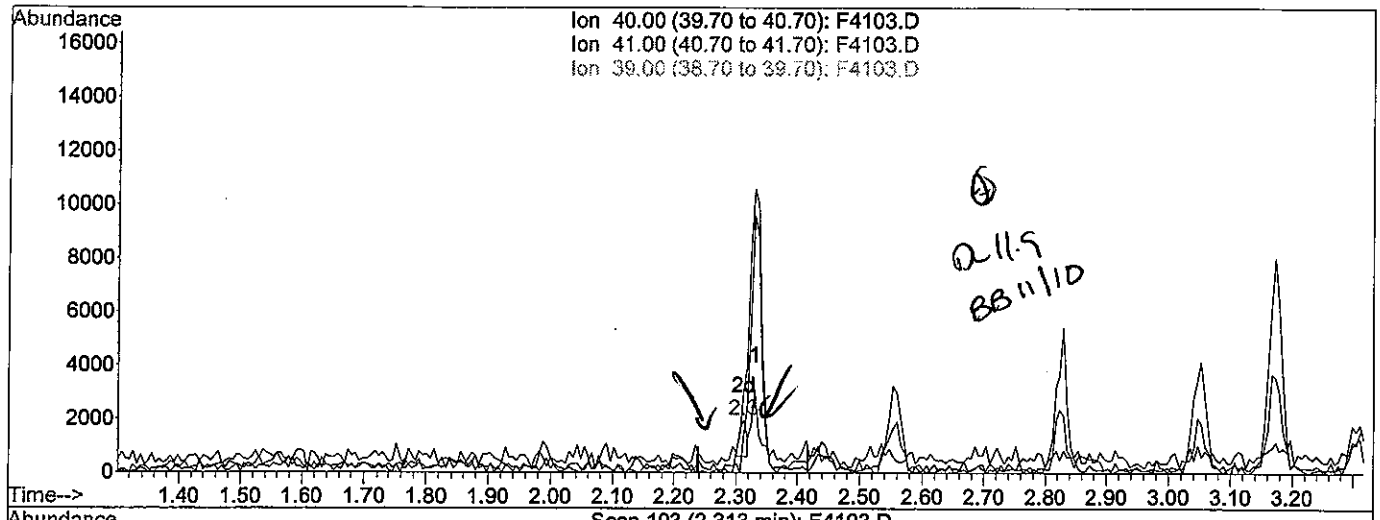
Ion	Exp%	Act%
40.00	100	100
41.00	666.00	339.89#
39.00	495.30	308.68#
0.00	0.00	0.00

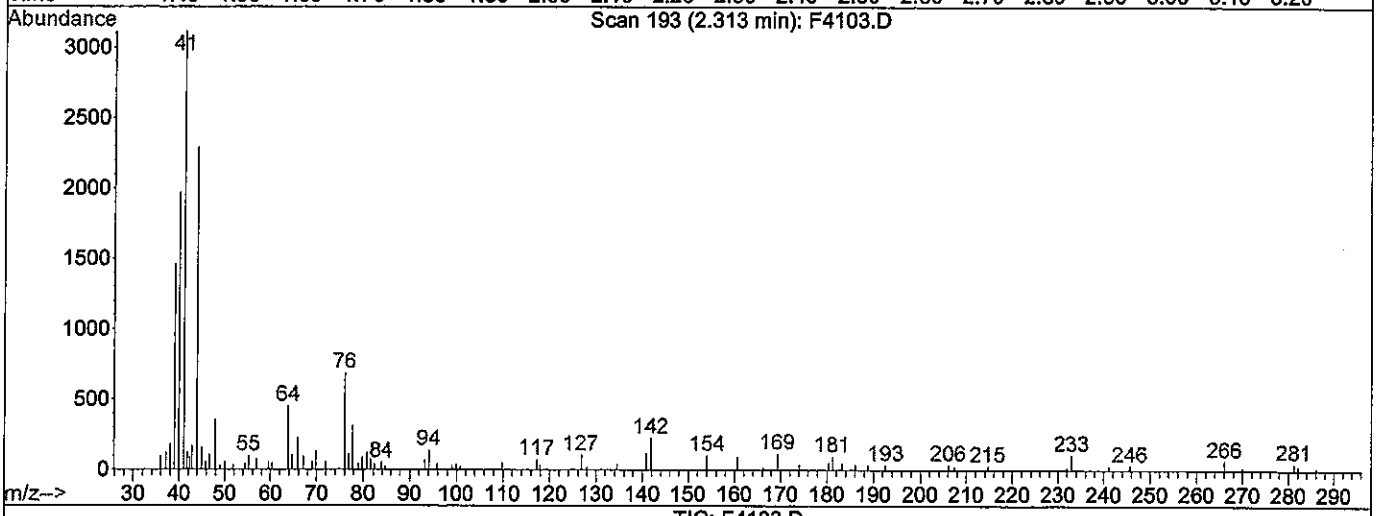
F4103.D W110709.M Sun Nov 08 11:41:21 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4103.D Vial: 6
Acq On : 7 Nov 2009 5:35 pm Operator: D.ZIMPFER
Sample : 2.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:41 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4103.D

(20) Acetonitrile

2.31min 3.50ppb m

response 1103

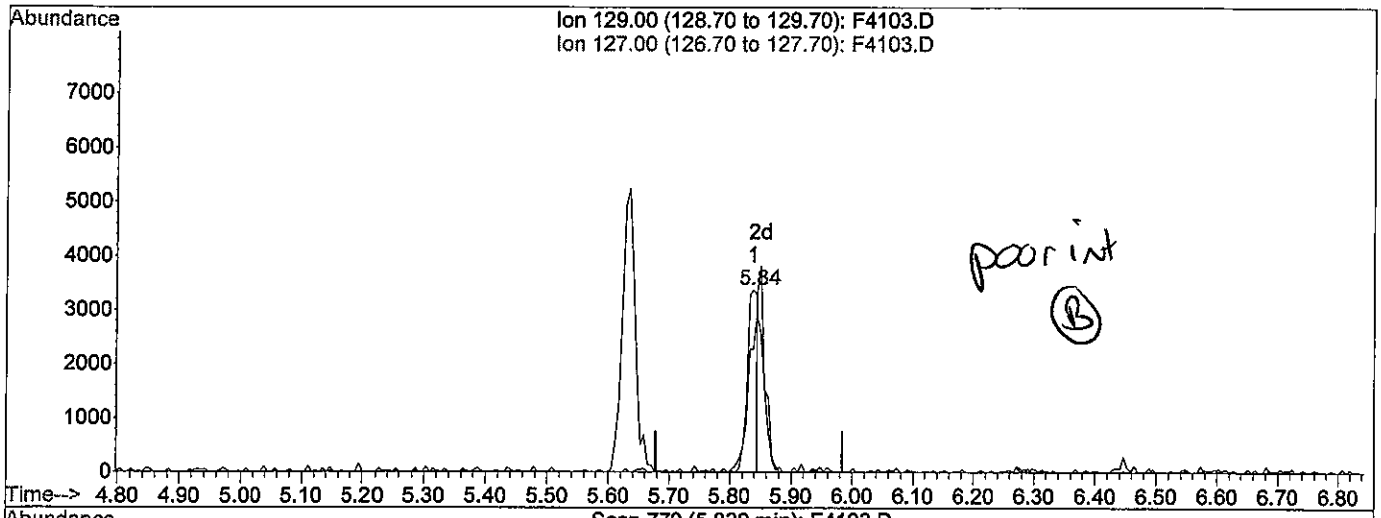
Ion	Exp%	Act%
40.00	100	100
41.00	666.00	158.18#
39.00	495.30	74.14#
0.00	0.00	0.00

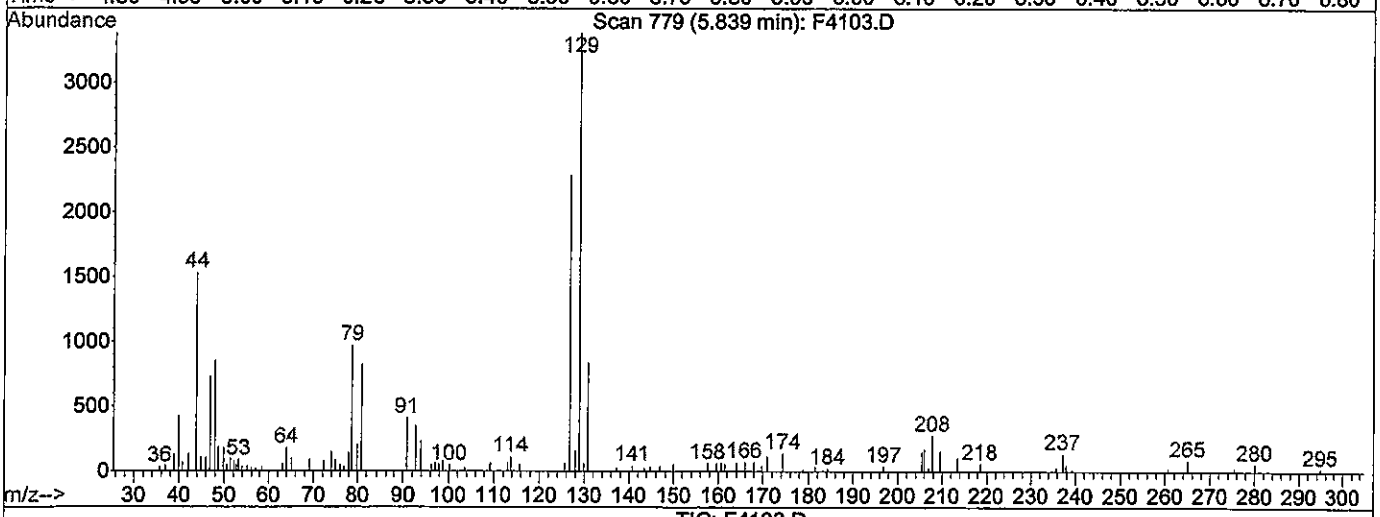
F4103.D W110709.M Sun Nov 08 11:41:42 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4103.D Vial: 6
Acq On : 7 Nov 2009 5:35 pm Operator: D.ZIMPFER
Sample : 2.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:41 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4103.D

(75) Dibromochloromethane (T)

5.84min 1.15ppb

response 4340

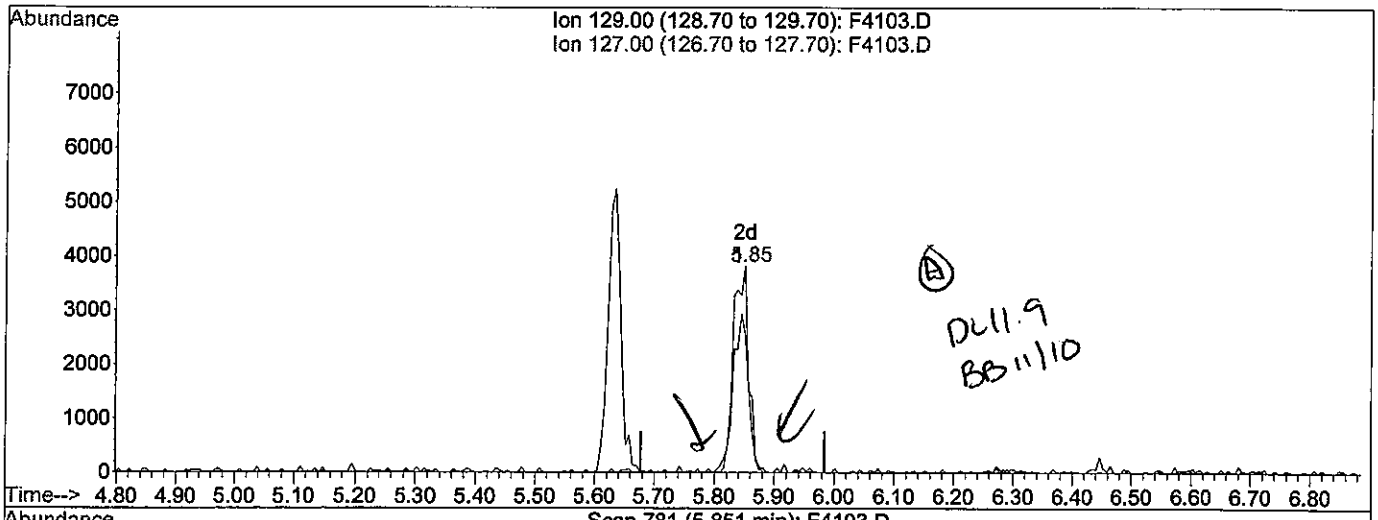
Ion	Exp%	Act%
129.00	100	100
127.00	72.70	67.51
0.00	0.00	0.00
0.00	0.00	0.00

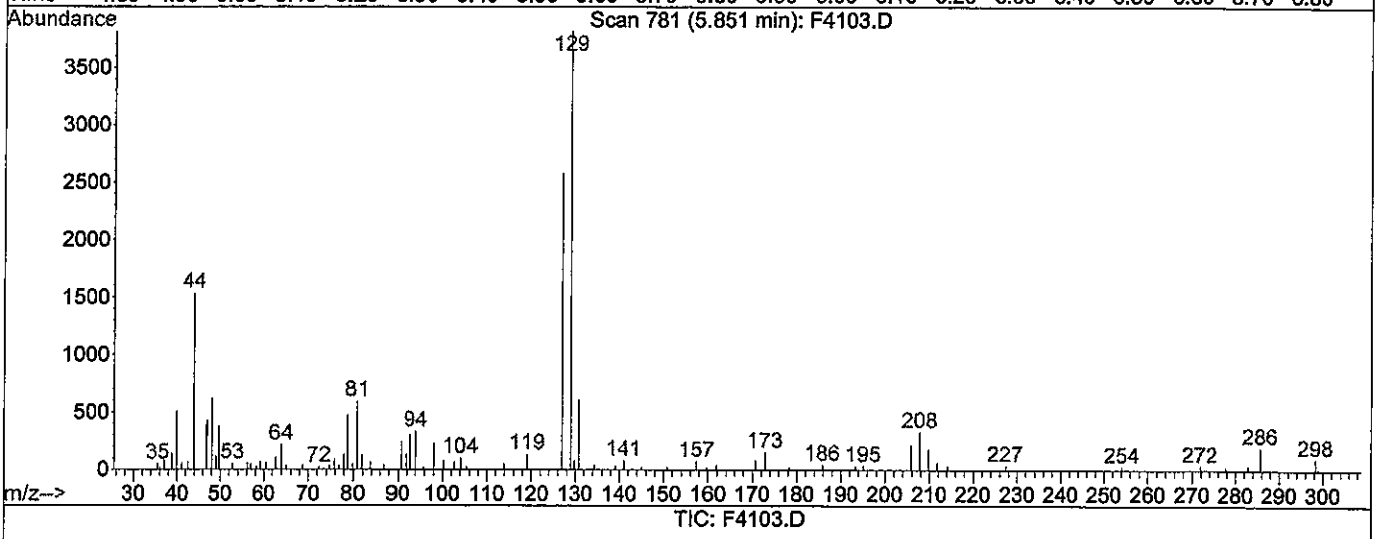
F4103.D W110709.M Sun Nov 08 11:42:23 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4103.D Vial: 6
Acq On : 7 Nov 2009 5:35 pm Operator: D.ZIMPFER
Sample : 2.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:42 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4103.D

(75) Dibromochloromethane (T)

5.85min 1.83ppb m

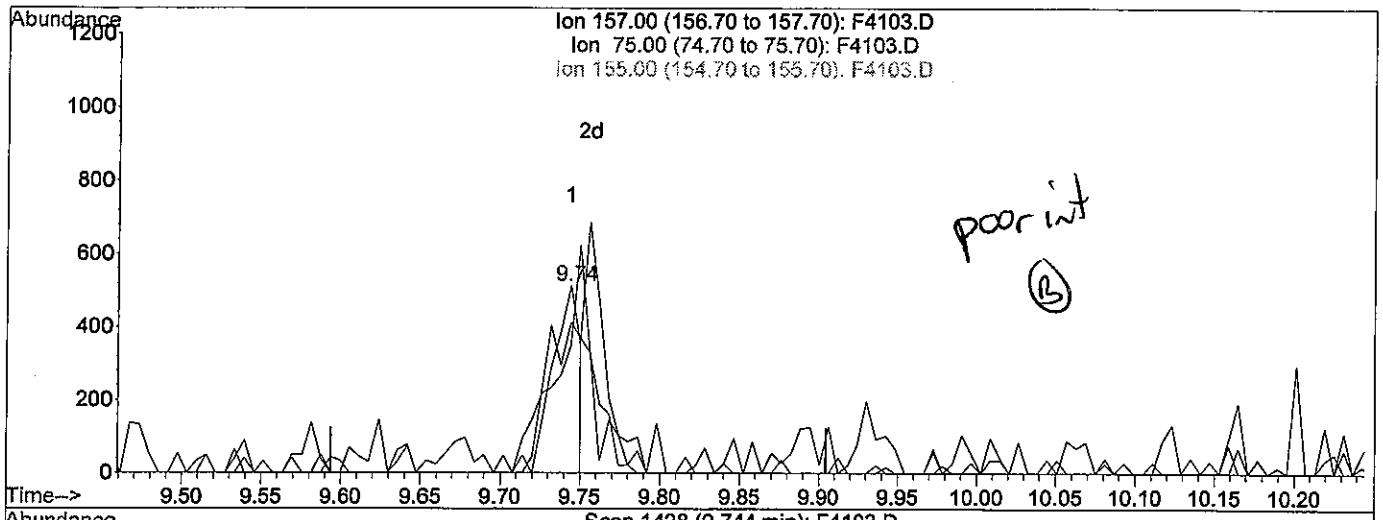
response 6903

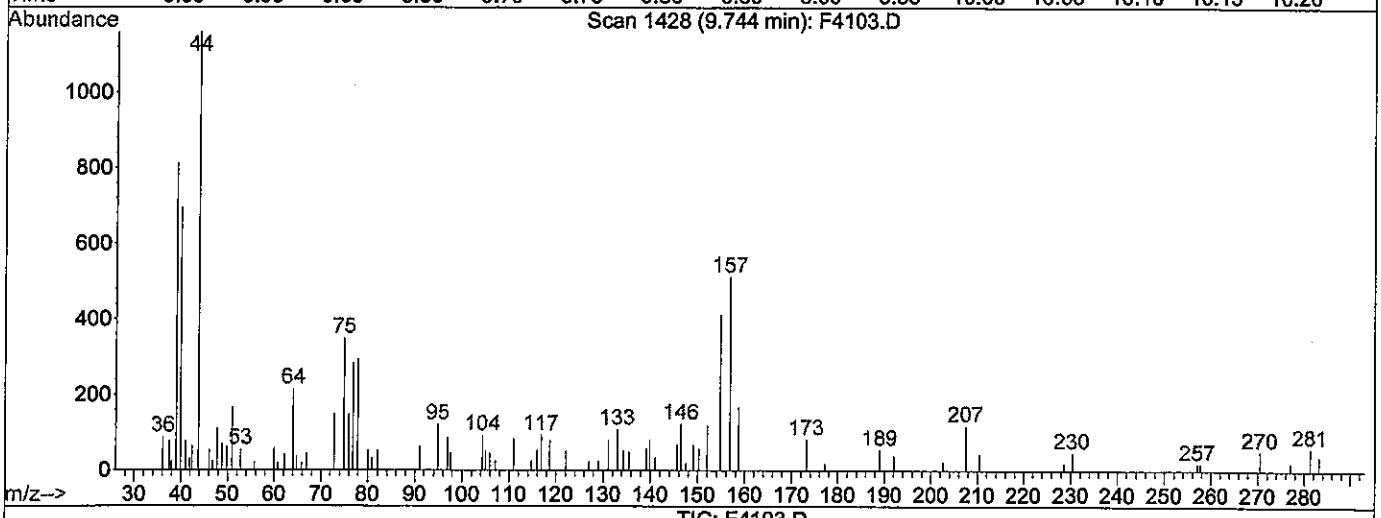
Ion	Exp%	Act%
129.00	100	100
127.00	72.70	67.58
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4103.D Vial: 6
Acq On : 7 Nov 2009 5:35 pm Operator: D.ZIMPFER
Sample : 2.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:42 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4103.D

(105) 1,2-Dibromo-3-chloropropane (T)

9.74min 1.37ppb

response 607

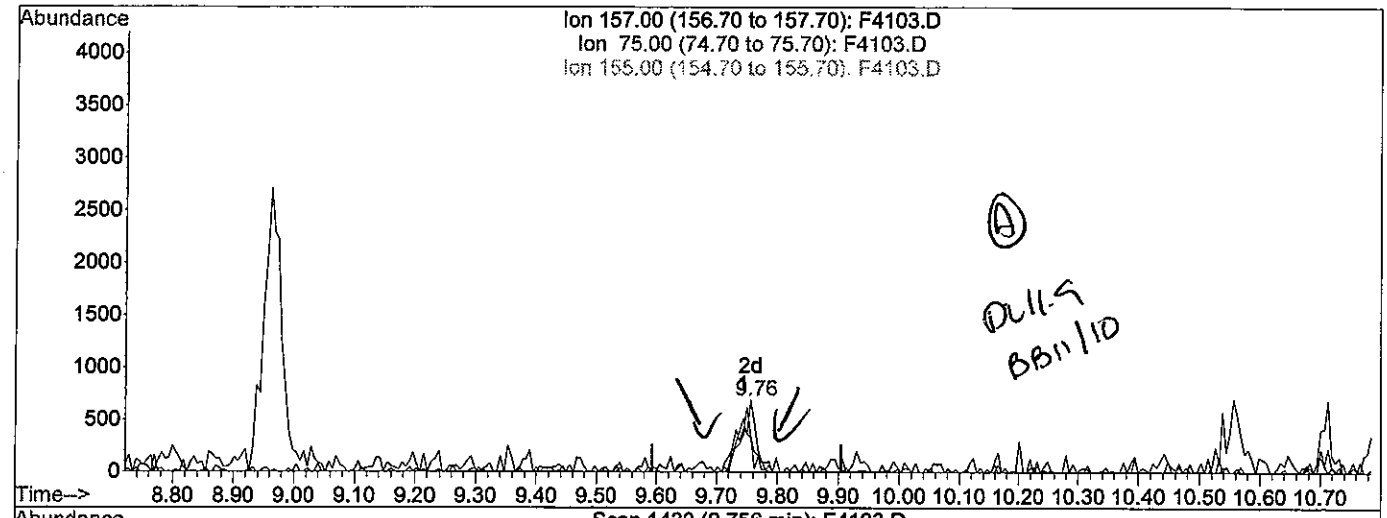
Ion	Exp%	Act%
157.00	100	100
75.00	81.20	68.16
155.00	65.20	80.47
0.00	0.00	0.00

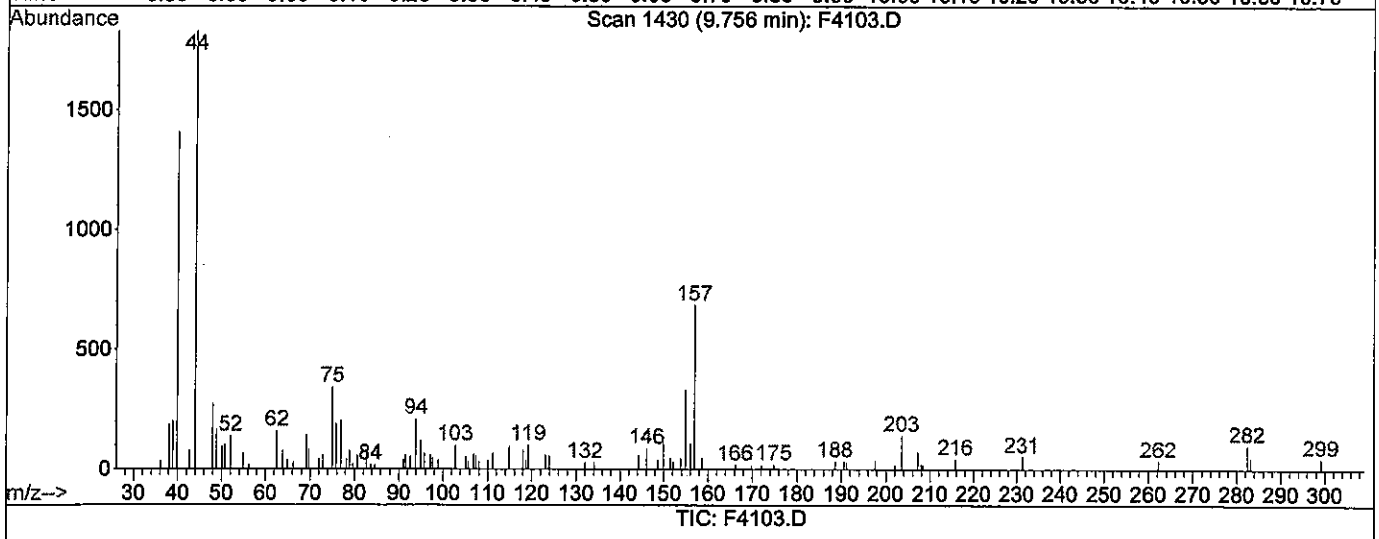
F4103.D W110709.M Sun Nov 08 11:42:52 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4103.D Vial: 6
Acq On : 7 Nov 2009 5:35 pm Operator: D.ZIMPFER
Sample : 2.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:42 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4103.D

(105) 1,2-Dibromo-3-chloropropane (T)

9.76min 2.56ppb m

response 1140

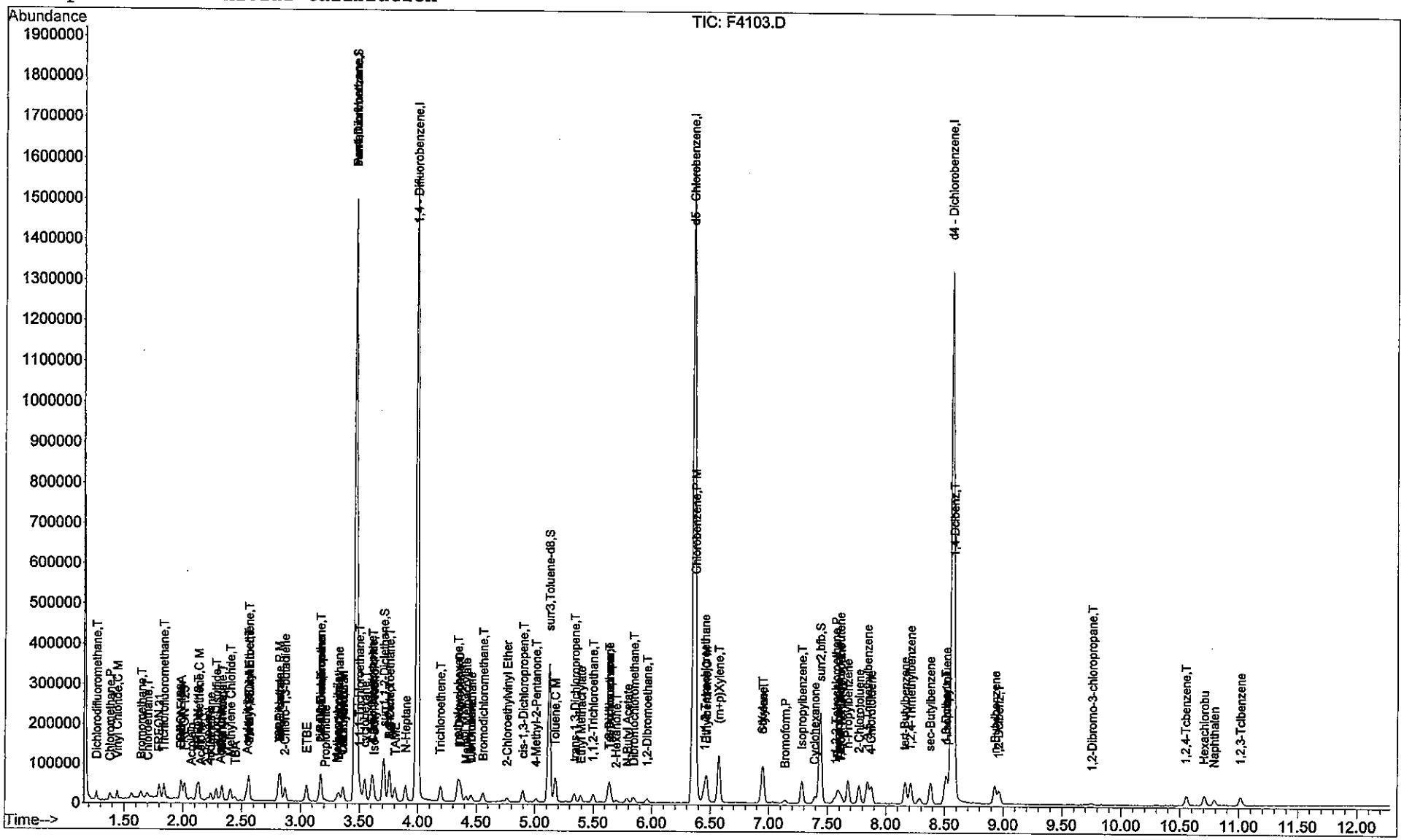
Ion	Exp%	Act%
157.00	100	100
75.00	81.20	49.71#
155.00	65.20	48.25
0.00	0.00	0.00

F4103.D W110709.M Sun Nov 08 11:42:59 2009

Quantitation Report

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4103.D Vial: 6
Acq On : 7 Nov 2009 5:35 pm Operator: D.ZIMPFER
Sample : 2.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:42 2009 Quant Results File: W110709.RES

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4104.D Vial: 7
Acq On : 7 Nov 2009 6:03 pm Operator: D.ZIMPFER
Sample : 5.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:53 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Initial Calibration
DataAcq Meth : W110709

DL 1.9

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	3.47	168	675644	50.00	ppb	0.00
42) 1,4 - Difluorobenzene	3.99	114	986103	50.00	ppb	0.00
63) d5 - Chlorobenzene	6.35	117	825701	50.00	ppb	0.00
83) d4 - Dichlorobenzene	8.56	152	384980	50.00	ppb	0.00
System Monitoring Compounds						
43) surr4,Dibrflmethane	3.47	113	142550	24.76	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 49.52%#			
48) surr1,1,2-Diclethane	3.71	65	141605	24.05	ppb	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 48.10%#			
69) surr3,Toluene-d8	5.12	98	479318	23.82	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 47.64%#			
70) surr2,bfb	7.44	95	187051	23.37	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 46.74%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.26	85	29539	5.12	ppb	100
4) Chloromethane	1.38	50	25866	4.98	ppb	93
5) Vinyl Chloride	1.44	62	26645	5.00	ppb	98
6) Bromomethane	1.64	96	17078	4.83	ppb	93
7) Chloroethane	1.70	64	21521	5.72	ppb	98
8) FREON 21	1.80	67	56184	5.22	ppb	95
9) Trichlorofluoromethane	1.84	101	40552	5.08	ppb	92
10) Diethyl Ether	1.99	59	13609	4.93	ppb	98
11) FREON 123A	1.98	85	15225	5.38	ppb	92
12) FREON 123	2.02	85	24850	4.96	ppb	94
13) Acrolein	2.07	56	7546	20.45	ppb	97
14) FREON 113	2.12	85	9555	4.78	ppb	95
15) 1,1-Diclethene	2.14	96	20261	4.82	ppb	87
16) Acetone	2.15	43	4802	6.06	ppb	89
17) 2-Propanol	2.21	45	13241	102.83	ppb	89
18) Iodomethane	2.24	127	15571	5.21	ppb	84
19) Carbon Disulfide	2.28	76	68711 R	5.10	ppb	99
20) Acetonitrile	2.31	40	3787m	11.98	ppb	
21) Allyl Chloride	2.34	76	12289	5.14	ppb	98
22) Methyl Acetate	2.33	43	11430	5.12	ppb	97
23) Methylene Chloride	2.40	84	25998	5.21	ppb	94
24) TBA	2.44	59	21108	104.87	ppb	97
25) Acrylonitrile	2.54	53	21862	24.97	ppb	94
26) Methyl-t-Butyl Ether	2.55	73	46724	4.85	ppb	97
27) trans-1,2-Dichloroethene	2.56	96	27617	5.35	ppb	93
28) 1,1-Diclethane	2.81	63	50399	5.42	ppb	99
29) DIPE	2.83	45	87016	4.97	ppb	91
30) Vinyl Acetate	2.82	86	3160	5.67	ppb	97
31) 2-Chloro-1,3-butadiene	2.86	53	37448	4.78	ppb	90
32) ETBE	3.05	59	67463	4.88	ppb	94
33) 2,2-Dichloropropane	3.17	77	40736	5.05	ppb	90
34) 2-Butanone	3.17	43	6127	5.18	ppb	97
35) cis-1,2-Dichloroethene	3.17	96	30415	5.49	ppb	92
36) Propionitrile	3.21	54	7844	25.93	ppb	92
37) Methacrylonitrile	3.31	67	4458	4.76	ppb	98

(#) = qualifier out of range (m) = manual integration
F4104.D W110709.M Sun Nov 08 11:54:04 2009

00140

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4104.D Vial: 7
Acq On : 7 Nov 2009 6:03 pm Operator: D.ZIMPFER
Sample : 5.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:53 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Initial Calibration
DataAcq Meth : W110709

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
38)	Bromochloromethane	3.32	128	12422	5.51	ppb		96
39)	Chloroform	3.36	83	54270	5.77	ppb		99
40)	Tetrahydrofuran	3.36	42	3194	5.03	ppb		99
41)	1,1,1-Trichloroethane	3.50	97	42490	5.21	ppb		92
44)	cyclohexane	3.54	56	41473	4.80	ppb		96
45)	Carbontetrachloride	3.61	117	33034	5.17	ppb		90
46)	1,1-Dichloropropene	3.61	75	36558	5.06	ppb		98
47)	Iso-Butyl Alcohol	3.63	43	10909	114.68	ppb		79
49)	Benzene	3.76	78	102669	5.10	ppb		93
50)	1,2-Dichloroethane	3.76	62	33186	5.27	ppb		97
51)	TAME	3.80	73	52650	4.97	ppb		99
52)	N-Heptane	3.89	43	31722	4.35	ppb		93
53)	Trichloroethene	4.19	95	26765	5.00	ppb		95
54)	methylcyclohexane	4.34	55	38061	4.96	ppb		96
55)	1,2-Diclpropane	4.36	63	26320	5.57	ppb		94
56)	Methyl Methacrylate	4.41	69	8971	4.98	ppb		95
57)	1,4-Dioxane	4.45	88	2777	120.56	ppb		96
58)	Dibromomethane	4.45	93	12679	5.33	ppb		96
59)	Bromodichloromethane	4.56	83	34712	5.32	ppb		91
61)	2-Chloroethylvinyl Ether	4.76	63	8197	4.55	ppb		91
62)	cis-1,3-Dichloropropene	4.90	75	35022	4.84	ppb		100
64)	4-Methyl-2-Pentanone	5.01	43	11576	4.70	ppb		96
65)	Toluene	5.18	91	105622	5.02	ppb		96
66)	trans-1,3-Dichloropropene	5.34	75	29504	4.98	ppb		94
67)	Ethyl Methacrylate	5.39	69	17907	4.57	ppb		98
68)	1,1,2-Trichloroethane	5.49	83	13781	5.42	ppb		77
71)	Tetrachloroethene	5.63	166	27115	4.85	ppb		93
72)	2-Hexanone	5.70	43	8776	5.35	ppb		97
73)	N-Butyl Acetate	5.79	43	19727	4.90	ppb		97
74)	1,3-Dichloropropane	5.64	76	30384	5.37	ppb		100
75)	Dibromochloromethane	5.84	129	18923	5.08	ppb		91
76)	1,2-Dibromoethane	5.96	107	15327	5.02	ppb		86
77)	Chlorobenzene	6.39	112	67059	5.15	ppb		99
78)	1,1,1,2-Tetrachloroethane	6.45	131	21313	5.03	ppb		100
79)	Ethylbenzene	6.47	91	114757	4.80	ppb		98
80)	(m+p)Xylene	6.57	106	83621	9.35	ppb		97
81)	o-Xylene	6.94	106	40525	4.81	ppb	#	68
82)	Styrene	6.96	104	65803	4.61	ppb		97
84)	Bromoform	7.14	173	9573	4.99	ppb		98
85)	Isopropylbenzene	7.28	105	98606	4.61	ppb		98
86)	Cyclohexanone	7.39	55	20496	100.36	ppb		92
87)	1,1,2,2-Tetrachloroethane	7.56	83	16773	5.39	ppb		96
88)	Trans-1,4-Dichloro-2-buten	7.61	53	4808	5.43	ppb		98
89)	1,2,3-Trichloropropane	7.61	110	5129	5.32	ppb		92
90)	n-Propylbenzene	7.67	91	126672	4.71	ppb		96
91)	Bromobenzene	7.59	156	23559	4.76	ppb		96
93)	1,3,5-Trimethylbenzene	7.84	105	86096	4.69	ppb		97
94)	2-Chlorotoluene	7.77	91	76708	4.89	ppb		96
95)	4-Chlorotoluene	7.87	91	85494	4.74	ppb		95
96)	tert-Butylbenzene	8.17	119	74535	4.76	ppb		98

(#) = qualifier out of range (m) = manual integration
F4104.D W110709.M Sun Nov 08 11:54:05 2009

00141

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4104.D Vial: 7
Acq On : 7 Nov 2009 6:03 pm Operator: D.ZIMPFER
Sample : 5.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:53 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Initial Calibration
DataAcq Meth : W110709

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97)	1,2,4-Trimethylbenzene	8.21	105	85654	4.67	ppb	99
98)	sec-Butylbenzene	8.38	105	111799	4.62	ppb	98
99)	p-Isopropyltoluene	8.52	119	88048	4.55	ppb	97
100)	1,3-Dclbenz	8.50	146	46079	4.90	ppb	99
101)	1,4-Dclbenz	8.59	146	46501	5.04	ppb	95
103)	n-Butylbenzene	8.92	91	79531	4.43	ppb	95
104)	1,2-Dclbenz	8.97	146	39829	4.90	ppb	95
105)	1,2-Dibromo-3-chloropropan	9.74	157	2576	5.66	ppb	77
107)	1,2,4-Tcbenzene	10.56	180	22825	4.36	ppb	98
108)	Hexachlorobu	10.71	225	13364	5.12	ppb	96
109)	Naphthalen	10.79	128	36246	4.18	ppb	98
110)	1,2,3-Tclbenzene	11.02	180	19692	4.41	ppb	86

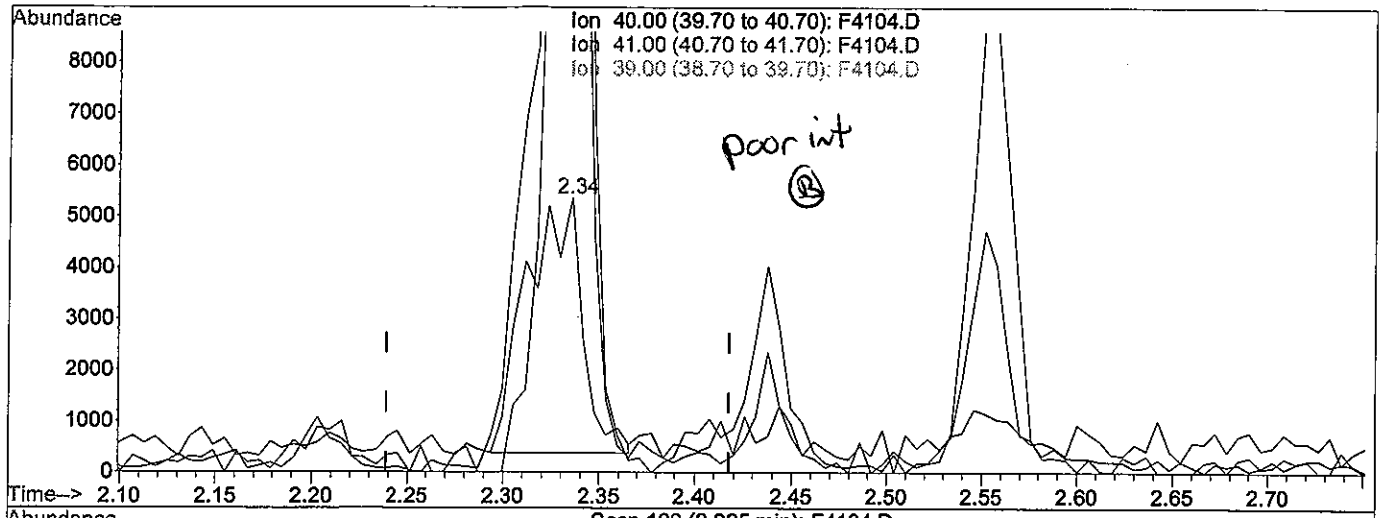
(#) = qualifier out of range (m) = manual integration
F4104.D W110709.M Sun Nov 08 11:54:05 2009

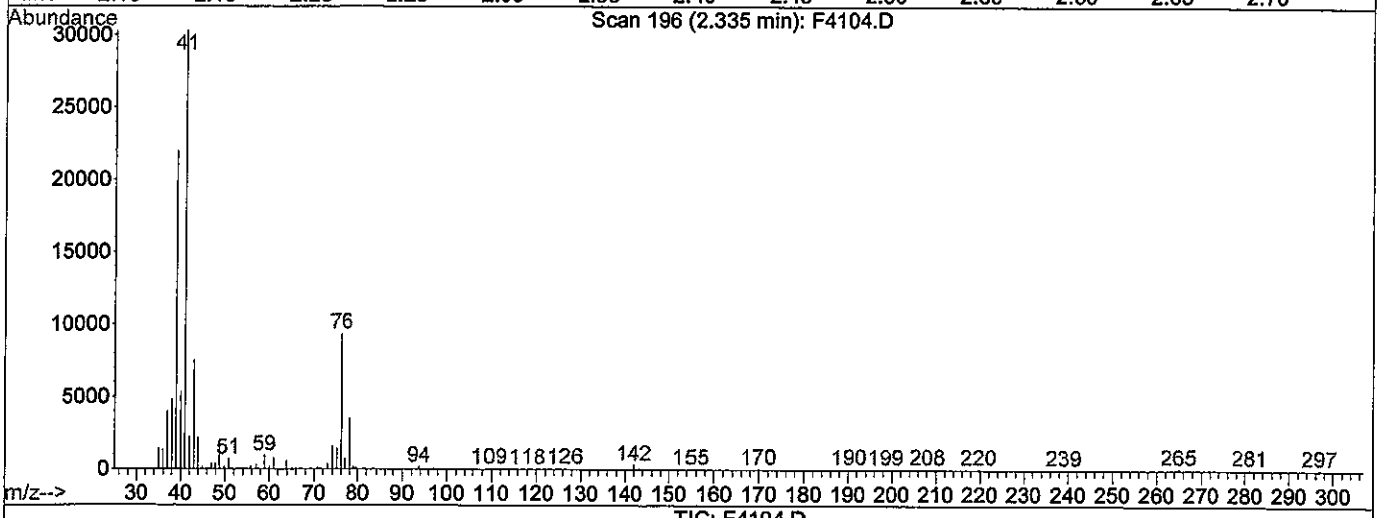
00142

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4104.D Vial: 7
Acq On : 7 Nov 2009 6:03 pm Operator: D.ZIMPFER
Sample : 5.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:49 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4104.D

(20) Acetonitrile

2.34min 31.73ppb

response 10025

Ion	Exp%	Act%
40.00	100	100
41.00	666.00	565.68#
39.00	495.30	410.92#
0.00	0.00	0.00

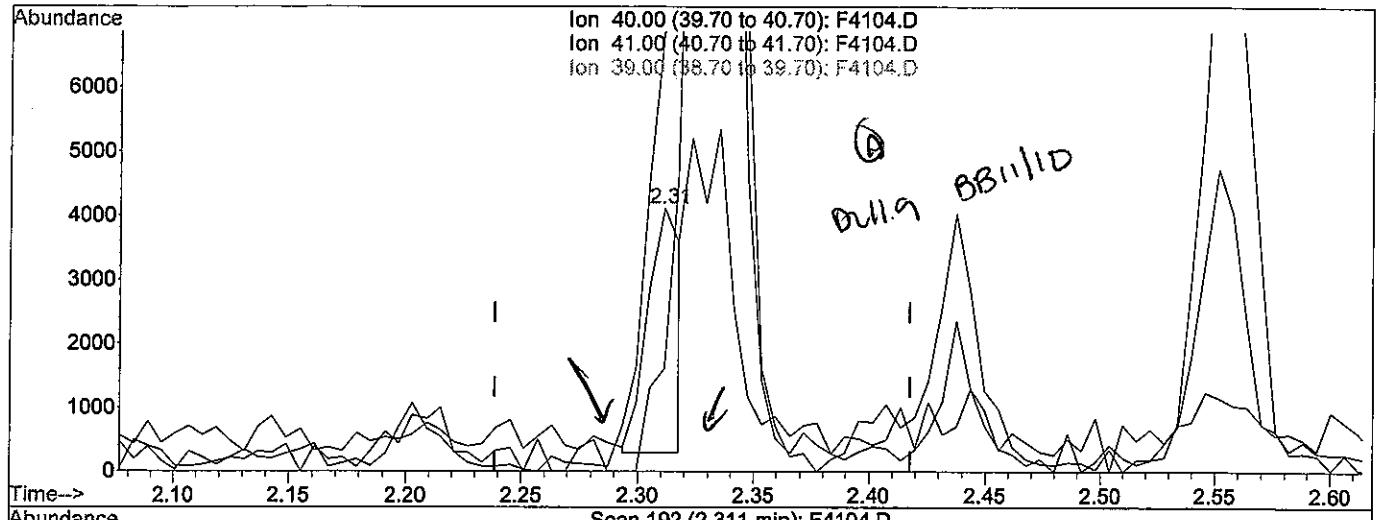
F4104.D W110709.M Sun Nov 08 11:49:44 2009

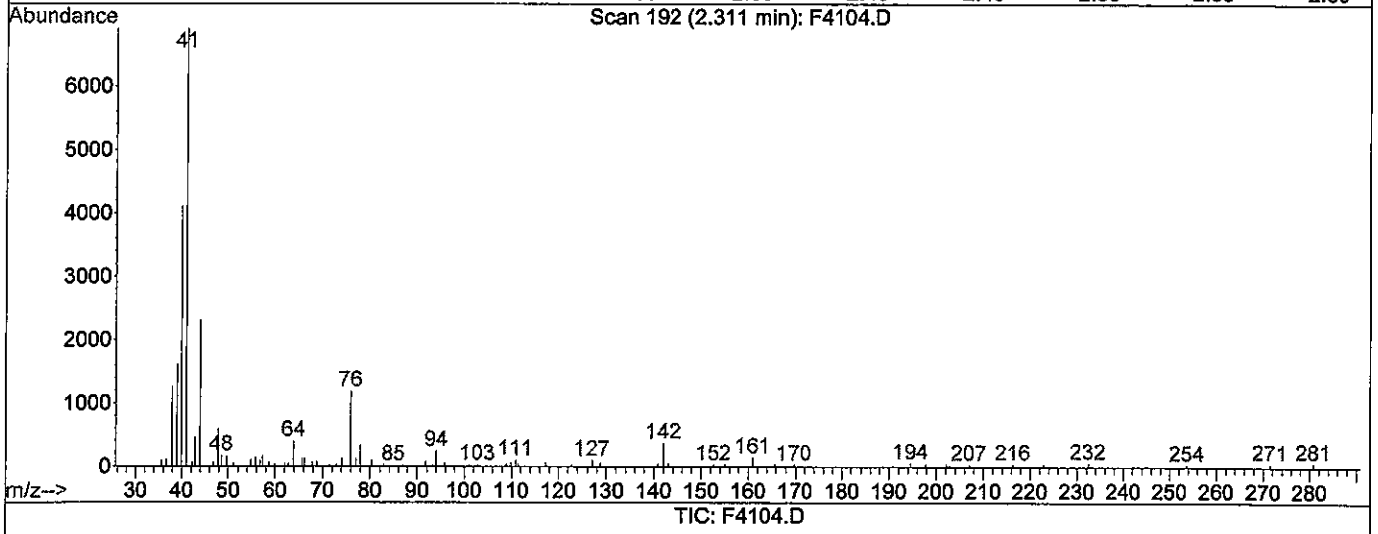
00143

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4104.D Vial: 7
Acq On : 7 Nov 2009 6:03 pm Operator: D.ZIMPFER
Sample : 5.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:53 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4104.D

(20) Acetonitrile

2.31min 11.98ppb m

response 3787

Ion	Exp%	Act%
40.00	100	100
41.00	666.00	168.03#
39.00	495.30	39.19#
0.00	0.00	0.00

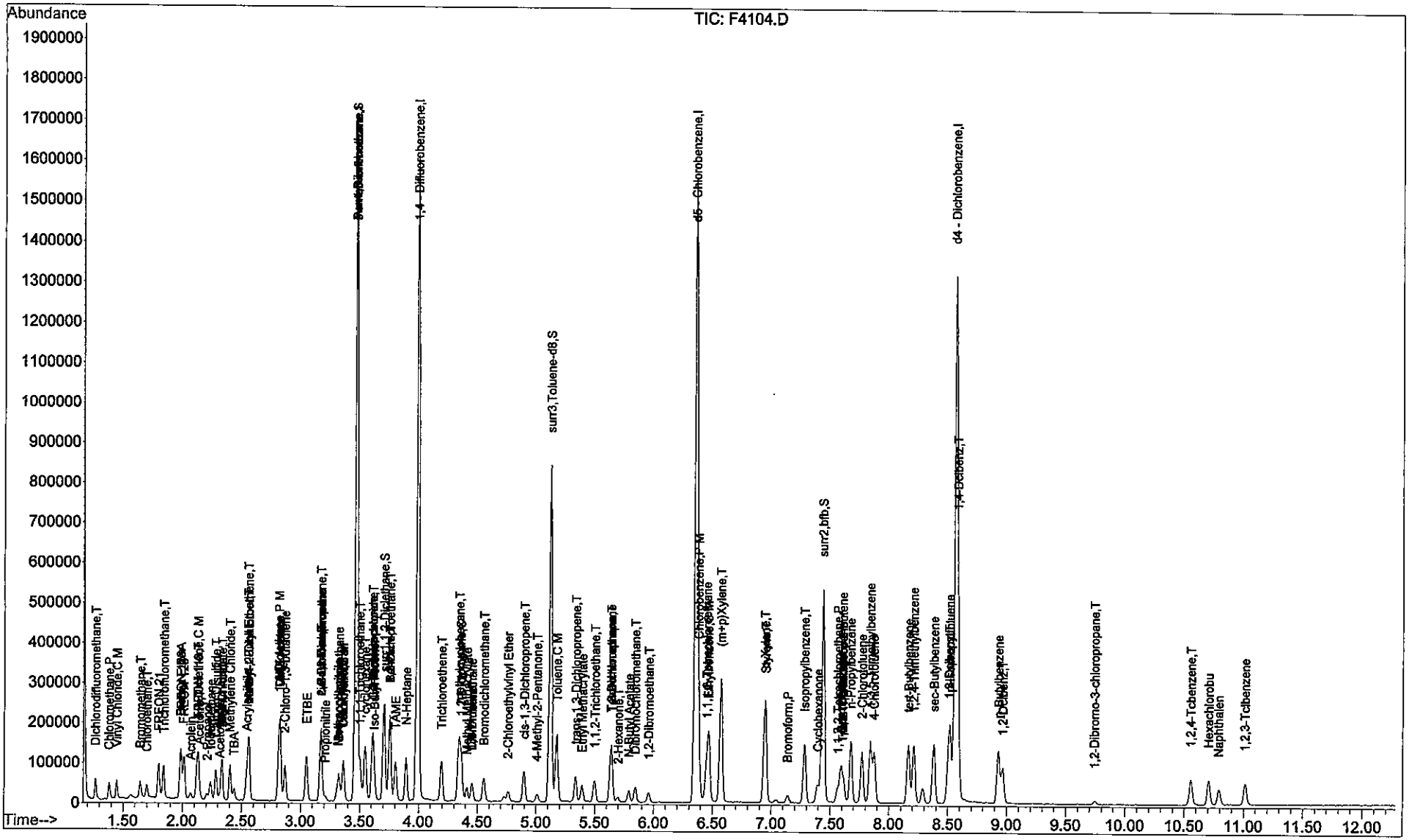
F4104.D W110709.M Sun Nov 08 11:53:55 2009

00144

Quantitation Report

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4104.D Vial: 7
Acq On : 7 Nov 2009 6:03 pm Operator: D.ZIMPFER
Sample : 5.0 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:53 2009 Quant Results File: W110709.RES

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4105.D Vial: 8
Acq On : 7 Nov 2009 6:30 pm Operator: D.ZIMPFER
Sample : 10 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:53 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Initial Calibration
DataAcq Meth : W110709

D2 11.9

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene	3.47	168	663339	50.00	ppb		0.00
42) 1,4 - Difluorobenzene	3.99	114	961592	50.00	ppb		0.00
63) d5 - Chlorobenzene	6.36	117	806251	50.00	ppb		0.00
83) d4 - Dichlorobenzene	8.56	152	376251	50.00	ppb		0.00
System Monitoring Compounds							
43) surr4,Dibrflmethane	3.47	113	226201	40.29	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 80.58%#				
48) surr1,1,2-Diclethane	3.70	65	226659	39.47	ppb		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 78.94%#				
69) surr3,Toluene-d8	5.12	98	783603	39.87	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 79.74%#				
70) surr2,bfb	7.43	95	306543	39.22	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 78.44%#				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.27	85	57110	10.08	ppb		97
4) Chloromethane	1.38	50	48511	9.51	ppb		95
5) Vinyl Chloride	1.44	62	50074	9.58	ppb		97
6) Bromomethane	1.64	96	31769	9.16	ppb		99
7) Chloroethane	1.69	64	42169	11.42	ppb		89
8) FREON 21	1.80	67	116907	11.07	ppb		99
9) Trichlorofluoromethane	1.84	101	79252	10.12	ppb		98
10) Diethyl Ether	1.99	59	26919	9.93	ppb		98
11) FREON 123A	1.98	85	30598	11.02	ppb		97
12) FREON 123	2.01	85	55697	11.33	ppb		93
13) Acrolein	2.07	56	16553	45.69	ppb		91
14) FREON 113	2.12	85	19784	10.08	ppb		98
15) 1,1-Diclethene	2.13	96	40651	9.86	ppb		87
16) Acetone	2.16	43	8660	11.14	ppb		97
17) 2-Propanol	2.20	45	25822	204.25	ppb		96
18) Iodomethane	2.23	127	27834	9.49	ppb		86
19) Carbon Disulfide	2.28	76	113185	8.56	ppb		96
20) Acetonitrile	2.31	40	7703m	24.83	ppb		
21) Allyl Chloride	2.33	76	23285	9.93	ppb		96
22) Methyl Acetate	2.33	43	22844	10.42	ppb		100
23) Methylene Chloride	2.40	84	50085	10.23	ppb		94
24) TBA	2.44	59	38334	194.00	ppb		95
25) Acrylonitrile	2.54	53	43528	50.63	ppb		96
26) Methyl-t-Butyl Ether	2.55	73	94369	9.98	ppb		99
27) trans-1,2-Dichloroethene	2.56	96	49976	9.85	ppb		94
28) 1,1-Diclethane	2.81	63	92011	10.07	ppb		98
29) DIPE	2.82	45	162714	9.46	ppb		98
30) Vinyl Acetate	2.82	86	5298	9.69	ppb	#	67
31) 2-Chloro-1,3-butadiene	2.87	53	63970	8.31	ppb		93
32) ETBE	3.05	59	133290	9.82	ppb		95
33) 2,2-Dichloropropane	3.17	77	81916	10.35	ppb		96
34) 2-Butanone	3.17	43	11801	10.17	ppb		90
35) cis-1,2-Dichloroethene	3.17	96	54553	10.04	ppb		98
36) Propionitrile	3.20	54	14366	48.36	ppb		93
37) Methacrylonitrile	3.30	67	8795	9.56	ppb		81

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4105.D Vial: 8
Acq On : 7 Nov 2009 6:30 pm Operator: D.ZIMPFER
Sample : 10 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:53 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Initial Calibration
DataAcq Meth : W110709

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
38) Bromochloromethane	3.32	128	22694	10.26 ppb	94
39) Chloroform	3.36	83	95167	10.30 ppb	97
40) Tetrahydrofuran	3.36	42	6241	10.01 ppb	95
41) 1,1,1-Trichloroethane	3.50	97	80021	10.00 ppb	97
44) cyclohexane	3.54	56	87888	10.44 ppb	99
45) Carbontetrachloride	3.61	117	62082	9.96 ppb	99
46) 1,1-Dichloropropene	3.61	75	68568	9.73 ppb	95
47) Iso-Butyl Alcohol	3.62	43	17607	189.81 ppb	94
49) Benzene	3.75	78	194977	9.93 ppb	97
50) 1,2-Dichloroethane	3.76	62	67045	10.93 ppb	96
51) TAME	3.80	73	101782	9.85 ppb	96
52) N-Heptane	3.90	43	67593	9.49 ppb	97
53) Trichloroethene	4.19	95	51458	9.86 ppb	97
54) methylcyclohexane	4.34	55	79482	10.62 ppb	97
55) 1,2-Diclpropane	4.36	63	47005	10.20 ppb	100
56) Methyl Methacrylate	4.41	69	17228	9.81 ppb	92
57) 1,4-Dioxane	4.46	88	4256	189.48 ppb	95
58) Dibromomethane	4.45	93	24877	10.73 ppb	95
59) Bromodichloromethane	4.55	83	64062	10.07 ppb	97
61) 2-Chloroethylvinyl Ether	4.76	63	15215	8.65 ppb	95
62) cis-1,3-Dichloropropene	4.89	75	71036	10.07 ppb	98
64) 4-Methyl-2-Pentanone	5.01	43	23191	9.64 ppb	92
65) Toluene	5.17	91	201982	9.83 ppb	98
66) trans-1,3-Dichloropropene	5.33	75	56887	9.84 ppb	96
67) Ethyl Methacrylate	5.39	69	37629	9.84 ppb	99
68) 1,1,2-Trichloroethane	5.50	83	25796	10.40 ppb	94
71) Tetrachloroethene	5.63	166	55237	10.11 ppb	96
72) 2-Hexanone	5.69	43	15688	9.79 ppb	99
73) N-Butyl Acetate	5.78	43	40588	10.32 ppb	96
74) 1,3-Dichloropropane	5.65	76	57275	10.37 ppb	99
75) Dibromochloromethane	5.84	129	38069	10.46 ppb	97
76) 1,2-Dibromoethane	5.96	107	31865	10.70 ppb	98
77) Chlorobenzene	6.38	112	128808	10.13 ppb	96
78) 1,1,1,2-Tetrachloroethane	6.45	131	42325	10.24 ppb	99
79) Ethylbenzene	6.46	91	226190	9.68 ppb	98
80) (m+p)Xylene	6.57	106	168028	19.25 ppb	95
81) o-Xylene	6.94	106	78727	9.56 ppb	97
82) Styrene	6.95	104	129965	9.32 ppb	98
84) Bromoform	7.13	173	18875	10.06 ppb	97
85) Isopropylbenzene	7.28	105	201401	9.63 ppb	99
86) Cyclohexanone	7.39	55	43680	218.83 ppb	91
87) 1,1,2,2-Tetrachloroethane	7.56	83	33310	10.95 ppb	92
88) Trans-1,4-Dichloro-2-buten	7.61	53	8730	10.08 ppb	73
89) 1,2,3-Trichloropropane	7.61	110	10148	10.76 ppb	93
90) n-Propylbenzene	7.67	91	251847	9.58 ppb	100
91) Bromobenzene	7.59	156	49665	10.26 ppb	96
93) 1,3,5-Trimethylbenzene	7.84	105	173760	9.68 ppb	99
94) 2-Chlorotoluene	7.77	91	147652	9.64 ppb	98
95) 4-Chlorotoluene	7.87	91	173083	9.83 ppb	99
96) tert-Butylbenzene	8.17	119	145287	9.50 ppb	94

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4105.D Vial: 8
Acq On : 7 Nov 2009 6:30 pm Operator: D.ZIMPFER
Sample : 10 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:53 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Initial Calibration
DataAcq Meth : W110709

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97)	1,2,4-Trimethylbenzene	8.21	105	176256	9.84	ppb	95
98)	sec-Butylbenzene	8.38	105	222089	9.39	ppb	99
99)	p-Isopropyltoluene	8.52	119	176783	9.34	ppb	95
100)	1,3-Dclbenz	8.50	146	93567	10.17	ppb	94
101)	1,4-Dclbenz	8.59	146	91959	10.20	ppb	100
103)	n-Butylbenzene	8.93	91	161381	9.20	ppb	98
104)	1,2-Dclbenz	8.96	146	79975	10.07	ppb	98
105)	1,2-Dibromo-3-chloropropan	9.74	157	4785m	10.75	ppb	
107)	1,2,4-Tcbenzene	10.56	180	47641	9.31	ppb	95
108)	Hexachlorobu	10.71	225	26271	10.30	ppb	99
109)	Naphthalen	10.79	128	76399	9.02	ppb	93
110)	1,2,3-Tclbenzene	11.01	180	38973	8.94	ppb	99

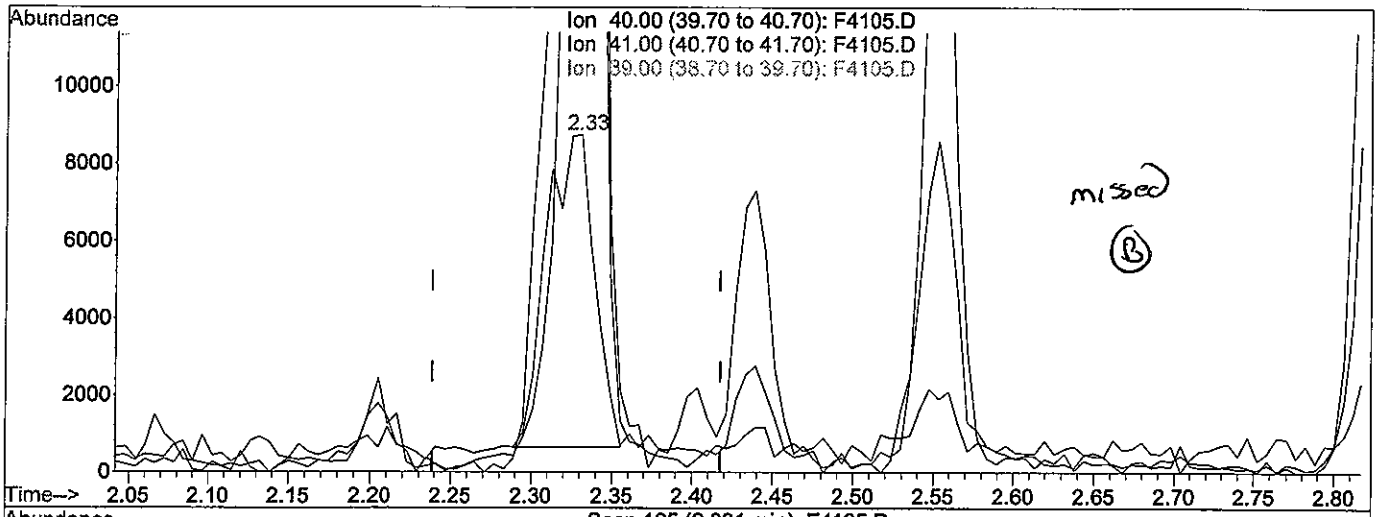
(#) = qualifier out of range (m) = manual integration
F4105.D W110709.M Sun Nov 08 11:53:27 2009

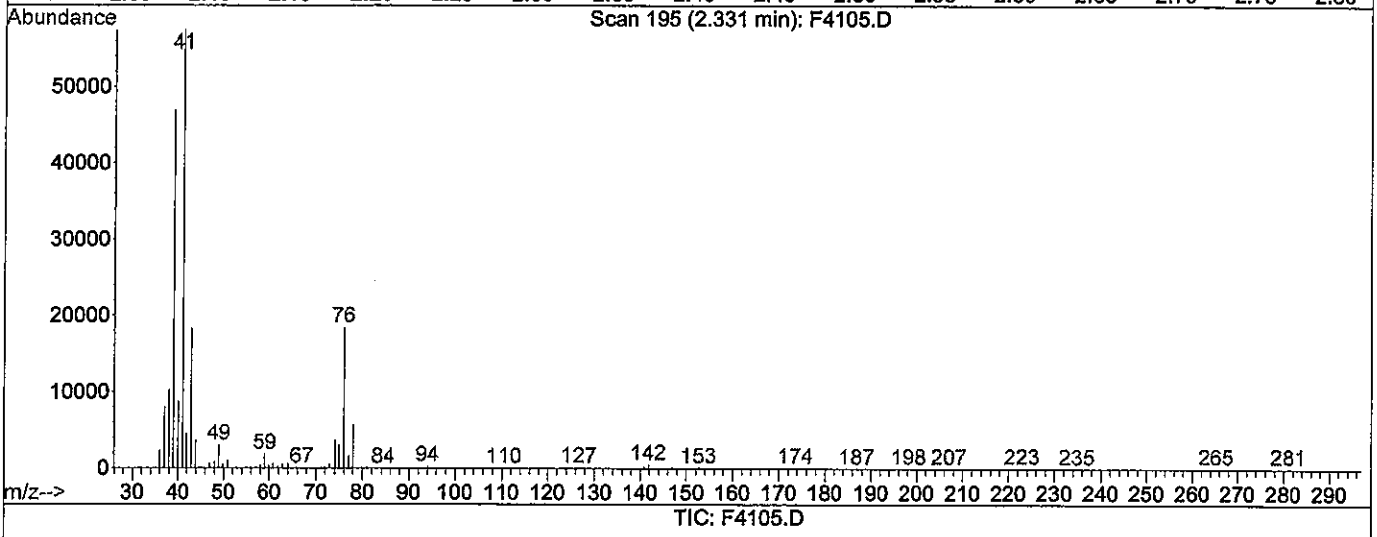
00148

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4105.D Vial: 8
Acq On : 7 Nov 2009 6:30 pm Operator: D.ZIMPFER
Sample : 10 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:51 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4105.D

(20) Acetonitrile

2.33min 54.02ppb

response 16758

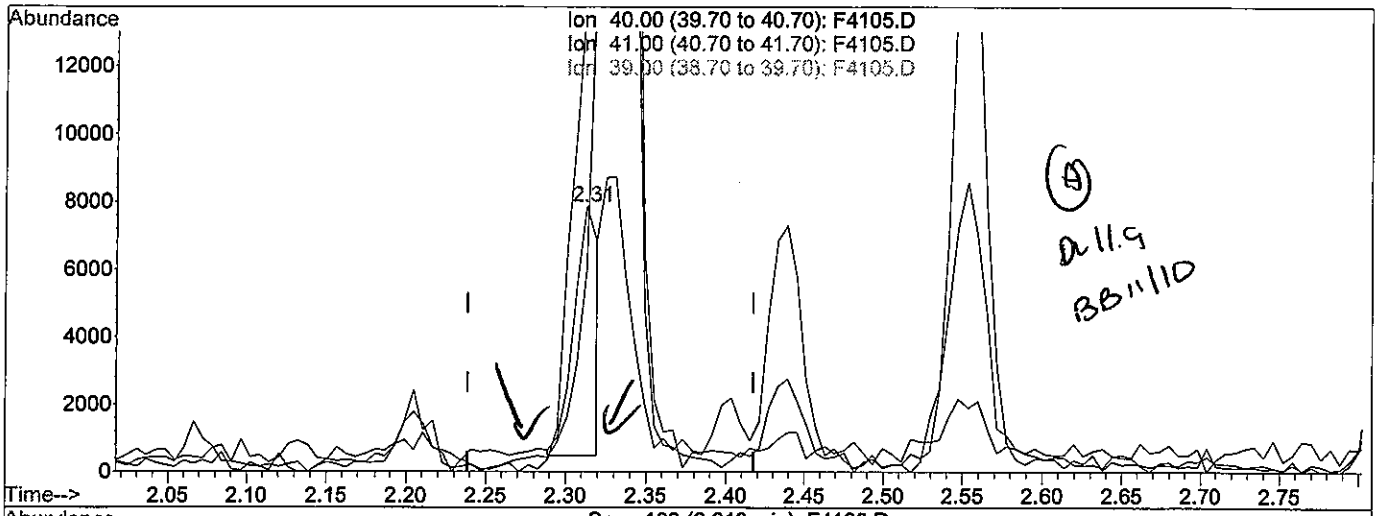
Ion	Exp%	Act%
40.00	100	100
41.00	666.00	656.78
39.00	495.30	537.27#
0.00	0.00	0.00

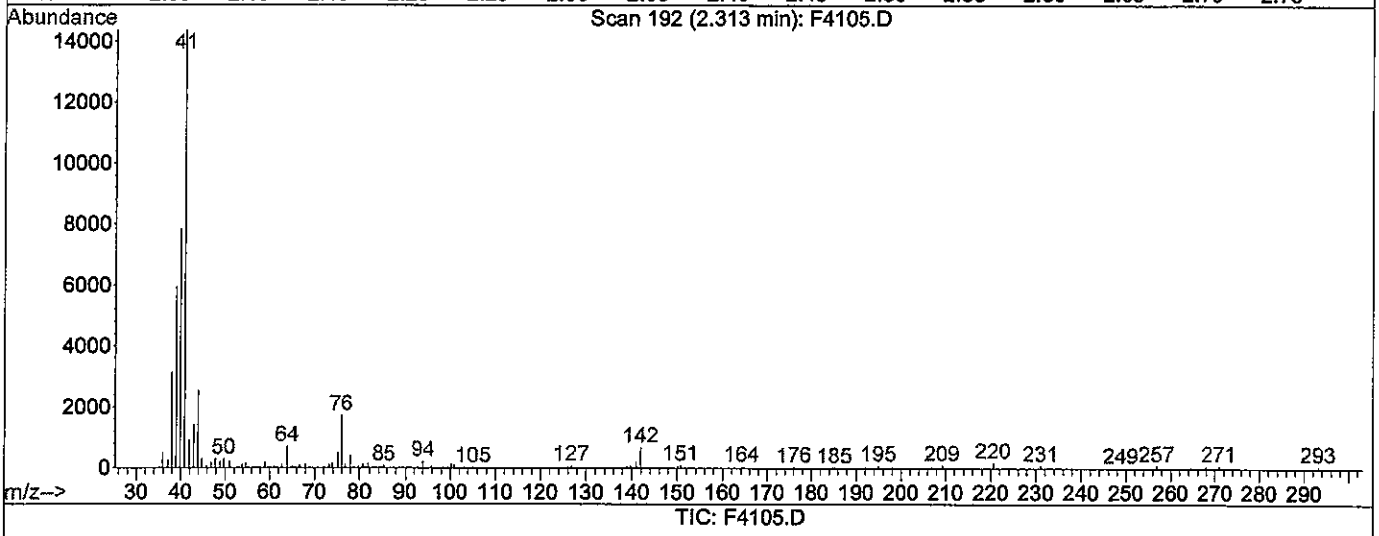
F4105.D W110709.M Sun Nov 08 11:51:56 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4105.D Vial: 8
Acq On : 7 Nov 2009 6:30 pm Operator: D.ZIMPFER
Sample : 10 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:51 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4105.D

(20) Acetonitrile

2.31min 24.83ppb m

response 7703

Ion	Exp%	Act%
40.00	100	100
41.00	666.00	182.88#
39.00	495.30	75.57#
0.00	0.00	0.00

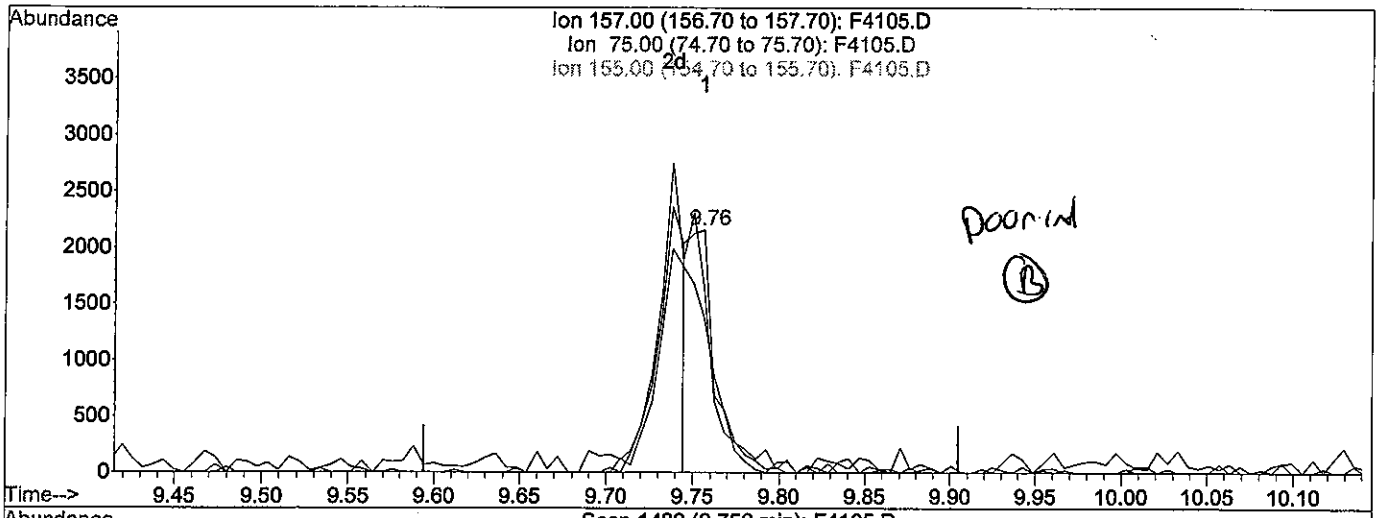
F4105.D W110709.M Sun Nov 08 11:52:23 2009

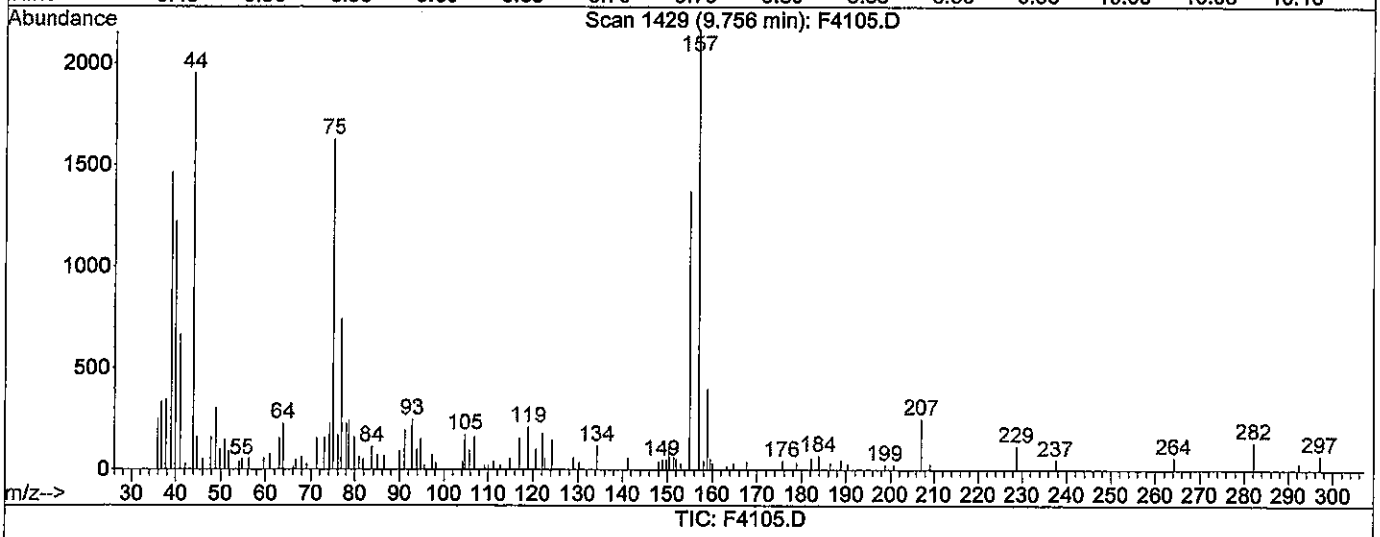
00150

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4105.D Vial: 8
Acq On : 7 Nov 2009 6:30 pm Operator: D.ZIMPFER
Sample : 10 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:51 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4105.D

(105) 1,2-Dibromo-3-chloropropane (T)

9.76min 4.97ppb

response 2212

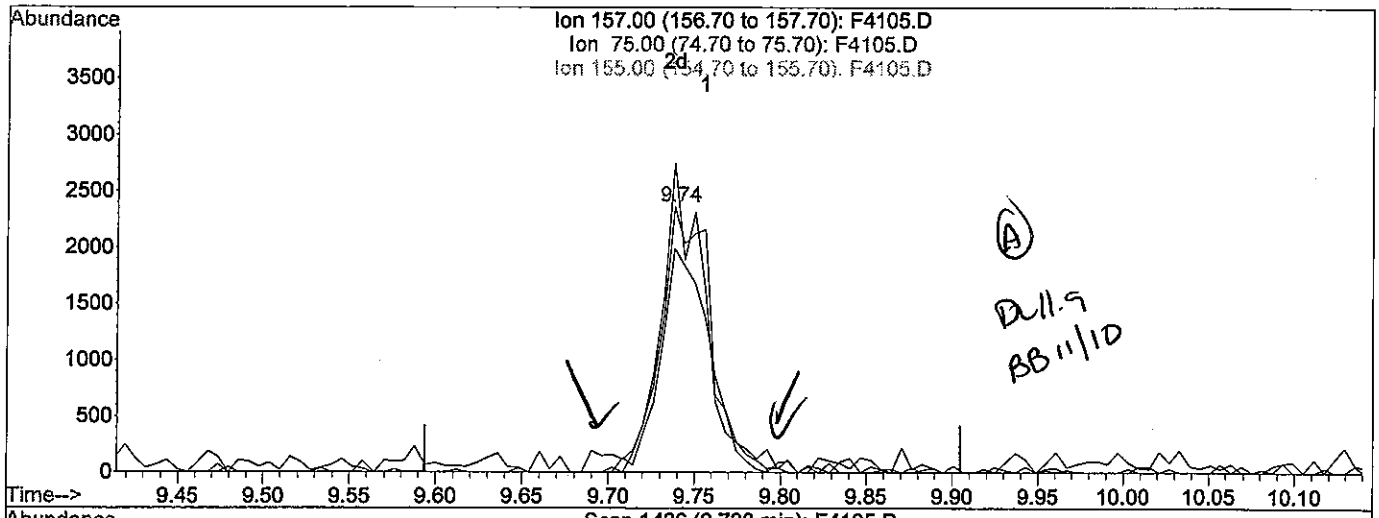
Ion	Exp%	Act%
157.00	100	100
75.00	81.20	75.38
155.00	65.20	63.51
0.00	0.00	0.00

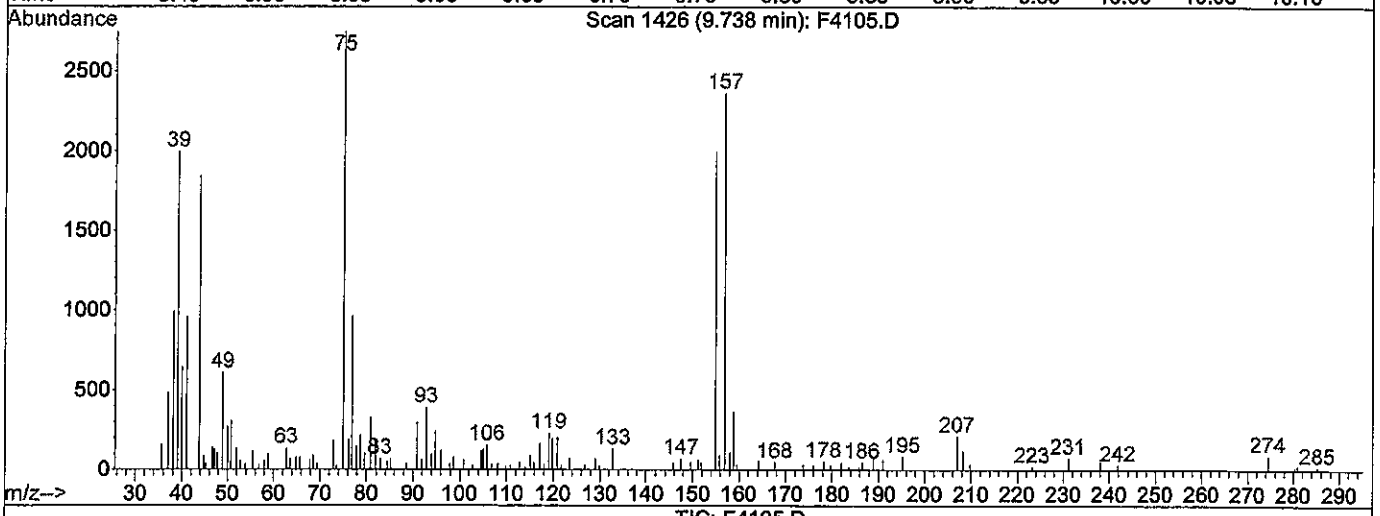
F4105.D W110709.M Sun Nov 08 11:53:00 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4105.D Vial: 8
Acq On : 7 Nov 2009 6:30 pm Operator: D.ZIMPFER
Sample : 10 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:53 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Multiple Level Calibration





TIC: F4105.D

(105) 1,2-Dibromo-3-chloropropane (T)

9.74min 10.75ppb m

response 4785

Ion	Exp%	Act%
157.00	100	100
75.00	81.20	116.34#
155.00	65.20	84.34
0.00	0.00	0.00

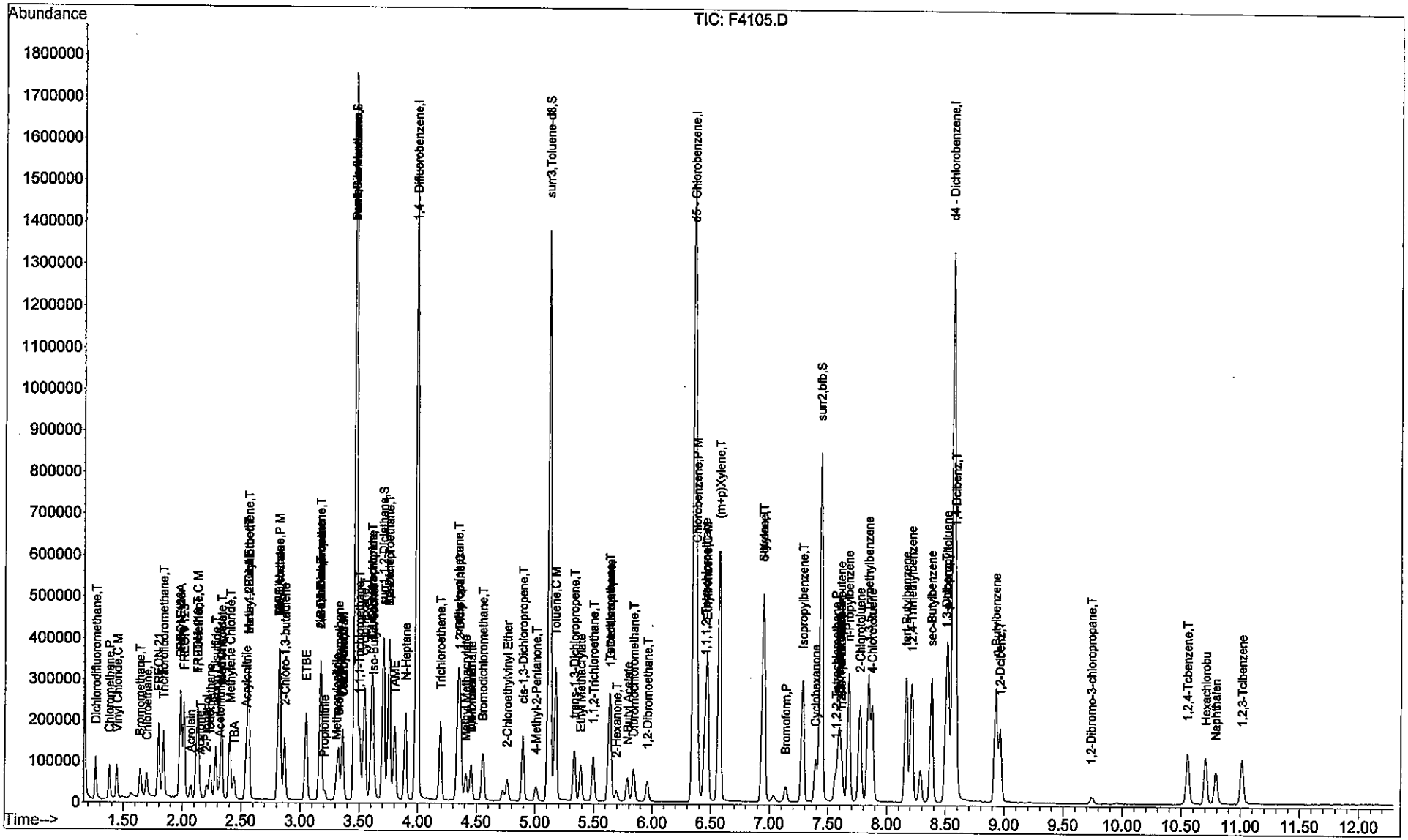
F4105.D W110709.M Sun Nov 08 11:53:14 2009

00152

Quantitation Report

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4105.D Vial: 8
Acq On : 7 Nov 2009 6:30 pm Operator: D.ZIMPFER
Sample : 10 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:53 2009 Quant Results File: W110709.RES

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:28:39 2009
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4106.D Vial: 9
Acq On : 7 Nov 2009 6:57 pm Operator: D.ZIMPFER
Sample : 50 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:07 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sat Nov 07 16:41:24 2009
Response via : Initial Calibration
DataAcq Meth : W110709

DA11.9

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene	3.47	168	656236	50.00	ppb		0.00
42) 1,4 - Difluorobenzene	3.99	114	963948	50.00	ppb		0.00
63) d5 - Chlorobenzene	6.36	117	820705	50.00	ppb		0.00
83) d4 - Dichlorobenzene	8.56	152	410741	50.00	ppb		0.00
System Monitoring Compounds							
43) surr4,Dibrflmethane	3.47	113	290884	52.01	ppb		0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 104.02%				
48) surr1,1,2-Diclethane	3.70	65	293280	58.95	ppb		0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 117.90%				
69) surr3,Toluene-d8	5.12	98	1037525	49.67	ppb		0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 99.34%				
70) surr2,bfb	7.43	95	421570	55.59	ppb		0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 111.18%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.27	85	281734	57.54	ppb		98
4) Chloromethane	1.38	50	237082	38.49	ppb		98
5) Vinyl Chloride	1.44	62	254118	42.53	ppb		99
6) Bromomethane	1.64	96	163398	39.89	ppb		98
7) Chloroethane	1.69	64	171612	34.92	ppb		99
8) FREON 21	1.80	67	512290	50.89	ppb		100
9) Trichlorofluoromethane	1.84	101	395525	54.85	ppb		100
10) Diethyl Ether	1.99	59	132791	42.29	ppb		95
11) FREON 123A	1.98	85	134495	51.16	ppb		96
12) FREON 123	2.01	85	243371	48.14	ppb		98
13) Acrolein	2.07	56	95680	509.13	ppb		98
14) FREON 113	2.12	85	98249	49.49	ppb		85
15) 1,1-Diclethene	2.13	96	198868	43.21	ppb		93
16) Acetone	2.15	43	39040	38.68	ppb		93
17) 2-Propanol	2.21	45	122851	758.06	ppb		95
18) Iodomethane	2.23	127	165862	60.21	ppb		85
19) Carbon Disulfide	2.28	76	714208	46.25	ppb		100
20) Acetonitrile	2.32	40	53176m	271.62	ppb		
21) Allyl Chloride	2.33	76	112581	40.21	ppb		96
22) Methyl Acetate	2.33	43	109539	27.37	ppb		99
23) Methylene Chloride	2.40	84	238357	39.44	ppb		95
24) TBA	2.44	59	205188	898.06	ppb		94
25) Acrylonitrile	2.54	53	214251	196.10	ppb		92
26) Methyl-t-Butyl Ether	2.55	73	467425	45.68	ppb		96
27) trans-1,2-Dichloroethene	2.56	96	249676	43.46	ppb		92
28) 1,1-Diclethane	2.81	63	450197	42.84	ppb		98
29) DIPE	2.82	45	883382	44.45	ppb		81
30) Vinyl Acetate	2.82	86	29945	85.96	ppb	#	7
31) 2-Chloro-1,3-butadiene	2.87	53	416170	61.04	ppb		93
32) ETBE	3.05	59	693781	47.22	ppb		98
33) 2,2-Dichloropropane	3.17	77	390072	48.47	ppb		94
34) 2-Butanone	3.17	43	59426	37.63	ppb		95
35) cis-1,2-Dichloroethene	3.17	96	264829	41.20	ppb		94
36) Propionitrile	3.21	54	76884	192.77	ppb		97
37) Methacrylonitrile	3.31	67	44372	37.14	ppb		93

(#) = qualifier out of range (m) = manual integration
F4106.D W110709.M Sun Nov 08 11:08:06 2009

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4106.D Vial: 9
Acq On : 7 Nov 2009 6:57 pm Operator: D.ZIMPFER
Sample : 50 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:07 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sat Nov 07 16:41:24 2009
Response via : Initial Calibration
DataAcq Meth : W110709

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
38)	Bromochloromethane	3.32	128	111738	42.94	ppb	96
39)	Chloroform	3.36	83	467252	47.83	ppb	99
40)	Tetrahydrofuran	3.36	42	30613	34.72	ppb	94
41)	1,1,1-Trichloroethane	3.50	97	402886	52.85	ppb	98
44)	cyclohexane	3.55	56	416946	46.15	ppb	97
45)	Carbontetrachloride	3.61	117	316333	55.95	ppb	98
46)	1,1-Dichloropropene	3.61	75	344950	47.77	ppb	95
47)	Iso-Butyl Alcohol	3.62	43	100037	803.82	ppb	99
49)	Benzene	3.75	78	972123	44.37	ppb	99
50)	1,2-Dichloroethane	3.76	62	309782	56.96	ppb	95
51)	TAME	3.80	73	527723	47.53	ppb	95
52)	N-Heptane	3.89	43	333851	42.36	ppb	97
53)	Trichloroethene	4.19	95	259500	48.38	ppb	99
54)	methylcyclohexane	4.34	55	369230	49.56	ppb	99
55)	1,2-Diclpropane	4.36	63	226677	41.85	ppb	97
56)	Methyl Methacrylate	4.41	69	86008	40.57	ppb	93
57)	1,4-Dioxane	4.45	88	22614	912.28	ppb	98
58)	Dibromomethane	4.45	93	114093	42.66	ppb	94
59)	Bromodichloromethane	4.55	83	323188	51.24	ppb	99
61)	2-Chloroethylvinyl Ether	4.76	63	93477	44.79	ppb	92
62)	cis-1,3-Dichloropropene	4.89	75	349704	46.61	ppb	98
64)	4-Methyl-2-Pentanone	5.01	43	127990	43.45	ppb	94
65)	Toluene	5.17	91	1012314	45.49	ppb	98
66)	trans-1,3-Dichloropropene	5.33	75	295072	50.74	ppb	96
67)	Ethyl Methacrylate	5.39	69	191695	45.19	ppb	100
68)	1,1,2-Trichloroethane	5.50	83	125747	45.41	ppb	94
71)	Tetrachloroethene	5.63	166	267475	48.04	ppb	98
72)	2-Hexanone	5.69	43	84809	42.55	ppb	99
73)	N-Butyl Acetate	5.78	43	191440	40.49	ppb	97
74)	1,3-Dichloropropane	5.65	76	275618	44.25	ppb	91
75)	Dibromochloromethane	5.84	129	183298	50.38	ppb	93
76)	1,2-Dibromoethane	5.96	107	151611	45.93	ppb	99
77)	Chlorobenzene	6.38	112	628209	45.71	ppb	100
78)	1,1,1,2-Tetrachloroethane	6.45	131	207443	49.61	ppb	96
79)	Ethylbenzene	6.46	91	1167013	48.33	ppb	97
80)	(m+p)Xylene	6.57	106	874182	96.86	ppb	98
81)	o-Xylene	6.94	106	410135	49.21	ppb	91
82)	Styrene	6.95	104	707810	49.12	ppb	92
84)	Bromoform	7.14	173	99724	48.42	ppb	98
85)	Isopropylbenzene	7.28	105	1059987	46.04	ppb	98
86)	Cyclohexanone	7.39	55	214846	711.51	ppb	97
87)	1,1,2,2-Tetrachloroethane	7.56	83	157123	39.21	ppb	99
88)	Trans-1,4-Dichloro-2-buten	7.61	53	46654	47.80	ppb	94
89)	1,2,3-Trichloropropane	7.61	110	51606	47.92	ppb	96
90)	n-Propylbenzene	7.67	91	1337943	45.61	ppb	99
91)	Bromobenzene	7.59	156	250221	45.30	ppb	99
93)	1,3,5-Trimethylbenzene	7.84	105	931181	47.65	ppb	96
94)	2-Chlorotoluene	7.77	91	790822	45.81	ppb	99
95)	4-Chlorotoluene	7.87	91	906393	47.24	ppb	97
96)	tert-Butylbenzene	8.16	119	795888	48.04	ppb	95

(#) = qualifier out of range (m) = manual integration
F4106.D W110709.M Sun Nov 08 11:08:07 2009

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4106.D Vial: 9
Acq On : 7 Nov 2009 6:57 pm Operator: D.ZIMPFER
Sample : 50 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:07 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sat Nov 07 16:41:24 2009
Response via : Initial Calibration
DataAcq Meth : W110709

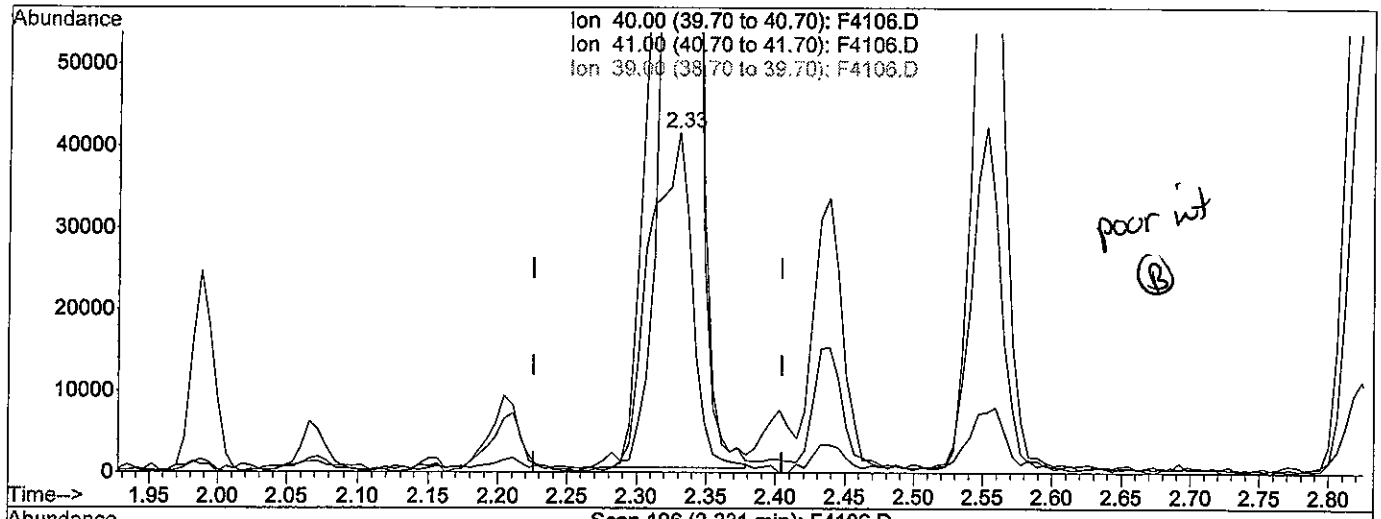
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97)	1,2,4-Trimethylbenzene	8.21	105	927567	47.66	ppb	98
98)	sec-Butylbenzene	8.38	105	1240415	47.98	ppb	100
99)	p-Isopropyltoluene	8.52	119	1003844	50.19	ppb	97
100)	1,3-Dclbenz	8.50	146	480420	46.29	ppb	98
101)	1,4-Dclbenz	8.59	146	475586	45.47	ppb	99
103)	n-Butylbenzene	8.93	91	916158	48.18	ppb	99
104)	1,2-Dclbenz	8.96	146	423739	46.76	ppb	99
105)	1,2-Dibromo-3-chloropropan	9.74	157	28594	47.11	ppb	89
107)	1,2,4-Tcbenzene	10.56	180	261108	46.64	ppb	97
108)	Hexachlorobu	10.71	225	125461	49.29	ppb	95
109)	Naphthalen	10.79	128	445201	42.60	ppb	97
110)	1,2,3-Tclbenzene	11.01	180	227800	47.42	ppb	98

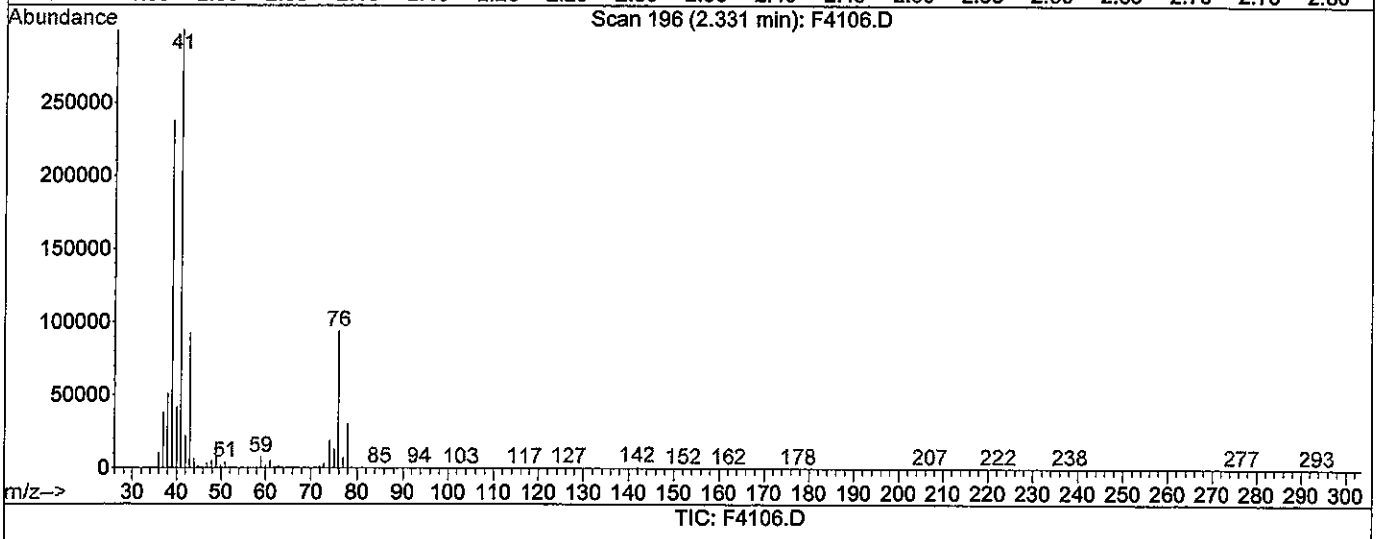
(#) = qualifier out of range (m) = manual integration
F4106.D W110709.M Sun Nov 08 11:08:08 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4106.D Vial: 9
Acq On : 7 Nov 2009 6:57 pm Operator: D.ZIMPFER
Sample : 50 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 7 19:09 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:04:41 2009
Response via : Multiple Level Calibration





TIC: F4106.D

(20) Acetonitrile

2.33min 441.45ppb

response 86424

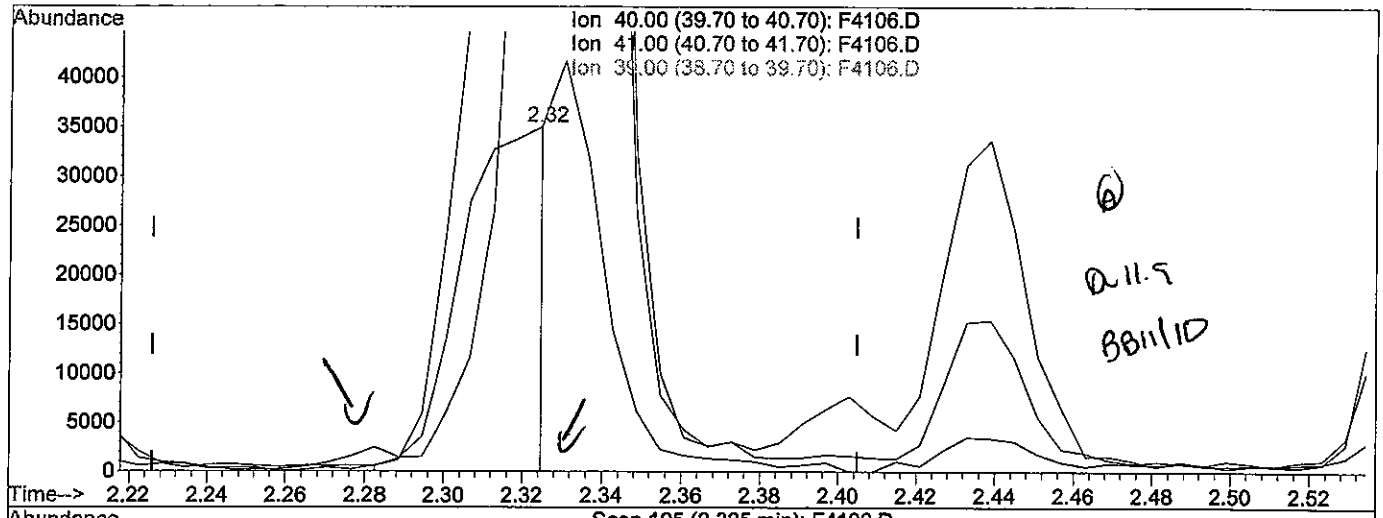
Ion	Exp%	Act%
40.00	100	100
41.00	209.70	719.60#
39.00	64.70	571.10#
0.00	0.00	0.00

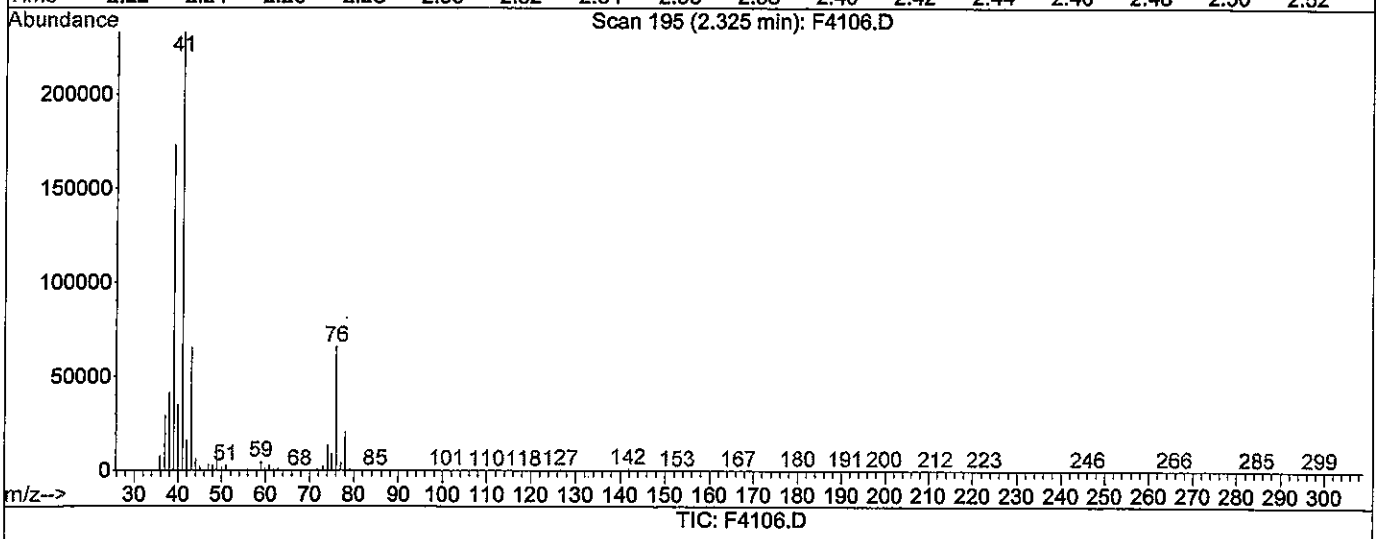
F4106.D W110709.M Sun Nov 08 11:06:56 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4106.D Vial: 9
Acq On : 7 Nov 2009 6:57 pm Operator: D.ZIMPFER
Sample : 50 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:07 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:04:41 2009
Response via : Multiple Level Calibration





TIC: F4106.D

(20) Acetonitrile

2.32min 271.62ppb m

response 53176

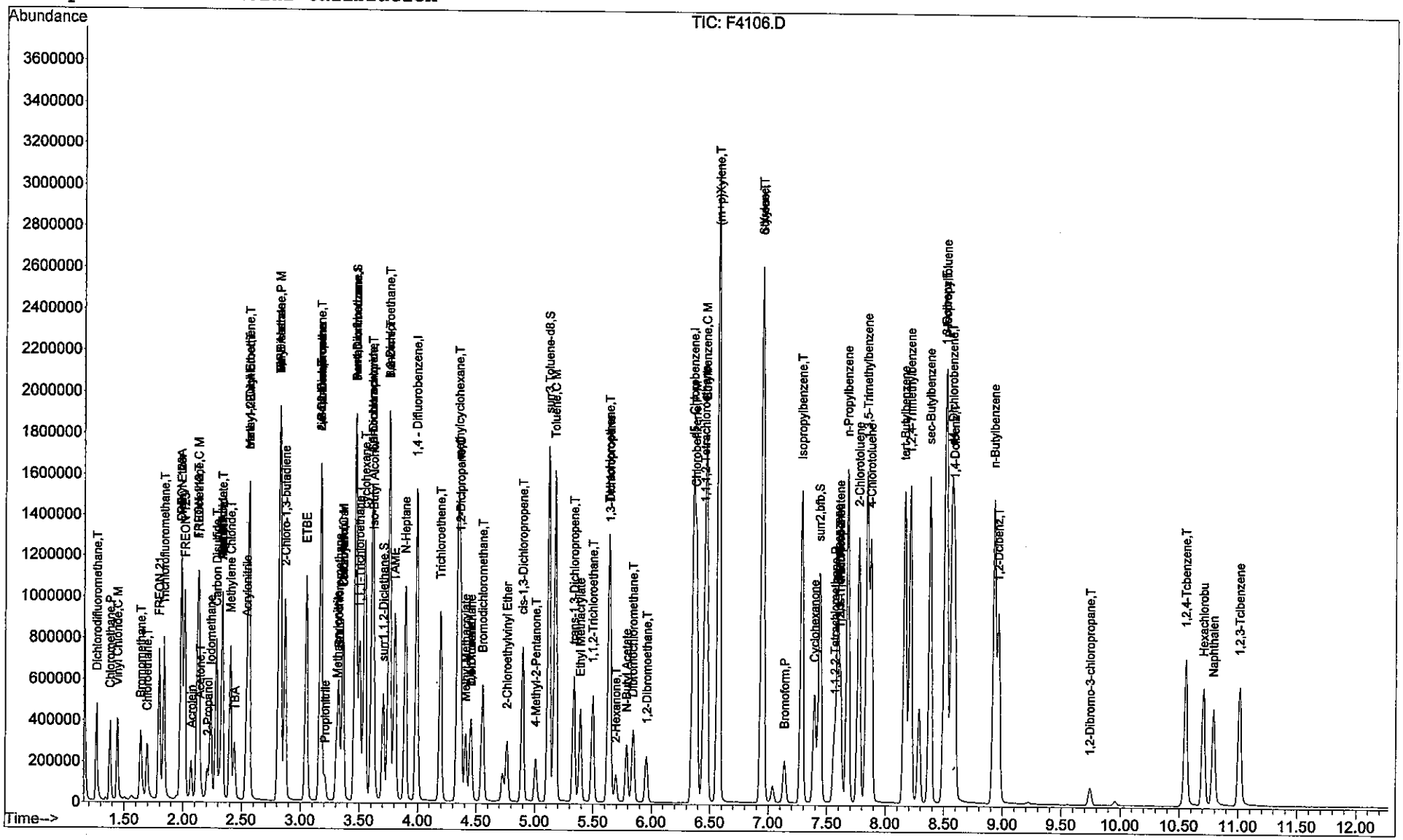
Ion	Exp%	Act%
40.00	100	100
41.00	209.70	666.03#
39.00	64.70	495.26#
0.00	0.00	0.00

F4106.D W110709.M Sun Nov 08 11:07:15 2009

Quantitation Report

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4106.D Vial: 9
Acq On : 7 Nov 2009 6:57 pm Operator: D.ZIMPFER
Sample : 50 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:07 2009 Quant Results File: W110709.RES

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:04:41 2009
Response via : Initial Calibration



SS108

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4107.D Vial: 10
Acq On : 7 Nov 2009 7:25 pm Operator: D.ZIMPFER
Sample : 100 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:09 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:08:29 2009
Response via : Initial Calibration
DataAcq Meth : W110709

11.9

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	3.46	168	707514	50.00	ppb	0.00
42) 1,4 - Difluorobenzene	3.99	114	1027990	50.00	ppb	0.00
63) d5 - Chlorobenzene	6.36	117	873942	50.00	ppb	0.00
83) d4 - Dichlorobenzene	8.57	152	426391	50.00	ppb	0.00
System Monitoring Compounds						
43) surr4,Dibrflmethane	3.46	113	626157	104.31	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 208.62%#			
48) surr1,1,2-Diclethane	3.70	65	593853	100.28	ppb	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 200.56%#			
69) surr3,Toluene-d8	5.12	98	2232442	104.80	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 209.60%#			
70) surr2,bfb	7.43	95	908099	107.18	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 214.36%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.26	85	612702	104.09	ppb	97
4) Chloromethane	1.38	50	542287	97.77	ppb	100
5) Vinyl Chloride	1.44	62	566031	103.16	ppb	98
6) Bromomethane	1.63	96	384771	100.28	ppb	99
7) Chloroethane	1.69	64	379552	76.02	ppb	99
8) FREON 21	1.80	67	1089529	97.20	ppb	100
9) Trichlorofluoromethane	1.84	101	854696	100.24	ppb	97
10) Diethyl Ether	1.99	59	286977	99.31	ppb	99
11) FREON 123A	1.98	85	287055	101.74	ppb	94
12) FREON 123	2.01	85	491252	91.64	ppb	97
13) Acrolein	2.07	56	188103	515.59	ppb	100
14) FREON 113	2.11	85	209116	94.96	ppb	95
15) 1,1-Diclethene	2.13	96	444495	101.34	ppb	98
16) Acetone	2.15	43	77257	75.83	ppb	91
17) 2-Propanol	2.20	45	269953	1976.08	ppb	100
18) Iodomethane	2.24	127	323859	103.85	ppb	98
19) Carbon Disulfide	2.28	76	1434234	98.77	ppb	100
20) Acetonitrile	2.32	40	88584m	254.05	ppb	
21) Allyl Chloride	2.33	76	255249	99.12	ppb	93
22) Methyl Acetate	2.33	43	225871	85.56	ppb	97
23) Methylene Chloride	2.40	84	514920	94.74	ppb	97
24) TBA	2.44	59	409244	1946.94	ppb	96
25) Acrylonitrile	2.54	53	439926	492.53	ppb	98
26) Methyl-t-Butyl Ether	2.55	73	1000127	99.29	ppb	99
27) trans-1,2-Dichloroethene	2.56	96	546688	99.38	ppb	95
28) 1,1-Diclethane	2.81	63	963974	97.03	ppb	99
29) DIPE	2.82	45	1820711	101.52	ppb	93
30) Vinyl Acetate	2.82	86	55655	97.08	ppb #	52
31) 2-Chloro-1,3-butadiene	2.87	53	854450	104.83	ppb	100
32) ETBE	3.05	59	1420422	100.19	ppb	99
33) 2,2-Dichloropropane	3.17	77	841465	97.68	ppb	98
34) 2-Butanone	3.17	43	119124	91.99	ppb	96
35) cis-1,2-Dichloroethene	3.17	96	575947	94.92	ppb	98
36) Propionitrile	3.21	54	154174	500.02	ppb	97
37) Methacrylonitrile	3.31	67	96767	99.37	ppb	98

(#) = qualifier out of range (m) = manual integration
F4107.D W110709.M Sun Nov 08 11:09:52 2009

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4107.D Vial: 10
Acq On : 7 Nov 2009 7:25 pm Operator: D.ZIMPFER
Sample : 100 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:09 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:08:29 2009
Response via : Initial Calibration
DataAcq Meth : W110709

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
38)	Bromochloromethane	3.32	128	235480	97.84	ppb	93
39)	Chloroform	3.36	83	965927	80.98	ppb	98
40)	Tetrahydrofuran	3.36	42	66186	99.65	ppb	100
41)	1,1,1-Trichloroethane	3.50	97	863749	99.11	ppb	97
44)	cyclohexane	3.54	56	890189	99.65	ppb	99
45)	Carbontetrachloride	3.61	117	686375	96.60	ppb	99
46)	1,1-Dichloropropene	3.61	75	779978	100.44	ppb	96
47)	Iso-Butyl Alcohol	3.63	43	189639	1736.28	ppb	98
49)	Benzene	3.75	78	2123927	100.75	ppb	99
50)	1,2-Dichloroethane	3.76	62	641134	95.85	ppb	100
51)	TAME	3.80	73	1101784	101.80	ppb	98
52)	N-Heptane	3.89	43	790248	108.55	ppb	100
53)	Trichloroethene	4.19	95	566055	98.17	ppb	97
54)	methylcyclohexane	4.34	55	791961	102.37	ppb	98
55)	1,2-Diclpropane	4.37	63	490972	97.89	ppb	94
56)	Methyl Methacrylate	4.41	69	188370	100.04	ppb	99
57)	1,4-Dioxane	4.46	88	47173	1872.26	ppb	96
58)	Dibromomethane	4.45	93	241251	90.36	ppb	94
59)	Bromodichloromethane	4.55	83	681458	97.23	ppb	99
61)	2-Chloroethylvinyl Ether	4.76	63	189439	99.36	ppb	96
62)	cis-1,3-Dichloropropene	4.89	75	750529	98.38	ppb	96
64)	4-Methyl-2-Pentanone	5.01	43	256701	97.84	ppb	98
65)	Toluene	5.17	91	2269021	104.06	ppb	98
66)	trans-1,3-Dichloropropene	5.33	75	622977	101.84	ppb	99
67)	Ethyl Methacrylate	5.39	69	409590	103.55	ppb	96
68)	1,1,2-Trichloroethane	5.50	83	260743	96.15	ppb	95
71)	Tetrachloroethene	5.63	166	605442	102.03	ppb	99
72)	2-Hexanone	5.70	43	171101	94.57	ppb	98
73)	N-Butyl Acetate	5.79	43	425805	97.85	ppb	98
74)	1,3-Dichloropropane	5.64	76	583463	95.11	ppb	96
75)	Dibromochloromethane	5.84	129	385808	113.75	ppb	95
76)	1,2-Dibromoethane	5.96	107	308293	93.15	ppb	96
77)	Chlorobenzene	6.38	112	1382425	99.82	ppb	99
78)	1,1,1,2-Tetrachloroethane	6.45	131	447640	100.01	ppb	97
79)	Ethylbenzene	6.47	91	2604644	104.78	ppb	100
80)	(m+p)Xylene	6.57	106	1950336	216.52	ppb	98
81)	o-Xylene	6.94	106	917976	109.18	ppb	96
82)	Styrene	6.95	104	1560778	110.13	ppb	96
84)	Bromoform	7.14	173	206952	99.07	ppb	96
85)	Isopropylbenzene	7.28	105	2433153	106.49	ppb	99
86)	Cyclohexanone	7.39	55	442491	1954.10	ppb	99
87)	1,1,2,2-Tetrachloroethane	7.56	83	325380	91.76	ppb	97
88)	Trans-1,4-Dichloro-2-buten	7.62	53	94204	92.13	ppb	98
89)	1,2,3-Trichloropropane	7.61	110	101593	92.55	ppb	98
90)	n-Propylbenzene	7.67	91	3050005	107.31	ppb	99
91)	Bromobenzene	7.59	156	544281	100.42	ppb	98
93)	1,3,5-Trimethylbenzene	7.84	105	2068485	106.74	ppb	99
94)	2-Chlorotoluene	7.77	91	1771538	103.93	ppb	100
95)	4-Chlorotoluene	7.87	91	2030846	104.07	ppb	99
96)	tert-Butylbenzene	8.16	119	1780474	107.03	ppb	97

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4107.D Vial: 10
Acq On : 7 Nov 2009 7:25 pm Operator: D.ZIMPFER
Sample : 100 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:09 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:08:29 2009
Response via : Initial Calibration
DataAcq Meth : W110709

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
97)	1,2,4-Trimethylbenzene	8.21	105	2055764	106.45	ppb	99
98)	sec-Butylbenzene	8.38	105	2773218	108.89	ppb	99
99)	p-Isopropyltoluene	8.52	119	2202082	108.01	ppb	98
100)	1,3-Dclbenz	8.51	146	1036313	99.70	ppb	99
101)	1,4-Dclbenz	8.59	146	1002263	95.04	ppb	98
103)	n-Butylbenzene	8.93	91	2077875	112.03	ppb	99
104)	1,2-Dclbenz	8.96	146	893000	98.54	ppb	98
105)	1,2-Dibromo-3-chloropropan	9.74	157	57415	111.76	ppb	88
107)	1,2,4-Tcbenzene	10.55	180	598086	105.47	ppb	100
108)	Hexachlorobu	10.71	225	292366	98.30	ppb	97
109)	Naphthalen	10.79	128	996653	106.06	ppb	97
110)	1,2,3-Tclbenzene	11.01	180	509043	103.78	ppb	97

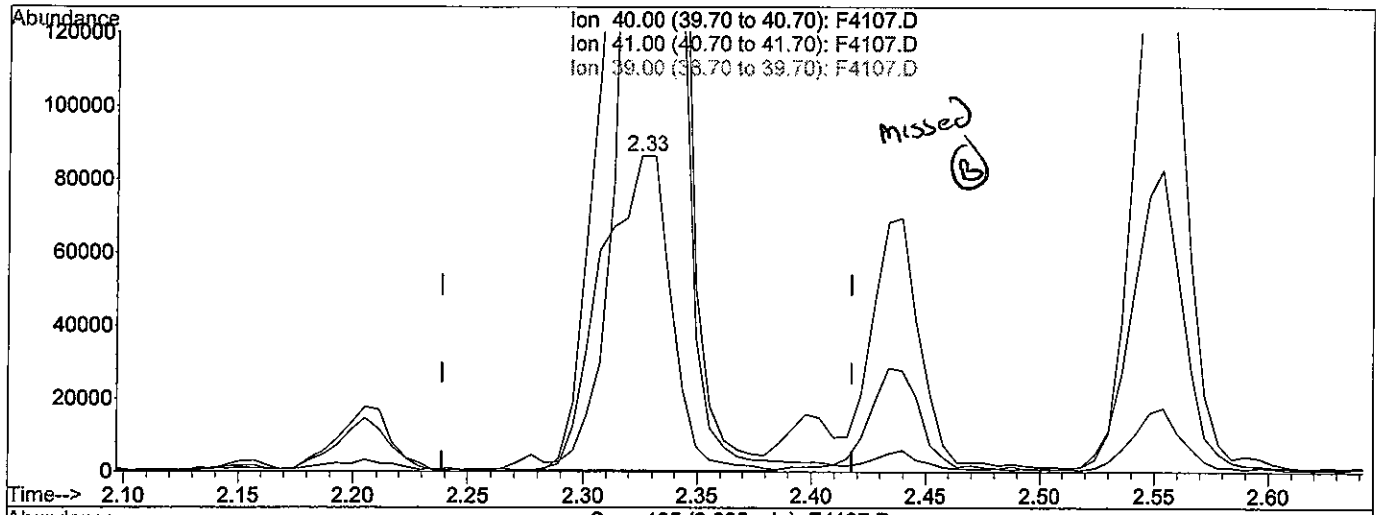
(#) = qualifier out of range (m) = manual integration
F4107.D W110709.M Sun Nov 08 11:09:54 2009

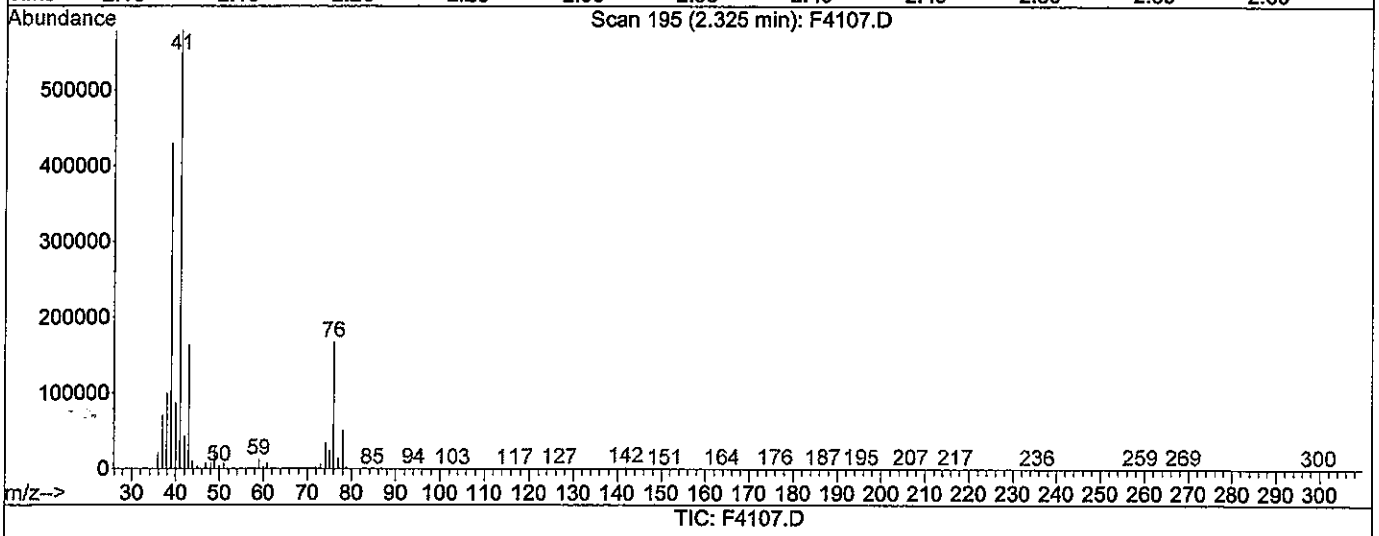
00162

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4107.D Vial: 10
Acq On : 7 Nov 2009 7:25 pm Operator: D.ZIMPFER
Sample : 100 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:08 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:08:29 2009
Response via : Multiple Level Calibration





TIC: F4107.D

(20) Acetonitrile

2.33min 522.02ppb

response 182023

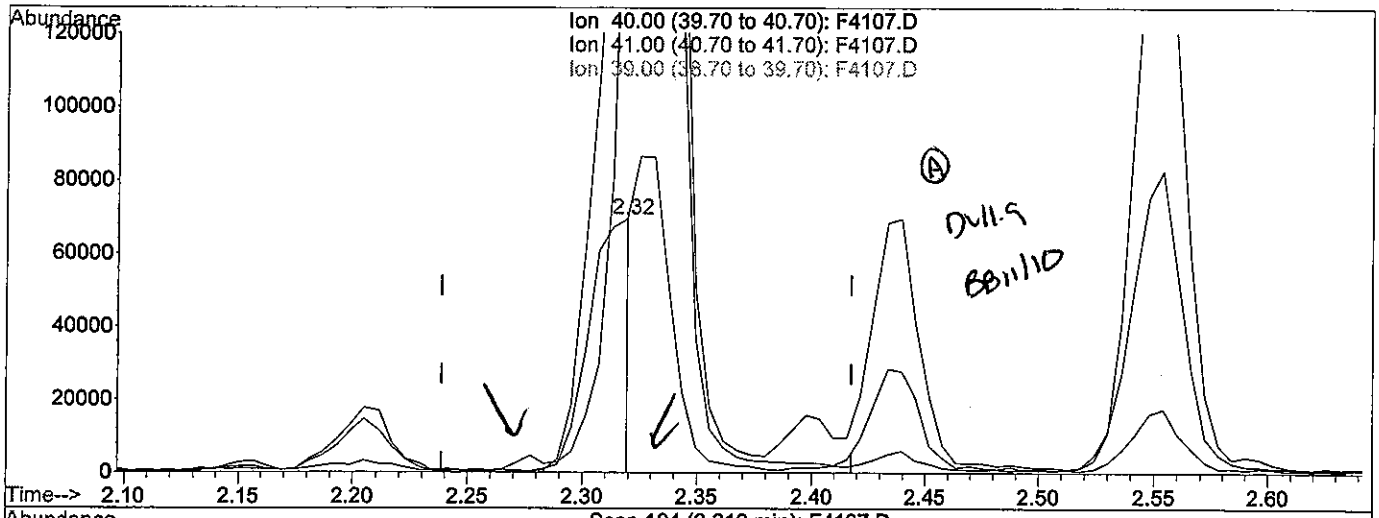
Ion	Exp%	Act%
40.00	100	100
41.00	666.00	668.96
39.00	495.30	496.69
0.00	0.00	0.00

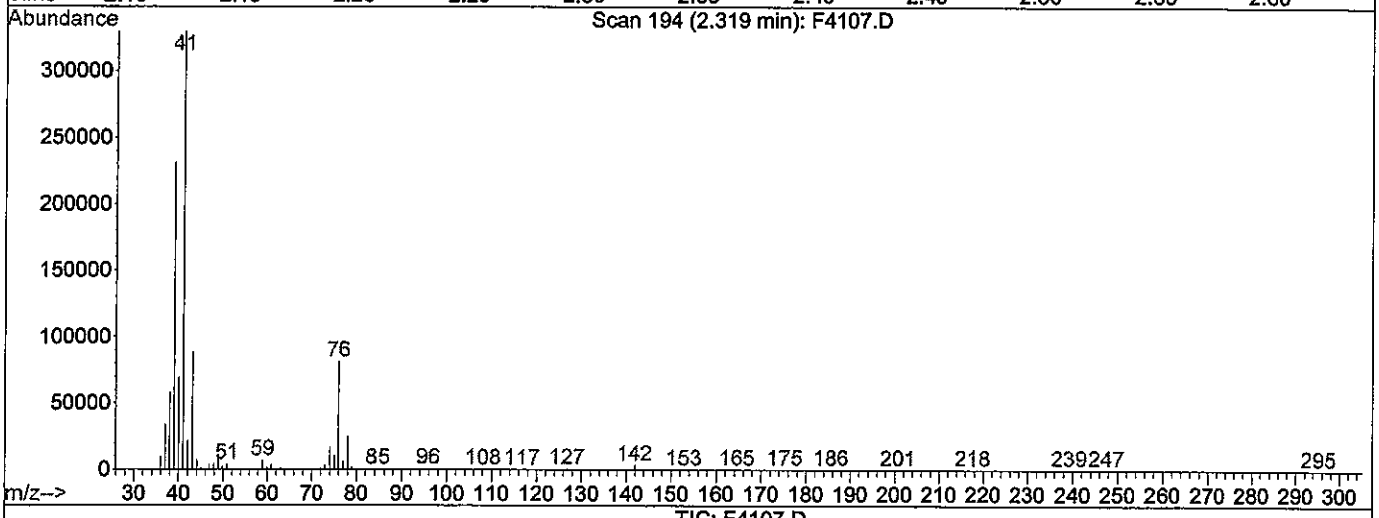
F4107.D W110709.M Sun Nov 08 11:09:04 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4107.D Vial: 10
Acq On : 7 Nov 2009 7:25 pm Operator: D.ZIMPFER
Sample : 100 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:09 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:08:29 2009
Response via : Multiple Level Calibration





TIC: F4107.D

(20) Acetonitrile

2.32min 254.05ppb m

response 88584

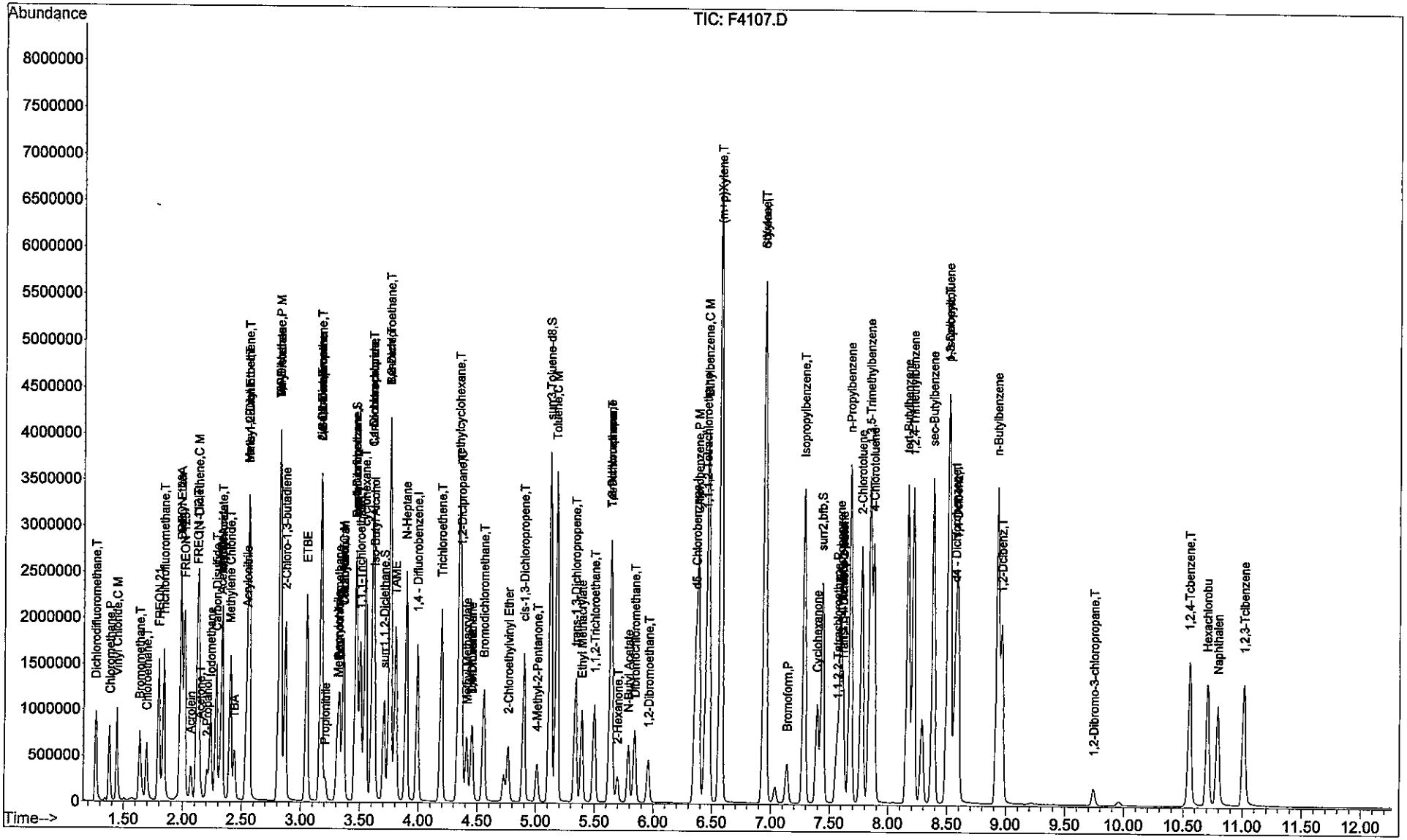
Ion	Exp%	Act%
40.00	100	100
41.00	666.00	475.20#
39.00	495.30	333.10#
0.00	0.00	0.00

F4107.D W110709.M Sun Nov 08 11:09:13 2009

Quantitation Report

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4107.D Vial: 10
Acq On : 7 Nov 2009 7:25 pm Operator: D.ZIMPFER
Sample : 100 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:09 2009 Quant Results File: W110709.RES

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:08:29 2009
Response via : Initial Calibration



S5T09

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4108.D Vial: 11
Acq On : 7 Nov 2009 7:52 pm Operator: D.ZIMPFER
Sample : 200 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:17 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:08:29 2009
Response via : Initial Calibration
DataAcq Meth : W110709

DC 11.9

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	3.46	168	726703	50.00	ppb	0.00
42) 1,4 - Difluorobenzene	3.99	114	1074174	50.00	ppb	0.00
63) d5 - Chlorobenzene	6.36	117	894892	50.00	ppb	0.00
83) d4 - Dichlorobenzene	8.56	152	404133	50.00	ppb	0.00
System Monitoring Compounds						
43) surr4,Dibrflmethane	3.46	113	1299202	207.13	ppb	0.00
Spiked Amount 50.000	Range 89 - 119		Recovery = 414.26%#			
48) surr1,1,2-Diclethane	3.70	65	1233136	199.27	ppb	0.00
Spiked Amount 50.000	Range 80 - 120		Recovery = 398.54%#			
69) surr3,Toluene-d8	5.12	98	4769313	218.65	ppb	0.00
Spiked Amount 50.000	Range 87 - 121		Recovery = 437.30%#			
70) surr2,bfb	7.44	95	1871052	215.66	ppb	0.00
Spiked Amount 50.000	Range 85 - 122		Recovery = 431.32%#			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.27	85	1205405	199.38	ppb	99
4) Chloromethane	1.38	50	1242942	218.18	ppb	100
5) Vinyl Chloride	1.44	62	1196528	212.32	ppb	98
6) Bromomethane	1.63	96	830037	210.62	ppb	99
7) Chloroethane	1.69	64	772443	150.63	ppb	98
8) FREON 21	1.80	67	2184287	189.72	ppb	100
9) Trichlorofluoromethane	1.84	101	1620707	185.06	ppb	100
10) Diethyl Ether	1.99	59	607984	204.84	ppb	100
11) FREON 123A	1.98	85	577773	199.37	ppb	93
12) FREON 123	2.01	85	1002419	182.06	ppb	100
13) Acrolein	2.07	56	414508	1106.16	ppb	97
14) FREON 113	2.11	85	421083	186.16	ppb	89
15) 1,1-Diclethene	2.13	96	929605	206.35	ppb	94
16) Acetone	2.15	43	155371	148.48	ppb	96
17) 2-Propanol	2.21	45	558078	3977.31	ppb	96
18) Iodomethane	2.23	127	561679	175.36	ppb	91
19) Carbon Disulfide	2.28	76	2999371	201.11	ppb	100
20) Acetonitrile	2.32	40	180159m	503.03	ppb	
21) Allyl Chloride	2.33	76	522133	197.41	ppb	96
22) Methyl Acetate	2.33	43	471840	174.02	ppb	97
23) Methylene Chloride	2.40	84	1078926	193.26	ppb	97
24) TBA	2.44	59	874164	4048.95	ppb	94
25) Acrylonitrile	2.54	53	960645	1047.11	ppb	97
26) Methyl-t-Butyl Ether	2.55	73	2093826	202.38	ppb	99
27) trans-1,2-Dichloroethene	2.56	96	1121410	198.48	ppb	96
28) 1,1-Diclethane	2.81	63	2016450	197.61	ppb	99
29) DIPE	2.82	45	3848763	208.93	ppb	92
30) Vinyl Acetate	2.82	86	116090	197.16	ppb #	62
31) 2-Chloro-1,3-butadiene	2.87	53	1744514	208.37	ppb	99
32) ETBE	3.05	59	2985475	205.02	ppb	99
33) 2,2-Dichloropropane	3.17	77	1687162	190.69	ppb	96
34) 2-Butanone	3.16	43	250702	188.49	ppb	96
35) cis-1,2-Dichloroethene	3.17	96	1212399	194.53	ppb	96
36) Propionitrile	3.21	54	329597	1040.74	ppb	97
37) Methacrylonitrile	3.31	67	217927	217.88	ppb	93

(#) = qualifier out of range (m) = manual integration
F4108.D W110709.M Sun Nov 08 11:17:59 2009

00166

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4108.D Vial: 11
Acq On : 7 Nov 2009 7:52 pm Operator: D.ZIMPFER
Sample : 200 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:17 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:08:29 2009
Response via : Initial Calibration
DataAcq Meth : W110709

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
38)	Bromochloromethane	3.32	128	462660	187.15 ppb	96
39)	Chloroform	3.36	83	1956969	159.74 ppb	97
40)	Tetrahydrofuran	3.36	42	139527	204.54 ppb	96
41)	1,1,1-Trichloroethane	3.50	97	1701899	190.13 ppb	97
44)	cyclohexane	3.55	56	1844286	197.59 ppb	99
45)	Carbontetrachloride	3.61	117	1339122	180.36 ppb	98
46)	1,1-Dichloropropene	3.61	75	1597953	196.92 ppb	98
47)	Iso-Butyl Alcohol	3.63	43	399287	3498.58 ppb	98
49)	Benzene	3.75	78	4426131	200.93 ppb	99
50)	1,2-Dichloroethane	3.76	62	1265393	181.04 ppb	100
51)	TAME	3.80	73	2305767	203.87 ppb	100
52)	N-Heptane	3.89	43	1724049	226.63 ppb	99
53)	Trichloroethene	4.19	95	1172888	194.68 ppb	98
54)	methylcyclohexane	4.34	55	1615324	199.83 ppb	98
55)	1,2-Diclpropane	4.36	63	1020994	194.80 ppb	99
56)	Methyl Methacrylate	4.41	69	407380	207.06 ppb	99
57)	1,4-Dioxane	4.46	88	97515	3703.89 ppb	93
58)	Dibromomethane	4.45	93	503205	180.37 ppb	89
59)	Bromodichloromethane	4.55	83	1369287	186.97 ppb	98
61)	2-Chloroethylvinyl Ether	4.76	63	405333	203.46 ppb	95
62)	cis-1,3-Dichloropropene	4.89	75	1592301	199.74 ppb	99
64)	4-Methyl-2-Pentanone	5.01	43	537715	200.15 ppb	99
65)	Toluene	5.18	91	4697825	210.41 ppb	97
66)	trans-1,3-Dichloropropene	5.33	75	1309530	209.06 ppb	99
67)	Ethyl Methacrylate	5.39	69	884159	218.30 ppb	98
68)	1,1,2-Trichloroethane	5.50	83	548044	197.37 ppb	93
71)	Tetrachloroethene	5.63	166	1217905	200.45 ppb	98
72)	2-Hexanone	5.69	43	354147	191.16 ppb	96
73)	N-Butyl Acetate	5.78	43	883512	198.28 ppb	99
74)	1,3-Dichloropropane	5.65	76	1218233	193.93 ppb	99
75)	Dibromochloromethane	5.85	129	795924	229.17 ppb	96
76)	1,2-Dibromoethane	5.96	107	645253	190.40 ppb	98
77)	Chlorobenzene	6.38	112	2858503	201.57 ppb	99
78)	1,1,1,2-Tetrachloroethane	6.45	131	910254	198.61 ppb	99
79)	Ethylbenzene	6.47	91	5302606	208.32 ppb	97
80)	(m+p)Xylene	6.57	106	3963677	429.74 ppb	94
81)	o-Xylene	6.95	106	1893413	219.92 ppb	91
82)	Styrene	6.95	104	3218254	221.76 ppb	98
84)	Bromoform	7.14	173	421523	212.90 ppb	95
85)	Isopropylbenzene	7.28	105	4865766	224.69 ppb	100
86)	Cyclohexanone	7.40	55	807646	3763.12 ppb	93
87)	1,1,2,2-Tetrachloroethane	7.56	83	662839	197.21 ppb	99
88)	Trans-1,4-Dichloro-2-buten	7.62	53	194152	200.34 ppb	100
89)	1,2,3-Trichloropropane	7.61	110	196509	188.88 ppb	99
90)	n-Propylbenzene	7.68	91	6123059	227.29 ppb	98
91)	Bromobenzene	7.59	156	1075977	209.45 ppb	98
93)	1,3,5-Trimethylbenzene	7.84	105	4109074	223.71 ppb	99
94)	2-Chlorotoluene	7.78	91	3518975	217.81 ppb	99
95)	4-Chlorotoluene	7.87	91	3998430	216.19 ppb	99
96)	tert-Butylbenzene	8.17	119	3515439	222.96 ppb	96

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4108.D Vial: 11
Acq On : 7 Nov 2009 7:52 pm Operator: D.ZIMPFER
Sample : 200 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:17 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:08:29 2009
Response via : Initial Calibration
DataAcq Meth : W110709

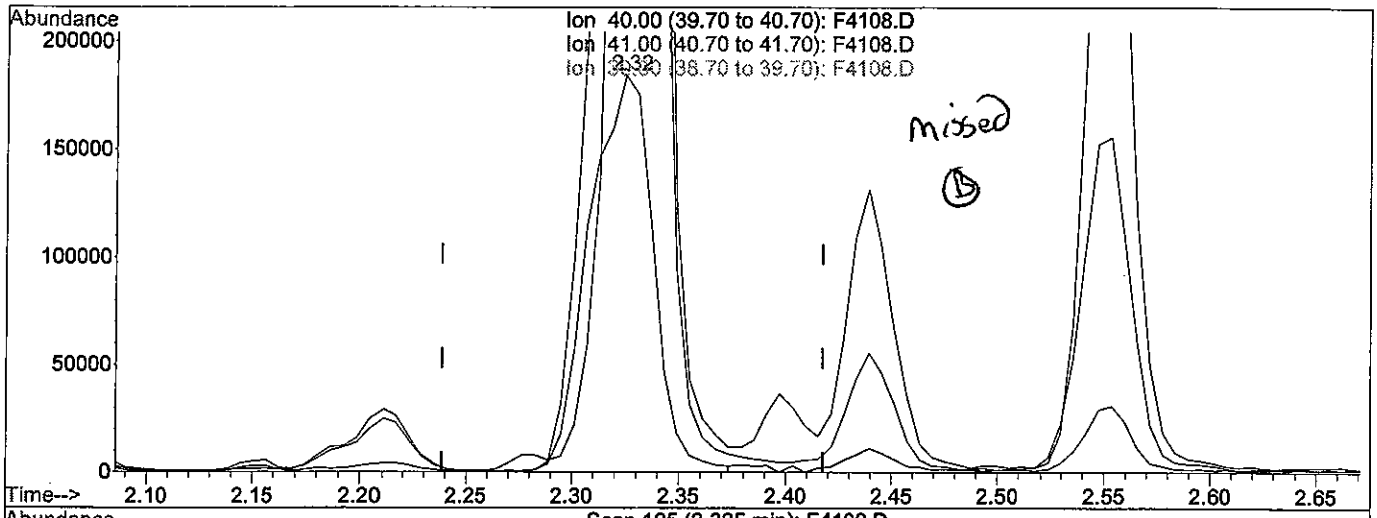
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
97)	1,2,4-Trimethylbenzene	8.22	105	4064345	222.04 ppb	100
98)	sec-Butylbenzene	8.38	105	5415719	224.36 ppb	99
99)	p-Isopropyltoluene	8.52	119	4333110	224.24 ppb	99
100)	1,3-Dclbenz	8.50	146	2037969	206.86 ppb	98
101)	1,4-Dclbenz	8.59	146	1999859	200.08 ppb	98
103)	n-Butylbenzene	8.93	91	4067068	231.35 ppb	98
104)	1,2-Dclbenz	8.96	146	1745922	203.26 ppb	99
105)	1,2-Dibromo-3-chloropropan	9.74	157	113561	233.22 ppb	93
107)	1,2,4-Tcbenzene	10.56	180	1211014	225.32 ppb	98
108)	Hexachlorobu	10.71	225	578603	205.26 ppb	100
109)	Naphthalen	10.79	128	1992470	223.70 ppb	98
110)	1,2,3-Tclbenzene	11.01	180	1030800	221.73 ppb	100

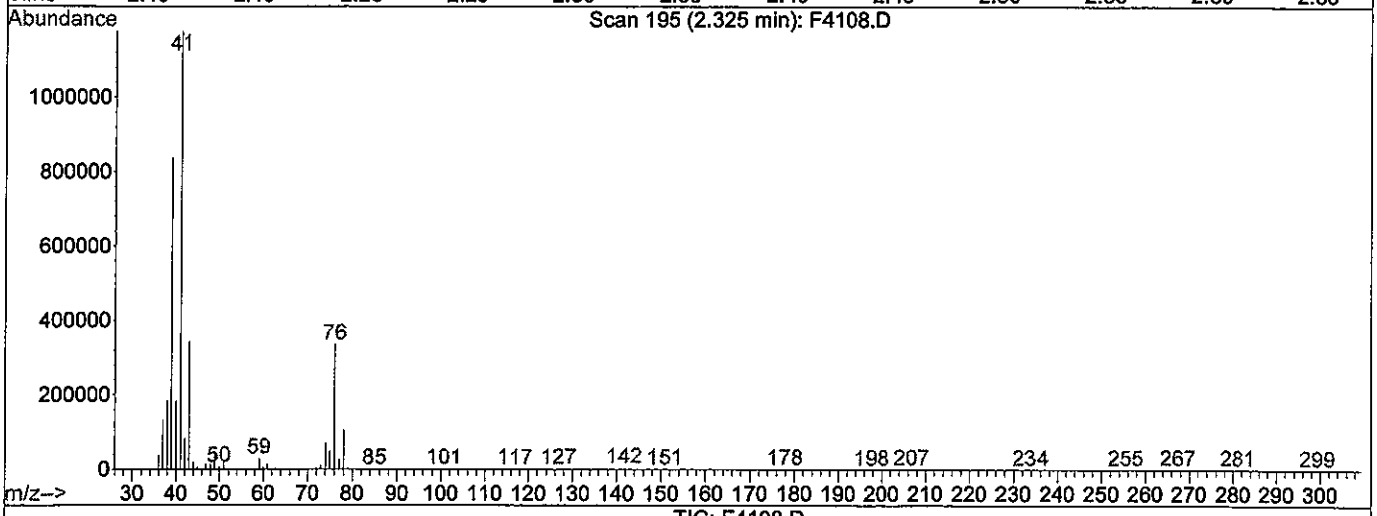
(#) = qualifier out of range (m) = manual integration
F4108.D W110709.M Sun Nov 08 11:18:01 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4108.D Vial: 11
Acq On : 7 Nov 2009 7:52 pm Operator: D.ZIMPFER
Sample : 200 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:16 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:08:29 2009
Response via : Multiple Level Calibration





TIC: F4108.D

(20) Acetonitrile

2.32min 1069.45ppb

response 383022

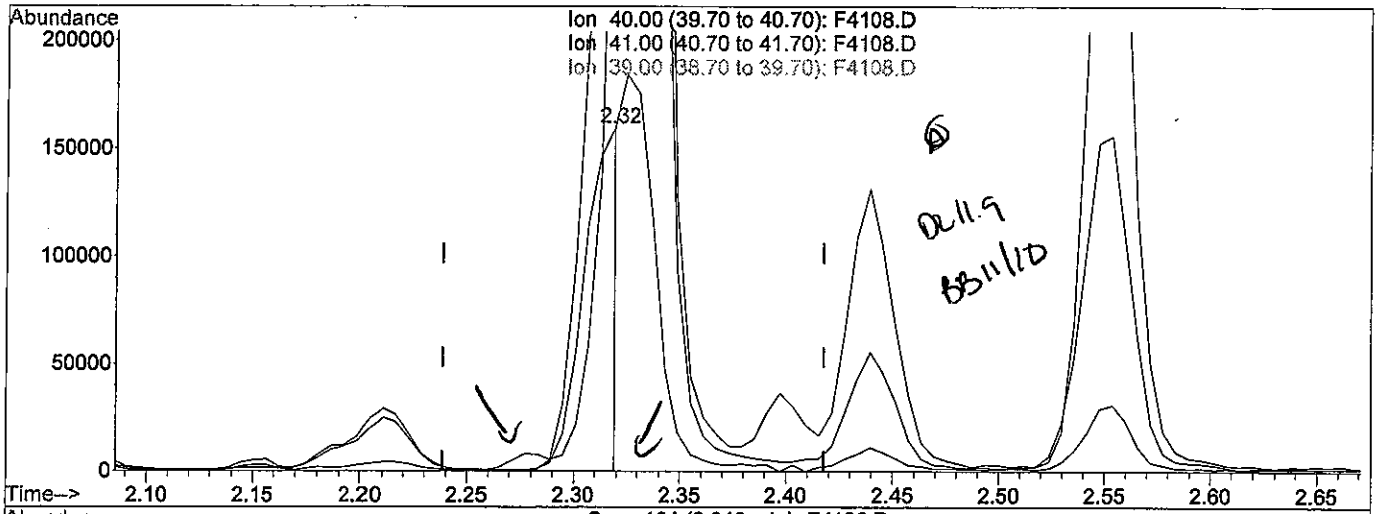
Ion	Exp%	Act%
40.00	100	100
41.00	666.00	639.05
39.00	495.30	454.79#
0.00	0.00	0.00

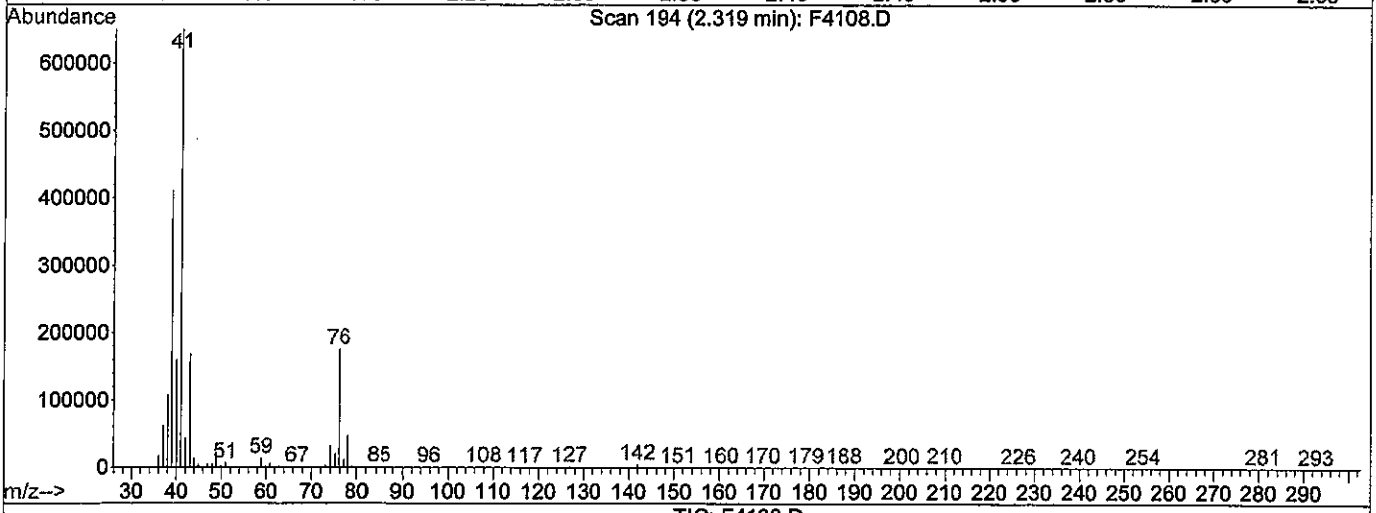
F4108.D W110709.M Sun Nov 08 11:17:17 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4108.D Vial: 11
Acq On : 7 Nov 2009 7:52 pm Operator: D.ZIMPFER
Sample : 200 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:17 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:08:29 2009
Response via : Multiple Level Calibration





TIC: F4108.D

(20) Acetonitrile

2.32min 503.03ppb m

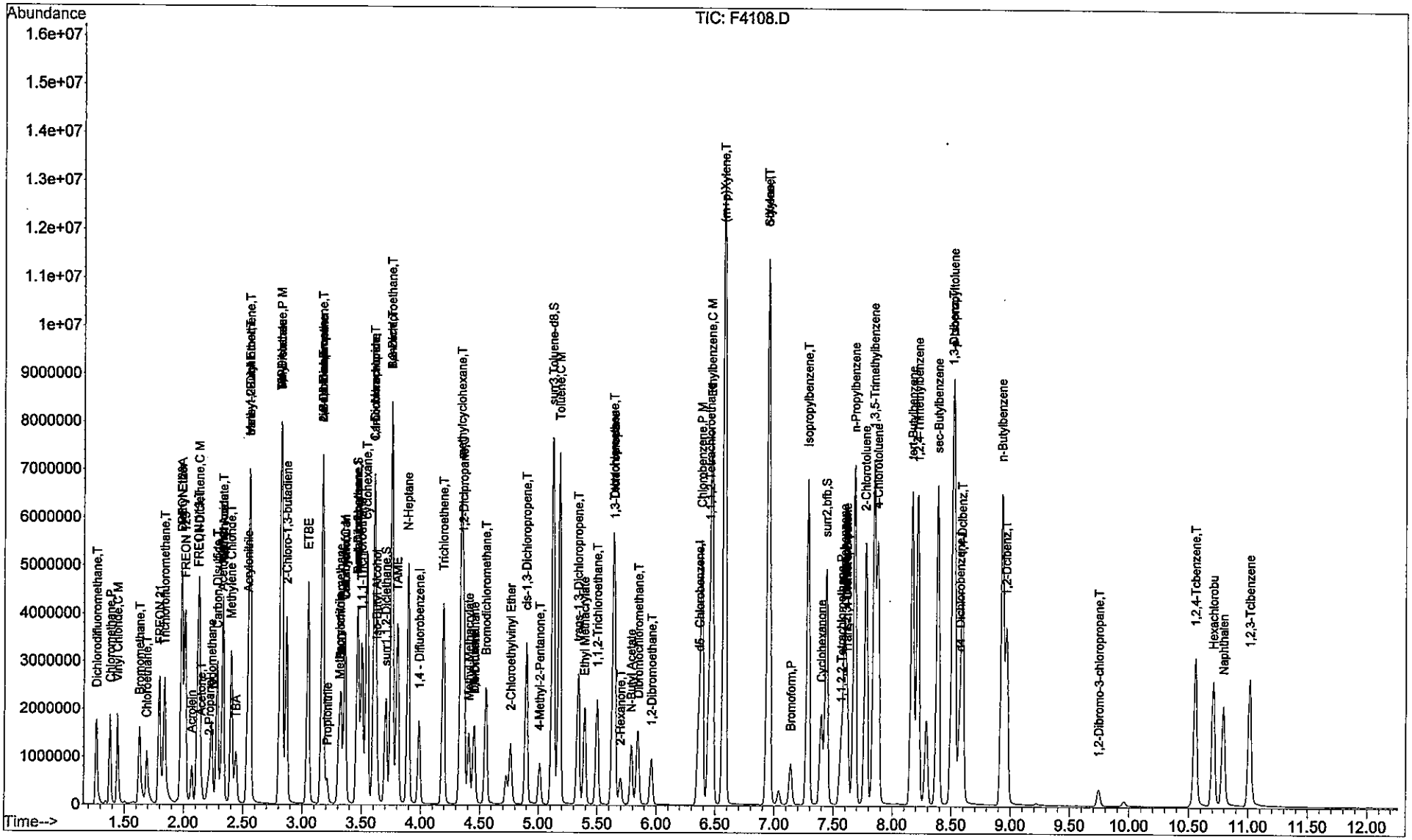
response 180159

Ion	Exp%	Act%
40.00	100	100
41.00	666.00	408.15#
39.00	495.30	257.73#
0.00	0.00	0.00

Quantitation Report

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4108.D Vial: 11
Acq On : 7 Nov 2009 7:52 pm Operator: D.ZIMPFER
Sample : 200 PPB STD Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 8 11:17 2009 Quant Results File: W110709.RES

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 11:08:29 2009
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4268.D Vial: 5
Acq On : 11 Nov 2009 10:37 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Multiple Level Calibration

D2 11/27/09

Min. RRF : 0.000 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	Pentafluorobenzene	1.000	1.000	0.0	93	-0.02
2	T	Dichlorodifluoromethane	0.416	0.456	-9.6	99	-0.01
3		Freon 114	0.000	0.000	0.0	99	-0.01
4	P	Chloromethane	0.390	0.377	3.3	97	0.00
5	C M	Vinyl Chloride	0.388	0.390	-0.5	94	-0.01
6	T	Bromomethane	0.271	0.277	-2.2	103	-0.01
7	T	Chloroethane	0.355	0.278 3.30	~~21.7#~~	~~99~~	0.00
8		FREON 21	0.792	0.783	1.1	93	-0.02
9	T	Trichlorofluoromethane	0.603	0.671	-11.3	104	-0.02
10		Diethyl Ether	0.204	0.206	-1.0	95	-0.02
11		FREON 123A	0.199	0.192	3.5	87	-0.02
12		FREON 123	0.379	0.362	4.5	91	-0.02
13		Acrolein	0.026	0.022	15.4	71	-0.02
14	T	FREON 113	0.156	0.154	1.3	96	-0.02
15	C M	1,1-Diclethene	0.310	0.315	-1.6	97	-0.02
16	T	Acetone	0.061	0.062	-1.6	97	-0.02
17		2-Propanol	0.010	0.011	-10.0	107	-0.02
18		Iodomethane	0.222	0.271	-22.1#	100	-0.02
19	T	Carbon Disulfide	1.026	1.013	1.3	87	-0.02
20		Acetonitrile	0.013	0.028 6.30	~~-115.4#~~	~~158~~	-0.02
21		Allyl Chloride	0.182	0.175	3.8	95	-0.02
22	T	Methyl Acetate	0.170	0.183	-7.6	102	-0.02
23	T	Methylene Chloride	0.384	0.380	1.0	97	-0.02
24		TBA	0.015	0.018	-20.0	105	-0.02
25		Acrylonitrile	0.063	0.065	-3.2	92	-0.02
26	T	Methyl-t-Butyl Ether	0.712	0.779	-9.4	102	-0.02
27	T	trans-1,2-Dichloroethene	0.389	0.391	-0.5	96	-0.02
28	P M	1,1-Diclethane	0.702	0.716	-2.0	97	-0.02
29		DIPE	1.267	1.307	-3.2	90	-0.02
30		Vinyl Acetate	0.043	0.039	9.3	80	-0.02
31		2-Chloro-1,3-butadiene	0.576	0.630	-9.4	92	-0.02
32		ETBE	1.002	1.066	-6.4	94	-0.02
33		2,2-Dichloropropane	0.609	0.679	-11.5	106	-0.02
34	T	2-Butanone	0.092	0.097	-5.4	100	-0.02
35	T	cis-1,2-Dichloroethene	0.429	0.414	3.5	96	-0.02
36		Propionitrile	0.022	0.023	-4.5	90	-0.02
37		Methacrylonitrile	0.069	0.070	-1.4	96	-0.02
38		Bromochloromethane	0.170	0.179	-5.3	98	-0.02
39	C M	Chloroform	0.843	0.758 10.4	~~10.1~~	~~99~~	-0.02
40		Tetrahydrofuran	0.046	0.050	-8.7	99	-0.02
41	T	1,1,1-Trichloroethane	0.616	0.679	-10.2	103	-0.03
42	I	1,4 - Difluorobenzene	1.000	1.000	0.0	93	-0.03
43	S	surr4,Dibrflmethane	0.292	0.359	-22.9#	110	-0.02
44	T	cyclohexane	0.434	0.410	5.5	88	-0.03
45	T	Carbontetrachloride	0.346	0.372	-7.5	105	-0.02
46		1,1-Dichloropropene	0.378	0.390	-3.2	101	-0.02
47		Iso-Butyl Alcohol	0.005	0.005	0.0	92	-0.02
48	S	surr1,1,2-Diclethane	0.288	0.384	-33.3#	117	-0.02
49	T	Benzene	1.025	1.032	-0.7	95	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4268.D Vial: 5
Acq On : 11 Nov 2009 10:37 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 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)
50	T	1,2-Dichloroethane	0.325	0.361	-11.1	105	-0.02
51		TAME	0.526	0.553	-5.1	94	-0.02
52		N-Heptane	0.349	0.376	-7.7	101	-0.02
53	T	Trichloroethene	0.280	0.284	-1.4	98	-0.02
54	T	methylcyclohexane	0.377	0.377	0.0	92	-0.02
55	C	1,2-Diclpropane	0.246	0.237	3.7	94	-0.03
56		Methyl Methacrylate	0.092	0.096	-4.3	100	-0.02
57		1,4-Dioxane	0.001	0.001	0.0	101	-0.03
58		Dibromomethane	0.130	0.130	10.56 ~~0.0~~ ~~102~~		-0.03
59	T	Bromodichloromethane	0.345	0.000	6.30 ~~100.0#~~ ~~0#~~		-4.55#
60		2-Nitropropane	0.000	0.000	0.0	92	-0.02
61		2-Chloroethylvinyl Ether	0.088	0.097	-10.2	93	-0.02
62	T	cis-1,3-Dichloropropene	0.371	0.383	-3.2	98	-0.02
63	I	d5 - Chlorobenzene	1.000	1.000	0.0	94	-0.03
64	T	4-Methyl-2-Pentanone	0.150	0.155	-3.3	93	-0.03
65	C M	Toluene	1.247	1.298	-4.1	99	-0.02
66	T	trans-1,3-Dichloropropene	0.350	0.383	-9.4	100	-0.02
67		Ethyl Methacrylate	0.222	0.236	-6.3	95	-0.02
68	T	1,1,2-Trichloroethane	0.155	0.158	-1.9	97	-0.03
69	S	surr3,Toluene-d8	1.219	1.387	-13.8	103	-0.02
70	S	surr2,bfb	0.485	0.560	-15.5	102	-0.03
71	T	Tetrachloroethene	0.339	0.355	-4.7	102	-0.03
72	T	2-Hexanone	0.104	0.104	0.0	94	-0.03
73		N-Butyl Acetate	0.249	0.257	-3.2	103	-0.02
74		1,3-Dichloropropane	0.350	0.353	-0.9	98	-0.03
75	T	Dibromochloromethane	0.220	0.243	-10.5	102	-0.03
76	T	1,2-Dibromoethane	0.189	0.196	-3.7	99	-0.03
77	P M	Chlorobenzene	0.792	0.812	-2.5	99	-0.03
78		1,1,1,2-Tetrachloroethane	0.256	0.274	-7.0	102	-0.03
79	C M	Ethylbenzene	1.422	1.516	-6.6	100	-0.02
80	T	(m+p)Xylene	0.515	0.558	-8.3	98	-0.03
81	T	o-Xylene	0.481	0.528	-9.8	99	-0.03
82	T	Styrene	0.811	0.893	-10.1	97	-0.03
83	I	d4 - Dichlorobenzene	1.000	1.000	0.0	92	-0.03
84	P	Bromoform	0.245	0.269	-9.8	101	-0.03
85	T	Isopropylbenzene	2.679	2.873	-7.2	102	-0.03
86		Cyclohexanone	0.027	0.047	-74.1#	166	-0.03
87	P	1,1,2,2-Tetrachloroethane	0.416	0.405	2.6	97	-0.03
88		Trans-1,4-Dichloro-2-butene	0.120	0.125	-4.2	101	-0.02
89		1,2,3-Trichloropropane	0.130	0.128	1.5	93	-0.03
90		n-Propylbenzene	3.333	3.536	-6.1	99	-0.03
91		Bromobenzene	0.636	0.649	-2.0	98	-0.03
92		4-Ethyltoluene	0.000	0.000	0.0	100	-0.03
93		1,3,5-Trimethylbenzene	2.272	2.482	-9.2	100	-0.03
94		2-Chlorotoluene	1.999	2.121	-6.1	101	-0.03
95		4-Chlorotoluene	2.286	2.427	-6.2	101	-0.03
96		tert-Butylbenzene	1.951	2.189	-12.2	103	-0.03
97		1,2,4-Trimethylbenzene	2.265	2.507	-10.7	102	-0.03

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4268.D Vial: 5
Acq On : 11 Nov 2009 10:37 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 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)
98		sec-Butylbenzene	2.986	3.283	-9.9	100	-0.03
99		p-Isopropyltoluene	2.391	2.636	-10.2	99	-0.03
100	T	1,3-Dclbenz	1.219	1.266	-3.9	99	-0.03
101	T	1,4-Dclbenz	1.237	1.258	-1.7	100	-0.03
102		Benzyl Chloride	0.000	0.000	0.0	98	-0.03
103		n-Butylbenzene	2.175	2.391	-9.9	98	-0.03
104	T	1,2-Dclbenz	1.063	1.125	-5.8	100	-0.03
105	T	1,2-Dibromo-3-chloropropane	0.069	0.073	-5.8	96	-0.03
106		Nitrobenzene	0.000	0.000	0.0	118	-0.04
107	T	1,2,4-Tcbenzene	0.665	0.701	-5.4	101	-0.03
108		Hexachlorobu	0.366	0.349	4.6	105	-0.03
109		Naphthalen	1.102	1.168	-6.0	99	-0.03
110		1,2,3-Tclbenzene	0.573	0.580	-1.2	96	-0.03

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4268.D Vial: 5
Acq On : 11 Nov 2009 10:37 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 10:49 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration
DataAcq Meth : W110709

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	3.45	168	610611	50.00	ppb	-0.02
42) 1,4 - Difluorobenzene	3.96	114	895848	50.00	ppb	-0.03
63) d5 - Chlorobenzene	6.33	117	769181	50.00	ppb	-0.03
83) d4 - Dichlorobenzene	8.54	152	376242	50.00	ppb	-0.03
System Monitoring Compounds						
43) surr4,Dibrflmethane	3.45	113	321416	61.44	ppb	-0.02
Spiked Amount 50.000	Range 89 - 119		Recovery = 122.88%#			
48) surr1,1,2-Diclethane	3.68	65	344060	66.67	ppb	-0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 133.34%#			
69) surr3,Toluene-d8	5.09	98	1066540	56.89	ppb	-0.02
Spiked Amount 50.000	Range 87 - 121		Recovery = 113.78%			
70) surr2,bfb	7.40	95	430712	57.76	ppb	-0.03
Spiked Amount 50.000	Range 85 - 122		Recovery = 115.52%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.26	85	278285	54.78	ppb	97
4) Chloromethane	1.37	50	230330	48.31	ppb	99
5) Vinyl Chloride	1.43	62	237987	50.26	ppb	98
6) Bromomethane	1.63	96	168839	50.99	ppb	97
7) Chloroethane	1.68	64	169620	51.65	ppb	96
8) FREON 21	1.78	67	477885	49.40	ppb	99
9) Trichlorofluoromethane	1.82	101	409736	55.68	ppb	98
10) Diethyl Ether	1.97	59	125605	50.36	ppb	97
11) FREON 123A	1.97	85	117314	48.18	ppb	97
12) FREON 123	2.00	85	220857	47.74	ppb	97
13) Acrolein	2.06	56	68347	217.07	ppb	97
14) FREON 113	2.10	85	93852	49.38	ppb	93
15) 1,1-Diclethene	2.12	96	192173	50.77	ppb	96
16) Acetone	2.13	43	37721	50.82	ppb	93
17) 2-Propanol	2.19	45	130896	1108.07	ppb	99
18) Iodomethane	2.22	127	165290	61.06	ppb	97
19) Carbon Disulfide	2.27	76	618798	49.38	ppb	99
20) Acetonitrile	2.31	40	84255	~~543.06 ppb~~	#	85
21) Allyl Chloride	2.31	76	106924	48.11	ppb	99
22) Methyl Acetate	2.31	43	111444	53.62	ppb	98
23) Methylene Chloride	2.38	84	232052	49.47	ppb	96
24) TBA	2.42	59	215009	1185.22	ppb	97
25) Acrylonitrile	2.52	53	197635	256.38	ppb	98
26) Methyl-t-Butyl Ether	2.53	73	475555	54.70	ppb	95
27) trans-1,2-Dichloroethene	2.54	96	238996	50.34	ppb	90
28) 1,1-Diclethane	2.79	63	436894	50.96	ppb	98
29) DIPE	2.80	45	797906	51.55	ppb	97
30) Vinyl Acetate	2.80	86	23861	45.71	ppb #	41
31) 2-Chloro-1,3-butadiene	2.84	53	384782	54.70	ppb	94
32) ETBE	3.02	59	650765	53.19	ppb	99
33) 2,2-Dichloropropane	3.15	77	414375	55.74	ppb	99
34) 2-Butanone	3.14	43	59402	53.15	ppb	90
35) cis-1,2-Dichloroethene	3.14	96	252964	48.31	ppb	96
36) Propionitrile	3.19	54	68823	258.63	ppb	95
37) Methacrylonitrile	3.28	67	42555	50.26	ppb	97

(#) = qualifier out of range (m) = manual integration
F4268.D W110709.M Wed Nov 11 10:49:38 2009

OK, not evaluated in CCV

00175

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4268.D Vial: 5
Acq On : 11 Nov 2009 10:37 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 10:49 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration
DataAcq Meth : W110709

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
38)	Bromochloromethane	3.30	128	109352	52.64	ppb	96
39)	Chloroform	3.34	83	462675	55.39	ppb	99
40)	Tetrahydrofuran	3.34	42	30384	53.74	ppb	99
41)	1,1,1-Trichloroethane	3.48	97	414794	55.15	ppb	97
44)	cyclohexane	3.52	56	367328	47.19	ppb	100
45)	Carbontetrachloride	3.59	117	333098	53.79	ppb	99
46)	1,1-Dichloropropene	3.58	75	348959	51.56	ppb	99
47)	Iso-Butyl Alcohol	3.60	43	91790	993.85	ppb	97
49)	Benzene	3.73	78	924413	50.32	ppb	98
50)	1,2-Dichloroethane	3.73	62	323847	55.56	ppb	99
51)	TAME	3.78	73	495461	52.53	ppb	97
52)	N-Heptane	3.87	43	337167	53.98	ppb	97
53)	Trichloroethene	4.17	95	254222	50.60	ppb	98
54)	methylcyclohexane	4.32	55	337872	50.03	ppb	98
55)	1,2-Diclpropane	4.34	63	212038	48.05	ppb	99
56)	Methyl Methacrylate	4.38	69	85842	52.32	ppb	92
57)	1,4-Dioxane	4.43	88	22923	1036.69	ppb	100
58)	Dibromomethane	4.43	93	116678	55.28	ppb	92
61)	2-Chloroethylvinyl Ether	4.74	63	86656	55.17	ppb	98
62)	cis-1,3-Dichloropropene	4.87	75	342830	51.56	ppb	96
64)	4-Methyl-2-Pentanone	4.98	43	118970	51.52	ppb	97
65)	Toluene	5.15	91	998710	52.04	ppb	97
66)	trans-1,3-Dichloropropene	5.31	75	294286	54.66	ppb	98
67)	Ethyl Methacrylate	5.37	69	181553	53.06	ppb	97
68)	1,1,2-Trichloroethane	5.47	83	121435	50.88	ppb	97
71)	Tetrachloroethene	5.61	166	273071	52.29	ppb	98
72)	2-Hexanone	5.67	43	80141	50.33	ppb	98
73)	N-Butyl Acetate	5.76	43	197947	51.68	ppb	98
74)	1,3-Dichloropropane	5.62	76	271293	50.36	ppb	95
75)	Dibromochloromethane	5.82	129	187221	55.20	ppb	100
76)	1,2-Dibromoethane	5.93	107	150703	51.74	ppb	100
77)	Chlorobenzene	6.35	112	624464	51.23	ppb	99
78)	1,1,1,2-Tetrachloroethane	6.42	131	210860	53.53	ppb	97
79)	Ethylbenzene	6.44	91	1166119	53.30	ppb	100
80)	(m+p)Xylene	6.54	106	858057	108.23	ppb	97
81)	o-Xylene	6.91	106	406281	54.90	ppb	96
82)	Styrene	6.92	104	687237	55.09	ppb	99
84)	Bromoform	7.11	173	101143	54.87	ppb	93
85)	Isopropylbenzene	7.25	105	1081047	53.62	ppb	99
86)	Cyclohexanone	7.36	55	356548	1784.44	ppb	96
87)	1,1,2,2-Tetrachloroethane	7.53	83	152381	48.70	ppb	97
88)	Trans-1,4-Dichloro-2-buten	7.59	53	47136	52.24	ppb	97
89)	1,2,3-Trichloropropane	7.59	110	47971	49.05	ppb	100
90)	n-Propylbenzene	7.65	91	1330341	53.04	ppb	99
91)	Bromobenzene	7.56	156	244074	51.03	ppb	98
93)	1,3,5-Trimethylbenzene	7.81	105	933747	54.61	ppb	99
94)	2-Chlorotoluene	7.74	91	797984	53.05	ppb	97
95)	4-Chlorotoluene	7.84	91	913012	53.07	ppb	99
96)	tert-Butylbenzene	8.13	119	823466	56.10	ppb	98
97)	1,2,4-Trimethylbenzene	8.18	105	943294	55.35	ppb	97

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

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4268.D Vial: 5
Acq On : 11 Nov 2009 10:37 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 10:49 2009 Quant Results File: W110709.RES

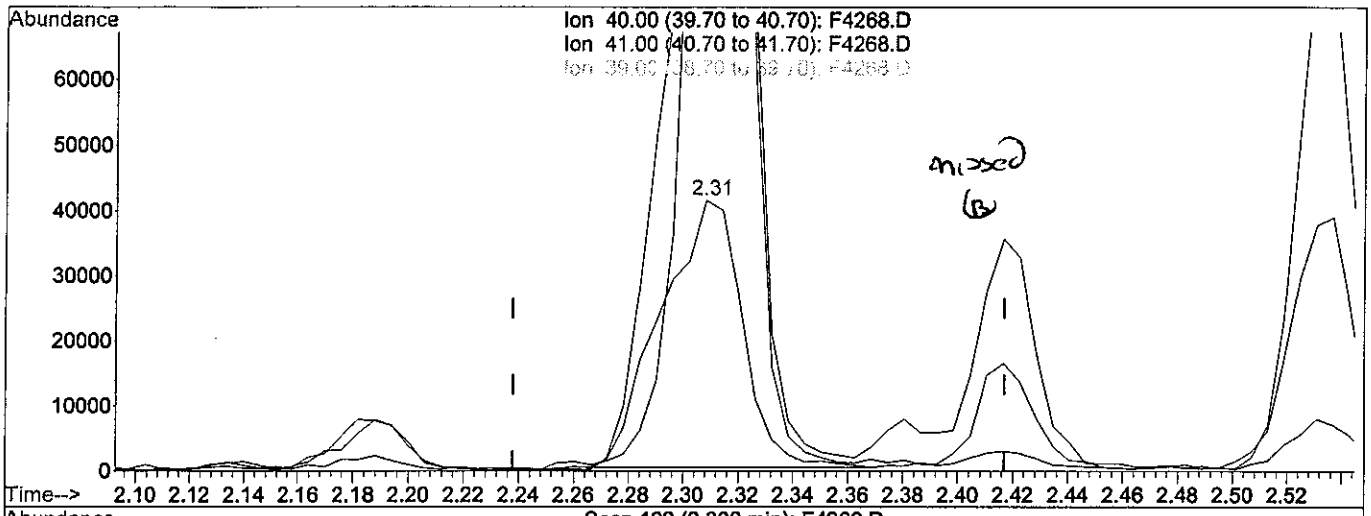
Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration
DataAcq Meth : W110709

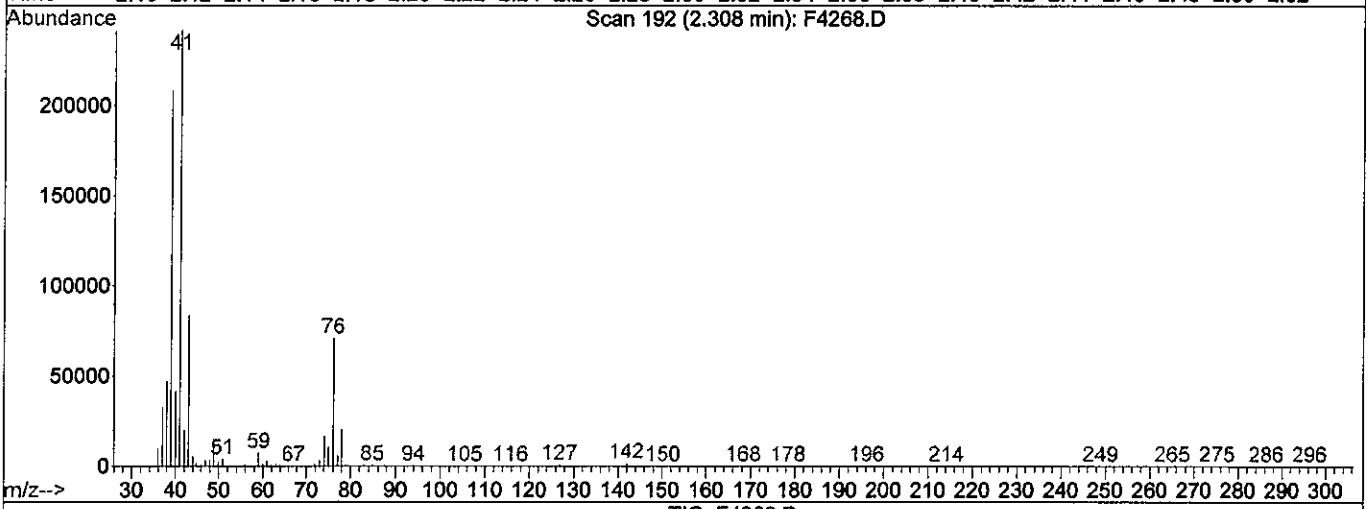
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
98)	sec-Butylbenzene	8.35	105	1235184	54.96	ppb	99
99)	p-Isopropyltoluene	8.49	119	991861	55.13	ppb	99
100)	1,3-Dclbenz	8.47	146	476357	51.94	ppb	96
101)	1,4-Dclbenz	8.56	146	473218	50.85	ppb	97
103)	n-Butylbenzene	8.90	91	899599	54.97	ppb	100
104)	1,2-Dclbenz	8.93	146	423194	52.92	ppb	97
105)	1,2-Dibromo-3-chloropropan	9.72	157	27543	53.17	ppb	91
107)	1,2,4-Tcbenzene	10.52	180	263879	52.74	ppb	95
108)	Hexachlorobu	10.67	225	131365	47.75	ppb	99
109)	Naphthalen	10.76	128	439375	52.99	ppb	99
110)	1,2,3-Tclbenzene	10.99	180	218233	50.63	ppb	95
59)	Bromodichloromethane	9.58		332133	53.15	ppb	

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4268.D Vial: 5
Acq On : 11 Nov 2009 10:37 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 10:49 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Multiple Level Calibration





TIC: F4268.D

(20) Acetonitrile

2.31min 543.06ppb

response 84255

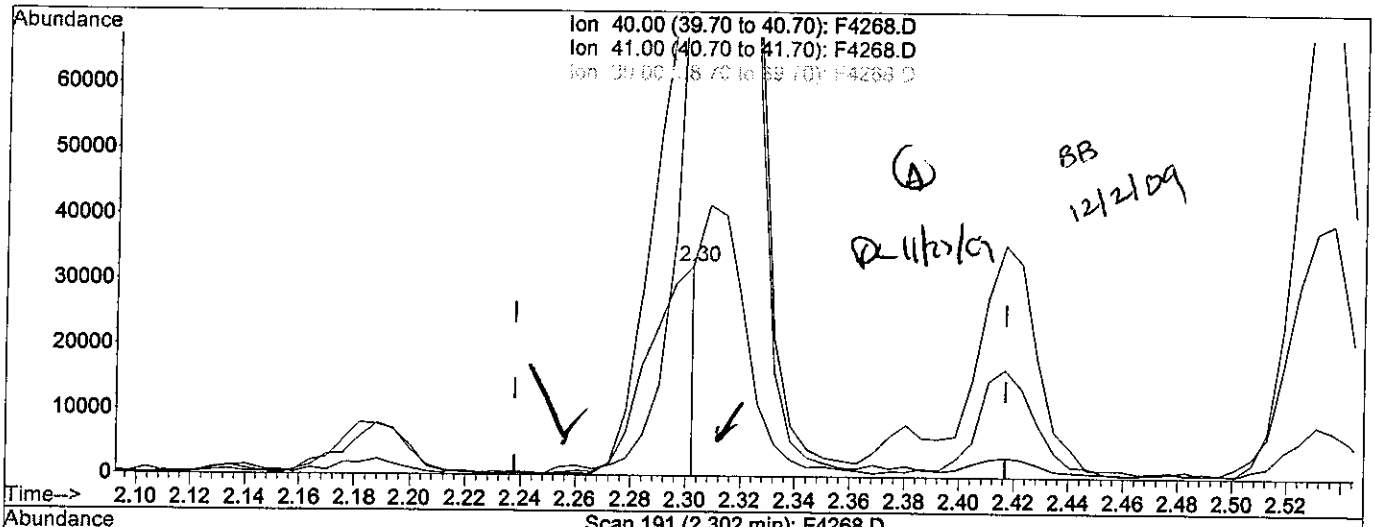
Ion	Exp%	Act%
40.00	100	100
41.00	666.00	580.62#
39.00	495.30	500.46
0.00	0.00	0.00

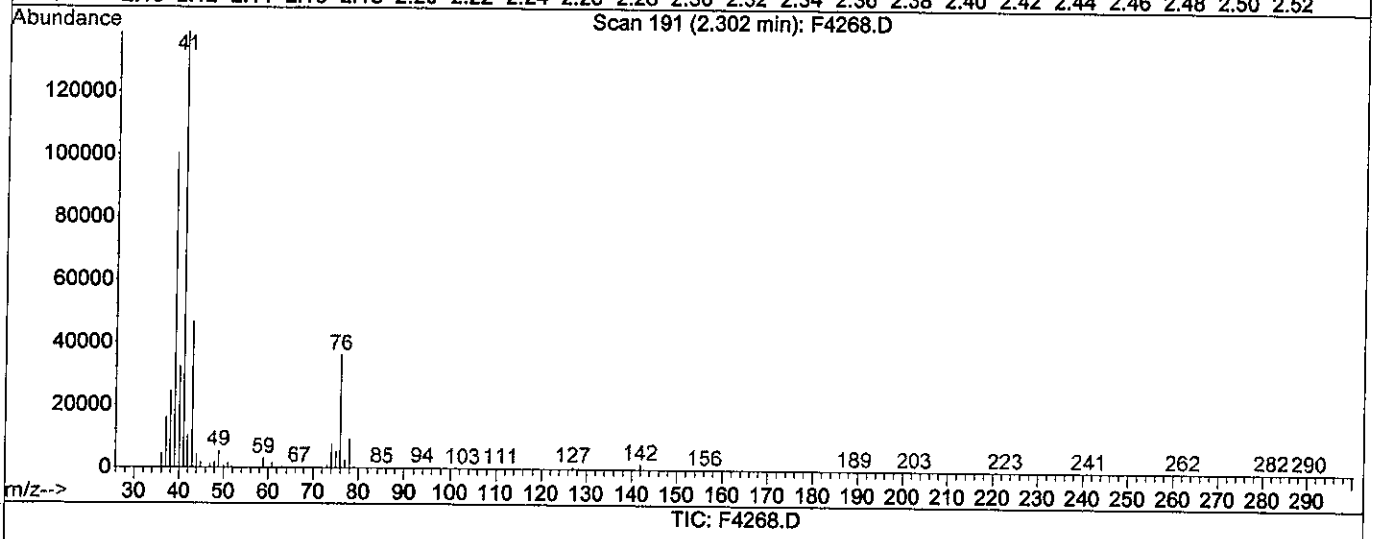
F4268.D W110709.M Fri Nov 27 13:56:56 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4268.D Vial: 5
Acq On : 11 Nov 2009 10:37 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 27 13:56 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Multiple Level Calibration





TIC: F4268.D

(20) Acetonitrile

2.30min 247.62ppb m

response 39969

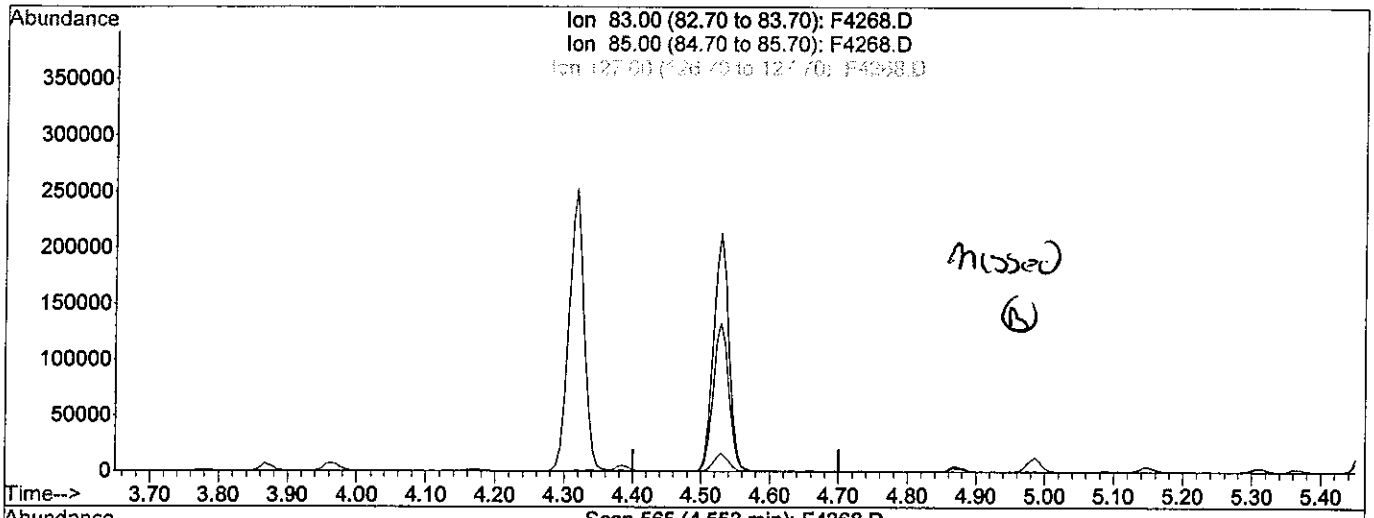
Ion	Exp%	Act%
40.00	100	100
41.00	666.00	430.54#
39.00	495.30	311.16#
0.00	0.00	0.00

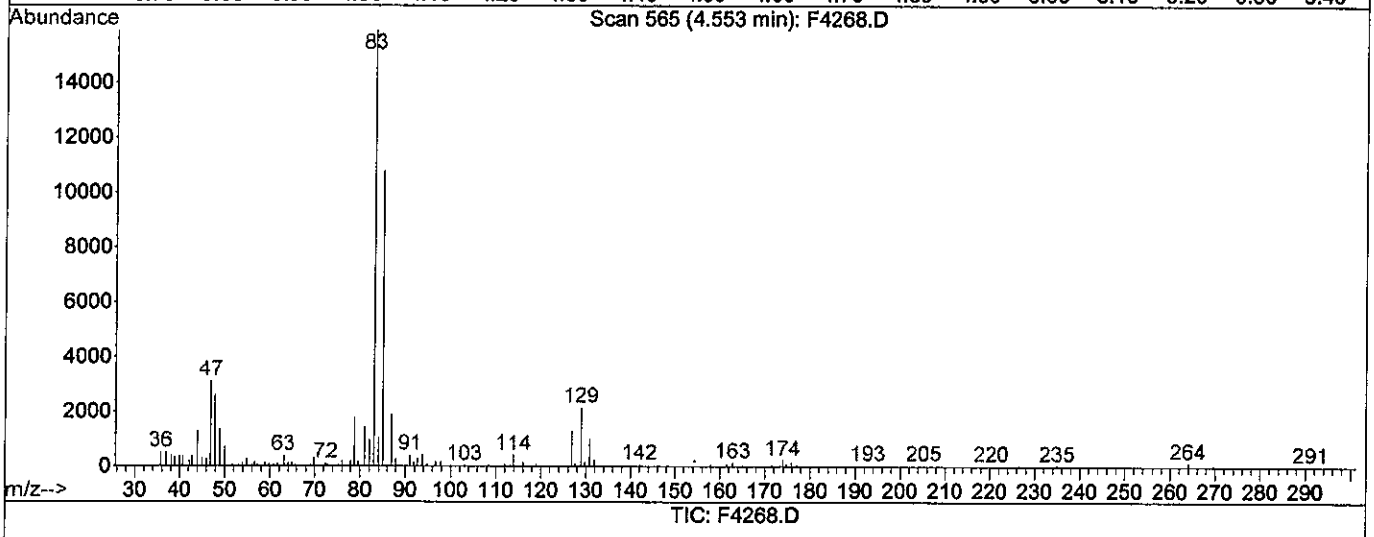
F4268.D W110709.M Fri Nov 27 13:57:00 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4268.D Vial: 5
Acq On : 11 Nov 2009 10:37 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 27 13:56 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Multiple Level Calibration





TIC: F4268.D

(59) Bromodichloromethane (T)

4.55min 0.00ppb

response 0

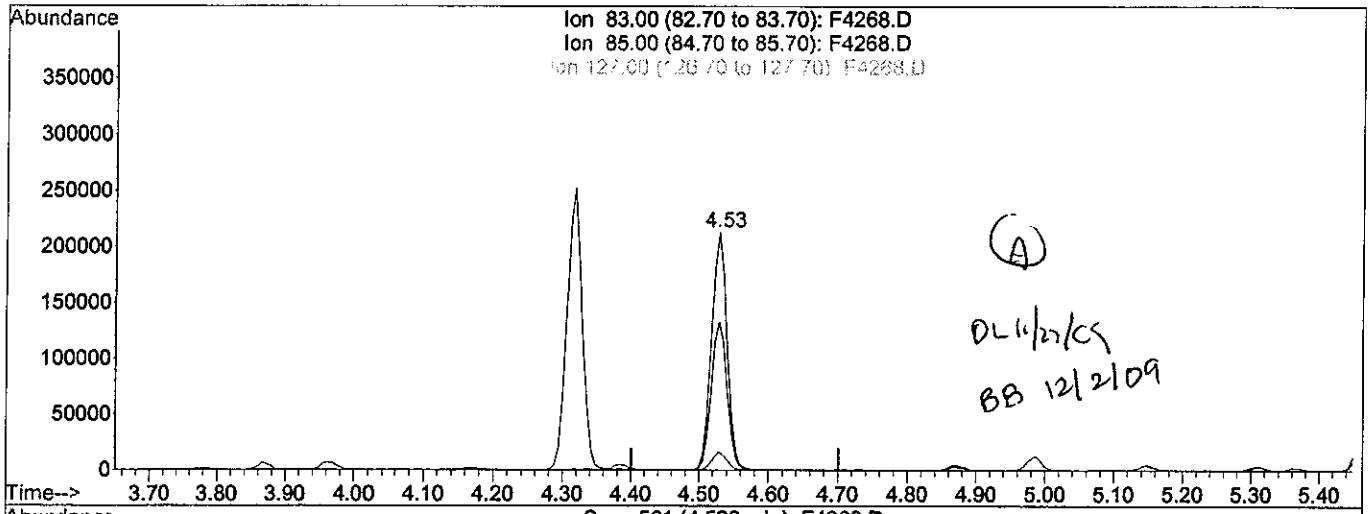
Ion	Exp%	Act%
83.00	100	0.00
85.00	64.50	0.00#
127.00	6.80	0.00
0.00	0.00	0.00

F4268.D W110709.M Fri Nov 27 13:58:04 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4268.D Vial: 5
Acq On : 11 Nov 2009 10:37 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 27 13:58 2009 Quant Results File: temp.res

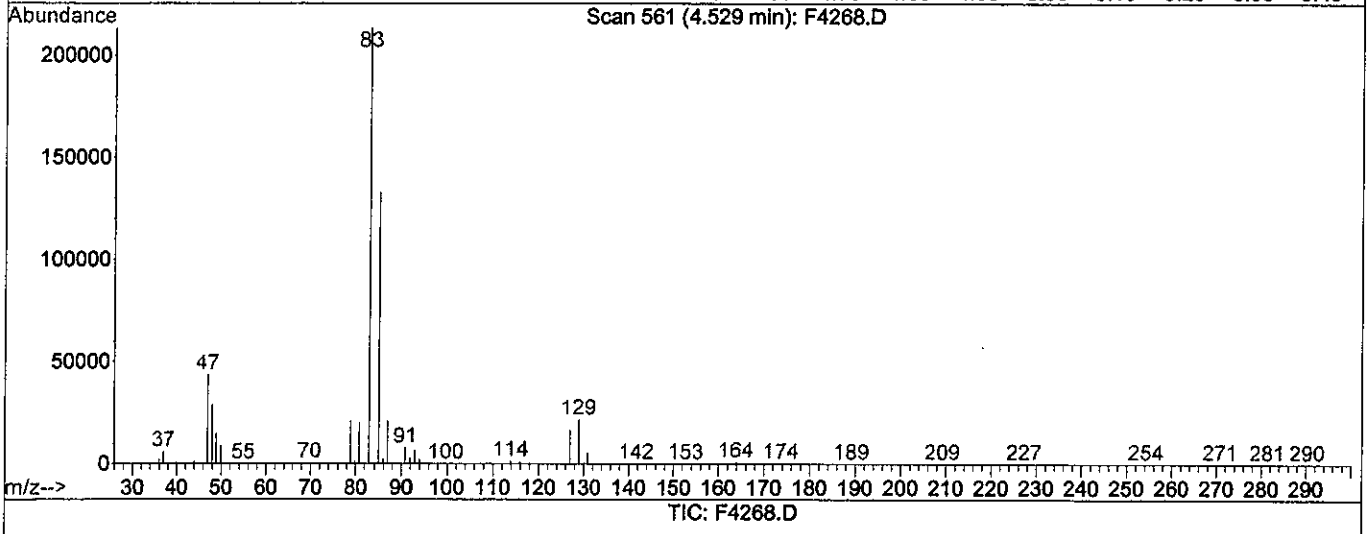
Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Multiple Level Calibration



(A)

DL 11/27/09

BB 12/2/09



TIC: F4268.D

(59) Bromodichloromethane (T)

4.53min 53.15ppb m

response 328133

Ion	Exp%	Act%
83.00	100	100
85.00	64.50	62.29
127.00	6.80	7.69
0.00	0.00	0.00

F4268.D W110709.M Fri Nov 27 13:58:09 2009

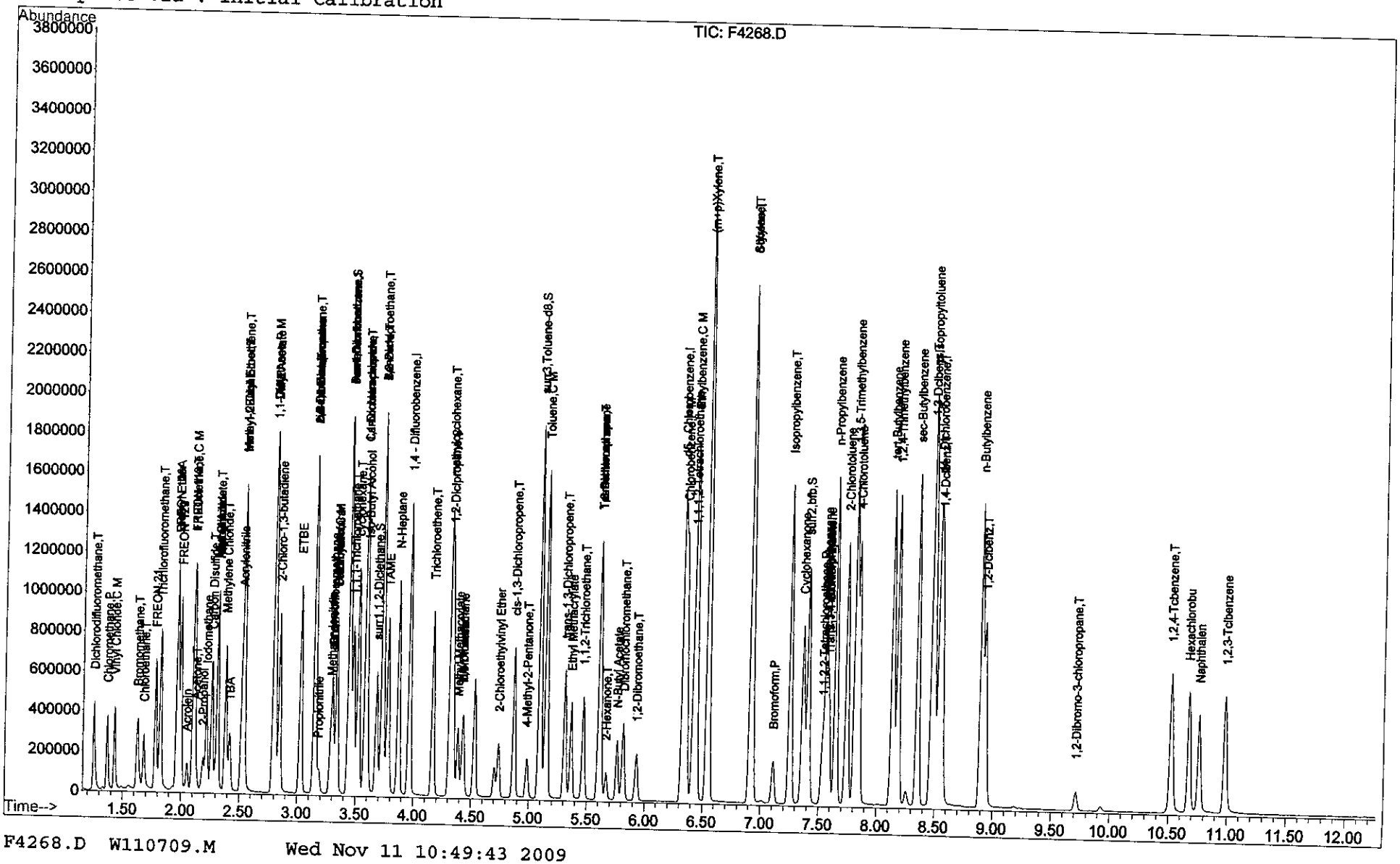
Quantitation Report

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4268.D
Acq On : 11 Nov 2009 10:37 am
Sample : CCV
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 11 10:49 2009

Vial: 5
Operator: D.ZIMPFER
Inst : MS #8
Multiplr: 1.00

Quant Results File: W110709.RES

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration



F4268.D W110709.M Wed Nov 11 10:49:43 2009

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4319.D Vial: 5
Acq On : 12 Nov 2009 10:51 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 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	Pentafluorobenzene	1.000	1.000	0.0	75	-0.02
2	T	Dichlorodifluoromethane	0.416	0.486	-16.8	85	0.00
3		Freon 114	0.000	0.000	0.0	86	0.00
4	P	Chloromethane	0.390	0.386	1.0	81	0.00
5	C M	Vinyl Chloride	0.388	0.391	-0.8	76	0.00
6	T	Bromomethane	0.271	0.280	-3.3	85	0.00
7	T	Chloroethane	0.355	0.270	~~23.9#~~ 0.52 ~~78~~		0.00
8		FREON 21	0.792	0.855	-8.0	83	0.00
9	T	Trichlorofluoromethane	0.603	0.700	-16.1	88	0.00
10		Diethyl Ether	0.204	0.214	-4.9	80	-0.01
11		FREON 123A	0.199	0.201	-1.0	74	-0.01
12		FREON 123	0.379	0.390	-2.9	79	-0.01
13		Acrolein	0.026	0.023	11.5	59	-0.01
14	T	FREON 113	0.156	0.159	-1.9	80	-0.01
15	C M	1,1-Diclethene	0.310	0.323	-4.2	80	-0.01
16	T	Acetone	0.061	0.062	-1.6	78	0.00
17		2-Propanol	0.010	0.011	-10.0	86	-0.02
18		Iodomethane	0.222	0.285	-28.4#	85	-0.01
19	T	Carbon Disulfide	1.026	1.005	2.0	70	-0.01
20		Acetonitrile	0.013	0.012	11.6 ~~7.7~~	~~55~~	-0.02
21		Allyl Chloride	0.182	0.179	1.6	79	-0.01
22	T	Methyl Acetate	0.170	0.191	-12.4	87	-0.01
23	T	Methylene Chloride	0.384	0.381	0.8	79	-0.01
24		TBA	0.015	0.017	-13.3	81	-0.01
25		Acrylonitrile	0.063	0.066	-4.8	76	-0.01
26	T	Methyl-t-Butyl Ether	0.712	0.786	-10.4	83	-0.01
27	T	trans-1,2-Dichloroethene	0.389	0.396	-1.8	79	-0.01
28	P M	1,1-Diclethane	0.702	0.725	-3.3	80	-0.01
29		DIPE	1.267	1.333	-5.2	75	-0.01
30		Vinyl Acetate	0.043	0.042	2.3	69	-0.01
31		2-Chloro-1,3-butadiene	0.576	0.655	-13.7	78	-0.01
32		ETBE	1.002	1.064	-6.2	76	-0.01
33		2,2-Dichloropropane	0.609	0.734	-20.5#	93	-0.02
34	T	2-Butanone	0.092	0.096	-4.3	80	-0.02
35	T	cis-1,2-Dichloroethene	0.429	0.420	2.1	78	-0.02
36		Propionitrile	0.022	0.024	-9.1	76	-0.02
37		Methacrylonitrile	0.069	0.071	-2.9	80	-0.01
38		Bromochloromethane	0.170	0.187	-10.0	83	-0.02
39	C M	Chloroform	0.843	0.784	14.7 ~~7.0~~	~~83~~	-0.02
40		Tetrahydrofuran	0.046	0.050	-8.7	81	-0.01
41	T	1,1,1-Trichloroethane	0.616	0.725	-17.7	89	-0.02
42	I	1,4 - Difluorobenzene	1.000	1.000	0.0	76	-0.02
43	S	surr4,Dibrflmethane	0.292	0.350	-19.9	89	-0.02
44	T	cyclohexane	0.434	0.422	2.8	75	-0.02
45	T	Carbontetrachloride	0.346	0.387	-11.8	90	-0.01
46		1,1-Dichloropropene	0.378	0.376	0.5	80	-0.02
47		Iso-Butyl Alcohol	0.005	0.005	0.0	76	-0.01
48	S	surr1,1,2-Diclethane	0.288	0.371	-28.8#	93	-0.01
49	T	Benzene	1.025	1.018	0.7	77	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4319.D Vial: 5
Acq On : 12 Nov 2009 10:51 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 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)
50	T	1,2-Dichloroethane	0.325	0.382	-17.5	91	-0.02
51		TAME	0.526	0.566	-7.6	79	-0.01
52		N-Heptane	0.349	0.364	-4.3	80	-0.01
53	T	Trichloroethene	0.280	0.279	0.4	79	-0.01
54	T	methylcyclohexane	0.377	0.395	-4.8	79	-0.02
55	C	1,2-Diclpropane	0.246	0.245	0.4	80	-0.02
56		Methyl Methacrylate	0.092	0.094	-2.2	80	-0.01
57		1,4-Dioxane	0.001	0.001	0.0	82	-0.02
58		Dibromomethane	0.130	0.135	-3.8	87	-0.02
59	T	Bromodichloromethane	0.345	0.372	-7.8	85	-0.01
60		2-Nitropropane	0.000	0.000	0.0	80	-0.02
61		2-Chloroethylvinyl Ether	0.088	0.094	-6.8	74	-0.02
62	T	cis-1,3-Dichloropropene	0.371	0.373	-0.5	79	-0.02
63	I	d5 - Chlorobenzene	1.000	1.000	0.0	78	-0.02
64	T	4-Methyl-2-Pentanone	0.150	0.153	-2.0	77	-0.02
65	C M	Toluene	1.247	1.268	-1.7	80	-0.01
66	T	trans-1,3-Dichloropropene	0.350	0.380	-8.6	82	-0.02
67		Ethyl Methacrylate	0.222	0.232	-4.5	77	-0.01
68	T	1,1,2-Trichloroethane	0.155	0.161	-3.9	82	-0.02
69	S	surr3,Toluene-d8	1.219	1.354	-11.1	83	-0.02
70	S	surr2,bfb	0.485	0.538	-10.9	82	-0.02
71	T	Tetrachloroethene	0.339	0.343	-1.2	82	-0.02
72	T	2-Hexanone	0.104	0.105	-1.0	79	-0.02
73		N-Butyl Acetate	0.249	0.256	-2.8	85	-0.02
74		1,3-Dichloropropane	0.350	0.352	-0.6	82	-0.02
75	T	Dibromochloromethane	0.220	0.243	-10.5	85	-0.03
76	T	1,2-Dibromoethane	0.189	0.192	-1.6	81	-0.02
77	P M	Chlorobenzene	0.792	0.796	-0.5	81	-0.02
78		1,1,1,2-Tetrachloroethane	0.256	0.277	-8.2	85	-0.02
79	C M	Ethylbenzene	1.422	1.476	-3.8	81	-0.02
80	T	(m+p)Xylene	0.515	0.547	-6.2	80	-0.02
81	T	o-Xylene	0.481	0.512	-6.4	80	-0.02
82	T	Styrene	0.811	0.897	-10.6	81	-0.02
83	I	d4 - Dichlorobenzene	1.000	1.000	0.0	79	-0.02
84	P	Bromoform	0.245	0.260	-6.1	85	-0.02
85	T	Isopropylbenzene	2.679	2.678	0.0	82	-0.02
86		Cyclohexanone	0.027	0.034	-25.9#	102	-0.02
87	P	1,1,2,2-Tetrachloroethane	0.416	0.381	8.4	79	-0.02
88		Trans-1,4-Dichloro-2-butene	0.120	0.128	-6.7	89	-0.02
89		1,2,3-Trichloropropane	0.130	0.131	-0.8	82	-0.02
90		n-Propylbenzene	3.333	3.309	0.7	80	-0.02
91		Bromobenzene	0.636	0.644	-1.3	84	-0.02
92		4-Ethyltoluene	0.000	0.000	0.0	82	-0.02
93		1,3,5-Trimethylbenzene	2.272	2.357	-3.7	82	-0.02
94		2-Chlorotoluene	1.999	1.997	0.1	82	-0.02
95		4-Chlorotoluene	2.286	2.356	-3.1	85	-0.02
96		tert-Butylbenzene	1.951	2.045	-4.8	84	-0.02
97		1,2,4-Trimethylbenzene	2.265	2.361	-4.2	83	-0.02

14.L

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4319.D Vial: 5
Acq On : 12 Nov 2009 10:51 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 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)
98		sec-Butylbenzene	2.986	3.083	-3.2	81	-0.02
99		p-Isopropyltoluene	2.391	2.575	-7.7	83	-0.02
100	T	1,3-Dclbenz	1.219	1.236	-1.4	84	-0.03
101	T	1,4-Dclbenz	1.237	1.230	0.6	84	-0.02
102		Benzyl Chloride	0.000	0.000	0.0	82	-0.02
103		n-Butylbenzene	2.175	2.304	-5.9	82	-0.02
104	T	1,2-Dclbenz	1.063	1.104	-3.9	85	-0.02
105	T	1,2-Dibromo-3-chloropropane	0.069	0.073	-5.8	83	-0.02
106		Nitrobenzene	0.000	0.000	0.0	93	-0.03
107	T	1,2,4-Tcbenzene	0.665	0.690	-3.8	86	-0.03
108		Hexachlorobu	0.366	0.346	5.5	90	-0.02
109		Naphthalen	1.102	1.103	-0.1	81	-0.02
110		1,2,3-Tclbenzene	0.573	0.588	-2.6	84	-0.02

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4319.D Vial: 5
Acq On : 12 Nov 2009 10:51 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 11:03 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration
DataAcq Meth : W110709

02 11.12.09

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	3.45	168	495437	50.00	ppb	-0.02
42) 1,4 - Difluorobenzene	3.97	114	736999	50.00	ppb	-0.02
63) d5 - Chlorobenzene	6.34	117	638580	50.00	ppb	-0.02
83) d4 - Dichlorobenzene	8.54	152	325148	50.00	ppb	-0.02
System Monitoring Compounds						
43) surr4,Dibrflmethane	3.45	113	257773	59.90	ppb	-0.02
Spiked Amount 50.000	Range 89 - 119		Recovery = 119.80%#			not excluded
48) surr1,1,2-Diclethane	3.69	65	273742	64.47	ppb	-0.01
Spiked Amount 50.000	Range 80 - 120		Recovery = 128.94%#			
69) surr3,Toluene-d8	5.10	98	864500	55.54	ppb	-0.02
Spiked Amount 50.000	Range 87 - 121		Recovery = 111.08%			
70) surr2,bfb	7.41	95	343791	55.53	ppb	-0.02
Spiked Amount 50.000	Range 85 - 122		Recovery = 111.06%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.26	85	240732	58.41	ppb	98
4) Chloromethane	1.37	50	191196	49.42	ppb	100
5) Vinyl Chloride	1.43	62	193676	50.41	ppb	97
6) Bromomethane	1.63	96	138843	51.68	ppb	97
7) Chloroethane	1.68	64	133988	50.26	ppb	99
8) FREON 21	1.79	67	423623	53.97	ppb	100
9) Trichlorofluoromethane	1.83	101	346571	58.04	ppb	99
10) Diethyl Ether	1.97	59	106148	52.46	ppb	96
11) FREON 123A	1.97	85	99518	50.37	ppb	95
12) FREON 123	2.00	85	193416	51.53	ppb	99
13) Acrolein	2.06	56	56751	222.14	ppb	96
14) FREON 113	2.11	85	78551	50.94	ppb	92
15) 1,1-Diclethene	2.12	96	160083	52.12	ppb	99
16) Acetone	2.14	43	30475	50.60	ppb	100
17) 2-Propanol	2.19	45	105474	1100.43	ppb	87
18) Iodomethane	2.22	127	141305	64.33	ppb	96
19) Carbon Disulfide	2.27	76	497829	48.96	ppb	100
20) Acetonitrile	2.30 ~~2.32~~	40 29201	70760 221.01	~~562.77~~	ppb (m) #	79
21) Allyl Chloride	2.32	76	88730	49.21	ppb	98
22) Methyl Acetate	2.32	43	94784	56.20	ppb	99
23) Methylene Chloride	2.39	84	188700	49.58	ppb	99
24) TBA	2.43	59	166114	1128.56	ppb	100
25) Acrylonitrile	2.52	53	163632	261.62	ppb	94
26) Methyl-t-Butyl Ether	2.54	73	389597	55.24	ppb	98
27) trans-1,2-Dichloroethene	2.55	96	196284	50.96	ppb	99
28) 1,1-Diclethane	2.80	63	359235	51.64	ppb	97
29) DIPE	2.81	45	660536	52.60	ppb	98
30) Vinyl Acetate	2.80	86	20683	48.83	ppb #	20
31) 2-Chloro-1,3-butadiene	2.85	53	324611	56.87	ppb	95
32) ETBE	3.03	59	527232	53.11	ppb	96
33) 2,2-Dichloropropane	3.15	77	363812	60.31	ppb	100
34) 2-Butanone	3.15	43	47420	52.30	ppb	98
35) cis-1,2-Dichloroethene	3.15	96	207847	48.92	ppb	96
36) Propionitrile	3.19	54	58245	269.76	ppb	96
37) Methacrylonitrile	3.29	67	35406	51.54	ppb	97

(#) = qualifier out of range (m) = manual integration
F4319.D W110709.M Thu Nov 12 11:03:32 2009

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4319.D Vial: 5
Acq On : 12 Nov 2009 10:51 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 11:03 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration
DataAcq Meth : W110709

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
38)	Bromochloromethane	3.30	128	92587	54.93 ppb	90
39)	Chloroform	3.34	83	388511	57.36 ppb	100
40)	Tetrahydrofuran	3.35	42	24939	54.36 ppb	94
41)	1,1,1-Trichloroethane	3.48	97	359330	58.88 ppb	99
44)	cyclohexane	3.53	56	310663	48.51 ppb	99
45)	Carbontetrachloride	3.60	117	285042	55.95 ppb	96
46)	1,1-Dichloropropene	3.59	75	277259	49.80 ppb	97
47)	Iso-Butyl Alcohol	3.61	43	76021	1000.52 ppb	93
49)	Benzene	3.74	78	750350	49.65 ppb	99
50)	1,2-Dichloroethane	3.74	62	281261	58.65 ppb	97
51)	TAME	3.79	73	417153	53.76 ppb	94
52)	N-Heptane	3.88	43	268584	52.26 ppb	97
53)	Trichloroethene	4.18	95	205579	49.74 ppb	99
54)	methylcyclohexane	4.32	55	290854	52.35 ppb	97
55)	1,2-Diclpropane	4.34	63	180758	49.79 ppb	99
56)	Methyl Methacrylate	4.39	69	68942	51.07 ppb	93
57)	1,4-Dioxane	4.43	88	18504	1017.21 ppb	84
58)	Dibromomethane	4.43	93	99283	57.20 ppb	92
59)	Bromodichloromethane	4.54	83	274030	53.96 ppb	100
61)	2-Chloroethylvinyl Ether	4.74	63	69514	53.80 ppb	98
62)	cis-1,3-Dichloropropene	4.87	75	274890	50.26 ppb	94
64)	4-Methyl-2-Pentanone	4.99	43	97949	51.09 ppb	100
65)	Toluene	5.16	91	809647	50.82 ppb	98
66)	trans-1,3-Dichloropropene	5.31	75	242694	54.30 ppb	98
67)	Ethyl Methacrylate	5.37	69	148185	52.16 ppb	94
68)	1,1,2-Trichloroethane	5.48	83	102547	51.75 ppb	95
71)	Tetrachloroethene	5.61	166	219291	50.58 ppb	99
72)	2-Hexanone	5.67	43	67149	50.79 ppb	92
73)	N-Butyl Acetate	5.76	43	163549	51.44 ppb	97
74)	1,3-Dichloropropane	5.63	76	224697	50.24 ppb	97
75)	Dibromochloromethane	5.82	129	155475	55.22 ppb	92
76)	1,2-Dibromoethane	5.94	107	122722	50.75 ppb	97
77)	Chlorobenzene	6.36	112	508495	50.25 ppb	96
78)	1,1,1,2-Tetrachloroethane	6.43	131	176585	54.00 ppb	95
79)	Ethylbenzene	6.44	91	942725	51.90 ppb	98
80)	(m+p)Xylene	6.55	106	698973	106.20 ppb	95
81)	o-Xylene	6.92	106	327188	53.26 ppb	97
82)	Styrene	6.93	104	572795	55.31 ppb	99
84)	Bromoform	7.12	173	84561	53.09 ppb	96
85)	Isopropylbenzene	7.26	105	870742	49.98 ppb	100
86)	Cyclohexanone	7.37	55	219963	1273.85 ppb	92
87)	1,1,2,2-Tetrachloroethane	7.54	83	124013	45.86 ppb	99
88)	Trans-1,4-Dichloro-2-buten	7.59	53	41510	53.24 ppb	91
89)	1,2,3-Trichloropropane	7.59	110	42470	50.25 ppb	98
90)	n-Propylbenzene	7.65	91	1075872	49.64 ppb	100
91)	Bromobenzene	7.57	156	209462	50.68 ppb	94
93)	1,3,5-Trimethylbenzene	7.82	105	766384	51.86 ppb	97
94)	2-Chlorotoluene	7.75	91	649307	49.95 ppb	98
95)	4-Chlorotoluene	7.85	91	766088	51.53 ppb	100
96)	tert-Butylbenzene	8.14	119	664992	52.42 ppb	99

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

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4319.D Vial: 5
Acq On : 12 Nov 2009 10:51 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 11:03 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration
DataAcq Meth : W110709

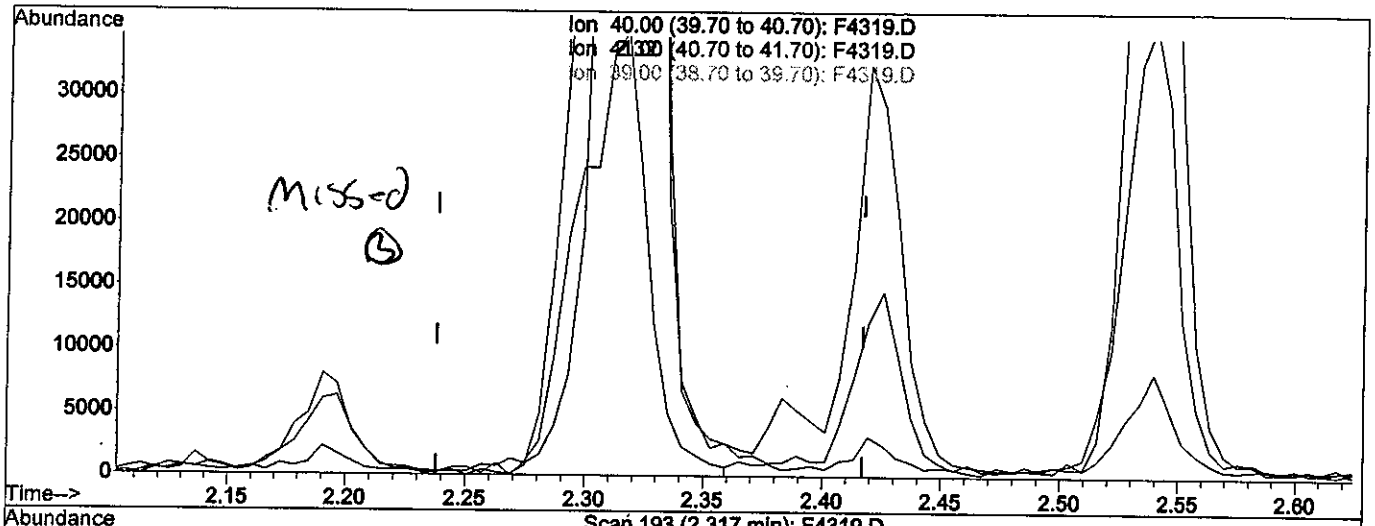
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
97)	1,2,4-Trimethylbenzene	8.19	105	767745	52.13 ppb	97
98)	sec-Butylbenzene	8.36	105	1002437	51.62 ppb	98
99)	p-Isopropyltoluene	8.50	119	837333	53.86 ppb	99
100)	1,3-Dclbenz	8.48	146	401889	50.70 ppb	99
101)	1,4-Dclbenz	8.57	146	400044	49.75 ppb	95
103)	n-Butylbenzene	8.91	91	749194	52.97 ppb	96
104)	1,2-Dclbenz	8.94	146	358884	51.93 ppb	99
105)	1,2-Dibromo-3-chloropropan	9.72	157	23830	53.24 ppb	96
107)	1,2,4-Tcbenzene	10.53	180	224267	51.86 ppb	96
108)	Hexachlorobu	10.69	225	112581	47.35 ppb	95
109)	Naphthalen	10.77	128	358530	50.03 ppb	100
110)	1,2,3-Tclbenzene	10.99	180	191172	51.33 ppb	98

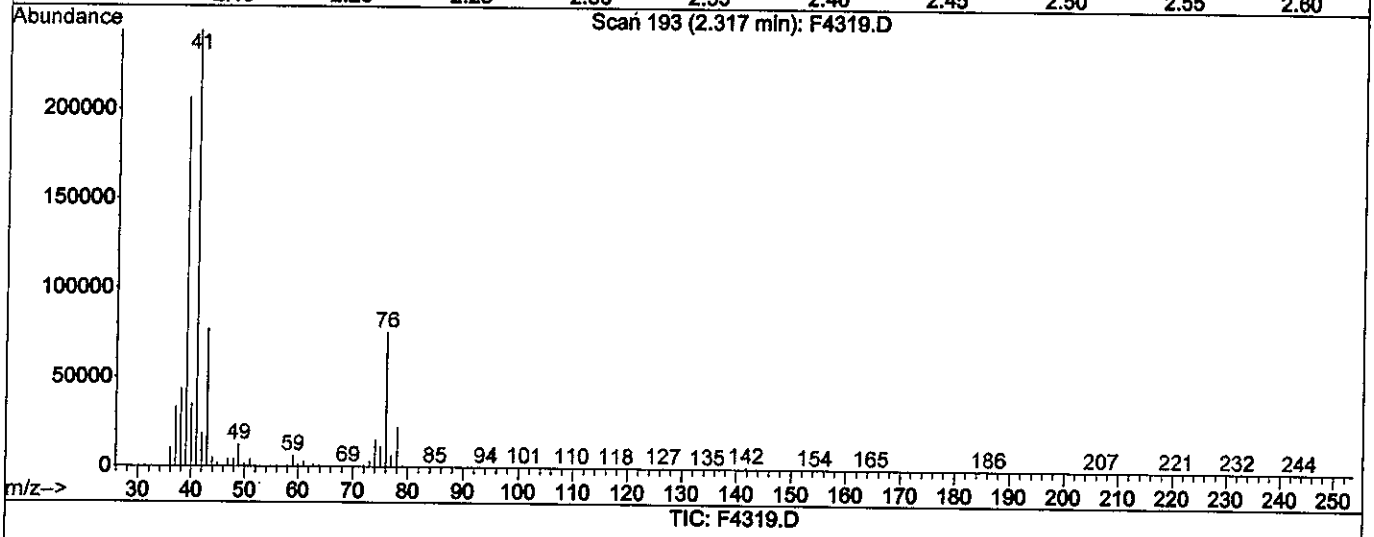
(#) = qualifier out of range (m) = manual integration
F4319.D W110709.M Thu Nov 12 11:03:34 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4319.D Vial: 5
Acq On : 12 Nov 2009 10:51 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 11:03 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Multiple Level Calibration





TIC: F4319.D

(20) Acetonitrile

2.32min 562.77ppb

response 70760

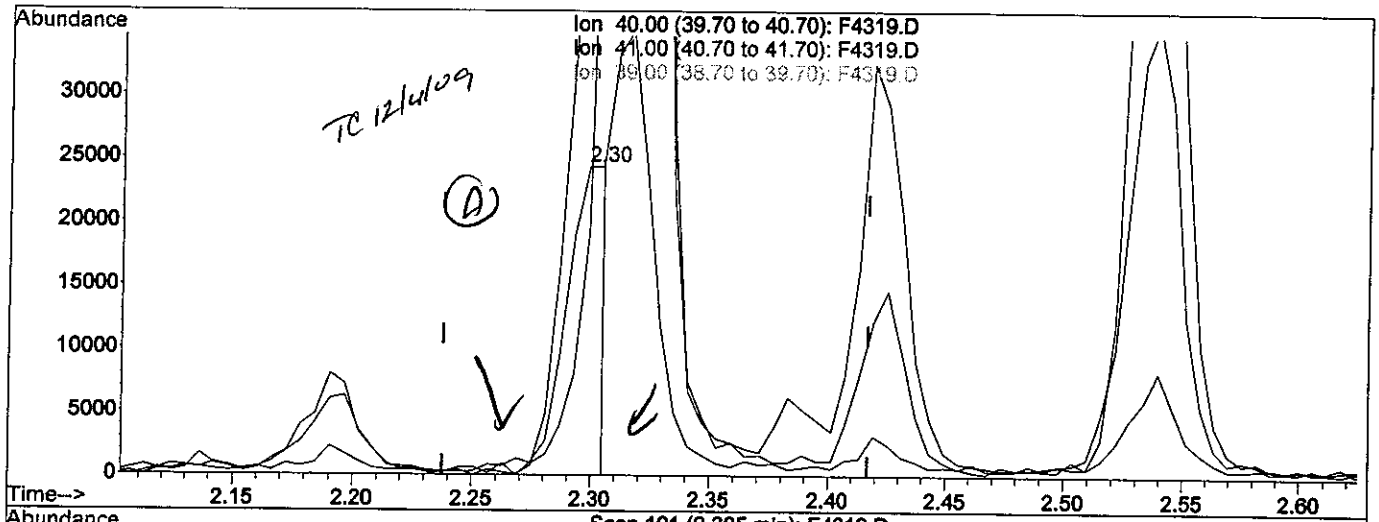
Ion	Exp%	Act%
40.00	100	100
41.00	666.00	699.06#
39.00	495.30	591.33#
0.00	0.00	0.00

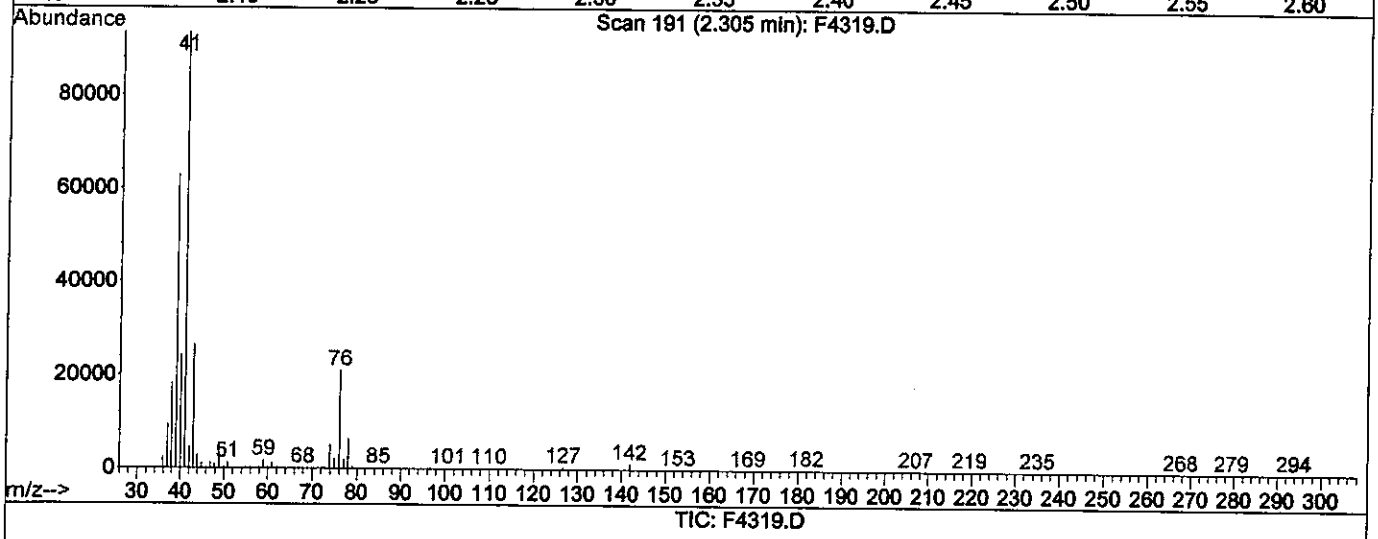
F4319.D W110709.M Thu Nov 12 11:32:50 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4319.D Vial: 5
Acq On : 12 Nov 2009 10:51 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 11:32 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Multiple Level Calibration





TIC: F4319.D

(20) Acetonitrile

2.30min 221.07ppb m

response 29201

Ion	Exp%	Act%
40.00	100	100
41.00	666.00	383.82#
39.00	495.30	259.11#
0.00	0.00	0.00

F4319.D W110709.M Thu Nov 12 11:32:56 2009

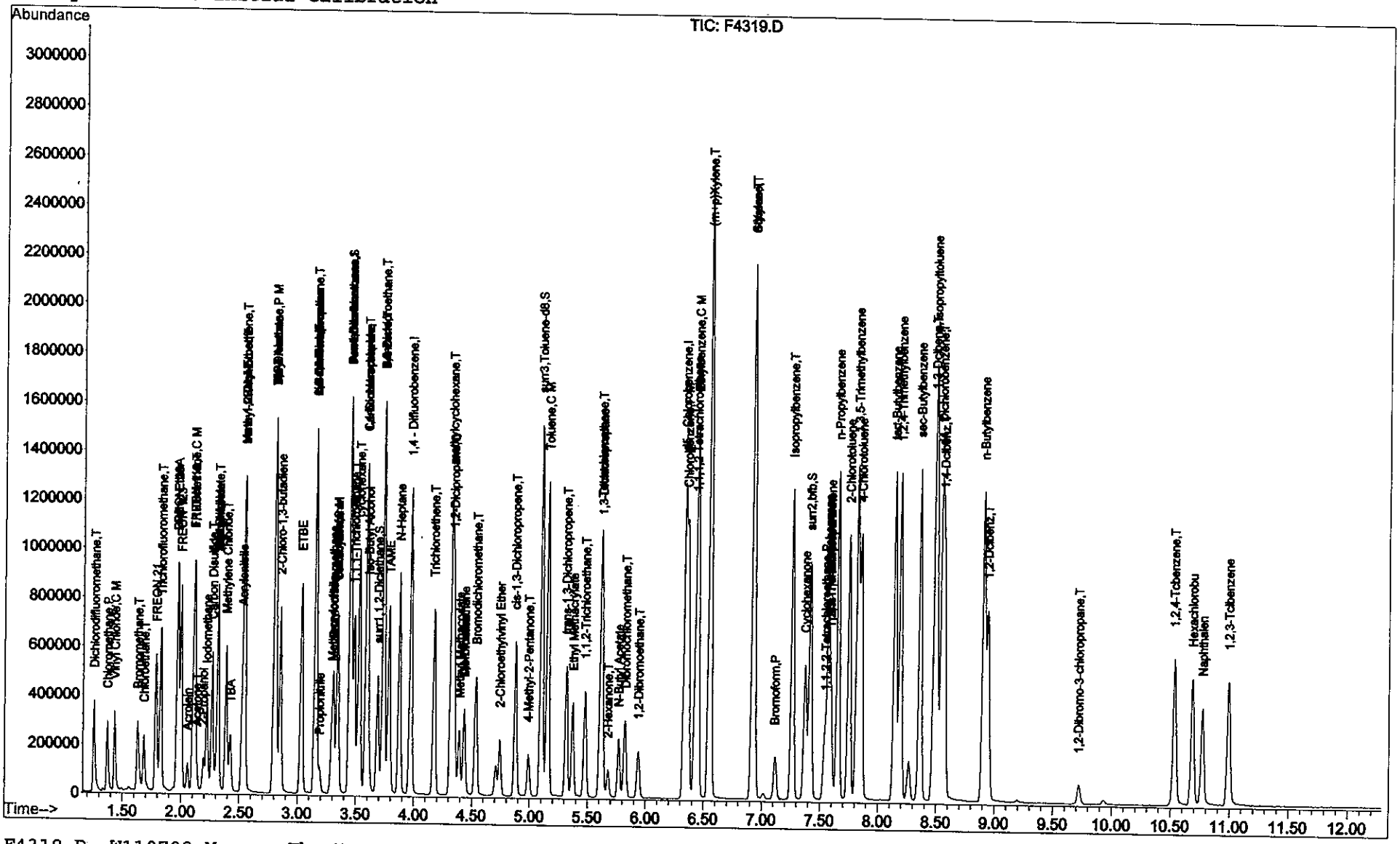
Quantitation Report

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4319.D
Acq On : 12 Nov 2009 10:51 am
Sample : CCV
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 12 11:03 2009

Vial: 5
Operator: D.ZIMPFER
Inst : MS #8
Multiplr: 1.00

Quant Results File: W110709.RES

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration



F4319.D W110709.M Thu Nov 12 11:03:38 2009

TS106

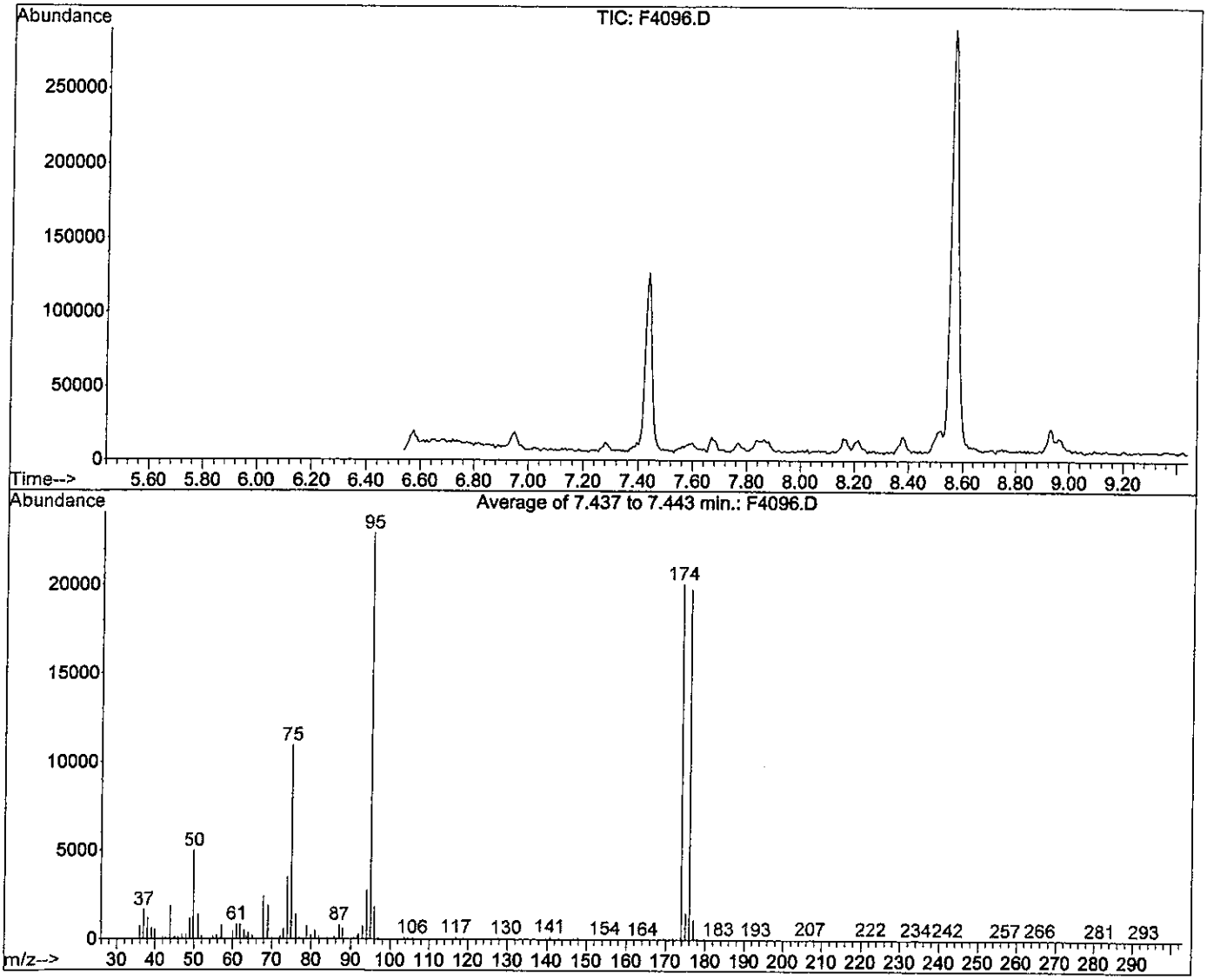
VOLATILE ORGANICS

RAW QC DATA

BFB

Data File : J:\ACQUDATA\MSVOA8\DATA\110709\F4096.D Vial: 9
Acq On : 7 Nov 2009 2:11 pm Operator: D.ZIMPFER
Sample : TUNE Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa

QL 11-7



Spectrum Information: Average of 7.437 to 7.443 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.7	4982	PASS
75	95	30	60	47.7	10938	PASS
95	95	100	100	100.0	22944	PASS
96	95	5	9	7.8	1797	PASS
173	174	0.00	2	0.5	93	PASS
174	95	50	120	87.5	20084	PASS
175	174	5	9	7.3	1475	PASS
176	174	95	101	98.3	19752	PASS
177	176	5	9	5.6	1101	PASS

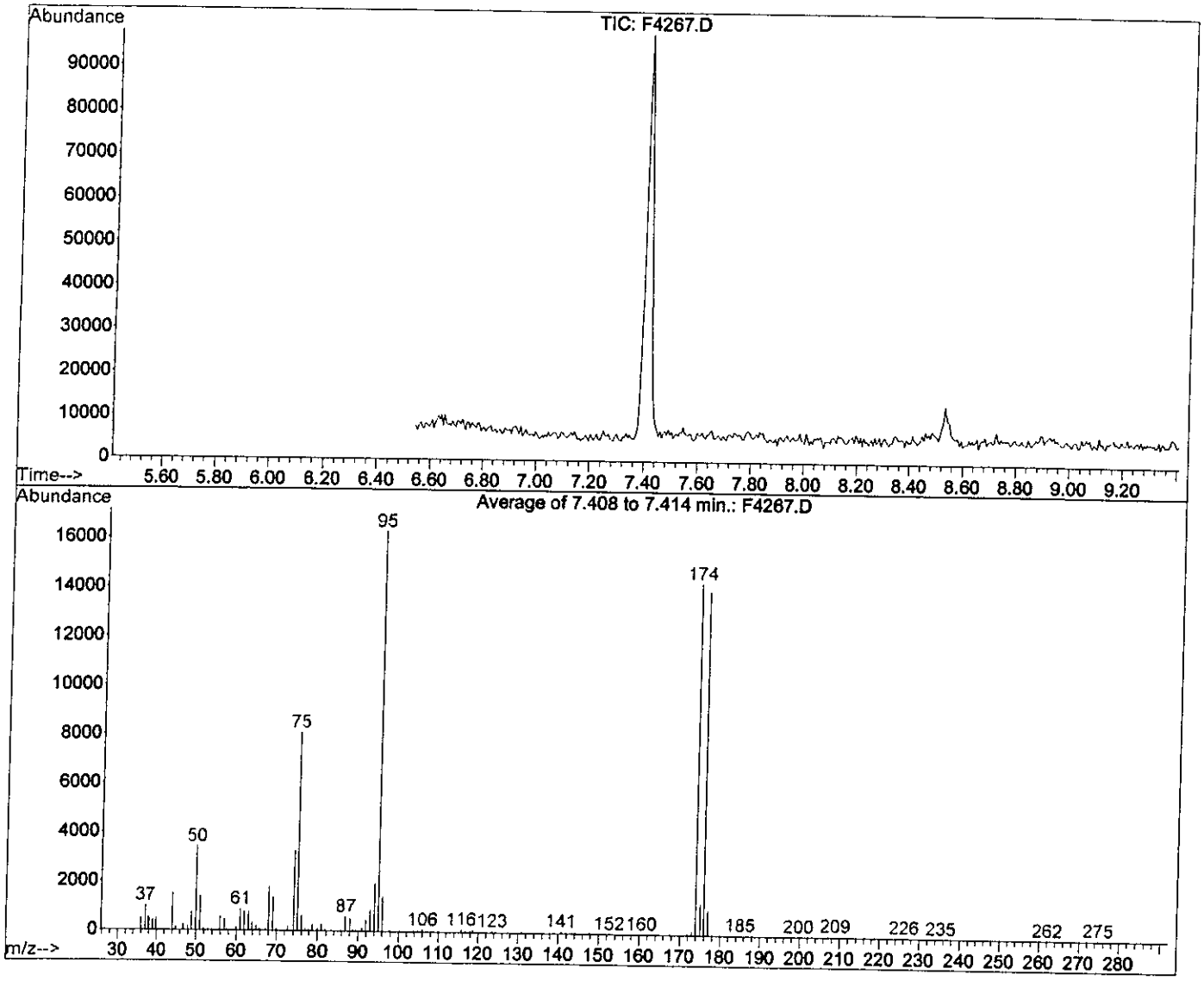
F4096.D W110709.M Sun Nov 08 12:28:35 2009

BFB

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4267.D
Acq On : 11 Nov 2009 9:55 am
Sample : TUNE
Misc :
MS Integration Params: RTEINT.P
Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa

Vial: 4
Operator: D.ZIMPFER
Inst : MS #8
Multiplr: 1.00

D 11.11



Spectrum Information: Average of 7.408 to 7.414 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.0	3427	PASS
75	95	30	60	49.6	8095	PASS
95	95	100	100	100.0	16324	PASS
96	95	5	9	8.7	1416	PASS
173	174	0.00	2	1.2	174	PASS
174	95	50	120	87.7	14321	PASS
175	174	5	9	8.9	1273	PASS
176	174	95	101	97.9	14014	PASS
177	176	5	9	7.2	1006	PASS

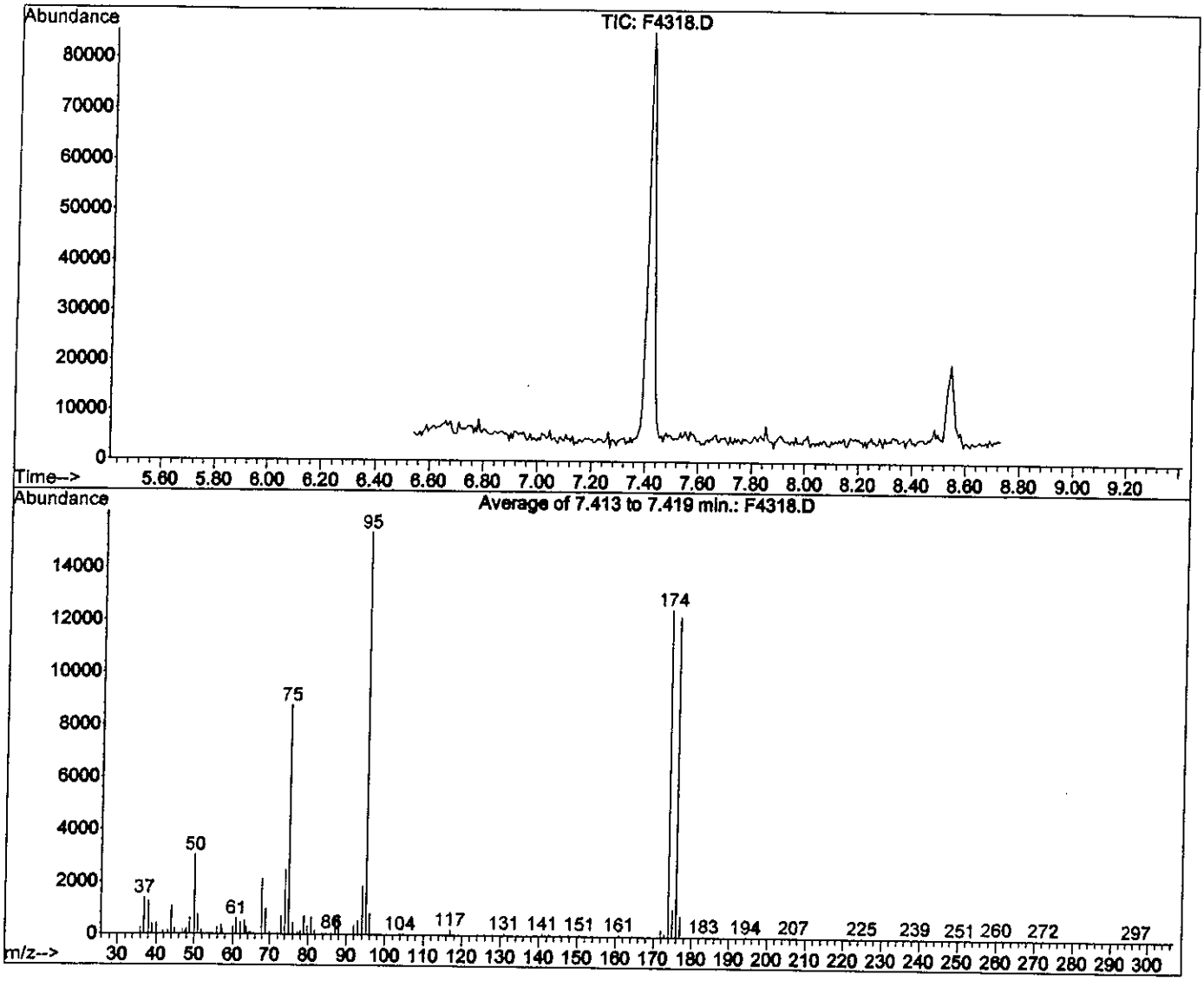
F4267.D W110709.M Wed Nov 11 10:06:38 2009

BFB

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4318.D
Acq On : 12 Nov 2009 10:14 am
Sample : TUNE
Misc :
MS Integration Params: RTEINT.P
Method : J:\ACQUDATA\MSVOA8\METHODS\W102709.M (RTE Integrator)
Title : 8260voa

Vial: 4
Operator: D.ZIMPFER
Inst : MS #8
Multiplr: 1.00

12.12.09



Spectrum Information: Average of 7.413 to 7.419 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.7	3029	PASS
75	95	30	60	57.0	8754	PASS
95	95	100	100	100.0	15368	PASS
96	95	5	9	5.3	814	PASS
173	174	0.00	2	1.0	128	PASS
174	95	50	120	81.2	12486	PASS
175	174	5	9	8.5	1058	PASS
176	174	95	101	97.9	12226	PASS
177	176	5	9	6.5	799	PASS

F4318.D W102709.M Thu Nov 12 10:23:21 2009

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ0911303-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	0.18	U	1.0	0.18	1	NA	11/11/09 12:26		178949	
1,1,1-Trichloroethane (TCA)	0.32	U	1.0	0.32	1	NA	11/11/09 12:26		178949	
1,1,2,2-Tetrachloroethane	0.090	U	1.0	0.090	1	NA	11/11/09 12:26		178949	
1,1,2-Trichloroethane	0.20	U	1.0	0.20	1	NA	11/11/09 12:26		178949	
1,1-Dichloroethane (1,1-DCA)	0.14	U	1.0	0.14	1	NA	11/11/09 12:26		178949	
1,1-Dichloroethene (1,1-DCE)	0.37	U	1.0	0.37	1	NA	11/11/09 12:26		178949	
1,1-Dichloropropene	0.21	U	2.0	0.21	1	NA	11/11/09 12:26		178949	
1,2,3-Trichlorobenzene	**0.29**	J	2.0	0.25	1	NA	11/11/09 12:26		178949	
1,2,3-Trichloropropane	0.30	U	2.0	0.30	1	NA	11/11/09 12:26		178949	
1,2,4-Trichlorobenzene	**0.27**	J	2.0	0.19	1	NA	11/11/09 12:26		178949	
1,2,4-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/11/09 12:26		178949	
1,2-Dibromo-3-chloropropane (DBCP)	0.43	U	5.0	0.43	1	NA	11/11/09 12:26		178949	
1,2-Dibromoethane	0.18	U	1.0	0.18	1	NA	11/11/09 12:26		178949	
1,2-Dichlorobenzene	0.40	U	2.0	0.40	1	NA	11/11/09 12:26		178949	
1,2-Dichloroethane	0.14	U	1.0	0.14	1	NA	11/11/09 12:26		178949	
1,2-Dichloropropane	0.15	U	1.0	0.15	1	NA	11/11/09 12:26		178949	
1,3,5-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/11/09 12:26		178949	
1,3-Dichlorobenzene	0.36	U	2.0	0.36	1	NA	11/11/09 12:26		178949	
1,3-Dichloropropane	0.12	U	2.0	0.12	1	NA	11/11/09 12:26		178949	
1,4-Dichlorobenzene	0.34	U	2.0	0.34	1	NA	11/11/09 12:26		178949	
2,2-Dichloropropane	0.20	U	2.0	0.20	1	NA	11/11/09 12:26		178949	
2-Butanone (MEK)	1.0	U	10	1.0	1	NA	11/11/09 12:26		178949	
2-Chlorotoluene	0.38	U	5.0	0.38	1	NA	11/11/09 12:26		178949	
2-Hexanone	0.40	U	10	0.40	1	NA	11/11/09 12:26		178949	
2-Methyl-2-propanol	3.0	U	100	3.0	1	NA	11/11/09 12:26		178949	
4-Chlorotoluene	0.37	U	5.0	0.37	1	NA	11/11/09 12:26		178949	
4-Isopropyltoluene	0.22	U	2.0	0.22	1	NA	11/11/09 12:26		178949	
4-Methyl-2-pentanone	0.34	U	10	0.34	1	NA	11/11/09 12:26		178949	
Acetone	1.6	U	20	1.6	1	NA	11/11/09 12:26		178949	
Benzene	0.18	U	1.0	0.18	1	NA	11/11/09 12:26		178949	
Bromobenzene	0.33	U	2.0	0.33	1	NA	11/11/09 12:26		178949	
Bromochloromethane	0.18	U	2.0	0.18	1	NA	11/11/09 12:26		178949	
Bromodichloromethane	0.17	U	1.0	0.17	1	NA	11/11/09 12:26		178949	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ0911303-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	0.20	U	1.0	0.20	1	NA	11/11/09 12:26		178949	
Bromomethane	0.40	U	2.0	0.40	1	NA	11/11/09 12:26		178949	
Carbon Tetrachloride	0.36	U	1.0	0.36	1	NA	11/11/09 12:26		178949	
Chlorobenzene	0.26	U	1.0	0.26	1	NA	11/11/09 12:26		178949	
Chloroethane	0.21	U	2.0	0.21	1	NA	11/11/09 12:26		178949	
Chloroform	0.16	U	1.0	0.16	1	NA	11/11/09 12:26		178949	
Chloromethane	0.18	U	2.0	0.18	1	NA	11/11/09 12:26		178949	
Dibromochloromethane	0.11	U	1.0	0.11	1	NA	11/11/09 12:26		178949	
Dibromomethane	0.18	U	1.0	0.18	1	NA	11/11/09 12:26		178949	
Dichlorodifluoromethane (CFC 12)	0.18	U	1.0	0.18	1	NA	11/11/09 12:26		178949	
Dichloromethane	0.13	U	2.0	0.13	1	NA	11/11/09 12:26		178949	
Diisopropyl Ether	0.090	U	1.0	0.090	1	NA	11/11/09 12:26		178949	
Ethyl tert-Butyl Ether	0.12	U	1.0	0.12	1	NA	11/11/09 12:26		178949	
Ethylbenzene	0.42	U	1.0	0.42	1	NA	11/11/09 12:26		178949	
Hexachlorobutadiene	0.27	U	5.0	0.27	1	NA	11/11/09 12:26		178949	
Isopropylbenzene (Cumene)	0.34	U	2.0	0.34	1	NA	11/11/09 12:26		178949	
Methyl tert-Butyl Ether	0.13	U	1.0	0.13	1	NA	11/11/09 12:26		178949	
Naphthalene	**0.31**	J	2.0	0.31	1	NA	11/11/09 12:26		178949	
Styrene	0.36	U	1.0	0.36	1	NA	11/11/09 12:26		178949	
Tetrachloroethene (PCE)	0.42	U	1.0	0.42	1	NA	11/11/09 12:26		178949	
Toluene	0.21	U	1.0	0.21	1	NA	11/11/09 12:26		178949	
Trichloroethene (TCE)	0.19	U	1.0	0.19	1	NA	11/11/09 12:26		178949	
Trichlorofluoromethane (CFC 11)	0.16	U	1.0	0.16	1	NA	11/11/09 12:26		178949	
Vinyl Chloride	0.22	U	1.0	0.22	1	NA	11/11/09 12:26		178949	
cis-1,2-Dichloroethene	0.14	U	1.0	0.14	1	NA	11/11/09 12:26		178949	
cis-1,3-Dichloropropene	0.14	U	1.0	0.14	1	NA	11/11/09 12:26		178949	
m,p-Xylenes	0.81	U	2.0	0.81	1	NA	11/11/09 12:26		178949	
n-Butylbenzene	0.20	U	5.0	0.20	1	NA	11/11/09 12:26		178949	
n-Propylbenzene	0.32	U	2.0	0.32	1	NA	11/11/09 12:26		178949	
o-Xylene	0.40	U	1.0	0.40	1	NA	11/11/09 12:26		178949	
sec-Butylbenzene	0.23	U	2.0	0.23	1	NA	11/11/09 12:26		178949	
tert-Amyl Methyl Ether	0.13	U	1.0	0.13	1	NA	11/11/09 12:26		178949	
tert-Butylbenzene	0.28	U	2.0	0.28	1	NA	11/11/09 12:26		178949	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ0911303-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
trans-1,2-Dichloroethene	0.16	U	1.0	0.16	1	NA	11/11/09 12:26		178949	
trans-1,3-Dichloropropene	0.17	U	1.0	0.17	1	NA	11/11/09 12:26		178949	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	104	70-130	11/11/09 12:26		
Dibromofluoromethane	116	70-130	11/11/09 12:26		
Toluene-d8	113	70-130	11/11/09 12:26		

Comments:

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4272.D Vial: 8
Acq On : 11 Nov 2009 12:26 pm Operator: D.ZIMPFER
Sample : MBLK Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 12:39 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration
DataAcq Meth : W110709

RQ0911305-01

D2 11-27

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	3.44	168	607915	50.00	ppb	-0.02
42) 1,4 - Difluorobenzene	3.97	114	899459	50.00	ppb	-0.02
63) d5 - Chlorobenzene	6.33	117	762214	50.00	ppb	-0.03
83) d4 - Dichlorobenzene	8.53	152	335674	50.00	ppb	-0.03
System Monitoring Compounds						
43) surr4,Dibrflmethane	3.44	113	305316	58.13	ppb	-0.02
Spiked Amount 50.000	Range 89 - 119		Recovery = 116.26%			
48) surr1,1,2-Diclethane	3.68	65	322785	62.29	ppb	-0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 124.58%#			
69) surr3,Toluene-d8	5.09	98	1049060	56.47	ppb	-0.02
Spiked Amount 50.000	Range 87 - 121		Recovery = 112.94%			
70) surr2,bfb	7.41	95	385348	52.15	ppb	-0.02
Spiked Amount 50.000	Range 85 - 122		Recovery = 104.30%			
Target Compounds						Qvalue
~~7) Chloroethane~~	~~1.67~~	~~64~~	~~1927~~	~~Below Cal~~		~~64~~
~~19) Acrolein~~	~~1.99~~	~~56~~	~~157~~	~~0.50~~	ppb	~~90~~
~~36) Propionitrile~~	~~3.14~~	~~54~~	~~68~~	~~0.26~~	ppb	~~59~~
~~40) Tetrahydrofuran~~	~~3.34~~	~~42~~	~~867~~	~~1.54~~	ppb #	~~29~~
~~86) Cyclohexanone~~	~~7.39~~	~~55~~	~~723~~	~~4.06~~	ppb	~~55~~
107) 1,2,4-Tcbenzene	10.51	180	967 0.77	~~0.22~~	ppb(m) PS 11/25	97
108) Hexachlorobu	10.68	225	541	0.22	ppb	82
109) Naphthalen	10.76	128	2323	0.31	ppb	74
110) 1,2,3-Tclbenzene	11.00	180	1134	0.29	ppb	96

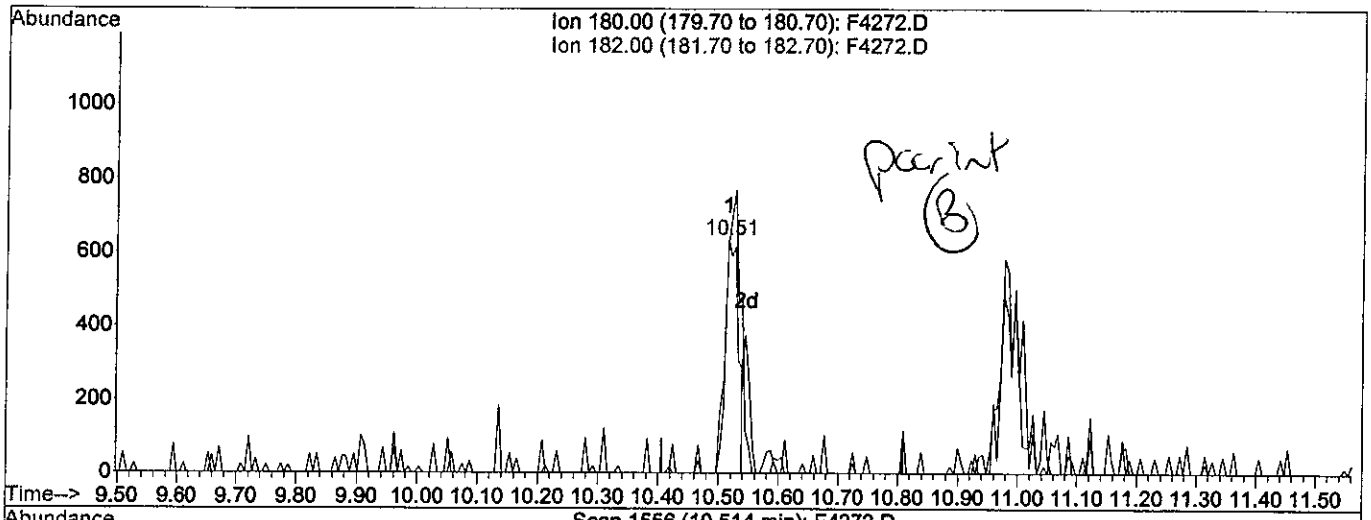
LT

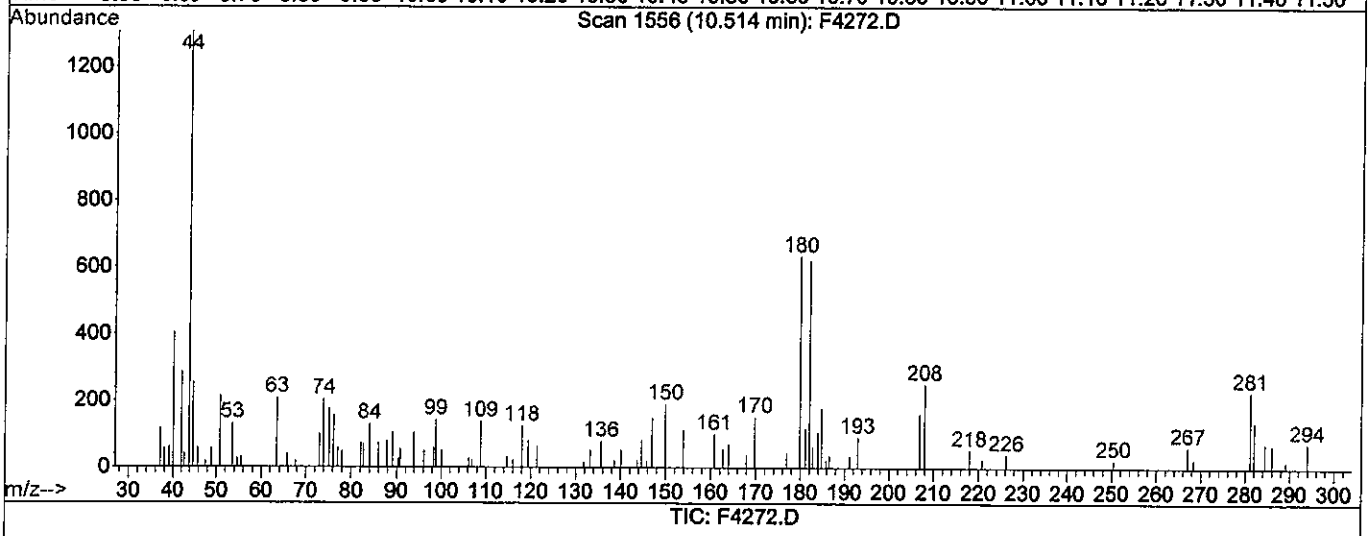
(#) = qualifier out of range (m) = manual integration
F4272.D W110709.M Wed Nov 11 12:39:55 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4272.D Vial: 8
Acq On : 11 Nov 2009 12:26 pm Operator: D.ZIMPFER
Sample : MBLK Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 25 13:51 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Multiple Level Calibration





TIC: F4272.D

(107) 1,2,4-Tcbenzene (T)

10.51min 0.22ppb

response 967

Ion	Exp%	Act%
180.00	100	100
182.00	94.90	97.95
0.00	0.00	0.00
0.00	0.00	0.00

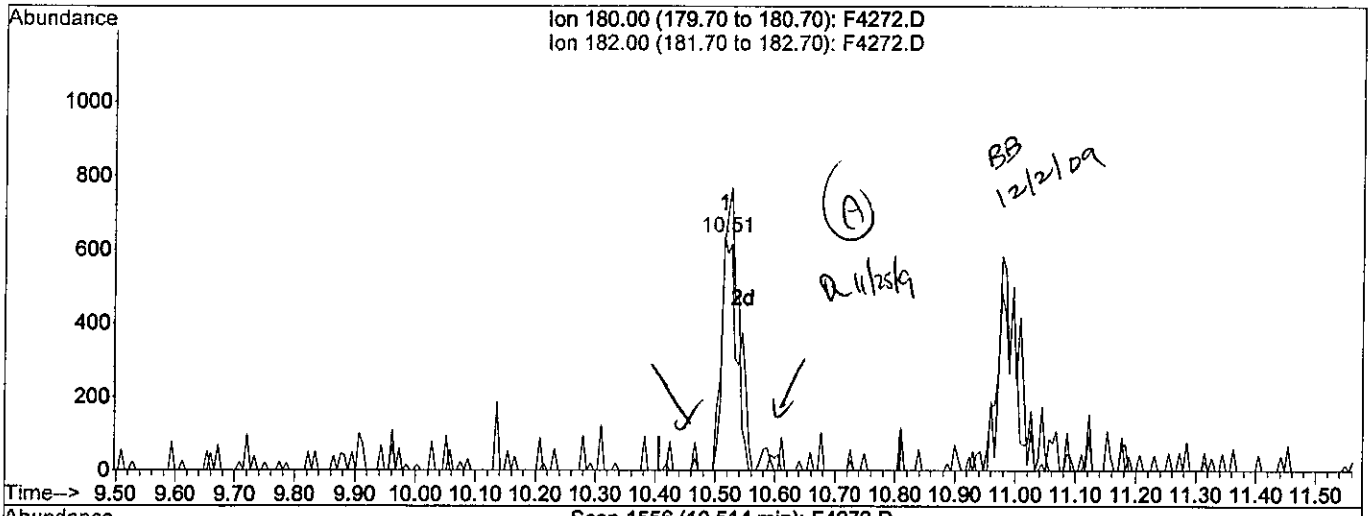
F4272.D W110709.M Wed Nov 25 13:51:28 2009

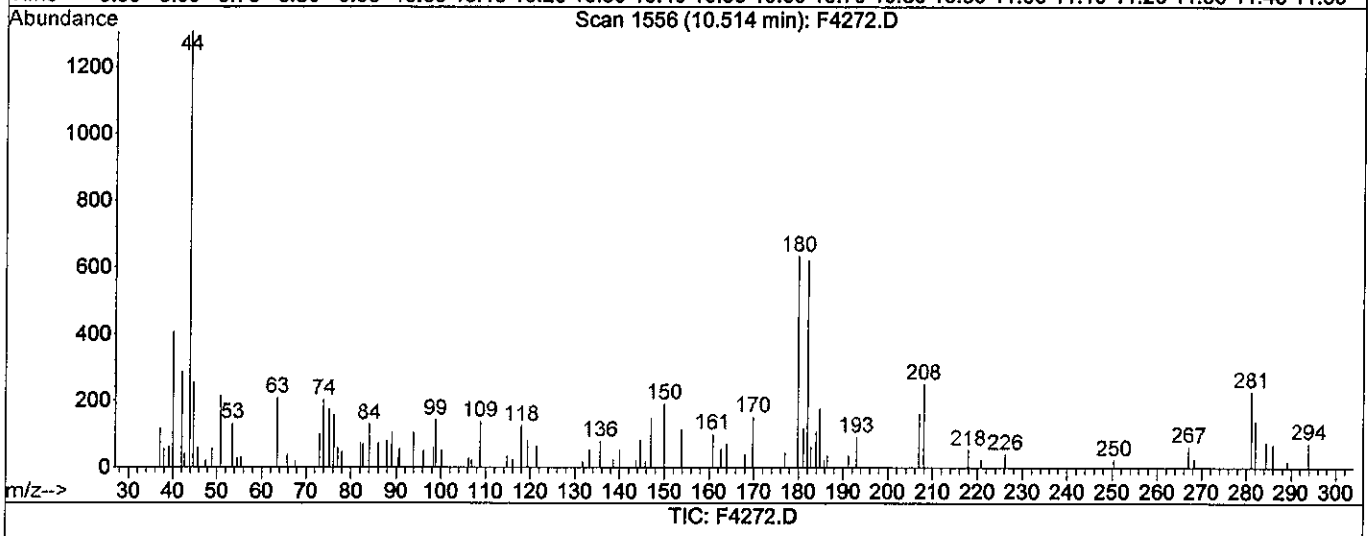
00200

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4272.D Vial: 8
Acq On : 11 Nov 2009 12:26 pm Operator: D.ZIMPFER
Sample : MBLK Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 25 13:51 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Multiple Level Calibration





TIC: F4272.D

(107) 1,2,4-Tcbenzene (T)

10.51min 0.27ppb m

response 1217

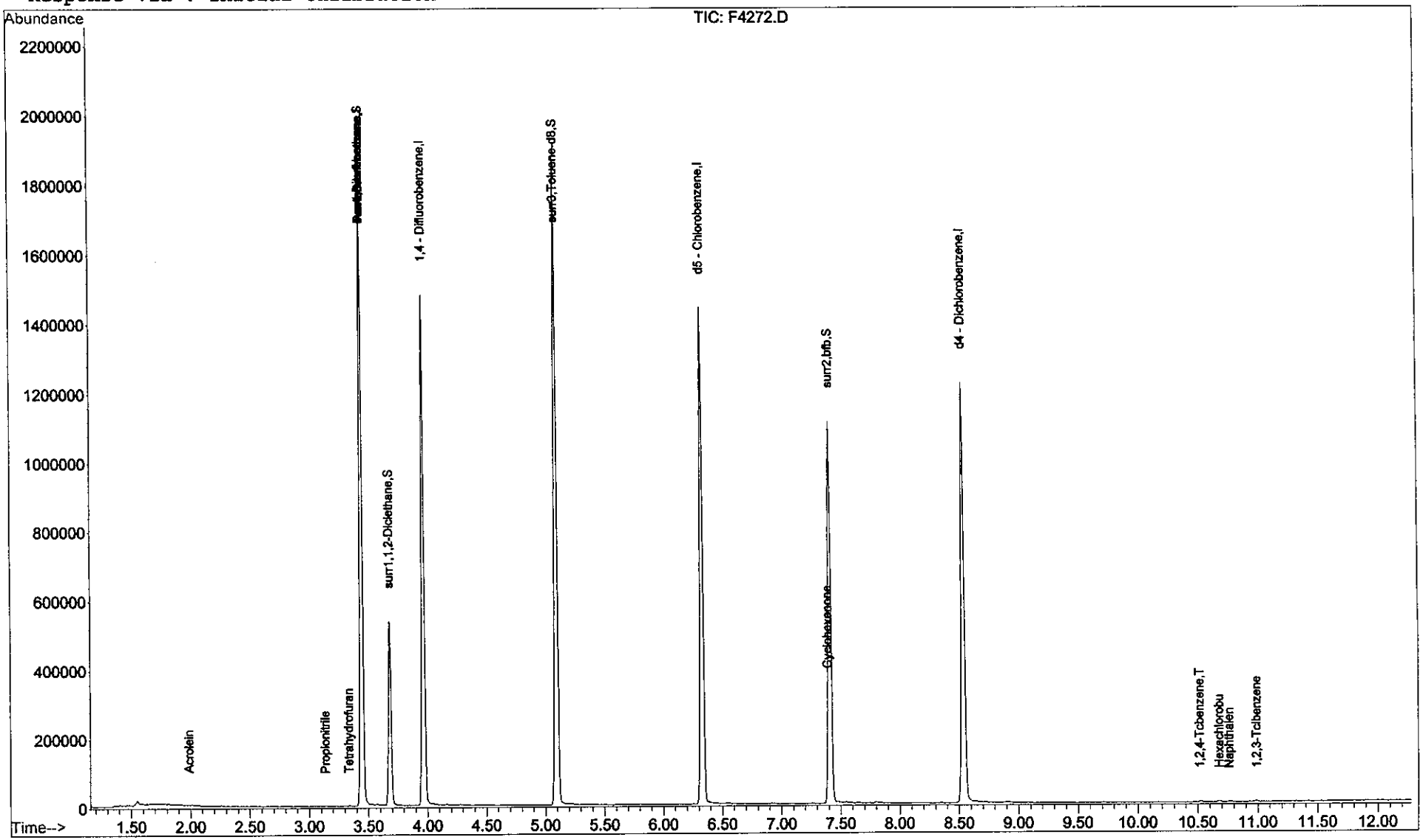
Ion	Exp%	Act%
180.00	100	100
182.00	94.90	97.95
0.00	0.00	0.00
0.00	0.00	0.00

F4272.D W110709.M Wed Nov 25 13:51:38 2009

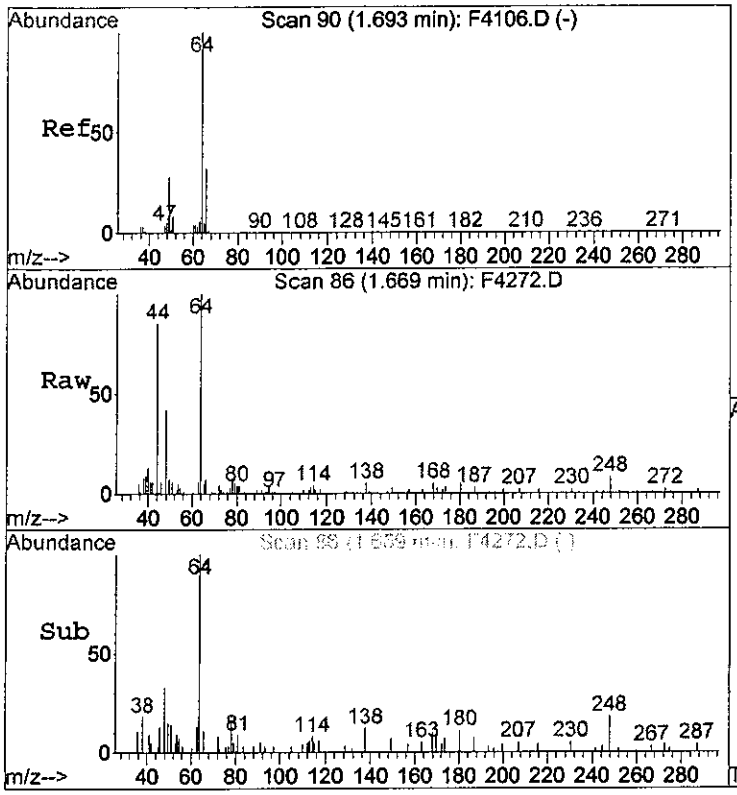
Quantitation Report

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4272.D Vial: 8
Acq On : 11 Nov 2009 12:26 pm Operator: D.ZIMPFER
Sample : MBLK Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 12:39 2009 Quant Results File: W110709.RES

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration



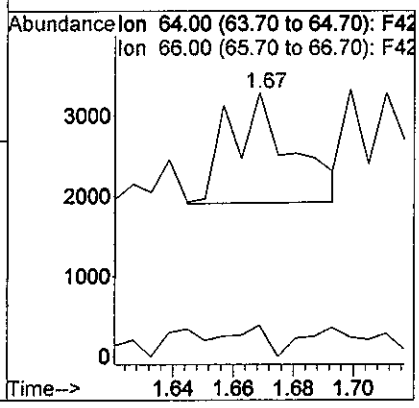
20200

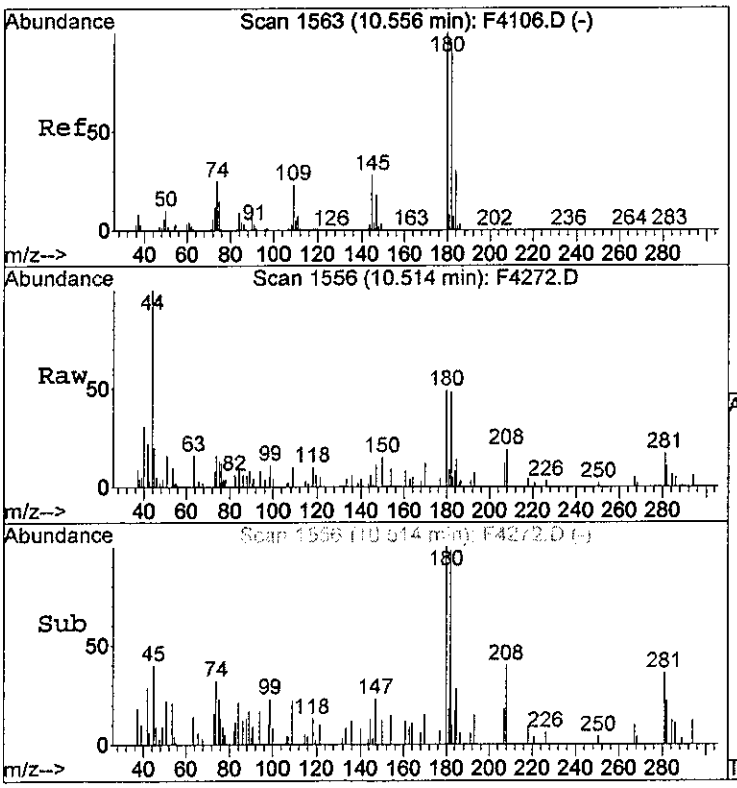


#7
Chloroethane
Concen: Below Cal
RT: 1.67 min Scan# 86
Delta R.T. -0.02 min
Lab File: F4272.D
Acq: 11 Nov 2009 12:26 pm

Tgt Ion: 64 Resp: 1927

Ion	Ratio	Lower	Upper
64	100		
66	11.9	2.0	62.0

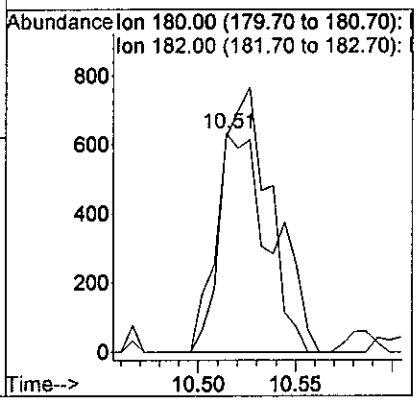


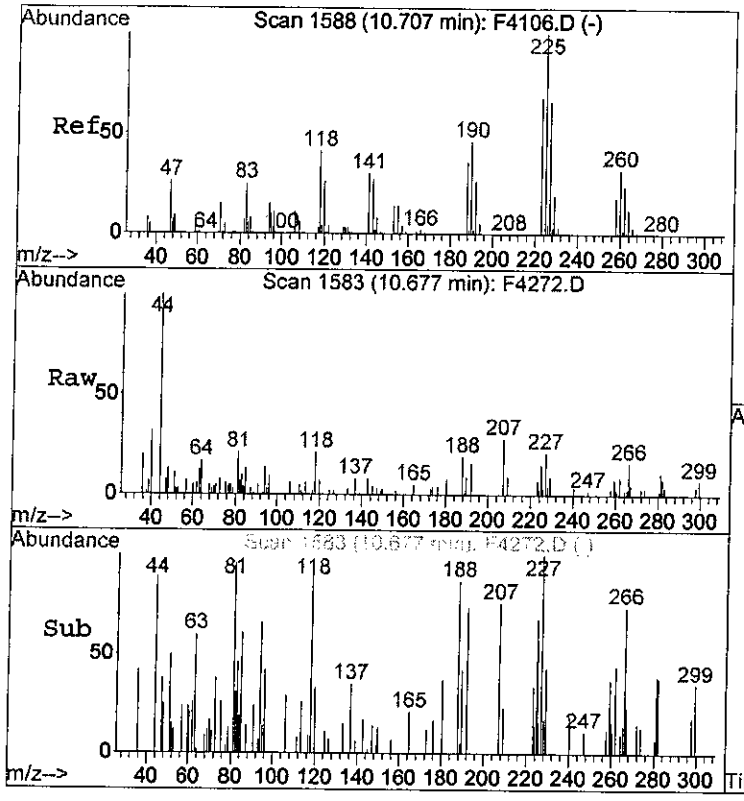


#107
1,2,4-Tcbenzene
Concen: 0.27 ppb m
RT: 10.51 min Scan# 1556
Delta R.T. -0.04 min
Lab File: F4272.D
Acq: 11 Nov 2009 12:26 pm

Tgt Ion:180 Resp: 1217

Ion	Ratio	Lower	Upper
180	100		
182	97.9	64.9	124.9

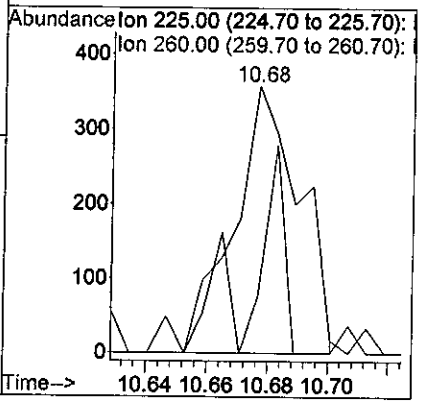


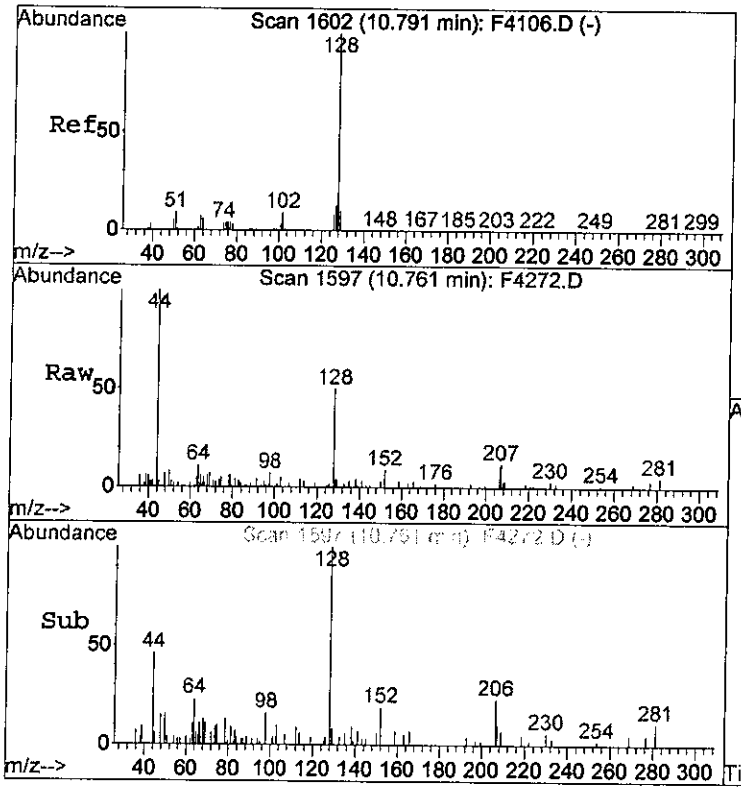


#108
Hexachlorobu
Concen: 0.22 ppb
RT: 10.68 min Scan# 1583
Delta R.T. -0.03 min
Lab File: F4272.D
Acq: 11 Nov 2009 12:26 pm

Tgt Ion:225 Resp: 541

Ion	Ratio	Lower	Upper
225	100		
260	21.6	1.7	61.7

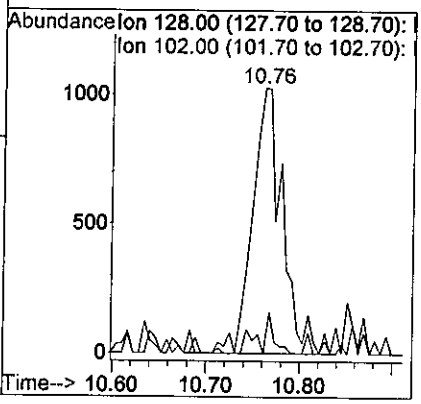


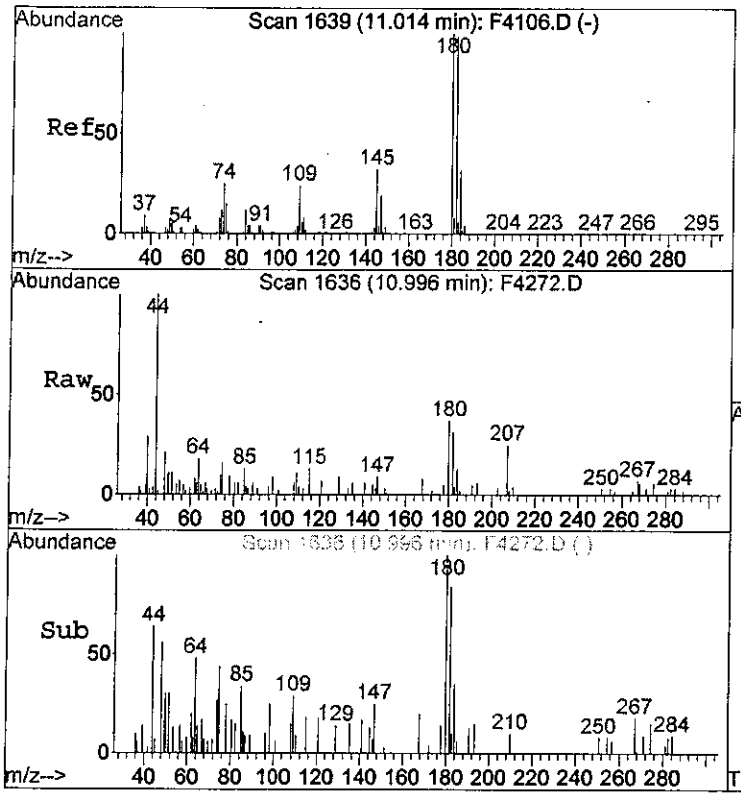


#109
Naphthalen
Concen: 0.31 ppb
RT: 10.76 min Scan# 1597
Delta R.T. -0.03 min
Lab File: F4272.D
Acq: 11 Nov 2009 12:26 pm

Tgt Ion:128 Resp: 2323

Ion	Ratio	Lower	Upper
128	100		
102	0.0	0.0	39.3

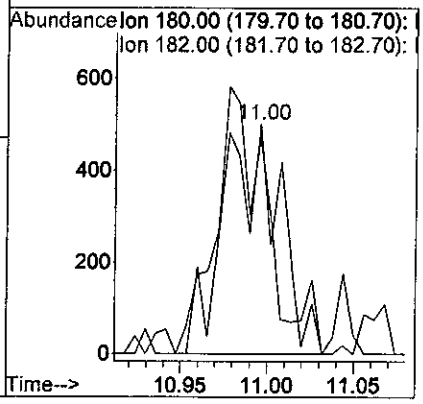




#110
1,2,3-Tclbenzene
Concen: 0.29 ppb
RT: 11.00 min Scan# 1636
Delta R.T. -0.02 min
Lab File: F4272.D
Acq: 11 Nov 2009 12:26 pm

Tgt Ion:180 Resp: 1134

Ion	Ratio	Lower	Upper
180	100		
182	94.2	67.8	127.8



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ0911347-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	0.18	U	1.0	0.18	1	NA	11/12/09 13:07		179136	
1,1,1-Trichloroethane (TCA)	0.32	U	1.0	0.32	1	NA	11/12/09 13:07		179136	
1,1,2,2-Tetrachloroethane	0.090	U	1.0	0.090	1	NA	11/12/09 13:07		179136	
1,1,2-Trichloroethane	0.20	U	1.0	0.20	1	NA	11/12/09 13:07		179136	
1,1-Dichloroethane (1,1-DCA)	0.14	U	1.0	0.14	1	NA	11/12/09 13:07		179136	
1,1-Dichloroethene (1,1-DCE)	0.37	U	1.0	0.37	1	NA	11/12/09 13:07		179136	
1,1-Dichloropropene	0.21	U	2.0	0.21	1	NA	11/12/09 13:07		179136	
1,2,3-Trichlorobenzene	**0.34**	J	2.0	0.25	1	NA	11/12/09 13:07		179136	
1,2,3-Trichloropropane	0.30	U	2.0	0.30	1	NA	11/12/09 13:07		179136	
1,2,4-Trichlorobenzene	0.19	U	2.0	0.19	1	NA	11/12/09 13:07		179136	
1,2,4-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/12/09 13:07		179136	
1,2-Dibromo-3-chloropropane (DBCP)	0.43	U	5.0	0.43	1	NA	11/12/09 13:07		179136	
1,2-Dibromoethane	0.18	U	1.0	0.18	1	NA	11/12/09 13:07		179136	
1,2-Dichlorobenzene	0.40	U	2.0	0.40	1	NA	11/12/09 13:07		179136	
1,2-Dichloroethane	0.14	U	1.0	0.14	1	NA	11/12/09 13:07		179136	
1,2-Dichloropropane	0.15	U	1.0	0.15	1	NA	11/12/09 13:07		179136	
1,3,5-Trimethylbenzene	0.36	U	2.0	0.36	1	NA	11/12/09 13:07		179136	
1,3-Dichlorobenzene	0.36	U	2.0	0.36	1	NA	11/12/09 13:07		179136	
1,3-Dichloropropane	0.12	U	2.0	0.12	1	NA	11/12/09 13:07		179136	
1,4-Dichlorobenzene	0.34	U	2.0	0.34	1	NA	11/12/09 13:07		179136	
2,2-Dichloropropane	0.20	U	2.0	0.20	1	NA	11/12/09 13:07		179136	
2-Butanone (MEK)	1.0	U	10	1.0	1	NA	11/12/09 13:07		179136	
2-Chlorotoluene	0.38	U	5.0	0.38	1	NA	11/12/09 13:07		179136	
2-Hexanone	0.40	U	10	0.40	1	NA	11/12/09 13:07		179136	
2-Methyl-2-propanol	3.0	U	100	3.0	1	NA	11/12/09 13:07		179136	
4-Chlorotoluene	0.37	U	5.0	0.37	1	NA	11/12/09 13:07		179136	
4-Isopropyltoluene	0.22	U	2.0	0.22	1	NA	11/12/09 13:07		179136	
4-Methyl-2-pentanone	0.34	U	10	0.34	1	NA	11/12/09 13:07		179136	
Acetone	1.6	U	20	1.6	1	NA	11/12/09 13:07		179136	
Benzene	0.18	U	1.0	0.18	1	NA	11/12/09 13:07		179136	
Bromobenzene	0.33	U	2.0	0.33	1	NA	11/12/09 13:07		179136	
Bromochloromethane	0.18	U	2.0	0.18	1	NA	11/12/09 13:07		179136	
Bromodichloromethane	0.17	U	1.0	0.17	1	NA	11/12/09 13:07		179136	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ0911347-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	0.20	U	1.0	0.20	1	NA	11/12/09 13:07		179136	
Bromomethane	0.40	U	2.0	0.40	1	NA	11/12/09 13:07		179136	
Carbon Tetrachloride	0.36	U	1.0	0.36	1	NA	11/12/09 13:07		179136	
Chlorobenzene	0.26	U	1.0	0.26	1	NA	11/12/09 13:07		179136	
Chloroethane	0.21	U	2.0	0.21	1	NA	11/12/09 13:07		179136	
Chloroform	0.16	U	1.0	0.16	1	NA	11/12/09 13:07		179136	
Chloromethane	0.18	U	2.0	0.18	1	NA	11/12/09 13:07		179136	
Dibromochloromethane	0.11	U	1.0	0.11	1	NA	11/12/09 13:07		179136	
Dibromomethane	0.18	U	1.0	0.18	1	NA	11/12/09 13:07		179136	
Dichlorodifluoromethane (CFC 12)	0.18	U	1.0	0.18	1	NA	11/12/09 13:07		179136	
Dichloromethane	0.13	U	2.0	0.13	1	NA	11/12/09 13:07		179136	
Diisopropyl Ether	0.090	U	1.0	0.090	1	NA	11/12/09 13:07		179136	
Ethyl tert-Butyl Ether	0.12	U	1.0	0.12	1	NA	11/12/09 13:07		179136	
Ethylbenzene	0.42	U	1.0	0.42	1	NA	11/12/09 13:07		179136	
Hexachlorobutadiene	**0.28**	J	5.0	0.27	1	NA	11/12/09 13:07		179136	
Isopropylbenzene (Cumene)	0.34	U	2.0	0.34	1	NA	11/12/09 13:07		179136	
Methyl tert-Butyl Ether	0.13	U	1.0	0.13	1	NA	11/12/09 13:07		179136	
Naphthalene	0.31	U	2.0	0.31	1	NA	11/12/09 13:07		179136	
Styrene	0.36	U	1.0	0.36	1	NA	11/12/09 13:07		179136	
Tetrachloroethene (PCE)	0.42	U	1.0	0.42	1	NA	11/12/09 13:07		179136	
Toluene	0.21	U	1.0	0.21	1	NA	11/12/09 13:07		179136	
Trichloroethene (TCE)	0.19	U	1.0	0.19	1	NA	11/12/09 13:07		179136	
Trichlorofluoromethane (CFC 11)	0.16	U	1.0	0.16	1	NA	11/12/09 13:07		179136	
Vinyl Chloride	0.22	U	1.0	0.22	1	NA	11/12/09 13:07		179136	
cis-1,2-Dichloroethene	0.14	U	1.0	0.14	1	NA	11/12/09 13:07		179136	
cis-1,3-Dichloropropene	0.14	U	1.0	0.14	1	NA	11/12/09 13:07		179136	
m,p-Xylenes	0.81	U	2.0	0.81	1	NA	11/12/09 13:07		179136	
n-Butylbenzene	0.20	U	5.0	0.20	1	NA	11/12/09 13:07		179136	
n-Propylbenzene	0.32	U	2.0	0.32	1	NA	11/12/09 13:07		179136	
o-Xylene	0.40	U	1.0	0.40	1	NA	11/12/09 13:07		179136	
sec-Butylbenzene	0.23	U	2.0	0.23	1	NA	11/12/09 13:07		179136	
tert-Amyl Methyl Ether	0.13	U	1.0	0.13	1	NA	11/12/09 13:07		179136	
tert-Butylbenzene	0.28	U	2.0	0.28	1	NA	11/12/09 13:07		179136	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ0911347-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
trans-1,2-Dichloroethene	0.16	U	1.0	0.16	1	NA	11/12/09 13:07		179136	
trans-1,3-Dichloropropene	0.17	U	1.0	0.17	1	NA	11/12/09 13:07		179136	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	95	70-130	11/12/09 13:07		
Dibromofluoromethane	110	70-130	11/12/09 13:07		
Toluene-d8	102	70-130	11/12/09 13:07		

Comments:

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4324.D Vial: 10
Acq On : 12 Nov 2009 1:07 pm Operator: D.ZIMPFER
Sample : MBLK Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 13:19 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration
DataAcq Meth : W110709

11347-01

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene	3.45	168	552829	50.00	ppb		-0.02
42) 1,4 - Difluorobenzene	3.97	114	808539	50.00	ppb		-0.02
63) d5 - Chlorobenzene	6.34	117	697219	50.00	ppb		-0.02
83) d4 - Dichlorobenzene	8.55	152	303634	50.00	ppb		-0.02
System Monitoring Compounds							
43) surr4,Dibrflmethane	3.45	113	260725	55.22	ppb		-0.02
Spiked Amount 50.000	Range 89 - 119		Recovery = 110.44%				
48) surr1,1,2-Diclethane	3.69	65	279190	59.94	ppb		-0.01
Spiked Amount 50.000	Range 80 - 120		Recovery = 119.88%				
69) surr3,Toluene-d8	5.11	98	866853	51.01	ppb		-0.01
Spiked Amount 50.000	Range 87 - 121		Recovery = 102.02%				
70) surr2,bfb	7.42	95	320559	47.42	ppb		-0.02
Spiked Amount 50.000	Range 85 - 122		Recovery = 94.84%				
Target Compounds							Qvalue
~~7) Chloroethane~~	~~1.66~~	~~64~~	~~986~~	Below Cal			80
13) Acrolein	2.04	56	132	0.46	ppb		75
36) Propionitrile	3.24	54	~~87~~	0.36	ppb		48
~~86) Cyclohexanone~~	~~7.37~~	~~55~~	~~317~~	~~1.97~~	~~ppb~~		~~66~~
108) Hexachlorobu	10.68	225	612	0.28	ppb	#	43
109) Naphthalen	10.77	128	1968	0.29	ppb		94
110) 1,2,3-Tclbenzene	11.00	180	1176	0.34	ppb	#	53

DR 11.13

RQ0911347-01

(#) = qualifier out of range (m) = manual integration
F4324.D W110709.M Thu Nov 12 13:20:17 2009

00209

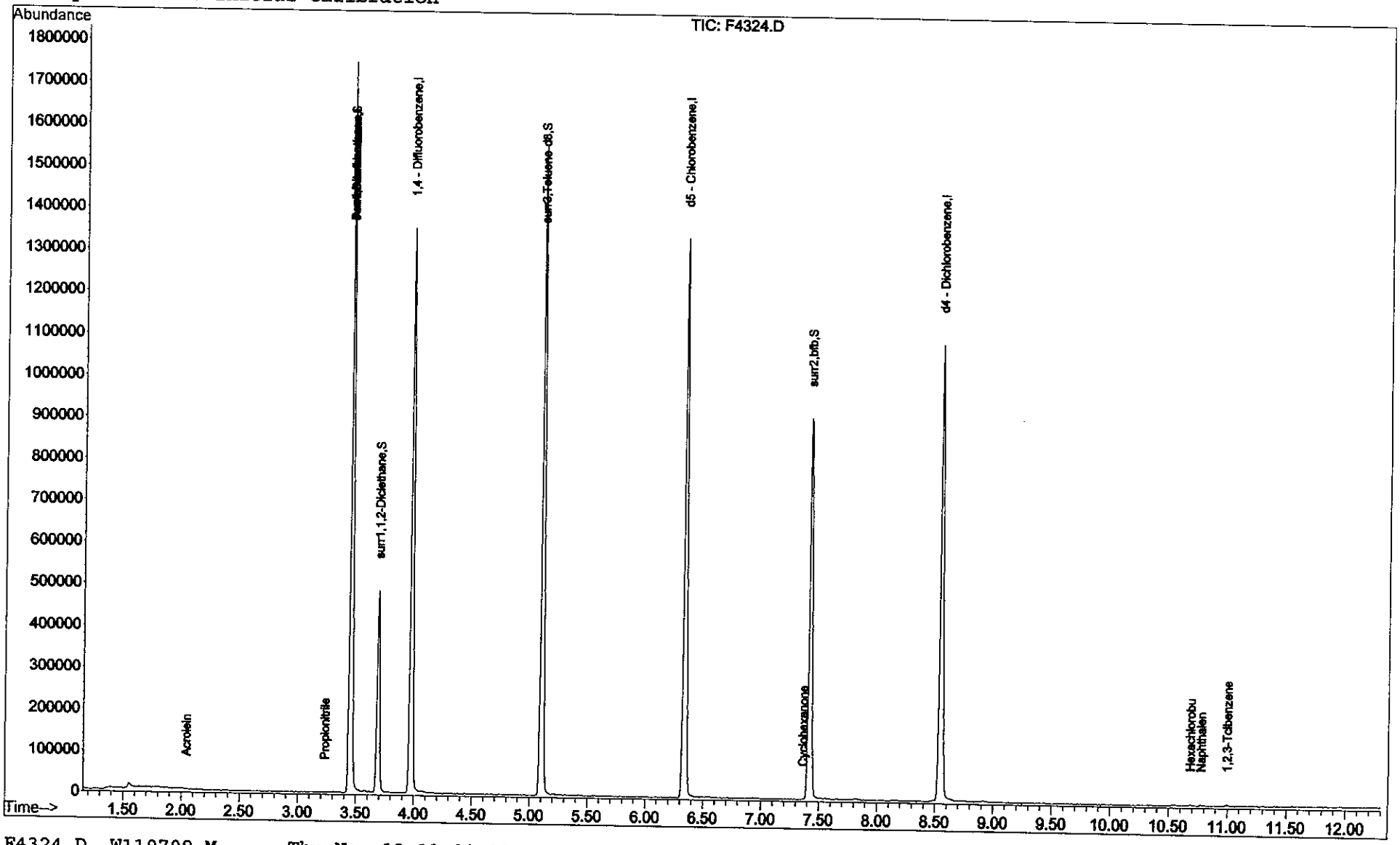
Quantitation Report

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4324.D
Acq On : 12 Nov 2009 1:07 pm
Sample : MBLK
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 12 13:19 2009

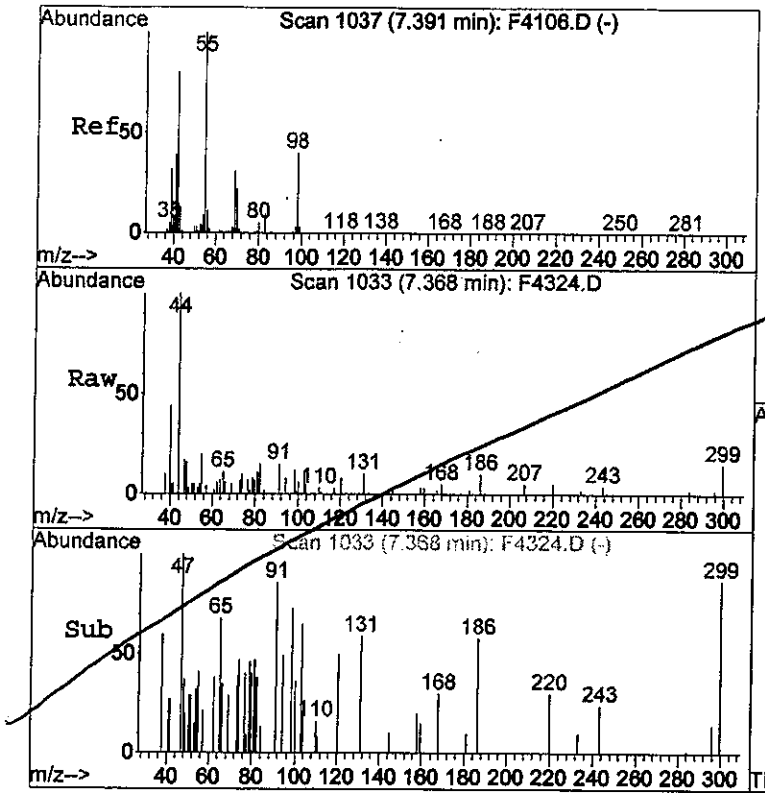
Vial: 10
Operator: D.ZIMPFER
Inst : MS #8
Multiplr: 1.00

Quant Results File: W110709.RES

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration



002190

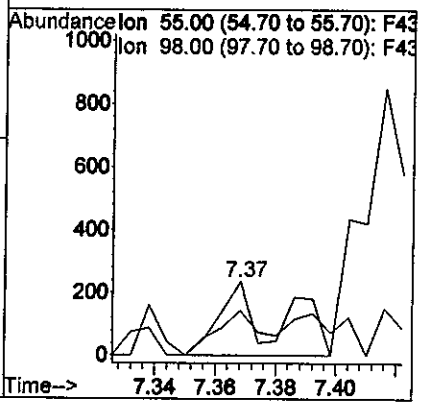


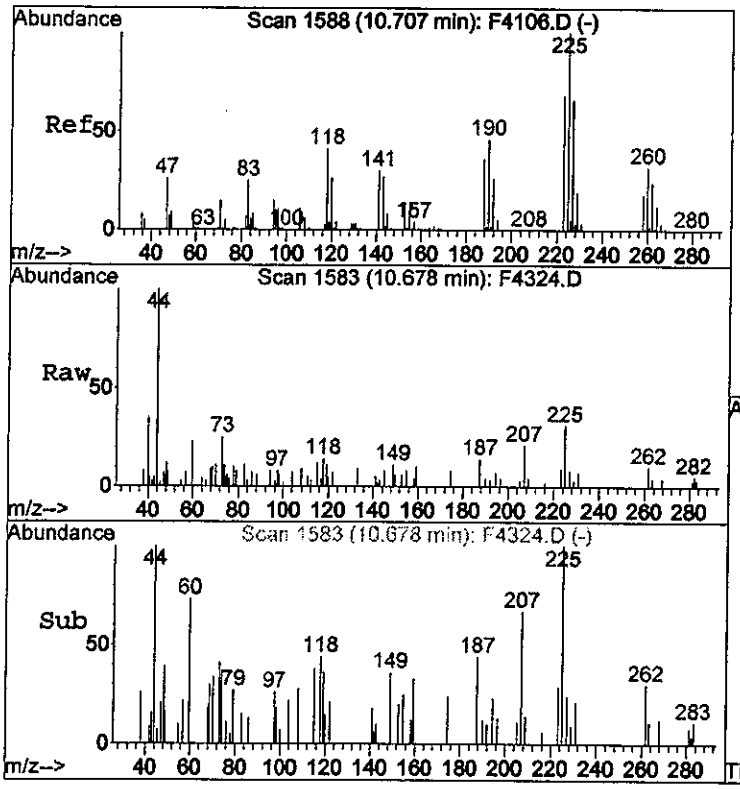
#86
Cyclohexanone
Concen: 1.97 ppb
RT: 7.37 min Scan# 1033
Delta R.T. -0.02 min
Lab File: F4324.D
Acq: 12 Nov 2009 1:07 pm

Tgt Ion: 55 Resp: 317

Ion	Ratio	Lower	Upper
55	100		
98	60.6	9.8	69.8

TC 12/4/09

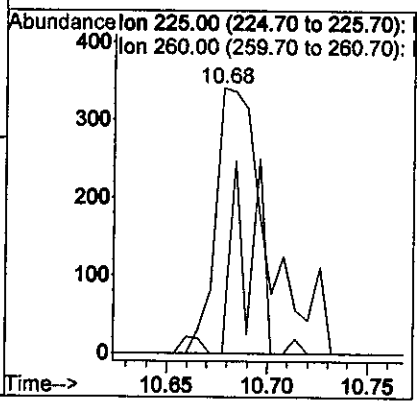




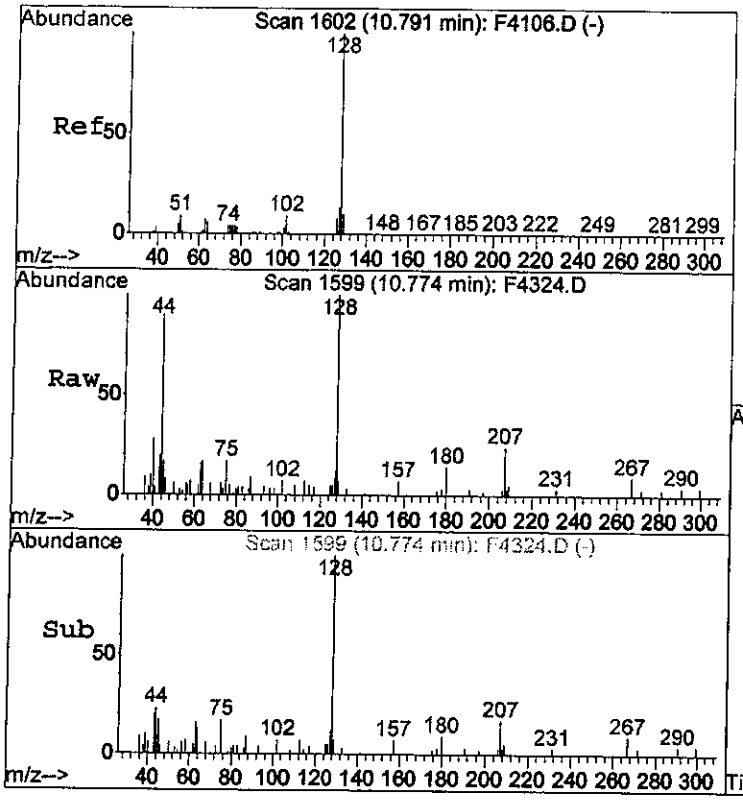
#108
Hexachlorobu
Concen: 0.28 ppb
RT: 10.68 min Scan# 1583
Delta R.T. -0.03 min
Lab File: F4324.D
Acq: 12 Nov 2009 1:07 pm

Tgt Ion:225 Resp: 612

Ion	Ratio	Lower	Upper
225	100		
260	0.0	1.7	61.7#



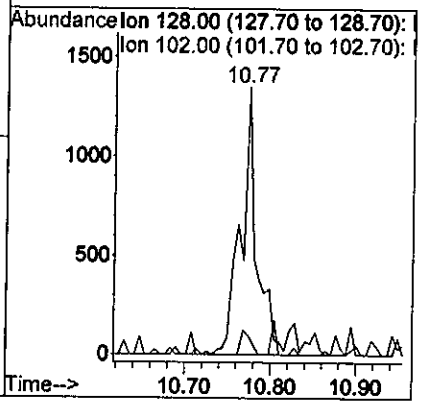
00211

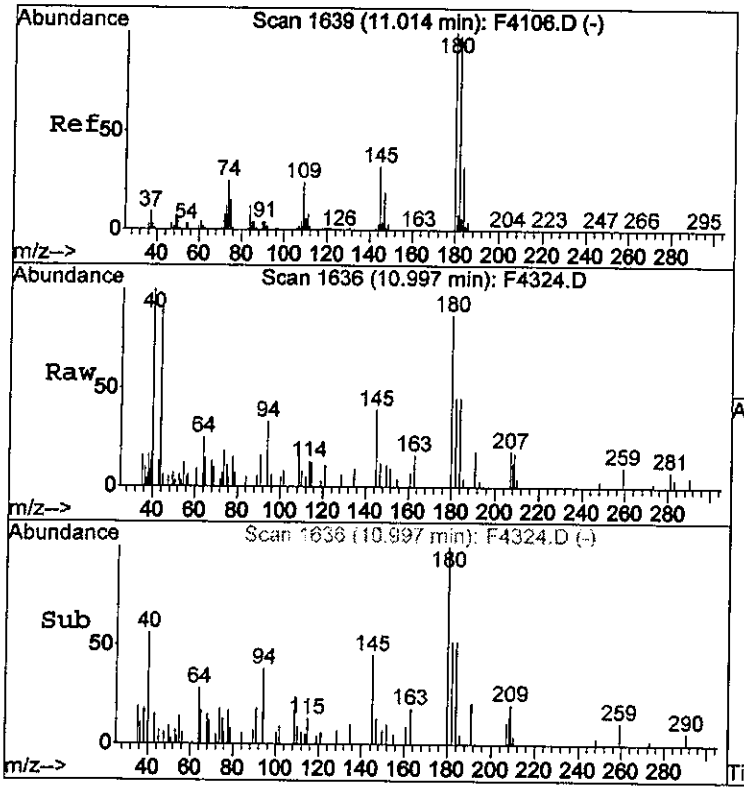


#109
Naphthalen
Concen: 0.29 ppb
RT: 10.77 min Scan# 1599
Delta R.T. -0.02 min
Lab File: F4324.D
Acq: 12 Nov 2009 1:07 pm

Tgt Ion:128 Resp: 1968

Ion	Ratio	Lower	Upper
128	100		
102	7.1	0.0	39.3

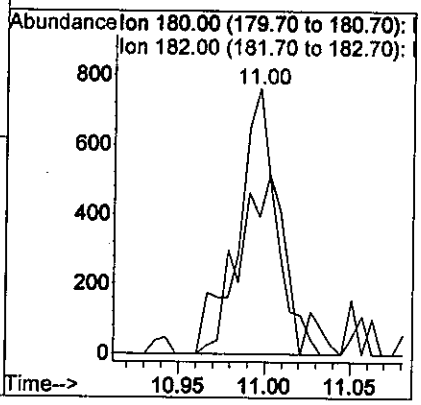




#110
1,2,3-Tclbenzene
Concen: 0.34 ppb
RT: 11.00 min Scan# 1636
Delta R.T. -0.02 min
Lab File: F4324.D
Acq: 12 Nov 2009 1:07 pm

Tgt Ion:180 Resp: 1176

Ion	Ratio	Lower	Upper
180	100		
182	51.6	67.8	127.8#



Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	RQ0911303-02	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	**21.0**		1.0	0.18	1	NA	11/11/09 11:31		178949	
1,1,1-Trichloroethane (TCA)	**22.1**		1.0	0.32	1	NA	11/11/09 11:31		178949	
1,1,2,2-Tetrachloroethane	**20.2**		1.0	0.090	1	NA	11/11/09 11:31		178949	
1,1,2-Trichloroethane	**20.1**		1.0	0.20	1	NA	11/11/09 11:31		178949	
1,1-Dichloroethane (1,1-DCA)	**20.4**		1.0	0.14	1	NA	11/11/09 11:31		178949	
1,1-Dichloroethene (1,1-DCE)	**20.8**		1.0	0.37	1	NA	11/11/09 11:31		178949	
1,1-Dichloropropene	**20.6**		2.0	0.21	1	NA	11/11/09 11:31		178949	
1,2,3-Trichlorobenzene	**18.6**		2.0	0.25	1	NA	11/11/09 11:31		178949	
1,2,3-Trichloropropane	**20.5**		2.0	0.30	1	NA	11/11/09 11:31		178949	
1,2,4-Trichlorobenzene	**19.9**		2.0	0.19	1	NA	11/11/09 11:31		178949	
1,2,4-Trimethylbenzene	**20.9**		2.0	0.36	1	NA	11/11/09 11:31		178949	
1,2-Dibromo-3-chloropropane (DBCP)	**18.7**		5.0	0.43	1	NA	11/11/09 11:31		178949	
1,2-Dibromoethane	**19.9**		1.0	0.18	1	NA	11/11/09 11:31		178949	
1,2-Dichlorobenzene	**19.9**		2.0	0.40	1	NA	11/11/09 11:31		178949	
1,2-Dichloroethane	**22.1**		1.0	0.14	1	NA	11/11/09 11:31		178949	
1,2-Dichloropropane	**19.8**		1.0	0.15	1	NA	11/11/09 11:31		178949	
1,3,5-Trimethylbenzene	**21.7**		2.0	0.36	1	NA	11/11/09 11:31		178949	
1,3-Dichlorobenzene	**20.1**		2.0	0.36	1	NA	11/11/09 11:31		178949	
1,3-Dichloropropane	**19.3**		2.0	0.12	1	NA	11/11/09 11:31		178949	
1,4-Dichlorobenzene	**20.4**		2.0	0.34	1	NA	11/11/09 11:31		178949	
2,2-Dichloropropane	**21.7**		2.0	0.20	1	NA	11/11/09 11:31		178949	
2-Butanone (MEK)	**19.5**		10	1.0	1	NA	11/11/09 11:31		178949	
2-Chlorotoluene	**20.7**		5.0	0.38	1	NA	11/11/09 11:31		178949	
2-Hexanone	**18.8**		10	0.40	1	NA	11/11/09 11:31		178949	
2-Methyl-2-propanol	**411**		100	3.0	1	NA	11/11/09 11:31		178949	
4-Chlorotoluene	**20.9**		5.0	0.37	1	NA	11/11/09 11:31		178949	
4-Isopropyltoluene	**21.5**		2.0	0.22	1	NA	11/11/09 11:31		178949	
4-Methyl-2-pentanone	**20.4**		10	0.34	1	NA	11/11/09 11:31		178949	
Acetone	**18.7**	J	20	1.6	1	NA	11/11/09 11:31		178949	
Benzene	**19.2**		1.0	0.18	1	NA	11/11/09 11:31		178949	
Bromobenzene	**19.9**		2.0	0.33	1	NA	11/11/09 11:31		178949	
Bromochloromethane	**21.3**		2.0	0.18	1	NA	11/11/09 11:31		178949	
Bromodichloromethane	**20.5**		1.0	0.17	1	NA	11/11/09 11:31		178949	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	RQ0911303-02	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	**21.7**		1.0	0.20	1	NA	11/11/09 11:31		178949	
Bromomethane	**20.3**		2.0	0.40	1	NA	11/11/09 11:31		178949	
Carbon Tetrachloride	**22.0**		1.0	0.36	1	NA	11/11/09 11:31		178949	
Chlorobenzene	**20.3**		1.0	0.26	1	NA	11/11/09 11:31		178949	
Chloroethane	**22.2**		2.0	0.21	1	NA	11/11/09 11:31		178949	
Chloroform	**22.1**		1.0	0.16	1	NA	11/11/09 11:31		178949	
Chloromethane	**18.1**		2.0	0.18	1	NA	11/11/09 11:31		178949	
Dibromochloromethane	**21.7**		1.0	0.11	1	NA	11/11/09 11:31		178949	
Dibromomethane	**21.5**		1.0	0.18	1	NA	11/11/09 11:31		178949	
Dichlorodifluoromethane (CFC 12)	**21.0**		1.0	0.18	1	NA	11/11/09 11:31		178949	
Dichloromethane	**18.8**		2.0	0.13	1	NA	11/11/09 11:31		178949	
Diisopropyl Ether	**19.8**		1.0	0.090	1	NA	11/11/09 11:31		178949	
Ethyl tert-Butyl Ether	**20.9**		1.0	0.12	1	NA	11/11/09 11:31		178949	
Ethylbenzene	**20.7**		1.0	0.42	1	NA	11/11/09 11:31		178949	
Hexachlorobutadiene	**18.1**		5.0	0.27	1	NA	11/11/09 11:31		178949	
Isopropylbenzene (Cumene)	**22.5**		2.0	0.34	1	NA	11/11/09 11:31		178949	
Methyl tert-Butyl Ether	**20.5**		1.0	0.13	1	NA	11/11/09 11:31		178949	
Naphthalene	**19.3**		2.0	0.31	1	NA	11/11/09 11:31		178949	
Styrene	**21.2**		1.0	0.36	1	NA	11/11/09 11:31		178949	
Tetrachloroethene (PCE)	**21.6**		1.0	0.42	1	NA	11/11/09 11:31		178949	
Toluene	**20.6**		1.0	0.21	1	NA	11/11/09 11:31		178949	
Trichloroethene (TCE)	**20.4**		1.0	0.19	1	NA	11/11/09 11:31		178949	
Trichlorofluoromethane (CFC 11)	**23.1**		1.0	0.16	1	NA	11/11/09 11:31		178949	
Vinyl Chloride	**20.8**		1.0	0.22	1	NA	11/11/09 11:31		178949	
cis-1,2-Dichloroethene	**18.7**		1.0	0.14	1	NA	11/11/09 11:31		178949	
cis-1,3-Dichloropropene	**19.8**		1.0	0.14	1	NA	11/11/09 11:31		178949	
m,p-Xylenes	**42.9**		2.0	0.81	1	NA	11/11/09 11:31		178949	
n-Butylbenzene	**20.3**		5.0	0.20	1	NA	11/11/09 11:31		178949	
n-Propylbenzene	**20.3**		2.0	0.32	1	NA	11/11/09 11:31		178949	
o-Xylene	**21.2**		1.0	0.40	1	NA	11/11/09 11:31		178949	
sec-Butylbenzene	**20.9**		2.0	0.23	1	NA	11/11/09 11:31		178949	
tert-Amyl Methyl Ether	**20.7**		1.0	0.13	1	NA	11/11/09 11:31		178949	
tert-Butylbenzene	**21.8**		2.0	0.28	1	NA	11/11/09 11:31		178949	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	RQ0911303-02	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
trans-1,2-Dichloroethene	**19.0**		1.0	0.16	1	NA	11/11/09 11:31		178949	
trans-1,3-Dichloropropene	**20.8**		1.0	0.17	1	NA	11/11/09 11:31		178949	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	106	70-130	11/11/09 11:31		
Dibromofluoromethane	117	70-130	11/11/09 11:31		
Toluene-d8	113	70-130	11/11/09 11:31		

Comments:

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4270.D Vial: 6
Acq On : 11 Nov 2009 11:31 am Operator: D.ZIMPFER
Sample : CCV LCS Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 11:43 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration
DataAcq Meth : W110709

9/11.25

20091323-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	3.44	168	613261	50.00	ppb	-0.02
42) 1,4 - Difluorobenzene	3.97	114	901752	50.00	ppb	-0.02
63) d5 - Chlorobenzene	6.33	117	766815	50.00	ppb	-0.03
83) d4 - Dichlorobenzene	8.53	152	363053	50.00	ppb	-0.03
System Monitoring Compounds						
43) surr4,Dibrflmethane	3.44	113	307729	58.44	ppb	-0.02
Spiked Amount 50.000	Range 89 - 119		Recovery = 116.88%			
48) surr1,1,2-Diclethane	3.68	65	315782	60.79	ppb	-0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 121.58%#			
69) surr3,Toluene-d8	5.09	98	1053087	56.34	ppb	-0.02
Spiked Amount 50.000	Range 87 - 121		Recovery = 112.68%			
70) surr2,bfb	7.41	95	394404	53.05	ppb	-0.02
Spiked Amount 50.000	Range 85 - 122		Recovery = 106.10%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.25	85	106911	20.95	ppb	100
4) Chloromethane	1.37	50	86416	18.05	ppb	98
5) Vinyl Chloride	1.43	62	99020	20.82	ppb	100
6) Bromomethane	1.63	96	67489	20.29	ppb	97
7) Chloroethane	1.68	64	74737	22.18	ppb	98
8) FREON 21	1.78	67	195423	20.11	ppb	99
9) Trichlorofluoromethane	1.83	101	170948	23.13	ppb	96
10) Diethyl Ether	1.98	59	52911	21.12	ppb	96
11) FREON 123A	1.96	85	50506	20.65	ppb	94
12) FREON 123	2.00	85	80903	17.41	ppb	94
13) Acrolein	2.05	56	22376	~~70.76~~	ppb OK	89 50-150
14) FREON 113	2.10	85	42682	22.36	ppb	89
15) 1,1-Diclethene	2.11	96	78941	20.76	ppb	91
16) Acetone	2.13	43	13973	18.74	ppb	90
17) 2-Propanol	2.19	45	47016	396.28	ppb	89
18) Iodomethane	2.22	127	59986	22.06	ppb	95
19) Carbon Disulfide	2.26	76	226899	18.03	ppb	99
20) Acetonitrile	2.31	40	32365	69.7 ~~195.96~~	ppb (m)#	84
21) Allyl Chloride	2.31	76	43112	19.31	ppb outlier	91
22) Methyl Acetate	2.31	43	46452	22.25	ppb	95
23) Methylene Chloride	2.38	84	88768	18.84	ppb	95
24) TBA	2.41	59	74816	410.63	ppb	99
25) Acrylonitrile	2.52	53	76489	98.80	ppb	96
26) Methyl-t-Butyl Ether	2.54	73	178813	20.48	ppb	98
27) trans-1,2-Dichloroethene	2.54	96	90377	18.95	ppb	96
28) 1,1-Diclethane	2.79	63	175626	20.40	ppb	99
29) DIPE	2.81	45	308453	19.84	ppb	94
30) Vinyl Acetate	2.79	86	5361	10.23	ppb #	68 50-150
31) 2-Chloro-1,3-butadiene	2.85	53	173677	24.58	ppb	93
32) ETBE	3.03	59	256736	20.89	ppb	99
33) 2,2-Dichloropropane	3.15	77	162262	21.73	ppb	99
34) 2-Butanone	3.14	43	21865	19.48	ppb	88
35) cis-1,2-Dichloroethene	3.14	96	98410	18.71	ppb	100
36) Propionitrile	3.18	54	25995	97.27	ppb	96
37) Methacrylonitrile	3.29	67	16313	19.18	ppb	90

(#) = qualifier out of range (m) = manual integration
F4270.D W110709.M Wed Nov 11 11:44:16 2009

00216

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4270.D Vial: 6
Acq On : 11 Nov 2009 11:31 am Operator: D.ZIMPFER
Sample : CCV LCS Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 11:43 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration
DataAcq Meth : W110709

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
38)	Bromochloromethane	3.30	128	44326	21.25	ppb	97
39)	Chloroform	3.34	83	190000	22.09	ppb	100
40)	Tetrahydrofuran	3.34	42	12075	21.26	ppb	91
41)	1,1,1-Trichloroethane	3.48	97	167140	22.13	ppb	96
44)	cyclohexane	3.52	56	164760	21.03	ppb	99
45)	Carbontetrachloride	3.59	117	137026	21.98	ppb	92
46)	1,1-Dichloropropene	3.58	75	140071	20.56	ppb	97
47)	Iso-Butyl Alcohol	3.61	43	32288	347.31	ppb	94
49)	Benzene	3.73	78	355851	19.24	ppb	97
50)	1,2-Dichloroethane	3.73	62	129498	22.07	ppb	96
51)	TAME	3.78	73	196711	20.72	ppb	95
52)	N-Heptane	3.87	43	136709	21.74	ppb	98
53)	Trichloroethene	4.17	95	103150	20.40	ppb	95
54)	methylcyclohexane	4.32	55	141943	20.88	ppb	100
55)	1,2-Diclpropane	4.34	63	87939	19.80	ppb	91
56)	Methyl Methacrylate	4.39	69	33064	20.02	ppb	98
57)	1,4-Dioxane	4.43	88	7627	342.67	ppb	91
58)	Dibromomethane	4.42	93	46251	21.51	ppb	90
59)	Bromodichloromethane	4.53	83	127060	20.45	ppb	98
61)	2-Chloroethylvinyl Ether	4.74	63	32182	20.36	ppb	96
62)	cis-1,3-Dichloropropene	4.87	75	132771	19.84	ppb	93
64)	4-Methyl-2-Pentanone	4.98	43	46940	20.39	ppb	94
65)	Toluene	5.15	91	394920	20.64	ppb	94
66)	trans-1,3-Dichloropropene	5.31	75	111807	20.83	ppb	95
67)	Ethyl Methacrylate	5.36	69	66592	19.52	ppb	98
68)	1,1,2-Trichloroethane	5.47	83	47902	20.13	ppb	93
71)	Tetrachloroethene	5.60	166	112273	21.56	ppb	97
72)	2-Hexanone	5.67	43	29834	18.79	ppb	88
73)	N-Butyl Acetate	5.76	43	80071	20.97	ppb	95
74)	1,3-Dichloropropane	5.62	76	103770	19.32	ppb	93
75)	Dibromochloromethane	5.81	129	73510	21.74	ppb	94
76)	1,2-Dibromoethane	5.93	107	57804	19.91	ppb	100
77)	Chlorobenzene	6.36	112	246243	20.26	ppb	100
78)	1,1,1,2-Tetrachloroethane	6.42	131	82300	20.96	ppb	94
79)	Ethylbenzene	6.44	91	451819	20.71	ppb	99
80)	(m+p)Xylene	6.54	106	339152	42.91	ppb	95
81)	o-Xylene	6.92	106	156181	21.17	ppb	94
82)	Styrene	6.92	104	263115	21.16	ppb	96
84)	Bromoform	7.11	173	38502	21.65	ppb	97
85)	Isopropylbenzene	7.25	105	437455	22.49	ppb	100
86)	Cyclohexanone	7.37	55	122082	633.19	ppb	98
87)	1,1,2,2-Tetrachloroethane	7.53	83	60846	20.15	ppb	96
88)	Trans-1,4-Dichloro-2-buten	7.58	53	17939	20.60	ppb	75
89)	1,2,3-Trichloropropane	7.58	110	19380	20.53	ppb	95
90)	n-Propylbenzene	7.65	91	490260	20.26	ppb	100
91)	Bromobenzene	7.57	156	91849	19.90	ppb	95
93)	1,3,5-Trimethylbenzene	7.81	105	357643	21.67	ppb	98
94)	2-Chlorotoluene	7.75	91	300240	20.69	ppb	95
95)	4-Chlorotoluene	7.84	91	346171	20.85	ppb	97
96)	tert-Butylbenzene	8.14	119	309295	21.84	ppb	100

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

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4270.D Vial: 6
Acq On : 11 Nov 2009 11:31 am Operator: D.ZIMPFER
Sample : ~~CCV~~ Inst : MS #8
Misc : LCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 11:43 2009 Quant Results File: W110709.RES

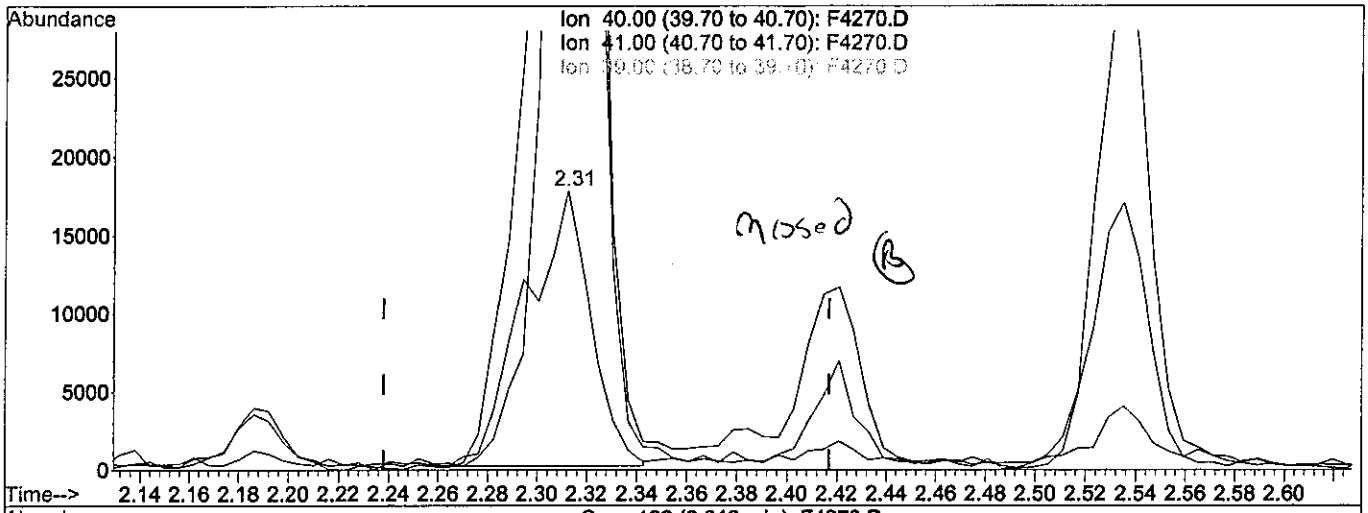
Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration
DataAcq Meth : W110709

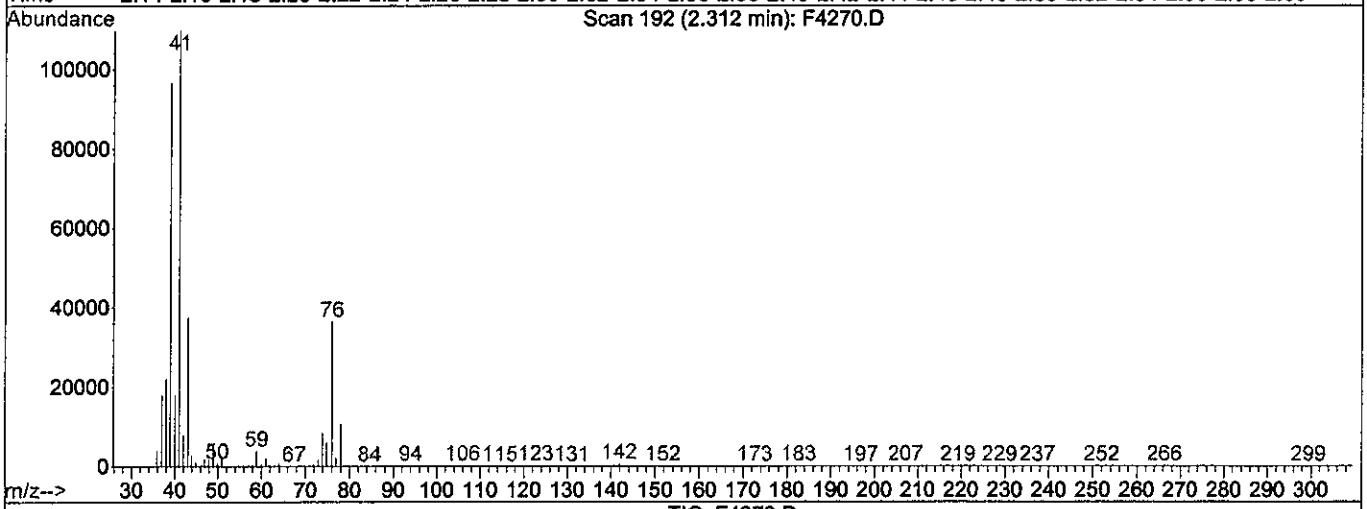
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
97)	1,2,4-Trimethylbenzene	8.19	105	342846	20.85	ppb		99
98)	sec-Butylbenzene	8.35	105	452030	20.85	ppb		97
99)	p-Isopropyltoluene	8.49	119	373639	21.52	ppb		99
100)	1,3-Dclbenz	8.47	146	177462	20.05	ppb		97
101)	1,4-Dclbenz	8.56	146	183498	20.44	ppb		99
103)	n-Butylbenzene	8.90	91	320633	20.30	ppb		98
104)	1,2-Dclbenz	8.94	146	153668	19.91	ppb		97
105)	1,2-Dibromo-3-chloropropan	9.71	157	9355	18.72	ppb	#	72
107)	1,2,4-Tcbenzene	10.53	180	95961	19.87	ppb		98
108)	Hexachlorobu	10.68	225	48079	18.11	ppb		95
109)	Naphthalen	10.76	128	154609	19.32	ppb		100
110)	1,2,3-Tclbenzene	10.98	180	77266	18.58	ppb		100

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

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4270.D Vial: 6
Acq On : 11 Nov 2009 11:31 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 11:43 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Multiple Level Calibration





TIC: F4270.D

(20) Acetonitrile

2.31min 195.96ppb

response 32365

Ion	Exp%	Act%
40.00	100	100
41.00	666.00	614.61#
39.00	495.30	541.51#
0.00	0.00	0.00

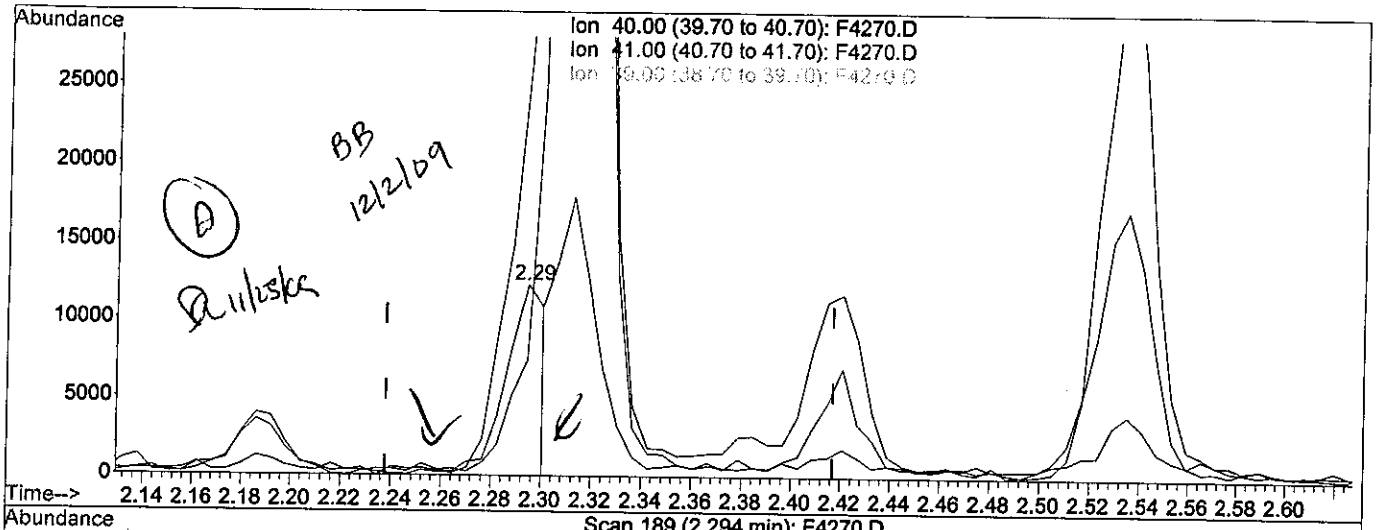
Quantitation Report (Qedit)

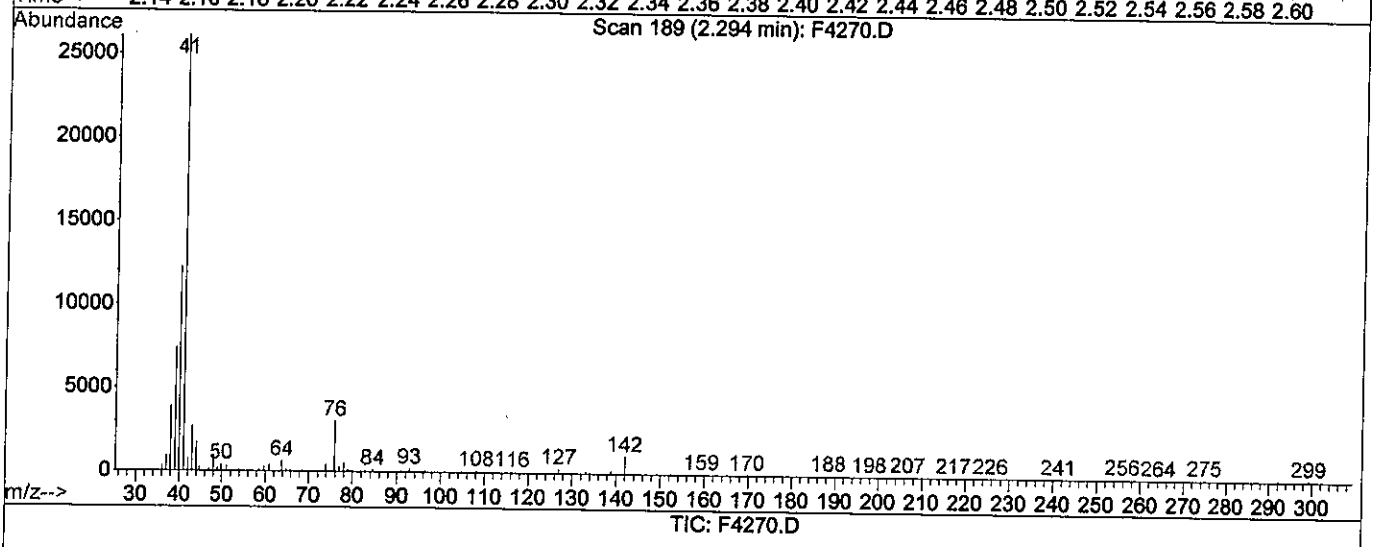
Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4270.D
Acq On : 11 Nov 2009 11:31 am
Sample : CCV
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 25 13:48 2009

Vial: 6
Operator: D.ZIMPFER
Inst : MS #8
Multiplr: 1.00

Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Multiple Level Calibration





TIC: F4270.D

(20) Acetonitrile

2.29min 69.69ppb m

response 13355

Ion	Exp%	Act%
40.00	100	100
41.00	666.00	213.76#
39.00	495.30	60.85#
0.00	0.00	0.00

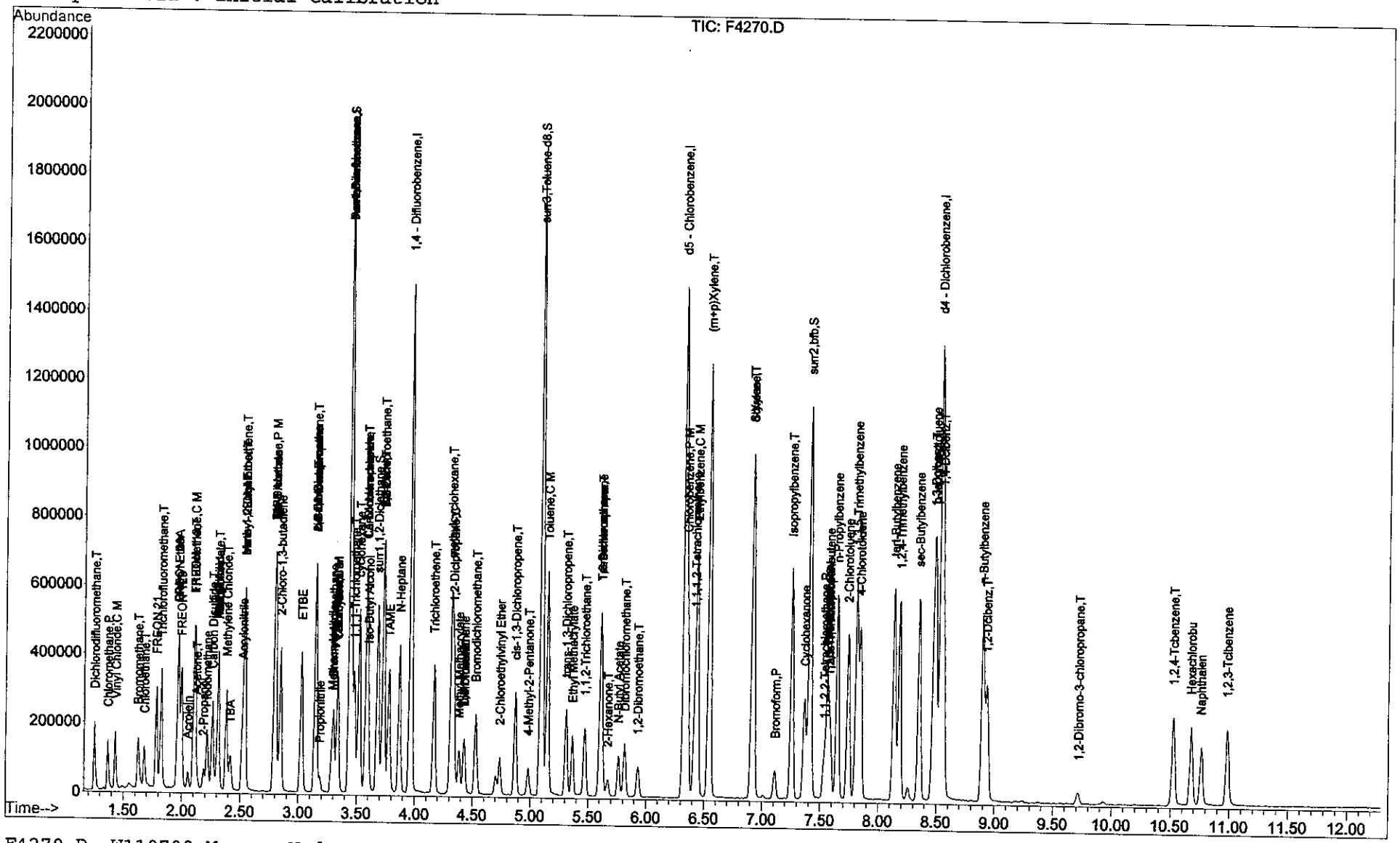
F4270.D W110709.M Wed Nov 25 13:49:06 2009

00220

Quantitation Report

Data File : J:\ACQUDATA\MSVOA8\DATA\111109\F4270.D Vial: 6
Acq On : 11 Nov 2009 11:31 am Operator: D.ZIMPFER
Sample : CCV Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 11:43 2009 Quant Results File: W110709.RES

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration



F4270.D W110709.M Wed Nov 11 11:44:21 2009

12700

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	RQ0911347-02	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
1,1,1,2-Tetrachloroethane	**20.3**		1.0	0.18	1	NA	11/12/09 12:13		179136	
1,1,1-Trichloroethane (TCA)	**20.8**		1.0	0.32	1	NA	11/12/09 12:13		179136	
1,1,2,2-Tetrachloroethane	**19.2**		1.0	0.090	1	NA	11/12/09 12:13		179136	
1,1,2-Trichloroethane	**18.8**		1.0	0.20	1	NA	11/12/09 12:13		179136	
1,1-Dichloroethane (1,1-DCA)	**18.9**		1.0	0.14	1	NA	11/12/09 12:13		179136	
1,1-Dichloroethene (1,1-DCE)	**19.9**		1.0	0.37	1	NA	11/12/09 12:13		179136	
1,1-Dichloropropene	**19.5**		2.0	0.21	1	NA	11/12/09 12:13		179136	
1,2,3-Trichlorobenzene	**18.2**		2.0	0.25	1	NA	11/12/09 12:13		179136	
1,2,3-Trichloropropane	**18.9**		2.0	0.30	1	NA	11/12/09 12:13		179136	
1,2,4-Trichlorobenzene	**18.7**		2.0	0.19	1	NA	11/12/09 12:13		179136	
1,2,4-Trimethylbenzene	**19.5**		2.0	0.36	1	NA	11/12/09 12:13		179136	
1,2-Dibromo-3-chloropropane (DBCP)	**17.9**		5.0	0.43	1	NA	11/12/09 12:13		179136	
1,2-Dibromoethane	**18.6**		1.0	0.18	1	NA	11/12/09 12:13		179136	
1,2-Dichlorobenzene	**19.7**		2.0	0.40	1	NA	11/12/09 12:13		179136	
1,2-Dichloroethane	**21.3**		1.0	0.14	1	NA	11/12/09 12:13		179136	
1,2-Dichloropropane	**18.1**		1.0	0.15	1	NA	11/12/09 12:13		179136	
1,3,5-Trimethylbenzene	**19.5**		2.0	0.36	1	NA	11/12/09 12:13		179136	
1,3-Dichlorobenzene	**19.0**		2.0	0.36	1	NA	11/12/09 12:13		179136	
1,3-Dichloropropane	**18.7**		2.0	0.12	1	NA	11/12/09 12:13		179136	
1,4-Dichlorobenzene	**18.9**		2.0	0.34	1	NA	11/12/09 12:13		179136	
2,2-Dichloropropane	**21.9**		2.0	0.20	1	NA	11/12/09 12:13		179136	
2-Butanone (MEK)	**20.2**		10	1.0	1	NA	11/12/09 12:13		179136	
2-Chlorotoluene	**19.3**		5.0	0.38	1	NA	11/12/09 12:13		179136	
2-Hexanone	**17.9**		10	0.40	1	NA	11/12/09 12:13		179136	
2-Methyl-2-propanol	**390**		100	3.0	1	NA	11/12/09 12:13		179136	
4-Chlorotoluene	**19.3**		5.0	0.37	1	NA	11/12/09 12:13		179136	
4-Isopropyltoluene	**20.4**		2.0	0.22	1	NA	11/12/09 12:13		179136	
4-Methyl-2-pentanone	**19.4**		10	0.34	1	NA	11/12/09 12:13		179136	
Acetone	**20.2**		20	1.6	1	NA	11/12/09 12:13		179136	
Benzene	**18.3**		1.0	0.18	1	NA	11/12/09 12:13		179136	
Bromobenzene	**19.8**		2.0	0.33	1	NA	11/12/09 12:13		179136	
Bromochloromethane	**19.4**		2.0	0.18	1	NA	11/12/09 12:13		179136	
Bromodichloromethane	**19.8**		1.0	0.17	1	NA	11/12/09 12:13		179136	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	RQ0911347-02	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Bromoform	**21.6**		1.0	0.20	1	NA	11/12/09 12:13		179136	
Bromomethane	**18.8**		2.0	0.40	1	NA	11/12/09 12:13		179136	
Carbon Tetrachloride	**21.2**		1.0	0.36	1	NA	11/12/09 12:13		179136	
Chlorobenzene	**19.1**		1.0	0.26	1	NA	11/12/09 12:13		179136	
Chloroethane	**19.1**		2.0	0.21	1	NA	11/12/09 12:13		179136	
Chloroform	**20.8**		1.0	0.16	1	NA	11/12/09 12:13		179136	
Chloromethane	**18.3**		2.0	0.18	1	NA	11/12/09 12:13		179136	
Dibromochloromethane	**20.9**		1.0	0.11	1	NA	11/12/09 12:13		179136	
Dibromomethane	**21.0**		1.0	0.18	1	NA	11/12/09 12:13		179136	
Dichlorodifluoromethane (CFC 12)	**20.7**		1.0	0.18	1	NA	11/12/09 12:13		179136	
Dichloromethane	**18.4**		2.0	0.13	1	NA	11/12/09 12:13		179136	
Diisopropyl Ether	**17.8**		1.0	0.090	1	NA	11/12/09 12:13		179136	
Ethyl tert-Butyl Ether	**18.5**		1.0	0.12	1	NA	11/12/09 12:13		179136	
Ethylbenzene	**19.4**		1.0	0.42	1	NA	11/12/09 12:13		179136	
Hexachlorobutadiene	**18.0**		5.0	0.27	1	NA	11/12/09 12:13		179136	
Isopropylbenzene (Cumene)	**20.5**		2.0	0.34	1	NA	11/12/09 12:13		179136	
Methyl tert-Butyl Ether	**19.3**		1.0	0.13	1	NA	11/12/09 12:13		179136	
Naphthalene	**17.2**		2.0	0.31	1	NA	11/12/09 12:13		179136	
Styrene	**20.1**		1.0	0.36	1	NA	11/12/09 12:13		179136	
Tetrachloroethene (PCE)	**19.7**		1.0	0.42	1	NA	11/12/09 12:13		179136	
Toluene	**19.2**		1.0	0.21	1	NA	11/12/09 12:13		179136	
Trichloroethene (TCE)	**18.7**		1.0	0.19	1	NA	11/12/09 12:13		179136	
Trichlorofluoromethane (CFC 11)	**22.2**		1.0	0.16	1	NA	11/12/09 12:13		179136	
Vinyl Chloride	**20.2**		1.0	0.22	1	NA	11/12/09 12:13		179136	
cis-1,2-Dichloroethene	**18.0**		1.0	0.14	1	NA	11/12/09 12:13		179136	
cis-1,3-Dichloropropene	**18.2**		1.0	0.14	1	NA	11/12/09 12:13		179136	
m,p-Xylenes	**39.3**		2.0	0.81	1	NA	11/12/09 12:13		179136	
n-Butylbenzene	**19.3**		5.0	0.20	1	NA	11/12/09 12:13		179136	
n-Propylbenzene	**19.0**		2.0	0.32	1	NA	11/12/09 12:13		179136	
o-Xylene	**19.5**		1.0	0.40	1	NA	11/12/09 12:13		179136	
sec-Butylbenzene	**19.1**		2.0	0.23	1	NA	11/12/09 12:13		179136	
tert-Amyl Methyl Ether	**18.7**		1.0	0.13	1	NA	11/12/09 12:13		179136	
tert-Butylbenzene	**19.7**		2.0	0.28	1	NA	11/12/09 12:13		179136	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	RQ0911347-02	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method: 8260B

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
trans-1,2-Dichloroethene	**17.7**		1.0	0.16	1	NA	11/12/09 12:13		179136	
trans-1,3-Dichloropropene	**19.6**		1.0	0.17	1	NA	11/12/09 12:13		179136	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
4-Bromofluorobenzene	98	70-130	11/12/09 12:13		
Dibromofluoromethane	108	70-130	11/12/09 12:13		
Toluene-d8	102	70-130	11/12/09 12:13		

Comments:

Quantitation Report (~~Not~~ Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4322.D
Acq On : 12 Nov 2009 12:13 pm
Sample : LCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 12 12:25 2009

Vial: 8
Operator: D.ZIMPFER
Inst : MS #8
Multiplr: 1.00

Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration
DataAcq Meth : W110709

DR 11/25/09
RQ0911347-02

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	3.45	168	567967	50.00	ppb	-0.02
42) 1,4 - Difluorobenzene	3.97	114	826609	50.00	ppb	-0.02
63) d5 - Chlorobenzene	6.34	117	703403	50.00	ppb	-0.02
83) d4 - Dichlorobenzene	8.54	152	338627	50.00	ppb	-0.02
System Monitoring Compounds						
43) surr4,Dibrflmethane	3.45	113	260157	53.90	ppb	-0.02
Spiked Amount 50.000	Range 89 - 119		Recovery = 107.80%			
48) surr1,1,2-Diclethane	3.69	65	278514	58.49	ppb	-0.02
Spiked Amount 50.000	Range 80 - 120		Recovery = 116.98%			
69) surr3,Toluene-d8	5.10	98	876274	51.11	ppb	-0.02
Spiked Amount 50.000	Range 87 - 121		Recovery = 102.22%			
70) surr2,bfb	7.42	95	335456	49.19	ppb	-0.02
Spiked Amount 50.000	Range 85 - 122		Recovery = 98.38%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.25	85	97740	20.69	ppb	100
4) Chloromethane	1.37	50	81083	18.28	ppb	97
5) Vinyl Chloride	1.43	62	89155	20.24	ppb	97
6) Bromomethane	1.63	96	58045	18.84	ppb	98
7) Chloroethane	1.69	64	59910	19.09	ppb	99
8) FREON 21	1.78	67	171850	19.10	ppb	100
9) Trichlorofluoromethane	1.83	101	152062	22.22	ppb	99
10) Diethyl Ether	1.98	59	43248	18.64	ppb	95
11) FREON 123A	1.97	85	39161	17.29	ppb	95
12) FREON 123	2.00	85	69550	16.16	ppb	96
13) Acrolein	2.06	56	19889	67.91	ppb	97 50-150
14) FREON 113	2.11	85	36444	20.62	ppb	90
15) 1,1-Diclethene	2.12	96	69880	19.85	ppb	96
16) Acetone	2.14	43	13913	20.15	ppb	93
17) 2-Propanol	2.19	45	41773	380.17	ppb	86
18) Iodomethane	2.22	127	54086	21.48	ppb	96
19) Carbon Disulfide	2.27	76	193346	16.59	ppb	99
20) Acetonitrile	2.32	40	29481 78.5 ~~192.42~~		ppb	84
21) Allyl Chloride	2.32	76	37405	18.09	ppb	99
22) Methyl Acetate	2.32	43	41196	21.31	ppb	95
23) Methylene Chloride	2.39	84	80406	18.43	ppb	96
24) TBA	2.42	59	65806	389.99	ppb	98
25) Acrylonitrile	2.52	53	63702	88.84	ppb	96
26) Methyl-t-Butyl Ether	2.54	73	156348	19.34	ppb	98
27) trans-1,2-Dichloroethene	2.55	96	78004	17.66	ppb	95
28) 1,1-Diclethane	2.79	63	151067	18.94	ppb	100
29) DIPE	2.81	45	255625	17.75	ppb	94
30) Vinyl Acetate	2.80	86	5976	12.31	ppb #	71
31) 2-Chloro-1,3-butadiene	2.85	53	144808	22.13	ppb	95
32) ETBE	3.04	59	210560	18.50	ppb	98
33) 2,2-Dichloropropane	3.16	77	151151	21.86	ppb	96
34) 2-Butanone	3.15	43	20997	20.20	ppb	97
35) cis-1,2-Dichloroethene	3.15	96	87758	18.02	ppb	97
36) Propionitrile	3.19	54	22177	89.60	ppb	95
37) Methacrylonitrile	3.29	67	15120	19.20	ppb	81

(#) = qualifier out of range (m) = manual integration
F4322.D W110709.M Thu Nov 12 12:25:38 2009

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4322.D Vial: 8
Acq On : 12 Nov 2009 12:13 pm Operator: D.ZIMPFER
Sample : LCS Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 12:25 2009 Quant Results File: W110709.RES

Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration
DataAcq Meth : W110709

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
38) Bromochloromethane	3.31	128	37394	19.35 ppb	88
39) Chloroform	3.34	83	166021	20.79 ppb	96
40) Tetrahydrofuran	3.34	42	10038	19.09 ppb	99
41) 1,1,1-Trichloroethane	3.49	97	145408	20.78 ppb	95
44) cyclohexane	3.53	56	132601	18.46 ppb	97
45) Carbontetrachloride	3.60	117	121120	21.20 ppb	92
46) 1,1-Dichloropropene	3.59	75	121532	19.46 ppb	95
47) Iso-Butyl Alcohol	3.61	43	29688	348.37 ppb	99
49) Benzene	3.73	78	309982	18.29 ppb	96
50) 1,2-Dichloroethane	3.74	62	114604	21.31 ppb	94
51) TAME	3.79	73	162640	18.69 ppb	98
52) N-Heptane	3.88	43	119418	20.72 ppb	93
53) Trichloroethene	4.18	95	86861	18.74 ppb	99
54) methylcyclohexane	4.32	55	116769	18.74 ppb	98
55) 1,2-Diclpropane	4.35	63	73552	18.06 ppb	96
56) Methyl Methacrylate	4.40	69	26361	17.41 ppb	85
57) 1,4-Dioxane	4.44	88	7255	355.59 ppb	92
58) Dibromomethane	4.43	93	41443	21.02 ppb	85
59) Bromodichloromethane	4.54	83	112953	19.83 ppb	99
61) 2-Chloroethylvinyl Ether	4.74	63	28215	19.47 ppb	97
62) cis-1,3-Dichloropropene	4.88	75	111616	18.19 ppb	96
64) 4-Methyl-2-Pentanone	4.99	43	41062	19.44 ppb	97
65) Toluene	5.15	91	337518	19.23 ppb	98
66) trans-1,3-Dichloropropene	5.32	75	96717	19.64 ppb	99
67) Ethyl Methacrylate	5.37	69	56794	18.15 ppb	98
68) 1,1,2-Trichloroethane	5.48	83	41094	18.83 ppb	97
71) Tetrachloroethene	5.61	166	93999	19.68 ppb	97
72) 2-Hexanone	5.68	43	26108	17.93 ppb	88
73) N-Butyl Acetate	5.77	43	65565	18.72 ppb	97
74) 1,3-Dichloropropane	5.63	76	92283	18.73 ppb	99
75) Dibromochloromethane	5.83	129	64733	20.87 ppb	94
76) 1,2-Dibromoethane	5.94	107	49594	18.62 ppb	89
77) Chlorobenzene	6.36	112	213338	19.14 ppb	99
78) 1,1,1,2-Tetrachloroethane	6.43	131	73161	20.31 ppb	92
79) Ethylbenzene	6.45	91	387547	19.37 ppb	100
80) (m+p)Xylene	6.56	106	284729	39.27 ppb	96
81) o-Xylene	6.92	106	131766	19.47 ppb	92
82) Styrene	6.93	104	229045	20.08 ppb	99
84) Bromoform	7.12	173	35840	21.60 ppb	98
85) Isopropylbenzene	7.27	105	372770	20.54 ppb	99
86) Cyclohexanone	7.37	55	66508	369.83 ppb	96
87) 1,1,2,2-Tetrachloroethane	7.54	83	54162	19.23 ppb	92
88) Trans-1,4-Dichloro-2-buten	7.60	53	15335	18.88 ppb	74
89) 1,2,3-Trichloropropane	7.59	110	16595	18.85 ppb	97
90) n-Propylbenzene	7.66	91	429854	19.04 ppb	99
91) Bromobenzene	7.57	156	85040	19.76 ppb	98
93) 1,3,5-Trimethylbenzene	7.82	105	299470	19.46 ppb	95
94) 2-Chlorotoluene	7.75	91	260630	19.25 ppb	100
95) 4-Chlorotoluene	7.86	91	298940	19.31 ppb	99
96) tert-Butylbenzene	8.14	119	259914	19.67 ppb	96

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

Quantitation Report (Not Reviewed)

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4322.D Vial: 8
Acq On : 12 Nov 2009 12:13 pm Operator: D.ZIMPFER
Sample : LCS Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 12:25 2009 Quant Results File: W110709.RES

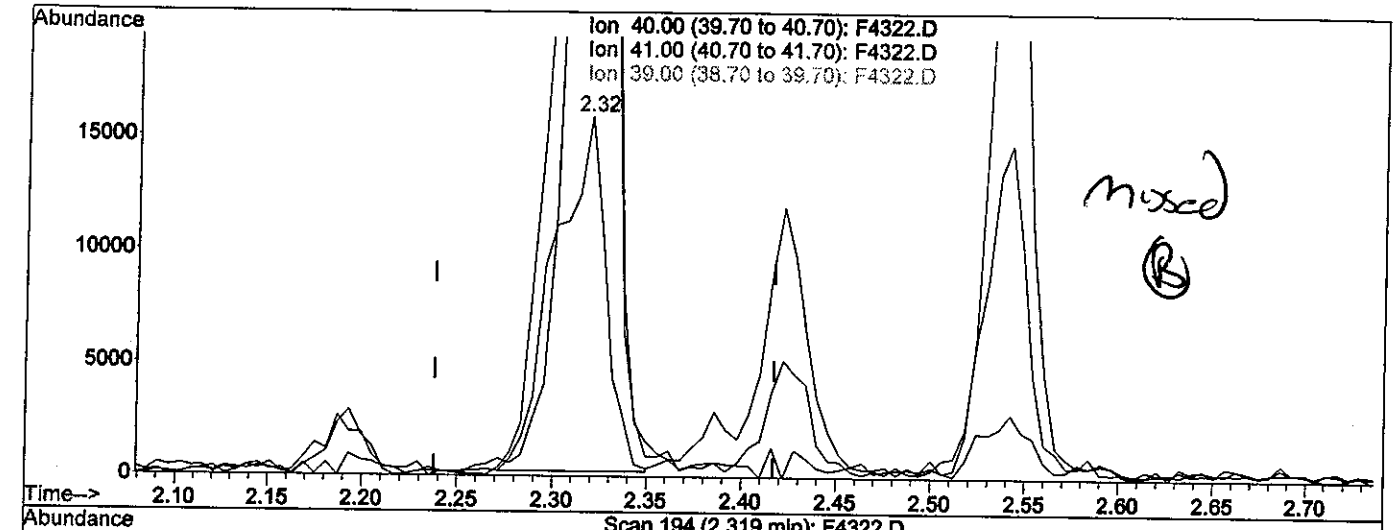
Quant Method : J:\ACQUDATA\M...\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration
DataAcq Meth : W110709

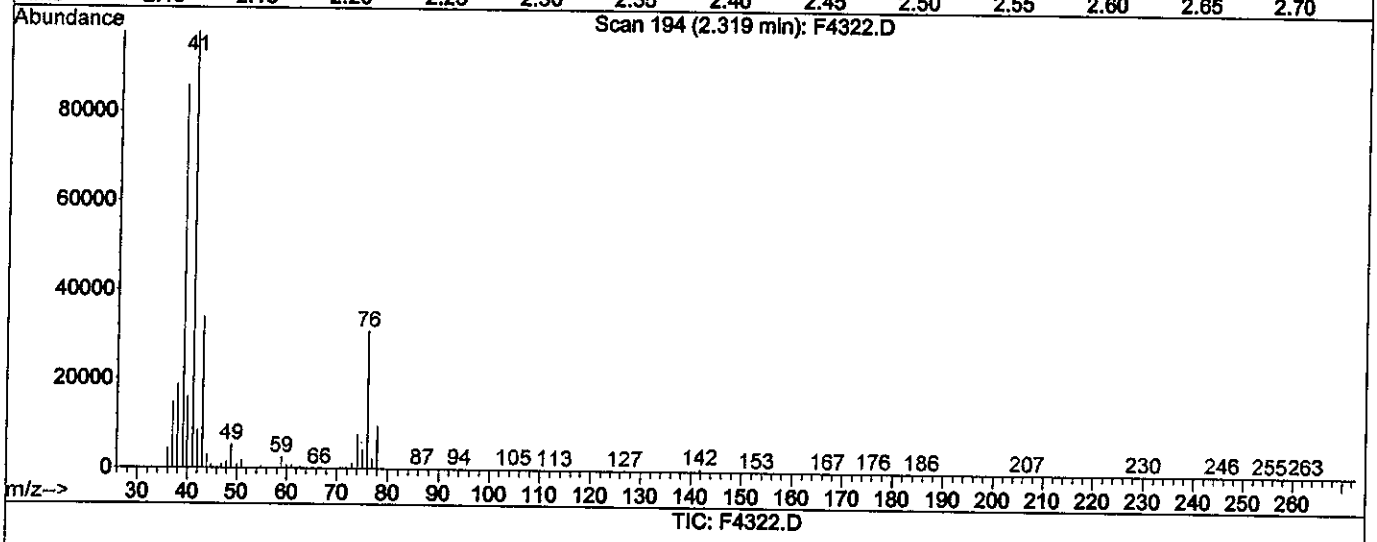
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
97)	1,2,4-Trimethylbenzene	8.19	105	298690	19.47 ppb	100
98)	sec-Butylbenzene	8.36	105	385813	19.08 ppb	95
99)	p-Isopropyltoluene	8.50	119	330106	20.39 ppb	97
100)	1,3-Dclbenz	8.48	146	156459	18.95 ppb	96
101)	1,4-Dclbenz	8.57	146	158661	18.94 ppb	97
103)	n-Butylbenzene	8.91	91	284792	19.33 ppb	95
104)	1,2-Dclbenz	8.94	146	141437	19.65 ppb	99
105)	1,2-Dibromo-3-chloropropan	9.73	157	8325	17.86 ppb	93
107)	1,2,4-Tcbenzene	10.53	180	84342	18.73 ppb	97
108)	Hexachlorobu	10.68	225	44570	18.00 ppb	95
109)	Naphthalen	10.77	128	128542	17.22 ppb	96
110)	1,2,3-Tclbenzene	10.99	180	70695	18.22 ppb	94

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

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4322.D Vial: 8
Acq On : 12 Nov 2009 12:13 pm Operator: D.ZIMPFER
Sample : LCS Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 12:25 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Multiple Level Calibration





TIC: F4322.D

(20) Acetonitrile

2.32min 192.42ppb

response 29481

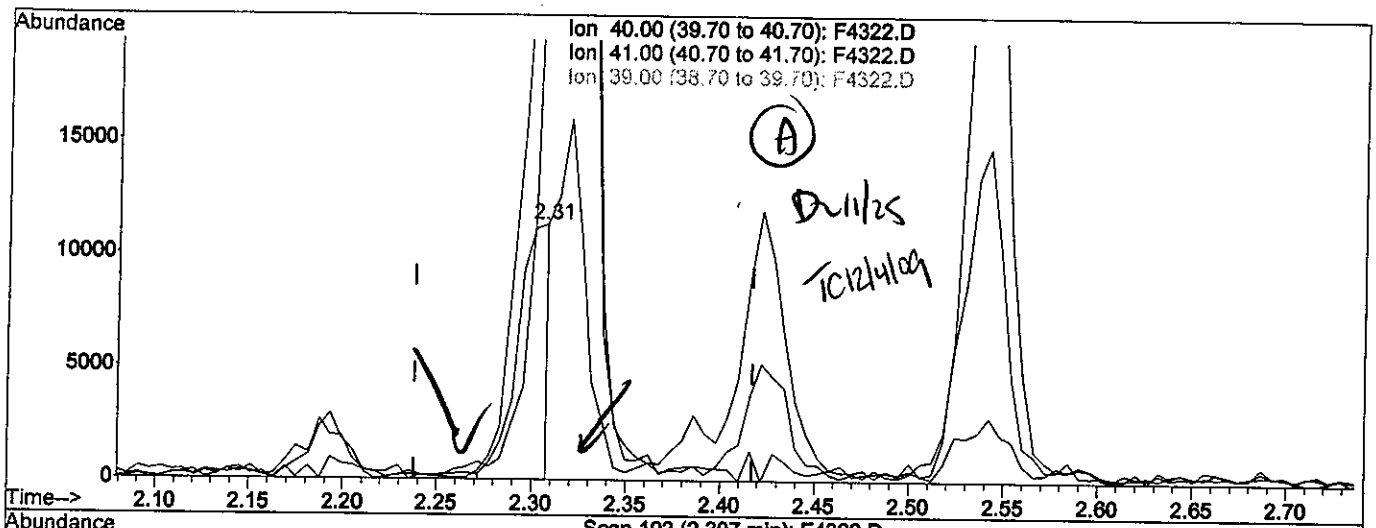
Ion	Exp%	Act%
40.00	100	100
41.00	666.00	614.11#
39.00	495.30	539.32#
0.00	0.00	0.00

F4322.D W110709.M Wed Nov 25 15:00:10 2009

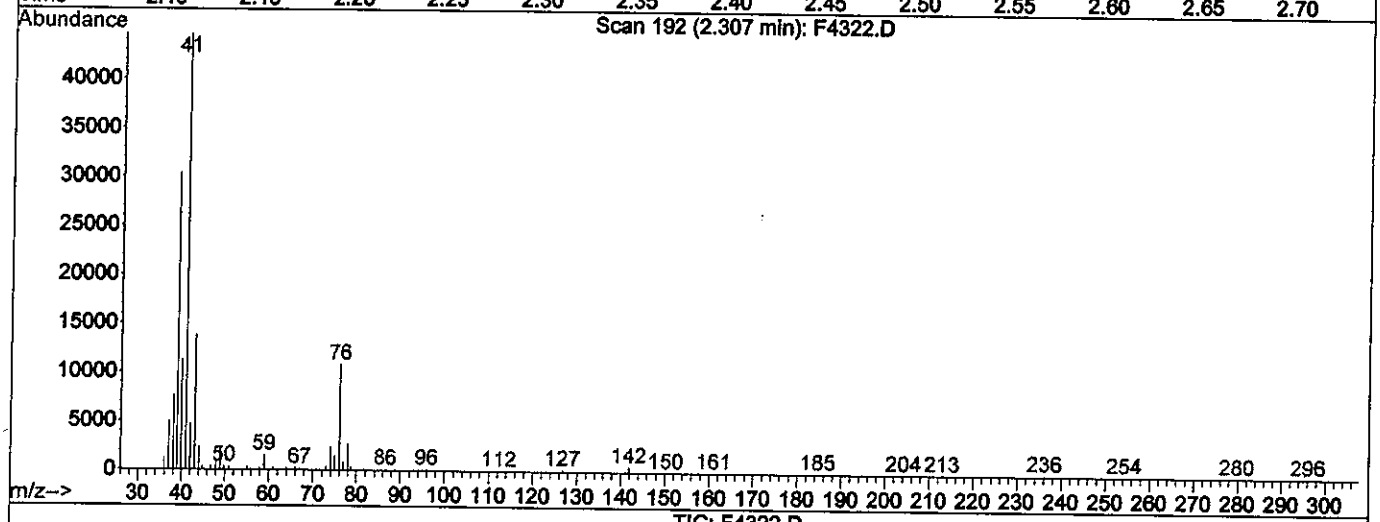
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4322.D Vial: 8
Acq On : 12 Nov 2009 12:13 pm Operator: D.ZIMPFER
Sample : LCS Inst : MS #8
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 25 15:00 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Multiple Level Calibration



A
D 11/25
TC 12/4/09



TIC: F4322.D

(20) Acetonitrile

2.31min 78.45ppb m

response 13591

Ion	Exp%	Act%
40.00	100	100
41.00	666.00	394.30#
39.00	495.30	268.77#
0.00	0.00	0.00

F4322.D W110709.M Wed Nov 25 15:00:16 2009

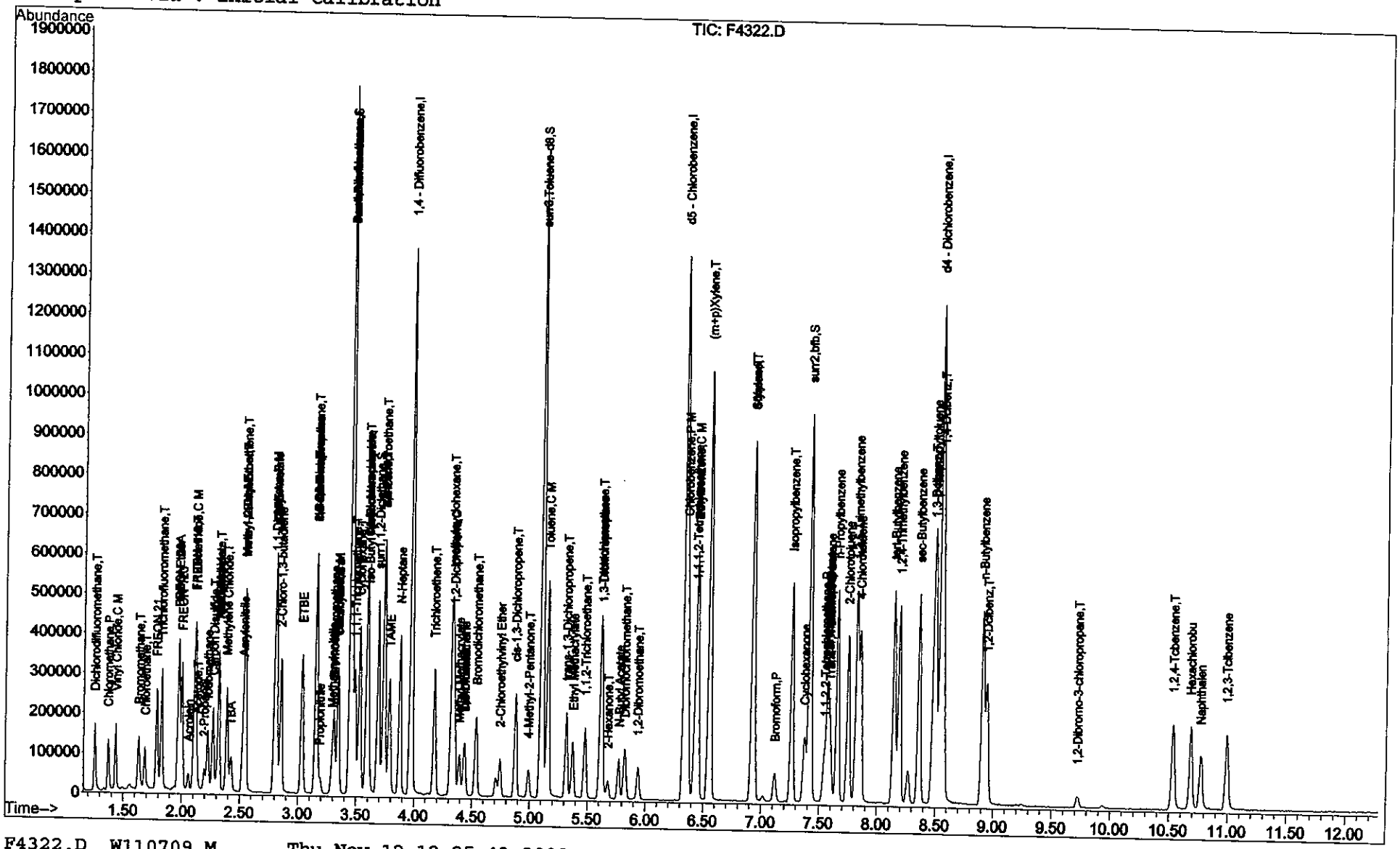
Quantitation Report

Data File : J:\ACQUDATA\MSVOA8\DATA\111209\F4322.D
Acq On : 12 Nov 2009 12:13 pm
Sample : LCS
Misc :
MS Integration Params: RTEINT.P
Quant Time: Nov 12 12:25 2009

Vial: 8
Operator: D.ZIMPFER
Inst : MS #8
Multiplr: 1.00

Quant Results File: W110709.RES

Method : J:\ACQUDATA\MSVOA8\METHODS\W110709.M (RTE Integrator)
Title : 8260voa
Last Update : Sun Nov 08 12:18:07 2009
Response via : Initial Calibration



F4322.D W110709.M Thu Nov 12 12:25:43 2009

002298

Analysis: 8260B | Analyst: D Zimpfer | Tune Method: T110709
Date: 11.11.2009 | Data Path: j:\acqudata\msvoa 8 \ | Run Method: W110709 | 1138-01
Instr. MSVOA 8 | LIMS Run#: ~~178947~~ 178949 | -02

Pos.	Sample	Diln.	Diln. Prep.	Client	RL	Tier	Vial	pH	File#	OK?	Comments
4	Tune								F4265	(N)	
4	Tune								66	(N)	D not Tune, Amuofes 83-89, EM 10 -1859
4	Tune								67	YT	
5	CCV								68	YC	
6	Blk								69	-	
7	LCS								F4270	YQ	
8	MBlk								71	(N)	
8	MBlk								72	YB	
9	R0906270-001	1/1		[redacted]	4060	4	2	<2	73	Y	
10	-002	1/1		↓	↓	↓	2	<2	74	(N)	DBFM Surr#4 out ↑
11	-003	1/1					2	<2	75	Y	
12	-004	1/1					2	<2	76	(N)	DBFM Surr#4 out ↑
13	CALC-001	1/1		[redacted]	5066	4	1	72	77	Y	
14	-002	1/1		↓	↓	↓	1	72	78	Y	
15	-003	1/1					1	72	79	Y	
16	-004	1/1					1	72	F4280	Y	
17	-005	1/1					1	72	81	Y	
18	-006	1/1					1	72	82	(N)	Surr#1 out high
19	-007	1/1					1	72	83	Y	
20	-008	1/1					1	72	84	Y	
21	-009	1/1					1	72	85	Y	
22	-010	1/1					1	72	86	Y	
23	-011	1/1					1	72	87	Y	
24	-012	1/1		↓	↓	↓	1	72	88	(N)	Surr#1 out high
25	BS								89		
26	BSD								F4290		
27	Blk								91		
28	Blk								92		

All samples = 10 mL + 5 uL ~~Combined~~ IS/Surr (100) 10 mL purged

T/G Primary 500 : 13220 5ul
BL Primary : 13221
Ft Primary : 13227
Oxy Primary : 13228
50mL = CCV

T/G Secondary 500 : 13265 2ul | 5ul
HL Secondary 500 : 13057 2ul | 5ul
Ft Secondary 200 : 13224 5ul | 12.5ul
Oxy Secondary 500 : 12682 2ul | 5ul
50mL = LCS, MS/MSD

~~Comb. IS~~/Surr. 500 : 12869
Surrogate 100 : 12870
Internal Std. 100 : 13230

00231

Analysis: 8260B | Analyst: D. Zimpfer | Tune Method: T110709 | 11347-01 -02

Date: 11-12-2009 | Data Path: j:\acqudata\msvoa8 1 | Run Method: W110709

Instr. MSVOA5 8 | LIMS Run#: 179136

Pos.	Sample	Diln.	Diln. Prep.	Client	RL	Tier	Vial	pH	File#	OK?	Comments
1	Blk								F4316	–	
2	Blk								17	–	
3	Tune								18	YT	10:14
4	CCV								19	YC	10:47
5	LCS								F4320	(N)	Surr #9 outlyr
6	Blk								21	–	
6	LCS								22	YQ	
7	MBlk								23	(N)	
8	MBlk								24	YB	
9	179136320-015	1/1		[redacted]	523	2	1	42	25	Y	
10	-016	1/1			↓	↓	1	47	26	Y	
11	6270-002	1/1		[redacted]	4000	4	3	42	27	Y	
12	-004	1/1			↓	↓	3	42	28	Y	
13	6416-006	1/1		[redacted]	5000	4	2	42	29	Y	
14	-012	1/1			↓	↓	2	72	F4330	Y	
15	6309-001	1/10	5 mL → 50 mL	[redacted]	1030	2	2	42	31	Y	
16	-002	1/10			↓	↓	2	42	32	Y	
17	6320-001	1/2.5	20 mL → 50 mL	[redacted]	4361	2	3	42	33	Y	MS DL
18	-009	1/2.5	↓		↓	↓	3	42	34	Y	MSD DL
19	-008	1/1					1	42	35	Y	
20	-006	1/1					1	42	36	Y	
21	-008	1/1					1	42	37	Y	
22	-005	1/1					1	42	38	Y	
23	-010	1/1					1	42	39	Y	
24	6315-001	1/1		[redacted]	9361	4	2	42	F4340	Y	
25	-003	1/1			↓	↓	2	42	41	Y	
26	-005	1/1			↓	↓	2	42	42	Y	9:20
27	Blk								43		
28	Blk								44		

All samples = 10 mL + 5 uL ~~Combined~~ IS/Surr 10 mL purged (100)

T/G Primary 500 : 13220 3.1

HSL Primary : 13221

Frt Primary : 13227

Oxy Primary : 13226

50 mL

T/G Secondary 500 : 13265 2.1/5.1

HSL Secondary 500 : 13057 2.1/5.1

Frt Secondary 200 : 13229 5.1/12.5.1

Oxy Secondary 500 : 13622 2.1/5.1

50 mL = LCS MS/MSD

~~Comb. IS~~/Surr. 500 : 12869

Surrogate 100 : 13232

Internal Std. 100 : 13280

0023

0023

Date: 11.7.2009
Instr. MSVOA8
Analyst: D. Ample
Data Path: j:\acqudata\msvoa8\

Tune Method: T102709 / T110709
Run Method: W102709 / W110709
LIMS Run#:

Pos.	Sample	Diln.	Diln. Prep.	Client	RL	Tier	Vial	pH	File#	OK?	Comments
4	Tune								F4098	Y	
5	CCV								99	(N)	Put new IS on centurion
5	CCV								F4100	(N)	Put Wrong IS on, 500 instead of 100
5	CCV								01	(N)	↓
5	Blk								02	—	
4	Tune								03	Y	
5	CCV								04	(N)	Recalibrate
1	Blk			MSV Met 1					05	—	
2	Blk			↓					06	—	
3	Instrument Blank			MSV Met 1					07	YR	
4	0.5PPB STD		10ul each 1° → 1 ml insert 5ul → 50mL	↓					08	Y	
5	1.0		10ul → 20ul	MSV 10 MS					09	Y	
6	2.0			MSV 20 MS					F4110	Y	
7	5.0		1ul each 1° → 100mL → 50mL	MSV 30 MS					11	Y	
8	10			MSV Met 1					12	Y	
9	50		5ul each 1° → 10ul → ND 20ul → ↓	MSV 2x20					13	Y	
10	100			MSV 9x10					14	Y	
11	200			MSV Met 1					15	Y	
12	Blk			↓					16	(N)	
13	Blk								17	(N)	
14	ICV		5ul 2° T/G, HSL, Oxy + 12.5ul 2° FrT → 50mL						18	Y	2chloro 1,3 BTD 9, Rpt
15	Blk								19	(N)	
16	↓								F4120	Wet Run	
17									21	↓	
18									22		
19									23	↓	

All samples = 10 mL + 5 uL ~~Combined~~ IS/Surr 10 (100) mL purged

Primary 500 : 13220
Primary : 13221
Primary : 13227
Primary : 13228

T/G Secondary 500 : 12767
HSL Secondary 500 : 13057
FrT Secondary 200 : 13224
Oxy Secondary 500 : 126852

~~Comb. IS~~/Surr. 500 : 128629
Surrogate 100 : 12570
Internal Std. 100 : 13230

SEMIVOLATILE ORGANICS

QC SUMMARY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001
Sample Matrix: Water

Service Request: R0906270
Date Analyzed: 11/11/09

Lab Control Sample Summary
Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Units: µg/L
Basis: NA

Extraction Lot: 99893

Analyte Name	Lab Control Sample RQ0910904-02 Result	Expected	% Rec		Duplicate Lab Control Sample RQ0910904-03 Result	Expected	% Rec		% Rec Limits	RPD	RPD Limit
2-Methylnaphthalene	**3.23**	4.00	81		**3.36**	4.00	84		50 - 120	4	30
Acenaphthene	**3.15**	4.00	79		**3.30**	4.00	83		50 - 120	5	30
Acenaphthylene	**3.24**	4.00	81		**3.42**	4.00	86		50 - 120	5	30
Anthracene	**3.44**	4.00	86		**3.47**	4.00	87		50 - 120	1	30
Benz(a)anthracene	**3.65**	4.00	91		**3.72**	4.00	93		50 - 120	2	30
Benzo(a)pyrene	**3.17**	4.00	79		**3.26**	4.00	82		50 - 120	3	30
Benzo(b)fluoranthene	**3.67**	4.00	92		**3.76**	4.00	94		50 - 120	2	30
Benzo(g,h,i)perylene	**3.59**	4.00	90		**3.68**	4.00	92		50 - 120	2	30
Benzo(k)fluoranthene	**3.55**	4.00	89		**3.61**	4.00	90		50 - 120	2	30
Bis(2-ethylhexyl) Phthalate	**3.84**	4.00	96		**3.98**	4.00	100		50 - 120	4	30
Butyl Benzyl Phthalate	**3.31**	4.00	83		**3.42**	4.00	86		50 - 120	3	30
Chrysene	**3.54**	4.00	89		**3.59**	4.00	90		50 - 120	1	30
Di-n-butyl Phthalate	**2.92**	4.00	73		**2.97**	4.00	74		50 - 120	2	30
Di-n-octyl Phthalate	**3.64**	4.00	91		**3.70**	4.00	93		50 - 120	2	30
Dibenz(a,h)anthracene	**3.98**	4.00	100		**4.06**	4.00	102		50 - 120	2	30
Diethyl Phthalate	**3.65**	4.00	91		**3.75**	4.00	94		50 - 120	3	30
Dimethyl Phthalate	**3.50**	4.00	88		**3.67**	4.00	92		50 - 120	5	30
Fluoranthene	**3.53**	4.00	88		**3.54**	4.00	89		50 - 120	0	30
Fluorene	**3.42**	4.00	86		**3.57**	4.00	89		50 - 120	4	30
Hexachlorobenzene	**2.77**	4.00	69		**2.79**	4.00	70		50 - 120	1	30
Indeno(1,2,3-cd)pyrene	**3.76**	4.00	94		**3.84**	4.00	96		50 - 120	2	30
Naphthalene	**3.00**	4.00	75		**3.17**	4.00	79		50 - 120	6	30
Nitrobenzene	**3.55**	4.00	89		**3.72**	4.00	93		50 - 120	5	30
Phenanthrene	**3.25**	4.00	81		**3.34**	4.00	84		50 - 120	3	30
Pyrene	**3.93**	4.00	98		**4.07**	4.00	102		50 - 120	4	30
Pyridine	**1.06**	4.00	27	*	**1.21**	4.00	30	*	50 - 120	13	30
1,4-Dioxane	**2.09**	5.00	42	*	**2.20**	5.00	44	*	50 - 120	5	30
Octachlorostyrene	**2.46**	4.00	62		**2.45**	4.00	61		50 - 120	0	30

Comments:

4B

EPA SAMPLE NO.

SEMIVOLATILE METHOD BLANK SUMMARY

SBLK01

Lab Name: CAS-ROCH Contract: NORTHGA

Lab Code: 10145 Case No.: R906270 SAS No.: SDG No.: M-147B

Lab File ID: AW057.D Lab Sample ID: RQ0910904-01|1.0

Instrument ID: 5973C Date Extracted: 11/4/09

Matrix: (soil/water) WATER Date Analyzed: 11/11/09

Level: (low/med) LOW Time Analyzed: 15:16

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	SBLK01MS	RQ0910904-02|1.0	AW058.D	11/11/09
02	SBLK01MSD	RQ0910904-03|1.0	AW059.D	11/11/09
03	~~M-147B~~	R0906270-003|1.0	AW062.D	11/11/09

E0110209-GWA3
JMW 12/22/09

COMMENTS:

4B

EPA SAMPLE NO.

SEMIVOLATILE METHOD BLANK SUMMARY

SBLK01

Lab Name: CAS-ROCH Contract: NORTHGA

Lab Code: 10145 Case No.: R906270 SAS No.: SDG No.: M-147B

Lab File ID: DC331.D Lab Sample ID: RQ0910904-01|1.0

Instrument ID: 5973B Date Extracted: 11/4/09

Matrix: (soil/water) WATER Date Analyzed: 11/11/09

Level: (low/med) LOW Time Analyzed: 15:36

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	M-147B	R0906270-001|1.0	DC355.D	11/12/09
02	M-147009B	R0906270-002|1.0	DC356.D	11/12/09

COMMENTS:

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CAS-ROCH Contract: NORTHGA

Lab Code: 10145 Case No.: R906270 SAS No.: _____ SDG No.: M-147B

Lab File ID: DC080.D DFTPP Injection Date: 10/16/09

Instrument ID: 5973-B DFTPP Injection Time: 9:29

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	37.5
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	43.3
70	Less than 2.0% of mass 69	0.2 (0.4)1
127	40.0 - 60.0% of mass 198	47.7
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.9
275	10.0 - 30.0% of mass 198	28.3
365	Greater than 1.0% of mass 198	4.4
441	Present, but less than mass 443	14.7
442	40.0 - 100.0% of mass 198	89.2
443	17.0 - 23.0% of mass 442	18.4 (20.7)2

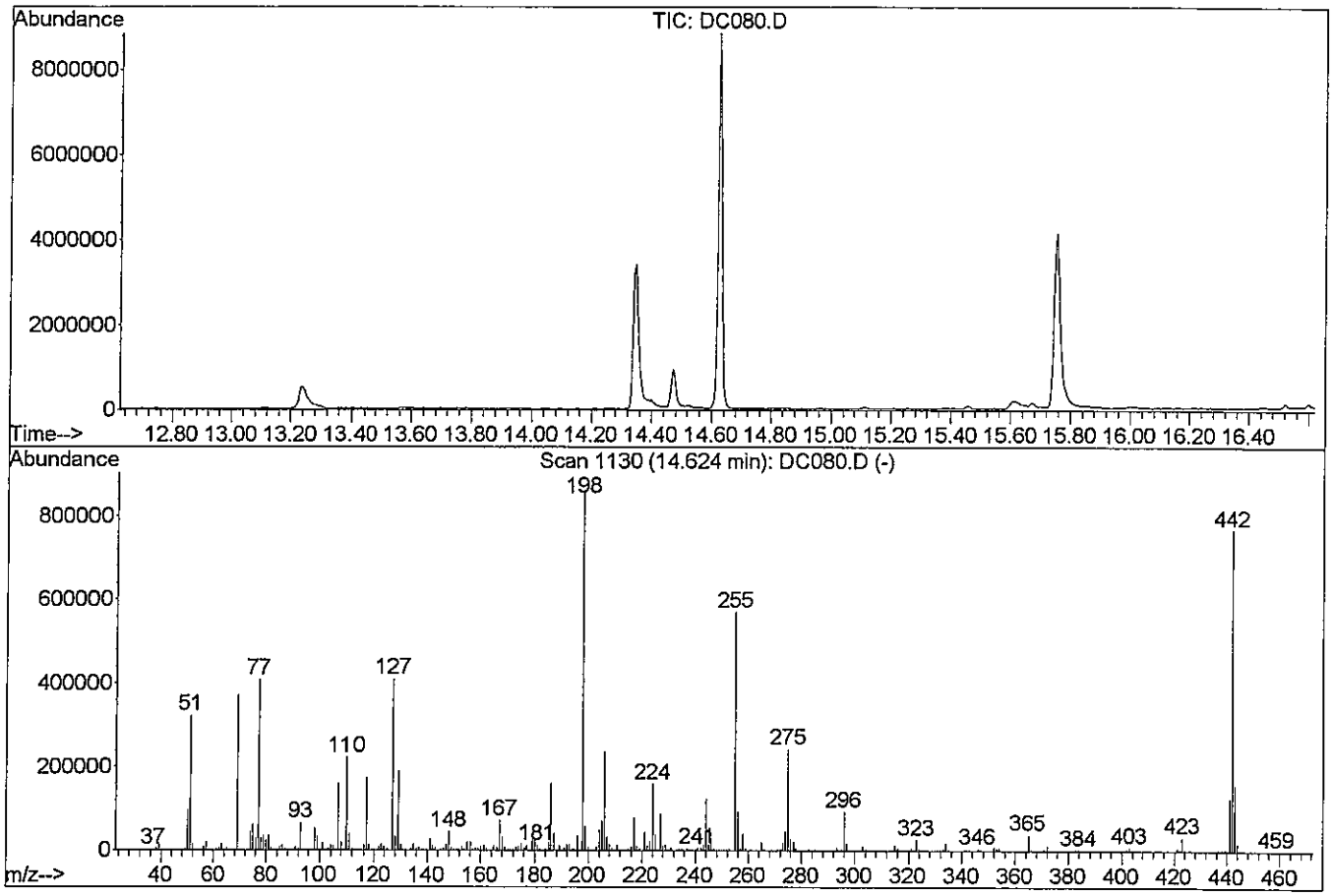
1-Value is % mass 69 2-Value is % mass 442

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
01	SSTD001	SSTD001	DC082.D	10/16/09	10:47
02	SSTD002	SSTD002	DC083.D	10/16/09	11:30
03	SSTD005	SSTD005	DC084.D	10/16/09	12:11
04	SSTD010	SSTD010	DC085.D	10/16/09	12:52
05	SSTD020	SSTD020	DC086.D	10/16/09	13:41
06	SSTD030	SSTD030	DC087.D	10/16/09	14:29
07	SSTD040	SSTD040	DC088.D	10/16/09	15:31
08	SSTD050	SSTD050	DC089.D	10/16/09	16:32
09	SSTD100	SSTD100	DC090.D	10/16/09	17:27

DFTPP

Data File : J:\ACQUDATA\5973B\DATA\101609\DC080.D Vial: 1
Acq On : 16 Oct 2009 9:29 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS



Spectrum Information: Scan 1130

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	37.5	322435	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.3	372544	PASS
70	69	0.00	2	0.4	1596	PASS
127	198	40	60	47.7	410048	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	860160	PASS
199	198	5	9	6.9	59416	PASS
275	198	10	30	28.3	243136	PASS
365	198	1	100	4.4	37952	PASS
441	443	0.01	100	79.7	126384	PASS
442	198	40	100	89.2	767104	PASS
443	442	17	23	20.7	158656	PASS

DC080.D DFTPPLVI.M Mon Oct 19 09:16:05 2009

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CAS-ROCH Contract: NORTHGA

Lab Code: 10145 Case No.: R906270 SAS No.: _____ SDG No.: M-147B

Lab File ID: AV741.D DFTPP Injection Date: 10/27/09

Instrument ID: 5973-C DFTPP Injection Time: 9:57

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	47.8
68	Less than 2.0% of mass 69	0.7 (1.3)1
69	Mass 69 Relative abundance	55.2
70	Less than 2.0% of mass 69	0.3 (0.5)1
127	40.0 - 60.0% of mass 198	54.2
197	Less than 1.0% of mass 198	0.4
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.0
275	10.0 - 30.0% of mass 198	26.0
365	Greater than 1.0% of mass 198	3.8
441	Present, but less than mass 443	9.4
442	40.0 - 100.0% of mass 198	65.0
443	17.0 - 23.0% of mass 442	11.8 (18.1)2

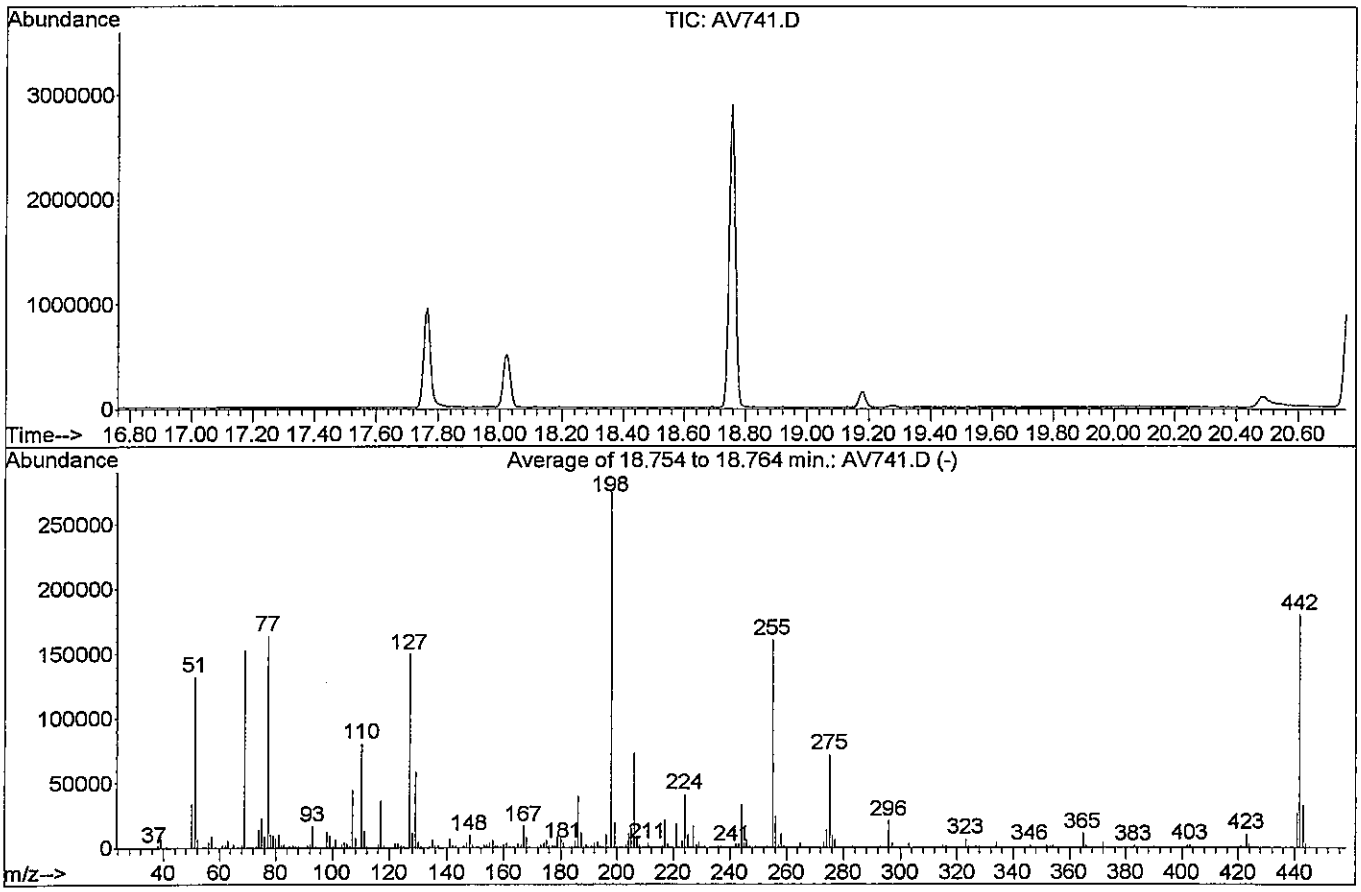
1-Value is % mass 69 2-Value is % mass 442

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
01	SSTD001	SSDT001	AV745.D	10/27/09	13:10
02	SSTD002	SSDT002	AV746.D	10/27/09	13:48
03	SSTD005	SSDT005	AV747.D	10/27/09	14:26
04	SSTD010	SSDT010	AV748.D	10/27/09	15:03
05	SSTD020	SSDT020	AV749.D	10/27/09	15:41
06	SSTD030	SSDT030	AV750.D	10/27/09	16:19
07	SSTD040	SSDT040	AV751.D	10/27/09	16:57
08	SSTD050	SSDT050	AV752.D	10/27/09	17:35
09	SSTD100	SSDT100	AV753.D	10/27/09	18:12

DFTPP

Data File : J:\ACQUDATA\5973C\DATA\102709\AV741.D Vial: 1
Acq On : 27 Oct 2009 9:57 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973C
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : J:\ACQUDATA\5973C\METHODS\TUNEC.M (RTE Integrator)
Title : TUNE CHECK



AutoFind: Scans 1998, 1999, 2000; Background Corrected with Scan 1989

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.8	132113	PASS
68	69	0.00	2	1.3	1994	PASS
69	198	0.00	100	55.2	152582	PASS
70	69	0.00	2	0.5	801	PASS
127	198	40	60	54.2	149840	PASS
197	198	0.00	1	0.4	1193	PASS
198	198	100	100	100.0	276266	PASS
199	198	5	9	7.0	19330	PASS
275	198	10	30	26.0	71768	PASS
365	198	1	100	3.8	10547	PASS
441	443	0.01	100	80.2	26088	PASS
442	198	40	100	65.0	179648	PASS
443	442	17	23	18.1	32530	PASS

AV741.D TUNEC.M Wed Oct 28 09:32:51 2009

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CAS-ROCH Contract: NORTHGA

Lab Code: 10145 Case No.: R906270 SAS No.: _____ SDG No.: M-147B

Lab File ID: AW047.D DFTPP Injection Date: 11/11/09

Instrument ID: 5973C DFTPP Injection Time: 9:01

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	47.5
68	Less than 2.0% of mass 69	0.5 (0.8)1
69	Mass 69 Relative abundance	59.1
70	Less than 2.0% of mass 69	0.3 (0.5)1
127	40.0 - 60.0% of mass 198	59.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.0
275	10.0 - 30.0% of mass 198	23.9
365	Greater than 1.0% of mass 198	4.3
441	Present, but less than mass 443	8.3
442	40.0 - 100.0% of mass 198	56.5
443	17.0 - 23.0% of mass 442	10.7 (18.9)2

1-Value is % mass 69 2-Value is % mass 442

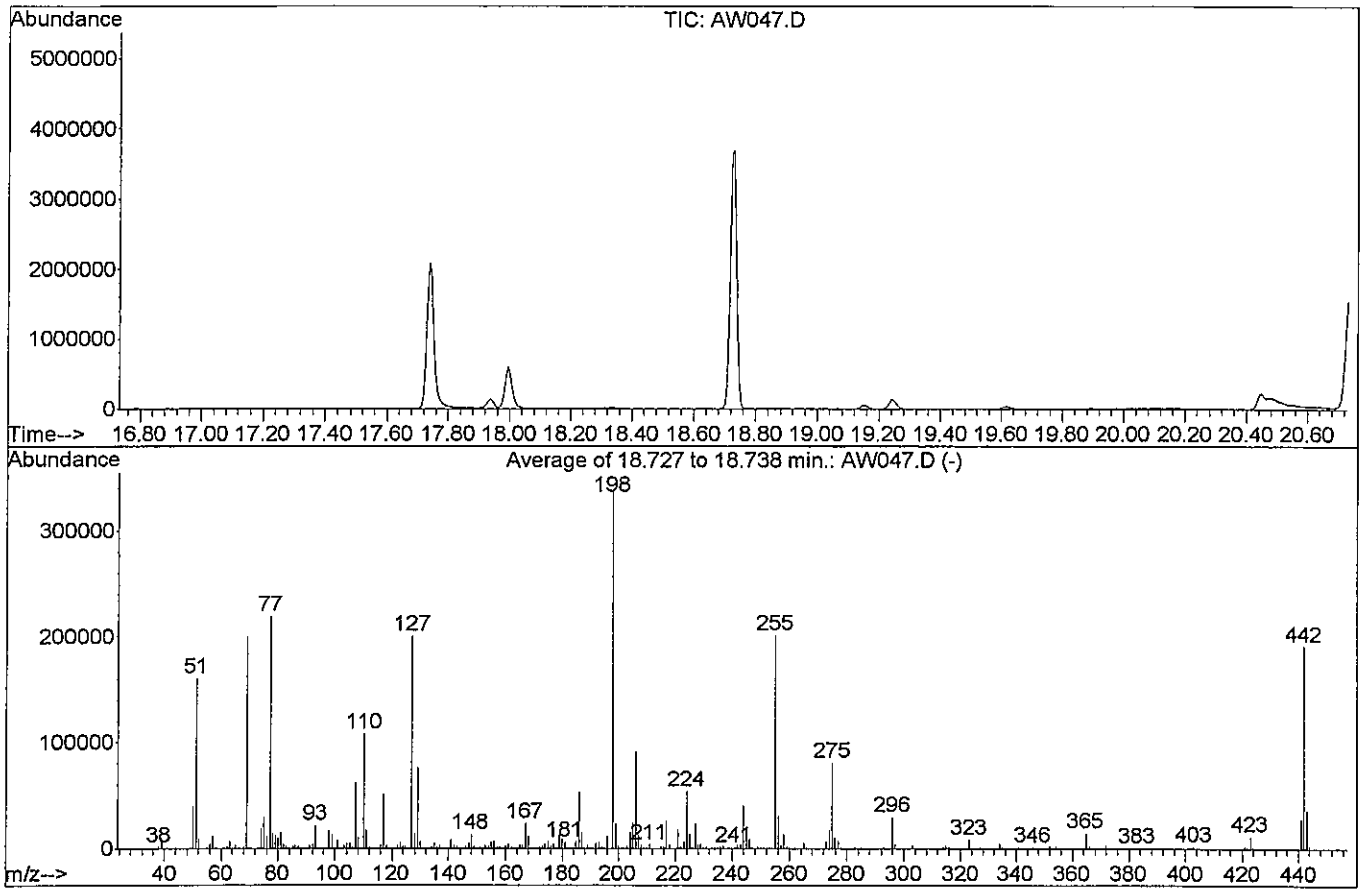
THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SSTD01	CALIBRATION CHECK	AW048.D	11/11/09	9:39
02	SBLK01	RQ0910904-01|1.0	AW057.D	11/11/09	15:16
03	SBLK01MS	RQ0910904-02|1.0	AW058.D	11/11/09	15:53
04	SBLK01MSD	RQ0910904-03|1.0	AW059.D	11/11/09	16:29
05	~~M-147B~~	R0906270-003|1.0	AW062.D	11/11/09	18:19

EB110209-GWA3
JMS 12/22/09

DFTPP

Data File : J:\ACQUDATA\5973C\DATA\111109\AW047.D Vial: 1
Acq On : 11 Nov 2009 9:01 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973C
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : J:\ACQUDATA\5973C\METHODS\TUNEC.M (RTE Integrator)
Title : TUNE CHECK



AutoFind: Scans 1993, 1994, 1995; Background Corrected with Scan 1984

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.5	160872	PASS
68	69	0.00	2	0.8	1529	PASS
69	198	0.00	100	59.1	199893	PASS
70	69	0.00	2	0.5	935	PASS
127	198	40	60	59.3	200640	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	338389	PASS
199	198	5	9	7.0	23685	PASS
275	198	10	30	23.9	80997	PASS
365	198	1	100	4.3	14397	PASS
441	443	0.01	100	77.6	27994	PASS
442	198	40	100	56.5	191274	PASS
443	442	17	23	18.9	36058	PASS

AW047.D TUNEC.M Wed Nov 11 13:34:03 2009

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CAS-ROCH Contract: NORTHGA

Lab Code: 10145 Case No.: R906270 SAS No.: SDG No.: M-147B

Lab File ID: DC324.D DFTPP Injection Date: 11/11/09

Instrument ID: 5973B DFTPP Injection Time: 10:28

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	44.6
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	51.0
70	Less than 2.0% of mass 69	0.3 (0.6)1
127	40.0 - 60.0% of mass 198	56.5
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	8.3
275	10.0 - 30.0% of mass 198	27.2
365	Greater than 1.0% of mass 198	5.5
441	Present, but less than mass 443	10.5
442	40.0 - 100.0% of mass 198	73.7
443	17.0 - 23.0% of mass 442	14.5 (19.7)2

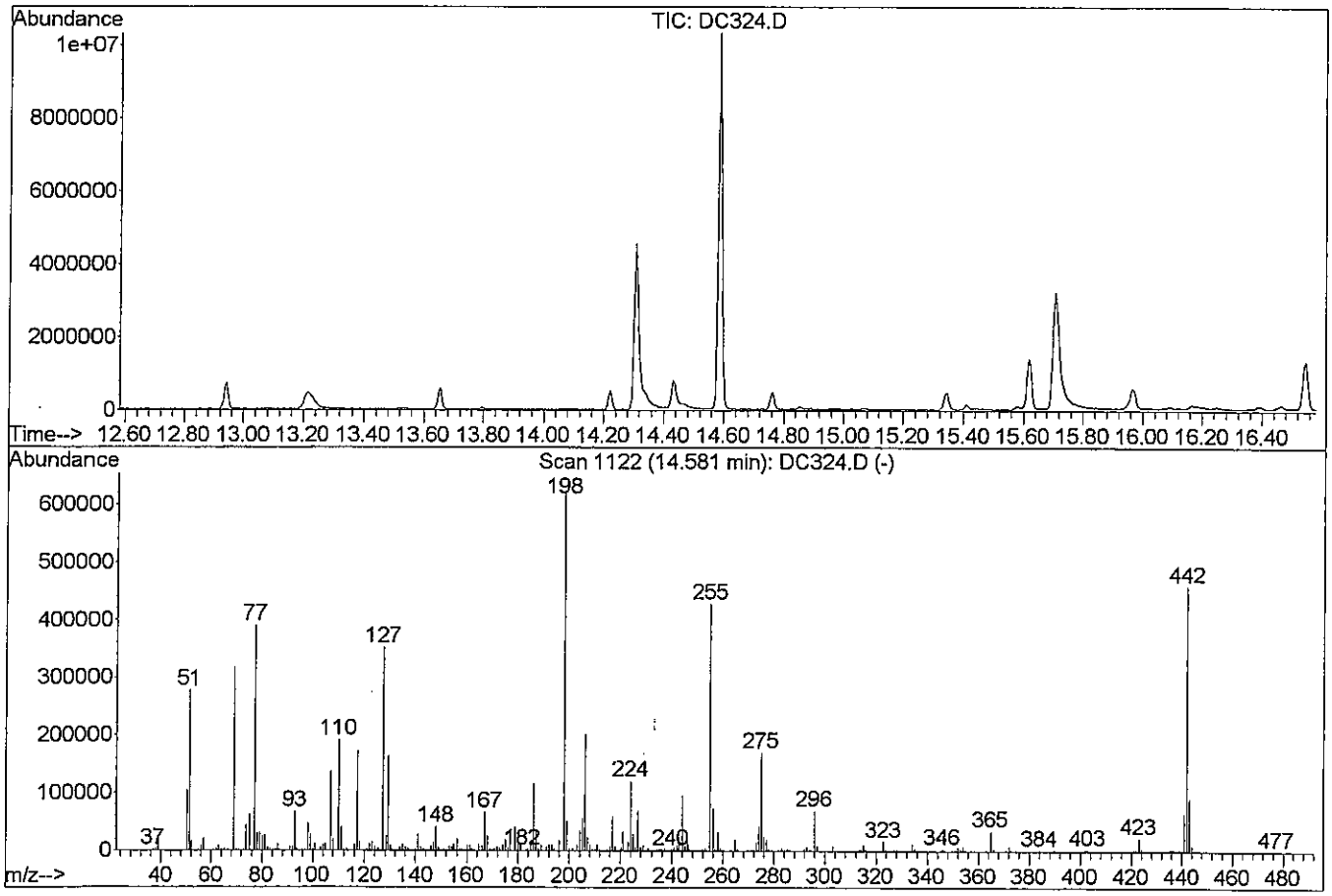
1-Value is % mass 69 2-Value is % mass 442

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
01	SSTD02	CALIBRATION CHECK	DC325.D	11/11/09	11:06
02	SBLK01	RQ0910904-01|1.0	DC331.D	11/11/09	15:36

DFTPP

Data File : J:\ACQUDATA\5973B\DATA\111109\DC324.D Vial: 1
Acq On : 11 Nov 2009 10:28 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS



Spectrum Information: Scan 1122

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.6	277504	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	51.0	317056	PASS
70	69	0.00	2	0.6	1882	PASS
127	198	40	60	56.5	351296	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	622272	PASS
199	198	5	9	8.3	51512	PASS
275	198	10	30	27.2	169088	PASS
365	198	1	100	5.5	34000	PASS
441	443	0.01	100	72.2	65320	PASS
442	198	40	100	73.7	458624	PASS
443	442	17	23	19.7	90432	PASS

DC324.D DFTPPLVI.M Wed Nov 11 10:52:49 2009 JW

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CAS-ROCH Contract: NORTHGA

Lab Code: 10145 Case No.: R906270 SAS No.: _____ SDG No.: M-147B

Lab File ID: DC352.D DFTPP Injection Date: 11/12/09

Instrument ID: 5973B DFTPP Injection Time: 10:50

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	41.9
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 Relative abundance	48.1
70	Less than 2.0% of mass 69	0.7 (1.4)1
127	40.0 - 60.0% of mass 198	50.3
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.8
275	10.0 - 30.0% of mass 198	29.3
365	Greater than 1.0% of mass 198	5.5
441	Present, but less than mass 443	12.3
442	40.0 - 100.0% of mass 198	81.7
443	17.0 - 23.0% of mass 442	17.3 (21.1)2

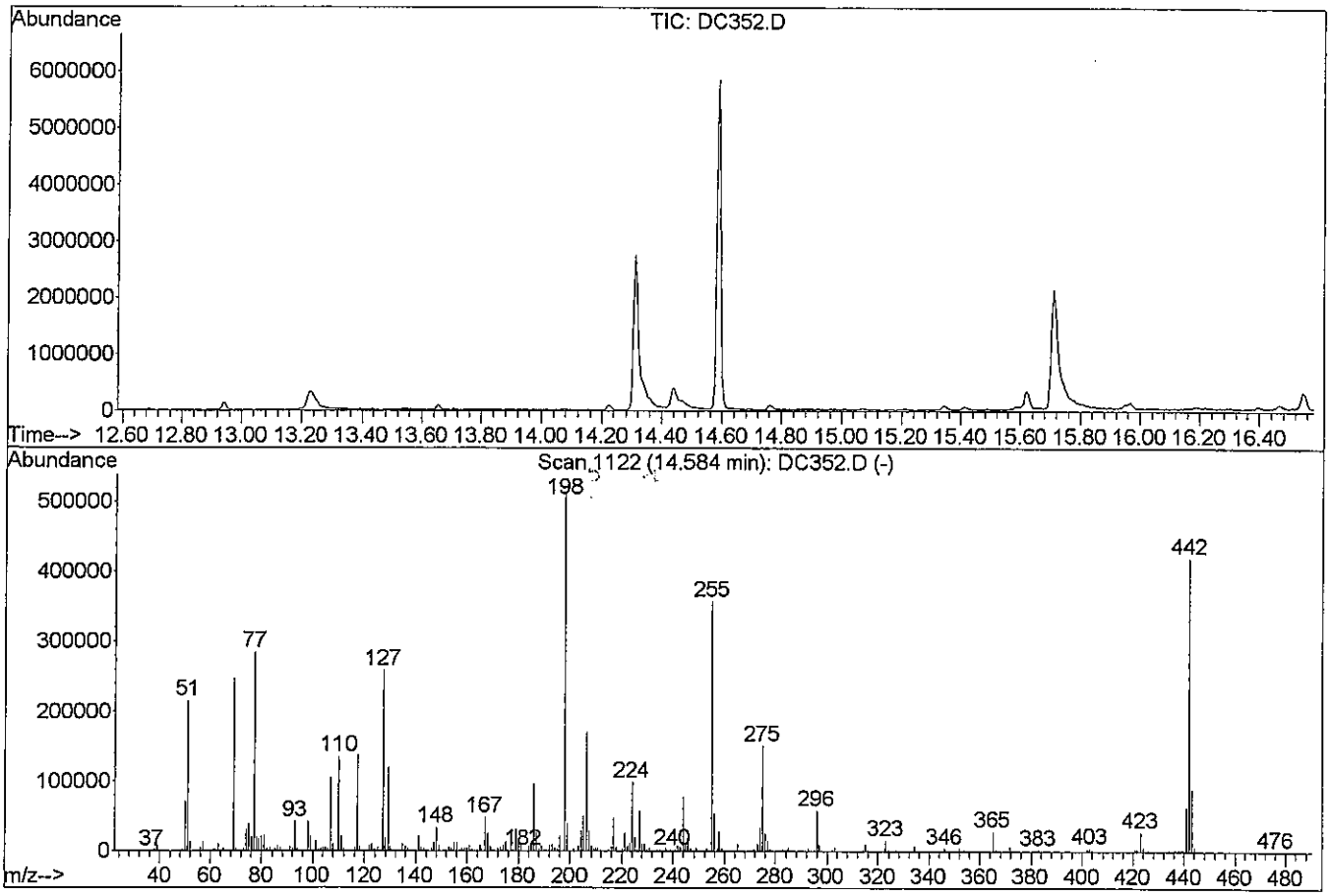
1-Value is % mass 69 2-Value is % mass 442

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
01	SSTD03	CALIBRATION CHECK	DC354.D	11/12/09	11:26
02	M-147B	R0906270-001|1.0	DC355.D	11/12/09	12:08
03	M-147009B	R0906270-002|1.0	DC356.D	11/12/09	12:49

DFTPP

Data File : J:\ACQUDATA\5973B\DATA\111209\DC352.D Vial: 1
Acq On : 12 Nov 2009 10:50 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS



Spectrum Information: Scan 1122

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	41.9	215319	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	48.1	247104	PASS
70	69	0.00	2	1.4	3373	PASS
127	198	40	60	50.3	258624	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	513728	PASS
199	198	5	9	7.8	39872	PASS
275	198	10	30	29.3	150720	PASS
365	198	1	100	5.5	28088	PASS
441	443	0.01	100	71.3	63272	PASS
442	198	40	100	81.7	419840	PASS
443	442	17	23	21.1	88752	PASS

DC352.D DFTPPLVI.M Thu Nov 12 14:25:08 2009 JW

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CAS-ROCH Contract: NORTHGATE

Lab Code: 10145 Case No.: R906270 SAS No.: _____ SDG No.: M-147B

Lab File ID (Standard): AW048.D Date Analyzed: 11/11/09

Instrument ID: 5973C Time Analyzed: 9:39

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	118549	10.68	449815	11.94	248855	13.53
	UPPER LIMIT	237098	11.18	899630	12.44	497710	14.03
	LOWER LIMIT	59275	10.18	224908	11.44	124428	13.03
	EPA SAMPLE NO.						
01	SBLK01	129366	10.68	489328	11.94	279420	13.53
02	SBLK01MS	135314	10.68	531036	11.94	318524	13.53
03	SBLK01MSD	129362	10.68	496045	11.94	296911	13.53
04	~~M-147B~~	127588	10.68	471192	11.94	267840	13.53

EB110209GWA3

JMW 12/22/09

IS1 (DCB) = d4-1,4-Dichlorobenzene
IS2 (NPT) = d8-Naphthalene
IS3 (ANT) = d10-Acenaphthene
IS4 (PHN) = d10-Phenanthrene
IS5 (CRY) = d12-Chrysene
IS6 (PRY) = d12-Perylene

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 to be used to flag values outside QC limit with an asterisk.
* Values outside of contract required QC limits

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CAS-ROCH Contract: NORTHGATE

Lab Code: 10145 Case No.: R906270 SAS No.: _____ SDG No.: M-147B

Lab File ID (Standard): AW048.D Date Analyzed: 11/11/09

Instrument ID: 5973C Time Analyzed: 09:39

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	325995	14.73	393189	17.93	302262	21.46
	UPPER LIMIT	651990	14.23	786378	17.43	604524	20.96
	LOWER LIMIT	162998	15.23	196595	18.43	151131	21.96
	EPA SAMPLE NO.						
01	SBLK01	354040	14.73	399688	17.94	316847	21.46
02	SBLK01MS	395469	14.73	442310	17.94	356456	21.46
03	SBLK01MSD	382742	14.73	415252	17.94	337131	21.46
04	~~M-147B~~	344635	14.73	388663	17.93	305837	21.46

EB110209GWR3
MW 12/22/09

IS1 (DCB) = d4-1,4-Dichlorobenzene
IS2 (NPT) = d8-Naphthalene
IS3 (ANT) = d10-Acenaphthene
IS4 (PHN) = d10-Phenanthrene
IS5 (CRY) = d12-Chrysene
IS6 (PRY) = d12-Perylene

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 to be used to flag values outside QC limit with an asterisk.
* Values outside of contract required QC limits

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CAS-ROCH Contract: NORTHGATE

Lab Code: 10145 Case No.: R906270 SAS No.: _____ SDG No.: M-147B

Lab File ID (Standard): DC325.D Date Analyzed: 11/11/09

Instrument ID: 5973B Time Analyzed: 11:06

		IS1(DCB) AREA	#	RT	#	IS2(NPT) AREA	#	RT	#	IS3(ANT) AREA	#	RT	#
	12 HOUR STD	85722		10.63		323725		11.90		209422		13.49	
	UPPER LIMIT	171444		11.13		647450		12.40		418844		13.99	
	LOWER LIMIT	42861		10.13		161863		11.40		104711		12.99	
	EPA SAMPLE NO.												
01	SBLK01	83420		10.63		300676		11.91		205820		13.50	

IS1 (DCB) = d4-1,4-Dichlorobenzene
IS2 (NPT) = d8-Naphthalene
IS3 (ANT) = d10-Acenaphthene
IS4 (PHN) = d10-Phenanthrene
IS5 (CRY) = d12-Chrysene
IS6 (PRY) = d12-Perylene

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 to be used to flag values outside QC limit with an asterisk.
* Values outside of contract required QC limits

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CAS-ROCH Contract: NORTHGATE

Lab Code: 10145 Case No.: R906270 SAS No.: SDG No.: M-147B

Lab File ID (Standard): DC325.D Date Analyzed: 11/11/09

Instrument ID: 5973B Time Analyzed: 11:06

		IS4(PHN) AREA	#	RT	#	IS5(CRY) AREA	#	RT	#	IS6(PRY) AREA	#	RT	#
	12 HOUR STD	343404		14.70		392771		17.96		303784		21.68	
	UPPER LIMIT	686808		14.20		785542		17.46		607568		21.18	
	LOWER LIMIT	171702		15.20		196386		18.46		151892		22.18	
	EPA SAMPLE NO.												
01	SBLK01	325597		14.71		334074		17.99		270700		21.70	

IS1 (DCB) = d4-1,4-Dichlorobenzene
IS2 (NPT) = d8-Naphthalene
IS3 (ANT) = d10-Acenaphthene
IS4 (PHN) = d10-Phenanthrene
IS5 (CRY) = d12-Chrysene
IS6 (PRY) = d12-Perylene

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 to be used to flag values outside QC limit with an asterisk.
* Values outside of contract required QC limits

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CAS-ROCH Contract: NORTHGATE

Lab Code: 10145 Case No.: R906270 SAS No.: _____ SDG No.: M-147B

Lab File ID (Standard): DC354.D Date Analyzed: 11/12/09

Instrument ID: 5973B Time Analyzed: 11:26

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	85937	10.63	336566	11.90	210061	13.49
	UPPER LIMIT	171874	11.13	673132	12.40	420122	13.99
	LOWER LIMIT	42969	10.13	168283	11.40	105031	12.99
	EPA SAMPLE NO.						
01	M-147B	89618	10.64	310321	11.90	203844	13.50
02	M-147009B	85515	10.63	308734	11.90	192248	13.50

IS1 (DCB) = d4-1,4-Dichlorobenzene
IS2 (NPT) = d8-Naphthalene
IS3 (ANT) = d10-Acenaphthene
IS4 (PHN) = d10-Phenanthrene
IS5 (CRY) = d12-Chrysene
IS6 (PRY) = d12-Perylene

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 to be used to flag values outside QC limit with an asterisk.
* Values outside of contract required QC limits

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CAS-ROCH Contract: NORTHGATE

Lab Code: 10145 Case No.: R906270 SAS No.: _____ SDG No.: M-147B

Lab File ID (Standard): DC354.D Date Analyzed: 11/12/09

Instrument ID: 5973B Time Analyzed: 11:26

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	340497	14.70	388550	17.97	299738	21.67
	UPPER LIMIT	680994	14.20	777100	17.47	599476	21.17
	LOWER LIMIT	170249	15.20	194275	18.47	149869	22.17
	EPA SAMPLE NO.						
01	M-147B	333144	14.70	354642	17.97	272880	21.68
02	M-147009B	330588	14.70	348790	17.97	267160	21.69

IS1 (DCB) = d4-1,4-Dichlorobenzene
IS2 (NPT) = d8-Naphthalene
IS3 (ANT) = d10-Acenaphthene
IS4 (PHN) = d10-Phenanthrene
IS5 (CRY) = d12-Chrysene
IS6 (PRY) = d12-Perylene

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 to be used to flag values outside QC limit with an asterisk.
* Values outside of contract required QC limits

SEMIVOLATILE ORGANICS

SAMPLE DATA

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147B	**Units:**	µg/L
Lab Code:	R0906270-001	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
2-Methylnaphthalene	0.048	U	0.19	0.048	1	11/ 4/09	11/12/09 12:08	99893	179311	
Acenaphthene	0.053	U	0.19	0.053	1	11/ 4/09	11/12/09 12:08	99893	179311	
Acenaphthylene	0.076	U	0.19	0.076	1	11/ 4/09	11/12/09 12:08	99893	179311	
Anthracene	0.041	U	0.19	0.041	1	11/ 4/09	11/12/09 12:08	99893	179311	
Benz(a)anthracene	0.041	U	0.19	0.041	1	11/ 4/09	11/12/09 12:08	99893	179311	
Benzo(a)pyrene	0.042	U	0.19	0.042	1	11/ 4/09	11/12/09 12:08	99893	179311	
Benzo(b)fluoranthene	0.027	U	0.19	0.027	1	11/ 4/09	11/12/09 12:08	99893	179311	
Benzo(g,h,i)perylene	0.030	U	0.19	0.030	1	11/ 4/09	11/12/09 12:08	99893	179311	
Benzo(k)fluoranthene	0.029	U	0.19	0.029	1	11/ 4/09	11/12/09 12:08	99893	179311	
Bis(2-ethylhexyl) Phthalate	0.23	U	4.7	0.23	1	11/ 4/09	11/12/09 12:08	99893	179311	
Butyl Benzyl Phthalate	0.11	U	4.7	0.11	1	11/ 4/09	11/12/09 12:08	99893	179311	
Chrysene	0.029	U	0.19	0.029	1	11/ 4/09	11/12/09 12:08	99893	179311	
Di-n-butyl Phthalate	0.76	U	4.7	0.76	1	11/ 4/09	11/12/09 12:08	99893	179311	
Di-n-octyl Phthalate	0.041	U	4.7	0.041	1	11/ 4/09	11/12/09 12:08	99893	179311	
Dibenz(a,h)anthracene	0.046	U	0.19	0.046	1	11/ 4/09	11/12/09 12:08	99893	179311	
Diethyl Phthalate	0.20	U	4.7	0.20	1	11/ 4/09	11/12/09 12:08	99893	179311	
Dimethyl Phthalate	0.044	U	4.7	0.044	1	11/ 4/09	11/12/09 12:08	99893	179311	
Fluoranthene	0.040	U	0.19	0.040	1	11/ 4/09	11/12/09 12:08	99893	179311	
Fluorene	0.055	U	0.19	0.055	1	11/ 4/09	11/12/09 12:08	99893	179311	
Hexachlorobenzene	0.035	U	0.19	0.035	1	11/ 4/09	11/12/09 12:08	99893	179311	
Indeno(1,2,3-cd)pyrene	0.049	U	0.19	0.049	1	11/ 4/09	11/12/09 12:08	99893	179311	
Naphthalene	0.14	U	0.19	0.14	1	11/ 4/09	11/12/09 12:08	99893	179311	
Nitrobenzene	0.046	U	0.19	0.046	1	11/ 4/09	11/12/09 12:08	99893	179311	
Phenanthrene	0.062	U	0.19	0.062	1	11/ 4/09	11/12/09 12:08	99893	179311	
Pyrene	0.029	U	0.19	0.029	1	11/ 4/09	11/12/09 12:08	99893	179311	
Pyridine	0.89	U	1.9	0.89	1	11/ 4/09	11/12/09 12:08	99893	179311	
1,4-Dioxane	0.13	U	1.9	0.13	1	11/ 4/09	11/12/09 12:08	99893	179311	
Octachlorostyrene	0.13	U	0.19	0.13	1	11/ 4/09	11/12/09 12:08	99893	179311	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147B	**Units:**	Percent
Lab Code:	R0906270-001	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
2-Fluorobiphenyl	87	45-135	11/12/09 12:08		
Nitrobenzene-d5	86	45-135	11/12/09 12:08		
Terphenyl-d14	101	45-135	11/12/09 12:08		

Comments:

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC355.D Vial: 2
Acq On : 12 Nov 2009 12:08 pm Operator: J.Wu
Sample : R0906270-001|1.0 √ Inst : 5973-B
Misc : 11/04/2009 1.0 Northgate 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:31 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.64	152	89618	1.00	ppm	0.02
4) d8-Naphthalene	11.90	136	310321	1.00	ppm	0.01
10) d10-Acenaphthene	13.50	164	203844	1.00	ppm	0.02
18) d10-Phenanthrene	14.70	188	333144	1.00	ppm	0.00
26) d12-Chrysene	17.97	240	354642	1.00	ppm	-0.02
33) d12-Perylene	21.68	264	272880m	1.00	ppm	-0.10
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.22	82	188428	1.71	ppm	0.02
Spiked Amount 2.000	Range 22 - 124		Recovery = 85.50%			
11) SURR5,2-FLUOROBIPHENYL	12.86	172	454853	1.74	ppm	0.01
Spiked Amount 2.000	Range 27 - 114		Recovery = 87.00%			
28) SURR6,TERPHENYL-D14	16.29	244	589899	2.02	ppm	-0.01
Spiked Amount 2.000	Range 23 - 139		Recovery = 101.00%			

Target Compounds Qvalue

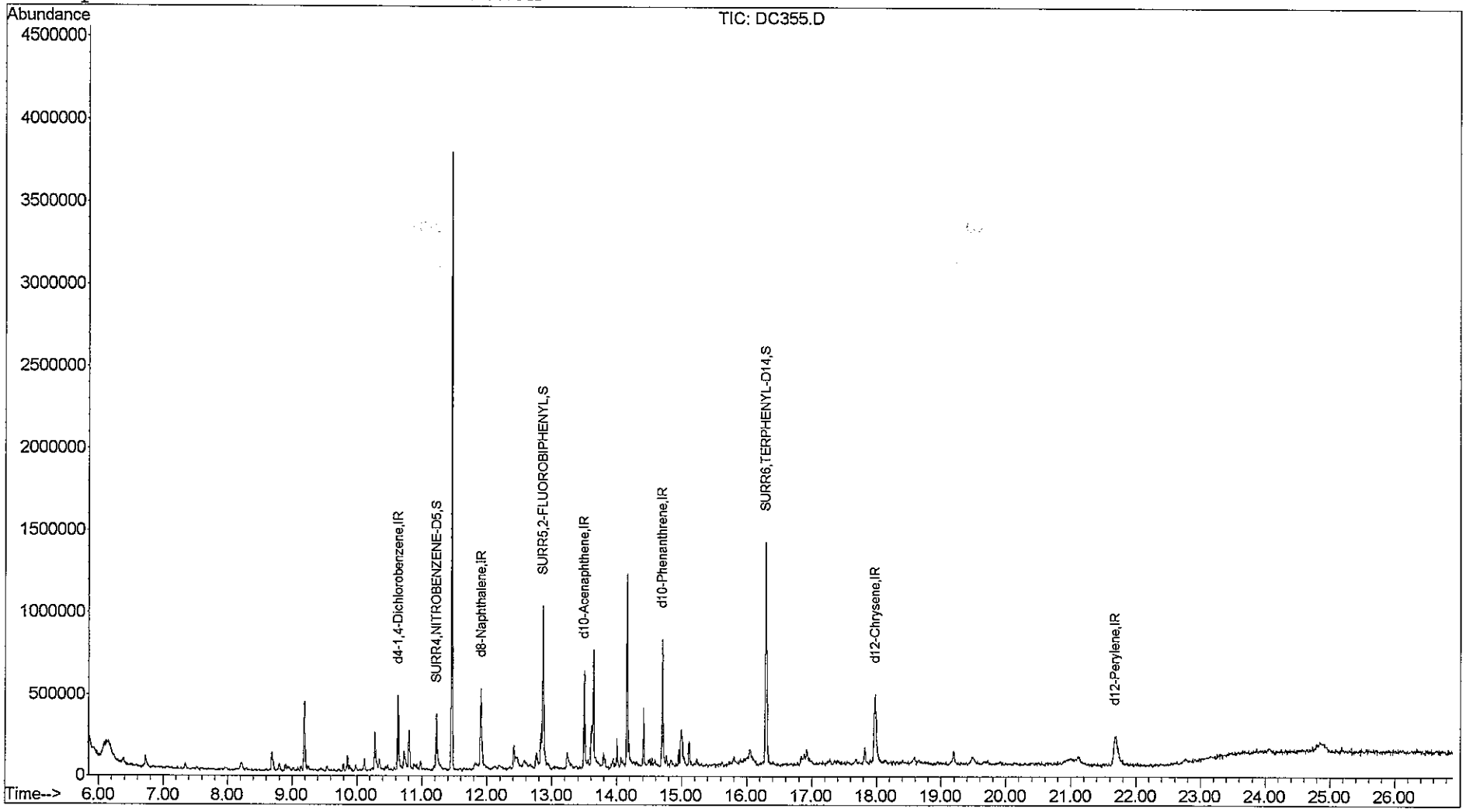
(#) = qualifier out of range (m) = manual integration

00257

Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\111209\DC355.D Vial: 2
Acq On : 12 Nov 2009 12:08 pm Operator: J.Wu
Sample : R0906270-001|1.0 Inst : 5973-B
Misc : 11/04/2009 1.0 Northgate 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:31 2009 Quant Results File: LVI1016.RES

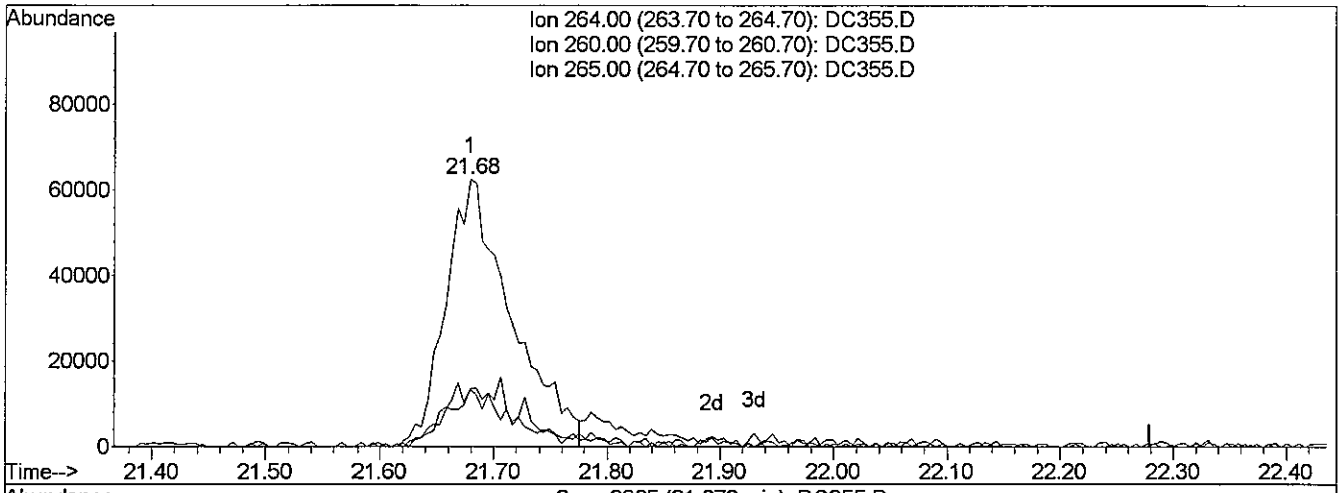
Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Initial Calibration

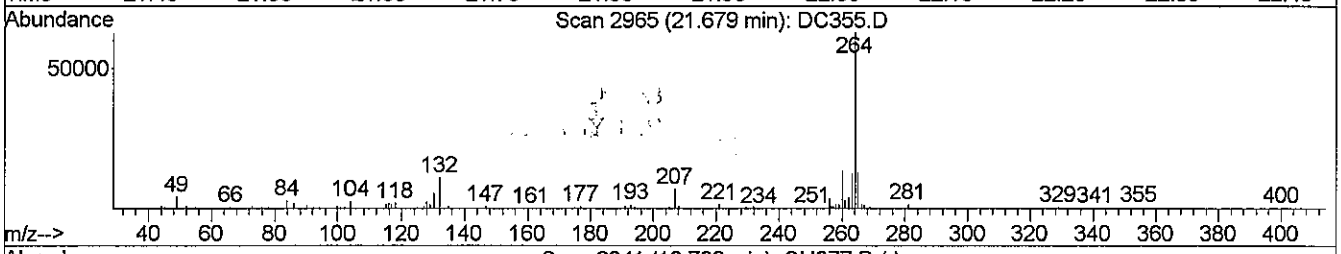


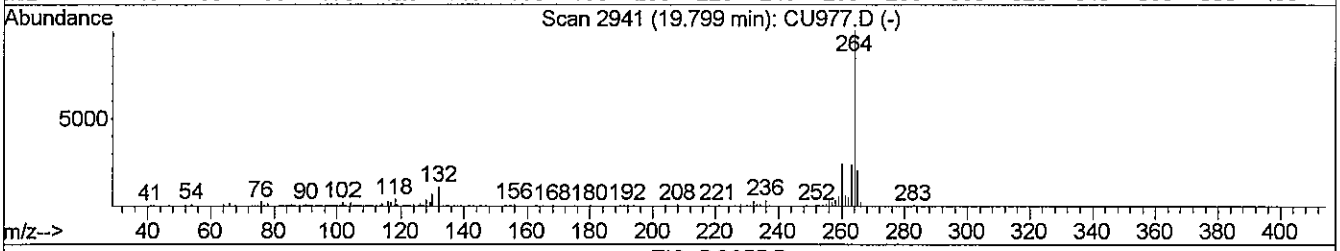
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC355.D Vial: 2
Acq On : 12 Nov 2009 12:08 pm Operator: J.Wu
Sample : R0906270-001|1.0 Inst : 5973-B
Misc : 11/04/2009 1.0 Northgate 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:31 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Multiple Level Calibration







TIC: DC355.D

(33) d12-Perylene (IR)

21.68min 1.00ppm

response 249835

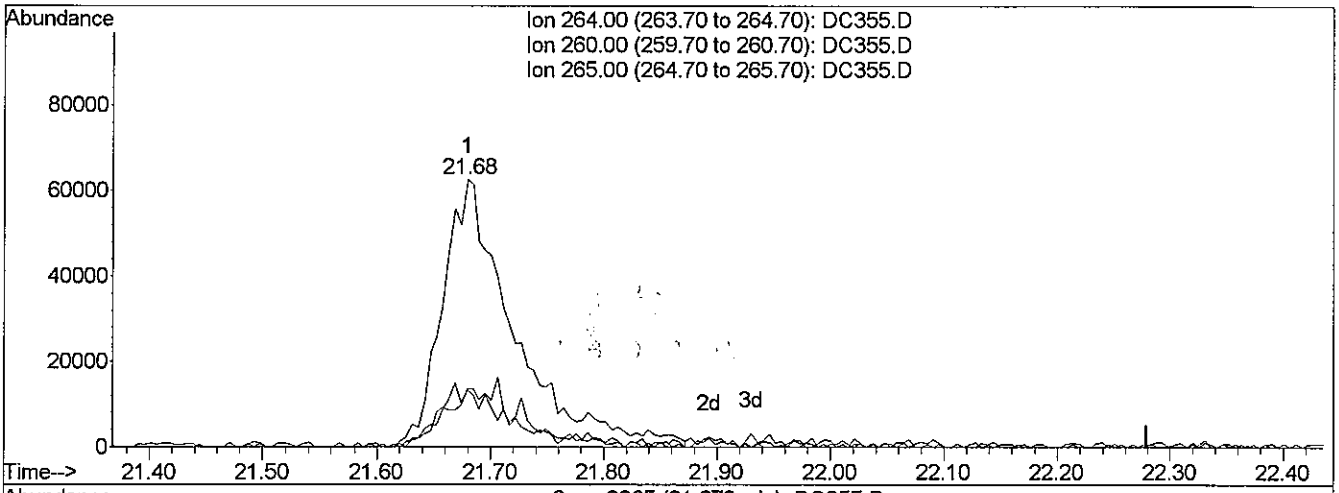
Ion	Exp%	Act%
264.00	100	100
260.00	17.80	21.46
265.00	18.30	19.80
0.00	0.00	0.00

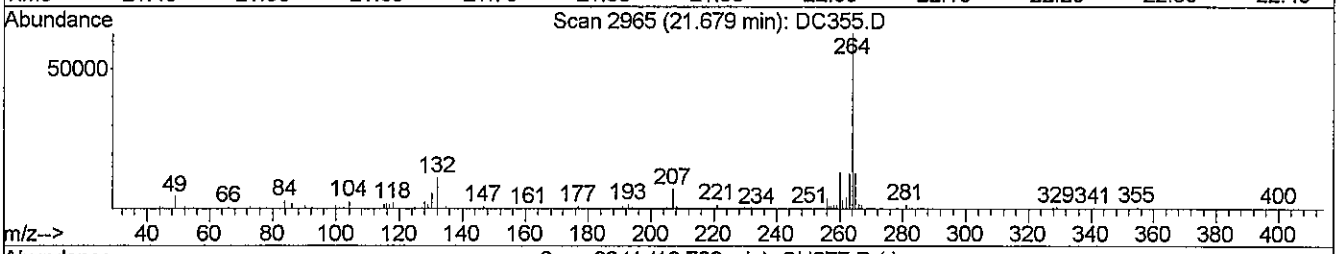
B

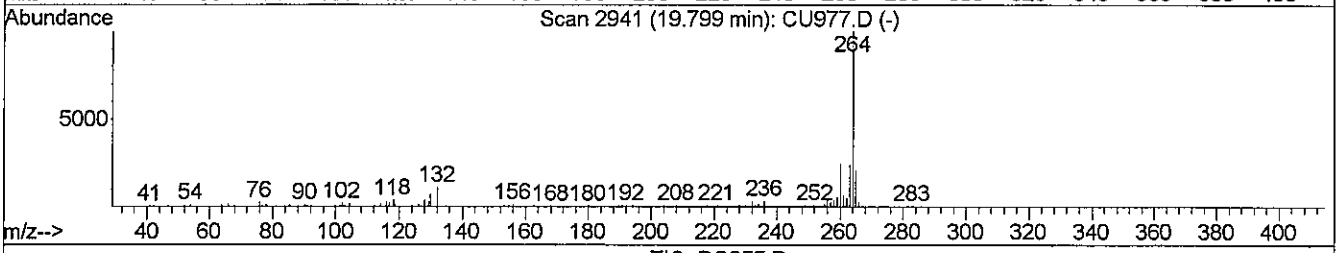
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC355.D Vial: 2
Acq On : 12 Nov 2009 12:08 pm Operator: J.Wu
Sample : R0906270-001|1.0 Inst : 5973-B
Misc : 11/04/2009 1.0 Northgate 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:31 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Multiple Level Calibration







TIC: DC355.D

(33) d12-Perylene (IR)

21.68min 1.00ppm m

response 272880

Ion	Exp%	Act%
264.00	100	100
260.00	17.80	21.59
265.00	18.30	21.20
0.00	0.00	0.00

A JW 11/12/09

MP 11/13

DC355.D LVI1016.M Thu Nov 12 14:31:21 2009

00260

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147009B	**Units:**	µg/L
Lab Code:	R0906270-002	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
2-Methylnaphthalene	0.048	U	0.19	0.048	1	11/ 4/09	11/12/09 12:49	99893	179311	
Acenaphthene	0.053	U	0.19	0.053	1	11/ 4/09	11/12/09 12:49	99893	179311	
Acenaphthylene	0.076	U	0.19	0.076	1	11/ 4/09	11/12/09 12:49	99893	179311	
Anthracene	0.041	U	0.19	0.041	1	11/ 4/09	11/12/09 12:49	99893	179311	
Benz(a)anthracene	0.041	U	0.19	0.041	1	11/ 4/09	11/12/09 12:49	99893	179311	
Benzo(a)pyrene	0.042	U	0.19	0.042	1	11/ 4/09	11/12/09 12:49	99893	179311	
Benzo(b)fluoranthene	0.027	U	0.19	0.027	1	11/ 4/09	11/12/09 12:49	99893	179311	
Benzo(g,h,i)perylene	0.030	U	0.19	0.030	1	11/ 4/09	11/12/09 12:49	99893	179311	
Benzo(k)fluoranthene	0.029	U	0.19	0.029	1	11/ 4/09	11/12/09 12:49	99893	179311	
Bis(2-ethylhexyl) Phthalate	0.23	U	4.7	0.23	1	11/ 4/09	11/12/09 12:49	99893	179311	
Butyl Benzyl Phthalate	0.11	U	4.7	0.11	1	11/ 4/09	11/12/09 12:49	99893	179311	
Chrysene	0.029	U	0.19	0.029	1	11/ 4/09	11/12/09 12:49	99893	179311	
Di-n-butyl Phthalate	0.76	U	4.7	0.76	1	11/ 4/09	11/12/09 12:49	99893	179311	
Di-n-octyl Phthalate	0.041	U	4.7	0.041	1	11/ 4/09	11/12/09 12:49	99893	179311	
Dibenz(a,h)anthracene	0.046	U	0.19	0.046	1	11/ 4/09	11/12/09 12:49	99893	179311	
Diethyl Phthalate	0.20	U	4.7	0.20	1	11/ 4/09	11/12/09 12:49	99893	179311	
Dimethyl Phthalate	0.044	U	4.7	0.044	1	11/ 4/09	11/12/09 12:49	99893	179311	
Fluoranthene	0.040	U	0.19	0.040	1	11/ 4/09	11/12/09 12:49	99893	179311	
Fluorene	0.055	U	0.19	0.055	1	11/ 4/09	11/12/09 12:49	99893	179311	
Hexachlorobenzene	0.035	U	0.19	0.035	1	11/ 4/09	11/12/09 12:49	99893	179311	
Indeno(1,2,3-cd)pyrene	0.049	U	0.19	0.049	1	11/ 4/09	11/12/09 12:49	99893	179311	
Naphthalene	0.14	U	0.19	0.14	1	11/ 4/09	11/12/09 12:49	99893	179311	
Nitrobenzene	0.046	U	0.19	0.046	1	11/ 4/09	11/12/09 12:49	99893	179311	
Phenanthrene	0.062	U	0.19	0.062	1	11/ 4/09	11/12/09 12:49	99893	179311	
Pyrene	0.029	U	0.19	0.029	1	11/ 4/09	11/12/09 12:49	99893	179311	
Pyridine	0.89	U	1.9	0.89	1	11/ 4/09	11/12/09 12:49	99893	179311	
1,4-Dioxane	0.13	U	1.9	0.13	1	11/ 4/09	11/12/09 12:49	99893	179311	
Octachlorostyrene	0.13	U	0.19	0.13	1	11/ 4/09	11/12/09 12:49	99893	179311	

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147009B	**Units:**	Percent
Lab Code:	R0906270-002	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
2-Fluorobiphenyl	87	45-135	11/12/09 12:49		
Nitrobenzene-d5	77	45-135	11/12/09 12:49		
Terphenyl-d14	101	45-135	11/12/09 12:49		

Comments:

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC356.D Vial: 3
Acq On : 12 Nov 2009 12:49 pm Operator: J.Wu
Sample : R0906270-002|1.0 Inst : 5973-B
Misc : 11/04/2009 1.0 Northgate 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:33 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.63	152	85515m	1.00	ppm	0.01
4) d8-Naphthalene	11.90	136	308734	1.00	ppm	0.01
10) d10-Acenaphthene	13.50	164	192248	1.00	ppm	0.01
18) d10-Phenanthrene	14.70	188	330588	1.00	ppm	0.00
26) d12-Chrysene	17.97	240	348790	1.00	ppm	-0.02
33) d12-Perylene	21.69	264	267160m	1.00	ppm	-0.09
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.22	82	166836	1.54	ppm	0.01
Spiked Amount 2.000	Range 22 - 124		Recovery = 77.00%			
11) SURR5,2-FLUOROBIPHENYL	12.86	172	424640	1.73	ppm	0.01
Spiked Amount 2.000	Range 27 - 114		Recovery = 86.50%			
28) SURR6,TERPHENYL-D14	16.30	244	576955	2.01	ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 100.50%			

Target Compounds Qvalue

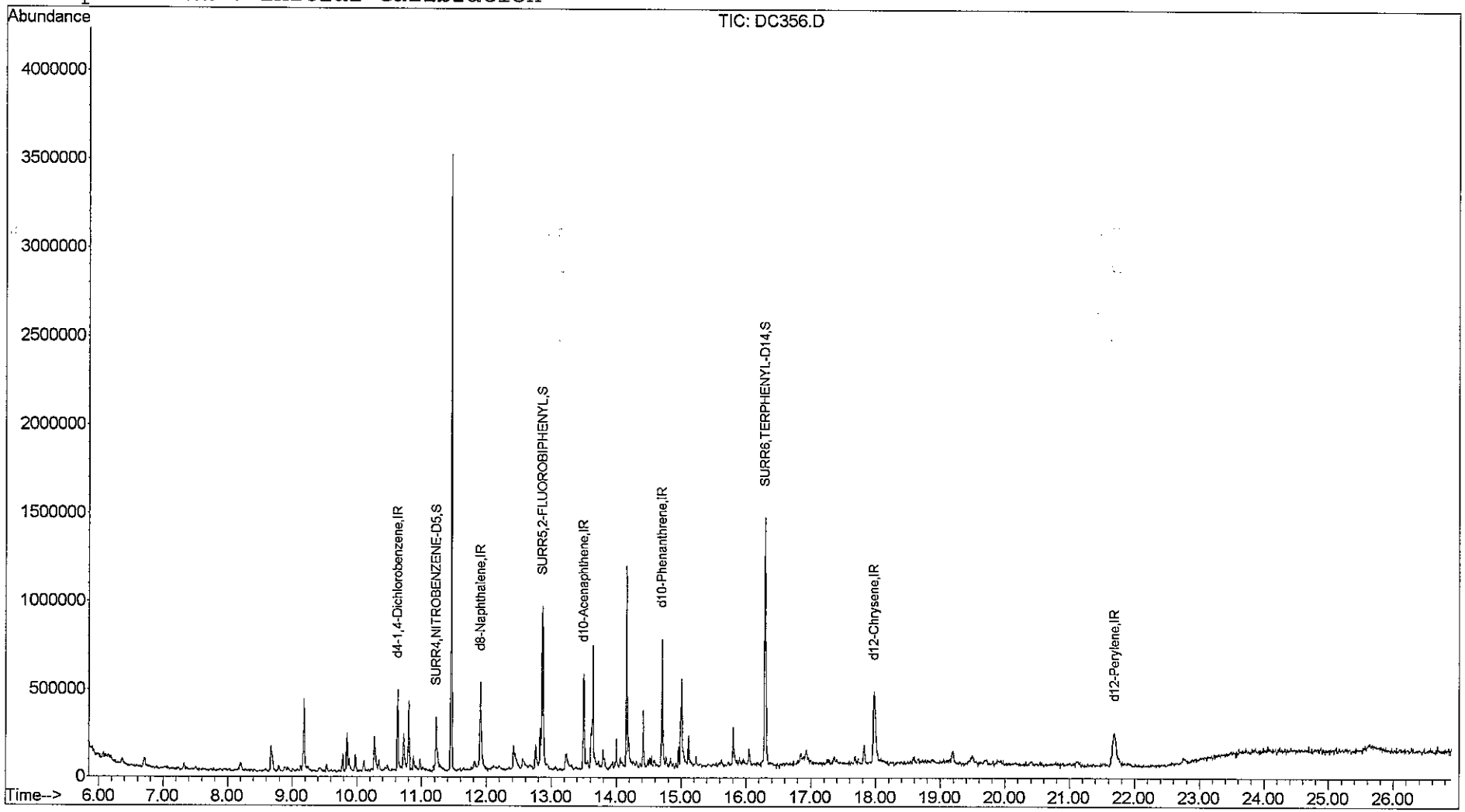
(#) = qualifier out of range (m) = manual integration
DC356.D LVI1016.M Thu Nov 12 14:33:20 2009 Page 1

00263

Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\111209\DC356.D Vial: 3
Acq On : 12 Nov 2009 12:49 pm Operator: J.Wu
Sample : R0906270-002|1.0 Inst : 5973-B
Misc : 11/04/2009 1.0 Northgate 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:33 2009 Quant Results File: LVI1016.RES

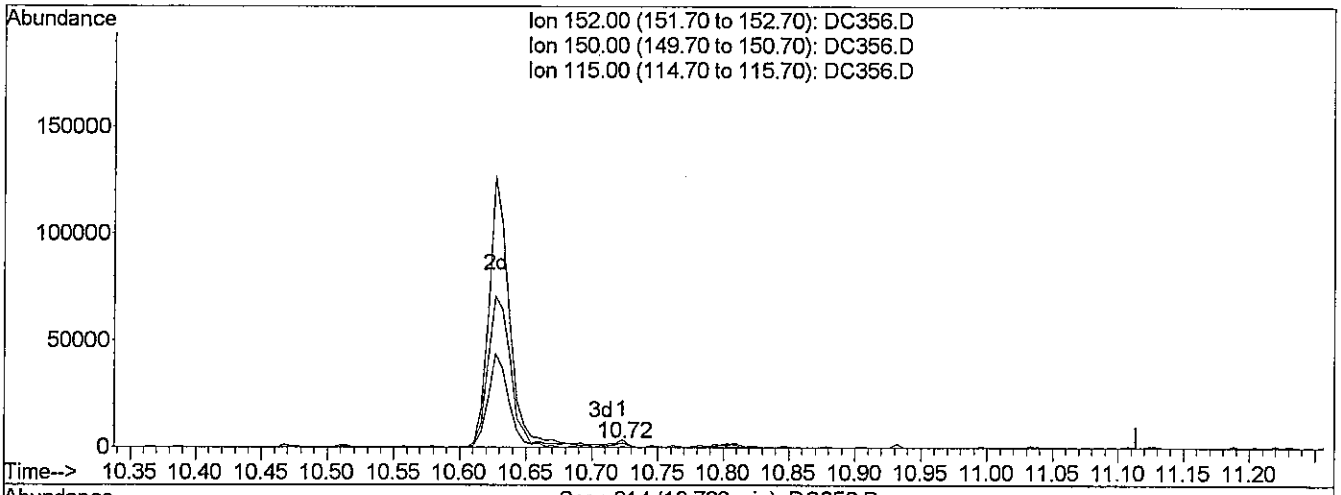
Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Initial Calibration

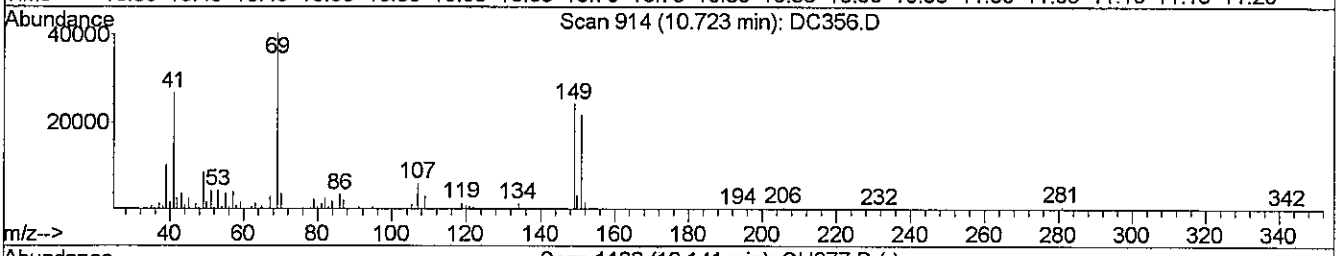


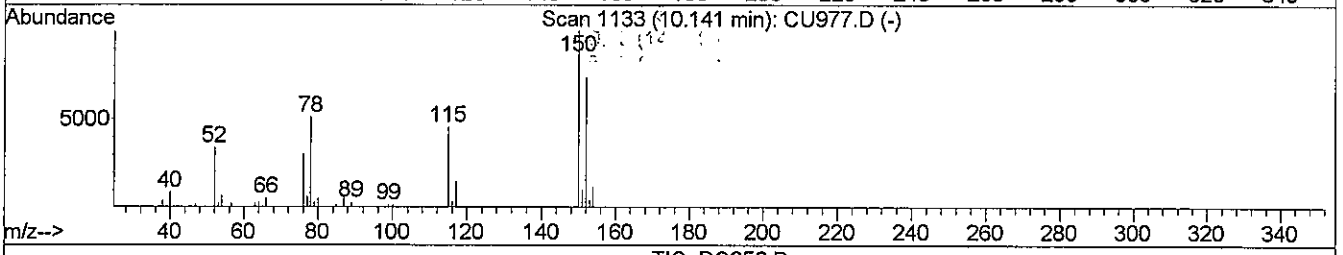
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC356.D Vial: 3
Acq On : 12 Nov 2009 12:49 pm Operator: J.Wu
Sample : R0906270-002|1.0 Inst : 5973-B
Misc : 11/04/2009 1.0 Northgate 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 13:16 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Multiple Level Calibration







TIC: DC356.D

(1) d4-1,4-Dichlorobenzene (IR)

10.72min 1.00ppm

response 1433

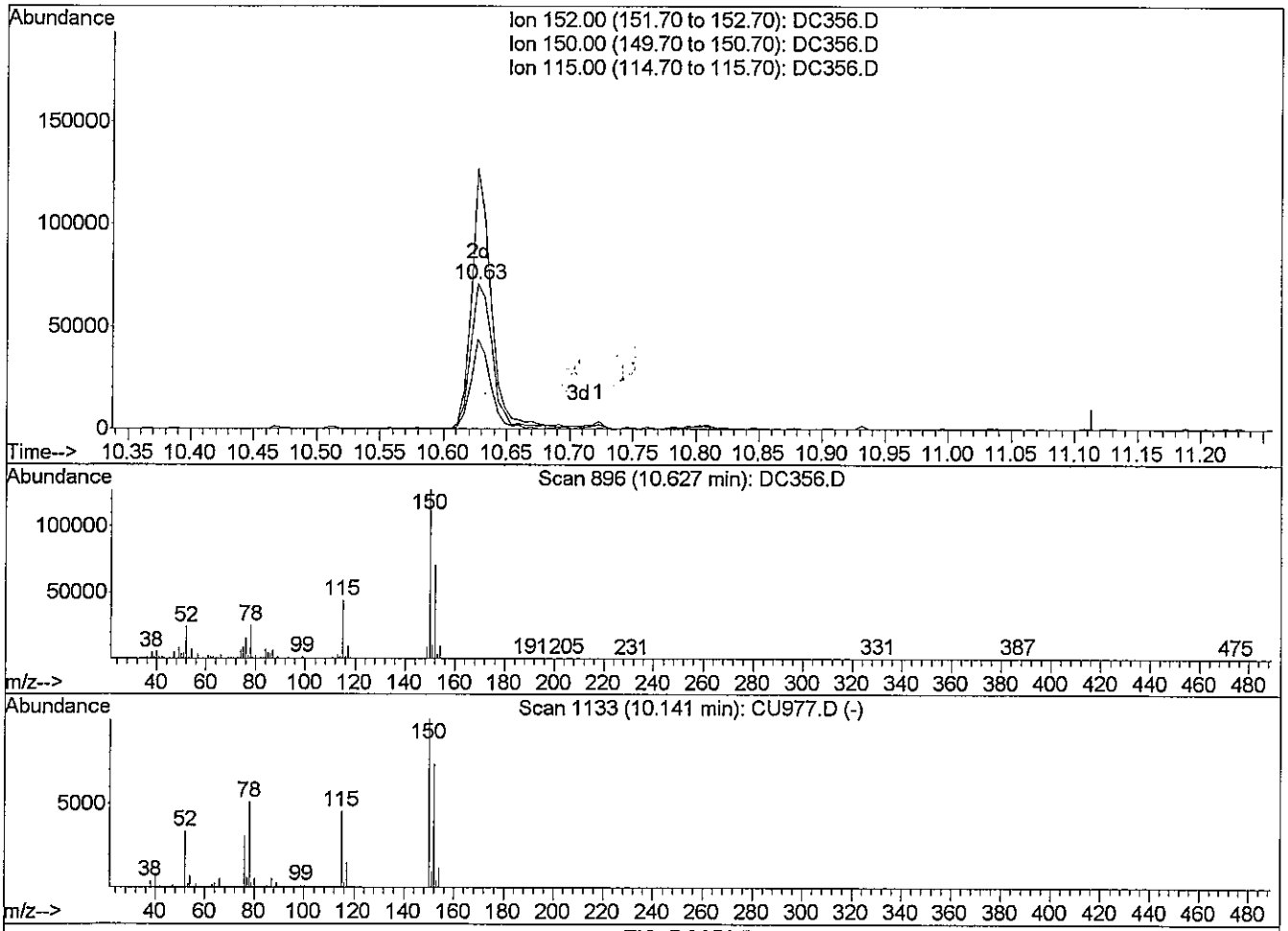
Ion	Exp%	Act%
152.00	100	100
150.00	129.30	133.07
115.00	57.70	29.82
0.00	0.00	0.00

DC356.D LVI1016.M Thu Nov 12 14:31:50 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC356.D Vial: 3
Acq On : 12 Nov 2009 12:49 pm Operator: J.Wu
Sample : R0906270-002|1.0 Inst : 5973-B
Misc : 11/04/2009 1.0 Northgate 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:31 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Multiple Level Calibration



TIC: DC356.D

(1) d4-1,4-Dichlorobenzene (IR)

10.63min 1.00ppm m

response 85515

Ion	Exp%	Act%
152.00	100	100
150.00	129.30	179.79#
115.00	57.70	62.22
0.00	0.00	0.00

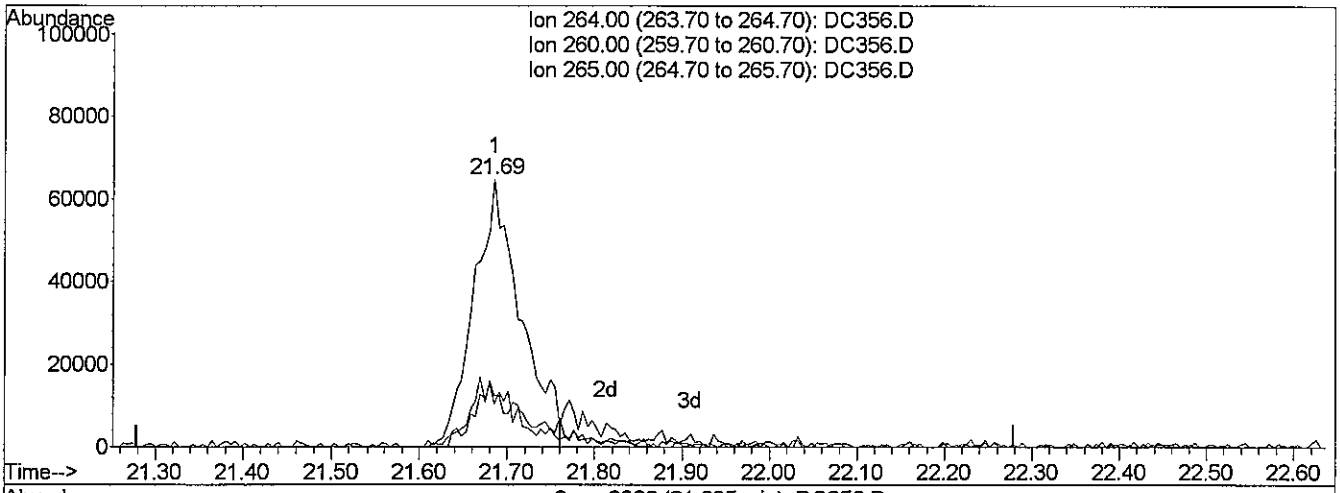
A JW 11/1x/09

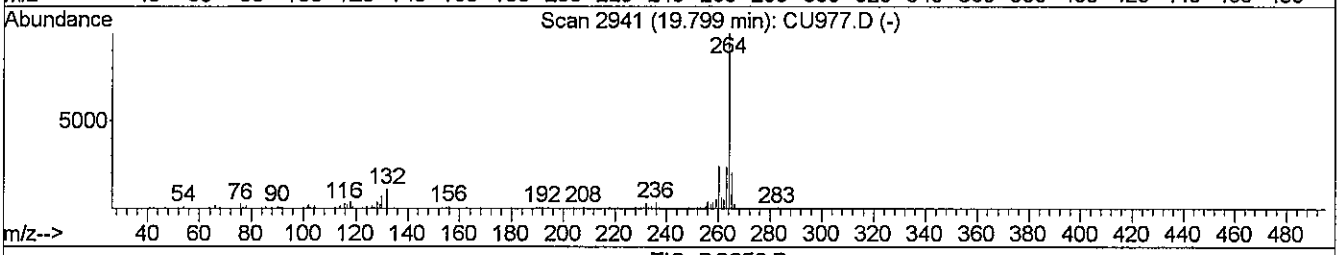
DC356.D LVI1016.M Thu Nov 12 14:31:57 2009

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC356.D Vial: 3
Acq On : 12 Nov 2009 12:49 pm Operator: J.Wu
Sample : R0906270-002|1.0 Inst : 5973-B
Misc : 11/04/2009 1.0 Northgate 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:32 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Multiple Level Calibration





TIC: DC356.D

(33) d12-Perylene (IR)

21.69min 1.00ppm

response 239799

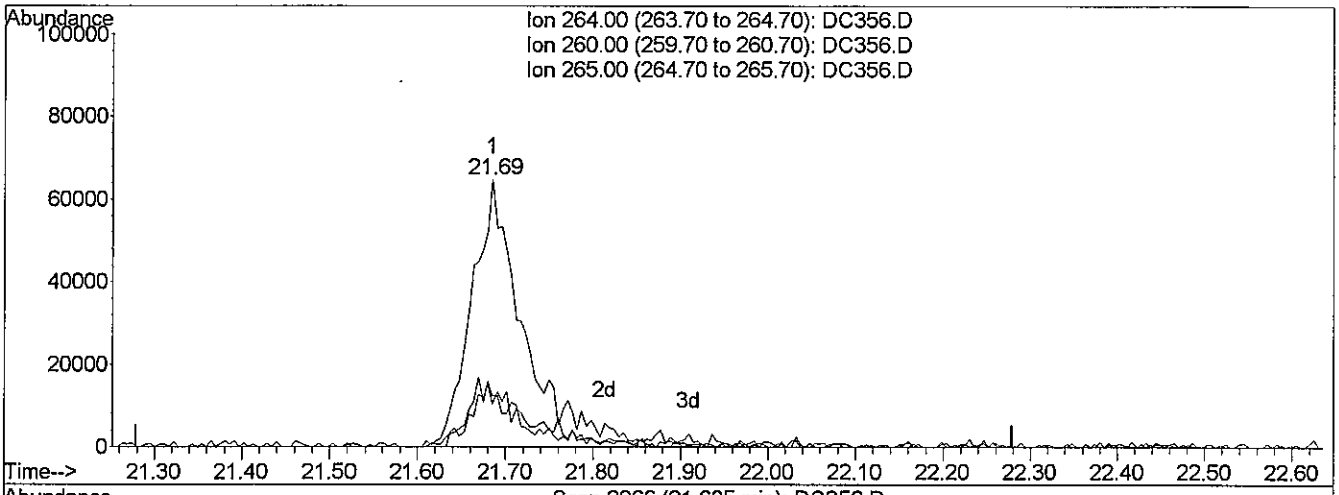
Ion	Exp%	Act%
264.00	100	100
260.00	17.80	11.09
265.00	18.30	18.61
0.00	0.00	0.00

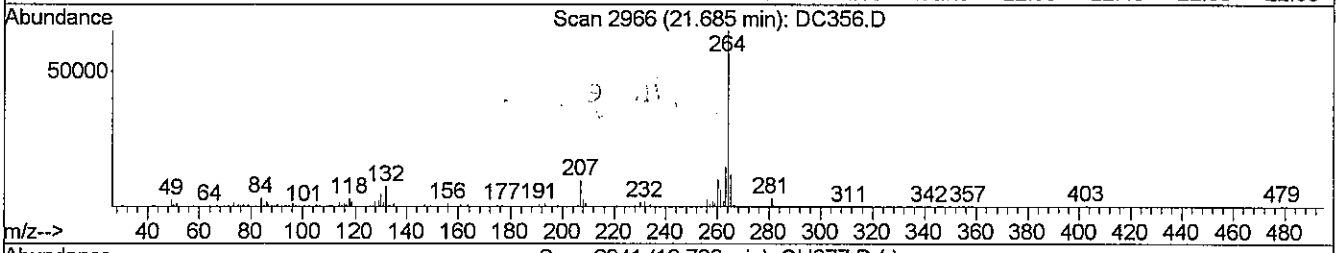
DC356.D LVI1016.M Thu Nov 12 14:32:59 2009

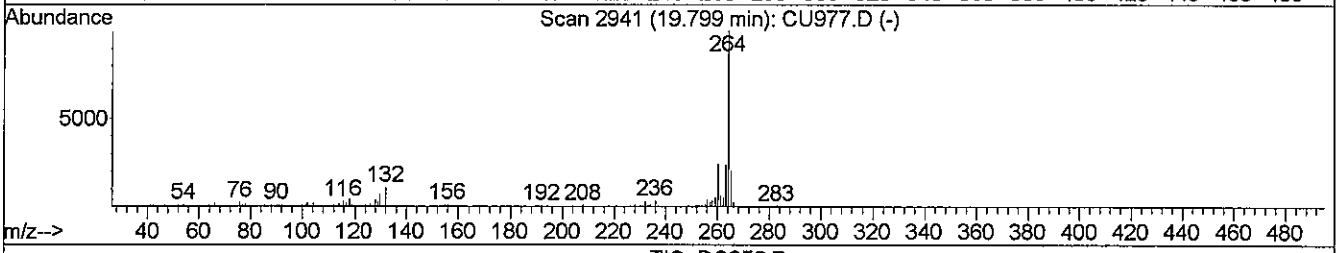
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC356.D Vial: 3
Acq On : 12 Nov 2009 12:49 pm Operator: J.Wu
Sample : R0906270-002|1.0 Inst : 5973-B
Misc : 11/04/2009 1.0 Northgate 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:33 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Multiple Level Calibration







TIC: DC356.D

(33) d12-Perylene (IR)

21.69min 1.00ppm m

response 267160

Ion	Exp%	Act%
264.00	100	100
260.00	17.80	16.02
265.00	18.30	19.11
0.00	0.00	0.00

AJW 11/12/09

11/13

DC356.D LVI1016.M Thu Nov 12 14:33:06 2009

00268

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1240
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	EB110209-GWA3	**Units:**	µg/L
Lab Code:	R0906270-003	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
2-Methylnaphthalene	0.048	U	0.19	0.048	1	11/ 4/09	11/11/09 18:19	99893	179066	
Acenaphthene	0.053	U	0.19	0.053	1	11/ 4/09	11/11/09 18:19	99893	179066	
Acenaphthylene	0.076	U	0.19	0.076	1	11/ 4/09	11/11/09 18:19	99893	179066	
Anthracene	0.041	U	0.19	0.041	1	11/ 4/09	11/11/09 18:19	99893	179066	
Benz(a)anthracene	0.041	U	0.19	0.041	1	11/ 4/09	11/11/09 18:19	99893	179066	
Benzo(a)pyrene	0.042	U	0.19	0.042	1	11/ 4/09	11/11/09 18:19	99893	179066	
Benzo(b)fluoranthene	0.027	U	0.19	0.027	1	11/ 4/09	11/11/09 18:19	99893	179066	
Benzo(g,h,i)perylene	0.030	U	0.19	0.030	1	11/ 4/09	11/11/09 18:19	99893	179066	
Benzo(k)fluoranthene	0.029	U	0.19	0.029	1	11/ 4/09	11/11/09 18:19	99893	179066	
Bis(2-ethylhexyl) Phthalate	0.23	U	4.7	0.23	1	11/ 4/09	11/11/09 18:19	99893	179066	
Butyl Benzyl Phthalate	0.11	U	4.7	0.11	1	11/ 4/09	11/11/09 18:19	99893	179066	
Chrysene	0.029	U	0.19	0.029	1	11/ 4/09	11/11/09 18:19	99893	179066	
Di-n-butyl Phthalate	0.76	U	4.7	0.76	1	11/ 4/09	11/11/09 18:19	99893	179066	
Di-n-octyl Phthalate	0.041	U	4.7	0.041	1	11/ 4/09	11/11/09 18:19	99893	179066	
Dibenz(a,h)anthracene	0.046	U	0.19	0.046	1	11/ 4/09	11/11/09 18:19	99893	179066	
Diethyl Phthalate	0.20	U	4.7	0.20	1	11/ 4/09	11/11/09 18:19	99893	179066	
Dimethyl Phthalate	0.044	U	4.7	0.044	1	11/ 4/09	11/11/09 18:19	99893	179066	
Fluoranthene	0.040	U	0.19	0.040	1	11/ 4/09	11/11/09 18:19	99893	179066	
Fluorene	0.055	U	0.19	0.055	1	11/ 4/09	11/11/09 18:19	99893	179066	
Hexachlorobenzene	0.035	U	0.19	0.035	1	11/ 4/09	11/11/09 18:19	99893	179066	
Indeno(1,2,3-cd)pyrene	0.049	U	0.19	0.049	1	11/ 4/09	11/11/09 18:19	99893	179066	
Naphthalene	0.14	U	0.19	0.14	1	11/ 4/09	11/11/09 18:19	99893	179066	
Nitrobenzene	0.046	U	0.19	0.046	1	11/ 4/09	11/11/09 18:19	99893	179066	
Phenanthrene	0.062	U	0.19	0.062	1	11/ 4/09	11/11/09 18:19	99893	179066	
Pyrene	0.029	U	0.19	0.029	1	11/ 4/09	11/11/09 18:19	99893	179066	
Pyridine	0.89	U	1.9	0.89	1	11/ 4/09	11/11/09 18:19	99893	179066	
1,4-Dioxane	0.13	U	1.9	0.13	1	11/ 4/09	11/11/09 18:19	99893	179066	
Octachlorostyrene	0.13	U	0.19	0.13	1	11/ 4/09	11/11/09 18:19	99893	179066	

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1240
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	EB110209-GWA3	**Units:**	Percent
Lab Code:	R0906270-003	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
2-Fluorobiphenyl	79	45-135	11/11/09 18:19		
Nitrobenzene-d5	95	45-135	11/11/09 18:19		
Terphenyl-d14	97	45-135	11/11/09 18:19		

Comments:

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW062.D Vial: 15
Acq On : 11 Nov 2009 6:19 pm Operator: J.Wu
Sample : R0906270-003|1.0 ✓ Inst : 5973C
Misc : 11/04/2009 1.0 Northgate 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 18:45:58 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.68	152	127588	1.00	ppm	-0.02
4) d8-Naphthalene	11.94	136	471192	1.00	ppm	-0.02
10) d10-Acenaphthene	13.53	164	267840	1.00	ppm	-0.02
18) d10-Phenanthrene	14.73	188	344635	1.00	ppm	-0.02
26) d12-Chrysene	17.93	240	388663	1.00	ppm	-0.03
33) d12-Perylene	21.46	264	305837	1.00	ppm	-0.05
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.27	82	341992	1.89	ppm	-0.01
Spiked Amount 2.000	Range 22 - 124		Recovery = 94.50%			
11) SURR5,2-FLUOROBIPHENYL	12.90	172	550241	1.57	ppm	-0.02
Spiked Amount 2.000	Range 27 - 114		Recovery = 78.50%			
28) SURR6,TERPHENYL-D14	16.31	244	521280	1.94	ppm	-0.03
Spiked Amount 2.000	Range 23 - 139		Recovery = 97.00%			

Target Compounds Qvalue

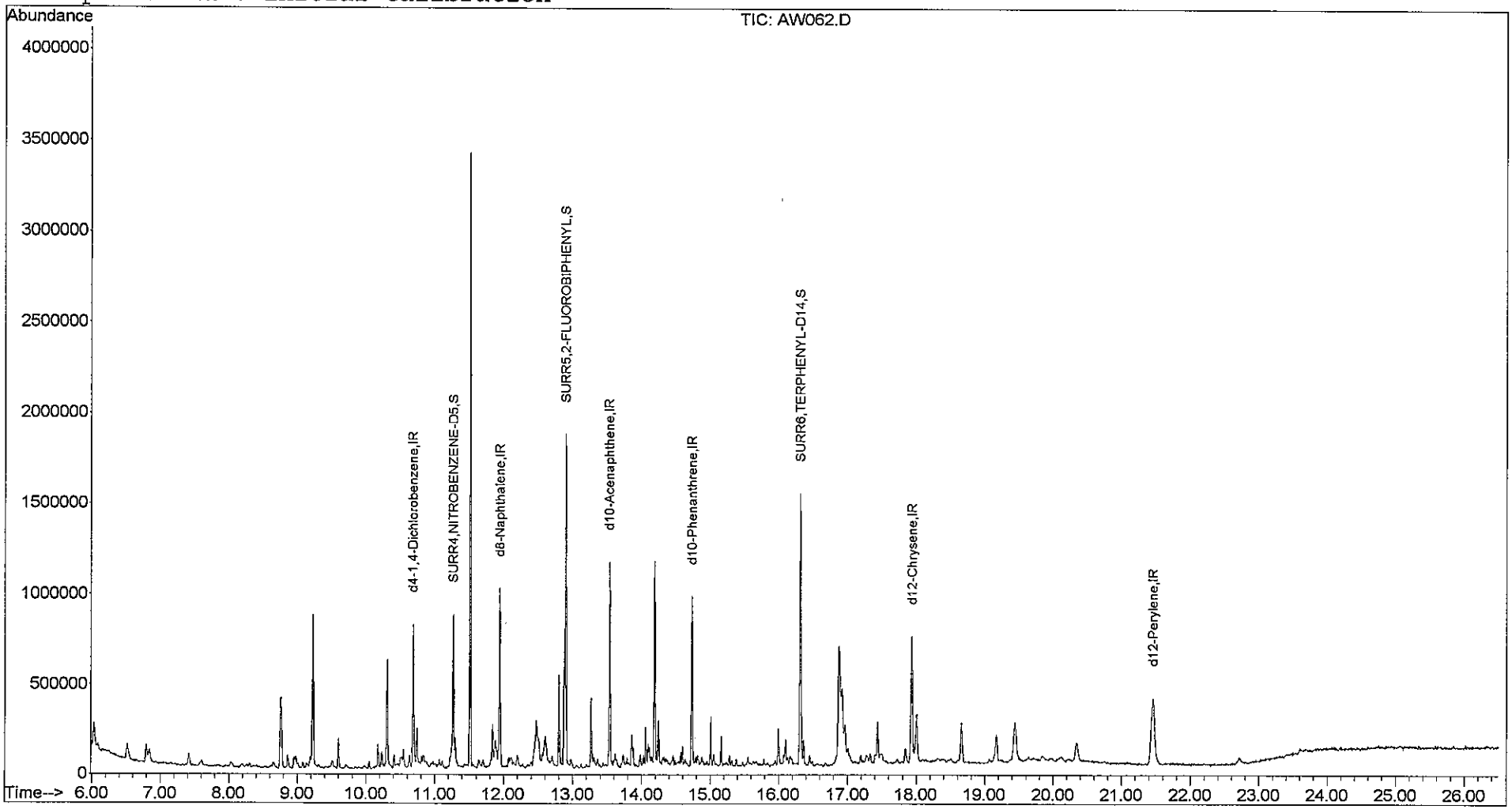
(#) = qualifier out of range (m) = manual integration (+) = signals summed

00271

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW062.D Vial: 15
Acq On : 11 Nov 2009 6:19 pm Operator: J.Wu
Sample : R0906270-003|1.0 Inst : 5973C
Misc : 11/04/2009 1.0 Northgate 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 9:45 2009 Quant Results File: LVI1027.RES

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration



00272

SEMIVOLATILE ORGANICS

STANDARDS DATA

Response Factor Report 5973-B

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration

Calibration Files
0.1 =DC082.D 0.2 =DC083.D 0.5 =DC084.D
1.0 =DC085.D 2.0 =DC086.D 3.0 =DC087.D 4.0=DC088, 5.0=DC089
10.0=DC090

		Compound	0.1	0.2	0.5	1.0	2.0	3.0	Avg	%RSD
1)	IR	d4-1,4-Dichlorobenzen	----------			ISTD	----------			
2)	TM	1,4-Dioxane	1.101	0.606	0.806	0.715	0.820	0.772	0.790	16.75 LR
3)	TM	Pyridine				0.818	1.255	1.215	1.151	14.60
4)	IR	d8-Naphthalene	----------			ISTD	----------			
5)	S	SURR4,NITROBENZENE-	0.194	0.266	0.320	0.314	0.360	0.357	0.325	18.80 LR
6)	TM	Nitrobenzene		0.237	0.323	0.282	0.347	0.336	0.322	13.09
7)	TM	Naphthalene	1.055	1.029	1.086	0.978	1.092	1.032	1.044	3.38
8)	TM	2-Methylnaphthalene	0.475	0.684	0.748	0.651	0.742	0.686	0.682	12.31
9)	TM	1-Methylnaphthalene	0.606	0.710	0.660	0.585	0.687	0.657	0.661	6.39
10)	IR	d10-Acenaphthene	----------			ISTD	----------			
11)	S	SURR5,2-FLUOROBIPHE	1.212	1.168	1.282	1.248	1.338	1.332	1.279	4.85
12)	TM	Acenaphthylene	1.716	1.676	1.925	1.704	1.893	1.819	1.783	4.93
13)	TM	Dimethyl phthalate		1.441	1.510	1.412	1.557	1.552	1.497	3.50
14)	TM	Acenaphthene	1.372	1.120	1.161	1.054	1.170	1.149	1.159	7.63
15)	TM	Dibenzofuran	1.572	1.525	1.735	1.554	1.727	1.685	1.629	4.94
16)	TM	Fluorene	1.159	1.293	1.350	1.201	1.341	1.340	1.286	5.32
17)	TM	Diethylphthalate	1.339	1.422	1.544	1.392	1.525	1.489	1.459	4.82
18)	IR	d10-Phenanthrene	----------			ISTD	----------			
19)	TM	Hexachlorobenzene	0.246	0.265	0.250	0.246	0.268	0.277	0.265	5.62
20)	TM	Phenanthrene	1.128	1.204	1.050	1.052	1.113	1.151	1.105	4.67
21)	TM	Anthracene	1.057	0.992	1.118	0.943	1.110	1.118	1.079	6.63
22)	TM	Carbazole	0.647	0.801	0.849	0.774	0.852	0.825	0.780	8.82
23)	TM	Octachlorostyrene		0.060	0.062	0.056	0.059	0.074	0.068	14.49
24)	TM	Di-n-butylphthalate		1.546	1.353	1.259	1.433	1.453	1.394	7.30
25)	TM	Fluoranthene	1.282	1.236	1.245	1.216	1.286	1.305	1.265	2.51
26)	IR	d12-Chrysene	----------			ISTD	----------			
27)	TM	Pyrene	1.432	1.240	1.285	1.202	1.284	1.231	1.254	6.90
28)	S	SURR6,TERPHENYL-D14	0.754	0.799	0.825	0.792	0.873	0.846	0.824	4.87
29)	TM	Butyl benzyl phthal		0.553	0.621	0.533	0.624	0.619	0.610	7.23
30)	TM	bis(2-Ethylhexyl)ph		0.706	0.757	0.712	0.814	0.823	0.787	8.49
31)	TM	Benzo(a)anthracene	1.019	1.052	1.089	1.043	1.116	1.127	1.089	4.07
32)	TM	Chrysene	1.158	1.100	1.173	1.040	1.149	1.099	1.114	4.03
33)	IR	d12-Perylene	----------			ISTD	----------			
34)	TM	Di-n-octyl phthalat			1.543	1.396	1.698	1.700	1.670	9.04
35)	TM	Benzo(b)Fluoranthen		1.324	1.343	1.296	1.478	1.462	1.419	6.28
36)	TM	Benzo(k)fluoranthen		1.374	1.367	1.341	1.433	1.348	1.371	2.43
37)	TM	Benzo(a)pyrene		1.074	1.213	1.150	1.304	1.285	1.243	7.28
38)	TM	Indeno(1,2,3-cd)Pyr		1.363	1.470	1.457	1.599	1.513	1.505	4.98

(#) = Out of Range ### Number of calibration levels exceeded format ###

JW

00274

Response Factor Report 5973-B

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration

Calibration Files
0.1 =DC082.D 0.2 =DC083.D 0.5 =DC084.D
1.0 =DC085.D 2.0 =DC086.D 3.0 =DC087.D

		Compound	0.1	0.2	0.5	1.0	2.0	3.0	Avg	%RSD
39)	TM	Dibenz(a,h)anthrace	1.131	1.281	1.199	1.338	1.296	1.281		6.02
40)	TM	Benzo(g,h,i)perylen	1.230	1.315	1.263	1.359	1.290	1.254		5.85

(#) = Out of Range ### Number of calibration levels exceeded format ###

00275

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC086.D Vial: 6
Acq On : 16 Oct 2009 1:41 pm Operator: J.Wu
Sample : SSTD020 Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration

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	IR	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	100	0.00
2	TM	1,4-Dioxane	0.790	0.820	-3.8	100	0.00
3	TM	Pyridine	1.151	1.255	-9.0	100	0.00
4	IR	d8-Naphthalene	1.000	1.000	0.0	100	0.00
5	S	SURR4,NITROBENZENE-D5	0.325	0.360	-10.8	100	0.00
6	TM	Nitrobenzene	0.322	0.347	-7.8	100	0.00
7	TM	Naphthalene	1.044	1.092	-4.6	100	0.00
8	TM	2-Methylnaphthalene	0.682	0.742	-8.8	100	0.00
9	TM	1-Methylnaphthalene	0.661	0.687	-3.9	100	0.00
10	IR	d10-Acenaphthene	1.000	1.000	0.0	100	0.00
11	S	SURR5,2-FLUOROBIPHENYL	1.279	1.338	-4.6	100	0.00
12	TM	Acenaphthylene	1.783	1.893	-6.2	100	0.00
13	TM	Dimethyl phthalate	1.497	1.557	-4.0	100	0.00
14	TM	Acenaphthene	1.159	1.170	-0.9	100	0.00
15	TM	Dibenzofuran	1.629	1.727	-6.0	100	0.00
16	TM	Fluorene	1.286	1.341	-4.3	100	0.00
17	TM	Diethylphthalate	1.459	1.525	-4.5	100	0.00
18	IR	d10-Phenanthrene	1.000	1.000	0.0	100	0.00
19	TM	Hexachlorobenzene	0.265	0.268	-1.1	100	0.00
20	TM	Phenanthrene	1.105	1.113	-0.7	100	0.00
21	TM	Anthracene	1.079	1.110	-2.9	100	0.00
22	TM	Carbazole	0.780	0.852	-9.2	100	0.00
23	TM	Octachlorostyrene	0.068	0.059	13.2	100	0.00
24	TM	Di-n-butylphthalate	1.394	1.433	-2.8	100	0.00
25	TM	Fluoranthene	1.265	1.286	-1.7	100	0.00
26	IR	d12-Chrysene	1.000	1.000	0.0	100	0.00
27	TM	Pyrene	1.254	1.284	-2.4	100	0.00
28	S	SURR6,TERPHENYL-D14	0.824	0.873	-5.9	100	0.00
29	TM	Butyl benzyl phthalate	0.610	0.624	-2.3	100	0.00
30	TM	bis(2-Ethylhexyl)phthalate	0.787	0.814	-3.4	100	0.00
31	TM	Benzo(a)anthracene	1.089	1.116	-2.5	100	0.00
32	TM	Chrysene	1.114	1.149	-3.1	100	0.00
33	IR	d12-Perylene	1.000	1.000	0.0	100	0.00
34	TM	Di-n-octyl phthalate	1.670	1.698	-1.7	100	0.00
35	TM	Benzo(b)Fluoranthene	1.419	1.478	-4.2	100	0.00
36	TM	Benzo(k)fluoranthene	1.371	1.433	-4.5	100	0.00

(#) = Out of Range

00276

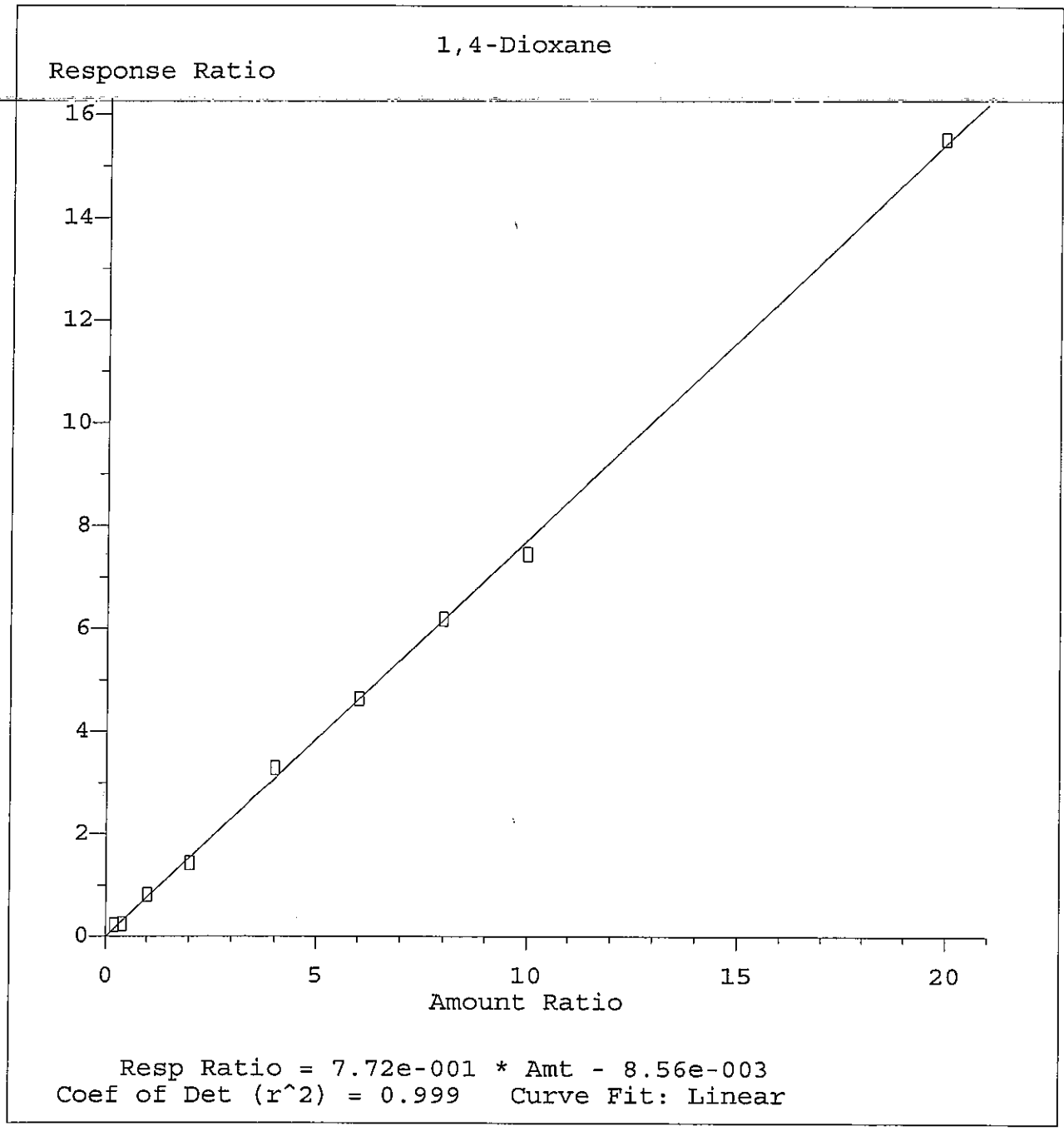
Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC086.D Vial: 6
Acq On : 16 Oct 2009 1:41 pm Operator: J.Wu
Sample : SSTD020 Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P

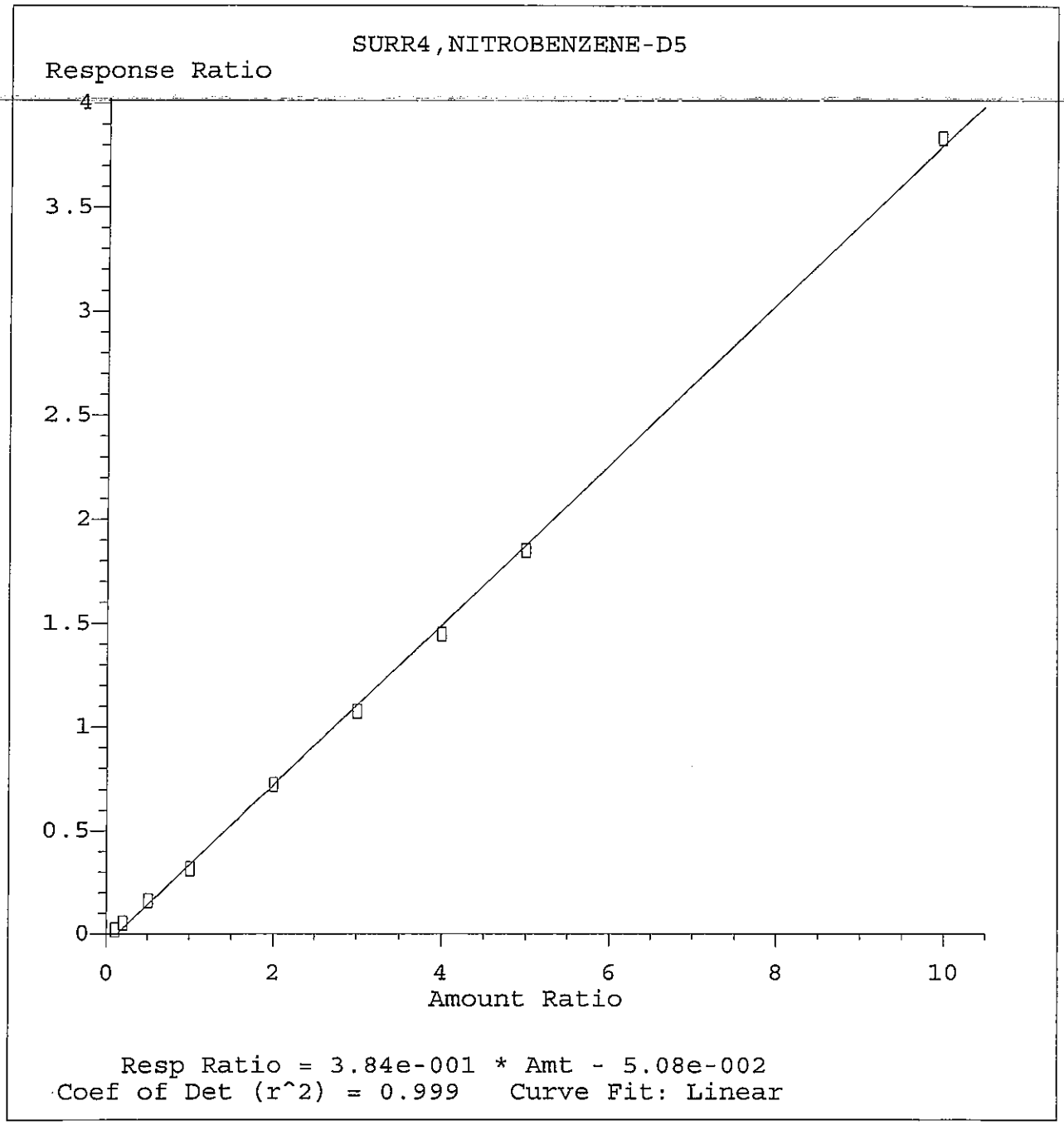
Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration

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)
37	TM	Benzo(a)pyrene	1.243	1.304	-4.9	100	0.00
38	TM	Indeno(1,2,3-cd)Pyrene	1.505	1.599	-6.2	100	0.00
39	TM	Dibenz(a,h)anthracene	1.281	1.338	-4.4	100	0.00
40	TM	Benzo(g,h,i)perylene	1.254	1.359	-8.4	100	0.00



Method Name: J:\ACQUDATA\5973B\METHODS\LVI1016.M
Calibration Table Last Updated: Fri Oct 16 18:01:02 2009



Method Name: J:\ACQUDATA\5973B\METHODS\LVI1016.M
Calibration Table Last Updated: Fri Oct 16 18:01:56 2009

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC082.D Vial: 2
Acq On : 16 Oct 2009 10:47 am Operator: J.Wu
Sample : SSTD001 Inst : 5973-B
Misc : 0.1/0.2 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:31 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:27:09 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

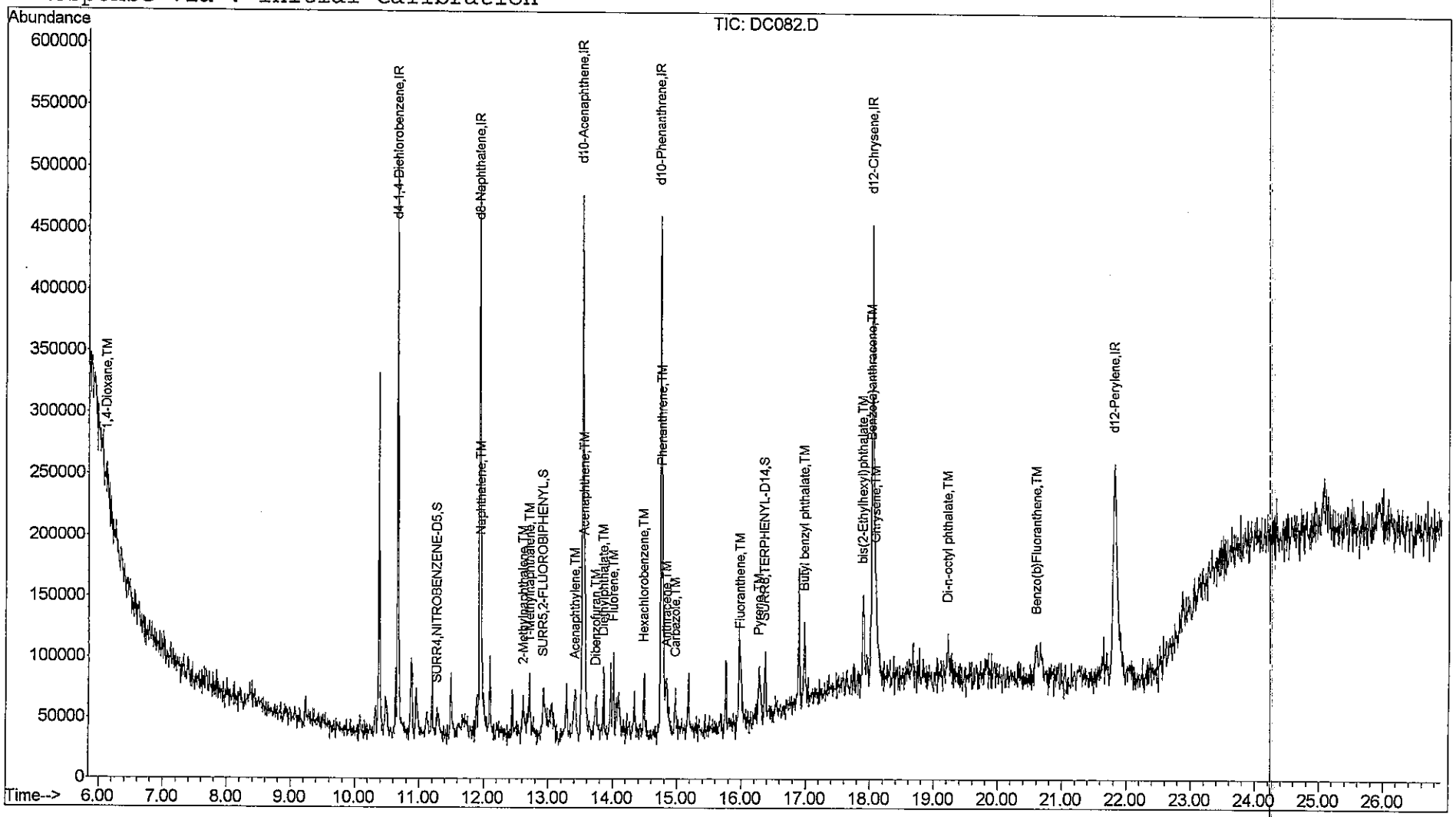
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.66	152	82785	1.00	ppm	0.00
4) d8-Naphthalene	11.94	136	317002	1.00	ppm	0.00
10) d10-Acenaphthene	13.54	164	201017	1.00	ppm	0.01
18) d10-Phenanthrene	14.75	188	316658	1.00	ppm	0.01
26) d12-Chrysene	18.05	240	309946	1.00	ppm	0.02
33) d12-Perylene	21.81	264	253465m	1.00	ppm	0.00
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.27	82	6139	0.06	ppm	0.02
Spiked Amount 2.000	Range 22 - 124		Recovery = 3.00%#			
11) SURR5,2-FLUOROBIPHENYL	12.92	172	24369m	0.09	ppm	0.03
Spiked Amount 2.000	Range 27 - 114		Recovery = 4.50%#			
28) SURR6,TERPHENYL-D14	16.37	244	23360	0.09	ppm	0.02
Spiked Amount 2.000	Range 23 - 139		Recovery = 4.50%#			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.13	88	18225	0.23	ppm	81
7) Naphthalene	11.96	128	33444	0.10	ppm	94
8) 2-Methylnaphthalene	12.61	142	15045	0.07	ppm	86
9) 1-Methylnaphthalene	12.70	142	19222	0.10	ppm	89
12) Acenaphthylene	13.42	152	34492	0.09	ppm	79
14) Acenaphthene	13.56	153	27587	0.12	ppm	76
15) Dibenzofuran	13.73	168	31607	0.10	ppm	81
16) Fluorene	14.01	166	23292m	0.10	ppm	
17) Diethylphthalate	13.86	149	26920	0.09	ppm	92
19) Hexachlorobenzene	14.49	284	7781	0.10	ppm	91
20) Phenanthrene	14.77	178	35728	0.10	ppm	77
21) Anthracene	14.83	178	33473	0.10	ppm	85
22) Carbazole	14.97	167	20497	0.09	ppm	72
25) Fluoranthene	15.99	202	40594	0.10	ppm	89
27) Pyrene	16.27	202	44382	0.11	ppm	86
29) Butyl benzyl phthalate	16.98	149	23856	0.12	ppm	84
30) bis(2-Ethylhexyl)phthalate	17.89	149	48402	0.19	ppm	86
31) Benzo(a)anthracene	18.02	228	31570m	0.09	ppm	
32) Chrysene	18.10	228	35902	0.11	ppm	75
34) Di-n-octyl phthalate	19.22	149	31491	0.07	ppm	99
35) Benzo(b)Fluoranthene	20.60	252	34888	0.10	ppm	86

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

Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC082.D Vial: 2
Acq On : 16 Oct 2009 10:47 am Operator: J.Wu
Sample : SSTD001 Inst : 5973-B
Misc : 0.1/0.2 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:31 2009 Quant Results File: LVI1016.RES

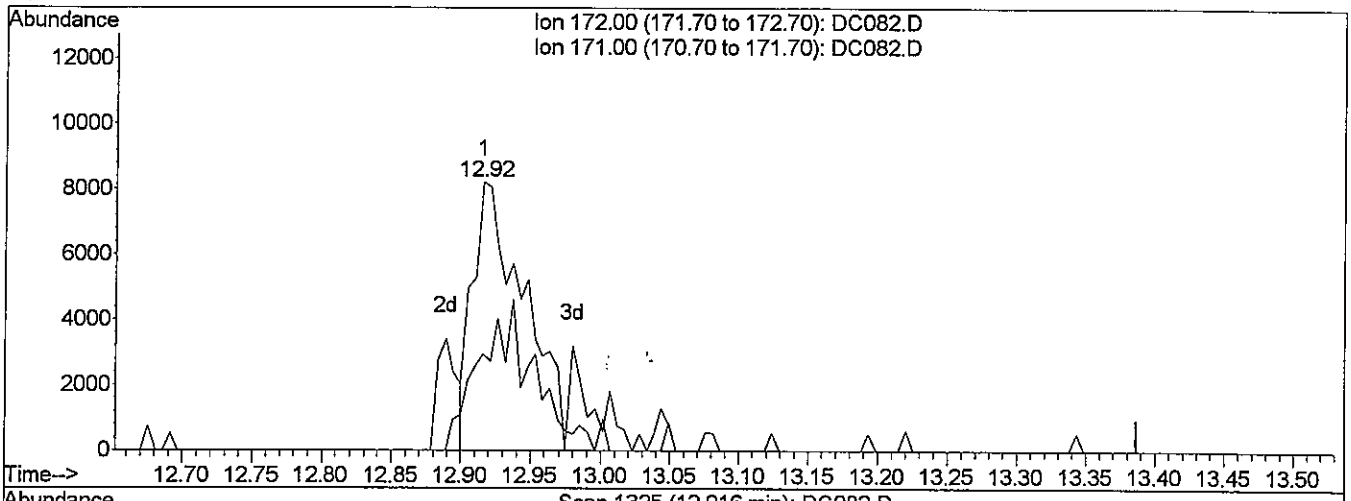
Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration

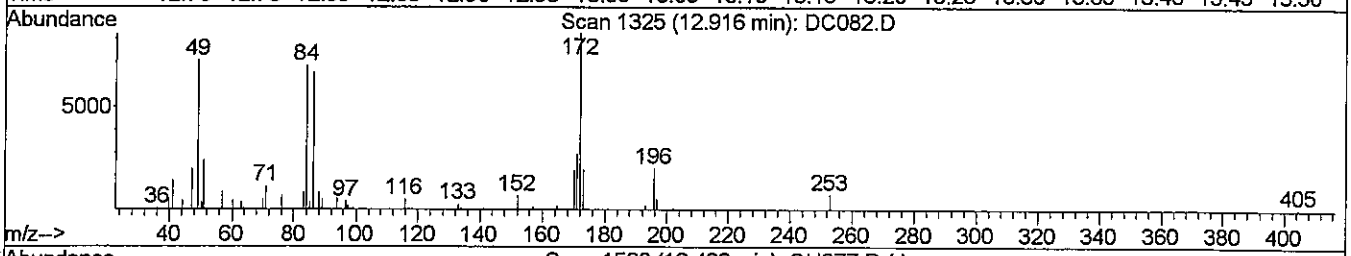


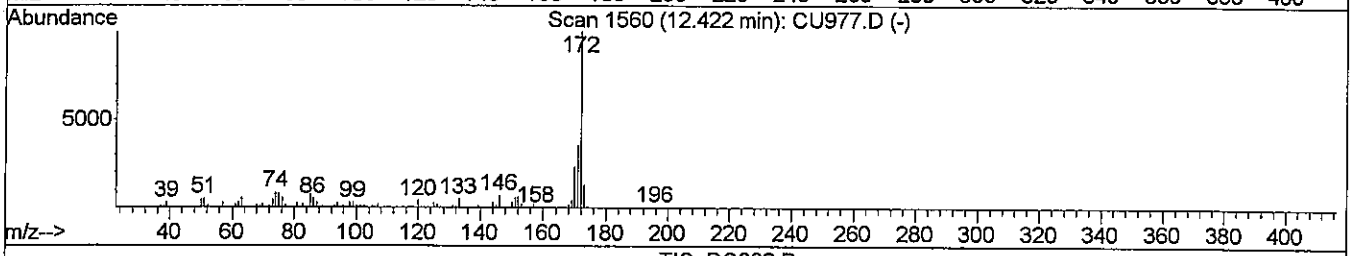
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC082.D Vial: 2
Acq On : 16 Oct 2009 10:47 am Operator: J.Wu
Sample : SSTD001 Inst : 5973-B
Misc : 0.1/0.2 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:27 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:27:09 2009
Response via : Multiple Level Calibration







TIC: DC082.D

(11) SURR5,2-FLUOROBIPHENYL (S)

12.92min 0.08ppm

response 20956

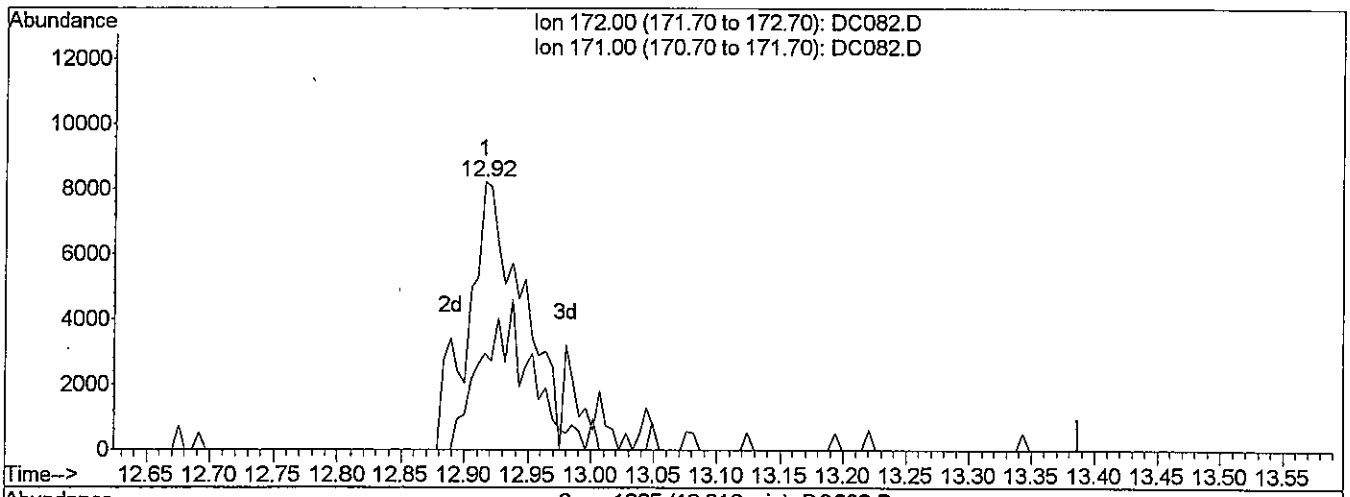
Ion	Exp%	Act%
172.00	100	100
171.00	34.30	29.16
0.00	0.00	0.00
0.00	0.00	0.00

B

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC082.D Vial: 2
Acq On : 16 Oct 2009 10:47 am Operator: J.Wu
Sample : SSTD001 Inst : 5973-B
Misc : 0.1/0.2 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:31 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration



TIC: DC082.D

(11) SURR5,2-FLUOROBIPHENYL (S)

12.92min 0.09ppm m

response 24369

Ion	Exp%	Act%
172.00	100	100
171.00	34.30	35.76
0.00	0.00	0.00
0.00	0.00	0.00

JW 10/19/09

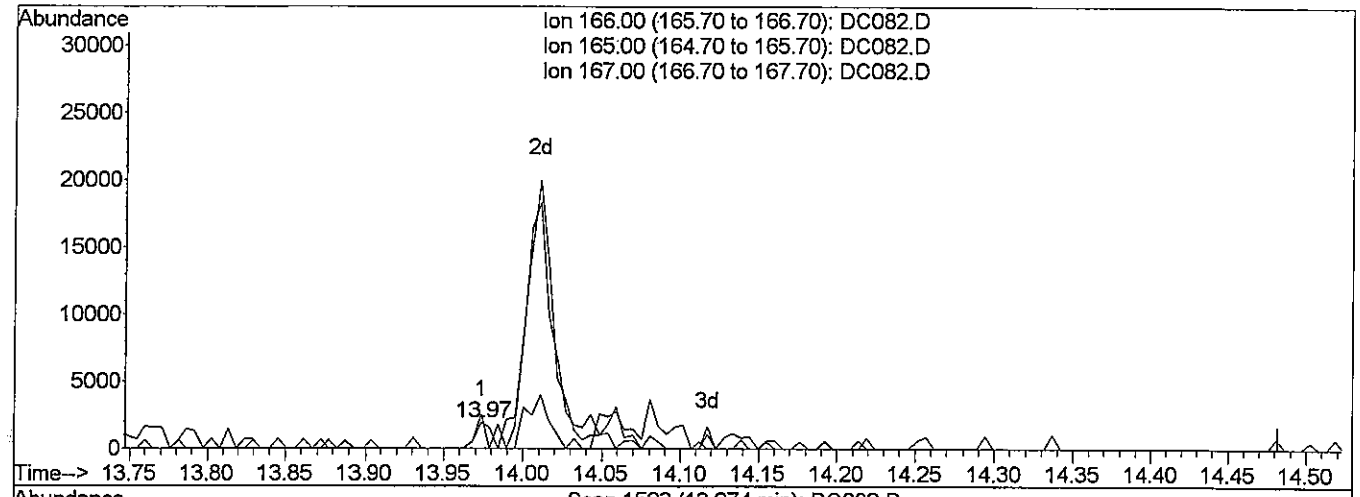
DC082.D LVI1016.M Mon Oct 19 09:28:26 2009

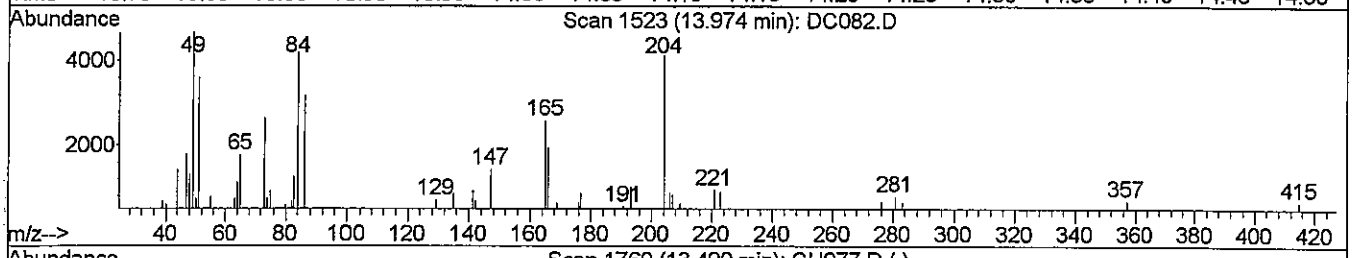
00283

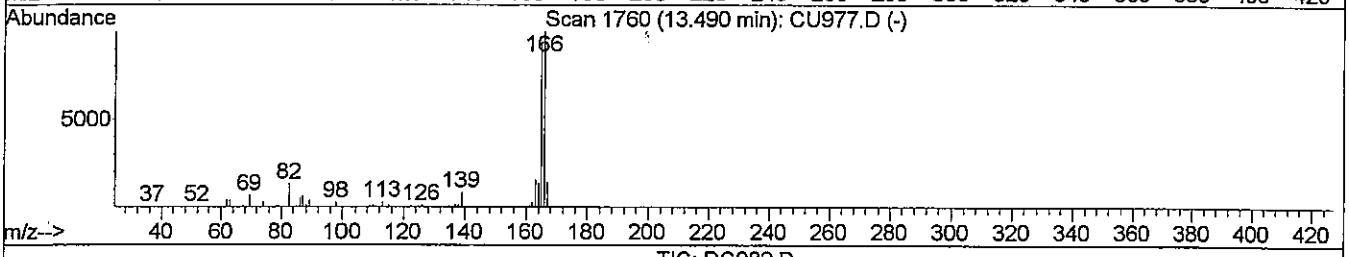
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC082.D Vial: 2
Acq On : 16 Oct 2009 10:47 am Operator: J.Wu
Sample : SSTD001 Inst : 5973-B
Misc : 0.1/0.2 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:28 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:27:09 2009
Response via : Multiple Level Calibration







TIC: DC082.D

(16) Fluorene (TM)

13.97min 0.01ppm

response 1306

Ion	Exp%	Act%
166.00	100	100
165.00	91.90	86.72
167.00	13.10	0.00
0.00	0.00	0.00

B

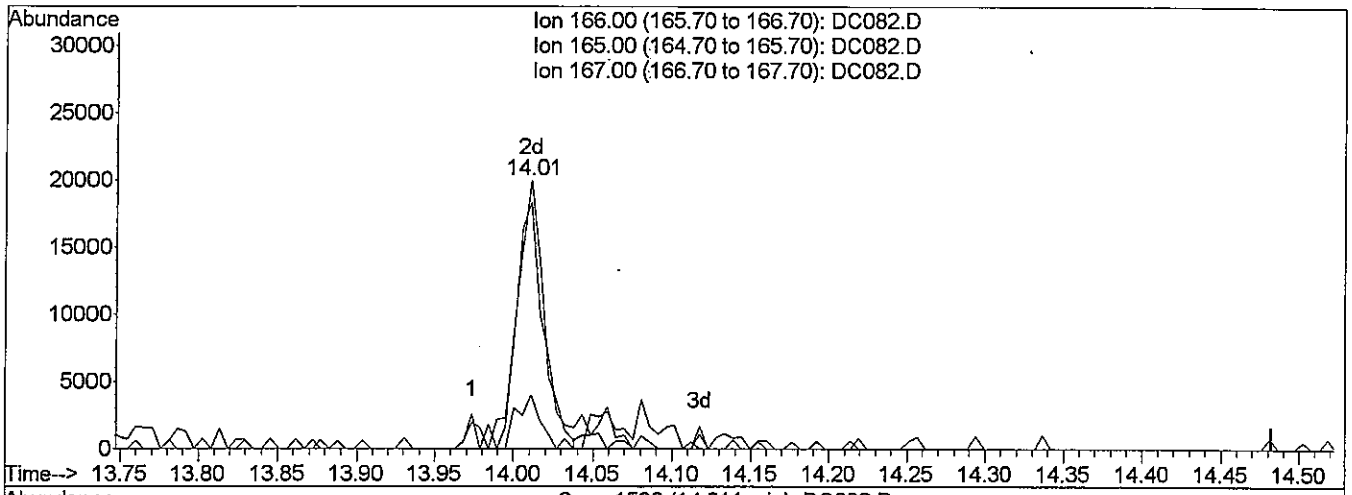
DC082.D LVI1016.M Fri Oct 16 15:28:39 2009

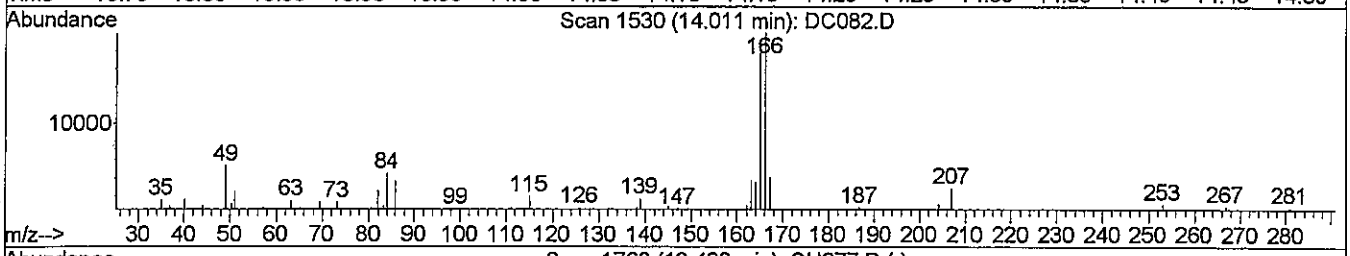
00284

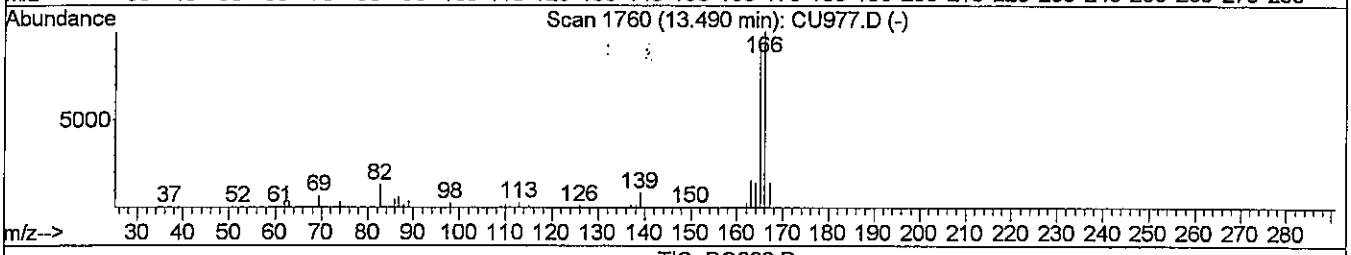
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC082.D Vial: 2
Acq On : 16 Oct 2009 10:47 am Operator: J.Wu
Sample : SSTD001 Inst : 5973-B
Misc : 0.1/0.2 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:28 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:27:09 2009
Response via : Multiple Level Calibration







TIC: DC082.D

(16) Fluorene (TM)

14.01min 0.10ppm m

response 23292

Ion	Exp%	Act%
166.00	100	100
165.00	91.90	91.91
167.00	13.10	20.11
0.00	0.00	0.00

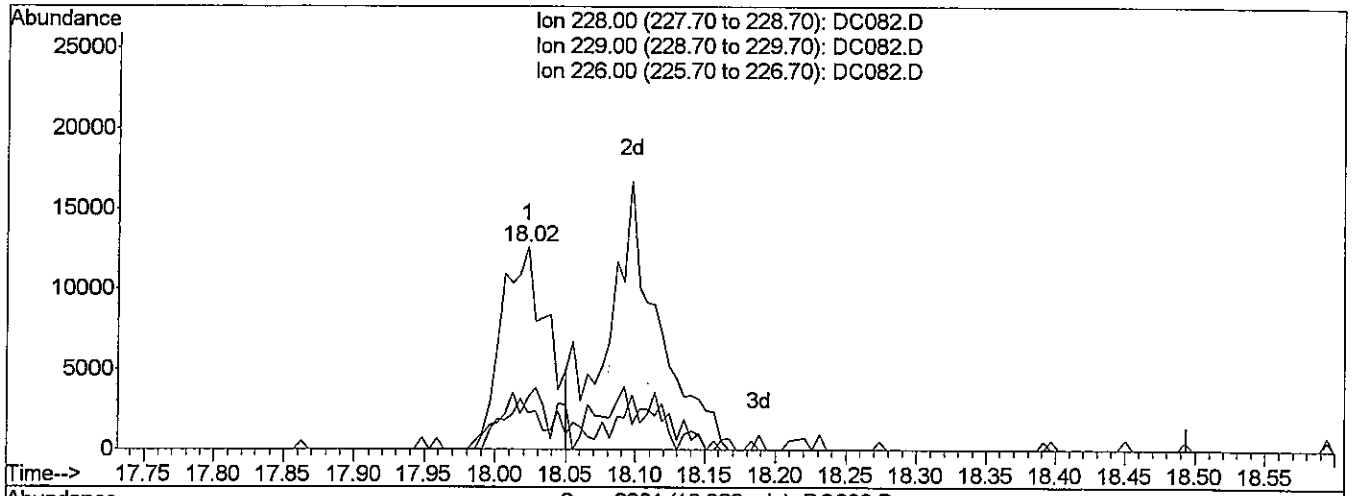
A JW 10/19/09

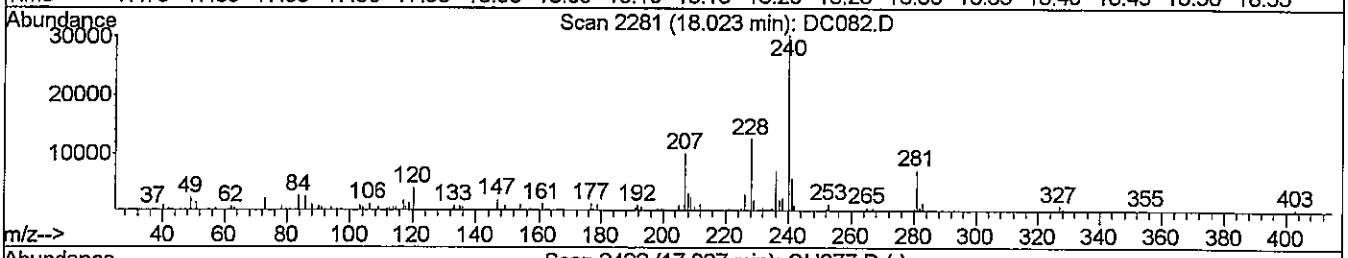
DC082.D LVI1016.M Fri Oct 16 15:28:49 2009

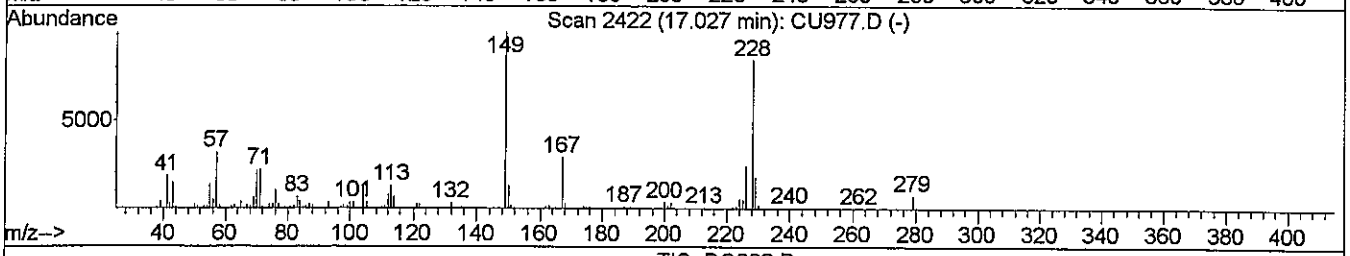
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC082.D Vial: 2
Acq On : 16 Oct 2009 10:47 am Operator: J.Wu
Sample : SSTD001 Inst : 5973-B
Misc : 0.1/0.2 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:28 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:27:09 2009
Response via : Multiple Level Calibration







TIC: DC082.D

(31) Benzo(a)anthracene (TM)

18.02min 0.09ppm

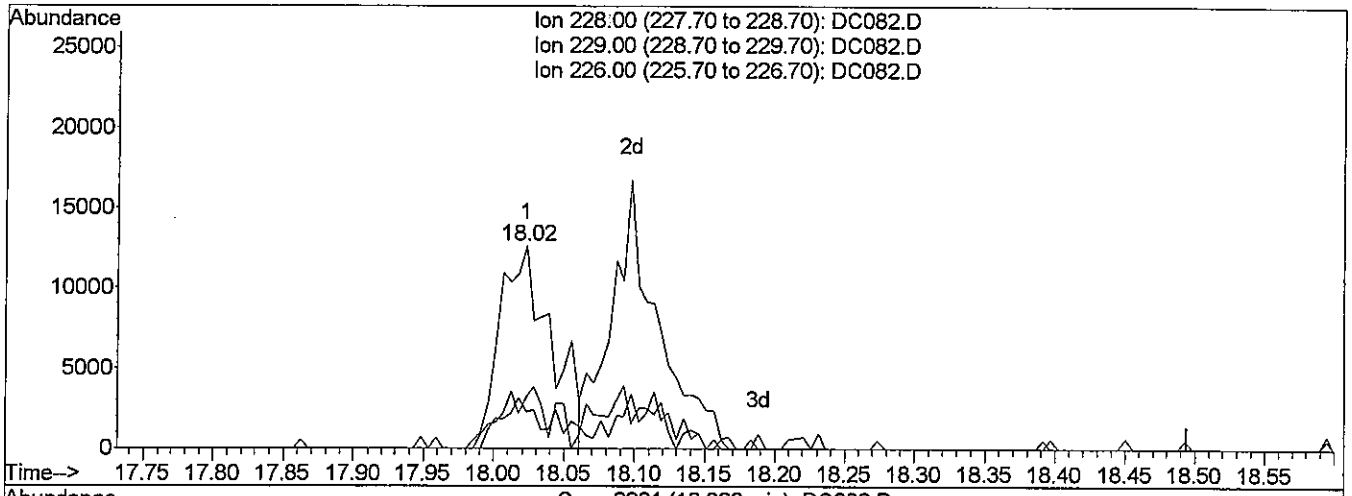
response 28441

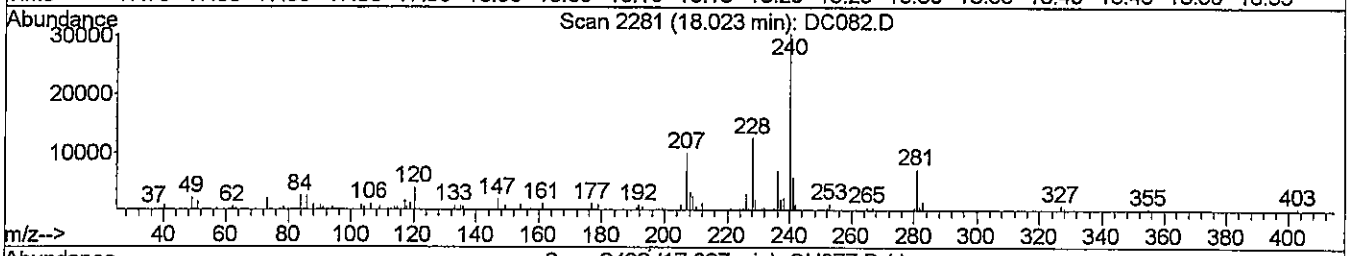
Ion	Exp%	Act%
228.00	100	100
229.00	20.60	17.86
226.00	27.40	18.17
0.00	0.00	0.00

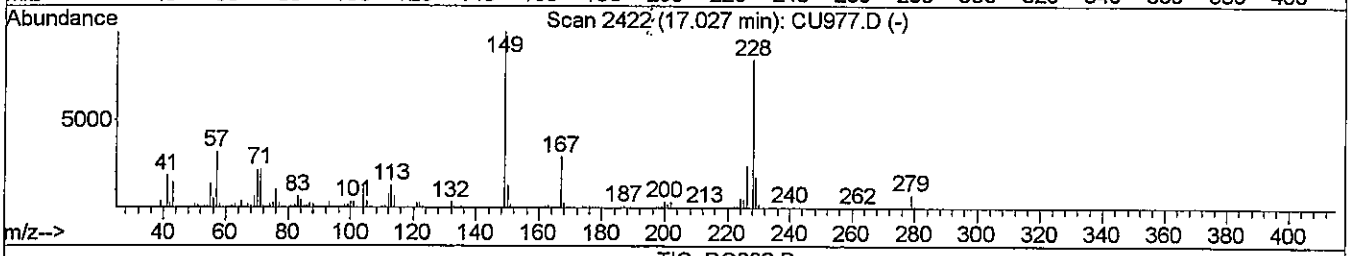
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC082.D Vial: 2
Acq On : 16 Oct 2009 10:47 am Operator: J.Wu
Sample : SSTD001 Inst : 5973-B
Misc : 0.1/0.2 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:30 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:27:09 2009
Response via : Multiple Level Calibration







TIC: DC082.D

(31) Benzo(a)anthracene (TM)

18.02min 0.09ppm m

response 31570

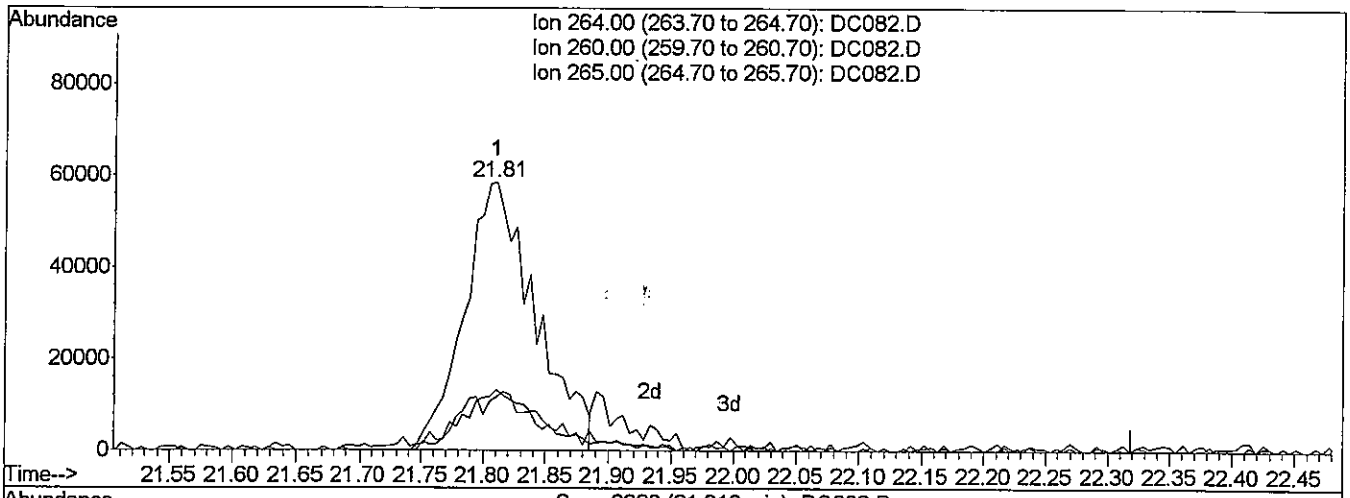
Ion	Exp%	Act%
228.00	100	100
229.00	20.60	18.09
226.00	27.40	25.73
0.00	0.00	0.00

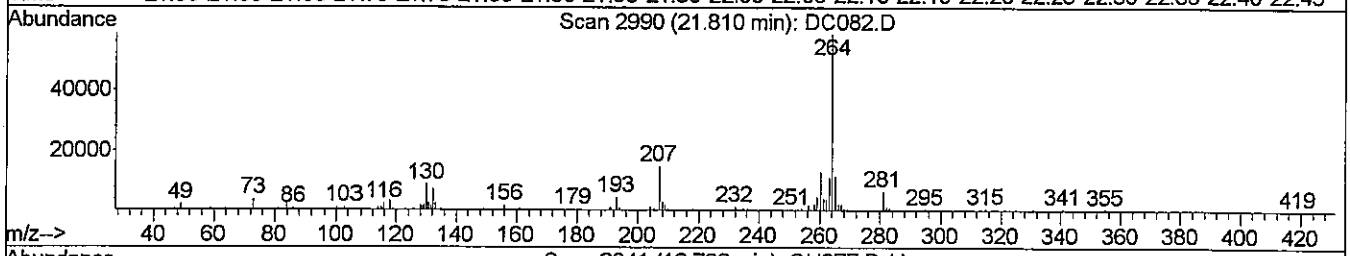
VMW 10/19/09 AJW 10/19/09

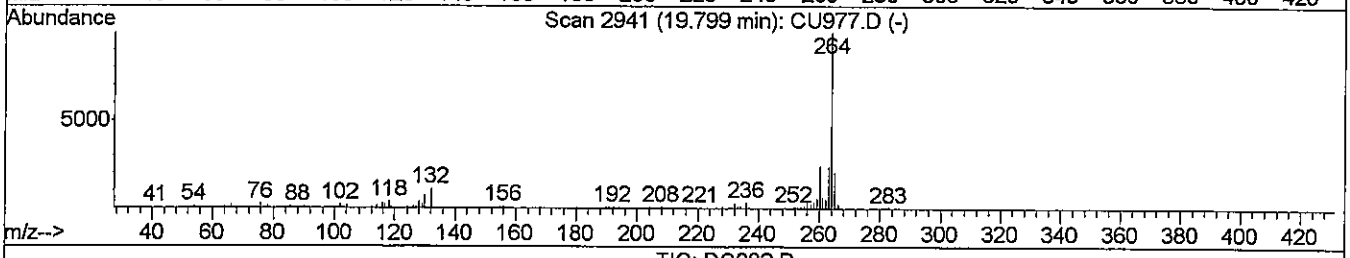
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC082.D Vial: 2
Acq On : 16 Oct 2009 10:47 am Operator: J.Wu
Sample : SSTD001 Inst : 5973-B
Misc : 0.1/0.2 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:30 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:27:09 2009
Response via : Multiple Level Calibration







TIC: DC082.D

(33) d12-Perylene (IR)

21.81min 1.00ppm

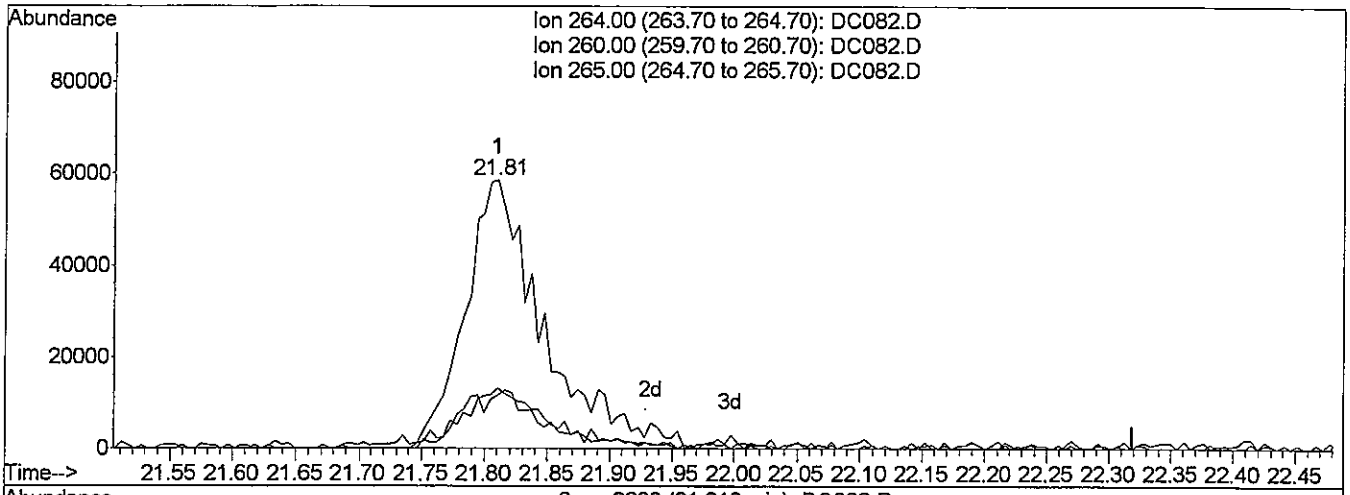
response 229411

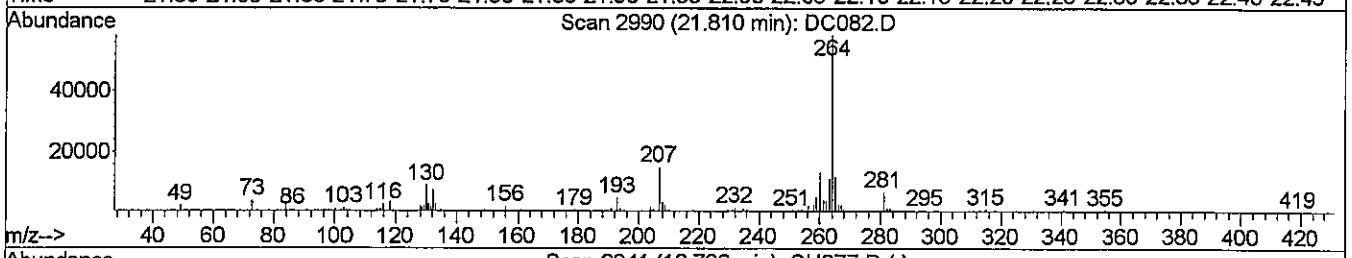
Ion	Exp%	Act%
264.00	100	100
260.00	17.80	22.56
265.00	18.30	14.86
0.00	0.00	0.00

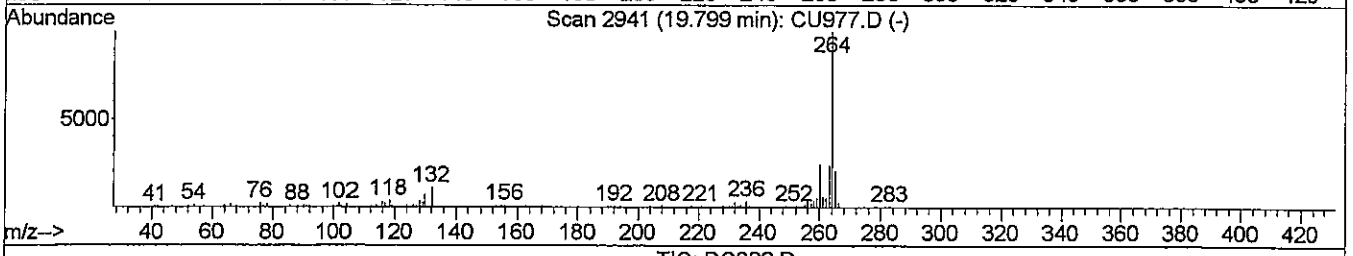
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC082.D Vial: 2
Acq On : 16 Oct 2009 10:47 am Operator: J.Wu
Sample : SSTD001 Inst : 5973-B
Misc : 0.1/0.2 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:31 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:27:09 2009
Response via : Multiple Level Calibration







TIC: DC082.D

(33) d12-Perylene (IR)

21.81min 1.00ppm m

response 253465

Ion	Exp%	Act%
264.00	100	100
260.00	17.80	22.41
265.00	18.30	19.92
0.00	0.00	0.00

MV

JW 10/19/09

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC083.D Vial: 3
Acq On : 16 Oct 2009 11:30 am Operator: J.Wu
Sample : SSTD002 Inst : 5973-B
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:37 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:33:05 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.66	152	94430	1.00	ppm	0.00
4) d8-Naphthalene	11.93	136	357680	1.00	ppm	0.00
10) d10-Acenaphthene	13.53	164	226632	1.00	ppm	0.00
18) d10-Phenanthrene	14.74	188	335536	1.00	ppm	0.00
26) d12-Chrysene	18.04	240	353236	1.00	ppm	0.00
33) d12-Perylene	21.82	264	287788	1.00	ppm	0.00
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.27	82	19021	0.17	ppm	0.02
Spiked Amount 2.000	Range 22 - 124		Recovery = 8.50%#			
11) SURR5,2-FLUOROBIPHENYL	12.91	172	52920	0.18	ppm	0.02
Spiked Amount 2.000	Range 27 - 114		Recovery = 9.00%#			
28) SURR6,TERPHENYL-D14	16.37	244	56470	0.20	ppm	0.02
Spiked Amount 2.000	Range 23 - 139		Recovery = 10.00%#			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.14	88	22873	0.26	ppm	80
3) Pyridine	6.97	79	12703	0.10	ppm	80
6) Nitrobenzene	11.29	77	16947	0.13	ppm	95
7) Naphthalene	11.96	128	73621	0.20	ppm	90
8) 2-Methylnaphthalene	12.60	142	48911m JW	0.21	ppm	
9) 1-Methylnaphthalene	12.70	142	50777	0.23	ppm	97
12) Acenaphthylene	13.41	152	75950	0.18	ppm	96
13) Dimethyl phthalate	13.27	163	65297	0.19	ppm	99
14) Acenaphthene	13.56	153	50769	0.19	ppm	81
15) Dibenzofuran	13.72	168	69126	0.19	ppm	98
16) Fluorene	14.00	166	58591	0.21	ppm	71
17) Diethylphthalate	13.85	149	64447	0.19	ppm	98
19) Hexachlorobenzene	14.48	284	17802	0.22	ppm	94
20) Phenanthrene	14.77	178	80782	0.21	ppm	94
21) Anthracene	14.82	178	66581	0.18	ppm	93
22) Carbazole	14.95	167	53761	0.23	ppm	95
23) Octachlorostyrene	15.76	378	4002m JW	0.18	ppm	
24) Di-n-butylphthalate	15.17	149	103768m JW	0.21	ppm	
25) Fluoranthene	15.98	202	82960	0.19	ppm	96
27) Pyrene	16.27	202	87596	0.19	ppm	96
29) Butyl benzyl phthalate	16.97	149	39084	0.17	ppm	94
30) bis(2-Ethylhexyl)phthalate	17.89	149	99685	0.34	ppm	90
31) Benzo(a)anthracene	18.01	228	74327	0.19	ppm	94
32) Chrysene	18.09	228	77701	0.20	ppm	95
34) Di-n-octyl phthalate	19.22	149	73723	0.14	ppm	100
35) Benzo(b)Fluoranthene	20.59	252	76223	0.18	ppm	85

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC083.D Vial: 3
Acq On : 16 Oct 2009 11:30 am Operator: J.Wu
Sample : SSTD002 Inst : 5973-B
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:37 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:33:05 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

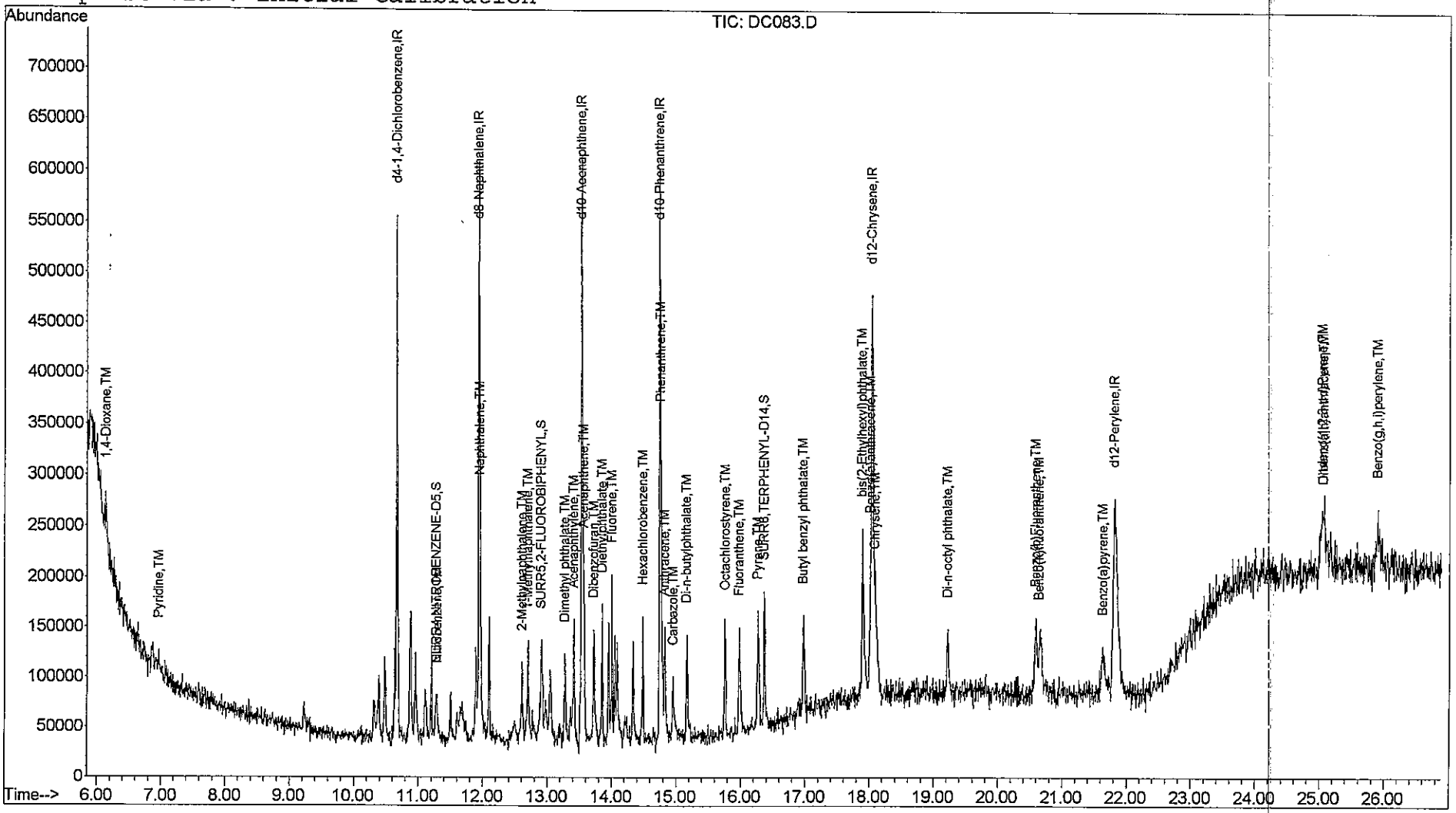
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
36)	Benzo(k)fluoranthene	20.64	252	79087m	0.19	ppm	
37)	Benzo(a)pyrene	21.63	252	61790m	0.17	ppm	
38)	Indeno(1,2,3-cd)Pyrene	25.04	276	78475m	0.18	ppm	
39)	Dibenz(a,h)anthracene	25.06	278	65097m	0.18	ppm	
40)	Benzo(g,h,i)perylene	25.90	276	70780	0.19	ppm	85

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

Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC083.D Vial: 3
Acq On : 16 Oct 2009 11:30 am Operator: J.Wu
Sample : SSTD002 Inst : 5973-B
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:37 2009 Quant Results File: LVI1016.RES

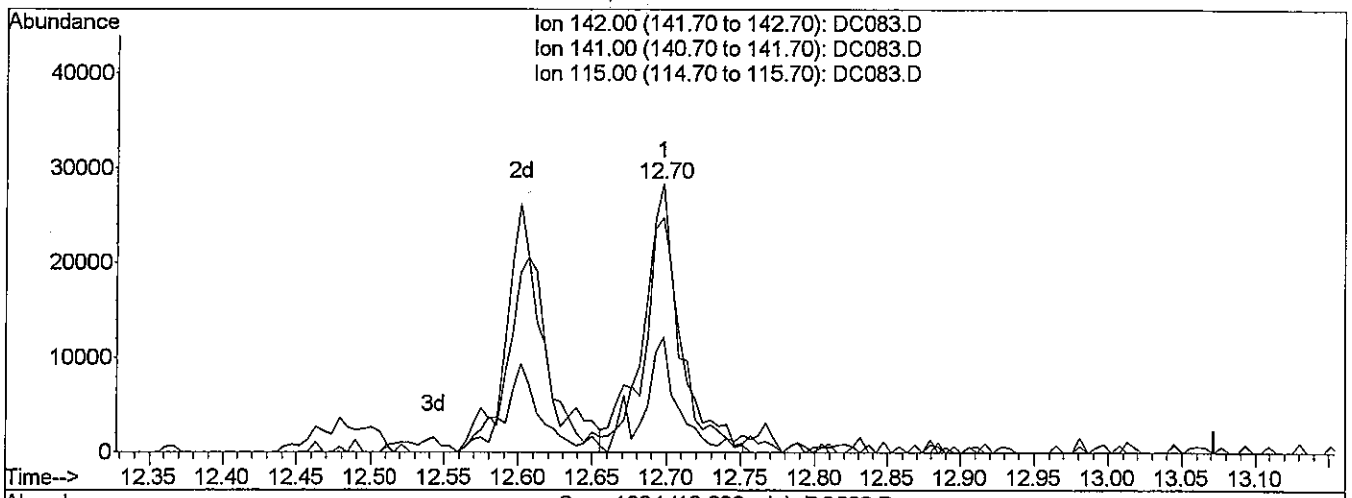
Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration

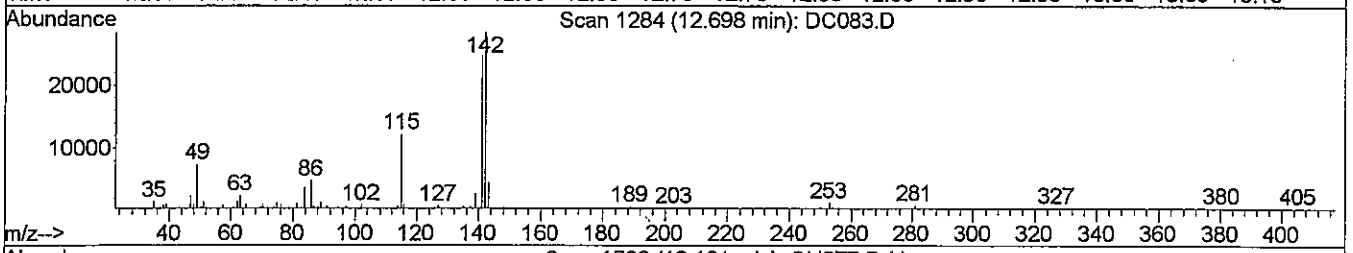


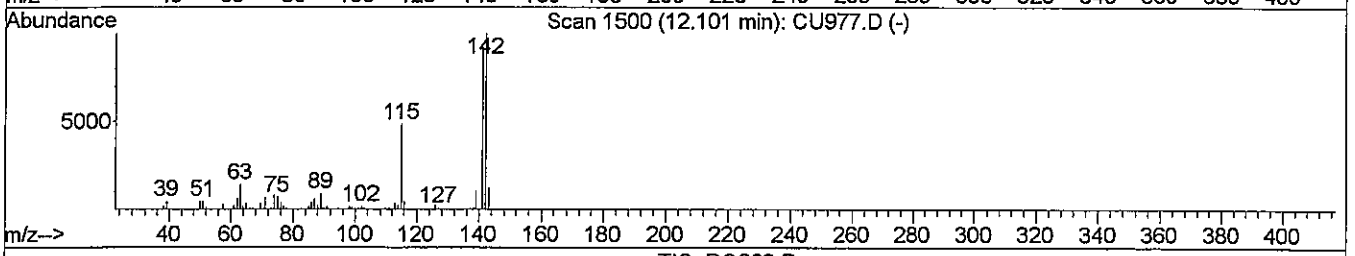
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC083.D Vial: 3
Acq On : 16 Oct 2009 11:30 am Operator: J.Wu
Sample : SSTD002 Inst : 5973-B
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:33 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:33:05 2009
Response via : Multiple Level Calibration







TIC: DC083.D

(8) 2-Methylnaphthalene (TM)

12.70min 0.22ppm

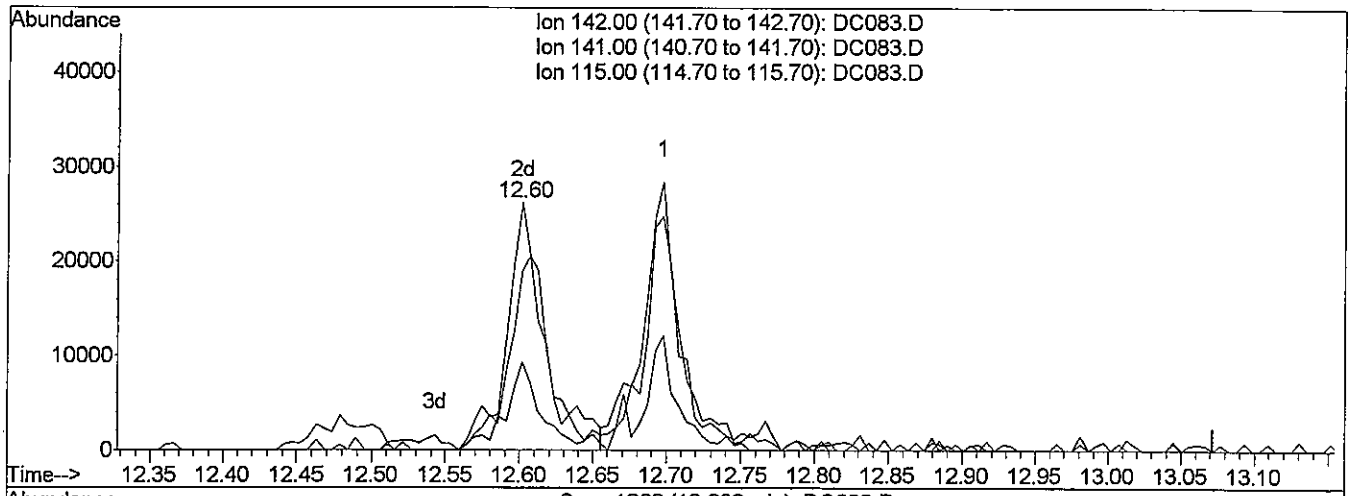
response 50777

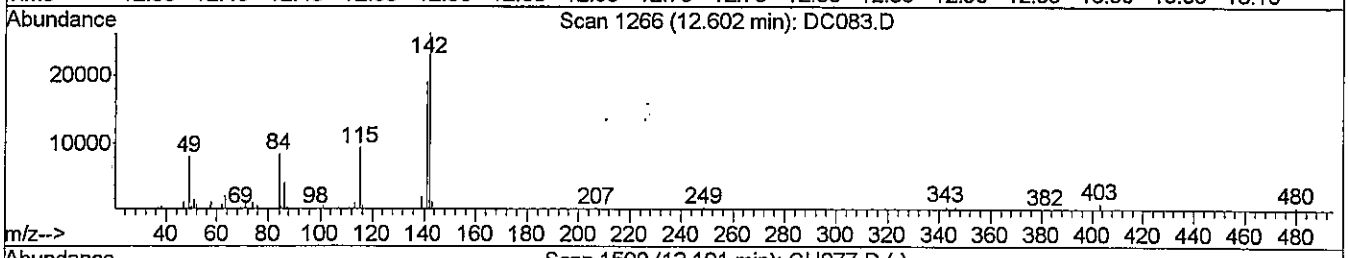
Ion	Exp%	Act%
142.00	100	100
141.00	93.70	86.13
115.00	41.60	42.88
0.00	0.00	0.00

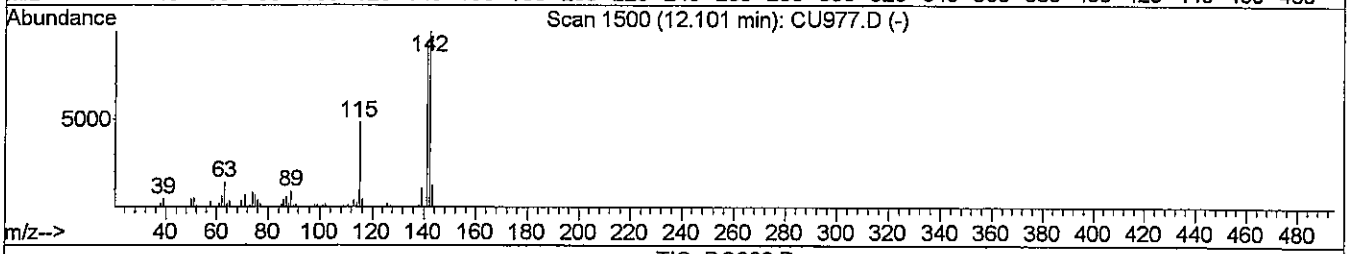
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC083.D Vial: 3
Acq On : 16 Oct 2009 11:30 am Operator: J.Wu
Sample : SSTD002 Inst : 5973-B
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:34 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:33:05 2009
Response via : Multiple Level Calibration







TIC: DC083.D

(8) 2-Methylnaphthalene (TM)

12.60min 0.21ppm m

response 48911

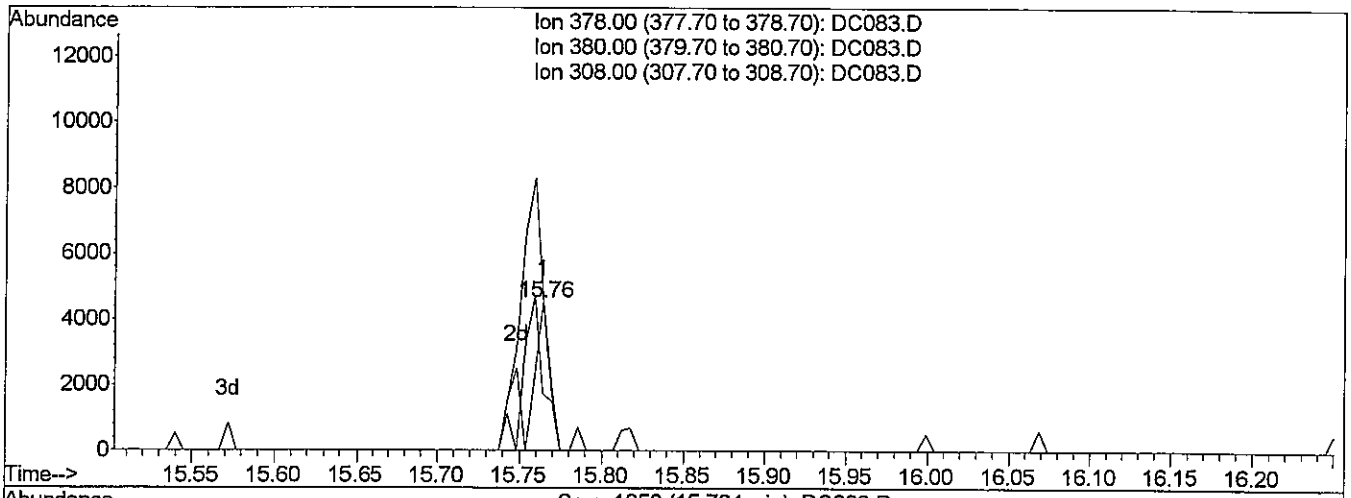
Ion	Exp%	Act%
142.00	100	100
141.00	93.70	72.58#
115.00	41.60	35.68
0.00	0.00	0.00

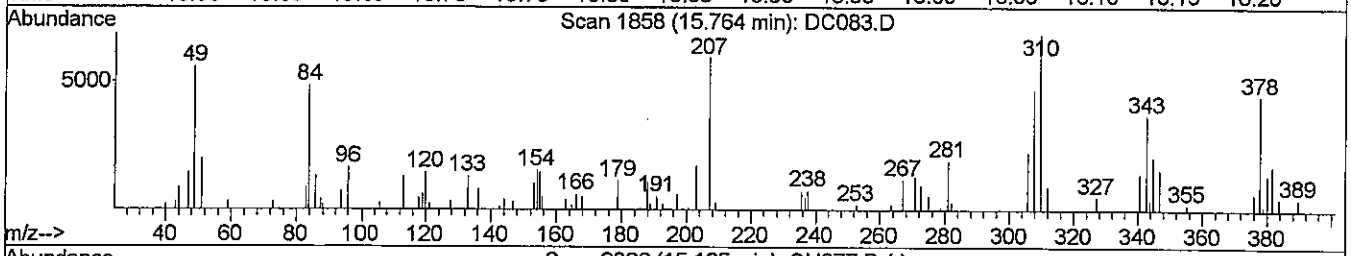
VMW 10/16 AW 10/19/09

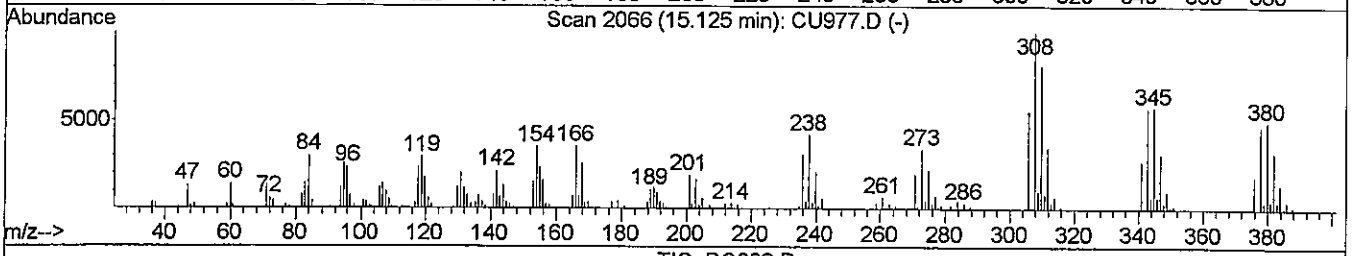
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC083.D Vial: 3
Acq On : 16 Oct 2009 11:30 am Operator: J.Wu
Sample : SSTD002 Inst : 5973-B
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:34 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:33:05 2009
Response via : Multiple Level Calibration







TIC: DC083.D

(23) Octachlorostyrene (TM)

15.76min 0.12ppm

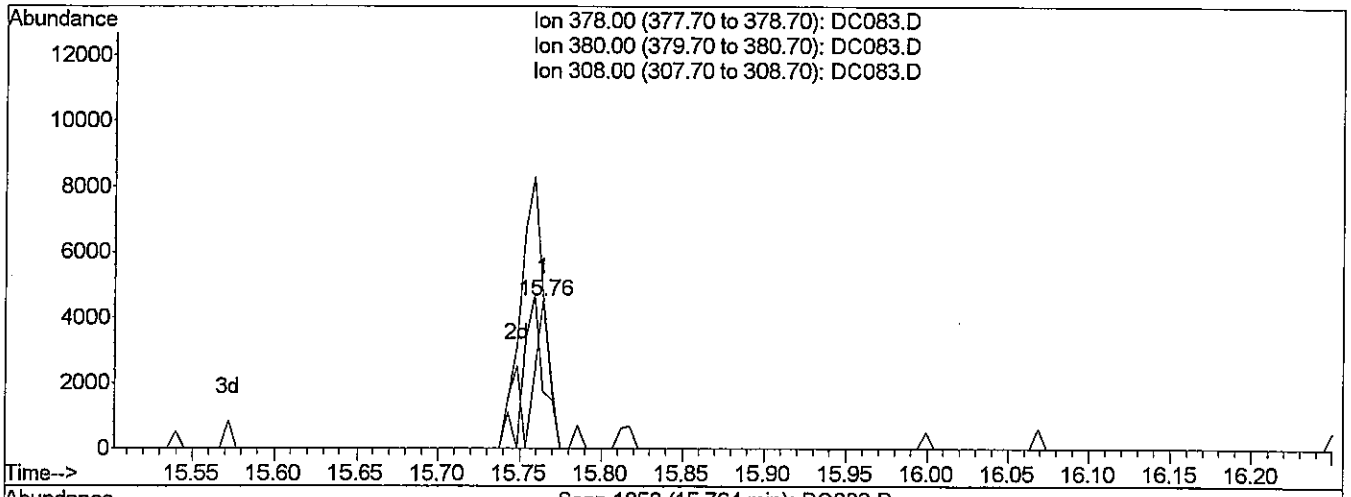
response 2711

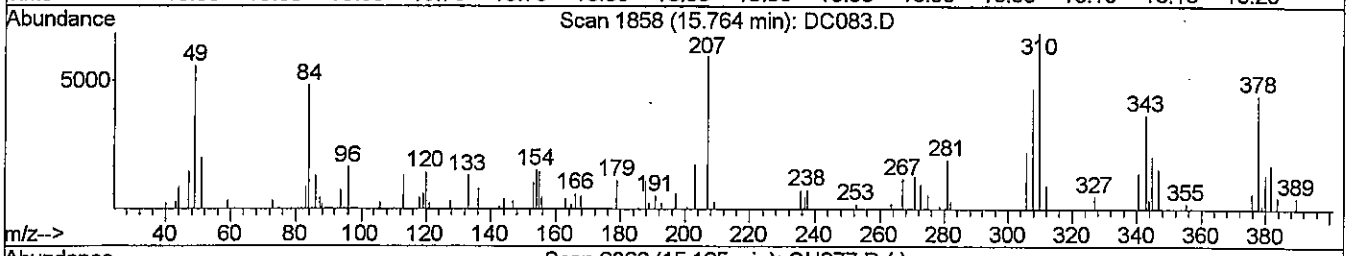
Ion	Exp%	Act%
378.00	100	100
380.00	104.20	1.53#
308.00	154.00	26.99#
0.00	0.00	0.00

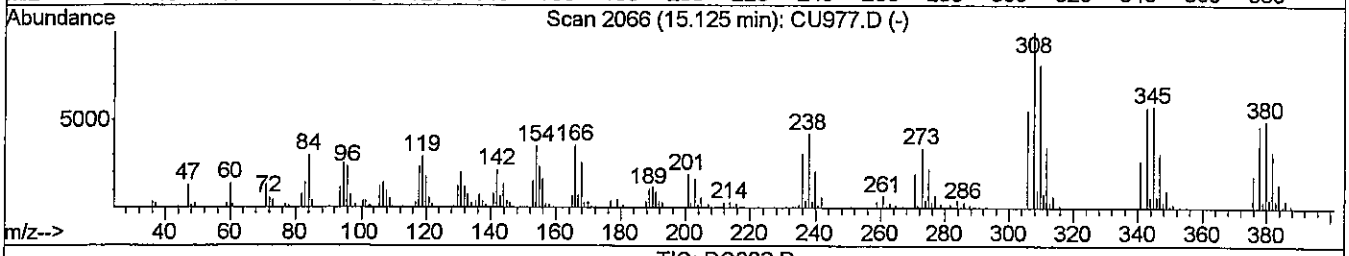
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC083.D Vial: 3
Acq On : 16 Oct 2009 11:30 am Operator: J.Wu
Sample : SSTD002 Inst : 5973-B
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:35 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:33:05 2009
Response via : Multiple Level Calibration







TIC: DC083.D

(23) Octachlorostyrene (TM)

15.76min 0.18ppm m

response 4002

Ion	Exp%	Act%
378.00	100	100
380.00	104.20	38.43#
308.00	154.00	104.59#
0.00	0.00	0.00

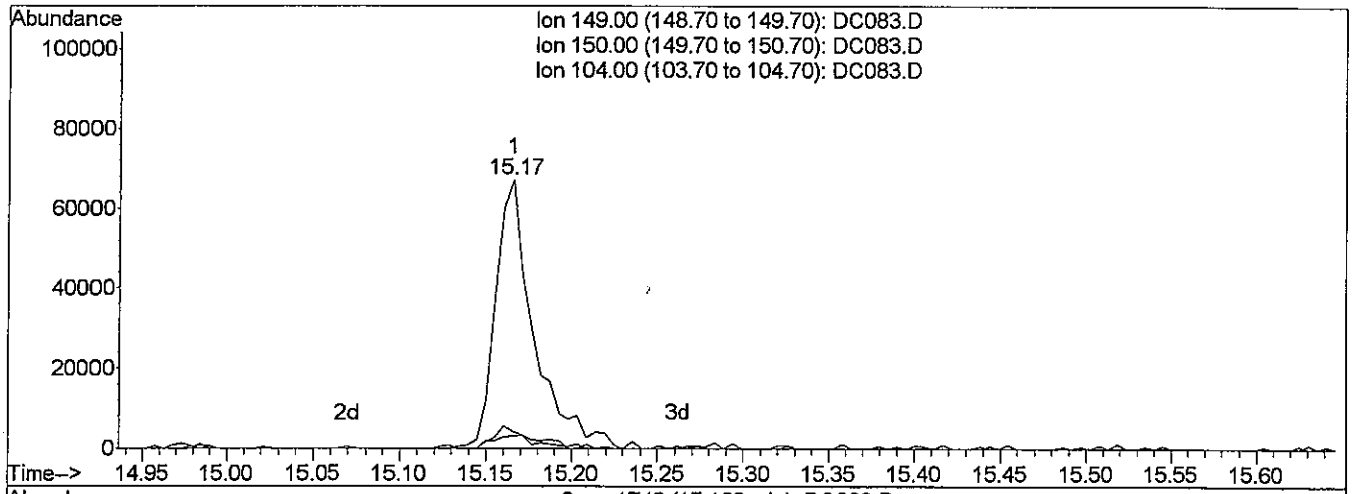
VMJ 10/19/09

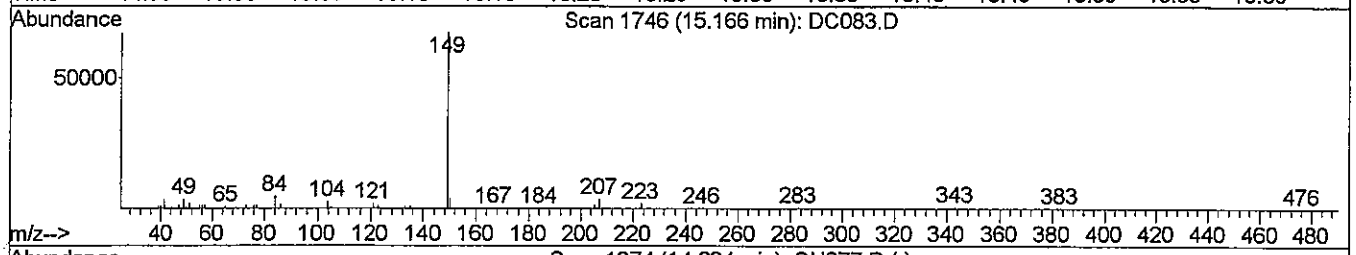
DC083.D LVI1016.M Fri Oct 16 15:35:16 2009

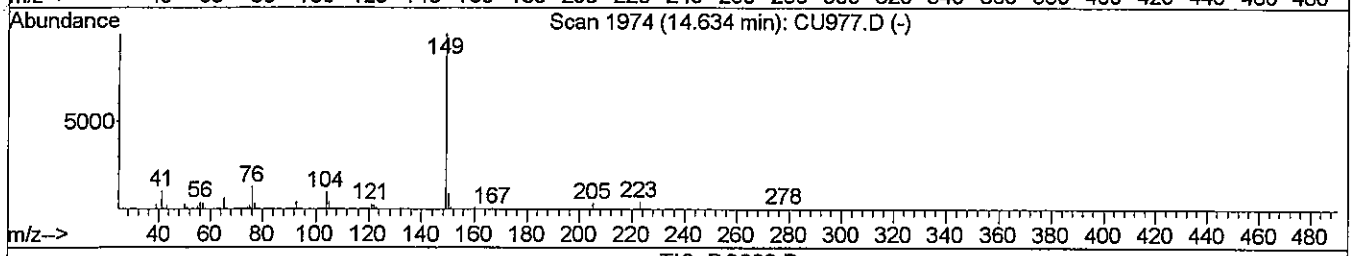
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC083.D Vial: 3
Acq On : 16 Oct 2009 11:30 am Operator: J.Wu
Sample : SSTD002 Inst : 5973-B
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:35 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:33:05 2009
Response via : Multiple Level Calibration







TIC: DC083.D

(24) Di-n-butylphthalate (TM)

15.17min 0.21ppm

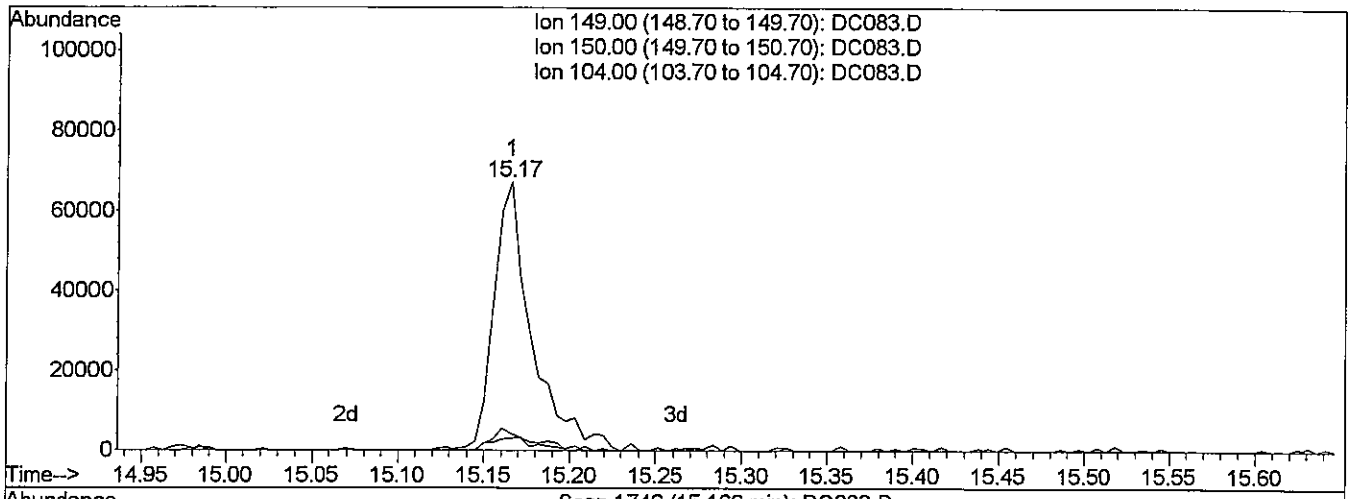
response 103768

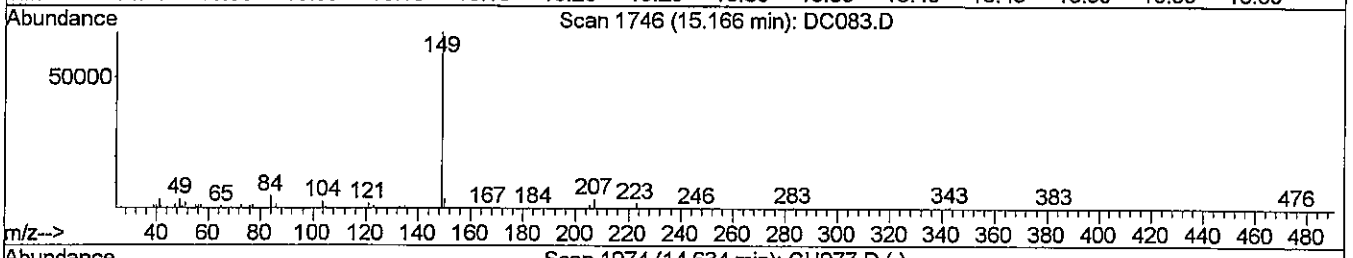
Ion	Exp%	Act%
149.00	100	100
150.00	9.30	5.83#
104.00	5.00	4.51
0.00	0.00	0.00

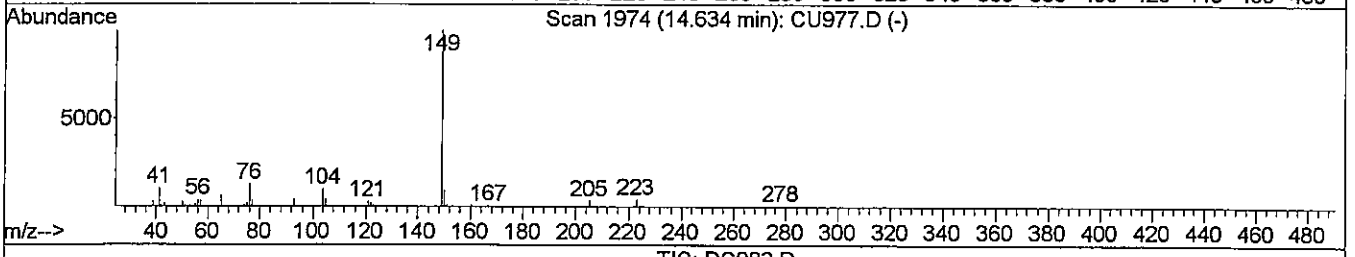
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC083.D Vial: 3
Acq On : 16 Oct 2009 11:30 am Operator: J.Wu
Sample : SSTD002 Inst : 5973-B
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:35 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:33:05 2009
Response via : Multiple Level Calibration







TIC: DC083.D

(24) Di-n-butylphthalate (TM)

15.17min 0.21ppm m

response 103768

Ion	Exp%	Act%
149.00	100	100
150.00	9.30	6.20#
104.00	5.00	4.51
0.00	0.00	0.00

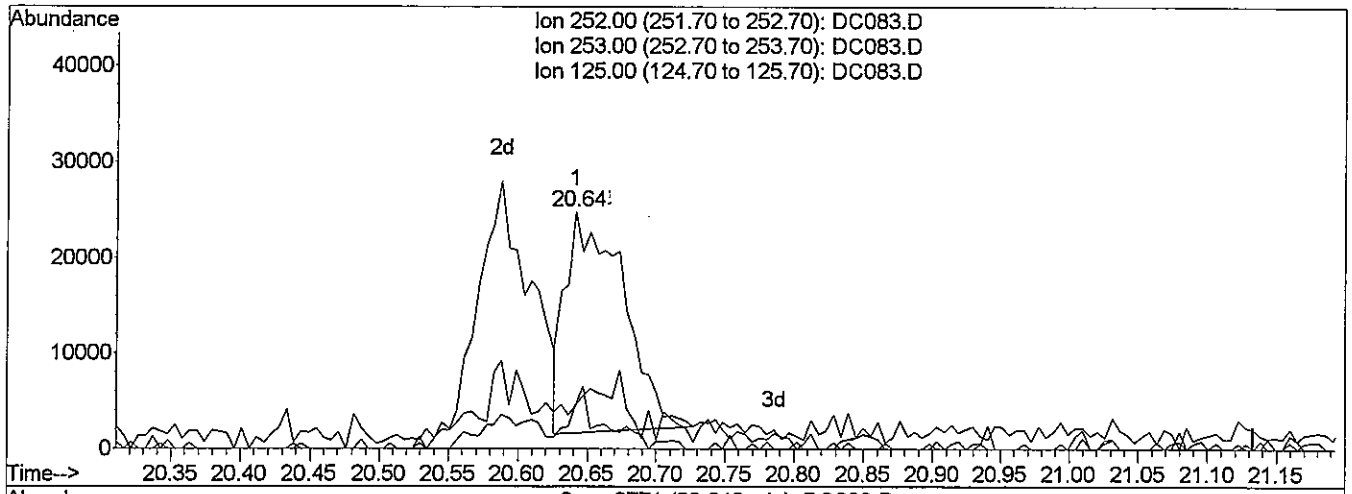
MW 10/19/09

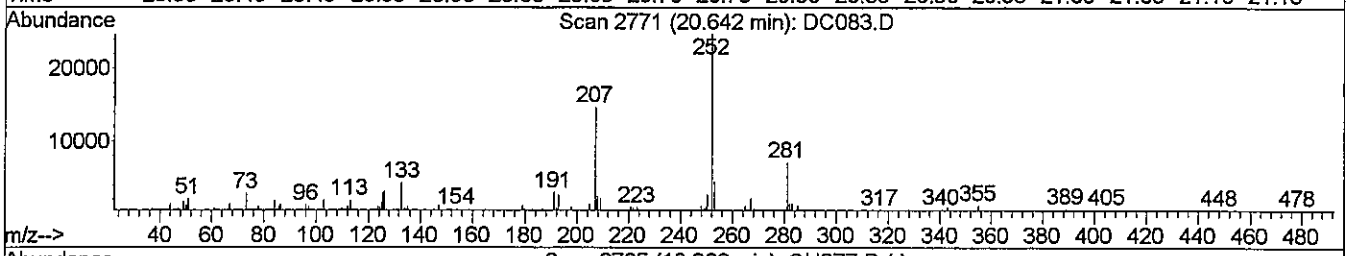
DC083.D LVI1016.M Fri Oct 16 15:35:34 2009

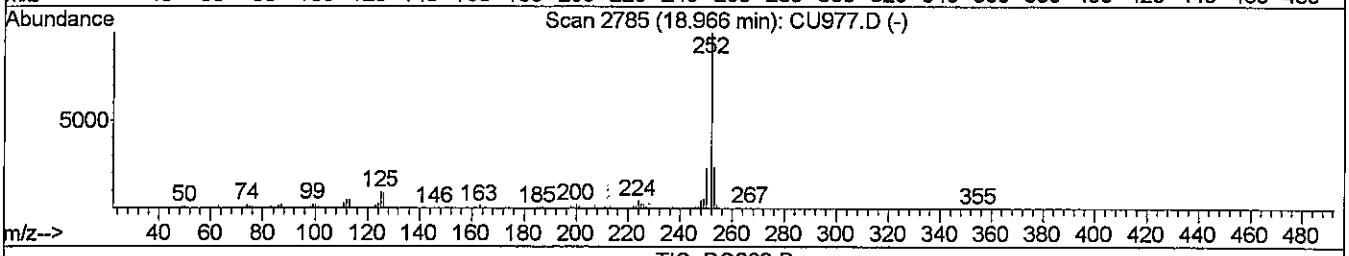
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC083.D Vial: 3
Acq On : 16 Oct 2009 11:30 am Operator: J.Wu
Sample : SSTD002 Inst : 5973-B
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:35 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:33:05 2009
Response via : Multiple Level Calibration







TIC: DC083.D

(36) Benzo(k)fluoranthene (TM)

20.64min 0.16ppm

response 67251

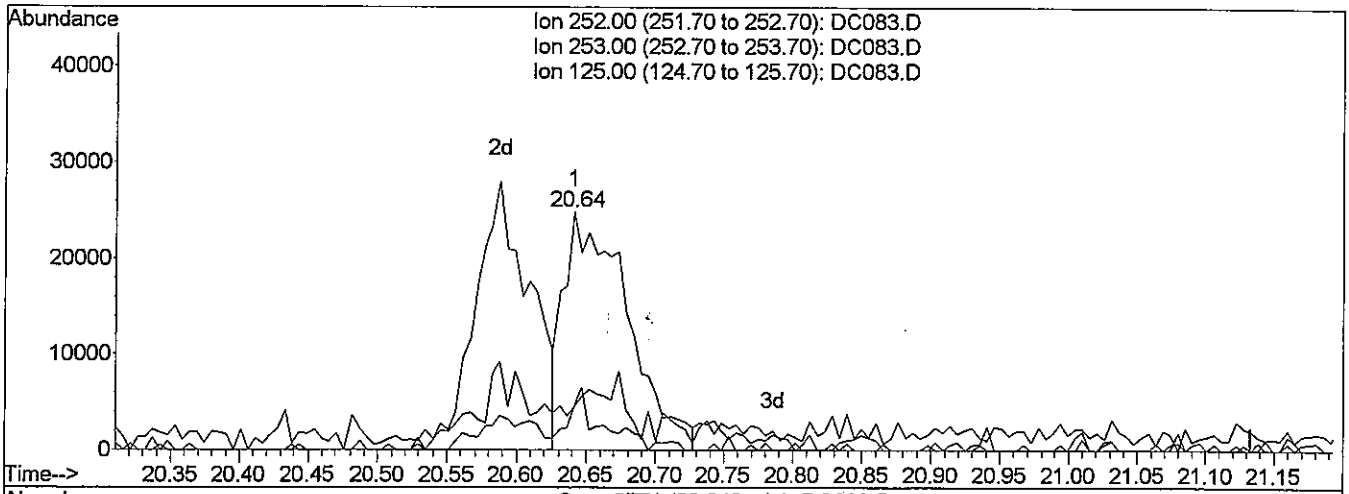
Ion	Exp%	Act%
252.00	100	100
253.00	25.10	11.79
125.00	9.70	21.46
0.00	0.00	0.00

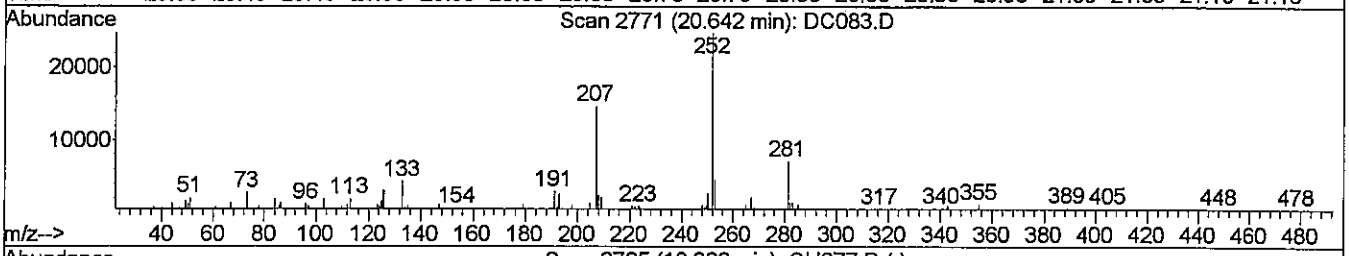
DC083.D LVI1016.M Fri Oct 16 15:36:00 2009

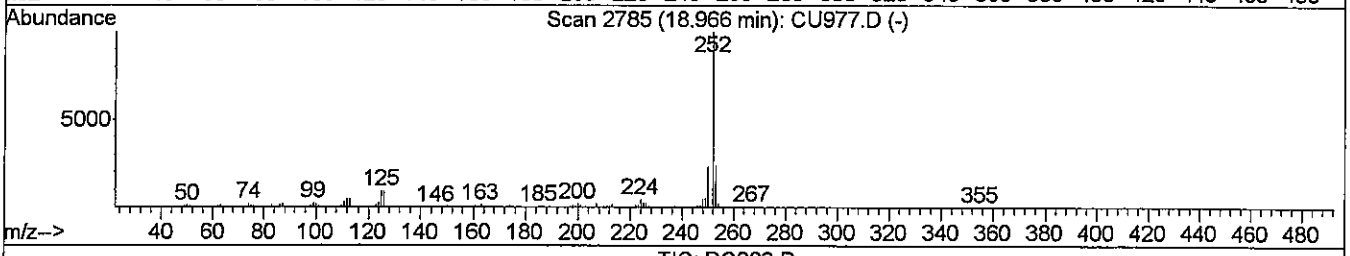
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC083.D Vial: 3
Acq On : 16 Oct 2009 11:30 am Operator: J.Wu
Sample : SSTD002 Inst : 5973-B
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:36 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:33:05 2009
Response via : Multiple Level Calibration







TIC: DC083.D

(36) Benzo(k)fluoranthene (TM)

20.64min 0.19ppm m

response 79087

Ion	Exp%	Act%
252.00	100	100
253.00	25.10	17.97
125.00	9.70	12.00
0.00	0.00	0.00

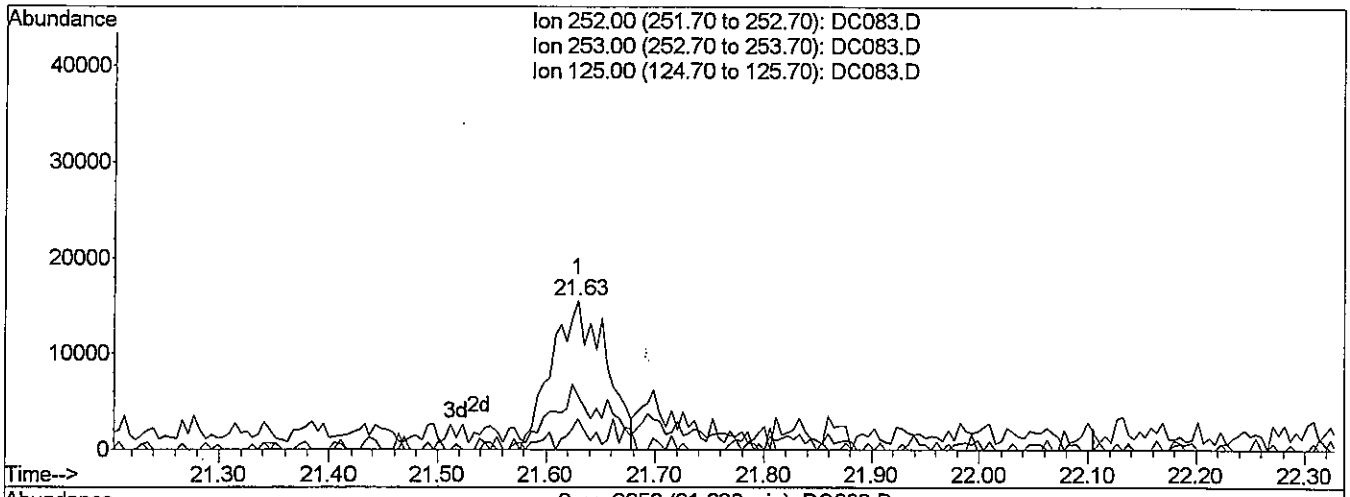
VMW 10/19/09

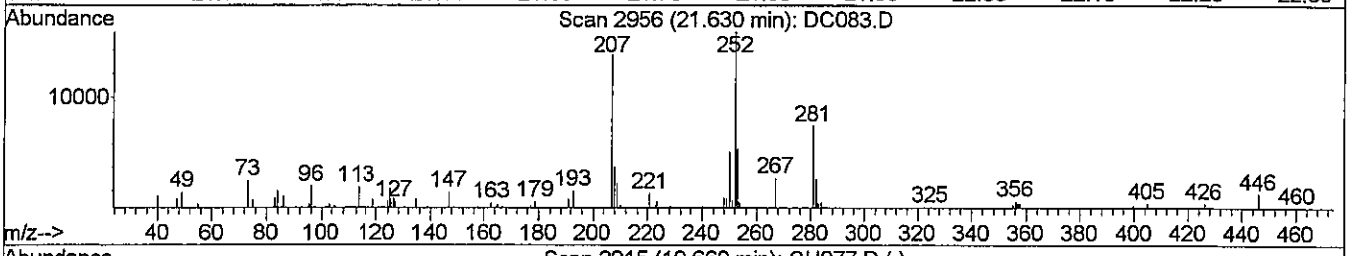
ATW 10/19/09

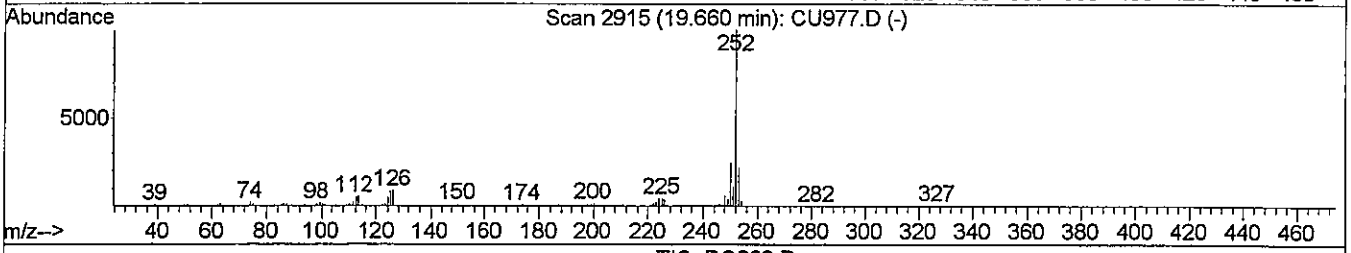
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC083.D Vial: 3
Acq On : 16 Oct 2009 11:30 am Operator: J.Wu
Sample : SSTD002 Inst : 5973-B
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:36 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:33:05 2009
Response via : Multiple Level Calibration







TIC: DC083.D

(37) Benzo(a)pyrene (TM)

21.63min 0.15ppm

response 53589

Ion	Exp%	Act%
252.00	100	100
253.00	24.50	33.99
125.00	10.20	15.33
0.00	0.00	0.00

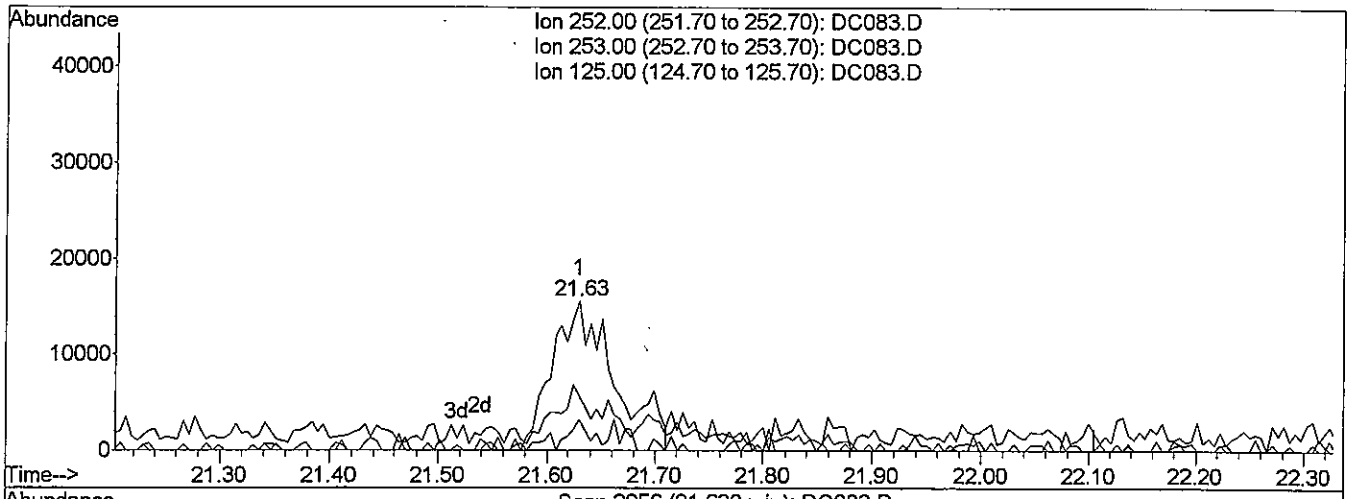
DC083.D LVI1016.M Fri Oct 16 15:36:40 2009

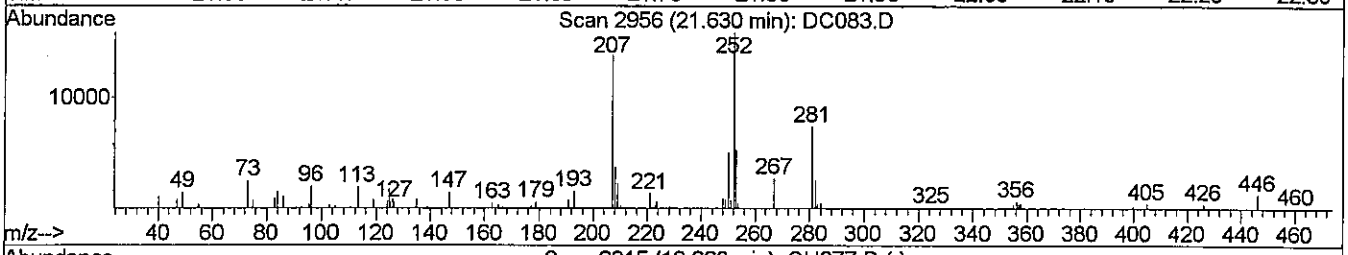
00301

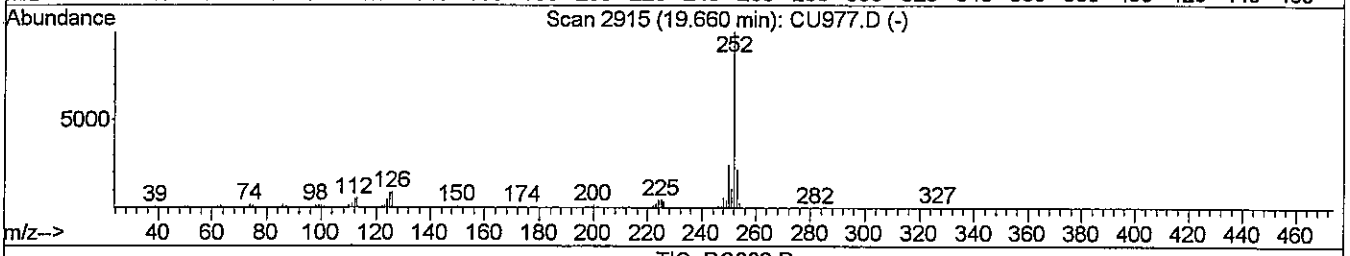
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC083.D Vial: 3
Acq On : 16 Oct 2009 11:30 am Operator: J.Wu
Sample : SSTD002 Inst : 5973-B
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:36 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:33:05 2009
Response via : Multiple Level Calibration







TIC: DC083.D

(37) Benzo(a)pyrene (TM)

21.63min 0.17ppm m

response 61790

Ion	Exp%	Act%
252.00	100	100
253.00	24.50	35.64
125.00	10.20	13.85
0.00	0.00	0.00

JW 10/19/09

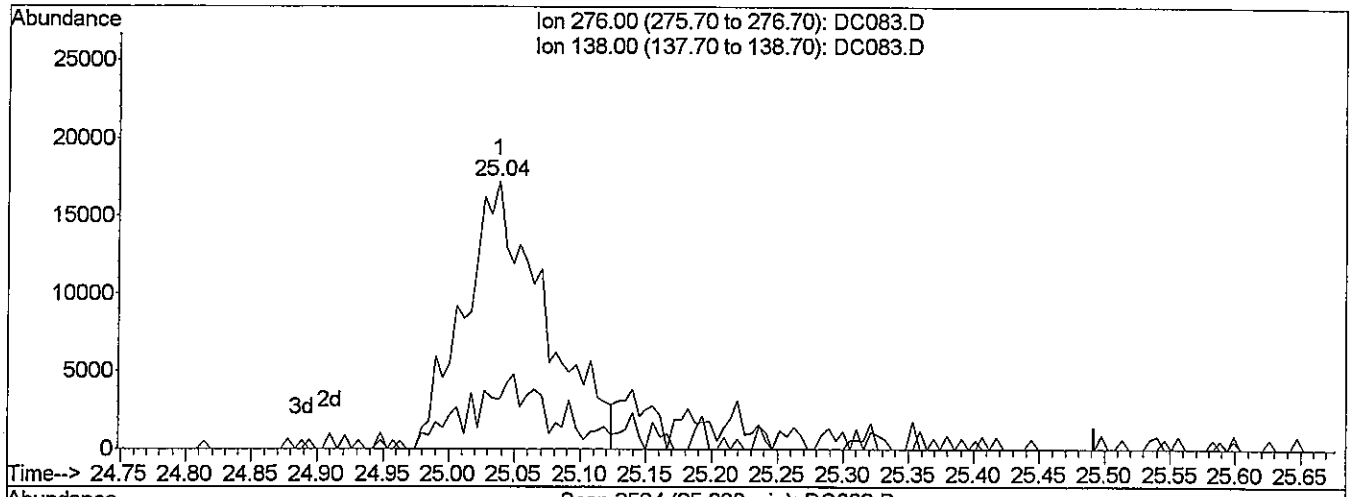
DC083.D LVI1016.M Fri Oct 16 15:36:54 2009

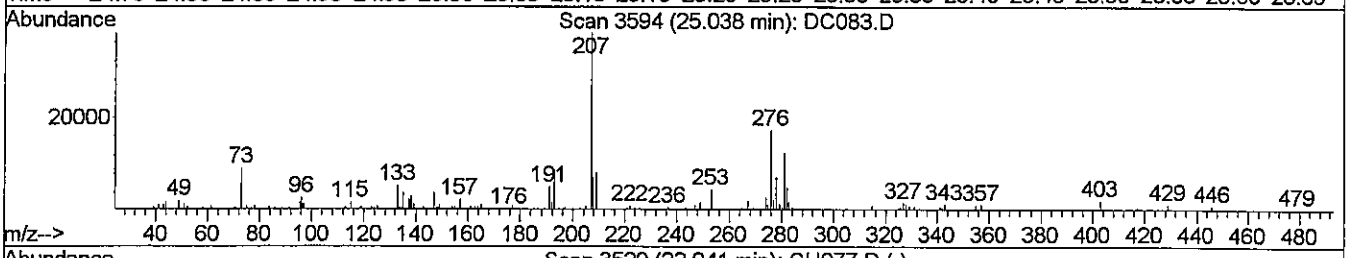
00302

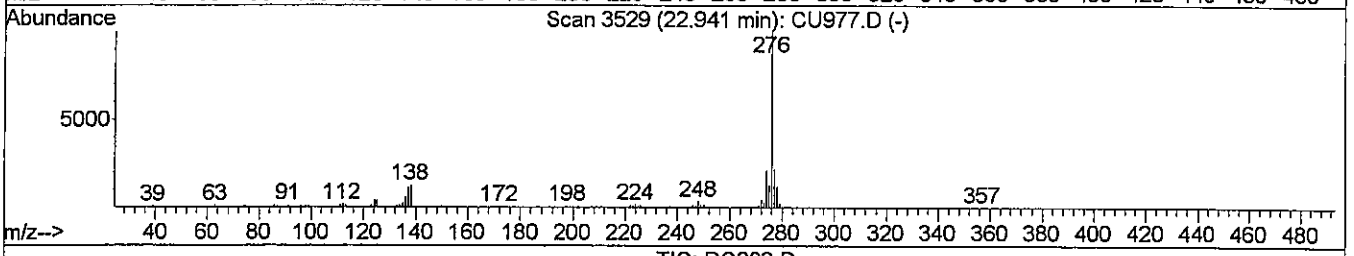
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC083.D Vial: 3
Acq On : 16 Oct 2009 11:30 am Operator: J.Wu
Sample : SSTD002 Inst : 5973-B
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:36 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:33:05 2009
Response via : Multiple Level Calibration







TIC: DC083.D

(38) Indeno(1,2,3-cd)Pyrene (TM)

25.04min 0.17ppm

response 72227

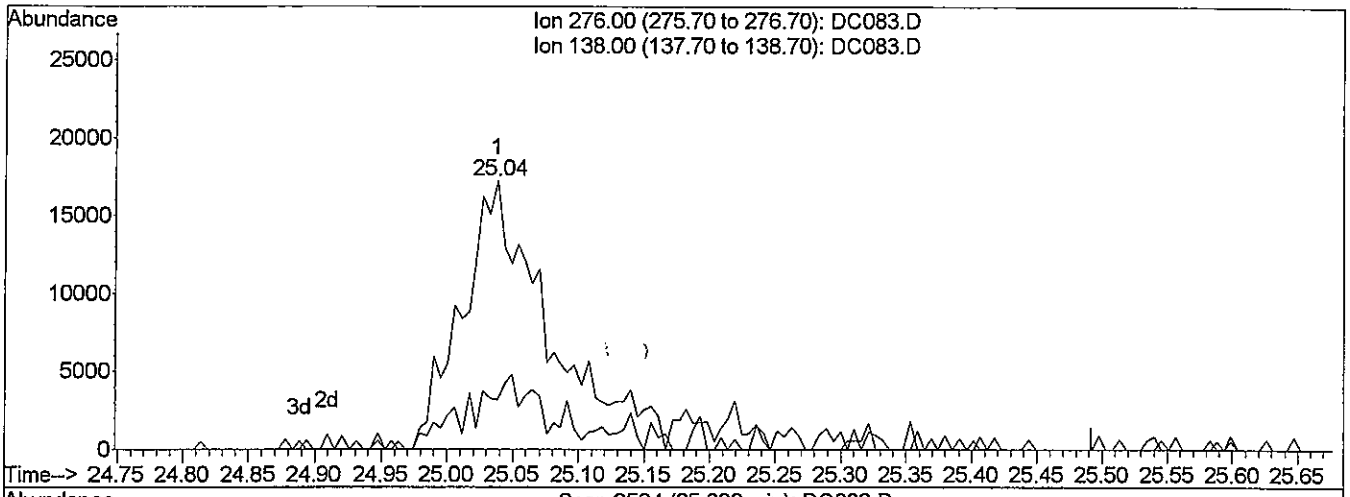
Ion	Exp%	Act%
276.00	100	100
138.00	19.60	16.94
0.00	0.00	0.00
0.00	0.00	0.00

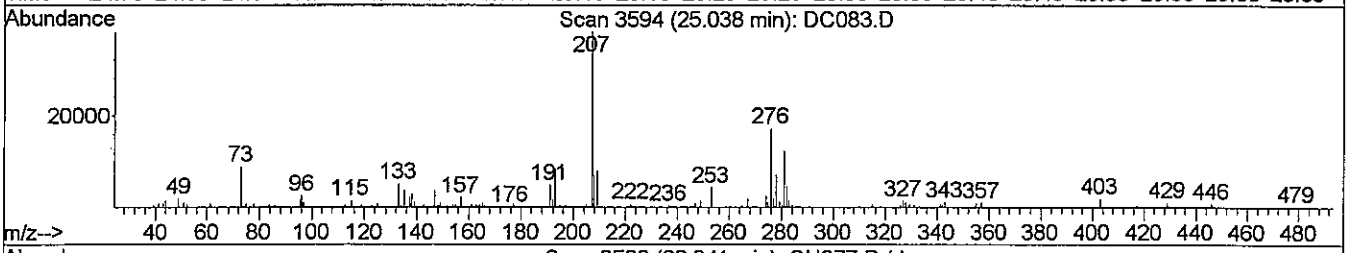
B

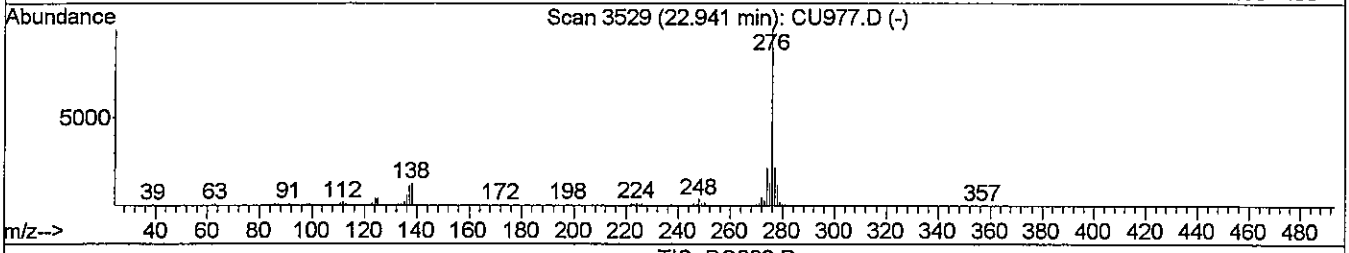
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC083.D Vial: 3
Acq On : 16 Oct 2009 11:30 am Operator: J.Wu
Sample : SSTD002 Inst : 5973-B
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:37 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:33:05 2009
Response via : Multiple Level Calibration







TIC: DC083.D

(38) Indeno(1,2,3-cd)Pyrene (TM)

25.04min 0.18ppm m

response 78475

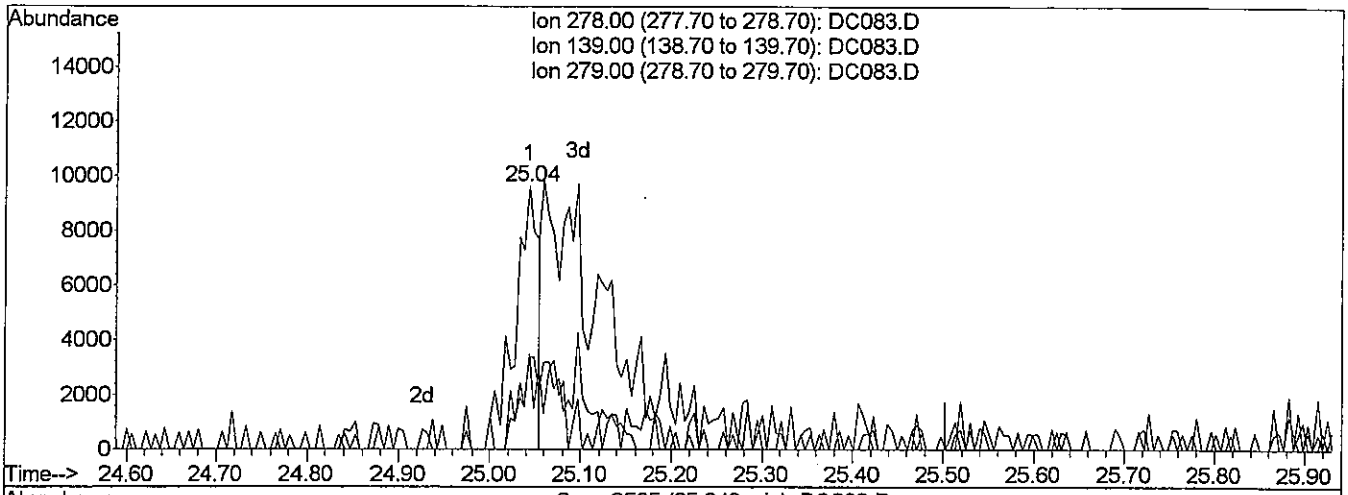
Ion	Exp%	Act%
276.00	100	100
138.00	19.60	18.34
0.00	0.00	0.00
0.00	0.00	0.00

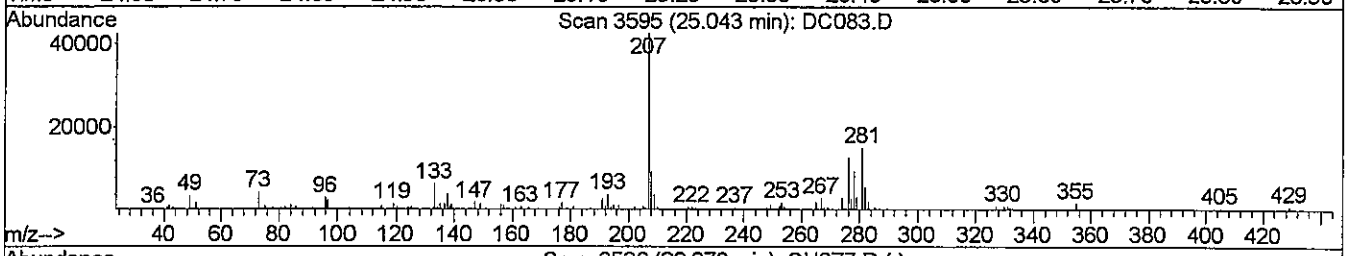
10/19/09

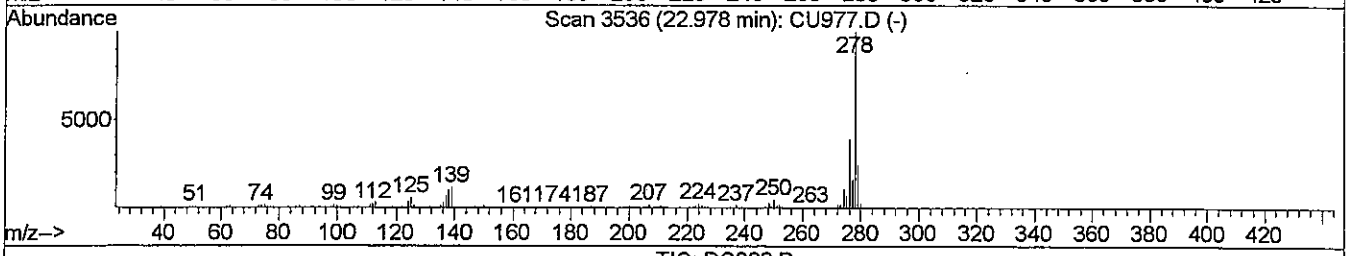
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC083.D Vial: 3
Acq On : 16 Oct 2009 11:30 am Operator: J.Wu
Sample : SSTD002 Inst : 5973-B
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:37 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:33:05 2009
Response via : Multiple Level Calibration







TIC: DC083.D

(39) Dibenz(a,h)anthracene (TM)

25.04min 0.05ppm

response 17503

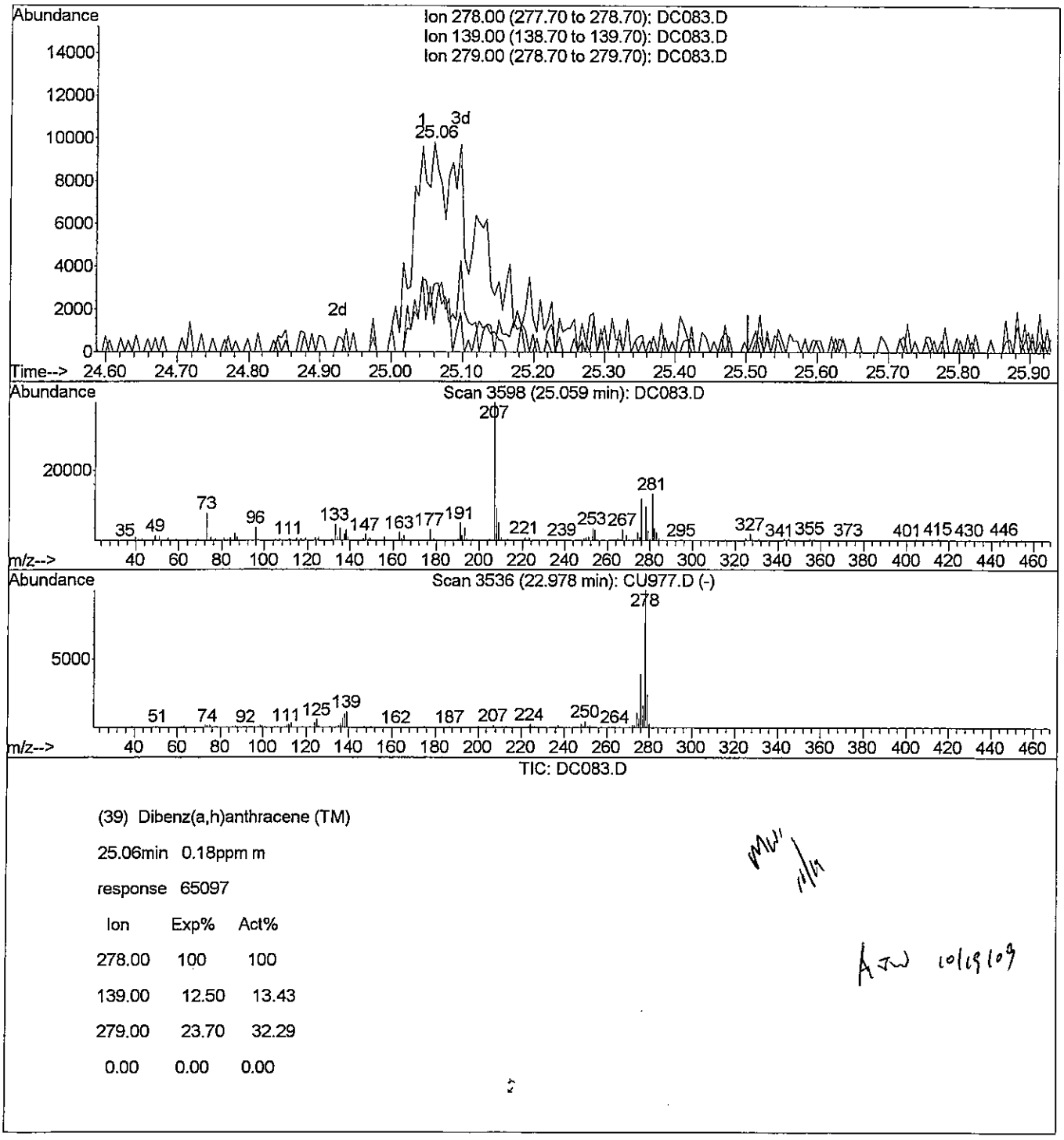
Ion	Exp%	Act%
278.00	100	100
139.00	12.50	34.19
279.00	23.70	40.42
0.00	0.00	0.00

B

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC083.D Vial: 3
Acq On : 16 Oct 2009 11:30 am Operator: J.Wu
Sample : SSTD002 Inst : 5973-B
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:37 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:33:05 2009
Response via : Multiple Level Calibration



TIC: DC083.D

(39) Dibenz(a,h)anthracene (TM)

25.06min 0.18ppm m

response 65097

Ion	Exp%	Act%
278.00	100	100
139.00	12.50	13.43
279.00	23.70	32.29
0.00	0.00	0.00

AJW 10/19/09

DC083.D LVI1016.M Fri Oct 16 15:37:30 2009

00306

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC084.D Vial: 4
Acq On : 16 Oct 2009 12:11 pm Operator: J.Wu
Sample : SSTD005 Inst : 5973-B
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:42 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:39:18 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.66	152	93596	1.00	ppm	0.00
4) d8-Naphthalene	11.93	136	341951	1.00	ppm	0.00
10) d10-Acenaphthene	13.53	164	214381	1.00	ppm	0.00
18) d10-Phenanthrene	14.74	188	350214	1.00	ppm	0.00
26) d12-Chrysene	18.04	240	352890	1.00	ppm	0.00
33) d12-Perylene	21.81	264	284594	1.00	ppm	-0.01
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.26	82	54656	0.50	ppm	0.01
Spiked Amount 2.000	Range 22 - 124		Recovery = 25.00%			
11) SURR5,2-FLUOROBIPHENYL	12.90	172	137436	0.49	ppm	0.01
Spiked Amount 2.000	Range 27 - 114		Recovery = 24.50%#			
28) SURR6,TERPHENYL-D14	16.36	244	145491	0.52	ppm	0.01
Spiked Amount 2.000	Range 23 - 139		Recovery = 26.00%			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.11	88	75395	0.93	ppm	97
3) Pyridine	6.90	79	40693	0.33	ppm	84
6) Nitrobenzene	11.28	77	55271	0.47	ppm	95
7) Naphthalene	11.95	128	185743	0.52	ppm	92
8) 2-Methylnaphthalene	12.58	142	127956	0.57	ppm	87
9) 1-Methylnaphthalene	12.69	142	112840	0.52	ppm	95
12) Acenaphthylene	13.40	152	206298	0.52	ppm	99
13) Dimethyl phthalate	13.26	163	161846m	0.50	ppm	
14) Acenaphthene	13.56	153	124472	0.50	ppm	89
15) Dibenzofuran	13.71	168	185925	0.54	ppm	98
16) Fluorene	13.99	166	144727	0.54	ppm	87
17) Diethylphthalate	13.84	149	165516	0.50	ppm	96
19) Hexachlorobenzene	14.48	284	43800	0.51	ppm	89
20) Phenanthrene	14.76	178	183856	0.46	ppm	96
21) Anthracene	14.81	178	195720	0.52	ppm	98
22) Carbazole	14.94	167	148635	0.62	ppm	98
23) Octachlorostyrene	15.75	378	10874	0.47	ppm	88
24) Di-n-butylphthalate	15.15	149	236895m	0.45	ppm	
25) Fluoranthene	15.97	202	218044	0.49	ppm	97
27) Pyrene	16.25	202	226788	0.51	ppm	93
29) Butyl benzyl phthalate	16.97	149	109530	0.47	ppm	95
30) bis(2-Ethylhexyl)phthalate	17.89	149	266996	0.93	ppm	93
31) Benzo(a)anthracene	18.01	228	192126	0.50	ppm	87
32) Chrysene	18.09	228	206966	0.53	ppm	87
34) Di-n-octyl phthalate	19.21	149	219615m	0.42	ppm	
35) Benzo(b)Fluoranthene	20.58	252	191134	0.47	ppm	87

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC084.D Vial: 4
Acq On : 16 Oct 2009 12:11 pm Operator: J.Wu
Sample : SSTD005 Inst : 5973-B
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:42 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:39:18 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
36)	Benzo(k)fluoranthene	20.65	252	194582m	0.48	ppm	
37)	Benzo(a)pyrene	21.61	252	172560m	0.48	ppm	
38)	Indeno(1,2,3-cd)Pyrene	25.02	276	209169m	0.49	ppm	
39)	Dibenz(a,h)anthracene	25.03	278	182335m	0.51	ppm	
40)	Benzo(g,h,i)perylene	25.88	276	187094	0.52	ppm	88

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

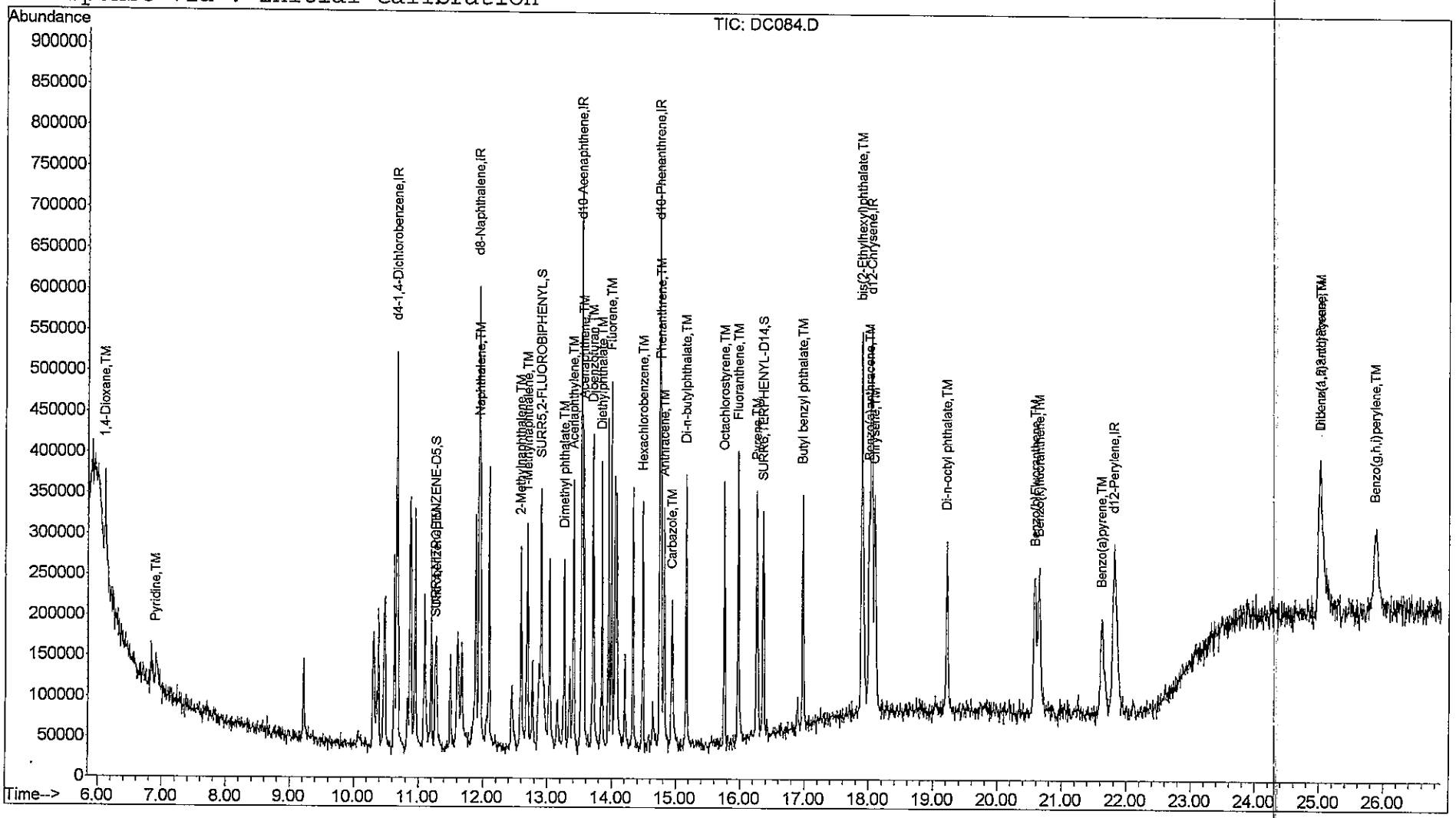
Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC084.D
Acq On : 16 Oct 2009 12:11 pm
Sample : SSTD005
Misc : 0.5/1.0 PPM STD 8270.LL
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:42 2009

Vial: 4
Operator: J.Wu
Inst : 5973-B
Multiplr: 1.00

Quant Results File: LVI1016.RES

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration

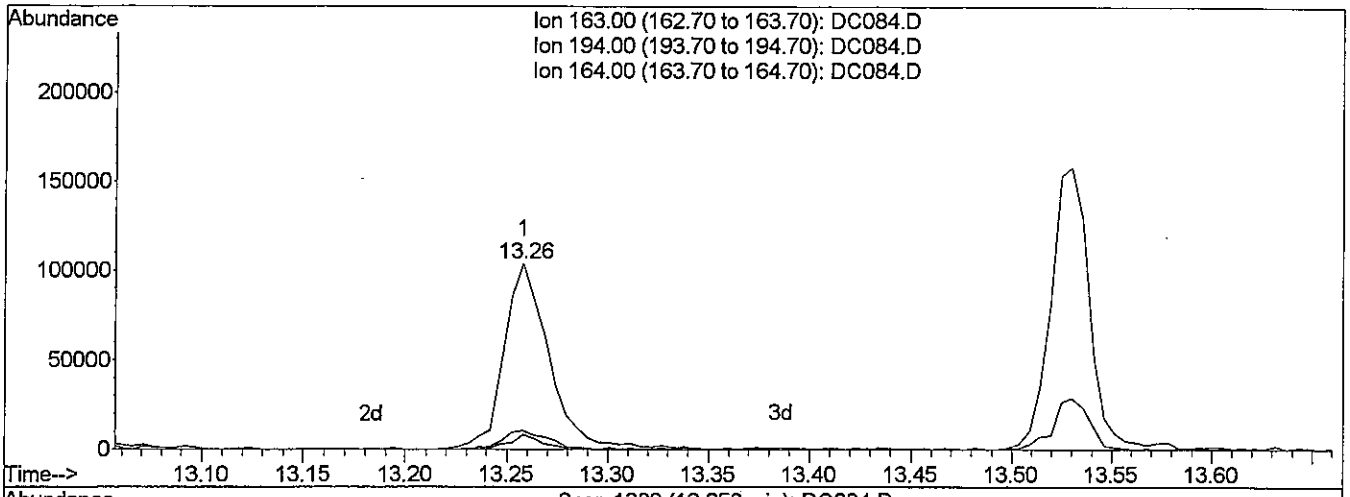


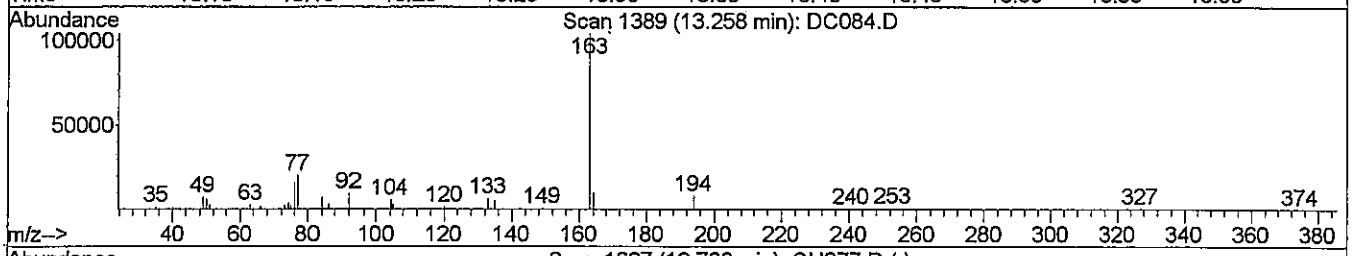
60C50

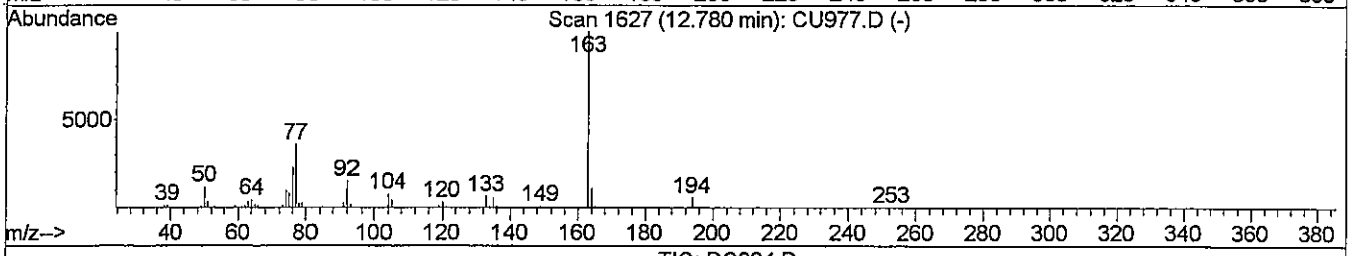
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC084.D Vial: 4
Acq On : 16 Oct 2009 12:11 pm Operator: J.Wu
Sample : SSTD005 Inst : 5973-B
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:39 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:39:18 2009
Response via : Multiple Level Calibration







TIC: DC084.D

(13) Dimethyl phthalate (TM)

13.26min 0.50ppm

response 160697

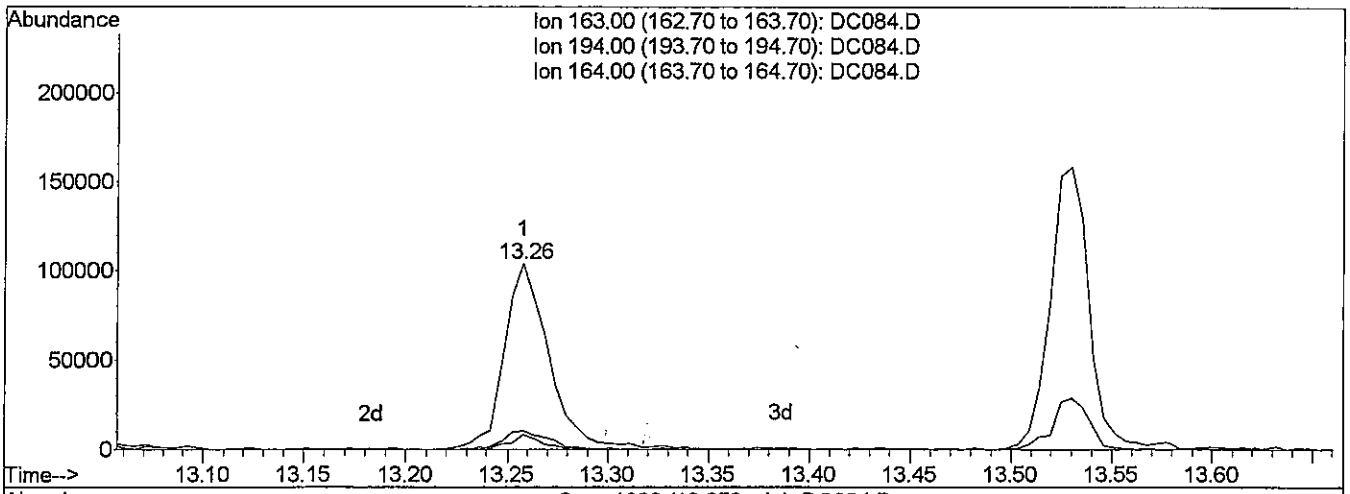
Ion	Exp%	Act%
163.00	100	100
194.00	5.80	8.14#
164.00	10.80	10.01
0.00	0.00	0.00

B

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC084.D Vial: 4
Acq On : 16 Oct 2009 12:11 pm Operator: J.Wu
Sample : SSTD005 Inst : 5973-B
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:40 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:39:18 2009
Response via : Multiple Level Calibration



TIC: DC084.D

(13) Dimethyl phthalate (TM)

13.26min 0.50ppm m

response 161846

Ion	Exp%	Act%
163.00	100	100
194.00	5.80	8.08#
164.00	10.80	9.94
0.00	0.00	0.00

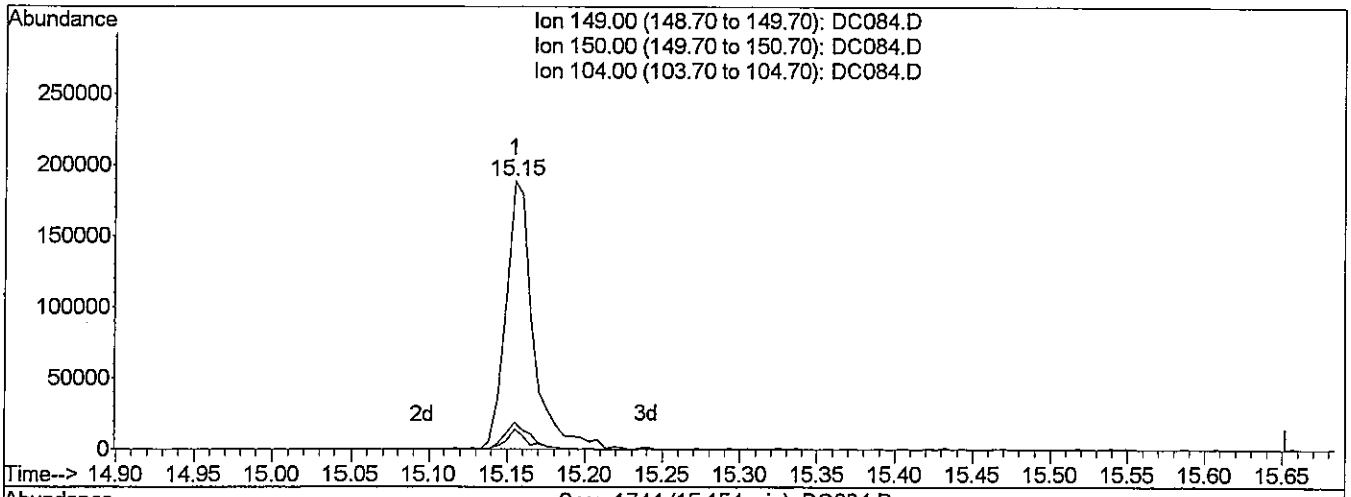
MW/MF

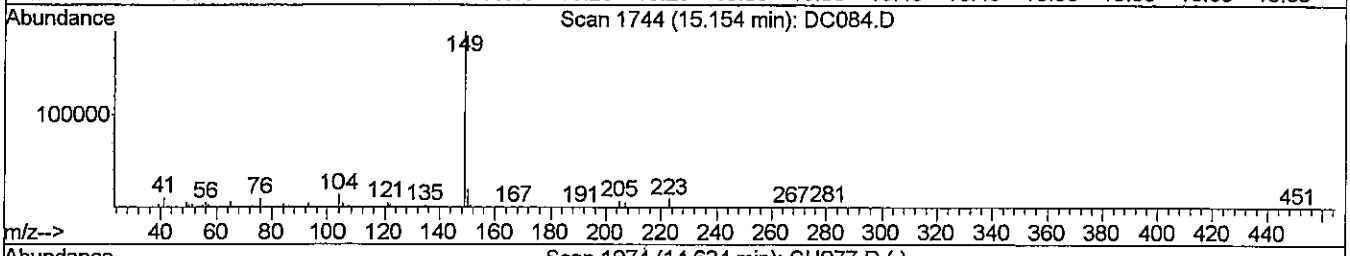
A JW 10/19/09

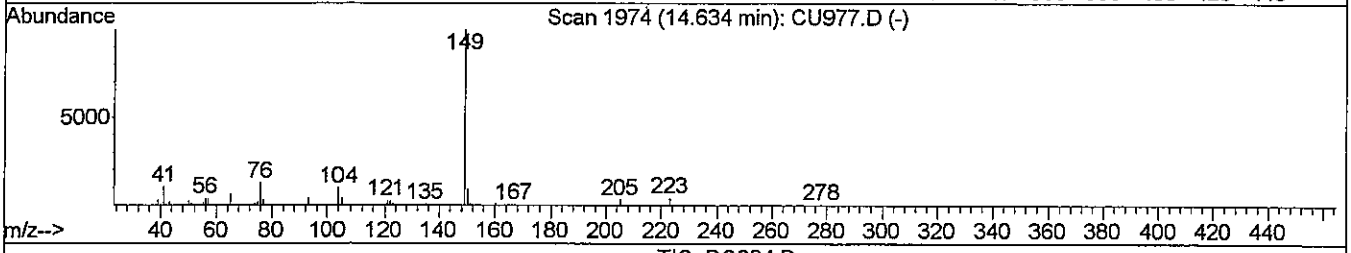
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC084.D Vial: 4
Acq On : 16 Oct 2009 12:11 pm Operator: J.Wu
Sample : SSTD005 Inst : 5973-B
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:40 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:39:18 2009
Response via : Multiple Level Calibration







TIC: DC084.D

(24) Di-n-butylphthalate (TM)

15.15min 0.45ppm

response 235535

Ion	Exp%	Act%
149.00	100	100
150.00	9.30	9.91
104.00	5.00	7.51#
0.00	0.00	0.00

B

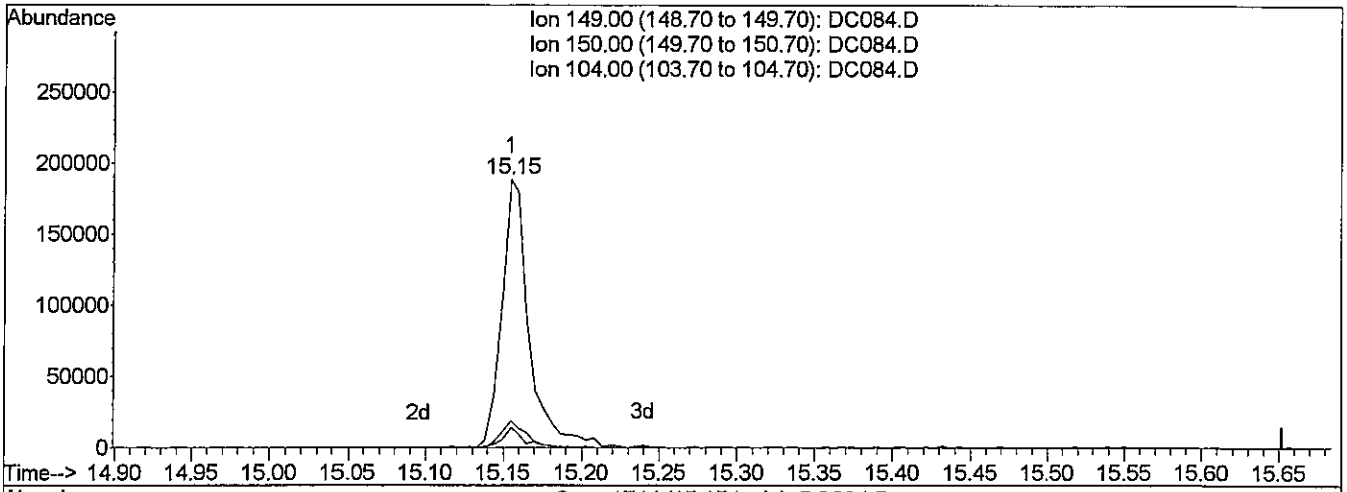
DC084.D LVI1016.M Fri Oct 16 15:40:25 2009

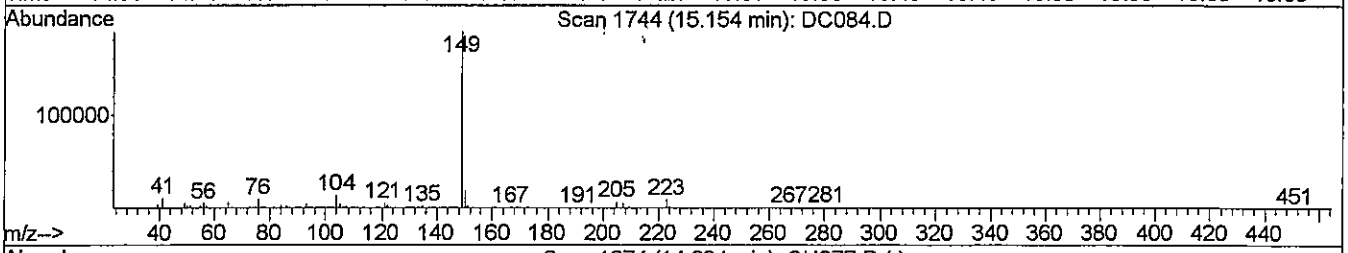
00312

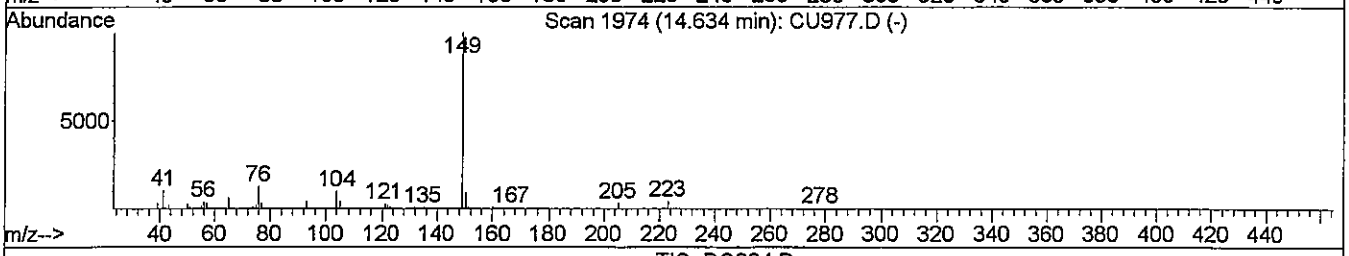
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC084.D Vial: 4
Acq On : 16 Oct 2009 12:11 pm Operator: J.Wu
Sample : SSTD005 Inst : 5973-B
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:40 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:39:18 2009
Response via : Multiple Level Calibration







TIC: DC084.D

(24) Di-n-butylphthalate (TM)

15.15min 0.45ppm m

response 236895

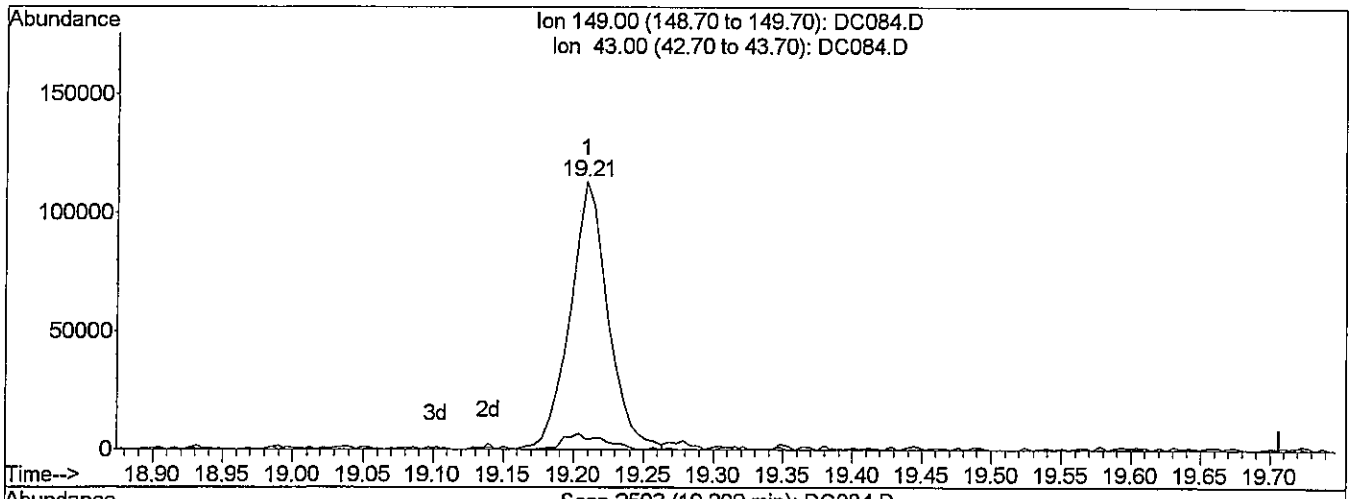
Ion	Exp%	Act%
149.00	100	100
150.00	9.30	10.12
104.00	5.00	7.51#
0.00	0.00	0.00

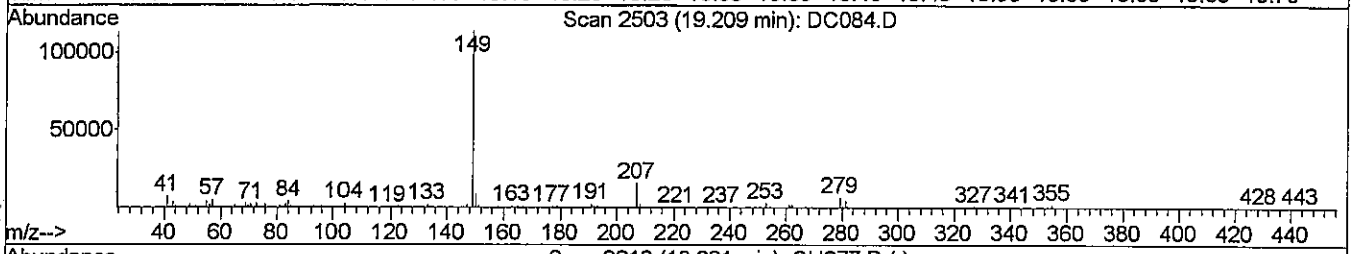
AJW 10/19/09

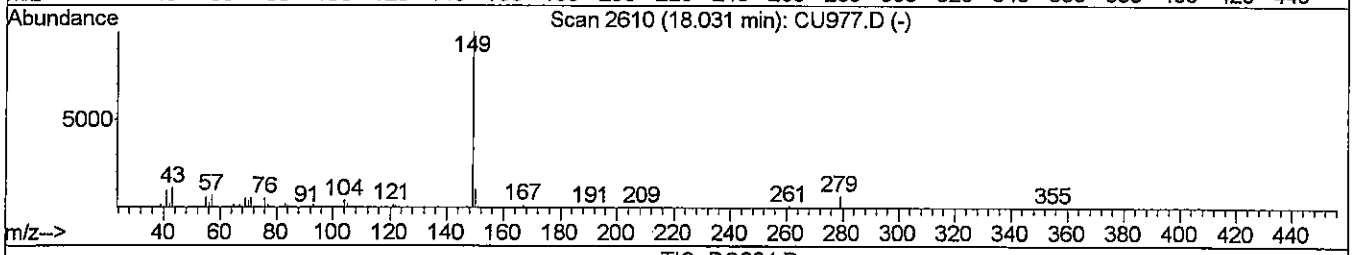
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC084.D Vial: 4
Acq On : 16 Oct 2009 12:11 pm Operator: J.Wu
Sample : SSTD005 Inst : 5973-B
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:40 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:39:18 2009
Response via : Single Level Calibration







TIC: DC084.D

(34) Di-n-octyl phthalate (TM)

19.21min 0.41ppm

response 215420

Ion	Exp%	Act%
149.00	100	100
43.00	7.10	3.66#
0.00	0.00	0.00
0.00	0.00	0.00

B

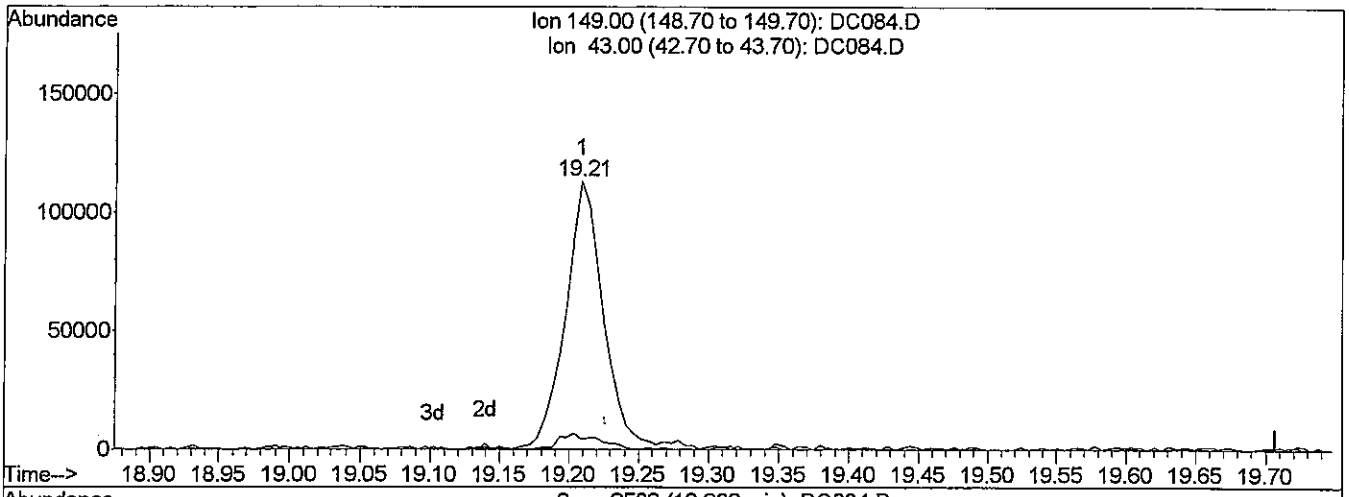
DC084.D LVI1016.M Fri Oct 16 15:41:02 2009

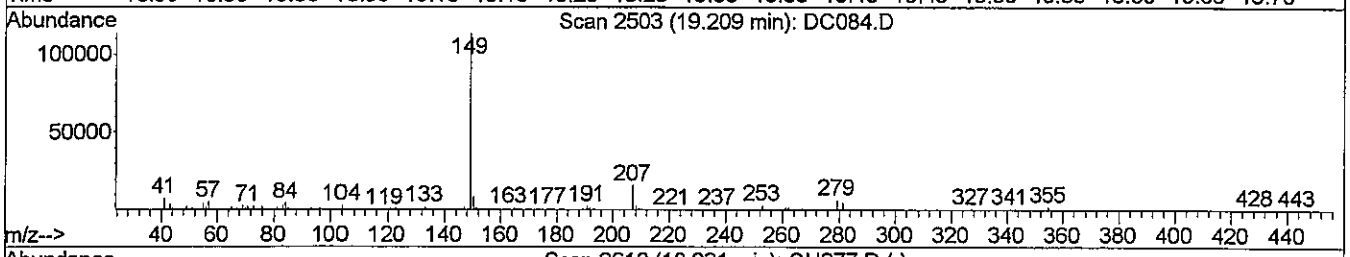
00314

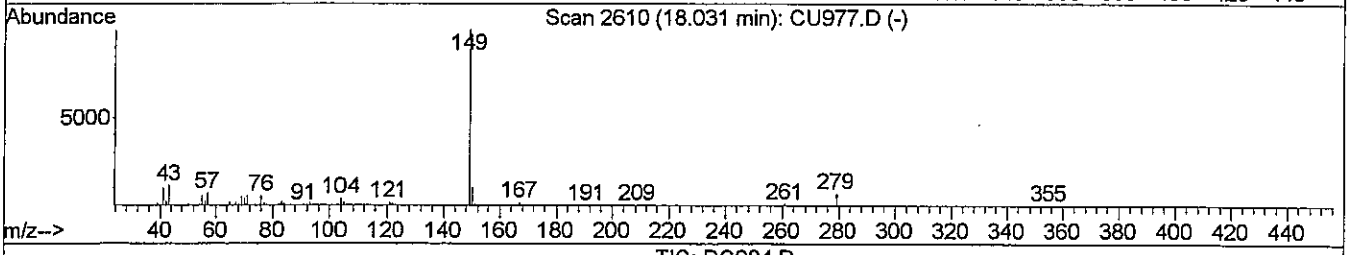
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC084.D Vial: 4
Acq On : 16 Oct 2009 12:11 pm Operator: J.Wu
Sample : SSTD005 Inst : 5973-B
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:41 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:39:18 2009
Response via : Single Level Calibration







TIC: DC084.D

(34) Di-n-octyl phthalate (TM)

19.21min 0.42ppm m

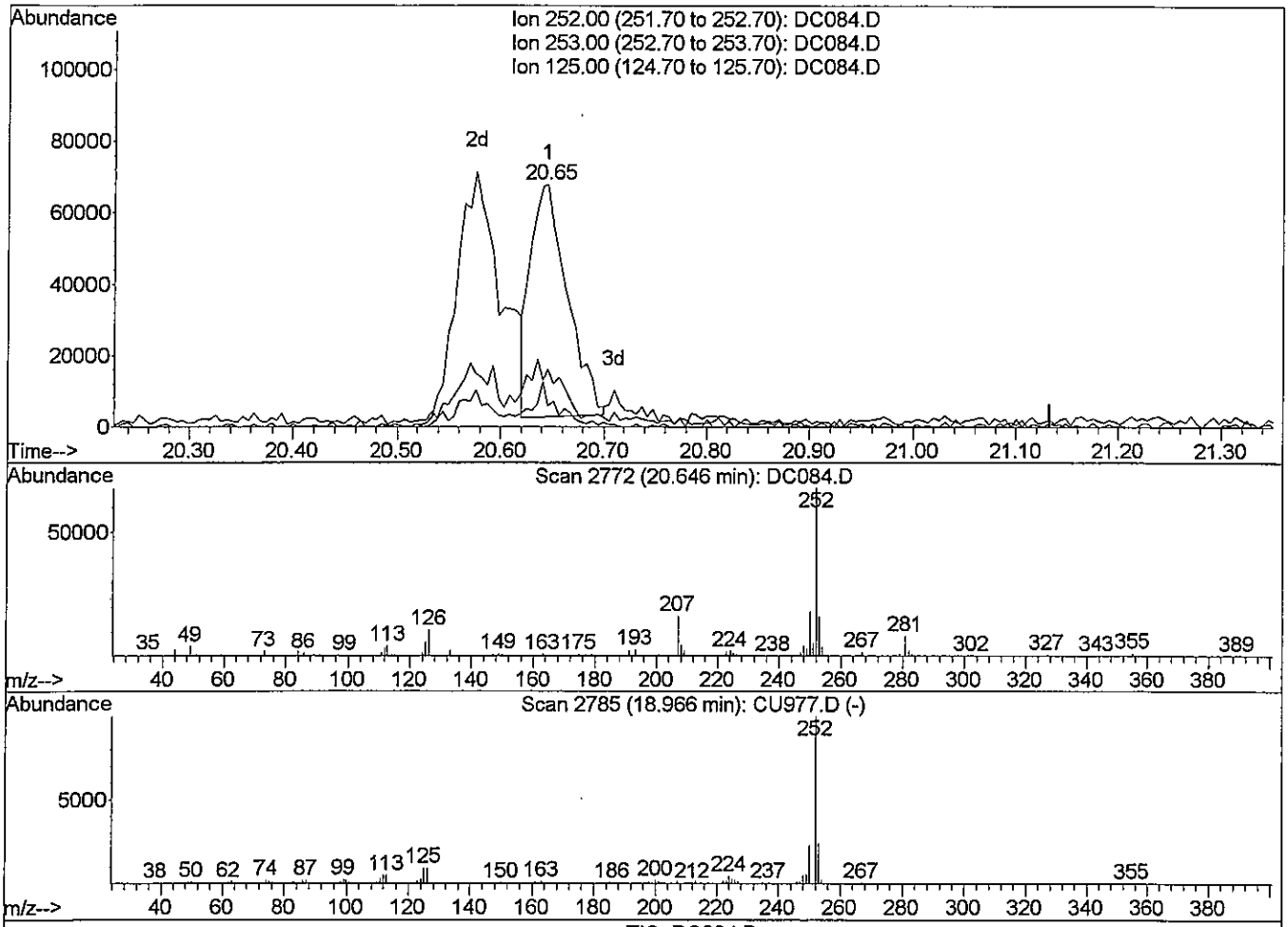
response 219615

Ion	Exp%	Act%
149.00	100	100
43.00	7.10	3.85#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC084.D Vial: 4
Acq On : 16 Oct 2009 12:11 pm Operator: J.Wu
Sample : SSTD005 Inst : 5973-B
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:41 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:39:18 2009
Response via : Multiple Level Calibration



TIC: DC084.D

(36) Benzo(k)fluoranthene (TM)

20.65min 0.40ppm

response 163419

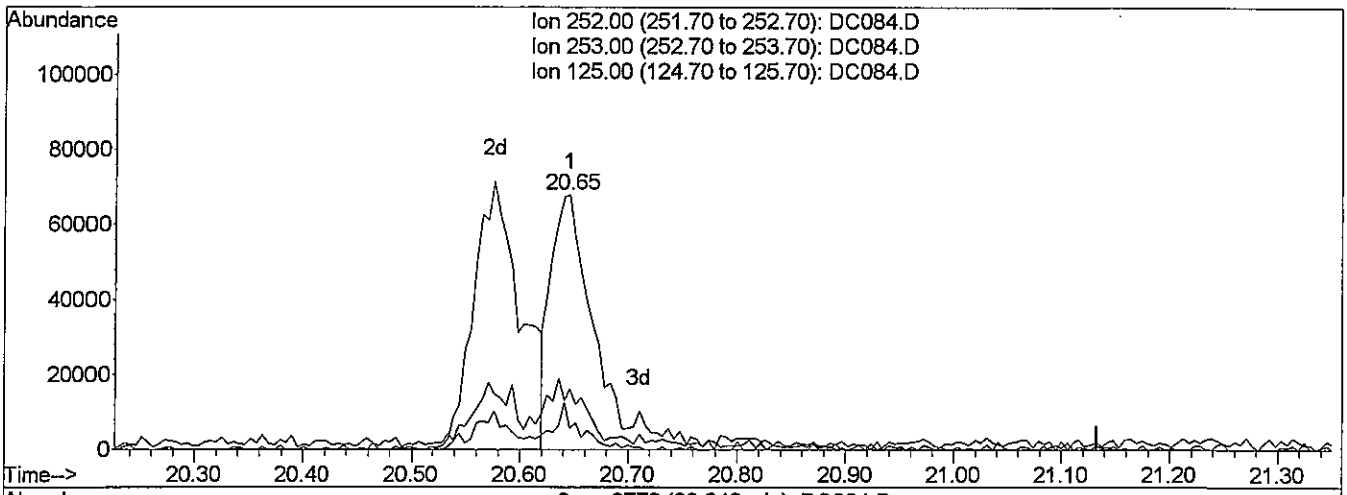
Ion	Exp%	Act%
252.00	100	100
253.00	25.10	20.41
125.00	9.70	6.71
0.00	0.00	0.00

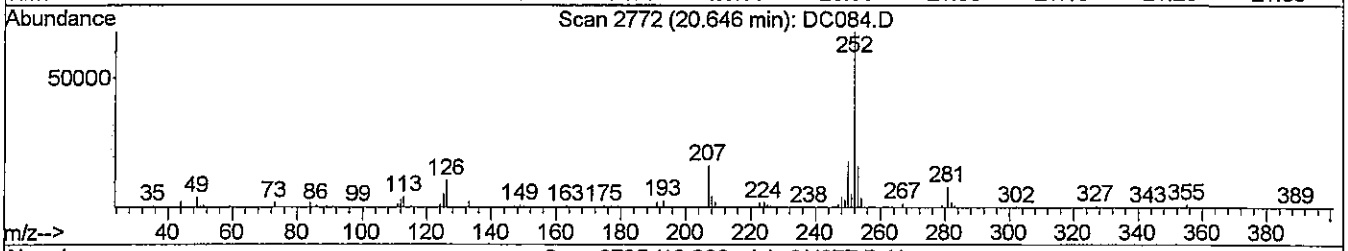
B

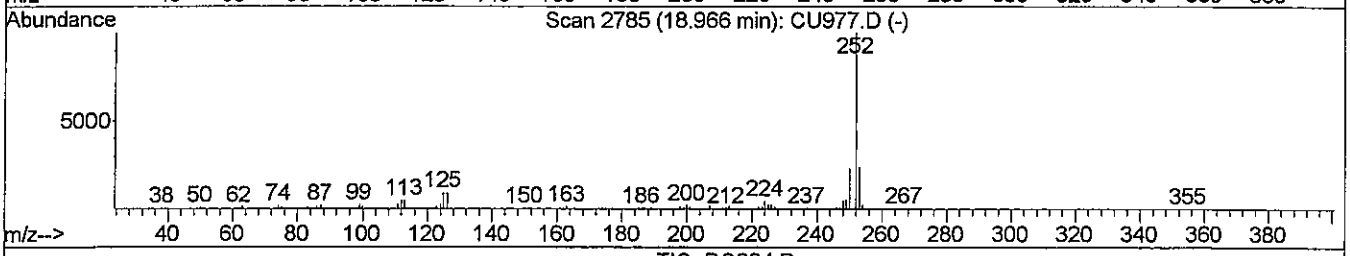
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC084.D Vial: 4
Acq On : 16 Oct 2009 12:11 pm Operator: J.Wu
Sample : SSTD005 Inst : 5973-B
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:41 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:39:18 2009
Response via : Multiple Level Calibration







TIC: DC084.D

(36) Benzo(k)fluoranthene (TM)

20.65min 0.48ppm m

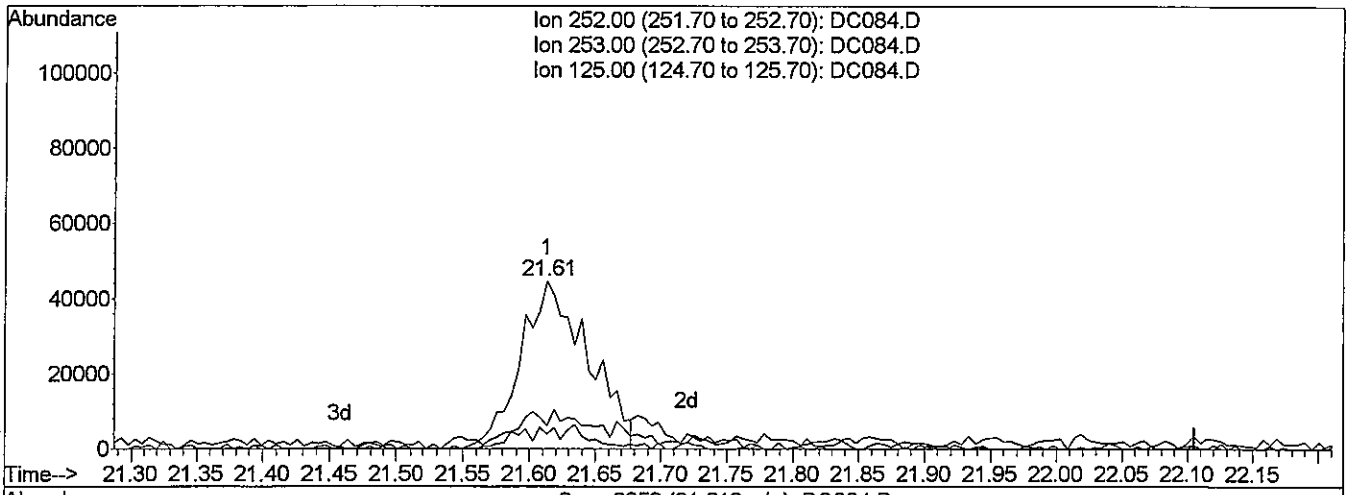
response 194582

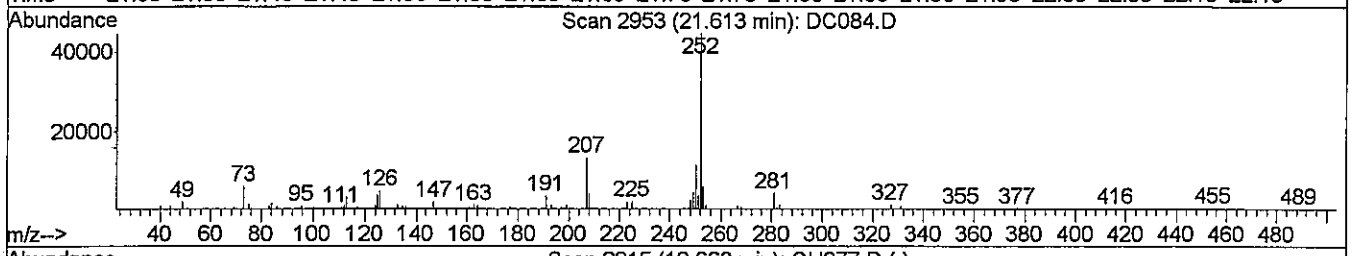
Ion	Exp%	Act%
252.00	100	100
253.00	25.10	23.79
125.00	9.70	8.55
0.00	0.00	0.00

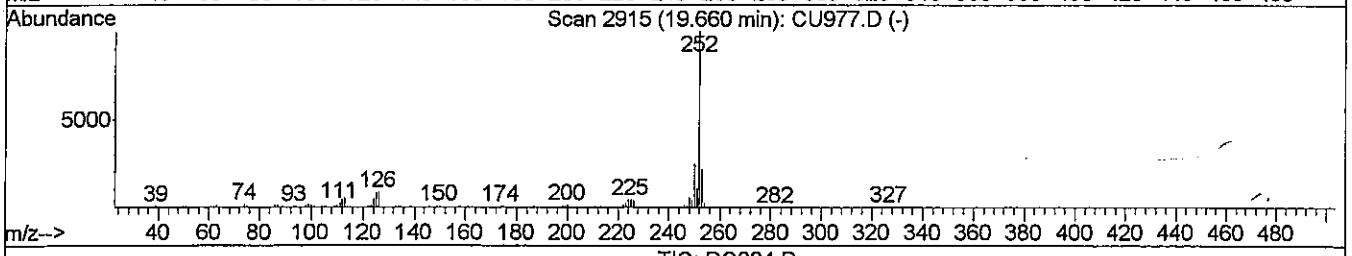
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC084.D Vial: 4
Acq On : 16 Oct 2009 12:11 pm Operator: J.Wu
Sample : SSTD005 Inst : 5973-B
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:41 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:39:18 2009
Response via : Multiple Level Calibration







TIC: DC084.D

(37) Benzo(a)pyrene (TM)

21.61min 0.44ppm

response 158967

Ion	Exp%	Act%
252.00	100	100
253.00	24.50	7.49
125.00	10.20	7.39
0.00	0.00	0.00

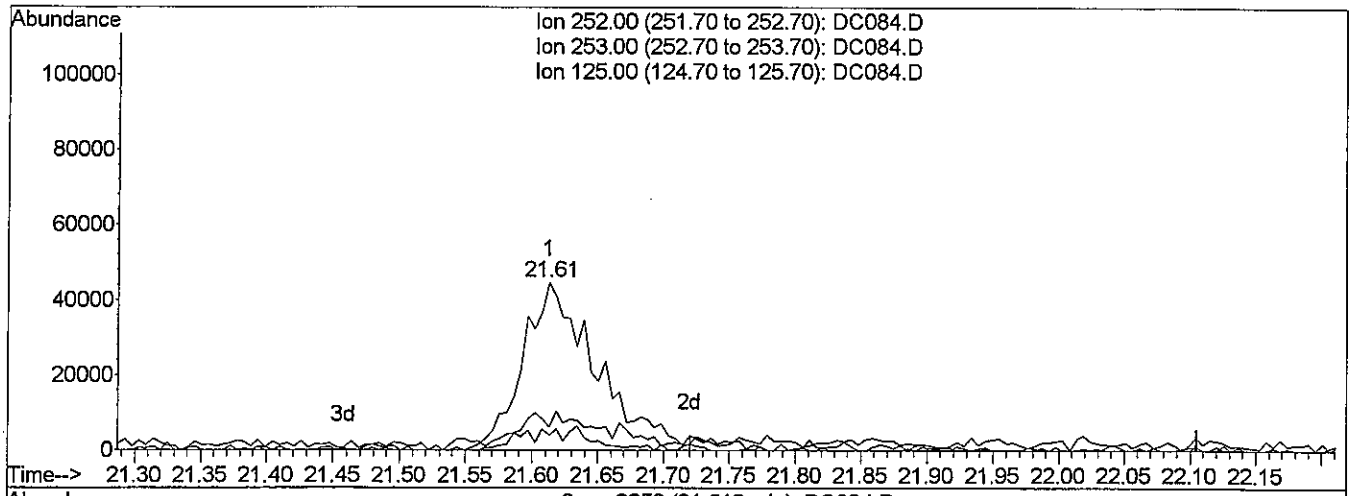
B

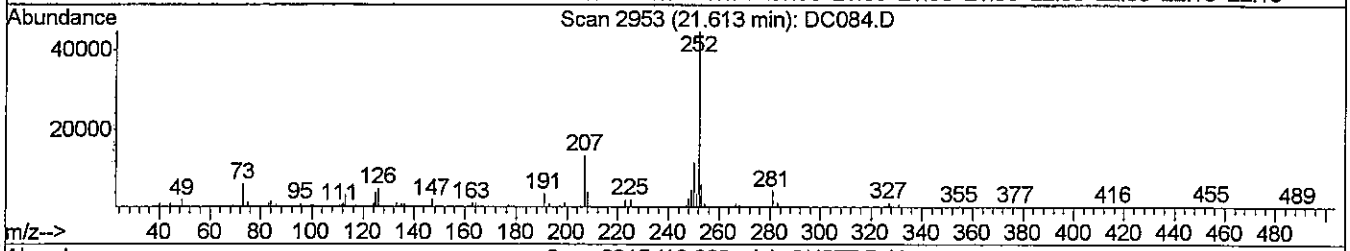
DC084.D LVI1016.M Fri Oct 16 15:41:43 2009

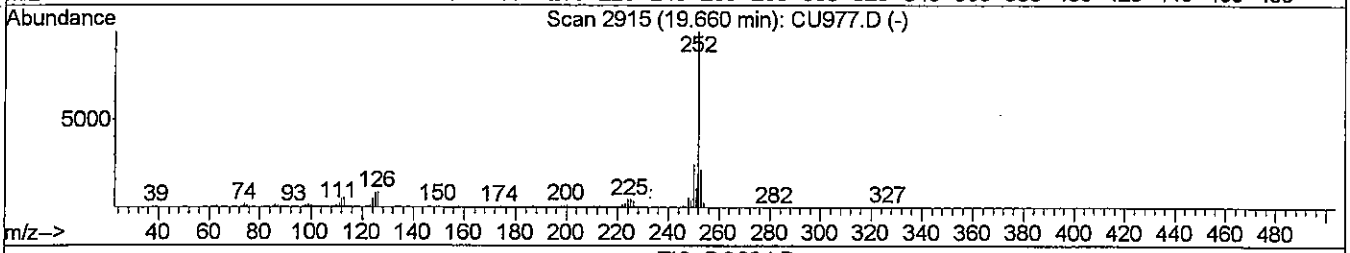
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC084.D Vial: 4
Acq On : 16 Oct 2009 12:11 pm Operator: J.Wu
Sample : SSTD005 Inst : 5973-B
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:41 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:39:18 2009
Response via : Multiple Level Calibration







TIC: DC084.D

(37) Benzo(a)pyrene (TM)

21.61min 0.48ppm m

response 172560

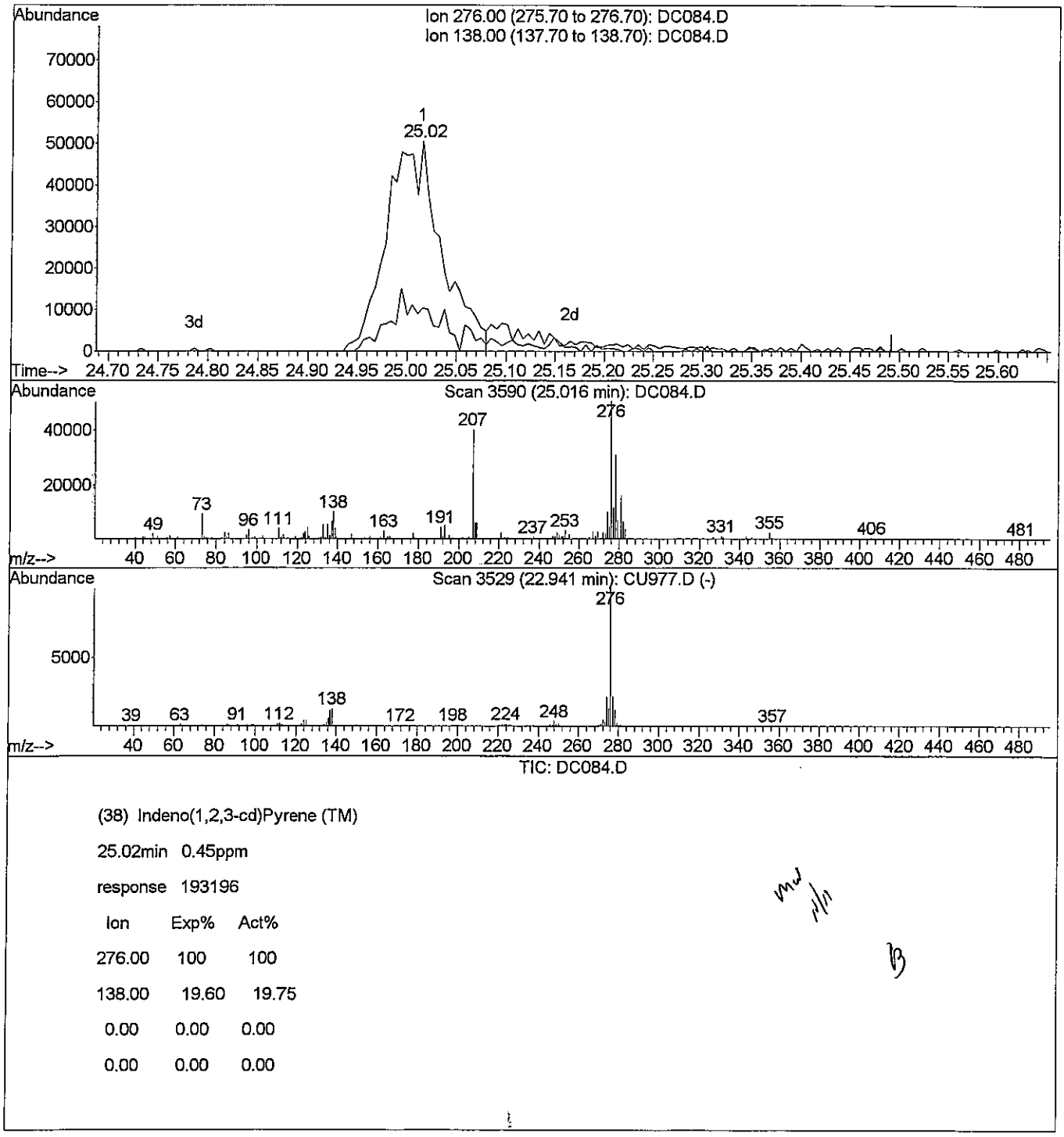
Ion	Exp%	Act%
252.00	100	100
253.00	24.50	13.89
125.00	10.20	8.87
0.00	0.00	0.00

10/19/09

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC084.D Vial: 4
Acq On : 16 Oct 2009 12:11 pm Operator: J.Wu
Sample : SSTD005 Inst : 5973-B
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:42 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:39:18 2009
Response via : Multiple Level Calibration



TIC: DC084.D

(38) Indeno(1,2,3-cd)Pyrene (TM)

25.02min 0.45ppm

response 193196

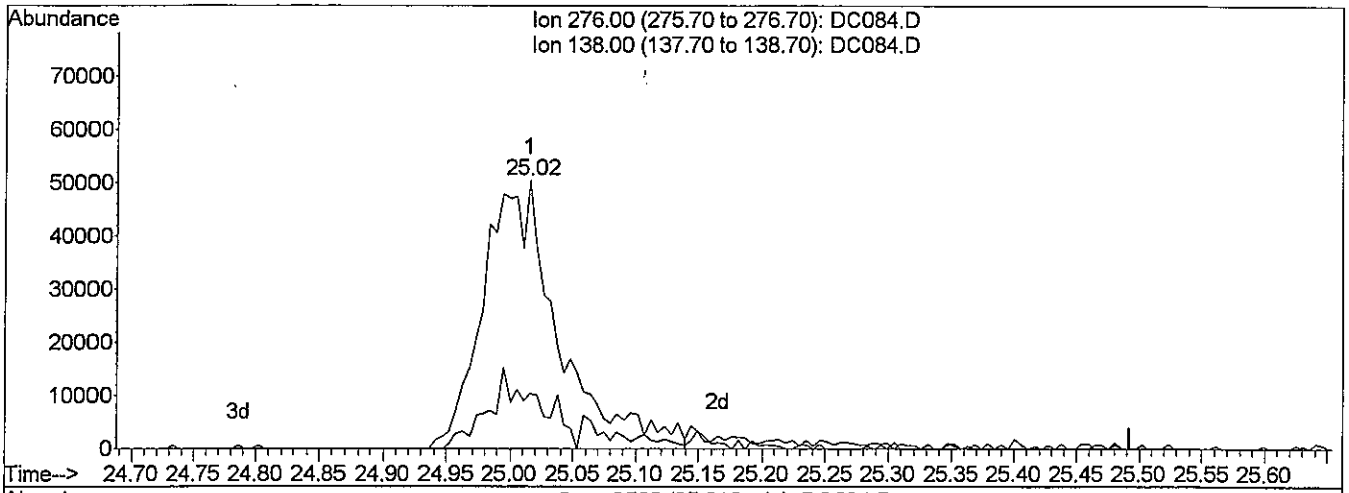
Ion	Exp%	Act%
276.00	100	100
138.00	19.60	19.75
0.00	0.00	0.00
0.00	0.00	0.00

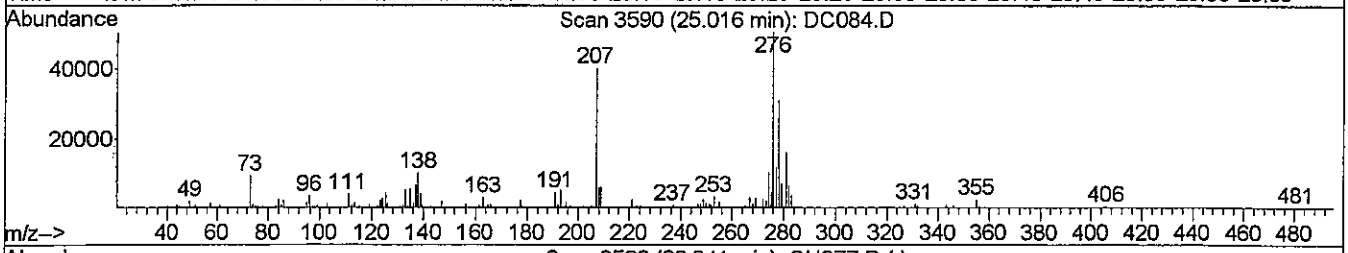
DC084.D LVI1016.M Fri Oct 16 15:42:25 2009

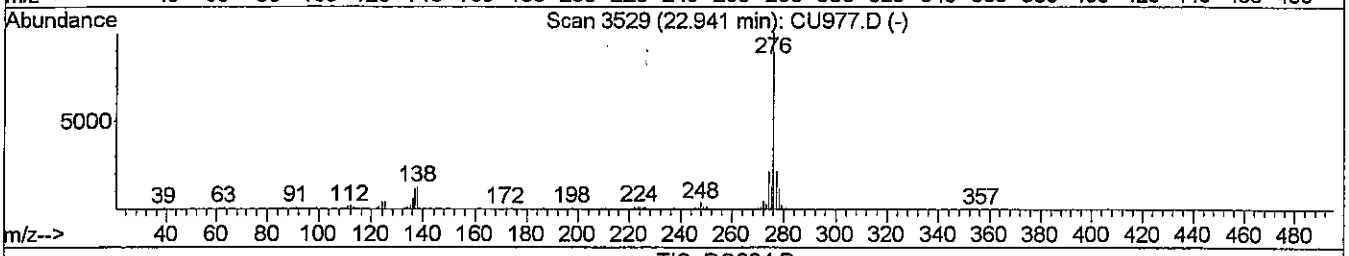
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC084.D Vial: 4
Acq On : 16 Oct 2009 12:11 pm Operator: J.Wu
Sample : SSTD005 Inst : 5973-B
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:42 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:39:18 2009
Response via : Multiple Level Calibration







TIC: DC084.D

(38) Indeno(1,2,3-cd)Pyrene (TM)

25.02min 0.49ppm m

response 209169

Ion	Exp%	Act%
276.00	100	100
138.00	19.60	20.41
0.00	0.00	0.00
0.00	0.00	0.00

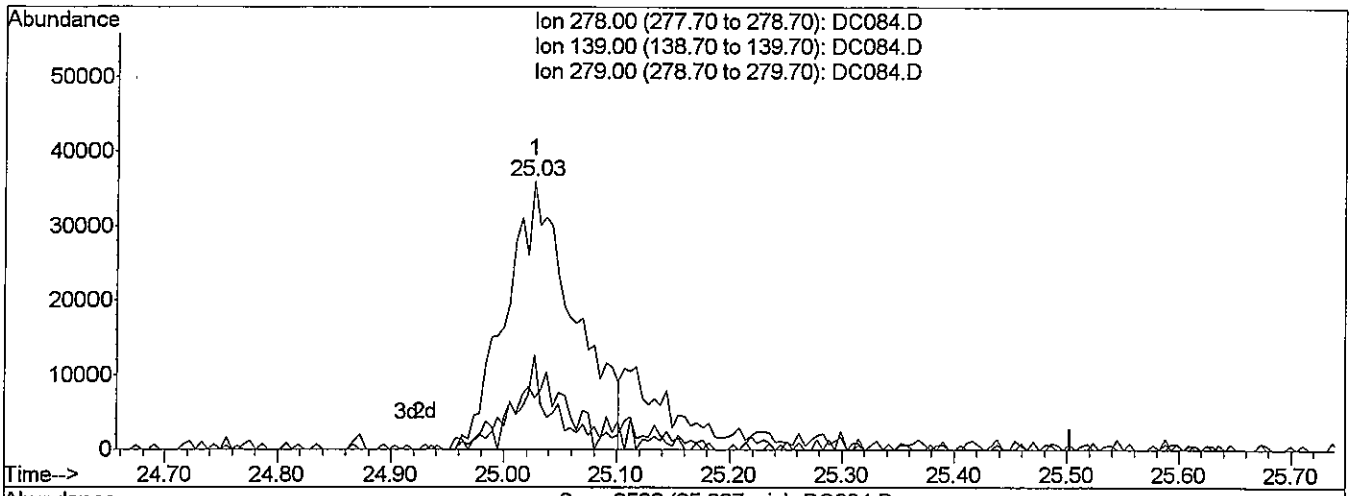
AJW 10/19/09

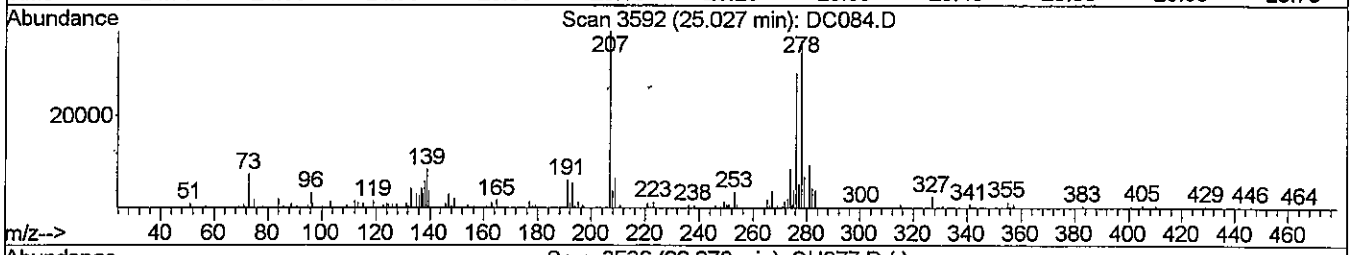
DC084.D LVI1016.M Fri Oct 16 15:42:32 2009

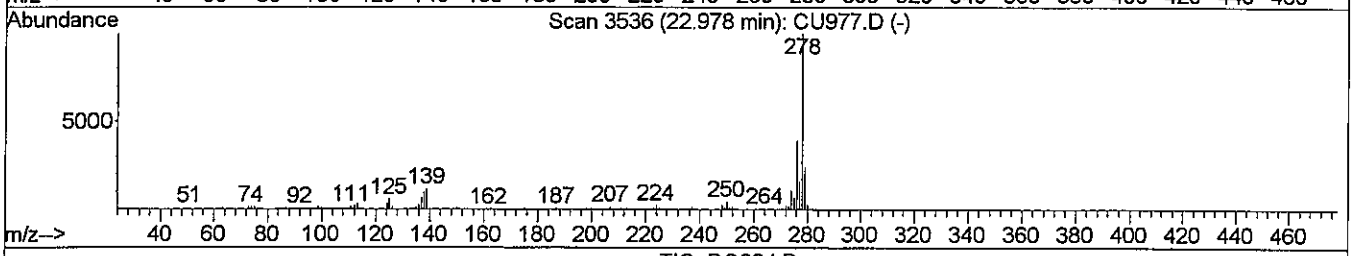
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC084.D Vial: 4
Acq On : 16 Oct 2009 12:11 pm Operator: J.Wu
Sample : SSTD005 Inst : 5973-B
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:41 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:39:18 2009
Response via : Multiple Level Calibration







TIC: DC084.D

(39) Dibenz(a,h)anthracene (TM)

25.03min 0.42ppm

response 149495

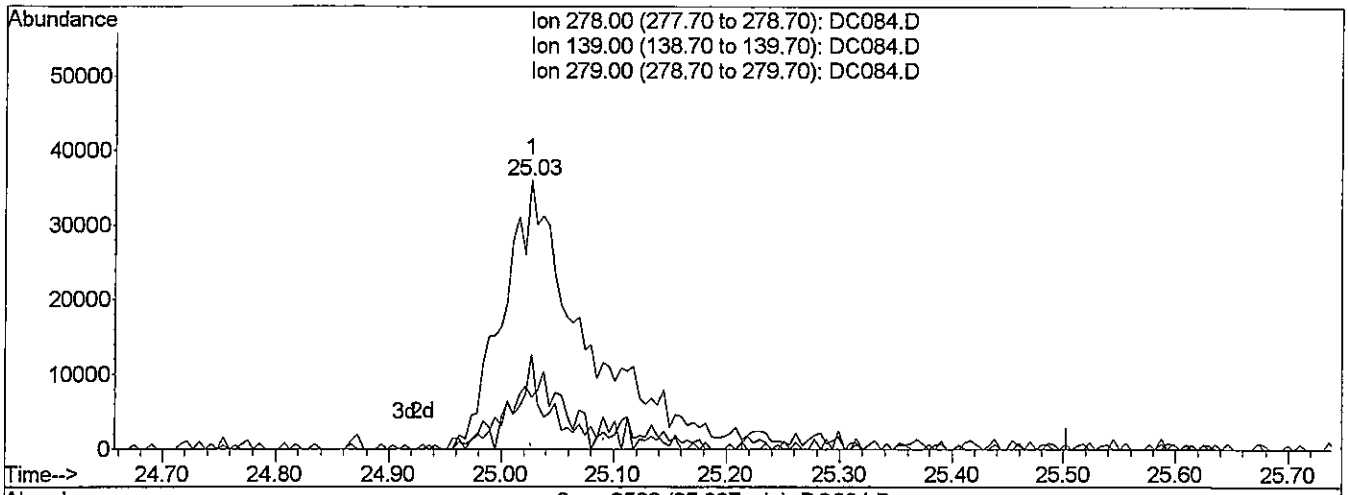
Ion	Exp%	Act%
278.00	100	100
139.00	12.50	34.31
279.00	23.70	19.10
0.00	0.00	0.00

B

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC084.D Vial: 4
Acq On : 16 Oct 2009 12:11 pm Operator: J.Wu
Sample : SSTD005 Inst : 5973-B
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:42 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:39:18 2009
Response via : Multiple Level Calibration



TIC: DC084.D

(39) Dibenz(a,h)anthracene (TM)

25.03min 0.51ppm m

response 182335

Ion	Exp%	Act%
278.00	100	100
139.00	12.50	23.82
279.00	23.70	19.39
0.00	0.00	0.00

AJW 10/19/09

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC085.D Vial: 5
Acq On : 16 Oct 2009 12:52 pm Operator: J.Wu
Sample : SSTD010 Inst : 5973-B
Misc : 1.0/2.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:44 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:42:56 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.66	152	103601	1.00 ppm	0.00
4) d8-Naphthalene	11.93	136	366299	1.00 ppm	0.00
10) d10-Acenaphthene	13.53	164	231611	1.00 ppm	0.00
18) d10-Phenanthrene	14.74	188	378797	1.00 ppm	0.00
26) d12-Chrysene	18.03	240	392732	1.00 ppm	0.00
33) d12-Perylene	21.81	264	303994	1.00 ppm	0.00
System Monitoring Compounds					
5) SURR4,NITROBENZENE-D5	11.25	82	114908	0.99 ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 49.50%		
11) SURR5,2-FLUOROBIPHENYL	12.89	172	288938	0.96 ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 48.00%		
28) SURR6,TERPHENYL-D14	16.35	244	311191	0.99 ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 49.50%		
Target Compounds					Qvalue
2) 1,4-Dioxane	6.14	88	148187	1.67 ppm	93
3) Pyridine	6.91	79	84740	0.62 ppm	90
6) Nitrobenzene	11.27	77	103120	0.82 ppm	83
7) Naphthalene	11.95	128	358113	0.93 ppm	94
8) 2-Methylnaphthalene	12.58	142	238412	0.98 ppm	84
9) 1-Methylnaphthalene	12.68	142	214390	0.92 ppm	86
12) Acenaphthylene	13.40	152	394692	0.92 ppm	98
13) Dimethyl phthalate	13.25	163	326930	0.93 ppm	98
14) Acenaphthene	13.56	153	244044	0.90 ppm	97
15) Dibenzofuran	13.70	168	360030	0.95 ppm	97
16) Fluorene	13.98	166	278231	0.94 ppm	93
17) Diethylphthalate	13.84	149	322351	0.91 ppm	98
19) Hexachlorobenzene	14.48	284	93310	1.01 ppm	92
20) Phenanthrene	14.76	178	398340	0.94 ppm	96
21) Anthracene	14.81	178	357295	0.88 ppm	98
22) Carbazole	14.93	167	293177	1.14 ppm	97
23) Octachlorostyrene	15.75	378	21046	0.85 ppm	86
24) Di-n-butylphthalate	15.15	149	477029	0.86 ppm	97
25) Fluoranthene	15.96	202	460731	0.96 ppm	98
27) Pyrene	16.25	202	471879	0.96 ppm	98
29) Butyl benzyl phthalate	16.97	149	209306	0.81 ppm	92
30) bis(2-Ethylhexyl)phthalate	17.89	149	559151	1.76 ppm	95
31) Benzo(a)anthracene	18.00	228	409794	0.95 ppm	97
32) Chrysene	18.09	228	408310	0.93 ppm	97
34) Di-n-octyl phthalate	19.21	149	424472m	0.75 ppm	
35) Benzo(b)Fluoranthene	20.57	252	393842	0.91 ppm	91

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

Data File : J:\ACQUDATA\5973B\DATA\101609\DC085.D Vial: 5
Acq On : 16 Oct 2009 12:52 pm Operator: J.Wu
Sample : SSTD010 Inst : 5973-B
Misc : 1.0/2.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:44 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:42:56 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

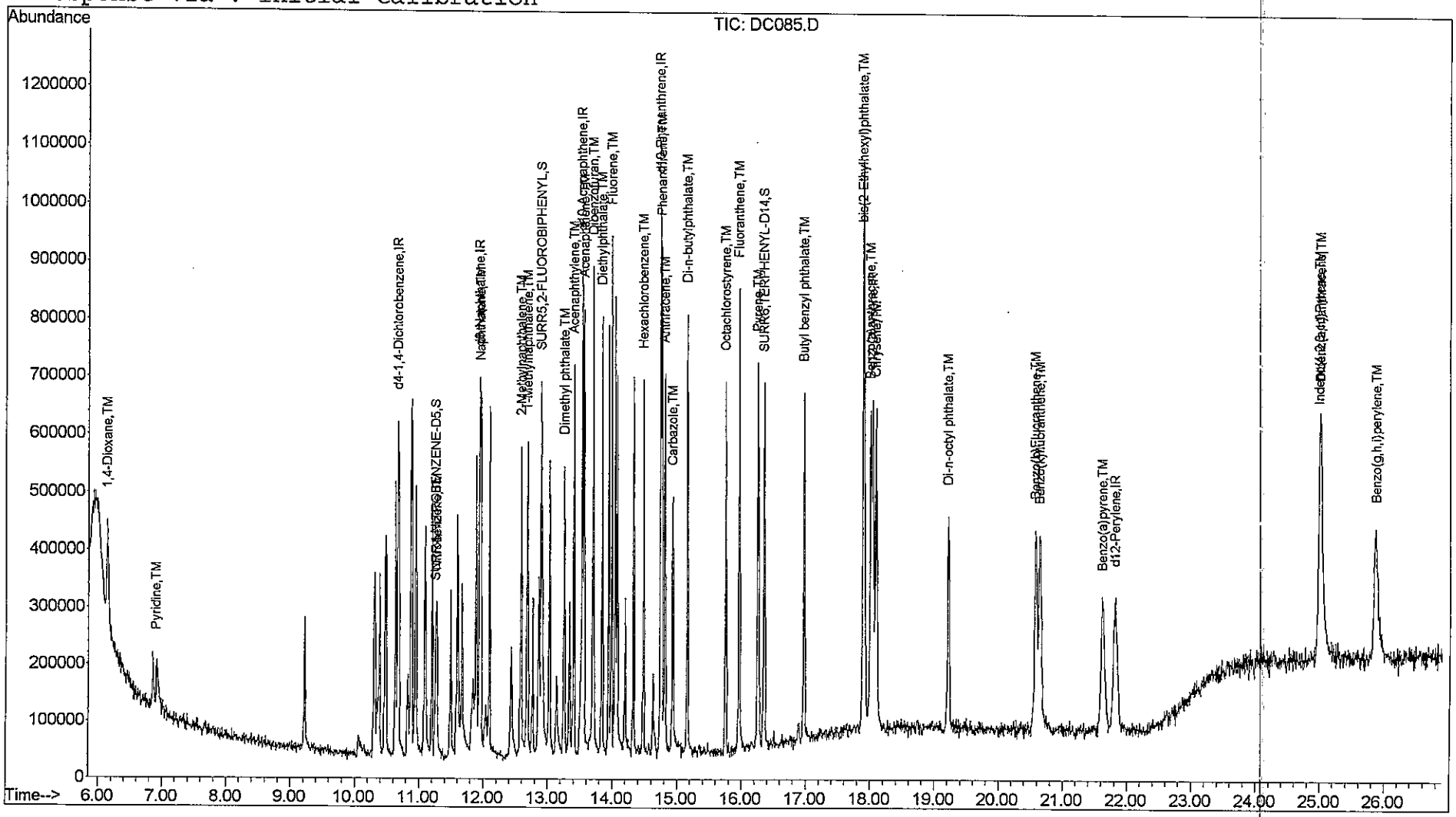
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
36)	Benzo(k)fluoranthene	20.64	252	407782	0.94 ppm	88
37)	Benzo(a)pyrene	21.62	252	349741	0.90 ppm	91
38)	Indeno(1,2,3-cd)Pyrene	24.98	276	442907	0.96 ppm	84
39)	Dibenz(a,h)anthracene	25.01	278	364347	0.93 ppm	87
40)	Benzo(g,h,i)perylene	25.87	276	384031	0.98 ppm	91

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

Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC085.D Vial: 5
Acq On : 16 Oct 2009 12:52 pm Operator: J.Wu
Sample : SSTD010 Inst : 5973-B
Misc : 1.0/2.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:44 2009 Quant Results File: LVI1016.RES

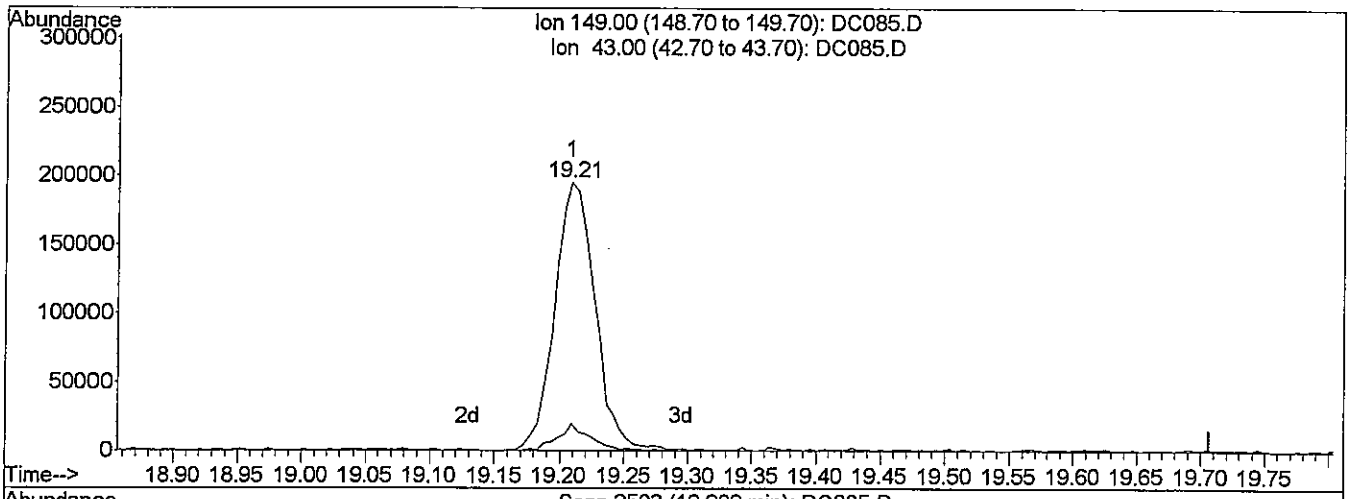
Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration

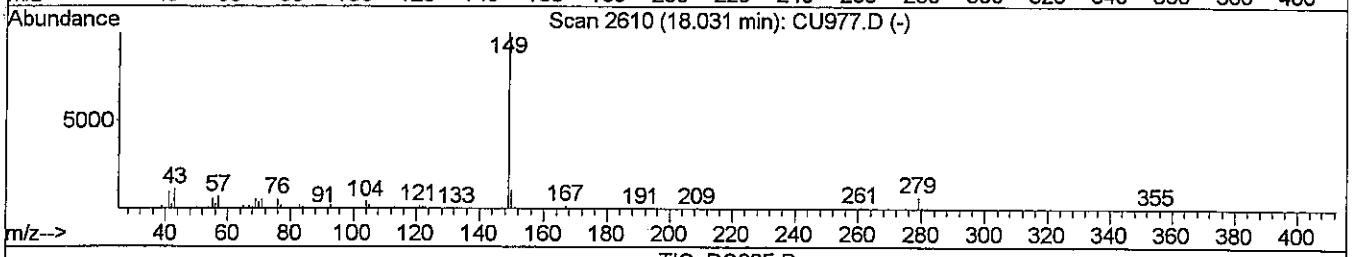


Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC085.D Vial: 5
Acq On : 16 Oct 2009 12:52 pm Operator: J.Wu
Sample : SSTD010 Inst : 5973-B
Misc : 1.0/2.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:42 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:42:56 2009
Response via : Single Level Calibration





TIC: DC085.D

(34) Di-n-octyl phthalate (TM)

19.21min 0.75ppm

response 425124

Ion	Exp%	Act%
149.00	100	100
43.00	7.10	10.11#
0.00	0.00	0.00
0.00	0.00	0.00

B

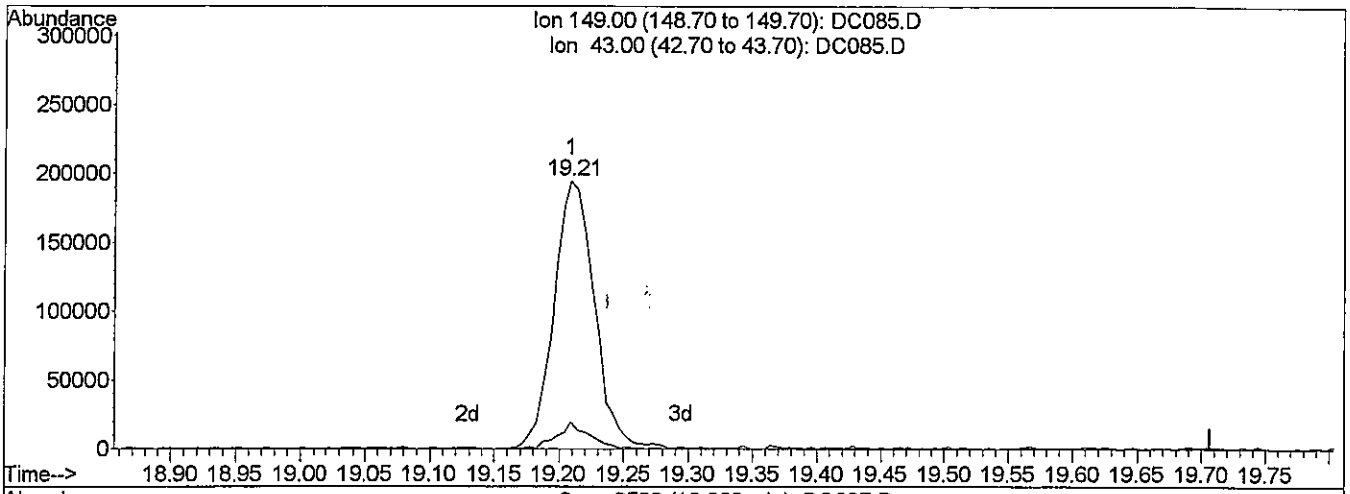
DC085.D LVI1016.M Fri Oct 16 15:44:08 2009

00327

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC085.D Vial: 5
Acq On : 16 Oct 2009 12:52 pm Operator: J.Wu
Sample : SSTD010 Inst : 5973-B
Misc : 1.0/2.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:44 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:42:56 2009
Response via : Single Level Calibration



TIC: DC085.D

(34) Di-n-octyl phthalate (TM)

19.21min 0.75ppm m

response 424472

Ion	Exp%	Act%
149.00	100	100
43.00	7.10	10.09#
0.00	0.00	0.00
0.00	0.00	0.00

MW 10/19/09

AJW 10/19/09

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC086.D Vial: 6
Acq On : 16 Oct 2009 1:41 pm Operator: J.Wu
Sample : SSTD020 Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:25 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:25:43 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.65	152	87265	1.00 ppm	0.00
4) d8-Naphthalene	11.93	136	332086	1.00 ppm	0.00
10) d10-Acenaphthene	13.52	164	211569	1.00 ppm	0.00
18) d10-Phenanthrene	14.74	188	351504	1.00 ppm	0.00
26) d12-Chrysene	18.03	240	365317	1.00 ppm	0.00
33) d12-Perylene	21.82	264	282309	1.00 ppm	0.00
System Monitoring Compounds					
5) SURR4,NITROBENZENE-D5	11.25	82	239198	2.16 ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 108.00%		
11) SURR5,2-FLUOROBIPHENYL	12.89	172	566093	1.99 ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 99.50%		
28) SURR6,TERPHENYL-D14	16.34	244	637762	2.19 ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 109.50%		
Target Compounds					Qvalue
2) 1,4-Dioxane	6.08	88	286073	3.36 ppm	100
3) Pyridine	6.85	79	219021	1.89 ppm	100
6) Nitrobenzene	11.26	77	230528	2.08 ppm	100
7) Naphthalene	11.95	128	725465	2.08 ppm	100
8) 2-Methylnaphthalene	12.57	142	492721	2.17 ppm	100
9) 1-Methylnaphthalene	12.67	142	456255	2.17 ppm	100
12) Acenaphthylene	13.40	152	800878	2.03 ppm	100
13) Dimethyl phthalate	13.24	163	659035	2.10 ppm	100
14) Acenaphthene	13.55	153	495146	2.02 ppm	100
15) Dibenzofuran	13.69	168	730567	2.21 ppm	100
16) Fluorene	13.98	166	567384	2.23 ppm	100
17) Diethylphthalate	13.83	149	645239	1.99 ppm	100
19) Hexachlorobenzene	14.47	284	188697	2.23 ppm	100
20) Phenanthrene	14.76	178	782237	1.93 ppm	100
21) Anthracene	14.80	178	780456	2.06 ppm	100
22) Carbazole	14.92	167	598651	2.33 ppm	100
23) Octachlorostyrene	15.76	378	41252	1.76 ppm	100
24) Di-n-butylphthalate	15.15	149	1007379	1.91 ppm	100
25) Fluoranthene	15.96	202	904072	1.99 ppm	100
27) Pyrene	16.25	202	938308	2.04 ppm	100
29) Butyl benzyl phthalate	16.97	149	455718	1.88 ppm	100
30) bis(2-Ethylhexyl)phthalate	17.89	149	1189156	3.94 ppm	100
31) Benzo(a)anthracene	17.99	228	815272	2.07 ppm	100
32) Chrysene	18.08	228	839775	2.10 ppm	100
34) Di-n-octyl phthalate	19.21	149	958568	1.86 ppm	100
35) Benzo(b)Fluoranthene	20.56	252	834259	2.05 ppm	98

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC086.D Vial: 6
Acq On : 16 Oct 2009 1:41 pm Operator: J.Wu
Sample : SSTD020 Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:25 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:25:43 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

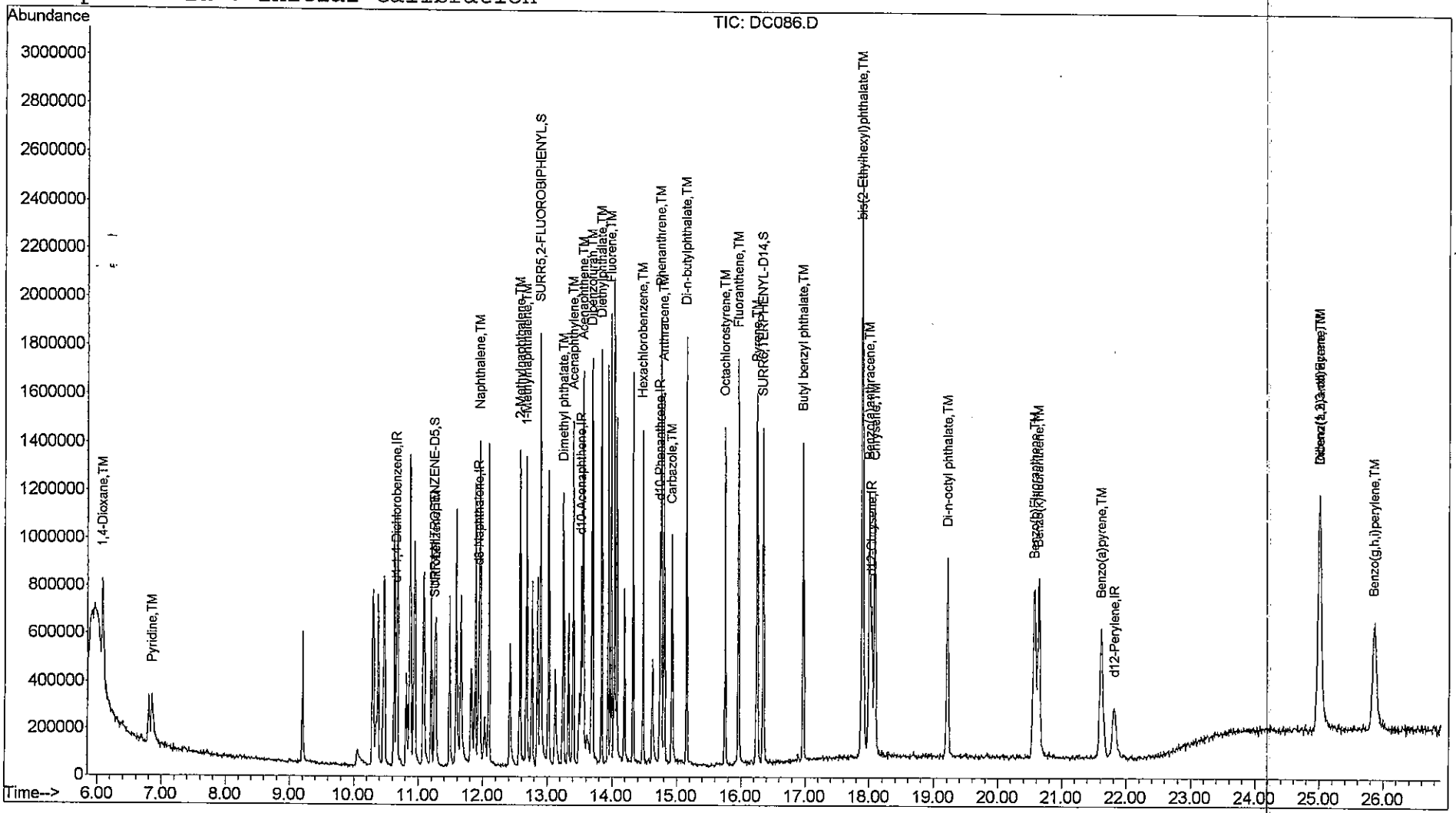
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
36)	Benzo(k)fluoranthene	20.63	252	809108	2.01	ppm	100
37)	Benzo(a)pyrene	21.61	252	736123	2.06	ppm	100
38)	Indeno(1,2,3-cd)Pyrene	24.99	276	902940	2.12	ppm	100
39)	Dibenz(a,h)anthracene	25.00	278	755294	2.13	ppm	100
40)	Benzo(g,h,i)perylene	25.85	276	767035	2.13	ppm	100

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

Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC086.D Vial: 6
Acq On : 16 Oct 2009 1:41 pm Operator: J.Wu
Sample : SSTD020 Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:25 2009 Quant Results File: LVI1016.RES

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC087.D Vial: 7
Acq On : 16 Oct 2009 2:29 pm Operator: J.Wu
Sample : SSTD030 Inst : 5973-B
Misc : 3.0/6.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:44 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:44:33 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.66	152	89723	1.00 ppm	0.00
4) d8-Naphthalene	11.93	136	351732	1.00 ppm	0.00
10) d10-Acenaphthene	13.52	164	221022	1.00 ppm	0.00
18) d10-Phenanthrene	14.74	188	350171	1.00 ppm	0.00
26) d12-Chrysene	18.03	240	382769	1.00 ppm	0.00
33) d12-Perylene	21.81	264	306035	1.00 ppm	0.00
System Monitoring Compounds					
5) SURR4,NITROBENZENE-D5	11.24	82	377146	3.38 ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 169.00%#		
11) SURR5,2-FLUOROBIPHENYL	12.89	172	883301	3.09 ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 154.50%#		
28) SURR6,TERPHENYL-D14	16.35	244	971157	3.15 ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 157.50%#		
Target Compounds					Qvalue
2) 1,4-Dioxane	6.07	88	415592	5.52 ppm	94
3) Pyridine	6.84	79	327171	2.86 ppm	92
6) Nitrobenzene	11.26	77	354400	3.00 ppm	92
7) Naphthalene	11.95	128	1088906	2.97 ppm	97
8) 2-Methylnaphthalene	12.57	142	723644	3.11 ppm	94
9) 1-Methylnaphthalene	12.68	142	693683	3.10 ppm	97
12) Acenaphthylene	13.40	152	1206313	2.99 ppm	99
13) Dimethyl phthalate	13.24	163	1029105	3.09 ppm	98
14) Acenaphthene	13.55	153	762175	2.97 ppm	95
15) Dibenzofuran	13.70	168	1117343	3.09 ppm	99
16) Fluorene	13.98	166	888831	3.13 ppm	94
17) Diethylphthalate	13.83	149	987033	2.95 ppm	99
19) Hexachlorobenzene	14.48	284	291188	3.41 ppm	93
20) Phenanthrene	14.76	178	1209082	3.11 ppm	98
21) Anthracene	14.80	178	1174391	3.16 ppm	98
22) Carbazole	14.92	167	866430	3.65 ppm	98
23) Octachlorostyrene	15.76	378	77766	3.48 ppm	94
24) Di-n-butylphthalate	15.15	149	1526808	3.06 ppm	99
25) Fluoranthene	15.96	202	1371411	3.11 ppm	99
27) Pyrene	16.25	202	1413697	2.94 ppm	95
29) Butyl benzyl phthalate	16.97	149	710370	2.90 ppm	98
30) bis(2-Ethylhexyl)phthalate	17.89	149	1890380	6.25 ppm	94
31) Benzo(a)anthracene	18.00	228	1294017	3.10 ppm	97
32) Chrysene	18.08	228	1261801	2.98 ppm	92
34) Di-n-octyl phthalate	19.21	149	1560533	2.79 ppm	99
35) Benzo(b)Fluoranthene	20.57	252	1342020	3.07 ppm	95

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC087.D Vial: 7
Acq On : 16 Oct 2009 2:29 pm Operator: J.Wu
Sample : SSTD030 Inst : 5973-B
Misc : 3.0/6.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:44 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:44:33 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

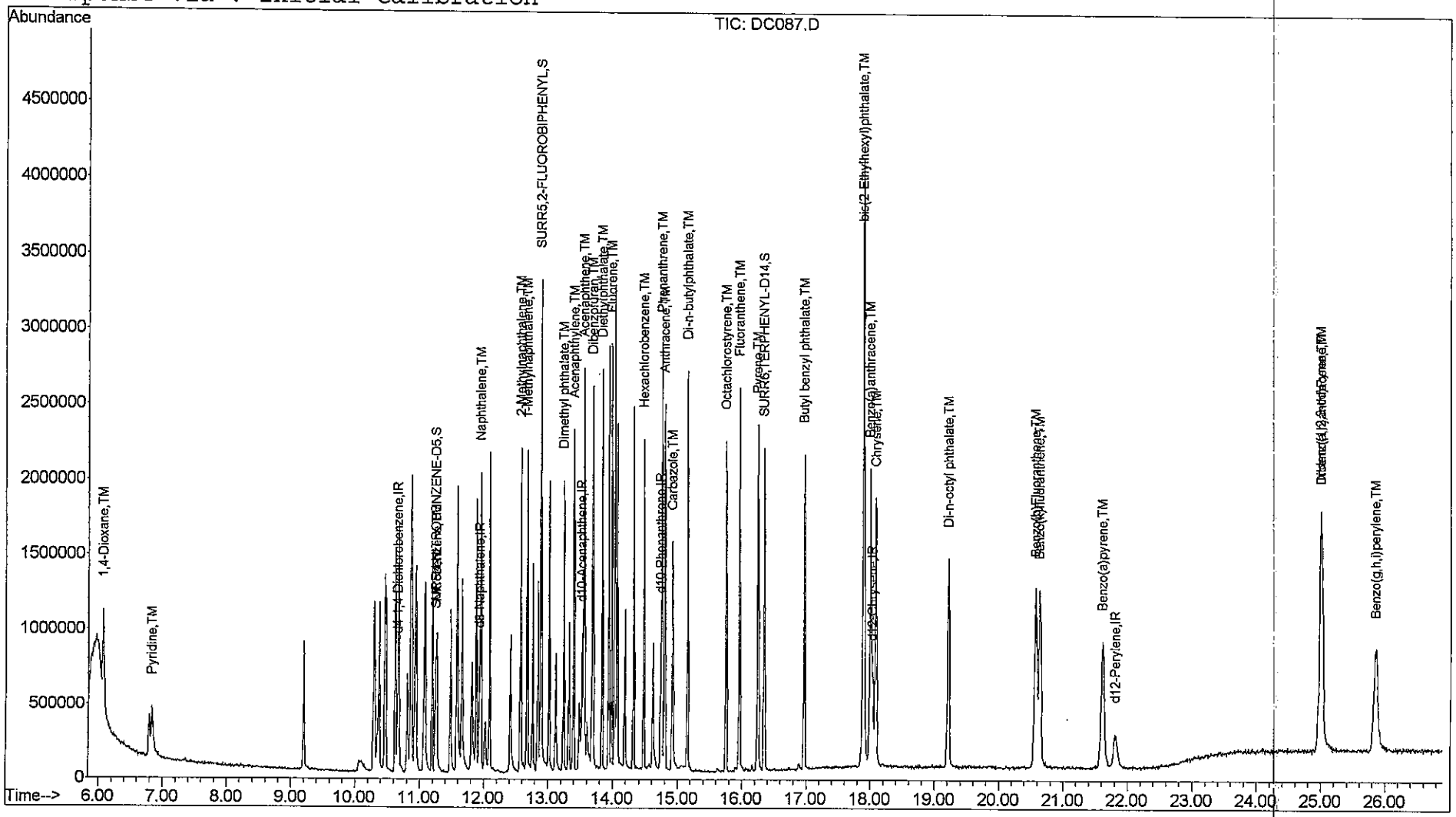
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
36)	Benzo(k)fluoranthene	20.63	252	1237942	2.84	ppm	95
37)	Benzo(a)pyrene	21.61	252	1179311	3.02	ppm	94
38)	Indeno(1,2,3-cd)Pyrene	24.99	276	1389152	2.99	ppm	91
39)	Dibenz(a,h)anthracene	25.00	278	1189435	3.02	ppm	98
40)	Benzo(g,h,i)perylene	25.85	276	1183933	3.02	ppm	95

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

Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC087.D Vial: 7
Acq On : 16 Oct 2009 2:29 pm Operator: J.Wu
Sample : SSTD030 Inst : 5973-B
Misc : 3.0/6.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 15:44 2009 Quant Results File: LVI1016.RES

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC088.D Vial: 8
Acq On : 16 Oct 2009 3:31 pm Operator: J.Wu
Sample : SSTD040 Inst : 5973-B
Misc : 4.0/8.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 16:16 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:48:01 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.65	152	99813	1.00	ppm	0.00
4) d8-Naphthalene	11.93	136	358515	1.00	ppm	0.00
10) d10-Acenaphthene	13.52	164	229694	1.00	ppm	0.00
18) d10-Phenanthrene	14.74	188	356634	1.00	ppm	0.00
26) d12-Chrysene	18.03	240	385150	1.00	ppm	0.00
33) d12-Perylene	21.82	264	311671	1.00	ppm	0.00
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.24	82	517585	4.53	ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 226.50%#			
11) SURR5,2-FLUOROBIPHENYL	12.89	172	1164560	3.95	ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 197.50%#			
28) SURR6,TERPHENYL-D14	16.34	244	1289432	4.13	ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 206.50%#			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.02	88	616626	7.53	ppm	98
3) Pyridine	6.79	79	456090	3.69	ppm	95
6) Nitrobenzene	11.26	77	480577	4.24	ppm	90
7) Naphthalene	11.95	128	1465293	3.96	ppm	98
8) 2-Methylnaphthalene	12.57	142	1002258	4.23	ppm	90
9) 1-Methylnaphthalene	12.67	142	933981	4.08	ppm	97
12) Acenaphthylene	13.40	152	1620319	3.89	ppm	99
13) Dimethyl phthalate	13.24	163	1360181	3.93	ppm	99
14) Acenaphthene	13.55	153	1005562	3.77	ppm	94
15) Dibenzofuran	13.70	168	1444363	3.84	ppm	98
16) Fluorene	13.98	166	1154420	3.90	ppm	98
17) Diethylphthalate	13.83	149	1335140	3.89	ppm	96
19) Hexachlorobenzene	14.48	284	386832	4.36	ppm	94
20) Phenanthrene	14.76	178	1577348	4.00	ppm	96
21) Anthracene	14.80	178	1650187	4.36	ppm	97
22) Carbazole	14.92	167	1092483	4.35	ppm	99
23) Octachlorostyrene	15.76	378	114805	5.03	ppm	96
24) Di-n-butylphthalate	15.15	149	2051524	4.11	ppm	99
25) Fluoranthene	15.96	202	1864506	4.16	ppm	98
27) Pyrene	16.24	202	1928039	4.01	ppm	98
29) Butyl benzyl phthalate	16.96	149	988328	4.10	ppm	98
30) bis(2-Ethylhexyl)phthalate	17.89	149	2555325	8.52	ppm	96
31) Benzo(a)anthracene	18.00	228	1706262	4.08	ppm	98
32) Chrysene	18.08	228	1724959	4.05	ppm	95
34) Di-n-octyl phthalate	19.21	149	2155811	3.87	ppm	99
35) Benzo(b)Fluoranthene	20.57	252	1788516	4.02	ppm	99

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

Data File : J:\ACQUDATA\5973B\DATA\101609\DC088.D Vial: 8
Acq On : 16 Oct 2009 3:31 pm Operator: J.Wu
Sample : SSTD040 Inst : 5973-B
Misc : 4.0/8.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 16:16 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 15:48:01 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

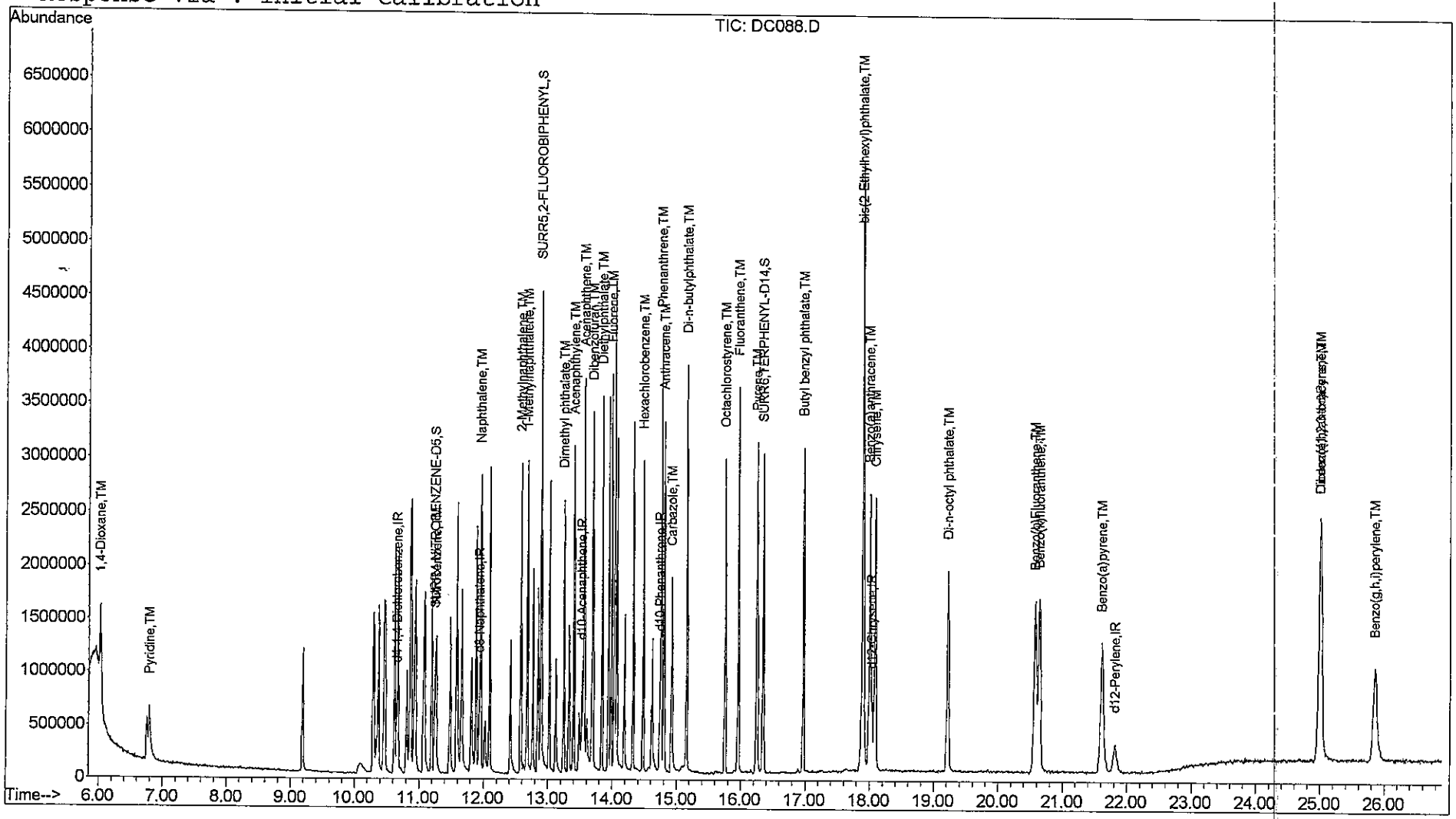
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
36) Benzo(k)fluoranthene	20.64	252	1737385	3.95 ppm	97
37) Benzo(a)pyrene	21.61	252	1607997	4.07 ppm	94
38) Indeno(1,2,3-cd)Pyrene	24.99	276	1923380	4.09 ppm	93
39) Dibenz(a,h)anthracene	25.01	278	1647958	4.12 ppm	96
40) Benzo(g,h,i)perylene	25.85	276	1408674	3.55 ppm	97

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

Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC088.D Vial: 8
Acq On : 16 Oct 2009 3:31 pm Operator: J.Wu
Sample : SSTD040 Inst : 5973-B
Misc : 4.0/8.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 16:16 2009 Quant Results File: LVI1016.RES

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration



00337

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC089.D Vial: 9
Acq On : 16 Oct 2009 4:32 pm Operator: J.Wu
Sample : SSTD050 Inst : 5973-B
Misc : 5.0/10.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 17:07 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 16:17:50 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.66	152	93968	1.00	ppm	0.00
4) d8-Naphthalene	11.93	136	331049	1.00	ppm	0.00
10) d10-Acenaphthene	13.53	164	210541	1.00	ppm	0.00
18) d10-Phenanthrene	14.74	188	346087	1.00	ppm	0.00
26) d12-Chrysene	18.03	240	360909	1.00	ppm	0.00
33) d12-Perylene	21.80	264	304096	1.00	ppm	-0.02
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.24	82	611999	5.74	ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 287.00%#			
11) SURR5,2-FLUOROBIPHENYL	12.88	172	1421756	5.32	ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 266.00%#			
28) SURR6,TERPHENYL-D14	16.34	244	1589028	5.41	ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 270.50%#			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.09	88	699916	9.21	ppm	94
3) Pyridine	6.85	79	577484	5.09	ppm	96
6) Nitrobenzene	11.26	77	581744	5.53	ppm	91
7) Naphthalene	11.95	128	1759567	5.17	ppm	96
8) 2-Methylnaphthalene	12.57	142	1191060	5.41	ppm	96
9) 1-Methylnaphthalene	12.67	142	1140824	5.38	ppm	95
12) Acenaphthylene	13.40	152	1926622	5.12	ppm	98
13) Dimethyl phthalate	13.24	163	1617436	5.17	ppm	99
14) Acenaphthene	13.55	153	1210021	4.98	ppm	96
15) Dibenzofuran	13.69	168	1783759	5.24	ppm	95
16) Fluorene	13.98	166	1410593	5.25	ppm	98
17) Diethylphthalate	13.84	149	1618337	5.25	ppm	97
19) Hexachlorobenzene	14.48	284	470506	5.39	ppm	100
20) Phenanthrene	14.75	178	1893622	4.99	ppm	95
21) Anthracene	14.80	178	1981727	5.40	ppm	97
22) Carbazole	14.91	167	1255944	4.92	ppm	98
23) Octachlorostyrene	15.75	378	130210	5.74	ppm	88
24) Di-n-butylphthalate	15.15	149	2455674	5.16	ppm	97
25) Fluoranthene	15.96	202	2177906	5.04	ppm	97
27) Pyrene	16.24	202	2272436	5.04	ppm	98
29) Butyl benzyl phthalate	16.97	149	1198033	5.35	ppm	94
30) bis(2-Ethylhexyl)phthalate	17.89	149	3252122	11.63	ppm	95
31) Benzo(a)anthracene	18.00	228	2090630	5.34	ppm	98
32) Chrysene	18.08	228	2035322	5.09	ppm	96
34) Di-n-octyl phthalate	19.21	149	2764548	5.22	ppm	99
35) Benzo(b)Fluoranthene	20.57	252	2222586	5.14	ppm	100

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

Data File : J:\ACQUDATA\5973B\DATA\101609\DC089.D Vial: 9
Acq On : 16 Oct 2009 4:32 pm Operator: J.Wu
Sample : SSTD050 Inst : 5973-B
Misc : 5.0/10.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 17:07 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 16:17:50 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

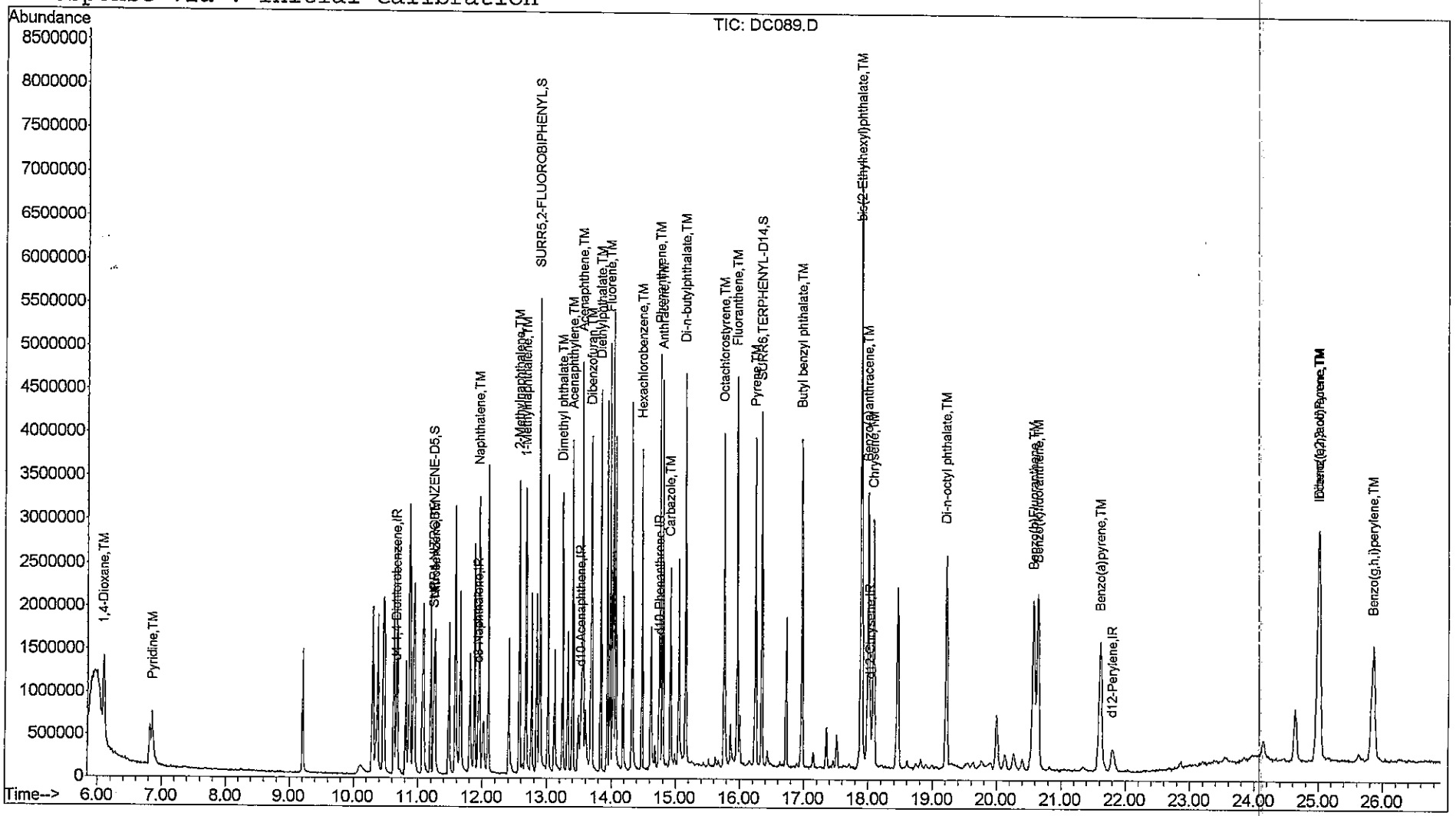
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
36)	Benzo(k)fluoranthene	20.64	252	2018179	4.73	ppm	96
37)	Benzo(a)pyrene	21.60	252	1961381	5.11	ppm	98
38)	Indeno(1,2,3-cd)Pyrene	25.00	276	2398162	5.25	ppm	94
39)	Dibenz(a,h)anthracene	25.01	278	2046704	5.25	ppm	95
40)	Benzo(g,h,i)perylene	25.85	276	1923430	5.07	ppm	96

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

Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC089.D Vial: 9
Acq On : 16 Oct 2009 4:32 pm Operator: J.Wu
Sample : SSTD050 Inst : 5973-B
Misc : 5.0/10.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 17:07 2009 Quant Results File: LVI1016.RES

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC090.D Vial: 10
Acq On : 16 Oct 2009 5:27 pm Operator: J.Wu
Sample : SSTD100 Inst : 5973-B
Misc : 10.0/20.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 18:00 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 17:08:18 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.66	152	91500	1.00	ppm	0.00
4) d8-Naphthalene	11.93	136	331229	1.00	ppm	0.00
10) d10-Acenaphthene	13.53	164	214281	1.00	ppm	0.00
18) d10-Phenanthrene	14.74	188	345056	1.00	ppm	0.00
26) d12-Chrysene	18.03	240	404767	1.00	ppm	0.00
33) d12-Perylene	21.80	264	307806	1.00	ppm	-0.02
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.24	82	1269272	11.84	ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 592.00%#			
11) SURR5,2-FLUOROBIPHENYL	12.88	172	2821850	10.40	ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 520.00%#			
28) SURR6,TERPHENYL-D14	16.34	244	3292259	9.94	ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 497.00%#			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.07	88	1420817	19.56	ppm	95
3) Pyridine	6.82	79	1140233	10.61	ppm	93
6) Nitrobenzene	11.27	77	1202247	11.34	ppm	95
7) Naphthalene	11.95	128	3432902	10.03	ppm	92
8) 2-Methylnaphthalene	12.57	142	2431980	10.92	ppm	94
9) 1-Methylnaphthalene	12.67	142	2321546	10.78	ppm	98
12) Acenaphthylene	13.40	152	3690546	9.72	ppm	88
13) Dimethyl phthalate	13.24	163	3186488	10.05	ppm	96
14) Acenaphthene	13.55	153	2494824	10.14	ppm	99
15) Dibenzofuran	13.69	168	3424544	9.91	ppm	86
16) Fluorene	13.98	166	2779602	10.18	ppm	99
17) Diethylphthalate	13.84	149	3072408m	9.87	ppm	
19) Hexachlorobenzene	14.48	284	998162	11.22	ppm	94
20) Phenanthrene	14.76	178	3628057	9.62	ppm	88
21) Anthracene	14.80	178	3692403	10.06	ppm	87
22) Carbazole	14.91	167	1923141	7.15	ppm	99
23) Octachlorostyrene	15.75	378	266718	11.60	ppm	87
24) Di-n-butylphthalate	15.15	149	4301585m	9.10	ppm	
25) Fluoranthene	15.96	202	4303520	10.00	ppm	92
27) Pyrene	16.24	202	4462882	8.84	ppm	91
29) Butyl benzyl phthalate	16.97	149	2524521	10.15	ppm	93
30) bis(2-Ethylhexyl)phthalate	17.89	149	6095272	19.33	ppm	94
31) Benzo(a)anthracene	18.00	228	4402960	10.03	ppm	99
32) Chrysene	18.08	228	4277420	9.51	ppm	94
34) Di-n-octyl phthalate	19.22	149	5560023	10.65	ppm	99
35) Benzo(b)Fluoranthene	20.58	252	4783970	10.99	ppm	98

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC090.D Vial: 10
Acq On : 16 Oct 2009 5:27 pm Operator: J.Wu
Sample : SSTD100 Inst : 5973-B
Misc : 10.0/20.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 18:00 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 17:08:18 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

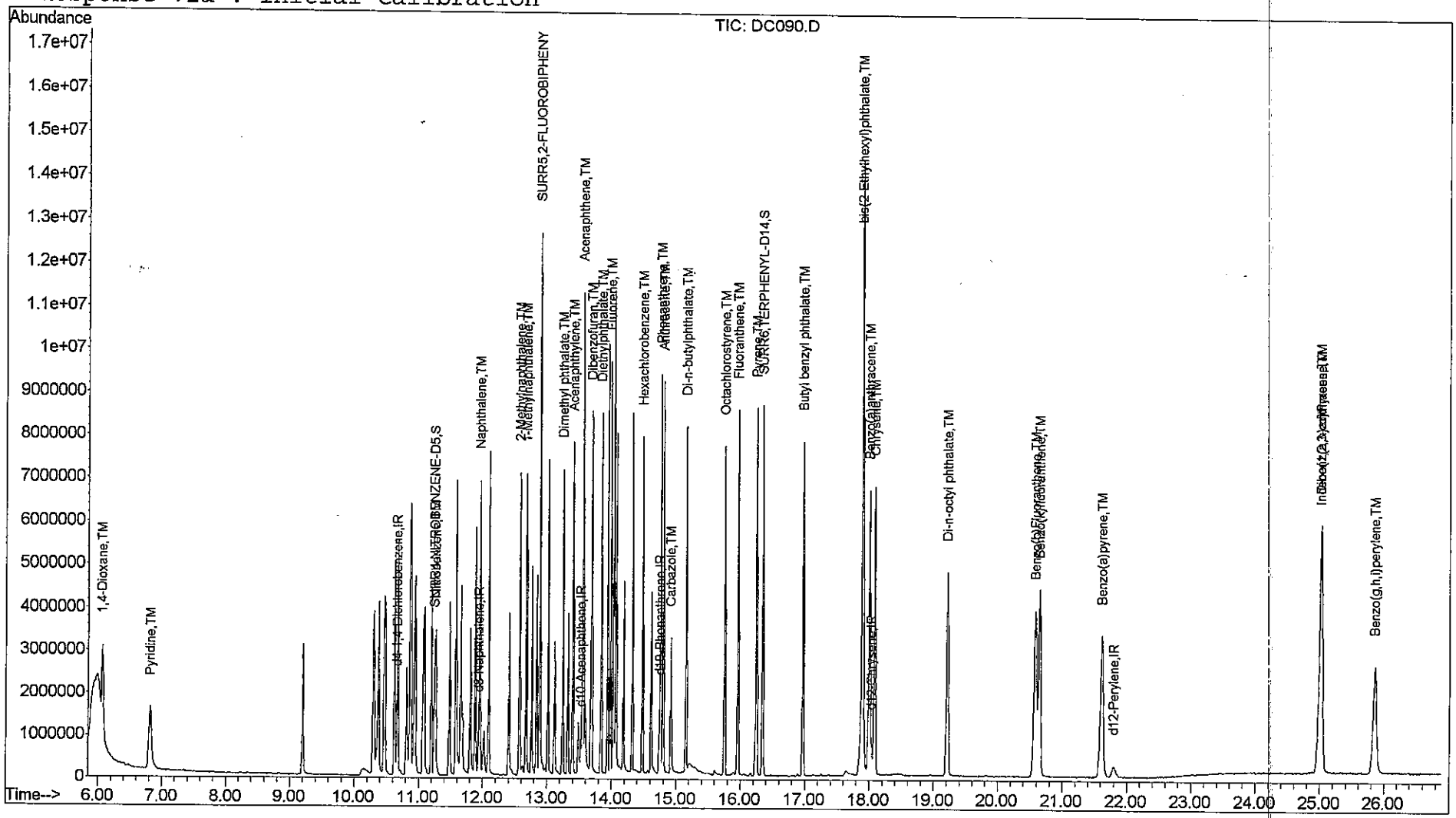
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
36)	Benzo(k)fluoranthene	20.65	252	4246620m	10.03	ppm	
37)	Benzo(a)pyrene	21.61	252	4124260	10.73	ppm	99
38)	Indeno(1,2,3-cd)Pyrene	25.01	276	4663469	10.10	ppm	88
39)	Dibenz(a,h)anthracene	25.02	278	4111504	10.45	ppm	96
40)	Benzo(g,h,i)perylene	25.86	276	3628732	9.43	ppm	96

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

Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC090.D Vial: 10
Acq On : 16 Oct 2009 5:27 pm Operator: J.Wu
Sample : SSTD100 Inst : 5973-B
Misc : 10.0/20.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 18:00 2009 Quant Results File: LVI1016.RES

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 18:01:02 2009
Response via : Initial Calibration

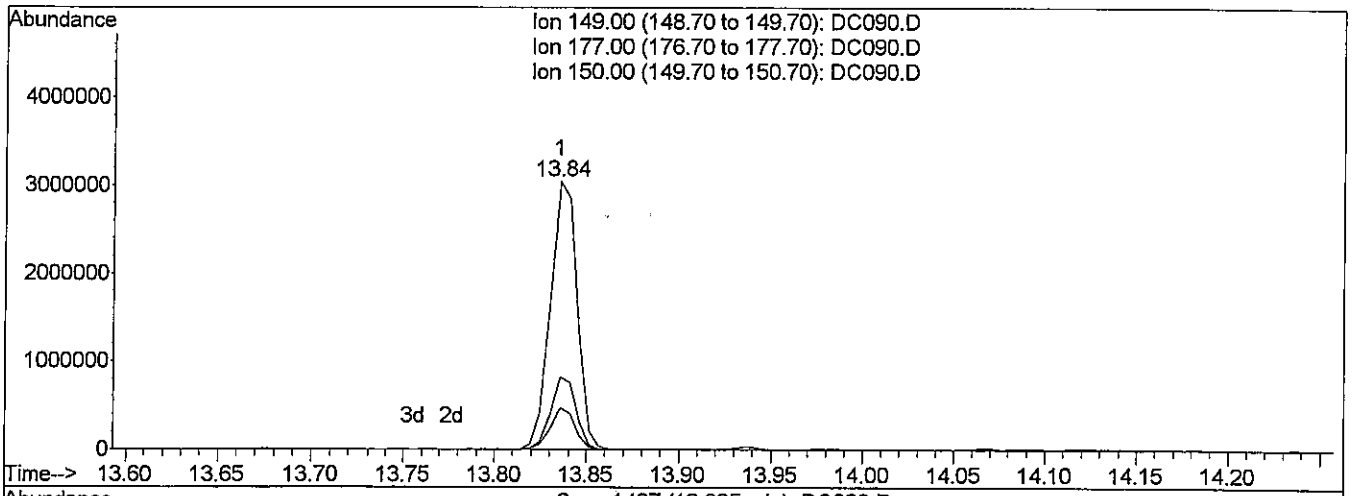


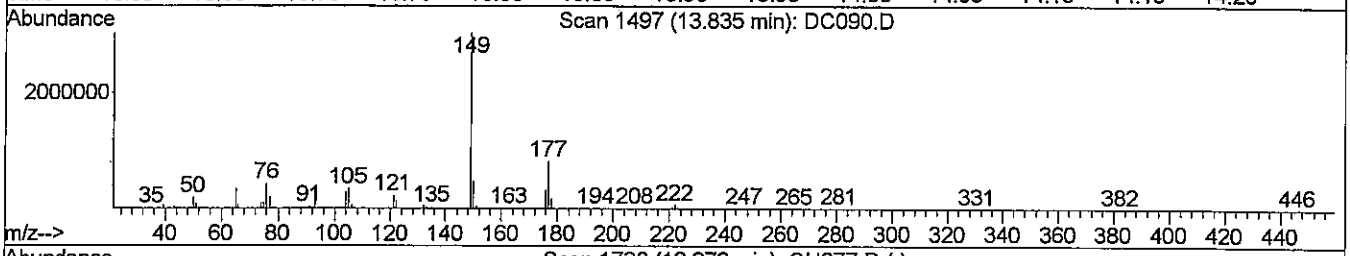
DC090.D LVI1016.M Fri Oct 16 18:01:37 2009

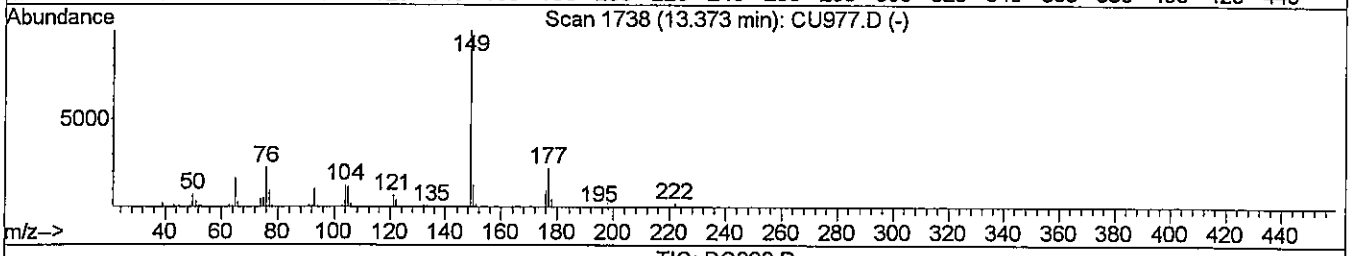
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC090.D Vial: 10
Acq On : 16 Oct 2009 5:27 pm Operator: J.Wu
Sample : SSTD100 Inst : 5973-B
Misc : 10.0/20.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 17:59 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 17:08:18 2009
Response via : Multiple Level Calibration







TIC: DC090.D

(17) Diethylphthalate (TM)

13.84min 9.89ppm

response 3078361

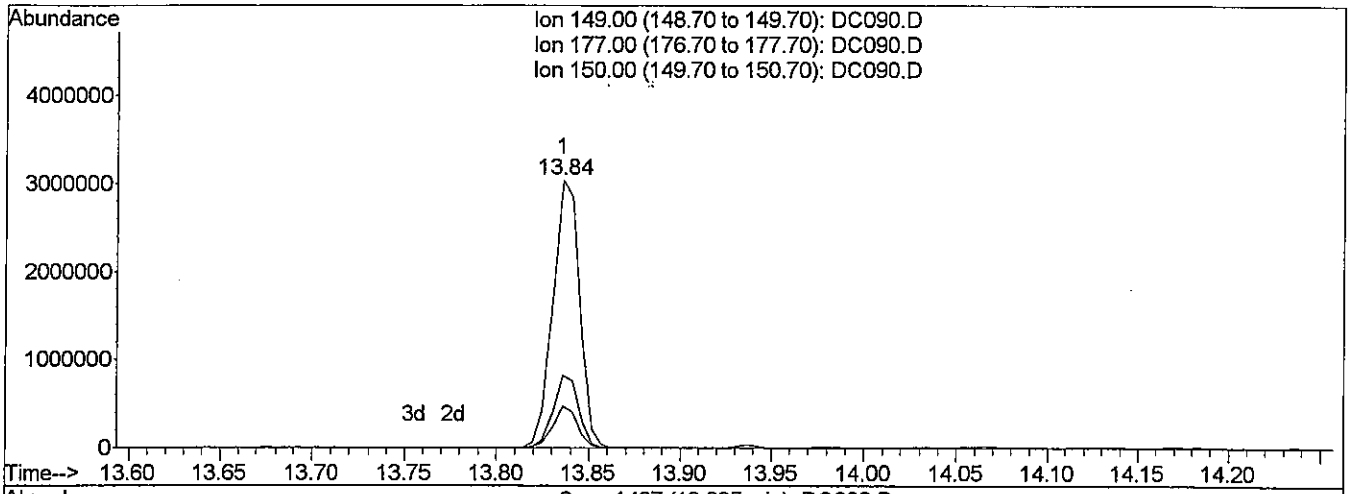
Ion	Exp%	Act%
149.00	100	100
177.00	23.40	26.87
150.00	11.00	15.32#
0.00	0.00	0.00

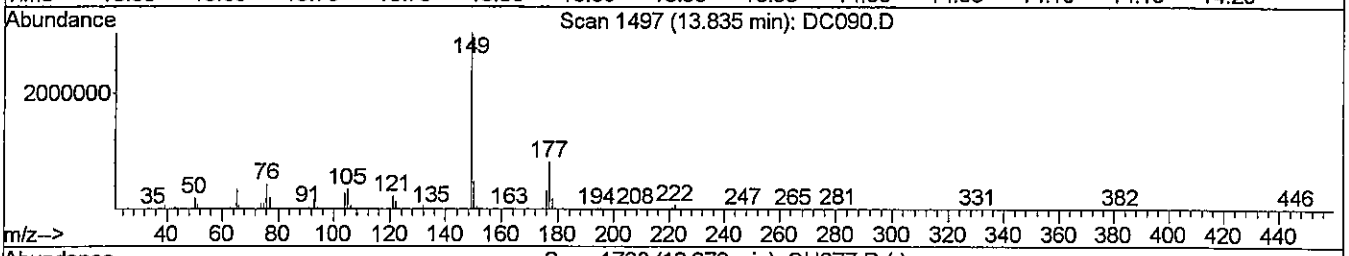
DC090.D LVI1016.M Fri Oct 16 18:00:04 2009

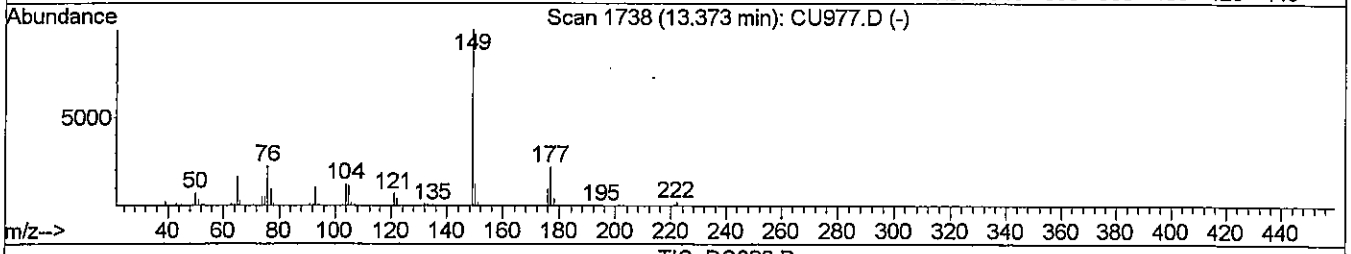
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC090.D Vial: 10
Acq On : 16 Oct 2009 5:27 pm Operator: J.Wu
Sample : SSTD100 Inst : 5973-B
Misc : 10.0/20.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 18:00 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 17:08:18 2009
Response via : Multiple Level Calibration







TIC: DC090.D

(17) Diethylphthalate (TM)

13.84min 9.87ppm m

response 3072408

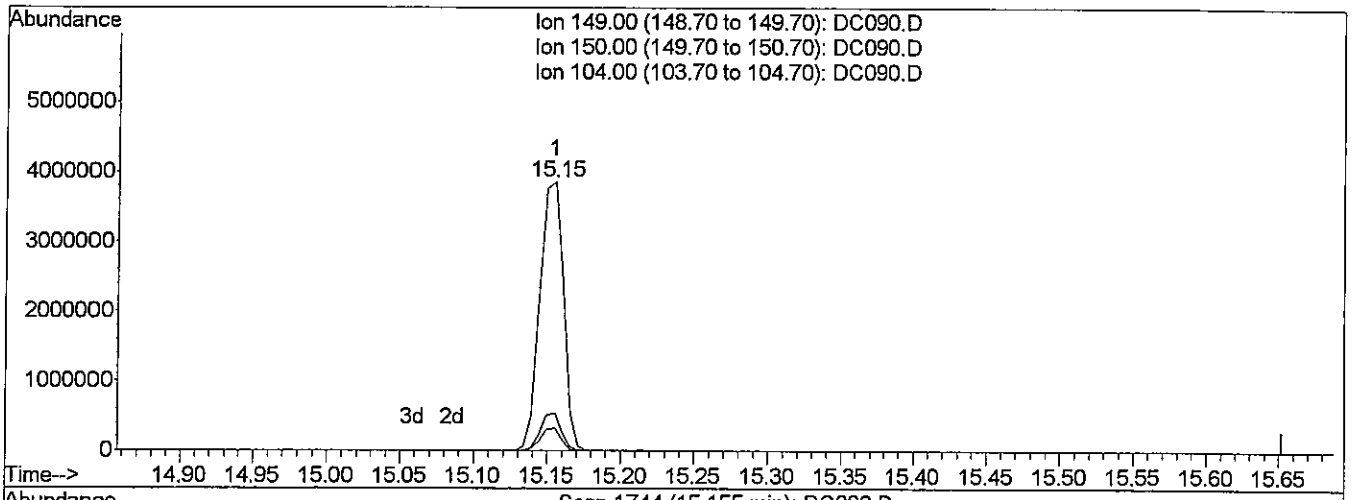
Ion	Exp%	Act%
149.00	100	100
177.00	23.40	26.89
150.00	11.00	15.49#
0.00	0.00	0.00

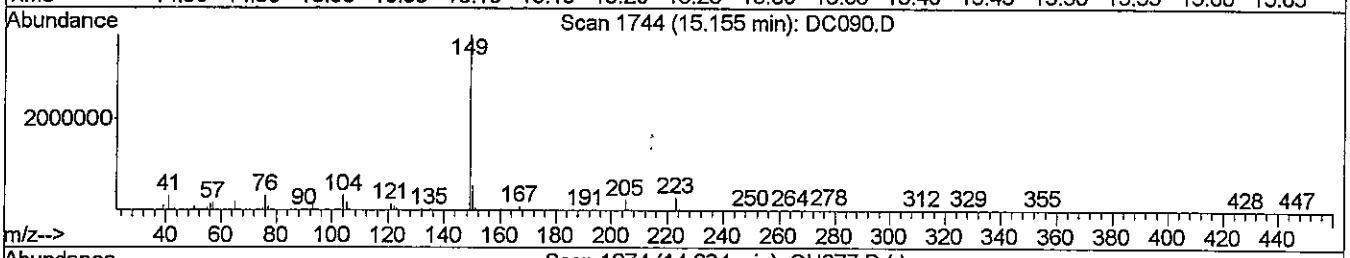
AJW 10/19/09

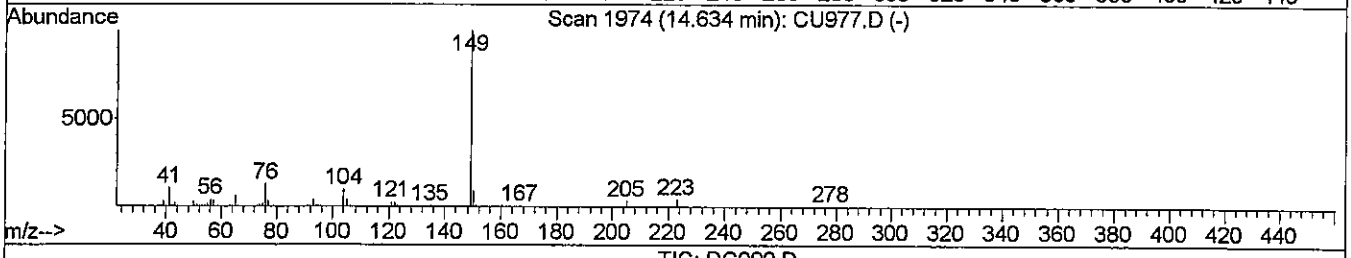
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC090.D Vial: 10
Acq On : 16 Oct 2009 5:27 pm Operator: J.Wu
Sample : SSTD100 Inst : 5973-B
Misc : 10.0/20.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 18:00 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 17:08:18 2009
Response via : Multiple Level Calibration







TIC: DC090.D

(24) Di-n-butylphthalate (TM)

15.15min 9.09ppm

response 4297850

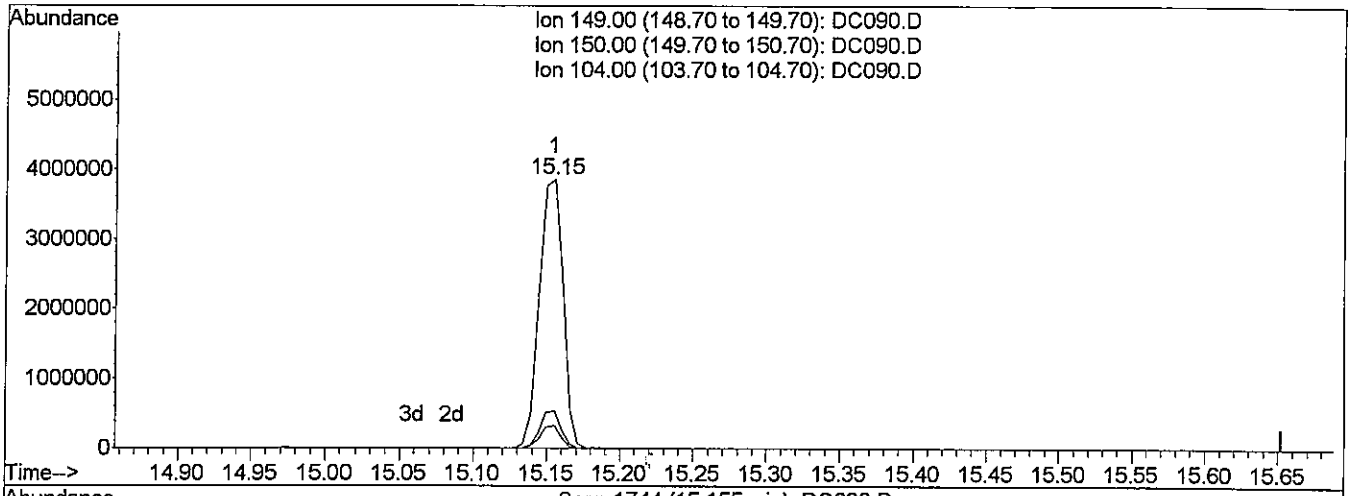
Ion	Exp%	Act%
149.00	100	100
150.00	9.30	13.83#
104.00	5.00	8.29#
0.00	0.00	0.00

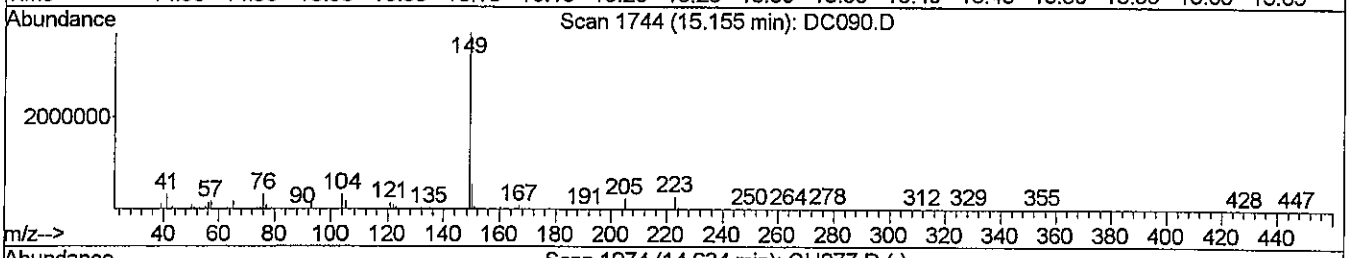
B

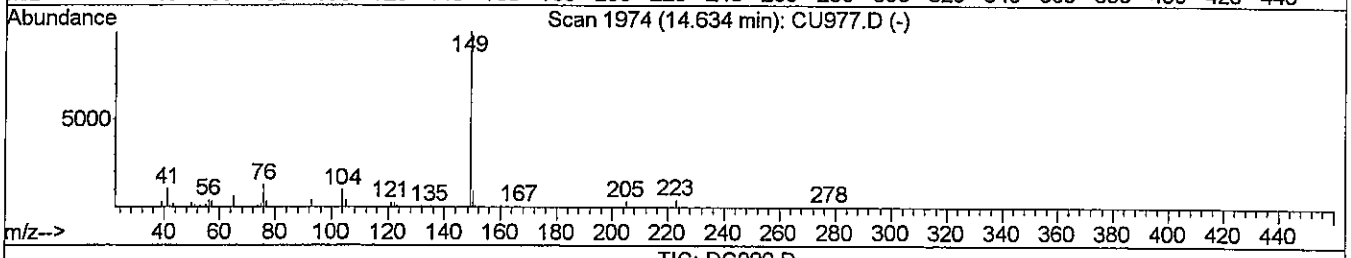
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC090.D Vial: 10
Acq On : 16 Oct 2009 5:27 pm Operator: J.Wu
Sample : SSTD100 Inst : 5973-B
Misc : 10.0/20.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 18:00 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 17:08:18 2009
Response via : Multiple Level Calibration







TIC: DC090.D

(24) Di-n-butylphthalate (TM)

15.15min 9.10ppm m

response 4301585

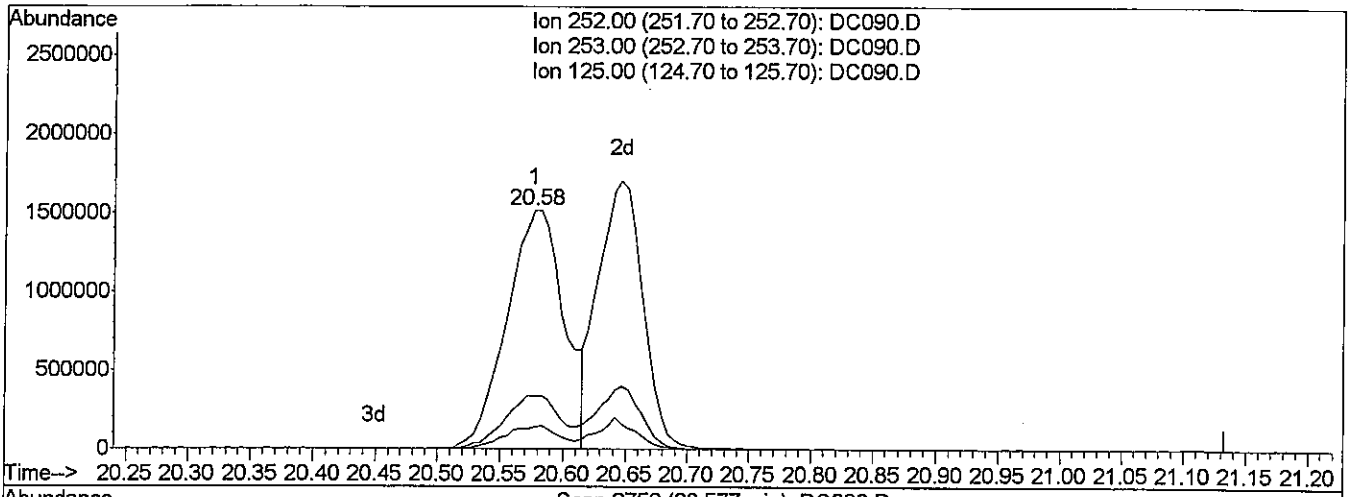
Ion	Exp%	Act%
149.00	100	100
150.00	9.30	13.87#
104.00	5.00	8.29#
0.00	0.00	0.00

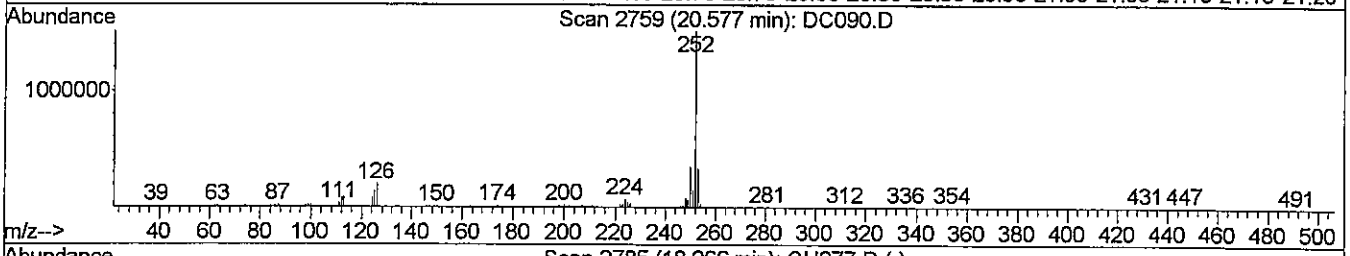
JW 10/19/09

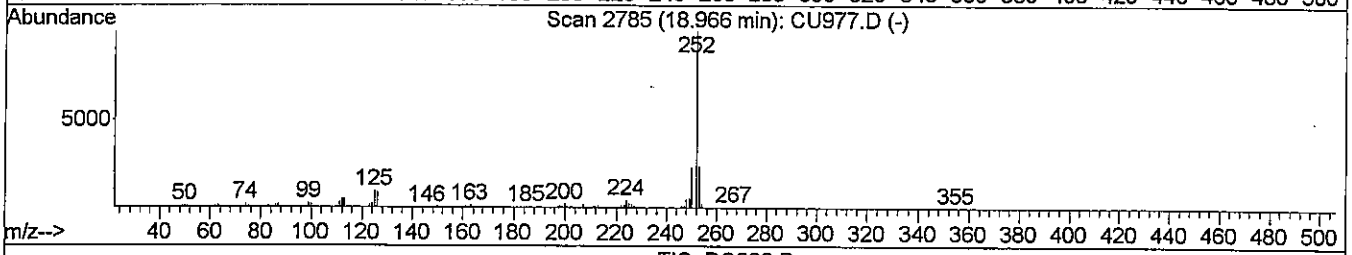
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC090.D Vial: 10
Acq On : 16 Oct 2009 5:27 pm Operator: J.Wu
Sample : SSTD100 Inst : 5973-B
Misc : 10.0/20.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 18:00 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA-ANALYSIS
Last Update : Fri Oct 16 17:08:18 2009
Response via : Multiple Level Calibration







TIC: DC090.D

(36) Benzo(k)fluoranthene (TM)

20.58min 11.30ppm

response 4783970

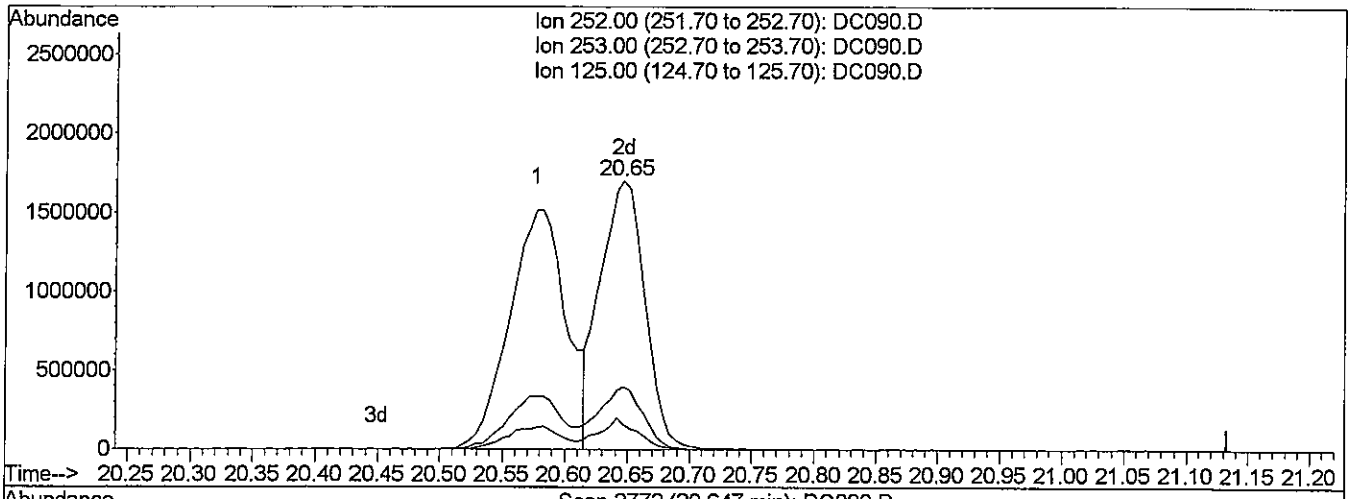
Ion	Exp%	Act%
252.00	100	100
253.00	25.10	21.27
125.00	9.70	9.08
0.00	0.00	0.00

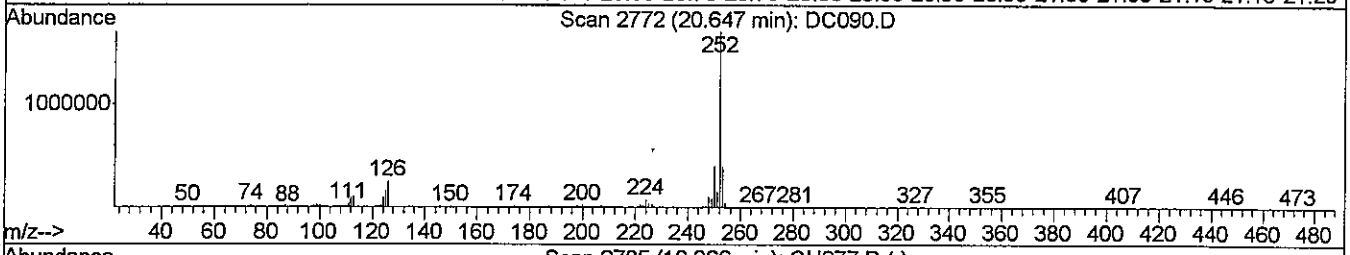
B

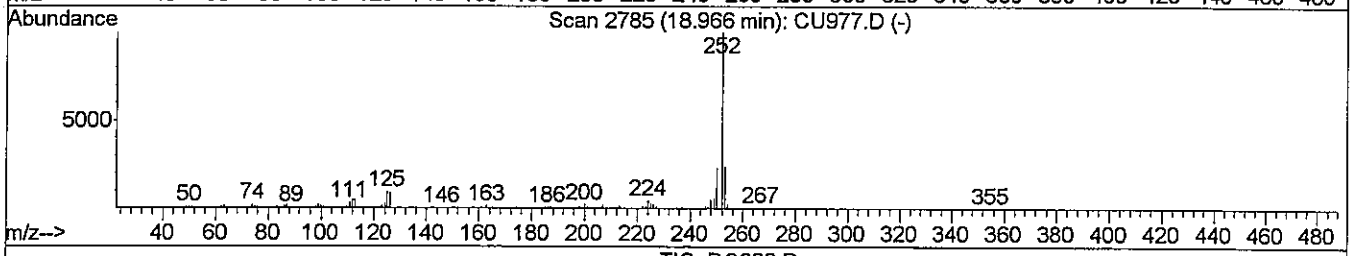
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC090.D Vial: 10
Acq On : 16 Oct 2009 5:27 pm Operator: J.Wu
Sample : SSTD100 Inst : 5973-B
Misc : 10.0/20.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 16 18:00 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Fri Oct 16 17:08:18 2009
Response via : Multiple Level Calibration







TIC: DC090.D

(36) Benzo(k)fluoranthene (TM)

20.65min 10.03ppm m

response 4246620

Ion	Exp%	Act%
252.00	100	100
253.00	25.10	23.32
125.00	9.70	9.26
0.00	0.00	0.00

MW 11/1

A JW 10/19/09

DC090.D LVI1016.M Fri Oct 16 18:00:48 2009

00349

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC081.D Vial: 1
Acq On : 16 Oct 2009 10:07 am Operator: J.Wu
Sample : BLK Inst : 5973-B
Misc : 10/16/2009 1.0 CAS 8270.LL BLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 9:02 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.66	152	109673	1.00	ppm	0.01
4) d8-Naphthalene	11.94	136	369285	1.00	ppm	0.00
10) d10-Acenaphthene	13.54	164	260435	1.00	ppm	0.02
18) d10-Phenanthrene	14.75	188	391332	1.00	ppm	0.02
26) d12-Chrysene	18.04	240	405121	1.00	ppm	0.01
33) d12-Perylene	21.81	264	293938	1.00	ppm	0.00
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.24	82	259	0.13	ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 6.50%#			
11) SURR5,2-FLUOROBIPHENYL	12.99	172	201	0.00	ppm	0.10
Spiked Amount 2.000	Range 27 - 114		Recovery = 0.00%#			
28) SURR6,TERPHENYL-D14	16.41	244	416	0.00	ppm	0.07
Spiked Amount 2.000	Range 23 - 139		Recovery = 0.00%#			

Target Compounds Qvalue

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

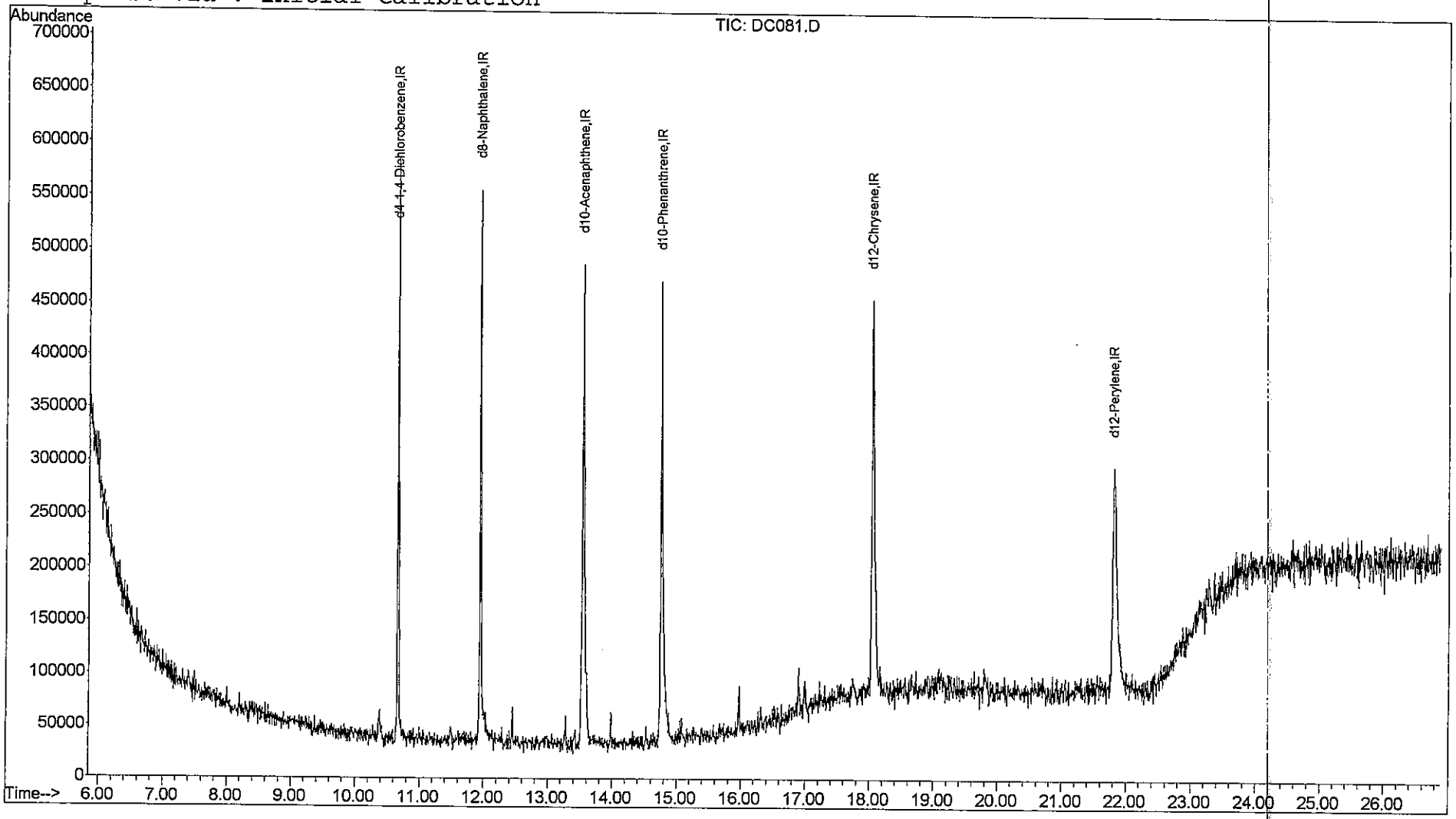
Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC081.D
Acq On : 16 Oct 2009 10:07 am
Sample : BLK
Misc : 10/16/2009 1.0 CAS 8270.LL BLK
MS Integration Params: RTEINT.P
Quant Time: Oct 19 9:02 2009

Vial: 1
Operator: J.Wu
Inst : 5973-B
Multiplr: 1.00

Quant Results File: LVI1016.RES

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration



00351

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC091.D Vial: 11
Acq On : 16 Oct 2009 6:16 pm Operator: J.Wu
Sample : ICV 1 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration

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	IR	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	104	0.00
2	TM	1,4-Dioxane	0.790	0.000#	100.0#	0#	-6.08#
3	TM	Pyridine	1.151	1.213	-5.4	101	0.00
4	IR	d8-Naphthalene	1.000	1.000	0.0	108	0.00
5	S	SURR4,NITROBENZENE-D5	0.325	0.000#	100.0#	0#	-11.25#
6	TM	Nitrobenzene	0.322	0.325	-0.9	101	0.00
7	TM	Naphthalene	1.044	1.024	1.9	101	0.00
8	TM	2-Methylnaphthalene	0.682	0.697	-2.2	102	0.00
9	TM	1-Methylnaphthalene	0.661	0.662	-0.2	104	0.00
10	IR	d10-Acenaphthene	1.000	1.000	0.0	105	0.00
11	S	SURR5,2-FLUOROBIPHENYL	1.279	0.000#	100.0#	0#	-12.89#
12	TM	Acenaphthylene	1.783	1.850	-3.8	103	0.00
13	TM	Dimethyl phthalate	1.497	1.316	12.1	89	0.00
14	TM	Acenaphthene	1.159	1.199	-3.5	108	0.00
15	TM	Dibenzofuran	1.629	1.688	-3.6	103	0.00
16	TM	Fluorene	1.286	1.325	-3.0	104	0.00
17	TM	Diethylphthalate	1.459	1.293	11.4	89	0.00
18	IR	d10-Phenanthrene	1.000	1.000	0.0	103	0.00
19	TM	Hexachlorobenzene	0.265	0.269	-1.5	103	0.00
20	TM	Phenanthrene	1.105	1.059	4.2	98	0.00
21	TM	Anthracene	1.079	1.073	0.6	100	0.00
22	TM	Carbazole	0.780	0.889	-14.0	108	0.00
23	TM	Octachlorostyrene	0.068	0.055	19.1	96	0.00
24	TM	Di-n-butylphthalate	1.394	1.225	12.1	88	0.00
25	TM	Fluoranthene	1.265	1.253	0.9	101	0.00
26	IR	d12-Chrysene	1.000	1.000	0.0	105	0.00
27	TM	Pyrene	1.254	1.192	4.9	98	0.00
28	S	SURR6,TERPHENYL-D14	0.824	0.000#	100.0#	0#	-16.34#
29	TM	Butyl benzyl phthalate	0.610	0.504	17.4	85	0.00
30	TM	bis(2-Ethylhexyl)phthalate	0.787	0.353	55.1#	46#	0.00
31	TM	Benzo(a)anthracene	1.089	1.070	1.7	101	0.00
32	TM	Chrysene	1.114	1.057	5.1	97	0.00
33	IR	d12-Perylene	1.000	1.000	0.0	109	-0.01
34	TM	Di-n-octyl phthalate	1.670	1.357	18.7	87	0.00
35	TM	Benzo(b)Fluoranthene	1.419	1.377	3.0	102	0.00
36	TM	Benzo(k)fluoranthene	1.371	1.382	-0.8	106	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC091.D Vial: 11
Acq On : 16 Oct 2009 6:16 pm Operator: J.Wu
Sample : ICV 1 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration

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)
37	TM	Benzo(a)pyrene	1.243	1.136	8.6	95	0.00
38	TM	Indeno(1,2,3-cd)Pyrene	1.505	1.473	2.1	101	0.00
39	TM	Dibenz(a,h)anthracene	1.281	1.234	3.7	101	0.00
40	TM	Benzo(g,h,i)perylene	1.254	1.236	1.4	100	0.00

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC091.D Vial: 11
Acq On : 16 Oct 2009 6:16 pm Operator: J.Wu
Sample : ICV 1 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 8:56 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.66	152	91151	1.00	ppm	0.00
4) d8-Naphthalene	11.93	136	359564	1.00	ppm	0.00
10) d10-Acenaphthene	13.53	164	222654	1.00	ppm	0.00
18) d10-Phenanthrene	14.74	188	362953	1.00	ppm	0.00
26) d12-Chrysene	18.03	240	384824	1.00	ppm	0.00
33) d12-Perylene	21.81	264	308962	1.00	ppm	-0.01
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	0.00	82	0d	0.00	ppm	
Spiked Amount 2.000	Range 22 - 124		Recovery =	0.00%#		
11) SURR5,2-FLUOROBIPHENYL	0.00	172	0d	0.00	ppm	
Spiked Amount 2.000	Range 27 - 114		Recovery =	0.00%#		
28) SURR6,TERPHENYL-D14	0.00	244	0d	0.00	ppm	
Spiked Amount 2.000	Range 23 - 139		Recovery =	0.00%#		
Target Compounds						Qvalue
3) Pyridine	6.84	79	221223	2.11	ppm	88
6) Nitrobenzene	11.27	77	233859	2.02	ppm	90
7) Naphthalene	11.95	128	736121	1.96	ppm	94
8) 2-Methylnaphthalene	12.57	142	501195	2.04	ppm	93
9) 1-Methylnaphthalene	12.68	142	475880	2.00	ppm	90
12) Acenaphthylene	13.40	152	823627	2.07	ppm	99
13) Dimethyl phthalate	13.24	163	586003	1.76	ppm	98
14) Acenaphthene	13.55	153	534003	2.07	ppm	91
15) Dibenzofuran	13.69	168	751541	2.07	ppm	100
16) Fluorene	13.98	166	589824	2.06	ppm	99
17) Diethylphthalate	13.84	149	575755	1.77	ppm	98
19) Hexachlorobenzene	14.48	284	195136	2.03	ppm	95
20) Phenanthrene	14.75	178	768855	1.92	ppm	97
21) Anthracene	14.80	178	778943	1.99	ppm	96
22) Carbazole	14.92	167	645020	2.28	ppm	95
23) Octachlorostyrene	15.75	378	39562m	1.61	ppm	
24) Di-n-butylphthalate	15.15	149	889475	1.76	ppm	97
25) Fluoranthene	15.96	202	909758	1.98	ppm	98
27) Pyrene	16.24	202	917496	1.90	ppm	97
29) Butyl benzyl phthalate	16.97	149	388195	1.65	ppm	97
30) bis(2-Ethylhexyl)phthalate	17.88	149	543304	1.79	ppm	92
31) Benzo(a)anthracene	18.00	228	823500	1.97	ppm	97
32) Chrysene	18.08	228	813517	1.90	ppm	94
34) Di-n-octyl phthalate	19.21	149	838278	1.62	ppm	98
35) Benzo(b)Fluoranthene	20.57	252	850803	1.94	ppm	97
36) Benzo(k)fluoranthene	20.64	252	853675	2.02	ppm	95

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

Data File : J:\ACQUDATA\5973B\DATA\101609\DC091.D Vial: 11
Acq On : 16 Oct 2009 6:16 pm Operator: J.Wu
Sample : ICV 1 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 8:56 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

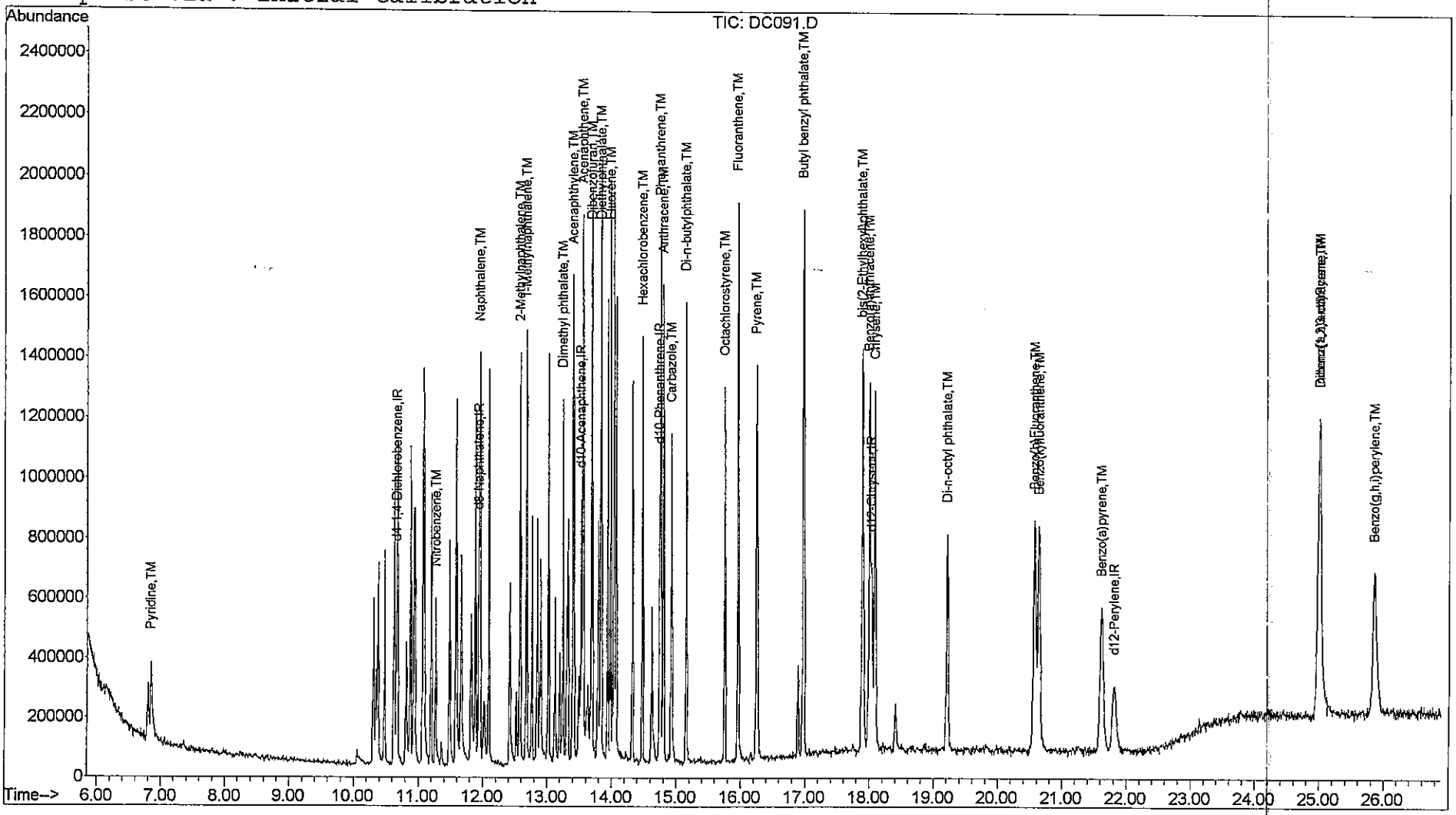
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
37)	Benzo(a)pyrene	21.61	252	701855	1.83	ppm	95
38)	Indeno(1,2,3-cd)Pyrene	25.00	276	910100	1.96	ppm	94
39)	Dibenz(a,h)anthracene	25.01	278	762778	1.93	ppm	96
40)	Benzo(g,h,i)perylene	25.86	276	763465	1.97	ppm	94

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

Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC091.D Vial: 11
Acq On : 16 Oct 2009 6:16 pm Operator: J.Wu
Sample : ICV 1 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 8:56 2009 Quant Results File: LVI1016.RES

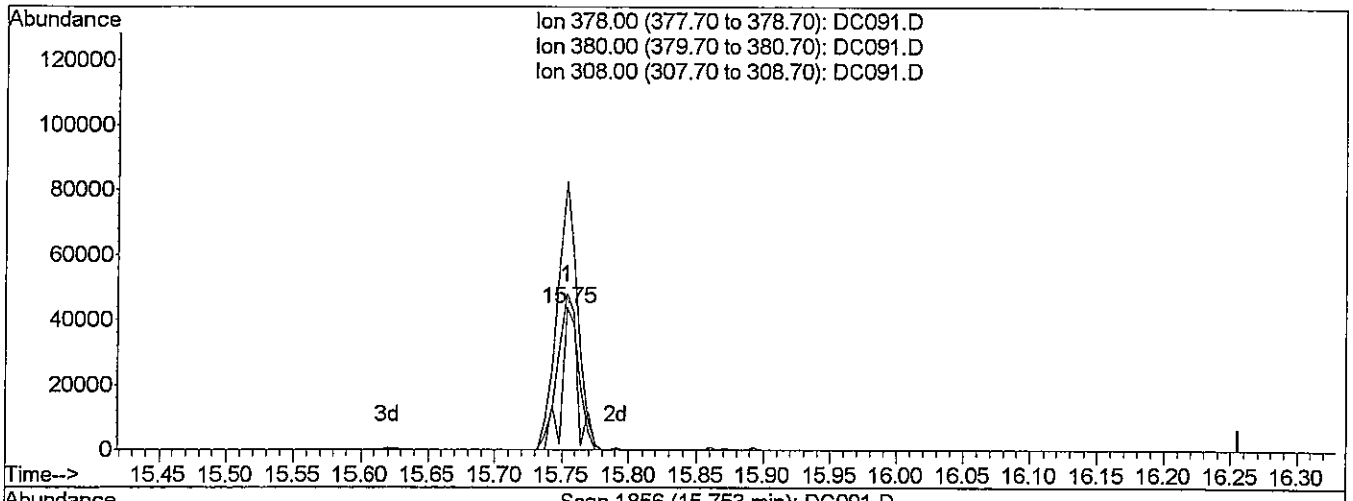
Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration

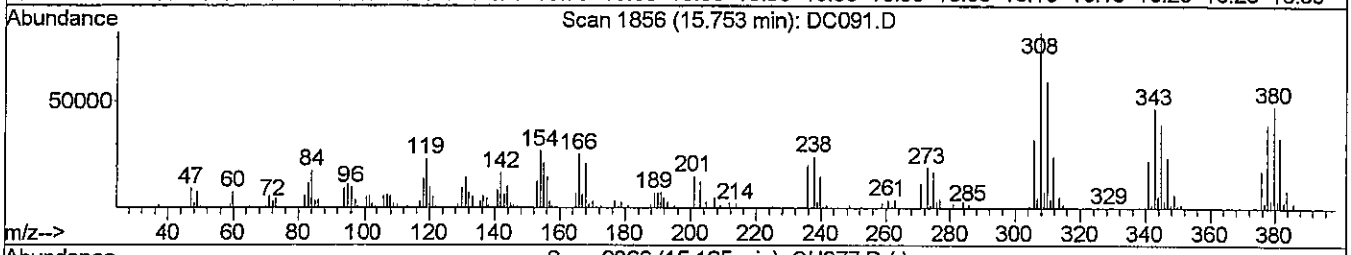


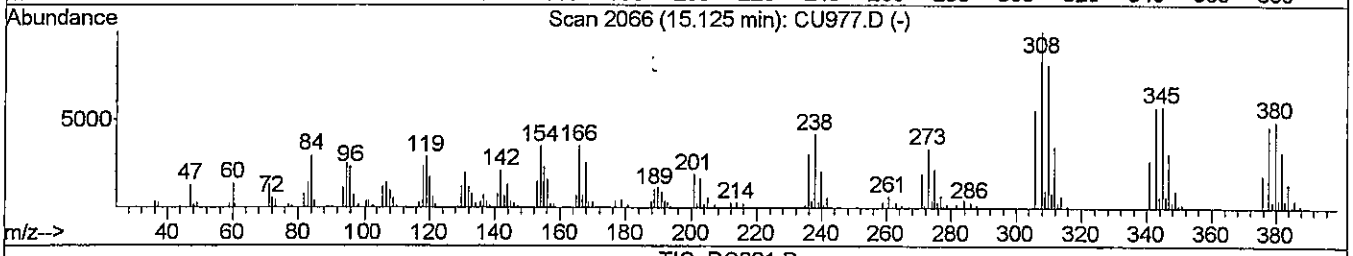
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC091.D Vial: 11
Acq On : 16 Oct 2009 6:16 pm Operator: J.Wu
Sample : ICV 1 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 8:56 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration







TIC: DC091.D

(23) Octachlorostyrene (TM)

15.75min 1.60ppm

response 39399

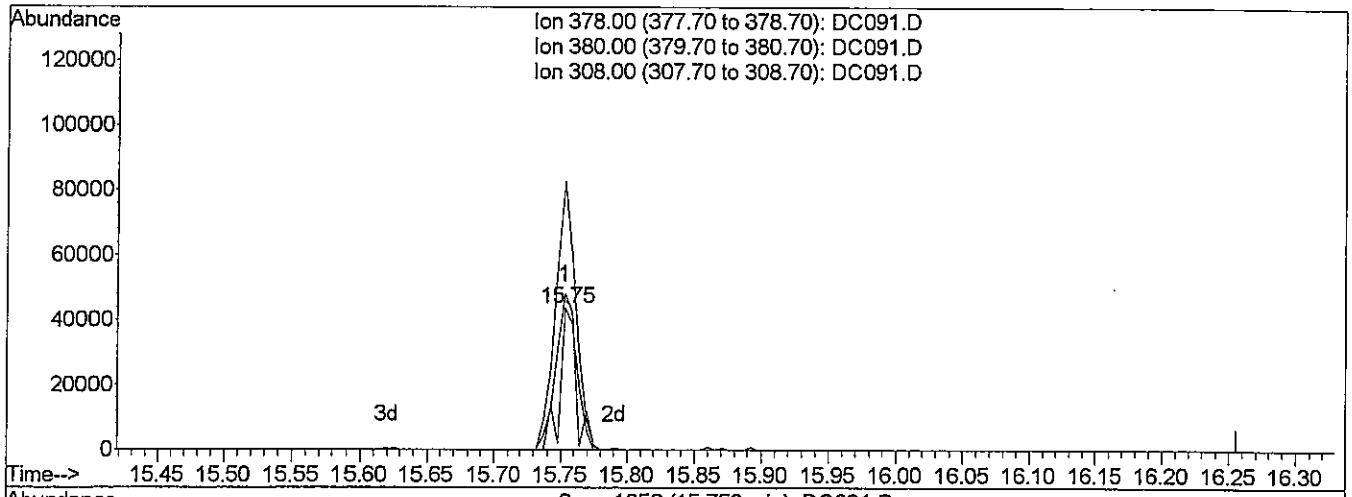
Ion	Exp%	Act%
378.00	100	100
380.00	104.20	118.19
308.00	154.00	207.47#
0.00	0.00	0.00

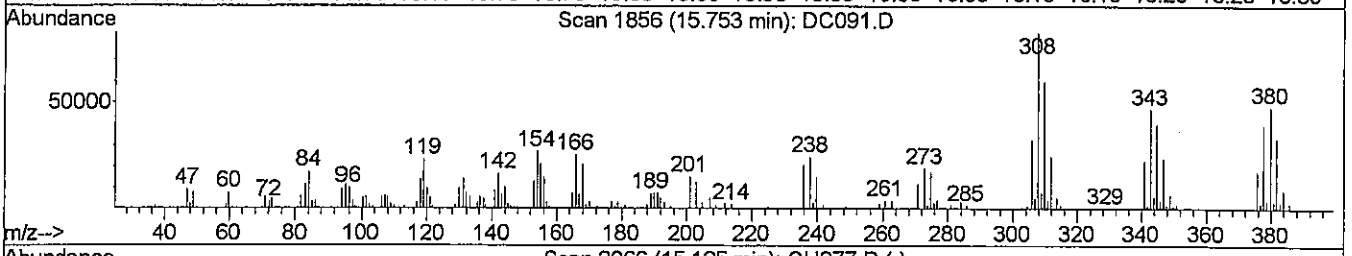
DC091.D LVI1016.M Mon Oct 19 08:56:36 2009

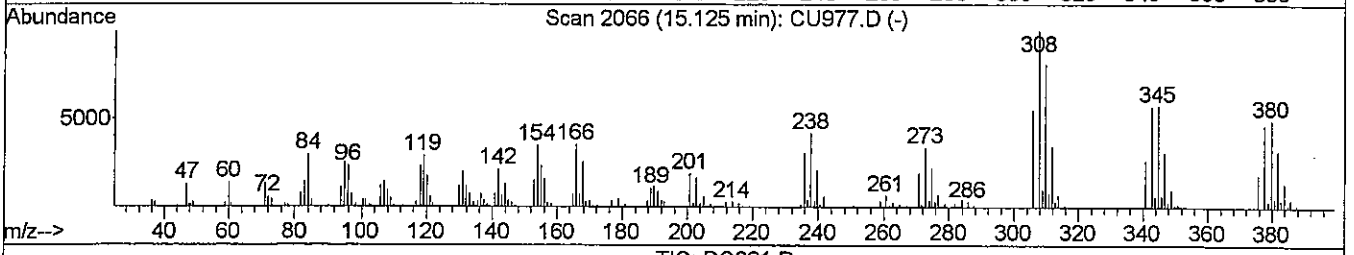
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC091.D Vial: 11
Acq On : 16 Oct 2009 6:16 pm Operator: J.Wu
Sample : ICV 1 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 8:56 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration







TIC: DC091.D

(23) Octachlorostyrene (TM)

15.75min 1.61ppm m

response 39562

Ion	Exp%	Act%
378.00	100	100
380.00	104.20	120.87
308.00	154.00	208.05#
0.00	0.00	0.00

AW 10/19/09

DC091.D LVI1016.M Mon Oct 19 08:56:42 2009

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC092.D Vial: 12
Acq On : 16 Oct 2009 7:15 pm Operator: J.Wu
Sample : ICV 2 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 2 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration

#2 L.R. for sample# 11, 28, #1 L.R.

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	IR	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	112	0.00
2	TM	1,4-Dioxane	0.790	0.446	43.5#	61	-0.02
3	TM	Pyridine	1.151	0.000#	100.0#	0#	-6.85#
4	IR	d8-Naphthalene	1.000	1.000	0.0	106	0.00
5	S	SURR4,NITROBENZENE-D5	0.325	0.375	-15.4	110	0.00
6	TM	Nitrobenzene	0.322	0.000#	100.0#	0#	-11.26#
7	TM	Naphthalene	1.044	0.000#	100.0#	0#	-11.95#
8	TM	2-Methylnaphthalene	0.682	0.000#	100.0#	0#	-12.57#
9	TM	1-Methylnaphthalene	0.661	0.000#	100.0#	0#	-12.67#
10	IR	d10-Acenaphthene	1.000	1.000	0.0	110	0.00
11	S	SURR5,2-FLUOROBIPHENYL	1.279	1.397	-9.2	114	0.00
12	TM	Acenaphthylene	1.783	0.000#	100.0#	0#	-13.40#
13	TM	Dimethyl phthalate	1.497	0.000#	100.0#	0#	-13.24#
14	TM	Acenaphthene	1.159	0.000#	100.0#	0#	-13.55#
15	TM	Dibenzofuran	1.629	0.000#	100.0#	0#	-13.69#
16	TM	Fluorene	1.286	0.000#	100.0#	0#	-13.98#
17	TM	Diethylphthalate	1.459	0.000#	100.0#	0#	-13.83#
18	IR	d10-Phenanthrene	1.000	1.000	0.0	94	0.01
19	TM	Hexachlorobenzene	0.265	0.000#	100.0#	0#	-14.47#
20	TM	Phenanthrene	1.105	0.000#	100.0#	0#	-14.76#
21	TM	Anthracene	1.079	0.000#	100.0#	0#	-14.80#
22	TM	Carbazole	0.780	0.000#	100.0#	0#	-14.92#
23	TM	Octachlorostyrene	0.068	0.000#	100.0#	0#	-15.76#
24	TM	Di-n-butylphthalate	1.394	0.000#	100.0#	0#	-15.15#
25	TM	Fluoranthene	1.265	0.000#	100.0#	0#	-15.96#
26	IR	d12-Chrysene	1.000	1.000	0.0	98	0.00
27	TM	Pyrene	1.254	0.000#	100.0#	0#	-16.25#
28	S	SURR6,TERPHENYL-D14	0.824	0.945	-14.7	106	0.00
29	TM	Butyl benzyl phthalate	0.610	0.000#	100.0#	0#	-16.97#
30	TM	bis(2-Ethylhexyl)phthalate	0.787	0.387	50.8#	47#	0.00
31	TM	Benzo(a)anthracene	1.089	0.000#	100.0#	0#	-17.99#
32	TM	Chrysene	1.114	0.000#	100.0#	0#	-18.08#
33	IR	d12-Perylene	1.000	1.000	0.0	94	-0.01
34	TM	Di-n-octyl phthalate	1.670	0.000#	100.0#	0#	-19.21#
35	TM	Benzo(b)Fluoranthene	1.419	0.000#	100.0#	0#	-20.56#
36	TM	Benzo(k)fluoranthene	1.371	0.000#	100.0#	0#	-20.63#

(#) = Out of Range

00359

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC092.D Vial: 12
Acq On : 16 Oct 2009 7:15 pm Operator: J.Wu
Sample : ICV 2 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 2 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration

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)
37	TM	Benzo(a)pyrene	1.243	0.000#	100.0#	0#	-21.61#
38	TM	Indeno(1,2,3-cd)Pyrene	1.505	0.000#	100.0#	0#	-24.99#
39	TM	Dibenz(a,h)anthracene	1.281	0.000#	100.0#	0#	-25.00#
40	TM	Benzo(g,h,i)perylene	1.254	0.000#	100.0#	0#	-25.85#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC092.D Vial: 12
Acq On : 16 Oct 2009 7:15 pm Operator: J.Wu
Sample : ICV 2 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 2 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration for a 5 L.R only.

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	IR	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	112	0.00
2	TM	1,4-Dioxane	4.000	2.321	42.0#	61	-0.02
3	TM	Pyridine	2.000	0.000	100.0#	0	-6.85#
4	IR	d8-Naphthalene	1.000	1.000	0.0	106	0.00
5	S	SURR4,NITROBENZENE-D5	2.000	2.082	-4.1	110	0.00
6	TM	Nitrobenzene	2.000	0.000	100.0#	0	-11.26#
7	TM	Naphthalene	2.000	0.000	100.0#	0	-11.95#
8	TM	2-Methylnaphthalene	2.000	0.000	100.0#	0	-12.57#
9	TM	1-Methylnaphthalene	2.000	0.000	100.0#	0	-12.67#
10	IR	d10-Acenaphthene	1.000	1.000	0.0	110	0.00
11	S	SURR5,2-FLUOROBIPHENYL	2.000	2.184	-9.2	114	0.00
12	TM	Acenaphthylene	2.000	0.000	100.0#	0	-13.40#
13	TM	Dimethyl phthalate	2.000	0.000	100.0#	0	-13.24#
14	TM	Acenaphthene	2.000	0.000	100.0#	0	-13.55#
15	TM	Dibenzofuran	2.000	0.000	100.0#	0	-13.69#
16	TM	Fluorene	2.000	0.000	100.0#	0	-13.98#
17	TM	Diethylphthalate	2.000	0.000	100.0#	0	-13.83#
18	IR	d10-Phenanthrene	1.000	1.000	0.0	94	0.01
19	TM	Hexachlorobenzene	2.000	0.000	100.0#	0	-14.47#
20	TM	Phenanthrene	2.000	0.000	100.0#	0	-14.76#
21	TM	Anthracene	2.000	0.000	100.0#	0	-14.80#
22	TM	Carbazole	2.000	0.000	100.0#	0	-14.92#
23	TM	Octachlorostyrene	2.000	0.000	100.0#	0	-15.76#
24	TM	Di-n-butylphthalate	2.000	0.000	100.0#	0	-15.15#
25	TM	Fluoranthene	2.000	0.000	100.0#	0	-15.96#
26	IR	d12-Chrysene	1.000	1.000	0.0	98	0.00
27	TM	Pyrene	2.000	0.000	100.0#	0	-16.25#
28	S	SURR6,TERPHENYL-D14	2.000	2.293	-14.7	106	0.00
29	TM	Butyl benzyl phthalate	2.000	0.000	100.0#	0	-16.97#
30	TM	bis(2-Ethylhexyl)phthalate	4.000	1.969	50.8#	47	0.00
31	TM	Benzo(a)anthracene	2.000	0.000	100.0#	0	-17.99#
32	TM	Chrysene	2.000	0.000	100.0#	0	-18.08#
33	IR	d12-Perylene	1.000	1.000	0.0	94	-0.01
34	TM	Di-n-octyl phthalate	2.000	0.000	100.0#	0	-19.21#
35	TM	Benzo(b)Fluoranthene	2.000	0.000	100.0#	0	-20.56#
36	TM	Benzo(k)fluoranthene	2.000	0.000	100.0#	0	-20.63#

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC092.D Vial: 12
Acq On : 16 Oct 2009 7:15 pm Operator: J.Wu
Sample : ICV 2 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 2 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration

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)
37	TM	Benzo(a)pyrene	2.000	0.000	100.0#	0	-21.61#
38	TM	Indeno(1,2,3-cd)Pyrene	2.000	0.000	100.0#	0	-24.99#
39	TM	Dibenz(a,h)anthracene	2.000	0.000	100.0#	0	-25.00#
40	TM	Benzo(g,h,i)perylene	2.000	0.000	100.0#	0	-25.85#

(#) = Out of Range SPCC's out = 0 CCC's out = 0
DC092.D LVI1016.M Mon Oct 19 09:01:44 2009 Page 2

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Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC092.D Vial: 12
Acq On : 16 Oct 2009 7:15 pm Operator: J.Wu
Sample : ICV 2 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 2 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration for #2 L-R only

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	IR	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	94	0.00
2	TM	1,4-Dioxane	2.000	2.321	-16.1	117	-0.02
3	TM	Pyridine	1.000	0.000	-100.0#	0	-6.85#
4	IR	d8-Naphthalene	1.000	1.000	0.0	96	0.00
5	S	SURR4,NITROBENZENE-D5	1.000	2.082	-108.2#	229	0.00
6	TM	Nitrobenzene	1.000	0.000	100.0#	0	-11.26#
7	TM	Naphthalene	1.000	0.000	100.0#	0	-11.95#
8	TM	2-Methylnaphthalene	1.000	0.000	100.0#	0	-12.57#
9	TM	1-Methylnaphthalene	1.000	0.000	100.0#	0	-12.67#
10	IR	d10-Acenaphthene	1.000	1.000	0.0	100	0.00
11	S	SURR5,2-FLUOROBIPHENYL	1.000	2.184	-118.4#	224	0.00
12	TM	Acenaphthylene	1.000	0.000	100.0#	0	-13.40#
13	TM	Dimethyl phthalate	1.000	0.000	100.0#	0	-13.24#
14	TM	Acenaphthene	1.000	0.000	100.0#	0	-13.55#
15	TM	Dibenzofuran	1.000	0.000	100.0#	0	-13.69#
16	TM	Fluorene	1.000	0.000	100.0#	0	-13.98#
17	TM	Diethylphthalate	1.000	0.000	100.0#	0	-13.83#
18	IR	d10-Phenanthrene	1.000	1.000	0.0	87	0.01
19	TM	Hexachlorobenzene	1.000	0.000	100.0#	0	-14.47#
20	TM	Phenanthrene	1.000	0.000	100.0#	0	-14.76#
21	TM	Anthracene	1.000	0.000	100.0#	0	-14.80#
22	TM	Carbazole	1.000	0.000	100.0#	0	-14.92#
23	TM	Octachlorostyrene	1.000	0.000	100.0#	0	-15.76#
24	TM	Di-n-butylphthalate	1.000	0.000	100.0#	0	-15.15#
25	TM	Fluoranthene	1.000	0.000	100.0#	0	-15.96#
26	IR	d12-Chrysene	1.000	1.000	0.0	91	0.00
27	TM	Pyrene	1.000	0.000	100.0#	0	-16.25#
28	S	SURR6,TERPHENYL-D14	1.000	2.293	-129.3#	218	0.00
29	TM	Butyl benzyl phthalate	1.000	0.000	100.0#	0	-16.97#
30	TM	bis(2-Ethylhexyl)phthalate	2.000	1.969	1.5	99	0.00
31	TM	Benzo(a)anthracene	1.000	0.000	100.0#	0	-17.99#
32	TM	Chrysene	1.000	0.000	100.0#	0	-18.08#
33	IR	d12-Perylene	1.000	1.000	0.0	87	-0.01
34	TM	Di-n-octyl phthalate	1.000	0.000	100.0#	0	-19.21#
35	TM	Benzo(b)Fluoranthene	1.000	0.000	100.0#	0	-20.56#
36	TM	Benzo(k)fluoranthene	1.000	0.000	100.0#	0	-20.63#

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC092.D Vial: 12
Acq On : 16 Oct 2009 7:15 pm Operator: J.Wu
Sample : ICV 2 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 2 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration

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)
37	TM	Benzo(a)pyrene	1.000	0.000	100.0#	0	-21.61#
38	TM	Indeno(1,2,3-cd)Pyrene	1.000	0.000	100.0#	0	-24.99#
39	TM	Dibenz(a,h)anthracene	1.000	0.000	100.0#	0	-25.00#
40	TM	Benzo(g,h,i)perylene	1.000	0.000	100.0#	0	-25.85#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC092.D Vial: 12
Acq On : 16 Oct 2009 7:15 pm Operator: J.Wu
Sample : ICV 2 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 2 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration for #30 only

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	IR	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	94	0.00
2	TM	1,4-Dioxane	0.790	0.892	-12.9	117	-0.02
3	TM	Pyridine	1.151	0.000#	100.0#	0#	-6.85#
4	IR	d8-Naphthalene	1.000	1.000	0.0	96	0.00
5	S	SURR4,NITROBENZENE-D5	0.325	0.750	-130.8#	229#	0.00
6	TM	Nitrobenzene	0.322	0.000#	100.0#	0#	-11.26#
7	TM	Naphthalene	1.044	0.000#	100.0#	0#	-11.95#
8	TM	2-Methylnaphthalene	0.682	0.000#	100.0#	0#	-12.57#
9	TM	1-Methylnaphthalene	0.661	0.000#	100.0#	0#	-12.67#
10	IR	d10-Acenaphthene	1.000	1.000	0.0	100	0.00
11	S	SURR5,2-FLUOROBIPHENYL	1.279	2.794	-118.5#	224#	0.00
12	TM	Acenaphthylene	1.783	0.000#	100.0#	0#	-13.40#
13	TM	Dimethyl phthalate	1.497	0.000#	100.0#	0#	-13.24#
14	TM	Acenaphthene	1.159	0.000#	100.0#	0#	-13.55#
15	TM	Dibenzofuran	1.629	0.000#	100.0#	0#	-13.69#
16	TM	Fluorene	1.286	0.000#	100.0#	0#	-13.98#
17	TM	Diethylphthalate	1.459	0.000#	100.0#	0#	-13.83#
18	IR	d10-Phenanthrene	1.000	1.000	0.0	87	0.01
19	TM	Hexachlorobenzene	0.265	0.000#	100.0#	0#	-14.47#
20	TM	Phenanthrene	1.105	0.000#	100.0#	0#	-14.76#
21	TM	Anthracene	1.079	0.000#	100.0#	0#	-14.80#
22	TM	Carbazole	0.780	0.000#	100.0#	0#	-14.92#
23	TM	Octachlorostyrene	0.068	0.000#	100.0#	0#	-15.76#
24	TM	Di-n-butylphthalate	1.394	0.000#	100.0#	0#	-15.15#
25	TM	Fluoranthene	1.265	0.000#	100.0#	0#	-15.96#
26	IR	d12-Chrysene	1.000	1.000	0.0	91	0.00
27	TM	Pyrene	1.254	0.000#	100.0#	0#	-16.25#
28	S	SURR6,TERPHENYL-D14	0.824	1.891	-129.5#	218#	0.00
29	TM	Butyl benzyl phthalate	0.610	0.000#	100.0#	0#	-16.97#
30	TM	bis(2-Ethylhexyl)phthalate	0.787	0.774	~~1.7~~	~~99~~	0.00
31	TM	Benzo(a)anthracene	1.089	0.000#	100.0#	0#	-17.99#
32	TM	Chrysene	1.114	0.000#	100.0#	0#	-18.08#
33	IR	d12-Perylene	1.000	1.000	0.0	87	-0.01
34	TM	Di-n-octyl phthalate	1.670	0.000#	100.0#	0#	-19.21#
35	TM	Benzo(b)Fluoranthene	1.419	0.000#	100.0#	0#	-20.56#
36	TM	Benzo(k)fluoranthene	1.371	0.000#	100.0#	0#	-20.63#

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC092.D Vial: 12
Acq On : 16 Oct 2009 7:15 pm Operator: J.Wu
Sample : ICV 2 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 2 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration

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)
37	TM	Benzo(a)pyrene	1.243	0.000#	100.0#	0#	-21.61#
38	TM	Indeno(1,2,3-cd)Pyrene	1.505	0.000#	100.0#	0#	-24.99#
39	TM	Dibenz(a,h)anthracene	1.281	0.000#	100.0#	0#	-25.00#
40	TM	Benzo(g,h,i)perylene	1.254	0.000#	100.0#	0#	-25.85#

(#) = Out of Range SPCC's out = 0 CCC's out = 0
DC092.D LVI1016.M Mon Oct 19 09:02:22 2009 Page 2

00366

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC092.D Vial: 12
Acq On : 16 Oct 2009 7:15 pm Operator: J.Wu
Sample : ICV 2 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 2 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 9:00 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.65	152	97525	1.00	ppm	0.00
4) d8-Naphthalene	11.93	136	351138	1.00	ppm	0.00
10) d10-Acenaphthene	13.53	164	231706	1.00	ppm	0.00
18) d10-Phenanthrene	14.75	188	330956	1.00	ppm	0.01
26) d12-Chrysene	18.04	240	358620	1.00	ppm	0.00
33) d12-Perylene	21.81	264	265381m	1.00	ppm	-0.01
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.24	82	263320	2.08	ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 104.00%			
11) SURR5,2-FLUOROBIPHENYL	12.89	172	647288	2.18	ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 109.00%			
28) SURR6,TERPHENYL-D14	16.34	244	678000	2.29	ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 114.50%			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.05	88	173932	2.32	ppm	84
30) bis(2-Ethylhexyl)phthalate	17.89	149	555429	1.97	ppm	94

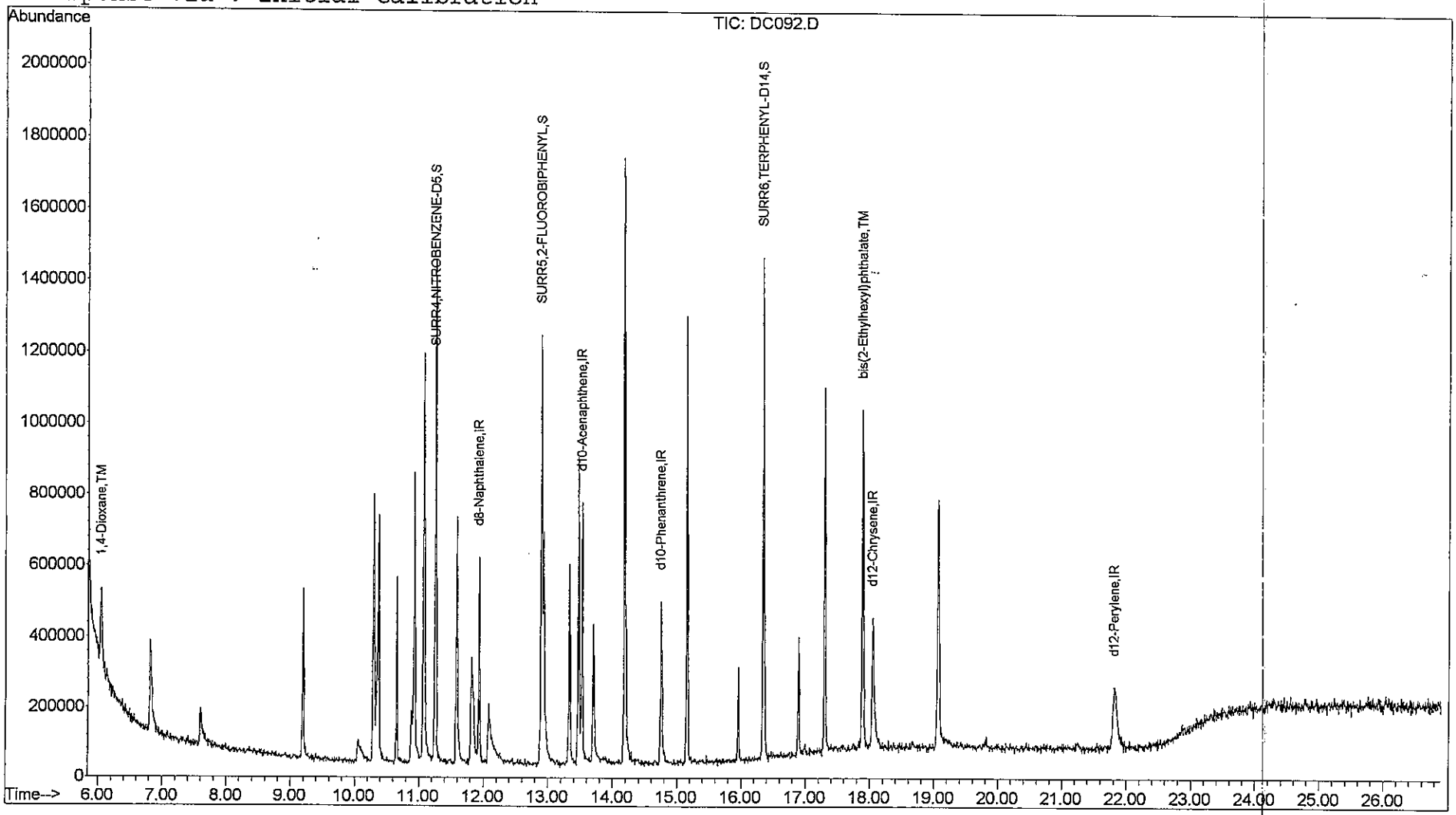
(#) = qualifier out of range (m) = manual integration
DC092.D LVI1016.M Mon Oct 19 09:01:09 2009 Page 1

00367

Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC092.D Vial: 12
Acq On : 16 Oct 2009 7:15 pm Operator: J.Wu
Sample : ICV 2 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 2 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 9:00 2009 Quant Results File: LVI1016.RES

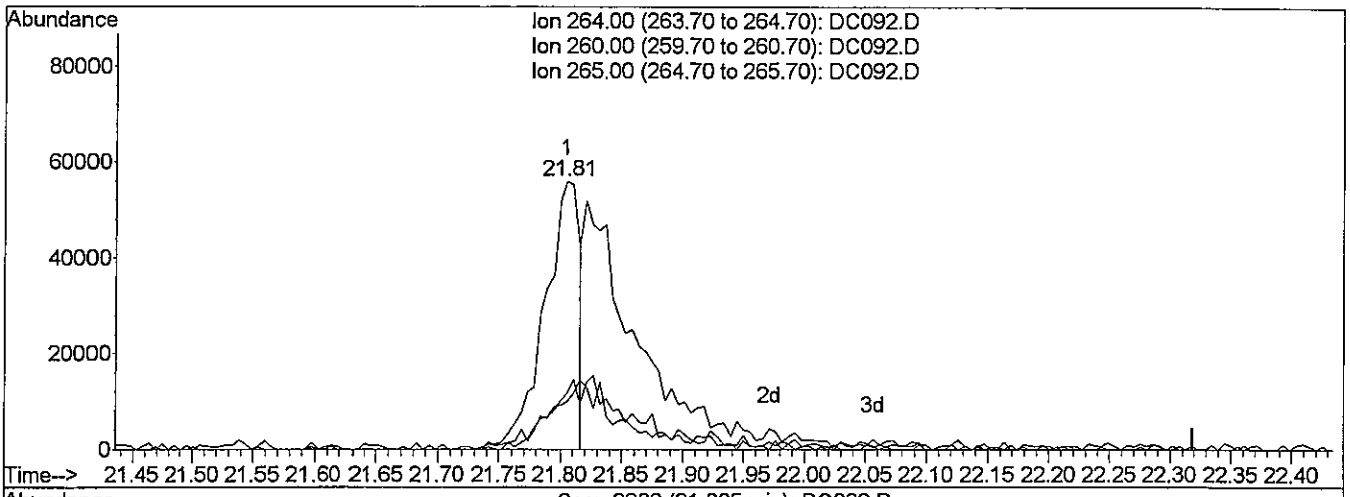
Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration

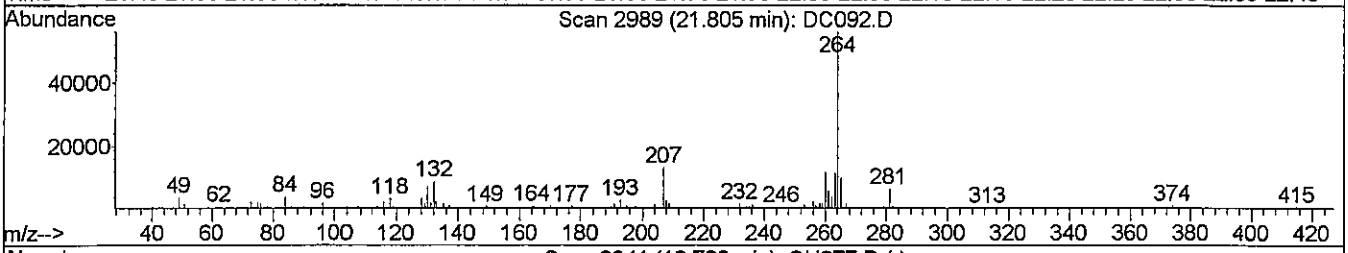


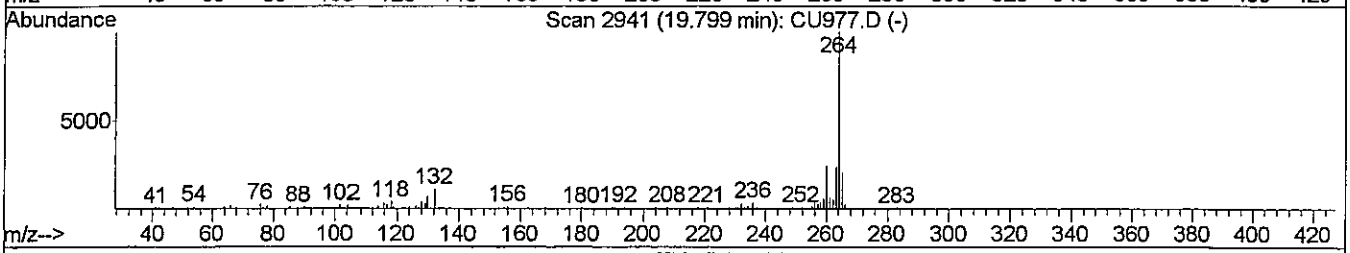
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC092.D Vial: 12
Acq On : 16 Oct 2009 7:15 pm Operator: J.Wu
Sample : ICV 2 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 2 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 9:00 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration







TIC: DC092.D

(33) d12-Perylene (IR)

21.81min 1.00ppm

response 112203

Ion	Exp%	Act%
264.00	100	100
260.00	17.80	20.23
265.00	18.30	7.31
0.00	0.00	0.00

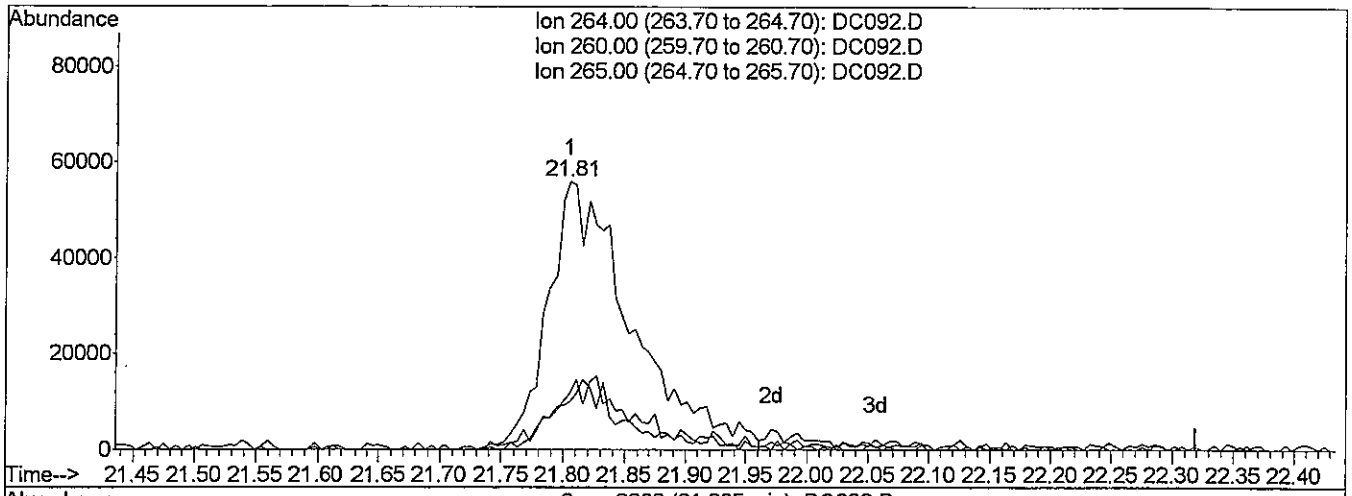
B

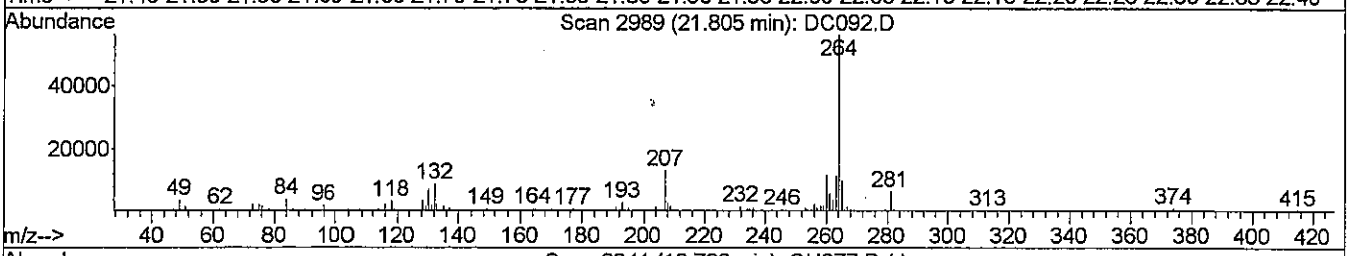
DC092.D LVI1016.M Mon Oct 19 09:00:20 2009

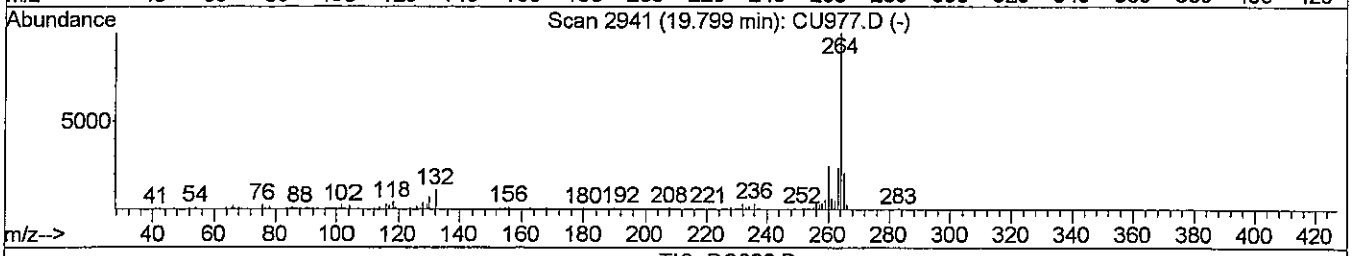
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC092.D Vial: 12
Acq On : 16 Oct 2009 7:15 pm Operator: J.Wu
Sample : ICV 2 Inst : 5973-B
Misc : 2.0 PPM STD 8270.LL ICV 2 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 9:00 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration







TIC: DC092.D

(33) d12-Perylene (IR)

21.81min 1.00ppm m

response 265381

Ion	Exp%	Act%
264.00	100	100
260.00	17.80	20.98
265.00	18.30	17.94
0.00	0.00	0.00

A JW 10/19/09

DC092.D LVI1016.M Mon Oct 19 09:00:27 2009

00370

Response Factor Report 5973C

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009 #23, 34 L.R.,
Response via : Initial Calibration

Calibration Files
0.1 =AV745.D 0.2 =AV746.D 0.5 =AV747.D
1.0 =AV748.D 2.0 =AV749.D 3.0 =AV750.D 4.0=AV751, 5.0=AV752
10.0=AV753

		Compound	0.1	0.2	0.5	1.0	2.0	3.0	Avg	%RSD
1)	IR	d4-1,4-Dichlorobenzen	ISTD							
2)	T	1,4-Dioxane	1.139	0.879	0.874	0.738	0.843	0.815	0.856	13.50
3)		Pyridine			1.494	1.426	1.657	1.667	1.608	6.82
4)	IR	d8-Naphthalene	ISTD							
5)	S	SURR4,NITROBENZ	0.338	0.350	0.368	0.329	0.406	0.410	0.385	9.96
6)	T	Nitrobenzene		0.386	0.382	0.356	0.422	0.426	0.406	6.76
7)	T	Naphthalene	1.114	1.130	1.148	0.981	1.155	1.134	1.096	5.73
8)	T	2-Methylnaphtha	0.660	0.667	0.655	0.574	0.686	0.701	0.667	5.72
9)	T	1-Methylnaphtha	0.681	0.635	0.658	0.572	0.690	0.684	0.659	5.54
10)	IR	d10-Acenaphthene	ISTD							
11)	S	SURR5,2-FLUOROB	1.285	1.324	1.302	1.194	1.355	1.347	1.307	3.85
12)	T	Acenaphthylene	1.839	1.834	1.843	1.713	1.982	2.023	1.898	6.11
13)		Dimethyl phthal		1.273	1.240	1.112	1.301	1.366	1.317	8.16
14)	T	Acenaphthene	1.241	1.154	1.177	1.075	1.202	1.215	1.182	4.09
15)	T	Dibenzofuran	1.467	1.529	1.551	1.400	1.562	1.553	1.509	3.88
16)	T	Fluorene	1.130	1.103	1.114	1.016	1.163	1.182	1.137	4.97
17)		Diethylphthalat		1.453	1.286	1.074	1.179	1.194	1.242	8.73
18)	IR	d10-Phenanthrene	ISTD							
19)	T	Hexachlorobenze		0.231	0.248	0.223	0.267	0.281	0.264	10.28
20)	T	Phenanthrene	1.185	1.182	1.179	1.077	1.205	1.211	1.167	3.71
21)	T	Anthracene	1.007	1.065	1.122	0.990	1.183	1.214	1.112	7.01
22)	T	Carbazole	0.999	0.994	1.097	0.964	1.032	0.996	0.974	11.60
23)		Octachlorostyre		0.023	0.048	0.043	0.053	0.057	0.050#	25.10 L.R.
24)		Di-n-butylphtha		2.063	2.068	1.802	2.012	1.889	1.825	13.49
25)	T	Fluoranthene	1.222	1.204	1.283	1.148	1.289	1.267	1.228	3.91
26)	IR	d12-Chrysene	ISTD							
27)	T	Pyrene	1.064	1.022	1.013	0.925	1.012	1.036	1.017	3.86
28)	S	SURR6,TERPHENYL	0.697	0.647	0.697	0.611	0.700	0.726	0.691	5.48
29)		Butyl benzyl ph				0.556	0.719	0.770	0.725	11.76
30)	T	bis(2-Ethylhexy			0.778	0.779	0.983	1.048	0.944	12.60
31)	T	Benzo(a)anthrac	1.082	1.040	1.100	1.018	1.156	1.194	1.124	5.86
32)	T	Chrysene	1.175	1.120	1.083	0.992	1.146	1.169	1.123	5.04
33)	IR	d12-Perylene	ISTD							
34)		Di-n-octyl phth				1.342	1.858	1.974	1.935	16.48 L.R.
35)	T	Benzo(b)Fluoran		1.433	1.409	1.294	1.514	1.506	1.470	6.40
36)	T	Benzo(k)fluoran		1.345	1.337	1.287	1.509	1.479	1.429	6.37
37)	T	Benzo(a)pyrene		1.076	1.152	1.152	1.333	1.361	1.282	10.51
38)	T	Indeno(1,2,3-cd		1.221	1.335	1.263	1.522	1.551	1.466	11.41

(#) = Out of Range ### Number of calibration levels exceeded format ###

JW

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration

Calibration Files
0.1 =AV745.D 0.2 =AV746.D 0.5 =AV747.D
1.0 =AV748.D 2.0 =AV749.D 3.0 =AV750.D

		Compound	0.1	0.2	0.5	1.0	2.0	3.0	Avg	%RSD
39)	T	Dibenz(a,h)anth		0.915	1.011	1.033	1.255	1.286	1.169	15.22
40)	T	Benzo(g,h,i)per		1.156	1.192	1.177	1.332	1.337	1.263	6.26

(#) = Out of Range ### Number of calibration levels exceeded format ###

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973C\DATA\102709\AV749.D Vial: 8
Acq On : 27 Oct 2009 3:41 pm Operator: J.Wu
Sample : SSDT020 Inst : 5973C
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Multiple Level Calibration

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	IR	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	100	0.00
2	T	1,4-Dioxane	0.856	0.843	1.5	100	0.00
3		Pyridine	1.608	1.657	-3.0	100	0.00
4	IR	d8-Naphthalene	1.000	1.000	0.0	100	0.00
5	S	SURR4,NITROBENZENE-D5	0.385	0.406	-5.5	100	0.00
6	T	Nitrobenzene	0.406	0.422	-3.9	100	0.00
7	T	Naphthalene	1.096	1.155	-5.4	100	0.00
8	T	2-Methylnaphthalene	0.667	0.686	-2.8	100	0.00
9	T	1-Methylnaphthalene	0.659	0.690	-4.7	100	0.00
10	IR	d10-Acenaphthene	1.000	1.000	0.0	100	0.00
11	S	SURR5,2-FLUOROBIPHENYL	1.307	1.355	-3.7	100	0.00
12	T	Acenaphthylene	1.898	1.982	-4.4	100	0.00
13		Dimethyl phthalate	1.317	1.301	1.2	100	0.00
14	T	Acenaphthene	1.182	1.202	-1.7	100	0.00
15	T	Dibenzofuran	1.509	1.562	-3.5	100	0.00
16	T	Fluorene	1.137	1.163	-2.3	100	0.00
17		Diethylphthalate	1.242	1.179	5.1	100	0.00
18	IR	d10-Phenanthrene	1.000	1.000	0.0	100	0.00
19	T	Hexachlorobenzene	0.264	0.267	-1.1	100	0.00
20	T	Phenanthrene	1.167	1.205	-3.3	100	0.00
21	T	Anthracene	1.112	1.183	-6.4	100	0.00
22	T	Carbazole	0.974	1.032	-6.0	100	0.00
23		Octachlorostyrene	0.050	0.053	-6.0	100	0.00
24		Di-n-butylphthalate	1.825	2.012	-10.2	100	0.00
25	T	Fluoranthene	1.228	1.289	-5.0	100	0.00
26	IR	d12-Chrysene	1.000	1.000	0.0	100	0.00
27	T	Pyrene	1.017	1.012	0.5	100	0.00
28	S	SURR6,TERPHENYL-D14	0.691	0.700	-1.3	100	0.00
29		Butyl benzyl phthalate	0.725	0.719	0.8	100	0.00
30	T	bis(2-Ethylhexyl)phthalate	0.944	0.983	-4.1	100	0.00
31	T	Benzo(a)anthracene	1.124	1.156	-2.8	100	0.00
32	T	Chrysene	1.123	1.146	-2.0	100	0.00
33	IR	d12-Perylene	1.000	1.000	0.0	100	0.00
34		Di-n-octyl phthalate	1.935	1.858	4.0	100	0.00
35	T	Benzo(b)Fluoranthene	1.470	1.514	-3.0	100	0.00
36	T	Benzo(k)fluoranthene	1.429	1.509	-5.6	100	0.00

(#) = Out of Range

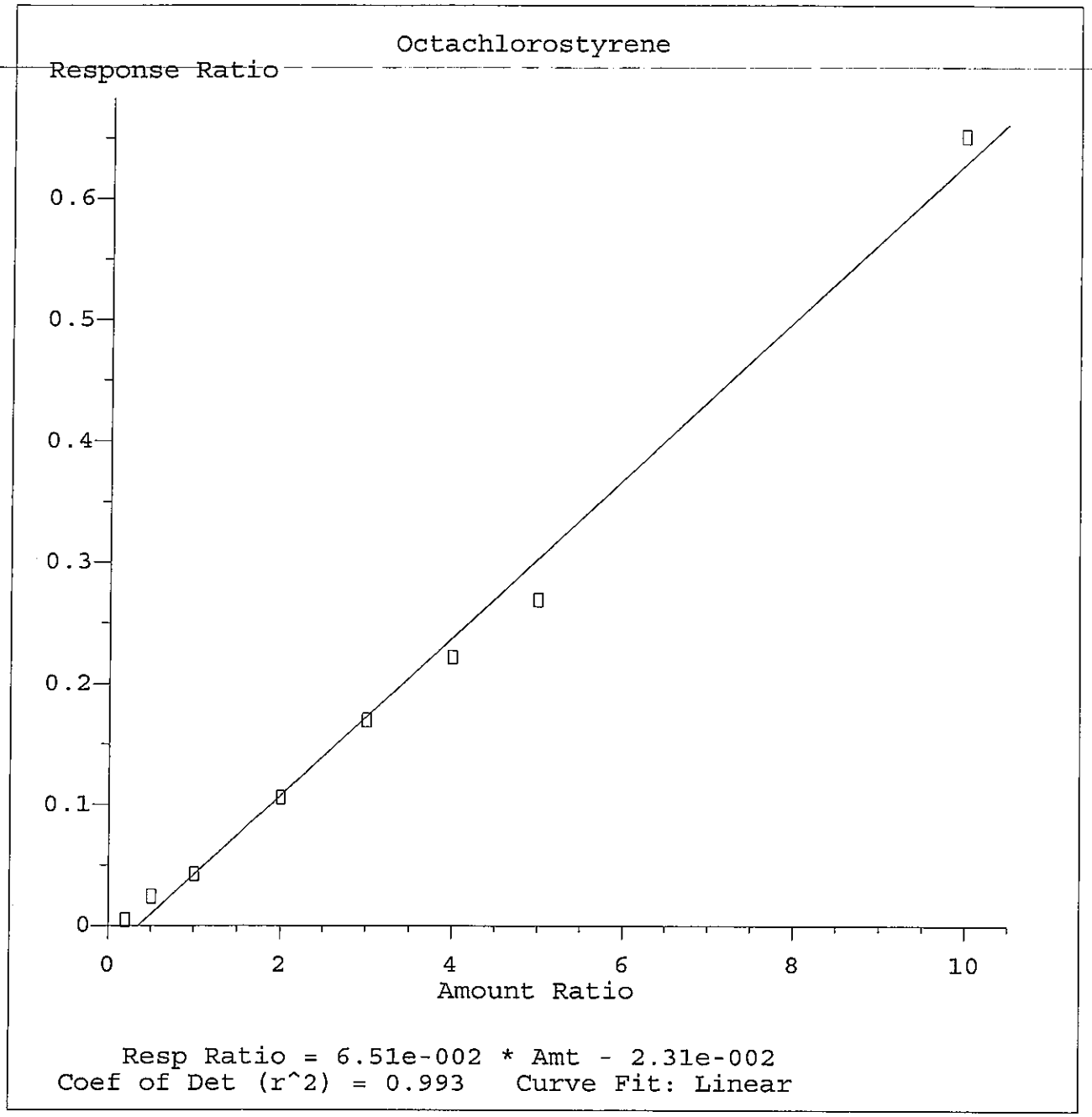
Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973C\DATA\102709\AV749.D Vial: 8
Acq On : 27 Oct 2009 3:41 pm Operator: J.Wu
Sample : SSDT020 Inst : 5973C
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P

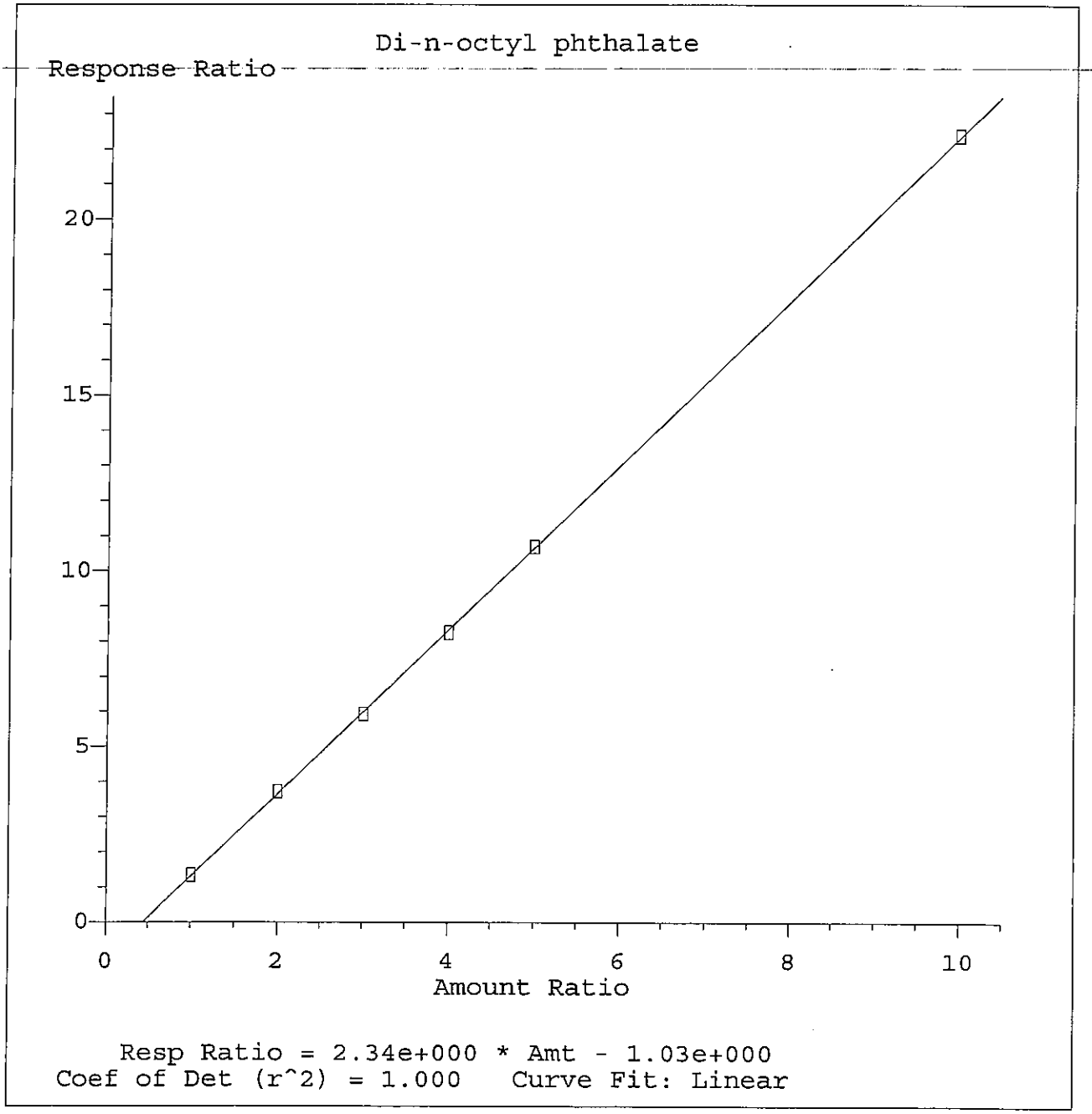
Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Multiple Level Calibration

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)
37	T	Benzo(a)pyrene	1.282	1.333	-4.0	100	0.00
38	T	Indeno(1,2,3-cd)Pyrene	1.466	1.522	-3.8	100	0.00
39	T	Dibenz(a,h)anthracene	1.169	1.255	-7.4	100	0.00
40	T	Benzo(g,h,i)perylene	1.263	1.332	-5.5	100	0.00



Method Name: J:\ACQUDATA\5973C\METHODS\LVI1027.M
Calibration Table Last Updated: Wed Oct 28 09:00:59 2009



Method Name: J:\ACQUDATA\5973C\METHODS\LVI1027.M
Calibration Table Last Updated: Wed Oct 28 09:02:59 2009

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV745.D Vial: 4
Acq On : 27 Oct 2009 1:10 pm Operator: J.Wu
Sample : SSDT001 Inst : 5973C
Misc : 0.1/0.2 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 08:50:33 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:50:25 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.70	152	97254	1.00	ppm	0.00
4) d8-Naphthalene	11.96	136	338359	1.00	ppm	0.00
10) d10-Acenaphthene	13.55	164	186016	1.00	ppm	0.00
18) d10-Phenanthrene	14.75	188	236392	1.00	ppm	0.00
26) d12-Chrysene	17.96	240	300834	1.00	ppm	0.00
33) d12-Perylene	21.51	264	220648	1.00	ppm	0.00
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.28	82	11446	0.06	ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 3.00%#			
11) SURR5,2-FLUOROBIPHENYL	12.92	172	23894	0.09	ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 4.50%#			
28) SURR6,TERPHENYL-D14	16.34	244	20971	0.10	ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 5.00%#			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.27	88	22159	0.10	ppm	87
3) Pyridine	7.06	79	13098	0.06	ppm	79
6) Nitrobenzene	11.31	77	13415	0.07	ppm	98
7) Naphthalene	11.98	128	37708	0.10	ppm	96
8) 2-Methylnaphthalene	12.60	142	22343	0.09	ppm	92
9) 1-Methylnaphthalene	12.70	142	23042	0.10	ppm	96
12) Acenaphthylene	13.42	152	34206	0.10	ppm	96
14) Acenaphthene	13.58	153	23082	0.10	ppm	99
15) Dibenzofuran	13.72	168	27297	0.10	ppm	99
16) Fluorene	14.00	166	21026	0.10	ppm	91
17) Diethylphthalate	13.88	149	29283	0.12	ppm	97
19) Hexachlorobenzene	14.49	284	6272	0.11	ppm	96
20) Phenanthrene	14.77	178	28024	0.10	ppm	93
21) Anthracene	14.81	178	23799	0.09	ppm	94
22) Carbazole	14.92	167	23625	0.10	ppm	91
24) Di-n-butylphthalate	15.18	149	52861	0.13	ppm	96
25) Fluoranthene	15.95	202	28896	0.09	ppm	95
27) Pyrene	16.23	202	32000	0.10	ppm	95
29) Butyl benzyl phthalate	16.97	149	12944	0.06	ppm	92
30) bis(2-Ethylhexyl)phthalate	17.88	149	42324	0.15	ppm	99
31) Benzo(a)anthracene	17.93	228	32553	0.10	ppm	98
32) Chrysene	18.01	228	35359	0.11	ppm	95
34) Di-n-octyl phthalate	19.15	149	21102	0.05	ppm	94
35) Benzo(b)Fluoranthene	20.36	252	29760	0.09	ppm	88
36) Benzo(k)fluoranthene	20.43	252	31535	0.10	ppm	86
37) Benzo(a)pyrene	21.33	252	22108	0.08	ppm	89

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV745.D Vial: 4
Acq On : 27 Oct 2009 1:10 pm Operator: J.Wu
Sample : SSDT001 Inst : 5973C
Misc : 0.1/0.2 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 08:50:33 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:50:25 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Dibenz(a,h)anthracene	24.73	278	19434	0.07	ppm	87

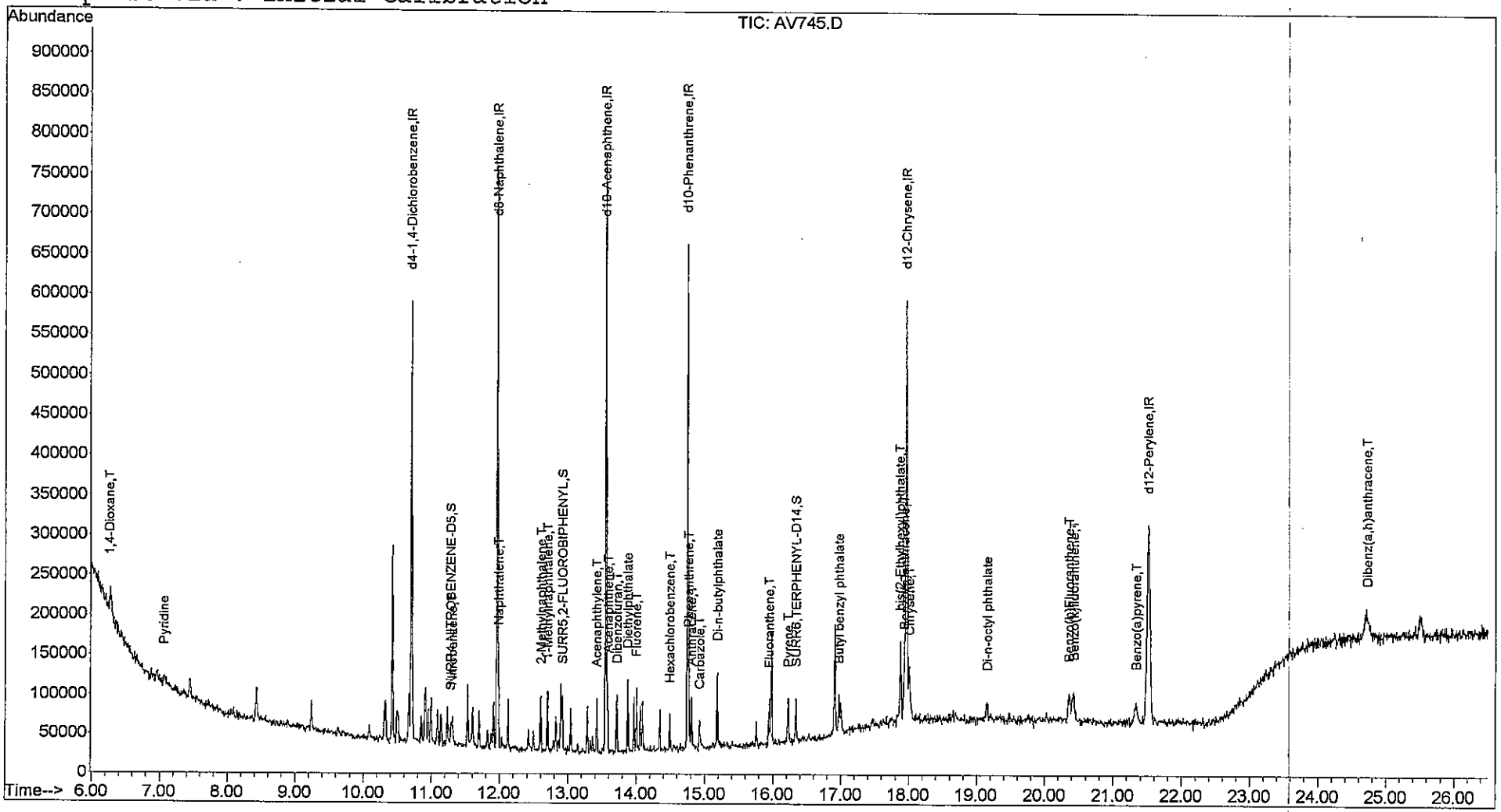
(#) = qualifier out of range (m) = manual integration (+) = signals summed

00378

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV745.D Vial: 4
Acq On : 27 Oct 2009 1:10 pm Operator: J.Wu
Sample : SSDT001 Inst : 5973C
Misc : 0.1/0.2 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 8:51 2009 Quant Results File: LVI1027.RES

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV746.D Vial: 5
Acq On : 27 Oct 2009 1:48 pm Operator: J.Wu
Sample : SSDT002 Inst : 5973C
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 08:52:17 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:52:11 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.70	152	94883	1.00	ppm	0.00
4) d8-Naphthalene	11.96	136	332726	1.00	ppm	0.00
10) d10-Acenaphthene	13.56	164	178209	1.00	ppm	0.00
18) d10-Phenanthrene	14.75	188	225702	1.00	ppm	0.00
26) d12-Chrysene	17.96	240	291825	1.00	ppm	0.00
33) d12-Perylene	21.51	264	208929	1.00	ppm	0.00
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.28	82	23278	0.13	ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 6.50%#			
11) SURR5,2-FLUOROBIPHENYL	12.92	172	47189	0.19	ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 9.50%#			
28) SURR6,TERPHENYL-D14	16.33	244	37749	0.18	ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 9.00%#			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.26	88	33342	0.17	ppm	88
3) Pyridine	7.04	79	25227	0.11	ppm	81
6) Nitrobenzene	11.30	77	25700	0.13	ppm	86
7) Naphthalene	11.97	128	75204	0.21	ppm	98
8) 2-Methylnaphthalene	12.60	142	44371	0.19	ppm	93
9) 1-Methylnaphthalene	12.70	142	42230	0.18	ppm	94
12) Acenaphthylene	13.42	152	65358	0.20	ppm	94
13) Dimethyl phthalate	13.28	163	45360	0.18	ppm	97
14) Acenaphthene	13.58	153	41144	0.19	ppm	97
15) Dibenzofuran	13.72	168	54504	0.20	ppm	98
16) Fluorene	14.00	166	39302	0.19	ppm	96
17) Diethylphthalate	13.88	149	51773	0.22	ppm	96
19) Hexachlorobenzene	14.50	284	10415	0.18	ppm	92
20) Phenanthrene	14.77	178	53377	0.20	ppm	96
21) Anthracene	14.81	178	48058	0.19	ppm	97
22) Carbazole	14.92	167	44860	0.21	ppm	95
23) Octachlorostyrene	15.76	380	1052	0.09	ppm	76
24) Di-n-butylphthalate	15.18	149	93107	0.23	ppm	99
25) Fluoranthene	15.94	202	54330	0.17	ppm	94
27) Pyrene	16.23	202	59671	0.19	ppm	96
29) Butyl benzyl phthalate	16.97	149	27041	0.13	ppm	97
31) Benzo(a)anthracene	17.93	228	60719	0.18	ppm	95
32) Chrysene	18.01	228	65388	0.20	ppm	99
34) Di-n-octyl phthalate	19.15	149	43224	0.11	ppm	95
35) Benzo(b)Fluoranthene	20.35	252	59876	0.19	ppm	96
36) Benzo(k)fluoranthene	20.42	252	56210	0.19	ppm	93

(#) = qualifier out of range (m) = manual integration
AV746.D LVI1027.M Wed Oct 28 09:22:54 2009 JW

00380

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV746.D Vial: 5
Acq On : 27 Oct 2009 1:48 pm Operator: J.Wu
Sample : SSDT002 Inst : 5973C
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 08:52:17 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:52:11 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

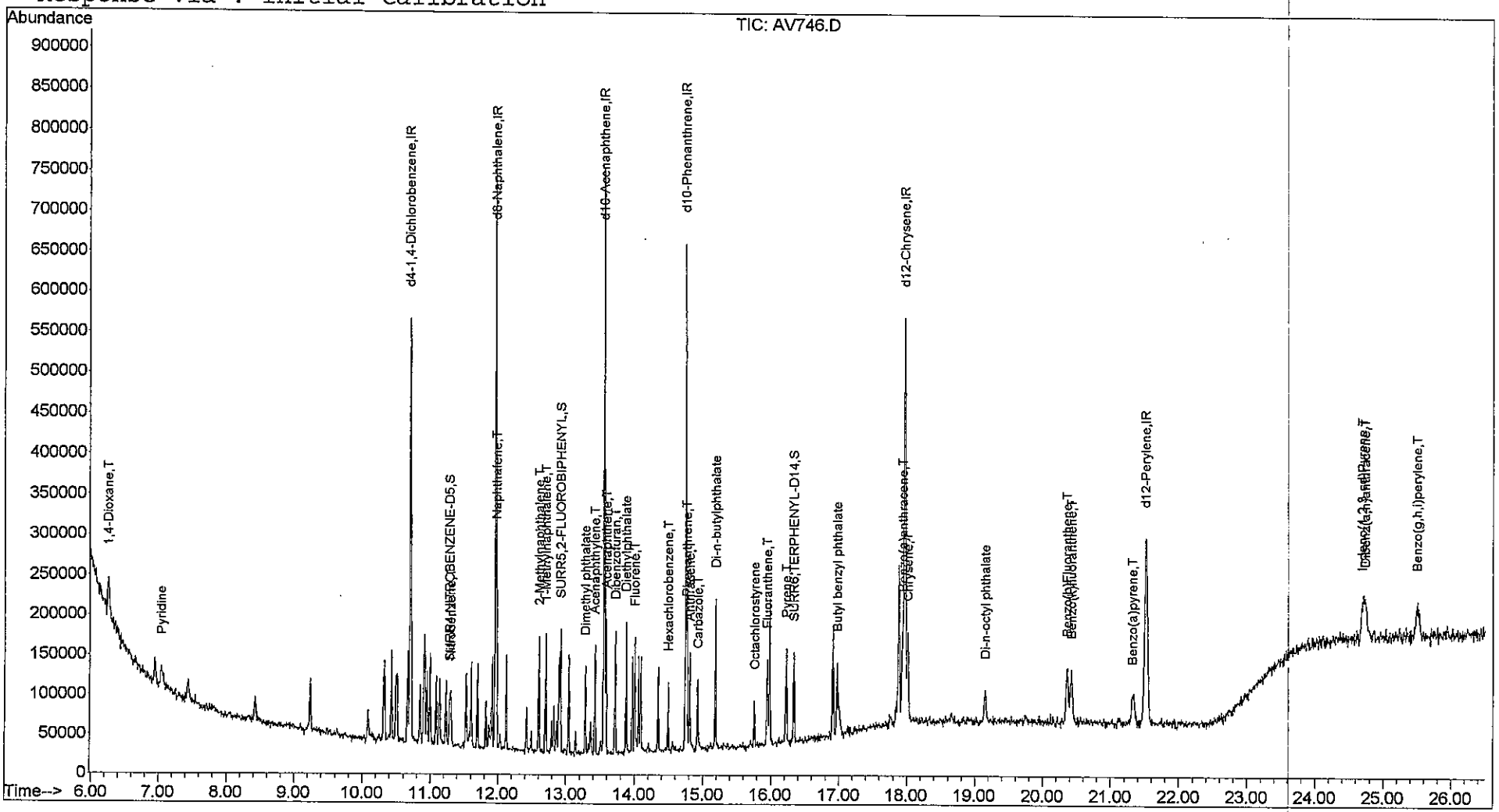
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
37)	Benzo(a)pyrene	21.32	252	44974	0.17	ppm	97
38)	Indeno(1,2,3-cd)Pyrene	24.69	276	51029	0.17	ppm	97
39)	Dibenz(a,h)anthracene	24.73	278	38215	0.15	ppm	99
40)	Benzo(g,h,i)perylene	25.50	276	48321	0.19	ppm	92

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV746.D Vial: 5
Acq On : 27 Oct 2009 1:48 pm Operator: J.Wu
Sample : SSDT002 Inst : 5973C
Misc : 0.2/0.4 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 8:52 2009 Quant Results File: LVI1027.RES

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration



23808

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV747.D Vial: 6
Acq On : 27 Oct 2009 2:26 pm Operator: J.Wu
Sample : SSDT005 Inst : 5973C
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 08:53:49 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:53:39 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.70	152	97372	1.00	ppm	0.00
4) d8-Naphthalene	11.96	136	347419	1.00	ppm	0.00
10) d10-Acenaphthene	13.55	164	191434	1.00	ppm	0.00
18) d10-Phenanthrene	14.75	188	231302	1.00	ppm	0.00
26) d12-Chrysene	17.96	240	314206	1.00	ppm	0.00
33) d12-Perylene	21.51	264	232319	1.00	ppm	0.00
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.28	82	63903	0.36	ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 18.00%#			
11) SURR5,2-FLUOROBIPHENYL	12.92	172	124655	0.47	ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 23.50%#			
28) SURR6,TERPHENYL-D14	16.34	244	109543	0.49	ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 24.50%			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.27	88	85138	0.49	ppm	90
3) Pyridine	7.02	79	72715	0.31	ppm	89
6) Nitrobenzene	11.30	77	66347	0.34	ppm	97
7) Naphthalene	11.98	128	199443	0.52	ppm	98
8) 2-Methylnaphthalene	12.60	142	113741	0.46	ppm	98
9) 1-Methylnaphthalene	12.70	142	114300	0.48	ppm	99
12) Acenaphthylene	13.42	152	176440	0.49	ppm	98
13) Dimethyl phthalate	13.28	163	118726	0.44	ppm	98
14) Acenaphthene	13.58	153	112684	0.49	ppm	99
15) Dibenzofuran	13.72	168	148458	0.51	ppm	97
16) Fluorene	14.00	166	106588	0.48	ppm	95
17) Diethylphthalate	13.88	149	123127	0.49	ppm	99
19) Hexachlorobenzene	14.49	284	28734	0.50	ppm	94
20) Phenanthrene	14.77	178	136345	0.50	ppm	100
21) Anthracene	14.81	178	129733	0.49	ppm	98
22) Carbazole	14.92	167	126853	0.61	ppm	98
23) Octachlorostyrene	15.76	380	5591	0.47	ppm	88
24) Di-n-butylphthalate	15.18	149	239161	0.58	ppm	98
25) Fluoranthene	15.95	202	148340	0.47	ppm	98
27) Pyrene	16.23	202	159155	0.47	ppm	99
29) Butyl benzyl phthalate	16.97	149	87400	0.39	ppm	95
30) bis(2-Ethylhexyl)phthalate	17.88	149	244562	0.85	ppm	98
31) Benzo(a)anthracene	17.93	228	172767	0.49	ppm	97
32) Chrysene	18.01	228	170173	0.48	ppm	98
34) Di-n-octyl phthalate	19.15	149	137816	0.31	ppm	95
35) Benzo(b)Fluoranthene	20.36	252	163633	0.48	ppm	97

(#) = qualifier out of range (m) = manual integration
AV747.D LVI1027.M Wed Oct 28 09:24:46 2009 TW Page 1

00383

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV747.D Vial: 6
Acq On : 27 Oct 2009 2:26 pm Operator: J.Wu
Sample : SSDT005 Inst : 5973C
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 08:53:49 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:53:39 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

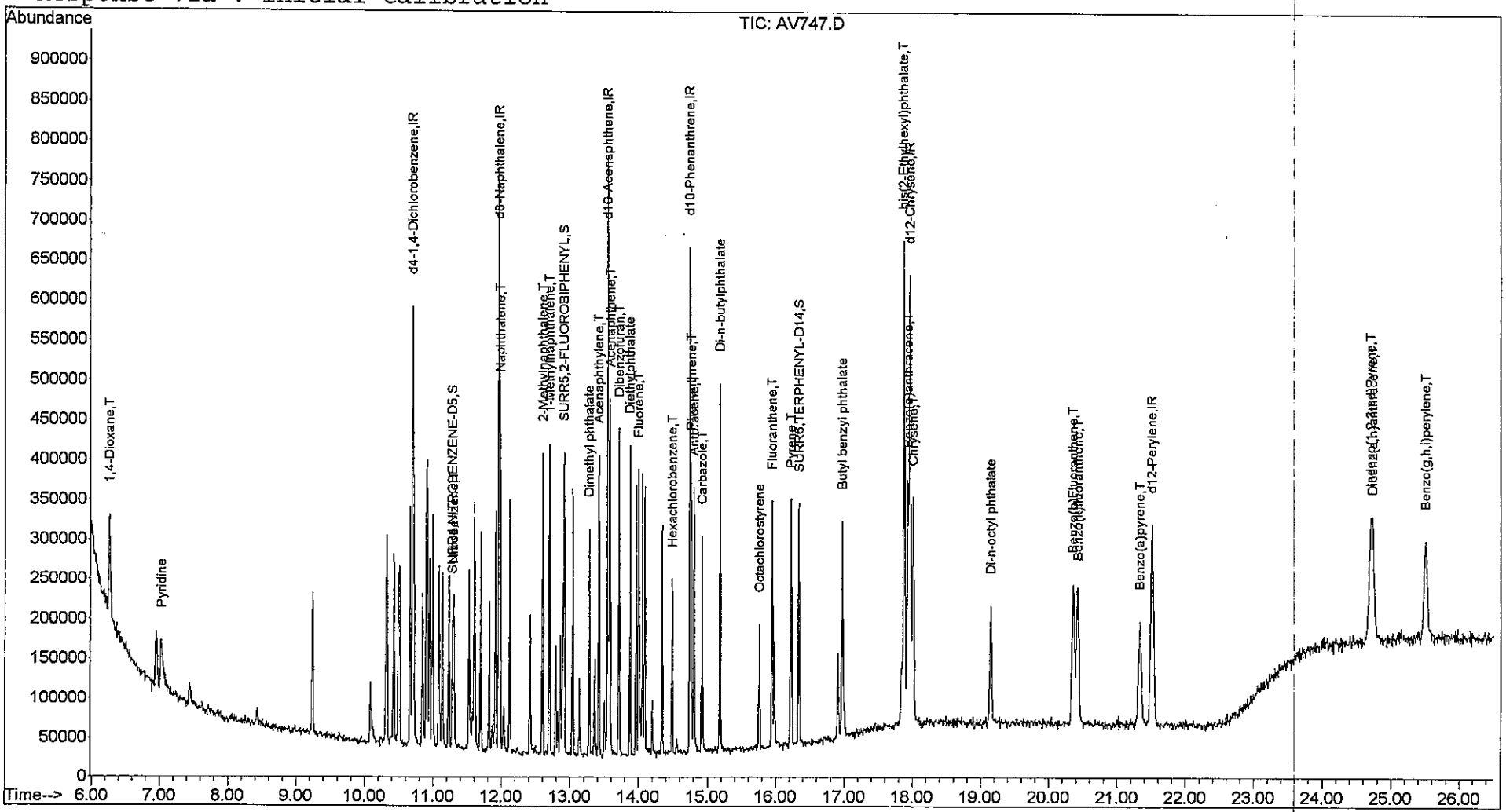
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
36)	Benzo(k)fluoranthene	20.43	252	155288	0.46	ppm	98
37)	Benzo(a)pyrene	21.33	252	133826	0.45	ppm	94
38)	Indeno(1,2,3-cd)Pyrene	24.70	276	155073	0.46	ppm	81
39)	Dibenz(a,h)anthracene	24.74	278	117405	0.43	ppm	96
40)	Benzo(g,h,i)perylene	25.50	276	138495	0.49	ppm	97

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV747.D Vial: 6
Acq On : 27 Oct 2009 2:26 pm Operator: J.Wu
Sample : SSDT005 Inst : 5973C
Misc : 0.5/1.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 8:53 2009 Quant Results File: LVI1027.RES

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV748.D Vial: 7
Acq On : 27 Oct 2009 3:03 pm Operator: J.Wu
Sample : SSDT010 Inst : 5973C
Misc : 1.0/2.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 08:54:47 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:54:41 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.70	152	97609	1.00	ppm	0.00
4) d8-Naphthalene	11.96	136	366066	1.00	ppm	0.00
10) d10-Acenaphthene	13.55	164	194458	1.00	ppm	0.00
18) d10-Phenanthrene	14.75	188	243438	1.00	ppm	0.00
26) d12-Chrysene	17.96	240	323520	1.00	ppm	0.00
33) d12-Perylene	21.51	264	244315	1.00	ppm	0.00
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.28	82	120429	0.67	ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 33.50%			
11) SURR5,2-FLUOROBIPHENYL	12.92	172	232167	0.87	ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 43.50%			
28) SURR6,TERPHENYL-D14	16.34	244	197815	0.87	ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 43.50%			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.25	88	144094	0.94	ppm	99
3) Pyridine	6.99	79	139163	0.64	ppm	89
6) Nitrobenzene	11.30	77	130429	0.68	ppm	94
7) Naphthalene	11.97	128	358982	0.89	ppm	98
8) 2-Methylnaphthalene	12.60	142	210056	0.82	ppm	96
9) 1-Methylnaphthalene	12.70	142	209254	0.83	ppm	98
12) Acenaphthylene	13.42	152	333097	0.91	ppm	100
13) Dimethyl phthalate	13.28	163	216279	0.80	ppm	99
14) Acenaphthene	13.58	153	209115	0.90	ppm	97
15) Dibenzofuran	13.72	168	272208	0.92	ppm	98
16) Fluorene	14.00	166	197580	0.88	ppm	99
17) Diethylphthalate	13.88	149	208801	0.83	ppm	99
19) Hexachlorobenzene	14.49	284	54388	0.89	ppm	97
20) Phenanthrene	14.77	178	262167	0.92	ppm	97
21) Anthracene	14.81	178	241092	0.88	ppm	99
22) Carbazole	14.92	167	234611	1.07	ppm	97
23) Octachlorostyrene	15.76	380	10396	0.85	ppm	94
24) Di-n-butylphthalate	15.18	149	438746	1.01	ppm	99
25) Fluoranthene	15.95	202	279527	0.86	ppm	98
27) Pyrene	16.23	202	299234	0.87	ppm	97
29) Butyl benzyl phthalate	16.97	149	180013	0.78	ppm	97
30) bis(2-Ethylhexyl)phthalate	17.88	149	503850	1.69	ppm	98
31) Benzo(a)anthracene	17.93	228	329439	0.90	ppm	99
32) Chrysene	18.01	228	320998	0.87	ppm	96
34) Di-n-octyl phthalate	19.15	149	327826	0.70	ppm	98
35) Benzo(b)Fluoranthene	20.36	252	316064	0.88	ppm	91

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV748.D Vial: 7
Acq On : 27 Oct 2009 3:03 pm Operator: J.Wu
Sample : SSDT010 Inst : 5973C
Misc : 1.0/2.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 08:54:47 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:54:41 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

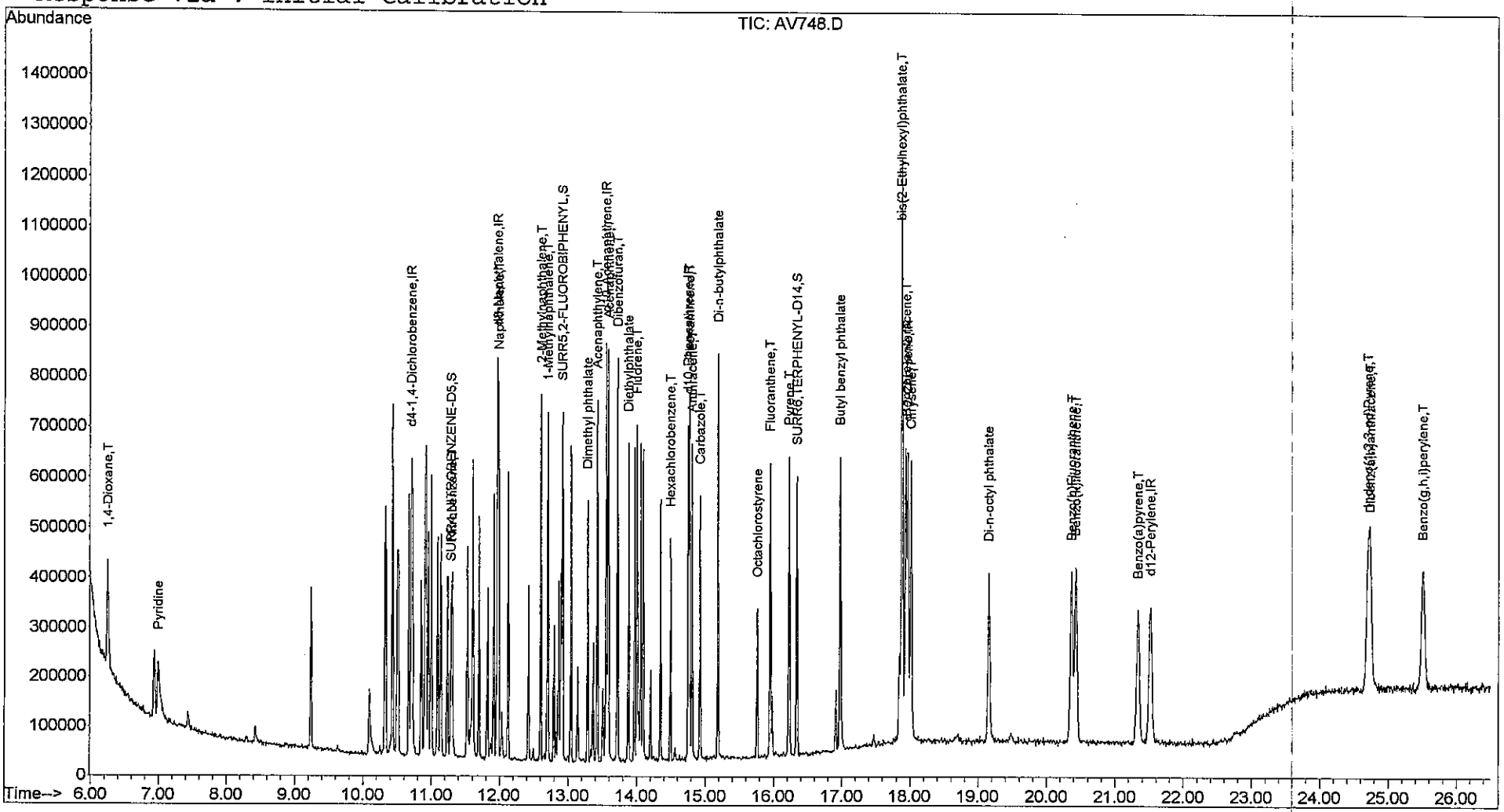
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
36)	Benzo(k)fluoranthene	20.42	252	314482	0.91	ppm	97
37)	Benzo(a)pyrene	21.33	252	281405	0.90	ppm	93
38)	Indeno(1,2,3-cd)Pyrene	24.70	276	308451	0.88	ppm	92
39)	Dibenz(a,h)anthracene	24.74	278	252281	0.89	ppm	98
40)	Benzo(g,h,i)perylene	25.51	276	287454	0.98	ppm	98

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV748.D Vial: 7
Acq On : 27 Oct 2009 3:03 pm Operator: J.Wu
Sample : SSQT010 Inst : 5973C
Misc : 1.0/2.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 8:54 2009 Quant Results File: LVI1027.RES

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV749.D Vial: 8
Acq On : 27 Oct 2009 3:41 pm Operator: J.Wu
Sample : SSDT020 Inst : 5973C
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 08:49:25 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:49:20 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.70	152	100825	1.00	ppm	0.00
4) d8-Naphthalene	11.96	136	381624	1.00	ppm	0.00
10) d10-Acenaphthene	13.55	164	214210	1.00	ppm	0.00
18) d10-Phenanthrene	14.75	188	255970	1.00	ppm	0.00
26) d12-Chrysene	17.96	240	344932	1.00	ppm	0.00
33) d12-Perylene	21.51	264	267520	1.00	ppm	0.00
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.28	82	310093	1.41	ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 70.50%			
11) SURR5,2-FLUOROBIPHENYL	12.91	172	580349	1.94	ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 97.00%			
28) SURR6,TERPHENYL-D14	16.34	244	482940	1.93	ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 96.50%			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.26	88	339986	1.53	ppm	100
3) Pyridine	6.98	79	334207	1.35	ppm	100
6) Nitrobenzene	11.30	77	322070	1.41	ppm	100
7) Naphthalene	11.97	128	881431	2.14	ppm	100
8) 2-Methylnaphthalene	12.60	142	523336	1.90	ppm	100
9) 1-Methylnaphthalene	12.70	142	526285	1.98	ppm	100
12) Acenaphthylene	13.42	152	849168	2.15	ppm	100
13) Dimethyl phthalate	13.28	163	557226	1.85	ppm	100
14) Acenaphthene	13.58	153	514877	2.02	ppm	100
15) Dibenzofuran	13.72	168	669185	2.04	ppm	100
16) Fluorene	14.00	166	498055	1.98	ppm	100
17) Diethylphthalate	13.88	149	505317	1.82	ppm	100
19) Hexachlorobenzene	14.49	284	136639	2.13	ppm	100
20) Phenanthrene	14.77	178	616789	2.10	ppm	100
21) Anthracene	14.81	178	605513	2.03	ppm	100
22) Carbazole	14.92	167	528177	2.16	ppm	100
23) Octachlorostyrene	15.76	380	27122	2.13	ppm	100
24) Di-n-butylphthalate	15.18	149	1030133	2.28	ppm	100
25) Fluoranthene	15.95	202	659999	1.82	ppm	100
27) Pyrene	16.23	202	697874	1.87	ppm	100
29) Butyl benzyl phthalate	16.97	149	495995	2.02	ppm	100
30) bis(2-Ethylhexyl)phthalate	17.88	149	1356527	4.27	ppm	100
31) Benzo(a)anthracene	17.93	228	797711	2.11	ppm	100
32) Chrysene	18.01	228	790425	2.06	ppm	100
34) Di-n-octyl phthalate	19.15	149	994369	1.95	ppm	100
35) Benzo(b)Fluoranthene	20.36	252	810128	2.04	ppm	100

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV749.D Vial: 8
Acq On : 27 Oct 2009 3:41 pm Operator: J.Wu
Sample : SSDT020 Inst : 5973C
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 08:49:25 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:49:20 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
36)	Benzo(k)fluoranthene	20.43	252	807114	2.11	ppm	100
37)	Benzo(a)pyrene	21.33	252	712967	2.09	ppm	100
38)	Indeno(1,2,3-cd)Pyrene	24.70	276	814488	2.07	ppm	100
39)	Dibenz(a,h)anthracene	24.74	278	671673	2.12	ppm	100
40)	Benzo(g,h,i)perylene	25.51	276	712744	2.15	ppm	100

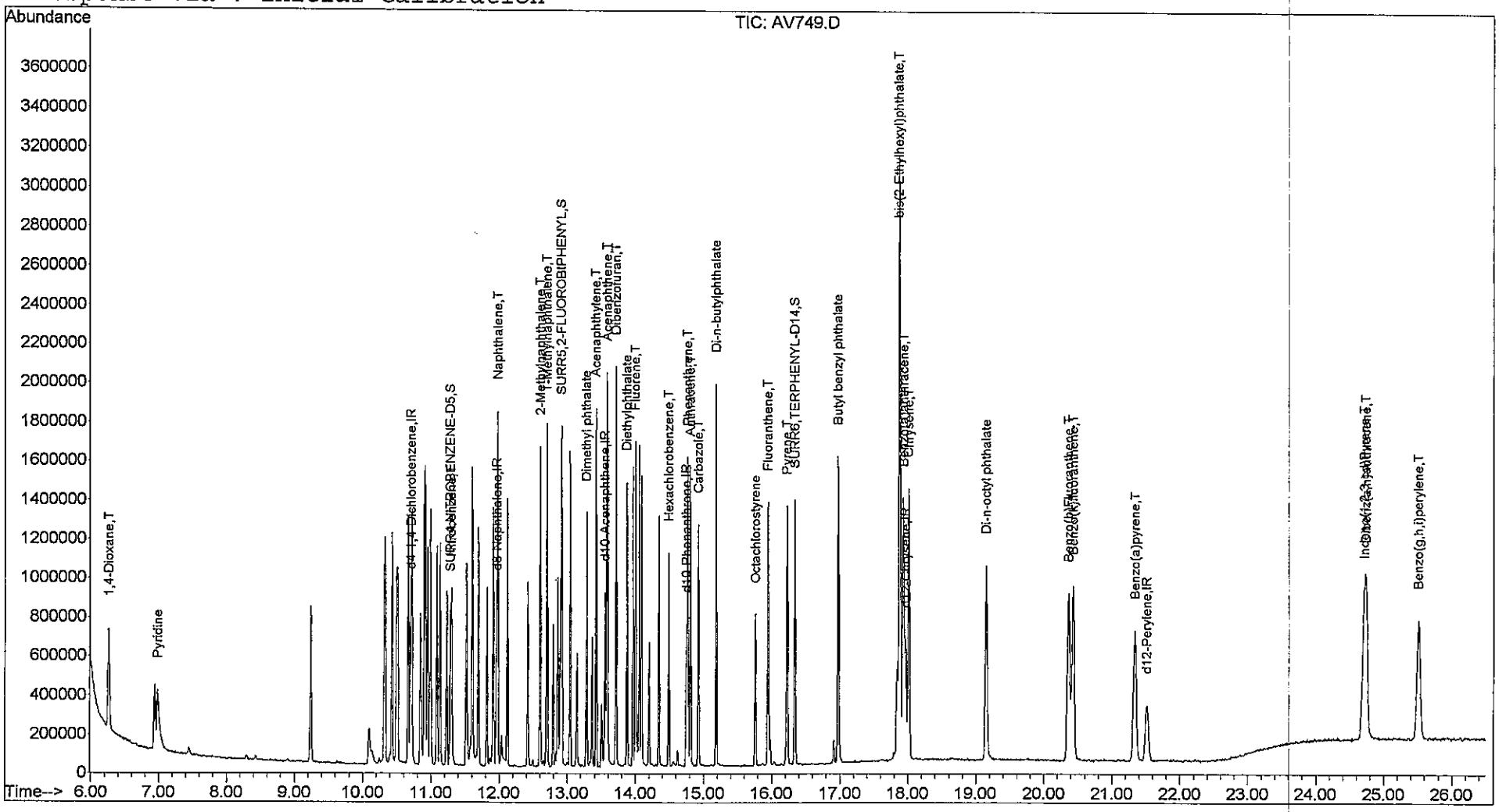
(#) = qualifier out of range (m) = manual integration (+) = signals summed

00390

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV749.D Vial: 8
Acq On : 27 Oct 2009 3:41 pm Operator: J.Wu
Sample : SSDT020 Inst : 5973C
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 8:49 2009 Quant Results File: LVI1027.RES

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV750.D Vial: 9
Acq On : 27 Oct 2009 4:19 pm Operator: J.Wu
Sample : SSDT030 Inst : 5973C
Misc : 3.0/6.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 08:55:44 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:55:35 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.70	152	104556	1.00	ppm	0.00
4) d8-Naphthalene	11.96	136	389077	1.00	ppm	0.00
10) d10-Acenaphthene	13.55	164	217941	1.00	ppm	0.00
18) d10-Phenanthrene	14.75	188	256728	1.00	ppm	0.00
26) d12-Chrysene	17.96	240	335921	1.00	ppm	0.00
33) d12-Perylene	21.51	264	273973	1.00	ppm	0.00
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.28	82	478865	2.68	ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 134.00%#			
11) SURR5,2-FLUOROBIPHENYL	12.92	172	880646	2.98	ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 149.00%#			
28) SURR6,TERPHENYL-D14	16.34	244	731824	3.09	ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 154.50%#			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.26	88	511372	3.58	ppm	99
3) Pyridine	6.97	79	522732	2.41	ppm	94
6) Nitrobenzene	11.30	77	496770	2.57	ppm	100
7) Naphthalene	11.98	128	1323548	3.08	ppm	99
8) 2-Methylnaphthalene	12.60	142	818344	3.04	ppm	98
9) 1-Methylnaphthalene	12.70	142	797881	3.00	ppm	100
12) Acenaphthylene	13.42	152	1322665	3.22	ppm	99
13) Dimethyl phthalate	13.28	163	893008	2.97	ppm	100
14) Acenaphthene	13.58	153	794107	3.04	ppm	98
15) Dibenzofuran	13.71	168	1015668	3.09	ppm	98
16) Fluorene	14.00	166	772587	3.10	ppm	99
17) Diethylphthalate	13.88	149	780773	2.80	ppm	99
19) Hexachlorobenzene	14.49	284	216149	3.28	ppm	91
20) Phenanthrene	14.77	178	932896	3.10	ppm	100
21) Anthracene	14.81	178	934752	3.26	ppm	100
22) Carbazole	14.92	167	767149	3.27	ppm	99
23) Octachlorostyrene	15.76	380	43555	3.39	ppm	92
24) Di-n-butylphthalate	15.18	149	1454735	3.12	ppm	99
25) Fluoranthene	15.95	202	975564	2.87	ppm	99
27) Pyrene	16.23	202	1044114	2.95	ppm	99
29) Butyl benzyl phthalate	16.97	149	775724	3.26	ppm	99
30) bis(2-Ethylhexyl)phthalate	17.88	149	2112138	6.79	ppm	97
31) Benzo(a)anthracene	17.93	228	1203328	3.17	ppm	99
32) Chrysene	18.01	228	1178460	3.11	ppm	98
34) Di-n-octyl phthalate	19.15	149	1622567	3.13	ppm	98
35) Benzo(b)Fluoranthene	20.37	252	1238038	3.09	ppm	99

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

00392

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV750.D Vial: 9
Acq On : 27 Oct 2009 4:19 pm Operator: J.Wu
Sample : SSDT030 Inst : 5973C
Misc : 3.0/6.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 08:55:44 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:55:35 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

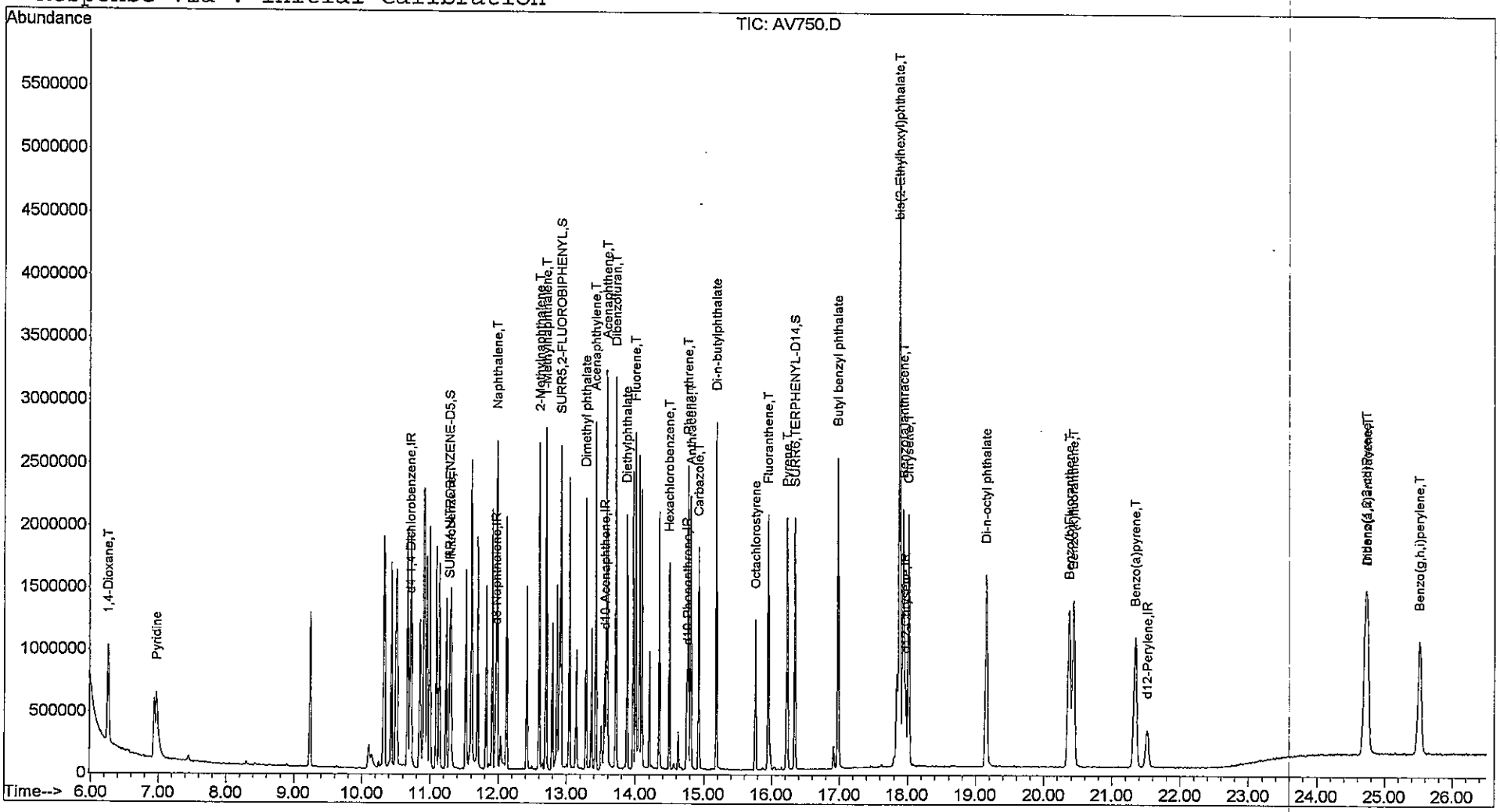
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
36)	Benzo(k)fluoranthene	20.43	252	1215372	3.13	ppm	99
37)	Benzo(a)pyrene	21.34	252	1118983	3.20	ppm	98
38)	Indeno(1,2,3-cd)Pyrene	24.71	276	1274852	3.25	ppm	100
39)	Dibenz(a,h)anthracene	24.74	278	1056816	3.31	ppm	98
40)	Benzo(g,h,i)perylene	25.52	276	1099157	3.31	ppm	97

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV750.D Vial: 9
Acq On : 27 Oct 2009 4:19 pm Operator: J.Wu
Sample : SSDT030 Inst : 5973C
Misc : 3.0/6.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 8:55 2009 Quant Results File: LVI1027.RES

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV751.D Vial: 10
Acq On : 27 Oct 2009 4:57 pm Operator: J.Wu
Sample : SSDT040 Inst : 5973C
Misc : 4.0/8.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 08:56:42 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:56:36 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.70	152	97124	1.00	ppm	0.00
4) d8-Naphthalene	11.96	136	363579	1.00	ppm	0.00
10) d10-Acenaphthene	13.55	164	200686	1.00	ppm	0.00
18) d10-Phenanthrene	14.75	188	245112	1.00	ppm	0.00
26) d12-Chrysene	17.96	240	316928	1.00	ppm	0.00
33) d12-Perylene	21.51	264	253284	1.00	ppm	0.00
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.28	82	607672	3.87	ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 193.50%#			
11) SURR5,2-FLUOROBIPHENYL	12.92	172	1082627	4.02	ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 201.00%#			
28) SURR6,TERPHENYL-D14	16.34	244	913496	4.11	ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 205.50%#			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.21	88	646433	5.70	ppm	97
3) Pyridine	6.94	79	644523	3.51	ppm	96
6) Nitrobenzene	11.30	77	611787	3.62	ppm	96
7) Naphthalene	11.97	128	1630160	4.06	ppm	99
8) 2-Methylnaphthalene	12.60	142	1008114	4.05	ppm	99
9) 1-Methylnaphthalene	12.70	142	978677	3.98	ppm	100
12) Acenaphthylene	13.42	152	1654384	4.37	ppm	100
13) Dimethyl phthalate	13.28	163	1135079	4.17	ppm	99
14) Acenaphthene	13.58	153	979535	4.09	ppm	98
15) Dibenzofuran	13.72	168	1253717	4.16	ppm	98
16) Fluorene	14.00	166	973068	4.25	ppm	98
17) Diethylphthalate	13.88	149	995760	3.92	ppm	99
19) Hexachlorobenzene	14.50	284	272958	4.26	ppm	89
20) Phenanthrene	14.77	178	1163114	4.05	ppm	100
21) Anthracene	14.81	178	1148010	4.19	ppm	99
22) Carbazole	14.92	167	721910	3.10	ppm	99
23) Octachlorostyrene	15.76	380	54377	4.42	ppm	81
24) Di-n-butylphthalate	15.18	149	1762689	3.95	ppm	99
25) Fluoranthene	15.95	202	1224982	3.87	ppm	99
27) Pyrene	16.23	202	1298398	3.91	ppm	98
29) Butyl benzyl phthalate	16.97	149	986502	4.35	ppm	96
30) bis(2-Ethylhexyl)phthalate	17.88	149	2648123	8.96	ppm	97
31) Benzo(a)anthracene	17.93	228	1501786	4.19	ppm	98
32) Chrysene	18.01	228	1455593	4.06	ppm	97
34) Di-n-octyl phthalate	19.15	149	2088318	4.42	ppm	99
35) Benzo(b)Fluoranthene	20.37	252	1563970	4.27	ppm	98

(#) = qualifier out of range (m) = manual integration
AV751.D LVI1027.M Wed Oct 28 09:25:23 2009 JW Page 1

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Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV751.D Vial: 10
Acq On : 27 Oct 2009 4:57 pm Operator: J.Wu
Sample : SSDT040 Inst : 5973C
Misc : 4.0/8.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 08:56:42 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:56:36 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

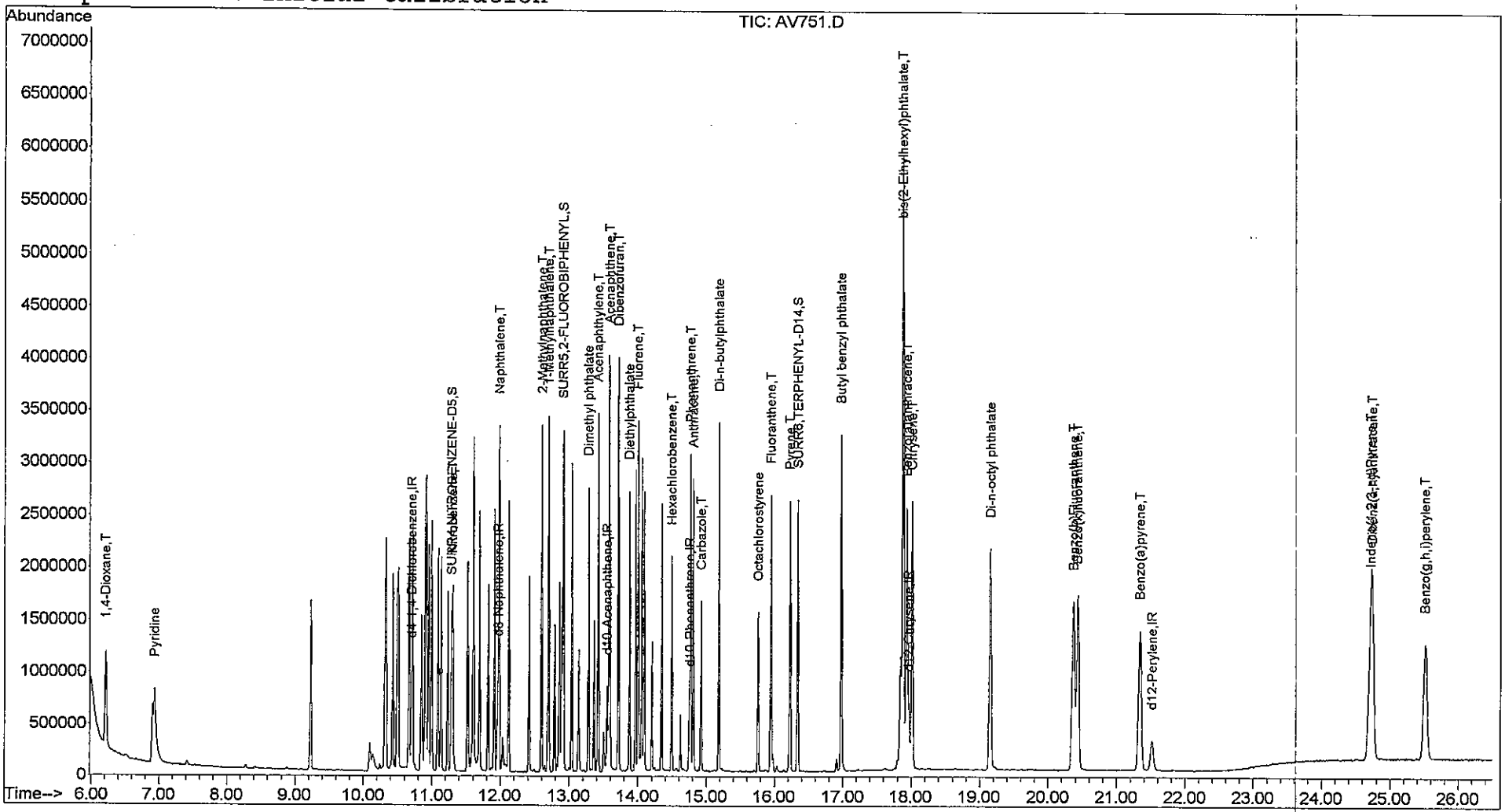
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
36)	Benzo(k)fluoranthene	20.43	252	1512339	4.23	ppm	98
37)	Benzo(a)pyrene	21.34	252	1378782	4.29	ppm	97
38)	Indeno(1,2,3-cd)Pyrene	24.71	276	1606990	4.43	ppm	97
39)	Dibenz(a,h)anthracene	24.74	278	1355541	4.57	ppm	98
40)	Benzo(g,h,i)perylene	25.52	276	1335860	4.32	ppm	99

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV751.D Vial: 10
Acq On : 27 Oct 2009 4:57 pm Operator: J.Wu
Sample : SSDT040 Inst : 5973C
Misc : 4.0/8.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 8:56 2009 Quant Results File: LVI1027.RES

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV752.D Vial: 11
Acq On : 27 Oct 2009 5:35 pm Operator: J.Wu
Sample : SSDT050 Inst : 5973C
Misc : 5.0/10.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 08:57:46 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:57:40 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.70	152	115054	1.00	ppm	0.00
4) d8-Naphthalene	11.96	136	425075	1.00	ppm	0.00
10) d10-Acenaphthene	13.56	164	236928	1.00	ppm	0.00
18) d10-Phenanthrene	14.75	188	285771	1.00	ppm	0.00
26) d12-Chrysene	17.97	240	362445	1.00	ppm	0.00
33) d12-Perylene	21.52	264	293528	1.00	ppm	0.01
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.28	82	881665	5.11	ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 255.50%#			
11) SURR5,2-FLUOROBIPHENYL	12.92	172	1572756	5.00	ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 250.00%#			
28) SURR6,TERPHENYL-D14	16.34	244	1264358	4.97	ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 248.50%#			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.26	88	884858	7.73	ppm	96
3) Pyridine	6.97	79	928517	4.64	ppm	91
6) Nitrobenzene	11.30	77	886110	4.82	ppm	99
7) Naphthalene	11.98	128	2291716	4.90	ppm	98
8) 2-Methylnaphthalene	12.60	142	1440537	5.01	ppm	100
9) 1-Methylnaphthalene	12.70	142	1425988	5.04	ppm	98
12) Acenaphthylene	13.42	152	2341046	5.22	ppm	99
13) Dimethyl phthalate	13.28	163	1671814	5.26	ppm	99
14) Acenaphthene	13.58	153	1397884	4.97	ppm	97
15) Dibenzofuran	13.72	168	1785111	5.00	ppm	97
16) Fluorene	14.00	166	1369209	5.06	ppm	99
17) Diethylphthalate	13.88	149	1455892	4.88	ppm	98
19) Hexachlorobenzene	14.50	284	403676	5.36	ppm	90
20) Phenanthrene	14.77	178	1658432	4.94	ppm	98
21) Anthracene	14.81	178	1643169	5.14	ppm	99
22) Carbazole	14.92	167	803657	2.89	ppm	99
23) Octachlorostyrene	15.76	380	76922	5.38	ppm	93
24) Di-n-butylphthalate	15.18	149	2314422	4.43	ppm	99
25) Fluoranthene	15.95	202	1728413	4.77	ppm	99
27) Pyrene	16.23	202	1825546	4.86	ppm	98
29) Butyl benzyl phthalate	16.97	149	1386761	5.30	ppm	97
30) bis(2-Ethylhexyl)phthalate	17.88	149	3740107	11.05	ppm	95
31) Benzo(a)anthracene	17.93	228	2109755	5.14	ppm	97
32) Chrysene	18.02	228	2029682	4.95	ppm	97
34) Di-n-octyl phthalate	19.15	149	3138804	5.68	ppm	97
35) Benzo(b)Fluoranthene	20.37	252	2146981	5.02	ppm	97

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV752.D Vial: 11
Acq On : 27 Oct 2009 5:35 pm Operator: J.Wu
Sample : SSDT050 Inst : 5973C
Misc : 5.0/10.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 08:57:46 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:57:40 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

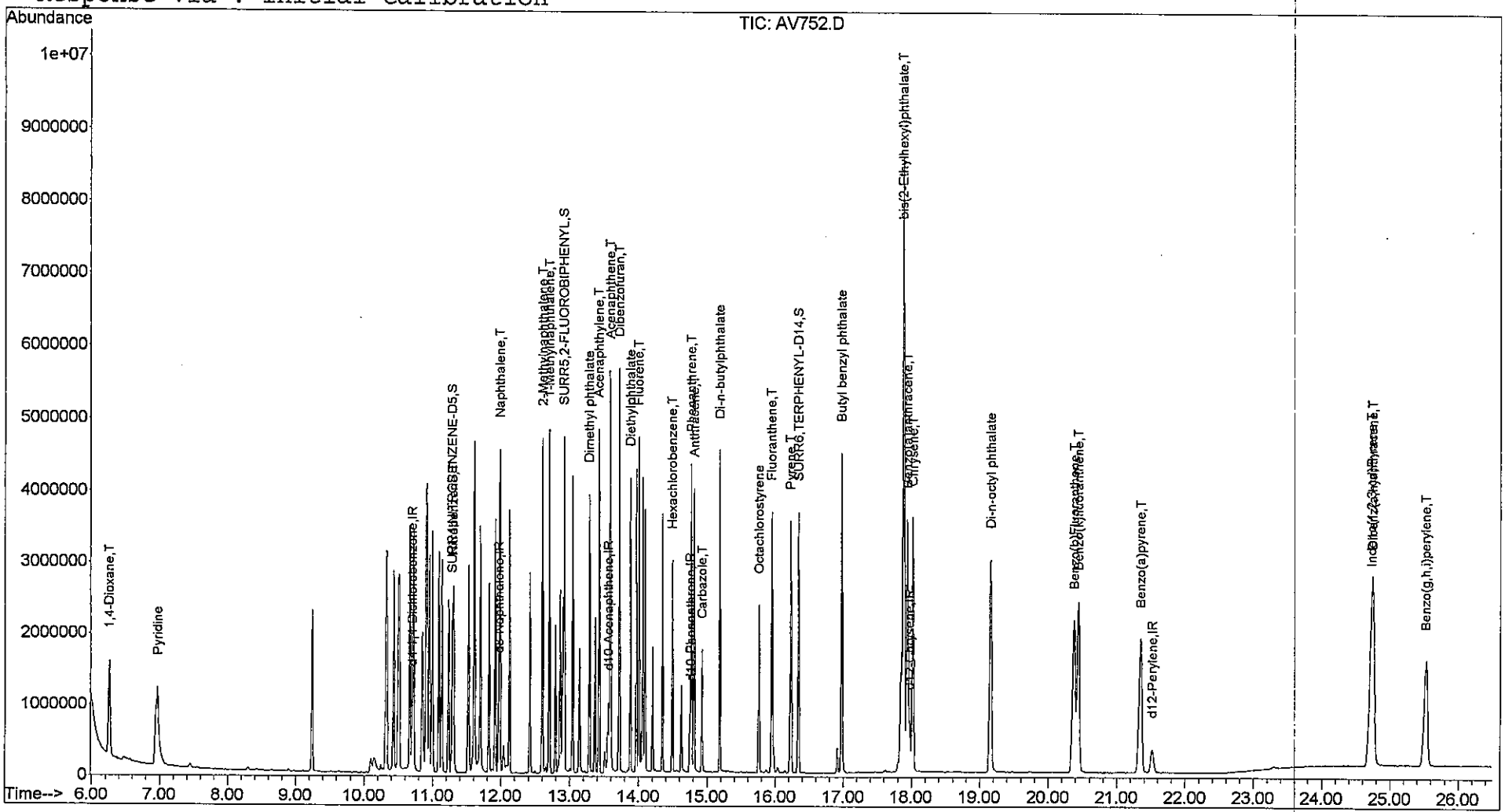
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
36)	Benzo(k)fluoranthene	20.44	252	2145263	5.15	ppm	99
37)	Benzo(a)pyrene	21.34	252	2010122	5.38	ppm	98
38)	Indeno(1,2,3-cd)Pyrene	24.72	276	2330435	5.47	ppm	100
39)	Dibenz(a,h)anthracene	24.75	278	1978455	5.67	ppm	99
40)	Benzo(g,h,i)perylene	25.52	276	1828331	4.99	ppm	99

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV752.D Vial: 11
Acq On : 27 Oct 2009 5:35 pm Operator: J.Wu
Sample : SSDT050 Inst : 5973C
Misc : 5.0/10.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 8:57 2009 Quant Results File: LVI1027.RES

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV753.D Vial: 12
Acq On : 27 Oct 2009 6:12 pm Operator: J.Wu
Sample : SSDT100 Inst : 5973C
Misc : 10.0/20.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 08:58:54 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:58:46 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.70	152	104527	1.00	ppm	0.00
4) d8-Naphthalene	11.96	136	396987	1.00	ppm	0.00
10) d10-Acenaphthene	13.55	164	227527	1.00	ppm	0.00
18) d10-Phenanthrene	14.75	188	282582	1.00	ppm	0.00
26) d12-Chrysene	17.97	240	337421	1.00	ppm	0.00
33) d12-Perylene	21.52	264	275322	1.00	ppm	0.01
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.28	82	1698269	11.09	ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 554.50%#			
11) SURR5,2-FLUOROBIPHENYL	12.92	172	2917937	9.79	ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 489.50%#			
28) SURR6,TERPHENYL-D14	16.34	244	2431531	10.42	ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 521.00%#			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.25	88	1700643	19.15	ppm	96
3) Pyridine	6.96	79	1818280	10.79	ppm	95
6) Nitrobenzene	11.30	77	1727742	10.71	ppm	99
7) Naphthalene	11.98	128	3991471	9.19	ppm	91
8) 2-Methylnaphthalene	12.60	142	2733079	10.31	ppm	97
9) 1-Methylnaphthalene	12.70	142	2653917	10.15	ppm	99
12) Acenaphthylene	13.43	152	4124421	9.58	ppm	92
13) Dimethyl phthalate	13.29	163	3226354	10.73	ppm	97
14) Acenaphthene	13.58	153	2664858	9.90	ppm	94
15) Dibenzofuran	13.72	168	3288695	9.58	ppm	89
16) Fluorene	14.00	166	2638290	10.18	ppm	98
17) Diethylphthalate	13.88	149	2907450	10.22	ppm	94
19) Hexachlorobenzene	14.50	284	848840	11.32	ppm	93
20) Phenanthrene	14.77	178	3160882	9.56	ppm	94
21) Anthracene	14.81	178	3119814	9.91	ppm	95
22) Carbazole	14.92	167	1040501	3.78	ppm	97
23) Octachlorostyrene	15.76	380	183979	13.22	ppm	88
24) Di-n-butylphthalate	15.18	149	3811911m	7.39	ppm	
25) Fluoranthene	15.95	202	3330080	9.51	ppm	98
27) Pyrene	16.23	202	3543807	10.34	ppm	98
29) Butyl benzyl phthalate	16.98	149	2576259	10.57	ppm	96
30) bis(2-Ethylhexyl)phthalate	17.88	149	6366153m	20.29	ppm	
31) Benzo(a)anthracene	17.94	228	3974601	10.49	ppm	96
32) Chrysene	18.02	228	3890434	10.28	ppm	96
34) Di-n-octyl phthalate	19.15	149	6161273	11.65	ppm	99
35) Benzo(b)Fluoranthene	20.38	252	4407406	10.94	ppm	98

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV753.D Vial: 12
Acq On : 27 Oct 2009 6:12 pm Operator: J.Wu
Sample : SSDT100 Inst : 5973C
Misc : 10.0/20.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 08:58:54 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:58:46 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

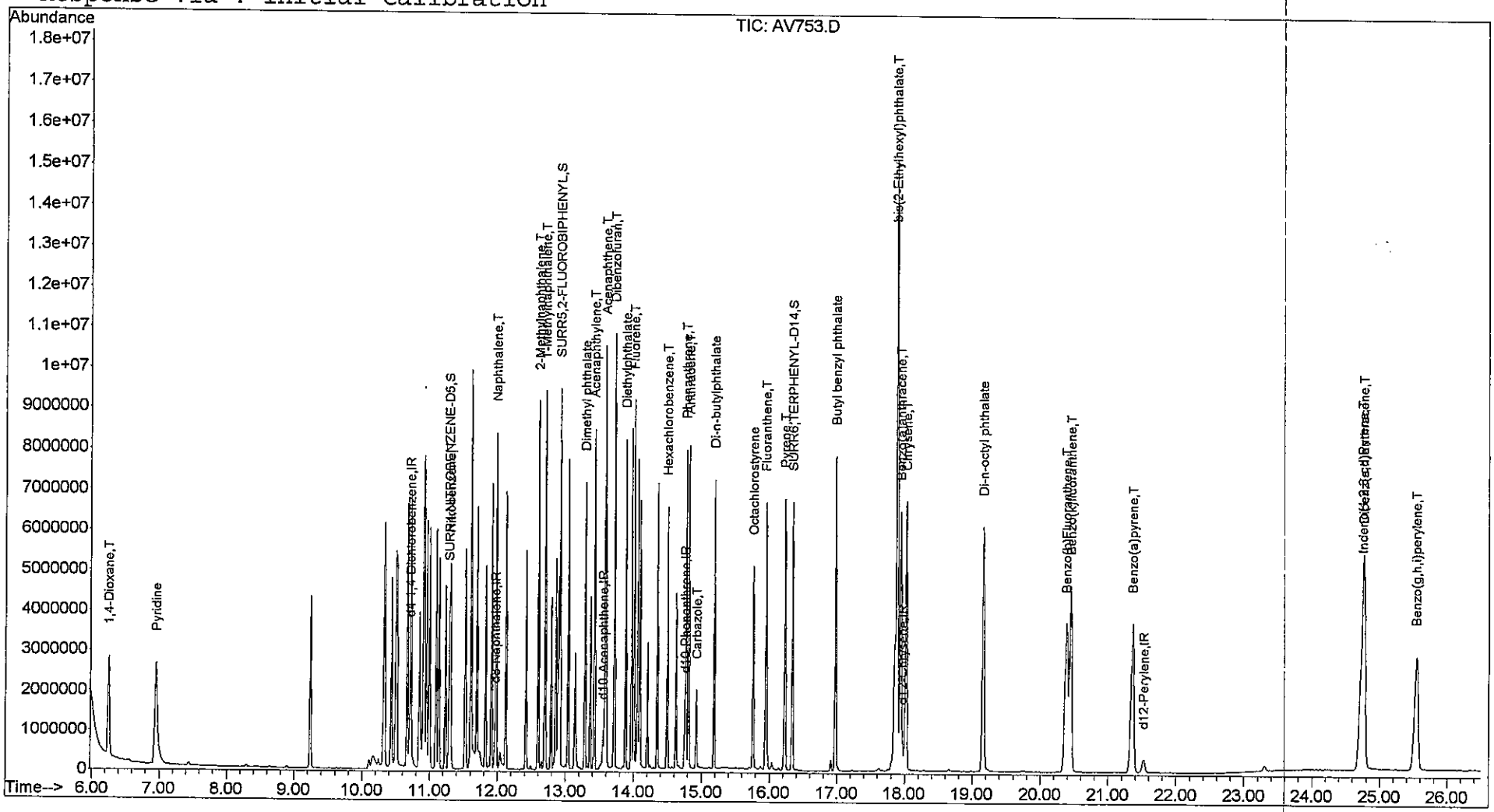
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
36)	Benzo(k)fluoranthene	20.45	252	4188695	10.72	ppm	99
37)	Benzo(a)pyrene	21.36	252	3990447	11.32	ppm	99
38)	Indeno(1,2,3-cd)Pyrene	24.74	276	4569859	11.30	ppm	93
39)	Dibenz(a,h)anthracene	24.77	278	3975319	11.98	ppm	99
40)	Benzo(g,h,i)perylene	25.55	276	3694363	10.59	ppm	98

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV753.D Vial: 12
Acq On : 27 Oct 2009 6:12 pm Operator: J.Wu
Sample : SSDT100 Inst : 5973C
Misc : 10.0/20.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 9:00 2009 Quant Results File: LVI1027.RES

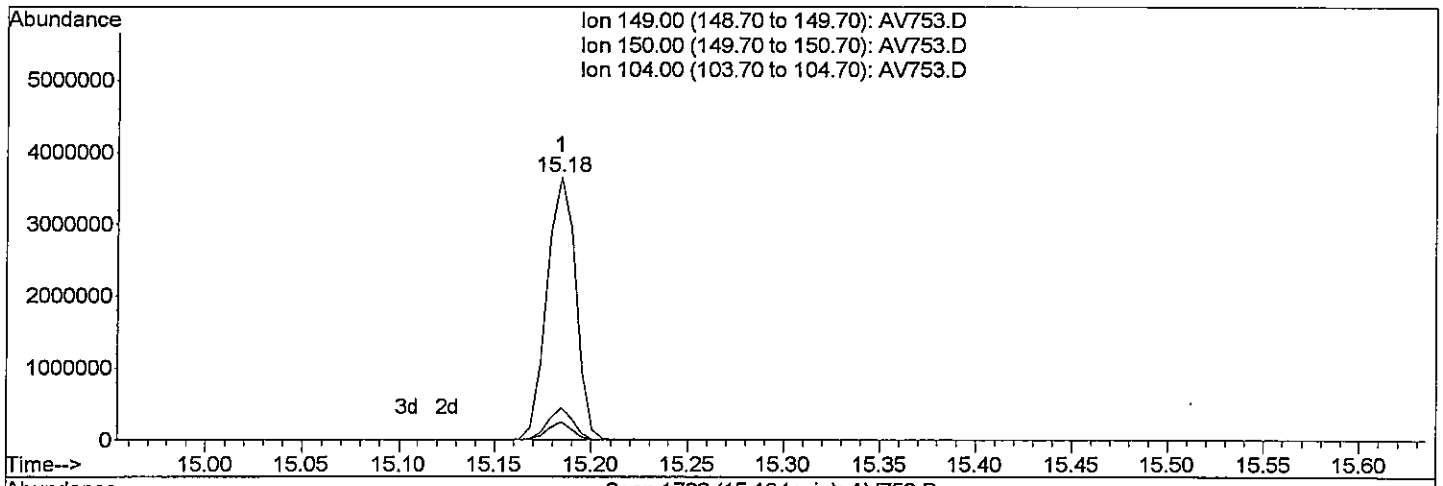
Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:00:59 2009
Response via : Initial Calibration

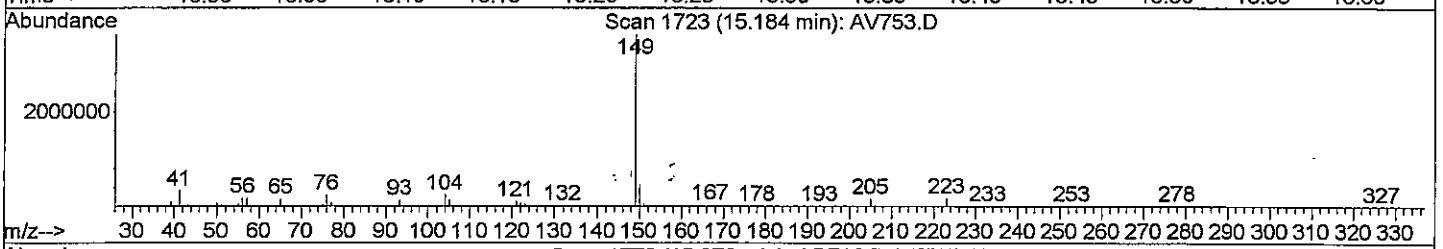


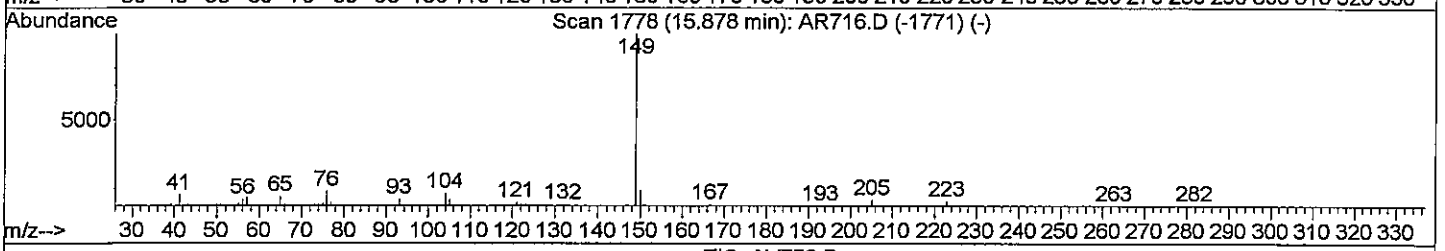
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV753.D Vial: 12
Acq On : 27 Oct 2009 6:12 pm Operator: J.Wu
Sample : SSDT100 Inst : 5973C
Misc : 10.0/20.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 8:58 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:58:46 2009
Response via : Multiple Level Calibration







TIC: AV753.D

(24) Di-n-butylphthalate

15.18min 7.38ppm

response 3807686

Ion	Exp%	Act%
149.00	100	100
150.00	9.50	12.23
104.00	4.80	6.80#
0.00	0.00	0.00

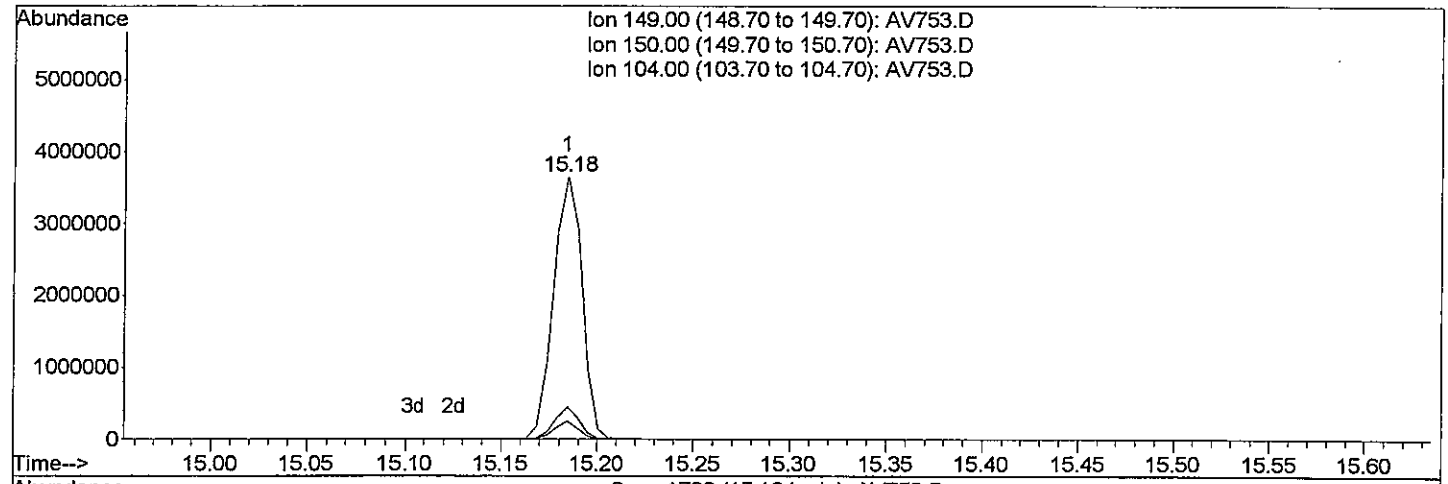
B

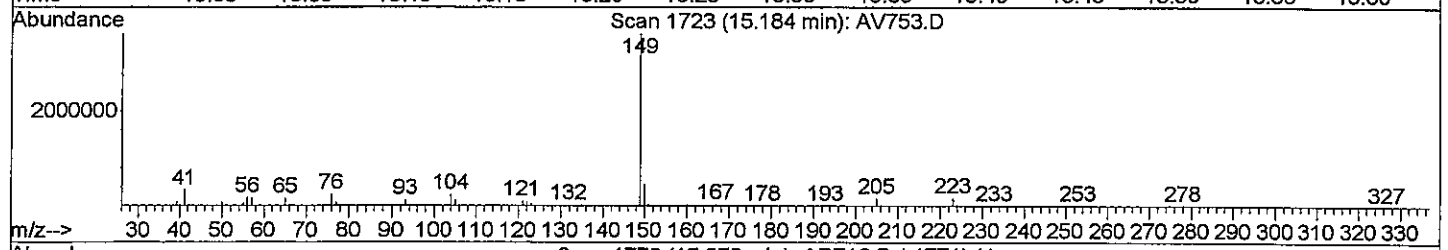
AV753.D LVI1027.M Wed Oct 28 08:59:59 2009

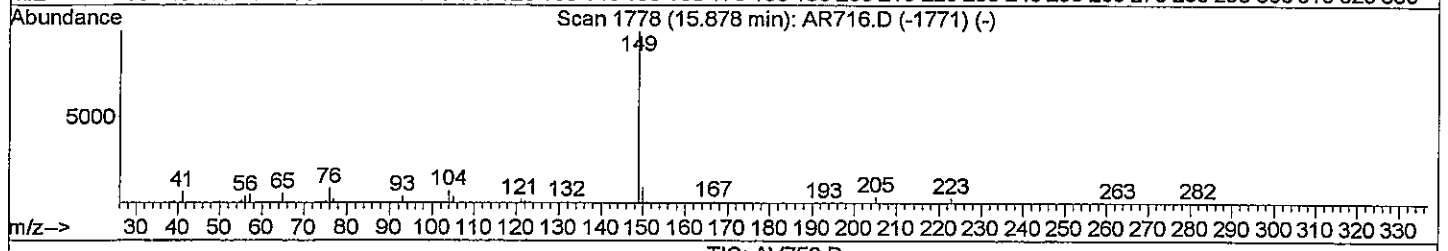
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV753.D Vial: 12
Acq On : 27 Oct 2009 6:12 pm Operator: J.Wu
Sample : SSDT100 Inst : 5973C
Misc : 10.0/20.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 9:00 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:58:46 2009
Response via : Multiple Level Calibration







TIC: AV753.D

(24) Di-n-butylphthalate

15.18min 7.39ppm m

response 3811911

Ion	Exp%	Act%
149.00	100	100
150.00	9.50	12.28
104.00	4.80	6.83#
0.00	0.00	0.00

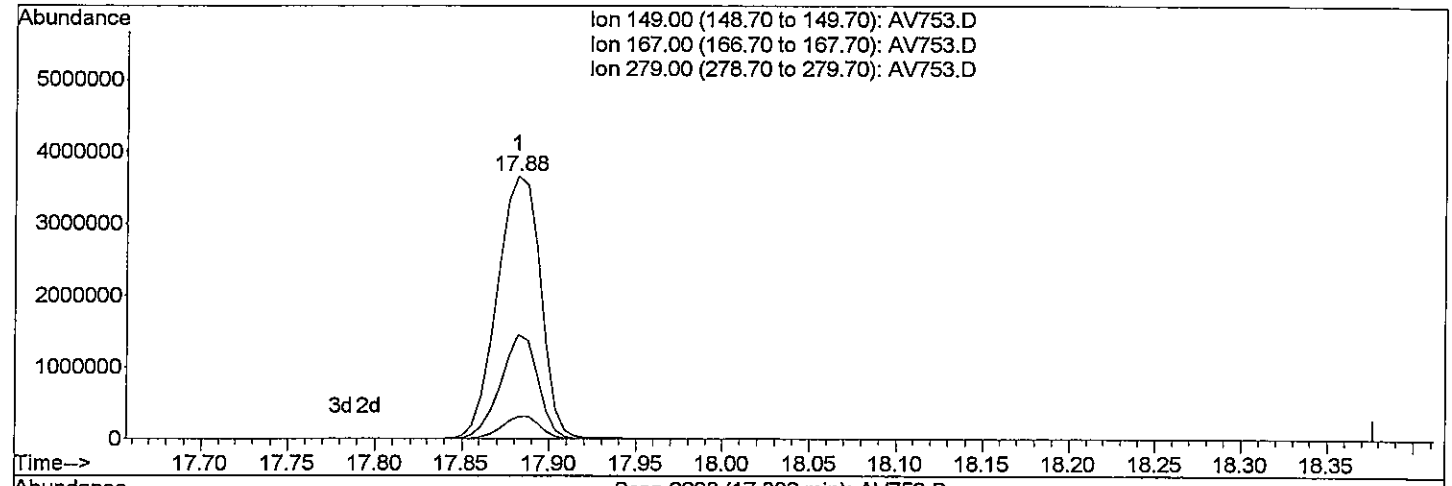
AV753.D LVI1027.M Wed Oct 28 09:00:10 2009

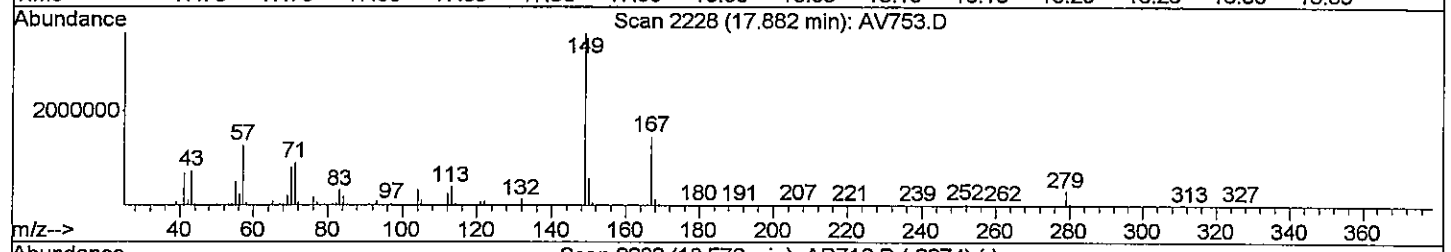
00405

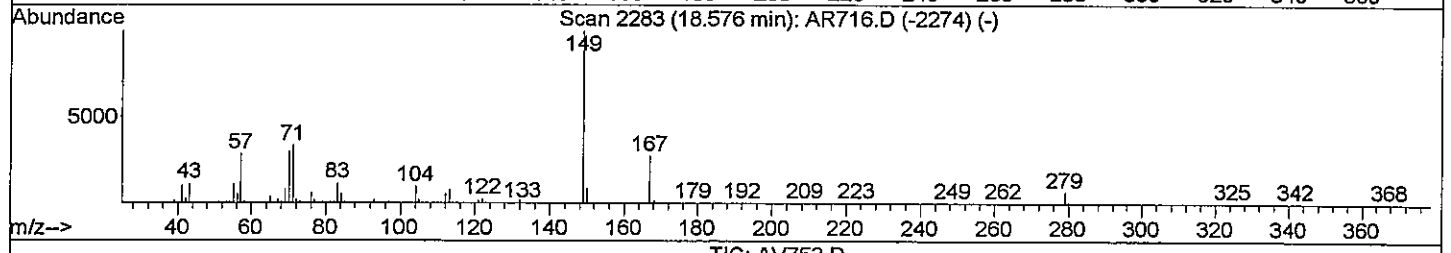
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV753.D Vial: 12
Acq On : 27 Oct 2009 6:12 pm Operator: J.Wu
Sample : SSDT100 Inst : 5973C
Misc : 10.0/20.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 9:00 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:58:46 2009
Response via : Single Level Calibration







TIC: AV753.D

(30) bis(2-Ethylhexyl)phthalate (T)

17.88min 20.28ppm

response 6359941

Ion	Exp%	Act%
149.00	100	100
167.00	27.80	39.67#
279.00	5.90	8.34#
0.00	0.00	0.00

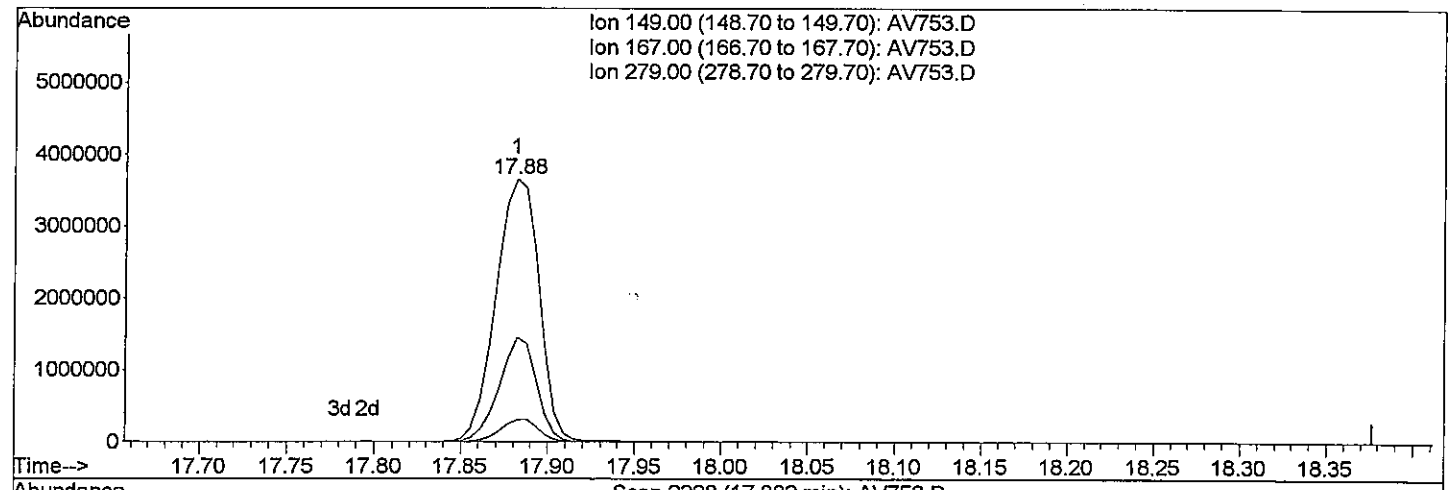
AV753.D LVI1027.M Wed Oct 28 09:00:29 2009

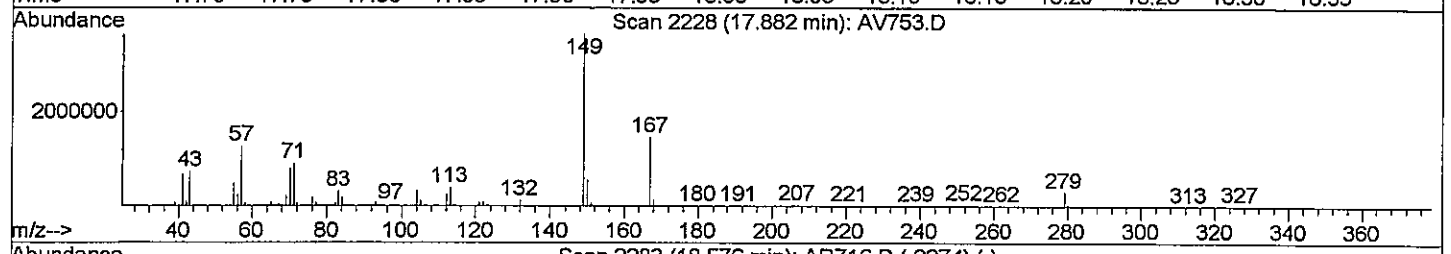
00406

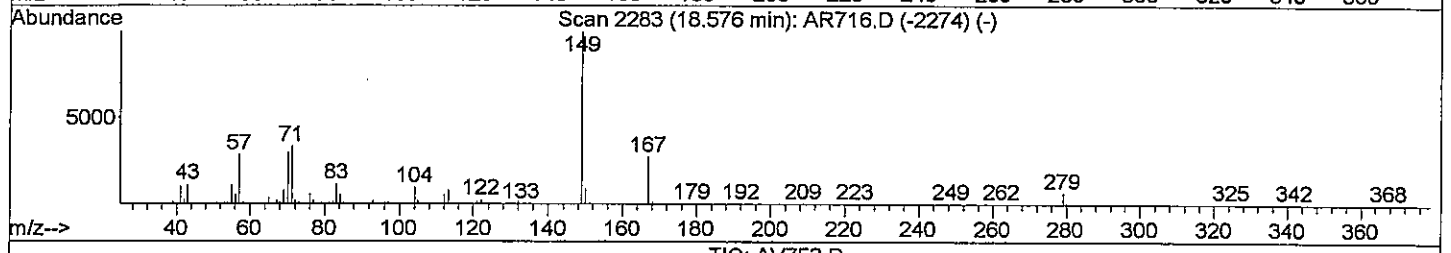
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV753.D Vial: 12
Acq On : 27 Oct 2009 6:12 pm Operator: J.Wu
Sample : SSDT100 Inst : 5973C
Misc : 10.0/20.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 9:00 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 08:58:46 2009
Response via : Single Level Calibration







TIC: AV753.D

(30) bis(2-Ethylhexyl)phthalate (T)

17.88min 20.29ppm m

response 6366153

Ion	Exp%	Act%
149.00	100	100
167.00	27.80	39.69#
279.00	5.90	8.34#
0.00	0.00	0.00

A JW 10/28/09

AV753.D LVI1027.M Wed Oct 28 09:00:35 2009

00407

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV744.D Vial: 3
Acq On : 27 Oct 2009 12:33 pm Operator: J.Wu
Sample : BLK Inst : 5973C
Misc : 10/27/2009 1.0 CAS 8270.LL BLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 09:16:05 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.70	152	132036	1.00	ppm	0.00
4) d8-Naphthalene	11.96	136	444214	1.00	ppm	0.00
10) d10-Acenaphthene	13.56	164	256284	1.00	ppm	0.00
18) d10-Phenanthrene	14.75	188	310240	1.00	ppm	0.00
26) d12-Chrysene	17.96	240	412959	1.00	ppm	0.00
33) d12-Perylene	21.52	264	290928	1.00	ppm	0.00
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.31	82	205	0.00	ppm	0.03
Spiked Amount 2.000	Range 22 - 124		Recovery = 0.00%#			
11) SURR5,2-FLUOROBIPHENYL	12.91	172	1056	0.00	ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 0.00%#			
28) SURR6,TERPHENYL-D14	16.34	244	274	0.00	ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 0.00%#			

Target Compounds Qvalue

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

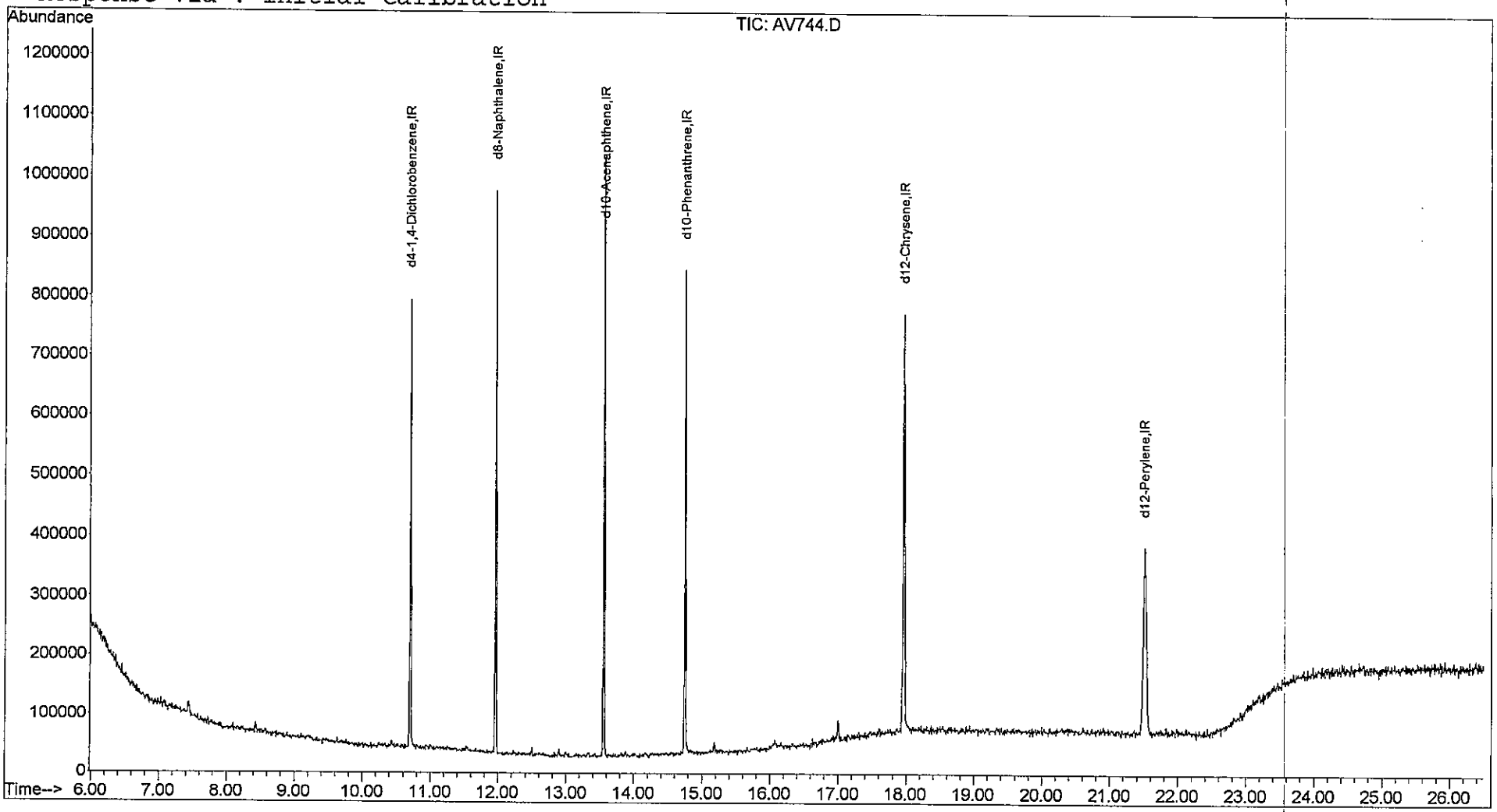
Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV744.D
Acq On : 27 Oct 2009 12:33 pm
Sample : BLK
Misc : 10/27/2009 1.0 CAS 8270.LL BLK
MS Integration Params: RTEINT.P
Quant Time: Oct 28 9:16 2009

Vial: 3
Operator: J.Wu
Inst : 5973C
Multiplr: 1.00

Quant Results File: LVI1027.RES

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973C\DATA\102709\AV754.D Vial: 13
Acq On : 27 Oct 2009 6:48 pm Operator: J.Wu
Sample : ICV 1 Inst : 5973C
Misc : 2.0 PPM STD 8270.LL ICV 1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009 # 23, 34 LdR.
Response via : Multiple Level Calibration & not use,

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	IR	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	115	0.00
2	T	1,4-Dioxane	0.856	0.000#	100.0#	0#	-6.26#
3		Pyridine	1.608	1.531	4.8	106	0.00
4	IR	d8-Naphthalene	1.000	1.000	0.0	110	0.00
5	S	SURR4,NITROBENZENE-D5	0.385	0.000#	100.0#	0#	-11.28#
6	T	Nitrobenzene	0.406	0.393	3.2	103	0.00
7	T	Naphthalene	1.096	1.090	0.5	104	0.00
8	T	2-Methylnaphthalene	0.667	0.677	-1.5	109	0.00
9	T	1-Methylnaphthalene	0.659	0.699	-6.1	112	0.00
10	IR	d10-Acenaphthene	1.000	1.000	0.0	110	0.00
11	S	SURR5,2-FLUOROBIPHENYL	1.307	0.000#	100.0#	0#	-12.91#
12	T	Acenaphthylene	1.898	1.975	-4.1	110	0.00
13		Dimethyl phthalate	1.317	1.169	11.2	99	0.00
14	T	Acenaphthene	1.182	1.148	2.9	105	0.00
15	T	Dibenzofuran	1.509	1.534	-1.7	108	0.00
16	T	Fluorene	1.137	1.125	1.1	106	0.00
17		Diethylphthalate	1.242	1.004	19.2	94	0.00
18	IR	d10-Phenanthrene	1.000	1.000	0.0	113	0.00
19	T	Hexachlorobenzene	0.264	0.264	0.0	112	0.00
20	T	Phenanthrene	1.167	1.103	5.5	104	0.00
21	T	Anthracene	1.112	1.094	1.6	105	0.00
22	T	Carbazole	0.974	0.973	0.1	107	0.00
23		Octachlorostyrene	0.050	0.042#	16.0	91	0.00
24		Di-n-butylphthalate	1.825	1.552	15.0	87	0.00
25	T	Fluoranthene	1.228	1.167	5.0	103	0.00
26	IR	d12-Chrysene	1.000	1.000	0.0	109	0.00
27	T	Pyrene	1.017	0.956	6.0	103	0.00
28	S	SURR6,TERPHENYL-D14	0.691	0.000#	100.0#	0#	-16.34#
29		Butyl benzyl phthalate	0.725	0.579	20.1#	88	0.00
30	T	bis(2-Ethylhexyl)phthalate	0.944	0.415	56.0#	46#	0.00
31	T	Benzo(a)anthracene	1.124	1.085	3.5	102	0.00
32	T	Chrysene	1.123	1.044	7.0	99	0.00
33	IR	d12-Perylene	1.000	1.000	0.0	109	0.00
34		Di-n-octyl phthalate	1.935	1.419	26.7#	83	0.00
35	T	Benzo(b)Fluoranthene	1.470	1.421	3.3	102	0.00
36	T	Benzo(k)fluoranthene	1.429	1.457	-2.0	105	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973C\DATA\102709\AV754.D Vial: 13
Acq On : 27 Oct 2009 6:48 pm Operator: J.Wu
Sample : ICV 1 Inst : 5973C
Misc : 2.0 PPM STD 8270.LL ICV 1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Multiple Level Calibration

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)
37	T	Benzo(a)pyrene	1.282	1.179	8.0	96	0.00
38	T	Indeno(1,2,3-cd)Pyrene	1.466	1.471	-0.3	105	0.00
39	T	Dibenz(a,h)anthracene	1.169	1.223	-4.6	106	0.00
40	T	Benzo(g,h,i)perylene	1.263	1.281	-1.4	104	0.00

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973C\DATA\102709\AV754.D Vial: 13
Acq On : 27 Oct 2009 6:48 pm Operator: J.Wu
Sample : ICV 1 Inst : 5973C
Misc : 2.0 PPM STD 8270.LL ICV 1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009 # 23, 34 L.R.
Response via : Multiple Level Calibration

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	IR	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	115	0.00
2	T	1,4-Dioxane	4.000	0.000	100.0#	0	-6.26#
3		Pyridine	2.000	1.905	4.7	106	0.00
4	IR	d8-Naphthalene	1.000	1.000	0.0	110	0.00
5	S	SURR4,NITROBENZENE-D5	2.000	0.000	100.0#	0	-11.28#
6	T	Nitrobenzene	2.000	1.936	3.2	103	0.00
7	T	Naphthalene	2.000	1.988	0.6	104	0.00
8	T	2-Methylnaphthalene	2.000	2.031	-1.6	109	0.00
9	T	1-Methylnaphthalene	2.000	2.122	-6.1	112	0.00
10	IR	d10-Acenaphthene	1.000	1.000	0.0	110	0.00
11	S	SURR5,2-FLUOROBIPHENYL	2.000	0.000	100.0#	0	-12.91#
12	T	Acenaphthylene	2.000	2.080	-4.0	110	0.00
13		Dimethyl phthalate	2.000	1.776	11.2	99	0.00
14	T	Acenaphthene	2.000	1.943	2.8	105	0.00
15	T	Dibenzofuran	2.000	2.034	-1.7	108	0.00
16	T	Fluorene	2.000	1.978	1.1	106	0.00
17		Diethylphthalate	2.000	1.617	19.1	94	0.00
18	IR	d10-Phenanthrene	1.000	1.000	0.0	113	0.00
19	T	Hexachlorobenzene	2.000	2.001	-0.0	112	0.00
20	T	Phenanthrene	2.000	1.890	5.5	104	0.00
21	T	Anthracene	2.000	1.969	1.5	105	0.00
22	T	Carbazole	2.000	1.998	0.1	107	0.00
23		Octachlorostyrene	2.000	1.655	17.3	91	0.00
24		Di-n-butylphthalate	2.000	1.700	15.0	87	0.00
25	T	Fluoranthene	2.000	1.901	4.9	103	0.00
26	IR	d12-Chrysene	1.000	1.000	0.0	109	0.00
27	T	Pyrene	2.000	1.880	6.0	103	0.00
28	S	SURR6,TERPHENYL-D14	2.000	0.000	100.0#	0	-16.34#
29		Butyl benzyl phthalate	2.000	1.597	20.2#	88	0.00
30	T	bis(2-Ethylhexyl)phthalate	4.000	1.759	56.0#	46	0.00
31	T	Benzo(a)anthracene	2.000	1.930	3.5	102	0.00
32	T	Chrysene	2.000	1.860	7.0	99	0.00
33	IR	d12-Perylene	1.000	1.000	0.0	109	0.00
34		Di-n-octyl phthalate	2.000	1.652	17.4	83	0.00
35	T	Benzo(b)Fluoranthene	2.000	1.932	3.4	102	0.00
36	T	Benzo(k)fluoranthene	2.000	2.040	-2.0	105	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973C\DATA\102709\AV754.D Vial: 13
Acq On : 27 Oct 2009 6:48 pm Operator: J.Wu
Sample : ICV 1 Inst : 5973C
Misc : 2.0 PPM STD 8270.LL ICV 1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Multiple Level Calibration

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)
37	T	Benzo(a)pyrene	2.000	1.839	8.1	96	0.00
38	T	Indeno(1,2,3-cd)Pyrene	2.000	2.007	-0.4	105	0.00
39	T	Dibenz(a,h)anthracene	2.000	2.093	-4.6	106	0.00
40	T	Benzo(g,h,i)perylene	2.000	2.029	-1.4	104	0.00

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV754.D Vial: 13
Acq On : 27 Oct 2009 6:48 pm Operator: J.Wu
Sample : ICV 1 Inst : 5973C
Misc : 2.0 PPM STD 8270.LL ICV 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 09:16:43 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.70	152	115446	1.00	ppm	0.00
4) d8-Naphthalene	11.96	136	421479	1.00	ppm	0.00
10) d10-Acenaphthene	13.55	164	235570	1.00	ppm	0.00
18) d10-Phenanthrene	14.75	188	290209	1.00	ppm	0.00
26) d12-Chrysene	17.96	240	375081	1.00	ppm	0.00
33) d12-Perylene	21.51	264	290562	1.00	ppm	0.00
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	0.00	82	0d	0.00	ppm	
Spiked Amount 2.000	Range 22 - 124		Recovery =	0.00%#		
11) SURR5,2-FLUOROBIPHENYL	0.00	172	0d	0.00	ppm	
Spiked Amount 2.000	Range 27 - 114		Recovery =	0.00%#		
28) SURR6,TERPHENYL-D14	0.00	244	0d	0.00	ppm	
Spiked Amount 2.000	Range 23 - 139		Recovery =	0.00%#		
Target Compounds						Qvalue
3) Pyridine	6.98	79	353579	1.90	ppm	92
6) Nitrobenzene	11.30	77	330936	1.94	ppm	99
7) Naphthalene	11.97	128	918473	1.99	ppm	99
8) 2-Methylnaphthalene	12.60	142	570873	2.03	ppm	98
9) 1-Methylnaphthalene	12.70	142	589303	2.12	ppm	96
12) Acenaphthylene	13.42	152	930294	2.08	ppm	98
13) Dimethyl phthalate	13.28	163	550982	1.78	ppm	99
14) Acenaphthene	13.58	153	540992	1.94	ppm	100
15) Dibenzofuran	13.72	168	722648	2.03	ppm	100
16) Fluorene	14.00	166	529882	1.98	ppm	100
17) Diethylphthalate	13.88	149	472893	1.62	ppm	98
19) Hexachlorobenzene	14.49	284	153296	2.00	ppm	94
20) Phenanthrene	14.77	178	640100	1.89	ppm	99
21) Anthracene	14.81	178	635172	1.97	ppm	99
22) Carbazole	14.92	167	564829	2.00	ppm	99
23) Octachlorostyrene	15.76	380	24580	1.65	ppm	91
24) Di-n-butylphthalate	15.18	149	900662	1.70	ppm	100
25) Fluoranthene	15.95	202	677195	1.90	ppm	99
27) Pyrene	16.23	202	716996	1.88	ppm	96
29) Butyl benzyl phthalate	16.97	149	434425	1.60	ppm	97
30) bis(2-Ethylhexyl)phthalate	17.87	149	622933	1.76	ppm	96
31) Benzo(a)anthracene	17.93	228	813712	1.93	ppm	99
32) Chrysene	18.01	228	783479	1.86	ppm	96
34) Di-n-octyl phthalate	19.15	149	824389	1.65	ppm	98
35) Benzo(b)Fluoranthene	20.36	252	825623	1.93	ppm	99
36) Benzo(k)fluoranthene	20.42	252	846910	2.04	ppm	97

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV754.D Vial: 13
Acq On : 27 Oct 2009 6:48 pm Operator: J.Wu
Sample : ICV 1 Inst : 5973C
Misc : 2.0 PPM STD 8270.LL ICV 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 09:16:43 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

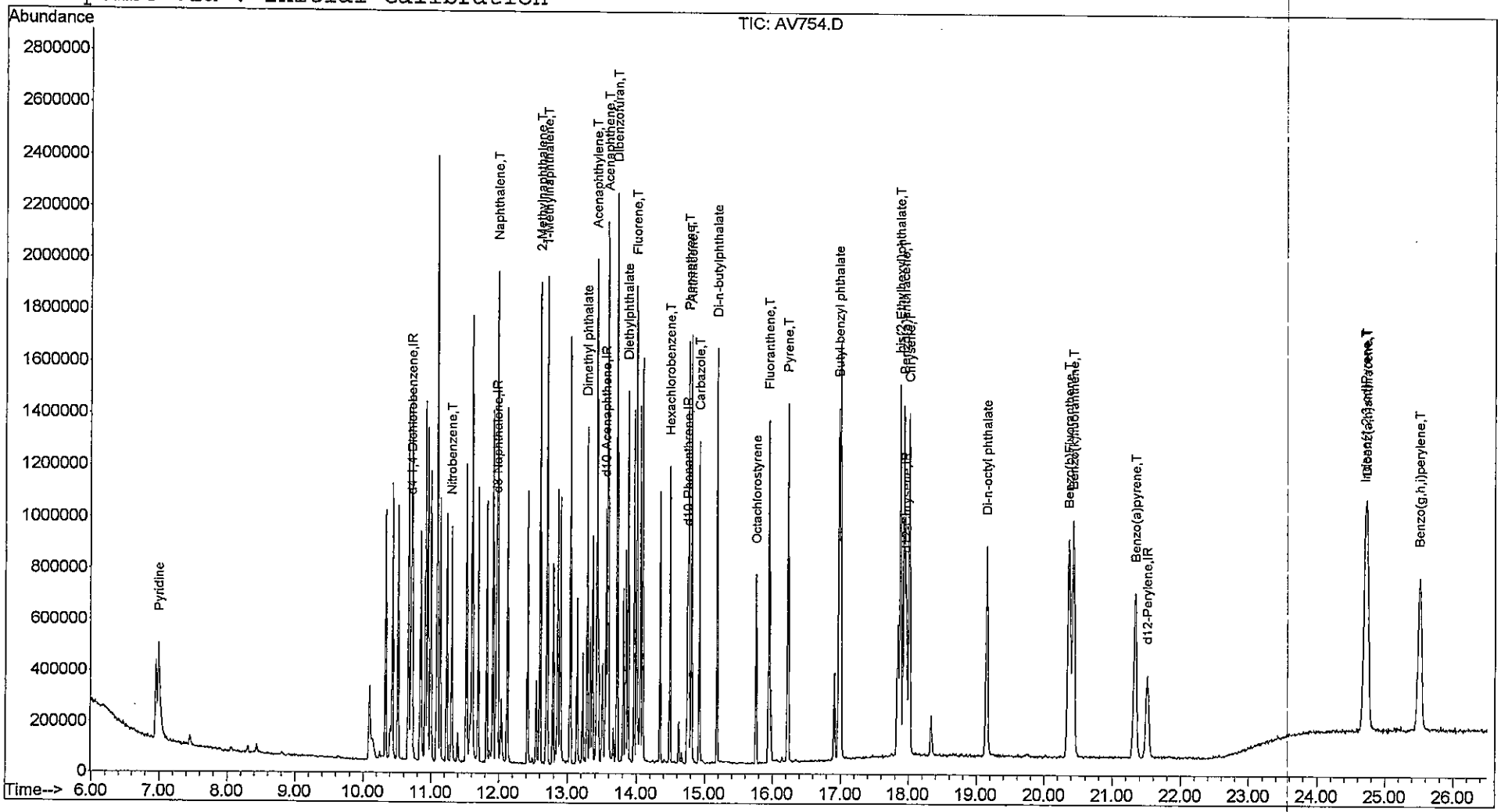
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
37)	Benzo(a)pyrene	21.33	252	684953	1.84	ppm	98
38)	Indeno(1,2,3-cd)Pyrene	24.70	276	854592	2.01	ppm	91
39)	Dibenz(a,h)anthracene	24.73	278	710979	2.09	ppm	99
40)	Benzo(g,h,i)perylene	25.51	276	744447	2.03	ppm	99

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV754.D Vial: 13
Acq On : 27 Oct 2009 6:48 pm Operator: J.Wu
Sample : ICV 1 Inst : 5973C
Misc : 2.0 PPM STD 8270.LL ICV 1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 9:17 2009 Quant Results File: LVI1027.RES

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973C\DATA\102709\AV755.D Vial: 14
Acq On : 27 Oct 2009 7:25 pm Operator: J.Wu
Sample : ICV 2 Inst : 5973C
Misc : 2.0 PPM STD 8270.LL ICV 2 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Multiple Level Calibration

for surrogate # 5, 11, 28 only.

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	IR	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	114	0.00
2	T	1,4-Dioxane	0.856	0.428	50.0#	58	-0.02
3		Pyridine	1.608	0.000#	100.0#	0#	-6.98#
4	IR	d8-Naphthalene	1.000	1.000	0.0	111	0.00
5	S	SURR4,NITROBENZENE-D5	0.385	0.420	-9.1	114	0.00
6	T	Nitrobenzene	0.406	0.000#	100.0#	0#	-11.30#
7	T	Naphthalene	1.096	0.000#	100.0#	0#	-11.97#
8	T	2-Methylnaphthalene	0.667	0.000#	100.0#	0#	-12.60#
9	T	1-Methylnaphthalene	0.659	0.000#	100.0#	0#	-12.70#
10	IR	d10-Acenaphthene	1.000	1.000	0.0	105	0.00
11	S	SURR5,2-FLUOROBIPHENYL	1.307	1.440	-10.2	111	0.00
12	T	Acenaphthylene	1.898	0.000#	100.0#	0#	-13.42#
13		Dimethyl phthalate	1.317	0.000#	100.0#	0#	-13.28#
14	T	Acenaphthene	1.182	0.000#	100.0#	0#	-13.58#
15	T	Dibenzofuran	1.509	0.000#	100.0#	0#	-13.72#
16	T	Fluorene	1.137	0.000#	100.0#	0#	-14.00#
17		Diethylphthalate	1.242	0.000#	100.0#	0#	-13.88#
18	IR	d10-Phenanthrene	1.000	1.000	0.0	110	0.00
19	T	Hexachlorobenzene	0.264	0.000#	100.0#	0#	-14.49#
20	T	Phenanthrene	1.167	0.000#	100.0#	0#	-14.77#
21	T	Anthracene	1.112	0.000#	100.0#	0#	-14.81#
22	T	Carbazole	0.974	0.000#	100.0#	0#	-14.92#
23		Octachlorostyrene	0.050	0.000#	100.0#	0#	-15.76#
24		Di-n-butylphthalate	1.825	0.000#	100.0#	0#	-15.18#
25	T	Fluoranthene	1.228	0.000#	100.0#	0#	-15.95#
26	IR	d12-Chrysene	1.000	1.000	0.0	105	0.00
27	T	Pyrene	1.017	0.000#	100.0#	0#	-16.23#
28	S	SURR6,TERPHENYL-D14	0.691	0.805	-16.5	121	0.00
29		Butyl benzyl phthalate	0.725	0.000#	100.0#	0#	-16.97#
30	T	bis(2-Ethylhexyl)phthalate	0.944	0.419	55.6#	45#	0.00
31	T	Benzo(a)anthracene	1.124	0.000#	100.0#	0#	-17.93#
32	T	Chrysene	1.123	0.000#	100.0#	0#	-18.01#
33	IR	d12-Perylene	1.000	1.000	0.0	99	0.00
34		Di-n-octyl phthalate	1.935	0.000#	100.0#	0#	-19.15#
35	T	Benzo(b)Fluoranthene	1.470	0.000#	100.0#	0#	-20.36#
36	T	Benzo(k)fluoranthene	1.429	0.000#	100.0#	0#	-20.43#

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973C\DATA\102709\AV755.D Vial: 14
Acq On : 27 Oct 2009 7:25 pm Operator: J.Wu
Sample : ICV 2 Inst : 5973C
Misc : 2.0 PPM STD 8270.LL ICV 2 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Multiple Level Calibration

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)
37	T	Benzo(a)pyrene	1.282	0.000#	100.0#	0#	-21.33#
38	T	Indeno(1,2,3-cd)Pyrene	1.466	0.000#	100.0#	0#	-24.70#
39	T	Dibenz(a,h)anthracene	1.169	0.000#	100.0#	0#	-24.74#
40	T	Benzo(g,h,i)perylene	1.263	0.000#	100.0#	0#	-25.51#

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973C\DATA\102709\AV755.D Vial: 14
Acq On : 27 Oct 2009 7:25 pm Operator: J.Wu
Sample : ICV 2 Inst : 5973C
Misc : 2.0 PPM STD 8270.LL ICV 2 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Multiple Level Calibration for # 2, 30 only.

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	IR	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	117	0.00
2	T	1,4-Dioxane	0.856	0.855	0.1	136	-0.02
3		Pyridine	1.608	0.000#	100.0#	0#	-6.98#
4	IR	d8-Naphthalene	1.000	1.000	0.0	115	0.00
5	S	SURR4,NITROBENZENE-D5	0.385	0.840	-118.2#	294#	0.00
6	T	Nitrobenzene	0.406	0.000#	100.0#	0#	-11.30#
7	T	Naphthalene	1.096	0.000#	100.0#	0#	-11.97#
8	T	2-Methylnaphthalene	0.667	0.000#	100.0#	0#	-12.60#
9	T	1-Methylnaphthalene	0.659	0.000#	100.0#	0#	-12.70#
10	IR	d10-Acenaphthene	1.000	1.000	0.0	116	0.00
11	S	SURR5,2-FLUOROBIPHENYL	1.307	2.880	-120.4#	279#	0.00
12	T	Acenaphthylene	1.898	0.000#	100.0#	0#	-13.42#
13		Dimethyl phthalate	1.317	0.000#	100.0#	0#	-13.28#
14	T	Acenaphthene	1.182	0.000#	100.0#	0#	-13.58#
15	T	Dibenzofuran	1.509	0.000#	100.0#	0#	-13.72#
16	T	Fluorene	1.137	0.000#	100.0#	0#	-14.00#
17		Diethylphthalate	1.242	0.000#	100.0#	0#	-13.88#
18	IR	d10-Phenanthrene	1.000	1.000	0.0	116	0.00
19	T	Hexachlorobenzene	0.264	0.000#	100.0#	0#	-14.49#
20	T	Phenanthrene	1.167	0.000#	100.0#	0#	-14.77#
21	T	Anthracene	1.112	0.000#	100.0#	0#	-14.81#
22	T	Carbazole	0.974	0.000#	100.0#	0#	-14.92#
23		Octachlorostyrene	0.050	0.000#	100.0#	0#	-15.76#
24		Di-n-butylphthalate	1.825	0.000#	100.0#	0#	-15.18#
25	T	Fluoranthene	1.228	0.000#	100.0#	0#	-15.95#
26	IR	d12-Chrysene	1.000	1.000	0.0	112	0.00
27	T	Pyrene	1.017	0.000#	100.0#	0#	-16.23#
28	S	SURR6,TERPHENYL-D14	0.691	1.611	-133.1#	295#	0.00
29		Butyl benzyl phthalate	0.725	0.000#	100.0#	0#	-16.97#
30	T	bis(2-Ethylhexyl)phthalate	0.944	0.837	11.3	120	0.00
31	T	Benzo(a)anthracene	1.124	0.000#	100.0#	0#	-17.93#
32	T	Chrysene	1.123	0.000#	100.0#	0#	-18.01#
33	IR	d12-Perylene	1.000	1.000	0.0	108	0.00
34		Di-n-octyl phthalate	1.935	0.000#	100.0#	0#	-19.15#
35	T	Benzo(b)Fluoranthene	1.470	0.000#	100.0#	0#	-20.36#
36	T	Benzo(k)fluoranthene	1.429	0.000#	100.0#	0#	-20.43#

(#) = Out of Range

00419

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973C\DATA\102709\AV755.D Vial: 14
Acq On : 27 Oct 2009 7:25 pm Operator: J.Wu
Sample : ICV 2 Inst : 5973C
Misc : 2.0 PPM STD 8270.LL ICV 2 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Multiple Level Calibration

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)
37	T	Benzo(a)pyrene	1.282	0.000#	100.0#	0#	-21.33#
38	T	Indeno(1,2,3-cd)Pyrene	1.466	0.000#	100.0#	0#	-24.70#
39	T	Dibenz(a,h)anthracene	1.169	0.000#	100.0#	0#	-24.74#
40	T	Benzo(g,h,i)perylene	1.263	0.000#	100.0#	0#	-25.51#

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV755.D Vial: 14
Acq On : 27 Oct 2009 7:25 pm Operator: J.Wu
Sample : ICV 2 Inst : 5973C
Misc : 2.0 PPM STD 8270.LL ICV 2 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 09:18:52 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.70	152	114546	1.00	ppm	0.00
4) d8-Naphthalene	11.96	136	422148	1.00	ppm	0.00
10) d10-Acenaphthene	13.55	164	224703	1.00	ppm	0.00
18) d10-Phenanthrene	14.75	188	282255	1.00	ppm	0.00
26) d12-Chrysene	17.96	240	361959	1.00	ppm	0.00
33) d12-Perylene	21.51	264	264940	1.00	ppm	0.00
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.28	82	354563	2.18	ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 109.00%			
11) SURR5,2-FLUOROBIPHENYL	12.91	172	647072	2.20	ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 110.00%			
28) SURR6,TERPHENYL-D14	16.34	244	583037	2.33	ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 116.50%			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.25	88	195946	2.00	ppm	97
30) bis(2-Ethylhexyl)phthalate	17.88	149	606130	1.77	ppm	99

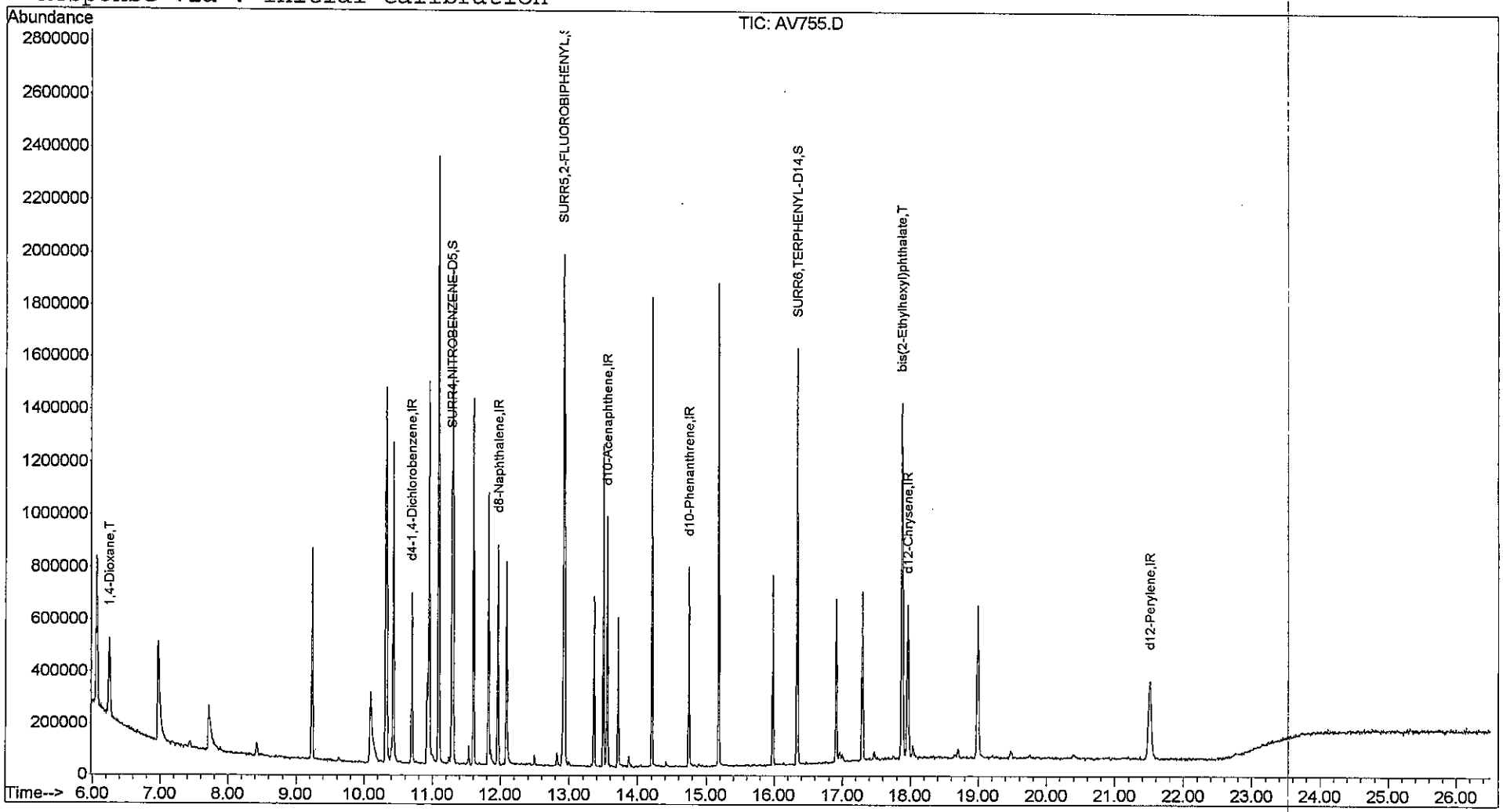
(#) = qualifier out of range (m) = manual integration (+) = signals summed

00421

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV755.D Vial: 14
Acq On : 27 Oct 2009 7:25 pm Operator: J.Wu
Sample : ICV 2 Inst : 5973C
Misc : 2.0 PPM STD 8270.LL ICV 2 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 9:19 2009 Quant Results File: LVI1027.RES

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration



00122

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC080.D Vial: 1
Acq On : 16 Oct 2009 9:29 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 9:14 2009 Quant Results File: DFTPPLVI.RES

Quant Method : J:\ACQUDATA\5...\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 09:14:27 2009
Response via : Initial Calibration
DataAcq Meth : DFTPPLVI

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.36	152	116302	1.00	ppb	0.00
2) d8-Naphthalene	11.64	136	391511	1.00	ppb	0.00
3) d10-Acenaphthene	13.24	164	278727	1.00	ppb	0.00
4) d10-Phenanthrene	14.47	188	398634	1.00	ppb	0.00
10) d12-Chrysene	17.75	240	461654	1.00	ppb	0.00
12) d12-Perylene	21.53	264	330574	1.00	ppb	0.00
Target Compounds						Qvalue
5) Pentachlorophenol	14.35	266	621554	10.00	ppb	100
6) DFTPP	14.62	198	761881	10.00	ppb	100
9) 4,4'-DDT	16.87	235	2121443	10.00	ppb	100
11) Benzidine	15.76	184	2620890	10.00	ppb	100

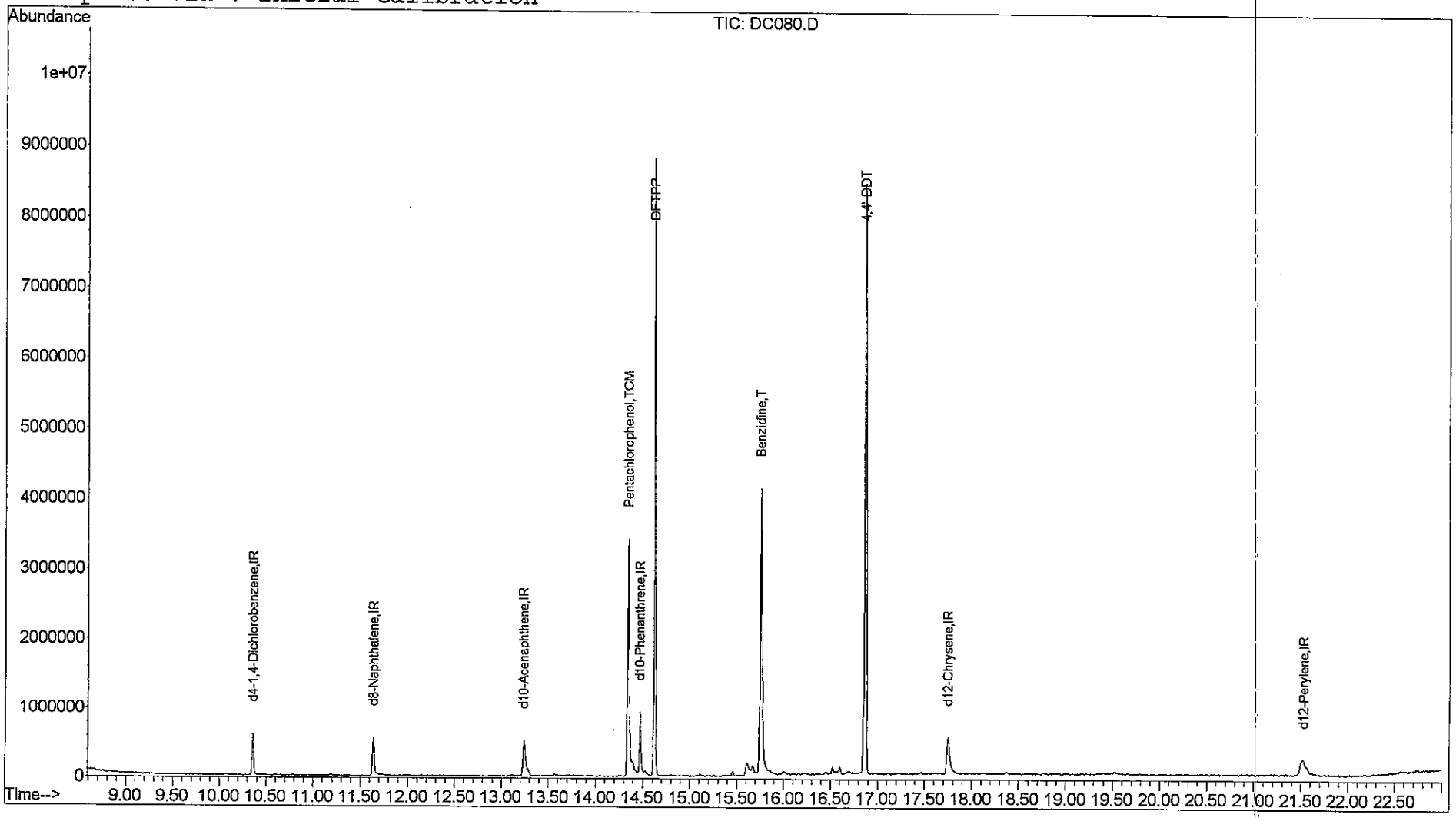
(#) = qualifier out of range (m) = manual integration
DC080.D DFTPPLVI.M Mon Oct 19 09:15:20 2009 Page 1

00423

Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\101609\DC080.D Vial: 1
Acq On : 16 Oct 2009 9:29 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 9:14 2009 Quant Results File: DFTPPLVI.RES

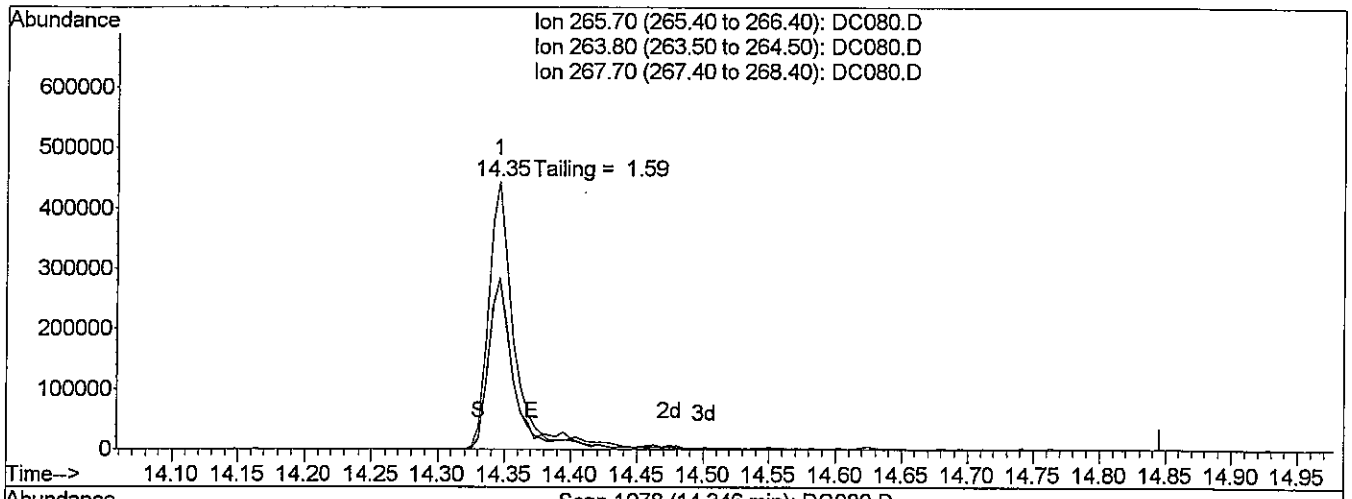
Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 09:14:27 2009
Response via : Initial Calibration

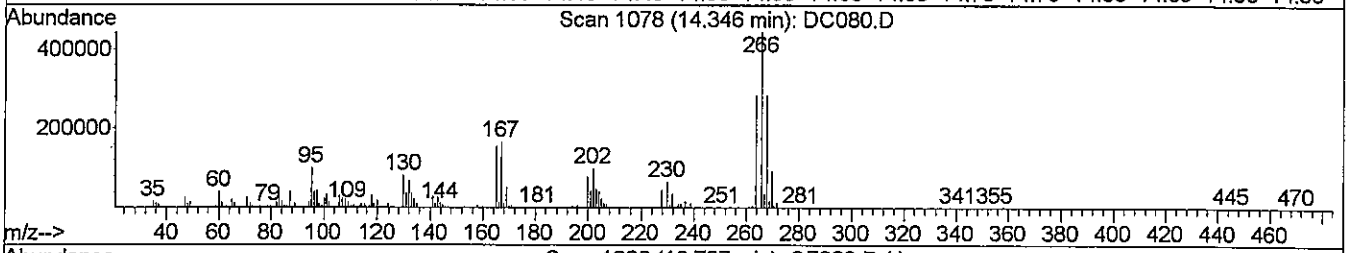


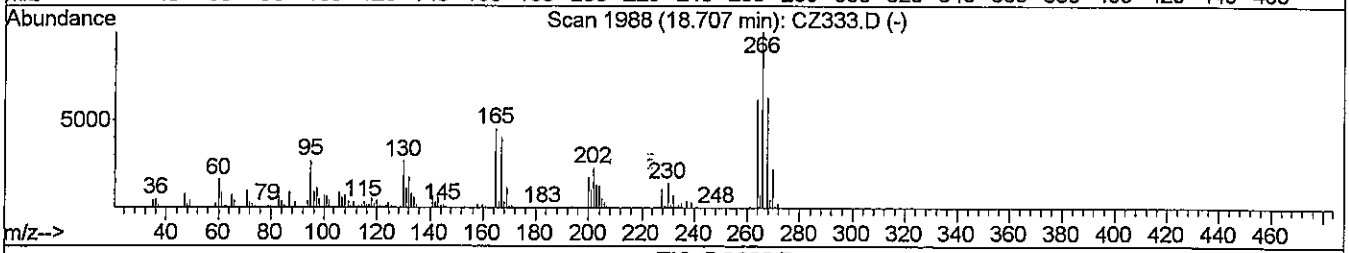
DC080.D DFTPPLVI.M Mon Oct 19 09:15:20 2009 Page 2

Data File : J:\ACQUDATA\5973B\DATA\101609\DC080.D Vial: 1
Acq On : 16 Oct 2009 9:29 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 9:14 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 09:14:27 2009
Response via : Single Level Calibration







TIC: DC080.D

(5) Pentachlorophenol (TCM)

14.35min 10.00ppb

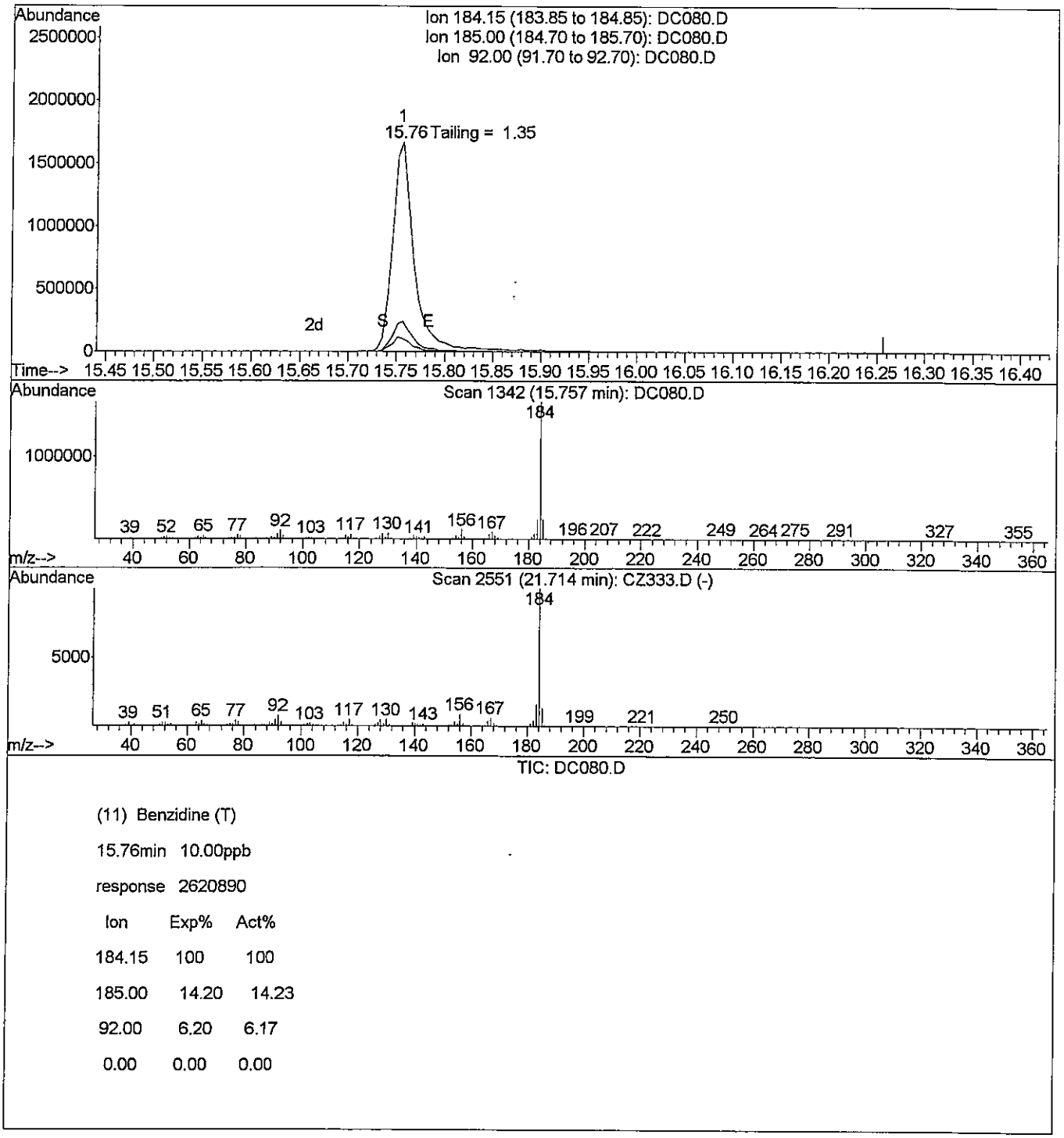
response 621554

Ion	Exp%	Act%
265.70	100	100
263.80	63.60	63.56
267.70	63.60	63.58
0.00	0.00	0.00

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\101609\DC080.D Vial: 1
Acq On : 16 Oct 2009 9:29 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 19 9:14 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 09:14:27 2009
Response via : Single Level Calibration



TIC: DC080.D

(11) Benzidine (T)

15.76min 10.00ppb

response 2620890

Ion	Exp%	Act%
184.15	100	100
185.00	14.20	14.23
92.00	6.20	6.17
0.00	0.00	0.00

DC080.D DFTPPLVI.M Mon Oct 19 09:15:11 2009

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV741.D Vial: 1
Acq On : 27 Oct 2009 9:57 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973C
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 09:31:05 2009 Quant Results File: TUNEC.RES

Quant Method : J:\ACQUDATA\5973C\METHODS\TUNEC.M (RTE Integrator)
Title : TUNE CHECK
Last Update : Wed Oct 28 09:31:00 2009
Response via : Initial Calibration
DataAcq Meth : TUNEC

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	9.39	152	119739	1.00 ppm	0.00
2) d8-Naphthalene	11.76	136	432463	1.00 ppm	0.00
3) d10-Acenaphthene	15.16	164	204575	1.00 ppm	0.00
4) d10-Phenanthrene	18.02	188	311159	1.00 ppm	0.00
7) d12-Chrysene	23.56	240	358833	1.00 ppm	0.00
12) d12-Perylene	26.64	264	309291	1.00 ppm	0.00
Target Compounds					Qvalue
5) Pentachlorophenol	17.77	266	176420	10.00 ppm	100
6) DFTPP	18.76	198	429048	10.00 ppm	100
8) Benzidine	20.76	184	767339	10.00 ppm	100
9) 4,4'-DDE	0.00	246	0	N.D. d	
10) 4,4'-DDD	0.00	235	0	N.D. d	
11) 4,4'-DDT	22.56	235	1048133	10.00 ppm	100

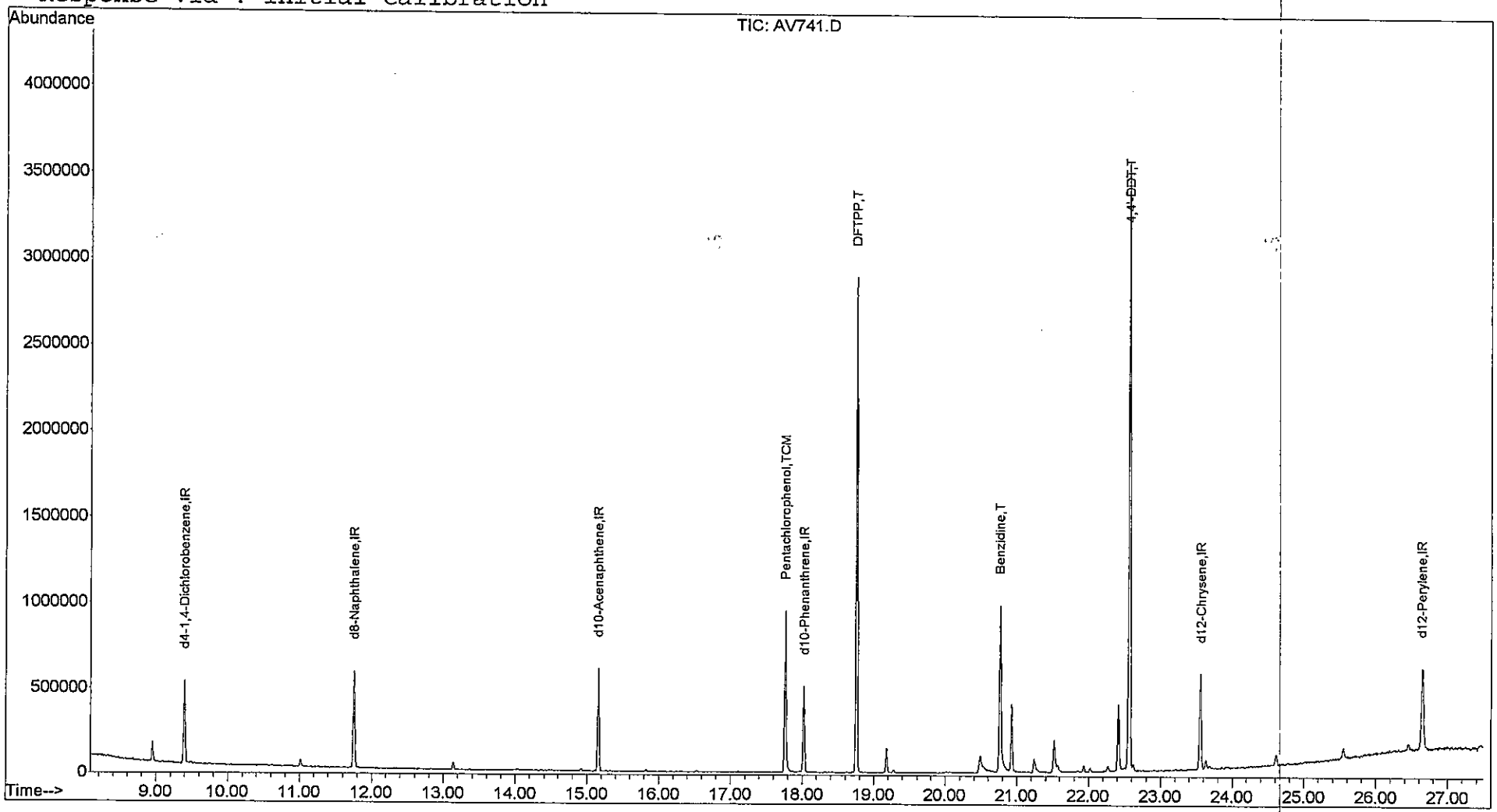
(#) = qualifier out of range (m) = manual integration (+) = signals summed

JW
00427

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV741.D Vial: 1
Acq On : 27 Oct 2009 9:57 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973C
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 9:31 2009 Quant Results File: TUNEC.RES

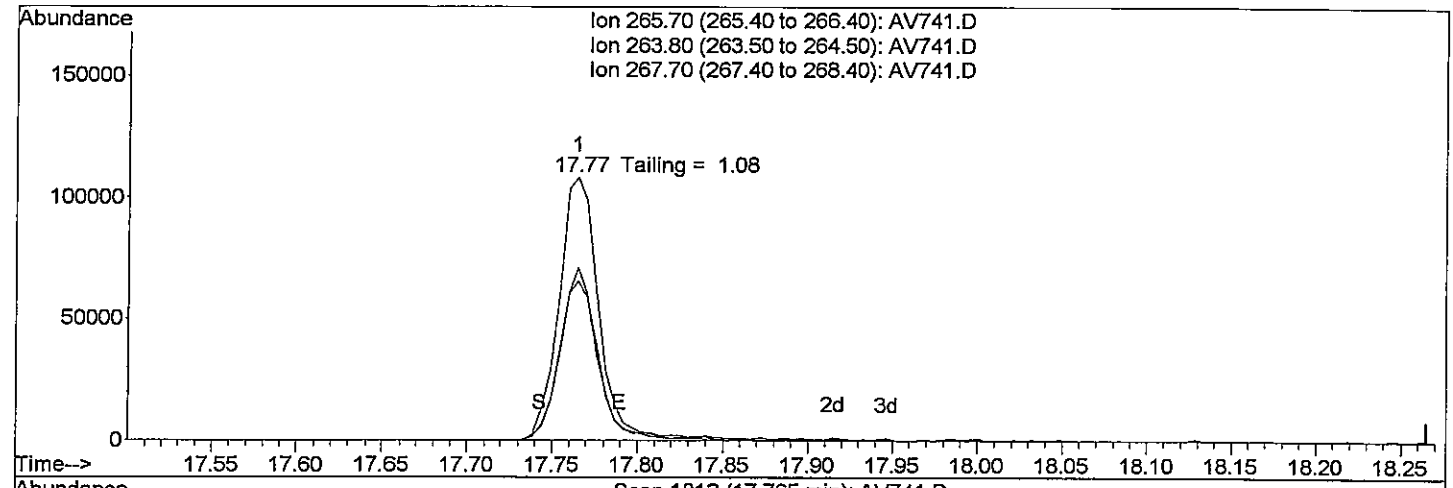
Method : J:\ACQUDATA\5973C\METHODS\TUNEC.M (RTE Integrator)
Title : TUNE CHECK
Last Update : Wed Oct 28 09:31:00 2009
Response via : Initial Calibration

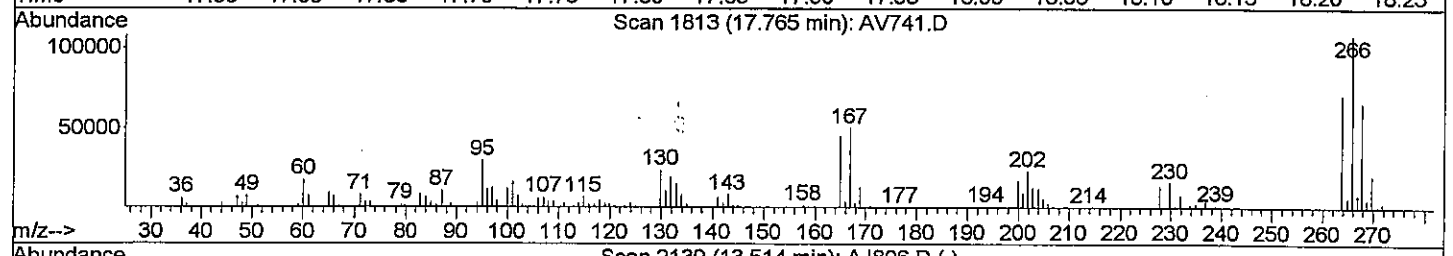


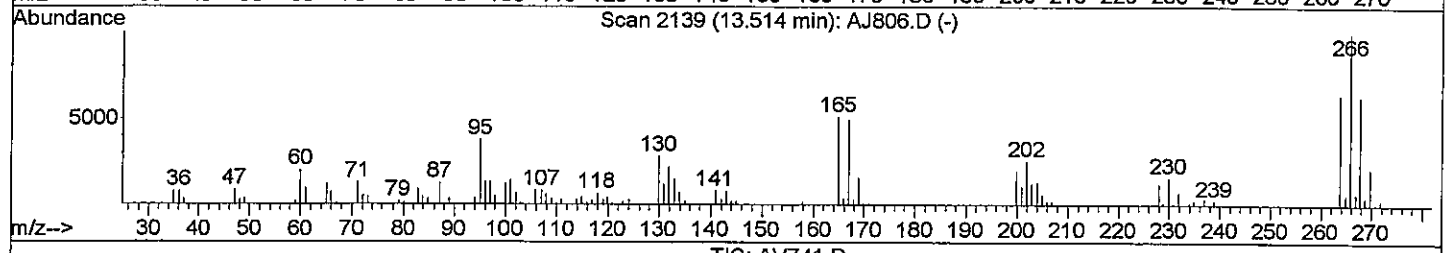
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV741.D Vial: 1
Acq On : 27 Oct 2009 9:57 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973C
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 9:31 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973C\METHODS\TUNEC.M (RTE Integrator)
Title : TUNE CHECK
Last Update : Wed Oct 28 09:31:00 2009
Response via : Single Level Calibration







TIC: AV741.D

(5) Pentachlorophenol (TCM)

17.77min 10.00ppm

response 176420

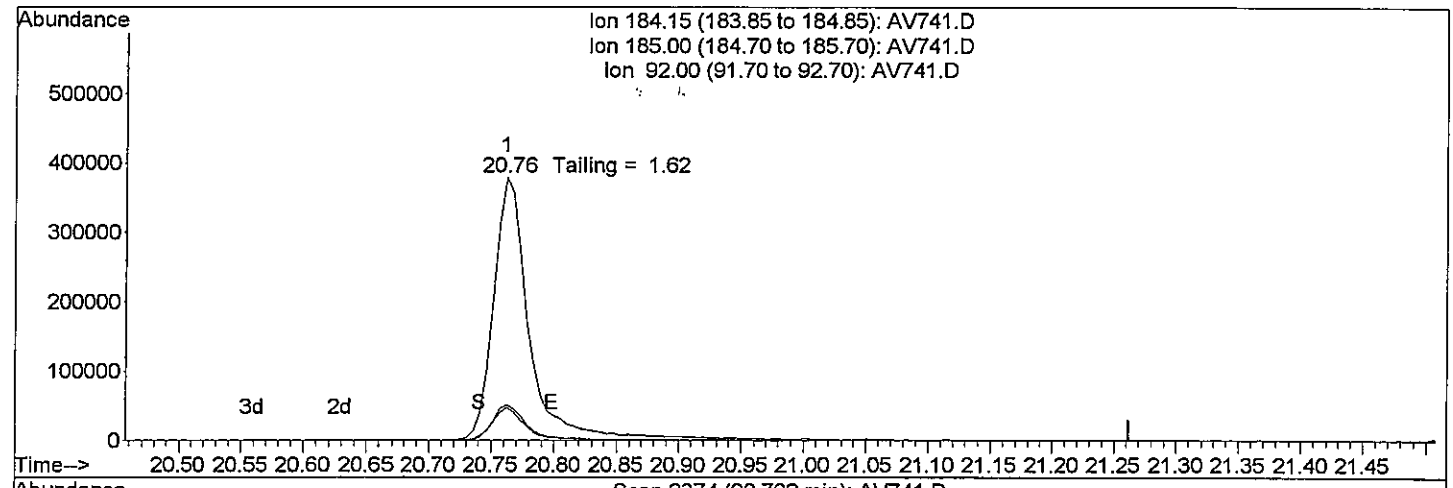
Ion	Exp%	Act%
265.70	100	100
263.80	65.50	65.48
267.70	60.60	60.64
0.00	0.00	0.00

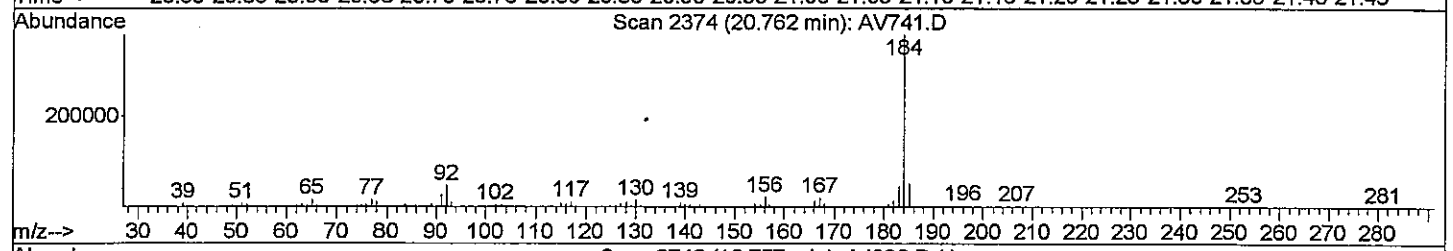
AV741.D TUNEC.M Wed Oct 28 09:31:22 2009

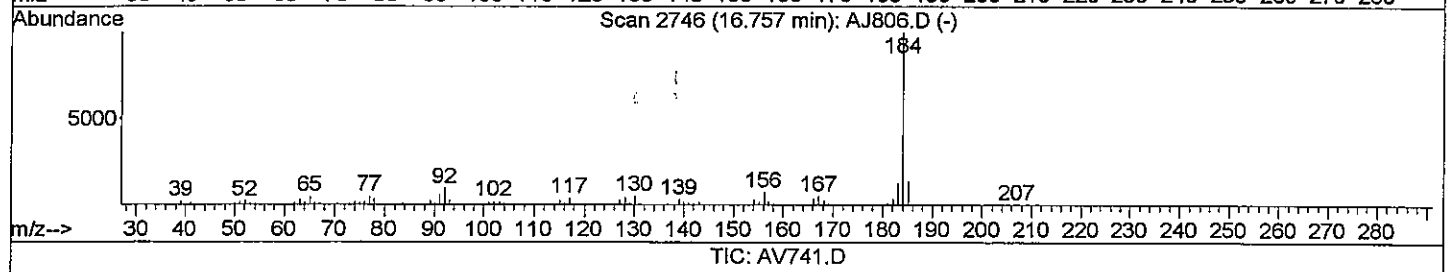
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973C\DATA\102709\AV741.D Vial: 1
Acq On : 27 Oct 2009 9:57 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973C
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Oct 28 9:31 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973C\METHODS\TUNEC.M (RTE Integrator)
Title : TUNE CHECK
Last Update : Wed Oct 28 09:31:00 2009
Response via : Single Level Calibration







TIC: AV741.D

(8) Benzidine (T)

20.76min 10.00ppm

response 767339

Ion	Exp%	Act%
184.15	100	100
185.00	13.50	13.49
92.00	12.60	12.59
0.00	0.00	0.00

AV741.D TUNEC.M Wed Oct 28 09:31:35 2009

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW047.D Vial: 1
Acq On : 11 Nov 2009 9:01 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973C
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 09:29:31 2009 Quant Results File: TUNEC.RES

Quant Method : J:\ACQUDATA\5973C\METHODS\TUNEC.M (RTE Integrator)
Title : TUNE CHECK
Last Update : Wed Oct 28 09:31:58 2009
Response via : Initial Calibration
DataAcq Meth : TUNEC

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	9.37	152	144821	1.00	ppm	-0.02
2) d8-Naphthalene	11.73	136	493909	1.00	ppm	-0.03
3) d10-Acenaphthene	15.13	164	212993	1.00	ppm	-0.03
4) d10-Phenanthrene	18.00	188	339020	1.00	ppm	-0.03
7) d12-Chrysene	23.52	240	451136	1.00	ppm	-0.03
12) d12-Perylene	26.61	264	378842	1.00	ppm	-0.04
Target Compounds						Qvalue
5) Pentachlorophenol	17.74	266	354997	18.47	ppm	95
6) DFTPP	18.73	198	538925	11.53	ppm	91
8) Benzidine	20.74	184	1216689	12.61	ppm	98
9) 4,4'-DDE	0.00	246	0	N.D.		
10) 4,4'-DDD	0.00	235	0	N.D.	d	
11) 4,4'-DDT	22.53	235	1473710	11.18	ppm	96

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

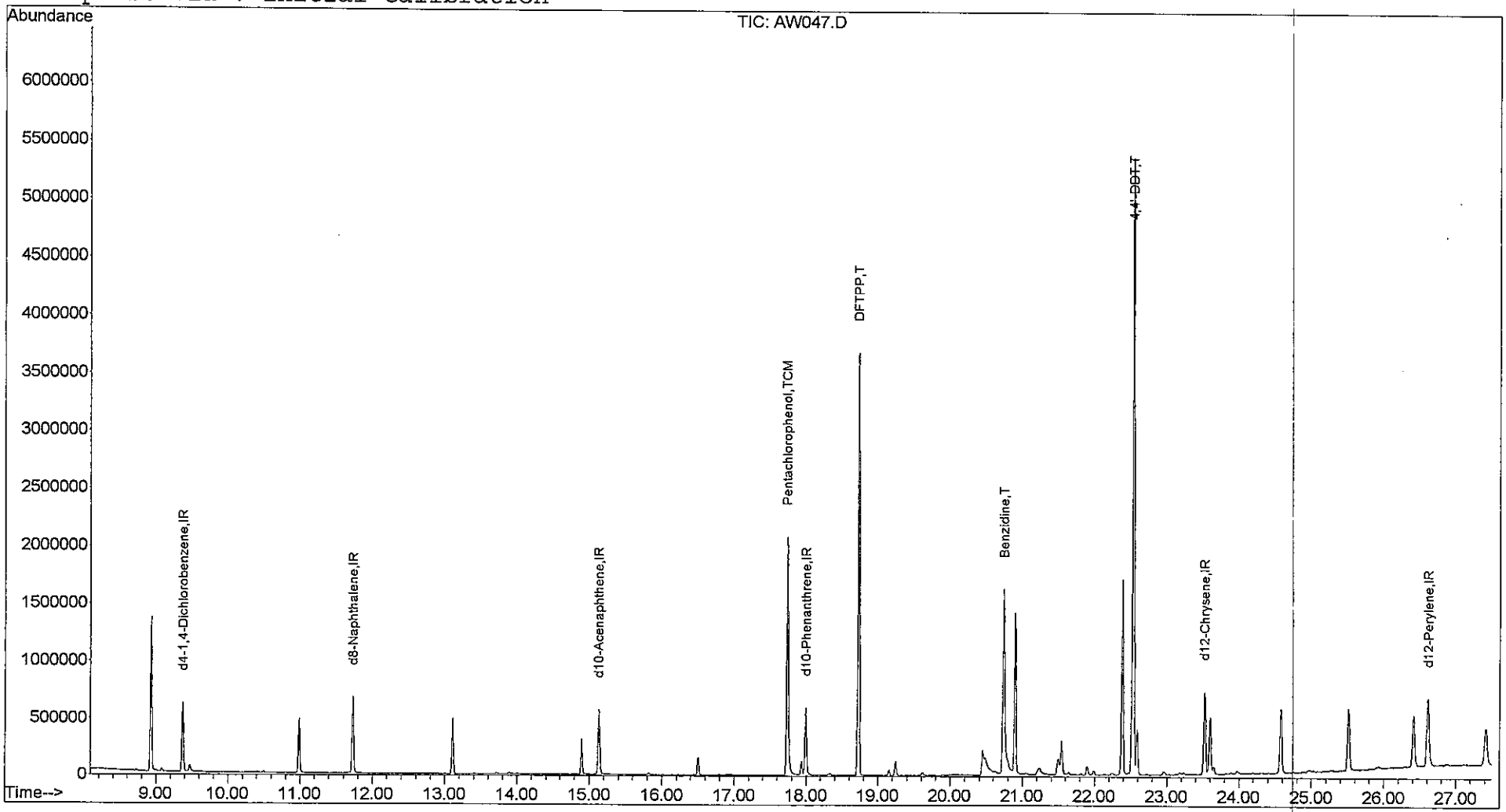
TJ

00431

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW047.D Vial: 1
Acq On : 11 Nov 2009 9:01 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973C
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 13:33 2009 Quant Results File: TUNEC.RES

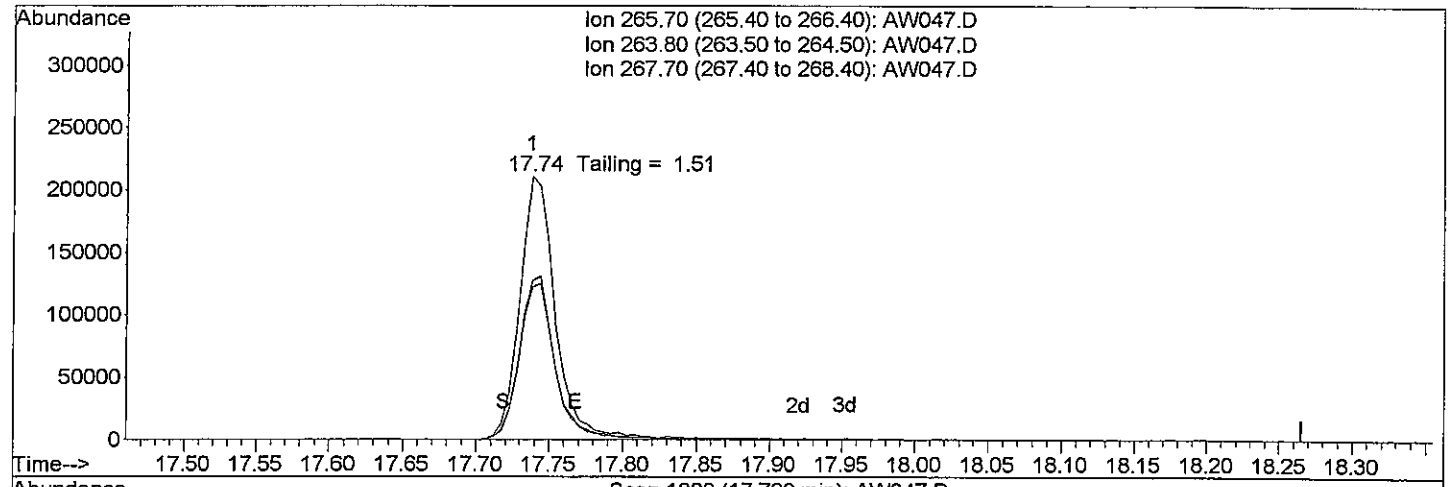
Method : J:\ACQUDATA\5973C\METHODS\TUNEC.M (RTE Integrator)
Title : TUNE CHECK
Last Update : Wed Oct 28 09:31:58 2009
Response via : Initial Calibration

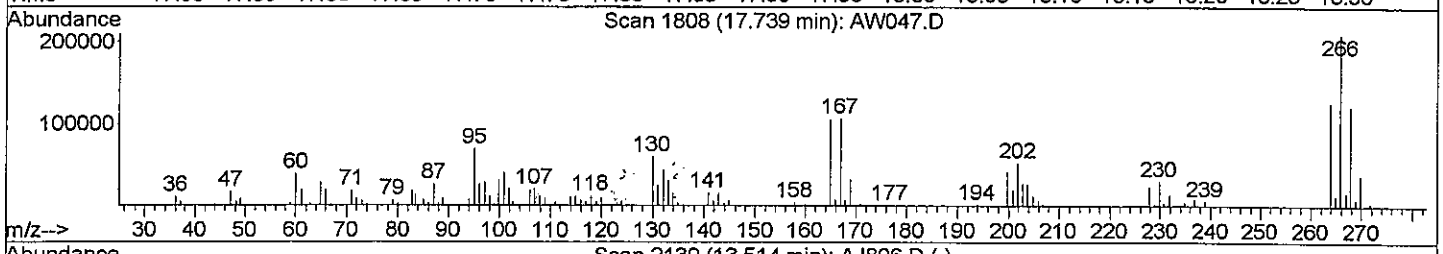


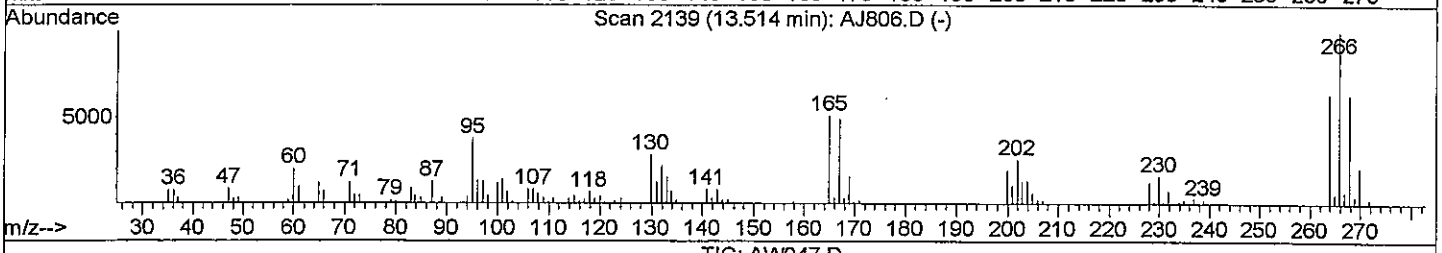
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW047.D Vial: 1
Acq On : 11 Nov 2009 9:01 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973C
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 9:29 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973C\METHODS\TUNEC.M (RTE Integrator)
Title : TUNE CHECK
Last Update : Wed Oct 28 09:31:58 2009
Response via : Single Level Calibration







TIC: AW047.D

(5) Pentachlorophenol (TCM)

17.74min 18.47ppm

response 354997

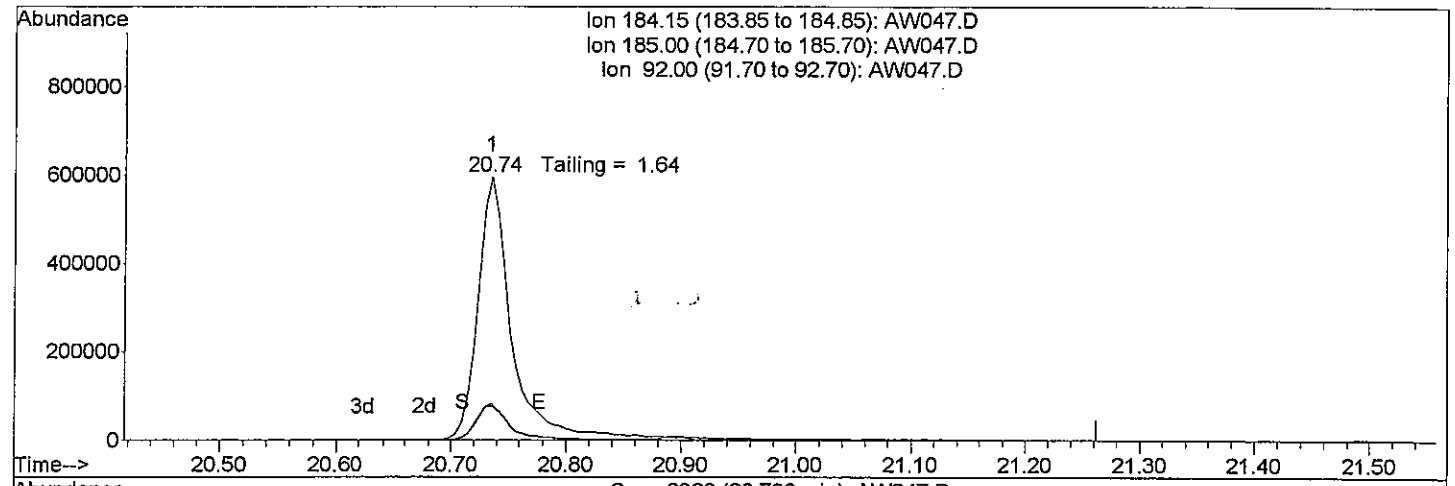
Ion	Exp%	Act%
265.70	100	100
263.80	65.50	60.42
267.70	60.60	58.12
0.00	0.00	0.00

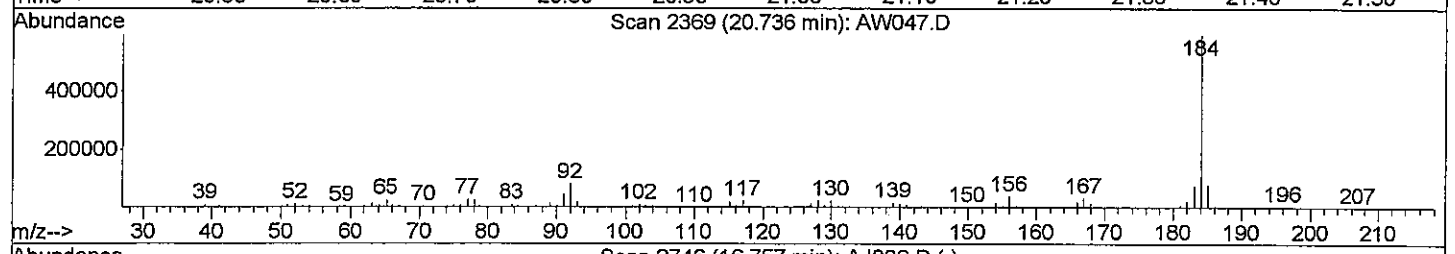
AW047.D TUNEC.M Wed Nov 11 13:33:16 2009

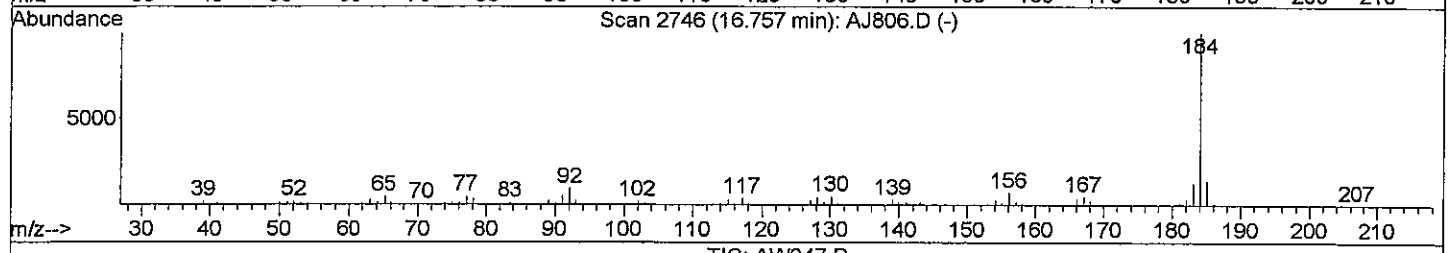
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW047.D Vial: 1
Acq On : 11 Nov 2009 9:01 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973C
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 9:29 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973C\METHODS\TUNEC.M (RTE Integrator)
Title : TUNE CHECK
Last Update : Wed Oct 28 09:31:58 2009
Response via : Single Level Calibration







TIC: AW047.D

(8) Benzidine (T)

20.74min 12.61ppm

response 1216689

Ion	Exp%	Act%
184.15	100	100
185.00	13.50	12.92
92.00	12.60	13.82
0.00	0.00	0.00

AW047.D TUNEC.M Wed Nov 11 13:33:29 2009

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\111109\DC324.D Vial: 1
Acq On : 11 Nov 2009 10:28 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 15:03 2009 Quant Results File: DFTPPLVI.RES

Quant Method : J:\ACQUDATA\5...\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 09:15:25 2009
Response via : Initial Calibration
DataAcq Meth : DFTPPLVI

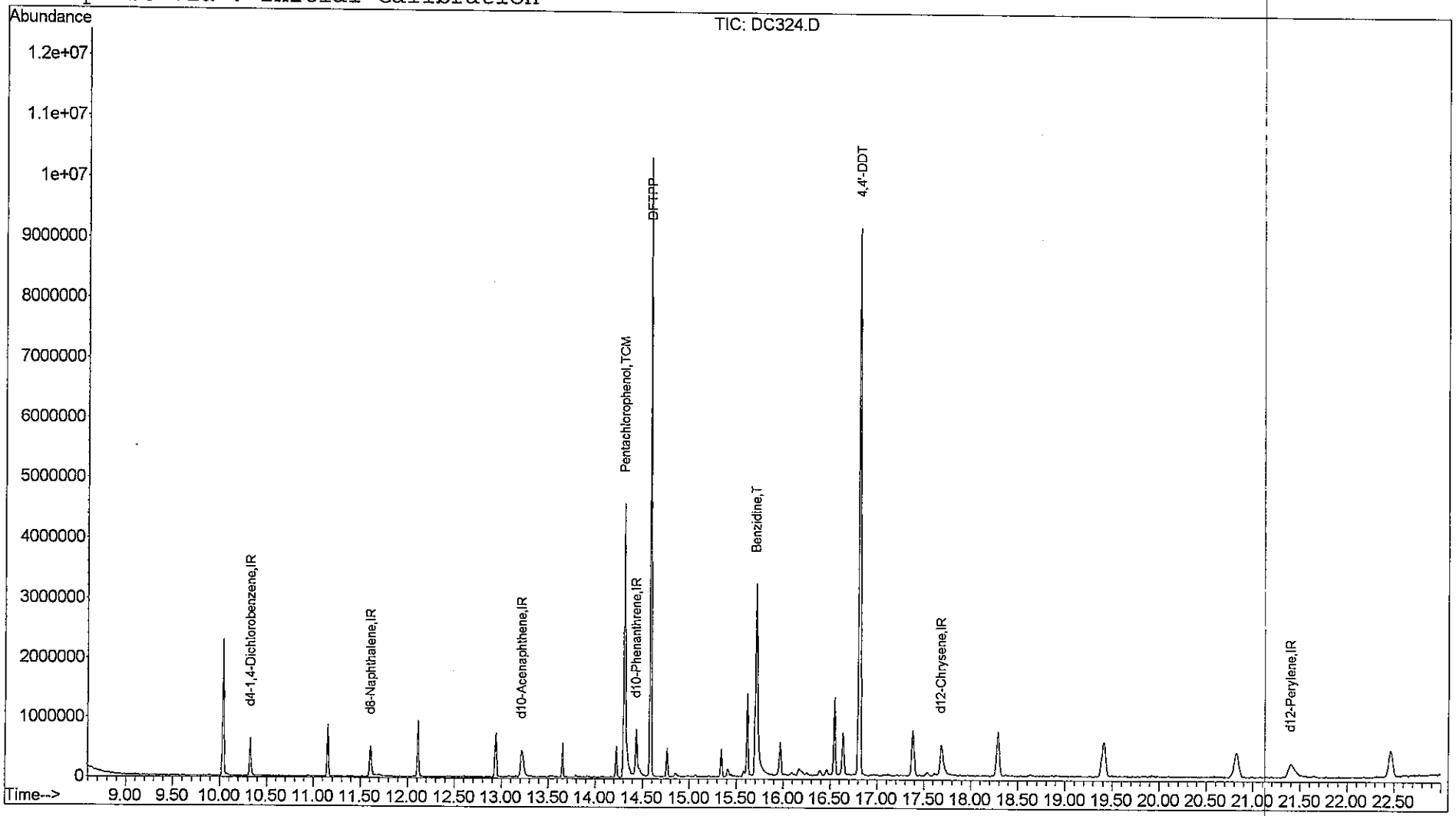
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.33	152	115309	1.00 ppb	-0.03
2) d8-Naphthalene	11.61	136	363388	1.00 ppb	-0.03
3) d10-Acenaphthene	13.22	164	282709	1.00 ppb	-0.02
4) d10-Phenanthrene	14.43	188	432764	1.00 ppb	-0.04
10) d12-Chrysene	17.69	240	489612	1.00 ppb	-0.06
12) d12-Perylene	21.40	264	362641	1.00 ppb	-0.13
Target Compounds					Qvalue
5) Pentachlorophenol	14.31	266	695159	10.30 ppb	97
6) DFTPP	14.59	198	787501	9.52 ppb	92
9) 4,4'-DDT	16.81	235	2169400	9.42 ppb	98
11) Benzidine	15.71	184	2272649	8.18 ppb	97

(#) = qualifier out of range (m) = manual integration JW
DC324.D DFTPPLVI.M Wed Nov 11 15:03:48 2009 Page 1

Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\111109\DC324.D Vial: 1
Acq On : 11 Nov 2009 10:28 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 15:03 2009 Quant Results File: DFTPPLVI.RES

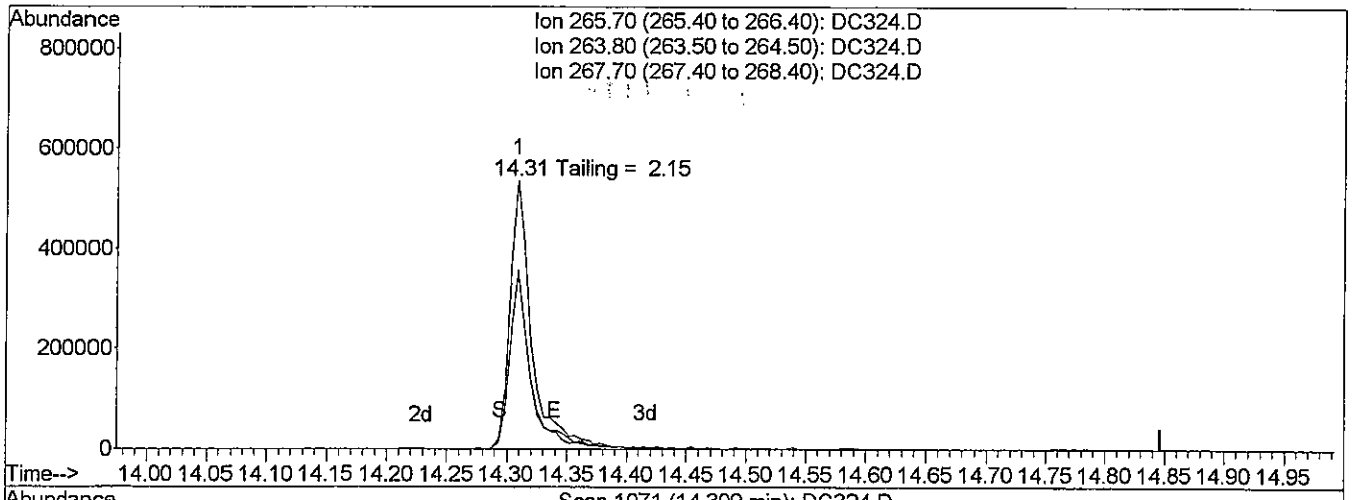
Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 09:15:25 2009
Response via : Initial Calibration

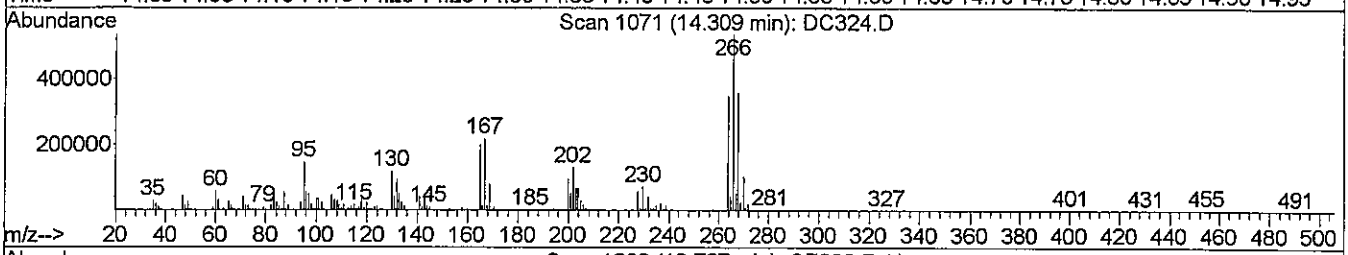


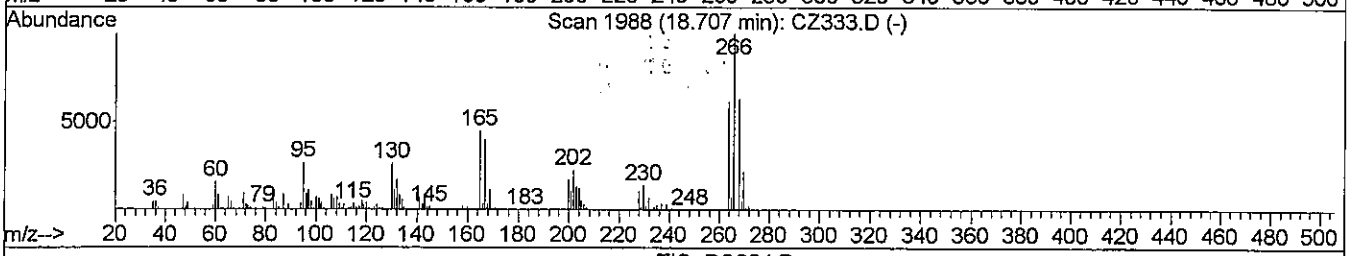
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\111109\DC324.D Vial: 1
Acq On : 11 Nov 2009 10:28 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 10:52 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 09:15:25 2009
Response via : Single Level Calibration







TIC: DC324.D

(5) Pentachlorophenol (TCM)

14.31min 10.30ppb

response 695159

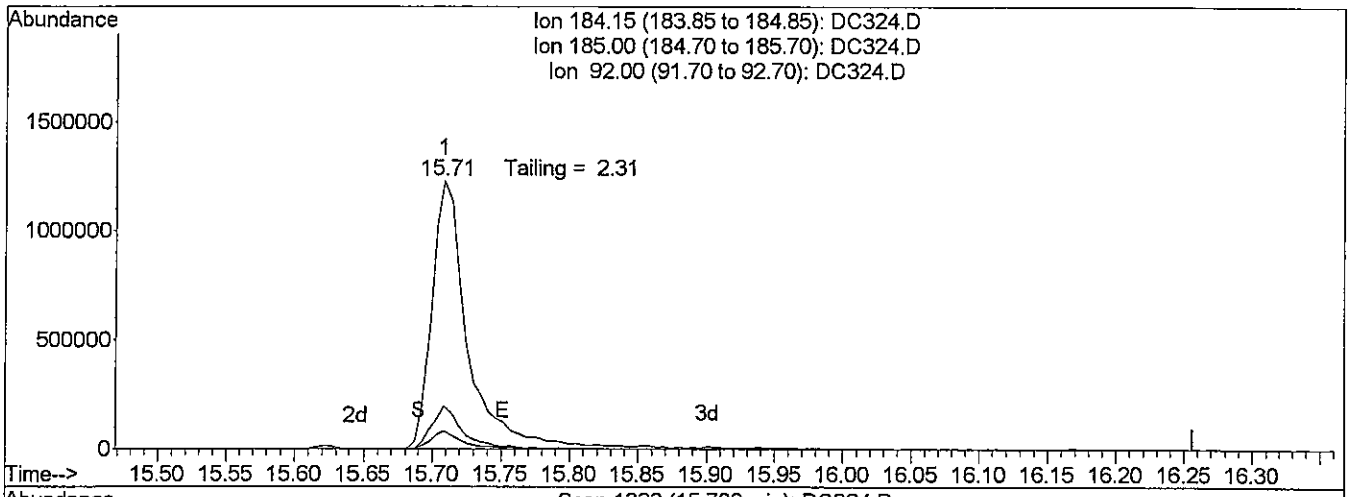
Ion	Exp%	Act%
265.70	100	100
263.80	63.60	64.82
267.70	63.60	66.62
0.00	0.00	0.00

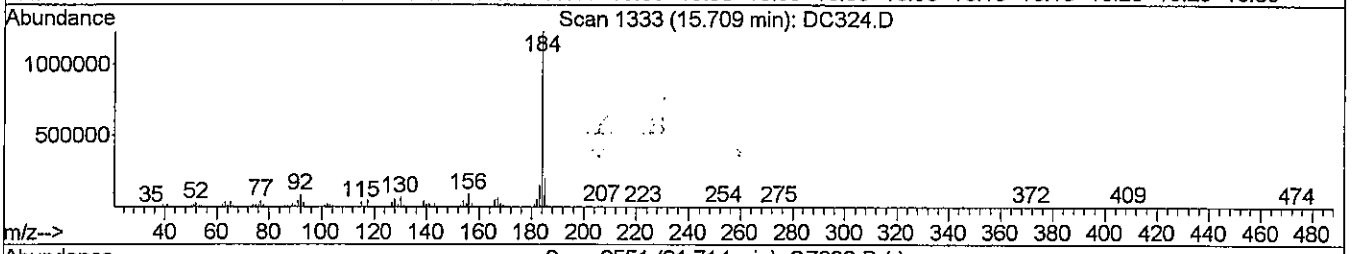
DC324.D DFTPPLVI.M Wed Nov 11 15:03:11 2009

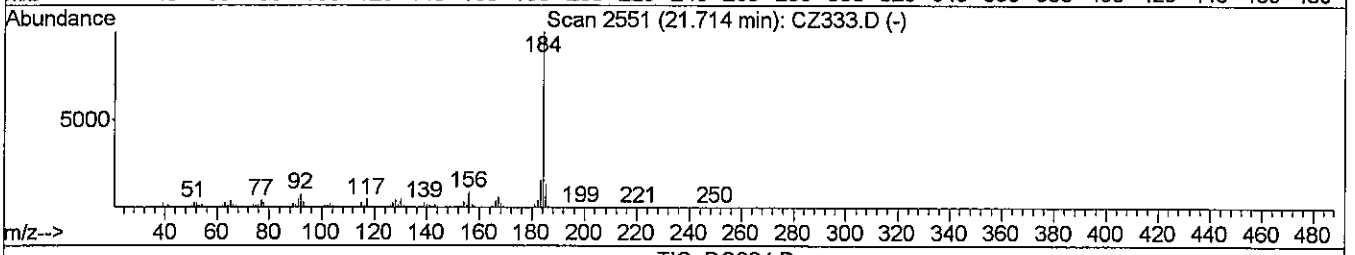
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\111109\DC324.D Vial: 1
Acq On : 11 Nov 2009 10:28 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 15:03 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 09:15:25 2009
Response via : Single Level Calibration







TIC: DC324.D

(11) Benzidine (T)

15.71min 8.18ppb

response 2272649

Ion	Exp%	Act%
184.15	100	100
185.00	14.20	15.96
92.00	6.20	6.62
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC352.D Vial: 1
Acq On : 12 Nov 2009 10:50 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:24 2009 Quant Results File: DFTPPLVI.RES

Quant Method : J:\ACQUDATA\5...\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 09:15:25 2009
Response via : Initial Calibration
DataAcq Meth : DFTPPLVI

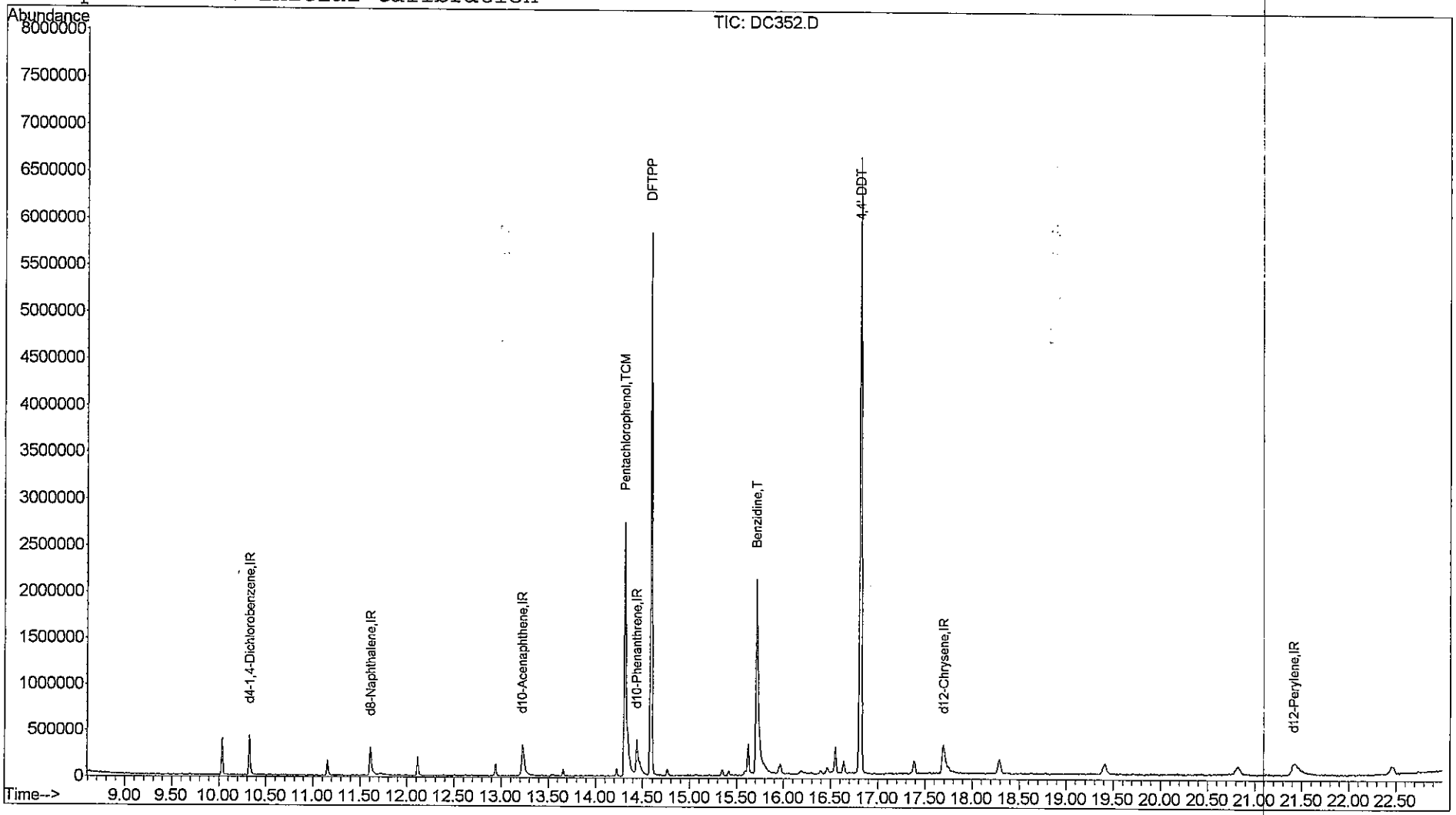
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.33	152	79493	1.00	ppb	-0.02
2) d8-Naphthalene	11.61	136	242909	1.00	ppb	-0.02
3) d10-Acenaphthene	13.23	164	185552	1.00	ppb	-0.01
4) d10-Phenanthrene	14.44	188	303692	1.00	ppb	-0.03
10) d12-Chrysene	17.70	240	337781	1.00	ppb	-0.05
12) d12-Perylene	21.41	264	251954m	1.00	ppb	-0.11
Target Compounds						Qvalue
5) Pentachlorophenol	14.31	266	494925	10.45	ppb	99
6) DFTPP	14.59	198	505425m	8.71	ppb	
9) 4,4'-DDT	16.81	235	1550788	9.60	ppb	98
11) Benzidine	15.71	184	1627083	8.48	ppb	99

(#) = qualifier out of range (m) = manual integration
DC352.D DFTPPLVI.M Thu Nov 12 14:24:32 2009

Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\111209\DC352.D Vial: 1
Acq On : 12 Nov 2009 10:50 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:24 2009 Quant Results File: DFTPPLVI.RES

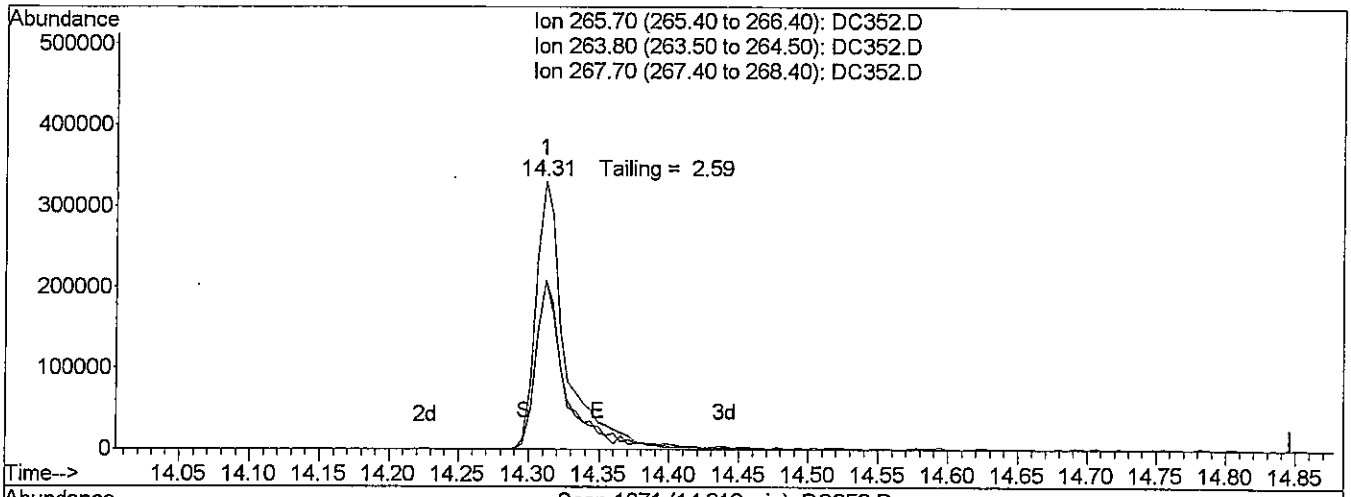
Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 09:15:25 2009
Response via : Initial Calibration

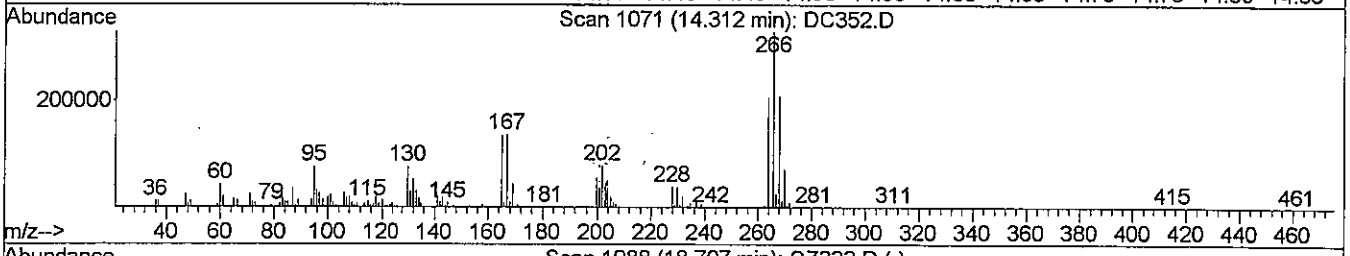


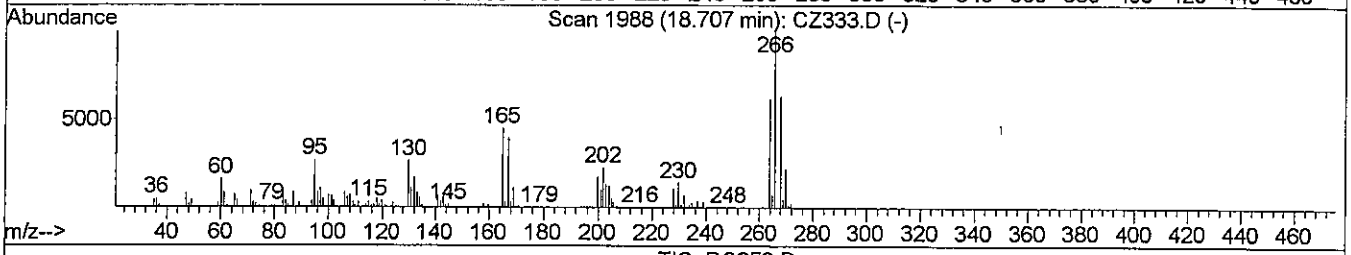
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC352.D Vial: 1
Acq On : 12 Nov 2009 10:50 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 11:14 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 09:15:25 2009
Response via : Single Level Calibration







TIC: DC352.D

(5) Pentachlorophenol (TCM)

14.31min 10.45ppb

response 494925

Ion	Exp%	Act%
265.70	100	100
263.80	63.60	62.53
267.70	63.60	62.65
0.00	0.00	0.00

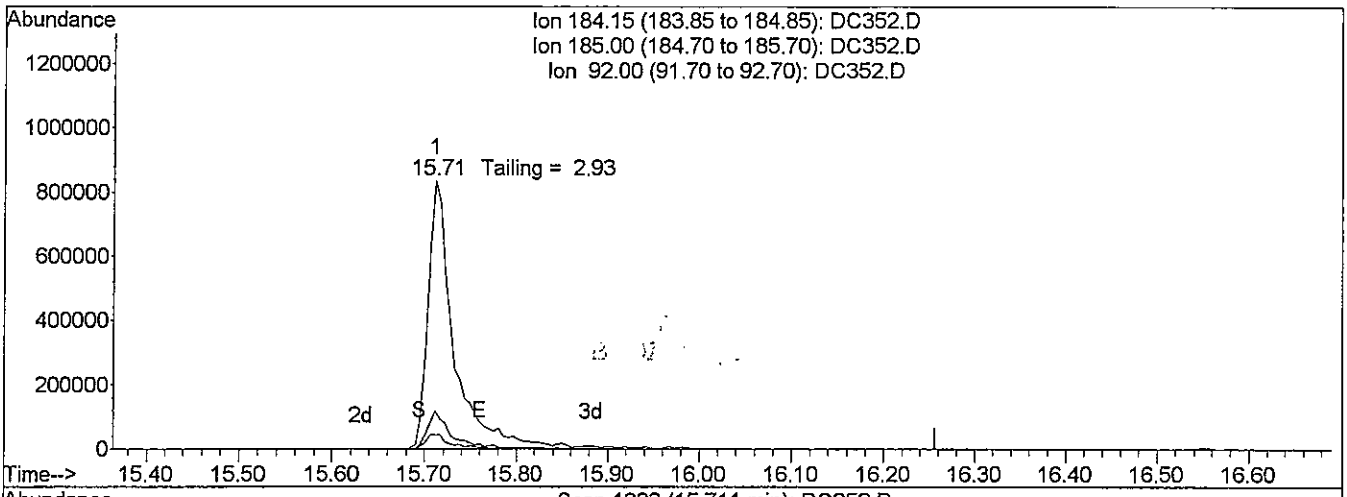
DC352.D DFTPPLVI.M Thu Nov 12 14:23:21 2009

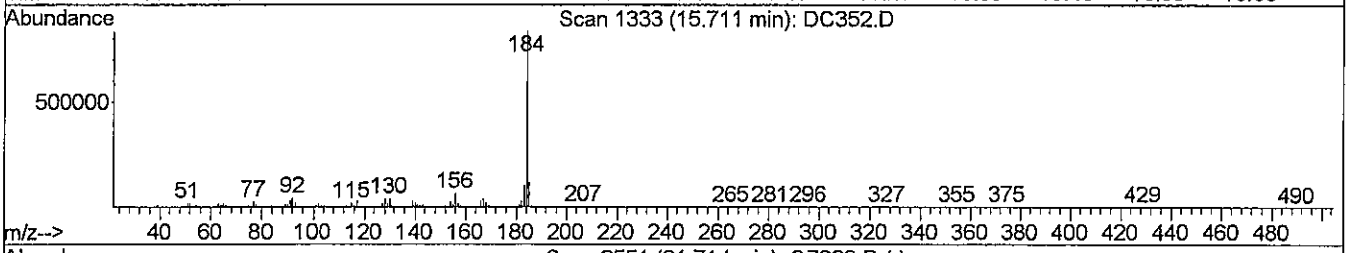
00411

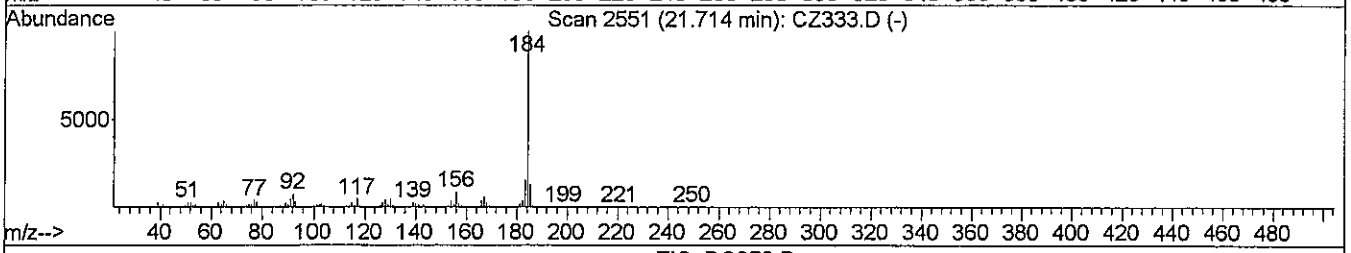
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC352.D Vial: 1
Acq On : 12 Nov 2009 10:50 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:23 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 09:15:25 2009
Response via : Single Level Calibration







TIC: DC352.D

(11) Benzidine (T)

15.71min 8.48ppb

response 1627083

Ion	Exp%	Act%
184.15	100	100
185.00	14.20	14.14
92.00	6.20	5.12
0.00	0.00	0.00

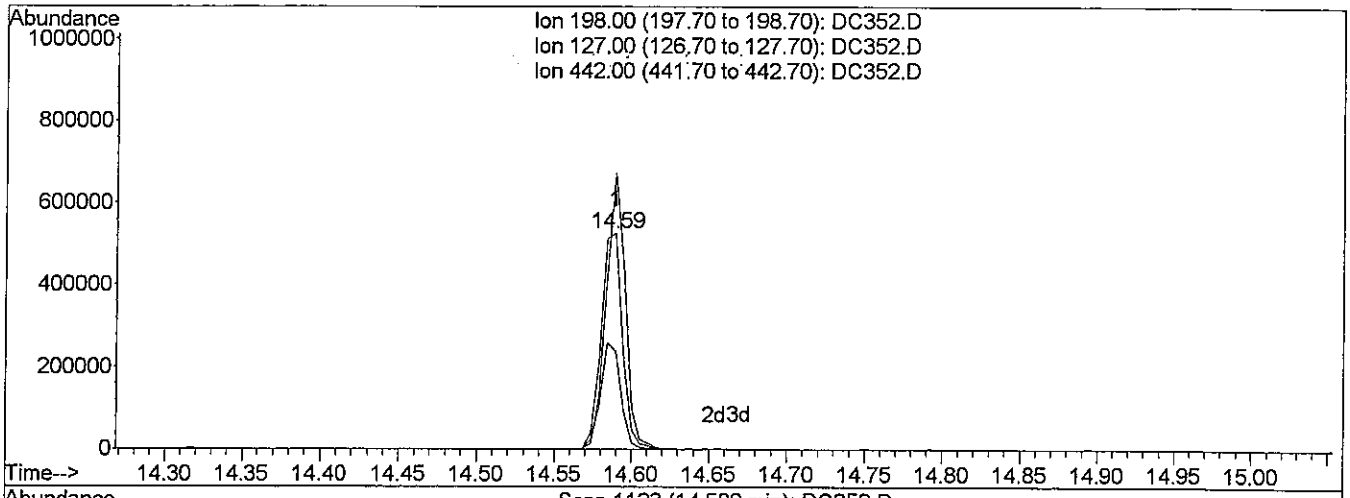
DC352.D DFTPPLVI.M Thu Nov 12 14:23:56 2009

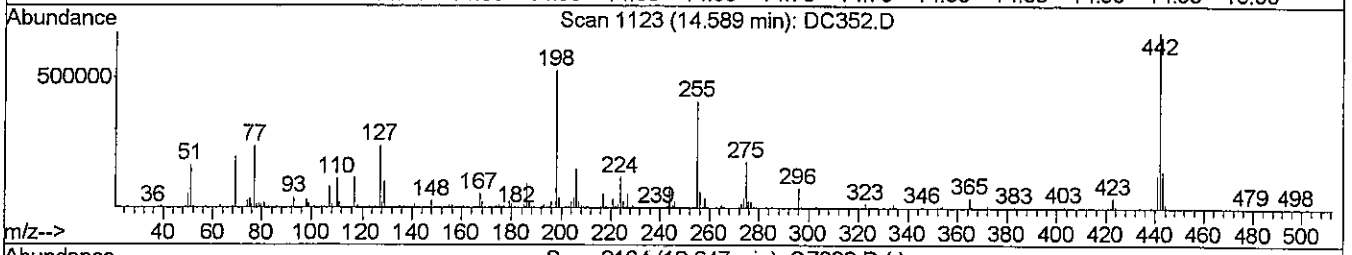
00442

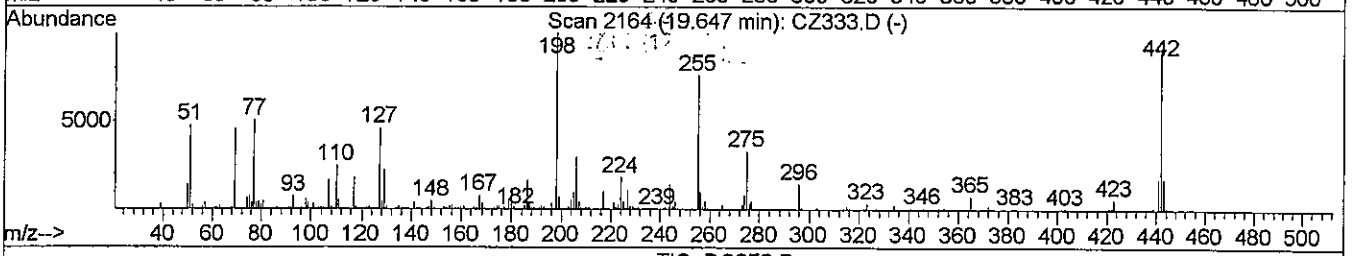
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC352.D Vial: 1
Acq On : 12 Nov 2009 10:50 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 11:14 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 09:15:25 2009
Response via : Single Level Calibration







TIC: DC352.D

(6) DFTPP

14.59min 8.73ppb

response 506554

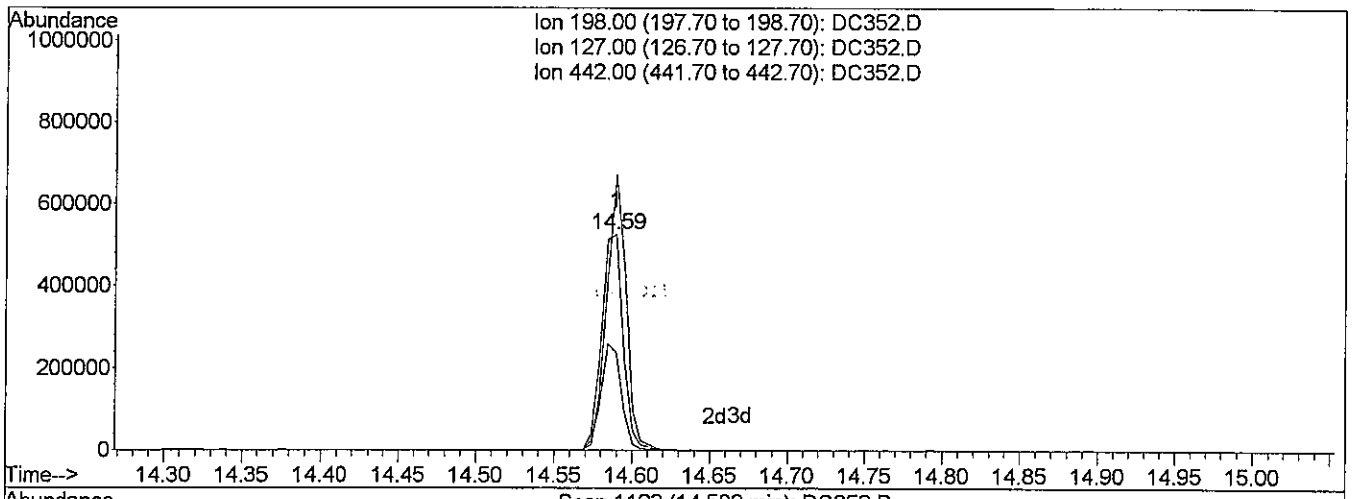
Ion	Exp%	Act%
198.00	100	100
127.00	47.70	45.37
442.00	89.20	127.78#
0.00	0.00	0.00

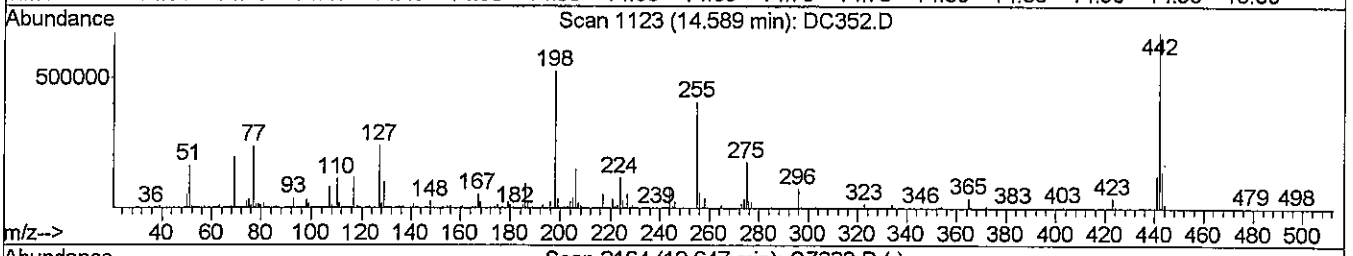
DC352.D DFTPPLVI.M Thu Nov 12 14:23:29 2009

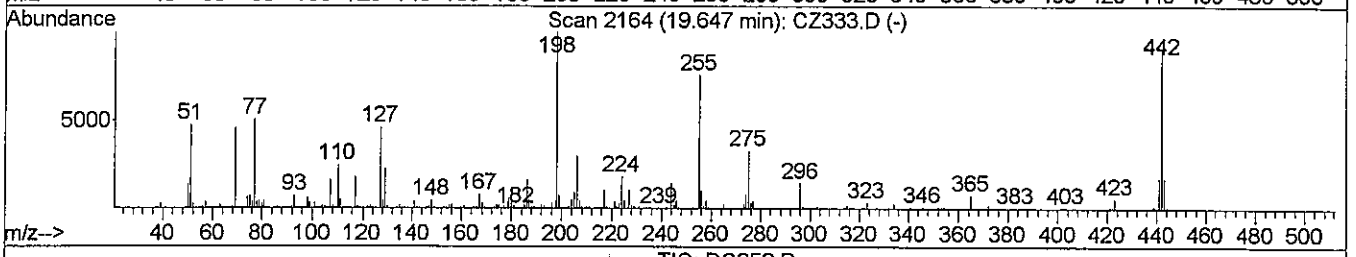
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC352.D Vial: 1
Acq On : 12 Nov 2009 10:50 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:23 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 09:15:25 2009
Response via : Single Level Calibration







TIC: DC352.D

(6) DFTPP

14.59min 8.71ppb m

response 505425

Ion	Exp%	Act%
198.00	100	100
127.00	47.70	45.37
442.00	89.20	127.90#
0.00	0.00	0.00

ACJ 11/12/09

MP 11/13

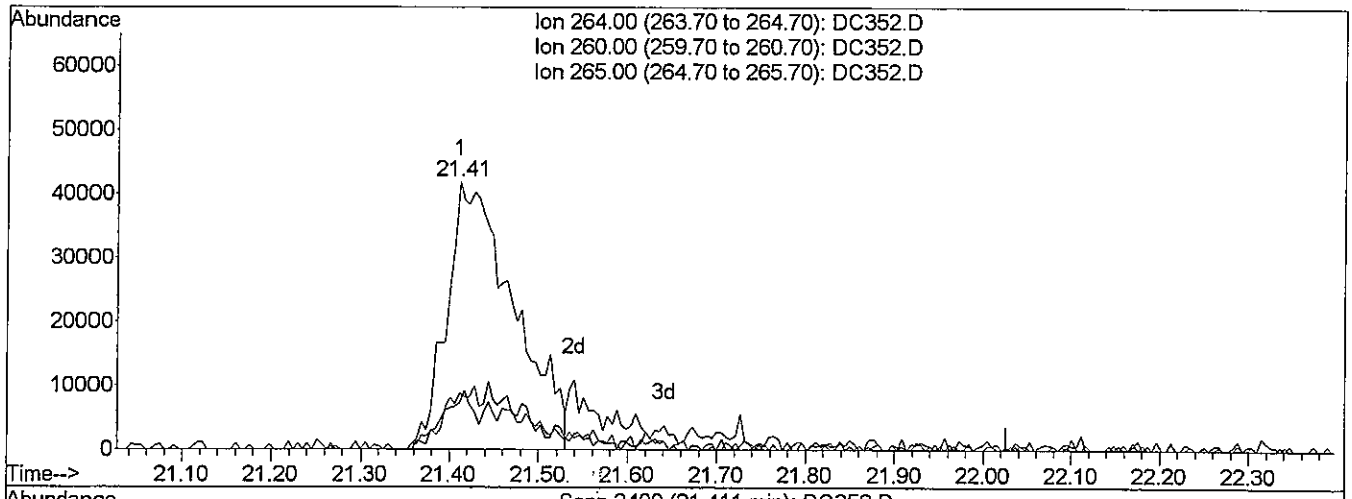
DC352.D DFTPPLVI.M Thu Nov 12 14:23:34 2009

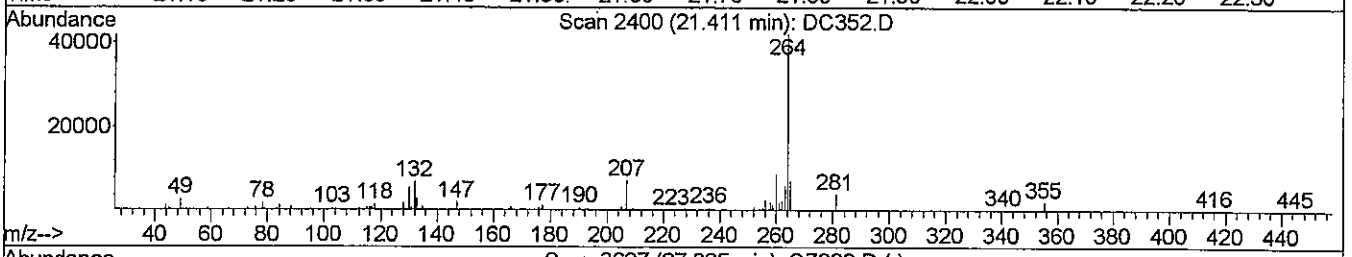
00444

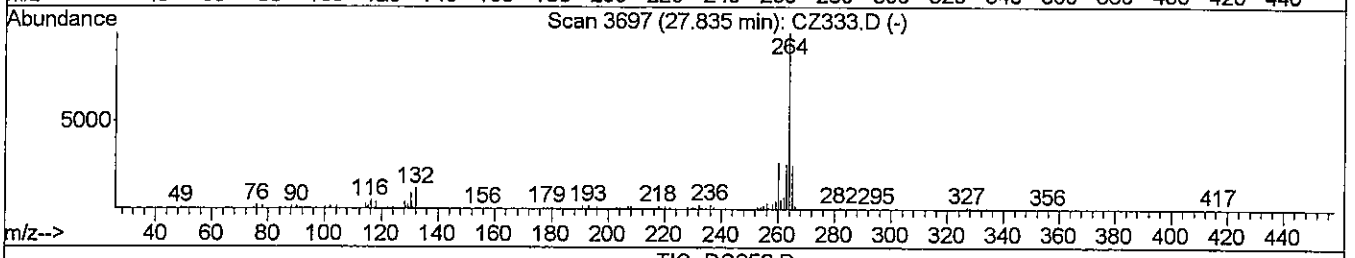
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC352.D Vial: 1
Acq On : 12 Nov 2009 10:50 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:23 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 09:15:25 2009
Response via : Single Level Calibration







TIC: DC352.D

(12) d12-Perylene (IR)

21.41min 1.00ppb

response 216249

Ion	Exp%	Act%
264.00	100	100
260.00	23.00	19.99
265.00	16.90	16.75
0.00	0.00	0.00

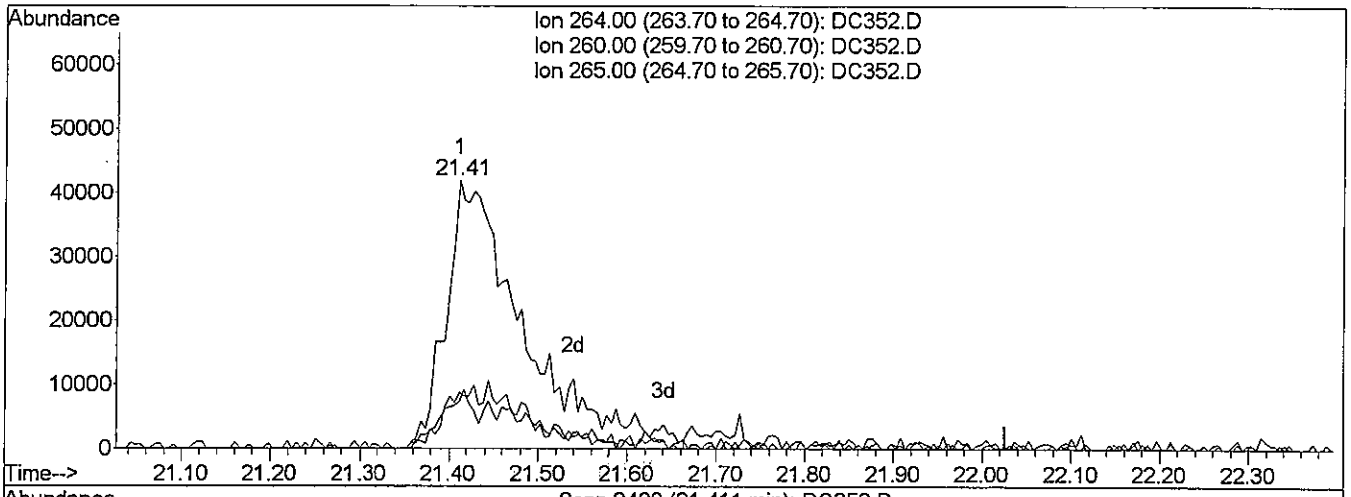
DC352.D DFTPPLVI.M Thu Nov 12 14:24:04 2009

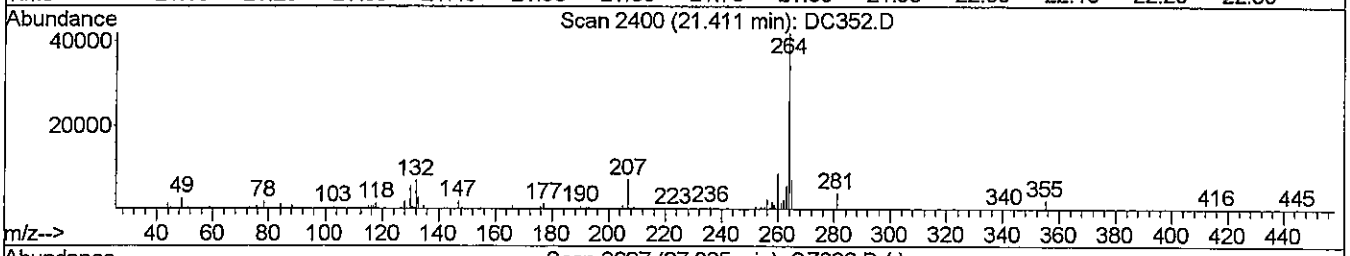
00445

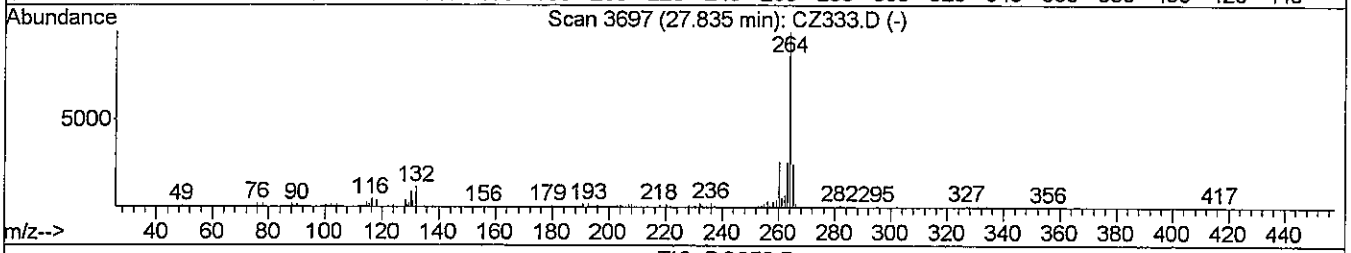
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC352.D Vial: 1
Acq On : 12 Nov 2009 10:50 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:24 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 09:15:25 2009
Response via : Single Level Calibration







TIC: DC352.D

(12) d12-Perylene (IR)

21.41min 1.00ppb m

response 251954

Ion	Exp%	Act%
264.00	100	100
260.00	23.00	20.88
265.00	16.90	17.43
0.00	0.00	0.00

A JW 11/12/09

MP 11/13

DC352.D DFTPPLVI.M Thu Nov 12 14:24:12 2009

00446

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973C\DATA\111109\AW048.D Vial: 1
Acq On : 11 Nov 2009 9:39 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973C
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Multiple Level Calibration

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	IR	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	118	-0.02
2	T	1,4-Dioxane	0.856	1.092	-27.6#	152	-0.04
3		Pyridine	1.608	1.857	-15.5	132	-0.04
4	IR	d8-Naphthalene	1.000	1.000	0.0	118	-0.02
5	S	SURR4,NITROBENZENE-D5	0.385	0.475	-23.4#	138	-0.02
6	T	Nitrobenzene	0.406	0.482	-18.7	135	-0.02
7	T	Naphthalene	1.096	1.135	-3.6	116	-0.02
8	T	2-Methylnaphthalene	0.667	0.682	-2.2	117	-0.02
9	T	1-Methylnaphthalene	0.659	0.655	0.6	112	-0.02
10	IR	d10-Acenaphthene	1.000	1.000	0.0	116	-0.02
11	S	SURR5,2-FLUOROBIPHENYL	1.307	1.301	0.5	112	-0.02
12	T	Acenaphthylene	1.898	1.938	-2.1	114	-0.02
13		Dimethyl phthalate	1.317	1.364	-3.6	122	-0.02
14	T	Acenaphthene	1.182	1.191	-0.8	115	-0.02
15	T	Dibenzofuran	1.509	1.582	-4.8	118	-0.02
16	T	Fluorene	1.137	1.199	-5.5	120	-0.02
17		Diethylphthalate	1.242	1.246	-0.3	123	-0.02
18	IR	d10-Phenanthrene	1.000	1.000	0.0	127	-0.02
19	T	Hexachlorobenzene	0.264	0.212	19.7	101	-0.02
20	T	Phenanthrene	1.167	1.136	2.7	120	-0.02
21	T	Anthracene	1.112	1.155	-3.9	124	-0.02
22	T	Carbazole	0.974	0.828	15.0	102	-0.02
23		Octachlorostyrene	0.050	0.043#	14.0	103	-0.03
24		Di-n-butylphthalate	1.825	1.639	10.2	104	-0.02
25	T	Fluoranthene	1.228	1.242	-1.1	123	-0.02
26	IR	d12-Chrysene	1.000	1.000	0.0	114	-0.03
27	T	Pyrene	1.017	1.095	-7.7	123	-0.02
28	S	SURR6,TERPHENYL-D14	0.691	0.715	-3.5	116	-0.03
29		Butyl benzyl phthalate	0.725	0.829	-14.3	131	-0.03
30	T	bis(2-Ethylhexyl)phthalate	0.944	1.107	-17.3	128	-0.03
31	T	Benzo(a)anthracene	1.124	1.131	-0.6	112	-0.03
32	T	Chrysene	1.123	1.129	-0.5	112	-0.03
33	IR	d12-Perylene	1.000	1.000	0.0	113	-0.05
34		Di-n-octyl phthalate	1.935	2.293	-18.5	139	-0.04
35	T	Benzo(b)Fluoranthene	1.470	1.502	-2.2	112	-0.04
36	T	Benzo(k)fluoranthene	1.429	1.436	-0.5	108	-0.05

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973C\DATA\111109\AW048.D Vial: 1
Acq On : 11 Nov 2009 9:39 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973C
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Multiple Level Calibration

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)
37	T	Benzo(a)pyrene	1.282	1.309	-2.1	111	-0.05
38	T	Indeno(1,2,3-cd)Pyrene	1.466	1.494	-1.9	111	-0.06
39	T	Dibenz(a,h)anthracene	1.169	1.239	-6.0	111	-0.05
40	T	Benzo(g,h,i)perylene	1.263	1.285	-1.7	109	-0.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0

00448

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973C\DATA\111109\AW048.D Vial: 1
Acq On : 11 Nov 2009 9:39 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973C
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Multiple Level Calibration

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	IR	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	118	-0.02
2	T	1,4-Dioxane	4.000	5.102	-27.6#	152	-0.04
3		Pyridine	2.000	2.309	-15.5	132	-0.04
4	IR	d8-Naphthalene	1.000	1.000	0.0	118	-0.02
5	S	SURR4,NITROBENZENE-D5	2.000	2.472	-23.6#	138	-0.02
6	T	Nitrobenzene	2.000	2.375	-18.8	135	-0.02
7	T	Naphthalene	2.000	2.071	-3.6	116	-0.02
8	T	2-Methylnaphthalene	2.000	2.044	-2.2	117	-0.02
9	T	1-Methylnaphthalene	2.000	1.989	0.5	112	-0.02
10	IR	d10-Acenaphthene	1.000	1.000	0.0	116	-0.02
11	S	SURR5,2-FLUOROBIPHENYL	2.000	1.990	0.5	112	-0.02
12	T	Acenaphthylene	2.000	2.042	-2.1	114	-0.02
13		Dimethyl phthalate	2.000	2.072	-3.6	122	-0.02
14	T	Acenaphthene	2.000	2.015	-0.8	115	-0.02
15	T	Dibenzofuran	2.000	2.097	-4.8	118	-0.02
16	T	Fluorene	2.000	2.110	-5.5	120	-0.02
17		Diethylphthalate	2.000	2.007	-0.4	123	-0.02
18	IR	d10-Phenanthrene	1.000	1.000	0.0	127	-0.02
19	T	Hexachlorobenzene	2.000	1.610	19.5	101	-0.02
20	T	Phenanthrene	2.000	1.947	2.6	120	-0.02
21	T	Anthracene	2.000	2.078	-3.9	124	-0.02
22	T	Carbazole	2.000	1.701	14.9	102	-0.02
23		Octachlorostyrene	2.000	1.664	16.8	103	-0.03
24		Di-n-butylphthalate	2.000	1.796	10.2	104	-0.02
25	T	Fluoranthene	2.000	2.023	-1.2	123	-0.02
26	IR	d12-Chrysene	1.000	1.000	0.0	114	-0.03
27	T	Pyrene	2.000	2.152	-7.6	123	-0.02
28	S	SURR6,TERPHENYL-D14	2.000	2.069	-3.4	116	-0.03
29		Butyl benzyl phthalate	2.000	2.285	-14.3	131	-0.03
30	T	bis(2-Ethylhexyl)phthalate	4.000	4.689	-17.2	128	-0.03
31	T	Benzo(a)anthracene	2.000	2.012	-0.6	112	-0.03
32	T	Chrysene	2.000	2.010	-0.5	112	-0.03
33	IR	d12-Perylene	1.000	1.000	0.0	113	-0.05
34		Di-n-octyl phthalate	2.000	2.400	-20.0	139	-0.04
35	T	Benzo(b)Fluoranthene	2.000	2.044	-2.2	112	-0.04
36	T	Benzo(k)fluoranthene	2.000	2.009	-0.4	108	-0.05

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973C\DATA\111109\AW048.D Vial: 1
Acq On : 11 Nov 2009 9:39 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973C
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Multiple Level Calibration

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)
37	T	Benzo(a)pyrene	2.000	2.043	-2.2	111	-0.05
38	T	Indeno(1,2,3-cd)Pyrene	2.000	2.039	-2.0	111	-0.06
39	T	Dibenz(a,h)anthracene	2.000	2.119	-6.0	111	-0.05
40	T	Benzo(g,h,i)perylene	2.000	2.035	-1.8	109	-0.05

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW048.D Vial: 1
Acq On : 11 Nov 2009 9:39 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973C
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 10:06:05 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.68	152	118549	1.00	ppm	-0.02
4) d8-Naphthalene	11.94	136	449815	1.00	ppm	-0.02
10) d10-Acenaphthene	13.53	164	248855	1.00	ppm	-0.02
18) d10-Phenanthrene	14.73	188	325995	1.00	ppm	-0.02
26) d12-Chrysene	17.93	240	393189	1.00	ppm	-0.03
33) d12-Perylene	21.46	264	302262	1.00	ppm	-0.05
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.26	82	427764	2.47	ppm	-0.02
Spiked Amount 2.000	Range 22 - 124		Recovery = 123.50%			
11) SURR5,2-FLUOROBIPHENYL	12.90	172	647372	1.99	ppm	-0.02
Spiked Amount 2.000	Range 27 - 114		Recovery = 99.50%			
28) SURR6,TERPHENYL-D14	16.31	244	562066	2.07	ppm	-0.03
Spiked Amount 2.000	Range 23 - 139		Recovery = 103.50%			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.22	88	517697	5.10	ppm	99
3) Pyridine	6.94	79	440201	2.31	ppm	90
6) Nitrobenzene	11.28	77	433354	2.38	ppm	95
7) Naphthalene	11.96	128	1021474	2.07	ppm	99
8) 2-Methylnaphthalene	12.58	142	613116	2.04	ppm	95
9) 1-Methylnaphthalene	12.68	142	589583	1.99	ppm	97
12) Acenaphthylene	13.41	152	964798	2.04	ppm	100
13) Dimethyl phthalate	13.27	163	678956	2.07	ppm	99
14) Acenaphthene	13.57	153	592576	2.01	ppm	99
15) Dibenzofuran	13.70	168	787309	2.10	ppm	96
16) Fluorene	13.99	166	596961	2.11	ppm	98
17) Diethylphthalate	13.86	149	620223	2.01	ppm	97
19) Hexachlorobenzene	14.47	284	138516	1.61	ppm	91
20) Phenanthrene	14.75	178	740956	1.95	ppm	99
21) Anthracene	14.79	178	752899	2.08	ppm	99
22) Carbazole	14.91	167	540058	1.70	ppm	100
23) Octachlorostyrene	15.73	380	27811	1.66	ppm	98
24) Di-n-butylphthalate	15.16	149	1068343	1.80	ppm	99
25) Fluoranthene	15.93	202	809541	2.02	ppm	99
27) Pyrene	16.20	202	860697	2.15	ppm	97
29) Butyl benzyl phthalate	16.95	149	651758	2.29	ppm	100
30) bis(2-Ethylhexyl)phthalate	17.84	149	1740331	4.69	ppm	99
31) Benzo(a)anthracene	17.90	228	889527	2.01	ppm	96
32) Chrysene	17.98	228	887679	2.01	ppm	97
34) Di-n-octyl phthalate	19.11	149	1385911	2.40	ppm	97
35) Benzo(b)Fluoranthene	20.32	252	908258	2.04	ppm	97

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW048.D Vial: 1
Acq On : 11 Nov 2009 9:39 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973C
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 10:06:05 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

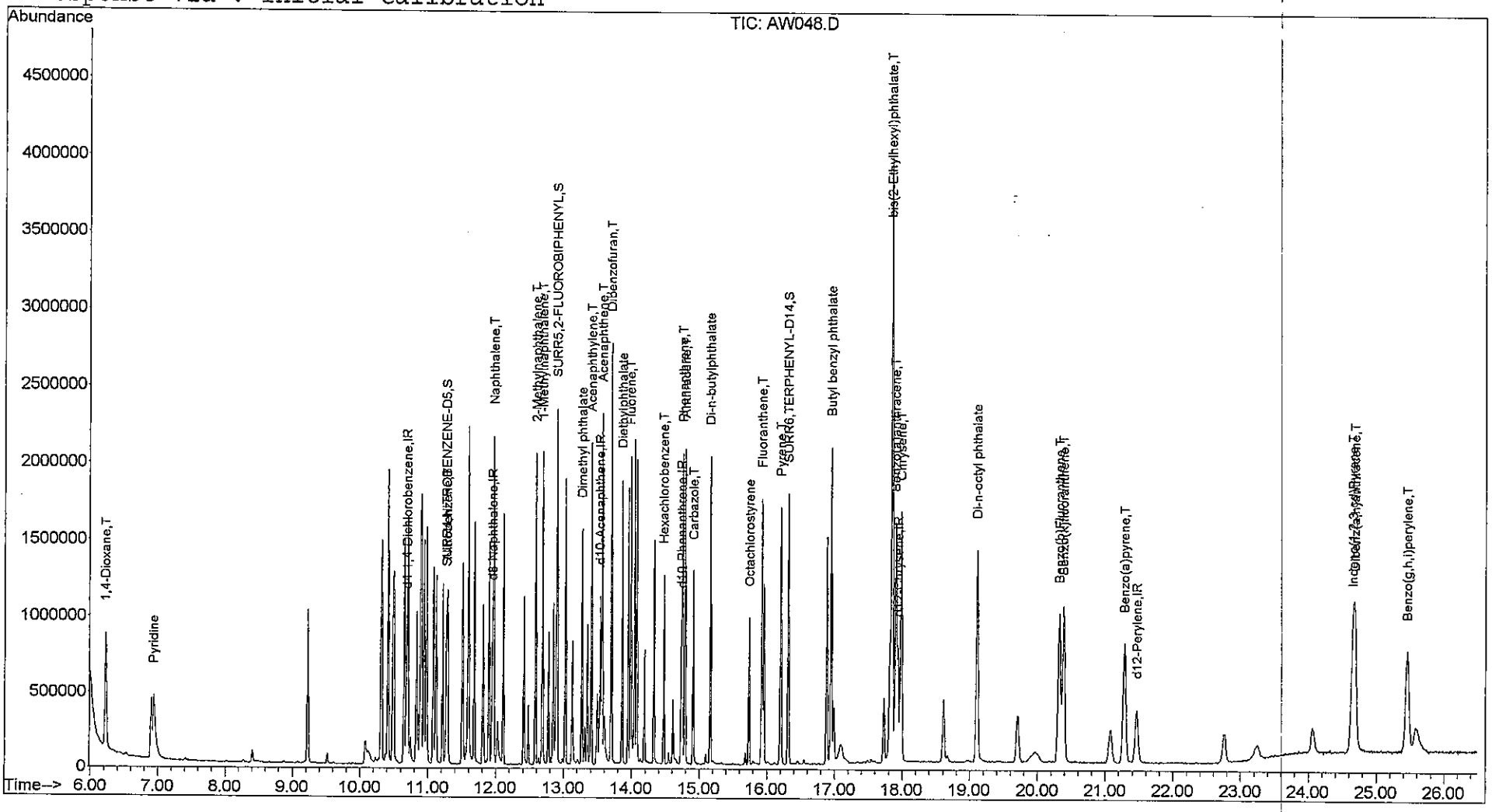
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
36)	Benzo(k)fluoranthene	20.38	252	867824	2.01	ppm	95
37)	Benzo(a)pyrene	21.28	252	791541	2.04	ppm	97
38)	Indeno(1,2,3-cd)Pyrene	24.65	276	903248	2.04	ppm	92
39)	Dibenz(a,h)anthracene	24.68	278	748779	2.12	ppm	99
40)	Benzo(g,h,i)perylene	25.45	276	776748	2.04	ppm	96

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW048.D Vial: 1
Acq On : 11 Nov 2009 9:39 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973C
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 10:06 2009 Quant Results File: LVI1027.RES

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\111109\DC325.D Vial: 1
Acq On : 11 Nov 2009 11:06 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
~~Last Update : Mon Oct 19 08:41:26 2009~~
Response via : Multiple Level Calibration #2, 5 L.R.

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	IR	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	98	-0.02
2	TM	1,4-Dioxane	0.790	0.793	-0.4	95	-0.03
3	TM	Pyridine	1.151	1.137	1.2	89	-0.04
4	IR	d8-Naphthalene	1.000	1.000	0.0	97	-0.03
5	S	SURR4,NITROBENZENE-D5	0.325	0.365	-12.3	99	-0.03
6	TM	Nitrobenzene	0.322	0.358	-11.2	100	-0.03
7	TM	Naphthalene	1.044	1.050	-0.6	94	-0.03
8	TM	2-Methylnaphthalene	0.682	0.733	-7.5	96	-0.03
9	TM	1-Methylnaphthalene	0.661	0.685	-3.6	97	-0.03
10	IR	d10-Acenaphthene	1.000	1.000	0.0	99	-0.03
11	S	SURR5,2-FLUOROBIPHENYL	1.279	1.371	-7.2	101	-0.03
12	TM	Acenaphthylene	1.783	1.757	1.5	92	-0.03
13	TM	Dimethyl phthalate	1.497	1.480	1.1	94	-0.03
14	TM	Acenaphthene	1.159	1.137	1.9	96	-0.04
15	TM	Dibenzofuran	1.629	1.709	-4.9	98	-0.04
16	TM	Fluorene	1.286	1.297	-0.9	96	-0.03
17	TM	Diethylphthalate	1.459	1.462	-0.2	95	-0.03
18	IR	d10-Phenanthrene	1.000	1.000	0.0	98	-0.03
19	TM	Hexachlorobenzene	0.265	0.261	1.5	95	-0.03
20	TM	Phenanthrene	1.105	1.107	-0.2	97	-0.04
21	TM	Anthracene	1.079	1.146	-6.2	101	-0.04
22	TM	Carbazole	0.780	0.885	-13.5	101	-0.04
23	TM	Octachlorostyrene	0.068	0.080	-17.6	133	-0.05
24	TM	Di-n-butylphthalate	1.394	1.481	-6.2	101	-0.04
25	TM	Fluoranthene	1.265	1.310	-3.6	99	-0.05
26	IR	d12-Chrysene	1.000	1.000	0.0	108	-0.07
27	TM	Pyrene	1.254	1.207	3.7	101	-0.05
28	S	SURR6,TERPHENYL-D14	0.824	0.854	-3.6	105	-0.05
29	TM	Butyl benzyl phthalate	0.610	0.633	-3.8	109	-0.06
30	TM	bis(2-Ethylhexyl)phthalate	0.787	0.795	-1.0	105	-0.07
31	TM	Benzo(a)anthracene	1.089	1.099	-0.9	106	-0.07
32	TM	Chrysene	1.114	1.077	3.3	101	-0.07
33	IR	d12-Perylene	1.000	1.000	0.0	108	-0.14
34	TM	Di-n-octyl phthalate	1.670	1.701	-1.9	108	-0.09
35	TM	Benzo(b)Fluoranthene	1.419	1.401	1.3	102	-0.11
36	TM	Benzo(k)fluoranthene	1.371	1.521	-10.9	114	-0.12

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\111109\DC325.D Vial: 1
Acq On : 11 Nov 2009 11:06 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration

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)
37	TM	Benzo(a)pyrene	1.243	1.319	-6.1	109	-0.13
38	TM	Indeno(1,2,3-cd)Pyrene	1.505	1.621	-7.7	109	-0.14
39	TM	Dibenz(a,h)anthracene	1.281	1.313	-2.5	106	-0.13
40	TM	Benzo(g,h,i)perylene	1.254	1.308	-4.3	104	-0.15

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\111109\DC325.D Vial: 1
Acq On : 11 Nov 2009 11:06 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration # 2, 5 L.R.

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	IR	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	98	-0.02
2	TM	1,4-Dioxane	4.000	4.121	-3.0	95	-0.03
3	TM	Pyridine	2.000	1.976	1.2	89	-0.04
4	IR	d8-Naphthalene	1.000	1.000	0.0	97	-0.03
5	S	SURR4,NITROBENZENE-D5	2.000	2.031	-1.6	99	-0.03
6	TM	Nitrobenzene	2.000	2.224	-11.2	100	-0.03
7	TM	Naphthalene	2.000	2.013	-0.6	94	-0.03
8	TM	2-Methylnaphthalene	2.000	2.151	-7.5	96	-0.03
9	TM	1-Methylnaphthalene	2.000	2.073	-3.6	97	-0.03
10	IR	d10-Acenaphthene	1.000	1.000	0.0	99	-0.03
11	S	SURR5,2-FLUOROBIPHENYL	2.000	2.143	-7.1	101	-0.03
12	TM	Acenaphthylene	2.000	1.971	1.4	92	-0.03
13	TM	Dimethyl phthalate	2.000	1.977	1.1	94	-0.03
14	TM	Acenaphthene	2.000	1.961	1.9	96	-0.04
15	TM	Dibenzofuran	2.000	2.098	-4.9	98	-0.04
16	TM	Fluorene	2.000	2.017	-0.8	96	-0.03
17	TM	Diethylphthalate	2.000	2.003	-0.2	95	-0.03
18	IR	d10-Phenanthrene	1.000	1.000	0.0	98	-0.03
19	TM	Hexachlorobenzene	2.000	1.973	1.3	95	-0.03
20	TM	Phenanthrene	2.000	2.003	-0.2	97	-0.04
21	TM	Anthracene	2.000	2.125	-6.3	101	-0.04
22	TM	Carbazole	2.000	2.268	-13.4	101	-0.04
23	TM	Octachlorostyrene	2.000	2.359	-17.9	133	-0.05
24	TM	Di-n-butylphthalate	2.000	2.126	-6.3	101	-0.04
25	TM	Fluoranthene	2.000	2.071	-3.6	99	-0.05
26	IR	d12-Chrysene	1.000	1.000	0.0	108	-0.07
27	TM	Pyrene	2.000	1.925	3.7	101	-0.05
28	S	SURR6,TERPHENYL-D14	2.000	2.072	-3.6	105	-0.05
29	TM	Butyl benzyl phthalate	2.000	2.077	-3.8	109	-0.06
30	TM	bis(2-Ethylhexyl)phthalate	4.000	4.039	-1.0	105	-0.07
31	TM	Benzo(a)anthracene	2.000	2.018	-0.9	106	-0.07
32	TM	Chrysene	2.000	1.934	3.3	101	-0.07
33	IR	d12-Perylene	1.000	1.000	0.0	108	-0.14
34	TM	Di-n-octyl phthalate	2.000	2.037	-1.8	108	-0.09
35	TM	Benzo(b)Fluoranthene	2.000	1.974	1.3	102	-0.11
36	TM	Benzo(k)fluoranthene	2.000	2.220	-11.0	114	-0.12

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\111109\DC325.D Vial: 1
Acq On : 11 Nov 2009 11:06 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Multiple Level Calibration

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)
37	TM	Benzo(a)pyrene	2.000	2.123	-6.2	109	-0.13
38	TM	Indeno(1,2,3-cd)Pyrene	2.000	2.155	-7.7	109	-0.14
39	TM	Dibenz(a,h)anthracene	2.000	2.049	-2.4	106	-0.13
40	TM	Benzo(g,h,i)perylene	2.000	2.086	-4.3	104	-0.15

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\111109\DC325.D Vial: 1
Acq On : 11 Nov 2009 11:06 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 11:34 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.63	152	85722	1.00	ppm	-0.02
4) d8-Naphthalene	11.90	136	323725	1.00	ppm	-0.03
10) d10-Acenaphthene	13.49	164	209422	1.00	ppm	-0.03
18) d10-Phenanthrene	14.70	188	343404	1.00	ppm	-0.03
26) d12-Chrysene	17.96	240	392771	1.00	ppm	-0.07
33) d12-Perylene	21.68	264	303784	1.00	ppm	-0.14
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.22	82	236371	2.03	ppm	-0.03
Spiked Amount 2.000	Range 22 - 124		Recovery = 101.50%			
11) SURR5,2-FLUOROBIPHENYL	12.85	172	574249	2.14	ppm	-0.03
Spiked Amount 2.000	Range 27 - 114		Recovery = 107.00%			
28) SURR6,TERPHENYL-D14	16.29	244	670937	2.07	ppm	-0.05
Spiked Amount 2.000	Range 23 - 139		Recovery = 103.50%			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.05	88	272040	4.12	ppm	94
3) Pyridine	6.81	79	194979	1.98	ppm	87
6) Nitrobenzene	11.23	77	231622	2.22	ppm	94
7) Naphthalene	11.92	128	680011	2.01	ppm	96
8) 2-Methylnaphthalene	12.54	142	474809	2.15	ppm	92
9) 1-Methylnaphthalene	12.64	142	443361	2.07	ppm	94
12) Acenaphthylene	13.36	152	736094	1.97	ppm	98
13) Dimethyl phthalate	13.21	163	619702	1.98	ppm	97
14) Acenaphthene	13.51	153	476164	1.96	ppm	99
15) Dibenzofuran	13.65	168	715947	2.10	ppm	98
16) Fluorene	13.95	166	543415	2.02	ppm	99
17) Diethylphthalate	13.80	149	612145	2.00	ppm	97
19) Hexachlorobenzene	14.44	284	179540	1.97	ppm	86
20) Phenanthrene	14.72	178	760299	2.00	ppm	96
21) Anthracene	14.76	178	787386	2.13	ppm	96
22) Carbazole	14.88	167	607511	2.27	ppm	99
23) Octachlorostyrene	15.70	378	54976	2.36	ppm	96
24) Di-n-butylphthalate	15.11	149	1017495	2.13	ppm	99
25) Fluoranthene	15.91	202	899511	2.07	ppm	99
27) Pyrene	16.20	202	948359	1.93	ppm	100
29) Butyl benzyl phthalate	16.91	149	497377	2.08	ppm	97
30) bis(2-Ethylhexyl)phthalate	17.82	149	1248255	4.04	ppm	95
31) Benzo(a)anthracene	17.93	228	862994	2.02	ppm	100
32) Chrysene	18.01	228	845884	1.93	ppm	97
34) Di-n-octyl phthalate	19.11	149	1033378	2.04	ppm	95
35) Benzo(b)Fluoranthene	20.45	252	851002	1.97	ppm	98

(#) = qualifier out of range (m) = manual integration
DC325.D LVI1016.M Wed Nov 11 15:06:50 2009 TW

00458

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\111109\DC325.D Vial: 1
Acq On : 11 Nov 2009 11:06 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 11:34 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

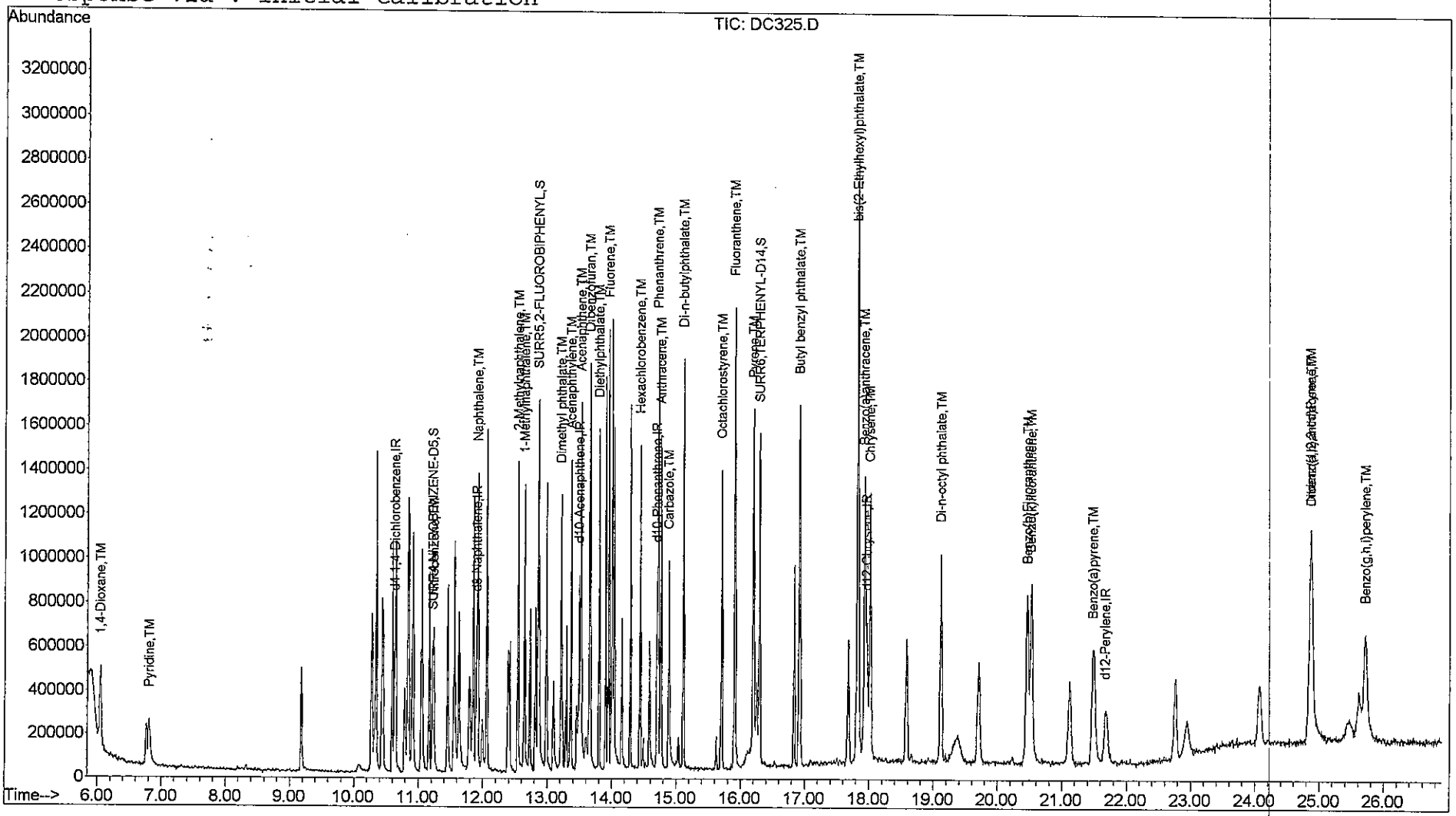
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
36)	Benzo(k)fluoranthene	20.52	252	924333	2.22	ppm	95
37)	Benzo(a)pyrene	21.48	252	801616	2.12	ppm	93
38)	Indeno(1,2,3-cd)Pyrene	24.85	276	984876	2.15	ppm	95
39)	Dibenz(a,h)anthracene	24.87	278	797537	2.05	ppm	95
40)	Benzo(g,h,i)perylene	25.71	276	794604	2.09	ppm	88

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

Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\111109\DC325.D Vial: 1
Acq On : 11 Nov 2009 11:06 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 11:34 2009 Quant Results File: LVI1016.RES

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\111209\DC354.D Vial: 1
Acq On : 12 Nov 2009 11:26 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Multiple Level Calibration

#2.5 LR.

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	IR	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	98	0.01
2	TM	1,4-Dioxane	0.790	0.769	2.7	92	0.02
3	TM	Pyridine	1.151	1.099	4.5	86	0.00
4	IR	d8-Naphthalene	1.000	1.000	0.0	101	0.00
5	S	SURR4,NITROBENZENE-D5	0.325	0.359	-10.5	101	0.00
6	TM	Nitrobenzene	0.322	0.324	-0.6	95	0.01
7	TM	Naphthalene	1.044	1.042	0.2	97	0.01
8	TM	2-Methylnaphthalene	0.682	0.716	-5.0	98	0.01
9	TM	1-Methylnaphthalene	0.661	0.681	-3.0	100	0.00
10	IR	d10-Acenaphthene	1.000	1.000	0.0	99	0.00
11	S	SURR5,2-FLUOROBIPHENYL	1.279	1.336	-4.5	99	0.00
12	TM	Acenaphthylene	1.783	1.802	-1.1	95	0.00
13	TM	Dimethyl phthalate	1.497	1.491	0.4	95	0.00
14	TM	Acenaphthene	1.159	1.132	2.3	96	0.00
15	TM	Dibenzofuran	1.629	1.666	-2.3	96	0.00
16	TM	Fluorene	1.286	1.293	-0.5	96	0.00
17	TM	Diethylphthalate	1.459	1.491	-2.2	97	0.00
18	IR	d10-Phenanthrene	1.000	1.000	0.0	97	0.00
19	TM	Hexachlorobenzene	0.265	0.263	0.8	95	0.00
20	TM	Phenanthrene	1.105	1.120	-1.4	97	0.00
21	TM	Anthracene	1.079	1.179	-9.3	103	0.00
22	TM	Carbazole	0.780	0.834	-6.9	95	0.00
23	TM	Octachlorostyrene	0.068	0.074	-8.8	122	0.00
24	TM	Di-n-butylphthalate	1.394	1.526	-9.5	103	0.00
25	TM	Fluoranthene	1.265	1.377	-8.9	104	0.00
26	IR	d12-Chrysene	1.000	1.000	0.0	106	-0.02
27	TM	Pyrene	1.254	1.229	2.0	102	0.00
28	S	SURR6,TERPHENYL-D14	0.824	0.843	-2.3	103	0.00
29	TM	Butyl benzyl phthalate	0.610	0.657	-7.7	112	-0.01
30	TM	bis(2-Ethylhexyl)phthalate	0.787	0.855	-8.6	112	-0.02
31	TM	Benzo(a)anthracene	1.089	1.137	-4.4	108	-0.02
32	TM	Chrysene	1.114	1.152	-3.4	107	-0.03
33	IR	d12-Perylene	1.000	1.000	0.0	106	-0.10
34	TM	Di-n-octyl phthalate	1.670	1.778	-6.5	111	-0.05
35	TM	Benzo(b)Fluoranthene	1.419	1.493	-5.2	107	-0.07
36	TM	Benzo(k)fluoranthene	1.371	1.489	-8.6	110	-0.07

(#) = Out of Range

00461

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\111209\DC354.D Vial: 1
Acq On : 12 Nov 2009 11:26 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Multiple Level Calibration

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)
37	TM	Benzo(a)pyrene	1.243	1.345	-8.2	110	-0.07
38	TM	Indeno(1,2,3-cd)Pyrene	1.505	1.611	-7.0	107	-0.09
39	TM	Dibenz(a,h)anthracene	1.281	1.329	-3.7	105	-0.09
40	TM	Benzo(g,h,i)perylene	1.254	1.396	-11.3	109	-0.09

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\111209\DC354.D Vial: 1
Acq On : 12 Nov 2009 11:26 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Multiple Level Calibration

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	IR	d4-1,4-Dichlorobenzene	1.000	1.000	0.0	98	0.01
2	TM	1,4-Dioxane	4.000	3.994	0.1	92	0.02
3	TM	Pyridine	2.000	1.909	4.5	86	0.00
4	IR	d8-Naphthalene	1.000	1.000	0.0	101	0.00
5	S	SURR4,NITROBENZENE-D5	2.000	1.998	0.1	101	0.00
6	TM	Nitrobenzene	2.000	2.013	-0.6	95	0.01
7	TM	Naphthalene	2.000	1.997	0.1	97	0.01
8	TM	2-Methylnaphthalene	2.000	2.099	-5.0	98	0.01
9	TM	1-Methylnaphthalene	2.000	2.062	-3.1	100	0.00
10	IR	d10-Acenaphthene	1.000	1.000	0.0	99	0.00
11	S	SURR5,2-FLUOROBIPHENYL	2.000	2.089	-4.4	99	0.00
12	TM	Acenaphthylene	2.000	2.021	-1.0	95	0.00
13	TM	Dimethyl phthalate	2.000	1.992	0.4	95	0.00
14	TM	Acenaphthene	2.000	1.952	2.4	96	0.00
15	TM	Dibenzofuran	2.000	2.045	-2.2	96	0.00
16	TM	Fluorene	2.000	2.010	-0.5	96	0.00
17	TM	Diethylphthalate	2.000	2.044	-2.2	97	0.00
18	IR	d10-Phenanthrene	1.000	1.000	0.0	97	0.00
19	TM	Hexachlorobenzene	2.000	1.983	0.8	95	0.00
20	TM	Phenanthrene	2.000	2.026	-1.3	97	0.00
21	TM	Anthracene	2.000	2.185	-9.3	103	0.00
22	TM	Carbazole	2.000	2.138	-6.9	95	0.00
23	TM	Octachlorostyrene	2.000	2.170	-8.5	122	0.00
24	TM	Di-n-butylphthalate	2.000	2.189	-9.5	103	0.00
25	TM	Fluoranthene	2.000	2.178	-8.9	104	0.00
26	IR	d12-Chrysene	1.000	1.000	0.0	106	-0.02
27	TM	Pyrene	2.000	1.960	2.0	102	0.00
28	S	SURR6,TERPHENYL-D14	2.000	2.046	-2.3	103	0.00
29	TM	Butyl benzyl phthalate	2.000	2.154	-7.7	112	-0.01
30	TM	bis(2-Ethylhexyl)phthalate	4.000	4.348	-8.7	112	-0.02
31	TM	Benzo(a)anthracene	2.000	2.089	-4.4	108	-0.02
32	TM	Chrysene	2.000	2.068	-3.4	107	-0.03
33	IR	d12-Perylene	1.000	1.000	0.0	106	-0.10
34	TM	Di-n-octyl phthalate	2.000	2.129	-6.5	111	-0.05
35	TM	Benzo(b)Fluoranthene	2.000	2.105	-5.2	107	-0.07
36	TM	Benzo(k)fluoranthene	2.000	2.173	-8.7	110	-0.07

(#) = Out of Range

00463

Evaluate Continuing Calibration Report

Data File : J:\ACQUDATA\5973B\DATA\111209\DC354.D Vial: 1
Acq On : 12 Nov 2009 11:26 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Multiple Level Calibration

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)
37	TM	Benzo(a)pyrene	2.000	2.164	-8.2	110	-0.07
38	TM	Indeno(1,2,3-cd)Pyrene	2.000	2.142	-7.1	107	-0.09
39	TM	Dibenz(a,h)anthracene	2.000	2.075	-3.8	105	-0.09
40	TM	Benzo(g,h,i)perylene	2.000	2.226	-11.3	109	-0.09

00464

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC354.D Vial: 1
Acq On : 12 Nov 2009 11:26 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:26 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.63	152	85937	1.00	ppm	0.01
4) d8-Naphthalene	11.90	136	336566	1.00	ppm	0.00
10) d10-Acenaphthene	13.49	164	210061	1.00	ppm	0.00
18) d10-Phenanthrene	14.70	188	340497	1.00	ppm	0.00
26) d12-Chrysene	17.97	240	388550	1.00	ppm	-0.02
33) d12-Perylene	21.67	264	299738	1.00	ppm	-0.10
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.21	82	241452	2.00	ppm	0.00
Spiked Amount 2.000	Range 22 - 124		Recovery = 100.00%			
11) SURR5,2-FLUOROBIPHENYL	12.85	172	561288	2.09	ppm	0.00
Spiked Amount 2.000	Range 27 - 114		Recovery = 104.50%			
28) SURR6,TERPHENYL-D14	16.29	244	655331	2.05	ppm	0.00
Spiked Amount 2.000	Range 23 - 139		Recovery = 102.50%			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.05	88	264265	3.99	ppm	98
3) Pyridine	6.81	79	188811	1.91	ppm	83
6) Nitrobenzene	11.24	77	217992	2.01	ppm	93
7) Naphthalene	11.92	128	701533	2.00	ppm	94
8) 2-Methylnaphthalene	12.54	142	481735	2.10	ppm	92
9) 1-Methylnaphthalene	12.64	142	458497	2.06	ppm	92
12) Acenaphthylene	13.36	152	757136	2.02	ppm	98
13) Dimethyl phthalate	13.21	163	626403	1.99	ppm	97
14) Acenaphthene	13.52	153	475461	1.95	ppm	95
15) Dibenzofuran	13.66	168	699776	2.04	ppm	99
16) Fluorene	13.95	166	543093	2.01	ppm	97
17) Diethylphthalate	13.80	149	626487	2.04	ppm	99
19) Hexachlorobenzene	14.44	284	178992	1.98	ppm	98
20) Phenanthrene	14.72	178	762421	2.03	ppm	95
21) Anthracene	14.76	178	802837	2.19	ppm	98
22) Carbazole	14.88	167	567869	2.14	ppm	99
23) Octachlorostyrene	15.71	378	50151	2.17	ppm	95
24) Di-n-butylphthalate	15.11	149	1038919	2.19	ppm	98
25) Fluoranthene	15.91	202	937837	2.18	ppm	96
27) Pyrene	16.20	202	954918	1.96	ppm	99
29) Butyl benzyl phthalate	16.91	149	510253	2.15	ppm	98
30) bis(2-Ethylhexyl)phthalate	17.82	149	1329159	4.35	ppm	96
31) Benzo(a)anthracene	17.93	228	883613	2.09	ppm	93
32) Chrysene	18.02	228	894831	2.07	ppm	94
34) Di-n-octyl phthalate	19.12	149	1065973	2.13	ppm	99
35) Benzo(b)Fluoranthene	20.46	252	895201	2.10	ppm	98

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC354.D Vial: 1
Acq On : 12 Nov 2009 11:26 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:26 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

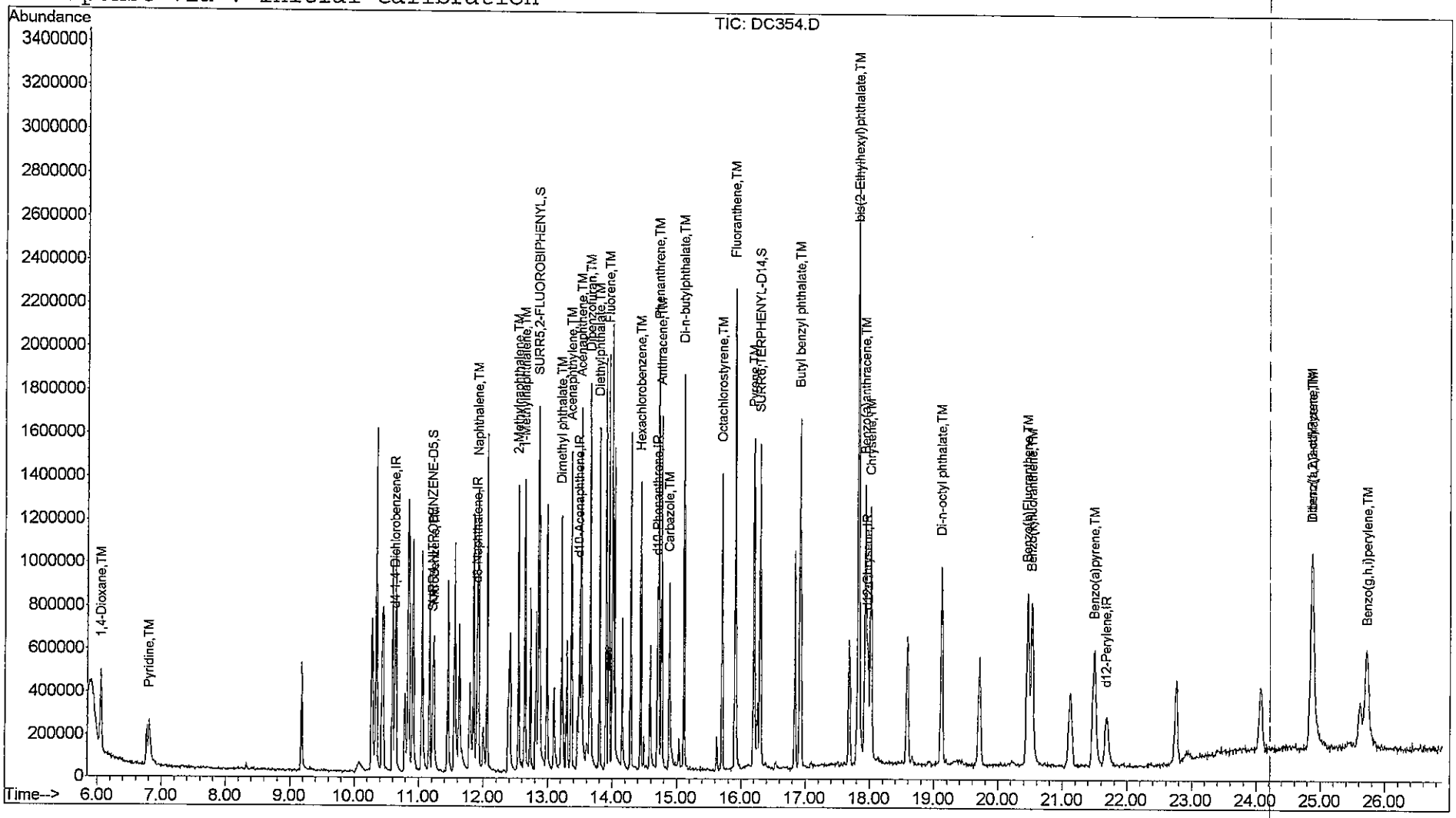
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
36) Benzo(k)fluoranthene	20.53	252	892672	2.17	ppm	91
37) Benzo(a)pyrene	21.49	252	806386	2.16	ppm	97
38) Indeno(1,2,3-cd)Pyrene	24.86	276	965880	2.14	ppm	87
39) Dibenz(a,h)anthracene	24.87	278	796659m	2.07	ppm	
40) Benzo(g,h,i)perylene	25.72	276	836592	2.23	ppm	86

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

Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\111209\DC354.D Vial: 1
Acq On : 12 Nov 2009 11:26 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:26 2009 Quant Results File: LVI1016.RES

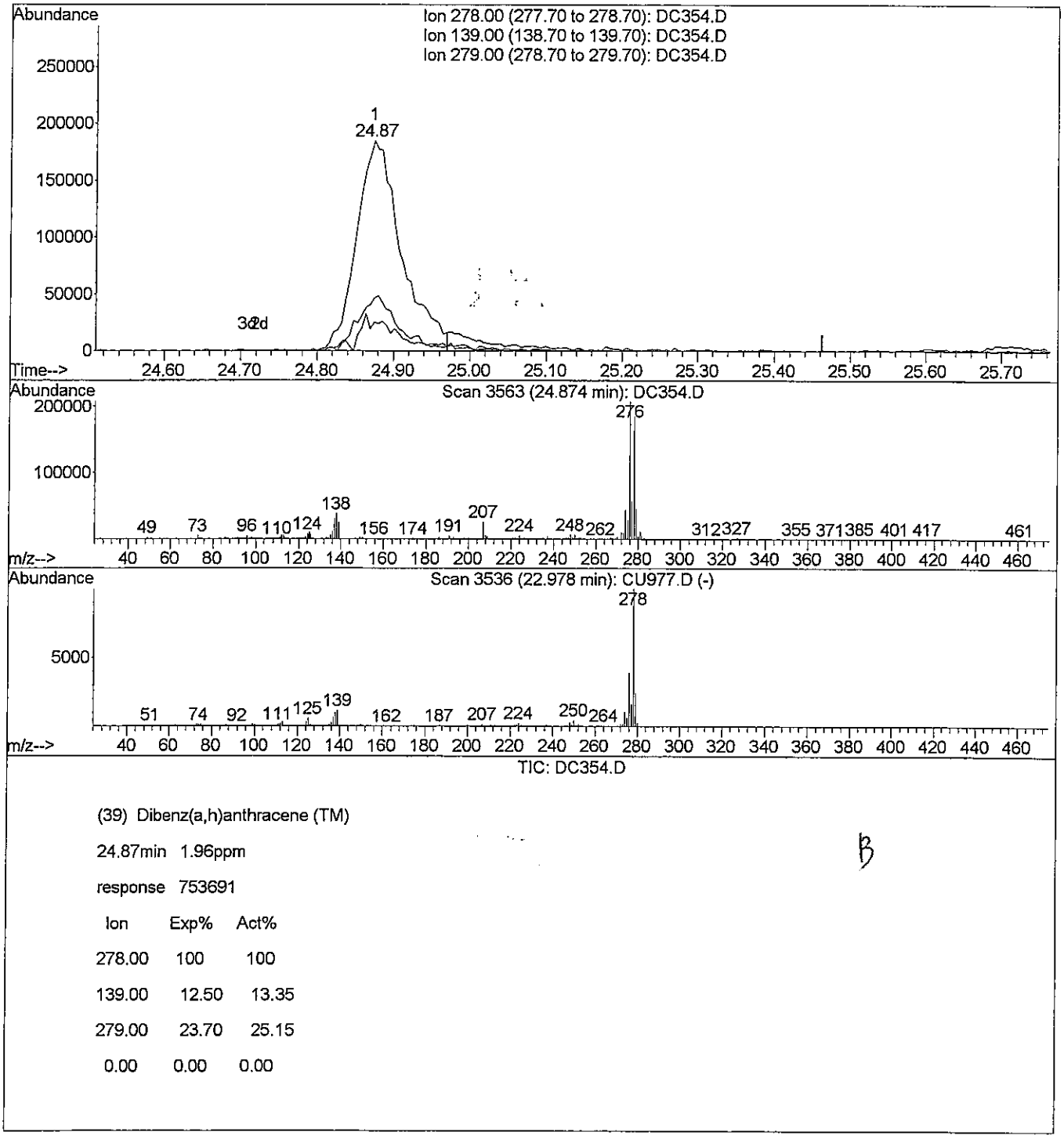
Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Initial Calibration



Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC354.D Vial: 1
Acq On : 12 Nov 2009 11:26 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 12:30 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Multiple Level Calibration



TIC: DC354.D

(39) Dibenz(a,h)anthracene (TM)

24.87min 1.96ppm

response 753691

Ion	Exp%	Act%
278.00	100	100
139.00	12.50	13.35
279.00	23.70	25.15
0.00	0.00	0.00

B

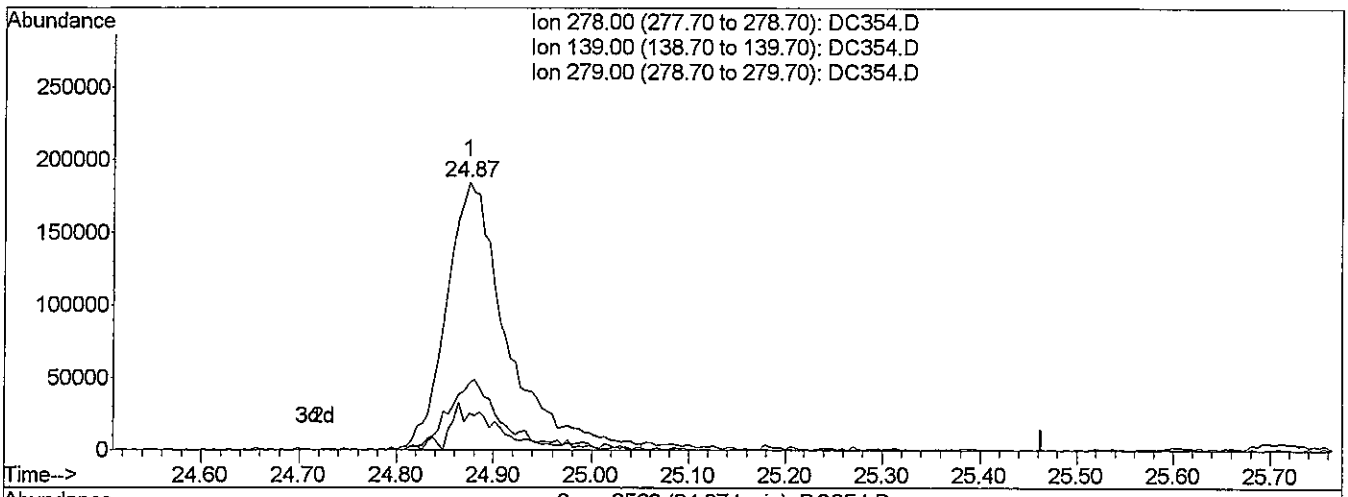
DC354.D LVI1016.M Thu Nov 12 14:26:53 2009

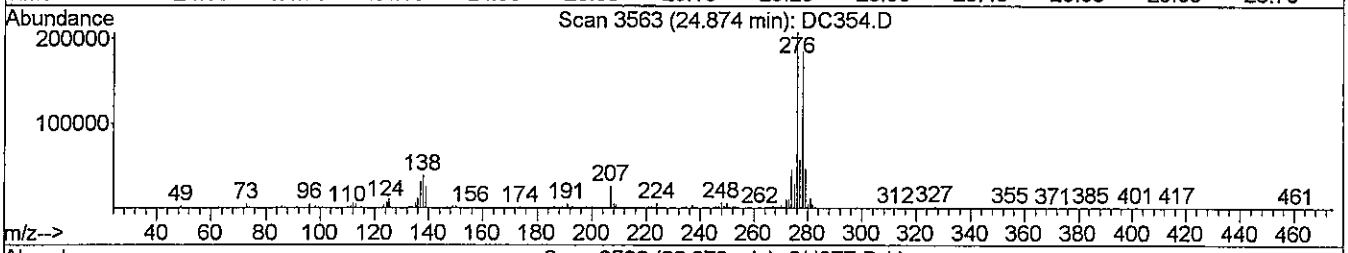
00458

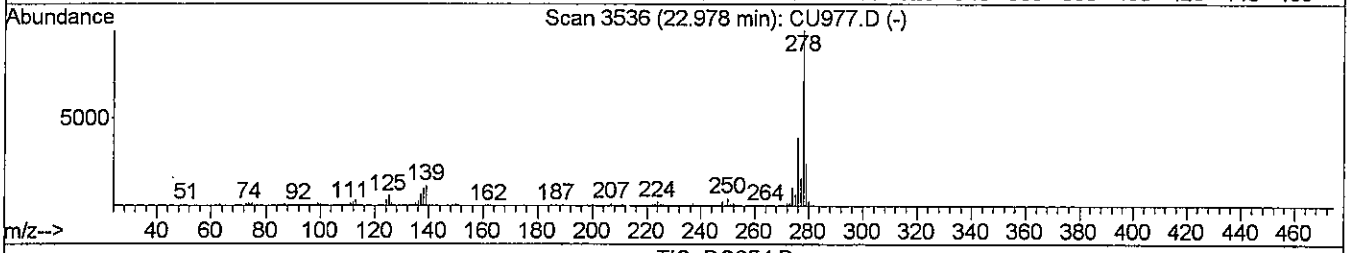
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\111209\DC354.D Vial: 1
Acq On : 12 Nov 2009 11:26 am Operator: J.Wu
Sample : CALIBRATION CHECK Inst : 5973-B
Misc : 2.0/4.0 PPM STD 8270.LL Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 14:26 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Multiple Level Calibration







TIC: DC354.D

(39) Dibenz(a,h)anthracene (TM)

24.87min 2.07ppm m

response 796659

Ion	Exp%	Act%
278.00	100	100
139.00	12.50	13.70
279.00	23.70	25.04
0.00	0.00	0.00

A JW 11/12/09

11/13

DC354.D LVI1016.M Thu Nov 12 14:26:58 2009

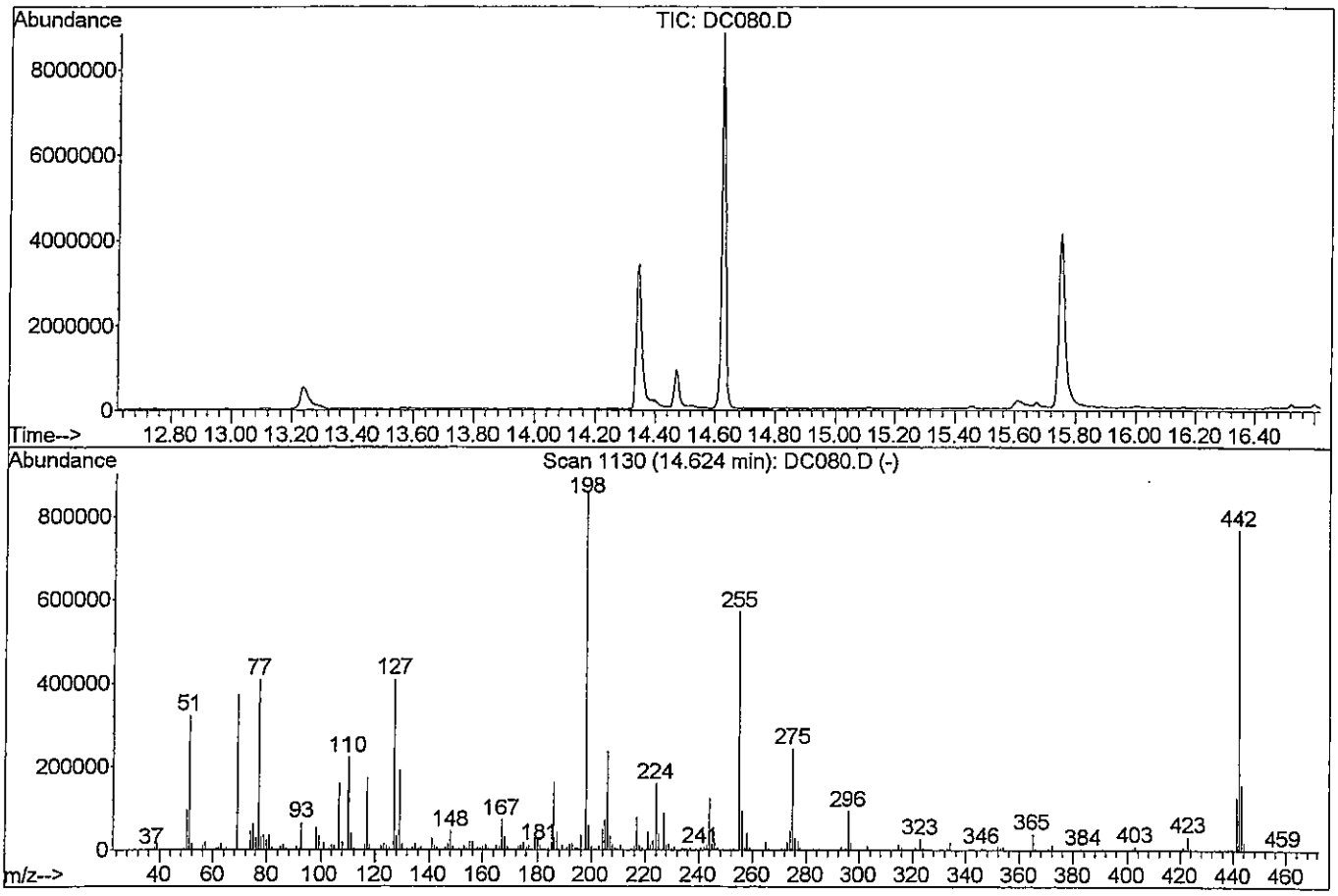
00469

SEMIVOLATILE ORGANICS

RAW QC DATA

DFTPP

Data File : J:\ACQUDATA\5973B\DATA\101609\DC080.D Vial: 1
Acq On : 16 Oct 2009 9:29 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS



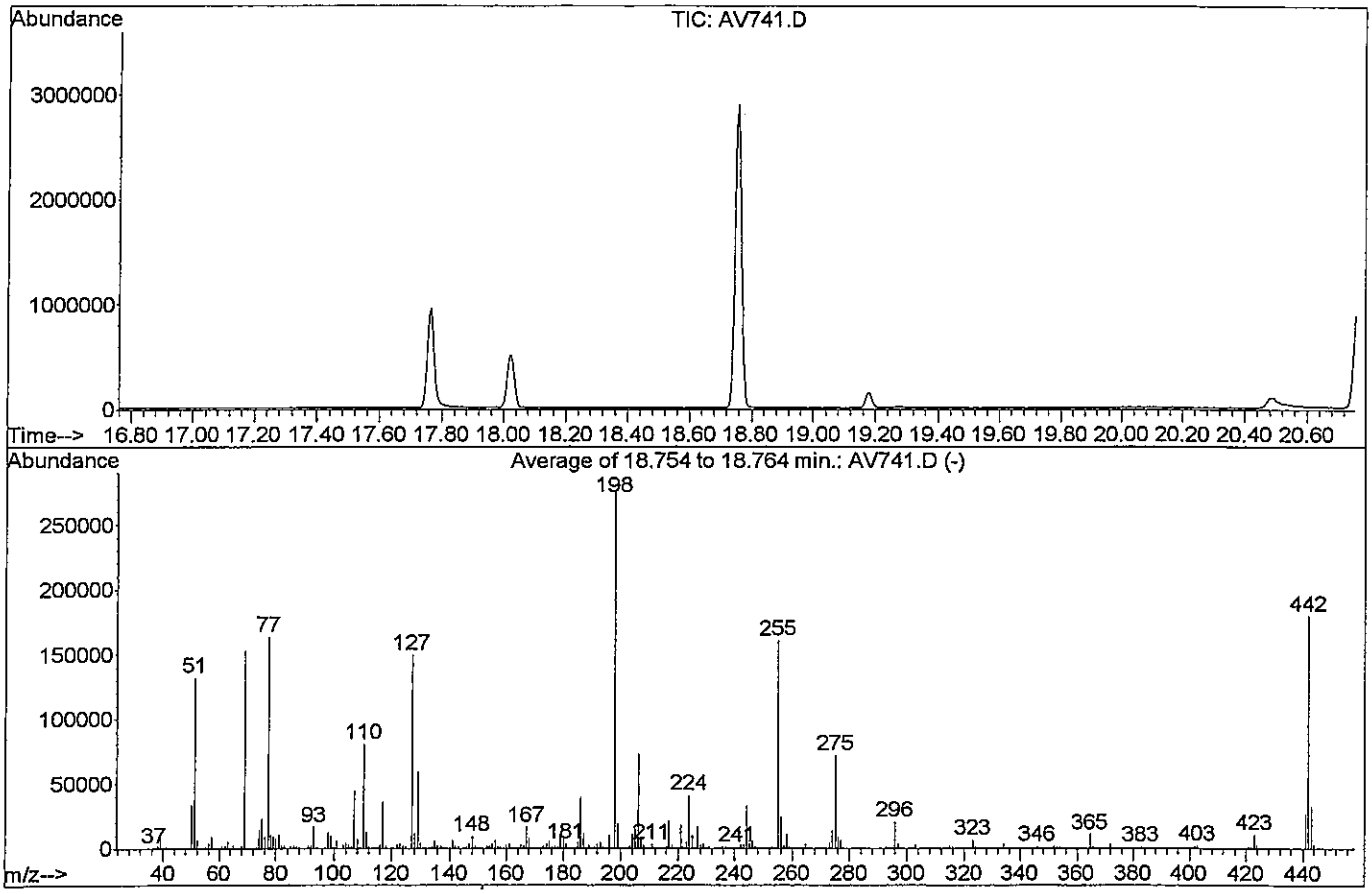
Spectrum Information: Scan 1130

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	37.5	322435	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.3	372544	PASS
70	69	0.00	2	0.4	1596	PASS
127	198	40	60	47.7	410048	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	860160	PASS
199	198	5	9	6.9	59416	PASS
275	198	10	30	28.3	243136	PASS
365	198	1	100	4.4	37952	PASS
441	443	0.01	100	79.7	126384	PASS
442	198	40	100	89.2	767104	PASS
443	442	17	23	20.7	158656	PASS

DC080.D DFTPPLVI.M Mon Oct 19 09:16:05 2009

DFTPP

Data File : J:\ACQUDATA\5973C\DATA\102709\AV741.D Vial: 1
Acq On : 27 Oct 2009 9:57 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973C
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : J:\ACQUDATA\5973C\METHODS\TUNEC.M (RTE Integrator)
Title : TUNE CHECK



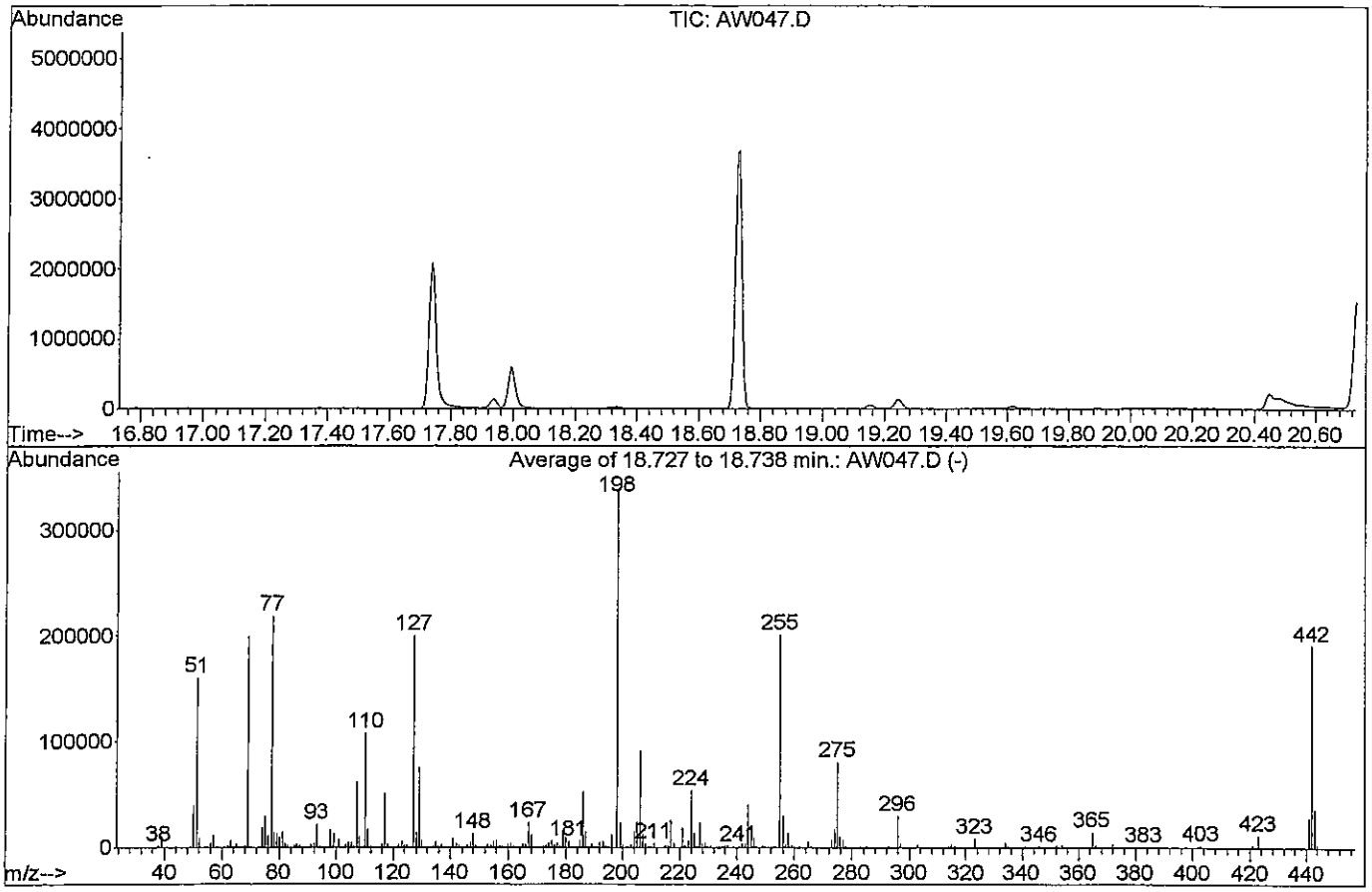
AutoFind: Scans 1998, 1999, 2000; Background Corrected with Scan 1989

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.8	132113	PASS
68	69	0.00	2	1.3	1994	PASS
69	198	0.00	100	55.2	152582	PASS
70	69	0.00	2	0.5	801	PASS
127	198	40	60	54.2	149840	PASS
197	198	0.00	1	0.4	1193	PASS
198	198	100	100	100.0	276266	PASS
199	198	5	9	7.0	19330	PASS
275	198	10	30	26.0	71768	PASS
365	198	1	100	3.8	10547	PASS
441	443	0.01	100	80.2	26088	PASS
442	198	40	100	65.0	179648	PASS
443	442	17	23	18.1	32530	PASS

AV741.D TUNEC.M Wed Oct 28 09:32:51 2009

DFTPP

Data File : J:\ACQUDATA\5973C\DATA\111109\AW047.D Vial: 1
Acq On : 11 Nov 2009 9:01 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973C
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : J:\ACQUDATA\5973C\METHODS\TUNEC.M (RTE Integrator)
Title : TUNE CHECK



AutoFind: Scans 1993, 1994, 1995; Background Corrected with Scan 1984

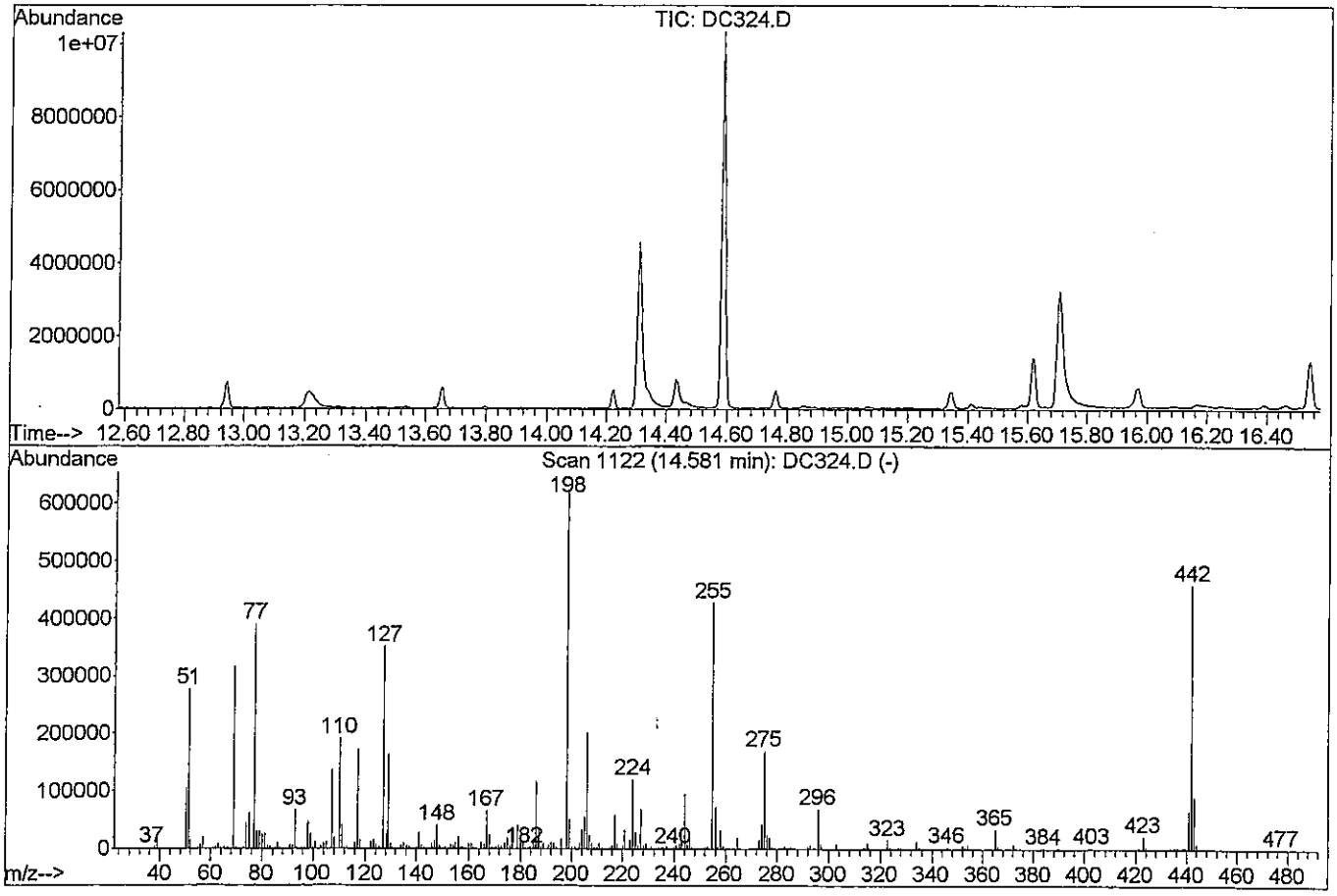
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.5	160872	PASS
68	69	0.00	2	0.8	1529	PASS
69	198	0.00	100	59.1	199893	PASS
70	69	0.00	2	0.5	935	PASS
127	198	40	60	59.3	200640	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	338389	PASS
199	198	5	9	7.0	23685	PASS
275	198	10	30	23.9	80997	PASS
365	198	1	100	4.3	14397	PASS
441	443	0.01	100	77.6	27994	PASS
442	198	40	100	56.5	191274	PASS
443	442	17	23	18.9	36058	PASS

AW047.D TUNEC.M Wed Nov 11 13:34:03 2009

00473

DFTPP

Data File : J:\ACQUDATA\5973B\DATA\111109\DC324.D Vial: 1
Acq On : 11 Nov 2009 10:28 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS



Spectrum Information: Scan 1122

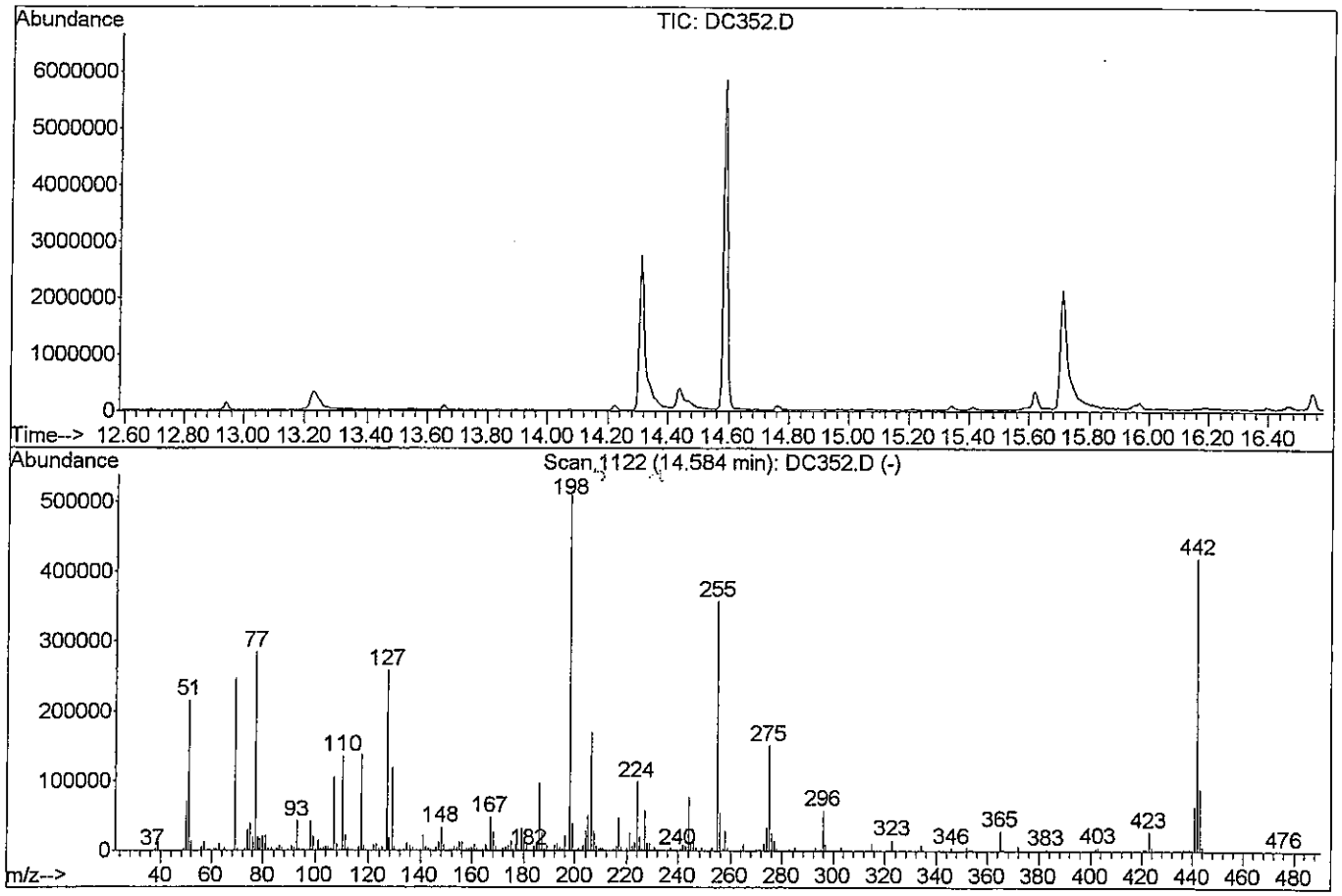
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	44.6	277504	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	51.0	317056	PASS
70	69	0.00	2	0.6	1882	PASS
127	198	40	60	56.5	351296	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	622272	PASS
199	198	5	9	8.3	51512	PASS
275	198	10	30	27.2	169088	PASS
365	198	1	100	5.5	34000	PASS
441	443	0.01	100	72.2	65320	PASS
442	198	40	100	73.7	458624	PASS
443	442	17	23	19.7	90432	PASS

DC324.D DFTPPLVI.M Wed Nov 11 10:52:49 2009 JW

00474

DFTPP

Data File : J:\ACQUDATA\5973B\DATA\111209\DC352.D Vial: 1
Acq On : 12 Nov 2009 10:50 am Operator: J.Wu
Sample : TUNE CHECK Inst : 5973-B
Misc : 10 ng DFTPP Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : J:\ACQUDATA\5973B\METHODS\DFTPPLVI.M (RTE Integrator)
Title : 8270 BNA ANALYSIS



Spectrum Information: Scan 1122

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	41.9	215319	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	48.1	247104	PASS
70	69	0.00	2	1.4	3373	PASS
127	198	40	60	50.3	258624	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	513728	PASS
199	198	5	9	7.8	39872	PASS
275	198	10	30	29.3	150720	PASS
365	198	1	100	5.5	28088	PASS
441	443	0.01	100	71.3	63272	PASS
442	198	40	100	81.7	419840	PASS
443	442	17	23	21.1	88752	PASS

DC352.D DFTPPLVI.M Thu Nov 12 14:25:08 2009 JW

00475

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ0910904-01	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
2-Methylnaphthalene	0.048	U	0.20	0.048	1	11/ 4/09	11/11/09 15:16	99893	179066	
Acenaphthene	0.053	U	0.20	0.053	1	11/ 4/09	11/11/09 15:16	99893	179066	
Acenaphthylene	0.076	U	0.20	0.076	1	11/ 4/09	11/11/09 15:16	99893	179066	
Anthracene	0.041	U	0.20	0.041	1	11/ 4/09	11/11/09 15:16	99893	179066	
Benz(a)anthracene	0.041	U	0.20	0.041	1	11/ 4/09	11/11/09 15:16	99893	179066	
Benzo(a)pyrene	0.042	U	0.20	0.042	1	11/ 4/09	11/11/09 15:16	99893	179066	
Benzo(b)fluoranthene	0.027	U	0.20	0.027	1	11/ 4/09	11/11/09 15:16	99893	179066	
Benzo(g,h,i)perylene	0.030	U	0.20	0.030	1	11/ 4/09	11/11/09 15:16	99893	179066	
Benzo(k)fluoranthene	0.029	U	0.20	0.029	1	11/ 4/09	11/11/09 15:16	99893	179066	
Bis(2-ethylhexyl) Phthalate	0.23	U	5.0	0.23	1	11/ 4/09	11/11/09 15:16	99893	179066	
Butyl Benzyl Phthalate	**0.11**	J	5.0	0.11	1	11/ 4/09	11/11/09 15:16	99893	179066	
Chrysene	0.029	U	0.20	0.029	1	11/ 4/09	11/11/09 15:16	99893	179066	
Di-n-butyl Phthalate	0.76	U	5.0	0.76	1	11/ 4/09	11/11/09 15:16	99893	179066	
Di-n-octyl Phthalate	0.041	U	5.0	0.041	1	11/ 4/09	11/11/09 15:16	99893	179066	
Dibenz(a,h)anthracene	0.046	U	0.20	0.046	1	11/ 4/09	11/11/09 15:16	99893	179066	
Diethyl Phthalate	0.20	U	5.0	0.20	1	11/ 4/09	11/11/09 15:16	99893	179066	
Dimethyl Phthalate	0.044	U	5.0	0.044	1	11/ 4/09	11/11/09 15:16	99893	179066	
Fluoranthene	0.040	U	0.20	0.040	1	11/ 4/09	11/11/09 15:16	99893	179066	
Fluorene	0.055	U	0.20	0.055	1	11/ 4/09	11/11/09 15:16	99893	179066	
Hexachlorobenzene	0.035	U	0.20	0.035	1	11/ 4/09	11/11/09 15:16	99893	179066	
Indeno(1,2,3-cd)pyrene	0.049	U	0.20	0.049	1	11/ 4/09	11/11/09 15:16	99893	179066	
Naphthalene	0.14	U	0.20	0.14	1	11/ 4/09	11/11/09 15:16	99893	179066	
Nitrobenzene	0.046	U	0.20	0.046	1	11/ 4/09	11/11/09 15:16	99893	179066	
Phenanthrene	0.062	U	0.20	0.062	1	11/ 4/09	11/11/09 15:16	99893	179066	
Pyrene	0.029	U	0.20	0.029	1	11/ 4/09	11/11/09 15:16	99893	179066	
Pyridine	0.89	U	2.0	0.89	1	11/ 4/09	11/11/09 15:16	99893	179066	
1,4-Dioxane	0.13	U	2.0	0.13	1	11/ 4/09	11/11/09 15:16	99893	179066	
Octachlorostyrene	0.13	U	0.20	0.13	1	11/ 4/09	11/11/09 15:16	99893	179066	

Comments:

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	RQ0910904-01	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
2-Fluorobiphenyl	82	45-135	11/11/09 15:16		
Nitrobenzene-d5	94	45-135	11/11/09 15:16		
Terphenyl-d14	96	45-135	11/11/09 15:16		

Comments:

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW057.D Vial: 10
Acq On : 11 Nov 2009 3:16 pm Operator: J.Wu
Sample : RQ0910904-01|1.0 (RQ0910914-01 11/11/09 Inst : 5973C
Misc : 11/04/2009 1.0 Northgate 8270.LL BLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 15:42:57 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.68	152	129366	1.00	ppm	-0.02
4) d8-Naphthalene	11.94	136	489328	1.00	ppm	-0.02
10) d10-Acenaphthene	13.53	164	279420	1.00	ppm	-0.02
18) d10-Phenanthrene	14.73	188	354040	1.00	ppm	-0.02
26) d12-Chrysene	17.94	240	399688	1.00	ppm	-0.03
33) d12-Perylene	21.46	264	316847	1.00	ppm	-0.05
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.27	82	352956	1.88	ppm	-0.01
Spiked Amount 2.000	Range 22 - 124		Recovery = 94.00%			
11) SURR5,2-FLUOROBIPHENYL	12.90	172	598236	1.64	ppm	-0.02
Spiked Amount 2.000	Range 27 - 114		Recovery = 82.00%			
28) SURR6,TERPHENYL-D14	16.31	244	528195	1.91	ppm	-0.03
Spiked Amount 2.000	Range 23 - 139		Recovery = 95.50%			
Target Compounds						Qvalue
29) Butyl benzyl phthalate	16.94	149	31690	0.11	ppm	94

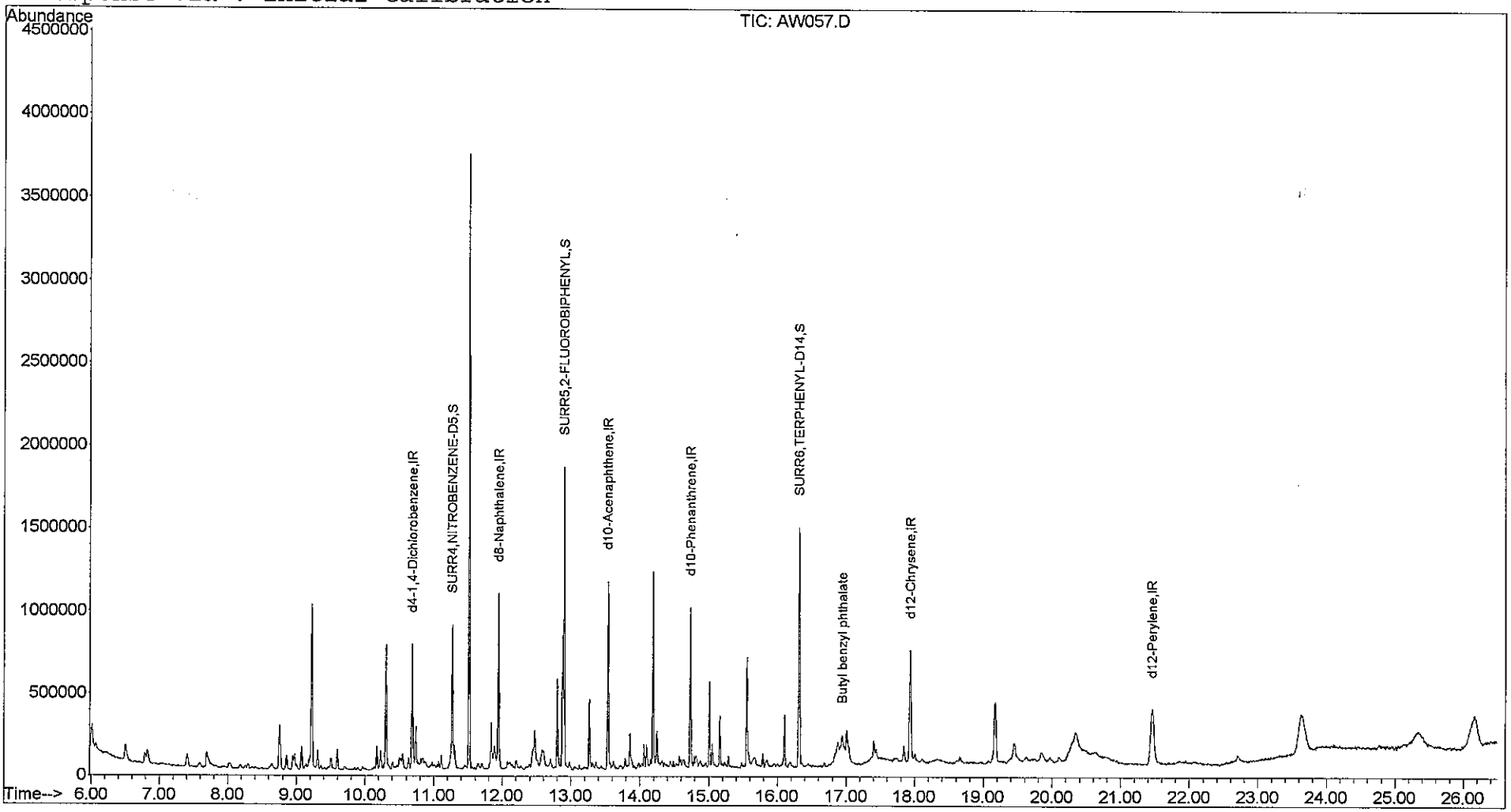
(#) = qualifier out of range (m) = manual integration (+) = signals summed
AW057.D LVI1027.M Wed Nov 11 15:46:51 2009 Page 1

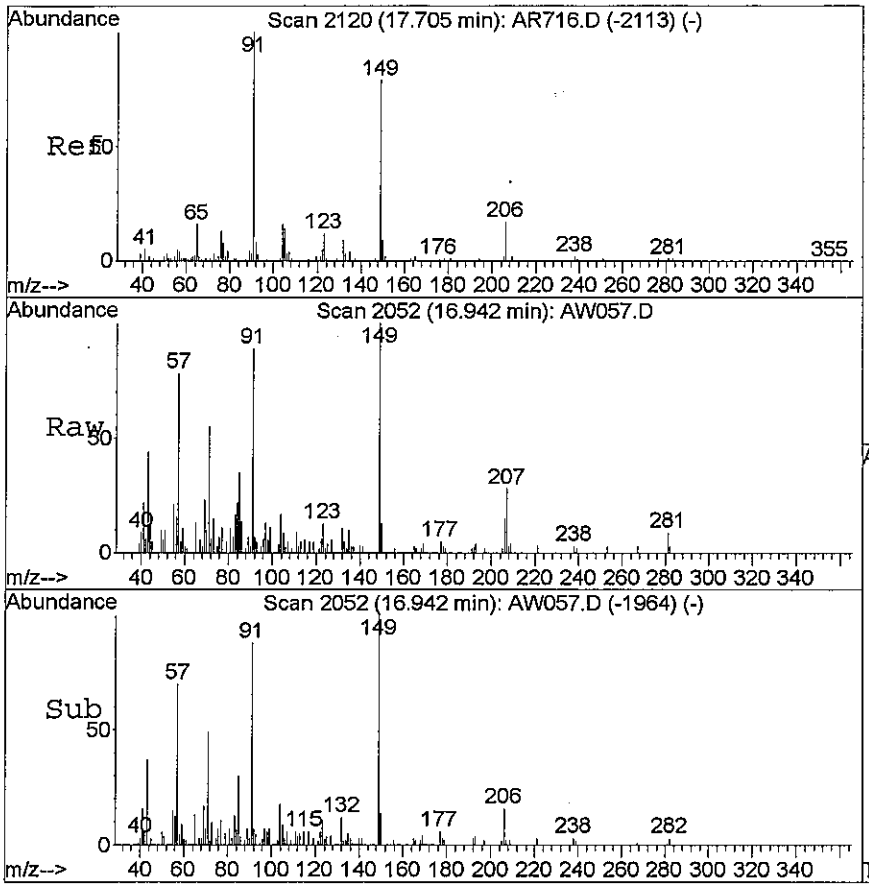
00478

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW057.D Vial: 10
Acq On : 11 Nov 2009 3:16 pm Operator: J.Wu
Sample : RQ0910904-01|1.0/RQ0910914-01 JW 11/11/09 Inst : 5973C
Misc : 11/04/2009 1.0 Northgate 8270.LL BLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 15:46 2009 Quant Results File: LVI1027.RES

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration

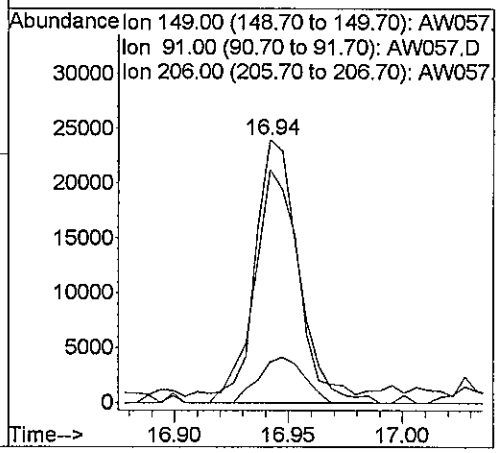




#29
Butyl benzyl phthalate
Concen: 0.11 ppm
RT: 16.94 min Scan# 2052
Delta R.T. -0.03 min
Lab File: AW057.D
Acq: 11 Nov 2009 3:16 pm

Tgt Ion:149 Resp: 31690

Ion	Ratio	Lower	Upper
149	100		
91	83.7	54.8	101.8
206	15.4	12.9	23.9



00480

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973B\DATA\111109\DC331.D Vial: 7
Acq On : 11 Nov 2009 3:36 pm Operator: J.Wu
Sample : RQ0910914-01|1.0 /RQ910914-01 Inst : 5973-B
Misc : 11/04/2009 1.0 Northgate 8270.1lsplp BLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 16:14 2009 Quant Results File: LVI1016.RES

Quant Method : J:\ACQUDATA\5...\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Mon Oct 19 08:41:26 2009
Response via : Initial Calibration
DataAcq Meth : LVI1016

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.63	152	83420	1.00	ppm	-0.02
4) d8-Naphthalene	11.91	136	300676	1.00	ppm	-0.02
10) d10-Acenaphthene	13.50	164	205820	1.00	ppm	-0.02
18) d10-Phenanthrene	14.71	188	325597	1.00	ppm	-0.03
26) d12-Chrysene	17.99	240	334074	1.00	ppm	-0.04
33) d12-Perylene	21.70	264	270700m	1.00	ppm	-0.12
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.22	82	173203	1.63	ppm	-0.03
Spiked Amount 2.000	Range 22 - 124		Recovery = 81.50%			
11) SURR5,2-FLUOROBIPHENYL	12.86	172	451238	1.71	ppm	-0.02
Spiked Amount 2.000	Range 27 - 114		Recovery = 85.50%			
28) SURR6,TERPHENYL-D14	16.29	244	553496	2.01	ppm	-0.05
Spiked Amount 2.000	Range 23 - 139		Recovery = 100.50%			

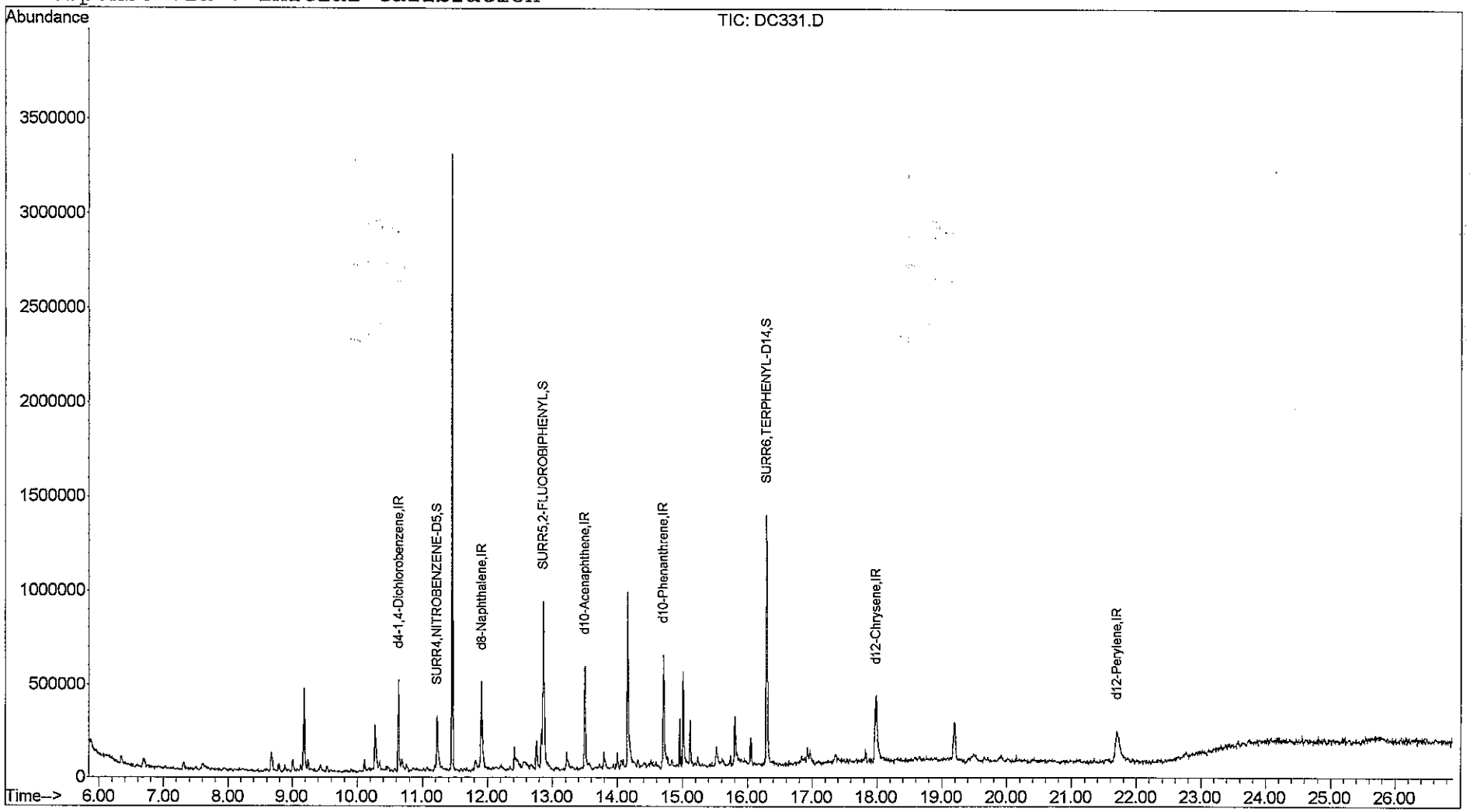
Target Compounds Qvalue

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

Quantitation Report

Data File : J:\ACQUDATA\5973B\DATA\111109\DC331.D Vial: 7
Acq On : 11 Nov 2009 3:36 pm Operator: J.Wu
Sample : RQ0910914-01|1.0 Inst : 5973-B
Misc : 11/04/2009 1.0 Northgate 8270.llsplp BLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 16:14 2009 Quant Results File: LVI1016.RES

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Initial Calibration

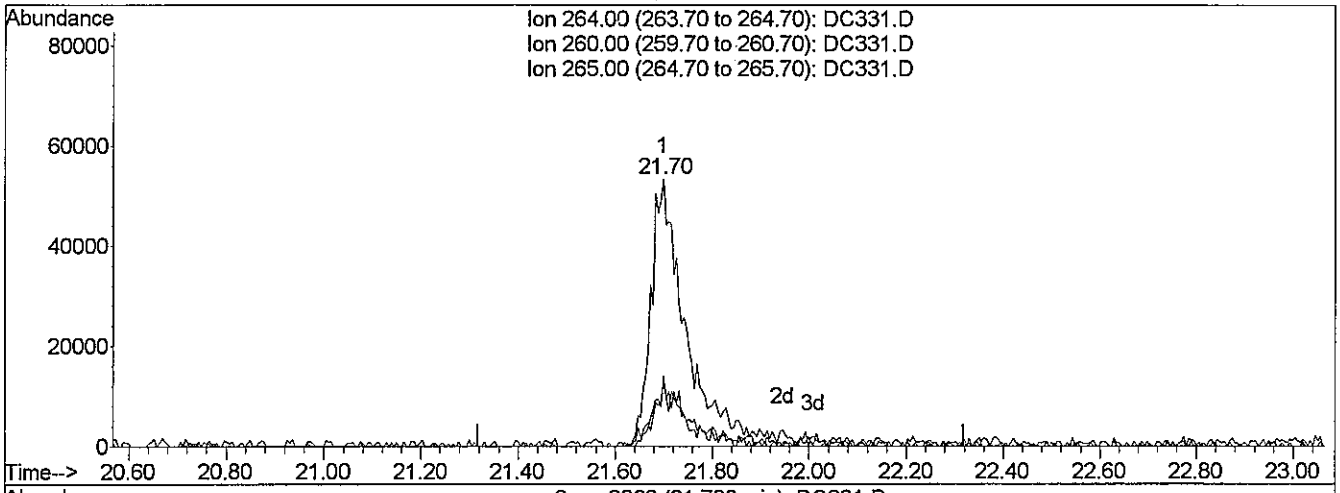


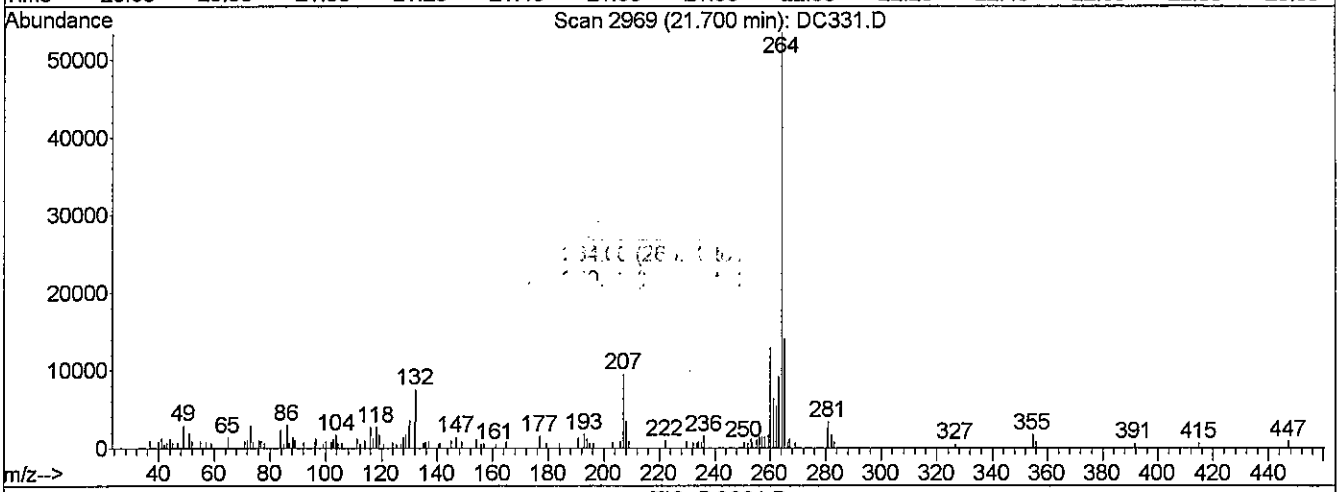
23h05

Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973B\DATA\111109\DC331.D Vial: 7
Acq On : 11 Nov 2009 3:36 pm Operator: J.Wu
Sample : RQ0910914-01|1.0 Inst : 5973-B
Misc : 11/04/2009 1.0 Northgate 8270.llsplp BLK Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 16:14 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973B\METHODS\LVI1016.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Thu Nov 12 12:29:20 2009
Response via : Multiple Level Calibration





TIC: DC331.D

(33) d12-Perylene (IR)

21.70min 1.00ppm m

response 270700

Ion	Exp%	Act%
264.00	100	100
260.00	17.80	24.10
265.00	18.30	26.34
0.00	0.00	0.00

A JW 11/23/09

Missing BEFORE

DC331.D LVI1016.M Mon Nov 23 13:54:45 2009

00483

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	RQ0910904-02	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
2-Methylnaphthalene	**3.23**		0.20	0.048	1	11/ 4/09	11/11/09 15:53	99893	179066	
Acenaphthene	**3.15**		0.20	0.053	1	11/ 4/09	11/11/09 15:53	99893	179066	
Acenaphthylene	**3.24**		0.20	0.076	1	11/ 4/09	11/11/09 15:53	99893	179066	
Anthracene	**3.44**		0.20	0.041	1	11/ 4/09	11/11/09 15:53	99893	179066	
Benz(a)anthracene	**3.65**		0.20	0.041	1	11/ 4/09	11/11/09 15:53	99893	179066	
Benzo(a)pyrene	**3.17**		0.20	0.042	1	11/ 4/09	11/11/09 15:53	99893	179066	
Benzo(b)fluoranthene	**3.67**		0.20	0.027	1	11/ 4/09	11/11/09 15:53	99893	179066	
Benzo(g,h,i)perylene	**3.59**		0.20	0.030	1	11/ 4/09	11/11/09 15:53	99893	179066	
Benzo(k)fluoranthene	**3.55**		0.20	0.029	1	11/ 4/09	11/11/09 15:53	99893	179066	
Bis(2-ethylhexyl) Phthalate	**3.84**	J	5.0	0.23	1	11/ 4/09	11/11/09 15:53	99893	179066	
Butyl Benzyl Phthalate	**3.31**	J	5.0	0.11	1	11/ 4/09	11/11/09 15:53	99893	179066	
Chrysene	**3.54**		0.20	0.029	1	11/ 4/09	11/11/09 15:53	99893	179066	
Di-n-butyl Phthalate	**2.92**	J	5.0	0.76	1	11/ 4/09	11/11/09 15:53	99893	179066	
Di-n-octyl Phthalate	**3.64**	J	5.0	0.041	1	11/ 4/09	11/11/09 15:53	99893	179066	
Dibenz(a,h)anthracene	**3.98**		0.20	0.046	1	11/ 4/09	11/11/09 15:53	99893	179066	
Diethyl Phthalate	**3.65**	J	5.0	0.20	1	11/ 4/09	11/11/09 15:53	99893	179066	
Dimethyl Phthalate	**3.50**	J	5.0	0.044	1	11/ 4/09	11/11/09 15:53	99893	179066	
Fluoranthene	**3.53**		0.20	0.040	1	11/ 4/09	11/11/09 15:53	99893	179066	
Fluorene	**3.42**		0.20	0.055	1	11/ 4/09	11/11/09 15:53	99893	179066	
Hexachlorobenzene	**2.77**		0.20	0.035	1	11/ 4/09	11/11/09 15:53	99893	179066	
Indeno(1,2,3-cd)pyrene	**3.76**		0.20	0.049	1	11/ 4/09	11/11/09 15:53	99893	179066	
Naphthalene	**3.00**		0.20	0.14	1	11/ 4/09	11/11/09 15:53	99893	179066	
Nitrobenzene	**3.55**		0.20	0.046	1	11/ 4/09	11/11/09 15:53	99893	179066	
Phenanthrene	**3.25**		0.20	0.062	1	11/ 4/09	11/11/09 15:53	99893	179066	
Pyrene	**3.93**		0.20	0.029	1	11/ 4/09	11/11/09 15:53	99893	179066	
Pyridine	**1.06**	J	2.0	0.89	1	11/ 4/09	11/11/09 15:53	99893	179066	
1,4-Dioxane	**2.09**		2.0	0.13	1	11/ 4/09	11/11/09 15:53	99893	179066	
Octachlorostyrene	**2.46**		0.20	0.13	1	11/ 4/09	11/11/09 15:53	99893	179066	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	RQ0910904-02	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
2-Fluorobiphenyl	75	45-135	11/11/09 15:53		
Nitrobenzene-d5	93	45-135	11/11/09 15:53		
Terphenyl-d14	96	45-135	11/11/09 15:53		

Comments:

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW058.D Vial: 11
Acq On : 11 Nov 2009 / 3:53 pm Operator: J.Wu
Sample : RQ0910904-02|1.0 / RQ0910914-02 JW 11/4/09 Inst : 5973C
Misc : 11/04/2009 1.0 Northgate 8270.LL LCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 16:19:52 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.68	152	135314	1.00	ppm	-0.02
4) d8-Naphthalene	11.94	136	531036	1.00	ppm	-0.02
10) d10-Acenaphthene	13.53	164	318524	1.00	ppm	-0.02
18) d10-Phenanthrene	14.73	188	395469	1.00	ppm	-0.02
26) d12-Chrysene	17.94	240	442310	1.00	ppm	-0.03
33) d12-Perylene	21.46	264	356456	1.00	ppm	-0.05
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.26	82	376981	1.85	ppm	-0.02
Spiked Amount 2.000	Range 22 - 124		Recovery = 92.50%			
11) SURR5,2-FLUOROBIPHENYL	12.90	172	622253	1.49	ppm	-0.02
Spiked Amount 2.000	Range 27 - 114		Recovery = 74.50%			
28) SURR6,TERPHENYL-D14	16.31	244	585618	1.92	ppm	-0.03
Spiked Amount 2.000	Range 23 - 139		Recovery = 96.00%			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.24	88	242338	2.09	ppm	93
3) Pyridine	6.96	79	229964	1.06	ppm	92
6) Nitrobenzene	11.28	77	764561	3.55	ppm	100
7) Naphthalene	11.96	128	1748454	3.00	ppm	99
8) 2-Methylnaphthalene	12.58	142	1143629	3.23	ppm	97
9) 1-Methylnaphthalene	12.68	142	1170815	3.35	ppm	97
12) Acenaphthylene	13.41	152	1961201	3.24	ppm	99
13) Dimethyl phthalate	13.27	163	1466555	3.50	ppm	98
14) Acenaphthene	13.57	153	1187049	3.15	ppm	98
15) Dibenzofuran	13.70	168	1585932	3.30	ppm	94
16) Fluorene	13.99	166	1239603	3.42	ppm	97
17) Diethylphthalate	13.86	149	1445345	3.65	ppm	99
19) Hexachlorobenzene	14.47	284	288937	2.77	ppm	93
20) Phenanthrene	14.75	178	1498810	3.25	ppm	98
21) Anthracene	14.79	178	1513495	3.44	ppm	99
22) Carbazole	14.91	167	1048483	2.72	ppm	98
23) Octachlorostyrene	15.73	380	54350	2.46	ppm	93
24) Di-n-butylphthalate	15.16	149	2109917	2.92	ppm	99
25) Fluoranthene	15.93	202	1713386	3.53	ppm	96
27) Pyrene	16.20	202	1769893	3.93	ppm	99
29) Butyl benzyl phthalate	16.95	149	1062752	3.31	ppm	97
30) bis(2-Ethylhexyl)phthalate	17.85	149	1604425	3.84	ppm	98
31) Benzo(a)anthracene	17.90	228	1816805	3.65	ppm	99
32) Chrysene	17.98	228	1757859	3.54	ppm	98
34) Di-n-octyl phthalate	19.11	149	2664672	3.64	ppm	95
35) Benzo(b)Fluoranthene	20.32	252	1922272	3.67	ppm	97

(#) = qualifier out of range (m) = manual integration
AW058.D LVI1027.M Wed Nov 11 16:29:48 2009 Page 1

JW

00486

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW058.D Vial: 11
Acq On : 11 Nov 2009 3:53 pm Operator: J.Wu
Sample : RQ0910904-02|1.0 / RQ0910904-02 JW 11/11/09 Inst : 5973C
Misc : 11/04/2009 1.0 Northgate 8270.LL LCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 16:19:52 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
36)	Benzo(k)fluoranthene	20.38	252	1808728	3.55	ppm	97
37)	Benzo(a)pyrene	21.29	252	1446758	3.17	ppm	97
38)	Indeno(1,2,3-cd)Pyrene	24.67	276	1963173	3.76	ppm	92
39)	Dibenz(a,h)anthracene	24.69	278	1658701	3.98	ppm	99
40)	Benzo(g,h,i)perylene	25.46	276	1614984	3.59	ppm	97

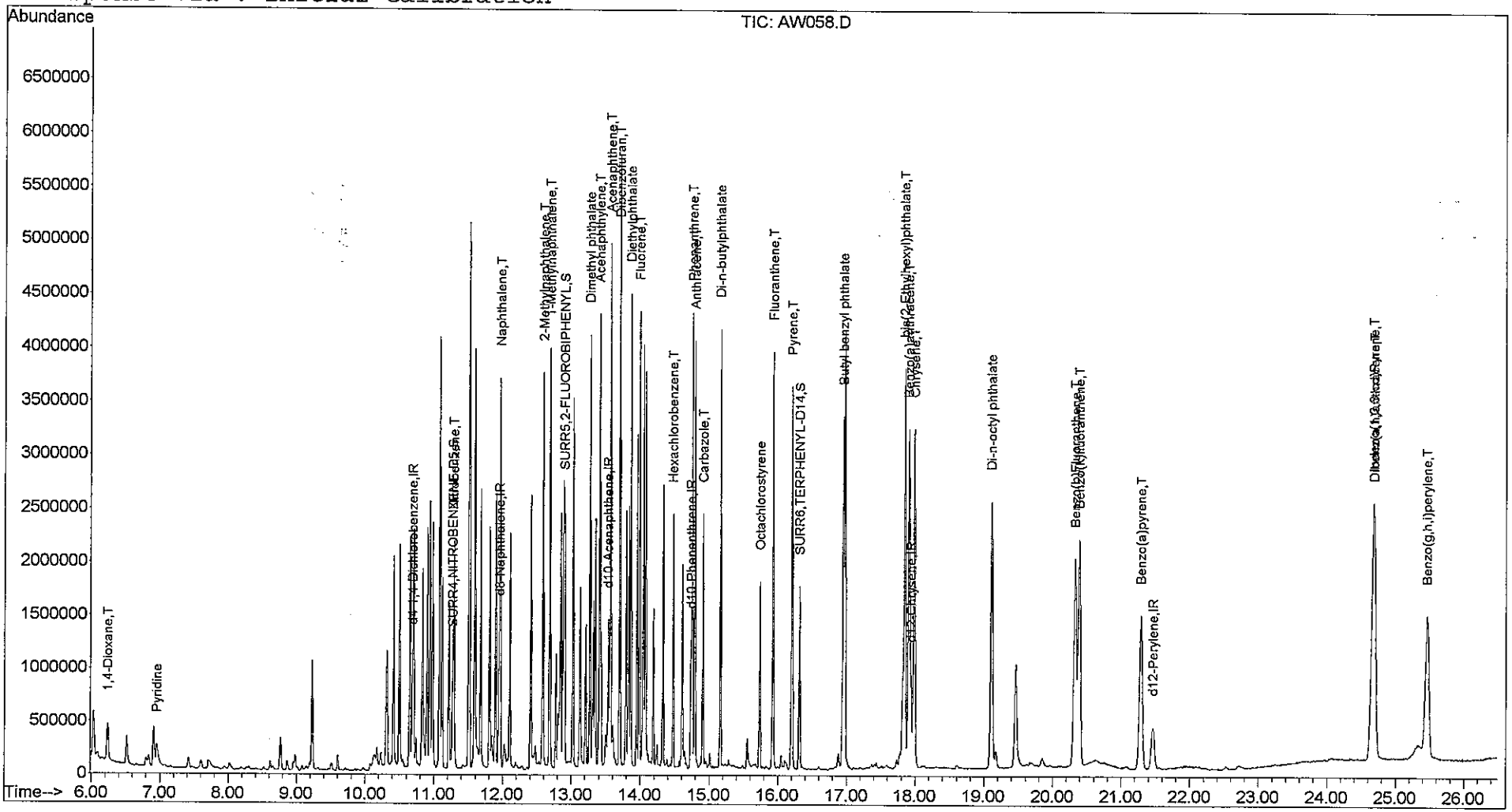
(#) = qualifier out of range (m) = manual integration (+) = signals summed

00487

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW058.D Vial: 11
Acq On : 11 Nov 2009 3:53 pm Operator: J.Wu
Sample : RQ0910904-02|1.0/RQ0910914-02 11/11/09 Inst : 5973C
Misc : 11/04/2009 1.0 Northgate 8270.LL LCS Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 16:19 2009 Quant Results File: LVI1027.RES

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample Dup	**Units:**	µg/L
Lab Code:	RQ0910904-03	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
2-Methylnaphthalene	**3.36**		0.20	0.048	1	11/ 4/09	11/11/09 16:29	99893	179066	
Acenaphthene	**3.30**		0.20	0.053	1	11/ 4/09	11/11/09 16:29	99893	179066	
Acenaphthylene	**3.42**		0.20	0.076	1	11/ 4/09	11/11/09 16:29	99893	179066	
Anthracene	**3.47**		0.20	0.041	1	11/ 4/09	11/11/09 16:29	99893	179066	
Benz(a)anthracene	**3.72**		0.20	0.041	1	11/ 4/09	11/11/09 16:29	99893	179066	
Benzo(a)pyrene	**3.26**		0.20	0.042	1	11/ 4/09	11/11/09 16:29	99893	179066	
Benzo(b)fluoranthene	**3.76**		0.20	0.027	1	11/ 4/09	11/11/09 16:29	99893	179066	
Benzo(g,h,i)perylene	**3.68**		0.20	0.030	1	11/ 4/09	11/11/09 16:29	99893	179066	
Benzo(k)fluoranthene	**3.61**		0.20	0.029	1	11/ 4/09	11/11/09 16:29	99893	179066	
Bis(2-ethylhexyl) Phthalate	**3.98**	J	5.0	0.23	1	11/ 4/09	11/11/09 16:29	99893	179066	
Butyl Benzyl Phthalate	**3.42**	J	5.0	0.11	1	11/ 4/09	11/11/09 16:29	99893	179066	
Chrysene	**3.59**		0.20	0.029	1	11/ 4/09	11/11/09 16:29	99893	179066	
Di-n-butyl Phthalate	**2.97**	J	5.0	0.76	1	11/ 4/09	11/11/09 16:29	99893	179066	
Di-n-octyl Phthalate	**3.70**	J	5.0	0.041	1	11/ 4/09	11/11/09 16:29	99893	179066	
Dibenz(a,h)anthracene	**4.06**		0.20	0.046	1	11/ 4/09	11/11/09 16:29	99893	179066	
Diethyl Phthalate	**3.75**	J	5.0	0.20	1	11/ 4/09	11/11/09 16:29	99893	179066	
Dimethyl Phthalate	**3.67**	J	5.0	0.044	1	11/ 4/09	11/11/09 16:29	99893	179066	
Fluoranthene	**3.54**		0.20	0.040	1	11/ 4/09	11/11/09 16:29	99893	179066	
Fluorene	**3.57**		0.20	0.055	1	11/ 4/09	11/11/09 16:29	99893	179066	
Hexachlorobenzene	**2.79**		0.20	0.035	1	11/ 4/09	11/11/09 16:29	99893	179066	
Indeno(1,2,3-cd)pyrene	**3.84**		0.20	0.049	1	11/ 4/09	11/11/09 16:29	99893	179066	
Naphthalene	**3.17**		0.20	0.14	1	11/ 4/09	11/11/09 16:29	99893	179066	
Nitrobenzene	**3.72**		0.20	0.046	1	11/ 4/09	11/11/09 16:29	99893	179066	
Phenanthrene	**3.34**		0.20	0.062	1	11/ 4/09	11/11/09 16:29	99893	179066	
Pyrene	**4.07**		0.20	0.029	1	11/ 4/09	11/11/09 16:29	99893	179066	
Pyridine	**1.21**	J	2.0	0.89	1	11/ 4/09	11/11/09 16:29	99893	179066	
1,4-Dioxane	**2.20**		2.0	0.13	1	11/ 4/09	11/11/09 16:29	99893	179066	
Octachlorostyrene	**2.45**		0.20	0.13	1	11/ 4/09	11/11/09 16:29	99893	179066	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample Dup	**Units:**	Percent
Lab Code:	RQ0910904-03	**Basis:**	NA

Low Level Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270C
Prep Method: EPA 3510C

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
2-Fluorobiphenyl	79	45-135	11/11/09 16:29		
Nitrobenzene-d5	96	45-135	11/11/09 16:29		
Terphenyl-d14	95	45-135	11/11/09 16:29		

Comments:

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW059.D Vial: 12
Acq On : 11 Nov 2009 4:29 pm Operator: J.Wu
Sample : RQ0910904-03|1.0 / RQ0910914-03 JW 11/11/09 Inst : 5973C
Misc : 11/04/2009 1.0 Northgate 8270.LL LCSD Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 16:56:31 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) d4-1,4-Dichlorobenzene	10.68	152	129362	1.00	ppm	-0.02
4) d8-Naphthalene	11.94	136	496045	1.00	ppm	-0.02
10) d10-Acenaphthene	13.53	164	296911	1.00	ppm	-0.02
18) d10-Phenanthrene	14.73	188	382742	1.00	ppm	-0.02
26) d12-Chrysene	17.94	240	415252	1.00	ppm	-0.03
33) d12-Perylene	21.46	264	337131	1.00	ppm	-0.05
System Monitoring Compounds						
5) SURR4,NITROBENZENE-D5	11.26	82	363703	1.91	ppm	-0.02
Spiked Amount 2.000	Range 22 - 124		Recovery = 95.50%			
11) SURR5,2-FLUOROBIPHENYL	12.90	172	612477	1.58	ppm	-0.02
Spiked Amount 2.000	Range 27 - 114		Recovery = 79.00%			
28) SURR6,TERPHENYL-D14	16.31	244	545054	1.90	ppm	-0.03
Spiked Amount 2.000	Range 23 - 139		Recovery = 95.00%			
Target Compounds						Qvalue
2) 1,4-Dioxane	6.23	88	243594	2.20	ppm	93
3) Pyridine	6.95	79	251136	1.21	ppm	88
6) Nitrobenzene	11.28	77	747604	3.72	ppm	98
7) Naphthalene	11.96	128	1723248	3.17	ppm	98
8) 2-Methylnaphthalene	12.58	142	1109929	3.36	ppm	98
9) 1-Methylnaphthalene	12.68	142	1126960	3.45	ppm	99
12) Acenaphthylene	13.41	152	1928337	3.42	ppm	99
13) Dimethyl phthalate	13.27	163	1435069	3.67	ppm	99
14) Acenaphthene	13.57	153	1156501	3.30	ppm	96
15) Dibenzofuran	13.70	168	1552250	3.47	ppm	96
16) Fluorene	13.99	166	1204785	3.57	ppm	98
17) Diethylphthalate	13.86	149	1381048	3.75	ppm	99
19) Hexachlorobenzene	14.48	284	281389	2.79	ppm	94
20) Phenanthrene	14.75	178	1490552	3.34	ppm	99
21) Anthracene	14.79	178	1478517	3.47	ppm	98
22) Carbazole	14.91	167	1009555	2.71	ppm	100
23) Octachlorostyrene	15.73	380	52145m JJ	2.45	ppm	
24) Di-n-butylphthalate	15.16	149	2071256	2.97	ppm	99
25) Fluoranthene	15.93	202	1664356	3.54	ppm	98
27) Pyrene	16.20	202	1720448	4.07	ppm	98
29) Butyl benzyl phthalate	16.95	149	1031145	3.42	ppm	99
30) bis(2-Ethylhexyl)phthalate	17.84	149	1559606	3.98	ppm	99
31) Benzo(a)anthracene	17.90	228	1738043	3.72	ppm	98
32) Chrysene	17.98	228	1675263	3.59	ppm	98
34) Di-n-octyl phthalate	19.11	149	2569906	3.70	ppm	96
35) Benzo(b)Fluoranthene	20.32	252	1864534	3.76	ppm	99

(#) = qualifier out of range (m) = manual integration
AW059.D LVI1027.M Thu Nov 12 08:27:41 2009 Page 1

JW ✓

00491

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW059.D Vial: 12
Acq On : 11 Nov 2009 4:29 pm Operator: J.Wu
Sample : RQ0910904-03|1.0 / RQ0910914-03 JW 11/11/09 Inst : 5973C
Misc : 11/04/2009 1.0 Northgate 8270.LL LCSD Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 16:56:31 2009 Quant Results File: LVI1027.RES

Quant Method : J:\ACQUDATA\5...\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration
DataAcq Meth : LVI1027

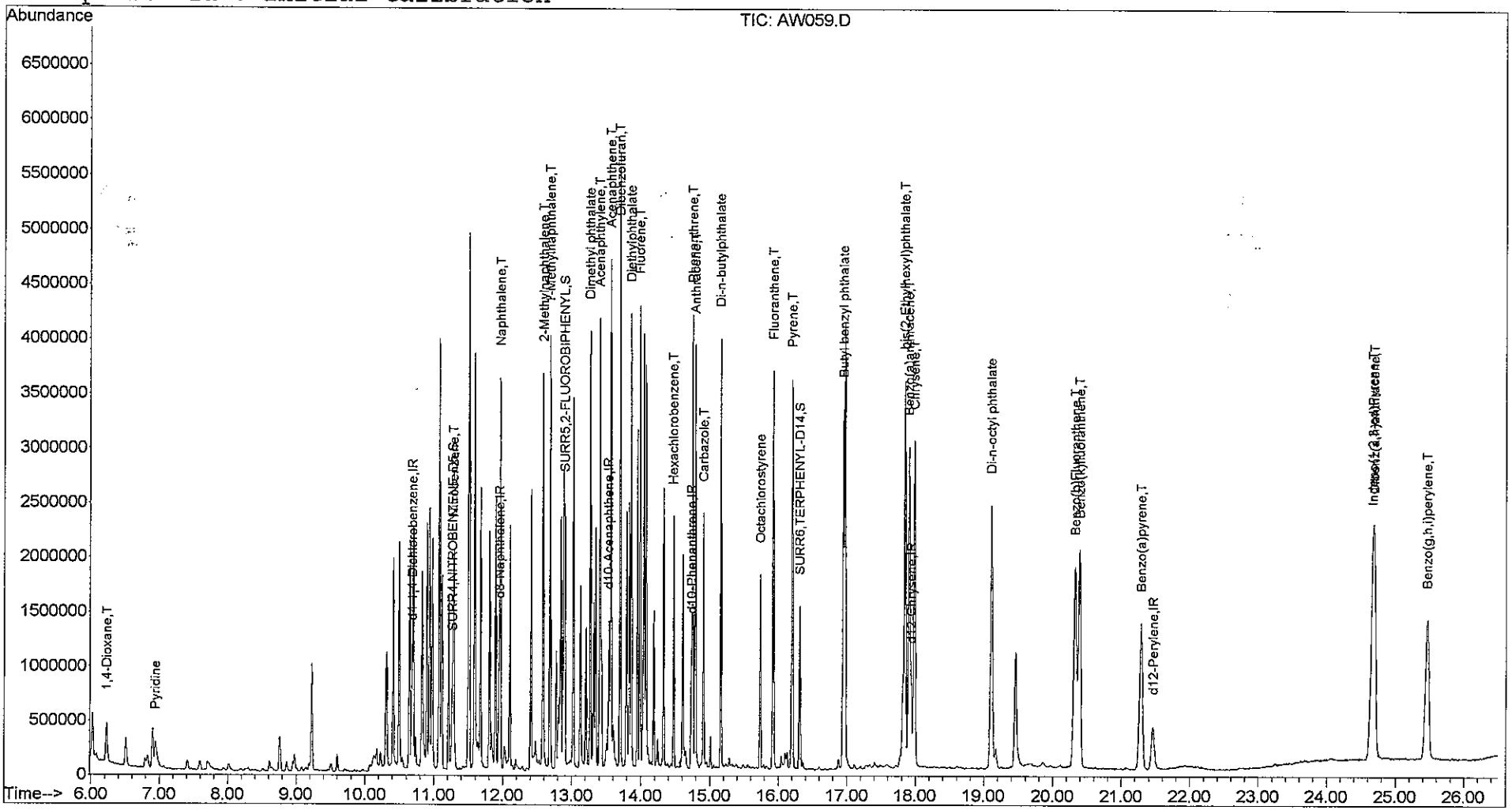
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
36)	Benzo(k)fluoranthene	20.39	252	1740496	3.61	ppm	99
37)	Benzo(a)pyrene	21.29	252	1409583	3.26	ppm	97
38)	Indeno(1,2,3-cd)Pyrene	24.66	276	1895506	3.84	ppm	93
39)	Dibenz(a,h)anthracene	24.69	278	1599626	4.06	ppm	99
40)	Benzo(g,h,i)perylene	25.46	276	1565158	3.68	ppm	99

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

Quantitation Report (QT Reviewed)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW059.D Vial: 12
Acq On : 11 Nov 2009 4:29 pm Operator: J.Wu
Sample : RQ0910904-03|1.0 /RQ0910914-03 TW 11/12/09 Inst : 5973C
Misc : 11/04/2009 1.0 Northgate 8270.LL LCSD Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 8:27 2009 Quant Results File: LVI1027.RES

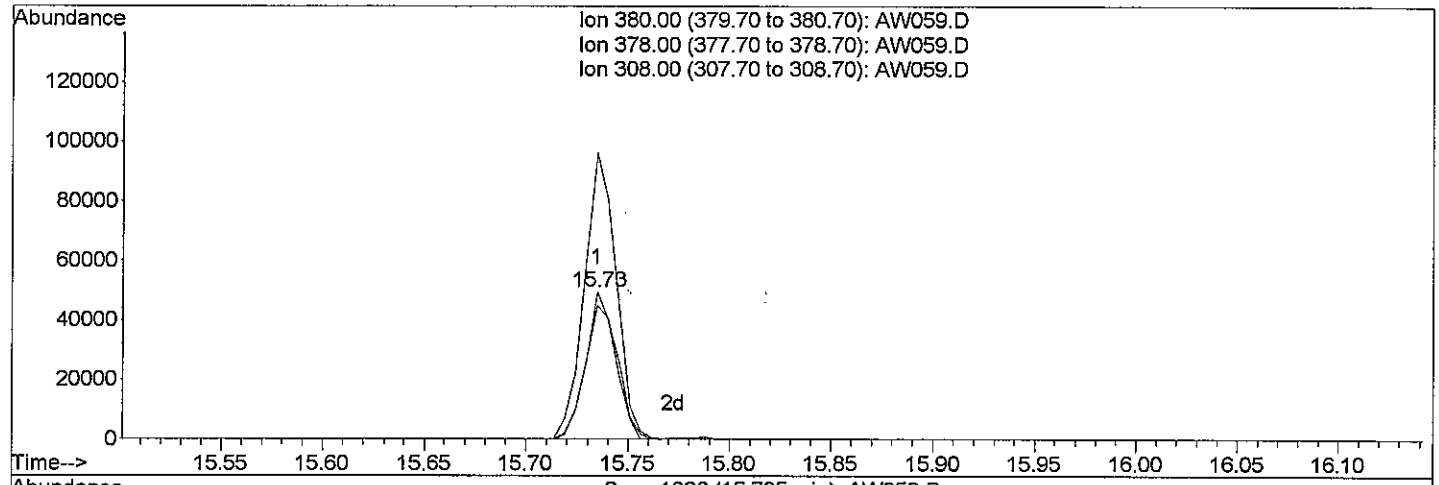
Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Initial Calibration

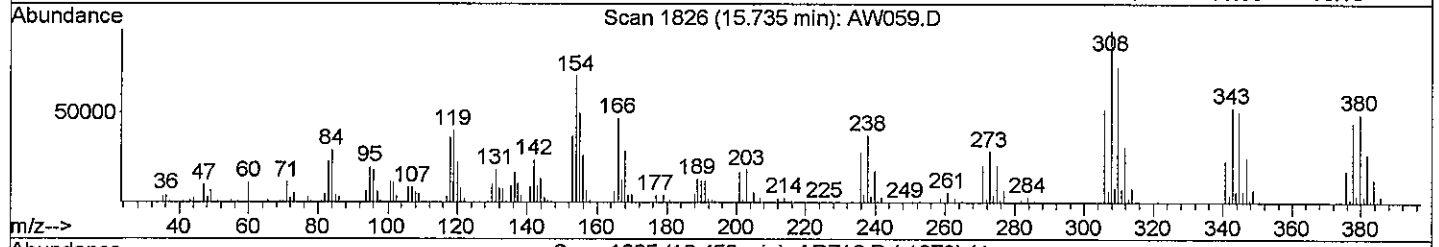


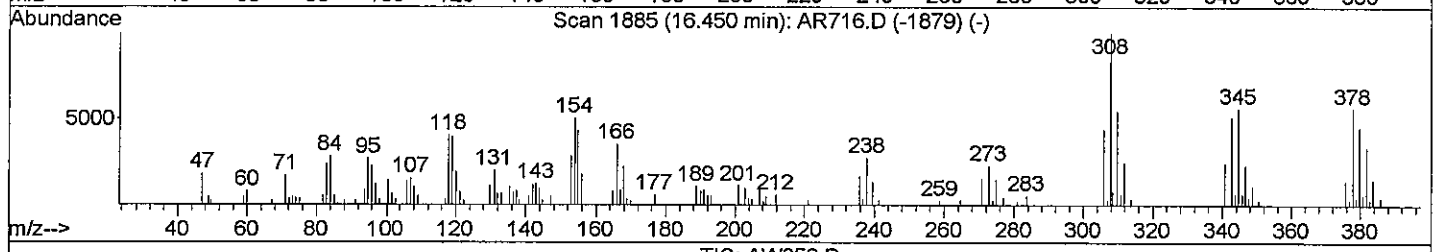
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW059.D Vial: 12
Acq On : 11 Nov 2009 4:29 pm Operator: J.Wu
Sample : RQ0910904-03|1.0/RQ0910914-03 JW 11/4/09 Inst : 5973C
Misc : 11/04/2009 1.0 Northgate 8270.LL LCSD Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 11 16:56 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Multiple Level Calibration







TIC: AW059.D

(23) Octachlorostyrene

15.73min 2.44ppm

response 51972

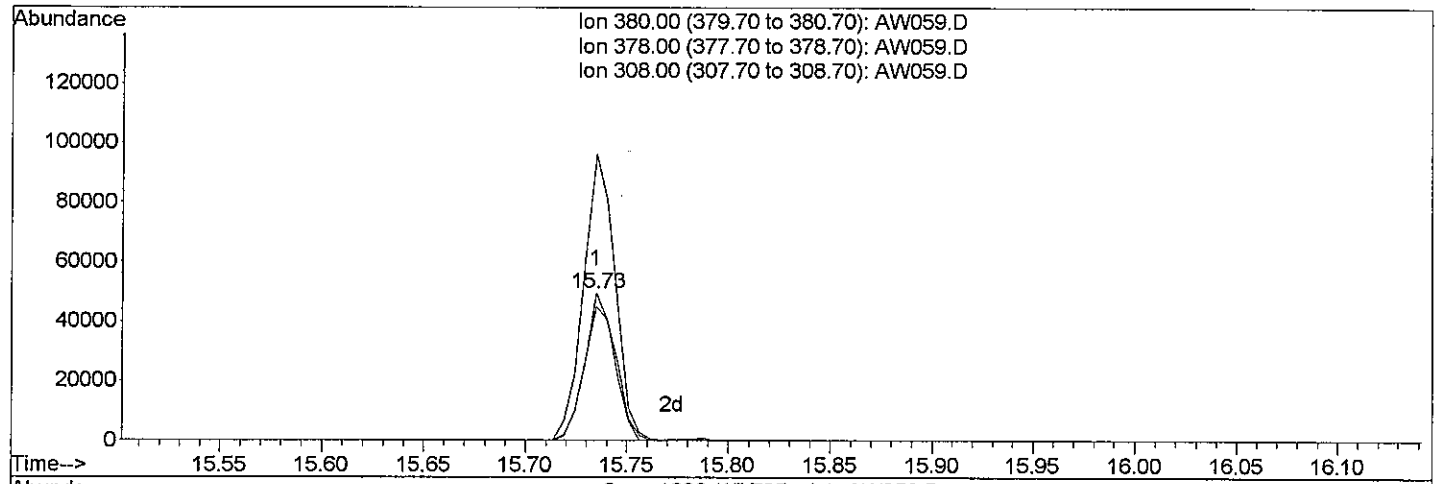
Ion	Exp%	Act%
380.00	100	100
378.00	76.50	100.29#
308.00	184.30	193.94
0.00	0.00	0.00

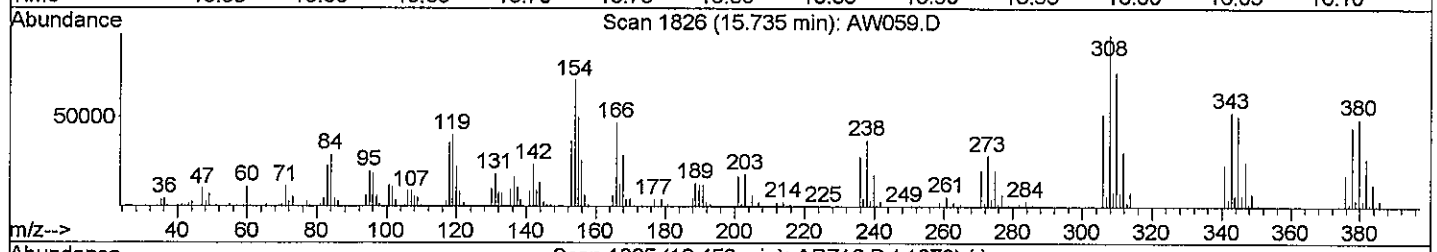
AW059.D LVI1027.M Thu Nov 12 08:27:12 2009

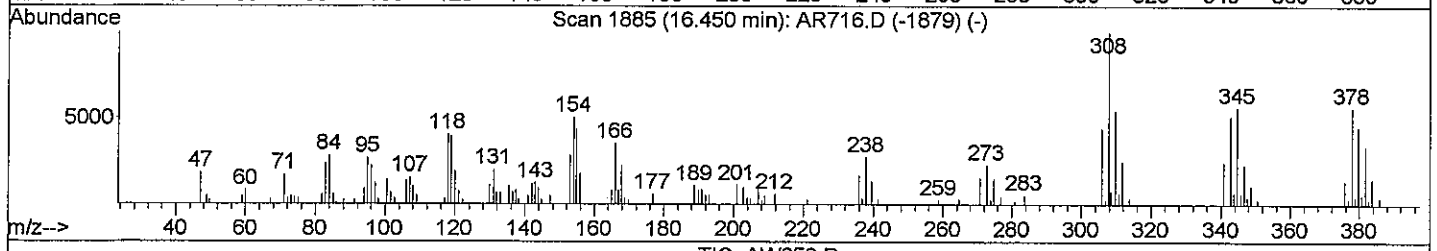
Quantitation Report (Qedit)

Data File : J:\ACQUDATA\5973C\DATA\111109\AW059.D Vial: 12
Acq On : 11 Nov 2009 4:29 pm Operator: J.Wu
Sample : RQ0910904-03|1.0/RQ0910904-03 JW 11/12/09 Inst : 5973C
Misc : 11/04/2009 1.0 Northgate 8270.LL LCSD Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Nov 12 8:27 2009 Quant Results File: temp.res

Method : J:\ACQUDATA\5973C\METHODS\LVI1027.M (RTE Integrator)
Title : 8270 BNA ANALYSIS
Last Update : Wed Oct 28 09:06:50 2009
Response via : Multiple Level Calibration







TIC: AW059.D

(23) Octachlorostyrene

15.73min 2.45ppm m

response 52145

Ion	Exp%	Act%
380.00	100	100
378.00	76.50	90.68
308.00	184.30	193.94
0.00	0.00	0.00

MW 11/12

A JW 11/12/09

AW059.D LVI1027.M Thu Nov 12 08:27:18 2009

00495

Preparation Information Benchsheet

Prep Run#: 99893
Team: Semivoa GCMS/DMURPHY

Prep WorkFlow: OrgExtLLAq(7)
Prep Method: EPA 3510C

Status: Prepped
Prep Date/Time: 11/4/09 11:25 AM

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ0910904-01	MB		1000mL	8270C/SVO_LL	6	x	x	1.00mL	clear-colorless	1.0000 mL/13095	
2	RQ0910904-02	LCS		1000mL	8270C/SVO_LL	6	x	x	1.00mL	clear-colorless	1.0000 mL/12890; 1.0000 mL/12891; 1.0000 mL/13095	
3	RQ0910904-03	DLCS		1000mL	8270C/SVO_LL	6	x	x	1.00mL	clear-colorless	1.0000 mL/12890; 1.0000 mL/12891; 1.0000 mL/13095	
4	R0906270-001	M-147B	.07	1060mL	8270C/SVO_LL	7	x	x	1.00mL	clear-colorless	1.0000 mL/13095	
5	R0906270-002	M-147009B	.08	1060mL	8270C/SVO_LL	7	x	x	1.00mL	clear-colorless	1.0000 mL/13095	
6	R0906270-003	EB110209-GWA3	.08	1060mL	8270C/SVO_LL	6	x	x	1.00mL	clear-colorless	1.0000 mL/13095	

pkg. IV 11/17/09

Spiking Solutions

Name:	8270 LVI 1,4-Dioxane LCS Spike 5ppm	Inventory ID	12890	Logbook Ref:	Expires On: 12/28/2009
Name:	8270 LVI LCS Spike 4ppm	Inventory ID	12891	Logbook Ref:	Expires On: 04/24/2010
Name:	8270 LVI Surrogate 2/4 ug/mL	Inventory ID	13095	Logbook Ref:	Expires On: 05/03/2010

Preparation Materials

Eppendorf Pipette Repeater	EXT #3 (12431)	2mL Graduated Vials	(13019)	Sulfuric Acid, 50% H2SO4	(12854)
Dichloromethane (Methylene Chloride) 99.9% MeCl2	(12863)	Sodium Hydroxide 50% NaOH	(12914)	Prepared Sodium Sulfate Na2SO4	(13068)

Preparation Steps

Step:	Extraction	Step:	Concentration	Step:	Final Volume
Started:	11/4/09 11:25	Started:	11/5/09 09:30	Started:	11/5/09 11:39
Finished:	11/4/09 16:00	Finished:	11/5/09 11:00	Finished:	11/5/09 11:39
By:	DMURPHY	By:	DCURRAN	By:	DCURRAN

Comments:

Reviewed By: _____ Date: 11/5/09 Spike Witness: LDESSENA _____ Date: 11/5/09

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Analysis: 8270.LL	Analyst: TW	Run Method: LV11027.m
Date: 11/11/09	Instr. 5973C	Quant Method: U
		LIMS Run#: 179066

Pos.	Sample	Diln.	Stds. ID	Client	File#	OK?	Comments
1	Tune check	10ng DFTPP	Tunec.m		AW047	Y	9:01
1	Calibration Check	2.0/4.0 PPM	LV11027.M		AW048	Y	#2,5 > 20% DEV
2	RB09/0784-01	1.0 BLK	8270.LL (11/3/09)	[redacted] (soil)	AW049	Y	(for RB123, RB491)
3	RB0906123-023	1.0			050	Y	
4	RB0906191-002	1.0	8270.LL (11/3/09)	[redacted] (soil)	051	Y	
5	6191-003	1.0			052	Y	
6	6191-004	1.0			053	Y	
7	6191-005	1.0			054	Y	
8	RB0910784-08	1.0	005MS		055	Y	
9	10784-09	1.0	005MSD		AW056	Y	
10	RB0910904-01	1.0 BLK	8270.LL (11/4/09)	[redacted] (water)	AW057	Y	(Blk, LCS, LCSD for RB0906056)
11	10904-02	1.0 LCS	(RB0910914-01 for RB0906056 8270.LLSPIP)		058	Y	#2,3 U
12	10904-03	1.0 LCSD			059	Y	#2,3 U
13	RB0906270-001	1.0			060	NO	#2 hit, RAT std.
14	6270-002	1.0			061	NO	#2 hit RAT std.
15	6270-003	1.0			AW062	Y	
16	RB0906056-004	1.0	8270.LLSPIP (11/4/09)	[redacted] (water)	AW063	Y	
17	6056-007	1.0			064	Y	
18	6056-010	1.0			065	Y	
19	6056-012	1.0			AW066	Y	8:43
20					AW072		
	AW048			TW			
10.68	118549						
11.94	449815						
13.53	248855						
14.73	325995						
17.93	392189						
21.46	302262						

All samples = _____mL + _____uL Combined IS/Surr.;

0005

Primary :_____ exp: Secondary :_____ exp:

Primary:_____ exp: Secondary :_____ exp:

00497

[redacted]

10 ul of 100 ppm ISTD (a-618-156D) to 1.0 mL — 5973-B

11/11/09	Tune check	10 ng DFTPP	DFTPPLV1.m	DC323	Failed
	Tune check	10 ng DFTPP	DFTPPLV1.m	DC324	YT 10:28
1	Calibration Check	2.0/4.0 ppm	LV11016.m	DC325	YC
R0906095 2	[redacted]	R0906095-011/1.0 8270cc 11/3/09 water		DC 326	Y
3		6095-013/1.0		327	Y
4		6095-016/1.0		328	Y
5		6095-017/1.0		329	Y
6		6095-020/1.0		DC 330	Y
R0906056 7	[redacted] (Re)	RQ0910914-01/1.0 Blk 8270 LLSPP (B) 11/4/09 water		DC 331	YM
8		R0906056-013/1.0		332	Y
9		6056-014/1.0		333	Y
10	ZRBLK 1	RQ0910622-01/1.0		334	YM
11	ZRBLK 2	RQ0910788-01/1.0		335	YM
12	ZRBLK 3	RQ0910891-01/1.0		DC336	YM
R0906056 13	[redacted] (RQ0910972-01 -02 -03)	RQ0910973-01/1.0 Blk 8270 LLSPP 11/5/09 water		DC 337	YM
14		10973-02/1.0 LCS (R0906320 8270LLD2)		338	YQ #2,3↓
15		10973-03/1.0 LCSD		339	YQ #2,3↓
16		R0906056-009/1.0		DC 340	Y 10:05
17	cmec			DC 351	—

DC325

10.63	85722
11.90	323725
13.49	209422
14.70	343404
17.96	392771
21.68	303784

Saved method (LV11016.m) for shif[t]

10 ul of 100 pp[m]

11/12/09	Tune Check	10 ng
1	Calibration Check	2.0
R0906270 2	Northgate	R0906270
3		627
R0906056 4	Northgate	R0906056-
5		RQ0910958-
R0906320 6	GEO	R0906320-
7		6320-
8		6320-
9		6320-
10		6320-
11		6320-
12		6320-
13		RQ0910972-
14		10972-
15		R0906320
16		6320
17	cmec	

DC354

10.63	85937
11.90	336566
13.49	210061
14.70	340497
17.97	388550
21.67	299738

Saved method (LV1016.m) for shift R.T. today.

5973-B Run# 179311

10 uL of 100 PPM STD (0-618-1563) to 1.0 mL.

11/12/09		Tune Check	10ng DFTPP	DFTPPLV1.m	DC352	Y T 10:50
	1	Calibration Check	2.0/4.0 PPM	LV1016.m	DC354	Y C
R0906270	2	[redacted]	R0906270-001/1.0 8270.LL 11/4/09	water	DC355	Y
	3		6270-002/1.0		DC356	Y
R0906056	4	[redacted]	R0906056-011/1.0 8270.LLSplp 11/5/09	water	DC357	Y
	5		RQ0910918-01/1.0 8270LL		DC358	Y
R0906320	6	[redacted]	R0906320-001/1.0 8270.LLDI 11/5/09	water	DC359	Y
	7	"	6320-002/1.0		360	Y
	8		6320-003/1.0		361	Y
	9		6320-004/1.0		362	Y
	10		6320-005/1.0		363	Y
	11		6320-006/1.0		364	Y
	12		6320-007/1.0		365	Y
	13		RQ0910972-04/1.0 007MS		366	Y Q
	14		" 10972-05/1.0 007MSD		367	Y Q
	15		R0906320-008/1.0		368	Y
	16		6320-009/1.0		DC369	Y 9:52
	17	Close			DC380	—

DC354

10.63	85937
11.90	336566
13.49	210061
14.70	340497
17.97	388550
21.67	299738

JW

PESTICIDES

QC SUMMARY

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001
Sample Matrix: Water

Service Request: R0906270
Date Analyzed: 11/14/09

Lab Control Sample Summary
Organochlorine Pesticides by Gas Chromatography

Analytical Method: 8081A
Prep Method: EPA 3510C

Units: µg/L
Basis: NA

Extraction Lot: 99996

	Lab Control Sample RQ0911121-02			Duplicate Lab Control Sample RQ0911121-03					
Analyte Name	**Result**	**Expected**	**% Rec**	**Result**	**Expected**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
4,4'-DDD	**0.209**	0.200	104	**0.224**	0.200	112	50 - 130	7	30
4,4'-DDE	**0.179**	0.200	89	**0.197**	0.200	98	50 - 130	10	30
4,4'-DDT	**0.185**	0.200	92	**0.196**	0.200	98	50 - 130	6	30
Aldrin	**0.140**	0.200	70	**0.149**	0.200	74	50 - 130	6	30
Dieldrin	**0.193**	0.200	96	**0.212**	0.200	106	50 - 130	10	30
Endosulfan I	**0.200**	0.200	100	**0.203**	0.200	102	50 - 130	1	30
Endosulfan II	**0.196**	0.200	98	**0.213**	0.200	107	50 - 130	8	30
Endosulfan Sulfate	**0.194**	0.200	97	**0.206**	0.200	103	50 - 130	6	30
Endrin	**0.204**	0.200	102	**0.215**	0.200	108	50 - 130	5	30
Endrin Aldehyde	**0.138**	0.200	69	**0.150**	0.200	75	50 - 130	8	30
Endrin Ketone	**0.202**	0.200	101	**0.206**	0.200	103	50 - 130	2	30
Heptachlor	**0.164**	0.200	82	**0.174**	0.200	87	50 - 130	6	30
Heptachlor Epoxide	**0.179**	0.200	89	**0.195**	0.200	97	50 - 130	9	30
Hexachlorobenzene	**0.288**	0.500	58	**0.310**	0.500	62	50 - 130	7	30
Methoxychlor	**1.00**	1.00	100	**1.05**	1.00	105	50 - 130	5	30
alpha-BHC	**0.180**	0.200	90	**0.193**	0.200	96	50 - 130	6	30
alpha-Chlordane	**0.176**	0.200	88	**0.193**	0.200	96	50 - 130	9	30
beta-BHC	**0.184**	0.200	92	**0.196**	0.200	98	50 - 130	6	30
delta-BHC	**0.179**	0.200	89	**0.193**	0.200	97	50 - 130	8	30
gamma-BHC (Lindane)	**0.183**	0.200	91	**0.196**	0.200	98	50 - 130	7	30
gamma-Chlordane	**0.176**	0.200	88	**0.190**	0.200	95	50 - 130	8	30

Comments:

Method Blank Summary

Lab Name: Columbia Analytical Services *Contract:* Northgate

Lab Code: 10145 *Case.No.:* R0906270 *SAS No.:* _____ *SDG No.:* M-147B

Lab Sample ID: RQ0911121-01|1. *Lab File ID:* FD468.D

Matrix: WATER *Level: (low/med)*

Date extracted: 11/09/09 *Extraction: (Sepf/Cont/Sonc)* Sepf

Date analyzed: *(1)* 11/14/2009 *Date analyzed:* *(2)* 11/14/2009

Time analyzed: *(1)* 20:23 *Time analyzed:* *(2)* 20:23

Instrument ID: *(1)* 6890D *Instrument ID:* *(2)* 6890D

GC Column(1) *(1)* STx-CLP *GC Column(2)* *(2)* STx-CLPII

This Method Blank Applies to the Following Sample, MS, and MSD:

EPA Sample No.	*Lab Sample No.*	*Date Analyzed 1*	*Date Analyzed 2*
PBLK01MS	RQ0911121-02|1.0	11/14/2009	11/14/2009
PBLK01MSD	RQ0911121-03|1.0	11/14/2009	11/14/2009
M-147B	R0906270-001|1.0	11/15/2009	11/15/2009
M-147009B	R0906270-002|1.0	11/15/2009	11/15/2009
EB110209-GWA3	R0906270-003|1.0	11/15/2009	11/15/2009

PESTICIDES

SAMPLE DATA

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147B	**Units:**	µg/L
Lab Code:	R0906270-001	**Basis:**	NA

Organochlorine Pesticides by Gas Chromatography

Analytical Method: 8081A
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
4,4'-DDD	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 02:56	99996	179493	
4,4'-DDE	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 02:56	99996	179493	
4,4'-DDT	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 02:56	99996	179493	
Aldrin	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	
Chlordane	0.13	U	0.24	0.13	1	11/ 9/09	11/15/09 02:56	99996	179493	
Dieldrin	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 02:56	99996	179493	
Endosulfan I	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	
Endosulfan II	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 02:56	99996	179493	
Endosulfan Sulfate	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 02:56	99996	179493	
Endrin	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 02:56	99996	179493	
Endrin Aldehyde	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 02:56	99996	179493	
Endrin Ketone	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 02:56	99996	179493	
Heptachlor	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	
Heptachlor Epoxide	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	
Hexachlorobenzene	0.028	U	0.047	0.028	1	11/ 9/09	11/15/09 02:56	99996	179493	
Methoxychlor	0.25	U	0.47	0.25	1	11/ 9/09	11/15/09 02:56	99996	179493	
Toxaphene	0.50	U	0.94	0.50	1	11/ 9/09	11/15/09 02:56	99996	179493	
alpha-BHC	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	
alpha-Chlordane	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	
beta-BHC	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	
delta-BHC	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	
gamma-BHC (Lindane)	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	
gamma-Chlordane	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 02:56	99996	179493	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
Decachlorobiphenyl	93	40-140	11/15/09 02:56		
Tetrachloro-m-xylene	77	40-140	11/15/09 02:56		

Comments:

Quantitation Report (Not Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD479.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 2:56 am
Operator : M.PEDRO
Sample : R0906270-001|1.0
Misc : 11/09/09 106 8081
ALS Vial : 31 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:07:00 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l	
	System Monitoring Compounds							
1)	S SURR1,Tetrac	9.21	9.37	2016.2E6	5499.9E6	76.623	71.842	
	Spiked Amount 100.000	Range 30 - 150		Recovery =		76.62%	71.84%	
25)	S SURR2,Decachloro	17.33	17.94	2273.6E6	5085.9E6	92.866	93.262	
	Spiked Amount 100.000	Range 30 - 150		Recovery =		92.87%	93.26%	
	Target Compounds							
2)	TC HEXACHLOROBENZEN	9.90	0.00	4946500	0	0.132	N.D.	#
3)	tc alpha-BHC	10.19	10.45	4452002	8588961	0.108	0.077	#
4)	tcm gamma-BHC (L	0.00	11.02	0	6499747	N.D.	0.063	#
5)	tcm Heptachlor	11.48	0.00	13642788	0	0.371	N.D.	#
7)	tc beta-BHC	10.86	11.17	9625991	9568841	0.620	0.222	#
8)	tc delta-BHC	11.18	11.62	16500529	14760832	0.445	0.146	#
9)	tc Heptachlor E	12.83	13.01	6259515	42615902	0.199	0.498	#
11)	tc gamma-Chlord	0.00	13.28	0	49217217	N.D.	0.559	#
13)	tc 4,4'-DDE	0.00	13.73	0	7330056	N.D.	0.093	#
14)	tcm Dieldrin	13.73	13.98	24557099	32151302	0.785	0.389	#
15)	tcm Endrin	0.00	14.41	0	11459935	N.D.	0.167	#
17)	tc beta-Endosul	0.00	14.73	0	34617202	N.D.	0.496	#
18)	tc 4,4'-DDD	14.19	14.57	4182876	6928965	0.170	0.110	#
19)	tcm 4,4'-DDT	0.00	15.03	0	44727364	N.D.	0.666	#
20)	tc Endrin Aldeh	15.06	0.00	4457312	0	0.210	N.D.	#
24)	tc Endrin Keton	16.09	16.38	3426889	4440490	0.122	0.066	#
30)	L8C Toxaphene{5}	16.28	0.00	14915516	0	25.497	N.D.	#
	Sum Toxaphene			14915516	0	25.497	N.D.	
Average	Toxaphene					25.497	0.000	
31)	L9C Chlordane	0.00	11.47	0	4706067	N.D.	7.363	#
32)	L9C Chlordane{2}	11.48	0.00	13642788	0	28.081	N.D.	#
33)	L9C Chlordane{3}	0.00	12.42	0	18049872	N.D.	9.583	#
34)	L9C Chlordane{4}	0.00	13.28	0	49217217	N.D.	5.309	#
35)	L9C Chlordane{5}	14.30	0.00	7716095	0	5.284	N.D.	#
	Sum Chlordane			21358884	71973156	33.364	22.255	

00505

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD479.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 2:56 am
Operator : M.PEDRO
Sample : R0906270-001|1.0
Misc : 11/09/09 106 8081
ALS Vial : 31 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:07:00 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
Average Chlordane					16.682	7.418

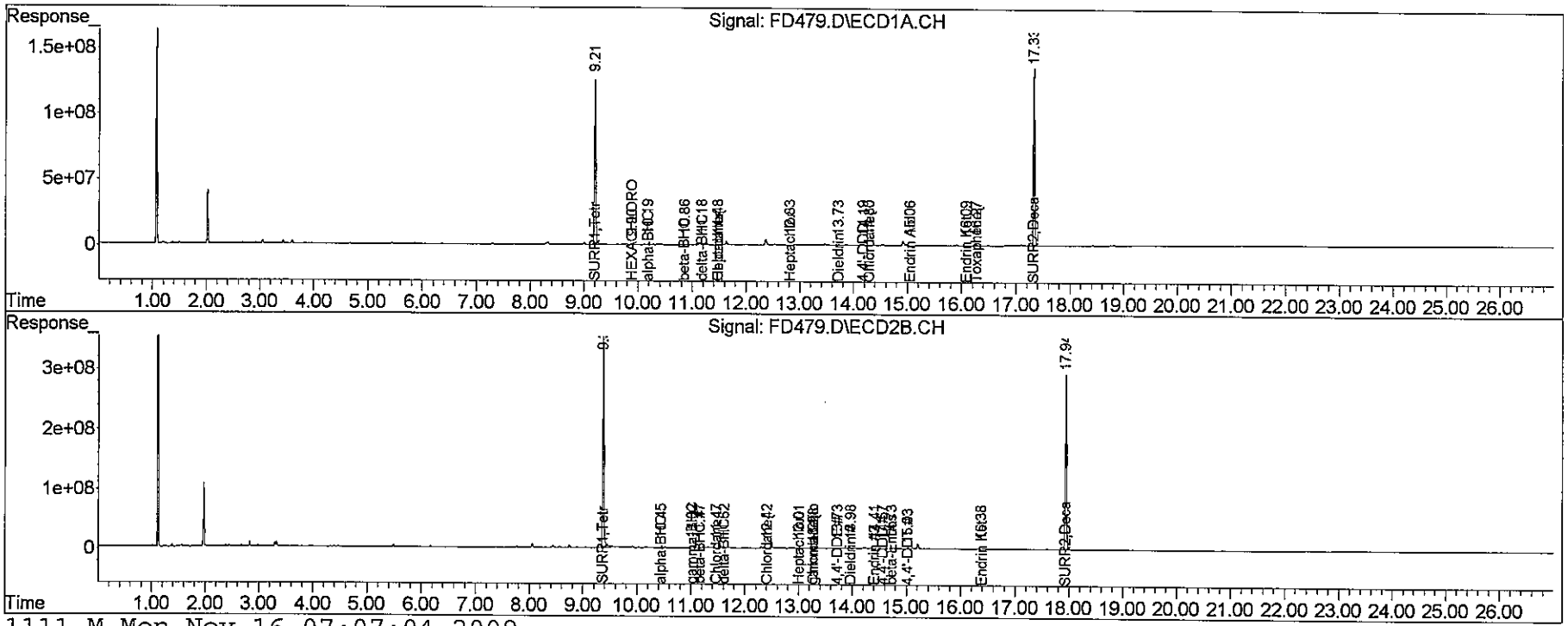
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD479.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 2:56 am
Operator : M.PEDRO
Sample : R0906270-001|1.0
Misc : 11/09/09 106 8081
ALS Vial : 31 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:07:00 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147009B	**Units:**	µg/L
Lab Code:	R0906270-002	**Basis:**	NA

Organochlorine Pesticides by Gas Chromatography

Analytical Method: 8081A
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
4,4'-DDD	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 03:31	99996	179493	
4,4'-DDE	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 03:31	99996	179493	
4,4'-DDT	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 03:31	99996	179493	
Aldrin	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	
Chlordane	0.13	U	0.24	0.13	1	11/ 9/09	11/15/09 03:31	99996	179493	
Dieldrin	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 03:31	99996	179493	
Endosulfan I	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	
Endosulfan II	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 03:31	99996	179493	
Endosulfan Sulfate	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 03:31	99996	179493	
Endrin	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 03:31	99996	179493	
Endrin Aldehyde	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 03:31	99996	179493	
Endrin Ketone	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 03:31	99996	179493	
Heptachlor	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	
Heptachlor Epoxide	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	
Hexachlorobenzene	0.028	U	0.047	0.028	1	11/ 9/09	11/15/09 03:31	99996	179493	
Methoxychlor	0.25	U	0.47	0.25	1	11/ 9/09	11/15/09 03:31	99996	179493	
Toxaphene	0.50	U	0.94	0.50	1	11/ 9/09	11/15/09 03:31	99996	179493	
alpha-BHC	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	
alpha-Chlordane	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	
beta-BHC	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	
delta-BHC	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	
gamma-BHC (Lindane)	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	
gamma-Chlordane	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 03:31	99996	179493	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
Decachlorobiphenyl	94	40-140	11/15/09 03:31		
Tetrachloro-m-xylene	62	40-140	11/15/09 03:31		

Comments:

Quantitation Report (Not Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD480.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 3:31 am
Operator : M.PEDRO
Sample : R0906270-002|1.0
Misc : 11/09/09 106 8081
ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:07:07 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l	
	System Monitoring Compounds							
1)	S SURR1,Tetrac	9.21	9.37	1629.0E6	4460.7E6	61.907	58.268	
	Spiked Amount 100.000	Range 30 - 150		Recovery =		61.91%	58.27%	
25)	S SURR2,Decachloro	17.33	17.94	2288.3E6	5150.8E6	93.465	94.453	
	Spiked Amount 100.000	Range 30 - 150		Recovery =		93.47%	94.45%	
	Target Compounds							
2)	TC HEXACHLOROBENZEN	9.90	0.00	6552371	0	0.174	N.D.	#
3)	tc alpha-BHC	10.19	10.45	5742944	9988671	0.139	0.089	#
4)	tcm gamma-BHC (L	0.00	11.02	0	8089887	N.D.	0.078	#
5)	tcm Heptachlor	11.48	11.72	20213780	10943191	0.550	0.110	#
6)	tcm Aldrin	11.95	12.17	4383339	3931366	0.128	0.042	#
7)	tc beta-BHC	0.00	11.17	0	9394874	N.D.	0.218	#
8)	tc delta-BHC	11.18	11.62	24696472	15965504	0.666	0.158	#
9)	tc Heptachlor E	12.82	13.01	6187328	47694267	0.196	0.558	#
11)	tc gamma-Chlord	0.00	13.28	0	58651921	N.D.	0.666	#
13)	tc 4,4'-DDE	0.00	13.73	0	9327681	N.D.	0.119	#
14)	tcm Dieldrin	13.73	13.98	32895446	44851955	1.051	0.543	#
15)	tcm Endrin	0.00	14.41	0	20940868	N.D.	0.305	#
16)	tc KEPONE	14.13	0.00	36662042	0	3.106	N.D.	#
17)	tc beta-Endosul	0.00	14.73	0	52874384	N.D.	0.758	#
18)	tc 4,4'-DDD	14.19	14.57	5327192	22681180	0.217	0.361	#
19)	tcm 4,4'-DDT	0.00	15.03	0	96006156	N.D.	1.430	#
20)	tc Endrin Aldeh	15.06	0.00	6953164	0	0.328	N.D.	#
24)	tc Endrin Keton	16.09	0.00	4285243	0	0.152	N.D.	#
30)	L8C Toxaphene{5}	16.28	0.00	13240290	0	22.633	N.D.	#
	Sum Toxaphene			13240290	0	22.633	N.D.	
Average	Toxaphene					22.633	0.000	
31)	L9C Chlordane	0.00	11.48	0	6209275	N.D.	9.715	#
32)	L9C Chlordane{2}	11.48	11.72	20213780	10943191	41.605	7.758	#
33)	L9C Chlordane{3}	0.00	12.42	0	23401804	N.D.	12.424	#
34)	L9C Chlordane{4}	0.00	13.28	0	58651921	N.D.	6.327	#

Quantitation Report (Not Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD480.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 3:31 am
Operator : M.PEDRO
Sample : R0906270-002|1.0
Misc : 11/09/09 106 8081
ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:07:07 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
35) L9C Chlordane{5}	14.30	0.00	10068332	0	6.894	N.D. #
Sum Chlordane			30282112	99206190	48.500	36.224
Average Chlordane					24.250	9.056

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

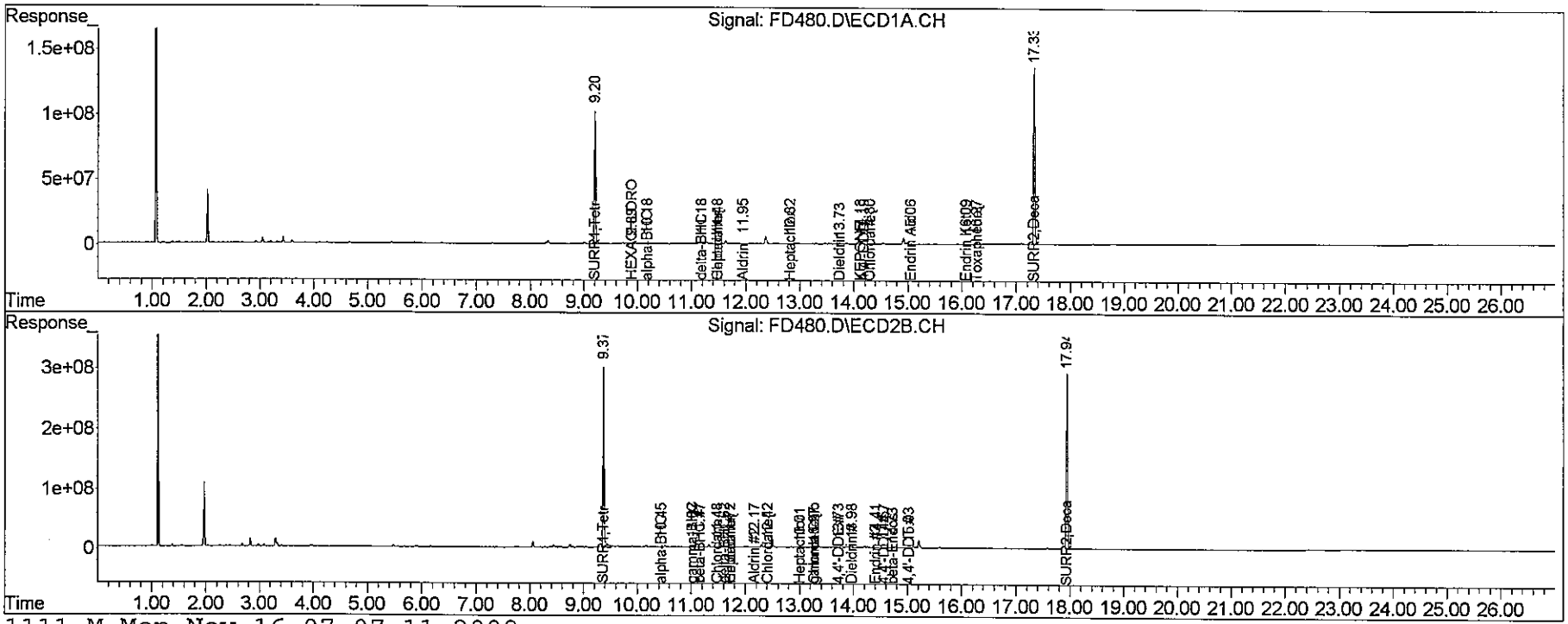
00510

Quantitation Report (Not Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD480.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 3:31 am
Operator : M.PEDRO
Sample : R0906270-002|1.0
Misc : 11/09/09 106 8081
ALS Vial : 32 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:07:07 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1240
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	EB110209-GWA3	**Units:**	µg/L
Lab Code:	R0906270-003	**Basis:**	NA

Organochlorine Pesticides by Gas Chromatography

Analytical Method: 8081A
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
4,4'-DDD	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 04:07	99996	179493	
4,4'-DDE	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 04:07	99996	179493	
4,4'-DDT	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 04:07	99996	179493	
Aldrin	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	
Chlordane	0.13	U	0.24	0.13	1	11/ 9/09	11/15/09 04:07	99996	179493	
Dieldrin	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 04:07	99996	179493	
Endosulfan I	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	
Endosulfan II	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 04:07	99996	179493	
Endosulfan Sulfate	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 04:07	99996	179493	
Endrin	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 04:07	99996	179493	
Endrin Aldehyde	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 04:07	99996	179493	
Endrin Ketone	0.050	U	0.094	0.050	1	11/ 9/09	11/15/09 04:07	99996	179493	
Heptachlor	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	
Heptachlor Epoxide	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	
Hexachlorobenzene	0.028	U	0.047	0.028	1	11/ 9/09	11/15/09 04:07	99996	179493	
Methoxychlor	0.25	U	0.47	0.25	1	11/ 9/09	11/15/09 04:07	99996	179493	
Toxaphene	0.50	U	0.94	0.50	1	11/ 9/09	11/15/09 04:07	99996	179493	
alpha-BHC	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	
alpha-Chlordane	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	
beta-BHC	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	
delta-BHC	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	
gamma-BHC (Lindane)	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	
gamma-Chlordane	0.025	U	0.047	0.025	1	11/ 9/09	11/15/09 04:07	99996	179493	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
Decachlorobiphenyl	53	40-140	11/15/09 04:07		
Tetrachloro-m-xylene	75	40-140	11/15/09 04:07		

Comments:

Quantitation Report (Not Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD481.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 4:07 am
Operator : M.PEDRO
Sample : R0906270-003|1.0
Misc : 11/09/09 106 8081
ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:07:14 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l	
	System Monitoring Compounds							
1)	S SURR1,Tetrac	9.20	9.37	1964.5E6	5396.0E6	74.658	70.485	
	Spiked Amount 100.000	Range 30 - 150		Recovery =		74.66%	70.48%	
25)	S SURR2,Decachloro	17.33	17.94	1265.4E6	2901.0E6	51.686	53.198	
	Spiked Amount 100.000	Range 30 - 150		Recovery =		51.69%	53.20%	
	Target Compounds							
2)	TC HEXACHLOROBENZEN	9.90	0.00	4950910	0	0.132	N.D.	#
3)	tc alpha-BHC	0.00	10.45	0	6434637	N.D.	0.057	#
5)	tcm Heptachlor	11.48	0.00	8958382	0	0.244	N.D.	#
6)	tcm Aldrin	0.00	12.16	0	7807408	N.D.	0.083	#
7)	tc beta-BHC	0.00	11.16	0	12856636	N.D.	0.298	#
8)	tc delta-BHC	11.18	11.62	7542590	6879939	0.203	0.068	#
9)	tc Heptachlor E	12.83	13.01	4320811	75486170	0.137	0.883	#
11)	tc gamma-Chlord	0.00	13.28	0	76418028	N.D.	0.868	#
13)	tc 4,4'-DDE	0.00	13.73	0	6441351	N.D.	0.082	#
14)	tcm Dieldrin	13.73	13.98	22662260	37400065	0.724	0.452	#
15)	tcm Endrin	0.00	14.41	0	13792934	N.D.	0.201	#
17)	tc beta-Endosul	0.00	14.73	0	41149451	N.D.	0.590	#
18)	tc 4,4'-DDD	14.19	14.57	4632437	9513751	0.189	0.152	
19)	tcm 4,4'-DDT	0.00	15.03	0	47433721	N.D.	0.707	#
20)	tc Endrin Aldeh	15.06	0.00	4609584	0	0.218	N.D.	#
24)	tc Endrin Keton	16.09	16.38	2420853	5968310	0.086	0.089	
26)	L8C Toxaphene	0.00	14.87	0	986989	N.D.	0.271	#
30)	L8C Toxaphene{5}	16.27	0.00	16174164	0	27.649	N.D.	#
	Sum Toxaphene			16174164	986989	27.649	0.271	
Average	Toxaphene					27.649	0.271	
31)	L9C Chlordane	0.00	11.48	0	6947479	N.D.	10.870	#
32)	L9C Chlordane{2}	11.48	0.00	8958382	0	18.439	N.D.	#
33)	L9C Chlordane{3}	0.00	12.42	0	24708584	N.D.	13.118	#
34)	L9C Chlordane{4}	0.00	13.28	0	76418028	N.D.	8.243	#
35)	L9C Chlordane{5}	14.30	0.00	8214094	0	5.625	N.D.	#

Quantitation Report (Not Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD481.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 4:07 am
Operator : M.PEDRO
Sample : R0906270-003|1.0
Misc : 11/09/09 106 8081
ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:07:14 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
Sum Chlordane			17172476	108.1E6	24.063	32.231
Average Chlordane					12.032	10.744

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

Quantitation Report (Not Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD481.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 4:07 am
Operator : M.PEDRO
Sample : R0906270-003|1.0
Misc : 11/09/09 106 8081
ALS Vial : 33 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
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Quant Time: Nov 16 07:07:14 2009
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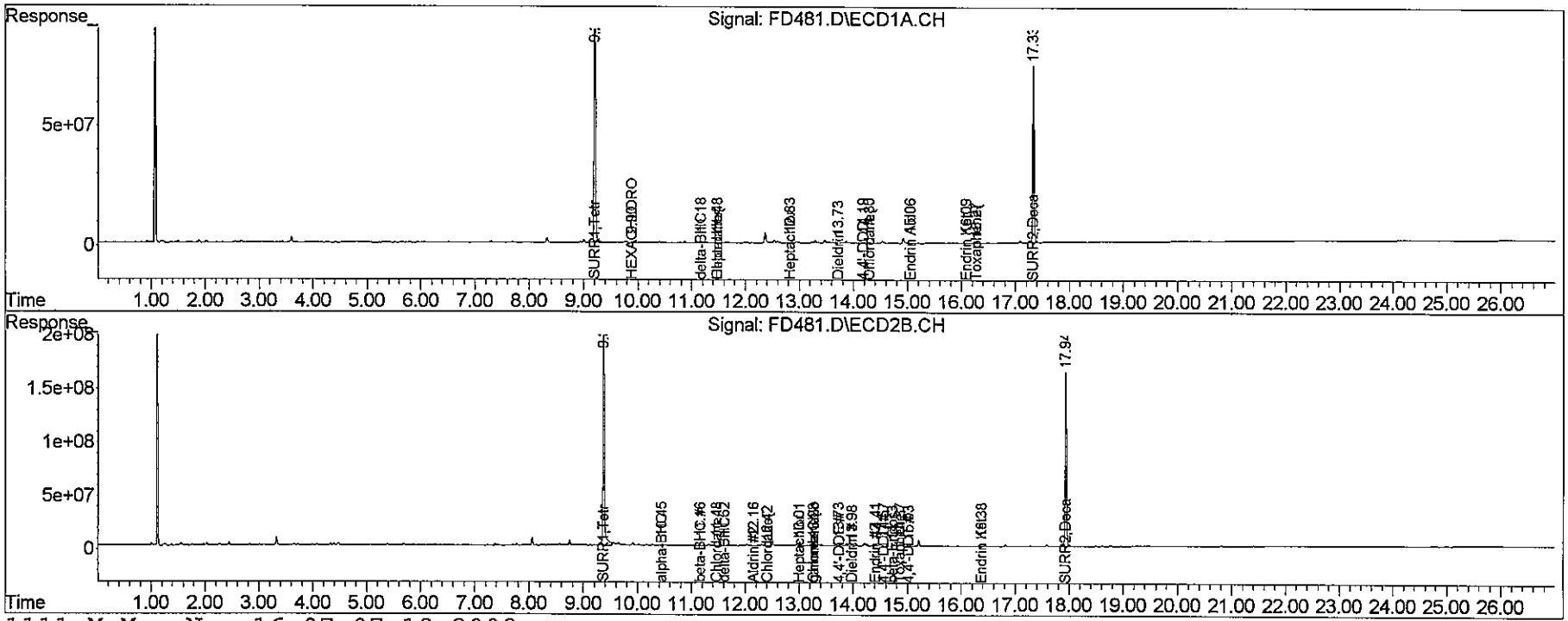
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



PESTICIDES

STANDARDS DATA

Calibration Level Concentrations
Columbia Analytical Services

Analyte	Calib Mix	Level 1 ppb	Level 2 ppb	Level 3 ppb	Level 4 ppb	Level 5 ppb
alpha-BHC	Ind A	80	40	20	10	5
gamma-BHC	Ind A	80	40	20	10	5
DDD	Ind A	160	80	40	20	10
DDT	Ind A	160	80	40	20	10
Dieldrin	Ind A	160	80	40	20	10
alpha-Endosulfan	Ind A	80	40	20	10	5
Endrin	Ind A	160	80	40	20	10
Heptachlor	Ind A	80	40	20	10	5
Methoxychlor	Ind A	800	400	200	100	50
Surr.-DCB	Ind A	160	80	40	20	10
Surr.-TCMX	Ind A	80	40	20	10	5
Aldrin	Ind B	80	40	20	10	5
beta-BHC	Ind B	80	40	20	10	5
delta-BHC	Ind B	80	40	20	10	5
DDE	Ind B	160	80	40	20	10
alpha-Chlordane	Ind B	80	40	20	10	5
gamma-Chlordane	Ind B	80	40	20	10	5
beta-Endosulfan	Ind B	160	80	40	20	10
Endosulfan Sulfate	Ind B	160	80	40	20	10
Endrin Aldehyde	Ind B	160	80	40	20	10
Endrin Ketone	Ind B	160	80	40	20	10
Heptachlor Epoxide	Ind B	80	40	20	10	5
Surr.-DCB	Ind B	160	80	40	20	10
Surr.-TCMX	Ind B	80	40	20	10	5
PCB 1016	1016/1260	1000	750	500	750	100
PCB 1221	1221	1000		500		100
PCB 1232	1232	1000		500		100
PCB 1242	1242	1000		500		100
PCB 1248	1248	1000		500		100
PCB 1254	1254	1000		500		100
PCB 1260	1016/1260	1000	750	500	750	100
Chlordane	Chlor	500	250	100	50	25
Toxaphene	Tox	1000	750	500	250	100
Hexachlorobenzene	K/F/HCB	100	80	50	20	5
Kepone	K/F/HCB	2500	2000	1500	1000	500
Famphur	K/F/HCB	500	400	300	200	100

6F

Pesticide Initial Calibration of Multicomponent Analytes

Lab Name: Columbia Analytical Services *Client:* Northgate

Lab Code: 10145 *Case.No.:* R0906270 *SAS No.:* _____ *SDG No.:* M-147B

Instrument ID: 6890D *Date Anlyzed:* 11/11/2009

GC Column(1) STx-CLP *(ID):* 0.32mm 30 | *GC Column(2)* STx-CLPII *(ID):* 0.32mm 30

		RT Window			*RT Window*	
Compound	*RT*	*From*	*To*	*RT*	*From*	*To*
SURR1,Tetrac	9.21	9.16	9.26	9.38	9.33	9.43
HEXACHLOROBEN	9.90	9.83	9.97	10.20	10.13	10.27
alpha-BHC	10.21	10.16	10.26	10.46	10.41	10.51
gamma-BHC (L	10.73	10.68	10.78	11.03	10.98	11.08
Heptachlor	11.48	11.43	11.53	11.70	11.65	11.75
Aldrin	11.93	11.88	11.98	12.18	12.13	12.23
beta-BHC	10.89	10.84	10.94	11.18	11.13	11.23
delta-BHC	11.16	11.11	11.21	11.62	11.57	11.67
Heptachlor E	12.83	12.76	12.90	13.02	12.95	13.09
alpha-Endosu	13.40	13.33	13.47	13.59	13.52	13.66
gamma-Chlord	13.02	12.95	13.09	13.30	13.23	13.37
alpha-Chlord	13.21	13.14	13.28	13.50	13.43	13.57
4,4'-DDE	13.32	13.25	13.39	13.75	13.68	13.82
Dieldrin	13.75	13.68	13.82	13.98	13.91	14.05
Endrin	14.09	14.02	14.16	14.43	14.36	14.50
KEPONE	14.15	14.08	14.22	14.60	14.53	14.67
beta-Endosul	14.42	14.35	14.49	14.74	14.67	14.81
4,4'-DDD	14.18	14.11	14.25	14.57	14.50	14.64
4,4'-DDT	14.58	14.51	14.65	15.03	14.96	15.10
Endrin Aldeh	15.04	14.97	15.11	15.24	15.17	15.31
Endosulfan S	15.69	15.62	15.76	15.64	15.57	15.71
Methoxychlor	15.28	15.21	15.35	16.00	15.93	16.07
FAMPHUR	15.99	15.92	16.06	15.73	15.66	15.80
Endrin Keton	16.09	16.02	16.16	16.40	16.33	16.47
SURR2,Decachlorobip	17.34	17.24	17.44	17.95	17.85	18.05
Toxaphene	14.50	14.43	14.57	14.86	14.79	14.93
Toxaphene	14.59	14.52	14.66	14.97	14.90	15.04
Toxaphene	15.19	15.12	15.26	15.25	15.18	15.32

6F

Pesticide Initial Calibration of Multicomponent Analytes

Lab Name: **Columbia Analytical Services** *Client:* Northgate

Lab Code: **10145** *Case.No.:* R0906270 *SAS No.:* _____ *SDG No.:* M-147B

Instrument ID: 6890D *Date Anlyzed:* 11/11/2009

GC Column(1) STx-CLP *(ID):* 0.32mm 30 | *GC Column(2)* STx-CLPII *(ID):* 0.32mm 30

		RT Window			*RT Window*	
Compound	*RT*	*From*	*To*	*RT*	*From*	*To*
Toxaphene	16.06	15.99	16.13	15.63	15.56	15.70
Toxaphene	16.26	16.19	16.33	16.53	16.46	16.60
Chlordane	11.35	11.28	11.42	11.48	11.41	11.55
Chlordane	11.48	11.41	11.55	11.70	11.63	11.77
Chlordane	12.15	12.08	12.22	12.41	12.34	12.48
Chlordane	13.02	12.95	13.09	13.29	13.22	13.36
Chlordane	14.32	14.25	14.39	14.81	14.74	14.88

Response Factor Report 6890D

Method Path : J:\ACQUDATA\6890D\METHODS\
Method File : 80811111.M
Title : 608/8081A PESTICIDES
Last Update : Thu Nov 12 09:14:11 2009
Response Via : Initial Calibration

Calibration Files
1 =FD369.D 2 =FD368.D 3 =FD367.D
4 =FD366.D 5 =FD365.D

		Compound	1	2	3	4	5	Avg		%RSD
1)	S	SURR1,Tetrac	2.747	2.692	2.624	2.576	2.518	2.631	E7	3.45
2)	TC	HEXACHLOROBENZENE	3.817	3.804	3.756	3.720	3.704	3.760	E7	1.32
3)	tc	alpha-BHC	4.456	4.370	4.225	3.952	3.669	4.134	E7	7.81
4)	tcm	gamma-BHC (L	3.978	3.888	3.746	3.565	3.365	3.709	E7	6.67
5)	tcm	Heptachlor	3.764	3.784	3.728	3.611	3.483	3.674	E7	3.43
6)	tcm	Aldrin	3.558	3.575	3.502	3.355	3.174	3.433	E7	4.92
7)	tc	beta-BHC	1.590	1.563	1.554	1.532	1.524	1.553	E7	1.68
8)	TC	delta-BHC	3.984	3.910	3.794	3.546	3.299	3.707	E7	7.60
9)	tc	Heptachlor E	3.191	3.224	3.191	3.112	3.037	3.151	E7	2.41
10)	tc	alpha-Endosu	2.891	2.888	2.825	2.727	2.620	2.790	E7	4.17
11)	tc	gamma-Chlord	3.313	3.285	3.181	3.054	2.932	3.153	E7	5.08
12)	tc	alpha-Chlord	3.043	3.015	2.957	2.880	2.709	2.921	E7	4.58
13)	tc	4,4'-DDE	3.095	3.156	3.090	2.969	2.807	3.023	E7	4.59
14)	tcm	Dieldrin	3.147	3.239	3.209	3.111	2.939	3.129	E7	3.76
15)	tcm	Endrin	2.942	2.993	2.961	2.857	2.743	2.899	E7	3.48
16)	tc	KEPONE	1.114	1.114	1.178	1.281	1.216	1.181	E7	6.02
17)	tc	beta-Endosul	2.658	2.685	2.655	2.622	2.475	2.619	E7	3.19
18)	tc	4,4'-DDD	2.551	2.549	2.501	2.375	2.304	2.456	E7	4.52
19)	tcm	4,4'-DDT	2.706	2.791	2.712	2.580	2.396	2.637	E7	5.86
20)	tc	Endrin Aldeh	2.169	2.167	2.160	2.063	2.037	2.119	E7	3.02
21)	tc	Endosulfan S	2.511	2.528	2.508	2.415	2.363	2.465	E7	2.92
22)	tc	Methoxychlor	1.191	1.232	1.244	1.237	1.230	1.227	E7	1.68
23)	tc	FAMPHUR	1.865	1.855	1.886	1.994	1.816	1.883	E7	3.56
24)	tc	Endrin Keton	2.842	2.875	2.855	2.782	2.705	2.812	E7	2.45
25)	S	SURR2,Decachlorobiphe	2.440	2.452	2.416	2.511	2.423	2.448	E7	1.53
26)	L8C	Toxaphene	1.259	1.245	1.187	1.109	1.187	1.197	E6	4.95
27)	L8C	Toxaphene{2}	8.772	8.434	8.239	7.723	8.301	8.294	E5	4.58
28)	L8C	Toxaphene{3}	7.551	7.422	6.939	6.379	6.554	6.969	E5	7.40
29)	L8C	Toxaphene{4}	8.158	8.010	7.514	6.922	7.179	7.557	E5	6.98
30)	L8C	Toxaphene{5}	6.368	6.123	5.822	5.371	5.565	5.850	E5	6.92
31)	L9C	Chlordane	2.247	2.066	2.026	2.017	1.860	2.043	E5	6.78
32)	L9C	Chlordane{2}	5.458	4.918	4.742	4.711	4.464	4.858	E5	7.66
33)	L9C	Chlordane{3}	7.546	7.105	7.157	7.333	7.125	7.253	E5	2.58
34)	L9C	Chlordane{4}	4.306	3.934	3.699	3.552	3.244	3.747	E6	10.68
35)	L9C	Chlordane{5}	1.692	1.512	1.458	1.414	1.225	1.460	E6	11.54

Signal #2 Calibration Files
1 =FD369.D 2 =FD368.D 3 =FD367.D
4 =FD366.D 5 =FD365.D

		Compound	1	2	3	4	5	Avg		%RSD
1)	S	SURR1,Tetrac	7.620	7.763	7.716	7.499	7.680	7.656	E7	1.33
2)	TC	HEXACHLOROBENZENE	1.008	1.014	1.011	1.016	1.043	1.019	E8	1.38
3)	tc	alpha-BHC	1.160	1.150	1.119	1.106	1.066	1.120	E8	3.33
4)	tcm	gamma-BHC (L	1.049	1.043	1.036	1.030	1.042	1.040	E8	0.68

00520

Method Path : J:\ACQUDATA\6890D\METHODS\
Method File : 80811111.M
Title : 608/8081A PESTICIDES
Last Update : Thu Nov 12 09:14:11 2009
Response Via : Initial Calibration

Calibration Files
1 =FD369.D 2 =FD368.D 3 =FD367.D
4 =FD366.D 5 =FD365.D

	Compound	1	2	3	4	5	Avg		%RSD
5)	tcm Heptachlor	0.949	0.988	1.007	1.009	1.024	0.995	E8	2.89
6)	tcm Aldrin	9.094	9.531	9.538	9.754	9.189	9.421	E7	2.89
7)	tc beta-BHC	4.291	4.338	4.332	4.360	4.260	4.316	E7	0.93
8)	tc delta-BHC	1.029	1.036	1.020	1.002	0.952	1.008	E8	3.36
9)	tc Heptachlor E	7.907	8.354	8.634	8.711	9.150	8.551	E7	5.37
10)	tc alpha-Endosu	5.996	7.027	7.036	7.440	6.779	6.856	E7	7.81
11)	tc gamma-Chlord	8.529	8.808	8.789	8.701	9.184	8.802	E7	2.73
12)	tc alpha-Chlord	8.209	8.446	8.582	8.518	8.148	8.381	E7	2.29
13)	tc 4,4'-DDE	7.551	8.061	8.098	8.035	7.595	7.868	E7	3.44
14)	tcm Dieldrin	7.689	8.116	8.394	8.507	8.622	8.266	E7	4.51
15)	tcm Endrin	6.408	7.011	7.156	7.187	6.556	6.864	E7	5.22
16)	tc KEPONE	2.452	2.578	2.887	3.145	3.016	2.816	E7	10.40
17)	tc beta-Endosul	6.425	6.798	7.085	7.138	7.441	6.977	E7	5.50
18)	tc 4,4'-DDD	6.298	6.129	6.500	6.465	5.985	6.275	E7	3.50
19)	tcm 4,4'-DDT	6.641	6.762	6.811	6.623	6.728	6.713	E7	1.19
20)	tc Endrin Aldeh	5.076	5.328	5.475	5.495	5.820	5.439	E7	4.98
21)	tc Endosulfan S	5.920	6.202	6.386	6.427	6.241	6.235	E7	3.21
22)	tc Methoxychlor	2.527	2.695	2.810	2.870	3.032	2.787	E7	6.79
23)	tc FAMPHUR	3.877	3.898	4.035	4.328	4.209	4.069	E7	4.81
24)	tc Endrin Keton	6.347	6.644	6.804	6.831	6.919	6.709	E7	3.36
25)	S SURR2,Decachlorobiphe	5.361	5.387	5.486	5.539	5.494	5.453	E7	1.39
26)	L8C Toxaphene	3.649	3.663	3.564	3.460	3.877	3.643	E6	4.23
27)	L8C Toxaphene{2}	1.874	2.035	1.832	1.785	2.183	1.942	E6	8.47
28)	L8C Toxaphene{3}	4.085	4.069	3.992	3.877	4.296	4.064	E6	3.78
29)	L8C Toxaphene{4}	1.752	1.809	1.702	1.631	1.820	1.743	E6	4.50
30)	L8C Toxaphene{5}	1.455	1.438	1.401	1.361	1.507	1.432	E6	3.85
31)	L9C Chlordane	7.140	6.522	6.031	5.865	6.399	6.391	E5	7.76
32)	L9C Chlordane{2}	1.532	1.410	1.381	1.381	1.349	1.411	E6	5.07
33)	L9C Chlordane{3}	1.899	1.805	1.857	1.875	1.981	1.884	E6	3.43
34)	L9C Chlordane{4}	1.009	0.951	0.930	0.907	0.838	0.927	E7	6.72
35)	L9C Chlordane{5}	4.373	3.999	3.879	3.900	3.370	3.904	E6	9.19

(#) = Out of Range

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD365.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 9:02 am
Operator : M.PEDRO
Sample : INDAL
Misc : INITIAL CAL
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:51:35 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Wed Oct 28 08:32:24 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
1)	S SURR1,Tetrac	9.21	9.38	125.9E6	384.0E6	5.301	5.500
	Spiked Amount 100.000	Range 30 - 150		Recovery =		5.30%#	5.50%#
25)	S SURR2,Decachloro	17.34	17.95	242.3E6	549.4E6	12.024m	12.717m
	Spiked Amount 100.000	Range 30 - 150		Recovery =		12.02%#	12.72%#
	Target Compounds						
2)	TC HEXACHLOROBENZEN	9.90	10.20	185.2E6	521.6E6	5.840	5.590
3)	tc alpha-BHC	10.21	10.46	183.5E6	532.9E6	5.014	5.171m
4)	tcm gamma-BHC (L	10.73	11.03	168.3E6	521.0E6	5.120	5.652
5)	tcm Heptachlor	11.48	11.70	174.1E6	511.9E6	5.324	5.840
10)	tc alpha-Endosu	13.40	13.59	131.0E6	339.0E6	5.367	5.665
14)	tcm Dieldrin	13.75	13.98	293.9E6	862.2E6	10.748	13.033
15)	tcm Endrin	14.09	14.43	274.3E6	655.6E6	11.243	11.484m
18)	tc 4,4'-DDD	14.18	14.57	230.4E6	598.5E6	10.942	11.647m
19)	tcm 4,4'-DDT	14.58	15.03	239.6E6	672.8E6	10.244	12.308
22)	tc Methoxychlor	15.28	16.00	615.0E6	1515.8E6	56.504	65.131
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
	Average Chlordane					0.000	0.000

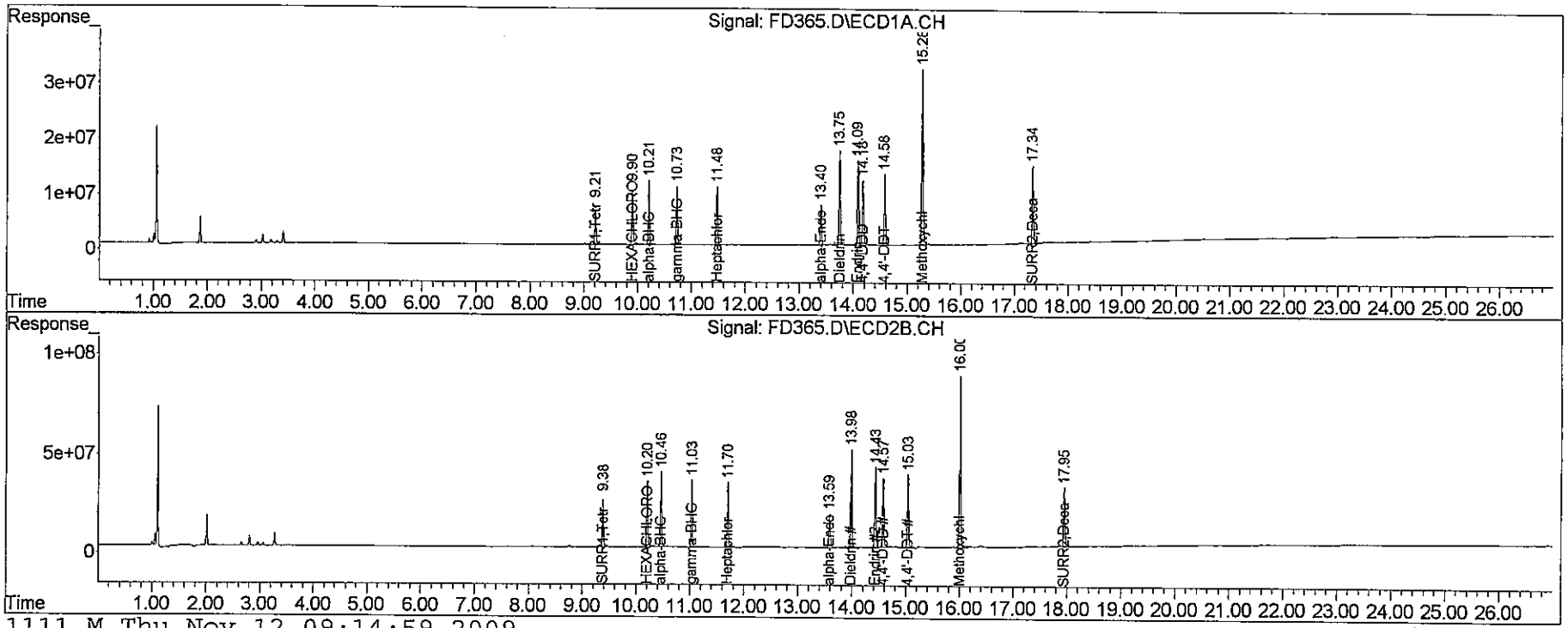
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD365.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 9:02 am
Operator : M.PEDRO
Sample : INDAL
Misc : INITIAL CAL
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:51:35 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Wed Oct 28 08:32:24 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

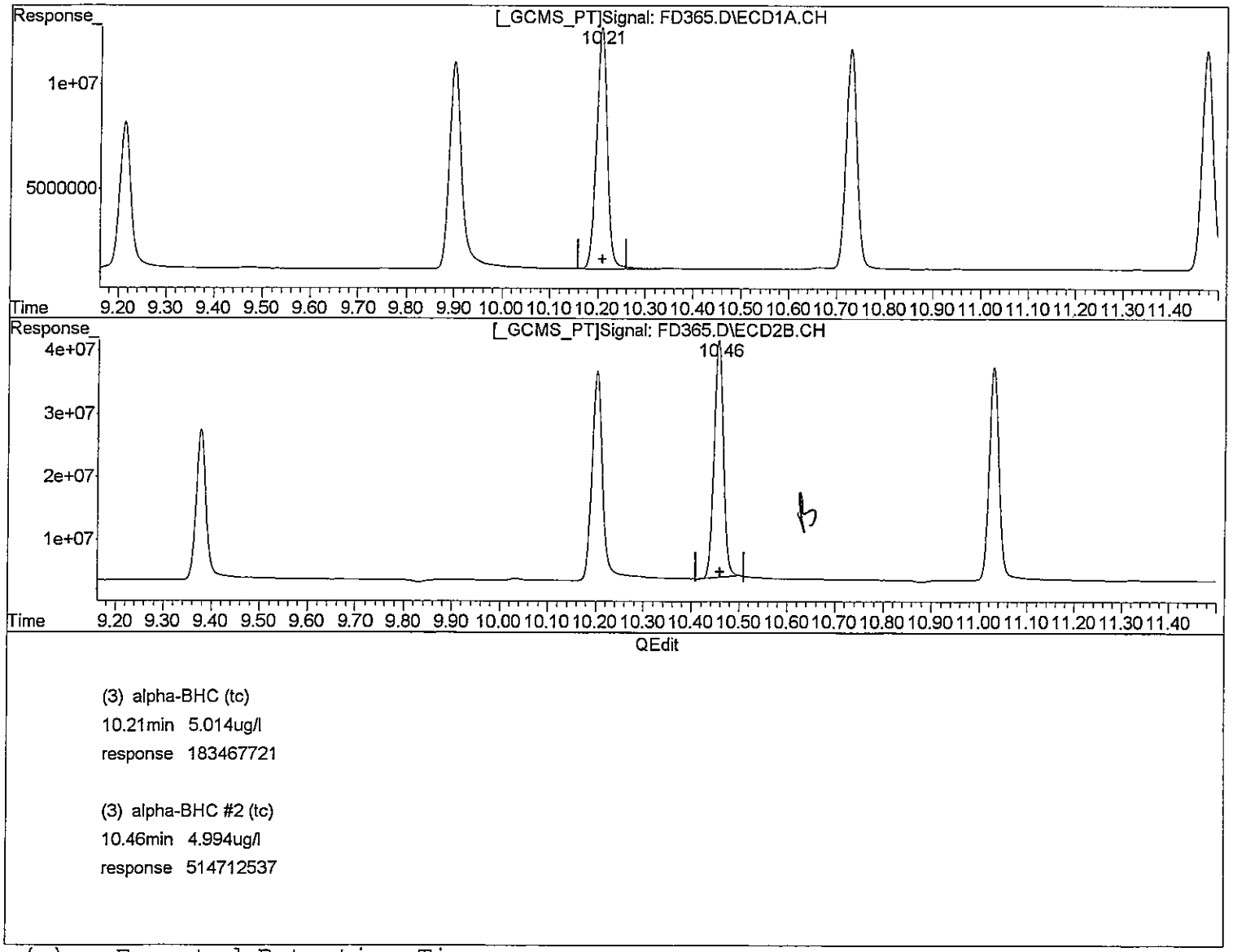


Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD365.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 9:02 am
Operator : M.PEDRO
Sample : INDAL
Misc : INITIAL CAL
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:40:47 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Wed Oct 28 08:32:24 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



(3) alpha-BHC (tc)
10.21min 5.014ug/l
response 183467721

(3) alpha-BHC #2 (tc)
10.46min 4.994ug/l
response 514712537

(+) = Expected Retention Time

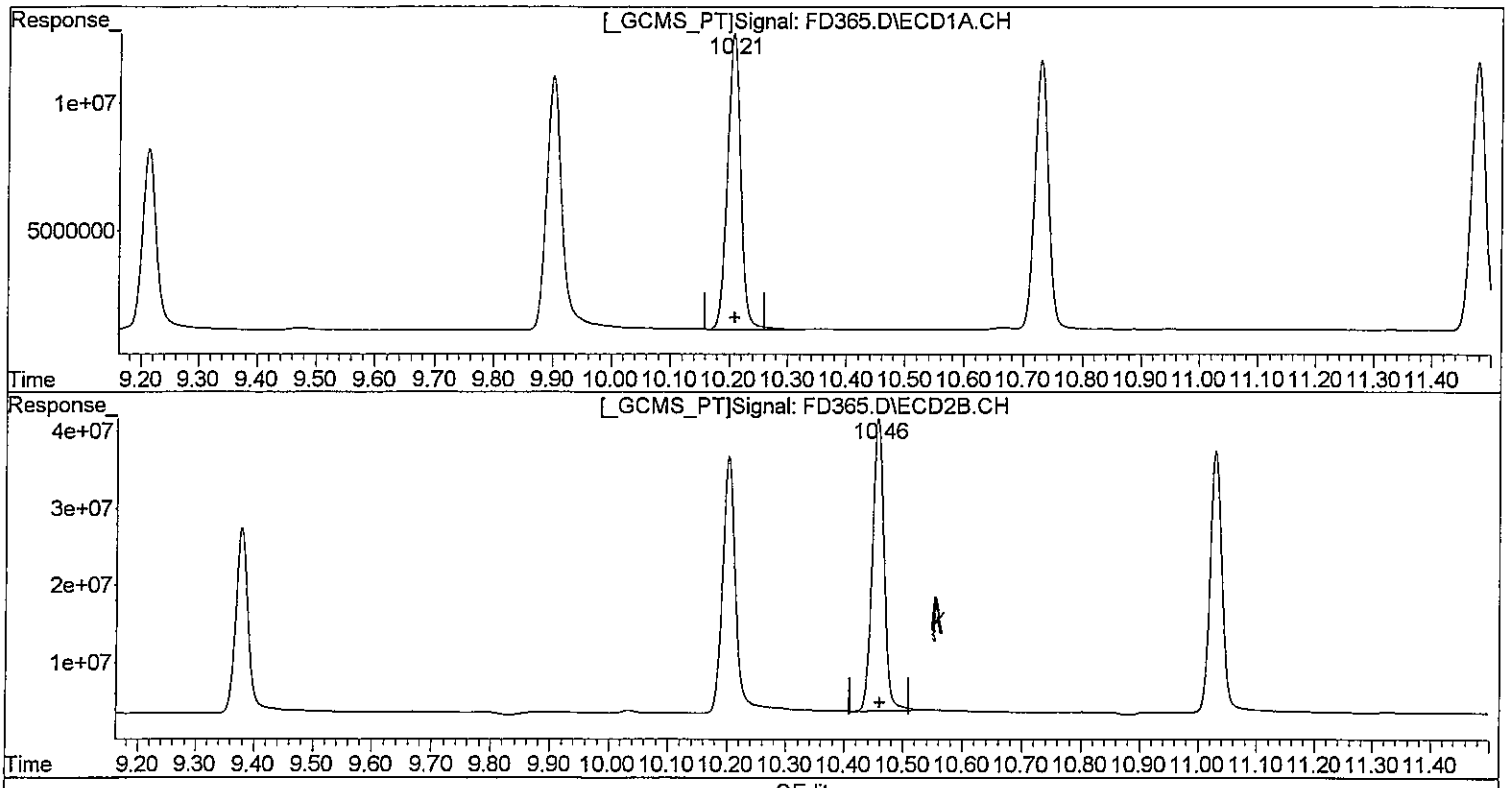
00524

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD365.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 9:02 am
Operator : M.PEDRO
Sample : INDAL
Misc : INITIAL CAL
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:40:47 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Wed Oct 28 08:32:24 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(3) alpha-BHC (tc)
10.21min 5.014ug/l
response 183467721

(3) alpha-BHC #2 (tc)
10.46min 5.171ug/l m
response 532946721

MP 11/12

MW 11/12

(+) = Expected Retention Time

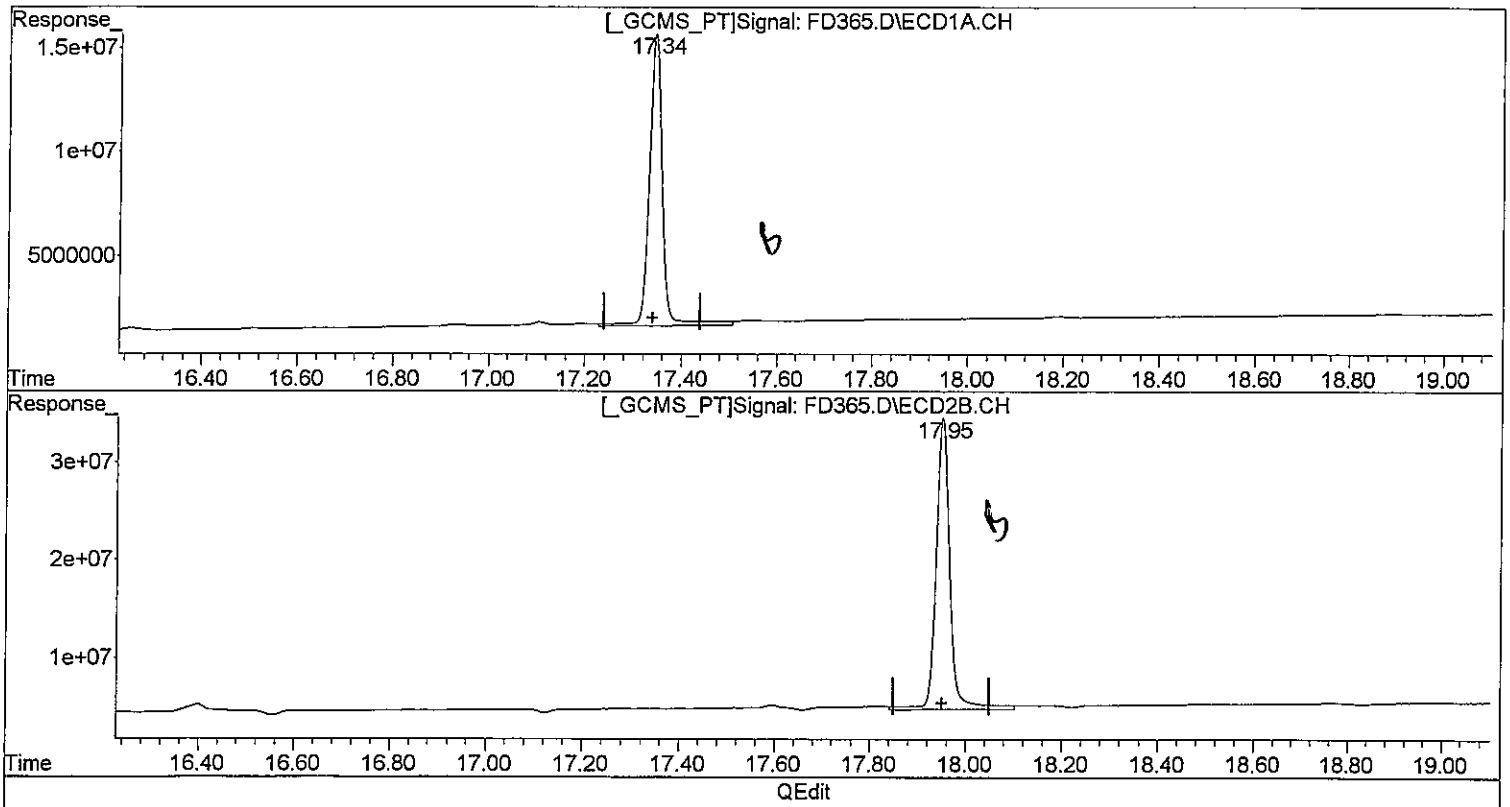
00525

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD365.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 9:02 am
Operator : M.PEDRO
Sample : INDAL
Misc : INITIAL CAL
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:33 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Wed Oct 28 08:32:24 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



(25) SURR2,Decachlorobiphenyl (S)
17.34min 13.133ug/l
response 264683984

(25) SURR2,Decachlorobiphenyl #2 (S)
17.95min 13.859ug/l
response 598701749

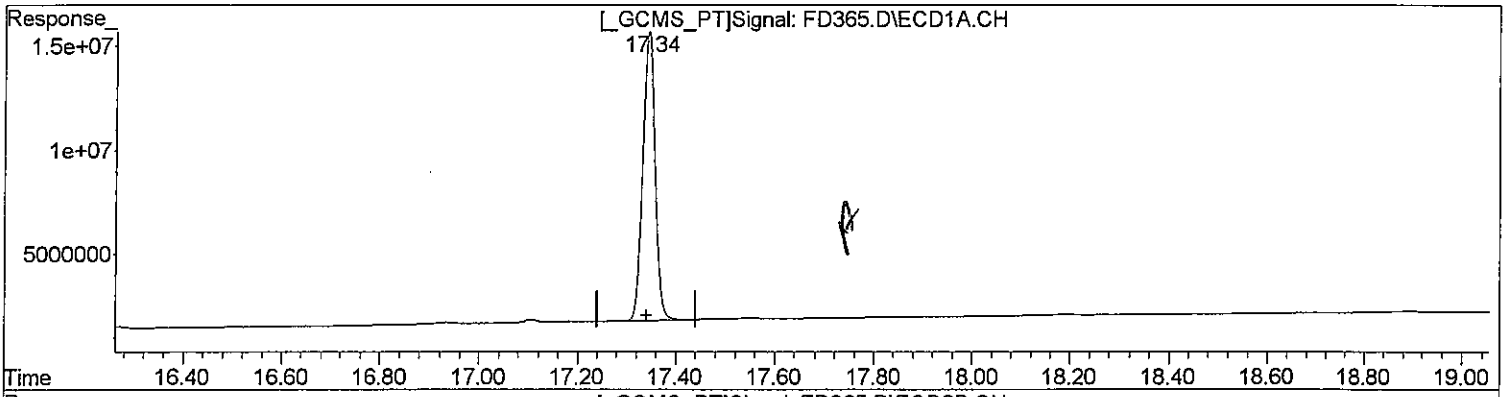
(+) = Expected Retention Time

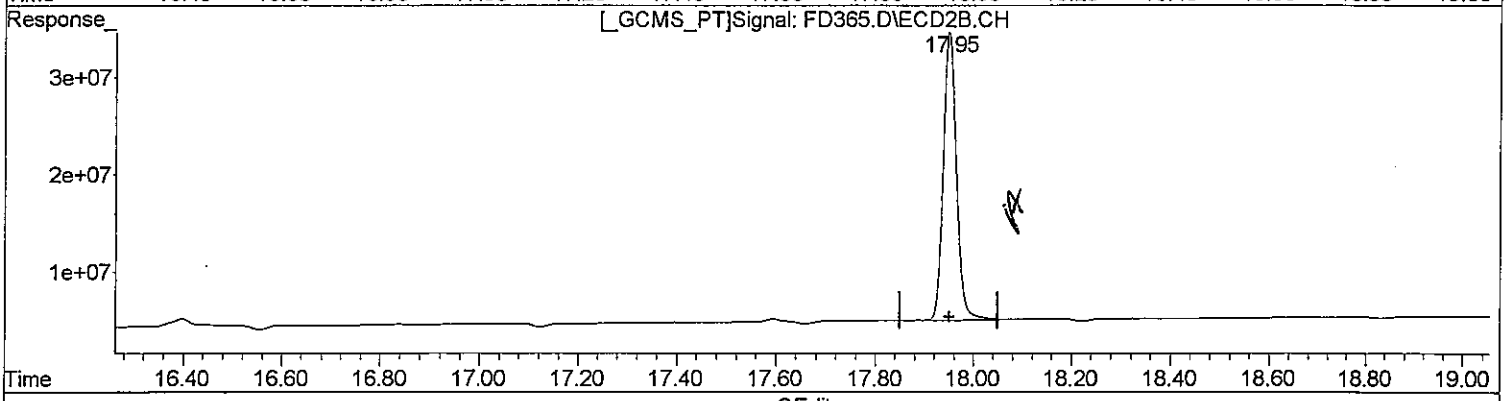
Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD365.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 9:02 am
Operator : M.PEDRO
Sample : INDAL
Misc : INITIAL CAL
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:33 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Wed Oct 28 08:32:24 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m





QEdit

(25) SURR2,Decachlorobiphenyl (S)
17.34min 12.024ug/l m
response 242330939

(25) SURR2,Decachlorobiphenyl #2 (S)
17.95min 12.717ug/l m
response 549372578

WLP 11/12 MV 11/12

(+) = Expected Retention Time

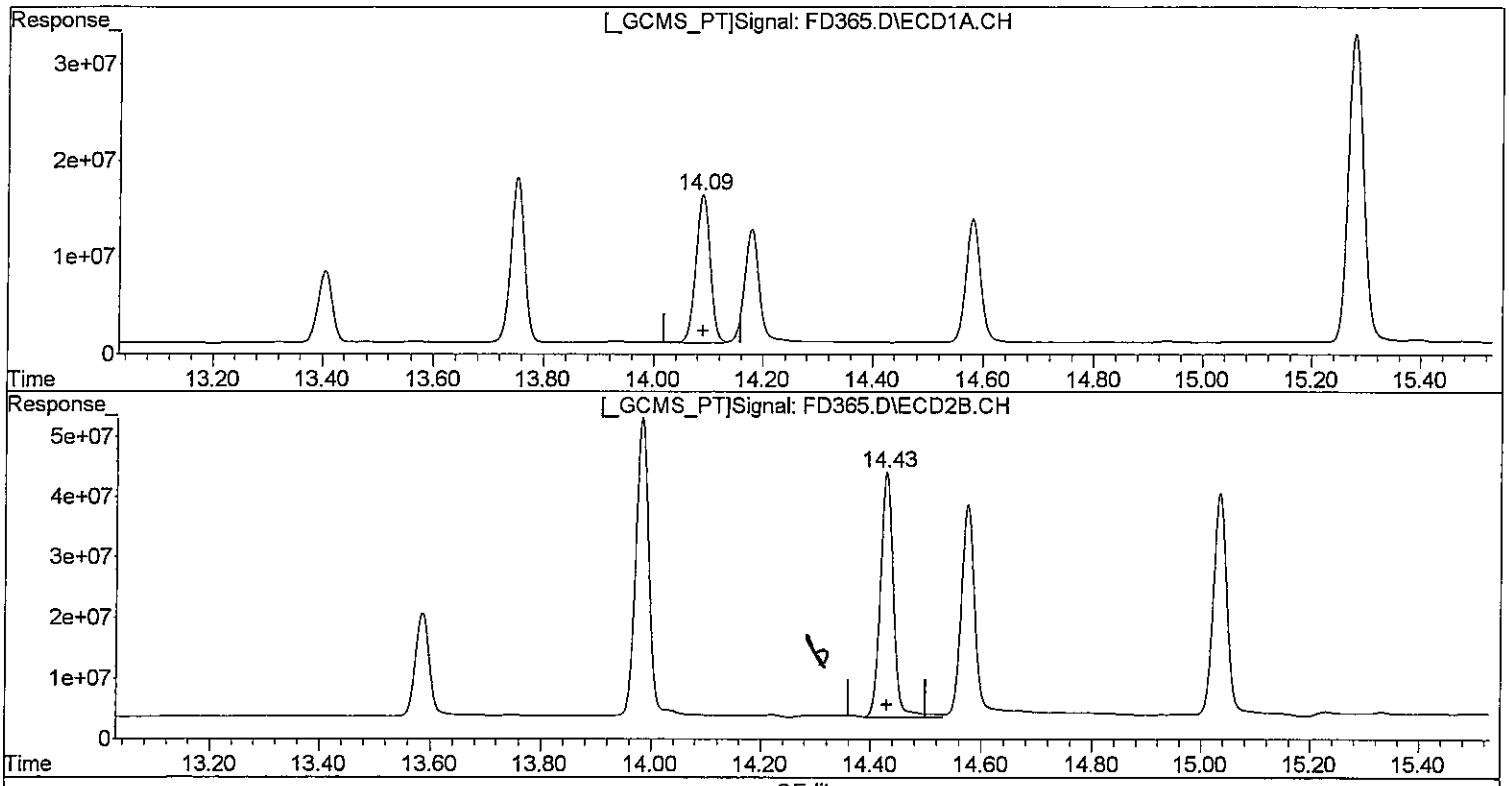
00527

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD365.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 9:02 am
Operator : M.PEDRO
Sample : INDAL
Misc : INITIAL CAL
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:33 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Wed Oct 28 08:32:24 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(15) Endrin (tcm)
14.09min 11.243ug/l
response 274328662

(15) Endrin #2 (tcm)
14.43min 11.773ug/l
response 672138181

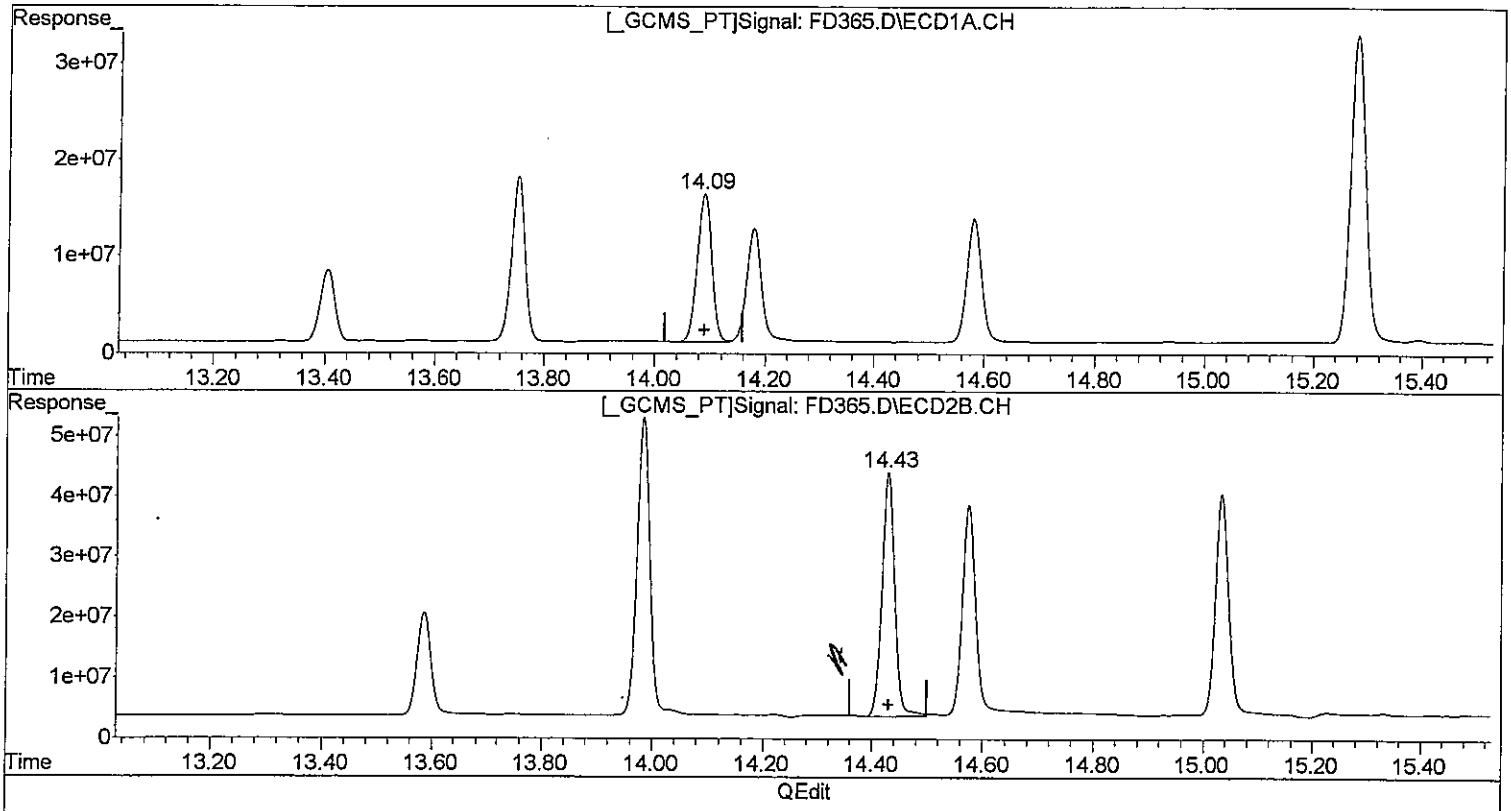
(+) = Expected Retention Time

00528

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD365.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 9:02 am
Operator : M.PEDRO
Sample : INDAL
Misc : INITIAL CAL
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:33 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Wed Oct 28 08:32:24 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(15) Endrin (tcm)
14.09min 11.243ug/l
response 274328662

(15) Endrin #2 (tcm)
14.43min 11.484ug/l m
response 655640487

(+) = Expected Retention Time

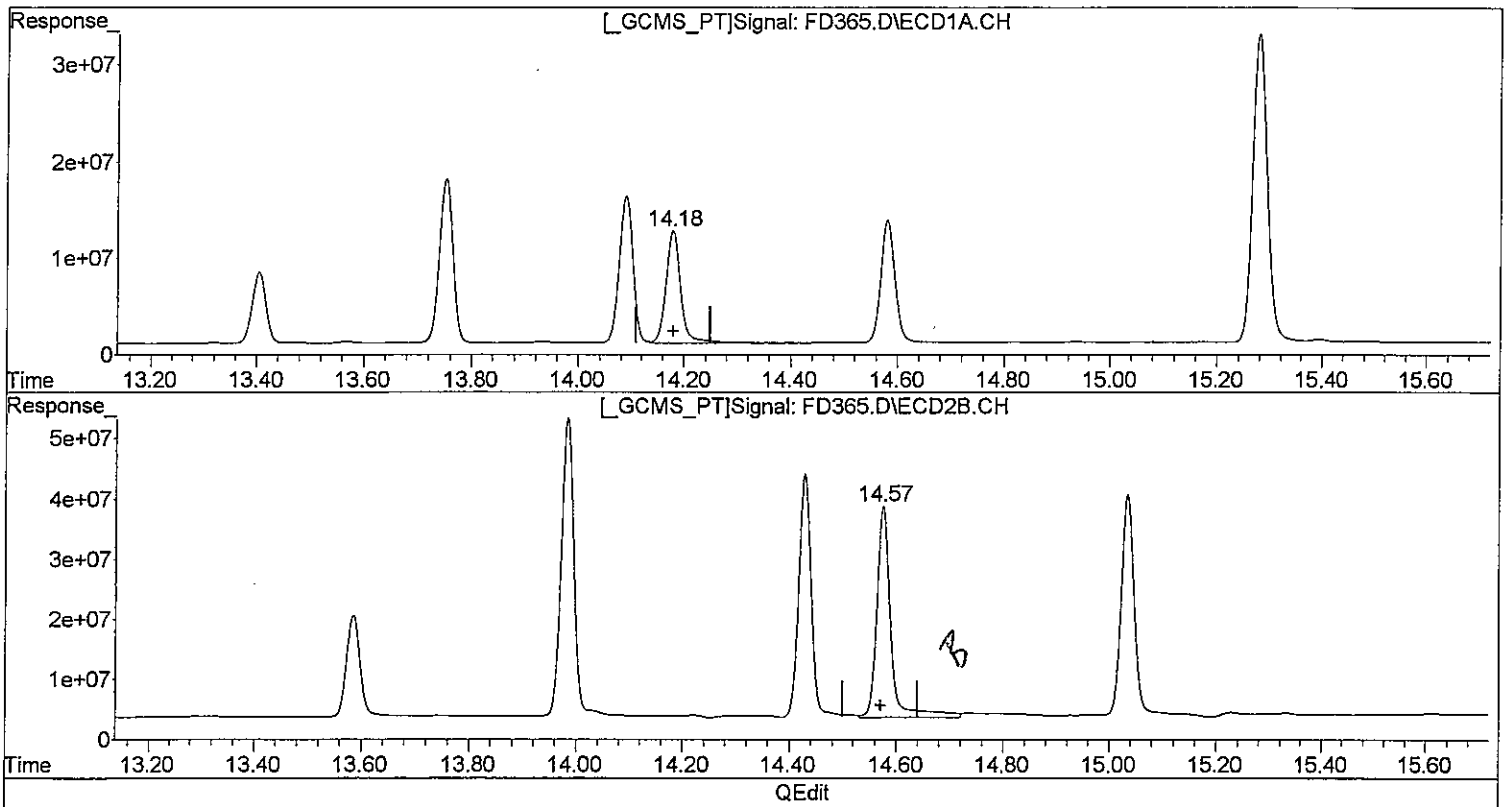
00529

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD365.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 9:02 am
Operator : M.PEDRO
Sample : INDAL
Misc : INITIAL CAL
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:33 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Wed Oct 28 08:32:24 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(18) 4,4'-DDD (tc)
14.18min 10.942ug/l
response 230361008

(18) 4,4'-DDD #2 (tc)
14.58min 12.659ug/l
response 650471667

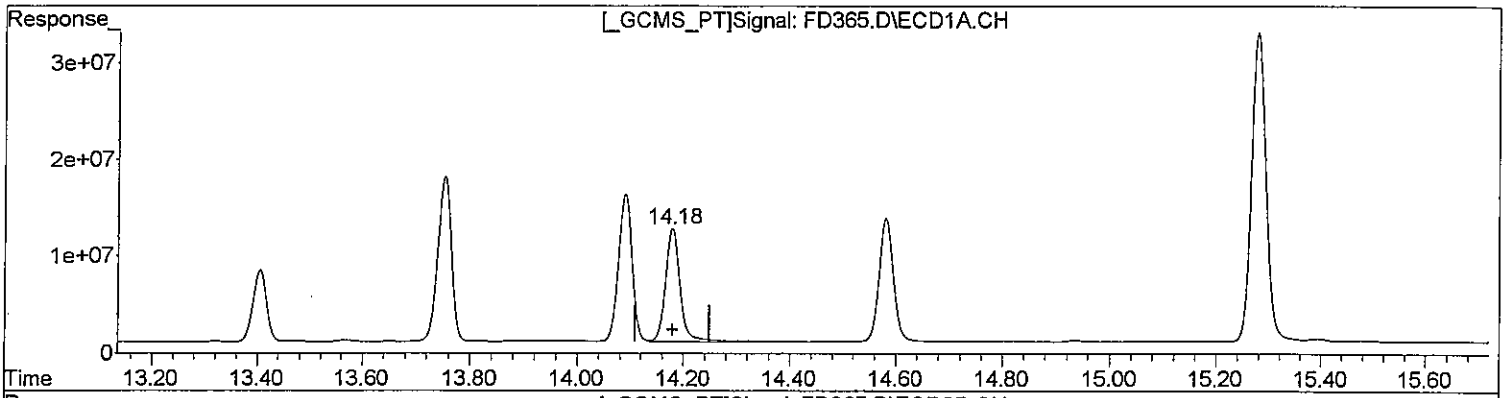
(+) = Expected Retention Time

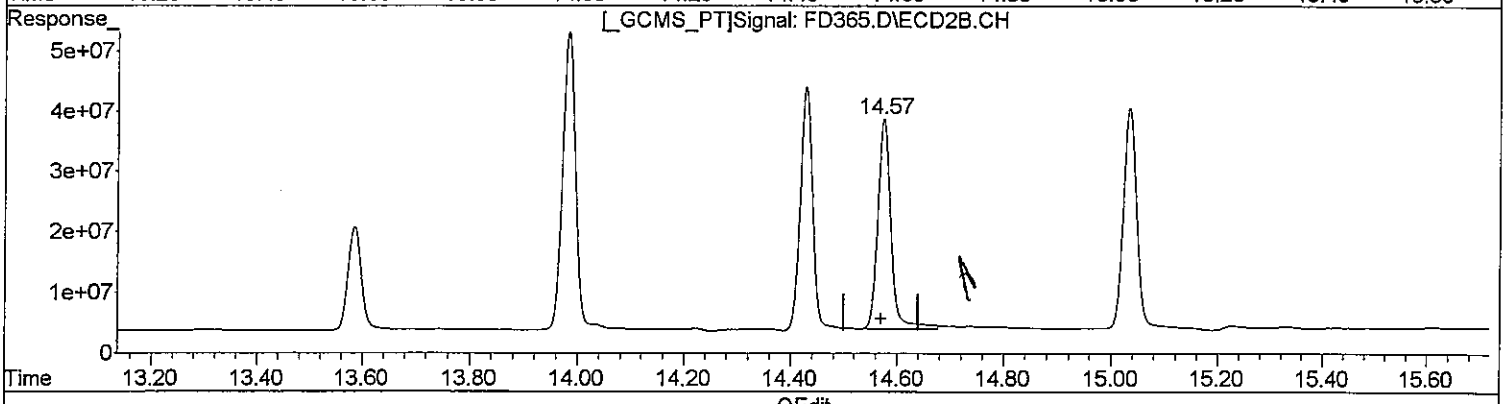
Quantitation Report (QEdit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD365.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 9:02 am
Operator : M.PEDRO
Sample : INDAL
Misc : INITIAL CAL
ALS Vial : 3 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:33 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Wed Oct 28 08:32:24 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m





QEdit

(18) 4,4'-DDD (tc)
14.18min 10.942ug/l
response 230361008

(18) 4,4'-DDD #2 (tc)
14.57min 11.647ug/l m
response 598452459

(+) = Expected Retention Time

00531

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD366.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 9:38 am
Operator : M.PEDRO
Sample : INDAML
Misc : INITIAL CAL
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:51:54 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
1)	S SURR1,Tetrac	9.21	9.38	257.6E6	749.9E6	10.845	10.740m
	Spiked Amount 100.000	Range 30 - 150		Recovery =		10.85%#	10.74%#
25)	S SURR2,Decachloro	17.34	17.95	502.1E6	1107.8E6	24.913	25.644
	Spiked Amount 100.000	Range 30 - 150		Recovery =		24.91%#	25.64%#
	Target Compounds						
2)	TC HEXACHLOROBENZEN	9.90	10.20	372.0E6	1015.9E6	11.728	10.885
3)	tc alpha-BHC	10.21	10.46	395.2E6	1105.9E6	10.799	10.730m
4)	tcm gamma-BHC (L	10.73	11.03	356.5E6	1030.0E6	10.848	11.175
5)	tcm Heptachlor	11.48	11.70	361.1E6	1009.4E6	11.040	11.516
10)	tc alpha-Endosu	13.40	13.59	272.7E6	744.0E6	11.173	12.435
14)	tcm Dieldrin	13.75	13.98	622.2E6	1701.5E6	22.754	25.719
15)	tcm Endrin	14.09	14.43	571.3E6	1437.4E6	23.415	25.178
18)	tc 4,4'-DDD	14.18	14.57	475.0E6	1293.0E6	22.563	25.165
19)	tcm 4,4'-DDT	14.58	15.03	516.1E6	1324.6E6	22.067	24.233
22)	tc Methoxychlor	15.28	16.00	1237.4E6	2869.9E6	113.699	123.316
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
	Average Chlordane					0.000	0.000

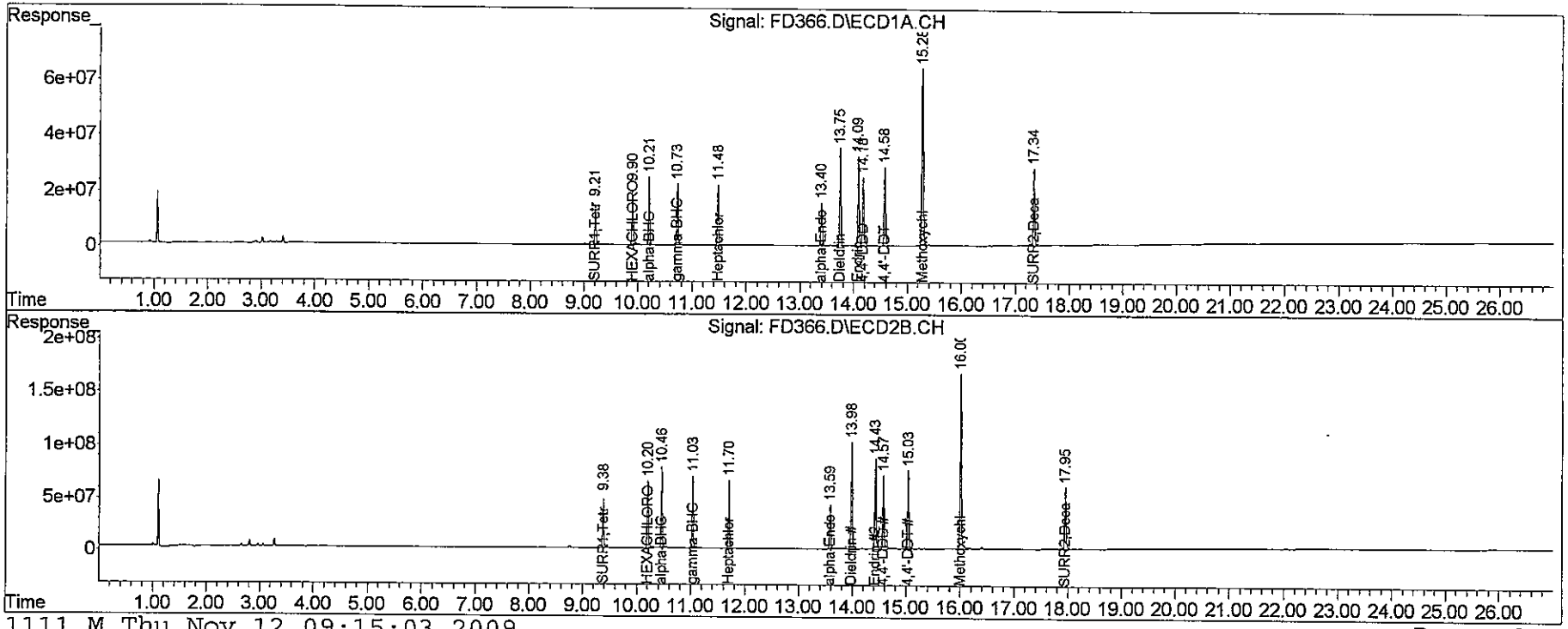
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD366.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 9:38 am
Operator : M.PEDRO
Sample : INDAML
Misc : INITIAL CAL
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:51:54 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

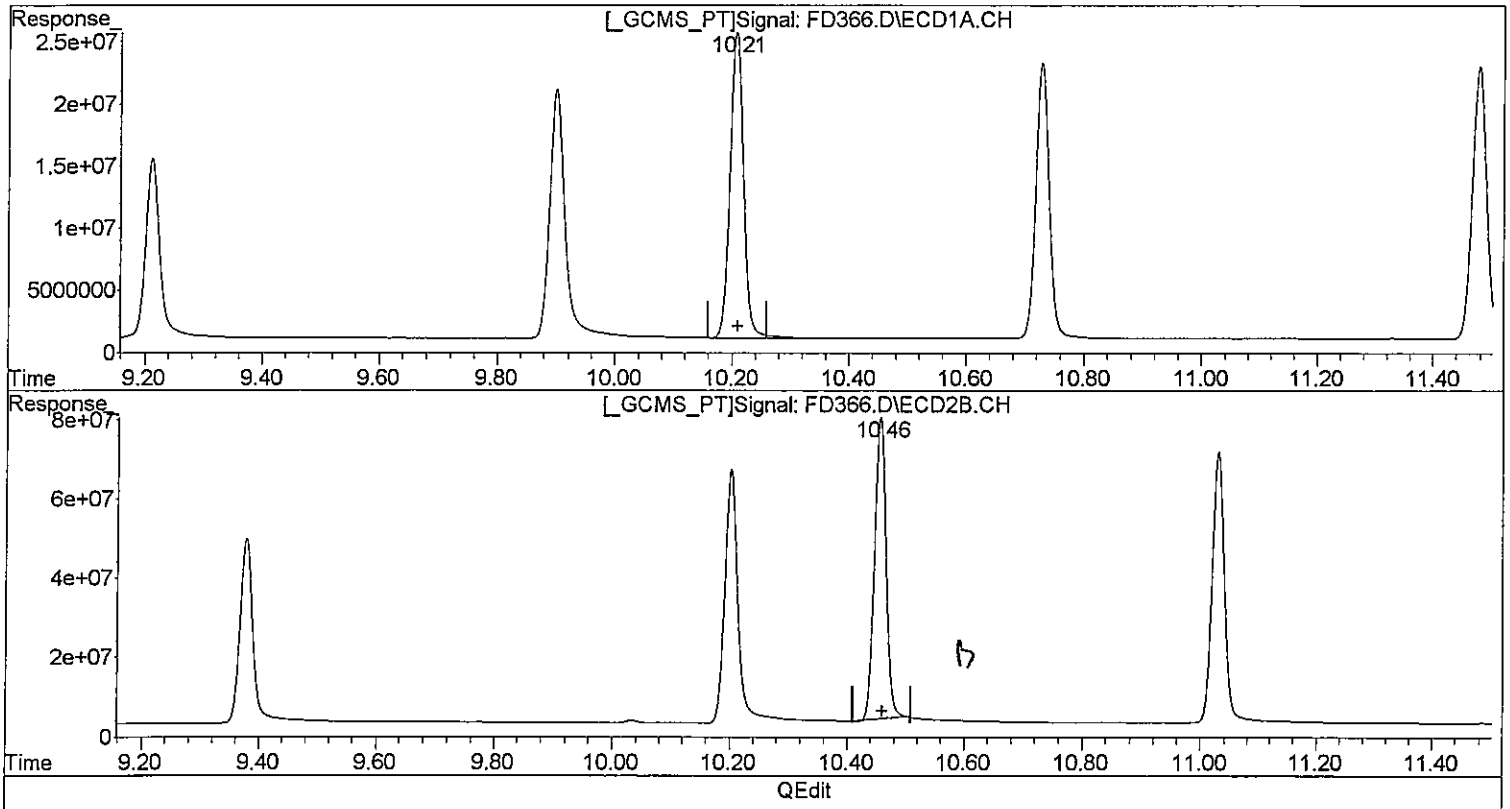


Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD366.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 9:38 am
Operator : M.PEDRO
Sample : INDAML
Misc : INITIAL CAL
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:41:41 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(3) alpha-BHC (tc)
10.21min 10.799ug/l
response 395189145

(3) alpha-BHC #2 (tc)
10.46min 10.172ug/l
response 1048416151

(+) = Expected Retention Time

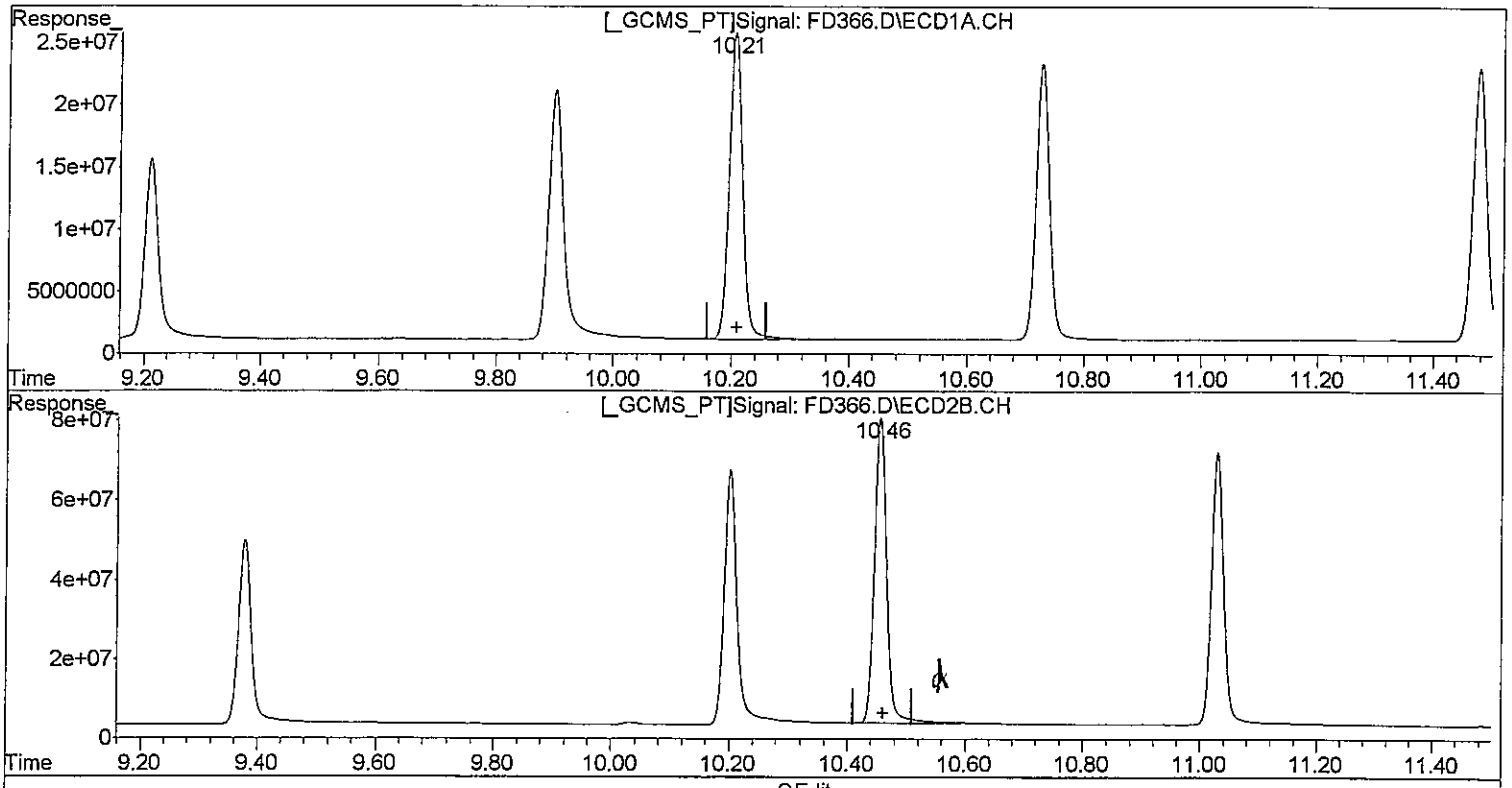
00534

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD366.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 9:38 am
Operator : M.PEDRO
Sample : INDAML
Misc : INITIAL CAL
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:41:41 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(3) alpha-BHC (tc)
10.21min 10.799ug/l
response 395189145

(3) alpha-BHC #2 (tc)
10.46min 10.730ug/l m
response 1105900594

(+) = Expected Retention Time

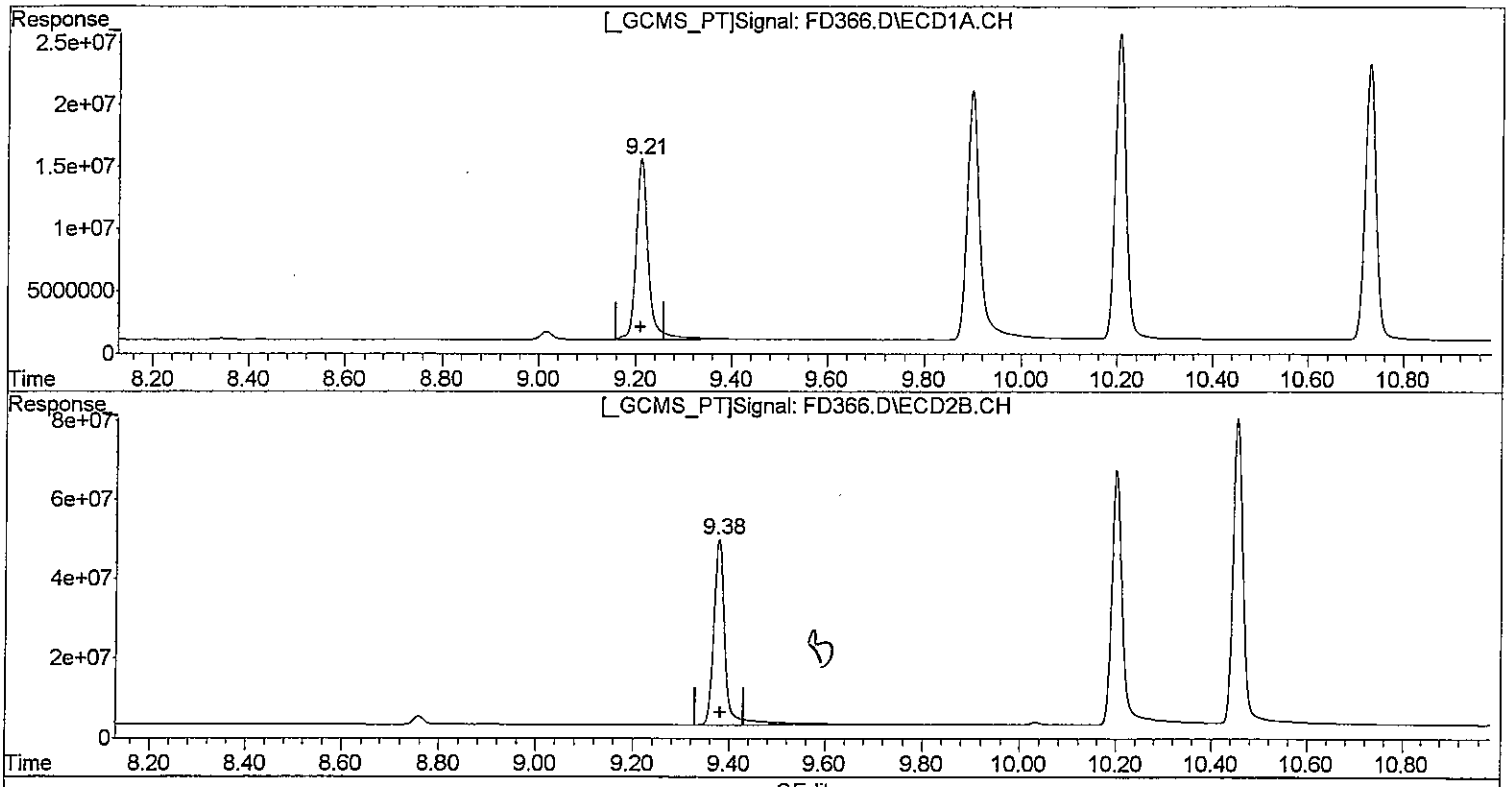
00535

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD366.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 9:38 am
Operator : M.PEDRO
Sample : INDAML
Misc : INITIAL CAL
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:38 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(1) SURR1,Tetrac (S)
9.21min 10.845ug/l
response 257574059

(1) SURR1,Tetrac #2 (S)
9.38min 11.267ug/l
response 786622017

(+) = Expected Retention Time

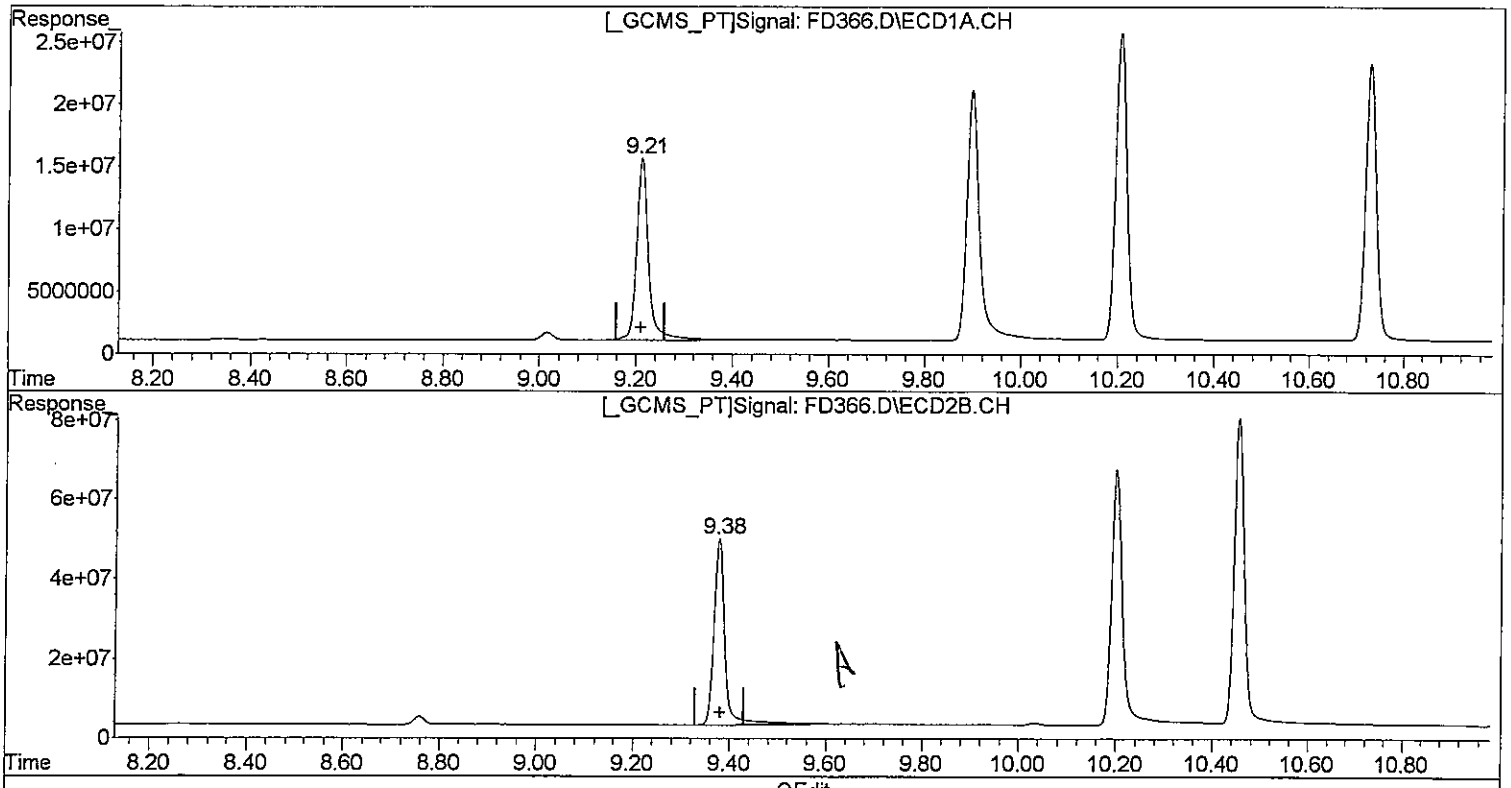
00536

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD366.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 9:38 am
Operator : M.PEDRO
Sample : INDAML
Misc : INITIAL CAL
ALS Vial : 4 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:38 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(1) SURR1,Tetrac (S)
9.21min 10.845ug/l
response 257574059

(1) SURR1,Tetrac #2 (S)
9.38min 10.740ug/l m
response 749868023

(+) = Expected Retention Time

00537

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD367.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 10:14 am
Operator : M.PEDRO
Sample : INDAM
Misc : INITIAL CAL
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:43:21 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
1)	S SURR1,Tetrac	9.21	9.38	524.7E6	1543.2E6	22.092	22.103
	Spiked Amount 100.000	Range 30 - 150		Recovery =		22.09%#	22.10%#
25)	S SURR2,Decachloro	17.34	17.95	966.4E6	2194.4E6	47.949	50.795
	Spiked Amount 100.000	Range 30 - 150		Recovery =		47.95%	50.80%
	Target Compounds						
2)	TC HEXACHLOROBENZEN	9.90	10.20	751.3E6	2022.9E6	23.690	21.676
3)	tc alpha-BHC	10.21	10.46	845.1E6	2237.2E6	23.093	21.706m
4)	tcm gamma-BHC (L	10.73	11.03	749.3E6	2072.4E6	22.801	22.483
5)	tcm Heptachlor	11.48	11.70	745.6E6	2013.3E6	22.796	22.969
10)	tc alpha-Endosu	13.40	13.58	565.0E6	1407.3E6	23.151	23.518
14)	tcm Dieldrin	13.75	13.98	1283.7E6	3357.7E6	46.947	50.754
15)	tcm Endrin	14.09	14.43	1184.5E6	2862.6E6	48.547	50.142
18)	tc 4,4'-DDD	14.18	14.57	1000.3E6	2599.9E6	47.517	50.597
19)	tcm 4,4'-DDT	14.58	15.03	1085.0E6	2724.6E6	46.394	49.844
22)	tc Methoxychlor	15.28	16.00	2487.7E6	5620.9E6	228.579	241.522
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
	Average Chlordane					0.000	0.000

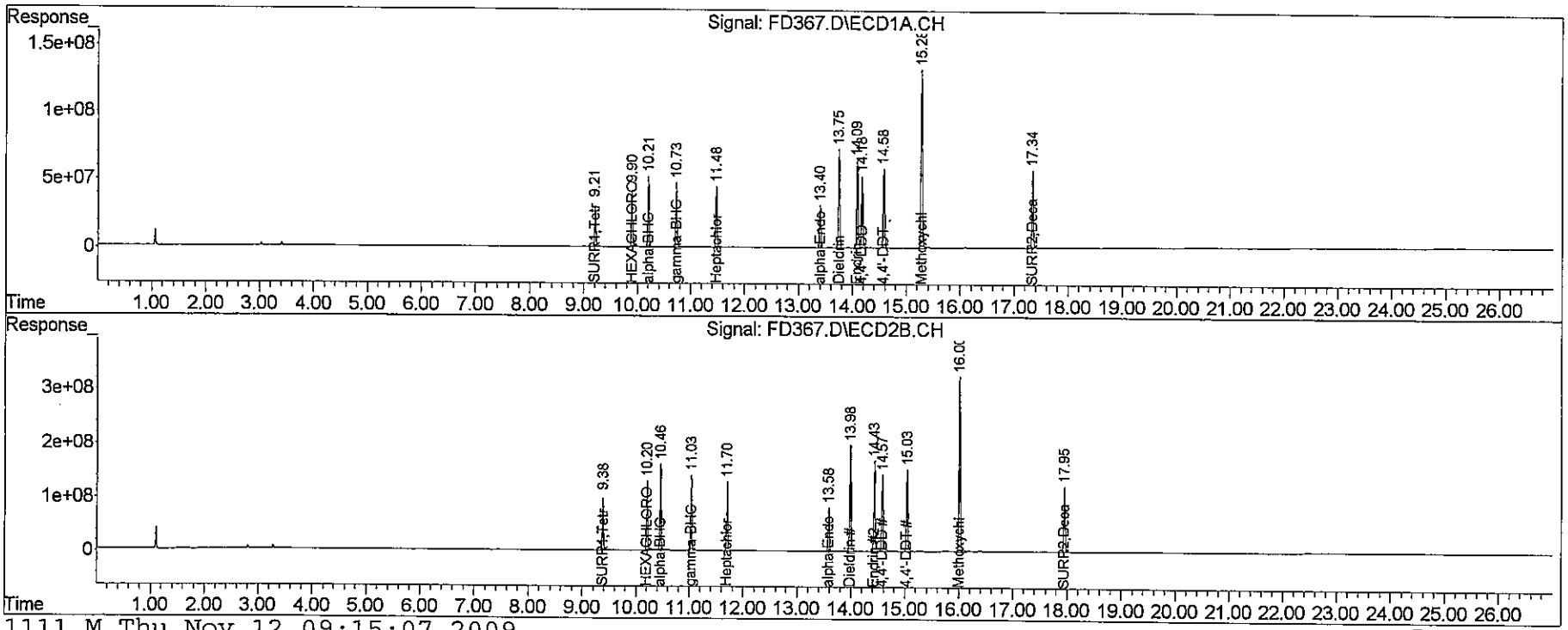
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD367.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 10:14 am
Operator : M.PEDRO
Sample : INDAM
Misc : INITIAL CAL
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:43:21 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



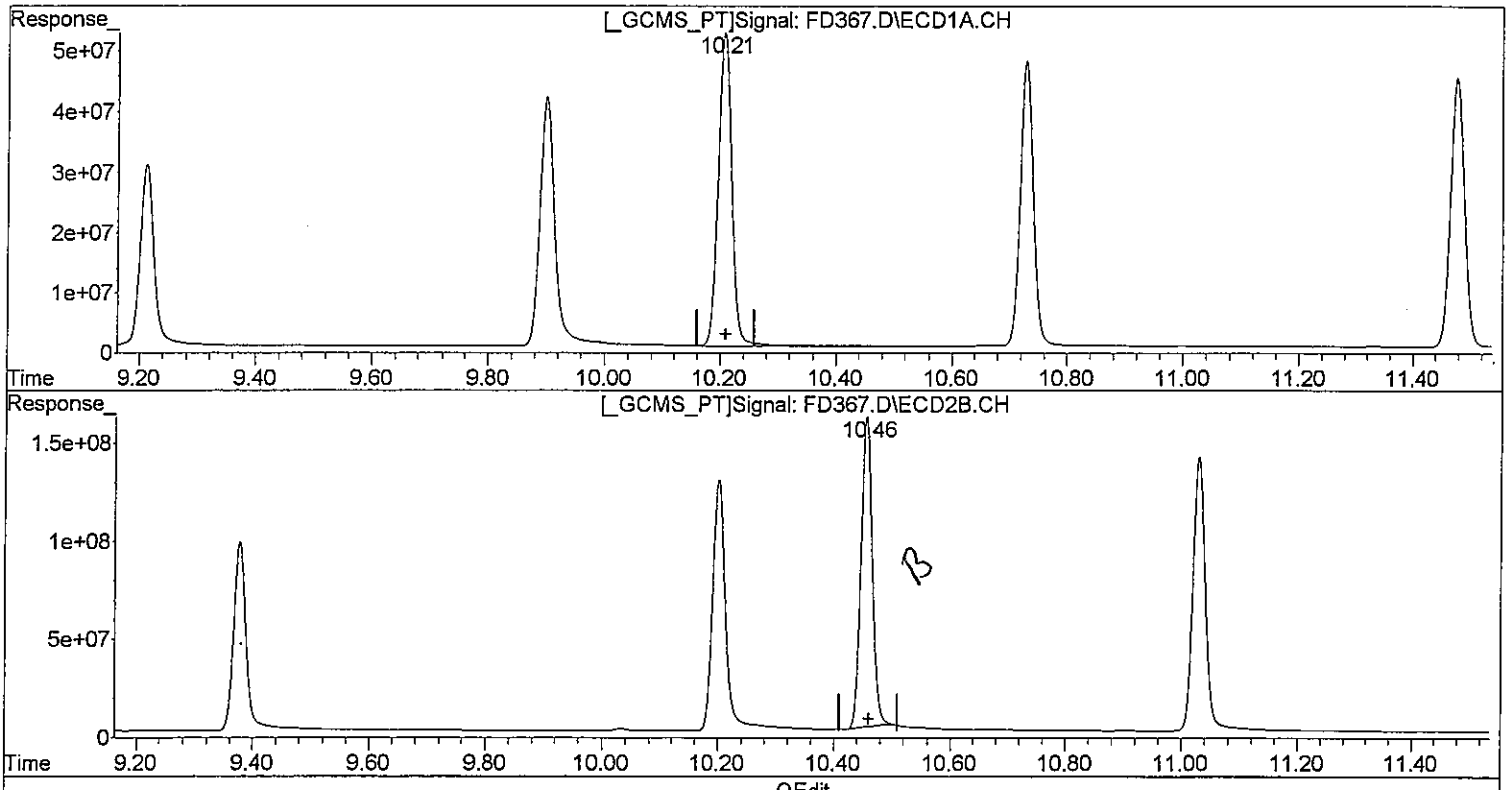
GC506

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD367.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 10:14 am
Operator : M.PEDRO
Sample : INDAM
Misc : INITIAL CAL
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:42 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(3) alpha-BHC (tc)
10.21min 23.093ug/l
response 845071043

(3) alpha-BHC #2 (tc)
10.46min 20.919ug/l
response 2156018382

base

(+) = Expected Retention Time

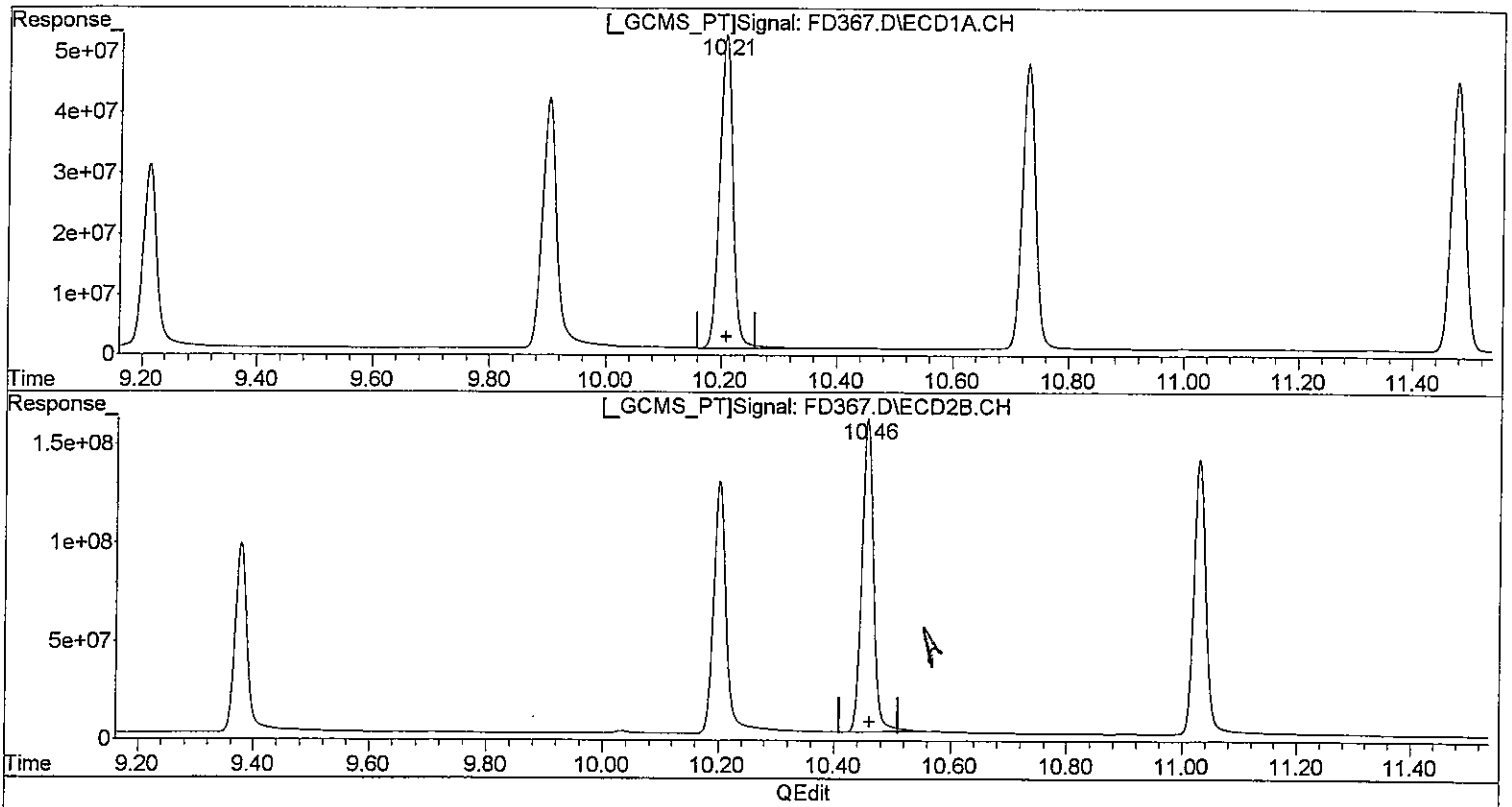
00540

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD367.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 10:14 am
Operator : M.PEDRO
Sample : INDAM
Misc : INITIAL CAL
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:42 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



(3) alpha-BHC (tc)
10.21min 23.093ug/l
response 845071043

(3) alpha-BHC #2 (tc)
10.46min 21.706ug/l m
response 2237175802

(+) = Expected Retention Time

00541

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD368.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 10:49 am
Operator : M.PEDRO
Sample : INDAMH
Misc : INITIAL CAL
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:45:11 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
1)	S SURR1,Tetrac	9.21	9.38	1076.6E6	3105.2E6	45.329	44.476
	Spiked Amount 100.000	Range 30 - 150		Recovery =		45.33%	44.48%
25)	S SURR2,Decachloro	17.34	17.95	1961.4E6	4309.7E6	97.315	99.759
	Spiked Amount 100.000	Range 30 - 150		Recovery =		97.31%	99.76%
	Target Compounds						
2)	TC HEXACHLOROBENZEN	9.90	10.20	1521.5E6	4057.5E6	47.975	43.478
3)	tc alpha-BHC	10.21	10.46	1747.9E6	4598.4E6	47.764	44.616
4)	tcm gamma-BHC (L	10.73	11.03	1555.3E6	4170.5E6	47.327	45.246
5)	tcm Heptachlor	11.48	11.70	1513.6E6	3952.8E6	46.275	45.095
10)	tc alpha-Endosu	13.40	13.59	1155.3E6	2810.8E6	47.342	46.975
14)	tcm Dieldrin	13.75	13.98	2591.5E6	6493.0E6	94.776	98.146
15)	tcm Endrin	14.09	14.43	2394.5E6	5608.5E6	98.140	98.239
18)	tc 4,4'-DDD	14.18	14.57	2038.8E6	4903.4E6	96.847	95.428
19)	tcm 4,4'-DDT	14.58	15.03	2232.6E6	5409.9E6	95.466	98.969
22)	tc Methoxychlor	15.28	16.00	4929.4E6	10780.4E6	452.936	463.222
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
	Average Chlordane					0.000	0.000

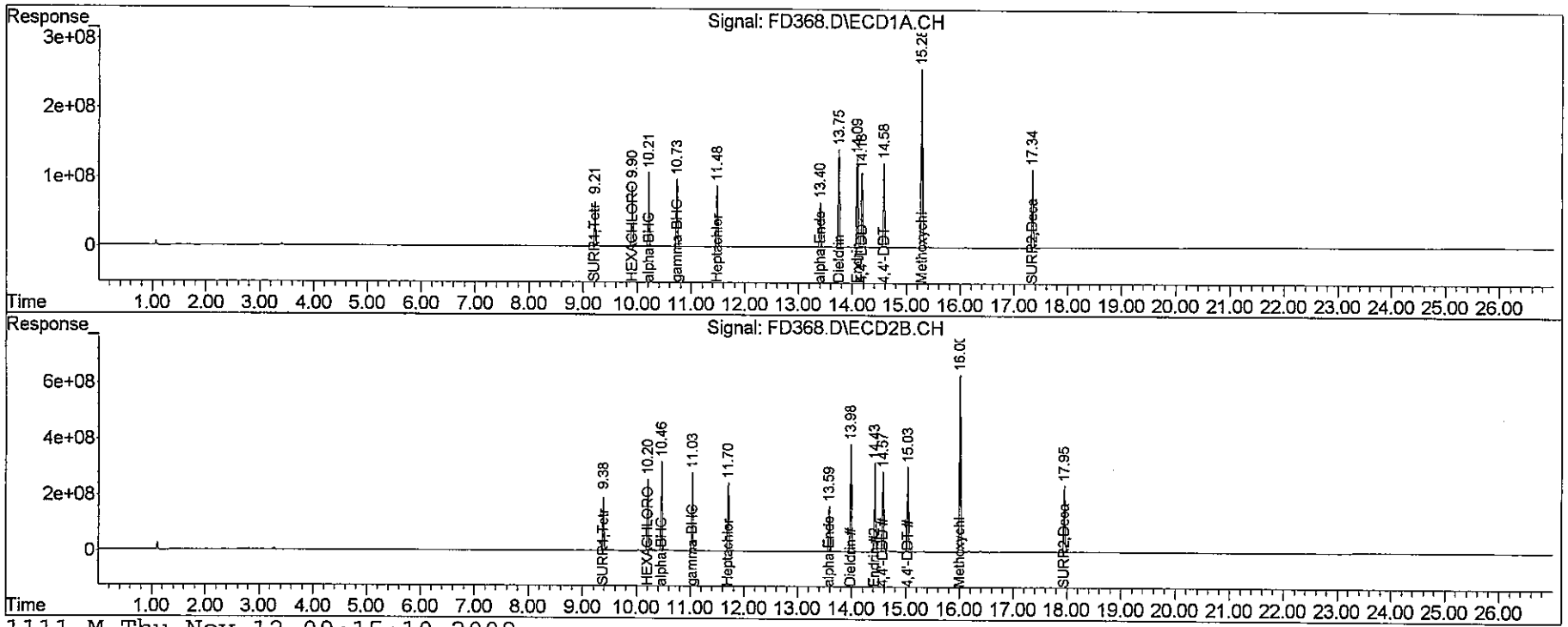
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD368.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 10:49 am
Operator : M.PEDRO
Sample : INDAMH
Misc : INITIAL CAL
ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:45:11 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD369.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 11:25 am
Operator : M.PEDRO
Sample : INDAH
Misc : INITIAL CAL
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:50:53 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
1)	S SURR1,Tetrac	9.21	9.38	2197.8E6	6096.1E6	92.534	87.314
	Spiked Amount 100.000	Range 30 - 150		Recovery =		92.53%	87.31%
25)	S SURR2,Decachloro	17.34	17.95	3903.9E6	8576.8E6	193.696	198.533
	Spiked Amount 100.000	Range 30 - 150		Recovery =		193.70%#	198.53%#
	Target Compounds						
2)	TC HEXACHLOROBENZEN	9.90	10.20	3053.6E6	8067.2E6	96.287	86.443
3)	tc alpha-BHC	10.21	10.46	3564.9E6	9277.1E6	97.417	90.011
4)	tcm gamma-BHC (L	10.73	11.03	3182.5E6	8390.1E6	96.843	91.024
5)	tcm Heptachlor	11.48	11.70	3011.1E6	7595.0E6	92.060	86.647
10)	tc alpha-Endosu	13.40	13.59	2312.7E6	4797.2E6	94.770	80.171
14)	tcm Dieldrin	13.75	13.98	5035.8E6	12302.5E6	184.169	185.960
15)	tcm Endrin	14.09	14.43	4707.0E6	10252.2E6	192.919	179.580
18)	tc 4,4'-DDD	14.18	14.57	4081.2E6	10076.4E6	193.862	196.101
19)	tcm 4,4'-DDT	14.58	15.03	4329.5E6	10625.1E6	185.131	194.377
22)	tc Methoxychlor	15.28	16.00	9529.8E6	20218.6E6	875.638	868.768
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
	Average Chlordane					0.000	0.000

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

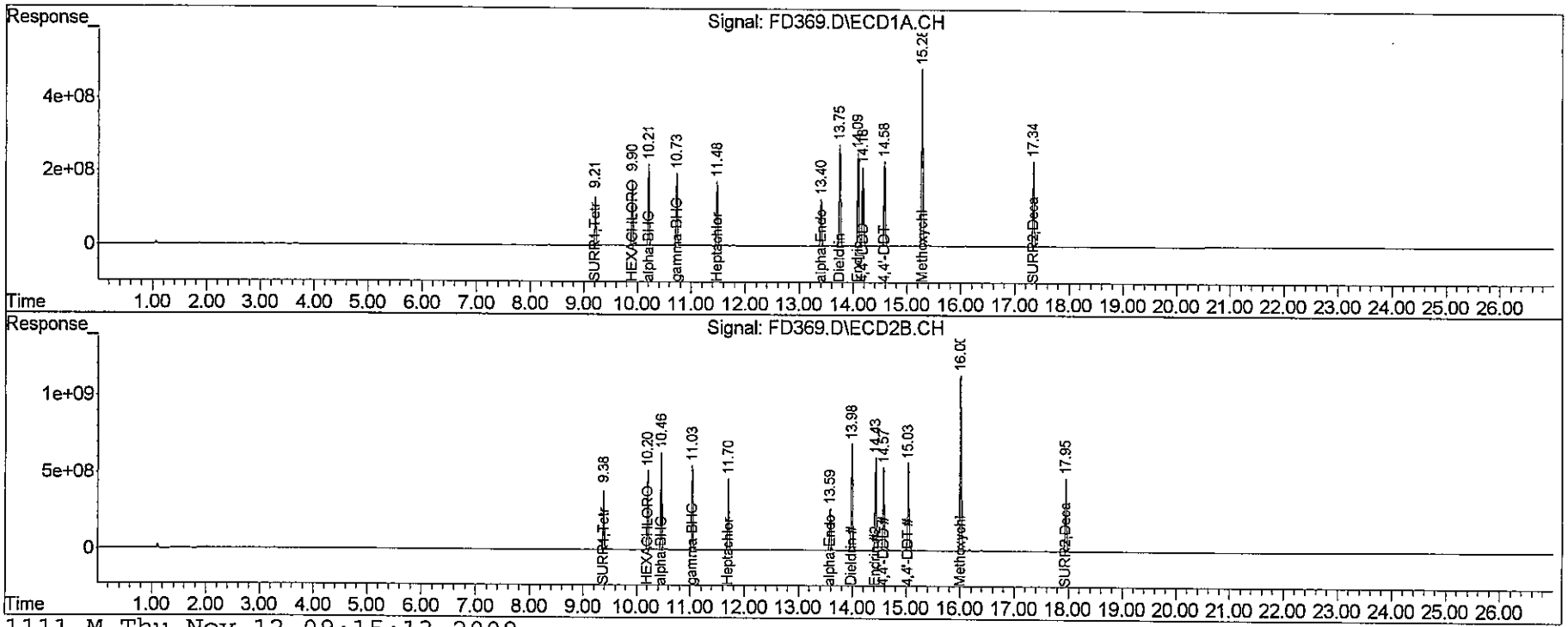
00544

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD369.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 11:25 am
Operator : M.PEDRO
Sample : INDAH
Misc : INITIAL CAL
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:50:53 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD370.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 12:01 pm
Operator : M.PEDRO
Sample : INDBL
Misc : INITIAL CAL
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:53:54 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
1) S SURR1,Tetrac	9.21	9.38	127.9E6	437.5E6	5.386	6.267
Spiked Amount 100.000	Range 30 - 150		Recovery =		5.39%#	6.27%#
25) S SURR2,Decachloro	17.34	17.95	261.8E6	614.8E6	12.989	14.230
Spiked Amount 100.000	Range 30 - 150		Recovery =		12.99%#	14.23%#
Target Compounds						
6) tcm Aldrin	11.93	12.18	158.7E6	459.5E6	5.207	5.631m
7) tc beta-BHC	10.89	11.18	76203585	213.0E6	5.562	5.256m
8) tc delta-BHC	11.16	11.63	165.0E6	475.9E6	5.007	5.207m
9) tc Heptachlor E	12.83	13.02	151.8E6	457.5E6	5.505	6.419
11) tc gamma-Chlord	13.02	13.30	146.6E6	459.2E6	5.331	6.411
12) tc alpha-Chlord	13.21	13.50	135.4E6	407.4E6	5.263	5.932m
13) tc 4,4'-DDE	13.32	13.75	280.7E6	759.5E6	10.610	11.420m
17) tc beta-Endosul	14.42	14.74	247.5E6	744.1E6	10.725	13.347
20) tc Endrin Aldeh	15.04	15.24	203.7E6	582.0E6	11.168	13.354
21) tc Endosulfan S	15.69	15.64	236.3E6	624.1E6	11.129	12.428m
24) tc Endrin Keton	16.09	16.40	270.5E6	691.9E6	11.391	13.114
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
Sum Chlordane			0	0	N.D.	N.D.
Average Chlordane					0.000	0.000

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

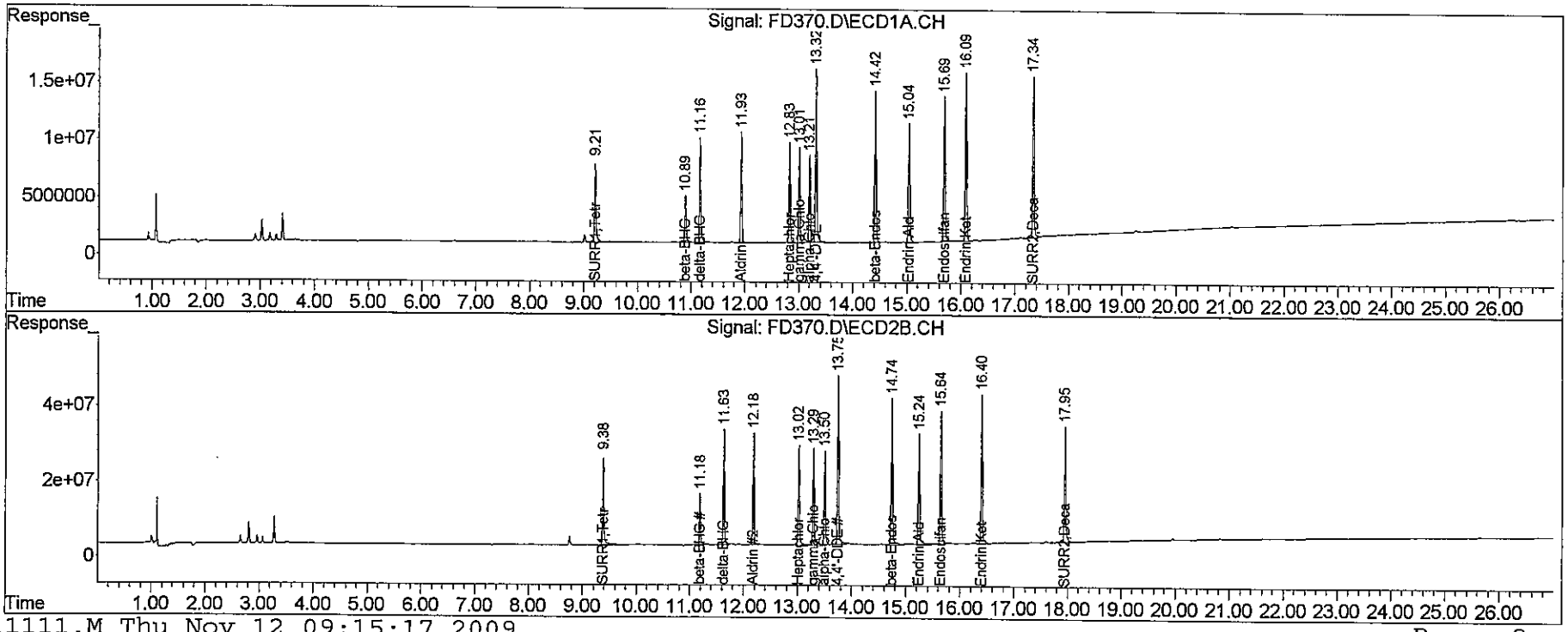
00546

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD370.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 12:01 pm
Operator : M.PEDRO
Sample : INDBL
Misc : INITIAL CAL
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:53:54 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

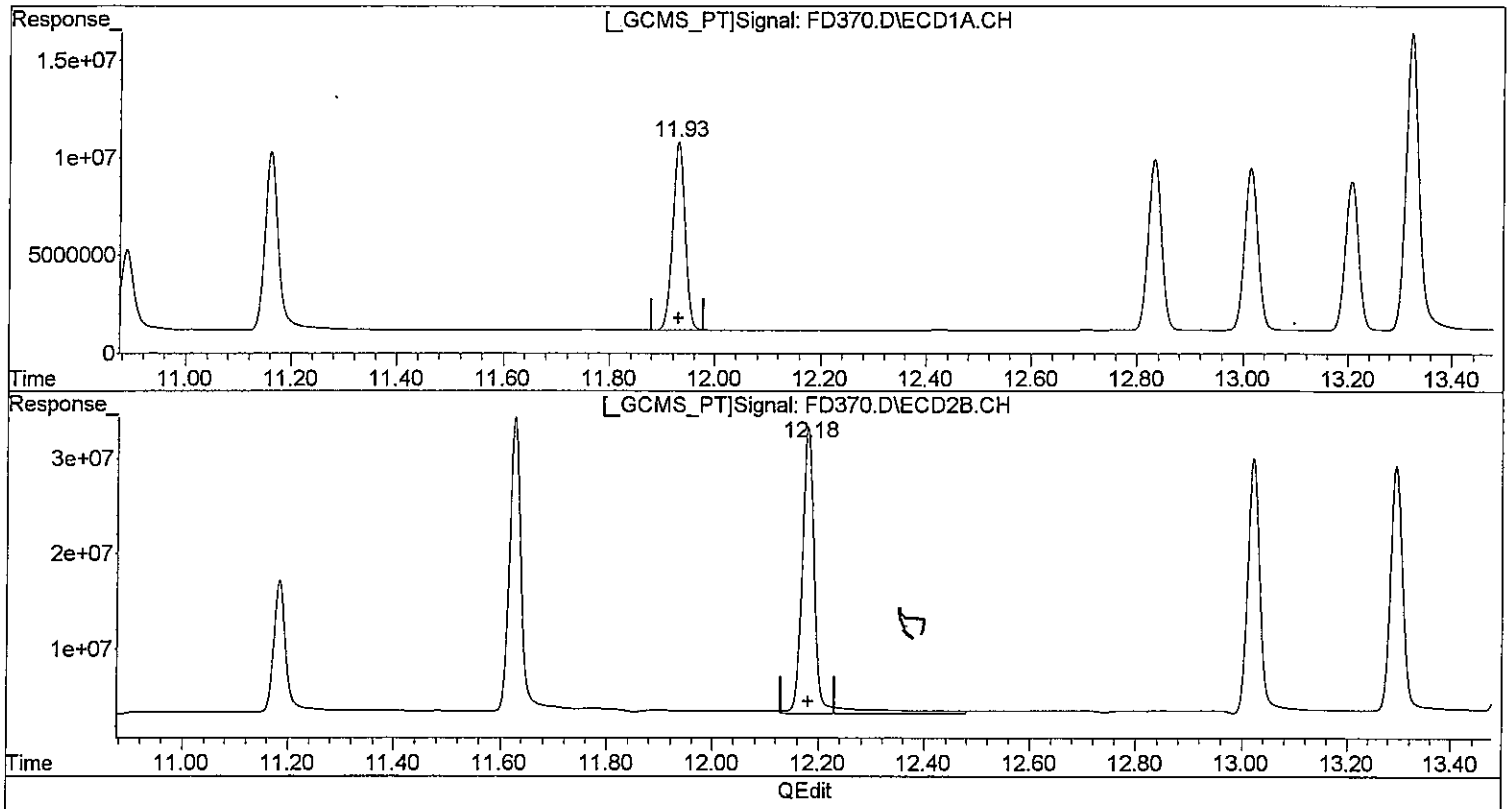


Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD370.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 12:01 pm
Operator : M.PEDRO
Sample : INDBL
Misc : INITIAL CAL
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:56 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(6) Aldrin (tcm)
11.93min 5.207ug/l
response 158689748

(6) Aldrin #2 (tcm)
12.18min 6.317ug/l
response 515385216

base

(+) = Expected Retention Time

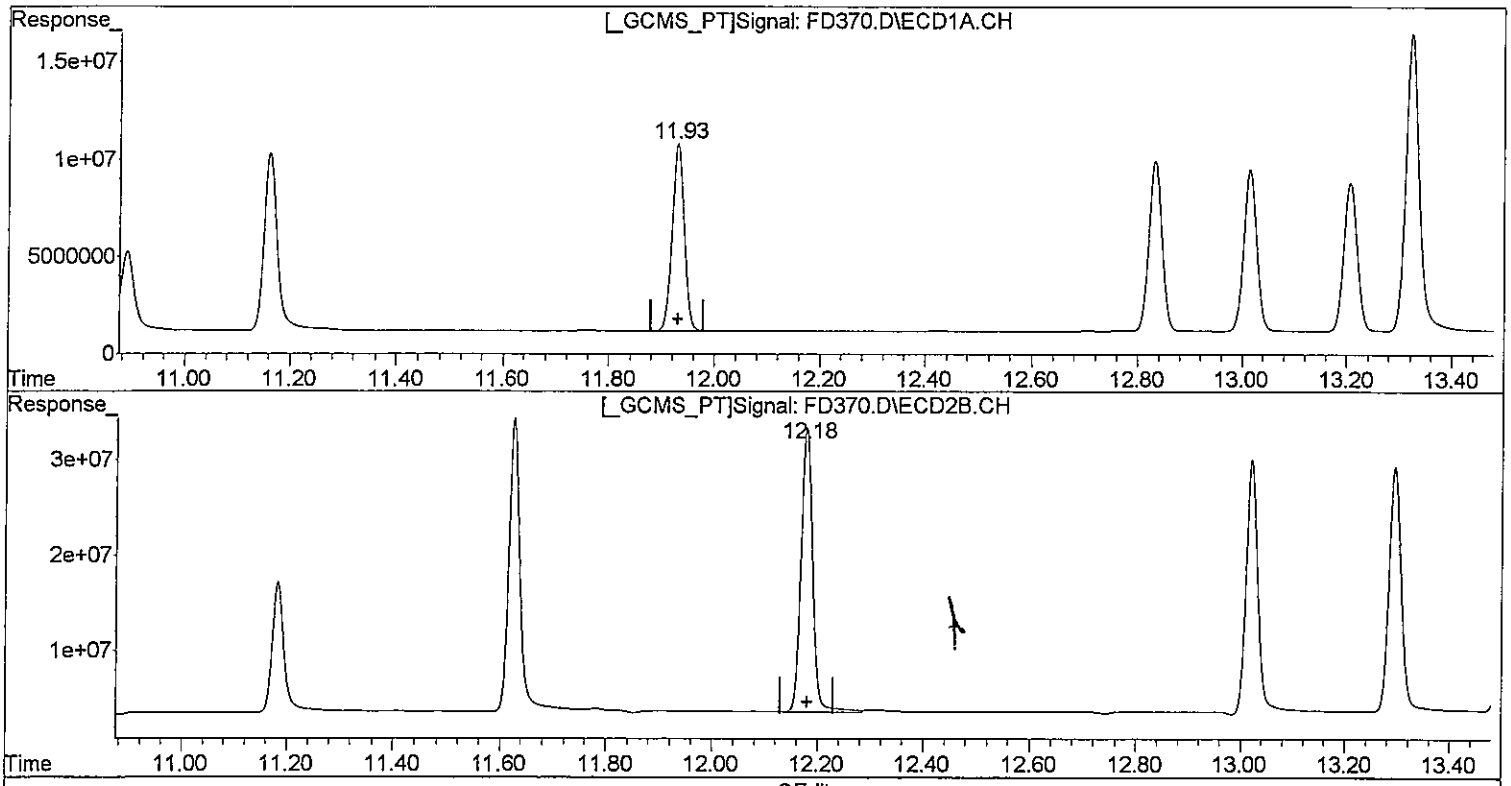
00548

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD370.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 12:01 pm
Operator : M.PEDRO
Sample : INDBL
Misc : INITIAL CAL
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:56 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(6) Aldrin (tcm)
11.93min 5.207ug/l
response 158689748

(6) Aldrin #2 (tcm)
12.18min 5.631ug/l m
response 459466210

(+) = Expected Retention Time

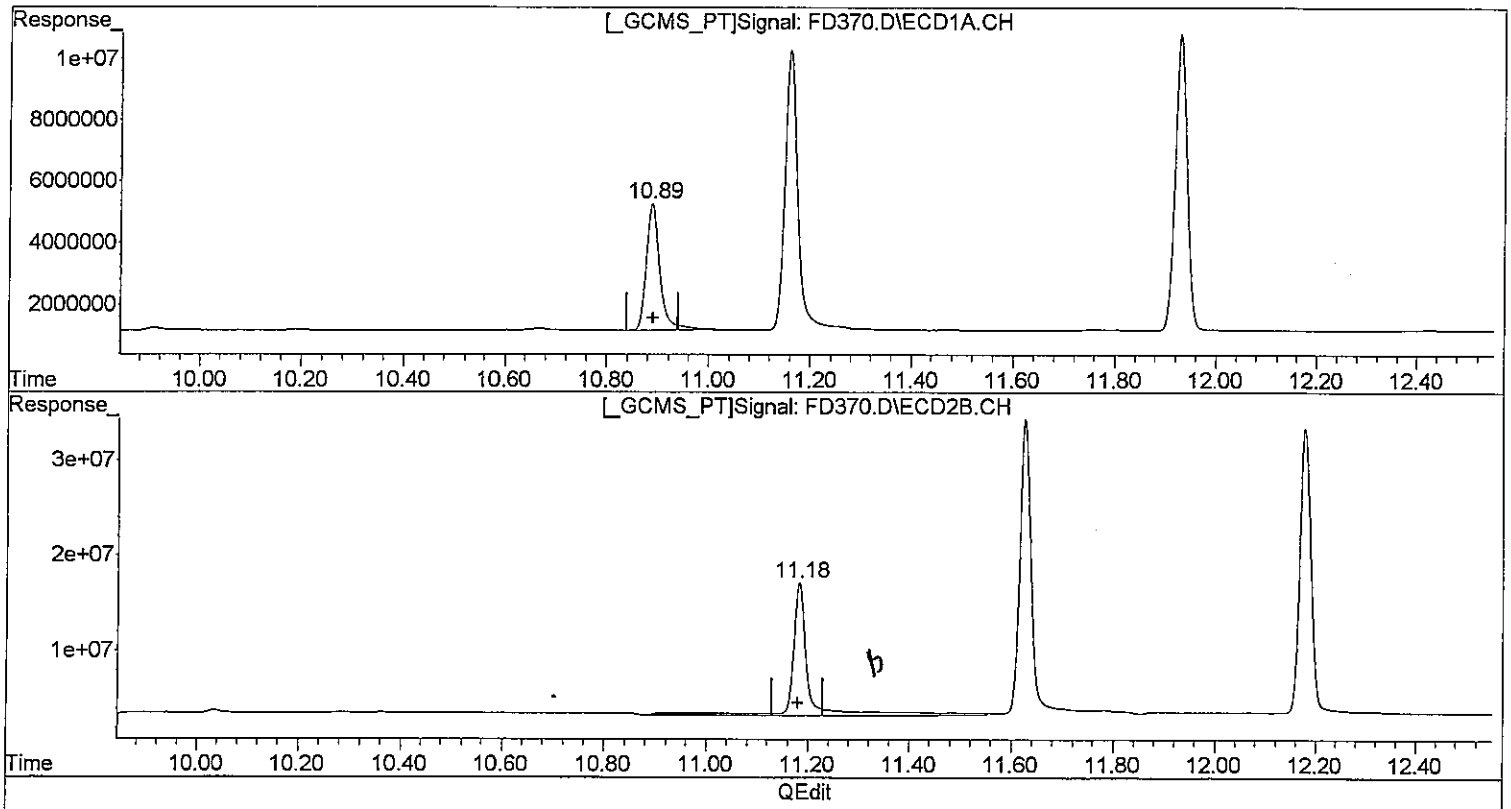
00549

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD370.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 12:01 pm
Operator : M.PEDRO
Sample : INDBL
Misc : INITIAL CAL
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:56 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



(7) beta-BHC (tc)
10.89min 5.562ug/l
response 76203585

(7) beta-BHC #2 (tc)
11.18min 7.588ug/l
response 307474608

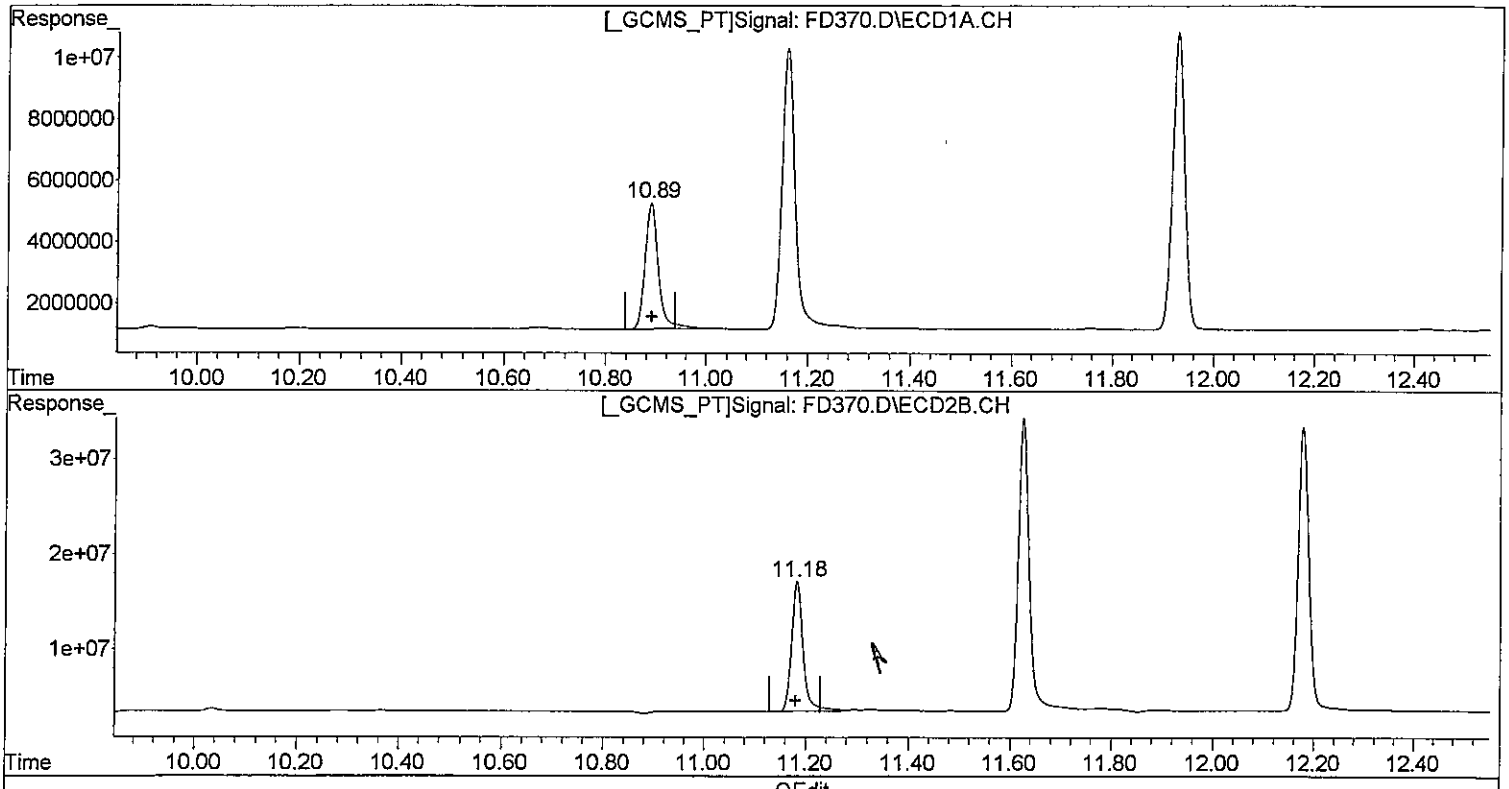
(+) = Expected Retention Time

00550

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD370.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 12:01 pm
Operator : M.PEDRO
Sample : INDBL
Misc : INITIAL CAL
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:56 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(7) beta-BHC (tc)
10.89min 5.562ug/l
response 76203585

(7) beta-BHC #2 (tc)
11.18min 5.256ug/l m
response 213009717

(+) = Expected Retention Time

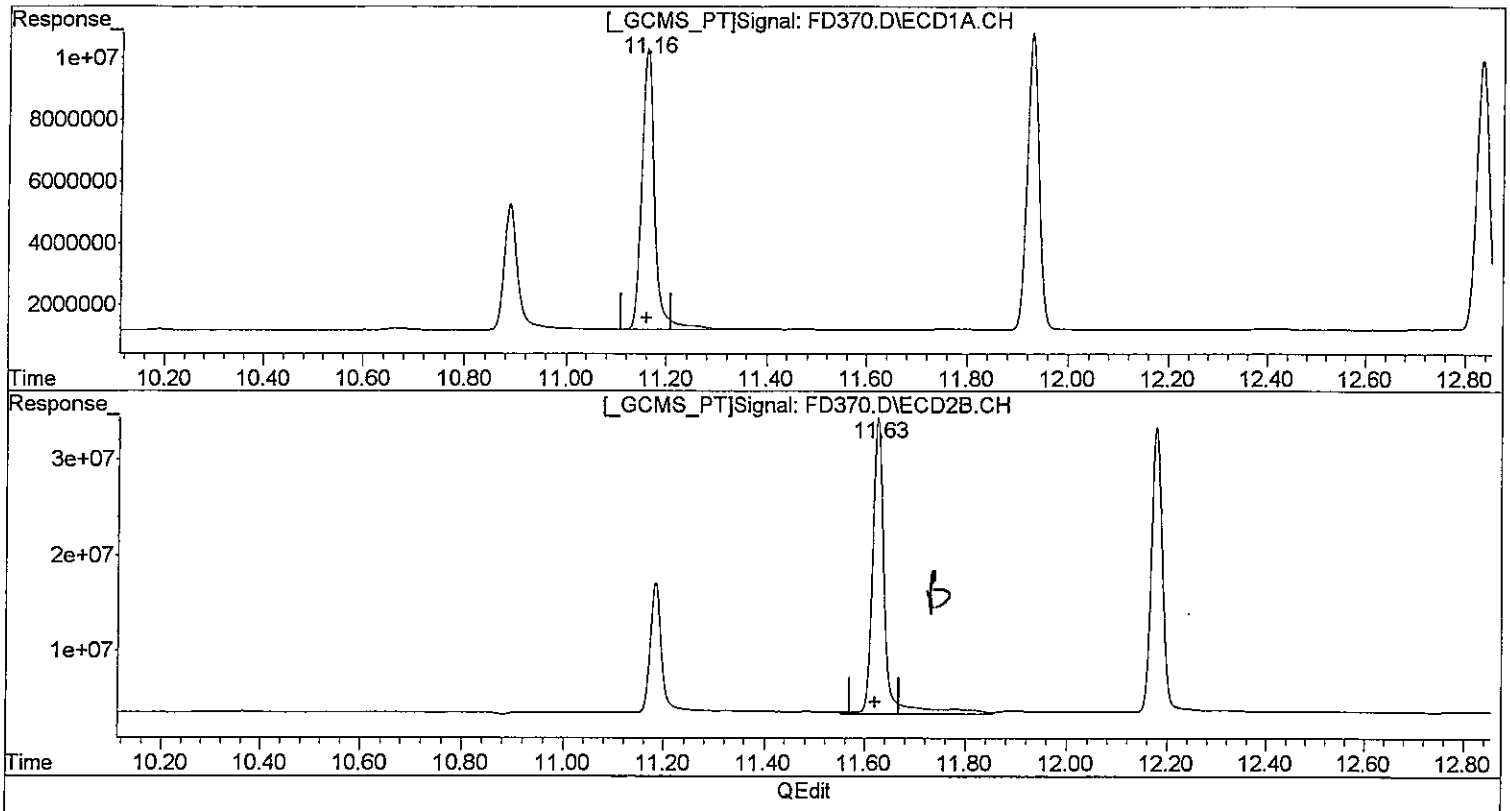
00551

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD370.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 12:01 pm
Operator : M.PEDRO
Sample : INDBL
Misc : INITIAL CAL
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:56 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



(8) delta-BHC (tc)
11.16min 5.007ug/l
response 164973096

(8) delta-BHC #2 (tc)
11.63min 5.803ug/l
response 530363052

(+) = Expected Retention Time

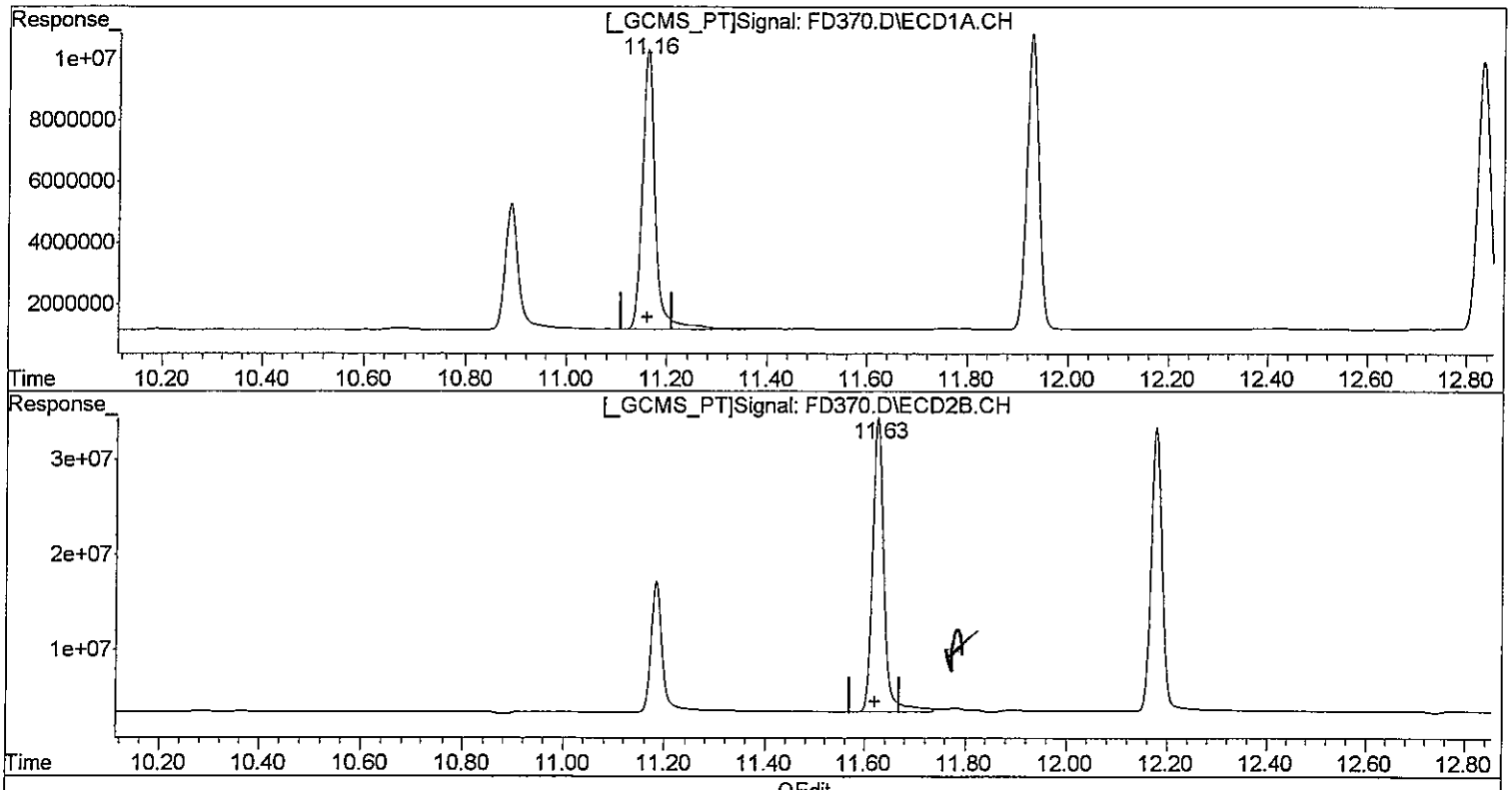
00552

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD370.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 12:01 pm
Operator : M.PEDRO
Sample : INDBL
Misc : INITIAL CAL
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:56 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(8) delta-BHC (tc)
11.16min 5.007ug/l
response 164973096

(8) delta-BHC #2 (tc)
11.63min 5.207ug/l m
response 475919698

MP 11/12

MV 11/12

(+) = Expected Retention Time

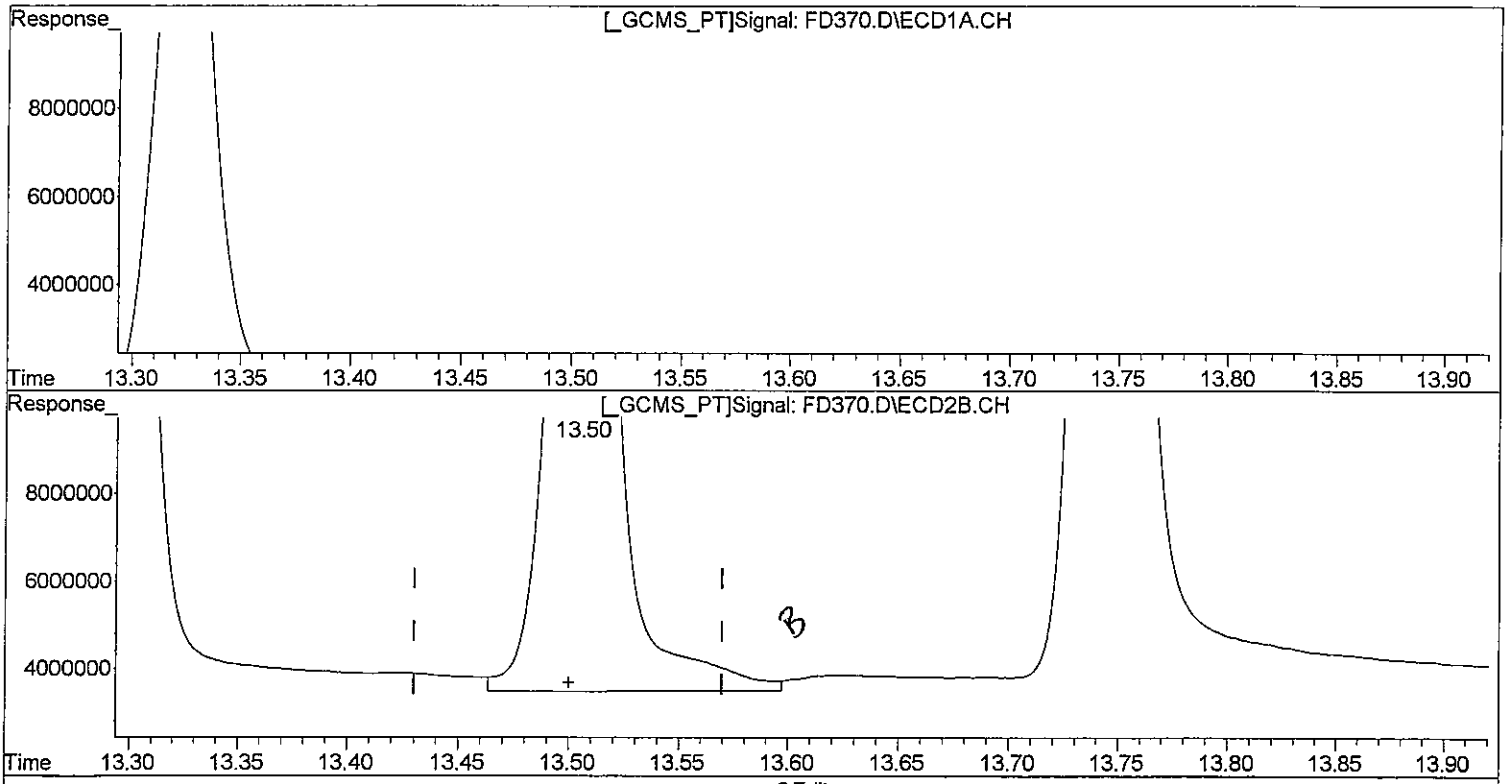
00553

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD370.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 12:01 pm
Operator : M.PEDRO
Sample : INDBL
Misc : INITIAL CAL
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:56 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(12) alpha-Chlord (tc)
13.21min 5.263ug/l
response 135443525

Baker

(12) alpha-Chlord #2 (tc)
13.51min 6.180ug/l
response 424463721

(+) = Expected Retention Time

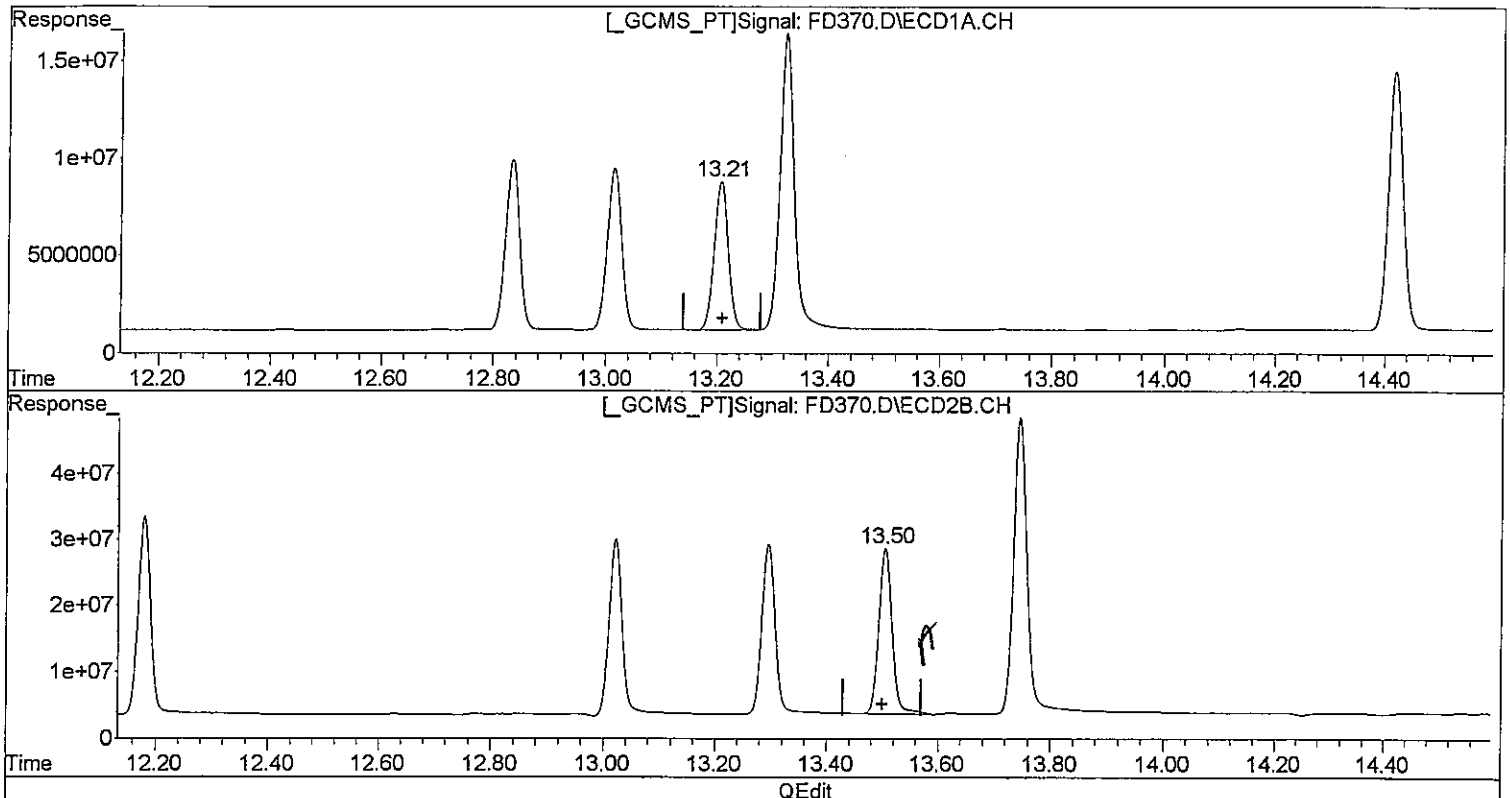
00554

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD370.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 12:01 pm
Operator : M.PEDRO
Sample : INDBL
Misc : INITIAL CAL
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:56 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(12) alpha-Chlord (tc)
13.21min 5.263ug/l
response 135443525

(12) alpha-Chlord #2 (tc)
13.50min 5.932ug/l m
response 407423262

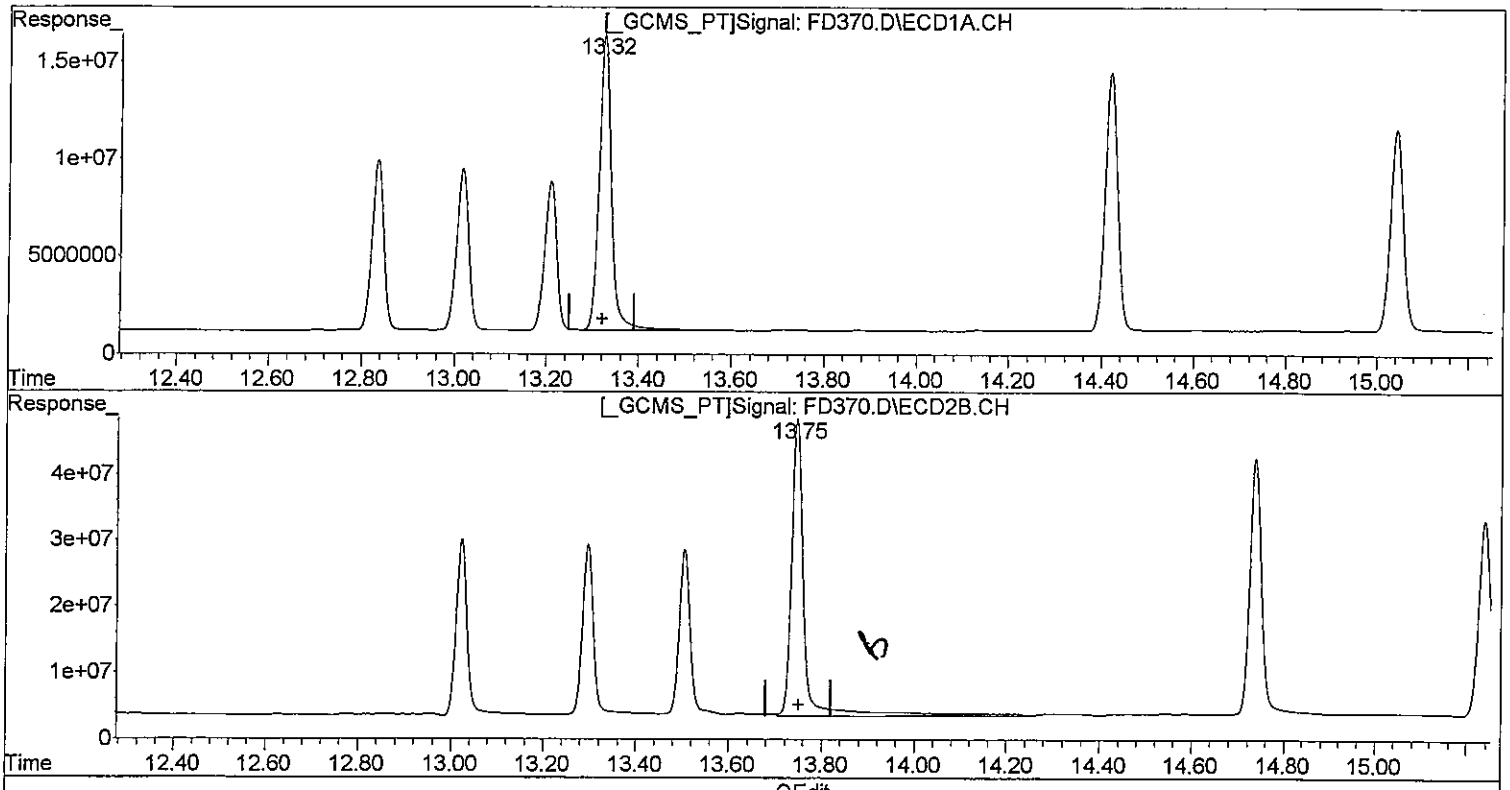
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD370.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 12:01 pm
Operator : M.PEDRO
Sample : INDBL
Misc : INITIAL CAL
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:56 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



(13) 4,4'-DDE (tc)
13.32min 10.610ug/l
response 280668498

(13) 4,4'-DDE #2 (tc)
13.75min 13.147ug/l
response 874336850

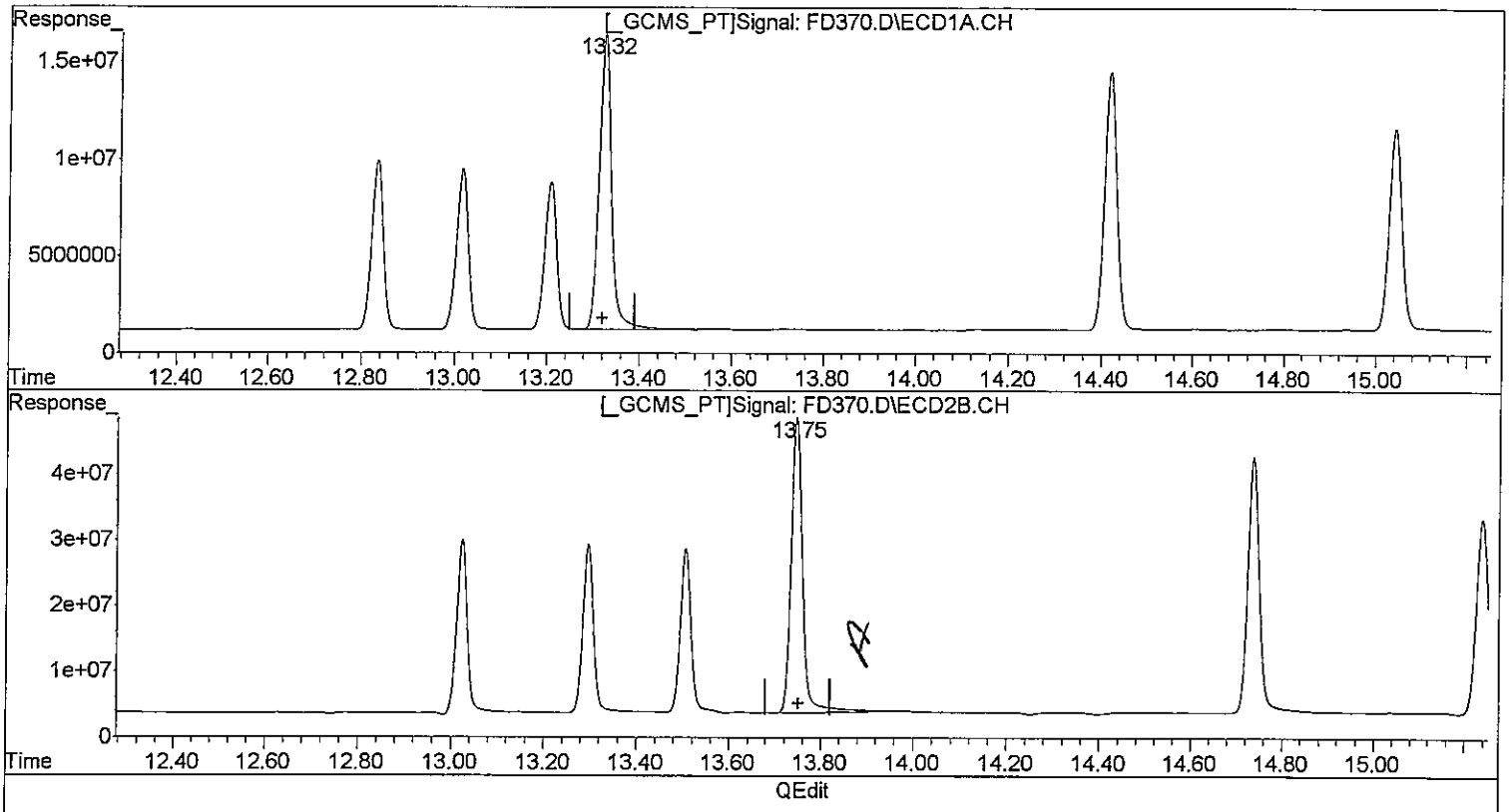
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD370.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 12:01 pm
Operator : M.PEDRO
Sample : INDBL
Misc : INITIAL CAL
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:56 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



(13) 4,4'-DDE (tc)
13.32min 10.610ug/l
response 280668498

(13) 4,4'-DDE #2 (tc)
13.75min 11.420ug/l m
response 759464112

(+) = Expected Retention Time

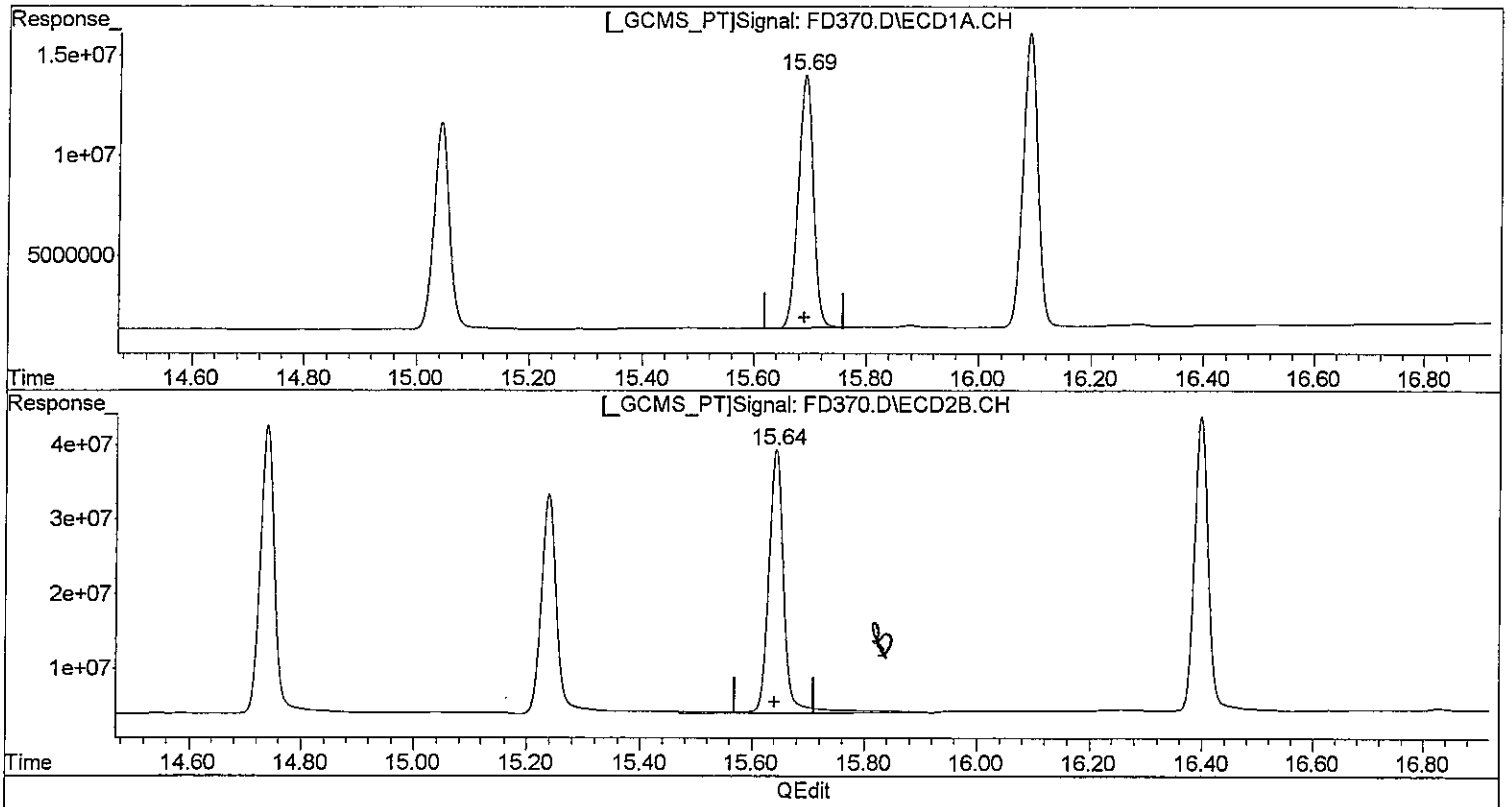
00557

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD370.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 12:01 pm
Operator : M.PEDRO
Sample : INDBL
Misc : INITIAL CAL
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:56 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(21) Endosulfan S (tc)
15.69min 11.129ug/l
response 236302067

(21) Endosulfan S #2 (tc)
15.64min 13.597ug/l
response 682834146

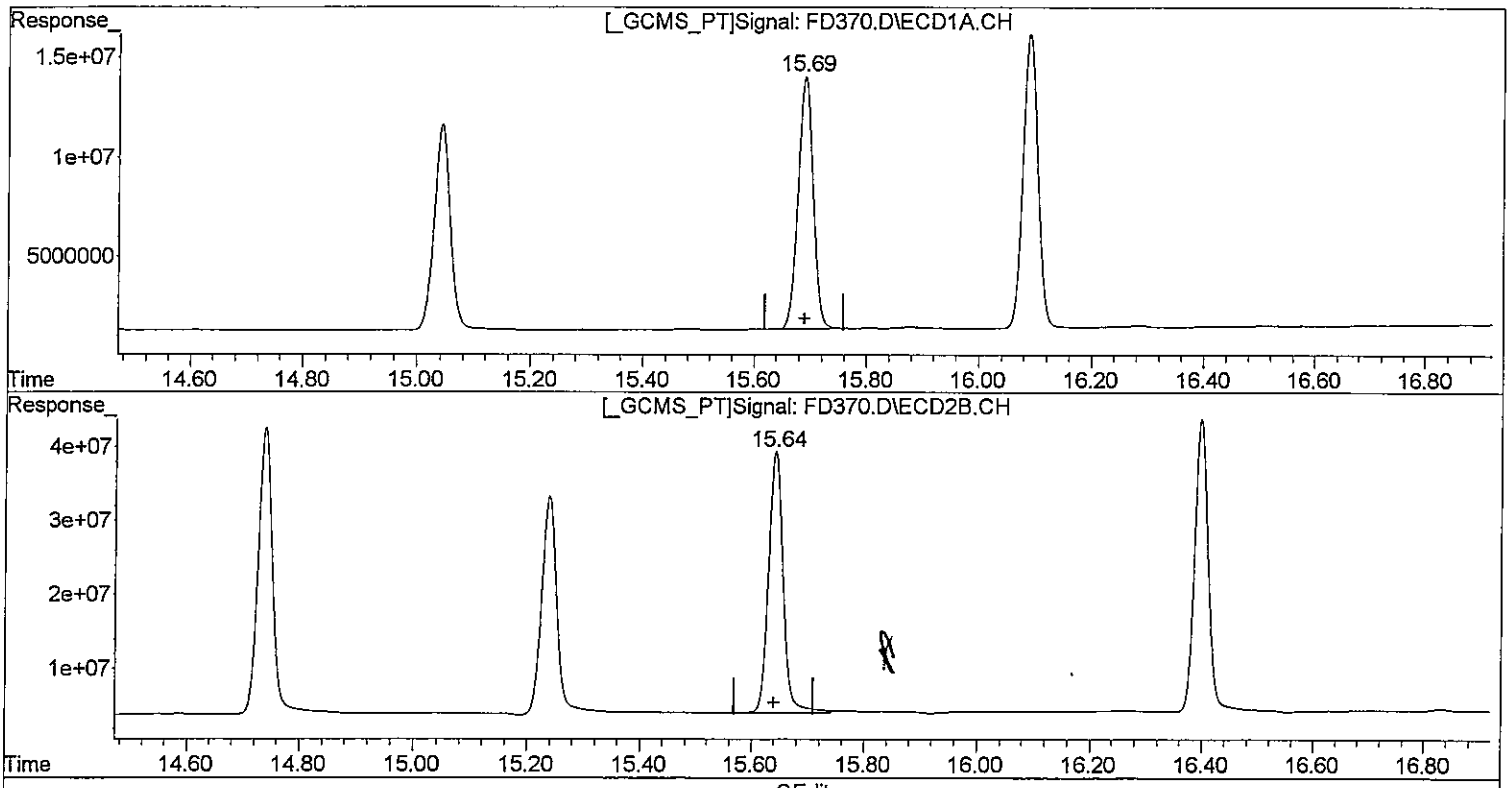
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD370.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 12:01 pm
Operator : M.PEDRO
Sample : INDBL
Misc : INITIAL CAL
ALS Vial : 8 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:18:56 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(21) Endosulfan S (tc)
15.69min 11.129ug/l
response 236302067

(21) Endosulfan S #2 (tc)
15.64min 12.428ug/l m
response 624085576

(+) = Expected Retention Time

00559

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD371.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 12:37 pm
Operator : M.PEDRO
Sample : INDBML
Misc : INITIAL CAL
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:54:35 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
1)	S SURR1,Tetrac	9.21	9.38	263.3E6	827.6E6	11.084	11.853
	Spiked Amount 100.000	Range 30 - 150		Recovery =		11.08%#	11.85%#
25)	S SURR2,Decachloro	17.34	17.95	504.3E6	1151.1E6	25.022	26.646
	Spiked Amount 100.000	Range 30 - 150		Recovery =		25.02%#	26.65%#
	Target Compounds						
6)	tcm Aldrin	11.93	12.18	335.5E6	975.4E6	11.009	11.955
7)	tc beta-BHC	10.89	11.18	153.2E6	436.0E6	11.185	10.759
8)	tc delta-BHC	11.16	11.63	354.6E6	1002.2E6	10.762	10.966
9)	tc Heptachlor E	12.83	13.02	311.2E6	871.1E6	11.281	12.222
11)	tc gamma-Chlord	13.02	13.30	305.4E6	870.1E6	11.108	12.147
12)	tc alpha-Chlord	13.21	13.50	288.0E6	851.8E6	11.192	12.402
13)	tc 4,4'-DDE	13.32	13.75	593.9E6	1606.9E6	22.451	24.162
17)	tc beta-Endosul	14.42	14.74	524.3E6	1427.6E6	22.724	25.606
20)	tc Endrin Aldeh	15.04	15.24	412.5E6	1099.1E6	22.620	25.219
21)	tc Endosulfan S	15.69	15.64	483.1E6	1285.4E6	22.751	25.596
24)	tc Endrin Keton	16.09	16.40	556.4E6	1366.1E6	23.431	25.891
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
	Average Chlordane					0.000	0.000

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

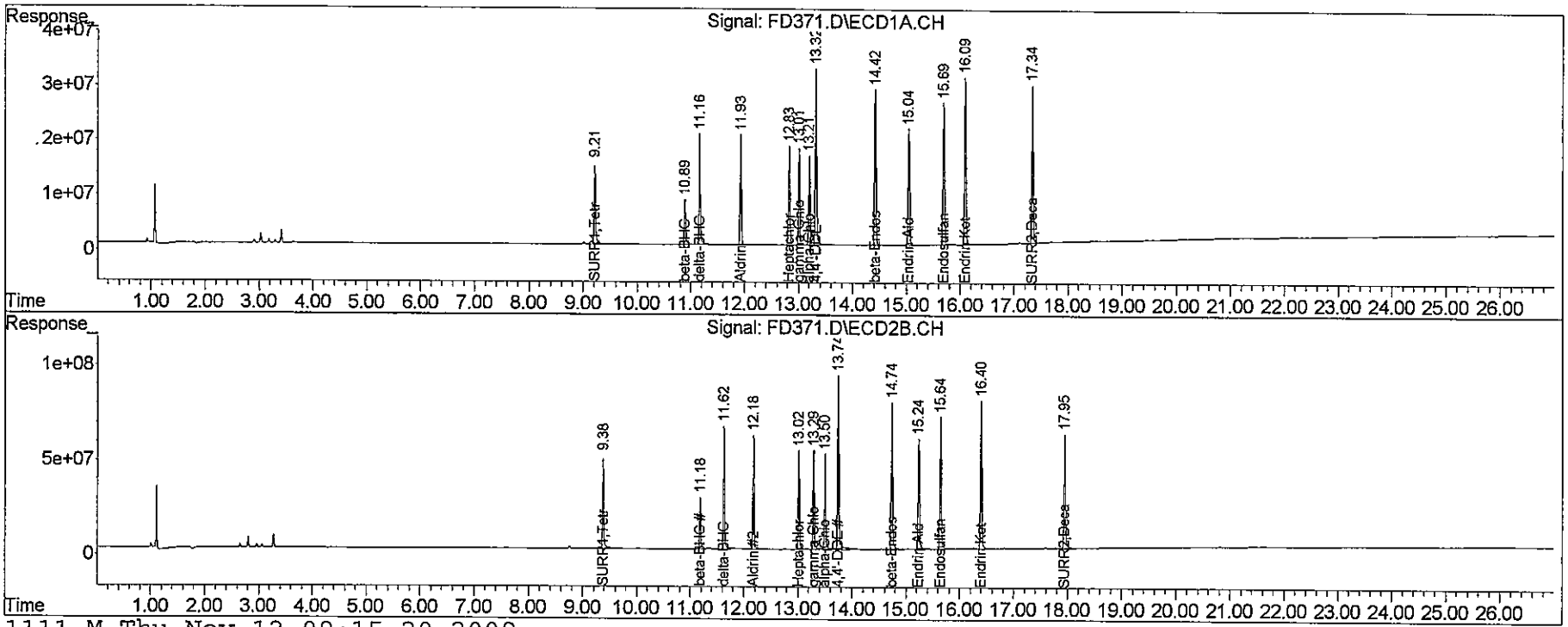
00560

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD371.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 12:37 pm
Operator : M.PEDRO
Sample : INDBML
Misc : INITIAL CAL
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:54:35 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



T9598

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD372.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 1:12 pm
Operator : M.PEDRO
Sample : INDBM
Misc : INITIAL CAL
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:56:15 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
1) S SURR1,Tetrac	9.21	9.38	539.4E6	1600.4E6	22.710	22.923
Spiked Amount 100.000	Range 30 - 150		Recovery =		22.71%#	22.92%#
25) S SURR2,Decachloro	17.34	17.95	1001.0E6	2243.1E6	49.665	51.923
Spiked Amount 100.000	Range 30 - 150		Recovery =		49.66%	51.92%
Target Compounds						
6) tcm Aldrin	11.93	12.18	700.5E6	1907.6E6	22.986	23.380
7) tc beta-BHC	10.89	11.18	310.9E6	866.4E6	22.692	21.381
8) tc delta-BHC	11.16	11.62	758.9E6	2040.8E6	23.031	22.330
9) tc Heptachlor E	12.83	13.02	638.3E6	1726.8E6	23.141	24.230
11) tc gamma-Chlord	13.02	13.29	636.3E6	1757.8E6	23.141	24.539
12) tc alpha-Chlord	13.21	13.50	591.4E6	1716.4E6	22.983	24.991
13) tc 4,4'-DDE	13.32	13.75	1235.9E6	3239.1E6	46.720	48.703
17) tc beta-Endosul	14.42	14.74	1062.0E6	2833.8E6	46.024	50.829
20) tc Endrin Aldeh	15.04	15.24	864.1E6	2190.0E6	47.381	50.252
21) tc Endosulfan S	15.69	15.64	1003.0E6	2554.4E6	47.238	50.865
24) tc Endrin Keton	16.09	16.40	1141.9E6	2721.5E6	48.087	51.578
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
Sum Chlordane			0	0	N.D.	N.D.
Average Chlordane					0.000	0.000

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

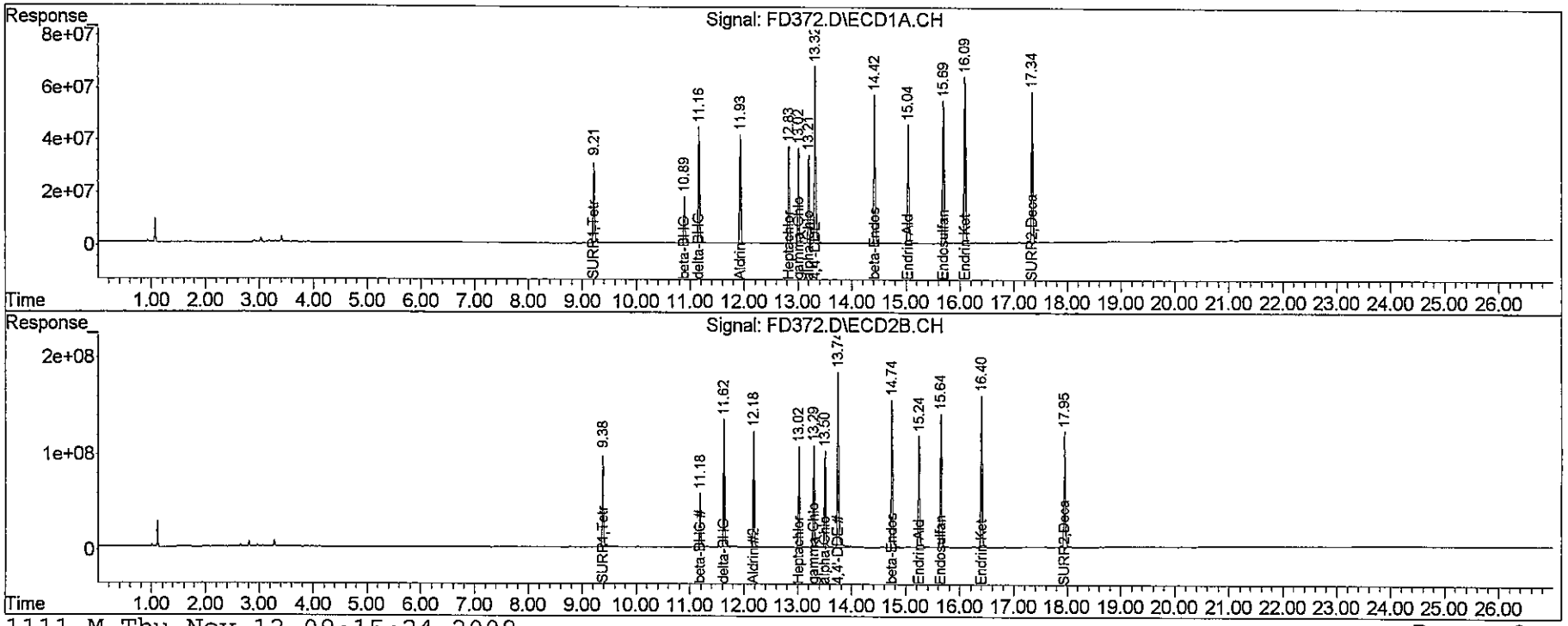
00562

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD372.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 1:12 pm
Operator : M.PEDRO
Sample : INDBM
Misc : INITIAL CAL
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:56:15 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



E9909

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD373.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 1:48 pm
Operator : M.PEDRO
Sample : INDBMH
Misc : INITIAL CAL
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:58:00 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
1)	S SURR1,Tetrac	9.21	9.38	1103.5E6	3191.5E6	46.458	45.712
	Spiked Amount 100.000	Range 30 - 150		Recovery =		46.46%	45.71%
25)	S SURR2,Decachloro	17.34	17.95	1997.9E6	4434.6E6	99.128	102.650
	Spiked Amount 100.000	Range 30 - 150		Recovery =		99.13%	102.65%
	Target Compounds						
6)	tcm Aldrin	11.93	12.18	1430.0E6	3812.5E6	46.926	46.728
7)	tc beta-BHC	10.89	11.18	625.1E6	1735.2E6	45.630	42.820
8)	tc delta-BHC	11.16	11.63	1563.9E6	4144.7E6	47.465	45.351
9)	tc Heptachlor E	12.83	13.02	1289.4E6	3341.5E6	46.746	46.885
11)	tc gamma-Chlord	13.02	13.30	1314.1E6	3523.1E6	47.792	49.184
12)	tc alpha-Chlord	13.21	13.50	1206.0E6	3378.6E6	46.865	49.193
13)	tc 4,4'-DDE	13.32	13.75	2524.9E6	6449.0E6	95.447	96.969
17)	tc beta-Endosul	14.42	14.74	2147.7E6	5438.5E6	93.076	97.547
20)	tc Endrin Aldeh	15.04	15.24	1733.2E6	4262.5E6	95.037	97.807
21)	tc Endosulfan S	15.69	15.64	2022.0E6	4961.9E6	95.226	98.807
24)	tc Endrin Keton	16.09	16.40	2300.1E6	5315.5E6	96.861	100.740
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
	Average Chlordane					0.000	0.000

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

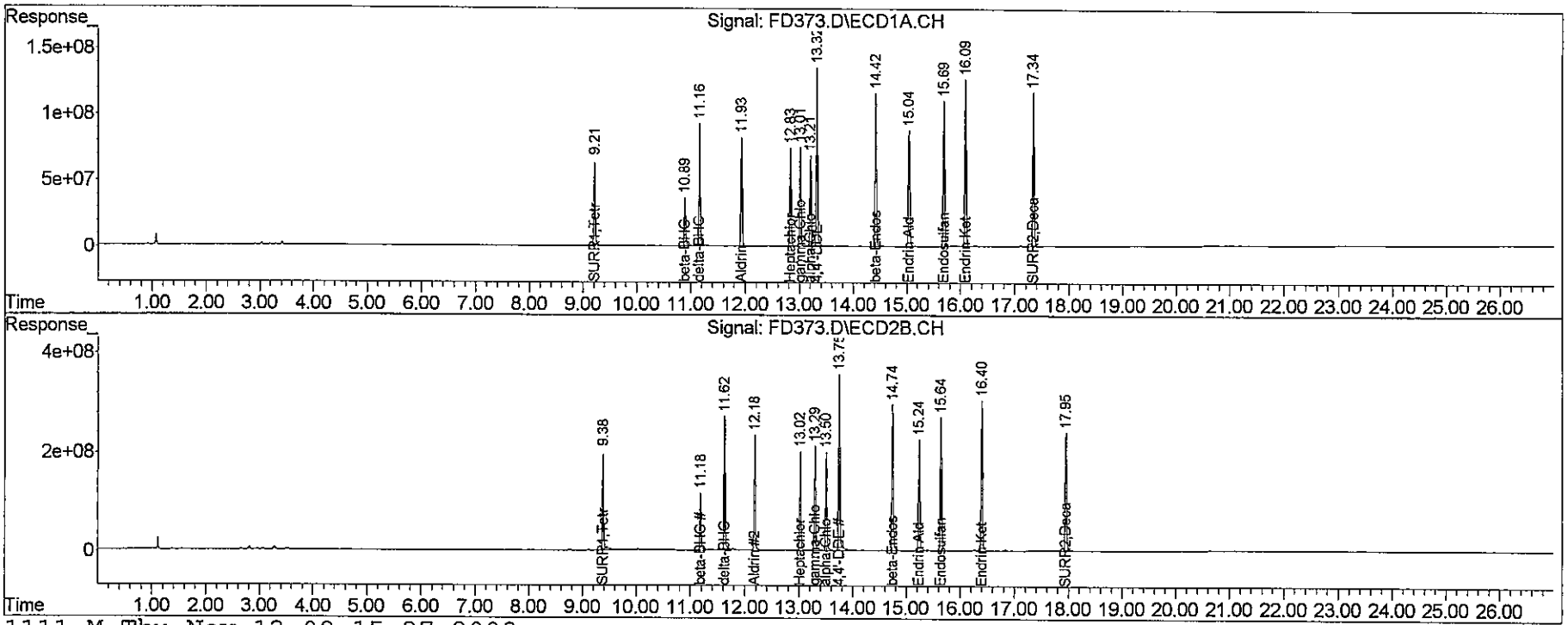
00564

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD373.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 1:48 pm
Operator : M.PEDRO
Sample : INDBMH
Misc : INITIAL CAL
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:58:00 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD374.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 2:24 pm
Operator : M.PEDRO
Sample : INDBH
Misc : INITIAL CAL
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:59:05 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
1)	S SURR1,Tetrac	9.21	9.38	2200.2E6	5711.0E6	92.635	81.799
	Spiked Amount 100.000	Range 30 - 150		Recovery =		92.64%	81.80%
25)	S SURR2,Decachloro	17.34	17.95	3974.7E6	8667.4E6	197.208	200.631
	Spiked Amount 100.000	Range 30 - 150		Recovery =		197.21%#	200.63%#
	Target Compounds						
6)	tcm Aldrin	11.93	12.18	2846.6E6	7275.3E6	93.410	89.170
7)	tc beta-BHC	10.89	11.18	1271.7E6	3432.5E6	92.828	84.705
8)	tc delta-BHC	11.16	11.62	3187.0E6	8235.9E6	96.724	90.116
9)	tc Heptachlor E	12.83	13.02	2552.5E6	6325.9E6	92.538	88.760
11)	tc gamma-Chlord	13.01	13.29	2650.5E6	6823.5E6	96.392	95.259
12)	tc alpha-Chlord	13.21	13.51	2434.5E6	6567.0E6	94.603	95.618
13)	tc 4,4'-DDE	13.32	13.75	4952.4E6	12082.2E6	187.215	181.672
17)	tc beta-Endosul	14.42	14.74	4252.7E6	10280.0E6	184.301	184.388
20)	tc Endrin Aldeh	15.04	15.24	3470.3E6	8120.9E6	190.287	186.342
21)	tc Endosulfan S	15.69	15.64	4018.0E6	9471.4E6	189.225	188.607
24)	tc Endrin Keton	16.09	16.40	4546.8E6	10155.5E6	191.473	192.469
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
	Average Chlordane					0.000	0.000

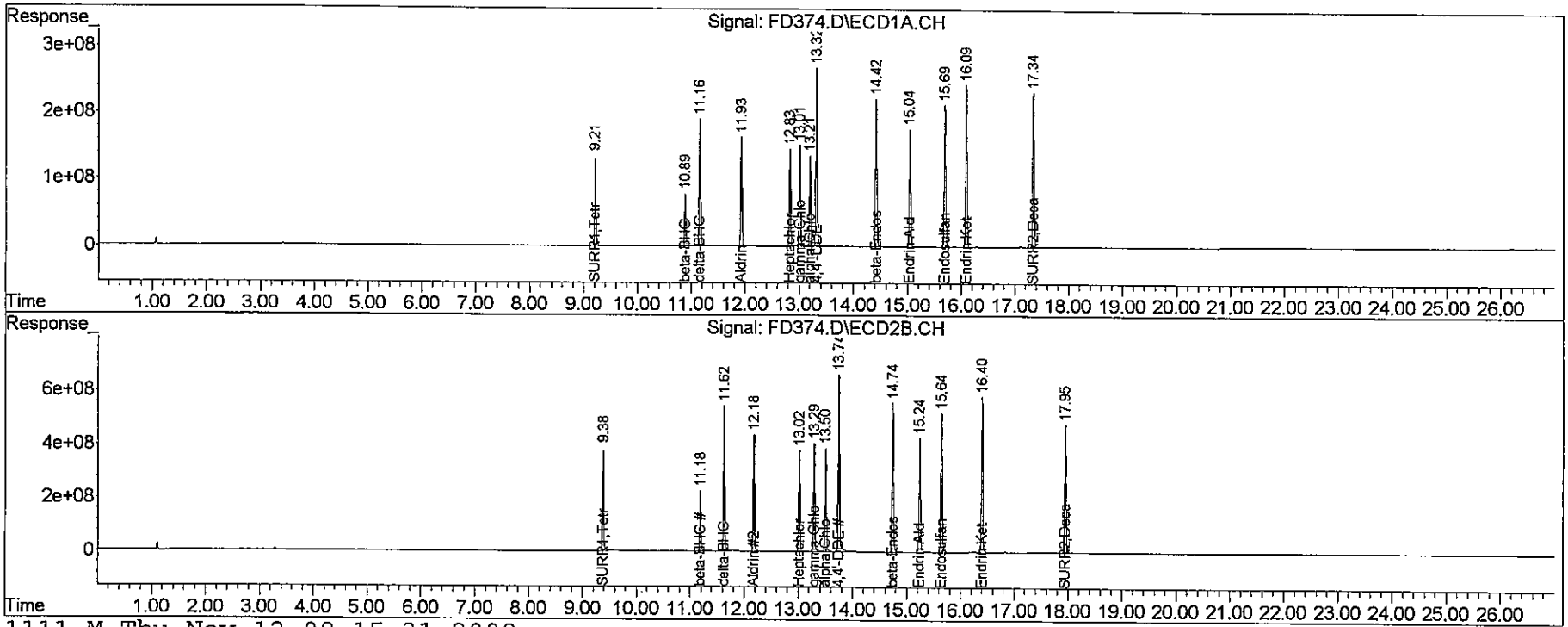
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD374.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 2:24 pm
Operator : M.PEDRO
Sample : INDBH
Misc : INITIAL CAL
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:59:05 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



19506

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD375.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 2:59 pm
Operator : M.PEDRO
Sample : KEP/FAM L
Misc : INITIAL CAL
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:00:01 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
	Target Compounds						
16)	tc KEPONE	14.15	14.60	6077.8E6	15079.7E6	626.191	654.882
23)	tc FAMPHUR	15.99	15.73	1815.8E6	4208.8E6	110.220	117.172m
	Sum Toxaphene			0	0	N.D.	N.D.
Average	Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
Average	Chlordane					0.000	0.000

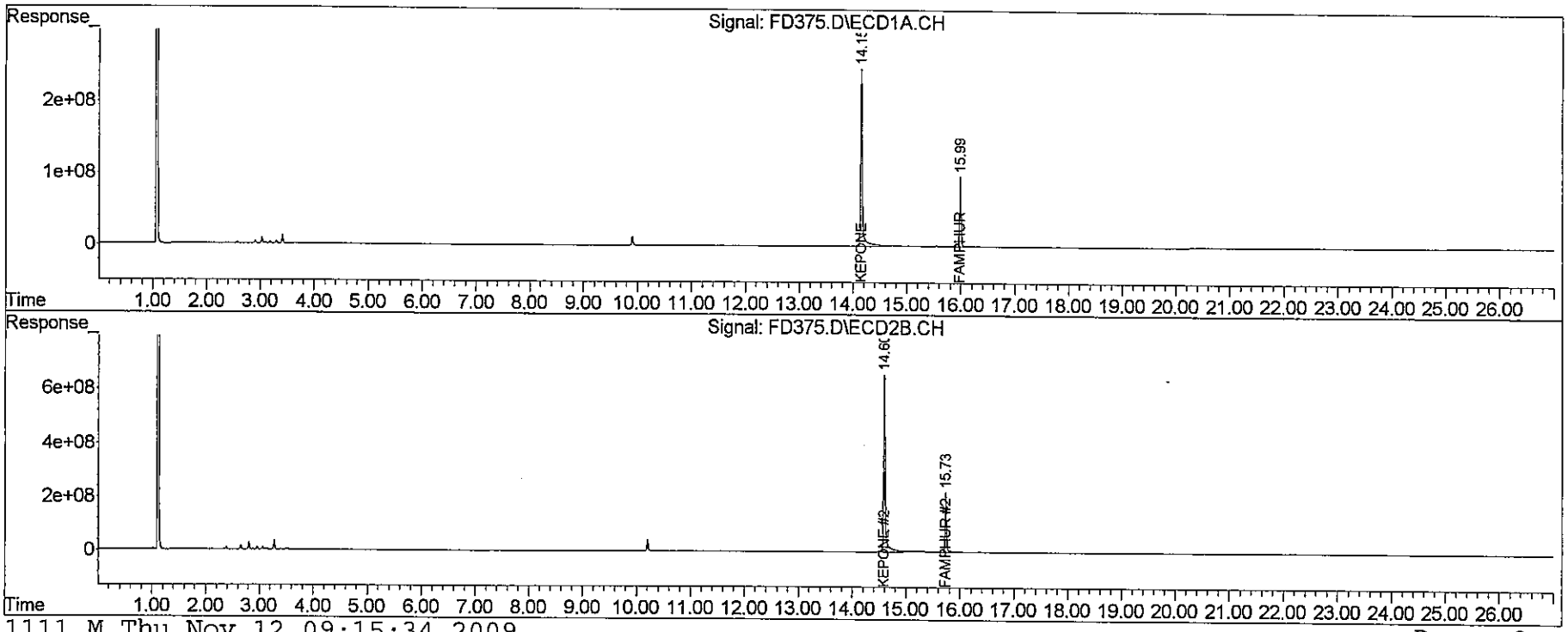
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD375.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 2:59 pm
Operator : M.PEDRO
Sample : KEP/FAM L
Misc : INITIAL CAL
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:00:01 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



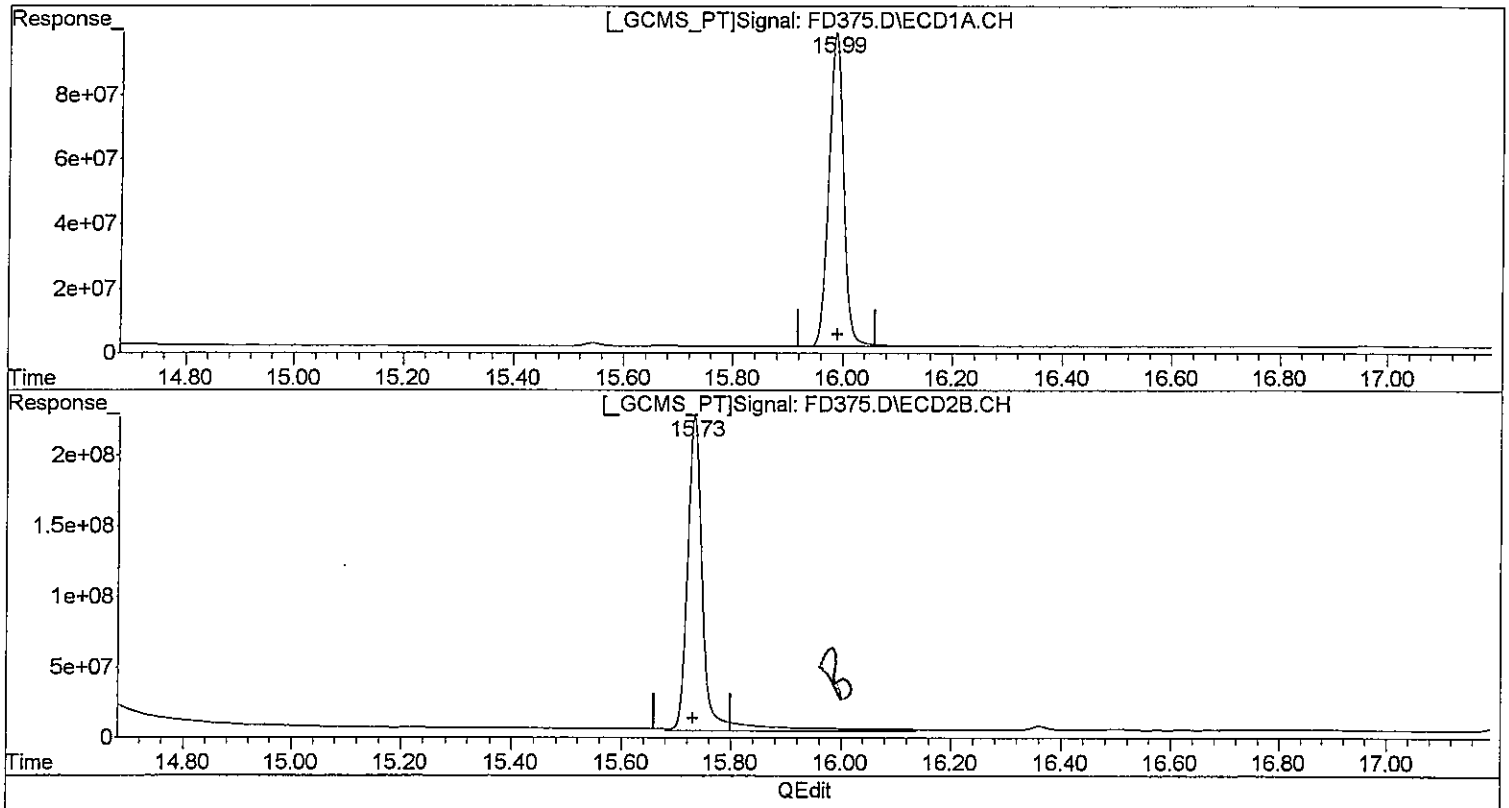
69569

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD375.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 2:59 pm
Operator : M.PEDRO
Sample : KEP/FAM L
Misc : INITIAL CAL
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:19:19 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



(23) FAMPHUR (tc)
15.99min 110.220ug/l
response 1815772576

(23) FAMPHUR #2 (tc)
15.73min 126.843ug/l
response 4556226822

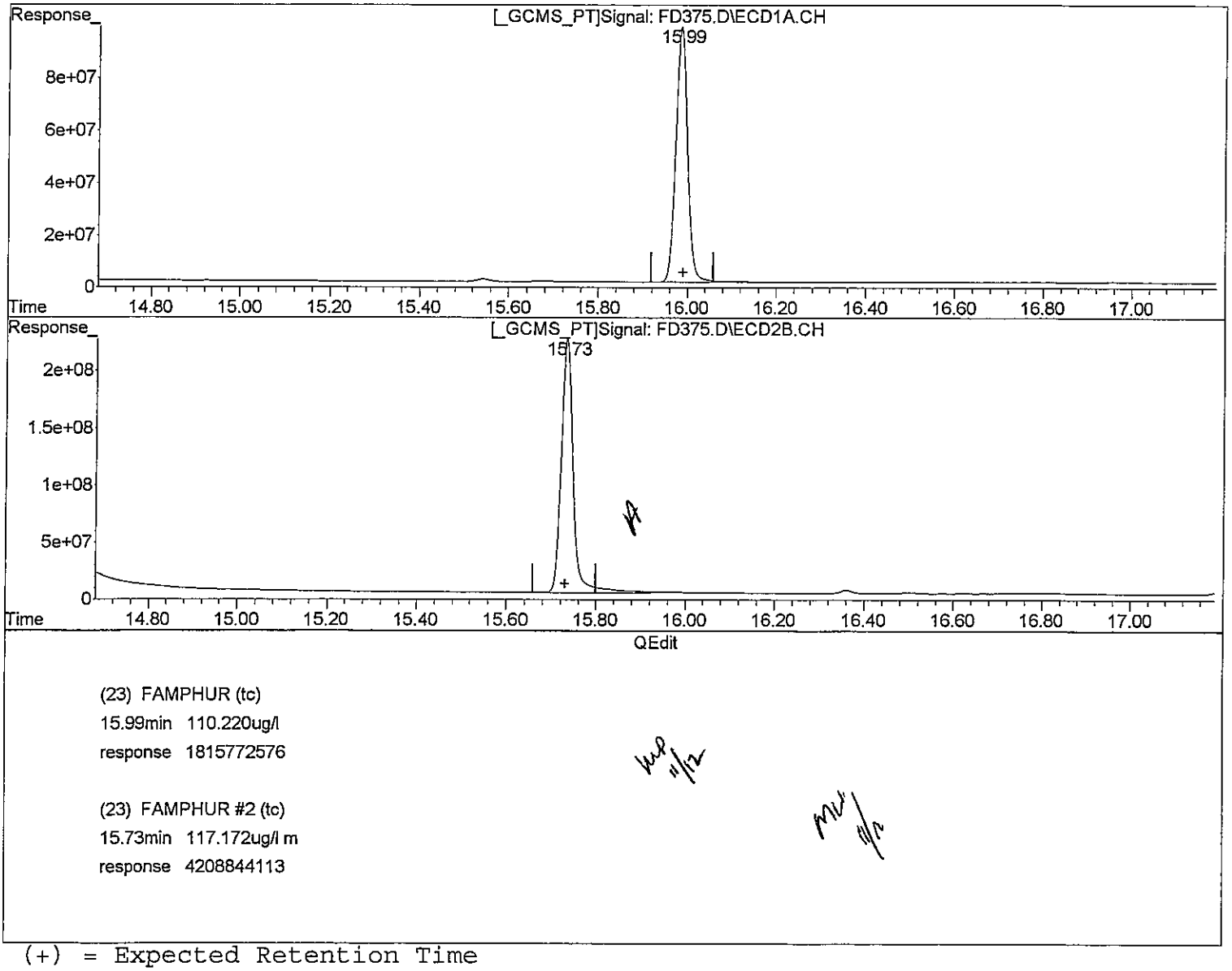
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD375.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 2:59 pm
Operator : M.PEDRO
Sample : KEP/FAM L
Misc : INITIAL CAL
ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:19:19 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



(23) FAMPHUR (tc)
15.99min 110.220ug/l
response 1815772576

(23) FAMPHUR #2 (tc)
15.73min 117.172ug/l m
response 4208844113

(+) = Expected Retention Time

00571

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD376.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 3:35 pm
Operator : M.PEDRO
Sample : KEP/FAM ML
Misc : INITIAL CAL
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:01:02 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
Target Compounds						
16) tc KEPONE	14.15	14.60	12810.4E6	31453.1E6	1319.859	1365.947
23) tc FAMPHUR	15.99	15.73	3988.1E6	8655.3E6	242.083	240.959m
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
Sum Chlordane			0	0	N.D.	N.D.
Average Chlordane					0.000	0.000

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

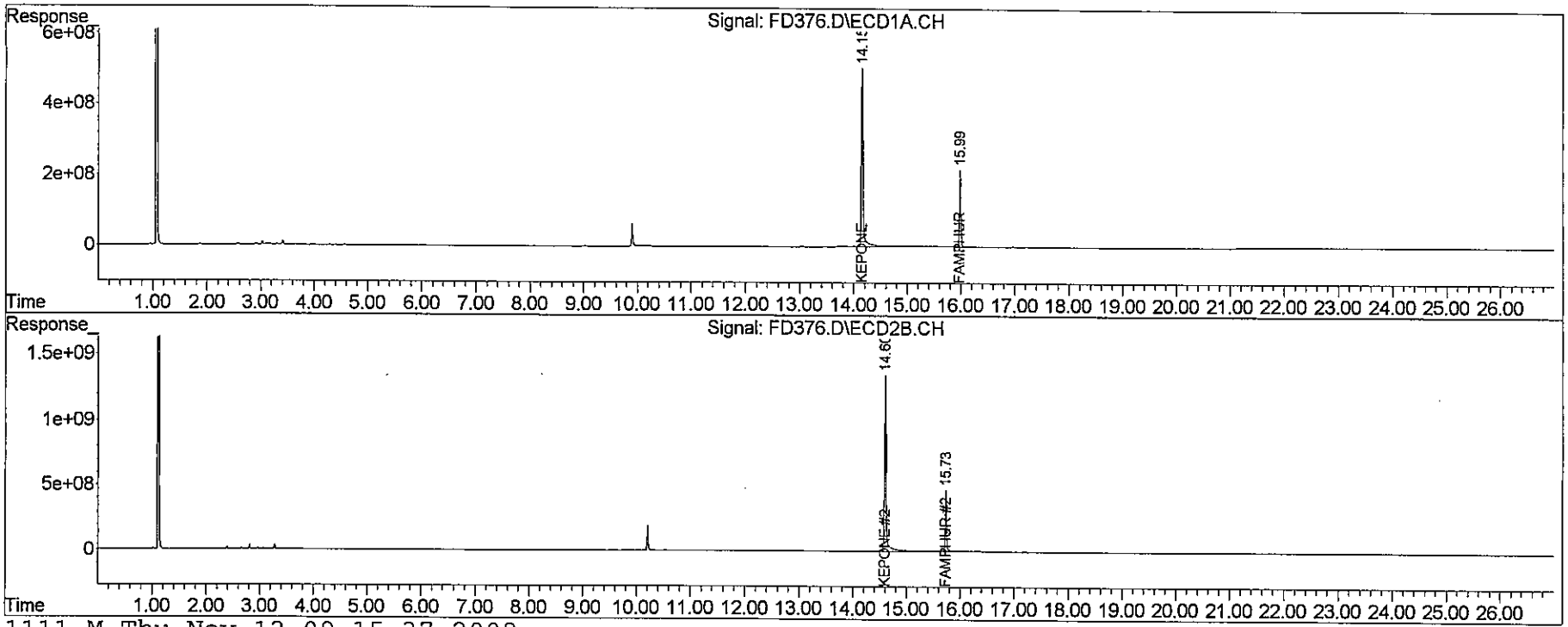
00572

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD376.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 3:35 pm
Operator : M.PEDRO
Sample : KEP/FAM ML
Misc : INITIAL CAL
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:01:02 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

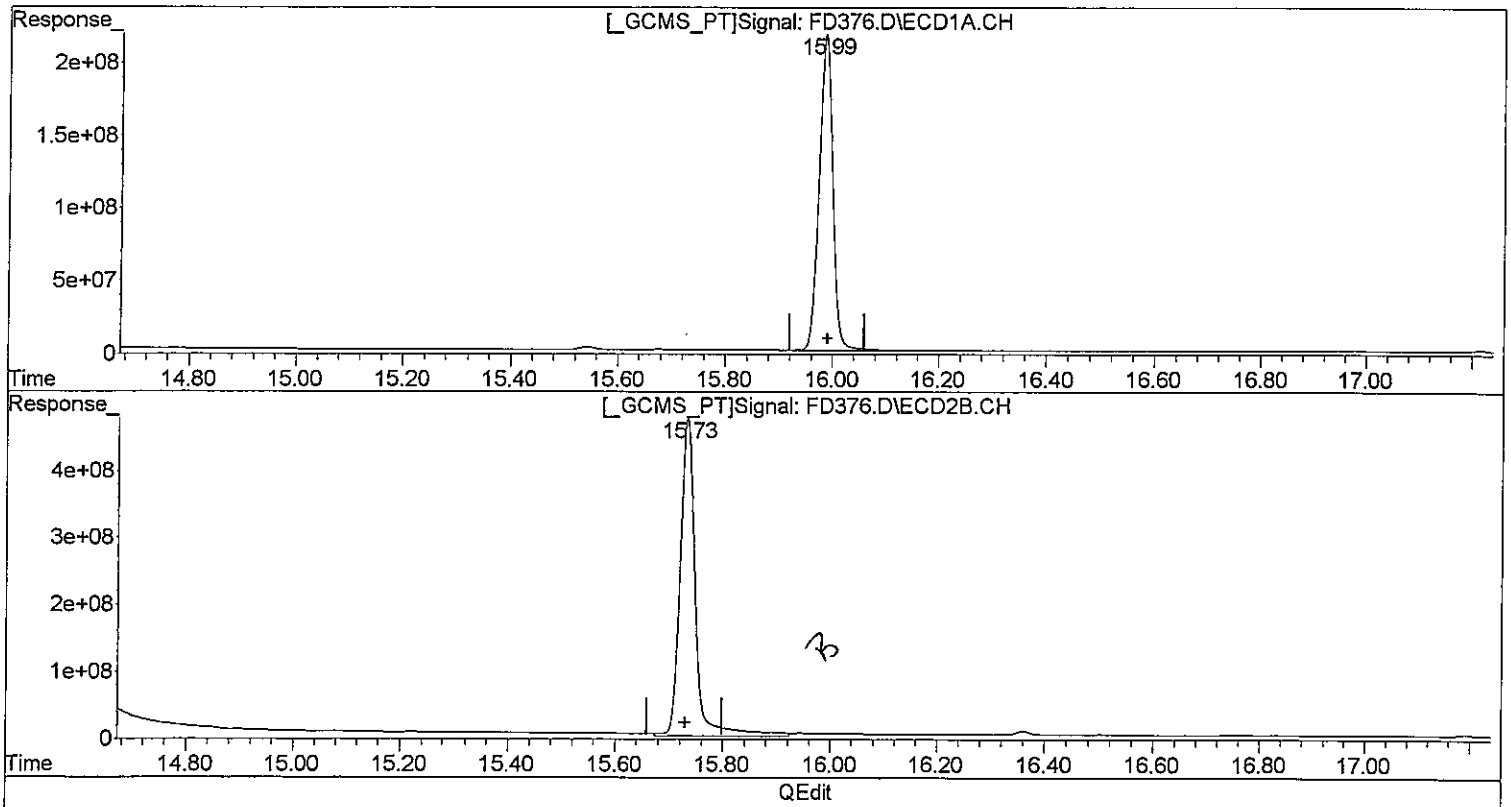


Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD376.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 3:35 pm
Operator : M.PEDRO
Sample : KEP/FAM ML
Misc : INITIAL CAL
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:19:23 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



(23) FAMPHUR (tc)
15.99min 242.083ug/l
response 3988068081

(23) FAMPHUR #2 (tc)
15.73min 254.692ug/l
response 9148558590

(+) = Expected Retention Time

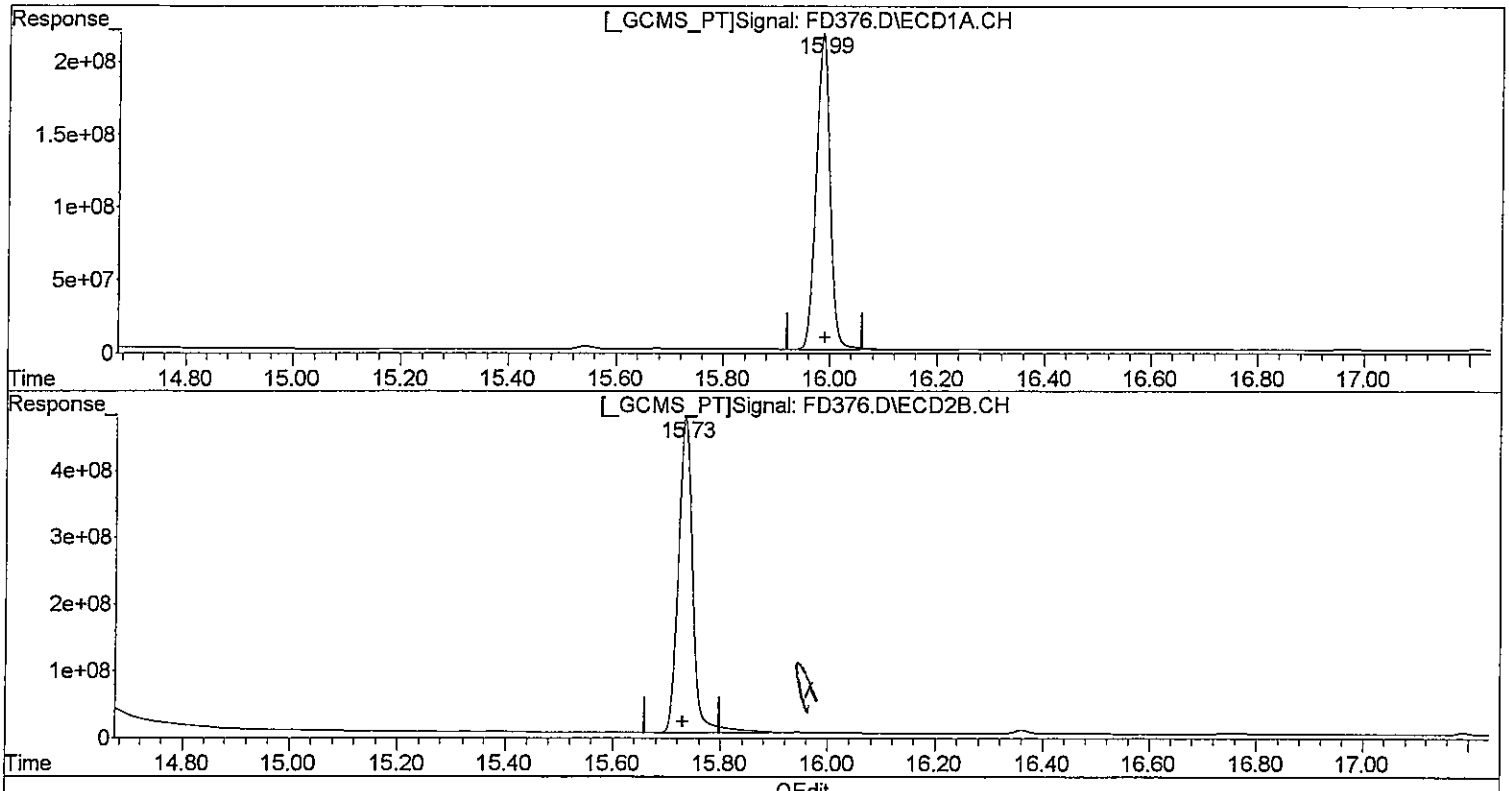
00574

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD376.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 3:35 pm
Operator : M.PEDRO
Sample : KEP/FAM ML
Misc : INITIAL CAL
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:19:23 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(23) FAMPHUR (tc)
15.99min 242.083ug/l
response 3988068081

(23) FAMPHUR #2 (tc)
15.73min 240.959ug/l m
response 8655265096

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD377.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 4:11 pm
Operator : M.PEDRO
Sample : KEP/FAM M
Misc : INITIAL CAL
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:01:47 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
	Target Compounds						
16)	tc KEPONE	14.15	14.60	17669.3E6	43308.1E6	1820.472	1880.785
23)	tc FAMPHUR	15.99	15.73	5657.5E6	12106.4E6	343.420	337.036m
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
	Average Chlordane					0.000	0.000

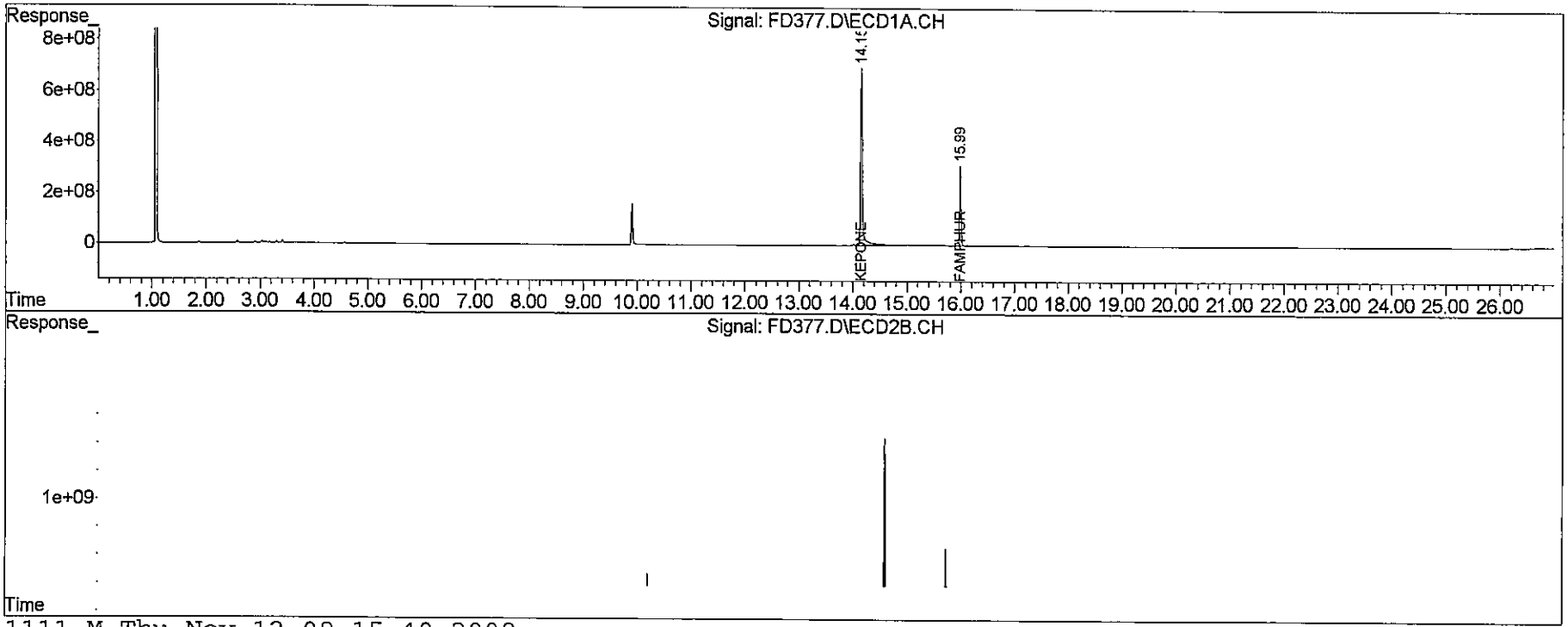
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD377.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 4:11 pm
Operator : M.PEDRO
Sample : KEP/FAM M
Misc : INITIAL CAL
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:01:47 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



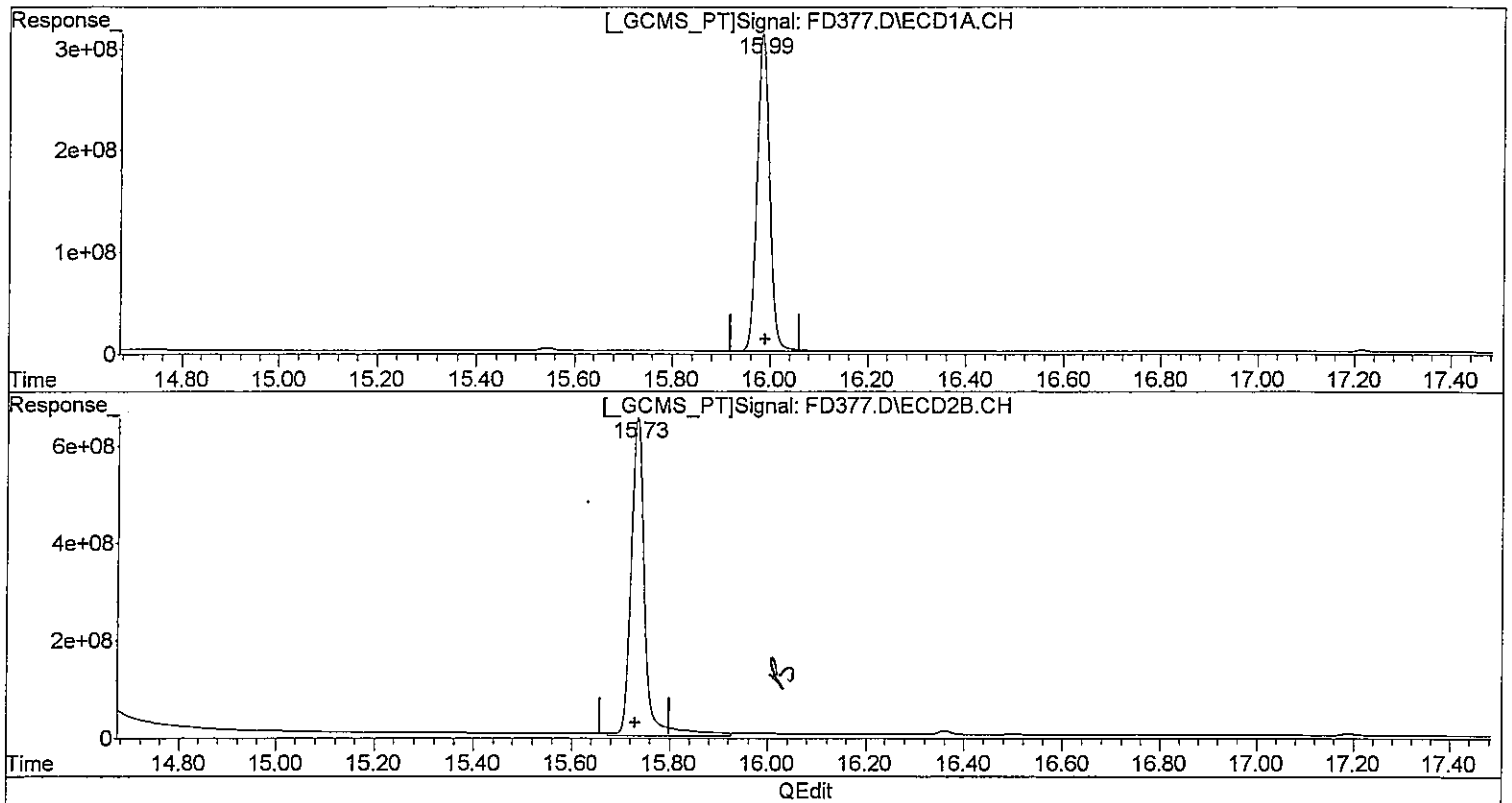
0577

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD377.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 4:11 pm
Operator : M.PEDRO
Sample : KEP/FAM M
Misc : INITIAL CAL
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:19:27 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(23) FAMPHUR (tc)
15.99min 343.420ug/l
response 5657494294

(23) FAMPHUR #2 (tc)
15.73min 354.599ug/l
response 12737246990

(+) = Expected Retention Time

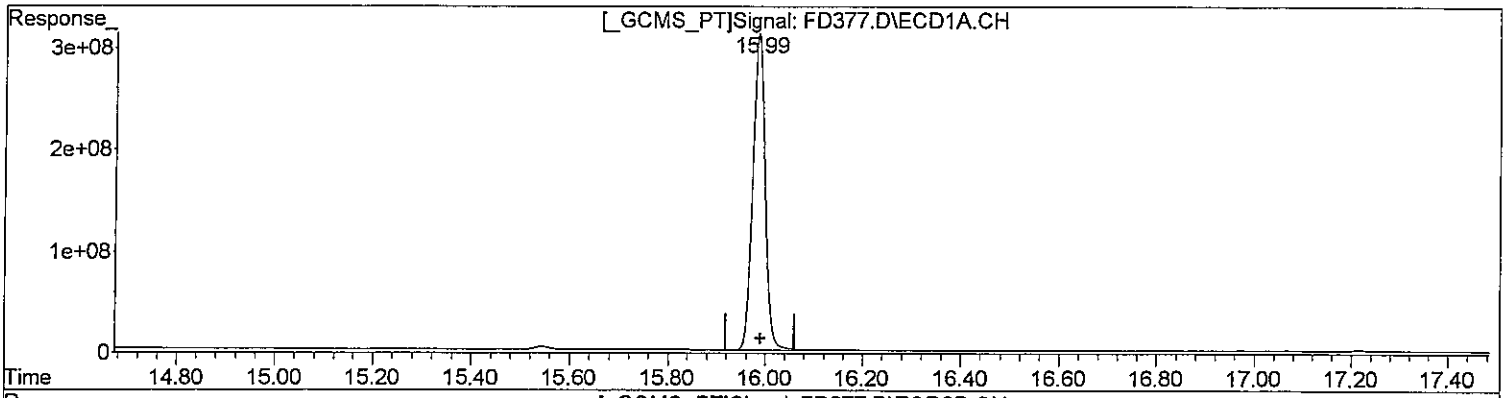
00578

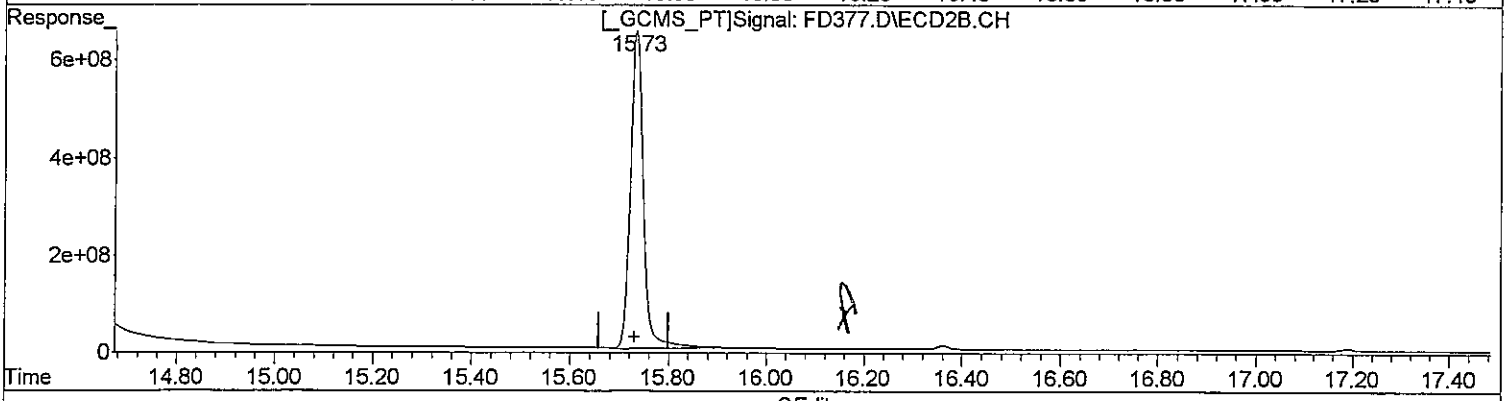
Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD377.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 4:11 pm
Operator : M.PEDRO
Sample : KEP/FAM M
Misc : INITIAL CAL
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:19:27 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m





QEdit

(23) FAMPHUR (tc)
15.99min 343.420ug/l
response 5657494294

(23) FAMPHUR #2 (tc)
15.73min 337.036ug/l m
response 12106394795

(+) = Expected Retention Time

00579

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD378.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 4:46 pm
Operator : M.PEDRO
Sample : KEP/FAM MH
Misc : INITIAL CAL
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:10:39 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
Target Compounds						
16) tc KEPONE	14.15	14.60	22287.5E6	51552.4E6	2296.282	2238.819
23) tc FAMPHUR	15.99	15.73	7420.7E6	15591.7E6	450.447	434.066m
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
Sum Chlordane			0	0	N.D.	N.D.
Average Chlordane					0.000	0.000

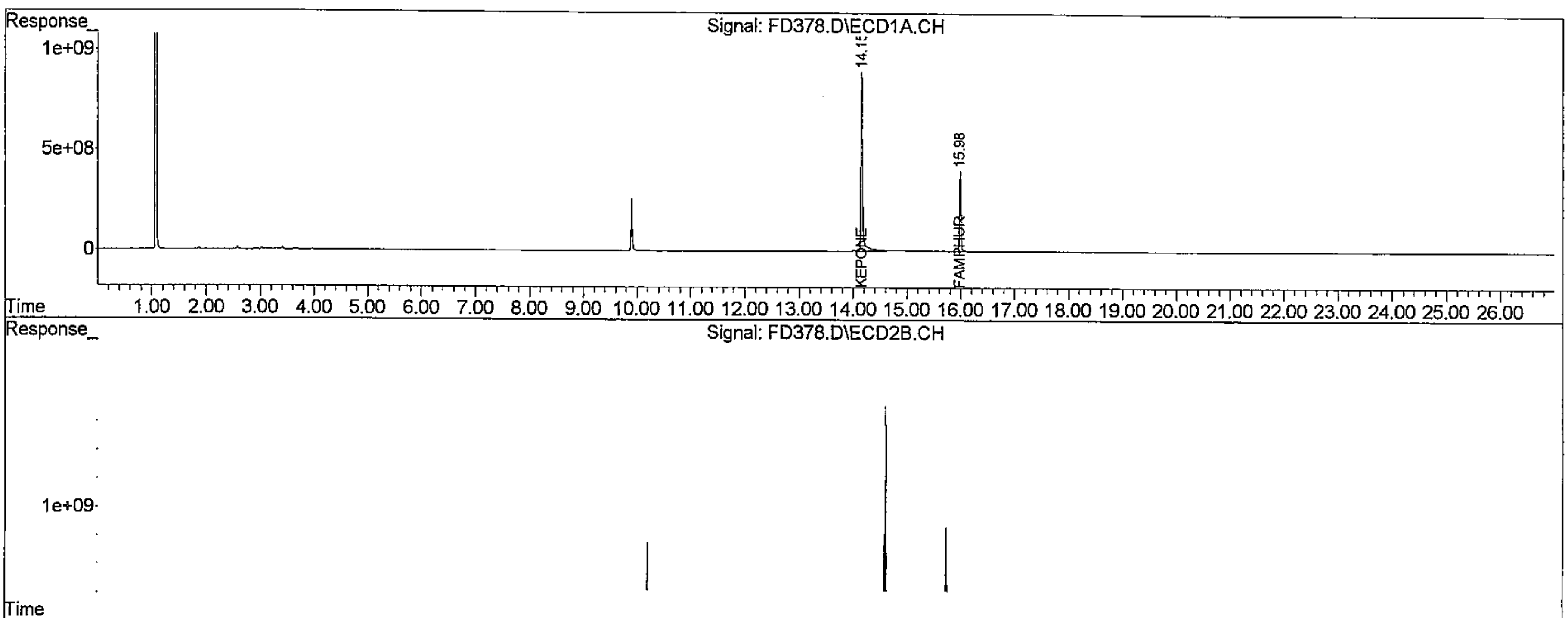
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD378.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 4:46 pm
Operator : M.PEDRO
Sample : KEP/FAM MH
Misc : INITIAL CAL
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:10:39 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



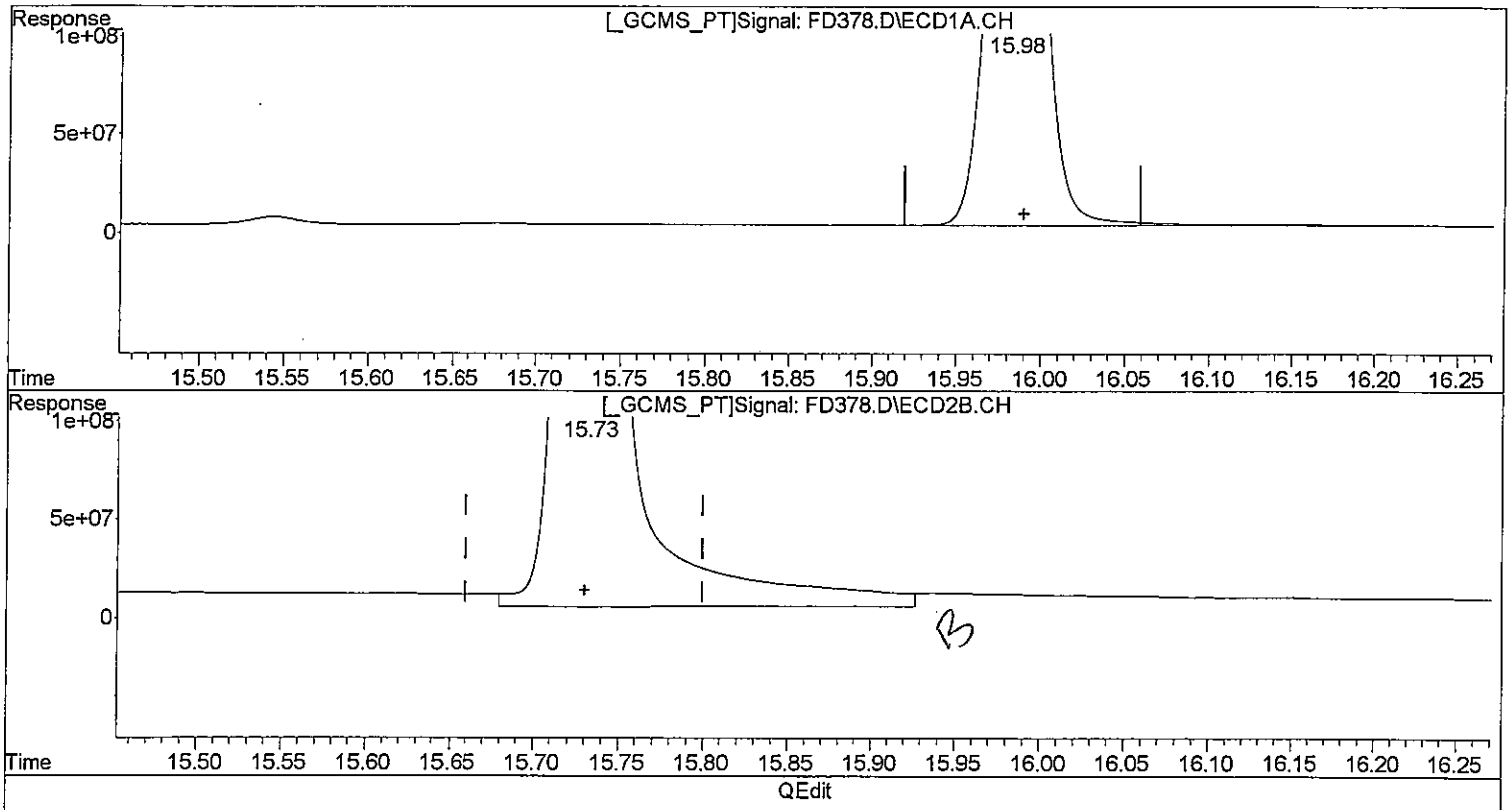
00581

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD378.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 4:46 pm
Operator : M.PEDRO
Sample : KEP/FAM MH
Misc : INITIAL CAL
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:19:31 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



(23) FAMPHUR (tc)
15.99min 450.447ug/l
response 7420666152

(23) FAMPHUR #2 (tc)
15.73min 458.767ug/l
response 16478970883

(+) = Expected Retention Time

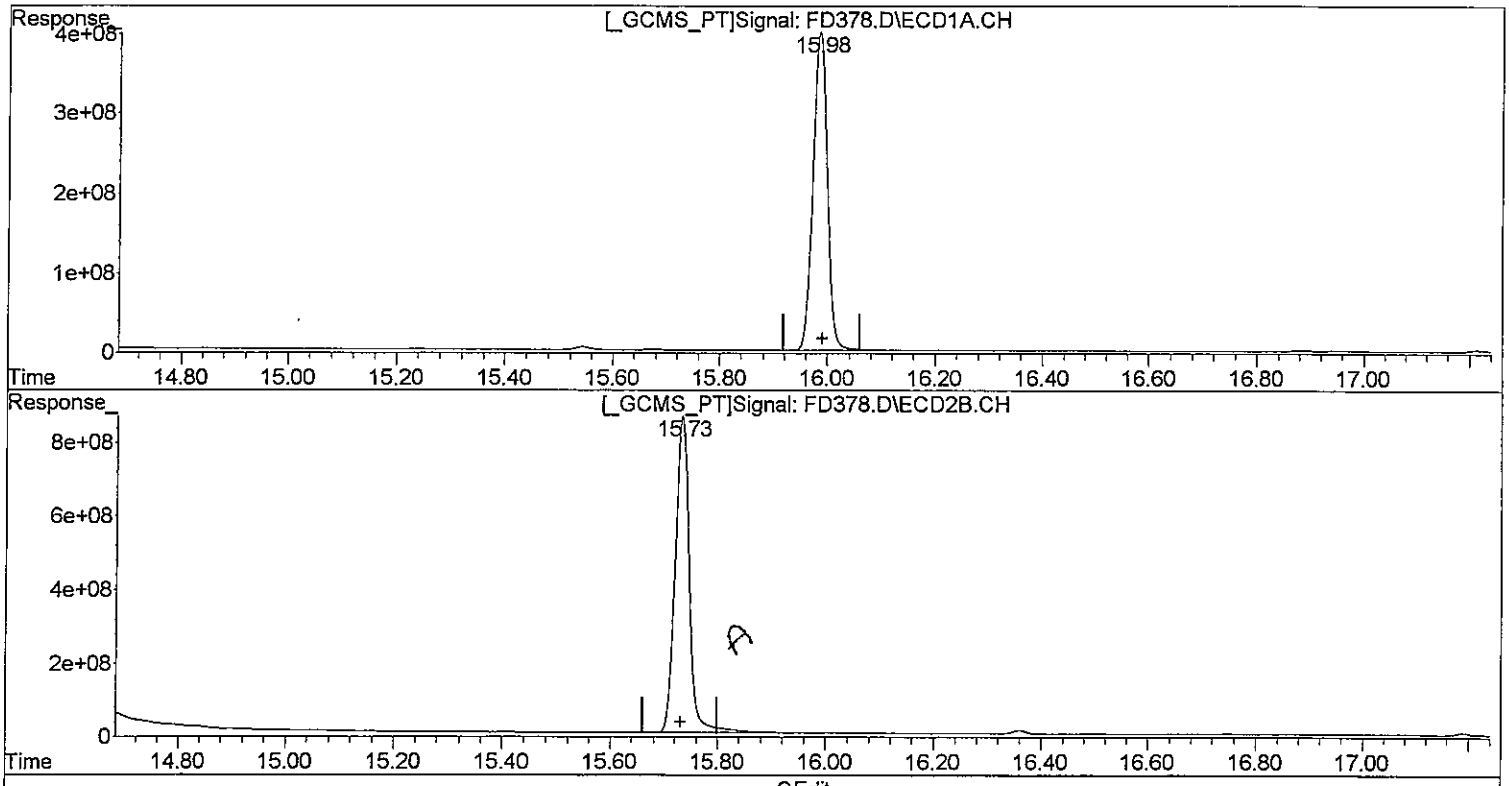
00582

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD378.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 4:46 pm
Operator : M.PEDRO
Sample : KEP/FAM MH
Misc : INITIAL CAL
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:10:39 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(23) FAMPHUR (tc)
15.99min 450.447ug/l
response 7420666152

(23) FAMPHUR #2 (tc)
15.73min 434.066ug/l m
response 15591710557

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD379.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 5:22 pm
Operator : M.PEDRO
Sample : KEP/FAM H
Misc : INITIAL CAL
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:03:27 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
Target Compounds						
16) tc KEPONE	14.15	14.60	27843.7E6	61305.1E6	2868.733	2662.361
23) tc FAMPHUR	15.99	15.73	9324.4E6	19387.1E6	566.008	539.728m
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
Sum Chlordane			0	0	N.D.	N.D.
Average Chlordane					0.000	0.000

mp 11/12

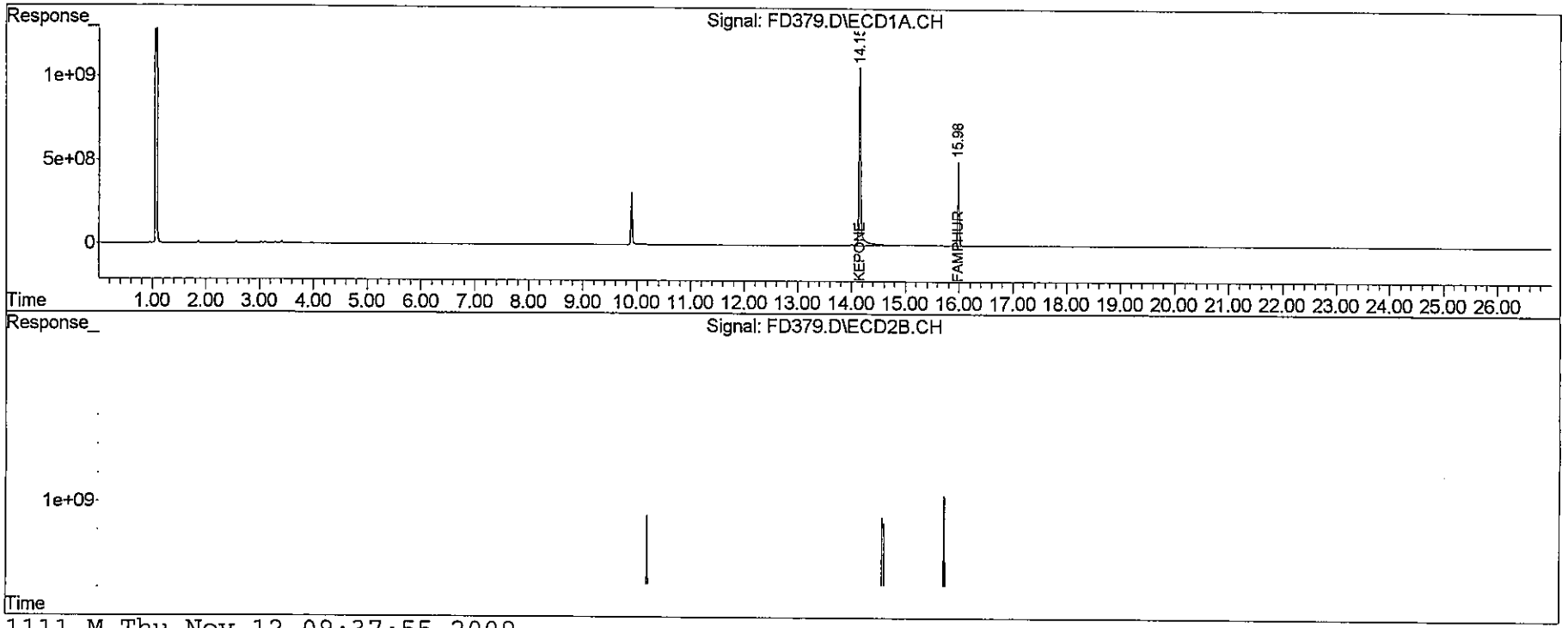
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD379.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 5:22 pm
Operator : M.PEDRO
Sample : KEP/FAM H
Misc : INITIAL CAL
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:03:27 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

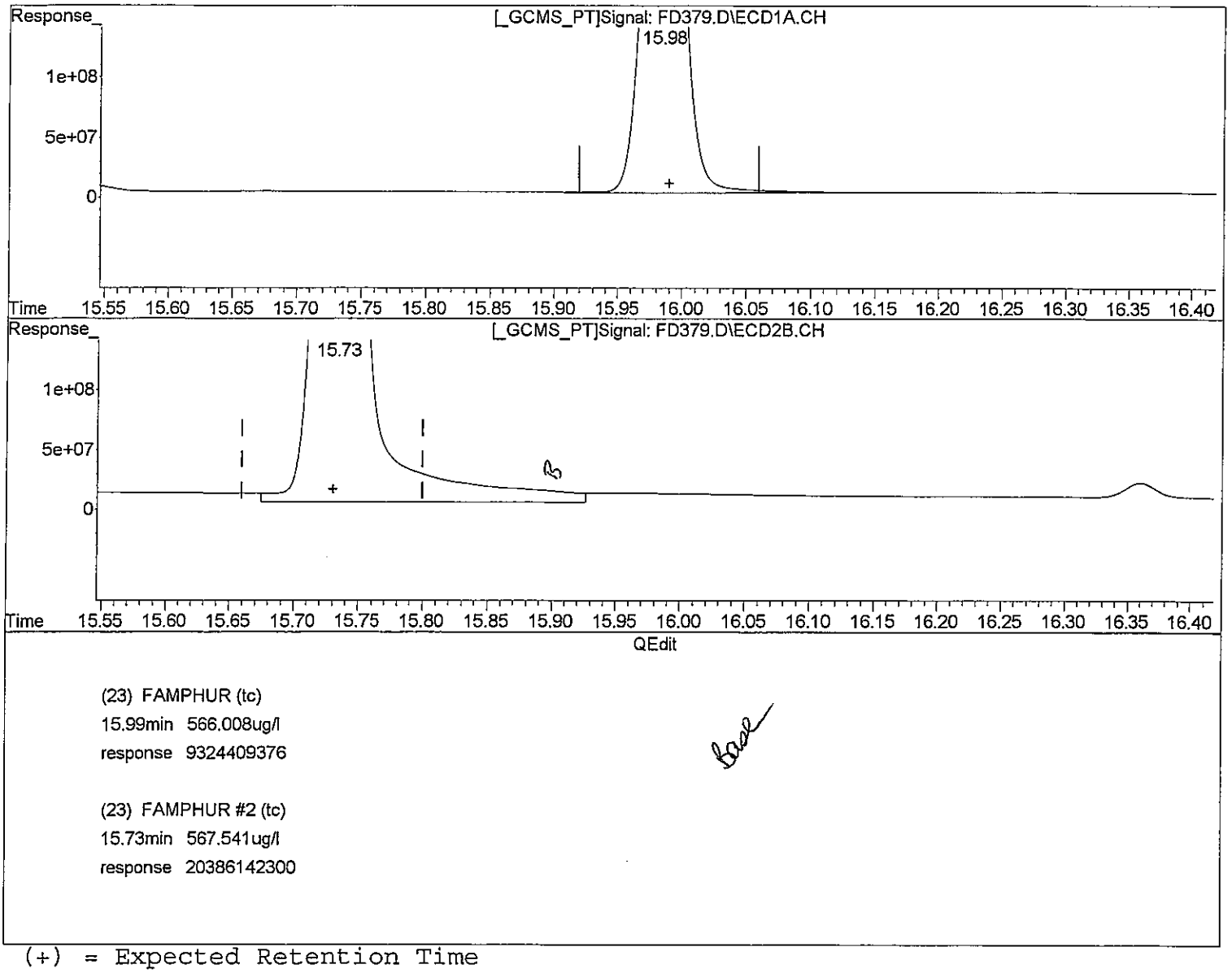


Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD379.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 5:22 pm
Operator : M.PEDRO
Sample : KEP/FAM H
Misc : INITIAL CAL
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:19:35 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(23) FAMPHUR (tc)
15.99min 566.008ug/l
response 9324409376

(23) FAMPHUR #2 (tc)
15.73min 567.541ug/l
response 20386142300

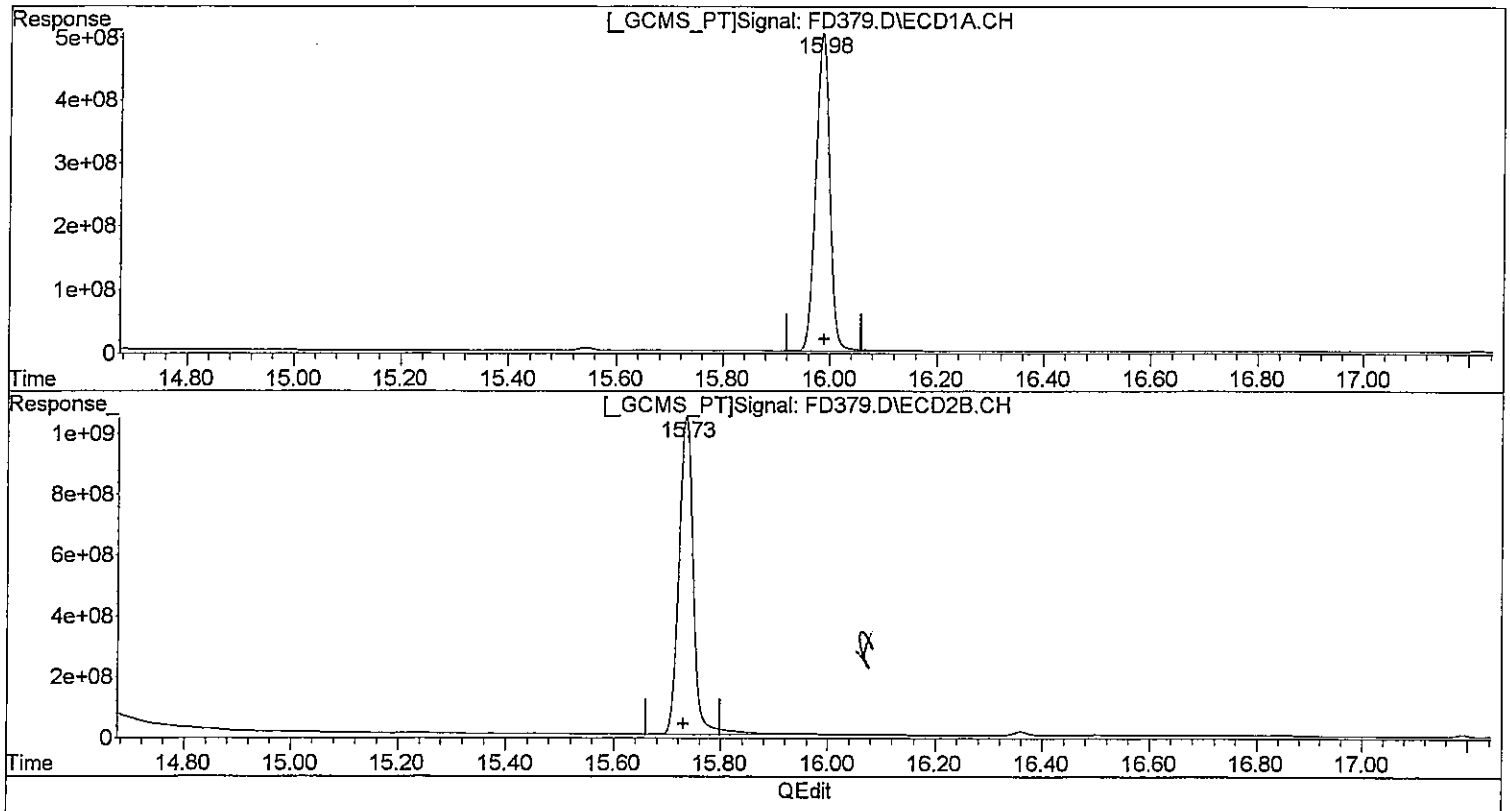
(+) = Expected Retention Time

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD379.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 5:22 pm
Operator : M.PEDRO
Sample : KEP/FAM H
Misc : INITIAL CAL
ALS Vial : 17 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:19:35 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



(23) FAMPHUR (tc)
15.99min 566.008ug/l
response 9324409376

(23) FAMPHUR #2 (tc)
15.73min 539.728ug/l m
response 19387097325

(+) = Expected Retention Time

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD380.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 5:58 pm
Operator : M.PEDRO
Sample : TOX L
Misc : INITIAL CAL
ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:04:01 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
1) S SURR1,Tetrac	9.21	9.38	587.8E6	1754.3E6	24.746	25.127
Spiked Amount 100.000	Range 30 - 150		Recovery =		24.75%#	25.13%#
25) S SURR2,Decachloro	17.34	17.95	548.6E6	1257.3E6	27.219	29.103
Spiked Amount 100.000	Range 30 - 150		Recovery =		27.22%#	29.10%#
Target Compounds						
26) L8C Toxaphene	14.50	14.86	118.7E6	387.7E6	119.164	141.668
27) L8C Toxaphene{2}	14.59	14.97	83008717	218.3E6	121.401	154.469 #
28) L8C Toxaphene{3}	15.19	15.25	65539965	429.6E6	114.203	135.926
29) L8C Toxaphene{4}	16.06	15.63	71794637	182.0E6	112.716	134.044
30) L8C Toxaphene{5}	16.26	16.53	55646837	150.7E6	104.166	128.867
Sum Toxaphene			394.7E6	1368.3E6	571.650	694.974
Average Toxaphene					114.330	138.995
Sum Chlordane			0	0	N.D.	N.D.
Average Chlordane					0.000	0.000

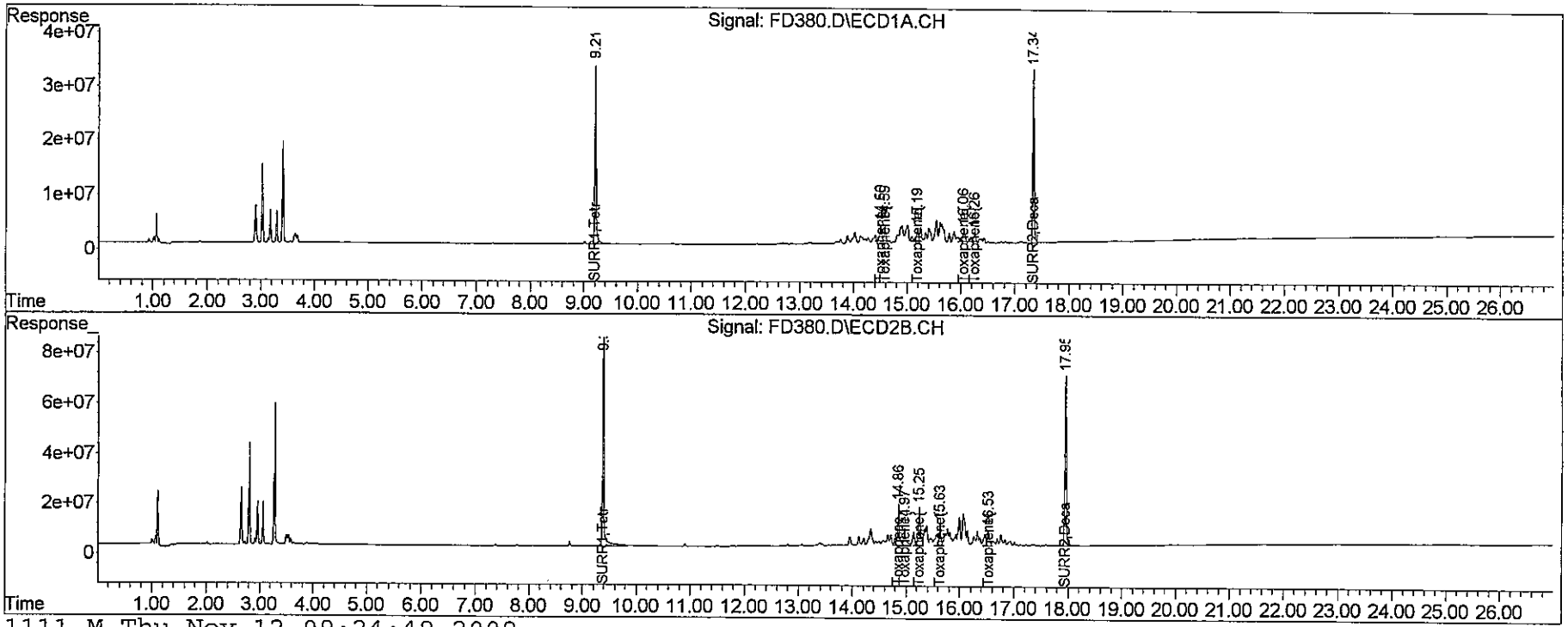
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD380.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 5:58 pm
Operator : M.PEDRO
Sample : TOX L
Misc : INITIAL CAL
ALS Vial : 18 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:04:01 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



68580

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD381.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 6:33 pm
Operator : M.PEDRO
Sample : TOX ML
Misc : INITIAL CAL
ALS Vial : 19 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:04:24 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
1) S SURR1,Tetrac	9.21	9.38	1031.5E6	2989.4E6	43.428	42.817
Spiked Amount 100.000	Range 30 - 150		Recovery =		43.43%	42.82%
25) S SURR2,Decachloro	17.34	17.95	961.1E6	2171.4E6	47.688	50.264
Spiked Amount 100.000	Range 30 - 150		Recovery =		47.69%	50.26%
Target Compounds						
26) L8C Toxaphene	14.50	14.86	277.3E6	864.9E6	278.294	316.058
27) L8C Toxaphene{2}	14.59	14.97	193.1E6	446.2E6	282.382	315.679
28) L8C Toxaphene{3}	15.19	15.24	159.5E6	969.3E6	277.886	306.683
29) L8C Toxaphene{4}	16.06	15.63	173.0E6	407.6E6	271.682	300.221
30) L8C Toxaphene{5}	16.26	16.53	134.3E6	340.3E6	251.367	291.057
Sum Toxaphene			937.2E6	3028.4E6	1361.610	1529.698
Average Toxaphene					272.322	305.940
Sum Chlordane			0	0	N.D.	N.D.
Average Chlordane					0.000	0.000

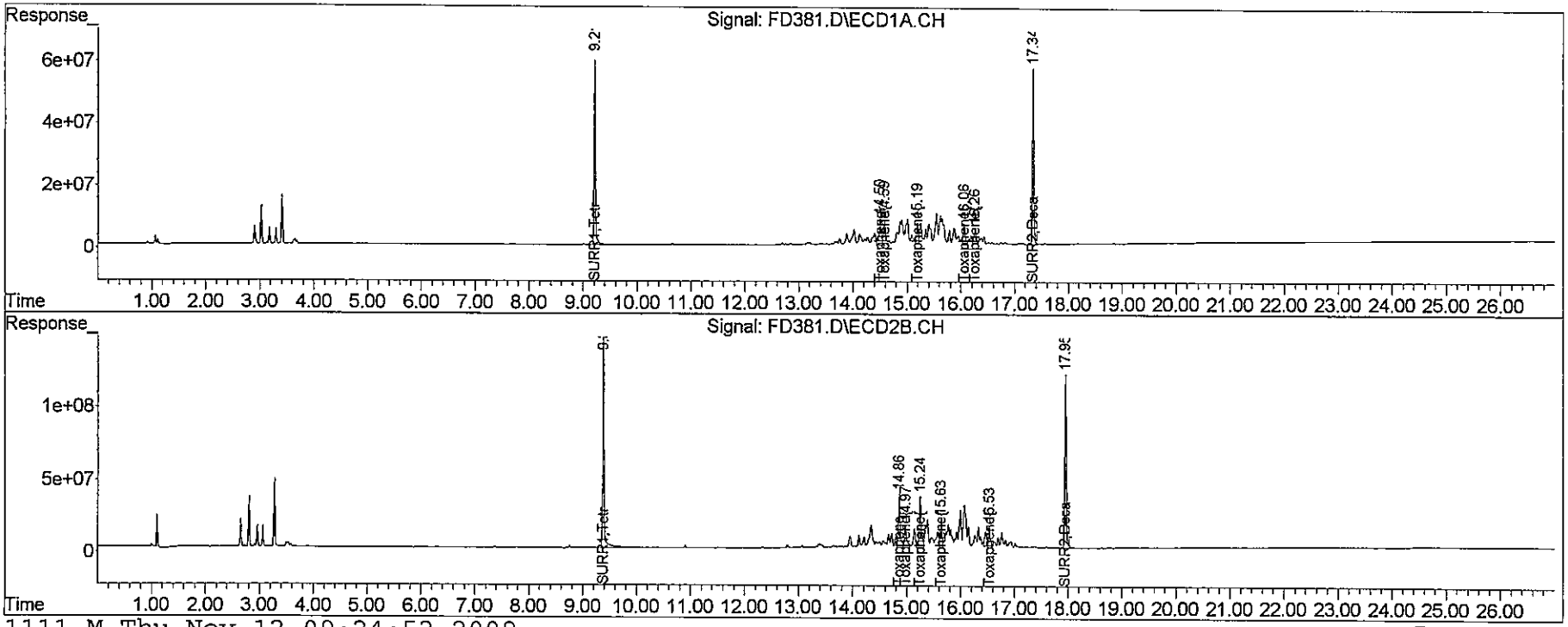
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD381.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 6:33 pm
Operator : M.PEDRO
Sample : TOX ML
Misc : INITIAL CAL
ALS Vial : 19 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:04:24 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD382.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 7:09 pm
Operator : M.PEDRO
Sample : TOX M
Misc : INITIAL CAL
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:04:59 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
1) S SURR1,Tetrac	9.21	9.38	1566.3E6	4465.2E6	65.944	63.955
Spiked Amount 100.000	Range 30 - 150		Recovery =		65.94%	63.95%
25) S SURR2,Decachloro	17.34	17.95	1450.5E6	3252.8E6	71.968	75.295
Spiked Amount 100.000	Range 30 - 150		Recovery =		71.97%	75.30%
Target Compounds						
26) L8C Toxaphene	14.50	14.86	593.5E6	1781.8E6	595.627	651.101
27) L8C Toxaphene{2}	14.59	14.97	412.0E6	916.0E6	602.515	648.112
28) L8C Toxaphene{3}	15.19	15.25	346.9E6	1996.1E6	604.531	631.532
29) L8C Toxaphene{4}	16.06	15.63	375.7E6	851.1E6	589.867	626.841
30) L8C Toxaphene{5}	16.26	16.53	291.1E6	700.3E6	544.911	598.869
Sum Toxaphene			2019.2E6	6245.3E6	2937.452	3156.456
Average Toxaphene					587.490	631.291
Sum Chlordane			0	0	N.D.	N.D.
Average Chlordane					0.000	0.000

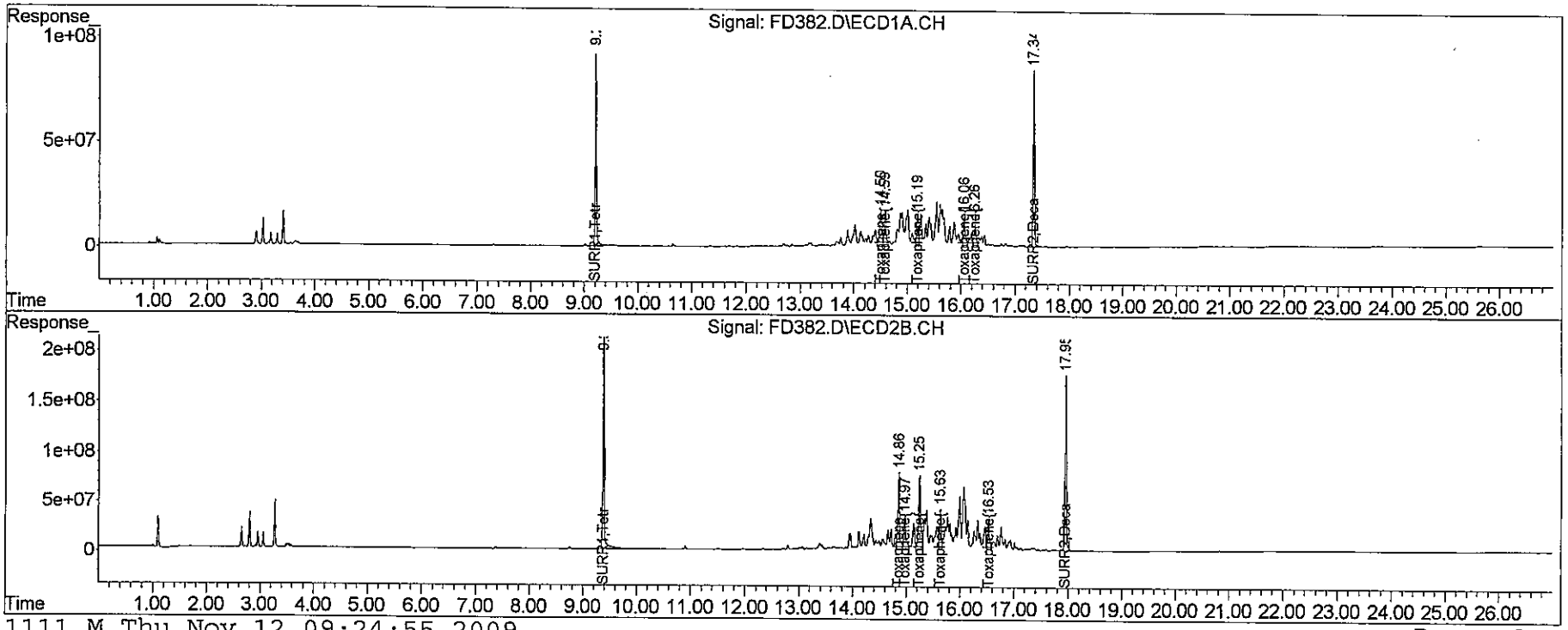
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD382.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 7:09 pm
Operator : M.PEDRO
Sample : TOX M
Misc : INITIAL CAL
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:04:59 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD383.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 7:45 pm
Operator : M.PEDRO
Sample : TOX MH
Misc : INITIAL CAL
ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:05:37 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
1) S SURR1,Tetrac	9.21	9.38	2139.3E6	6047.6E6	90.071	86.619
Spiked Amount 100.000	Range 30 - 150		Recovery =		90.07%	86.62%
25) S SURR2,Decachloro	17.34	17.95	1992.2E6	4412.4E6	98.844	102.137
Spiked Amount 100.000	Range 30 - 150		Recovery =		98.84%	102.14%
Target Compounds						
26) L8C Toxaphene	14.50	14.86	934.0E6	2747.6E6	937.371	1003.998
27) L8C Toxaphene{2}	14.59	14.97	632.5E6	1526.2E6	925.059	1079.847
28) L8C Toxaphene{3}	15.19	15.25	556.6E6	3051.5E6	969.910	965.473
29) L8C Toxaphene{4}	16.06	15.63	600.8E6	1356.5E6	943.165	999.051
30) L8C Toxaphene{5}	16.26	16.53	459.2E6	1078.4E6	859.645	922.227
Sum Toxaphene			3183.1E6	9760.2E6	4635.149	4970.597
Average Toxaphene					927.030	994.119
Sum Chlordane			0	0	N.D.	N.D.
Average Chlordane					0.000	0.000

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

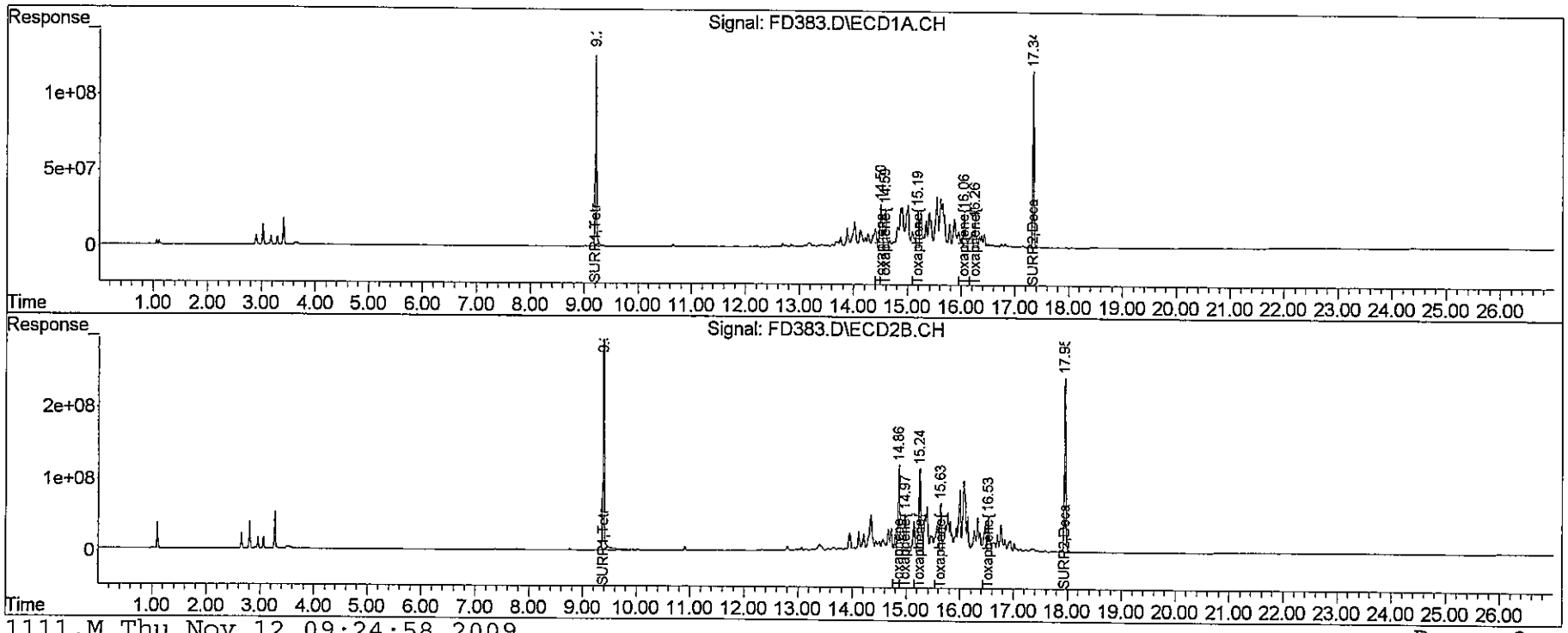
00594

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD383.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 7:45 pm
Operator : M.PEDRO
Sample : TOX MH
Misc : INITIAL CAL
ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:05:37 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD384.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 8:20 pm
Operator : M.PEDRO
Sample : TOX H
Misc : INITIAL CAL
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:06:08 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
1) S SURR1,Tetrac	9.21	9.38	2646.9E6	7349.9E6	111.441	105.273
Spiked Amount 100.000	Range 30 - 150		Recovery =		111.44%	105.27%
25) S SURR2,Decachloro	17.34	17.95	2471.9E6	5459.4E6	122.647	126.372
Spiked Amount 100.000	Range 30 - 150		Recovery =		122.65%	126.37%
Target Compounds						
26) L8C Toxaphene	14.50	14.86	1258.6E6	3649.0E6	1263.091	1333.361
27) L8C Toxaphene{2}	14.59	14.97	877.2E6	1873.9E6	1282.886	1325.884
28) L8C Toxaphene{3}	15.19	15.25	755.1E6	4084.9E6	1315.784	1292.404
29) L8C Toxaphene{4}	16.06	15.64	815.8E6	1752.3E6	1280.768	1290.552
30) L8C Toxaphene{5}	16.26	16.53	636.8E6	1454.8E6	1192.098	1244.190
Sum Toxaphene			4343.5E6	12814.9E6	6334.627	6486.391
Average Toxaphene					1266.925	1297.278
Sum Chlordane			0	0	N.D.	N.D.
Average Chlordane					0.000	0.000

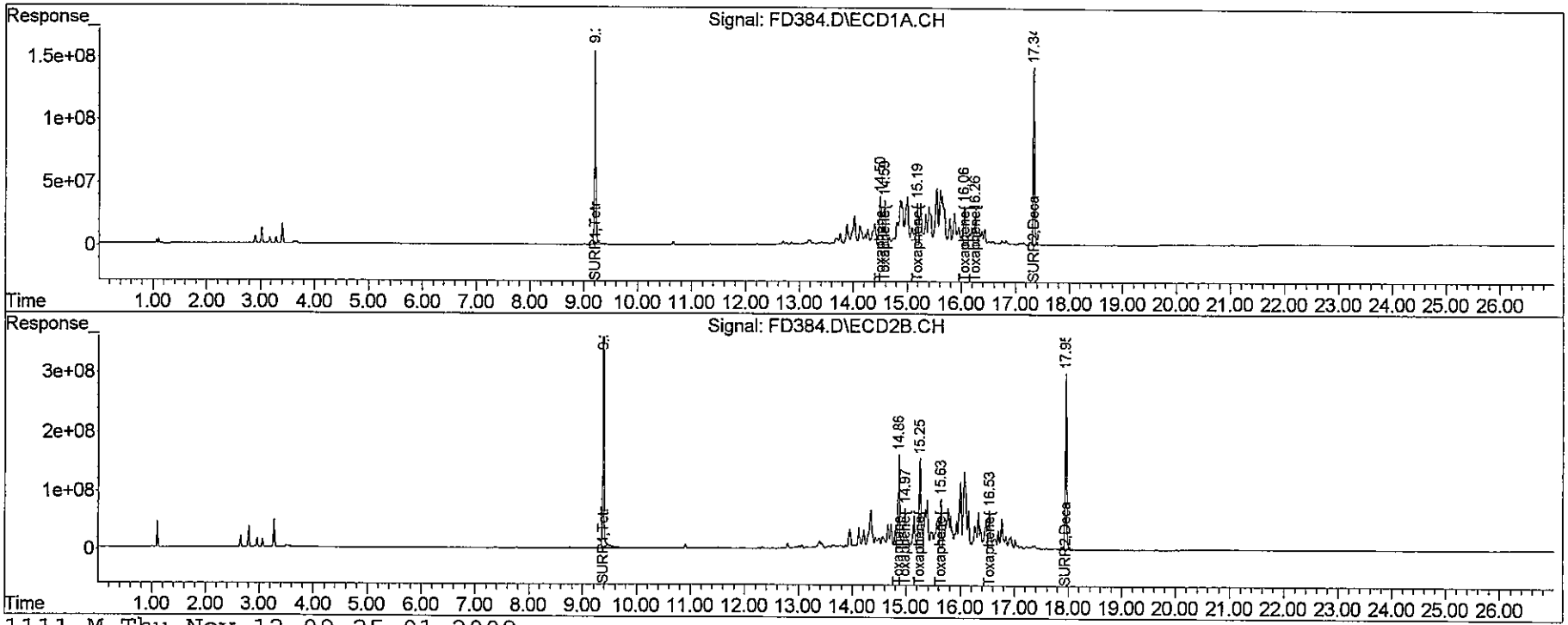
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD384.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 8:20 pm
Operator : M.PEDRO
Sample : TOX H
Misc : INITIAL CAL
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:06:08 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



J6597

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD385.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 8:56 pm
Operator : M.PEDRO
Sample : CHLOR L
Misc : INITIAL CAL
ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:07:00 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
1) S SURR1,Tetrac	9.21	9.38	504.1E6	1514.6E6	21.223	21.693
Spiked Amount 100.000	Range 30 - 150		Recovery =		*21.22%#	21.69%#
25) S SURR2,Decachloro	17.34	17.95	482.5E6	1121.7E6	23.940	25.964
Spiked Amount 100.000	Range 30 - 150		Recovery =		23.94%#	25.96%#
Target Compounds						
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
31) L9C Chlordane	11.35	11.48	4650094	15997857	25.901	28.270
32) L9C Chlordane{2}	11.48	11.70	11159156	33712846	25.914	26.309
33) L9C Chlordane{3}	12.15	12.41	17812902	49531566	28.357	30.913
34) L9C Chlordane{4}	13.02	13.29	81112496	209.6E6	25.269	26.692m
35) L9C Chlordane{5}	14.32	14.81	30629536	84239696	25.348	26.421m
Sum Chlordane			145.4E6	393.1E6	130.790	138.605
Average Chlordane					26.158	27.721

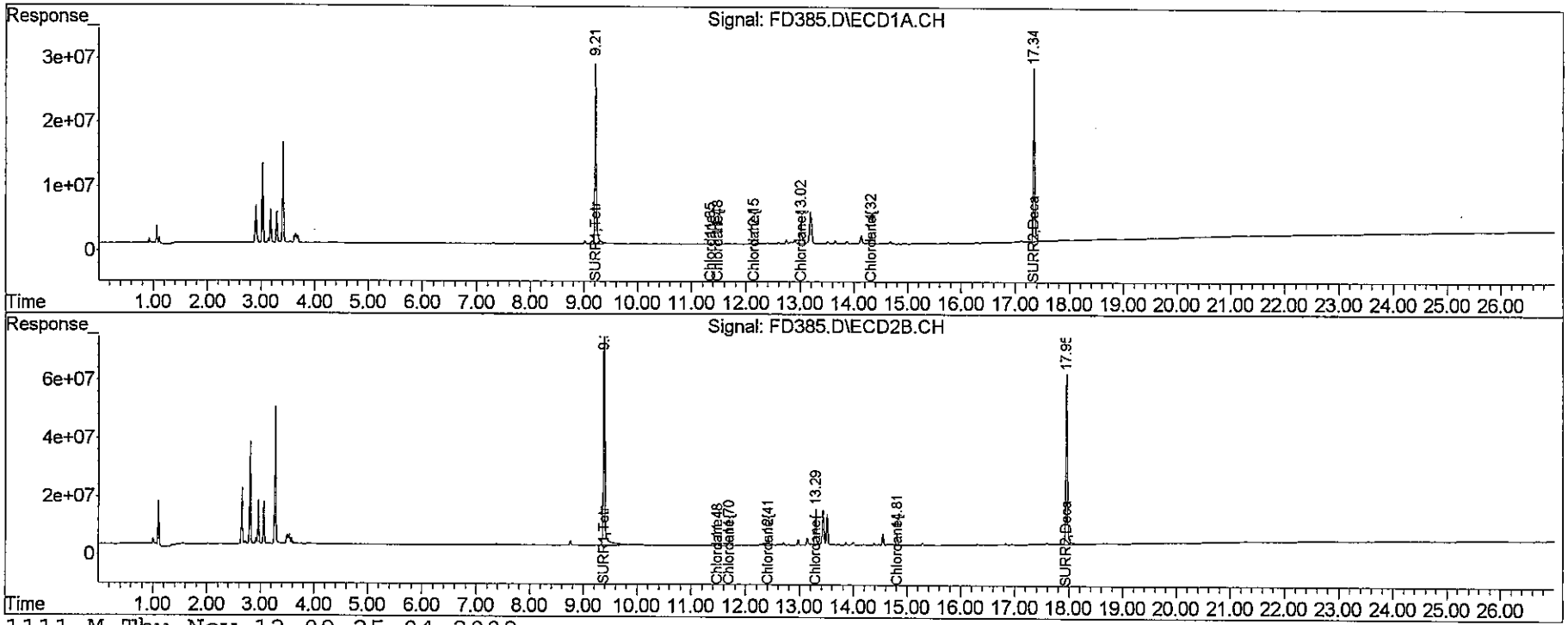
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD385.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 8:56 pm
Operator : M.PEDRO
Sample : CHLOR L
Misc : INITIAL CAL
ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:07:00 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



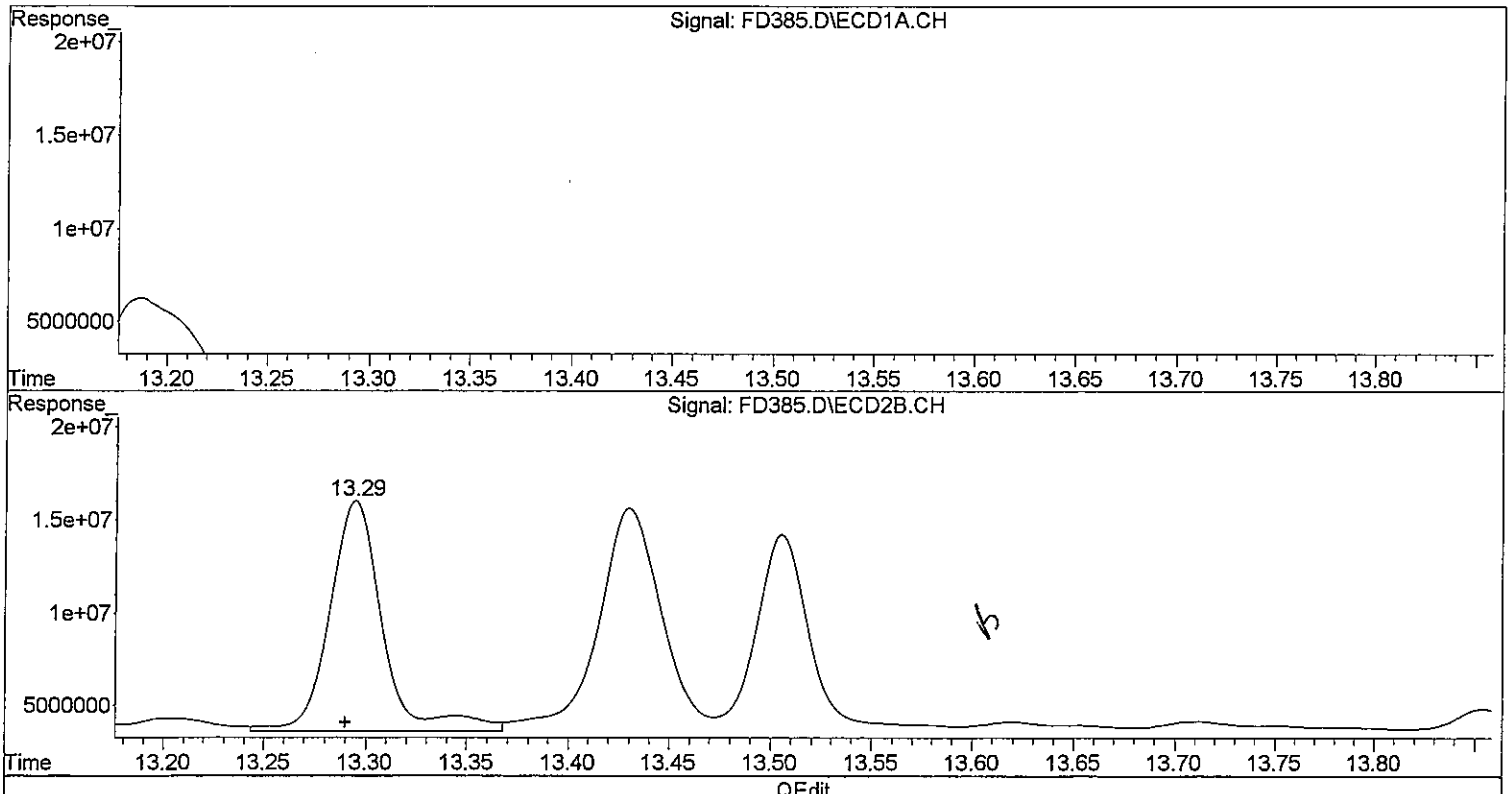
66599

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD385.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 8:56 pm
Operator : M.PEDRO
Sample : CHLOR L
Misc : INITIAL CAL
ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:19:59 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



(31) Chlordane (L9C)

R.T.	Response	Conc
11.35	4650094	25.90
11.48	11159156	25.91
12.15	17812902	28.36
13.02	81112496	25.27
14.32	30629536	25.35

(31) Chlordane #2 (L9C)

R.T.	Response	Conc
11.48	15997857	28.27
11.70	33712846	26.31
12.41	49531566	30.91
13.29	225166400	28.68
14.81	90716795	28.45

(+) = Expected Retention Time

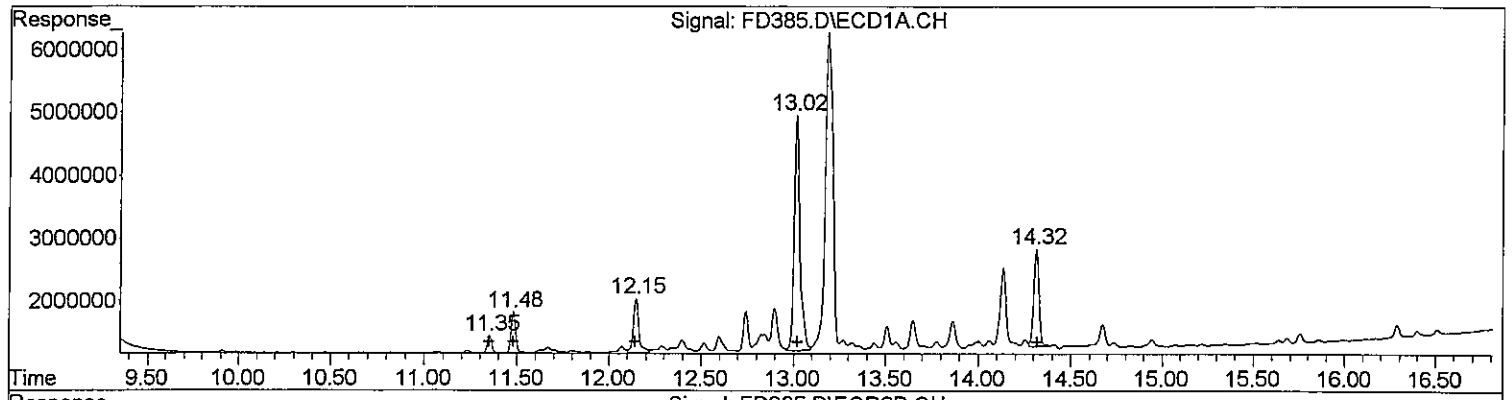
00600

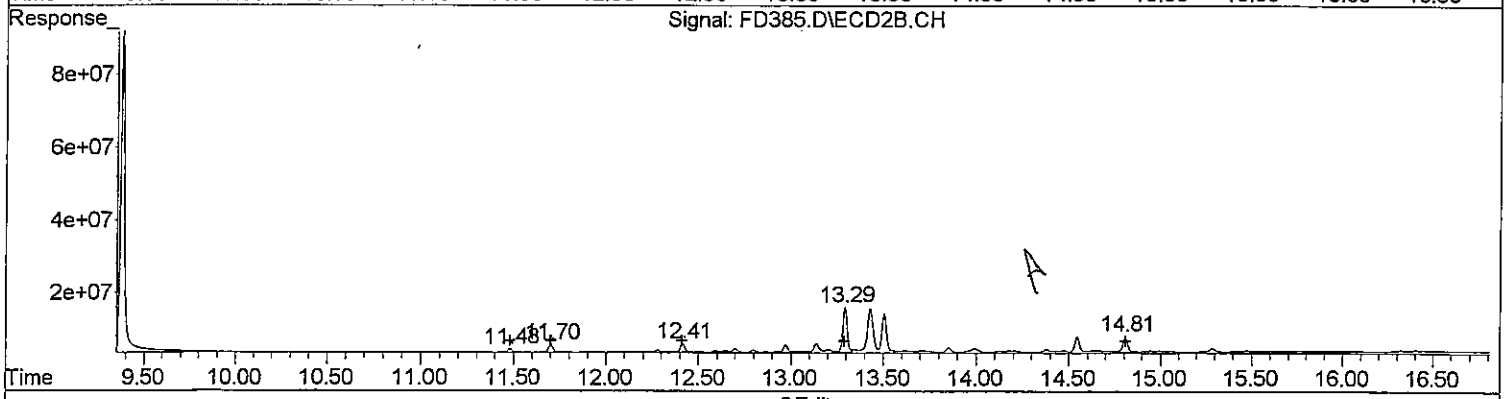
Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD385.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 8:56 pm
Operator : M.PEDRO
Sample : CHLOR L
Misc : INITIAL CAL
ALS Vial : 23 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 08:19:59 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m





QEdit

(31) Chlordane #2 (L9C)

R.T.	Response	Conc
11.35	4650094	25.90
11.48	11159156	25.91
12.15	17812902	28.36
13.02	81112496	25.27
14.32	30629536	25.35

(31) Chlordane #2 (L9C)

R.T.	Response	Conc
11.48	15997857	28.27
11.70	33712846	26.31
12.41	49531566	30.91
13.29	209577043	26.69
14.81	84239696	26.42

(+) = Expected Retention Time

00601

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD386.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 9:31 pm
Operator : M.PEDRO
Sample : CHLOR ML
Misc : INITIAL CAL
ALS Vial : 24 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:07:33 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
1) S SURR1,Tetrac	9.21	9.38	1023.5E6	2955.5E6	43.093	42.332
Spiked Amount 100.000	Range 30 - 150		Recovery =		43.09%	42.33%
25) S SURR2,Decachloro	17.34	17.95	945.1E6	2170.8E6	46.891	50.248
Spiked Amount 100.000	Range 30 - 150		Recovery =		46.89%	50.25%
Target Compounds						
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
31) L9C Chlordane	11.35	11.48	10085734	29324943	56.178	51.820
32) L9C Chlordane{2}	11.48	11.70	23556000	69056071	54.703	53.890
33) L9C Chlordane{3}	12.14	12.41	36663267	93765118	58.366	58.519
34) L9C Chlordane{4}	13.02	13.29	177.6E6	453.5E6	55.331	57.763
35) L9C Chlordane{5}	14.32	14.81	70717490	195.0E6	58.525	61.156
Sum Chlordane			318.6E6	840.7E6	283.102	283.148
Average Chlordane					56.620	56.630

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

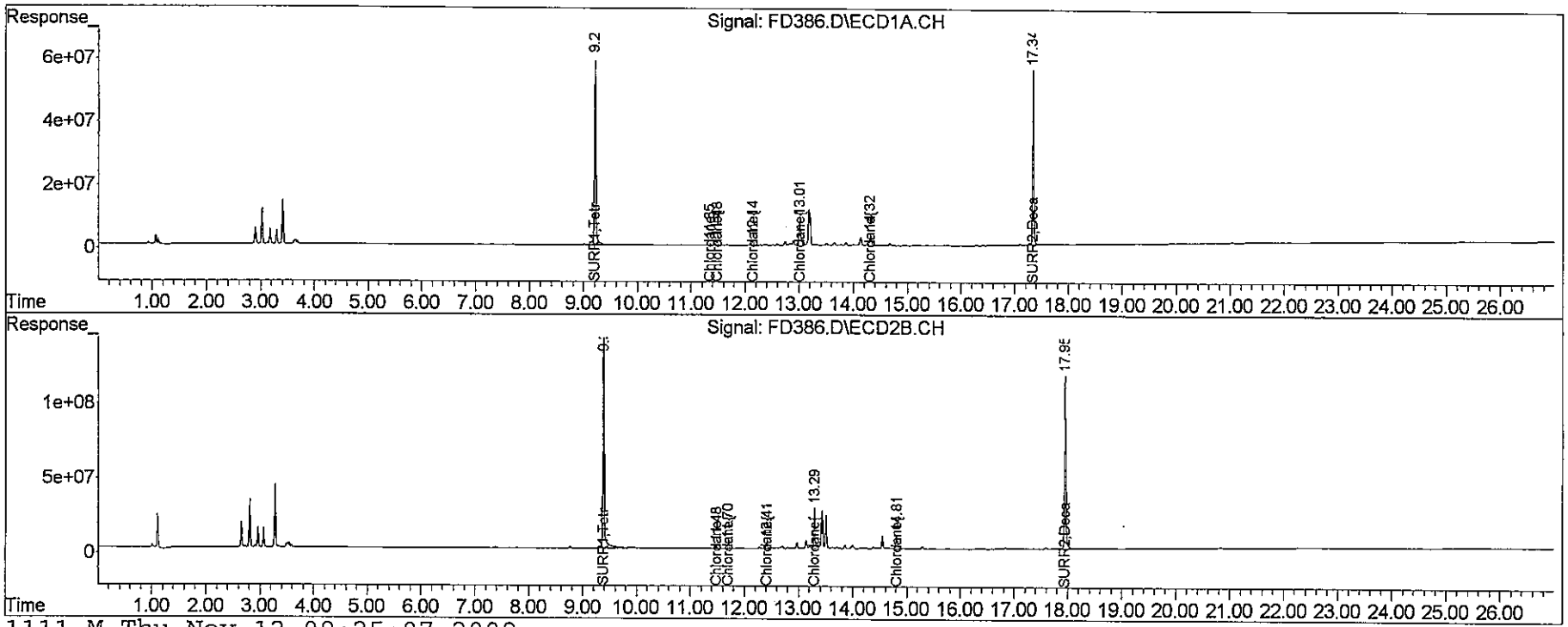
00602

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD386.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 9:31 pm
Operator : M.PEDRO
Sample : CHLOR ML
Misc : INITIAL CAL
ALS Vial : 24 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:07:33 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



E0506

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD387.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 10:07 pm
Operator : M.PEDRO
Sample : CHLOR M
Misc : INITIAL CAL
ALS Vial : 25 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:07:59 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
1) S SURR1,Tetrac	9.21	9.38	1549.1E6	4405.6E6	65.222	63.102
Spiked Amount 100.000	Range 30 - 150		Recovery =		65.22%	63.10%
25) S SURR2,Decachloro	17.34	17.95	1425.4E6	3222.3E6	70.722	74.590
Spiked Amount 100.000	Range 30 - 150		Recovery =		70.72%	74.59%
Target Compounds						
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
31) L9C Chlordane	11.35	11.48	20259464	60311821	112.846	106.576
32) L9C Chlordane{2}	11.48	11.70	47416000	138.1E6	110.111	107.760
33) L9C Chlordane{3}	12.14	12.41	71568187	185.7E6	113.933	115.920
34) L9C Chlordane{4}	13.02	13.29	369.9E6	929.9E6	115.239	118.433
35) L9C Chlordane{5}	14.32	14.81	145.8E6	387.9E6	120.684	121.669
Sum Chlordane			655.0E6	1701.9E6	572.814	570.358
Average Chlordane					114.563	114.072

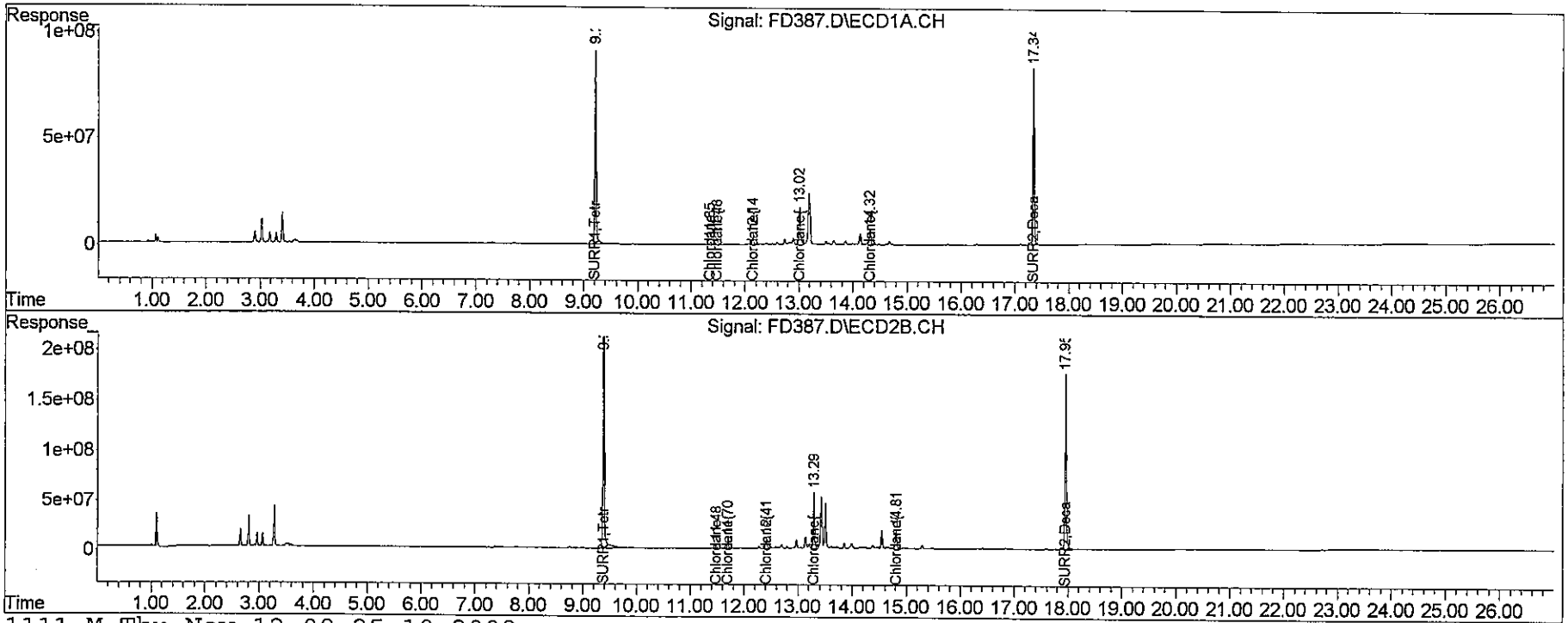
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD387.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 10:07 pm
Operator : M.PEDRO
Sample : CHLOR M
Misc : INITIAL CAL
ALS Vial : 25 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:07:59 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD388.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 10:43 pm
Operator : M.PEDRO
Sample : CHLOR MH
Misc : INITIAL CAL
ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:08:32 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
1) S SURR1,Tetrac	9.21	9.38	2096.3E6	5835.7E6	88.260	83.585
Spiked Amount 100.000	Range 30 - 150		Recovery =		88.26%	83.58%
25) S SURR2,Decachloro	17.34	17.95	1930.2E6	4331.2E6	95.768	100.257
Spiked Amount 100.000	Range 30 - 150		Recovery =		95.77%	100.26%
Target Compounds						
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
31) L9C Chlordane	11.35	11.48	51662260	163.0E6	287.762	288.103
32) L9C Chlordane{2}	11.48	11.70	122.9E6	352.4E6	285.516	275.011
33) L9C Chlordane{3}	12.14	12.41	177.6E6	451.3E6	282.762	281.656
34) L9C Chlordane{4}	13.02	13.29	983.4E6	2377.6E6	306.365	302.819
35) L9C Chlordane{5}	14.32	14.81	378.1E6	999.8E6	312.922	313.580
Sum Chlordane			1713.8E6	4344.2E6	1475.328	1461.169
Average Chlordane					295.066	292.234

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

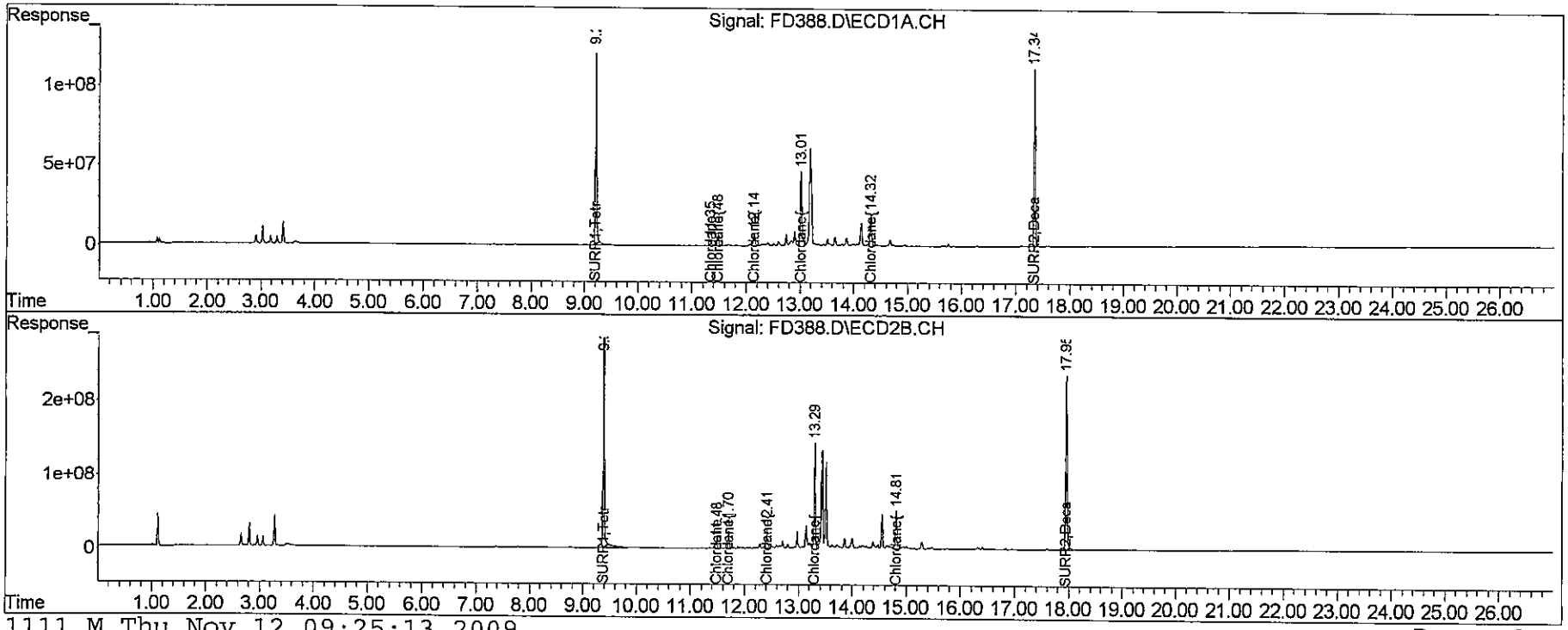
00606

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD388.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 10:43 pm
Operator : M.PEDRO
Sample : CHLOR MH
Misc : INITIAL CAL
ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:08:32 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD389.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 11:18 pm
Operator : M.PEDRO
Sample : CHLOR H
Misc : INITIAL CAL
ALS Vial : 27 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:09:04 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
1) S SURR1,Tetrac	9.21	9.38	2750.9E6	7579.1E6	115.822	108.555
Spiked Amount 100.000	Range 30 - 150		Recovery =		115.82%	108.56%
25) S SURR2,Decachloro	17.34	17.95	2548.9E6	5661.8E6	126.468	131.057
Spiked Amount 100.000	Range 30 - 150		Recovery =		126.47%	131.06%
Target Compounds						
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
31) L9C Chlordane	11.35	11.48	112.4E6	357.0E6	625.868	630.859
32) L9C Chlordane{2}	11.48	11.70	272.9E6	766.2E6	633.717	597.943
33) L9C Chlordane{3}	12.14	12.41	377.3E6	949.5E6	600.635	592.573
34) L9C Chlordane{4}	13.01	13.29	2153.0E6	5043.9E6	670.711	642.411
35) L9C Chlordane{5}	14.32	14.81	845.8E6	2186.6E6	699.976	685.804
Sum Chlordane			3761.3E6	9303.2E6	3230.906	3149.589
Average Chlordane					646.181	629.918

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

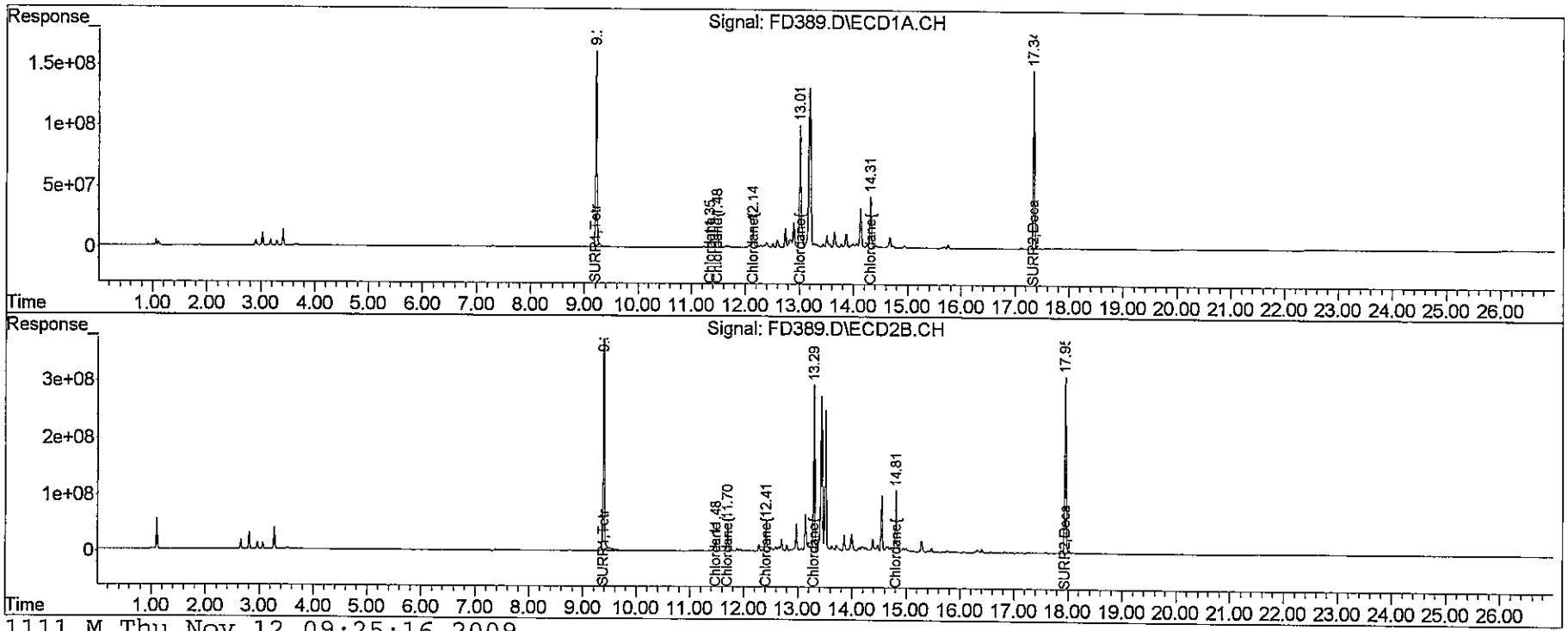
00608

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD389.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 11:18 pm
Operator : M.PEDRO
Sample : CHLOR H
Misc : INITIAL CAL
ALS Vial : 27 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:09:04 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 08:17:19 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



60906

Evaluate Continuing Calibration Report

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD390.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 11:54 pm
Operator : M.PEDRO
Sample : PEST ICV
Misc : INITIAL CAL
ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:17:12 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
3	tc alpha-BHC	41.345	41.526 E6	-0.4	98	0.00
4	tcm gamma-BHC (L	37.086	38.212 E6	-3.0	102	0.00
5	tcm Heptachlor	36.739	37.629 E6	-2.4	101	0.00
6	tcm Aldrin	34.328	34.162 E6	0.5	98	0.00
7	tc beta-BHC	15.526	15.205 E6	2.1	98	0.00
8	TC delta-BHC	37.067	35.999 E6	2.9	95	0.00
9	tc Heptachlor E	31.508	31.073 E6	1.4	97	0.00
10	tc alpha-Endosu	27.900	30.048 E6	-7.7	106	0.00
11	tc gamma-Chlord	31.532	31.569 E6	-0.1	99	0.00
12	tc alpha-Chlord	29.209	27.649 E6	5.3	93	0.00
13	tc 4,4'-DDE	30.234	29.328 E6	3.0	95	0.00
14	tcm Dieldrin	31.291	31.617 E6	-1.0	99	0.00
15	tcm Endrin	28.992	28.998 E6	-0.0	98	0.00
17	tc beta-Endosul	26.188	21.383 E6	18.3#	81	0.00
18	tc 4,4'-DDD	24.557	25.014 E6	-1.9	100	0.00
19	tcm 4,4'-DDT	26.370	28.681 E6	-8.8	106	0.00
20	tc Endrin Aldeh	21.190	20.852 E6	1.6	97	0.00
21	tc Endosulfan S	24.650	24.350 E6	1.2	97	0.00
22	tc Methoxychlor	12.270	12.652 E6	-3.1	102	0.00
24	tc Endrin Keton	28.118	28.228 E6	-0.4	99	0.00
	Signal #2					
3	tc alpha-BHC	111.992	112.135 E6	-0.1	100	0.00
4	tcm gamma-BHC (L	103.992	104.953 E6	-0.9	101	0.00
5	tcm Heptachlor	99.550	104.039 E6	-4.5	103	0.00
6	tcm Aldrin	94.213	93.117 E6	1.2	98	0.00
7	tc beta-BHC	43.162	45.347 E6	-5.1	105	0.00
8	tc delta-BHC	100.802	96.625 E6	4.1	95	0.00
9	tc Heptachlor E	85.511	85.627 E6	-0.1	99	0.00

Evaluate Continuing Calibration Report

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD390.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 11:54 pm
Operator : M.PEDRO
Sample : PEST ICV
Misc : INITIAL CAL
ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:17:12 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
10	tc	alpha-Endosu	68.559	76.777 E6	-12.0	109	0.00
11	tc	gamma-Chlord	88.023	88.658 E6	-0.7	101	0.00
12	tc	alpha-Chlord	83.807	80.073 E6	4.5	93	0.00
13	tc	4,4'-DDE	78.679	78.268 E6	0.5	97	0.00
14	tcm	Dieldrin	82.658	84.201 E6	-1.9	100	0.00
15	tcm	Endrin	68.637	70.439 E6	-2.6	98	0.00
17	tc	beta-Endosul	69.774	61.789 E6	11.4	87	0.00
18	tc	4,4'-DDD	62.753	61.834 E6	1.5	95	0.00
19	tcm	4,4'-DDT	67.131	73.583 E6	-9.6	108	0.00
20	tc	Endrin Aldeh	54.388	53.939 E6	0.8	99	0.00
21	tc	Endosulfan S	62.351	62.554 E6	-0.3	98	0.00
22	tc	Methoxychlor	27.869	28.566 E6	-2.5	102	0.00
24	tc	Endrin Keton	67.091	68.050 E6	-1.4	100	0.00

Evaluate Continuing Calibration Report - Not Founds

1	S	SURR1,Tetrac	26.313	0.000 E6	100.0#	0#	-9.21#
2	TC	HEXACHLOROBENZENE	37.602	0.000 E6	100.0#	0#	-9.90#
16	tc	KEPONE	11.805	0.000 E6	100.0#	0#	-14.15#
23	tc	FAMPHUR	18.831	0.000 E6	100.0#	0#	-15.99#
25	S	SURR2,Decachlorobiphenyl	24.483	0.000 E6	100.0#	0#	-17.34#
26	L8C	Toxaphene	1.197	0.000 E6	100.0#	0#	-14.50#
27	L8C	Toxaphene{2}	829.376	0.000 E3	100.0#	0#	-14.59#
28	L8C	Toxaphene{3}	696.890	0.000 E3	100.0#	0#	-15.19#
29	L8C	Toxaphene{4}	755.672	0.000 E3	100.0#	0#	-16.06#
30	L8C	Toxaphene{5}	584.988	0.000 E3	100.0#	0#	-16.26#
31	L9C	Chlordane	204.338	0.000 E3	100.0#	0#	-11.35#
32	L9C	Chlordane{2}	485.844	0.000 E3	100.0#	0#	-11.48#
33	L9C	Chlordane{3}	725.306	0.000 E3	100.0#	0#	-12.15#
34	L9C	Chlordane{4}	3.747	0.000 E6	100.0#	0#	-13.02#

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD390.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 11:54 pm
Operator : M.PEDRO
Sample : PEST ICV
Misc : INITIAL CAL
ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:17:12 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
	Target Compounds						
3)	tc alpha-BHC	10.21	10.46	830.5E6	2242.7E6	20.088	20.026
4)	tcm gamma-BHC (L	10.73	11.03	764.2E6	2099.1E6	20.608	20.185
5)	tcm Heptachlor	11.48	11.70	752.6E6	2080.8E6	20.484	20.902
6)	tcm Aldrin	11.93	12.18	683.2E6	1862.3E6	19.903	19.767
7)	tc beta-BHC	10.89	11.18	304.1E6	906.9E6	19.586	21.012
8)	tc delta-BHC	11.16	11.63	720.0E6	1932.5E6	19.424	19.171
9)	tc Heptachlor E	12.83	13.02	621.5E6	1712.5E6	19.724	20.027
10)	tc alpha-Endosu	13.40	13.59	601.0E6	1535.5E6	21.540	22.397
11)	tc gamma-Chlord	13.02	13.30	631.4E6	1773.2E6	20.024	20.144
12)	tc alpha-Chlord	13.21	13.51	553.0E6	1601.5E6	18.932	19.109
13)	tc 4,4'-DDE	13.32	13.75	1173.1E6	3130.7E6	38.801	39.791
14)	tcm Dieldrin	13.75	13.98	1264.7E6	3368.1E6	40.416	40.747
15)	tcm Endrin	14.09	14.43	1159.9E6	2817.5E6	40.008	41.050
17)	tc beta-Endosul	14.42	14.74	855.3E6	2471.6E6	32.661	35.423
18)	tc 4,4'-DDD	14.18	14.57	1000.5E6	2473.4E6	40.743	39.415
19)	tcm 4,4'-DDT	14.58	15.03	1147.3E6	2943.3E6	43.506	43.844
20)	tc Endrin Aldeh	15.04	15.24	834.1E6	2157.6E6	39.361	39.670
21)	tc Endosulfan S	15.69	15.64	974.0E6	2502.2E6	39.514	40.130
22)	tc Methoxychlor	15.28	16.00	2530.5E6	5713.2E6	206.242	205.003
24)	tc Endrin Keton	16.09	16.40	1129.1E6	2722.0E6	40.158	40.572
	Sum Toxaphene			0	0	N.D.	N.D.
Average	Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
Average	Chlordane					0.000	0.000

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

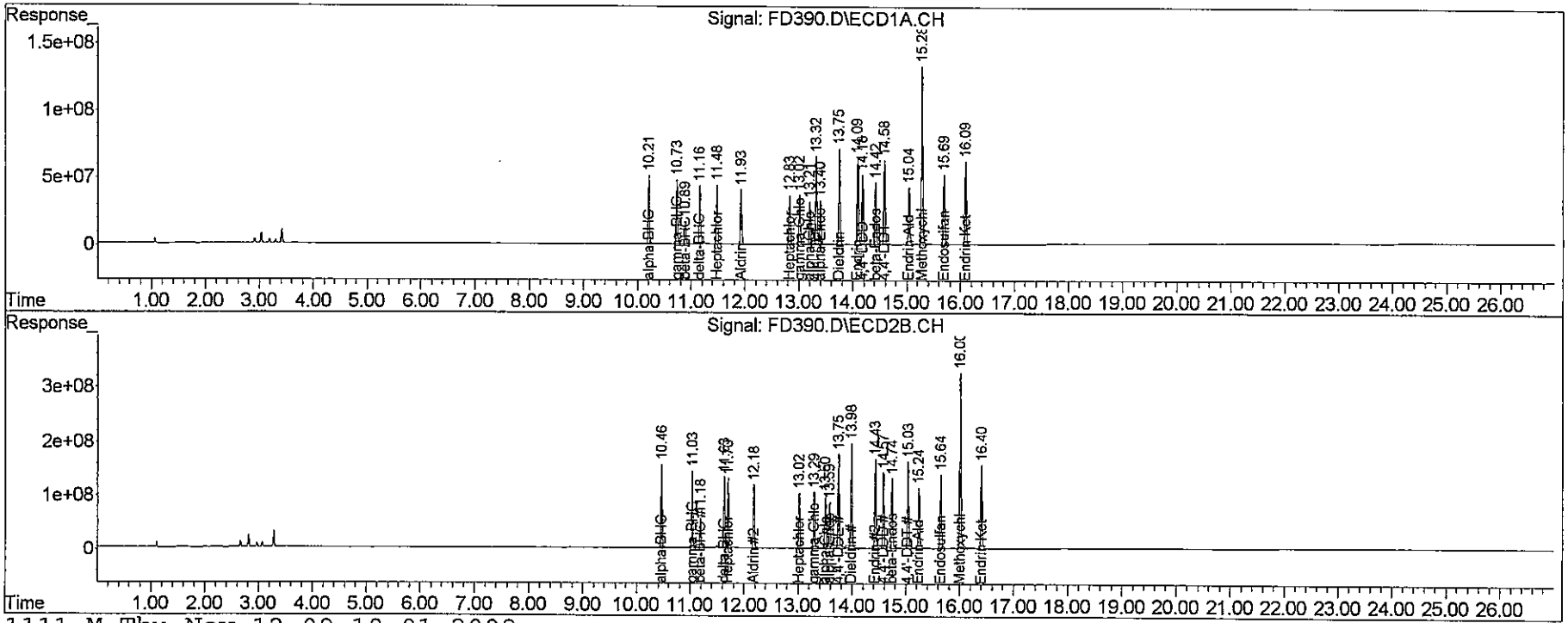
00612

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD390.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 11 Nov 2009 11:54 pm
Operator : M.PEDRO
Sample : PEST ICV
Misc : INITIAL CAL
ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:17:12 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



Evaluate Continuing Calibration Report

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD391.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Nov 2009 12:30 am
Operator : M.PEDRO
Sample : TOX ICV
Misc : INITIAL CAL
ALS Vial : 29 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:18:35 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
26	L8C Toxaphene	1.197	1.206 E6	-0.8	102	0.00
27	L8C Toxaphene{2}	829.376	816.332 E3	1.6	99	0.00
28	L8C Toxaphene{3}	696.890	703.034 E3	-0.9	101	0.00
29	L8C Toxaphene{4}	755.672	764.646 E3	-1.2	102	0.00
30	L8C Toxaphene{5}	584.988	558.302 E3	4.6	96	0.00
	Signal #2					
26	L8C Toxaphene	3.643	3.627 E6	0.4	102	0.00
27	L8C Toxaphene{2}	1.942	1.851 E6	4.7	101	0.00
28	L8C Toxaphene{3}	4.064	4.021 E6	1.1	101	0.00
29	L8C Toxaphene{4}	1.743	1.680 E6	3.6	99	0.00
30	L8C Toxaphene{5}	1.432	1.399 E6	2.3	100	0.00

Evaluate Continuing Calibration Report - Not Founds

1	S	SURR1,Tetrac	26.313	0.000 E6	100.0#	0#	-9.21#
2	TC	HEXACHLOROBENZENE	37.602	0.000 E6	100.0#	0#	-9.90#
3	tc	alpha-BHC	41.345	0.000 E6	100.0#	0#	-10.21#
4	tcm	gamma-BHC (L	37.086	0.000 E6	100.0#	0#	-10.73#
5	tcm	Heptachlor	36.739	0.000 E6	100.0#	0#	-11.48#
6	tcm	Aldrin	34.328	0.000 E6	100.0#	0#	-11.93#
7	tc	beta-BHC	15.526	0.000 E6	100.0#	0#	-10.89#
8	TC	delta-BHC	37.067	0.000 E6	100.0#	0#	-11.16#
9	tc	Heptachlor E	31.508	0.000 E6	100.0#	0#	-12.83#
10	tc	alpha-Endosu	27.900	0.000 E6	100.0#	0#	-13.40#
11	tc	gamma-Chlord	31.532	0.000 E6	100.0#	0#	-13.02#
12	tc	alpha-Chlord	29.209	0.000 E6	100.0#	0#	-13.21#
13	tc	4,4'-DDE	30.234	0.000 E6	100.0#	0#	-13.32#
14	tcm	Dieldrin	31.291	0.000 E6	100.0#	0#	-13.75#

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD391.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Nov 2009 12:30 am
Operator : M.PEDRO
Sample : TOX ICV
Misc : INITIAL CAL
ALS Vial : 29 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:18:35 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
Target Compounds						
26) L8C Toxaphene	14.50	14.86	603.1E6	1813.7E6	503.670	497.919
27) L8C Toxaphene{2}	14.58	14.97	408.2E6	925.5E6	492.137	476.638
28) L8C Toxaphene{3}	15.19	15.25	351.5E6	2010.3E6	504.408	494.682
29) L8C Toxaphene{4}	16.06	15.63	382.3E6	840.2E6	505.937	482.113
30) L8C Toxaphene{5}	16.26	16.53	279.2E6	699.3E6	477.191	488.229
Sum Toxaphene			2024.3E6	6289.0E6	2483.342	2439.581
Average Toxaphene					496.668	487.916
Sum Chlordane			0	0	N.D.	N.D.
Average Chlordane					0.000	0.000

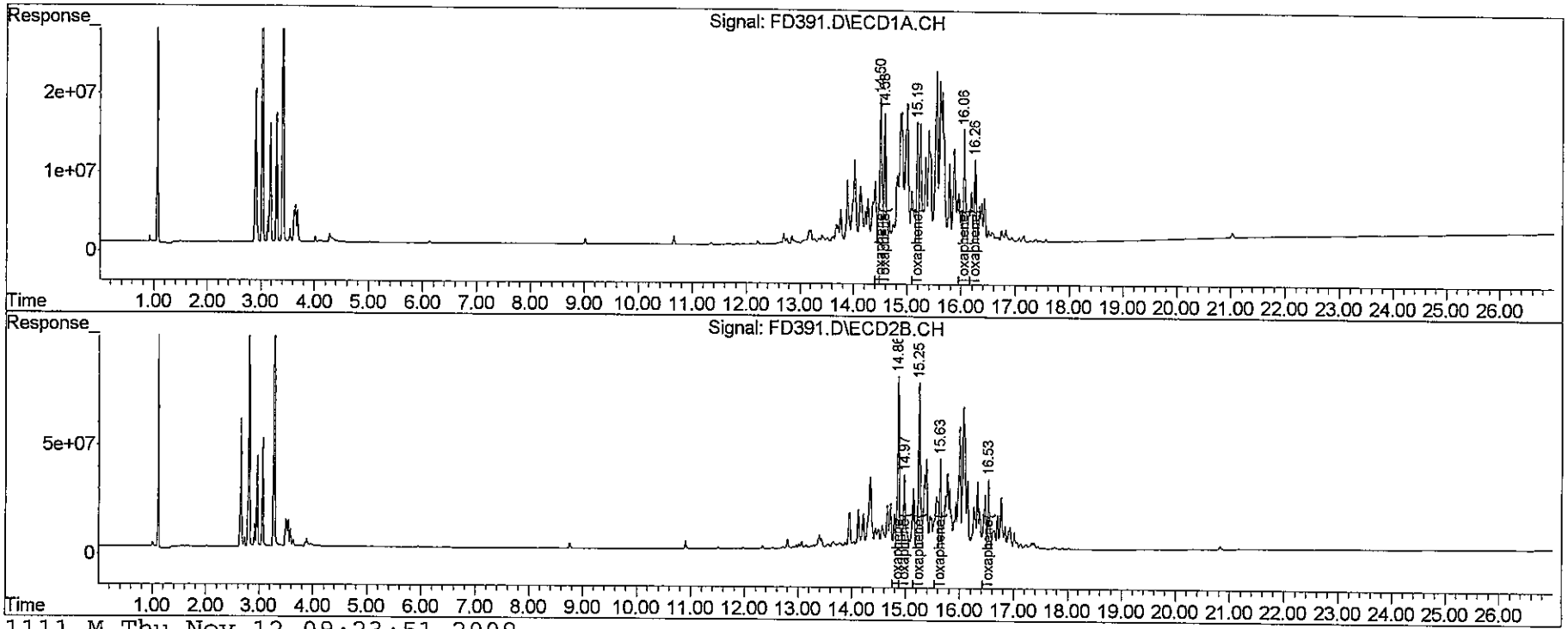
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD391.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Nov 2009 12:30 am
Operator : M.PEDRO
Sample : TOX ICV
Misc : INITIAL CAL
ALS Vial : 29 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:18:35 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



02516

Evaluate Continuing Calibration Report

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD392.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Nov 2009 1:05 am
Operator : M.PEDRO
Sample : CHLOR ICV
Misc : INITIAL CAL
ALS Vial : 30 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:20:10 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
31	L9C Chlordane	204.338	219.964 E3	-7.6	109	0.00
32	L9C Chlordane{2}	485.844	510.213 E3	-5.0	108	0.00
33	L9C Chlordane{3}	725.306	766.292 E3	-5.7	107	0.00
34	L9C Chlordane{4}	3.747	3.975 E6	-6.1	107	0.00
35	L9C Chlordane{5}	1.460	1.518 E6	-4.0	104	0.00
	Signal #2					
31	L9C Chlordane	639.140	681.945 E3	-6.7	113	0.00
32	L9C Chlordane{2}	1.411	1.486 E6	-5.3	108	0.00
33	L9C Chlordane{3}	1.884	1.964 E6	-4.2	106	0.00
34	L9C Chlordane{4}	9.270	9.932 E6	-7.1	107	0.00
35	L9C Chlordane{5}	3.904	4.159 E6	-6.5	107	0.00

Evaluate Continuing Calibration Report - Not Founds

1	S SURR1,Tetrac	26.313	0.000 E6	100.0#	0#	-9.21#
2	TC HEXACHLOROBENZENE	37.602	0.000 E6	100.0#	0#	-9.90#
3	tc alpha-BHC	41.345	0.000 E6	100.0#	0#	-10.21#
4	tcm gamma-BHC (L	37.086	0.000 E6	100.0#	0#	-10.73#
5	tcm Heptachlor	36.739	0.000 E6	100.0#	0#	-11.48#
6	tcm Aldrin	34.328	0.000 E6	100.0#	0#	-11.93#
7	tc beta-BHC	15.526	0.000 E6	100.0#	0#	-10.89#
8	TC delta-BHC	37.067	0.000 E6	100.0#	0#	-11.16#
9	tc Heptachlor E	31.508	0.000 E6	100.0#	0#	-12.83#
10	tc alpha-Endosu	27.900	0.000 E6	100.0#	0#	-13.40#
11	tc gamma-Chlord	31.532	0.000 E6	100.0#	0#	-13.02#
12	tc alpha-Chlord	29.209	0.000 E6	100.0#	0#	-13.21#
13	tc 4,4'-DDE	30.234	0.000 E6	100.0#	0#	-13.32#
14	tcm Dieldrin	31.291	0.000 E6	100.0#	0#	-13.75#

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD392.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Nov 2009 1:05 am
Operator : M.PEDRO
Sample : CHLOR ICV
Misc : INITIAL CAL
ALS Vial : 30 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:20:10 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
Target Compounds						
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
31) L9C Chlordane	11.35	11.48	21996375	68194541	107.647	106.697
32) L9C Chlordane{2}	11.48	11.70	51021288	148.6E6	105.016	105.330
33) L9C Chlordane{3}	12.14	12.41	76629212	196.4E6	105.651	104.289
34) L9C Chlordane{4}	13.01	13.29	397.5E6	993.2E6	106.070	107.140
35) L9C Chlordane{5}	14.32	14.81	151.8E6	415.9E6	103.968	106.516
Sum Chlordane			698.9E6	1822.3E6	528.352	529.972
Average Chlordane					105.670	105.994

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

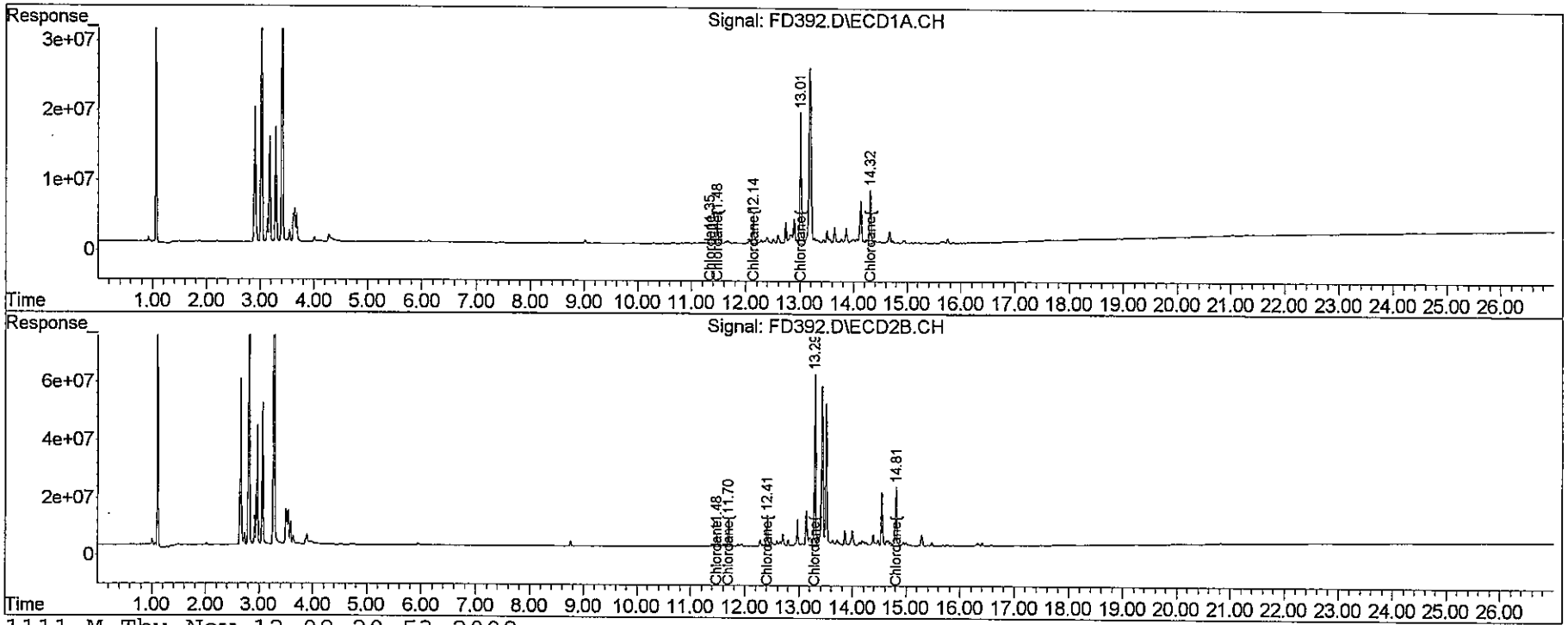
00618

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111109\
Data File : FD392.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 12 Nov 2009 1:05 am
Operator : M.PEDRO
Sample : CHLOR ICV
Misc : INITIAL CAL
ALS Vial : 30 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 12 09:20:10 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



GT5568

7D
PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name:	Columbia Analytical Services		Contract:		
Lab Code:	10145	Case No.:	SAS No.:	SDG No.:	
GC Column (1):	STX-CLP	ID: 0.32 (mm)		Initial Calibration Date(s):	11/11/2009
EPA Sample No. (PEM):	PEM			Date Analyzed:	11/14/2009
LAB Sample ID. (PEM):	PEM			Time Analyzed:	9:05
4,4'-DDT % Breakdown (1):	0.5%			Endrin % Breakdown (1):	1.0%
Combined % Breakdown (1):	1.5%				

QC LIMITS:

%D of amounts in PEM must be less than or equal to 25.0%
4,4'-DDT breakdown must be less than or equal to 15.0%
Endrin breakdown must be less than or equal to 15.0%
Combined breakdown must be less than or equal to 30.0%

FORM VII PEST-1

7D
PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name:	Columbia Analytical Services		Contract:		
Lab Code:	10145	Case No.:	SAS No.:	SDG No.:	
GC Column (2):	STX-CLPII	ID: 0.32 (mm)		Initial Calibration Date(s):	11/11/2009
EPA Sample No. (PEM):	PEM			Date Analyzed:	11/14/2009
LAB Sample ID. (PEM):	PEM			Time Analyzed:	9:05
4,4'-DDT % Breakdown (1):	0.9%			Endrin % Breakdown (1):	1.8%
Combined % Breakdown (1):	2.7%				

QC LIMITS:

%D of amounts in PEM must be less than or equal to 25.0%
4,4'-DDT breakdown must be less than or equal to 15.0%
Endrin breakdown must be less than or equal to 15.0%
Combined breakdown must be less than or equal to 30.0%

FORM VII PEST-1

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD449.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 9:05 am
Operator : M.PEDRO
Sample : PEM
Misc : PEST PERFORM CHECK
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:44:40 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
1)	S SURR1,Tetrac	9.22	9.37	559.2E6	1722.9E6	21.252	22.506
	Spiked Amount 100.000	Range 30 - 150		Recovery =		21.25%#	22.51%#
25)	S SURR2,Decachloro	17.35	17.94	446.7E6	978.0E6	18.245	17.935
	Spiked Amount 100.000	Range 30 - 150		Recovery =		18.25%#	17.93%#
	Target Compounds						
3)	tc alpha-BHC	10.21	10.45	413.2E6	1244.6E6	9.995	11.113
4)	tcm gamma-BHC (L	10.73	11.02	371.7E6	1122.2E6	10.024	10.791
7)	tc beta-BHC	10.89	11.18	153.7E6	482.3E6	9.901	11.175
13)	tc 4,4'-DDE	13.32	13.74	6300578	29644251	0.208	0.377 #
15)	tcm Endrin	14.09	14.42	1433.3E6	3598.8E6	49.439	52.433
18)	tc 4,4'-DDD	14.18	14.57	6300537	29523005	0.257	0.470m#
19)	tcm 4,4'-DDT	14.58	15.03	2666.1E6	6385.7E6	101.102	95.123
20)	tc Endrin Aldeh	15.05	15.22	3287685	21680321	0.155	0.399 #
22)	tc Methoxychlor	15.28	16.00	3010.7E6	6505.9E6	245.377	233.450
24)	tc Endrin Keton	16.09	16.39	11476542	42459309	0.408	0.633 #
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
	Average Chlordane					0.000	0.000

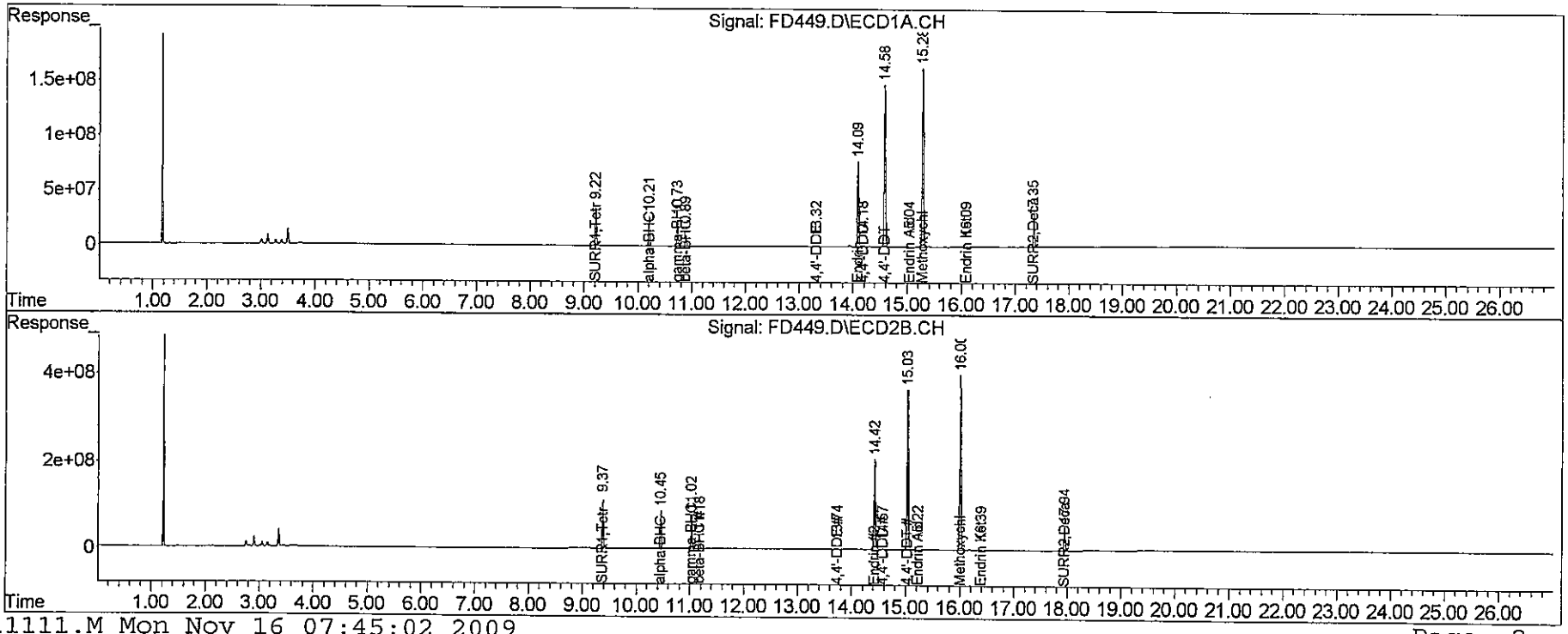
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD449.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 9:05 am
Operator : M.PEDRO
Sample : PEM
Misc : PEST PERFORM CHECK
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:44:40 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

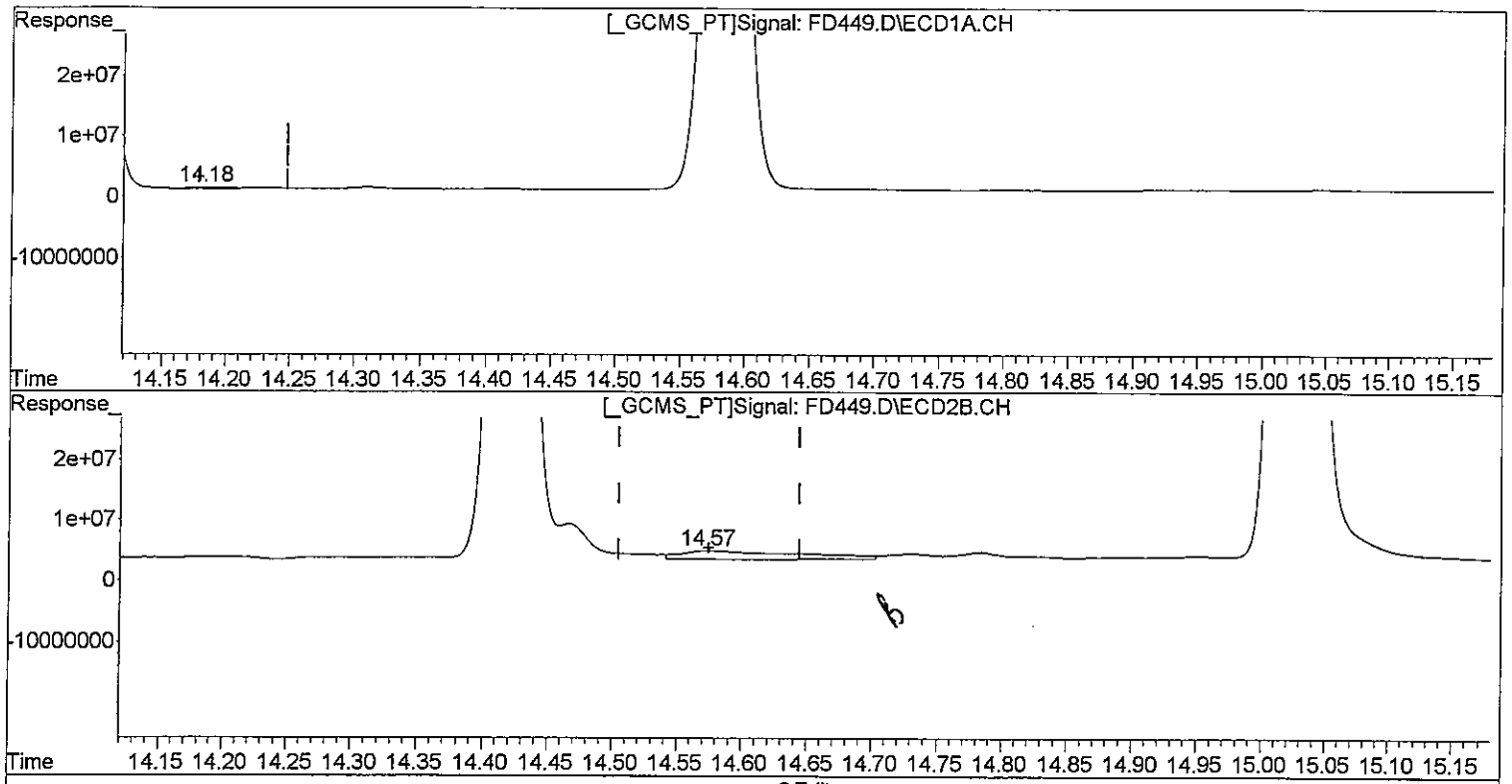


Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD449.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 9:05 am
Operator : M.PEDRO
Sample : PEM
Misc : PEST PERFORM CHECK
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:03:33 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(18) 4,4'-DDD (tc)
14.18min 0.257ug/l
response 6300537

(18) 4,4'-DDD #2 (tc)
14.57min 1.408ug/l
response 88354251

(+) = Expected Retention Time

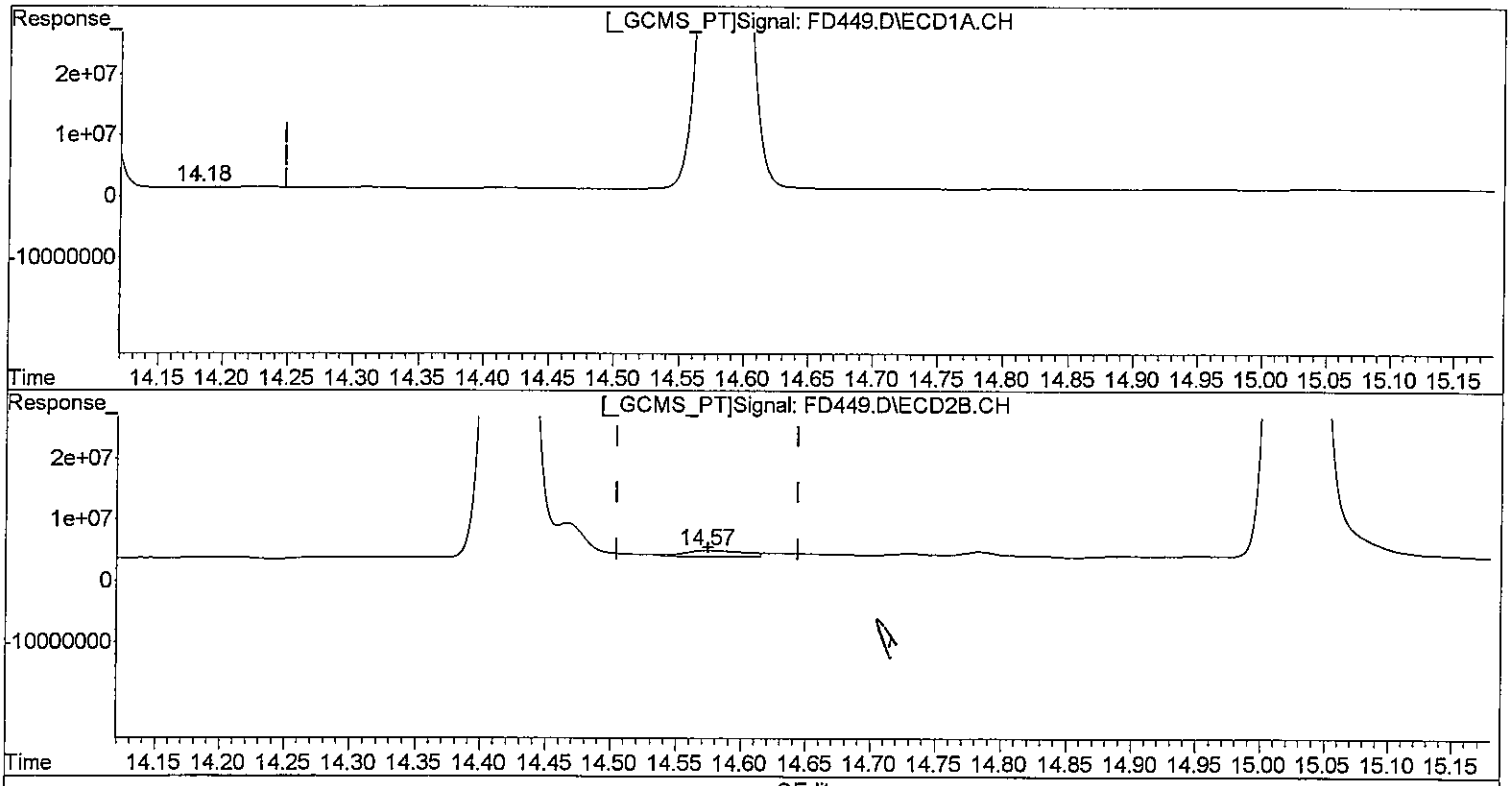
00624

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD449.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 9:05 am
Operator : M.PEDRO
Sample : PEM
Misc : PEST PERFORM CHECK
ALS Vial : 1 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:03:33 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(18) 4,4'-DDD (tc)
14.18min 0.257ug/l
response 6300537

(18) 4,4'-DDD #2 (tc)
14.57min 0.470ug/l m
response 29523005

(+) = Expected Retention Time

7D
PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name:	Columbia Analytical Services		Contract:		
Lab Code:	10145	Case No.:	SAS No.:	SDG No.:	
GC Column (1):	STX-CLP	ID: 0.32 (mm)		Initial Calibration Date(s):	11/11/2009
EPA Sample No. (PEM):	PEM			Date Analyzed:	11/15/2009
LAB Sample ID. (PEM):	PEM			Time Analyzed:	1:09
4,4'-DDT % Breakdown (1):	1.3%			Endrin % Breakdown (1):	1.4%
Combined % Breakdown (1):	2.7%				

QC LIMITS:

%D of amounts in PEM must be less than or equal to 25.0%
4,4'-DDT breakdown must be less than or equal to 15.0%
Endrin breakdown must be less than or equal to 15.0%
Combined breakdown must be less than or equal to 30.0%

FORM VII PEST-1

7D
PESTICIDE CALIBRATION VERIFICATION SUMMARY

Lab Name:	Columbia Analytical Services		Contract:		
Lab Code:	10145	Case No.:	SAS No.:	SDG No.:	
GC Column (2):	STX-CLPII	ID: 0.32 (mm)		Initial Calibration Date(s):	11/11/2009
EPA Sample No. (PEM):	PEM			Date Analyzed:	11/15/2009
LAB Sample ID. (PEM):	PEM			Time Analyzed:	1:09
4,4'-DDT % Breakdown (1):	2.0%			Endrin % Breakdown (1):	3.4%
Combined % Breakdown (1):	5.3%				

QC LIMITS:

%D of amounts in PEM must be less than or equal to 25.0%
4,4'-DDT breakdown must be less than or equal to 15.0%
Endrin breakdown must be less than or equal to 15.0%
Combined breakdown must be less than or equal to 30.0%

FORM VII PEST-1

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD476.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 1:09 am
Operator : M.PEDRO
Sample : PEM
Misc : PEST PERFROM CHECK
ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:22:23 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l	
	System Monitoring Compounds							
1)	S SURR1,Tetrac	9.21	9.37	537.2E6	1596.1E6	20.416	20.849	
	Spiked Amount 100.000	Range 30 - 150		Recovery =		20.42%#	20.85%#	
25)	S SURR2,Decachloro	17.33	17.94	507.3E6	1141.4E6	20.720	20.931	
	Spiked Amount 100.000	Range 30 - 150		Recovery =		20.72%#	20.93%#	
	Target Compounds							
3)	tc alpha-BHC	10.20	10.45	404.8E6	1174.3E6	9.792	10.485	
4)	tcm gamma-BHC (L	10.72	11.02	365.4E6	1077.7E6	9.853	10.363	
7)	tc beta-BHC	10.88	11.17	149.0E6	470.5E6	9.599	10.901	
13)	tc 4,4'-DDE	13.31	13.74	6485870	26096277	0.215	0.332	#
15)	tcm Endrin	14.08	14.42	1482.5E6	3747.6E6	51.135	54.601	
18)	tc 4,4'-DDD	14.18	14.58	28506019	101.6E6	1.161	1.618m	#
19)	tcm 4,4'-DDT	14.57	15.02	2763.9E6	6415.5E6	104.812	95.567	
20)	tc Endrin Aldeh	15.03	15.22	3797408	63399771	0.179	1.166	#
22)	tc Methoxychlor	15.27	15.99	3097.8E6	6839.2E6	252.478	245.407	
24)	tc Endrin Keton	16.08	16.39	17849476	67842254	0.635	1.011	#
	Sum Toxaphene			0	0	N.D.	N.D.	
	Average Toxaphene					0.000	0.000	
	Sum Chlordane			0	0	N.D.	N.D.	
	Average Chlordane					0.000	0.000	

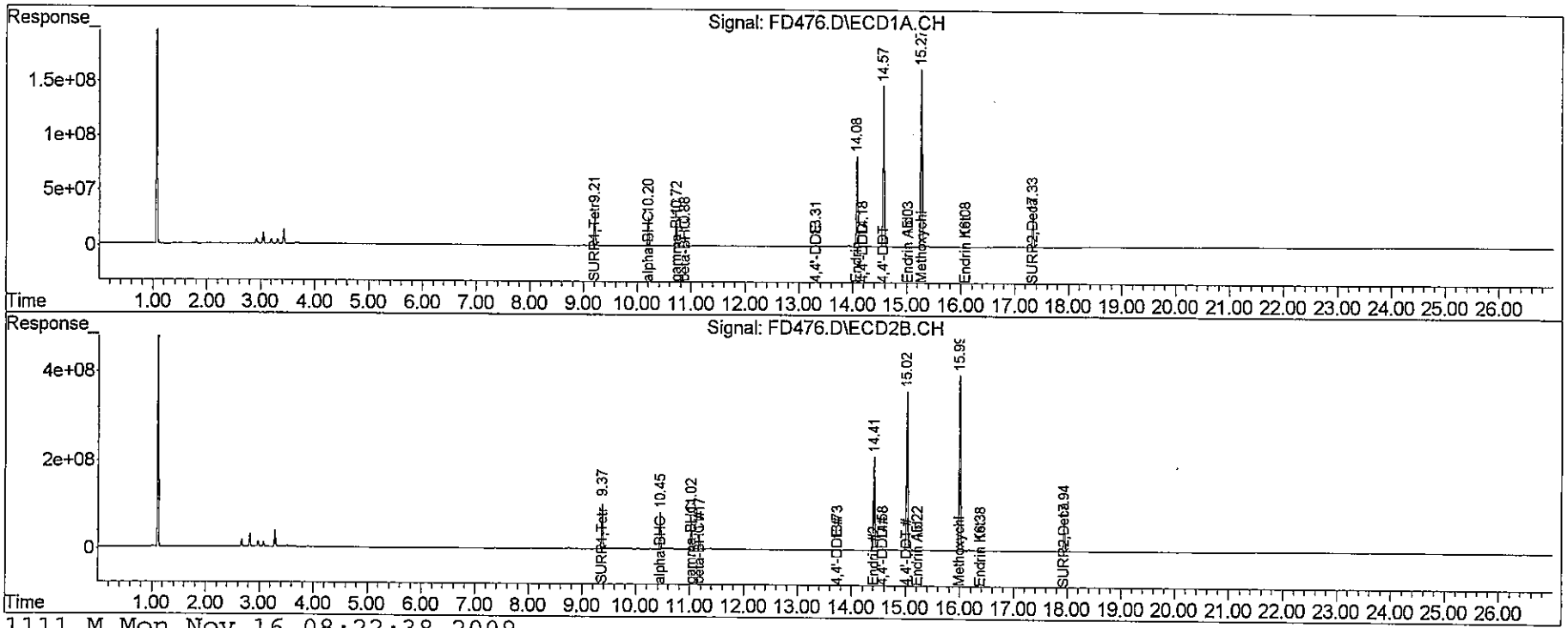
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD476.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 1:09 am
Operator : M.PEDRO
Sample : PEM
Misc : PEST PERFROM CHECK
ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:22:23 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

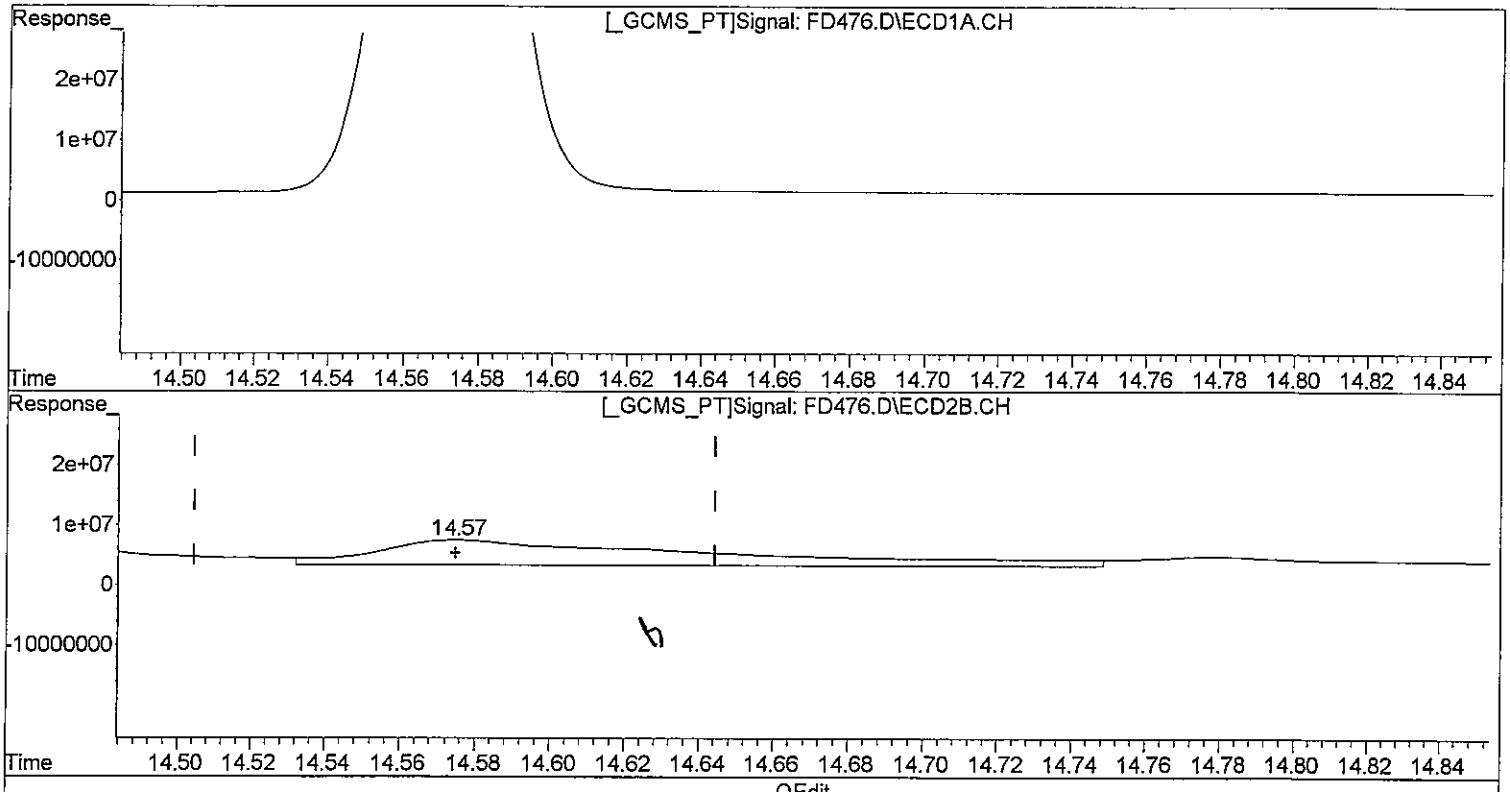


Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD476.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 1:09 am
Operator : M.PEDRO
Sample : PEM
Misc : PEST PERFROM CHECK
ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:06:39 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



QEdit

(18) 4,4'-DDD (tc)
14.18min 1.161ug/l
response 28506019

(18) 4,4'-DDD #2 (tc)
14.58min 4.199ug/l
response 263475335

(+) = Expected Retention Time

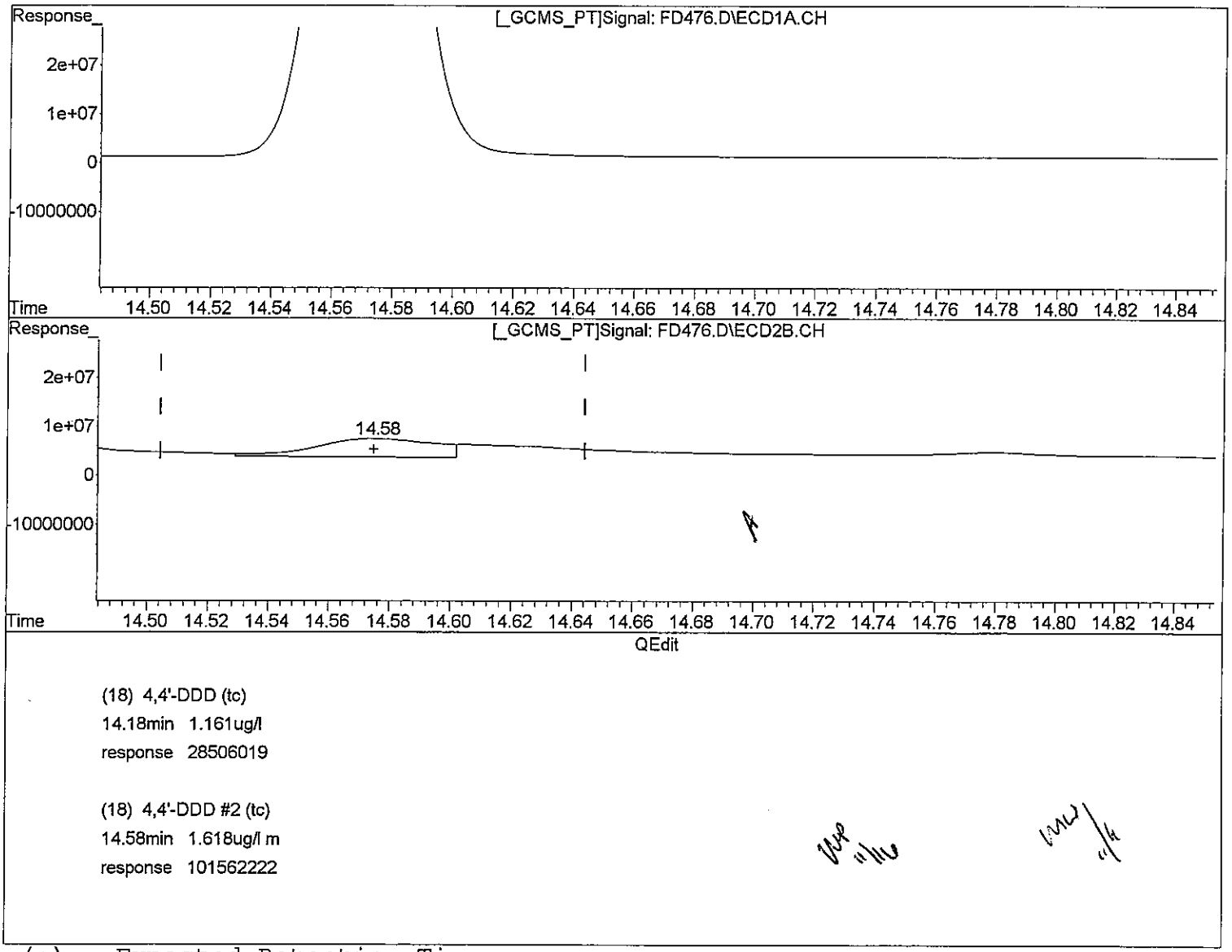
00630

Quantitation Report (Qedit)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD476.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 1:09 am
Operator : M.PEDRO
Sample : PEM
Misc : PEST PERFROM CHECK
ALS Vial : 28 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:06:39 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



(18) 4,4'-DDD (tc)
14.18min 1.161ug/l
response 28506019

(18) 4,4'-DDD #2 (tc)
14.58min 1.618ug/l m
response 101562222

(+) = Expected Retention Time

00631

8D

Pesticide Analytical Sequence

Lab Name: Columbia Analytical Services *Client:* Northgate

Lab Code: 10145 *Case.No.:* R0906270 *SAS No.:* _____ *SDG No.:* M-147B

GC Column(1) STx-CLP *(ID):* 0.32mm 30

Instrument ID: 6890D

The analytical sequence of Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT from Initial Calibration

TCX 9.21 DCB 17.34

EPA Sample No.	*Lab Sample ID*	*Date Anlyzed*	*Time Anlyzed*	*TCX rt_time*	*DCB rt_time*
INDAL	INDAL	11/11/2009	9:02	9.21	17.34
INDAML	INDAML	11/11/2009	9:38	9.21	17.34
INDAM	INDAM	11/11/2009	10:14	9.21	17.34
INDAMH	INDAMH	11/11/2009	10:49	9.21	17.34
INDAH	INDAH	11/11/2009	11:25	9.21	17.34
INDBL	INDBL	11/11/2009	12:01	9.21	17.34
INDBML	INDBML	11/11/2009	12:37	9.21	17.34
INDBM	INDBM	11/11/2009	13:12	9.21	17.34
INDBMH	INDBMH	11/11/2009	13:48	9.21	17.34
INDBH	INDBH	11/11/2009	14:24	9.21	17.34
KEP/FAM L	KEP/FAM L	11/11/2009	14:59	0.00	0.00
KEP/FAM ML	KEP/FAM ML	11/11/2009	15:35	0.00	0.00
KEP/FAM M	KEP/FAM M	11/11/2009	16:11	0.00	0.00
KEP/FAM MH	KEP/FAM MH	11/11/2009	16:46	0.00	0.00
KEP/FAM H	KEP/FAM H	11/11/2009	17:22	0.00	0.00
TOX L	TOX L	11/11/2009	17:58	9.21	17.34
TOX ML	TOX ML	11/11/2009	18:33	9.21	17.34
TOX M	TOX M	11/11/2009	19:09	9.21	17.34
TOX MH	TOX MH	11/11/2009	19:45	9.21	17.34
TOX H	TOX H	11/11/2009	20:20	9.21	17.34
CHLOR L	CHLOR L	11/11/2009	20:56	9.21	17.34

QC Limits

TCX = Tetrachloro-m-xylene (+/- 0.05 Minutes)

DCB = Decachlorobiphenyl (+/- 0.10 Minutes)

Column used to flag retention time values with an aste

* Values outside of QC limits

Form VIII Pest

8D

Pesticide Analytical Sequence

Lab Name: Columbia Analytical Services *Client:* Northgate

Lab Code: 10145 *Case.No.:* R0906270 *SAS No.:* _____ *SDG No.:* M-147B

GC Column(1) STx-CLP *(ID):* 0.32mm 30

Instrument ID: 6890D

The analytical sequence of Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT from Initial Calibration

TCX 9.21 DCB 17.34

EPA Sample No.	*Lab Sample ID*	*Date Anlyzed*	*Time Anlyzed*	*TCX rt_time*	*DCB rt_time*
CHLOR ML	CHLOR ML	11/11/2009	21:31	9.21	17.34
CHLOR M	CHLOR M	11/11/2009	22:07	9.21	17.34
CHLOR MH	CHLOR MH	11/11/2009	22:43	9.21	17.34
CHLOR H	CHLOR H	11/11/2009	23:18	9.21	17.34
PEST ICV	PEST ICV	11/11/2009	23:54	0.00	0.00
TOX ICV	TOX ICV	11/12/2009	0:30	0.00	0.00
CHLOR ICV	CHLOR ICV	11/12/2009	1:05	0.00	0.00
PEM	PEM	11/14/2009	9:05	9.22	17.35
CCV7A	CCV7A	11/14/2009	16:49	9.20	17.33
CCV7B	CCV7B	11/14/2009	17:25	9.21	17.33
ZZZZZ	ZZZZZ	11/14/2009	18:01	0.00	0.00
ZZZZZ	ZZZZZ	11/14/2009	18:36	9.21	17.33
ZZZZZ	ZZZZZ	11/14/2009	19:12	0.00	0.00
ZZZZZ	ZZZZZ	11/14/2009	19:48	0.00	0.00
PBLK01	RQ0911121-01|1.0	11/14/2009	20:23	9.21	17.33
PBLK01MS	RQ0911121-02|1.0	11/14/2009	20:59	9.21	17.33
PBLK01MSD	RQ0911121-03|1.0	11/14/2009	21:35	9.21	17.33
ZZZZZ	ZZZZZ	11/14/2009	22:10	9.21	17.33
ZZZZZ	ZZZZZ	11/14/2009	22:46	9.21	17.33
ZZZZZ	ZZZZZ	11/14/2009	23:22	9.21	17.33
CCV8A	CCV8A	11/14/2009	23:57	9.21	17.33

QC Limits

TCX = Tetrachloro-m-xylene (+/- 0.05 Minutes)

DCB = Decachlorobiphenyl (+/- 0.10 Minutes)

Column used to flag retention time values with an aste

* Values outside of QC limits

8D

Pesticide Analytical Sequence

Lab Name: Columbia Analytical Services *Client:* Northgate

Lab Code: 10145 *Case.No.:* R0906270 *SAS No.:* _____ *SDG No.:* M-147B

GC Column(1) STx-CLP *(ID):* 0.32mm 30

Instrument ID: 6890D

The analytical sequence of Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT from Initial Calibration

TCX 9.21 DCB 17.34

EPA Sample No.	*Lab Sample ID*	*Date Anlyzed*	*Time Anlyzed*	*TCX rt_time*	*DCB rt_time*
CCV8B	CCV8B	11/15/2009	0:33	9.21	17.33
PEM	PEM	11/15/2009	1:09	9.21	17.33
ZZZZZ	ZZZZZ	11/15/2009	1:44	9.21	17.33
ZZZZZ	ZZZZZ	11/15/2009	2:20	9.21	17.33
M-147B	R0906270-001|1.0	11/15/2009	2:56	9.21	17.33
M-147009B	R0906270-002|1.0	11/15/2009	3:31	9.21	17.33
EB110209-GWA3	R0906270-003|1.0	11/15/2009	4:07	9.20	17.33
CCV9A	CCV9A	11/15/2009	4:42	9.21	17.33
CCV9B	CCV9B	11/15/2009	5:18	9.21	17.33

QC Limits

TCX = Tetrachloro-m-xylene (+/- 0.05 Minutes)

DCB = Decachlorobiphenyl (+/- 0.10 Minutes)

Column used to flag retention time values with an aste

* Values outside of QC limits

Form VIII Pest

8D

Pesticide Analytical Sequence

Lab Name: **Columbia Analytical Services** *Contract:* Northgate

Lab Code: 10145 *Case.No.:* R0906270 *SAS No.:* _____ *SDG No.:* M-147B

GC Column(1) STx-CLPII *(ID):* 0.32mm 30

Instrument ID: 6890D

The analytical sequence of Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT from Initial Calibration

TCX 9.38 DCB 17.95

EPA Sample No.	*Lab Sample ID*	*Date Anlyzed*	*Time Anlyzed*	*TCX rt_time*	*DCB rt_time*
INDAL	INDAL	11/11/2009	9:02	9.38	17.95
INDAML	INDAML	11/11/2009	9:38	9.38	17.95
INDAM	INDAM	11/11/2009	10:14	9.38	17.95
INDAMH	INDAMH	11/11/2009	10:49	9.38	17.95
INDAH	INDAH	11/11/2009	11:25	9.38	17.95
INDBL	INDBL	11/11/2009	12:01	9.38	17.95
INDBML	INDBML	11/11/2009	12:37	9.38	17.95
INDBM	INDBM	11/11/2009	13:12	9.38	17.95
INDBMH	INDBMH	11/11/2009	13:48	9.38	17.95
INDBH	INDBH	11/11/2009	14:24	9.38	17.95
KEP/FAM L	KEP/FAM L	11/11/2009	14:59	0.00	0.00
KEP/FAM ML	KEP/FAM ML	11/11/2009	15:35	0.00	0.00
KEP/FAM M	KEP/FAM M	11/11/2009	16:11	0.00	0.00
KEP/FAM MH	KEP/FAM MH	11/11/2009	16:46	0.00	0.00
KEP/FAM H	KEP/FAM H	11/11/2009	17:22	0.00	0.00
TOX L	TOX L	11/11/2009	17:58	9.38	17.95
TOX ML	TOX ML	11/11/2009	18:33	9.38	17.95
TOX M	TOX M	11/11/2009	19:09	9.38	17.95
TOX MH	TOX MH	11/11/2009	19:45	9.38	17.95
TOX H	TOX H	11/11/2009	20:20	9.38	17.95
CHLOR L	CHLOR L	11/11/2009	20:56	9.38	17.95

QC Limits

TCX = Tetrachloro-m-xylene (+/- 0.05 Minutes)

DCB = Decachlorobiphenyl (+/- 0.10 Minutes)

Column used to flag retention time values with an aste

* Values outside of QC limits

Form VIII Pest

8D

Pesticide Analytical Sequence

Lab Name: Columbia Analytical Services *Contract:* Northgate

Lab Code: 10145 *Case.No.:* R0906270 *SAS No.:* _____ *SDG No.:* M-147B

GC Column(1) STx-CLPII *(ID):* 0.32mm 30

Instrument ID: 6890D

The analytical sequence of Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT from Initial Calibration

TCX 9.38 DCB 17.95

EPA Sample No.	*Lab Sample ID*	*Date Anlyzed*	*Time Anlyzed*	*TCX rt_time*	*DCB rt_time*
CHLOR ML	CHLOR ML	11/11/2009	21:31	9.38	17.95
CHLOR M	CHLOR M	11/11/2009	22:07	9.38	17.95
CHLOR MH	CHLOR MH	11/11/2009	22:43	9.38	17.95
CHLOR H	CHLOR H	11/11/2009	23:18	9.38	17.95
PEST ICV	PEST ICV	11/11/2009	23:54	0.00	0.00
TOX ICV	TOX ICV	11/12/2009	0:30	0.00	0.00
CHLOR ICV	CHLOR ICV	11/12/2009	1:05	0.00	0.00
PEM	PEM	11/14/2009	9:05	9.37	17.94
CCV7A	CCV7A	11/14/2009	16:49	9.37	17.94
CCV7B	CCV7B	11/14/2009	17:25	9.37	17.94
ZZZZZ	ZZZZZ	11/14/2009	18:01	0.00	0.00
ZZZZZ	ZZZZZ	11/14/2009	18:36	9.37	17.94
ZZZZZ	ZZZZZ	11/14/2009	19:12	0.00	0.00
ZZZZZ	ZZZZZ	11/14/2009	19:48	0.00	0.00
PBLK01	RQ0911121-01|1.0	11/14/2009	20:23	9.37	17.94
PBLK01MS	RQ0911121-02|1.0	11/14/2009	20:59	9.37	17.94
PBLK01MSD	RQ0911121-03|1.0	11/14/2009	21:35	9.37	17.94
ZZZZZ	ZZZZZ	11/14/2009	22:10	9.37	17.94
ZZZZZ	ZZZZZ	11/14/2009	22:46	9.37	17.94
ZZZZZ	ZZZZZ	11/14/2009	23:22	9.37	17.94
CCV8A	CCV8A	11/14/2009	23:57	9.37	17.94

QC Limits

TCX = Tetrachloro-m-xylene (+/- 0.05 Minutes)

DCB = Decachlorobiphenyl (+/- 0.10 Minutes)

Column used to flag retention time values with an aste

* Values outside of QC limits

8D

Pesticide Analytical Sequence

Lab Name: Columbia Analytical Services *Contract:* Northgate

Lab Code: 10145 *Case.No.:* R0906270 *SAS No.:* _____ *SDG No.:* M-147B

GC Column(1) STx-CLPII *(ID):* 0.32mm 30

Instrument ID: 6890D

The analytical sequence of Performance Evaluation Mixtures, Blanks, Samples, and Standards is given below:

Mean Surrogate RT from Initial Calibration

TCX 9.38 DCB 17.95

EPA Sample No.	*Lab Sample ID*	*Date Anlyzed*	*Time Anlyzed*	*TCX rt_time*	*DCB rt_time*
CCV8B	CCV8B	11/15/2009	0:33	9.37	17.94
PEM	PEM	11/15/2009	1:09	9.37	17.94
ZZZZZ	ZZZZZ	11/15/2009	1:44	9.37	17.94
ZZZZZ	ZZZZZ	11/15/2009	2:20	9.37	17.94
M-147B	R0906270-001|1.0	11/15/2009	2:56	9.37	17.94
M-147009B	R0906270-002|1.0	11/15/2009	3:31	9.37	17.94
EB110209-GWA3	R0906270-003|1.0	11/15/2009	4:07	9.37	17.94
CCV9A	CCV9A	11/15/2009	4:42	9.37	17.94
CCV9B	CCV9B	11/15/2009	5:18	9.37	17.94

QC Limits

TCX = Tetrachloro-m-xylene (+/- 0.05 Minutes)

DCB = Decachlorobiphenyl (+/- 0.10 Minutes)

Column used to flag retention time values with an aste

* Values outside of QC limits

Form VIII Pest

Evaluate Continuing Calibration Report

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD462.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 4:49 pm
Operator : M.PEDRO
Sample : CCV7A
Misc : INDAM
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:01:19 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	S	SURR1,Tetrac	26.313	27.600 E6	-4.9	105	0.00
2	TC	HEXACHLOROBENZENE	37.602	38.961 E6	-3.6	104	0.00
3	tc	alpha-BHC	41.345	43.719 E6	-5.7	103	0.00
4	tcm	gamma-BHC (L	37.086	38.933 E6	-5.0	104	0.00
5	tcm	Heptachlor	36.739	38.476 E6	-4.7	103	0.00
10	tc	alpha-Endosu	27.900	29.005 E6	-4.0	103	-0.01
14	tcm	Dieldrin	31.291	32.839 E6	-4.9	102	-0.01
15	tcm	Endrin	28.992	30.482 E6	-5.1	103	-0.01
18	tc	4,4'-DDD	24.557	25.847 E6	-5.3	103	-0.01
19	tcm	4,4'-DDT	26.370	28.123 E6	-6.6	104	-0.01
22	tc	Methoxychlor	12.270	12.815 E6	-4.4	103	-0.01
25	S	SURR2,Decachlorobiphenyl	24.483	24.545 E6	-0.3	102	0.00

Signal #2

1	S	SURR1,Tetrac	76.555	82.017 E6	-7.1	106	0.00
2	TC	HEXACHLOROBENZENE	101.868	109.494 E6	-7.5	108	0.00
3	tc	alpha-BHC	111.992	122.438 E6	-9.3	109	0.00
4	tcm	gamma-BHC (L	103.992	110.465 E6	-6.2	107	0.00
5	tcm	Heptachlor	99.550	106.103 E6	-6.6	105	0.00
10	tc	alpha-Endosu	68.559	74.636 E6	-8.9	106	-0.01
14	tcm	Dieldrin	82.658	86.150 E6	-4.2	103	-0.01
15	tcm	Endrin	68.637	75.227 E6	-9.6	105	-0.01
18	tc	4,4'-DDD	62.753	68.351 E6	-8.9	105	-0.01
19	tcm	4,4'-DDT	67.131	68.425 E6	-1.9	100	-0.01
22	tc	Methoxychlor	27.869	28.668 E6	-2.9	102	-0.01
25	S	SURR2,Decachlorobiphenyl	54.533	55.154 E6	-1.1	101	-0.01

Evaluate Continuing Calibration Report - Not Founds

00638

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD462.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 4:49 pm
Operator : M.PEDRO
Sample : CCV7A
Misc : INDAM
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:01:19 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
1)	S SURR1,Tetrac	9.20	9.37	552.0E6	1640.3E6	20.978	21.427
	Spiked Amount 100.000	Range 30 - 150		Recovery =		20.98%#	21.43%#
25)	S SURR2,Decachloro	17.33	17.94	981.8E6	2206.2E6	40.101	40.456
	Spiked Amount 100.000	Range 30 - 150		Recovery =		40.10%	40.46%
	Target Compounds						
2)	TC HEXACHLOROBENZEN	9.89	10.19	779.2E6	2189.9E6	20.723	21.497
3)	tc alpha-BHC	10.20	10.45	874.4E6	2448.8E6	21.149	21.865
4)	tcm gamma-BHC (L	10.72	11.02	778.7E6	2209.3E6	20.996	21.245
5)	tcm Heptachlor	11.47	11.69	769.5E6	2122.1E6	20.945	21.317
10)	tc alpha-Endosu	13.39	13.57	580.1E6	1492.7E6	20.792	21.773
14)	tcm Dieldrin	13.74	13.97	1313.6E6	3446.0E6	41.978	41.690
15)	tcm Endrin	14.08	14.42	1219.3E6	3009.1E6	42.055	43.841
18)	tc 4,4'-DDD	14.17	14.56	1033.9E6	2734.0E6	42.100	43.568
19)	tcm 4,4'-DDT	14.57	15.02	1124.9E6	2737.0E6	42.659	40.771
22)	tc Methoxychlor	15.27	15.99	2562.9E6	5733.6E6	208.887	205.737
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
	Average Chlordane					0.000	0.000

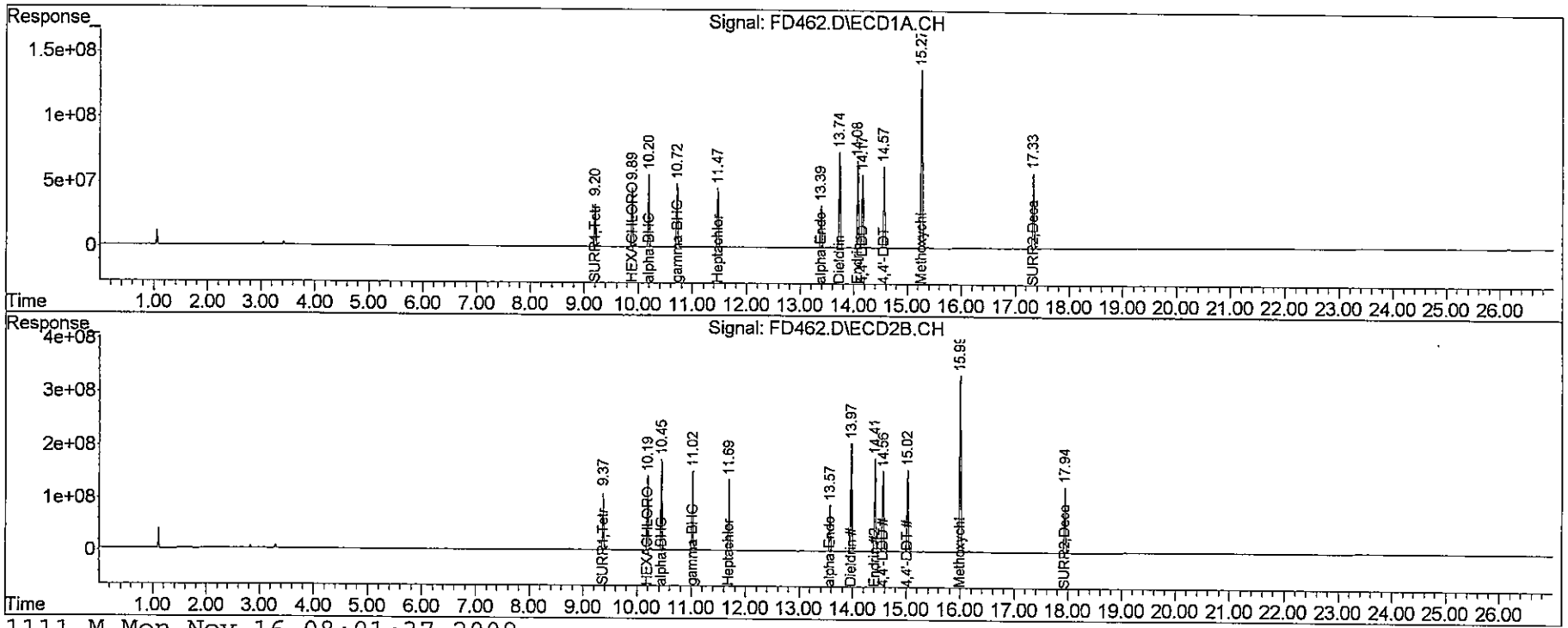
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD462.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 4:49 pm
Operator : M.PEDRO
Sample : CCV7A
Misc : INDAM
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:01:19 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



Evaluate Continuing Calibration Report

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD463.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 5:25 pm
Operator : M.PEDRO
Sample : CCV7B
Misc : INDBM
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:02:05 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	S	SURR1,Tetrac	26.313	28.202 E6	-7.2	107	0.00
6	tcm	Aldrin	34.328	36.050 E6	-5.0	103	0.00
7	tc	beta-BHC	15.526	15.955 E6	-2.8	103	0.00
8	TC	delta-BHC	37.067	39.252 E6	-5.9	103	0.00
9	tc	Heptachlor E	31.508	32.550 E6	-3.3	102	-0.01
11	tc	gamma-Chlord	31.532	32.653 E6	-3.6	103	-0.01
12	tc	alpha-Chlord	29.209	30.818 E6	-5.5	104	-0.01
13	tc	4,4'-DDE	30.234	31.974 E6	-5.8	103	-0.01
17	tc	beta-Endosul	26.188	27.448 E6	-4.8	103	-0.01
20	tc	Endrin Aldeh	21.190	21.838 E6	-3.1	101	-0.01
21	tc	Endosulfan S	24.650	25.572 E6	-3.7	102	-0.01
24	tc	Endrin Keton	28.118	28.962 E6	-3.0	101	-0.01
25	S	SURR2,Decachlorobiphenyl	24.483	25.155 E6	-2.7	104	0.00

Signal #2

1	S	SURR1,Tetrac	76.555	84.493 E6	-10.4	110	0.00
6	tcm	Aldrin	94.213	100.573 E6	-6.8	105	0.00
7	tc	beta-BHC	43.162	46.469 E6	-7.7	107	0.00
8	tc	delta-BHC	100.802	109.548 E6	-8.7	107	0.00
9	tc	Heptachlor E	85.511	88.418 E6	-3.4	102	-0.01
11	tc	gamma-Chlord	88.023	91.322 E6	-3.7	104	-0.01
12	tc	alpha-Chlord	83.807	87.867 E6	-4.8	102	-0.01
13	tc	4,4'-DDE	78.679	84.161 E6	-7.0	104	-0.01
17	tc	beta-Endosul	69.774	72.116 E6	-3.4	102	-0.01
20	tc	Endrin Aldeh	54.388	55.862 E6	-2.7	102	-0.01
21	tc	Endosulfan S	62.351	65.021 E6	-4.3	102	-0.01
24	tc	Endrin Keton	67.091	68.422 E6	-2.0	101	-0.01
25	S	SURR2,Decachlorobiphenyl	54.533	56.813 E6	-4.2	104	-0.01

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD463.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 5:25 pm
Operator : M.PEDRO
Sample : CCV7B
Misc : INDBM
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:02:05 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
1) S SURR1,Tetrac	9.21	9.37	564.0E6	1689.9E6	21.436	22.074
Spiked Amount 100.000	Range 30 - 150		Recovery =		21.44%#	22.07%#
25) S SURR2,Decachloro	17.33	17.94	1006.2E6	2272.5E6	41.098	41.672
Spiked Amount 100.000	Range 30 - 150		Recovery =		41.10%	41.67%
Target Compounds						
6) tcm Aldrin	11.92	12.17	721.0E6	2011.5E6	21.003	21.350
7) tc beta-BHC	10.88	11.17	319.1E6	929.4E6	20.553	21.533
8) tc delta-BHC	11.15	11.62	785.0E6	2191.0E6	21.179	21.735
9) tc Heptachlor E	12.82	13.01	651.0E6	1768.4E6	20.662	20.680
11) tc gamma-Chlord	13.00	13.29	653.1E6	1826.4E6	20.711	20.750
12) tc alpha-Chlord	13.20	13.49	616.4E6	1757.3E6	21.102	20.969
13) tc 4,4'-DDE	13.31	13.73	1279.0E6	3366.4E6	42.302	42.787
17) tc beta-Endosul	14.41	14.73	1097.9E6	2884.6E6	41.925	41.343
20) tc Endrin Aldeh	15.03	15.23	873.5E6	2234.5E6	41.222	41.084
21) tc Endosulfan S	15.68	15.63	1022.9E6	2600.8E6	41.497	41.713
24) tc Endrin Keton	16.08	16.39	1158.5E6	2736.9E6	41.202	40.794
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
Sum Chlordane			0	0	N.D.	N.D.
Average Chlordane					0.000	0.000

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

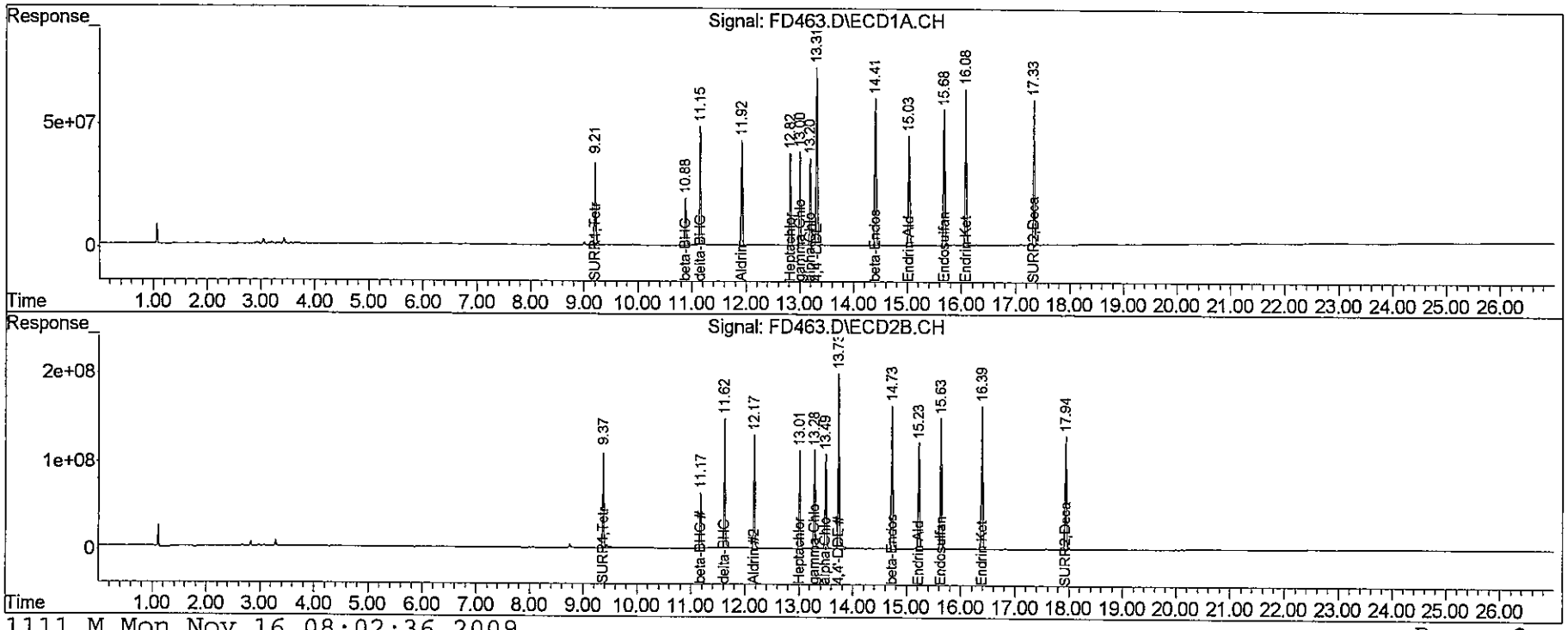
00642

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD463.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 5:25 pm
Operator : M.PEDRO
Sample : CCV7B
Misc : INDBM
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:02:05 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



CT500

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD464.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 6:01 pm
Operator : M.PEDRO
Sample : R0906130-009|100.0
Misc : 11/02/09 3.0 8081
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:03:21 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
System Monitoring Compounds						
Target Compounds						
13) tc 4,4'-DDE	13.31	13.74	1267.8E6	3345.9E6	41.933	42.525
18) tc 4,4'-DDD	14.17	14.56	379.4E6	1065.0E6	15.448	16.972
19) tcm 4,4'-DDT	14.57	15.02	1139.1E6	2847.5E6	43.196	42.418
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000
Sum Chlordane			0	0	N.D.	N.D.
Average Chlordane					0.000	0.000

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

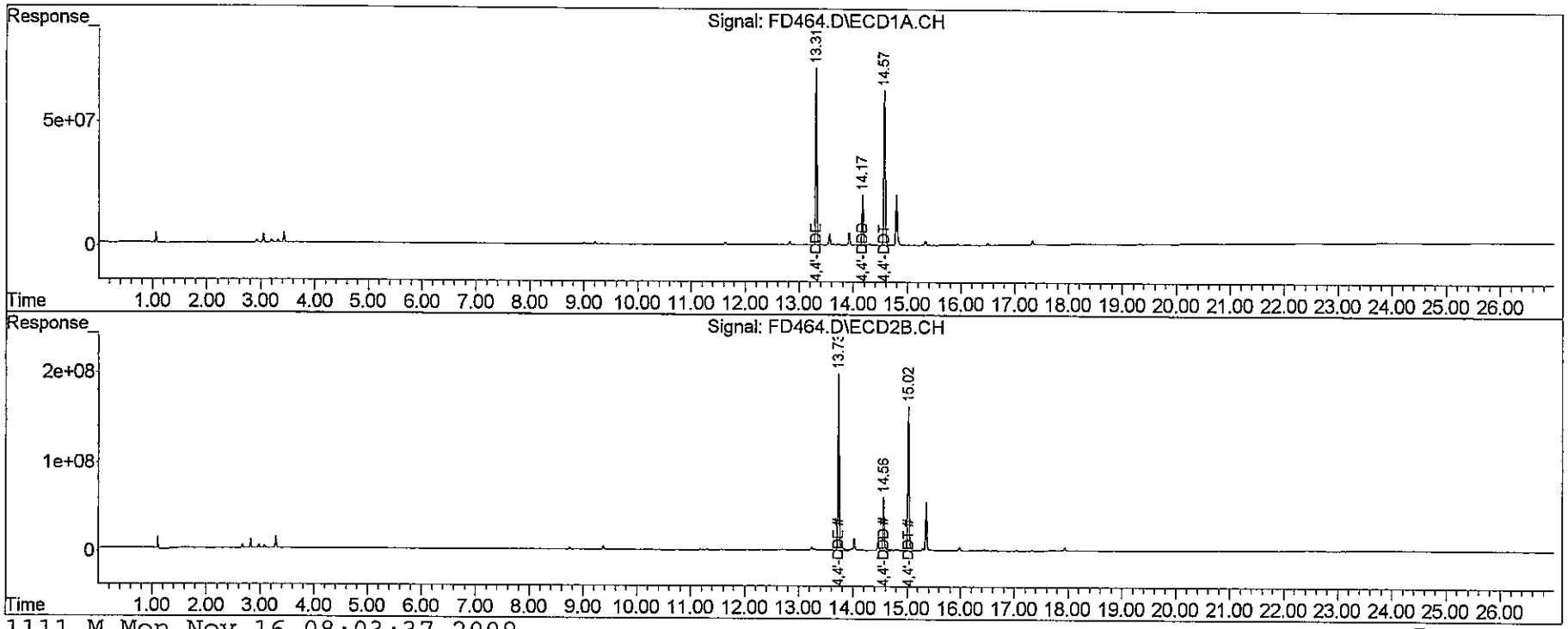
00644

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD464.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 6:01 pm
Operator : M.PEDRO
Sample : R0906130-009|100.0
Misc : 11/02/09 3.0 8081
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:03:21 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



S1969

Quantitation Report (Not Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD464.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 6:01 pm
Operator : M.PEDRO
Sample : R0906130-009|100.0
Misc : 11/02/09 3.0 8081
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:05:17 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l	
	System Monitoring Compounds							
1)	S SURR1,Tetrac	9.21	9.37	21524481	66131240	0.818	0.864	
	Spiked Amount 100.000	Range 30 - 150		Recovery =		0.82%#	0.86%#	
25)	S SURR2,Decachloro	17.33	17.94	32289509	81591070	1.319	1.496	
	Spiked Amount 100.000	Range 30 - 150		Recovery =		1.32%#	1.50%#	
	Target Compounds							
2)	TC HEXACHLOROBENZEN	0.00	10.19	0	2580200	N.D.	0.025	#
7)	tc beta-BHC	0.00	11.17	0	5262570	N.D.	0.122	#
8)	tc delta-BHC	0.00	11.62	0	2749935	N.D.	0.027	#
9)	tc Heptachlor E	12.83	13.02	28778580	12752154	0.913	0.149	#
11)	tc gamma-Chlord	0.00	13.29	0	41105664	N.D.	0.467	#
13)	tc 4,4'-DDE	13.31	13.74	1267.8E6	3345.9E6	41.933	42.525	
14)	tcm Dieldrin	13.74	13.97	15458353	40085500	0.494	0.485	
16)	tc KEPONE	14.17	0.00	379.4E6	0	32.134	N.D.	#
18)	tc 4,4'-DDD	14.17	14.56	379.4E6	1065.0E6	15.448	16.972	
19)	tcm 4,4'-DDT	14.57	15.02	1139.1E6	2847.5E6	43.196	42.418	
21)	tc Endosulfan S	0.00	15.65	0	21412455	N.D.	0.343	#
23)	tc FAMPHUR	0.00	15.73	0	14756940	N.D.	0.363	#
24)	tc Endrin Keton	0.00	16.37	0	18744215	N.D.	0.279	#
27)	L8C Toxaphene{2}	14.57	0.00	1139.1E6	0	1373.432	N.D.	#
29)	L8C Toxaphene{4}	0.00	15.65	0	21412455	N.D.	12.286	#
	Sum Toxaphene			1139.1E6	21412455	1373.432	12.286	
Average	Toxaphene					1373.432	12.286	
31)	L9C Chlordane	0.00	11.46	0	1079221	N.D.	1.689	#
34)	L9C Chlordane{4}	0.00	13.29	0	41105664	N.D.	4.434	#
35)	L9C Chlordane{5}	14.30	14.83	13793614	34325596	9.445	8.792	
	Sum Chlordane			13793614	76510481	9.445	14.915	
Average	Chlordane					9.445	4.972	

00646

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD464.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 6:01 pm
Operator : M.PEDRO
Sample : R0906130-009|100.0
Misc : 11/02/09 3.0 8081
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:05:17 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l

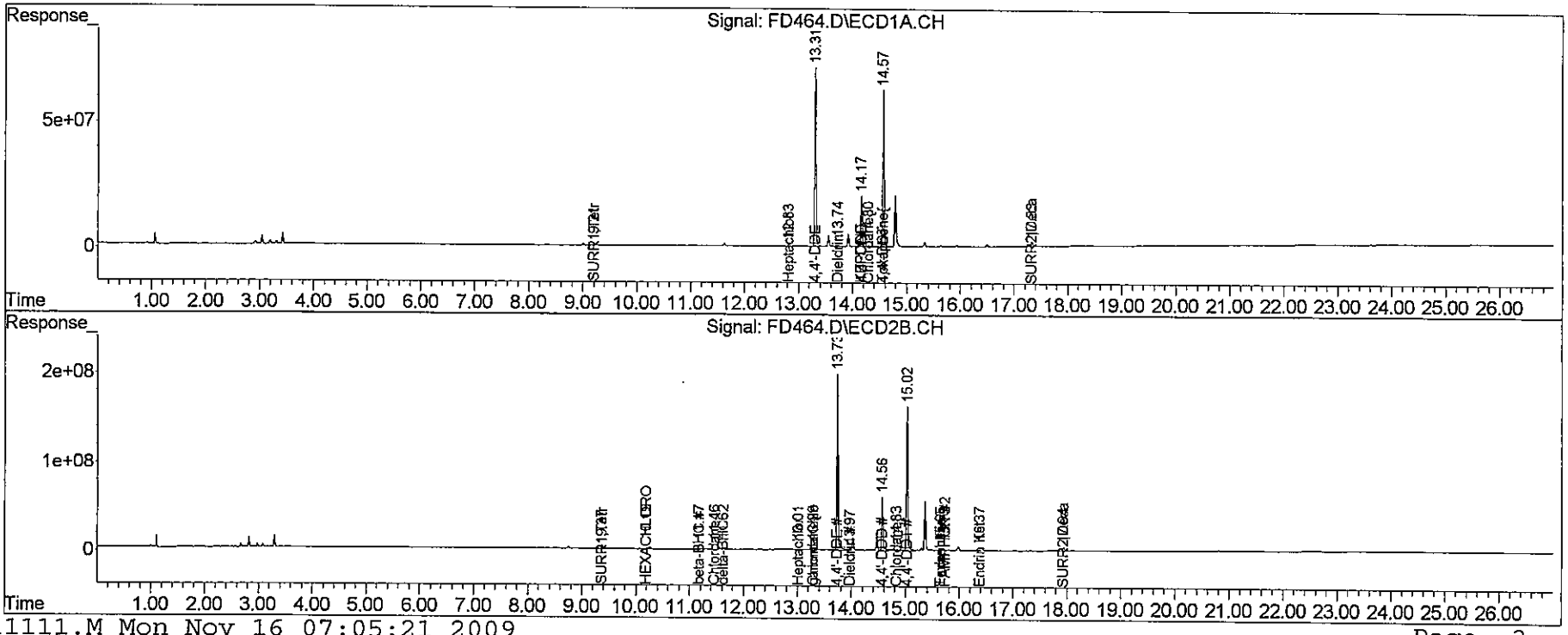
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD464.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 6:01 pm
Operator : M.PEDRO
Sample : R0906130-009|100.0
Misc : 11/02/09 3.0 8081
ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:05:17 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



Evaluate Continuing Calibration Report

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD474.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 11:57 pm
Operator : M.PEDRO
Sample : CCV8A
Misc : INDAM
ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:18:33 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	S	SURR1,Tetrac	26.313	27.466 E6	-4.4	105	0.00
2	TC	HEXACHLOROBENZENE	37.602	39.124 E6	-4.0	104	0.00
3	tc	alpha-BHC	41.345	43.935 E6	-6.3	104	0.00
4	tcm	gamma-BHC (L	37.086	39.164 E6	-5.6	105	0.00
5	tcm	Heptachlor	36.739	38.664 E6	-5.2	104	0.00
10	tc	alpha-Endosu	27.900	29.287 E6	-5.0	104	-0.01
14	tcm	Dieldrin	31.291	33.142 E6	-5.9	103	-0.01
15	tcm	Endrin	28.992	30.706 E6	-5.9	104	-0.01
18	tc	4,4'-DDD	24.557	26.274 E6	-7.0	105	-0.01
19	tcm	4,4'-DDT	26.370	27.325 E6	-3.6	101	-0.01
22	tc	Methoxychlor	12.270	12.723 E6	-3.7	102	-0.01
25	S	SURR2,Decachlorobiphenyl	24.483	25.243 E6	-3.1	104	0.00

Signal #2

1	S	SURR1,Tetrac	76.555	82.336 E6	-7.6	107	0.00
2	TC	HEXACHLOROBENZENE	101.868	110.052 E6	-8.0	109	0.00
3	tc	alpha-BHC	111.992	123.350 E6	-10.1	110	0.00
4	tcm	gamma-BHC (L	103.992	111.244 E6	-7.0	107	0.00
5	tcm	Heptachlor	99.550	106.265 E6	-6.7	106	-0.01
10	tc	alpha-Endosu	68.559	77.343 E6	-12.8	110	-0.01
14	tcm	Dieldrin	82.658	86.143 E6	-4.2	103	-0.01
15	tcm	Endrin	68.637	76.680 E6	-11.7	107	-0.01
18	tc	4,4'-DDD	62.753	72.001 E6	-14.7	111	-0.01
19	tcm	4,4'-DDT	67.131	60.160 E6	10.4	88	-0.01
22	tc	Methoxychlor	27.869	27.693 E6	0.6	99	-0.01
25	S	SURR2,Decachlorobiphenyl	54.533	57.212 E6	-4.9	104	-0.01

MP 11/16

Evaluate Continuing Calibration Report - Not Founds

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD474.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 11:57 pm
Operator : M.PEDRO
Sample : CCV8A
Misc : INDAM
ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:18:33 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
1)	S SURR1,Tetrac	9.21	9.37	549.3E6	1646.7E6	20.876	21.510
	Spiked Amount 100.000	Range 30 - 150		Recovery =		20.88%#	21.51%#
25)	S SURR2,Decachloro	17.33	17.94	1009.7E6	2288.5E6	41.241	41.965
	Spiked Amount 100.000	Range 30 - 150		Recovery =		41.24%	41.97%
	Target Compounds						
2)	TC HEXACHLOROBENZEN	9.89	10.19	782.5E6	2201.0E6	20.810	21.607
3)	tc alpha-BHC	10.20	10.45	878.7E6	2467.0E6	21.253	22.028
4)	tcm gamma-BHC (L	10.72	11.02	783.3E6	2224.9E6	21.121	21.395
5)	tcm Heptachlor	11.47	11.69	773.3E6	2125.3E6	21.048	21.349
10)	tc alpha-Endosu	13.39	13.57	585.7E6	1546.9E6	20.994	22.562
14)	tcm Dieldrin	13.74	13.97	1325.7E6	3445.7E6	42.366	41.687
15)	tcm Endrin	14.08	14.42	1228.2E6	3067.2E6	42.364	44.687
18)	tc 4,4'-DDD	14.17	14.56	1051.0E6	2880.0E6	42.796	45.895
19)	tcm 4,4'-DDT	14.57	15.02	1093.0E6	2406.4E6	41.448	35.846
22)	tc Methoxychlor	15.27	15.99	2544.6E6	5538.5E6	207.392	198.737
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
	Average Chlordane					0.000	0.000

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

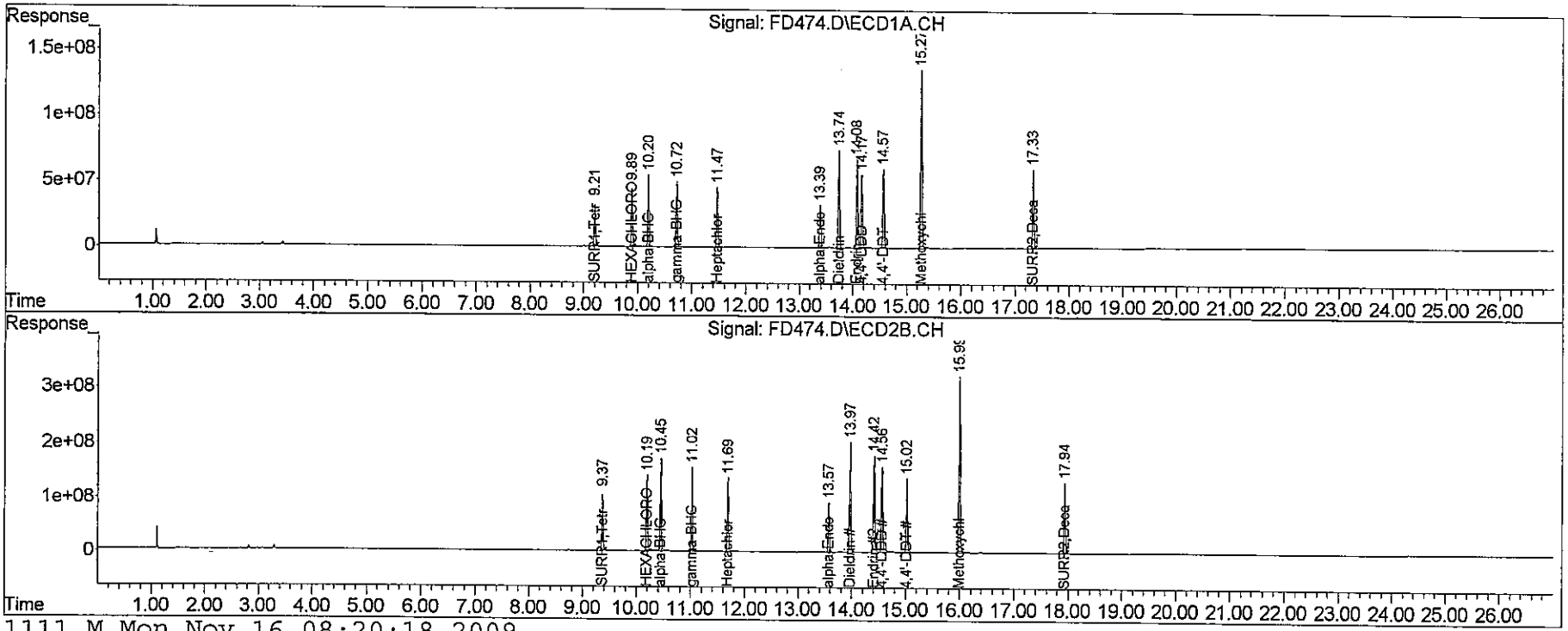
00650

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD474.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 11:57 pm
Operator : M.PEDRO
Sample : CCV8A
Misc : INDAM
ALS Vial : 26 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:18:33 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



T5996

Evaluate Continuing Calibration Report

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD475.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 12:33 am
Operator : M.PEDRO
Sample : CCV8B
Misc : INDBM
ALS Vial : 27 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:20:48 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	S	SURR1,Tetrac	26.313	27.805 E6	-5.7	106	0.00
6	tcm	Aldrin	34.328	35.985 E6	-4.8	103	0.00
7	tc	beta-BHC	15.526	15.916 E6	-2.5	102	0.00
8	TC	delta-BHC	37.067	39.107 E6	-5.5	103	0.00
9	tc	Heptachlor E	31.508	32.487 E6	-3.1	102	0.00
11	tc	gamma-Chlord	31.532	32.616 E6	-3.4	103	0.00
12	tc	alpha-Chlord	29.209	30.192 E6	-3.4	102	0.00
13	tc	4,4'-DDE	30.234	31.843 E6	-5.3	103	-0.01
17	tc	beta-Endosul	26.188	26.990 E6	-3.1	102	-0.01
20	tc	Endrin Aldeh	21.190	21.811 E6	-2.9	101	-0.01
21	tc	Endosulfan S	24.650	25.699 E6	-4.3	102	-0.01
24	tc	Endrin Keton	28.118	28.745 E6	-2.2	101	-0.01
25	S	SURR2,Decachlorobiphenyl	24.483	25.410 E6	-3.8	105	0.00

Signal #2

1	S	SURR1,Tetrac	76.555	85.070 E6	-11.1	110	0.00
6	tcm	Aldrin	94.213	100.114 E6	-6.3	105	0.00
7	tc	beta-BHC	43.162	46.234 E6	-7.1	107	0.00
8	tc	delta-BHC	100.802	108.778 E6	-7.9	107	0.00
9	tc	Heptachlor E	85.511	88.717 E6	-3.7	103	-0.01
11	tc	gamma-Chlord	88.023	92.057 E6	-4.6	105	0.00
12	tc	alpha-Chlord	83.807	89.264 E6	-6.5	104	-0.01
13	tc	4,4'-DDE	78.679	84.780 E6	-7.8	105	-0.01
17	tc	beta-Endosul	69.774	73.511 E6	-5.4	104	-0.01
20	tc	Endrin Aldeh	54.388	56.084 E6	-3.1	102	-0.01
21	tc	Endosulfan S	62.351	65.529 E6	-5.1	103	-0.01
24	tc	Endrin Keton	67.091	65.503 E6	2.4	96	-0.01
25	S	SURR2,Decachlorobiphenyl	54.533	58.083 E6	-6.5	106	-0.01

00652

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD475.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 12:33 am
Operator : M.PEDRO
Sample : CCV8B
Misc : INDBM
ALS Vial : 27 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:20:48 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
1)	S SURR1,Tetrac	9.21	9.37	556.1E6	1701.4E6	21.134	22.224
	Spiked Amount 100.000	Range 30 - 150		Recovery =		21.13%#	22.22%#
25)	S SURR2,Decachloro	17.33	17.94	1016.4E6	2323.3E6	41.515	42.604
	Spiked Amount 100.000	Range 30 - 150		Recovery =		41.52%	42.60%
	Target Compounds						
6)	tcm Aldrin	11.92	12.17	719.7E6	2002.3E6	20.965	21.253
7)	tc beta-BHC	10.88	11.17	318.3E6	924.7E6	20.502	21.424
8)	tc delta-BHC	11.15	11.62	782.1E6	2175.6E6	21.101	21.582
9)	tc Heptachlor E	12.82	13.01	649.7E6	1774.3E6	20.622	20.750
11)	tc gamma-Chlord	13.01	13.29	652.3E6	1841.1E6	20.688	20.917
12)	tc alpha-Chlord	13.20	13.49	603.8E6	1785.3E6	20.673	21.302
13)	tc 4,4'-DDE	13.31	13.73	1273.7E6	3391.2E6	42.129	43.102
17)	tc beta-Endosul	14.41	14.73	1079.6E6	2940.5E6	41.226	42.143
20)	tc Endrin Aldeh	15.03	15.23	872.4E6	2243.4E6	41.172	41.248
21)	tc Endosulfan S	15.68	15.63	1028.0E6	2621.2E6	41.703	42.039
24)	tc Endrin Keton	16.08	16.39	1149.8E6	2620.1E6	40.892	39.054
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
	Average Chlordane					0.000	0.000

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

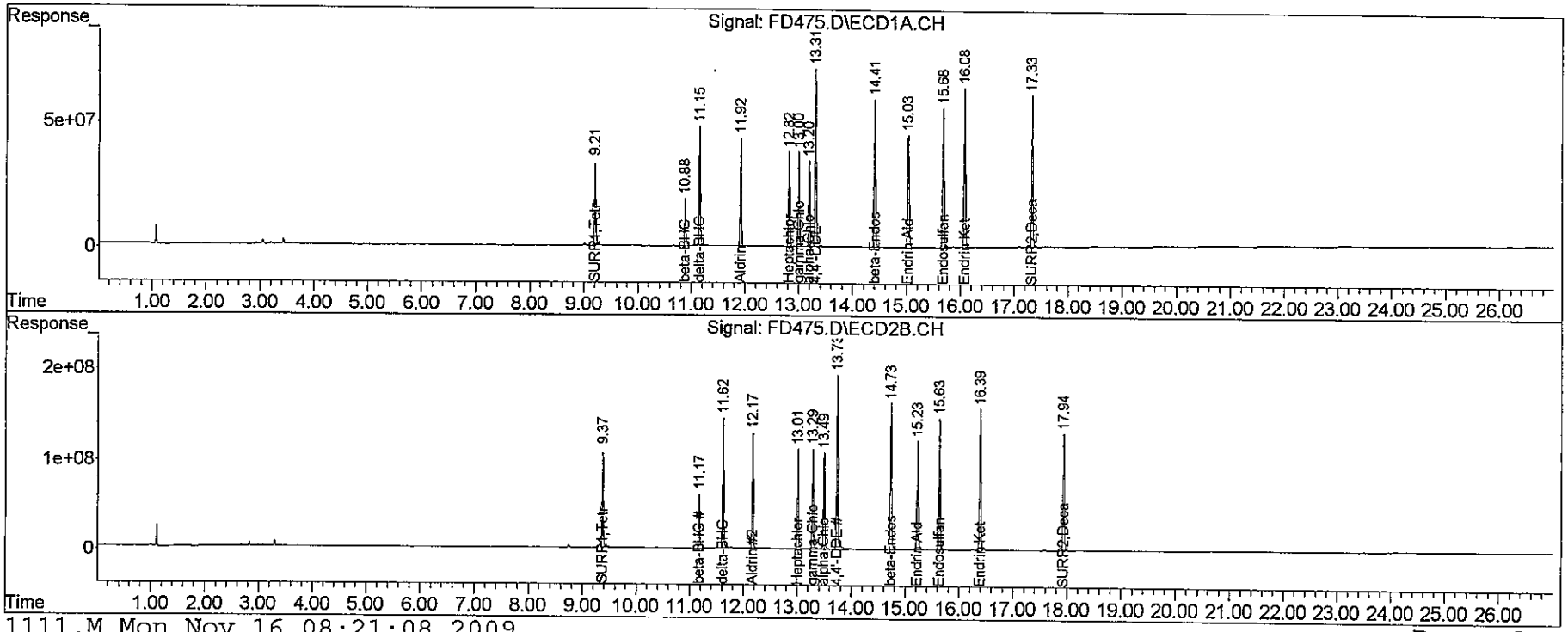
00653

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD475.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 12:33 am
Operator : M.PEDRO
Sample : CCV8B
Misc : INDBM
ALS Vial : 27 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:20:48 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



Evaluate Continuing Calibration Report

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD482.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 4:42 am
Operator : M.PEDRO
Sample : CCV9A
Misc : INDAM
ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:26:51 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	S	SURR1,Tetrac	26.313	27.630 E6	-5.0	105	0.00
2	TC	HEXACHLOROBENZENE	37.602	39.205 E6	-4.3	104	0.00
3	tc	alpha-BHC	41.345	44.072 E6	-6.6	104	0.00
4	tcm	gamma-BHC (L	37.086	39.156 E6	-5.6	105	0.00
5	tcm	Heptachlor	36.739	38.682 E6	-5.3	104	0.00
10	tc	alpha-Endosu	27.900	29.246 E6	-4.8	104	-0.01
14	tcm	Dieldrin	31.291	33.118 E6	-5.8	103	-0.01
15	tcm	Endrin	28.992	30.624 E6	-5.6	103	-0.01
18	tc	4,4'-DDD	24.557	26.396 E6	-7.5	106	-0.01
19	tcm	4,4'-DDT	26.370	27.887 E6	-5.8	103	-0.01
22	tc	Methoxychlor	12.270	12.767 E6	-4.1	103	-0.01
25	S	SURR2,Decachlorobiphenyl	24.483	25.190 E6	-2.9	104	-0.01

Signal #2

1	S	SURR1,Tetrac	76.555	81.958 E6	-7.1	106	0.00
2	TC	HEXACHLOROBENZENE	101.868	109.898 E6	-7.9	109	0.00
3	tc	alpha-BHC	111.992	123.337 E6	-10.1	110	0.00
4	tcm	gamma-BHC (L	103.992	111.302 E6	-7.0	107	0.00
5	tcm	Heptachlor	99.550	106.955 E6	-7.4	106	0.00
10	tc	alpha-Endosu	68.559	76.833 E6	-12.1	109	-0.01
14	tcm	Dieldrin	82.658	85.916 E6	-3.9	102	-0.01
15	tcm	Endrin	68.637	76.867 E6	-12.0	107	-0.01
18	tc	4,4'-DDD	62.753	70.617 E6	-12.5	109	-0.01
19	tcm	4,4'-DDT	67.131	66.338 E6	1.2	97	-0.01
22	tc	Methoxychlor	27.869	28.540 E6	-2.4	102	-0.01
25	S	SURR2,Decachlorobiphenyl	54.533	58.158 E6	-6.6	106	-0.01

Evaluate Continuing Calibration Report - Not Founds

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD482.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 4:42 am
Operator : M.PEDRO
Sample : CCV9A
Misc : INDAM
ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:26:51 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
1)	S SURR1,Tetrac	9.21	9.37	552.6E6	1639.2E6	21.001	21.411
	Spiked Amount 100.000	Range 30 - 150		Recovery =		21.00%#	21.41%#
25)	S SURR2,Decachloro	17.33	17.94	1007.6E6	2326.3E6	41.155	42.659
	Spiked Amount 100.000	Range 30 - 150		Recovery =		41.16%	42.66%
	Target Compounds						
2)	TC HEXACHLOROBENZEN	9.89	10.19	784.1E6	2198.0E6	20.853	21.577
3)	tc alpha-BHC	10.20	10.45	881.4E6	2466.7E6	21.319	22.026
4)	tcm gamma-BHC (L	10.72	11.02	783.1E6	2226.0E6	21.117	21.406
5)	tcm Heptachlor	11.47	11.69	773.6E6	2139.1E6	21.058	21.488
10)	tc alpha-Endosu	13.39	13.57	584.9E6	1536.7E6	20.965	22.414
14)	tcm Dieldrin	13.74	13.97	1324.7E6	3436.6E6	42.335	41.576
15)	tcm Endrin	14.08	14.41	1225.0E6	3074.7E6	42.252	44.796
18)	tc 4,4'-DDD	14.17	14.56	1055.8E6	2824.7E6	42.995	45.013
19)	tcm 4,4'-DDT	14.57	15.02	1115.5E6	2653.5E6	42.301	39.528
22)	tc Methoxychlor	15.27	15.99	2553.4E6	5707.9E6	208.111	204.814
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
	Average Chlordane					0.000	0.000

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

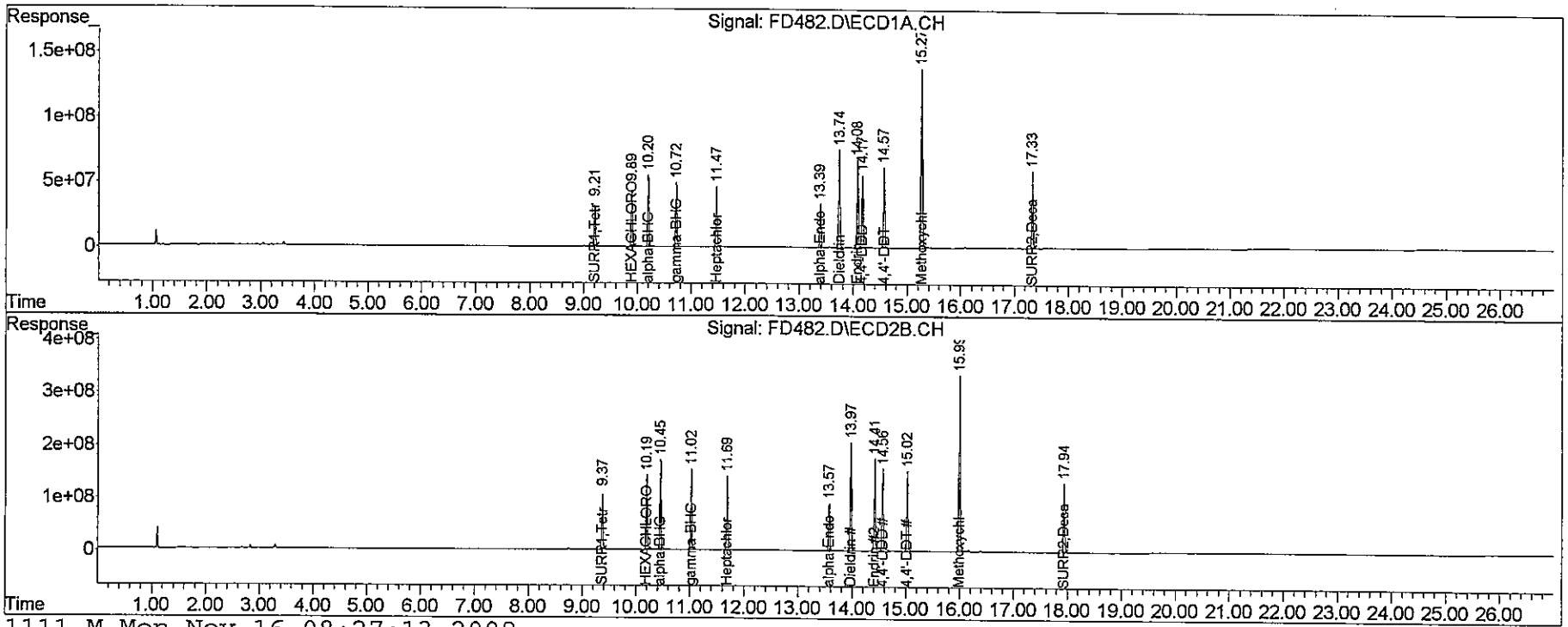
00656

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD482.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 4:42 am
Operator : M.PEDRO
Sample : CCV9A
Misc : INDAM
ALS Vial : 34 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:26:51 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



Evaluate Continuing Calibration Report

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD483.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 5:18 am
Operator : M.PEDRO
Sample : CCV9B
Misc : INDBM
ALS Vial : 35 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:28:17 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(Min)
1	S	SURR1,Tetrac	26.313	28.022 E6	-6.5	107	0.00
6	tcm	Aldrin	34.328	36.118 E6	-5.2	103	0.00
7	tc	beta-BHC	15.526	15.941 E6	-2.7	103	0.00
8	TC	delta-BHC	37.067	39.032 E6	-5.3	103	0.00
9	tc	Heptachlor E	31.508	32.600 E6	-3.5	102	-0.01
11	tc	gamma-Chlord	31.532	32.744 E6	-3.8	103	0.00
12	tc	alpha-Chlord	29.209	29.744 E6	-1.8	101	0.00
13	tc	4,4'-DDE	30.234	31.911 E6	-5.5	103	-0.01
17	tc	beta-Endosul	26.188	26.958 E6	-2.9	102	-0.01
20	tc	Endrin Aldeh	21.190	21.911 E6	-3.4	101	-0.01
21	tc	Endosulfan S	24.650	25.841 E6	-4.8	103	-0.01
24	tc	Endrin Keton	28.118	29.156 E6	-3.7	102	-0.01
25	S	SURR2,Decachlorobiphenyl	24.483	25.759 E6	-5.2	107	-0.01

Signal #2

1	S	SURR1,Tetrac	76.555	85.658 E6	-11.9	111	0.00
6	tcm	Aldrin	94.213	104.246 E6	-10.6	109	-0.01
7	tc	beta-BHC	43.162	46.927 E6	-8.7	108	0.00
8	tc	delta-BHC	100.802	110.298 E6	-9.4	108	0.00
9	tc	Heptachlor E	85.511	89.975 E6	-5.2	104	-0.01
11	tc	gamma-Chlord	88.023	93.223 E6	-5.9	106	-0.01
12	tc	alpha-Chlord	83.807	90.683 E6	-8.2	106	-0.01
13	tc	4,4'-DDE	78.679	85.597 E6	-8.8	106	-0.01
17	tc	beta-Endosul	69.774	74.571 E6	-6.9	105	-0.01
20	tc	Endrin Aldeh	54.388	57.456 E6	-5.6	105	-0.01
21	tc	Endosulfan S	62.351	67.748 E6	-8.7	106	-0.01
24	tc	Endrin Keton	67.091	70.116 E6	-4.5	103	-0.01
25	S	SURR2,Decachlorobiphenyl	54.533	59.049 E6	-8.3	108	-0.01

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD483.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 5:18 am
Operator : M.PEDRO
Sample : CCV9B
Misc : INDBM
ALS Vial : 35 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:28:17 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
1)	S SURR1,Tetrac	9.21	9.37	560.4E6	1713.2E6	21.299	22.378
	Spiked Amount 100.000	Range 30 - 150		Recovery =		21.30%#	22.38%#
25)	S SURR2,Decachloro	17.33	17.94	1030.4E6	2361.9E6	42.085	43.312
	Spiked Amount 100.000	Range 30 - 150		Recovery =		42.09%	43.31%
	Target Compounds						
6)	tcm Aldrin	11.92	12.17	722.4E6	2084.9E6	21.043	22.130
7)	tc beta-BHC	10.88	11.17	318.8E6	938.5E6	20.535	21.745
8)	tc delta-BHC	11.15	11.62	780.6E6	2206.0E6	21.061	21.884
9)	tc Heptachlor E	12.82	13.01	652.0E6	1799.5E6	20.693	21.044
11)	tc gamma-Chlord	13.01	13.28	654.9E6	1864.5E6	20.769	21.182
12)	tc alpha-Chlord	13.20	13.49	594.9E6	1813.7E6	20.367	21.641
13)	tc 4,4'-DDE	13.31	13.73	1276.5E6	3423.9E6	42.219	43.517
17)	tc beta-Endosul	14.41	14.72	1078.3E6	2982.8E6	41.176	42.750
20)	tc Endrin Aldeh	15.03	15.22	876.4E6	2298.2E6	41.360	42.257
21)	tc Endosulfan S	15.68	15.63	1033.7E6	2709.9E6	41.934	43.462
24)	tc Endrin Keton	16.08	16.39	1166.2E6	2804.6E6	41.477	41.804
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
	Average Chlordane					0.000	0.000

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

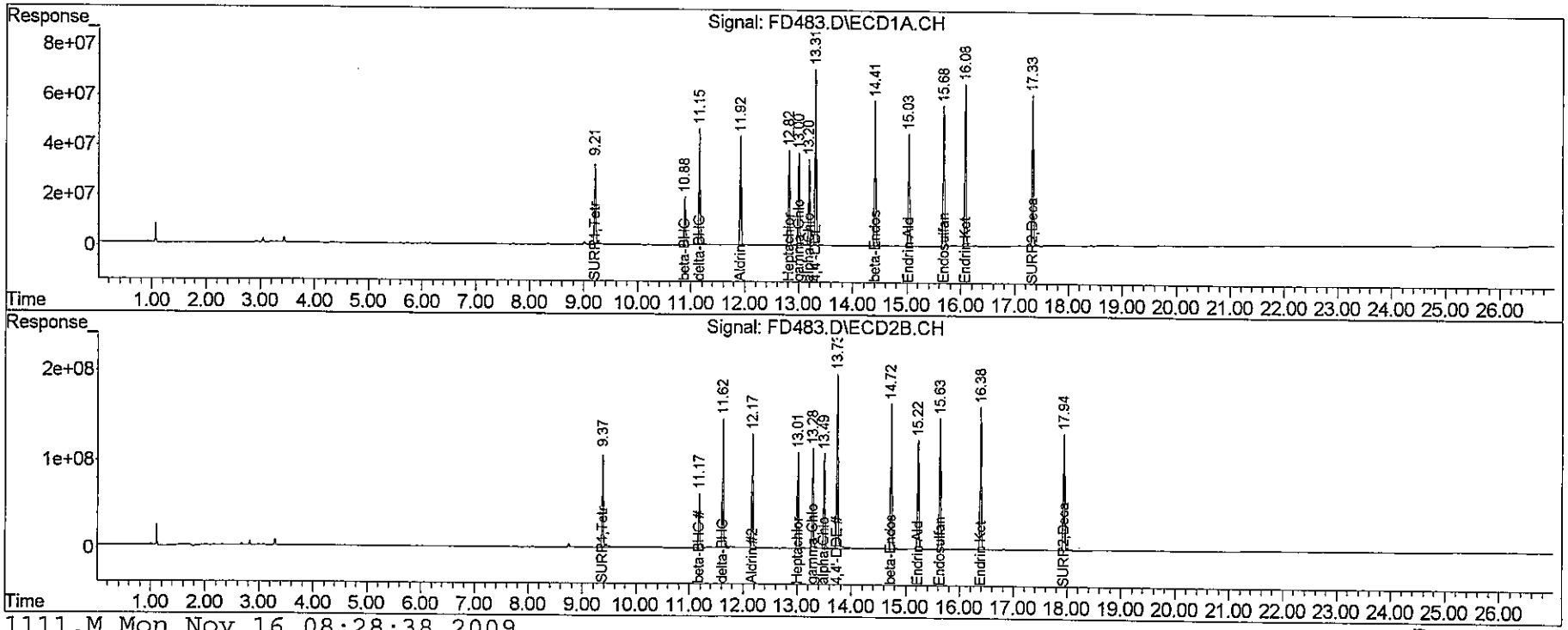
00659

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD483.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 15 Nov 2009 5:18 am
Operator : M.PEDRO
Sample : CCV9B
Misc : INDBM
ALS Vial : 35 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:28:17 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



10A

Pesticide Identification Summary
For Single Component Analytes

NYSDEC Sample No.
PBLK01MS

Lab Name: Columbia Analytical Services *Contract:* Northgate

Lab Code: 10145 *Case.No.:* R0906270 *SAS No.:* _____ *SDG No.:* M-147B

Lab Sample ID: RQ0911121-02|1.0 *Date anlyzed:* 11/14/2009

Instrument ID: 6890D *Instrument ID:* 6890D

GC Column(1) STx-CLP *(ID)* 0.32mm 30m *GC Column(2)* STx-CLPII *(ID)* 0.32mm 30m

			RT Window			
Analyte	*Column*	*RT*	*From*	*To*	*Concentration*	*%RPD*
4,4'-DDD	*1*	14.17	14.11	14.25	0.19	
	2	14.56	14.50	14.64	0.21	9.80
4,4'-DDE	*1*	13.31	13.25	13.39	0.17	
	2	13.73	13.68	13.82	0.18	5.34
4,4'-DDT	*1*	14.57	14.51	14.65	0.18	
	2	15.02	14.96	15.10	0.17	5.34
Aldrin	*1*	11.92	11.88	11.98	0.14	
	2	12.17	12.13	12.23	0.14	1.52
alpha-BHC	*1*	10.20	10.16	10.26	0.18	
	2	10.45	10.41	10.51	0.18	2.13
alpha-Chlord	*1*	13.20	13.14	13.28	0.18	
	2	13.49	13.43	13.57	0.17	4.52
alpha-Endosu	*1*	13.39	13.33	13.47	0.19	
	2	13.57	13.52	13.66	0.20	6.87
beta-BHC	*1*	10.88	10.84	10.94	0.18	
	2	11.17	11.13	11.23	0.18	1.20
beta-Endosul	*1*	14.41	14.35	14.49	0.18	
	2	14.73	14.67	14.81	0.20	10.00
delta-BHC	*1*	11.15	11.11	11.21	0.18	
	2	11.62	11.57	11.67	0.17	3.76
Dieldrin	*1*	13.74	13.68	13.82	0.19	
	2	13.97	13.91	14.05	0.19	2.52

10A

Pesticide Identification Summary
For Single Component Analytes

NYSDEC Sample No.
PBLK01MS

Lab Name: Columbia Analytical Services *Contract:* Northgate

Lab Code: 10145 *Case.No.:* R0906270 *SAS No.:* _____ *SDG No.:* M-147B

Lab Sample ID: RQ0911121-02|1.0 *Date anlyzed:* 11/14/2009

Instrument ID: 6890D *Instrument ID:* 6890D

GC Column(1) STx-CLP *(ID)* 0.32mm 30m *GC Column(2)* STx-CLPII *(ID)* 0.32mm 30m

Analyte	Column	RT	RT Window From	RT Window To	Concentration	%RPD
Endosulfan S	1	15.68	15.62	15.76	0.19	
	2	15.63	15.57	15.71	0.19	4.31
Endrin	1	14.08	14.02	14.16	0.19	
	2	14.42	14.36	14.50	0.20	9.49
Endrin Aldeh	1	15.03	14.97	15.11	0.13	
	2	15.22	15.17	15.31	0.14	9.44
Endrin Keton	1	16.08	16.02	16.16	0.19	
	2	16.39	16.33	16.47	0.20	5.45
gamma-BHC (L	1	10.72	10.68	10.78	0.18	
	2	11.02	10.98	11.08	0.18	4.13
gamma-Chlord	1	13.00	12.95	13.09	0.17	
	2	13.28	13.23	13.37	0.18	1.95
Heptachlor	1	11.47	11.43	11.53	0.16	
	2	11.69	11.65	11.75	0.16	5.32
Heptachlor E	1	12.82	12.76	12.90	0.17	
	2	13.01	12.95	13.09	0.18	2.55
HEXACHLOROBE	1	9.89	9.83	9.97	0.28	
	2	10.19	10.13	10.27	0.29	1.89
Methoxychlor	1	15.27	15.21	15.35	1.00	
	2	15.99	15.93	16.07	0.99	1.05

10A

Pesticide Identification Summary
For Single Component Analytes

NYSDEC Sample No.
PBLK01MSD

Lab Name: Columbia Analytical Services **Contract:** Northgate

Lab Code: 10145 **Case.No.:** R0906270 **SAS No.:** _____ **SDG No.:** M-147B

Lab Sample ID: RQ0911121-03|1.0 **Date anlyzed:** 11/14/2009

Instrument ID: 6890D **Instrument ID:** 6890D

GC Column(1) STx-CLP **(ID)** 0.32mm 30m **GC Column(2)** STx-CLPII **(ID)** 0.32mm 30m

Analyte	Column	RT	RT Window From	RT Window To	Concentration	%RPD
4,4'-DDD	1	14.17	14.11	14.25	0.20	
	2	14.56	14.50	14.64	0.22	9.49
4,4'-DDE	1	13.31	13.25	13.39	0.19	
	2	13.73	13.68	13.82	0.20	5.59
4,4'-DDT	1	14.57	14.51	14.65	0.20	
	2	15.02	14.96	15.10	0.20	0.00
Aldrin	1	11.92	11.88	11.98	0.15	
	2	12.17	12.13	12.23	0.15	1.70
alpha-BHC	1	10.20	10.16	10.26	0.19	
	2	10.45	10.41	10.51	0.19	1.83
alpha-Chlord	1	13.20	13.14	13.28	0.19	
	2	13.49	13.43	13.57	0.18	4.57
alpha-Endosu	1	13.39	13.33	13.47	0.20	
	2	13.57	13.52	13.66	0.19	4.38
beta-BHC	1	10.88	10.84	10.94	0.20	
	2	11.17	11.13	11.23	0.20	0.10
beta-Endosul	1	14.41	14.35	14.49	0.19	
	2	14.73	14.67	14.81	0.21	9.85
delta-BHC	1	11.15	11.11	11.21	0.19	
	2	11.62	11.57	11.67	0.18	4.45
Dieldrin	1	13.74	13.68	13.82	0.21	
	2	13.97	13.91	14.05	0.21	3.55

10A

Pesticide Identification Summary
For Single Component Analytes

NYSDEC Sample No.
PBLK01MSD

Lab Name: Columbia Analytical Services ***Contract:*** Northgate

Lab Code: 10145 ***Case.No.:*** R0906270 ***SAS No.:*** _____ ***SDG No.:*** M-147B

Lab Sample ID: RQ0911121-03|1.0 ***Date anlyzed:*** 11/14/2009

Instrument ID: 6890D ***Instrument ID:*** 6890D

GC Column(1) STx-CLP ***(ID)*** 0.32mm 30m ***GC Column(2)*** STx-CLPII ***(ID)*** 0.32mm 30m

			RT Window			
Analyte	***Column***	***RT***	***From***	***To***	***Concentration***	***%RPD***
Endosulfan S	*1*	15.68	15.62	15.76	0.20	
	2	15.63	15.57	15.71	0.21	5.28
Endrin	*1*	14.08	14.02	14.16	0.20	
	2	14.42	14.36	14.50	0.22	5.78
Endrin Aldeh	*1*	15.03	14.97	15.11	0.14	
	2	15.22	15.17	15.31	0.15	9.46
Endrin Keton	*1*	16.08	16.02	16.16	0.20	
	2	16.39	16.33	16.47	0.21	1.76
gamma-BHC (L	*1*	10.72	10.68	10.78	0.19	
	2	11.02	10.98	11.08	0.20	4.00
gamma-Chlord	*1*	13.00	12.95	13.09	0.19	
	2	13.28	13.23	13.37	0.19	0.37
Heptachlor	*1*	11.47	11.43	11.53	0.17	
	2	11.69	11.65	11.75	0.17	4.94
Heptachlor E	*1*	12.82	12.76	12.90	0.19	
	2	13.01	12.95	13.09	0.19	2.60
HEXACHLOROBE	*1*	9.89	9.83	9.97	0.30	
	2	10.19	10.13	10.27	0.31	3.05
Methoxychlor	*1*	15.27	15.21	15.35	1.04	
	2	15.99	15.93	16.07	1.05	0.24

PESTICIDES

RAW QC DATA

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ0911121-01	**Basis:**	NA

Organochlorine Pesticides by Gas Chromatography

Analytical Method: 8081A
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
4,4'-DDD	0.050	U	0.10	0.050	1	11/ 9/09	11/14/09 20:23	99996	179493	
4,4'-DDE	0.050	U	0.10	0.050	1	11/ 9/09	11/14/09 20:23	99996	179493	
4,4'-DDT	0.050	U	0.10	0.050	1	11/ 9/09	11/14/09 20:23	99996	179493	
Aldrin	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	
Chlordane	0.13	U	0.25	0.13	1	11/ 9/09	11/14/09 20:23	99996	179493	
Dieldrin	0.050	U	0.10	0.050	1	11/ 9/09	11/14/09 20:23	99996	179493	
Endosulfan I	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	
Endosulfan II	0.050	U	0.10	0.050	1	11/ 9/09	11/14/09 20:23	99996	179493	
Endosulfan Sulfate	0.050	U	0.10	0.050	1	11/ 9/09	11/14/09 20:23	99996	179493	
Endrin	0.050	U	0.10	0.050	1	11/ 9/09	11/14/09 20:23	99996	179493	
Endrin Aldehyde	0.050	U	0.10	0.050	1	11/ 9/09	11/14/09 20:23	99996	179493	
Endrin Ketone	0.050	U	0.10	0.050	1	11/ 9/09	11/14/09 20:23	99996	179493	
Heptachlor	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	
Heptachlor Epoxide	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	
Hexachlorobenzene	0.028	U	0.050	0.028	1	11/ 9/09	11/14/09 20:23	99996	179493	
Methoxychlor	0.25	U	0.50	0.25	1	11/ 9/09	11/14/09 20:23	99996	179493	
Toxaphene	0.50	U	1.0	0.50	1	11/ 9/09	11/14/09 20:23	99996	179493	
alpha-BHC	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	
alpha-Chlordane	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	
beta-BHC	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	
delta-BHC	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	
gamma-BHC (Lindane)	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	
gamma-Chlordane	0.025	U	0.050	0.025	1	11/ 9/09	11/14/09 20:23	99996	179493	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
Decachlorobiphenyl	100	40-140	11/14/09 20:23		
Tetrachloro-m-xylene	93	40-140	11/14/09 20:23		

Comments:

Quantitation Report (Not Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD468.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 8:23 pm
Operator : M.PEDRO
Sample : RQ0911122-01|1.0
Misc : 11/09/09 100 8081 BLK
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:05:42 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l	
	System Monitoring Compounds							
1)	S SURR1,Tetrac	9.21	9.37	2435.5E6	6522.2E6	92.559	85.196	
	Spiked Amount 100.000	Range 30 - 150			Recovery =	92.56%	85.20%	
25)	S SURR2,Decachloro	17.33	17.94	2443.9E6	5357.7E6	99.820	98.246	
	Spiked Amount 100.000	Range 30 - 150			Recovery =	99.82%	98.25%	
	Target Compounds							
2)	TC HEXACHLOROBENZEN	9.90	0.00	4654486	0	0.124	N.D.	#
3)	tc alpha-BHC	10.21	10.45	14847945	28949398	0.359	0.258	#
4)	tcm gamma-BHC (L	10.73	0.00	8154059	0	0.220	N.D.	#
5)	tcm Heptachlor	11.47	11.70	21474498	12861349	0.585	0.129	#
7)	tc beta-BHC	0.00	11.17	0	15461800	N.D.	0.358	#
8)	tc delta-BHC	11.15	11.62	7415480	14529810	0.200	0.144	#
9)	tc Heptachlor E	0.00	13.01	0	61471114	N.D.	0.719	#
10)	tc alpha-Endosu	0.00	13.60	0	17628154	N.D.	0.257	#
11)	tc gamma-Chlord	0.00	13.28	0	64928157	N.D.	0.738	#
13)	tc 4,4'-DDE	0.00	13.73	0	18457633	N.D.	0.235	#
14)	tcm Dieldrin	13.73	13.98	27328971	42664334	0.873	0.516	#
15)	tcm Endrin	0.00	14.41	0	30746442	N.D.	0.448	#
17)	tc beta-Endosul	0.00	14.73	0	49397991	N.D.	0.708	#
18)	tc 4,4'-DDD	14.19	0.00	8793405	0	0.358	N.D.	#
19)	tcm 4,4'-DDT	0.00	15.03	0	88592848	N.D.	1.320	#
20)	tc Endrin Aldeh	15.06	0.00	8393856	0	0.396	N.D.	#
23)	tc FAMPHUR	0.00	15.74	0	14031362	N.D.	0.345	#
28)	L8C Toxaphene{3}	15.17	0.00	4649384	0	6.672	N.D.	#
30)	L8C Toxaphene{5}	16.28	0.00	16793852	0	28.708	N.D.	#
	Sum Toxaphene			21443236	0	35.380	N.D.	
Average	Toxaphene					17.690	0.000	
31)	L9C Chlordane	11.36	11.46	11282667	35132738	55.216	54.969	
32)	L9C Chlordane{2}	11.47	11.70	21474498	12861349	44.200	9.118	#
33)	L9C Chlordane{3}	0.00	12.42	0	29210327	N.D.	15.508	#
34)	L9C Chlordane{4}	0.00	13.28	0	64928157	N.D.	7.004	#

00667

Quantitation Report (Not Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD468.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 8:23 pm
Operator : M.PEDRO
Sample : RQ0911122-01|1.0
Misc : 11/09/09 100 8081 BLK
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:05:42 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
35) L9C Chlordane{5}	14.30	0.00	13807040	0	9.454	N.D. #
Sum Chlordane			46564205	142.1E6	108.871	86.599
Average Chlordane					36.290	21.650

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

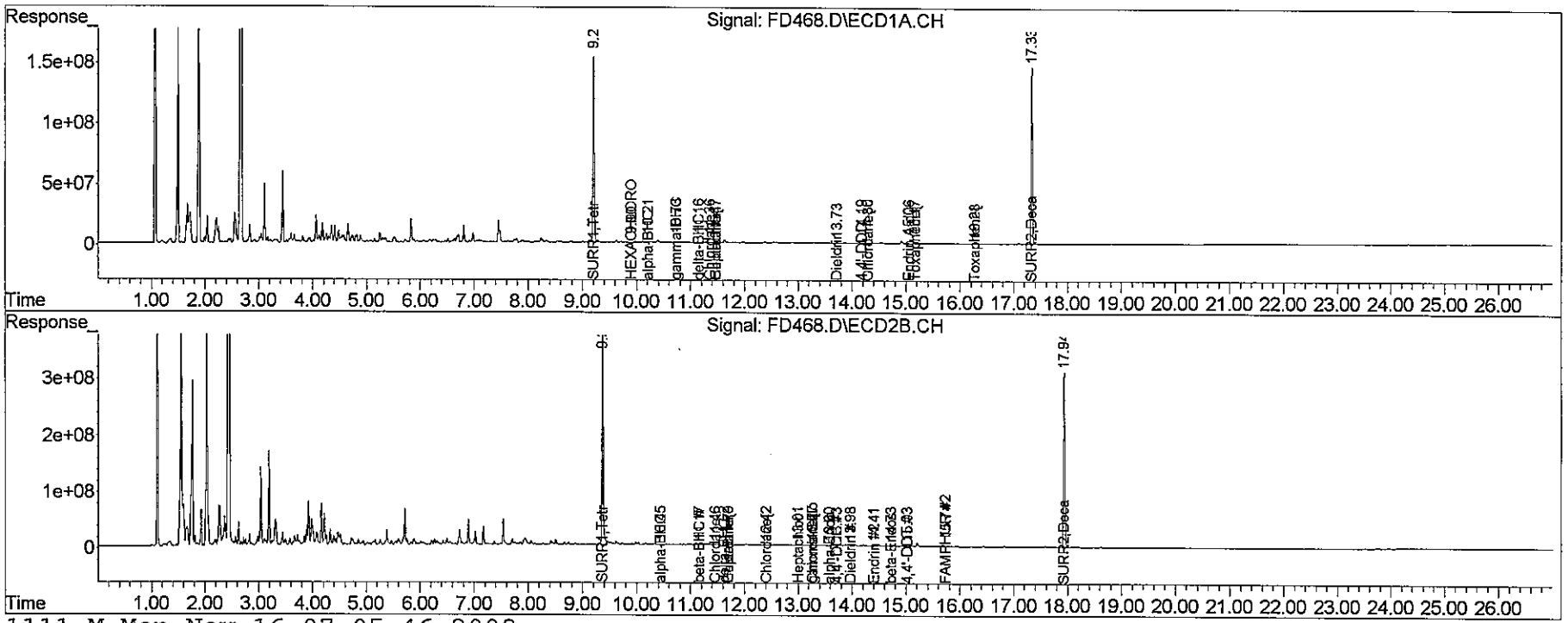
00668

Quantitation Report (Not Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD468.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 8:23 pm
Operator : M.PEDRO
Sample : RQ0911122-01|1.0
Misc : 11/09/09 100 8081 BLK
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:05:42 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



69999

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	RQ0911121-02	**Basis:**	NA

Organochlorine Pesticides by Gas Chromatography

Analytical Method: 8081A
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
4,4'-DDD	**0.209**		0.10	0.050	1	11/ 9/09	11/14/09 20:59	99996	179493	
4,4'-DDE	**0.179**		0.10	0.050	1	11/ 9/09	11/14/09 20:59	99996	179493	
4,4'-DDT	**0.185**		0.10	0.050	1	11/ 9/09	11/14/09 20:59	99996	179493	
Aldrin	**0.140**		0.050	0.025	1	11/ 9/09	11/14/09 20:59	99996	179493	
Chlordane	0.13	U	0.25	0.13	1	11/ 9/09	11/14/09 20:59	99996	179493	
Dieldrin	**0.193**		0.10	0.050	1	11/ 9/09	11/14/09 20:59	99996	179493	
Endosulfan I	**0.200**		0.050	0.025	1	11/ 9/09	11/14/09 20:59	99996	179493	
Endosulfan II	**0.196**		0.10	0.050	1	11/ 9/09	11/14/09 20:59	99996	179493	
Endosulfan Sulfate	**0.194**		0.10	0.050	1	11/ 9/09	11/14/09 20:59	99996	179493	
Endrin	**0.204**		0.10	0.050	1	11/ 9/09	11/14/09 20:59	99996	179493	
Endrin Aldehyde	**0.138**		0.10	0.050	1	11/ 9/09	11/14/09 20:59	99996	179493	
Endrin Ketone	**0.202**		0.10	0.050	1	11/ 9/09	11/14/09 20:59	99996	179493	
Heptachlor	**0.164**		0.050	0.025	1	11/ 9/09	11/14/09 20:59	99996	179493	
Heptachlor Epoxide	**0.179**		0.050	0.025	1	11/ 9/09	11/14/09 20:59	99996	179493	
Hexachlorobenzene	**0.288**		0.050	0.028	1	11/ 9/09	11/14/09 20:59	99996	179493	
Methoxychlor	**1.00**		0.50	0.25	1	11/ 9/09	11/14/09 20:59	99996	179493	
Toxaphene	0.50	U	1.0	0.50	1	11/ 9/09	11/14/09 20:59	99996	179493	
alpha-BHC	**0.180**		0.050	0.025	1	11/ 9/09	11/14/09 20:59	99996	179493	
alpha-Chlordane	**0.176**		0.050	0.025	1	11/ 9/09	11/14/09 20:59	99996	179493	
beta-BHC	**0.184**		0.050	0.025	1	11/ 9/09	11/14/09 20:59	99996	179493	
delta-BHC	**0.179**		0.050	0.025	1	11/ 9/09	11/14/09 20:59	99996	179493	
gamma-BHC (Lindane)	**0.183**		0.050	0.025	1	11/ 9/09	11/14/09 20:59	99996	179493	
gamma-Chlordane	**0.176**		0.050	0.025	1	11/ 9/09	11/14/09 20:59	99996	179493	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
Decachlorobiphenyl	92	40-140	11/14/09 20:59		
Tetrachloro-m-xylene	73	40-140	11/14/09 20:59		

Comments:

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD469.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 8:59 pm
Operator : M.PEDRO
Sample : RQ0911122-02|1.0
Misc : 11/09/09 100 8081 LCS
ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:12:34 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
1)	S SURR1,Tetrac	9.21	9.37	1908.9E6	5286.5E6	72.547	69.055
	Spiked Amount 100.000	Range 30 - 150			Recovery =	72.55%	69.06%
25)	S SURR2,Decachloro	17.33	17.94	2250.7E6	4987.0E6	91.930	91.449
	Spiked Amount 100.000	Range 30 - 150			Recovery =	91.93%	91.45%
	Target Compounds						
2)	TC HEXACHLOROBENZEN	9.89	10.19	1063.1E6	2934.9E6	28.273	28.811
3)	tc alpha-BHC	10.20	10.45	730.1E6	2020.4E6	17.660	18.041
4)	tcm gamma-BHC (L	10.72	11.02	650.6E6	1901.1E6	17.544	18.281
5)	tcm Heptachlor	11.47	11.69	570.9E6	1631.4E6	15.539	16.388
6)	tcm Aldrin	11.92	12.17	479.1E6	1295.5E6	13.956	13.750
7)	tc beta-BHC	10.88	11.17	282.7E6	795.6E6	18.207	18.433
8)	tc delta-BHC	11.15	11.62	663.2E6	1736.5E6	17.893	17.227
9)	tc Heptachlor E	12.82	13.01	548.5E6	1527.6E6	17.409	17.865
10)	tc alpha-Endosu	13.39	13.57	521.4E6	1372.7E6	18.689	20.023
11)	tc gamma-Chlord	13.00	13.28	545.3E6	1551.6E6	17.292	17.627
12)	tc alpha-Chlord	13.20	13.49	515.1E6	1412.7E6	17.636	16.857
13)	tc 4,4'-DDE	13.31	13.73	512.4E6	1406.9E6	16.948	17.881
14)	tcm Dieldrin	13.74	13.97	587.8E6	1592.7E6	18.785	19.269
15)	tcm Endrin	14.08	14.42	538.0E6	1400.6E6	18.556	20.406
17)	tc beta-Endosul	14.41	14.73	465.0E6	1369.8E6	17.756	19.632
18)	tc 4,4'-DDD	14.17	14.56	464.9E6	1310.5E6	18.932	20.884
19)	tcm 4,4'-DDT	14.57	15.02	486.6E6	1174.4E6	18.452	17.494
20)	tc Endrin Aldeh	15.03	15.22	265.2E6	748.4E6	12.516	13.760
21)	tc Endosulfan S	15.68	15.63	458.7E6	1211.5E6	18.610	19.430
22)	tc Methoxychlor	15.27	15.99	1226.8E6	2757.6E6	99.987	98.949
24)	tc Endrin Keton	16.08	16.39	536.8E6	1352.5E6	19.090	20.160
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
	Average Chlordane					0.000	0.000

00671

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD469.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 8:59 pm
Operator : M.PEDRO
Sample : RQ0911122-02|1.0
Misc : 11/09/09 100 8081 LCS
ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:12:34 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l

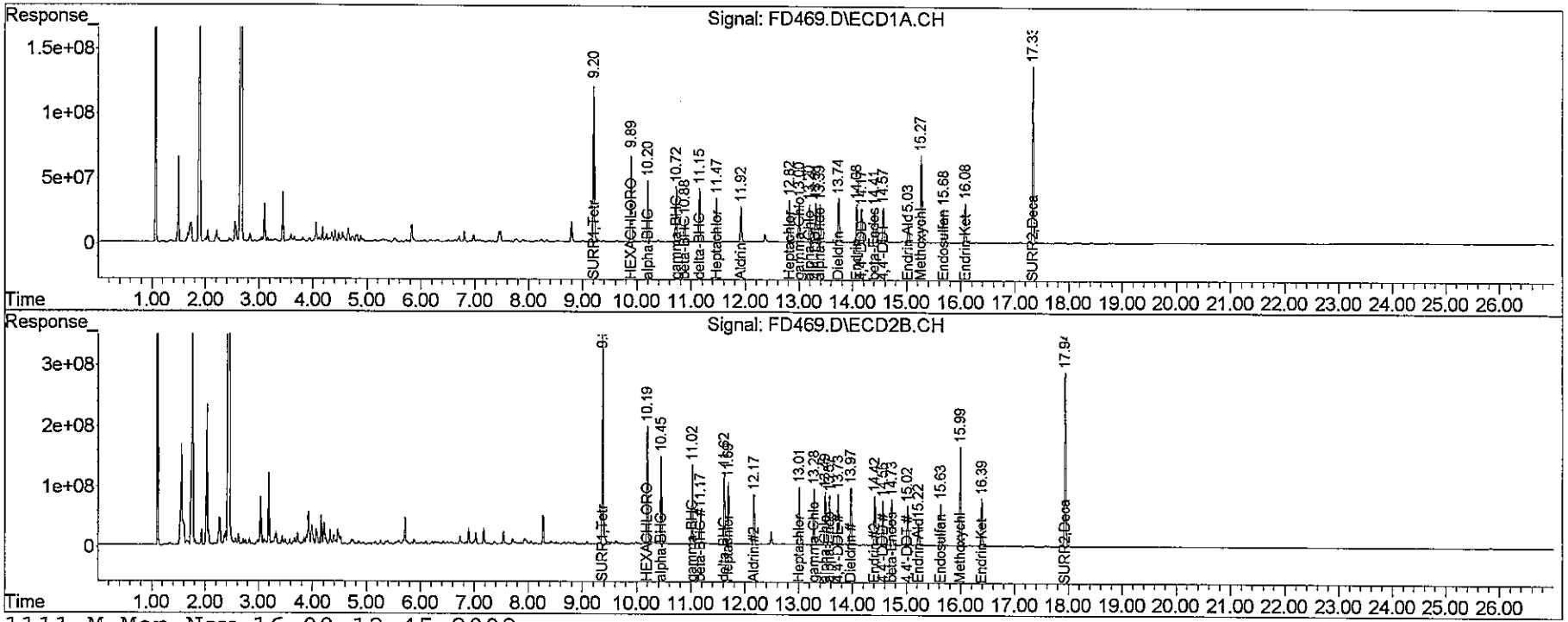
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD469.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 8:59 pm
Operator : M.PEDRO
Sample : RQ0911122-02|1.0
Misc : 11/09/09 100 8081 LCS
ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:12:34 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



Quantitation Report (Not Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD469.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 8:59 pm
Operator : M.PEDRO
Sample : RQ0911122-02|1.0
Misc : 11/09/09 100 8081 LCS
ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:05:49 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l	
	System Monitoring Compounds							
1)	S SURR1,Tetrac	9.21	9.37	1908.9E6	5286.5E6	72.547	69.055	
	Spiked Amount 100.000	Range 30 - 150		Recovery =		72.55%	69.06%	
25)	S SURR2,Decachloro	17.33	17.94	2250.7E6	4987.0E6	91.930	91.449	
	Spiked Amount 100.000	Range 30 - 150		Recovery =		91.93%	91.45%	
	Target Compounds							
2)	TC HEXACHLOROBENZEN	9.89	10.19	1063.1E6	2934.9E6	28.273	28.811	
3)	tc alpha-BHC	10.20	10.45	730.1E6	2020.4E6	17.660	18.041	
4)	tcm gamma-BHC (L	10.72	11.02	650.6E6	1901.1E6	17.544	18.281	
5)	tcm Heptachlor	11.47	11.69	570.9E6	1631.4E6	15.539	16.388	
6)	tcm Aldrin	11.92	12.17	479.1E6	1295.5E6	13.956	13.750	
7)	tc beta-BHC	10.88	11.17	282.7E6	795.6E6	18.207	18.433	
8)	tc delta-BHC	11.15	11.62	663.2E6	1736.5E6	17.893	17.227	
9)	tc Heptachlor E	12.82	13.01	548.5E6	1527.6E6	17.409	17.865	
10)	tc alpha-Endosu	13.39	13.57	521.4E6	1372.7E6	18.689	20.023	
11)	tc gamma-Chlord	13.00	13.28	545.3E6	1551.6E6	17.292	17.627	
12)	tc alpha-Chlord	13.20	13.49	515.1E6	1412.7E6	17.636	16.857	
13)	tc 4,4'-DDE	13.31	13.73	512.4E6	1406.9E6	16.948	17.881	
14)	tcm Dieldrin	13.74	13.97	587.8E6	1592.7E6	18.785	19.269	
15)	tcm Endrin	14.08	14.42	538.0E6	1400.6E6	18.556	20.406	
16)	tc KEPONE	14.17	0.00	464.9E6	0	39.382	N.D.	#
17)	tc beta-Endosul	14.41	14.73	465.0E6	1369.8E6	17.756	19.632	
18)	tc 4,4'-DDD	14.17	14.56	464.9E6	1310.5E6	18.932	20.884	
19)	tcm 4,4'-DDT	14.57	15.02	486.6E6	1174.4E6	18.452	17.494	
20)	tc Endrin Aldeh	15.03	15.22	265.2E6	748.4E6	12.516	13.760	
21)	tc Endosulfan S	15.68	15.63	458.7E6	1211.5E6	18.610	19.430	
22)	tc Methoxychlor	15.27	15.99	1226.8E6	2757.6E6	99.987	98.949	
23)	tc FAMPHUR	0.00	15.73	0	51629251	N.D.	1.269	#
24)	tc Endrin Keton	16.08	16.39	536.8E6	1352.5E6	19.090	20.160	
27)	L8C Toxaphene{2}	14.57	0.00	486.6E6	0	586.678	N.D.	#
28)	L8C Toxaphene{3}	0.00	15.22	0	748.4E6	N.D.	184.160	#
29)	L8C Toxaphene{4}	16.08	15.63	536.8E6	1211.5E6	710.306	695.133	

00674

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD469.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 8:59 pm
Operator : M.PEDRO
Sample : RQ0911122-02|1.0
Misc : 11/09/09 100 8081 LCS
ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:05:49 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l	
30) L8C Toxaphene{5}	16.28	0.00	14822508	0	25.338	N.D.	#
Sum Toxaphene			1038.2E6	1959.9E6	1322.323	879.294	
Average Toxaphene					440.774	439.647	
31) L9C Chlordane	0.00	11.47	0	28585624	N.D.	44.725	#
32) L9C Chlordane{2}	11.47	11.69	570.9E6	1631.4E6	1175.040	1156.585	
33) L9C Chlordane{3}	0.00	12.42	0	18660274	N.D.	9.907	#
34) L9C Chlordane{4}	13.00	13.28	545.3E6	1551.6E6	145.513	167.373	
Sum Chlordane			1116.1E6	3230.2E6	1320.553	1378.590	
Average Chlordane					660.276	344.647	

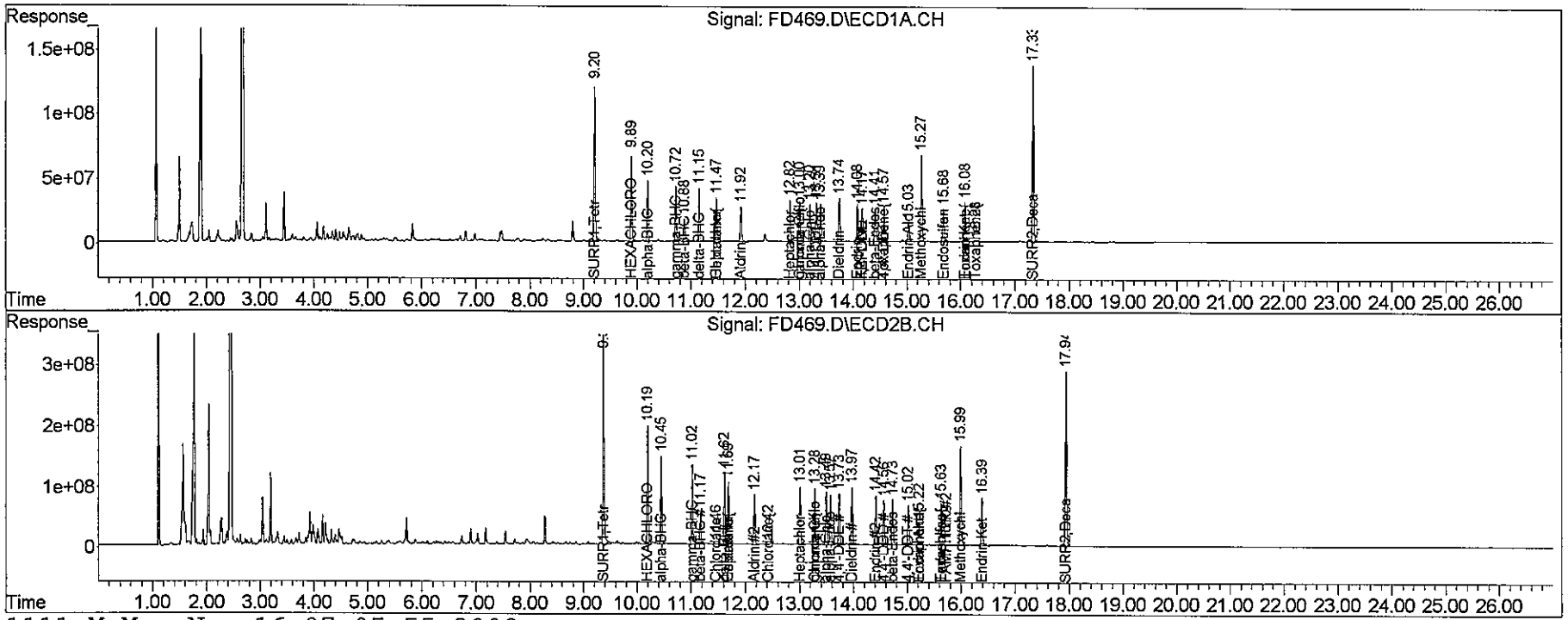
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (Not Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD469.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 8:59 pm
Operator : M.PEDRO
Sample : RQ0911122-02|1.0
Misc : 11/09/09 100 8081 LCS
ALS Vial : 21 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:05:49 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



SL969

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample Dup	**Units:**	µg/L
Lab Code:	RQ0911121-03	**Basis:**	NA

Organochlorine Pesticides by Gas Chromatography

Analytical Method: 8081A
Prep Method: EPA 3510C

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
4,4'-DDD	**0.224**		0.10	0.050	1	11/ 9/09	11/14/09 21:35	99996	179493	
4,4'-DDE	**0.197**		0.10	0.050	1	11/ 9/09	11/14/09 21:35	99996	179493	
4,4'-DDT	**0.196**		0.10	0.050	1	11/ 9/09	11/14/09 21:35	99996	179493	
Aldrin	**0.149**		0.050	0.025	1	11/ 9/09	11/14/09 21:35	99996	179493	
Chlordane	0.13	U	0.25	0.13	1	11/ 9/09	11/14/09 21:35	99996	179493	
Dieldrin	**0.212**		0.10	0.050	1	11/ 9/09	11/14/09 21:35	99996	179493	
Endosulfan I	**0.203**		0.050	0.025	1	11/ 9/09	11/14/09 21:35	99996	179493	
Endosulfan II	**0.213**		0.10	0.050	1	11/ 9/09	11/14/09 21:35	99996	179493	
Endosulfan Sulfate	**0.206**		0.10	0.050	1	11/ 9/09	11/14/09 21:35	99996	179493	
Endrin	**0.215**		0.10	0.050	1	11/ 9/09	11/14/09 21:35	99996	179493	
Endrin Aldehyde	**0.150**		0.10	0.050	1	11/ 9/09	11/14/09 21:35	99996	179493	
Endrin Ketone	**0.206**		0.10	0.050	1	11/ 9/09	11/14/09 21:35	99996	179493	
Heptachlor	**0.174**		0.050	0.025	1	11/ 9/09	11/14/09 21:35	99996	179493	
Heptachlor Epoxide	**0.195**		0.050	0.025	1	11/ 9/09	11/14/09 21:35	99996	179493	
Hexachlorobenzene	**0.310**		0.050	0.028	1	11/ 9/09	11/14/09 21:35	99996	179493	
Methoxychlor	**1.05**		0.50	0.25	1	11/ 9/09	11/14/09 21:35	99996	179493	
Toxaphene	0.50	U	1.0	0.50	1	11/ 9/09	11/14/09 21:35	99996	179493	
alpha-BHC	**0.193**		0.050	0.025	1	11/ 9/09	11/14/09 21:35	99996	179493	
alpha-Chlordane	**0.193**		0.050	0.025	1	11/ 9/09	11/14/09 21:35	99996	179493	
beta-BHC	**0.196**		0.050	0.025	1	11/ 9/09	11/14/09 21:35	99996	179493	
delta-BHC	**0.193**		0.050	0.025	1	11/ 9/09	11/14/09 21:35	99996	179493	
gamma-BHC (Lindane)	**0.196**		0.050	0.025	1	11/ 9/09	11/14/09 21:35	99996	179493	
gamma-Chlordane	**0.190**		0.050	0.025	1	11/ 9/09	11/14/09 21:35	99996	179493	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q	Note
Decachlorobiphenyl	93	40-140	11/14/09 21:35		
Tetrachloro-m-xylene	79	40-140	11/14/09 21:35		

Comments:

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD470.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 9:35 pm
Operator : M.PEDRO
Sample : RQ0911122-03|1.0
Misc : 11/09/09 100 8081 LCSD
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:13:08 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l
	System Monitoring Compounds						
1)	S SURR1,Tetrac	9.21	9.37	2073.6E6	5772.8E6	78.806	75.407
	Spiked Amount 100.000	Range 30 - 150		Recovery =		78.81%	75.41%
25)	S SURR2,Decachloro	17.33	17.94	2272.3E6	5021.6E6	92.811	92.084
	Spiked Amount 100.000	Range 30 - 150		Recovery =		92.81%	92.08%
	Target Compounds						
2)	TC HEXACHLOROBENZEN	9.89	10.19	1129.9E6	3156.2E6	30.049	30.983
3)	tc alpha-BHC	10.20	10.45	781.5E6	2155.8E6	18.903	19.250
4)	tcm gamma-BHC (L	10.72	11.02	699.4E6	2041.9E6	18.860	19.635
5)	tcm Heptachlor	11.47	11.69	609.3E6	1734.5E6	16.584	17.423
6)	tcm Aldrin	11.92	12.17	509.6E6	1375.8E6	14.846	14.603
7)	tc beta-BHC	10.88	11.17	304.9E6	846.9E6	19.635	19.622
8)	tc delta-BHC	11.15	11.62	715.3E6	1860.9E6	19.298	18.461
9)	tc Heptachlor E	12.82	13.01	597.7E6	1665.1E6	18.970	19.473
10)	tc alpha-Endosu	13.39	13.57	567.1E6	1333.6E6	20.325	19.452
11)	tc gamma-Chlord	13.00	13.28	597.6E6	1674.2E6	18.953	19.021
12)	tc alpha-Chlord	13.20	13.49	562.6E6	1542.2E6	19.260	18.402
13)	tc 4,4'-DDE	13.31	13.73	562.6E6	1548.6E6	18.609	19.682
14)	tcm Dieldrin	13.74	13.97	641.4E6	1756.0E6	20.497	21.244
15)	tcm Endrin	14.08	14.42	589.5E6	1478.2E6	20.334	21.537
17)	tc beta-Endosul	14.41	14.73	505.5E6	1486.3E6	19.303	21.302
18)	tc 4,4'-DDD	14.17	14.56	500.3E6	1405.8E6	20.372	22.403
19)	tcm 4,4'-DDT	14.57	15.02	517.1E6	1316.8E6	19.607	19.615
20)	tc Endrin Aldeh	15.03	15.22	288.1E6	813.2E6	13.596	14.952
21)	tc Endosulfan S	15.68	15.63	482.1E6	1285.5E6	19.560	20.616
22)	tc Methoxychlor	15.27	15.99	1280.6E6	2915.6E6	104.368	104.619
24)	tc Endrin Keton	16.08	16.39	568.6E6	1380.7E6	20.224	20.579
	Sum Toxaphene			0	0	N.D.	N.D.
	Average Toxaphene					0.000	0.000
	Sum Chlordane			0	0	N.D.	N.D.
	Average Chlordane					0.000	0.000

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD470.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 9:35 pm
Operator : M.PEDRO
Sample : RQ0911122-03|1.0
Misc : 11/09/09 100 8081 LCSD
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 08:13:08 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l

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

Quantitation Report (QT Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD470.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 9:35 pm
Operator : M.PEDRO
Sample : RQ0911122-03|1.0
Misc : 11/09/09 100 8081 LCSD
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
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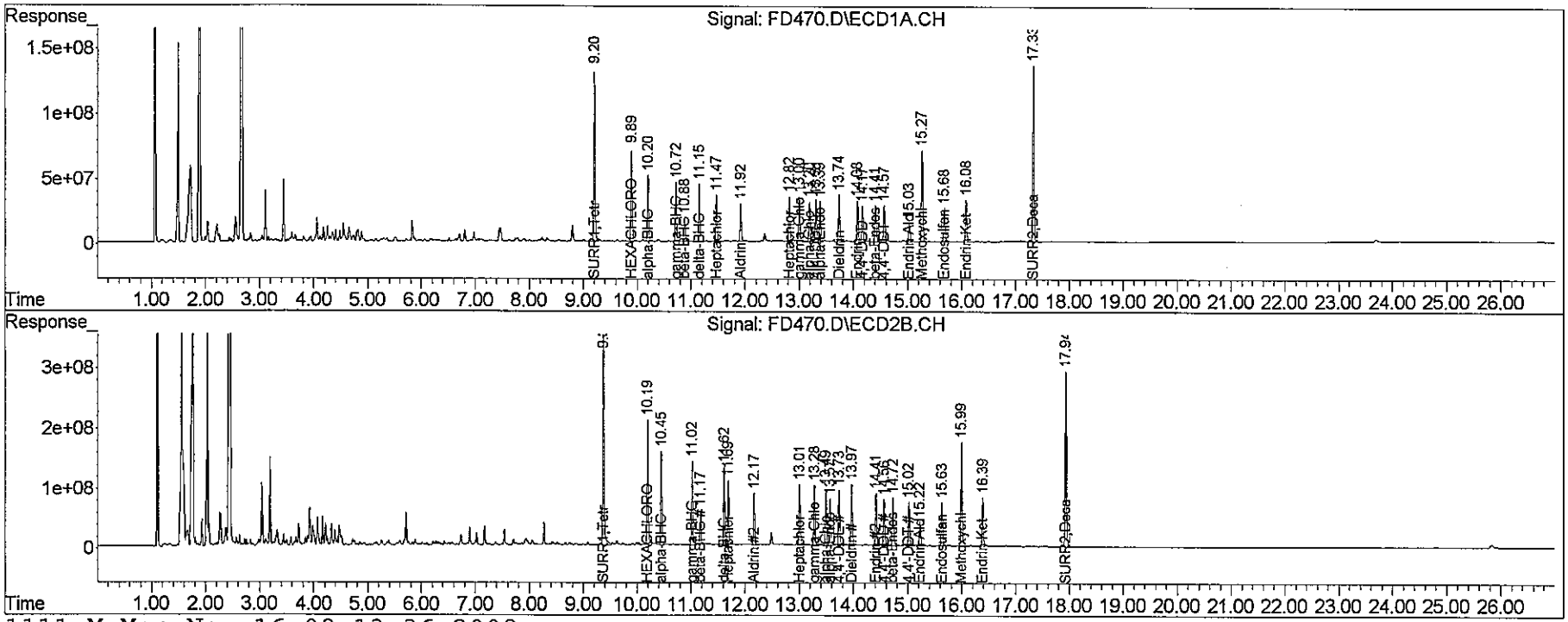
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



03900

Quantitation Report (Not Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD470.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 9:35 pm
Operator : M.PEDRO
Sample : RQ0911122-03|1.0
Misc : 11/09/09 100 8081 LCSD
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:05:57 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l	
	System Monitoring Compounds							
1)	S SURR1,Tetrac	9.21	9.37	2073.6E6	5772.8E6	78.806	75.407	
	Spiked Amount 100.000	Range 30 - 150		Recovery =		78.81%	75.41%	
25)	S SURR2,Decachloro	17.33	17.94	2272.3E6	5021.6E6	92.811	92.084	
	Spiked Amount 100.000	Range 30 - 150		Recovery =		92.81%	92.08%	
	Target Compounds							
2)	TC HEXACHLOROBENZEN	9.89	10.19	1129.9E6	3156.2E6	30.049	30.983	
3)	tc alpha-BHC	10.20	10.45	781.5E6	2155.8E6	18.903	19.250	
4)	tcm gamma-BHC (L	10.72	11.02	699.4E6	2041.9E6	18.860	19.635	
5)	tcm Heptachlor	11.47	11.69	609.3E6	1734.5E6	16.584	17.423	
6)	tcm Aldrin	11.92	12.17	509.6E6	1375.8E6	14.846	14.603	
7)	tc beta-BHC	10.88	11.17	304.9E6	846.9E6	19.635	19.622	
8)	tc delta-BHC	11.15	11.62	715.3E6	1860.9E6	19.298	18.461	
9)	tc Heptachlor E	12.82	13.01	597.7E6	1665.1E6	18.970	19.473	
10)	tc alpha-Endosu	13.39	13.57	567.1E6	1333.6E6	20.325	19.452	
11)	tc gamma-Chlord	13.00	13.28	597.6E6	1674.2E6	18.953	19.021	
12)	tc alpha-Chlord	13.20	13.49	562.6E6	1542.2E6	19.260	18.402	
13)	tc 4,4'-DDE	13.31	13.73	562.6E6	1548.6E6	18.609	19.682	
14)	tcm Dieldrin	13.74	13.97	641.4E6	1756.0E6	20.497	21.244	
15)	tcm Endrin	14.08	14.42	589.5E6	1478.2E6	20.334	21.537	
16)	tc KEPONE	14.17	0.00	500.3E6	0	42.377	N.D.	#
17)	tc beta-Endosul	14.41	14.73	505.5E6	1486.3E6	19.303	21.302	
18)	tc 4,4'-DDD	14.17	14.56	500.3E6	1405.8E6	20.372	22.403	
19)	tcm 4,4'-DDT	14.57	15.02	517.1E6	1316.8E6	19.607	19.615	
20)	tc Endrin Aldeh	15.03	15.22	288.1E6	813.2E6	13.596	14.952	
21)	tc Endosulfan S	15.68	15.63	482.1E6	1285.5E6	19.560	20.616	
22)	tc Methoxychlor	15.27	15.99	1280.6E6	2915.6E6	104.368	104.619	
24)	tc Endrin Keton	16.08	16.39	568.6E6	1380.7E6	20.224	20.579	
26)	L8C Toxaphene	0.00	14.88	0	24716184	N.D.	6.785	#
27)	L8C Toxaphene{2}	14.57	0.00	517.1E6	0	623.422	N.D.	#
28)	L8C Toxaphene{3}	0.00	15.22	0	813.2E6	N.D.	200.108	#
29)	L8C Toxaphene{4}	16.08	15.63	568.6E6	1285.5E6	752.506	737.583	

Quantitation Report (Not Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD470.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 9:35 pm
Operator : M.PEDRO
Sample : RQ0911122-03|1.0
Misc : 11/09/09 100 8081 LCSD
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:05:57 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m

Compound	RT#1	RT#2	Resp#1	Resp#2	ug/l	ug/l	
30) L8C Toxaphene{5}	16.28	0.00	19827455	0	33.894	N.D.	#
Sum Toxaphene			1105.5E6	2123.4E6	1409.821	944.476	
Average Toxaphene					469.940	314.825	
31) L9C Chlordane	11.36	11.47	7700146	37610368	37.683	58.845	#
32) L9C Chlordane{2}	11.47	11.69	609.3E6	1734.5E6	1254.101	1229.686	
33) L9C Chlordane{3}	0.00	12.42	0	28717598	N.D.	15.246	#
34) L9C Chlordane{4}	13.00	13.28	597.6E6	1674.2E6	159.487	180.607	
35) L9C Chlordane{5}	14.30	0.00	11393480	0	7.802	N.D.	#
Sum Chlordane			1226.0E6	3475.1E6	1459.074	1484.384	
Average Chlordane					364.768	371.096	

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

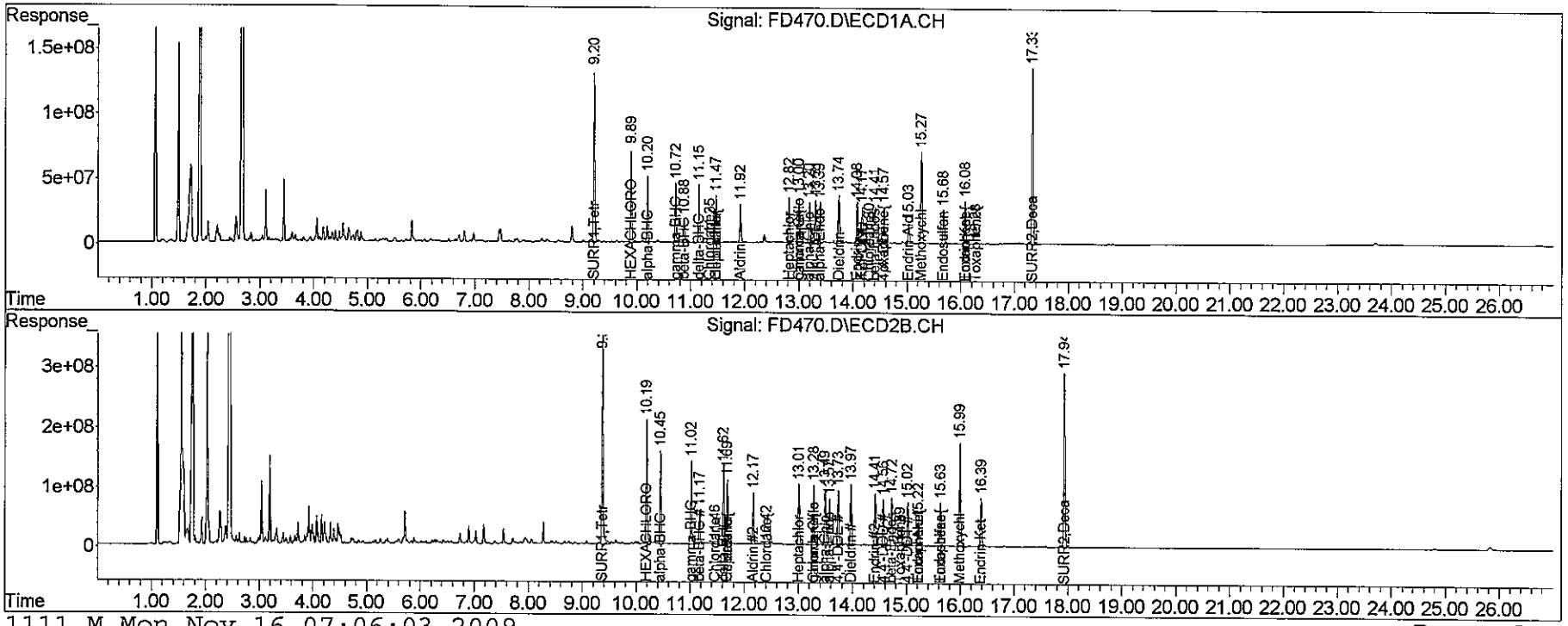
00682

Quantitation Report (Not Reviewed)

Data Path : J:\ACQUDATA\6890D\DATA\111409\
Data File : FD470.D
Signal(s) : Signal #1: ECD1A.CH Signal #2: ECD2B.CH
Acq On : 14 Nov 2009 9:35 pm
Operator : M.PEDRO
Sample : RQ0911122-03|1.0
Misc : 11/09/09 100 8081 LCSD
ALS Vial : 22 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: Nov 16 07:05:57 2009
Quant Method : J:\ACQUDATA\6890D\METHODS\80811111.M
Quant Title : 608/8081A PESTICIDES
QLast Update : Thu Nov 12 09:14:11 2009
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. : 1uL
Signal #1 Phase : STx-CLP Signal #2 Phase: STx-CLPII
Signal #1 Info : 0.32mm 30m Signal #2 Info : 0.32mm 30m



6890

Preparation Information Benchsheet

Prep Run#: 99996
Team: Semivoa GC/DMURPHY

Prep WorkFlow: OrgExtAq(7)
Prep Method: EPA 3510C

Status: Prepped
Prep Date/Time: 11/9/09 09:31

#	Lab Code	Client ID	B#	Amt. Ext	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ0911121-01	MB		1000mL	8081A/PEST_OC	6			10.00mL	clear-colorless	1.0000 mL/12937	
2	RQ0911121-01	MB		1000mL	8082/PCB	6			10.00mL	clear-colorless	1.0000 mL/12937	
3	RQ0911121-02	LCS		1000mL	8081A/PEST_OC	6			10.00mL	clear-colorless	1.0000 mL/12937; 1.0000 mL/13033	
4	RQ0911121-02	LCS		1000mL	8082/PCB	6			10.00mL	clear-colorless	1.0000 mL/12552; 1.0000 mL/12937	
5	RQ0911121-03	DLCS		1000mL	8081A/PEST_OC	6			10.00mL	clear-colorless	1.0000 mL/12937; 1.0000 mL/13033	
6	RQ0911121-03	DLCS		1000mL	8082/PCB	6			10.00mL	clear-colorless	1.0000 mL/12552; 1.0000 mL/12937	
7	R0906270-001	M-147B	.06	1060mL	8081A/PEST_OC	6			10.00mL	clear-colorless	1.0000 mL/12937	
8	R0906270-002	M-147009B	.05	1060mL	8081A/PEST_OC	6			10.00mL	clear-colorless	1.0000 mL/12937	
9	R0906270-003	EB110209-GWA3	.05	1060mL	8081A/PEST_OC	6			10.00mL	clear-colorless	1.0000 mL/12937	
10	R0906387-012	EB-5	.01	1060mL	8082/PCB	6			10.00mL	clear-colorless	1.0000 mL/12937	
11	R0906387-013	EB-6	.01	1060mL	8082/PCB	6			10.00mL	clear-colorless	1.0000 mL/12937	

Spiking Solutions

Name:	8082 Spike 5ug/ml AR 1242	Inventory ID	12552	Logbook Ref:	Expires On: 04/05/2010
Name:	8081/8082 Surrogate Spike STD 1 ug/ml	Inventory ID	12937	Logbook Ref:	Expires On: 04/25/2010
Name:	608 LCS Spike STD	Inventory ID	13033	Logbook Ref:	Expires On: 04/30/2010

Preparation Materials

Eppendorf Pipette Repeater	EXT #3 (12431)	2mL Graduated Vials	(13019)	Sulfuric Acid Reagent Grade H2SO4	(12512)
Mercury Reagent Grade Hg	(12913)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	(12863)	Hexane (n-Hexane) 99.8% Minimum	(13311)
Prepared Sodium Sulfate Na2SO4	(13249)				

Preparation Steps

Step:	Extraction	Step:	Concentration	Step:	Acid Clean	Step:	Sulfur Clean	Step:	Final Volume
Started:	11/5/09 21:31	Started:	11/12/09 08:30	Started:	11/12/09 11:45	Started:	11/12/09 13:00	Started:	11/12/09 14:24
Finished:	11/9/09 10:00	Finished:	11/12/09 11:00	Finished:	11/12/09 12:00	Finished:	11/12/09 14:10	Finished:	11/12/09 14:24
By:	DMURPHY	By:	DCURRAN	By:	DCURRAN	By:	DCURRAN	By:	DCURRAN

Preparation Information Benchsheet

Prep Run#: 99996
Team: Semivoa GC/DMURPHY

Prep WorkFlow: OrgExtAq(7)
Prep Method: EPA 3510C

Status: Prepped
Prep Date/Time: 11/9/09 09:31

Comments:

Reviewed By: Meghan Peden Date: 11/12/09 Spike Witness: DCURRAN Donald P. Curran Date: 11/12/09

Chain of Custody

Relinquished By: Date:

Received By: Date:

Extracts Examined
Yes No

Analysis: 8081/608	Analyst: [illegible]	Run Method: 8081A.M
Date: 11/11/09	Instr. 6890D	Quant Method: +
		LIMS Run#: 17915

Pos.	Sample	Diln.	Diln. Prep.	Client	File#	OK?	Comments
	Perm		12176		FD363	Y	
	PIBI ML				364	Y	
	INDAL		13114		365	Y	
	ML		13113		366	Y	
	M		13112		367	Y	
	MH		13111		368	Y	
	H		13110		369	Y	
	INDBL		13119		370	Y	
	ML		13118		371	Y	
	M		13117		372	Y	
	MH		13116		373	Y	
	H		13115		374	Y	
	Kepl fam L		0748-1086		375	Y	
	ML		E		376	Y	
	M		F		377	Y	
	MH		G		378	Y	
	H		H		379	Y	
	TOX L		11978		380	Y	
	ML		11977		381	Y	
	M		11979		382	Y	
	MH		11880		383	Y	
	H		1188881		384	Y	
	Chlo L		118888		385	Y	
	ML		118889		386	Y	
	M		11890		387	Y	
	MH		11891		388	Y	
	H		11892		389	Y	
	8081 ICV		10258		390	Y ICV	
	TOX ICV		12236		391	Y ICV	
	Chlo ICV		12237		392	Y ICV	
	Perm		12176		393	Y PB	
	INDA CCV1A		13112		394	Y CC	
	CCV1B		13117		395	Y CC	
	R0905744-016	1.0			396	Y	
	R0906070-005	1.0			397	Y	
	R0906209-001	4.0			398	Y	
	R0905976-005	5.0			399	Y	
	R0910792-01 BMK	1.0			400	Y BMS	
	02	1.0			401	Y R	End Std +

All samples = _____mL + _____uL Combined IS/Surr.;

Primary :_____ exp: Secondary :_____ exp:
Primary:_____ exp: Secondary :_____ exp:

Analysis: 8081/608 Analyst: Megan Parks Run Method: 4081111.m

Date: 11/14/09 Instr. 6890D Quant Method: ↓

LIMS Run#: 179493

Pos.	Sample	Diln.	Diln. Prep.	Client	File#	OK?	Comments
	Rem		12174		FP449	YPEM	
	CW6A		13112		450	YCC	DCB >15% B.C.
	CW6B		13117		451	YCC	
	RQ0910739-06 MS	1.0			452	YQ	some +
	↓ 07 MSD	1.0			453	YQ	+
	RQ906130-001	100.			454	Y	
	002				455	Y	
	003				456	Y	
	004				457	Y	
	005				458	Y	
	006				459	Y	
	007				460	Y	
	008				461	Y	
	CCV7A		13112		462	YCC	
	CW7B		13117		463	YCC	
	RQ906130-009	100			464	Y	
	010	10.0			465	Y	
	011	1.00			466	Y	
	012	100			467	Y	
	RQ0911122-01 BK		RQ0911121-01		468	YQB	
	02 LCS		↓ 02		469	YQ	
	03 LCSD		↓ 03		470	YQ	
	RQ906056-001				471	Y	
	003				472	Y	
	005				473	Y	
	CW5A		13112		474	YCC	
	CW5B		13117		475	YC	
	Rem		12174		476	YPE	
	RQ906056-007				477	Y	
	RQ9110788-01				478	Y	DCB & B.C.
	RQ906270-001				479	Y	
	002				480	Y	
	003				481	Y	
	CW9A		13112		482	YCC	
	CW9B		13117		483	YCC	

All samples = _____mL + _____uL Combined IS/Surr.;

Primary :_____ exp: Secondary :_____ exp:

Primary:_____ exp: Secondary :_____ exp:

00102

GENERAL CHEMISTRY DATA

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147B		
Lab Code:	R0906270-001	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Alkalinity as CaCO3, Total	SM 2320 B	**106**		mg/L	2.0	0.3	1	NA	11/13/09 09:24
Ammonia as Nitrogen	350.1	**0.022**	J	mg/L	0.050	0.007	1	NA	11/23/09 12:35
Anion-Cation Balance Difference	SM 1030 E	**2.287**		Percent			1	NA	12/22/09
Bicarbonate Alkalinity as CaCO3	SM 2320 B	**106**		mg/L	2.0	0.3	1	NA	11/13/09 09:24
Bromide	9056	**1.4**		mg/L	1.0	0.2	10	NA	11/3/09 17:35
Calculated TDS/EC Ratio	SM 1030 E	**0.817**		NONE			1	NA	12/22/09
Carbon, Total Organic (TOC)	9060	**1.5**		mg/L	1.0	0.1	1	NA	11/7/09 11:55
Carbon, Total Organic (TOC)	9060	**1.4**		mg/L	1.0	0.1	1	NA	11/7/09 12:03
Carbon, Total Organic (TOC)	9060	**1.3**		mg/L	1.0	0.1	1	NA	11/7/09 12:13
Carbon, Total Organic (TOC)	9060	**1.1**		mg/L	1.0	0.1	1	NA	11/7/09 11:47
Carbon, Total Organic (TOC), Average	9060	**1.3**		mg/L	1.0	0.1	1	NA	11/7/09 11:47
Carbonate Alkalinity as CaCO3	SM 2320 B	0.3	U	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Chloride	9056	**583**		mg/L	20	5	100	NA	11/5/09 14:04
Chromium, Hexavalent, Dissolved	218.6	**0.142**		mg/L	0.010	0.004	1	NA	11/3/09 17:48
Conductivity	120.1	**5170**		µMHOS/cm	0.050		1	NA	11/3/09 10:40
Conductivity Ratio	SM 1030 E	**1.030**		NONE			1	NA	12/22/09
Cyanide, Total	9012A	0.005	U	mg/L	0.010	0.005	1	11/10/09	11/11/09 16:40
Hydroxide Alkalinity as CaCO3	SM 2320 B	0.3	U	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Measured TDS/EC Ratio	SM 1030 E	**0.866**		NONE			1	NA	12/22/09
Nitrate as Nitrogen	9056	**12.4**		mg/L	0.50	0.04	10	NA	11/3/09 17:35
Nitrite as Nitrogen	353.2	0.007	U	mg/L	0.010	0.007	1	NA	11/3/09 20:09
pH	9040B	**7.41**		pH Units			1	NA	11/3/09 10:40
Phosphorus, Total	365.1	**0.020**	J	mg/L	0.050	0.005	1	11/ 9/09	11/10/09 10:28
Solids, Total Dissolved	SM 2540 C	**4480**		mg/L	29	16	1	NA	11/6/09 10:40
Solids, Total Suspended (TSS)	SM 2540 D	1.0	U	mg/L	1.0		1	NA	11/5/09 14:40
Sulfate	9056	**2280**		mg/L	80	18	400	NA	11/5/09 14:19
Surfactants	SM 5540 C	**0.010**	J	mg/L	0.020	0.005	1	NA	11/3/09 09:20
TDS Ratio	SM 1030 E	**1.060**		NONE			1	NA	12/22/09

Comments:

M-147B

Water Type	$Ca\text{-}SO_4$		
Dissolved Solids	4478.2 mg/kg	4480 mg/L	Measured
Density	1.0004 g/cm^3		Calculated
Conductivity	5170 µmho/cm		Measured
Hardness (as $CaCO_3$)			
Total	2110.3 mg/kg	2111.2 mg/L	Calculated
Carbonate	173.81	173.88	
Non-Carbonate	1936.5	1937.3	

Primary Tests

Anion-Cation Balance		
Anions	66.3	
Cations	63.4	
% Difference	2.287	OK
Measured TDS = Calculated TDS		
Measured	4478.209	
Calculated	4225.560	
Ratio	1.060	OK
Measured EC = Calculated EC		
Measured	5170.000	
Calculated	5019.921	
Ratio	1.030	OK

Secondary Tests

Measured EC and Ion Sums:		
Anions	1.282757	Not within preferred range (0.9-1.1)
Cations	1.225400	Not within preferred range (0.9-1.1)
Calculated TDS to EC ratio	0.817	Not within preferred range (0.55-0.7)
Measured TDS to EC ratio	0.866	Not within preferred range (0.55-0.7)

Organic Mass Balance

DOC ≥ Sum of Organics

DOC unavailable

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1000
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	M-147009B		
Lab Code:	R0906270-002	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Alkalinity as CaCO3, Total	SM 2320 B	**108**		mg/L	2.0	0.3	1	NA	11/13/09 09:24
Ammonia as Nitrogen	350.1	**0.031**	J	mg/L	0.050	0.007	1	NA	11/23/09 12:36
Anion-Cation Balance Difference	SM 1030 E	**0.250**		Percent			1	NA	12/22/09
Bicarbonate Alkalinity as CaCO3	SM 2320 B	**108**		mg/L	2.0	0.3	1	NA	11/13/09 09:24
Bromide	9056	**1.4**		mg/L	1.0	0.2	10	NA	11/3/09 18:24
Calculated TDS/EC Ratio	SM 1030 E	**0.822**		NONE			1	NA	12/22/09
Carbon, Total Organic (TOC)	9060	**1.1**		mg/L	1.0	0.1	1	NA	11/7/09 12:22
Carbon, Total Organic (TOC)	9060	**1.4**		mg/L	1.0	0.1	1	NA	11/7/09 12:30
Carbon, Total Organic (TOC)	9060	**1.4**		mg/L	1.0	0.1	1	NA	11/7/09 12:38
Carbon, Total Organic (TOC)	9060	**1.3**		mg/L	1.0	0.1	1	NA	11/7/09 12:47
Carbon, Total Organic (TOC), Average	9060	**1.3**		mg/L	1.0	0.1	1	NA	11/7/09 12:22
Carbonate Alkalinity as CaCO3	SM 2320 B	0.3	U	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Chloride	9056	**572**		mg/L	20	5	100	NA	11/5/09 15:38
Chromium, Hexavalent, Dissolved	218.6	**0.139**		mg/L	0.010	0.004	1	NA	11/3/09 18:20
Conductivity	120.1	**5150**		µMHOS/cm	0.050		1	NA	11/3/09 10:40
Conductivity Ratio	SM 1030 E	**1.022**		NONE			1	NA	12/22/09
Cyanide, Total	9012A	0.005	U	mg/L	0.010	0.005	1	11/10/09	11/11/09 16:40
Hydroxide Alkalinity as CaCO3	SM 2320 B	0.3	U	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Measured TDS/EC Ratio	SM 1030 E	**0.885**		NONE			1	NA	12/22/09
Nitrate as Nitrogen	9056	**12.3**		mg/L	0.50	0.04	10	NA	11/3/09 18:24
Nitrite as Nitrogen	353.2	**0.008**	J	mg/L	0.010	0.007	1	NA	11/3/09 20:15
pH	9040B	**7.48**		pH Units			1	NA	11/3/09 10:40
Phosphorus, Total	365.1	**0.019**	J	mg/L	0.050	0.005	1	11/ 9/09	11/10/09 10:29
Solids, Total Dissolved	SM 2540 C	**4560**		mg/L	27	15	1	NA	11/6/09 10:40
Solids, Total Suspended (TSS)	SM 2540 D	1.0	U	mg/L	1.0		1	NA	11/5/09 14:40
Sulfate	9056	**2260**		mg/L	80	18	400	NA	11/5/09 15:54
Surfactants	SM 5540 C	**0.009**	J	mg/L	0.020	0.005	1	NA	11/3/09 09:20
TDS Ratio	SM 1030 E	**1.076**		NONE			1	NA	12/22/09

Comments:

M-147009B

Water Type	$Ca\text{-}SO_4$		
Dissolved Solids	4557.9 mg/kg	4560 mg/L	Measured
Density	1.0005 g/cm^3		Calculated
Conductivity	5150 µmho/cm		Measured
Hardness (as $CaCO_3$)			
Total	2168.2 mg/kg	2169.2 mg/L	Calculated
Carbonate	177.08	177.16	
Non-Carbonate	1991.1	1992.1	

Primary Tests

Anion-Cation Balance		
Anions	65.6	
Cations	65.3	
% Difference	0.250	OK
Measured TDS = Calculated TDS		
Measured	4557.905	
Calculated	4235.162	
Ratio	1.076	OK
Measured EC = Calculated EC		
Measured	5150.000	
Calculated	5040.676	
Ratio	1.022	OK

Secondary Tests

Measured EC and Ion Sums:		
Anions	1.274386	Not within preferred range (0.9-1.1)
Cations	1.268032	Not within preferred range (0.9-1.1)
Calculated TDS to EC ratio	0.822	Not within preferred range (0.55-0.7)
Measured TDS to EC ratio	0.885	Not within preferred range (0.55-0.7)

Organic Mass Balance

DOC ≥ Sum of Organics

DOC unavailable

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	11/ 2/09 1240
Sample Matrix:	Water	**Date Received:**	11/ 3/09
Sample Name:	EB110209-GWA3		
Lab Code:	R0906270-003	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Alkalinity as CaCO3, Total	SM 2320 B	**1.2**	BJ	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Ammonia as Nitrogen	350.1	**0.206**		mg/L	0.050	0.007	1	NA	11/23/09 12:37
Bicarbonate Alkalinity as CaCO3	SM 2320 B	**1.2**	BJ	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Bromide	9056	0.02	U	mg/L	0.10	0.02	1	NA	11/3/09 16:30
Carbon, Total Organic (TOC)	9060	0.1	U	mg/L	1.0	0.1	1	NA	11/7/09 13:04
Carbon, Total Organic (TOC)	9060	0.1	U	mg/L	1.0	0.1	1	NA	11/7/09 13:12
Carbon, Total Organic (TOC)	9060	0.1	U	mg/L	1.0	0.1	1	NA	11/7/09 13:22
Carbon, Total Organic (TOC)	9060	**0.1**	J	mg/L	1.0	0.1	1	NA	11/7/09 12:56
Carbon, Total Organic (TOC), Average	9060	0.1	U	mg/L	1.0	0.1	1	NA	11/7/09 12:56
Carbonate Alkalinity as CaCO3	SM 2320 B	0.3	U	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Chloride	9056	**0.08**	BJ	mg/L	0.20	0.05	1	NA	11/3/09 16:30
Chromium, Hexavalent, Dissolved	218.6	0.004	U	mg/L	0.010	0.004	1	NA	11/3/09 18:30
Conductivity	120.1	**1.28**		µMHOS/cm	0.050		1	NA	11/3/09 10:40
Cyanide, Total	9012A	0.005	U	mg/L	0.010	0.005	1	11/10/09	11/11/09 16:40
Hydroxide Alkalinity as CaCO3	SM 2320 B	0.3	U	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Nitrate as Nitrogen	9056	0.004	U	mg/L	0.050	0.004	1	NA	11/3/09 16:30
Nitrite as Nitrogen	353.2	0.007	U	mg/L	0.010	0.007	1	NA	11/3/09 20:15
pH	9040B	**7.20**		pH Units			1	NA	11/3/09 10:40
Phosphorus, Total	365.1	0.005	U	mg/L	0.050	0.005	1	11/ 9/09	11/10/09 10:30
Solids, Total Dissolved	SM 2540 C	**9**	BJ	mg/L	10	6	1	NA	11/6/09 10:40
Solids, Total Suspended (TSS)	SM 2540 D	1.0	U	mg/L	1.0		1	NA	11/5/09 14:40
Sulfate	9056	**0.11**	J	mg/L	0.20	0.05	1	NA	11/3/09 16:30
Surfactants	SM 5540 C	**0.008**	J	mg/L	0.020	0.005	1	NA	11/3/09 09:20

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R0906270-MB1	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Alkalinity as CaCO3, Total	SM 2320 B	**0.8**	J	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Ammonia as Nitrogen	350.1	0.007	U	mg/L	0.050	0.007	1	NA	11/23/09 11:28
Bicarbonate Alkalinity as CaCO3	SM 2320 B	**0.8**	J	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Bromide	9056	0.02	U	mg/L	0.10	0.02	1	NA	11/3/09 10:29
Carbon, Total Organic (TOC)	9060	0.1	U	mg/L	1.0	0.1	1	NA	11/7/09 10:38
Carbon, Total Organic (TOC)	9060	0.1	U	mg/L	1.0	0.1	1	NA	11/7/09 10:46
Carbon, Total Organic (TOC)	9060	0.1	U	mg/L	1.0	0.1	1	NA	11/7/09 10:55
Carbon, Total Organic (TOC)	9060	0.1	U	mg/L	1.0	0.1	1	NA	11/7/09 11:04
Carbonate Alkalinity as CaCO3	SM 2320 B	0.3	U	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Chloride	9056	**0.09**	J	mg/L	0.20	0.05	1	NA	11/3/09 10:29
Chromium, Hexavalent, Dissolved	218.6	0.004	U	mg/L	0.010	0.004	1	NA	11/3/09 11:55
Cyanide, Total	9012A	0.005	U	mg/L	0.010	0.005	1	11/10/09	11/11/09 16:40
Hydroxide Alkalinity as CaCO3	SM 2320 B	0.3	U	mg/L	2.0	0.3	1	NA	11/13/09 09:24
Nitrate as Nitrogen	9056	0.004	U	mg/L	0.050	0.004	1	NA	11/3/09 10:29
Nitrite as Nitrogen	353.2	0.007	U	mg/L	0.010	0.007	1	NA	11/3/09 20:08
Phosphorus, Total	365.1	0.005	U	mg/L	0.050	0.005	1	11/ 9/09	11/10/09 10:12
Solids, Total Dissolved	SM 2540 C	7	J	mg/L	10	6	1	NA	11/6/09 10:40
Solids, Total Suspended (TSS)	SM 2540 D	1.0	U	mg/L	1.0		1	NA	11/5/09 14:40
Sulfate	9056	0.05	U	mg/L	0.20	0.05	1	NA	11/3/09 10:29
Surfactants	SM 5540 C	0.005	U	mg/L	0.020	0.005	1	NA	11/3/09 09:20

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Northgate Environmental	**Service Request:**	R0906270
Project:	Tronox LLC Henderson/2027.001	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R0906270-MB2	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Bromide	9056	0.02	U	mg/L	0.10	0.02	1	NA	11/3/09 17:02
Chloride	9056	0.05	U	mg/L	0.20	0.05	1	NA	11/5/09 11:16
Nitrate as Nitrogen	9056	0.004	U	mg/L	0.050	0.004	1	NA	11/3/09 17:02
Sulfate	9056	0.05	U	mg/L	0.20	0.05	1	NA	11/5/09 11:16

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001
Sample Matrix: Water

Service Request: R0906270
Date Analyzed: 11/ 3/09 - 11/23/09

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R0906270-LCS1 Result	Expected	% Rec	% Rec Limits
Ammonia as Nitrogen	350.1	**0.495**	0.500	99	90 - 110
Bromide	9056	**0.975**	1.00	98	90 - 110
Carbon, Total Organic (TOC)	9060	**9.00**	10.0	90	86 - 117
Carbon, Total Organic (TOC)	9060	**9.57**	10.0	96	86 - 117
Carbon, Total Organic (TOC)	9060	**10.1**	10.0	101	86 - 117
Carbon, Total Organic (TOC)	9060	**9.86**	10.0	99	86 - 117
Chloride	9056	**1.87**	2.00	94	90 - 110
Chromium, Hexavalent, Dissolved	218.6	**0.185**	0.200	93	90 - 110
Cyanide, Total	9012A	**0.0903**	0.100	90	85 - 115
Nitrite as Nitrogen	353.2	**0.238**	0.250	95	90 - 110
Phosphorus, Total	365.1	**0.807**	0.800	101	90 - 110
Solids, Total Dissolved	SM 2540 C	**914**	913	100	80 - 120
Solids, Total Suspended (TSS)	SM 2540 D	**212**	215	99	80 - 120
Sulfate	9056	**1.89**	2.00	94	90 - 110
Surfactants	SM 5540 C	**0.0208**	0.020	104	75 - 125
Alkalinity as CaCO3, Total	SM 2320 B	**18.0**	20.0	90	90 - 108
Carbon, Total Organic (TOC), Average	9060	**9.64**	10.0	96	86 - 117
Nitrate as Nitrogen	9056	**0.947**	1.00	95	90 - 110

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Northgate Environmental
Project: Tronox LLC Henderson/2027.001
Sample Matrix: Water

Service Request: R0906270
Date Analyzed: 11/ 3/09 - 11/11/09

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R0906270-LCS2 Result	Expected	% Rec	% Rec Limits
Bromide	9056	**1.01**	1.00	101	90 - 110
Chloride	9056	**1.88**	2.00	94	90 - 110
Cyanide, Total	9012A	**0.405**	0.400	101	85 - 115
Sulfate	9056	**2.01**	2.00	101	90 - 110
Surfactants	SM 5540 C	**0.335**	0.350	96	75 - 125
Nitrate as Nitrogen	9056	**0.968**	1.00	97	90 - 110

Comments:

Name	Unit	M-147B	M-147009B
Sample ID	text	M-147B	M-147009B
LIMs ID	text	R0906270-001	R0906270-002
Calcium	µg/L	514000	529000
Magnesium	µg/L	201000	206000
Potassium	µg/L	11000.0	11300.0
Sodium	µg/L	480000	498000
Chlorate	µg/L	35300.0	35900.0
Perchlorate	µg/L	4530	4590
Bicarbonate	mg/L	106	108
Carbonate	mg/L	ND	ND
Chloride	mg/L	583	572
Conductivity	µmho/cm	5170	5150
Fluoride	mg/L		
Hydroxide	mg/L	ND	ND
Nitrate	mg/L	12.4	12.3
Phosphorus	mg/L	0.02	0.019
Dissolved Solids	mg/L	4480	4560
Sulfate	mg/L	2280	2260

Analytical Results Summary

Instrument Name: R-Buret-01 **Analyst:** KREYNOLDS **Analysis Lot:** 179326 **Method/Testcode:** SM 2320 B/Alkalinity Titr

ab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
Q0911431-01	Alkalinity as CaCO3, Total	MB		Water	0.80 mg/L	100 mL	0.8 mg/L J	1	2.0			11/13/09 09:24	N	IV
Q0911431-01	Bicarbonate Alkalinity as CaCO3	MB		Water	0.80 mg/L	100 mL	0.8 mg/L J	1	2.0			11/13/09 09:24	N	IV
Q0911431-01	Carbonate Alkalinity as CaCO3	MB		Water	0.00 mg/L	100 mL	2.0 mg/L U	1	2.0			11/13/09 09:24	N	IV
Q0911431-01	Hydroxide Alkalinity as CaCO3	MB		Water	0.00 mg/L	100 mL	2.0 mg/L U	1	2.0			11/13/09 09:24	N	IV
Q0911431-02	Alkalinity as CaCO3, Total	LCS		Water	18.00 mg/L	100 mL	18.0 mg/L	1	2.0	90		11/13/09 09:24	N	IV
0906270-001	Alkalinity as CaCO3, Total	N/A		Water	105.50 mg/L	20 mL	106 mg/L	1	2.0			11/13/09 09:24	N	IV
0906270-001	Hydroxide Alkalinity as CaCO3	N/A		Water	0.00 mg/L	20 mL	2.0 mg/L U	1	2.0			11/13/09 09:24	N	IV
0906270-001	Bicarbonate Alkalinity as CaCO3	N/A		Water	105.50 mg/L	20 mL	106 mg/L	1	2.0			11/13/09 09:24	N	IV
0906270-001	Carbonate Alkalinity as CaCO3	N/A		Water	0.00 mg/L	20 mL	2.0 mg/L U	1	2.0			11/13/09 09:24	N	IV
Q0911431-03	Alkalinity as CaCO3, Total	DUP	R0906270-001	Water	105.50 mg/L	20 mL	106 mg/L	1	2.0		<1	11/13/09 09:24	N	IV
Q0911431-03	Bicarbonate Alkalinity as CaCO3	DUP	R0906270-001	Water	105.50 mg/L	20 mL	106 mg/L	1	2.0		<1	11/13/09 09:24	N	IV
Q0911431-03	Carbonate Alkalinity as CaCO3	DUP	R0906270-001	Water	0.00 mg/L	20 mL	2.0 mg/L U	1	2.0		NC	11/13/09 09:24	N	IV
Q0911431-03	Hydroxide Alkalinity as CaCO3	DUP	R0906270-001	Water	0.00 mg/L	20 mL	2.0 mg/L U	1	2.0		NC	11/13/09 09:24	N	IV
Q0911431-04	Alkalinity as CaCO3, Total	MS	R0906270-001	Water	150.50 mg/L	20 mL	151 mg/L	1	2.0	90		11/13/09 09:24	N	IV
0906270-002	Alkalinity as CaCO3, Total	N/A		Water	107.50 mg/L	20 mL	108 mg/L	1	2.0			11/13/09 09:24	N	IV
0906270-002	Bicarbonate Alkalinity as CaCO3	N/A		Water	107.50 mg/L	20 mL	108 mg/L	1	2.0			11/13/09 09:24	N	IV
0906270-002	Hydroxide Alkalinity as CaCO3	N/A		Water	0.00 mg/L	20 mL	2.0 mg/L U	1	2.0			11/13/09 09:24	N	IV
0906270-002	Carbonate Alkalinity as CaCO3	N/A		Water	0.00 mg/L	20 mL	2.0 mg/L U	1	2.0			11/13/09 09:24	N	IV
0906270-003	Alkalinity as CaCO3, Total	N/A		Water	1.20 mg/L	100 mL	1.2 mg/L BJ	1	2.0			11/13/09 09:24	N	IV
0906270-003	Hydroxide Alkalinity as CaCO3	N/A		Water	0.00 mg/L	100 mL	2.0 mg/L U	1	2.0			11/13/09 09:24	N	IV
0906270-003	Bicarbonate Alkalinity as CaCO3	N/A		Water	1.20 mg/L	100 mL	1.2 mg/L BJ	1	2.0			11/13/09 09:24	N	IV
0906270-003	Carbonate Alkalinity as CaCO3	N/A		Water	0.00 mg/L	100 mL	2.0 mg/L U	1	2.0			11/13/09 09:24	N	IV
0906276-001	Alkalinity as CaCO3, Total	N/A		Water	33.50 mg/L	60 mL	33.5 mg/L	1	2.0			11/13/09 09:24	N	IV
0906276-003	Alkalinity as CaCO3, Total	N/A		Water	146.67 mg/L	60 mL	147 mg/L	1	2.0			11/13/09 09:24	N	IV
0906276-005	Alkalinity as CaCO3, Total	N/A		Water	116.67 mg/L	30 mL	117 mg/L	1	2.0			11/13/09 09:24	N	IV
0906276-007	Alkalinity as CaCO3, Total	N/A		Water	10.10 mg/L	100 mL	10.1 mg/L	1	2.0			11/13/09 09:24	N	IV
0906276-009	Alkalinity as CaCO3, Total	N/A		Water	46.67 mg/L	45 mL	46.7 mg/L	1	2.0			11/13/09 09:24	N	IV
Q0911431-05	Alkalinity as CaCO3, Total	DUP	R0906276-009	Water	46.67 mg/L	45 mL	46.7 mg/L	1	2.0		<1	11/13/09 09:24	N	IV
Q0911431-06	Alkalinity as CaCO3, Total	MS	R0906276-009	Water	66.67 mg/L	45 mL	66.7 mg/L	1	2.0	90		11/13/09 09:24	N	IV
0906276-011	Alkalinity as CaCO3, Total	N/A		Water	93.56 mg/L	45 mL	93.6 mg/L	1	2.0			11/13/09 09:24	N	IV
0906276-015	Alkalinity as CaCO3, Total	N/A		Water	104.89 mg/L	45 mL	105 mg/L	1	2.0			11/13/09 09:24	N	IV
0906276-017	Alkalinity as CaCO3, Total	N/A		Water	30.92 mg/L	65 mL	30.9 mg/L	1	2.0			11/13/09 09:24	N	IV

Reviewed & Approved
By: CK
Date: 11/19/09

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

R6270 R6276 R6315 R6328

Analytical Results Summary

Instrument Name: R-Buret-01 **Analyst:** KREYNOLDS **Analysis Lot:** 179326 **Method/Testcode:** SM 2320 B/Alkalinity Titr

ab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
0906276-019	Alkalinity as CaCO3, Total	N/A		Water	93.33 mg/L	60 mL	93.3 mg/L	1	2.0			11/13/09 09:24	N	IV
0906276-022	Alkalinity as CaCO3, Total	N/A		Water	129.11 mg/L	45 mL	129 mg/L	1	2.0			11/13/09 09:24	N	IV
0906276-025	Alkalinity as CaCO3, Total	N/A		Water	69.11 mg/L	45 mL	69.1 mg/L	1	2.0			11/13/09 09:24	N	IV
0906276-027	Alkalinity as CaCO3, Total	N/A		Water	63.33 mg/L	45 mL	63.3 mg/L	1	2.0			11/13/09 09:24	N	IV

indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

COLUMBIA ANALYTICAL SERVICES, INC.
Rochester, NY

Analyte: Alkalinity
Method: SM20 2320 B

Regular Level X
High Level

Analyst: KLR
Pipette: HANS

Date: 11/3
Time: 9:1

Table 403.1 Alkalinaty Relationships

Result of titration	Hydroxide Alkalinaty as CaCO3	Carbonate Alkalinaty as CaCO3	Bicarbonate concentration as CaCO3
P = 0	0.0	0.0	T
P < 1/2T	0.0	2P	T - 2P
P = 1/2T	0.0	2P	0
P > 1/2T	2P - T	2(T- P)	0
P = T	T	0.0	0

P = Phenolphthalein Alkalinity T = Total Alkalinaty

Phenolphthalein alkalinity = the quantity measured by titration to pH 8.3

Alkalinity, mg CaCO3/L = ($A_{(mL\ acid\ used)}$ x $N_{(H2SO4)}$ x 50,000) /mL Sample

pH meter cal:

		Buffer Lot #:
4.0	4	WC92081A
7.0	7.04	WC92081B
10.0	10	WC92081C

pH Meter ID: ROCKY Balance ID (for soils): N/A

Reagents:	Concentration		Log #	Date
H2SO4:	0.020	N	WC92085G	9/22/09
Reg Level Reference:	50	mg/L	WC92109I	
High Level Reference:	5000	mg/L	WC92104I	
LCS/MS Solution:	1000	mg/L	WC92104H	

* Soils - 1g of sample diluted to 100mLs in DI
**HND Soil - 25 g of sample diluted to 250mLs in DI

	Misc.	Order #	Sample Vol (mL)	pH Initial	Titrant Volume Initial (mL)	Vol to pH 4.5	Vol to pH 8.3	Phen. Alk.	OH- Alk.	Carb Alk.	Bicarb Alk.	Total Alk.	Vol. Spk 1000 ppm (mL)
1		ICV	25.0	10.01	0.00	1.25						50.0	
2		ICB	100.0	5.01	0.00	0.08	0.00	0.0	0.0	0.0	0.8	0.8	
3		LCS	100.0	9.58	0.00	1.80						18.0	2.0
4	6270	R0906270-001	20.0	7.89	0.00	2.11	0.00	0.0	0.0	0.0	105.5	105.5	
5	DUP	R0906270-001	20.0	7.63	0.00	2.11	0.00	0.0	0.0	0.0	105.5	105.5	
6	SPK TV= 50	R0906270-001	20.0	8.28	0.00	3.01						150.5	1.0
7		R0906270-002	20.0	7.80	0.00	2.15	0.00	0.0	0.0	0.0	107.5	107.5	
8		R0906270-003	100.0	5.54	0.00	0.12	0.00	0.0	0.0	0.0	1.2	1.2	
9	6276	R0906276-001	60.0	7.38	0.00	2.01						33.5	
10		R0906276-003	60.0	7.70	0.00	8.80						146.7	
11		R0906276-005	30.0	7.91	0.00	3.50						116.7	CK 11/19/09
12		R0906276-007	100.0	7.00	0.00	1.30						~~13.0~~	See LL
13		CCV	25.0	9.96	0.00	1.29						51.6	
14		CCB	100.0	5.26	0.00	0.02						0.2	
15	6276	R0906276-009	45.0	7.46	0.00	2.10						46.7	
16	DUP	R0906276-009	45.0	7.56	0.00	2.10						46.7	
17	SPK TV= 22.2	R0906276-009	45.0	8.88	0.00	3.00						66.7	1.0
18		R0906276-011	45.0	7.94	0.00	4.21						93.6	
19		R0906276-015	45.0	7.84	0.00	4.72						104.9	
20		R0906276-017	65.0	7.34	0.00	2.01						30.9	
21		R0906276-019	60.0	8.14	0.00	5.60						93.3	
22		R0906276-022	45.0	8.00	0.00	5.81						129.1	
23		R0906276-025	45.0	7.73	0.00	3.11						69.1	
24		R0906276-027	45.0	7.51	0.00	2.85						63.3	
25		CCV	25.0	9.86	0.00	1.28						51.2	
26		CCB	100.0	5.20	0.00	0.02						0.2	
27		LCS	100.0	9.55	0.00	1.81						18.1	2.0
28	6276	R0906276-029	100.0	6.87	0.00	1.40						~~14.0~~	See LL CK 11/19/09
29		R0906276-031	100.0	5.23	0.00	0.12						1.2	
30		R0906276-033	100.0	7.70	0.00	9.10						91.0	
31		R0906276-035	100.0	7.97	0.00	9.00						90.0	
32	6315	R0906315-001	50.0	6.18	0.00	2.01						40.2	
33		R0906315-003	65.0	6.16	0.00	2.00						30.8	
34		R0906315-005	60.0	6.15	0.00	2.32						38.7	
35		R0906315-007	15.0	6.53	0.00	3.01						200.7	

Analyte: Alkalinity **Regular Level** X Analyst: KLR Date: 11/16/
Method: SM20 2320 B **High Level** Pipette: HANS Time: 9:

Table 403.1 Alkalinaty Relationships

Result of titration	Hydroxide Alkalinaty as CaCO3	Carbonate Alkalinaty as CaCO3	Bicarbonate concentration as CaCO3
P = 0	0.0	0.0	T
P < 1/2T	0.0	2P	T - 2P
P = 1/2T	0.0	2P	0
P > 1/2T	2P - T	2(T- P)	0
P = T	T	0.0	0

P = Phenolphthalein Alkalinity T = Total Alkalinaty

Phenolphthalein alkalinity = the quantity measured by titration to pH 8.3

Alkalinity, mg CaCO3 /L = (A(mL acid used) x N(H2SO4) x 50,000) /mL sample

pH meter cal:		Buffer Lot #:
4.0	4	WC92081A
7.0	7.04	WC92081B
10.0	10	WC92081C

pH Meter ID ROCKY Balance ID (for soils): N/A

Reagents:	Concentration		Log #	Date
H2SO4:	0.020	N	WC92085G	9/22/09
Reg Level Reference:	50	mg/L	WC92109I	
High Level Reference:	5000	mg/L	WC92104I	
LCS/MS Solution:	1000	mg/L	WC92104H	

* Soils - 1g of sample diluted to 100mLs in DI
**HND Soil - 25 g of sample diluted to 250mLs in DI

	Misc.	Order #	Sample Vol (mL)	pH Initial	Titrant Volume Initial (mL)	Vol to pH 4.5	Vol to pH 8.3	Phen. Alk.	OH- Alk.	Carb Alk.	Bicarb Alk.	Total Alk.	Vol. Spk 1000 ppm (mL)
36		R0906315-009	10.0	7.50	0.00	3.80						380.0	
37		CCV	25.0	9.91	0.00	1.29						51.6	
38		CCB	100.0	5.26	0.00	0.02						0.2	
39	6315	R0906315-011	20.0	9.76	0.00	2.09						104.5	
40		R0906315-014	10.0	6.43	0.00	6.80						680.0	
41		R0906315-016	40.0	6.30	0.00	2.31						57.8	
42		R0906315-018	100.0	5.14	0.00	0.70						~~7.0~~	see LL ck 11/19
43		R0906315-020	100.0	5.54	0.00	1.40						~~14.0~~	LL
44	DUP	R0906315-020	100.0	5.50	0.00	1.40						~~14.0~~	LL
45	SPK TV=10	R0906315-020	100.0	5.81	0.00	2.30						~~23.0~~	1.0 LL
46		R0906315-022	90.0	6.67	0.00	2.01						22.3	
47		R0906315-024	40.0	7.55	0.00	2.20						55.0	
48		R0906315-026	60.0	6.88	0.00	3.70						61.7	
49		CCV	25.0	9.86	0.00	1.25						50.0	
50		CCB	100.0	5.37	0.00	0.02	0.00	0.0	0.0	0.0	0.2	0.2	
51		LCS	100.0	9.58	0.00	1.89						18.9	2.0
52		R0906328-001	5.0	6.93	0.00	4.70	0.00	0.0	0.0	0.0	940.0	940.0	
53	DUP	R0906328-001	5.0	6.87	0.00	4.80	0.00	0.0	0.0	0.0	960.0	960.0	
54	SPK TV=400	R0906328-001	5.0	6.86	0.00	6.20						1240.0	2.0
55		R0906328-002	5.0	7.25	0.00	2.20	0.00	0.0	0.0	0.0	440.0	440.0	
56		R0906328-003	5.0	7.25	0.00	2.20	0.00	0.0	0.0	0.0	440.0	440.0	
57		R0906328-004	5.0	7.65	0.00	2.20	0.00	0.0	0.0	0.0	440.0	440.0	
58		R0906328-005	10.0	7.96	0.00	3.91	0.00	0.0	0.0	0.0	391.0	391.0	
59		R0906328-006	5.0	7.49	0.00	3.90	0.00	0.0	0.0	0.0	780.0	780.0	
60		R0906328-015	5.0	7.50	0.00	2.19	0.00	0.0	0.0	0.0	438.0	438.0	
61		R0906328-016	5.0	8.13	0.00	2.50	0.00	0.0	0.0	0.0	500.0	500.0	
62		CCV	25.0	9.90	0.00	1.25						50.0	
63		CCB	100.0	5.35	0.00	0.02						0.2	
64													
65													
66													
67		KLR											
68		11/16/09											
69													
70													

COLUMBIA ANALYTICAL SERVICES, INC.
Rochester, NY

Analyte: Alkalinity Low Level
Method: SM20 2320 B

Analyst: KLR
Pipette: HANS
Date: 11/13/10
Time: 9:24

pH meter cal:

		Buffer Lot #:
4.0	4	WC92081A
7.0	7.04	WC92081B
10.0	10	WC92081C

pH meter ID: ROCKY
Balance ID (soils): N/A

Reagent:

	Concentration	Log #	D
H2SO4:	0.02 N	WC92085G	9/22/10

Alkalinity, mg CaCO3 /L = (2B-C) x N x 50,000 / mL sample

where: B = mL standard acid used
C = total ml titrant to reach 0.3 pH units lower

*Soil - 1g of sample diluted to 100mls in DI
**HND Soil - 25 g of sample diluted to 250mLs in I

	Misc.	Order #	Sample Vol (mL)	pH Initial	Titrant Volume Initial (mL)	Vol.@pH 4.5		Vol.@pH -0.3		Total Alkalinity (mg/L)	*Soil (X)
						Vol.(B)	pH	Vol.(C)	pH		
1		R0906276-007	100.0	7.00	0.00	1.30	4.46	1.59	4.15	10.10	
2		R0906276-029	100.0	6.87	0.00	1.40	4.48	1.6	4.18	12.00	
3		R0906315-018	100.0	5.14	0.00	0.70	4.46	0.91	4.15	4.90	
4		R0906315-020	100.0	5.54	0.00	1.40	4.49	1.62	4.18	11.80	
5	DUP	R0906315-020	100.0	5.50	0.00	1.40	4.5	1.65	4.19	11.50	
6	SPK TV=10	R0906315-020	100.0	5.81	0.00	2.30	4.49	2.59	4.19	20.10	
7											
8											
9											
10											
11											
12											
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KLR 11/16/09

Columbia Analytical Services
1 Mustard Street, Rochester, NY 14609

General Chemistry Analytical Run Cover Sheet

Analyst: KLP Date: 11/13/09

Analysis: ___Alkalinity, Regular/Low Level_____ Instrument: __Titration_____

Quality Control:

			Stock Sol	Stock Sol	Final Vol	True Value
	Log Book #	Log Book Date	(mLs)	(mg/L)	(mLs)	(mg/L)
a) Titrant:	WC92085G	9/22/2009				
b) I/CCV Preparation:	WC92109I	10/29/2009				50
c) LCS Preparation:	WC92104H	10/29/2009	2	1000	100	20
d) Matrix Spike Prep.:	WC92104H	10/29/2009	See Data Sheet			

Instrument log filled in? (Y) (N)

Packages:

Copy and attach Standards Preparation.

Comments:

p:\greg\forms\cover.alk

TITLE PROJECT

Continued from page

9/21/09 (A) TDS Reference
EW 0.9126 ~~0.1926~~g NaCl (WC85215H) diluted volumetrically to 1 Liter w/ DI. Store in plastic bottle @ 4°C.
9/21/09 EW 9/21/09
TV = 913 mg/L Exp: 9/21/10 (12306)

9/21/09 (3) TKN Digest Reagent
SBR To a 2L vol. flask, add 268g K_2SO_4 (WC92081G) and 14.6 g $CuSO_4$ (WC85271E). Fill ~½ way with UPDI. Slowly add 26.8 mL omnitrace H_2SO_4 (WC92064B) Allow to dissolve and cool Bring to vol. with UPDI. Store in amber glass @ RT for 1 month Exp 10/21/09

9/21/09 (C) Color Reagent - TPO4
GN - same as WC92075G. Exp 1 year or 9/21/09 or when discolored

9/21/09 (D) Ascorbic Acid - TPO4
GN - same as WC92070C. Exp 1 week: 9/28/09

9/22/09 (E) Hypochlorite - TKN
NM - same as WC92082B. Prepare fresh each run.

9/22/09 Received from VWR:

(F) EDTA 1x500g CAT# EX0539-1 EMD Lot# 49077930 CAS# 6381-92-6
Store at room temp Exp 9/22/14 12329

(G) 1x1L 0.0200N Sulfuric Acid Solution CAT# BDH3229-4 BDH Lot# 9089 CAS# 7664-93-9
Store at room temp Exp 3/31/10 12330

(H) 1x500g Sodium Formate Crystal CAT# 3720-01 JT Baker Lot# B40601 CAS# 141-53-7
Store at room temp Exp 9/22/14

(I) 1x 125ml Bromide Standard 1000 ppm CAT# 1CC-5001 Ultra Scientific Lot# J00147
Store at 4°C in Standards fridge. Exp 3/31/11 12327

(J) 1x 500ml Phenol Solution CAT# PX0511-1 EMD Lot# 42112 CAS# 108-95-2
Store in flammable cabinet Exp 9/22/14 12328

9/22/09 EW (K) TS/TVS Reference
0.2001 g KHP (WC85062C) diluted volumetrically to 1 Liter w/ DI. Store in plastic bottle @ 4°C. TV_{TS} = 300 mg/L TV_{TVS}: 200 mg/L Exp: 9/22/10 (12332)

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SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

TITLE **PROJECT**

Continued from page

11/6/09 (A) TKN Digest Reagent
OAP Same as WC12225B. Exp. 12/6/09.

11/6/09 (B) Color Reagent NH3
NM - Same as WC92083E. Exp. 1 year, 11/6/10

(C) Buffer-NH3
- Same as WC92021G. Exp. 1 year, 11/6/10.

11/2/09 (D) Ascorbic Acid - Kondab
OAP In a 100 ml vol flask dissolve 4.0 g Ascorbic Acid (WC12001E) and 0.2 ml Acetone (WC85203J) in DPDI. Bring to volume w/ DPDI. Store at 4C. Exp 11/21/09

11/9/09 (E) DPD Indicator
OAP In a 500 ml vol flask dissolve 0.50 g DPD (WC76075F), 0.10 g EDTA (WC91208SF) and 4.0 ml 1+3 H_2SO_4 (WC82015C) in DI. Store @ RT in amber. Exp 12/9/09 or when discolored.

(F) FAS Titrant
In a 500 ml vol flask dissolve 0.553 g Ferrous Ammonium Sulfate Hexahydrate (WC112005D) and 0.5 ml 1+3 H_2SO_4 (WC12015C) in DI. Store @ RT in amber. exp 12/9/09

(G) Stock Chlorine - Cl Residual
In a 500 ml vol flask dilute one ml Sodium hypochlorite (WC92094F) to volume with DI. Made fresh and Standardized per run.

(H) 0.01564N $Na_2S_2O_3$
In a 500 ml vol flask dilute 28.2 ml ~~LOA~~ 0.1 N $Na_2S_2O_3$ (WC92020E) to volume with DI. Made fresh per run. (0.1 N: am 11/9/09)

11/9/09 (I) Alkalinity Reference Solution 50 mg/L
KLR Volumetrically add 10.0 mL of the 5000 mg/L Alkalinity Reference Stock (WC92104I) and dilute to 1L w/ DI. Store in a plastic bottle @ 4°C exp 4/24/10

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DATE

TITLE PROJECT

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10/28/09 (A) MBAS Wash Solution
To a tared 2L vol flask add: 100g Sodium Phosphate Monobasic, Monohydrate (WC 92092D) add 13.7mL conc. H_2SO_4 (M1780099K) Store @ RT. Bring to vol w/DI
exp 10/28/10

10/28/09 SBR (B) 100 ppm Organic Phosphorous Standard - TPO_4
In a 1 liter vol. flask, dissolve 0.9885g β-Glycerophosphoric Acid, Disulfuric Salt, 5-Hydrate (WC76143D) in DI. Bring to volume w/ DI. Store in amber glass at 4°C Exp 1yr. 10/28/10.

10/28/09 NM (C) Ascorbic Acid - TPO_4
-same as WC92086D. Exp. 1 week, 11/4/09

10/28/09 QN (D) Sulfamic Acid - CN
-same as WC92089E. Exp 1 year: 10/28/10

10/29/09 DPW (E) 1.0ppm Working reference stock
Dilute 10mL of 1000ppm MBAS/LAS Standard (WC92093F) to 1L volumetrically w/ DI. Store @ RT, exp: 10/29/09.

10/29/09 NM (F) NH_3 Carrier/Diluent
-same as WC92067C. Prepared solution x3

(G) Buffer - NH_3
-same as WC92096. ~~Exp~~ AM 10/29/09 Exp. 10/29/10.

10/29/09 KLE (H) Alkalinity LCS/MS Solution: 1000mg/L
Dissolve 1.0590g Na_2CO_3 (WC76232D) in ~800mL of DI. Bring up to 1L volumetrically with DI. Store in a plastic bottle @ 4°C exp: 4/29/10

(I) Alkalinity Reference Stock: 5000mg/L
Dissolve 5.300g Na_2CO_3 (WC76294G) in ~800mL DI. Bring up to 1L volumetrically with DI. Store in a plastic bottle @ 4°C. exp: 4/29/10

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE

PROPRIETARY INFORMATION

Analytical Results Summary

Instrument Name: R-FIA-01 **Analyst:** NMEAD **Analysis Lot:** 180572 **Method/Testcode:** 350.1/Ammonia T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
RQ0911746-01	Ammonia as Nitrogen	MB		Water	0.01 mg/L	10 mL	0.050 mg/L U	1	0.050			11/23/09 11:28:18	N	IV
RQ0911746-02	Ammonia as Nitrogen	LCS		Water	0.50 mg/L	10 mL	0.495 mg/L	1	0.050	99		11/23/09 12:08:45	N	IV
R0906555-001	Ammonia as Nitrogen	N/A		Water	0.00 mg/L	10 mL	0.050 mg/L U	1	0.050			11/23/09 12:15:35	N	IV
RQ0911746-04	Ammonia as Nitrogen	DUP	R0906555-001	Water	0.00 mg/L	10 mL	0.050 mg/L U	1	0.050		NC	11/23/09 12:16:33	N	IV
RQ0911746-03	Ammonia as Nitrogen	MS	R0906555-001	Water	0.47 mg/L	10 mL	0.469 mg/L	1	0.050	94		11/23/09 12:17:32	N	IV
R0906555-002	Ammonia as Nitrogen	N/A		Water	0.00 mg/L	10 mL	0.050 mg/L U	1	0.050			11/23/09 12:20:26	N	IV
R0906555-003	Ammonia as Nitrogen	N/A		Water	0.00 mg/L	10 mL	0.050 mg/L U	1	0.050			11/23/09 12:21:23	N	IV
R0906600-001	Ammonia as Nitrogen	N/A		Water	0.93 mg/L	10 mL	1850 mg/L	2000	100			11/23/09 12:22:21	N	II
R0906625-001	Ammonia as Nitrogen	N/A		Water	0.00 mg/L	10 mL	0.050 mg/L U	1	0.050			11/23/09 12:23:18	N	II
R0906401-001	Ammonia as Nitrogen	N/A		Water	0.00 mg/L	10 mL	0.050 mg/L U	1	0.050			11/23/09 12:24:15	N	I
R0906401-002	Ammonia as Nitrogen	N/A		Water	0.00 mg/L	10 mL	0.10 mg/L U	2	0.10			11/23/09 13:56:20	N	I
R0906401-003	Ammonia as Nitrogen	N/A		Water	0.01 mg/L	10 mL	0.050 mg/L U	1	0.050			11/23/09 12:26:13	N	I
R0906401-004	Ammonia as Nitrogen	N/A		Water	0.02 mg/L	10 mL	0.050 mg/L U	1	0.050			11/23/09 12:27:13	N	I
R0906402-001	Ammonia as Nitrogen	N/A		Water	0.03 mg/L	10 mL	5.0 mg/L U	100	5.0			11/23/09 13:59:17	N	I
R0906405-001	Ammonia as Nitrogen	N/A		Water	0.03 mg/L	10 mL	0.050 mg/L U	1	0.050			11/23/09 12:29:10	N	II
R0906405-002	Ammonia as Nitrogen	N/A		Water	0.01 mg/L	10 mL	0.050 mg/L U	1	0.050			11/23/09 12:33:02	N	II
R0906405-003	Ammonia as Nitrogen	N/A		Water	0.01 mg/L	10 mL	0.050 mg/L U	1	0.050			11/23/09 12:34:01	N	II
R0906405-004	Ammonia as Nitrogen	N/A		Water	0.12 mg/L	10 mL	0.117 mg/L	1	0.050			11/23/09 12:34:59	N	II
R0906270-001	Ammonia as Nitrogen	N/A		Water	0.02 mg/L	10 mL	0.022 mg/L J	1	0.050			11/23/09 12:35:57	N	IV
R0906270-002	Ammonia as Nitrogen	N/A		Water	0.03 mg/L	10 mL	0.031 mg/L J	1	0.050			11/23/09 12:36:54	N	IV
R0906270-003	Ammonia as Nitrogen	N/A		Water	0.21 mg/L	10 mL	0.206 mg/L	1	0.050			11/23/09 12:37:51	N	IV
R0906477-001	Ammonia as Nitrogen	N/A		Water	0.06 mg/L	10 mL	0.061 mg/L	1	0.050			11/23/09 12:38:48	N	IV
R0906328-001	Ammonia as Nitrogen	N/A		Water	0.02 mg/L	10 mL	0.050 mg/L U	1	0.050			11/23/09 12:39:48	Y	IV
RQ0911746-06	Ammonia as Nitrogen	DUP	R0906328-001	Water	0.01 mg/L	10 mL	0.012 mg/L J	1	0.050		NC	11/23/09 12:40:47	N	IV
RQ0911746-05	Ammonia as Nitrogen	MS	R0906328-001	Water	0.43 mg/L	10 mL	0.430 mg/L	1	0.050	86*		11/23/09 12:43:44	N	IV
R0906328-002	Ammonia as Nitrogen	N/A		Water	1.17 mg/L	10 mL	5.86 mg/L	5	0.25			11/23/09 14:00:16	N	IV

90758

t indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Creator: NMEAD
Creation Date: Nov 23, 2009 9:59:39
Last Modified: Nov 23, 2009 10:04:30
Description: QC 8000 350.1 Ammonia - RUN LOG - 0911230A

Cup #	Sample ID	Manual Dilution	Sample Type	
1	Standard A - 2.000	1.0000	CalStd	
2	Standard B - 1.000	1.0000	CalStd	
3	Standard C - 0.500	1.0000	CalStd	
4	Standard D - 0.200	1.0000	CalStd	
5	Standard E - 0.100	1.0000	CalStd	
6	Standard F - 0.050	1.0000	CalStd	
7	Standard G - 0.020	1.0000	CalStd	
8	Standard H - 0.010	1.0000	CalStd	
9	Standard I - 0.000	1.0000	CalStd	
1	ICV TV= 0.90	1.0000	Unknown	
2	ICB	1.0000	Unknown	
3	LCS TV= 0.500	1.0000	Unknown	
4	CRDL 0.050	1.0000	Unknown	
5	CRDL 0.010	1.0000	Unknown	
6	CCV	1.0000	Unknown	
7	CCB	1.0000	Unknown	
8	R0906300-001	1.0000	Unknown	
9	R0906300-002	1.0000	Unknown	
10	R0906300-003	1.0000	Unknown	
11	R0906300-004	1.0000	Unknown	
12	R0906300-005	1.0000	Unknown	
13	6300-005 DUP	1.0000	Unknown	
14	6300-005 SPK TV= 0.500	1.0000	Unknown	
15	R0906300-008	1.0000	Unknown	⊛
16	R0906300-009	1.0000	Unknown	⊛
17	R0906300-010	1.0000	Unknown	
18	CCV	1.0000	Unknown	
19	CCB	1.0000	Unknown	
20	LCS	1.0000	Unknown	
21	R0906300-012	1.0000	Unknown	
22	R0906300-016	1.0000	Unknown	
23	R0906300-019	1.0000	Unknown	
24	R0906300-020	1.0000	Unknown	
25	R0906300-021	1.0000	Unknown	
26	R0906399-003	1.0000	Unknown	
27	6399-003 DUP	1.0000	Unknown	
28	6399-003 SPK TV= 0.500	1.0000	Unknown	
29	R0906399-007	1.0000	Unknown	
30	CCV	1.0000	Unknown	
31	CCB	1.0000	Unknown	

⊛ - neg. peak. < LOQ

Cup #	Sample ID	Manual Dilution	Sample Type	
32	R0906399-011	1.0000	Unknown	- Bad integration? rpt'd #15
33	FILTER BLANK	1.0000	Unknown	
34	FILTERED LCS TV= 0.500	1.0000	Unknown	
35	PB SOIL	1.0000	Unknown	
36	LCS SOIL TV= 50.0	1.0000	Unknown	1.0g → 100g
37	R0906420-032	1.0000	Unknown	
38	6420-032 DUP	1.0000	Unknown	
39	6420-032 SPK TV= 50.0	1.0000	Unknown	
40	R0906420-033	1.0000	Unknown	
41	R0906420-034	1.0000	Unknown	- sm. air spike - rpt'd #15
42	CCV	1.0000	Unknown	
43	CCB	1.0000	Unknown	
44	LCS	1.0000	Unknown	
45	R0906420-035	1.0000	Unknown	4.0g → 100g
46	R0906420-036	1.0000	Unknown	
47	R0906420-037	1.0000	Unknown	
48	R0906504-004	1.0000	Unknown	
49	R0906504-005	1.0000	Unknown	
50	R0906504-006	1.0000	Unknown	
51	R0906555-001	1.0000	Unknown	⊛
52	6555-001 DUP	1.0000	Unknown	⊛
53	6555-001 SPK TV= 0.500	1.0000	Unknown	
54	CCV	1.0000	Unknown	
55	CCB	1.0000	Unknown	
56	R0906555-002	1.0000	Unknown	
57	R0906555-003	1.0000	Unknown	
58	R0906600-001	2,000.0000	Unknown	
59	R0906625-001	1.0000	Unknown	⊛
60	R0906401-001	1.0000	Unknown	⊛
61	R0906401-002	1.0000	Unknown	- strange neg peak - rpt'd #154-
62	R0906401-003	1.0000	Unknown	- sm. sine peak - <LOQ
63	R0906401-004	1.0000	Unknown	- sm. sine peak - <LOQ
64	R0906402-001	10.0000	Unknown	- neg. peak - rpt'd #155 - 1/2
65	R0906405-001	1.0000	Unknown	#156 - 1/
66	CCV	1.0000	Unknown	#157 - 1/
67	CCB	1.0000	Unknown	
68	LCS	1.0000	Unknown	
69	R0906405-002	1.0000	Unknown	
70	R0906405-003	1.0000	Unknown	
71	R0906405-004	1.0000	Unknown	
72	R0906270-001	1.0000	Unknown	
73	R0906270-002	1.0000	Unknown	
74	R0906270-003	1.0000	Unknown	
75	R0906477-001	1.0000	Unknown	
76	R0906328-001	1.0000	Unknown	

⊛ - neg. peak - < LOQ

Cup #	Sample ID	Manual Dilution	Sample Type	
77	6328-001 DUP	1.0000	Unknown	
78	CCV	1.0000	Unknown	
79	CCB	1.0000	Unknown	
80	6328-001 SPK TV= 0.500	1.0000	Unknown	- low - (86.1%)
81	R0906328-002	1.0000	Unknown	- rpt @# 158-1/5
82	R0906328-003	1.0000	Unknown	- rpt @# 159-1/5
83	R0906328-004	1.0000	Unknown	
84	R0906328-005	1.0000	Unknown	
85	R0906328-006	1.0000	Unknown	
86	R0906328-015	1.0000	Unknown	
87	R0906328-016	1.0000	Unknown	
88	R0906420-001	1.0000	Unknown	
89	6420-001 DUP	1.0000	Unknown	
90	CCV	1.0000	Unknown	
91	CCB	1.0000	Unknown	
92	LCS	1.0000	Unknown	
93	6420-001 SPK TV= 0.500	1.0000	Unknown	
94	R0906420-002	1.0000	Unknown	
95	R0906420-003	1.0000	Unknown	
96	R0906420-004	1.0000	Unknown	⊛
97	R0906420-005	1.0000	Unknown	
98	R0906420-006	1.0000	Unknown	
99	R0906420-007	1.0000	Unknown	⊛
100	R0906420-008	1.0000	Unknown	⊛
101	R0906420-009	1.0000	Unknown	⊛
102	CCV	1.0000	Unknown	
103	CCB	1.0000	Unknown	
104	R0906420-010	1.0000	Unknown	} rpt @# 160, 161, 165-1/2
105	6420-010 DUP	1.0000	Unknown	
106	6420-010 SPK TV= 0.500	1.0000	Unknown	
107	R0906420-011	1.0000	Unknown	
108	R0906420-012	1.0000	Unknown	- rpt @# 166 - 1/2
109	R0906420-013	1.0000	Unknown	
110	R0906420-014	1.0000	Unknown	
111	R0906420-015	1.0000	Unknown	
112	R0906420-016	1.0000	Unknown	
113	R0906420-017	1.0000	Unknown	
114	CCV	1.0000	Unknown	
115	CCB	1.0000	Unknown	
116	LCS	1.0000	Unknown	
117	R0906420-018	1.0000	Unknown	
118	R0906420-019	1.0000	Unknown	
119	R0906420-020	1.0000	Unknown	
120	6420-020 DUP	1.0000	Unknown	
121	6420-020 SPK TV= 0.500	1.0000	Unknown	

⊛ - Neg. peak - < LOQ

Cup #	Sample ID	Manual Dilution	Sample Type	
122	R0906420-021	1.0000	Unknown	
123	R0906420-022	1.0000	Unknown	
124	R0906420-023	1.0000	Unknown	
125	R0906434-001	20.0000	Unknown	
126	CCV	1.0000	Unknown	
127	CCB	1.0000	Unknown	
128	R0906434-002	20.0000	Unknown	
129	R0906434-003	20.0000	Unknown	
130	R0906434-004	20.0000	Unknown	
131	R0906434-005	20.0000	Unknown	
132	R0906434-006	20.0000	Unknown	
133	R0906442-001	10.0000	Unknown	
134	R0906442-002	1.0000	Unknown	
135	R0906442-005	1.0000	Unknown	
136	6442-005 DUP	1.0000	Unknown	
137	6442-005 SPK TV= 0.500	1.0000	Unknown	-low - (85.7%)
138	CCV	1.0000	Unknown	
139	CCB	1.0000	Unknown	
140	LCS	1.0000	Unknown	
141	R0906442-006	1.0000	Unknown	
142	R0906442-007	1.0000	Unknown	
143	R0906444-003	10.0000	Unknown	-rpt @ #167-1/20
144	R0906445-001	1.0000	Unknown	
145	R0906445-002	1.0000	Unknown	
146	6445-002 DUP	1.0000	Unknown	
147	6445-002 SPK TV= 0.500	1.0000	Unknown	
148	R0906445-003	1.0000	Unknown	-Bump after peak - rpt @ #(
149	R0906300-007	1.0000	Unknown	
150	CCV	1.0000	Unknown	
151	CCB	1.0000	Unknown	
152	R0906399-011 RPT	1.0000	Unknown	
153	R0906420-034 RPT	1.0000	Unknown	1.0g → 10.0g
154	R0906401-002 RPT 1/2	2.0000	Unknown	⊛
155	R0906402-001 RPT 1/20	20.0000	Unknown	- neg. peak
156	R0906402-001 RPT 1/50	50.0000	Unknown	- sm. double peak
157	R0906402-001 RPT 1/100	100.0000	Unknown	- report this result
158	R0906328-002 RPT 1/5	5.0000	Unknown	
159	R0906328-003 RPT 1/5	5.0000	Unknown	
160	R0906420-010 RPT 1/2	2.0000	Unknown	
161	6420-010 DUP RPT 1/2	2.0000	Unknown	
162	CCV	1.0000	Unknown	
163	CCB	1.0000	Unknown	
164	LCS	1.0000	Unknown	
165	6420-010SPKRPT1/2TV=0.5	2.0000	Unknown	
166	R0906420-012 RPT 1/2	2.0000	Unknown	

⊛ - neg. peak - < LOQ

Cup #	Sample ID	Manual Dilution	Sample Type	
167	R0906444-003 RPT 1/20	20.0000	Unknown	
168	R0906445-003 RPT	1.0000	Unknown	
169	CCV	1.0000	Unknown	
170	CCB	1.0000	Unknown	

OPERATOR: NMEAD
ACQ. TIME: Nov 23, 2009 11:27:16
DATA FILENAME: C:\OMNION\DATA\091123A1.FDT
TRAY FILENAME: C:\OMNION\TRAYS\0911230A.TRA

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 1 to 25

Cup	Sample ID	Sampling Date	Sampling Time	Rep #	QC 8000 350.1 Ammonia (mg/L)	Man Dil Factor	Auto Dil Factor
1	ICV TV= 0.90	23 Nov 2009	11:27:19	1	0.8596	1.0	1.00
2	ICB	23 Nov 2009	11:28:18	1	0.0055	1.0	1.00
3	LCS TV= 0.500	23 Nov 2009	11:29:16	1	0.4991	1.0	1.00
4	CRDL 0.050	23 Nov 2009	11:30:14	1	0.0569	1.0	1.00
5	CRDL 0.010	23 Nov 2009	11:31:12	1	0.0184	1.0	1.00
6	CCV	23 Nov 2009	11:32:10	1	0.8558	1.0	1.00
7	CCB	23 Nov 2009	11:33:09	1	-0.0000	1.0	1.00
8	R0906300-001	23 Nov 2009	11:34:07	1	0.2968	1.0	1.00
9	R0906300-002	23 Nov 2009	11:35:04	1	0.4184	1.0	1.00
10	R0906300-003	23 Nov 2009	11:36:01	1	0.3042	1.0	1.00
11	R0906300-004	23 Nov 2009	11:36:58	1	-0.0000	1.0	1.00
12	R0906300-005	23 Nov 2009	11:37:55	1	0.0445	1.0	1.00
13	6300-005 DUP	23 Nov 2009	11:38:52	1	0.0436	1.0	1.00
14	6300-005 SPK TV= 0.500	23 Nov 2009	11:39:49	1	0.5342	1.0	1.00
15	R0906300-008	23 Nov 2009	11:40:47	1	-0.0000	1.0	1.00 (*)
16	R0906300-009	23 Nov 2009	11:41:45	1	0.0069	1.0	1.00 (*)
17	R0906300-010	23 Nov 2009	11:42:43	1	0.2027	1.0	1.00
18	CCV	23 Nov 2009	11:43:41	1	0.8579	1.0	1.00
19	CCB	23 Nov 2009	11:44:39	1	-0.0000	1.0	1.00
20	LCS	23 Nov 2009	11:45:37	1	0.4964	1.0	1.00
21	R0906300-012	23 Nov 2009	11:46:36	1	0.2519	1.0	1.00
22	R0906300-016	23 Nov 2009	11:47:34	1	0.2317	1.0	1.00
23	R0906300-019	23 Nov 2009	11:48:32	1	0.4147	1.0	1.00
24	R0906300-020	23 Nov 2009	11:49:30	1	0.0064	1.0	1.00
25	R0906300-021	23 Nov 2009	11:50:27	1	0.0089	1.0	1.00

(*) - No peak < LOQ

OPERATOR: NMEAD
ACQ. TIME: Nov 23, 2009 11:27:16
DATA FILENAME: C:\OMNION\DATA\091123A1.FDT
TRAY FILENAME: C:\OMNION\TRAYS\0911230A.TRA

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 26 to 50

Cup	Sample ID	Sampling Date	Sampling Time	Rep #	QC 8000 350.1 Ammonia (mg/L)	Man Dil Factor	Auto Dil Factor	
26	R0906399-003	23 Nov 2009	11:51:24	1	0.0920	1.0	1.00	
27	6399-003 DUP	23 Nov 2009	11:52:21	1	0.0893	1.0	1.00	
28	6399-003 SPK TV= 0.500	23 Nov 2009	11:53:19	1	0.5687	1.0	1.00	
29	R0906399-007	23 Nov 2009	11:54:16	1	0.0708	1.0	1.00	
30	CCV	23 Nov 2009	11:55:13	1	0.8548	1.0	1.00	
31	CCB	23 Nov 2009	11:56:12	1	0.0066	1.0	1.00	
32	R0906399-011	23 Nov 2009	11:57:11	1	0.0714	1.0	1.00	– Bad integration? - rpt @ #152
33	FILTER BLANK	23 Nov 2009	11:58:10	1	0.0021	1.0	1.00	
34	FILTERED LCS TV= 0.500	23 Nov 2009	11:59:08	1	0.4938	1.0	1.00	
35	PB SOIL	23 Nov 2009	12:00:06	1	0.0065	1.0	1.00	= 0.65
36	LCS SOIL TV= 50.0	23 Nov 2009	12:01:04	1	0.4976	1.0	1.00	= 49.76
37	R0906420-032	23 Nov 2009	12:02:02	1	0.0342	1.0	1.00	= 3.42
38	6420-032 DUP	23 Nov 2009	12:03:00	1	0.0336	1.0	1.00	= 3.36
39	6420-032 SPK TV= 50.0	23 Nov 2009	12:03:58	1	0.4927	1.0	1.00	= 49.27
40	R0906420-033	23 Nov 2009	12:04:57	1	0.0342	1.0	1.00	= 3.42
41	R0906420-034	23 Nov 2009	12:05:54	1	0.0209	1.0	1.00	– sm. air spike - rpt @ #153
42	CCV	23 Nov 2009	12:06:51	1	0.8575	1.0	1.00	
43	CCB	23 Nov 2009	12:07:48	1	0.0038	1.0	1.00	
44	LCS	23 Nov 2009	12:08:45	1	0.4951	1.0	1.00	
45	R0906420-035	23 Nov 2009	12:09:42	1	0.0602	1.0	1.00	= 6.02
46	R0906420-036	23 Nov 2009	12:10:42	1	0.1640	1.0	1.00	= 16.40
47	R0906420-037	23 Nov 2009	12:11:41	1	0.0537	1.0	1.00	= 5.37
48	R0906504-004	23 Nov 2009	12:12:40	1	0.0680	1.0	1.00	= 6.80
49	R0906504-005	23 Nov 2009	12:13:39	1	0.2568	1.0	1.00	= 25.68
50	R0906504-006	23 Nov 2009	12:14:37	1	0.0934	1.0	1.00	= 9.34

OPERATOR: NMEAD
ACQ. TIME: Nov 23, 2009 11:27:16
DATA FILENAME: C:\OMNION\DATA\091123A1.FDT
TRAY FILENAME: C:\OMNION\TRAYS\0911230A.TRA

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 51 to 75

Cup	Sample ID	Sampling Date	Sampling Time	Rep #	QC 8000 350.1 Ammonia (mg/L)	Man Dil Factor	Auto Dil Factor	
51	R0906555-001	23 Nov 2009	12:15:35	1	-0.0000	1.0	1.00	(*)
52	6555-001 DUP	23 Nov 2009	12:16:33	1	-0.0000	1.0	1.00	(*)
53	6555-001 SPK TV= 0.500	23 Nov 2009	12:17:32	1	0.4693	1.0	1.00	
54	CCV	23 Nov 2009	12:18:30	1	0.8600	1.0	1.00	
55	CCB	23 Nov 2009	12:19:28	1	0.0075	1.0	1.00	
56	R0906555-002	23 Nov 2009	12:20:26	1	0.0018	1.0	1.00	
57	R0906555-003	23 Nov 2009	12:21:23	1	0.0041	1.0	1.00	
58	R0906600-001	23 Nov 2009	12:22:21	1	1852.6040	2000.0	1.00	
59	R0906625-001	23 Nov 2009	12:23:18	1	-0.0000	1.0	1.00	(*)
60	R0906401-001	23 Nov 2009	12:24:15	1	0.0153	1.0	1.00	(*)
61	R0906401-002	23 Nov 2009	12:25:14	1	-0.0000	1.0	1.00	- strange peak - rpt@#154-1/2
62	R0906401-003	23 Nov 2009	12:26:13	1	0.0137	1.0	1.00	- sm. sine peak - <LOQ
63	R0906401-004	23 Nov 2009	12:27:13	1	0.0200	1.0	1.00	- sm. sine peak - <LOQ
64	R0906402-001	23 Nov 2009	12:28:12	1	1.2322	10.0	1.00	- neg. peak - rpt@#155-1/20
65	R0906405-001	23 Nov 2009	12:29:10	1	0.0250	1.0	1.00	#156-1/50
66	CCV	23 Nov 2009	12:30:08	1	0.8647	1.0	1.00	#157-1/100
67	CCB	23 Nov 2009	12:31:06	1	0.0048	1.0	1.00	
68	LCS	23 Nov 2009	12:32:04	1	0.4968	1.0	1.00	
69	R0906405-002	23 Nov 2009	12:33:02	1	0.0053	1.0	1.00	
70	R0906405-003	23 Nov 2009	12:34:01	1	0.0091	1.0	1.00	
71	R0906405-004	23 Nov 2009	12:34:59	1	0.1168	1.0	1.00	
72	R0906270-001	23 Nov 2009	12:35:57	1	0.0221	1.0	1.00	
73	R0906270-002	23 Nov 2009	12:36:54	1	0.0315	1.0	1.00	
74	R0906270-003	23 Nov 2009	12:37:51	1	0.2058	1.0	1.00	
75	R0906477-001	23 Nov 2009	12:38:48	1	0.0609	1.0	1.00	

(*) - neg. peak - < LOQ

OPERATOR: NMEAD
ACQ. TIME: Nov 23, 2009 11:27:16
DATA FILENAME: C:\OMNION\DATA\091123A1.FDT
TRAY FILENAME: C:\OMNION\TRAYS\0911230A.TRA

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 76 to 100

Cup	Sample ID	Sampling Date	Sampling Time	Rep #	QC 8000 350.1 Ammonia (mg/L)	Man Dil Factor	Auto Dil Factor	
76	R0906328-001	23 Nov 2009	12:39:48	1	0.0178	1.0	1.00	
77	6328-001 DUP	23 Nov 2009	12:40:47	1	0.0123	1.0	1.00	
78	CCV	23 Nov 2009	12:41:46	1	0.8582	1.0	1.00	
79	CCB	23 Nov 2009	12:42:45	1	-0.0000	1.0	1.00	
80	6328-001 SPK TV= 0.500	23 Nov 2009	12:43:44	1	0.4303	1.0	1.00	- low - (86.1%)
81	R0906328-002	23 Nov 2009	12:44:43	1	5.0750	1.0	1.00	- rpt c#158-1/5
82	R0906328-003	23 Nov 2009	12:45:42	1	4.9897	1.0	1.00	- rpt c#159-1/5
83	R0906328-004	23 Nov 2009	12:46:40	1	0.8554	1.0	1.00	
84	R0906328-005	23 Nov 2009	12:47:38	1	0.2055	1.0	1.00	
85	R0906328-006	23 Nov 2009	12:48:36	1	0.6986	1.0	1.00	
86	R0906328-015	23 Nov 2009	12:49:34	1	0.3717	1.0	1.00	
87	R0906328-016	23 Nov 2009	12:50:32	1	1.9448	1.0	1.00	
88	R0906420-001	23 Nov 2009	12:51:31	1	0.5664	1.0	1.00	
89	6420-001 DUP	23 Nov 2009	12:52:29	1	0.5724	1.0	1.00	
90	CCV	23 Nov 2009	12:53:26	1	0.8610	1.0	1.00	
91	CCB	23 Nov 2009	12:54:25	1	-0.0000	1.0	1.00	
92	LCS	23 Nov 2009	12:55:24	1	0.4983	1.0	1.00	
93	6420-001 SPK TV= 0.500	23 Nov 2009	12:56:24	1	1.0550	1.0	1.00	
94	R0906420-002	23 Nov 2009	12:57:23	1	1.1036	1.0	1.00	
95	R0906420-003	23 Nov 2009	12:58:22	1	0.5772	1.0	1.00	
96	R0906420-004	23 Nov 2009	12:59:21	1	0.0161	1.0	1.00	(*)
97	R0906420-005	23 Nov 2009	13:00:20	1	0.3046	1.0	1.00	
98	R0906420-006	23 Nov 2009	13:01:19	1	1.0865	1.0	1.00	
99	R0906420-007	23 Nov 2009	13:02:17	1	-0.0000	1.0	1.00	(*)
100	R0906420-008	23 Nov 2009	13:03:15	1	0.0099	1.0	1.00	(*)

(*) - neg. peak - <LOQ

OPERATOR: NMEAD
ACQ. TIME: Nov 23, 2009 11:27:16
DATA FILENAME: C:\OMNION\DATA\091123A1.FDT
TRAY FILENAME: C:\OMNION\TRAYS\0911230A.TRA

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 101 to 125

Cup	Sample ID	Sampling Date	Sampling Time	Rep #	QC 8000 350.1 Ammonia (mg/L)	Man Dil Factor	Auto Dil Factor	
101	R0906420-009	23 Nov 2009	13:04:13	1	-0.0000	1.0	1.00	(*)
102	CCV	23 Nov 2009	13:05:11	1	0.8562	1.0	1.00	
103	CCB	23 Nov 2009	13:06:09	1	0.0027	1.0	1.00	
104	R0906420-010	23 Nov 2009	13:07:07	1	2.3662	1.0	1.00	rpt @#160,161,165-1/2
105	6420-010 DUP	23 Nov 2009	13:08:05	1	2.3762	1.0	1.00	
106	6420-010 SPK TV= 0.500	23 Nov 2009	13:09:05	1	2.8397	1.0	1.00	
107	R0906420-011	23 Nov 2009	13:10:05	1	0.2322	1.0	1.00	
108	R0906420-012	23 Nov 2009	13:11:04	1	2.3885	1.0	1.00	rpt @#166-1/2
109	R0906420-013	23 Nov 2009	13:12:03	1	0.3795	1.0	1.00	
110	R0906420-014	23 Nov 2009	13:13:02	1	0.3919	1.0	1.00	
111	R0906420-015	23 Nov 2009	13:14:02	1	0.0387	1.0	1.00	
112	R0906420-016	23 Nov 2009	13:15:01	1	0.2146	1.0	1.00	
113	R0906420-017	23 Nov 2009	13:16:00	1	0.3255	1.0	1.00	
114	CCV	23 Nov 2009	13:16:59	1	0.8555	1.0	1.00	
115	CCB	23 Nov 2009	13:17:57	1	0.0079	1.0	1.00	
116	LCS	23 Nov 2009	13:18:56	1	0.4990	1.0	1.00	
117	R0906420-018	23 Nov 2009	13:19:54	1	0.7239	1.0	1.00	
118	R0906420-019	23 Nov 2009	13:20:52	1	0.7728	1.0	1.00	
119	R0906420-020	23 Nov 2009	13:21:50	1	0.2626	1.0	1.00	
120	6420-020 DUP	23 Nov 2009	13:22:48	1	0.2712	1.0	1.00	
121	6420-020 SPK TV= 0.500	23 Nov 2009	13:23:48	1	0.7171	1.0	1.00	
122	R0906420-021	23 Nov 2009	13:24:49	1	0.8826	1.0	1.00	
123	R0906420-022	23 Nov 2009	13:25:48	1	0.6493	1.0	1.00	
124	R0906420-023	23 Nov 2009	13:26:47	1	1.3877	1.0	1.00	
125	R0906434-001	23 Nov 2009	13:27:46	1	10.7647	20.0	1.00	

(*) - neg. peak - <LOQ

OPERATOR: NMEAD
ACQ. TIME: Nov 23, 2009 11:27:16
DATA FILENAME: C:\OMNION\DATA\091123A1.FDT
TRAY FILENAME: C:\OMNION\TRAYS\0911230A.TRA

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 126 to 150

Cup	Sample ID	Sampling Date	Sampling Time	Rep #	QC 8000 350.1 Ammonia (mg/L)	Man Dil Factor	Auto Dil Factor	
126	CCV	23 Nov 2009	13:28:45	1	0.8591	1.0	1.00	
127	CCB	23 Nov 2009	13:29:45	1	0.0025	1.0	1.00	
128	R0906434-002	23 Nov 2009	13:30:44	1	14.7371	20.0	1.00	
129	R0906434-003	23 Nov 2009	13:31:43	1	11.2021	20.0	1.00	
130	R0906434-004	23 Nov 2009	13:32:42	1	15.6035	20.0	1.00	
131	R0906434-005	23 Nov 2009	13:33:40	1	10.4343	20.0	1.00	
132	R0906434-006	23 Nov 2009	13:34:38	1	15.6495	20.0	1.00	
133	R0906442-001	23 Nov 2009	13:35:37	1	8.9976	10.0	1.00	
134	R0906442-002	23 Nov 2009	13:36:35	1	0.4052	1.0	1.00	
135	R0906442-005	23 Nov 2009	13:37:33	1	0.7371	1.0	1.00	
136	6442-005 DUP	23 Nov 2009	13:38:33	1	0.7404	1.0	1.00	
137	6442-005 SPK TV= 0.500	23 Nov 2009	13:39:33	1	1.1658	1.0	1.00	-100(85.7%)
138	CCV	23 Nov 2009	13:40:33	1	0.8636	1.0	1.00	
139	CCB	23 Nov 2009	13:41:33	1	0.0017	1.0	1.00	
140	LCS	23 Nov 2009	13:42:32	1	0.4986	1.0	1.00	
141	R0906442-006	23 Nov 2009	13:43:31	1	0.1564	1.0	1.00	
142	R0906442-007	23 Nov 2009	13:44:30	1	0.0267	1.0	1.00	
143	R0906444-003	23 Nov 2009	13:45:29	1	26.8216	10.0	1.00	rpt@#167-1/20
144	R0906445-001	23 Nov 2009	13:46:29	1	0.0036	1.0	1.00	
145	R0906445-002	23 Nov 2009	13:47:28	1	0.0843	1.0	1.00	
146	6445-002 DUP	23 Nov 2009	13:48:27	1	0.0852	1.0	1.00	
147	6445-002 SPK TV= 0.500	23 Nov 2009	13:49:25	1	0.5547	1.0	1.00	
148	R0906445-003	23 Nov 2009	13:50:23	1	0.0172	1.0	1.00	-Bump after rerk. rpt@#168
149	R0906300-007	23 Nov 2009	13:51:21	1	0.2349	1.0	1.00	
150	CCV	23 Nov 2009	13:52:19	1	0.8616	1.0	1.00	

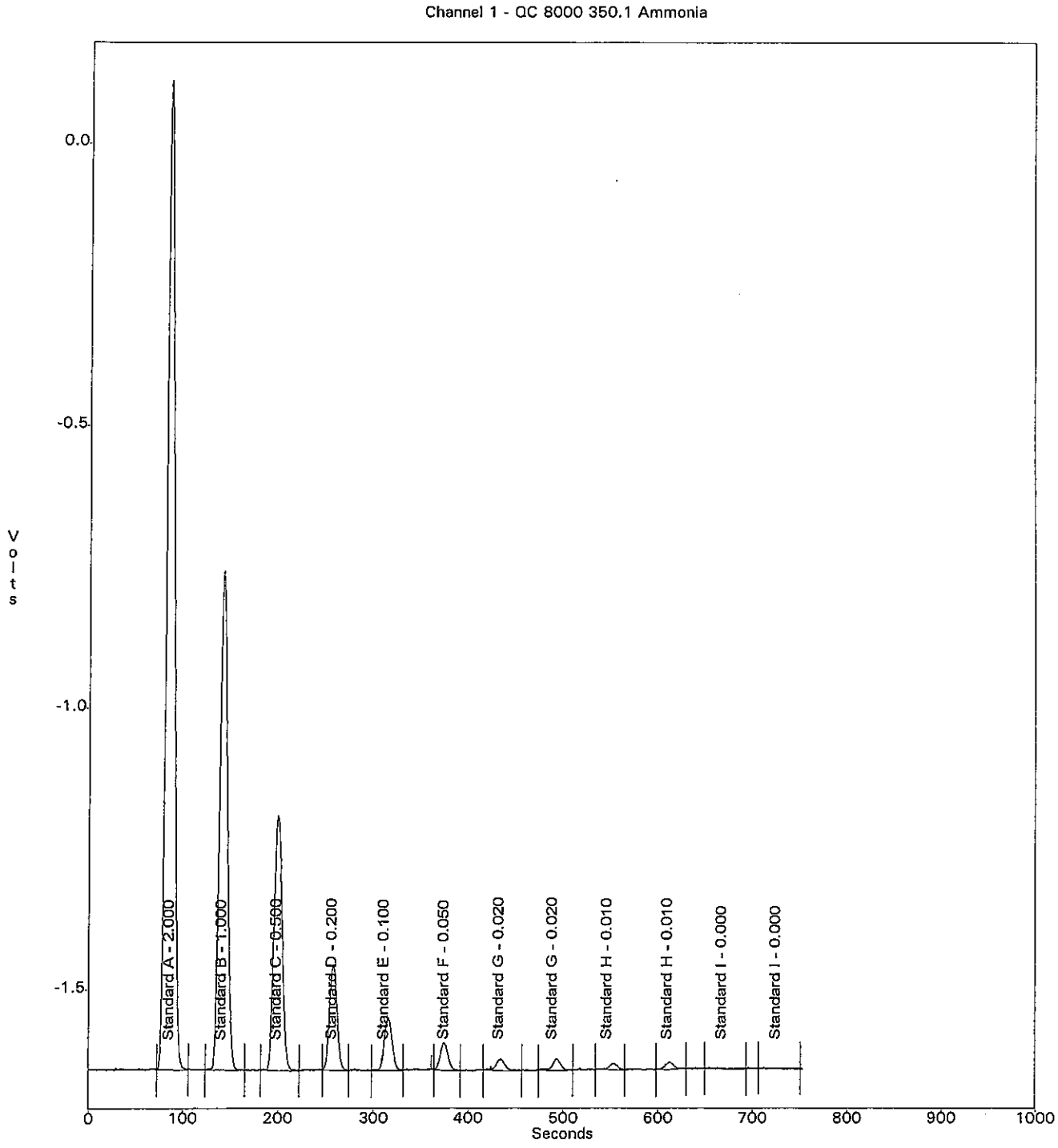
OPERATOR: NMEAD
ACQ. TIME: Nov 23, 2009 11:27:16
DATA FILENAME: C:\OMNION\DATA\091123A1.FDT
TRAY FILENAME: C:\OMNION\TRAYS\0911230A.TRA

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 151 to 175

Cup	Sample ID	Sampling Date	Sampling Time	Rep #	QC 8000 350.1 Ammonia (mg/L)	Man Dil Factor	Auto Dil Factor
151	CCB	23 Nov 2009	13:53:20	1	-0.0000	1.0	1.00
152	R0906399-011 RPT	23 Nov 2009	13:54:20	1	0.0738	1.0	1.00
153	R0906420-034 RPT	23 Nov 2009	13:55:20	1	0.0232	1.0	1.00 = 2.32
154	R0906401-002 RPT 1/2	23 Nov 2009	13:56:20	1	0.0258	2.0	1.00 (*)
155	R0906402-001 RPT 1/20	23 Nov 2009	13:57:19	1	1.7589	20.0	1.00 - neg. peak
156	R0906402-001 RPT 1/50	23 Nov 2009	13:58:18	1	0.6671	50.0	1.00 - sm. double peak
157	R0906402-001 RPT 1/100	23 Nov 2009	13:59:17	1	2.6465	100.0	1.00 - report this result
158	R0906328-002 RPT 1/5	23 Nov 2009	14:00:16	1	5.8575	5.0	1.00
159	R0906328-003 RPT 1/5	23 Nov 2009	14:01:16	1	5.8475	5.0	1.00
160	R0906420-010 RPT 1/2	23 Nov 2009	14:02:15	1	2.5171	2.0	1.00
161	6420-010 DUP RPT 1/2	23 Nov 2009	14:03:14	1	2.5199	2.0	1.00
162	CCV	23 Nov 2009	14:04:13	1	0.8616	1.0	1.00
163	CCB	23 Nov 2009	14:05:11	1	0.0014	1.0	1.00
164	LCS	23 Nov 2009	14:06:09	1	0.5074	1.0	1.00
165	6420-010SPKRPT1/2TV=0.5	23 Nov 2009	14:07:07	1	3.4629	2.0	1.00
166	R0906420-012 RPT 1/2	23 Nov 2009	14:08:08	1	2.5428	2.0	1.00
167	R0906444-003 RPT 1/20	23 Nov 2009	14:09:08	1	27.5008	20.0	1.00
168	R0906445-003 RPT	23 Nov 2009	14:10:08	1	0.0237	1.0	1.00
169	CCV	23 Nov 2009	14:11:09	1	0.8639	1.0	1.00
170	CCB	23 Nov 2009	14:12:09	1	0.0035	1.0	1.00

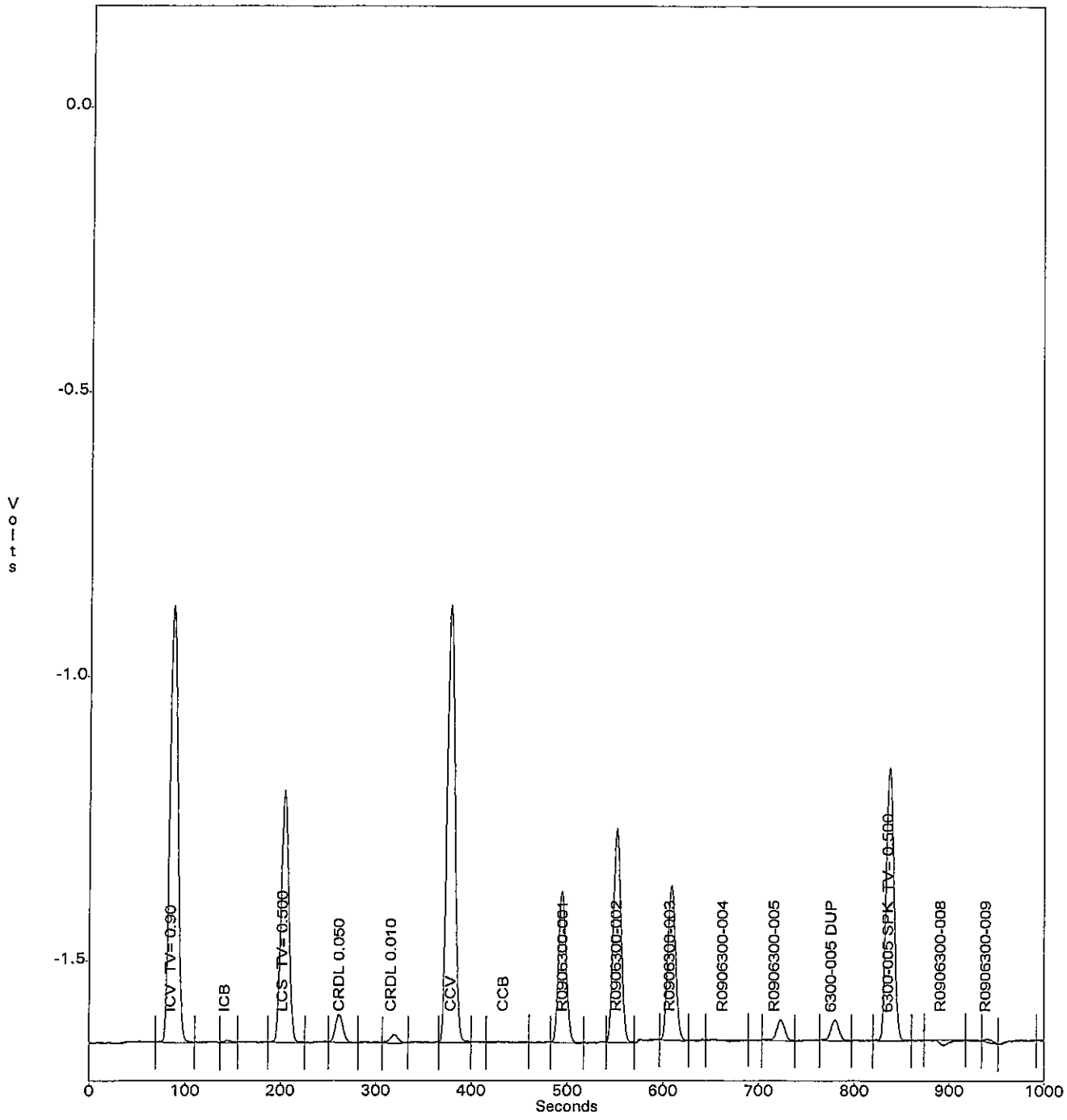
(*) - neg. peak - < LOQ

OPERATOR: NMEAD
ACQ. TIME: Nov 23, 2009 11:00:19
DATA FILENAME: C:\OMNION\DATA\0911230A.FDT
TRAY FILENAME: C:\OMNION\TRAYS\0911230A.TRA

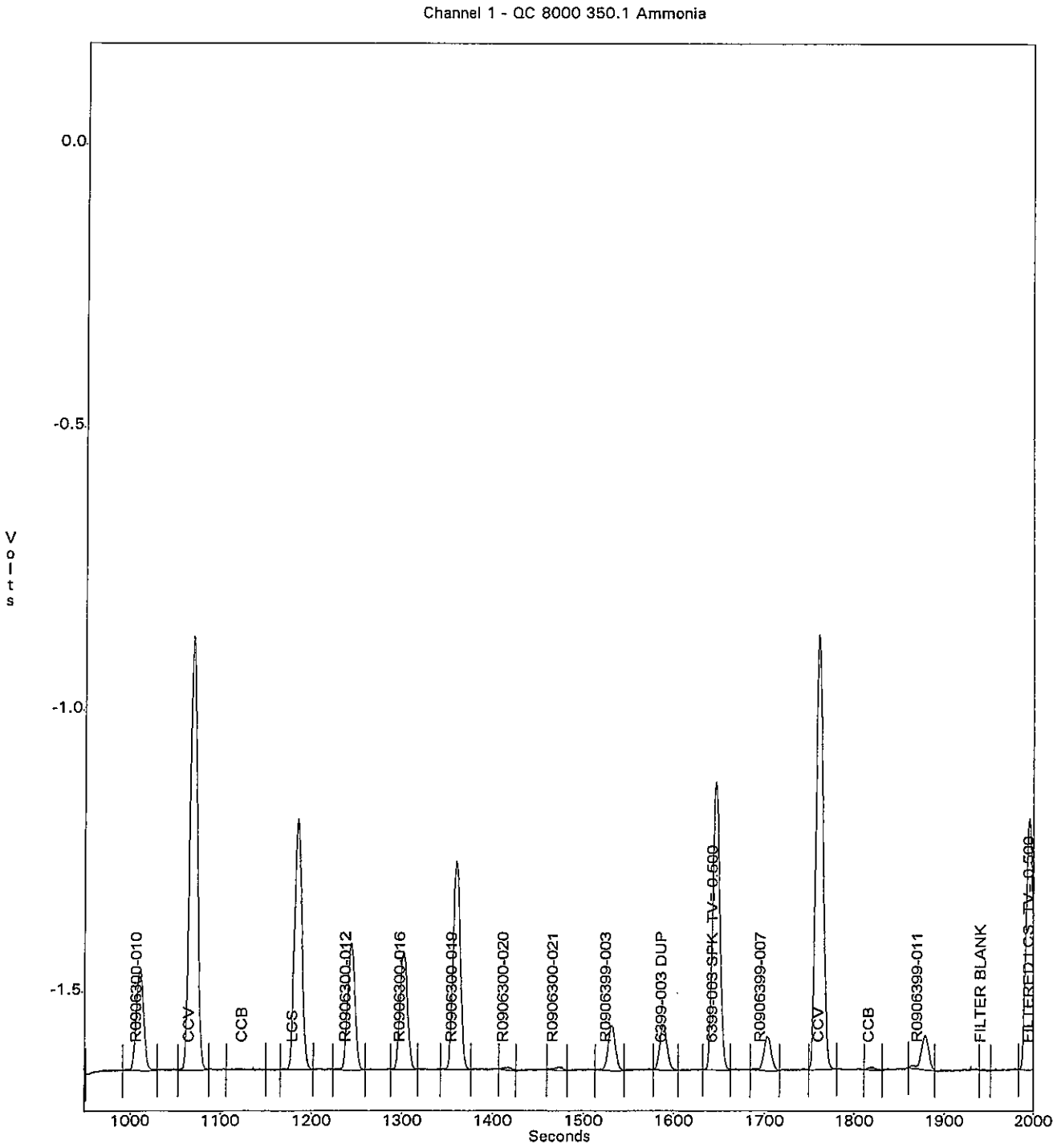


OPERATOR: NMEAD
ACQ. TIME: Nov 23, 2009 11:27:16
DATA FILENAME: C:\OMNION\DATA\091123A1.FDT
TRAY FILENAME: C:\OMNION\TRAYS\0911230A.TRA

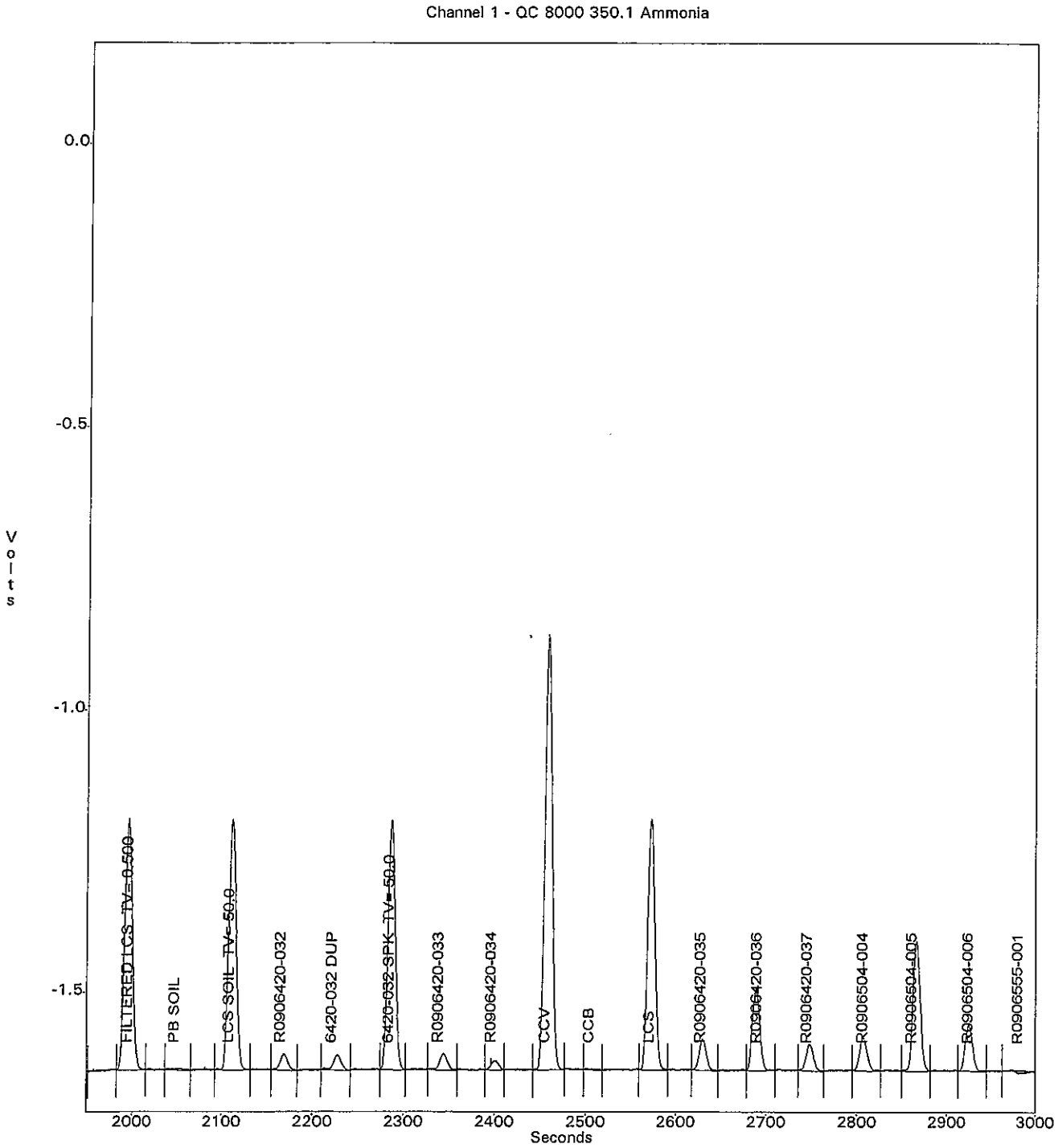
Channel 1 - QC 8000 350.1 Ammonia



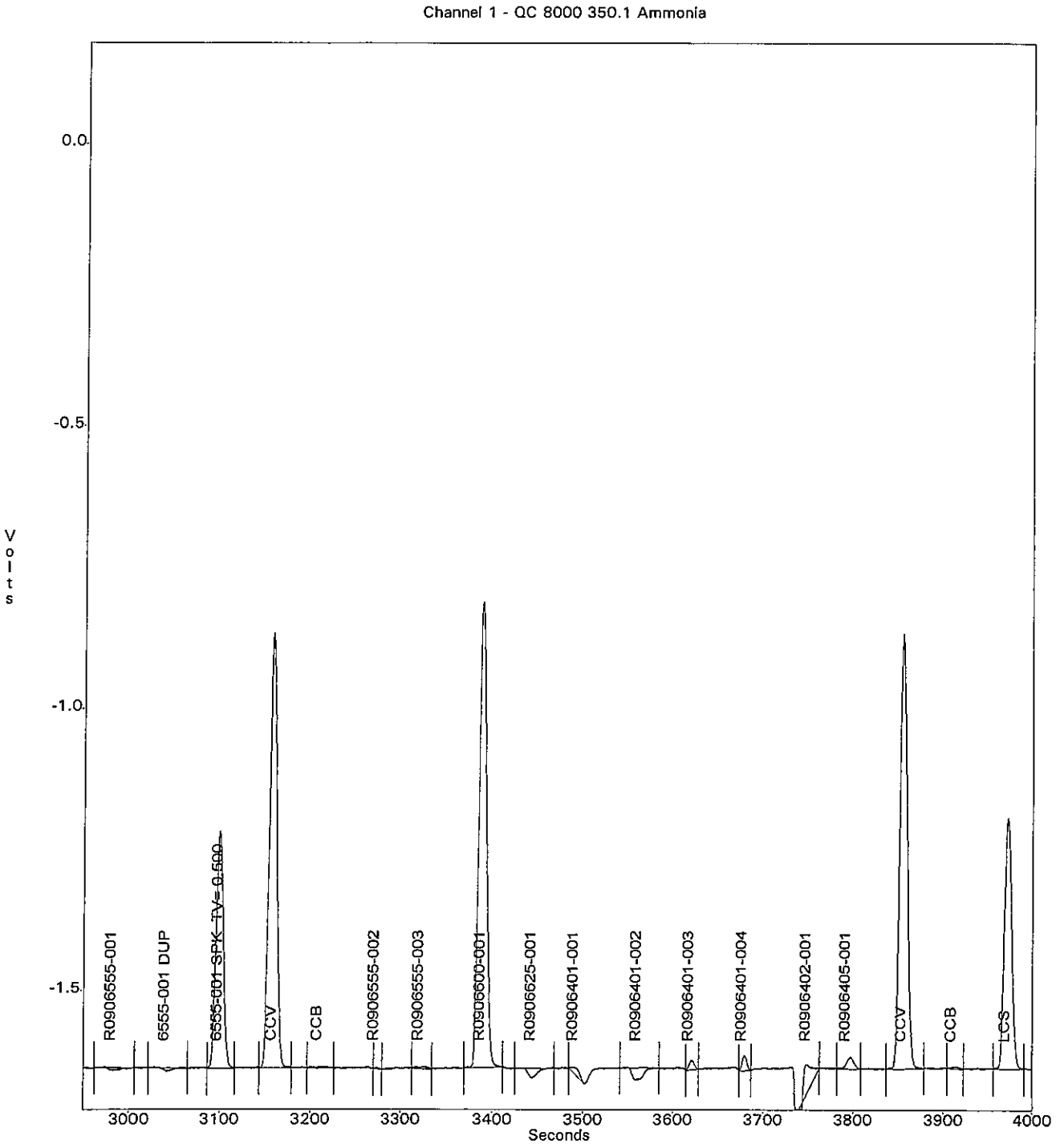
OPERATOR: NMEAD
ACQ. TIME: Nov 23, 2009 11:27:16
DATA FILENAME: C:\OMNION\DATA\091123A1.FDT
TRAY FILENAME: C:\OMNION\TRAYS\0911230A.TRA



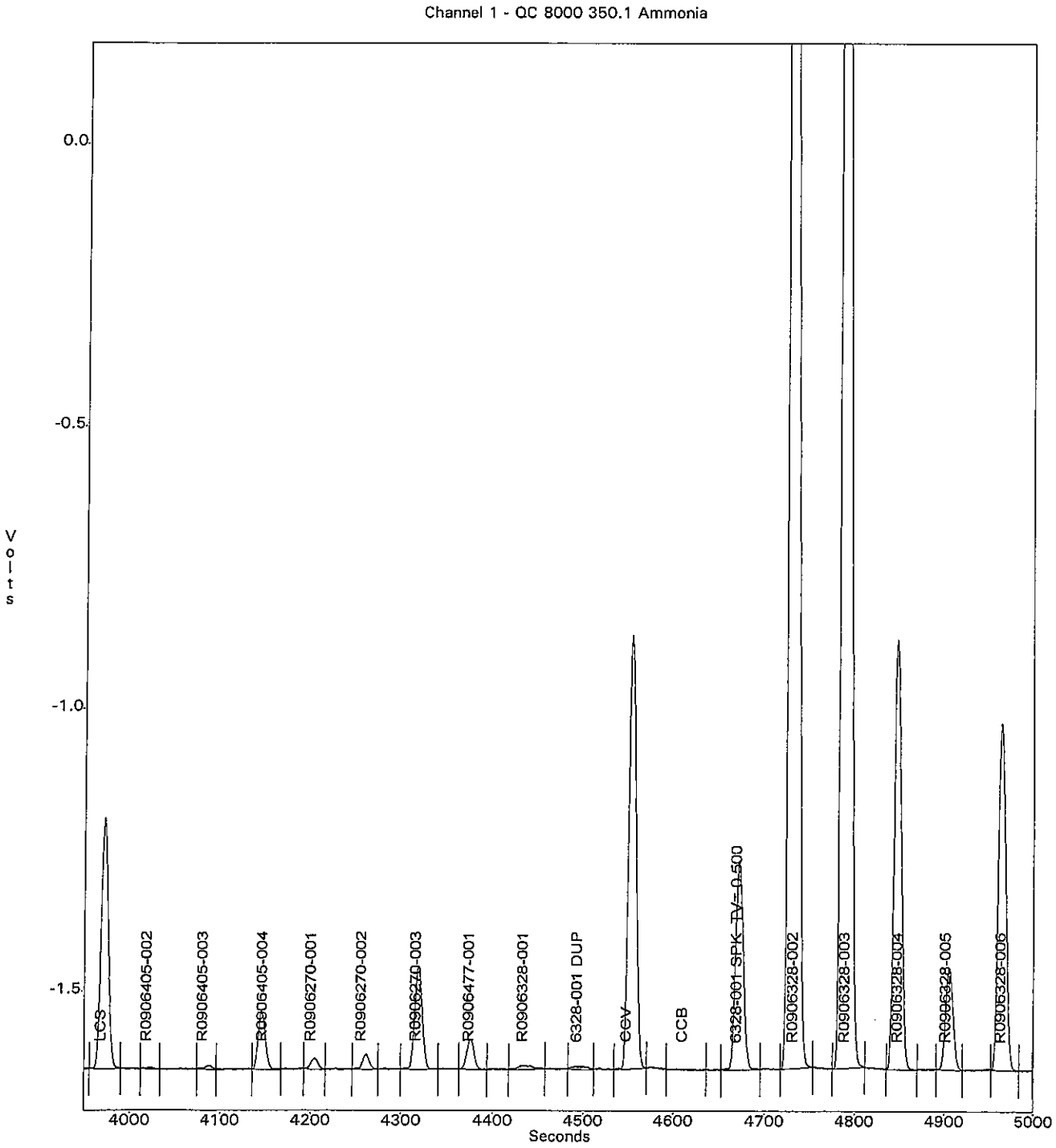
OPERATOR: NMEAD
ACQ. TIME: Nov 23, 2009 11:27:16
DATA FILENAME: C:\OMNION\DATA\091123A1.FDT
TRAY FILENAME: C:\OMNION\TRAYS\0911230A.TRA



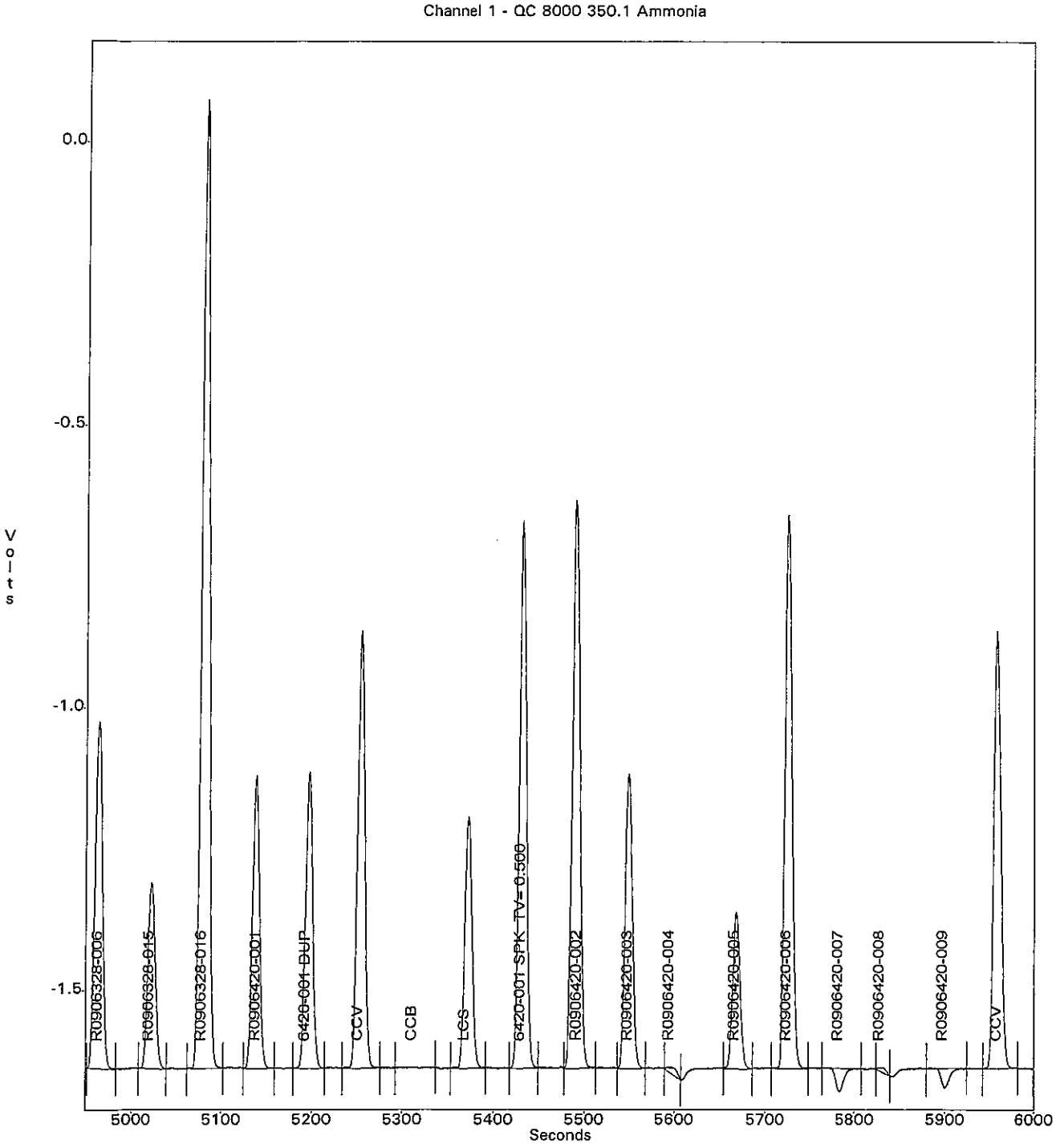
OPERATOR:	**NMEAD**
ACQ. TIME:	**Nov 23, 2009 11:27:16**
DATA FILENAME:	**C:\OMNION\DATA\091123A1.FDT**
TRAY FILENAME:	**C:\OMNION\TRAYS\0911230A.TRA**



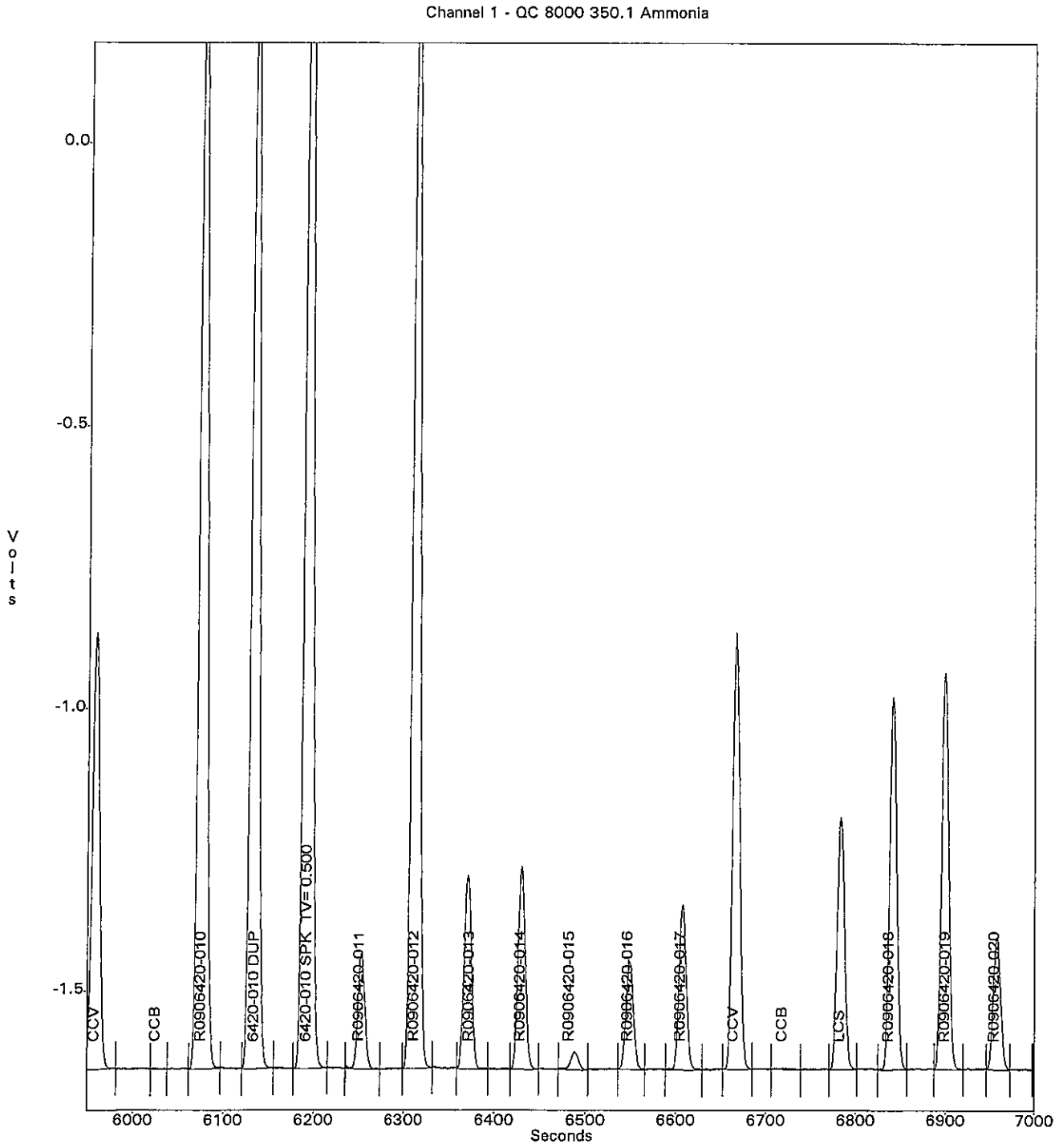
OPERATOR: NMEAD
ACQ. TIME: Nov 23, 2009 11:27:16
DATA FILENAME: C:\OMNION\DATA\091123A1.FDT
TRAY FILENAME: C:\OMNION\TRAYS\0911230A.TRA



OPERATOR: NMEAD
ACQ. TIME: Nov 23, 2009 11:27:16
DATA FILENAME: C:\OMNION\DATA\091123A1.FDT
TRAY FILENAME: C:\OMNION\TRAYS\0911230A.TRA



OPERATOR: NMEAD
ACQ. TIME: Nov 23, 2009 11:27:16
DATA FILENAME: C:\OMNION\DATA\091123A1.FDT
TRAY FILENAME: C:\OMNION\TRAYS\0911230A.TRA



OPERATOR: NMEAD
ACQ. TIME: Nov 23, 2009 11:27:16
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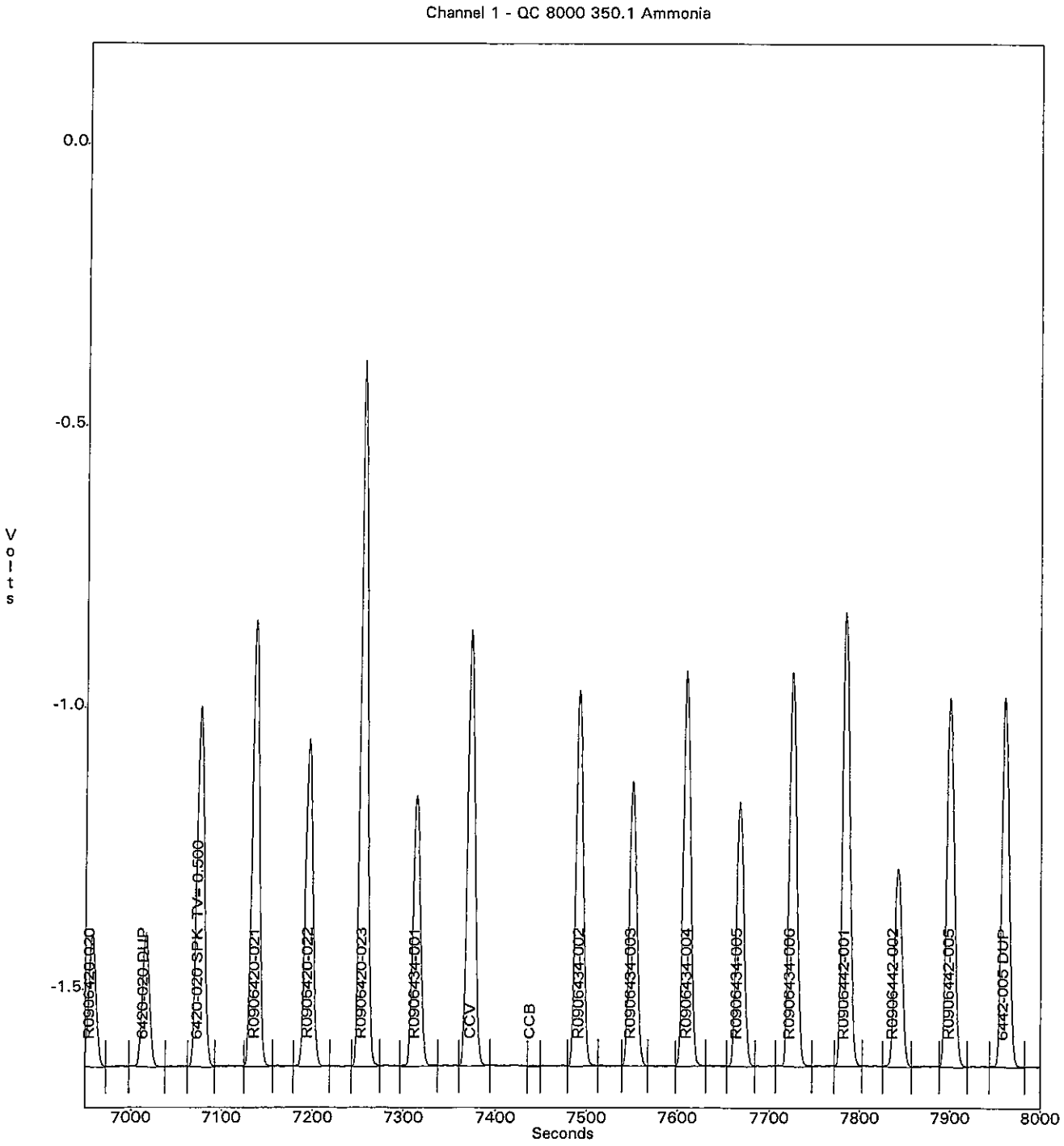

OPERATOR: NMEAD
ACQ. TIME: Nov 23, 2009 11:27:16
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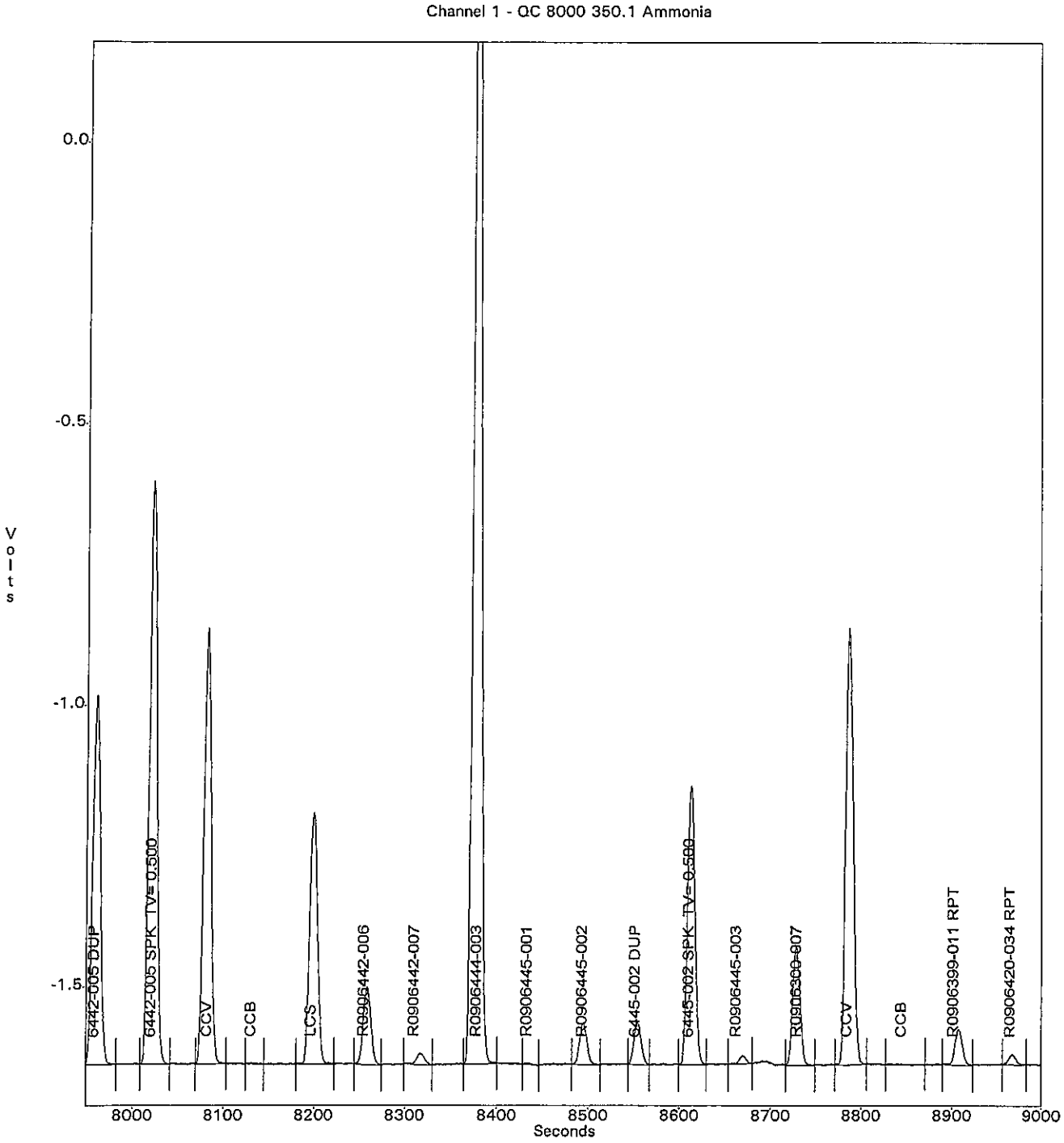

OPERATOR: NMEAD
ACQ. TIME: Nov 23, 2009 11:27:16
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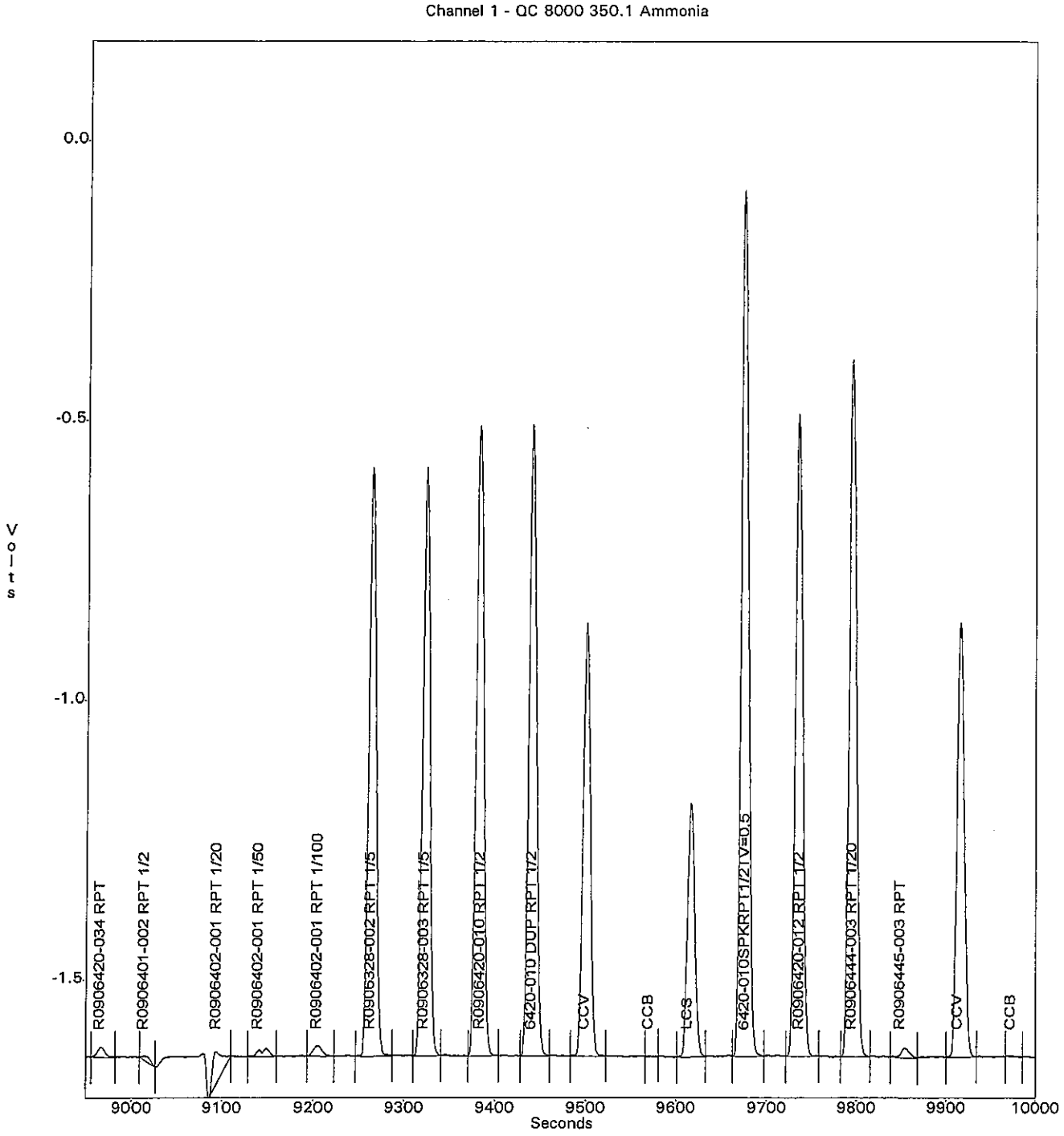
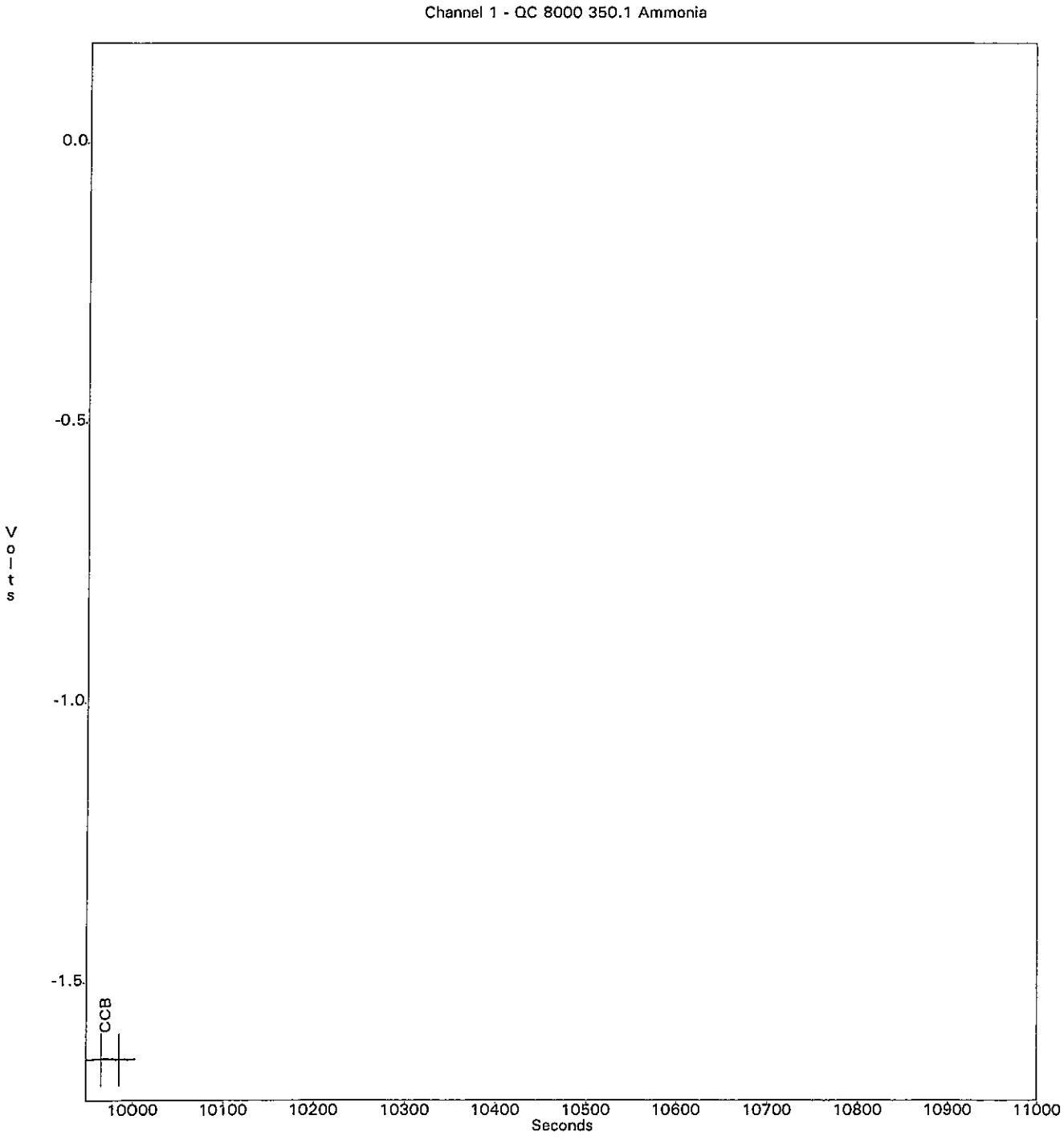
TRAY FILENAME: C:\OMNION\TRAYS\0911230A.TRA



OPERATOR:	NMEAD
ACQ. TIME:	Nov 23, 2009 11:27:16
DATA FILENAME:	C:\OMNION\DATA\091123A1.FDT
TRAY FILENAME:	C:\OMNION\TRAYS\0911230A.TRA



OPERATOR: NMEAD
ACQ. TIME: Nov 23, 2009 11:00:19
DATA FILENAME: C:\OMNION\DATA\0911230A.FDT
METHOD FILENAME:
TRAY FILENAME: C:\OMNION\TRAYS\0911230A.TRA

TRAY DESCRIPTION:
Created: Nov 23, 2009 9:59:39
Modified: Nov 23, 2009 10:04:30
QC 8000 350.1 Ammonia - RUN LOG - 0911230A
DATA DESCRIPTION:
Created: Nov 23, 2009 11:00:19
Modified: Nov 23, 2009 11:00:19

Method - Ch. 1 (QC 8000 350.1 Ammonia)

METHOD DESCRIPTION:
Created: Jun 8, 2007 13:44:01
Modified: Nov 17, 2009 14:38:09
Ammonia

ANALYTE DATA:
Analyte Name: QC 8000 350.1 Ammonia
Concentration Units: mg/L
Chemistry: Direct
Inject to Peak Start (s): 28.5
Peak Base Width (s): 22.000
% Width Tolerance: 50.000
Threshold: 2877.000
Autodilution Trigger: Off
QuikChem Method:

CALIBRATION DATA:
Levels:
1 : 2.000 2 : 1.000 3 : 0.500 4 : 0.200
5 : 0.100 6 : 0.050 7 : 0.020 8 : 0.010
9 : 0.000
Calibration Rep Handling: Average
Calibration Fit Type: 1st Order Poly
Force Though Zero: No
Weighting Method: 1/X
Concentration Scaling: None

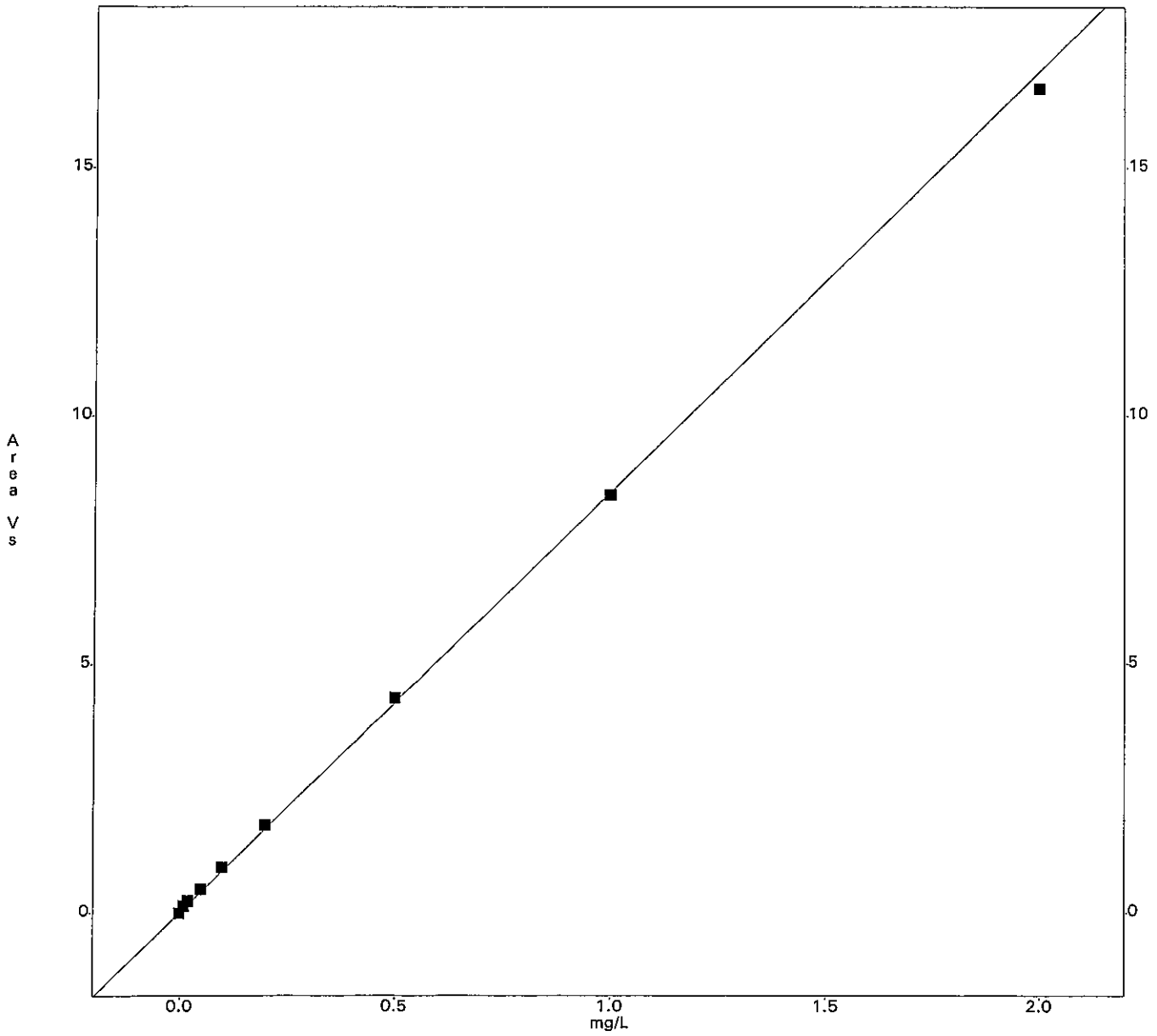
QC 8000 350.1 Ammonia

Lvl	Area	mg/L	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Replic STD	Replic % RSD	Residual 1st Poly
1	16591591	2.00	16591591					0.0	0.0	2.1
2	8414215	1.00	8414215					0.0	0.0	0.7
3	4324864	0.50	4324864					0.0	0.0	-2.0
4	1776931	0.20	1776931					0.0	0.0	-4.8
5	920192	0.10	920192					0.0	0.0	-8.6
6	476579	0.05	476579					0.0	0.0	-12.4
7	244877	0.02	239168	250586				8073.7	3.3	-44.4
8	140149	0.01	145293	135005				7274.7	5.2	-65.3
9	0	0.00	0	0				0.0	0.0	

1st Order Poly
Conc = 1.180e-007 Area - 1.096e-007
r = 0.9997

pipette FQ's: E2
ALT

Scaling: None - Weighting: 1/X



Printed: Monday, November 23, 2009 - 11:13 AM

Columbia Analytical Services
1 Mustard St., Rochester NY 14609

General Chemistry Analytical Run Cover Sheet

Analyst: N. Mead Date: 11/23/09

Analysis: Ammonia Instrument: Lachat

Quality Control:

	Same as Log#, Date,	Stocks Prep. Log#, Date,	Stock Sol (mLs)	Stock Sol (mg/L)	Final Vol (mLs)	True Value (mg/L)
a) Standards Prep.:	WC65166A, 4/7/03	WC85257E, 1/19/09				
b) ICV Preparation:	WC92071F, 8/26/09	WC85257G, 1/19/09	0.5	18	10	0.90
c) LCS Preparation:	WC65166D, 4/7/03	WC85257E, 1/19/09	0.05	100	10	0.50
d) Matrix Spike Prep.:	WC65166D, 4/7/03	WC85257E, 1/19/09	0.05	100	10	0.50

Instrument log filled in? (Y)(N)

Packages: Copy and attach Standards Preparation

Comments:

p:\greg\forms\cover.nh3

4/7/03 DMG

Ammonia (NH_3) [Lachat: pql = 0.050 Reg Level, 0.010 - Low Level]

(A) STANDARDS

STD.	CONC (mg/L)	mls 10 ppm (WC651166C)	mls Carrier-Diluent (WC
A	2.000	2.00	8.00
B	1.000	1.00	9.00
C	0.500	0.50	9.50
D	0.200	0.20	9.80
E	0.100	1/10 Dil'N of STD B.) 1.000	
F	0.050	1/10 Dil'N of STD C.) 0.500	
G	0.020	1/10 Dil'N of STD D.) 0.200	
H	0.010	1/10 Dil'N of STD E.) 0.100	
I	0.000	10 mls of Carrier-Diluent	

(B) ICV/CCV: (TV = 1.80 mg/L)

Do two (2) 1/10 serial dilutions of the 180 ppm Reference Stock (WC651560B). Prepare using Carrier-Diluent (WC651165F)

(C) 10.0 ppm Working Stock

Do two (2) 1/10 serial dilutions of the 1000 ppm Standard Stock (WC651560A). Prepare using Carrier-Diluent (WC651165F)

(D) LCS/Matrix Spike: (TV = 0.500 mg/L)

Add 0.050 mls 100 ppm working Stock (WC651166C, 1st 1/10 serial dilution) to 10 mls Carrier-Diluent (WC651165F) or sample.

1 run.

1/15/09 NH1 (A) Buffer - NH_3
- same as WC85247I. Exp. 1 year, 1/15/10.

at 4°C

(B) Buffer - TKN
- same as WC85246C. Exp. 1 month, 2/15/09.

to 1000 g w/ DI.

(7357)

1/09 Chr (C) NO_2 Coor Reagent - Kunslab
In 100 ml vol flask, dissolve 1.00 g sulfanimide (WC85167F) and 0.10 g NED (WC76226H) in 10ml H_3PO_4 (WC76021 4F) Bring to volume with DI. Store at 4°C Exp 2/5/09

diphenylcarbonylhydrazide in mg to volume. Store at

1/19/09 KB (D) Rhodamine Indicator Solution
Dissolve 0.100 g 5-(4-DMAB) Rhodanine (WC76015E) in 100 mL Acetone (WC69232E). Store in glass @ R.T. Expires 1/19/10

7 X 3.

1/19/09 SBR (E) NH_3 | TKN 1000 ppm Standard Stock
3.819 g granular NH_4Cl (WC85085F), previously dried for 2 hrs @ 140°C. dissolve in ~800 mL DI in a 1 L volumetric flask. Bring to volume with DI. Store @ 4°C in amber glass. Expires 1/19/10

each run,

(F) 500 ppm Organic TKN Standard
In a 1 Liter vol. flask, dissolve 5.252 g L-glutamic acid (WC85029D) in ~800 mL DI. Bring to volume with DI. Store @ 4°C in amber glass Expires 1/19/10.
TV = 500 mg/L nitrogen

1/09.

Eriochrome BlackT shake well to mix.

(G) NH_3 180 ppm Reference Stock
0.1687 g granular NH_4Cl (WC85085G), previously dried for 2 hrs @ 104°C : dissolve in ~800 mL DI in a 1 L vol flask. Bring to volume with DI Store @ 4°C in amber glass. Expires 1/19/10.

DI Fresh per run

(H) TKN 400 ppm Reference Stock
1.5276 g granular NH_4Cl (WC85085G), previously dried for 2 hrs @ 104°C (see 1/19/09) : dissolve in ~800 mL DI in a 1 L vol. flask. Bring to volume with DI. Store @ 4°C in amber glass Expires 1/19/10

) with DI. Fresh per run.

1/19/09 EW (I) TSS Reference
0.2128 g Kaolin (WC69285G) brought to 1000 g w/ DI.
Store in plastic bottle @ 4°C. (7483)
TV = 212 mg/L Exp: 1/19/10

and 0.10 g EDTA (WC85210C) amber glass.

TITLE PROJECT

Continued from page

8/26/09 (A) MBAS Wash Solution
DPW To a tared 2L Vol. Flask add: 100g Sodium phosphate mono basic monohydrate (WC920354) and 13.7mL conc. H_2SO_4 (WC920160B). Bring to volume w/ DI. Store @ RT, exp: 8/25/2010.

8/25/09 (B) 1:1 H_2SO_4 - Cn Distillation
JAP Same as WC912027E exp 8/25/10

8/26/09 (C) Hypochlorite - NH_3
NM -400 mLs Sodium Hypochlorite (WC920160F)
-400 mLs UP DI
Prepare fresh each run.

8/26/09 (D) 1.0ppm Working Reference Stock
DPW Dilute 1.0mL of 1000ppm LAS Reference Stock (WC920161L) to 1L volumetrically w/ DI, Store @ 4°C, exp: ~~8/26/10~~ 8/26/2010

8/24/09 (E) Iodide-Iodate Titrant - Sulfite
JAP In a 1L vol flask dilute 0.4428g KIO_3 (WC65239A), 9.25g KI (WC65285J) and 0.310g $NaHCO_3$ (WC65271C) to volume with DI. Store at 4°C exp 2/24/10

8/26/09 (F) Ammonia (NH_3) [Leachat: LOQ = 0.050 Reg. level, 0.010 - Low level]
NM
ICV/CCV: (TV = 0.90 mg/L)
Do ~~1:100~~ 8/26/09 one (1) 1/10 serial dilution of the 180ppm Reference Stock (WC852576). Add 0.5mL of this 18.0ppm stock to 9.5mL NH_3 Carrier/Diluent.

Continued to page

SIGNATURE ✓ Steve 8/26/09 DATE
DISCLOSED TO AND UNDERSTOOD BY DATE

Analytical Results Summary

Instrument Name: R-TOC-01 **Analyst:** CSCHRADER **Analysis Lot:** 178475 **Method/Testcode:** 9060/TOC 4X T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
RQ0911152-01	Carbon, Total Organic (TOC)	MB		Water	-0.09 ppm	42 mL	1.0 mg/L U	1	1.0			11/7/09 10:38	N	IV
RQ0911152-01	Carbon, Total Organic (TOC)	MB		Water	-0.02 ppm	42 mL	1.0 mg/L U	1	1.0			11/7/09 10:46	N	IV
RQ0911152-01	Carbon, Total Organic (TOC)	MB		Water	-0.04 ppm	42 mL	1.0 mg/L U	1	1.0			11/7/09 10:55	N	IV
RQ0911152-01	Carbon, Total Organic (TOC)	MB		Water	-0.16 ppm	42 mL	1.0 mg/L U	1	1.0			11/7/09 11:04	N	IV
RQ0911152-02	Carbon, Total Organic (TOC)	LCS		Water	9.00 ppm	42 mL	9.00 mg/L	1	1.0	90		11/7/09 11:13	N	IV
RQ0911152-02	Carbon, Total Organic (TOC)	LCS		Water	9.57 ppm	42 mL	9.57 mg/L	1	1.0	96		11/7/09 11:21	N	IV
RQ0911152-02	Carbon, Total Organic (TOC)	LCS		Water	10.14 ppm	42 mL	10.1 mg/L	1	1.0	101		11/7/09 11:29	N	IV
RQ0911152-02	Carbon, Total Organic (TOC)	LCS		Water	9.86 ppm	42 mL	9.86 mg/L	1	1.0	99		11/7/09 11:38	N	IV
R0906270-001	Carbon, Total Organic (TOC)	N/A		Water	1.08 ppm	42 mL	1.1 mg/L	1	1.0			11/7/09 11:47	N	IV
R0906270-001	Carbon, Total Organic (TOC), Average	N/A		Water	1.32 mg/L	42 mL	1.3 mg/L	1	1.0			11/7/09 ~~11:47~~ 12:13	N	IV
R0906270-001	Carbon, Total Organic (TOC)	N/A		Water	1.52 ppm	42 mL	1.5 mg/L	1	1.0			11/7/09 11:55	N	IV
R0906270-001	Carbon, Total Organic (TOC)	N/A		Water	1.40 ppm	42 mL	1.4 mg/L	1	1.0			11/7/09 12:03	N	IV
R0906270-001	Carbon, Total Organic (TOC)	N/A		Water	1.30 ppm	42 mL	1.3 mg/L	1	1.0			11/7/09 12:13	N	IV
R0906270-002	Carbon, Total Organic (TOC)	N/A		Water	1.11 ppm	42 mL	1.1 mg/L	1	1.0			11/7/09 12:22	N	IV
R0906270-002	Carbon, Total Organic (TOC), Average	N/A		Water	1.29 mg/L	42 mL	1.3 mg/L	1	1.0			11/7/09 ~~12:22~~ 1247	N	IV
R0906270-002	Carbon, Total Organic (TOC)	N/A		Water	1.45 ppm	42 mL	1.4 mg/L	1	1.0			11/7/09 12:30	N	IV
R0906270-002	Carbon, Total Organic (TOC)	N/A		Water	1.36 ppm	42 mL	1.4 mg/L	1	1.0			11/7/09 12:38	N	IV
R0906270-002	Carbon, Total Organic (TOC)	N/A		Water	1.26 ppm	42 mL	1.3 mg/L	1	1.0			11/7/09 12:47	N	IV
R0906270-003	Carbon, Total Organic (TOC)	N/A		Water	0.13 ppm	42 mL	0.1 mg/L J	1	1.0			11/7/09 12:56	N	IV
R0906270-003	Carbon, Total Organic (TOC), Average	N/A		Water	0.05 mg/L	42 mL	1.0 mg/L U	1	1.0			11/7/09 ~~12:56~~ 1322	N	IV
R0906270-003	Carbon, Total Organic (TOC)	N/A		Water	0.02 ppm	42 mL	1.0 mg/L U	1	1.0			11/7/09 13:04	N	IV
R0906270-003	Carbon, Total Organic (TOC)	N/A		Water	0.03 ppm	42 mL	1.0 mg/L U	1	1.0			11/7/09 13:12	N	IV
R0906270-003	Carbon, Total Organic (TOC)	N/A		Water	0.00 ppm	42 mL	1.0 mg/L U	1	1.0			11/7/09 13:22	N	IV
R0906086-001	Carbon, Total Organic (TOC)	N/A		Water	0.46 ppm	42 mL	1.0 mg/L U	1	1.0			11/7/09 13:30	N	II
R0906086-001	Carbon, Total Organic (TOC)	N/A		Water	0.87 ppm	42 mL	1.0 mg/L U	1	1.0			11/7/09 13:38	N	II

11/10/09

‡ indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

R6270 R6198 R6277 R6101

Reviewed & Approved

By: SSexo

Date: 11/10/09

00739

Analytical Results Summary

Instrument Name: R-TOC-01 **Analyst:** CSCHRADER **Analysis Lot:** 178475 **Method/Testcode:** 9060/TOC 4X T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
R0906086-001	Carbon, Total Organic (TOC)	N/A		Water	0.68 ppm	42 mL	1.0 mg/L U	1	1.0			11/7/09 13:47	N	II
R0906086-001	Carbon, Total Organic (TOC)	N/A		Water	0.60 ppm	42 mL	1.0 mg/L U	1	1.0			11/7/09 13:56	N	II
R0906086-003	Carbon, Total Organic (TOC)	N/A		Water	5.60 ppm	42 mL	5.6 mg/L	1	1.0			11/7/09 14:39	Y	II
R0906086-003	Carbon, Total Organic (TOC)	N/A		Water	8.19 ppm	42 mL	8.2 mg/L	1	1.0			11/7/09 14:47	Y	II
R0906086-003	Carbon, Total Organic (TOC)	N/A		Water	6.67 ppm	42 mL	6.7 mg/L	1	1.0			11/7/09 14:55	Y	II
R0906086-003	Carbon, Total Organic (TOC)	N/A		Water	6.08 ppm	42 mL	6.1 mg/L	1	1.0			11/7/09 15:05	Y	II
RQ0911152-04	Carbon, Total Organic (TOC)	DUP	R0906086-003	Water	6.08 ppm	42 mL	6.1 mg/L	1	1.0		8	11/7/09 15:13	N	II
RQ0911152-04	Carbon, Total Organic (TOC)	DUP	R0906086-003	Water	7.86 ppm	42 mL	7.9 mg/L	1	1.0		4	11/7/09 15:22	N	II
RQ0911152-04	Carbon, Total Organic (TOC)	DUP	R0906086-003	Water	6.52 ppm	42 mL	6.5 mg/L	1	1.0		2	11/7/09 15:30	N	II
RQ0911152-04	Carbon, Total Organic (TOC)	DUP	R0906086-003	Water	6.15 ppm	42 mL	6.1 mg/L	1	1.0		1	11/7/09 15:39	N	II
RQ0911152-03	Carbon, Total Organic (TOC)	MS	R0906086-003	Water	15.46 ppm	42 mL	15.5 mg/L	1	1.0	99		11/7/09 15:48	N	II
RQ0911152-03	Carbon, Total Organic (TOC)	MS	R0906086-003	Water	17.60 ppm	42 mL	17.6 mg/L	1	1.0	94		11/7/09 15:56	N	II
RQ0911152-03	Carbon, Total Organic (TOC)	MS	R0906086-003	Water	16.00 ppm	42 mL	16.0 mg/L	1	1.0	93		11/7/09 16:04	N	II
RQ0911152-03	Carbon, Total Organic (TOC)	MS	R0906086-003	Water	16.76 ppm	42 mL	16.8 mg/L	1	1.0	107		11/7/09 16:14	N	II
R0906086-004	Carbon, Total Organic (TOC)	N/A		Water	3.58 ppm	42 mL	3.6 mg/L	1	1.0			11/7/09 16:22	N	II
R0906086-004	Carbon, Total Organic (TOC)	N/A		Water	3.80 ppm	42 mL	3.8 mg/L	1	1.0			11/7/09 16:30	N	II
R0906086-004	Carbon, Total Organic (TOC)	N/A		Water	2.78 ppm	42 mL	2.8 mg/L	1	1.0			11/7/09 16:39	N	II
R0906086-004	Carbon, Total Organic (TOC)	N/A		Water	2.63 ppm	42 mL	2.6 mg/L	1	1.0			11/7/09 16:48	N	II
R0906086-006	Carbon, Total Organic (TOC)	N/A		Water	6.67 ppm	42 mL	6.7 mg/L	1	1.0			11/7/09 18:40	N	II
R0906086-006	Carbon, Total Organic (TOC)	N/A		Water	7.08 ppm	42 mL	7.1 mg/L	1	1.0			11/7/09 18:48	N	II
R0906086-006	Carbon, Total Organic (TOC)	N/A		Water	7.36 ppm	42 mL	7.4 mg/L	1	1.0			11/7/09 18:56	N	II
R0906086-006	Carbon, Total Organic (TOC)	N/A		Water	7.12 ppm	42 mL	7.1 mg/L	1	1.0			11/7/09 19:05	N	II
R0906086-007	Carbon, Total Organic (TOC)	N/A		Water	6.39 ppm	42 mL	6.4 mg/L	1	1.0			11/7/09 19:14	N	II
R0906086-007	Carbon, Total Organic (TOC)	N/A		Water	7.05 ppm	42 mL	7.0 mg/L	1	1.0			11/7/09 19:22	N	II
R0906086-007	Carbon, Total Organic (TOC)	N/A		Water	7.25 ppm	42 mL	7.3 mg/L	1	1.0			11/7/09 19:30	N	II

f indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: R-TOC-01 **Analyst:** CSCHRADER **Analysis Lot:** 178475 **Method/Testcode:** 9060/TOC 4X T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
R0906086-007	Carbon, Total Organic (TOC)	N/A		Water	7.14 ppm	42 mL	7.1 mg/L	1	1.0			11/7/09 19:40	N	II
R0906198-001	Carbon, Total Organic (TOC)	N/A		Water	0.62 ppm	42 mL	1.0 mg/L U	1	1.0			11/7/09 19:49	N	IV
R0906198-001	Carbon, Total Organic (TOC)	N/A		Water	0.54 ppm	42 mL	1.0 mg/L U	1	1.0			11/7/09 19:57	N	IV
R0906198-001	Carbon, Total Organic (TOC)	N/A		Water	0.49 ppm	42 mL	1.0 mg/L U	1	1.0			11/7/09 20:05	N	IV
R0906198-001	Carbon, Total Organic (TOC)	N/A		Water	0.48 ppm	42 mL	1.0 mg/L U	1	1.0			11/7/09 20:14	N	IV
R0906198-002	Carbon, Total Organic (TOC)	N/A		Water	7.53 ppm	42 mL	7.5 mg/L	1	1.0			11/7/09 20:23	N	IV
R0906198-002	Carbon, Total Organic (TOC)	N/A		Water	10.89 ppm	42 mL	10.9 mg/L	1	1.0			11/7/09 20:31	N	IV
R0906198-002	Carbon, Total Organic (TOC)	N/A		Water	9.35 ppm	42 mL	9.3 mg/L	1	1.0			11/7/09 20:39	N	IV
R0906198-002	Carbon, Total Organic (TOC)	N/A		Water	8.72 ppm	42 mL	8.7 mg/L	1	1.0			11/7/09 20:49	N	IV
R0906198-003	Carbon, Total Organic (TOC)	N/A		Water	17.49 ppm	42 mL	70.0 mg/L	4	4.0			11/7/09 20:57	N	IV
R0906198-003	Carbon, Total Organic (TOC)	N/A		Water	20.55 ppm	42 mL	82.2 mg/L	4	4.0			11/7/09 21:05	N	IV
R0906198-003	Carbon, Total Organic (TOC)	N/A		Water	18.65 ppm	42 mL	74.6 mg/L	4	4.0			11/7/09 21:14	N	IV
R0906198-003	Carbon, Total Organic (TOC)	N/A		Water	20.15 ppm	42 mL	80.6 mg/L	4	4.0			11/7/09 21:23	N	IV
R0906198-004	Carbon, Total Organic (TOC)	N/A		Water	5.45 ppm	42 mL	5.4 mg/L	1	1.0			11/7/09 21:32	N	IV
R0906198-004	Carbon, Total Organic (TOC)	N/A		Water	5.79 ppm	42 mL	5.8 mg/L	1	1.0			11/7/09 21:40	N	IV
R0906198-004	Carbon, Total Organic (TOC)	N/A		Water	5.28 ppm	42 mL	5.3 mg/L	1	1.0			11/7/09 21:48	N	IV
R0906198-004	Carbon, Total Organic (TOC)	N/A		Water	5.20 ppm	42 mL	5.2 mg/L	1	1.0			11/7/09 21:57	N	IV
R0906198-005	Carbon, Total Organic (TOC)	N/A		Water	7.20 ppm	42 mL	7.2 mg/L	1	1.0			11/7/09 22:06	Y	IV
R0906198-005	Carbon, Total Organic (TOC)	N/A		Water	9.35 ppm	42 mL	9.3 mg/L	1	1.0			11/7/09 22:14	Y	IV
R0906198-005	Carbon, Total Organic (TOC)	N/A		Water	7.55 ppm	42 mL	7.5 mg/L	1	1.0			11/7/09 22:22	Y	IV
R0906198-005	Carbon, Total Organic (TOC)	N/A		Water	7.40 ppm	42 mL	7.4 mg/L	1	1.0			11/7/09 22:32	Y	IV
RQ0911152-06	Carbon, Total Organic (TOC)	DUP	R0906198-005	Water	7.18 ppm	42 mL	7.2 mg/L	1	1.0		<1	11/7/09 22:41	N	IV
RQ0911152-06	Carbon, Total Organic (TOC)	DUP	R0906198-005	Water	8.80 ppm	42 mL	8.8 mg/L	1	1.0		6	11/7/09 22:49	N	IV
RQ0911152-06	Carbon, Total Organic (TOC)	DUP	R0906198-005	Water	7.76 ppm	42 mL	7.8 mg/L	1	1.0		3	11/7/09 22:57	N	IV
RQ0911152-06	Carbon, Total Organic (TOC)	DUP	R0906198-005	Water	7.50 ppm	42 mL	7.5 mg/L	1	1.0		1	11/7/09 23:06	N	IV

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: R-TOC-01 **Analyst:** CSCHRADER **Analysis Lot:** 178475 **Method/Testcode:** 9060/TOC 4X T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
RQ0911152-05	Carbon, Total Organic (TOC)	MS	R0906198-005	Water	16.62 ppm	42 mL	16.6 mg/L	1	1.0	94		11/7/09 23:15	N	IV
RQ0911152-05	Carbon, Total Organic (TOC)	MS	R0906198-005	Water	19.36 ppm	42 mL	19.4 mg/L	1	1.0	100		11/7/09 23:23	N	IV
RQ0911152-05	Carbon, Total Organic (TOC)	MS	R0906198-005	Water	18.05 ppm	42 mL	18.1 mg/L	1	1.0	105		11/7/09 23:31	N	IV
RQ0911152-05	Carbon, Total Organic (TOC)	MS	R0906198-005	Water	18.06 ppm	42 mL	18.1 mg/L	1	1.0	107		11/7/09 23:41	N	IV

09742

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

****
** SEQUENCE **
****

110709 Sat Nov 07 09:54:46 2009

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	CCV	toc1	Chk. 5	4	1.000	0	1.00	No	
2	CCB	toc1	Chk. 5	4	1.000	0	1.00	No	
3	LCS	toc1	Chk. 5	4	1.000	0	1.00	No	
4	R0906270-001	toc1	Sample	4	1.000	0	1.00	No	
5	R0906270-002	toc1	Sample	4	1.000	0	1.00	No	
6	R0906270-003	toc1	Sample	4	1.000	0	1.00	No	
7	R0906086-001	toc1	Sample	4	1.000	0	1.00	No	
8	R0906086-002	toc1	Sample	4	1.000	0	1.00	No	
9	R0906086-003	toc1	Sample	4	1.000	0	1.00	No	
10	R0906086-003DUP	toc1	Sample	4	1.000	0	1.00	No	
11	R0906086-003SPK	toc1	Sample	4	1.000	0	1.00	No	
12	R0906086-004	toc1	Sample	4	1.000	0	1.00	No	
13	CCV	toc1	Chk. 5	4	1.000	0	1.00	No	
14	CCB	toc1	Chk. 5	4	1.000	0	1.00	No	
15	R0906086-005	toc1	Sample	4	1.000	0	1.00	No	
16	R0906086-006	toc1	Sample	4	1.000	0	1.00	No	
17	R0906086-007	toc1	Sample	4	1.000	0	1.00	No	
18	R0906198-001	toc1	Sample	4	1.000	0	1.00	No	
19	R0906198-002	toc1	Sample	4	1.000	0	1.00	No	
20	R0906198-003	toc1	Sample	4	1.000	0	1.00	No	4
21	R0906198-004	toc1	Sample	4	1.000	0	1.00	No	
22	R0906198-005	toc1	Sample	4	1.000	0	1.00	No	
23	R0906198-005DUP	toc1	Sample	4	1.000	0	1.00	No	
24	R0906198-005SPK	toc1	Sample	4	1.000	0	1.00	No	
25	CCV	toc1	Chk. 5	4	1.000	0	1.00	No	
26	CCB	toc1	Chk. 5	4	1.000	0	1.00	No	
27	LCS	toc1	Chk. 5	4	1.000	0	1.00	No	
28	R0906198-013	toc1	Sample	4	1.000	0	1.00	No	10
29	R0906198-017	toc1	Sample	4	1.000	0	1.00	No	
30	R0906198-019	toc1	Sample	4	1.000	0	1.00	No	
31	R0906198-020	toc1	Sample	4	1.000	0	1.00	No	
32	R0906198-021	toc1	Sample	4	1.000	0	1.00	No	4
33	R0906198-022	toc1	Sample	4	1.000	0	1.00	No	
34	R0906198-023	toc1	Sample	4	1.000	0	1.00	No	
35	R0906198-024	toc1	Sample	4	1.000	0	1.00	No	
36	R0906198-025	toc1	Sample	4	1.000	0	1.00	No	
37	CCV	toc1	Chk. 5	4	1.000	0	1.00	No	
38	CCB	toc1	Chk. 5	4	1.000	0	1.00	No	
39	R0906209-001	toc1	Sample	4	1.000	0	1.00	No	1000
40	R0906277-001	toc1	Sample	4	1.000	0	1.00	No	2000
41	R0906277-010	toc1	Sample	4	1.000	0	1.00	No	2000
42	R0906101-001	toc1	Sample	4	1.000	0	1.00	No	2000
43	R0906101-002	toc1	Sample	4	1.000	0	1.00	No	2000
44	R0906101-003	toc1	Sample	4	1.000	0	1.00	No	2000

Analyst: C. Schrader

Pipets: TOC/TOX
WAYNE
HARRY

****
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110709 Sat Nov 07 09:54:46 2009

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
~~45~~	R0906101-003DUP	toc1	Sample	4	1.000	0	1.00	No	2000
~~46~~	R0906209-003SPK	toc1	Sample	4	1.000	0	1.00	No	2000
47	CCV	toc1	Chk. 5	4	1.000	0	1.00	No	
48	CCB	toc1	Chk. 5	4	1.000	0	1.00	No	

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TOC by EPA 415.1 / 9060 /
SM20 5310 C

Sample Information:

Sample #:	1
Sample Name:	CCV
Run Type:	CHK STD 5
Analysis Mode:	TOC
Total Reps:	4
Date:	07Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107001.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	10:04	12449	14.753	14.393
2	10:12	12183	14.430	14.078
3	10:20	13058	15.493	15.115
4	10:30	13600	16.151	15.757
	Avg.	12823	15.207	14.836
	Std. Dev	634.67		
	RSD (%)	4.95		

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Sample Information:

Sample #:	2	Operator Name:	Unknown	Method Name:	toc1
Sample Name:	CCB	Sample Volume (ml):	1.025	Sequence Name:	110709
Run Type:	CHK STD 5	Loop Volume (ml):	1.025	Calibration Name:	081809rl
Analysis Mode:	TOC	Loop Size (ml):	1.000	PAM Mode:	OFF
Total Reps:	4	Sample Intro:	AUTOSAMPLER	PAM Volume (ul):	0
Date:	07Nov2009	Remote Start:	OFF	PAM Purge (min:sec):	0:30
Dilution Factor:	1.00	File Name:	1107002.rlt		
Comments:					

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	10:38	225	-0.094	-0.091
2	10:46	284	-0.022	-0.021
3	10:55	271	-0.038	-0.037
4	11:04	169	-0.162	-0.158
	Avg.	237	-0.079	-0.077
	Std. Dev	52.07		
	RSD (%)	21.95		

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Sample Information:

Sample #:	3	Operator Name:	Unknown	Method Name:	toc1
Sample Name:	LCS	Sample Volume (ml):	1.025	Sequence Name:	110709
Run Type:	CHK STD 5	Loop Volume (ml):	1.025	Calibration Name:	081809rl
Analysis Mode:	TOC	Loop Size (ml):	1.000	PAM Mode:	OFF
Total Reps:	4	Sample Intro:	AUTOSAMPLER	PAM Volume (ul):	0
Date:	07Nov2009	Remote Start:	OFF	PAM Purge (min:sec):	0:30
Dilution Factor:	1.00	File Name:	1107003.rlt		
Comments:					

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	11:13	7893	9.220	8.995
2	11:21	8380	9.811	9.572
3	11:29	8860	10.394	10.140
4	11:38	8619	10.101	9.855
	Avg.	8438	9.881	9.640
	Std. Dev	412.81		
	RSD (%)	4.89		

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Sample Information:

Sample #:	4	Operator Name:	Unknown	Method Name:	toc1
Sample Name:	R0906270-001	Sample Volume (ml):	1.025	Sequence Name:	110709
Run Type:	SAMPLE	Loop Volume (ml):	1.025	Calibration Name:	081809rl
Analysis Mode:	TICTOC	Loop Size (ml):	1.000	PAM Mode:	OFF
Total Reps:	4	Sample Intro:	AUTOSAMPLER	PAM Volume (ul):	0
Date:	07Nov2009	Remote Start:	OFF	PAM Purge (min:sec):	0:30
Dilution Factor:	1.00	File Name:	1107004.rlt		
Comments:					

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	11:47	1137	1.110	1.083
2	11:55	1508	1.561	1.523
3	12:03	1402	1.432	1.397
4	12:13	1317	1.329	1.296
	Avg.	1341	1.358	1.325
	Std. Dev	156.85		
	RSD (%)	11.70		

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Sample Information:

Sample #:	5
Sample Name:	R0906270-002
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	07Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107005.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	12:22	1157	1.134	1.107
2	12:30	1444	1.483	1.447
3	12:38	1373	1.397	1.363
4	12:47	1286	1.291	1.260
	Avg.	1315	1.326	1.294
	Std. Dev	123.57		
	RSD (%)	9.40		

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Sample Information:

Sample #:	6
Sample Name:	R0906270-003
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	07Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107006.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	12:56	333	0.134	0.130
2	13:04	240	0.021	0.020
3	13:12	245	0.027	0.026
4	13:22	226	0.004	0.004
	Avg.	261	0.046	0.045
	Std. Dev	48.67		
	RSD (%)	18.65		

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Sample Information:

Sample #:	7
Sample Name:	R0906086-001
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	07Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107007.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	13:30	609	0.469	0.457
2	13:38	958	0.893	0.871
3	13:47	793	0.692	0.675
4	13:56	726	0.611	0.596
	Avg.	772	0.666	0.650
	Std. Dev	145.74		
	RSD (%)	18.89		

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Sample Information:

Sample #:	8
Sample Name:	R0906086-002
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	07Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107008.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	14:05	1283	1.287	1.256
2	14:13	2337	2.568	2.505
3	14:21	1738	1.840	1.795
4	14:30	1600	1.672	1.632
	Avg.	1740	1.842	1.797
	Std. Dev	441.54		
	RSD (%)	25.38		

RSD<20%, RPT
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Sample Information:

Sample #:	9	Operator Name:	Unknown	Method Name:	toc1
Sample Name:	R0906086-003	Sample Volume (ml):	1.025	Sequence Name:	110709
Run Type:	SAMPLE	Loop Volume (ml):	1.025	Calibration Name:	081809rl
Analysis Mode:	TICTOC	Loop Size (ml):	1.000	PAM Mode:	OFF
Total Reps:	4	Sample Intro:	AUTOSAMPLER	PAM Volume (ul):	0
Date:	07Nov2009	Remote Start:	OFF	PAM Purge (min:sec):	0:30
Dilution Factor:	1.00	File Name:	1107009.rlt		
Comments:					

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	14:39	4946	5.736	5.596
2	14:47	7133	8.392	8.188
3	14:55	5851	6.835	6.669
4	15:05	5355	6.233	6.081
	Avg.	5821	6.799	6.633
	Std. Dev	949.57		
	RSD (%)	16.31		

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Sample Information:

Sample #:	10
Sample Name:	R0906086-003DUP
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	07Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107010.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	15:13	5356	6.234	6.082
2	15:22	6852	8.051	7.855
3	15:30	5729	6.687	6.524
4	15:39	5412	6.302	6.148
	Avg.	5837	6.819	6.652
	Std. Dev	696.15		
	RSD (%)	11.93		

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TOC by EPA 415.1 / 9060
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Sample Information:

Sample #:	11
Sample Name:	R0906086-003SPK
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	07Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107011.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	15:48	13273	15.850	15.463
2	15:56	15080	18.044	17.604
3	16:04	13729	16.403	16.003
4	16:14	14366	17.177	16.758
	Avg.	14112	16.869	16.457
	Std. Dev	785.74		
	RSD (%)	5.57		

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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	12	Operator Name:	Unknown	Method Name:	toc1
Sample Name:	R0906086-004	Sample Volume (ml):	1.025	Sequence Name:	110709
Run Type:	SAMPLE	Loop Volume (ml):	1.025	Calibration Name:	081809rl
Analysis Mode:	TICTOC	Loop Size (ml):	1.000	PAM Mode:	OFF
Total Reps:	4	Sample Intro:	AUTOSAMPLER	PAM Volume (ul):	0
Date:	07Nov2009	Remote Start:	OFF	PAM Purge (min:sec):	0:30
Dilution Factor:	1.00	File Name:	1107012.rlt		
Comments:					

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	16:22	3248	3.674	3.584
2	16:30	3429	3.894	3.799
3	16:39	2569	2.849	2.780
4	16:48	2439	2.691	2.626
	Avg.	2921	3.277	3.197
	Std. Dev	490.31		
	RSD (%)	16.78		

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Sample Information:

Sample #:	13	Operator Name:	Unknown	Method Name:	toc1
Sample Name:	CCV	Sample Volume (ml):	1.025	Sequence Name:	110709
Run Type:	CHK STD 5	Loop Volume (ml):	1.025	Calibration Name:	081809rl
Analysis Mode:	TOC	Loop Size (ml):	1.000	PAM Mode:	OFF
Total Reps:	4	Sample Intro:	AUTOSAMPLER	PAM Volume (ul):	0
Date:	07Nov2009	Remote Start:	OFF	PAM Purge (min:sec):	0:30
Dilution Factor:	1.00	File Name:	1107013.rlt		
Comments:					

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	16:57	13126	15.575	15.195
2	17:05	13078	15.517	15.138
3	17:13	13477	16.001	15.611
4	17:22	13616	16.170	15.776
	Avg.	13324	15.816	15.430
	Std. Dev	263.56		
	RSD (%)	1.98		

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Sample Information:

Sample #:	14
Sample Name:	CCB
Run Type:	CHK STD 5
Analysis Mode:	TOC
Total Reps:	4
Date:	07Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107014.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	17:31	541	0.290	0.283
2	17:39	254	-0.058	-0.057
3	17:47	271	-0.038	-0.037
4	17:57	281	-0.025	-0.025
	Avg.	337	0.042	0.041
	Std. Dev	136.62		
	RSD (%)	40.57		

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Sample Information:

Sample #:	15
Sample Name:	R0906086-005
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	07Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107015.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	18:05	1009	0.955	0.931
2	18:13	2075	2.249	2.194
3	18:22	1366	1.388	1.354
4	18:31	1249	1.246	1.216
	Avg.	1425	1.460	1.424
	Std. Dev	458.26		
	RSD (%)	32.16		

RSD>20%, RPT
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Sample Information:

Sample #:	16
Sample Name:	R0906086-006
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	07Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107016.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	18:40	5854	6.839	6.672
2	18:48	6197	7.256	7.079
3	18:56	6437	7.547	7.363
4	19:05	6233	7.299	7.121
	Avg.	6180	7.235	7.059
	Std. Dev	241.81		
	RSD (%)	3.91		

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Sample Information:

Sample #:	17	Operator Name:	Unknown	Method Name:	toc1
Sample Name:	R0906086-007	Sample Volume (ml):	1.025	Sequence Name:	110709
Run Type:	SAMPLE	Loop Volume (ml):	1.025	Calibration Name:	081809rl
Analysis Mode:	TICTOC	Loop Size (ml):	1.000	PAM Mode:	OFF
Total Reps:	4	Sample Intro:	AUTOSAMPLER	PAM Volume (ul):	0
Date:	07Nov2009	Remote Start:	OFF	PAM Purge (min:sec):	0:30
Dilution Factor:	1.00	File Name:	1107017.rlt		
Comments:					

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	19:14	5619	6.554	6.394
2	19:22	6170	7.223	7.047
3	19:30	6343	7.433	7.252
4	19:40	6245	7.314	7.136
	Avg.	6094	7.131	6.957
	Std. Dev	324.66		
	RSD (%)	5.33		

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Sample Information:

Sample #:	18	Operator Name:	Unknown	Method Name:	toc1
Sample Name:	R0906198-001	Sample Volume (ml):	1.025	Sequence Name:	110709
Run Type:	SAMPLE	Loop Volume (ml):	1.025	Calibration Name:	081809rl
Analysis Mode:	TICTOC	Loop Size (ml):	1.000	PAM Mode:	OFF
Total Reps:	4	Sample Intro:	AUTOSAMPLER	PAM Volume (ul):	0
Date:	07Nov2009	Remote Start:	OFF	PAM Purge (min:sec):	0:30
Dilution Factor:	1.00	File Name:	1107018.rlt		
Comments:					

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	19:49	748	0.638	0.622
2	19:57	681	0.556	0.543
3	20:05	633	0.498	0.486
4	20:14	626	0.489	0.478
	Avg.	672	0.545	0.532
	Std. Dev	56.26		
	RSD (%)	8.37		

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Sample Information:

Sample #:	19
Sample Name:	R0906198-002
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	07Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107019.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	20:23	6576	7.716	7.528
2	20:31	9412	11.160	10.888
3	20:39	8113	9.583	9.349
4	20:49	7578	8.933	8.715
	Avg.	7920	9.348	9.120
	Std. Dev	1181.33		
	RSD (%)	14.92		

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Sample Information:

Sample #:	20
Sample Name:	R0906198-003
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	07Nov2009
Dilution Factor:	1.00
Comments:	4

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107020.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	20:57	14984	17.928	17.490
2	21:05	17569	21.067	20.553
3	21:14	15958	19.111	18.645
4	21:23	17224	20.648	20.145
	Avg.	16434	19.688	19.208
	Std. Dev	1189.03		
	RSD (%)	7.24		

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Sample Information:

Sample #:	21
Sample Name:	R0906198-004
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	07Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107021.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	21:32	4822	5.586	5.449
2	21:40	5113	5.939	5.794
3	21:48	4682	5.416	5.284
4	21:57	4609	5.327	5.197
	Avg.	4807	5.567	5.431
	Std. Dev	222.63		
	RSD (%)	4.63		

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Sample Information:

Sample #:	22
Sample Name:	R0906198-005
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	07Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107022.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	22:06	6295	7.375	7.195
2	22:14	8112	9.581	9.348
3	22:22	6594	7.738	7.549
4	22:32	6464	7.580	7.395
	Avg.	6866	8.068	7.872
	Std. Dev	839.47		
	RSD (%)	12.23		

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Sample Information:

Sample #:	23	Operator Name:	Unknown	Method Name:	toc1
Sample Name:	R0906198-005DUP	Sample Volume (ml):	1.025	Sequence Name:	110709
Run Type:	SAMPLE	Loop Volume (ml):	1.025	Calibration Name:	081809rl
Analysis Mode:	TICTOC	Loop Size (ml):	1.000	PAM Mode:	OFF
Total Reps:	4	Sample Intro:	AUTOSAMPLER	PAM Volume (ul):	0
Date:	07Nov2009	Remote Start:	OFF	PAM Purge (min:sec):	0:30
Dilution Factor:	1.00	File Name:	1107023.rlt		
Comments:					

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	22:41	6284	7.361	7.182
2	22:49	7647	9.017	8.797
3	22:57	6775	7.958	7.764
4	23:06	6549	7.683	7.496
	Avg.	6814	8.005	7.809
	Std. Dev	590.63		
	RSD (%)	8.67		

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Sample Information:

Sample #:	24
Sample Name:	R0906198-005SPK
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	07Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107024.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	23:15	14249	17.035	16.620
2	23:23	16562	19.844	19.360
3	23:31	15456	18.501	18.050
4	23:41	15466	18.513	18.062
	Avg.	15433	18.473	18.023
	Std. Dev	944.83		
	RSD (%)	6.12		

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Sample Information:

Sample #:	25	Operator Name:	Unknown	Method Name:	toc1
Sample Name:	CCV	Sample Volume (ml):	1.025	Sequence Name:	110709
Run Type:	CHK STD 5	Loop Volume (ml):	1.025	Calibration Name:	081809rl
Analysis Mode:	TOC	Loop Size (ml):	1.000	PAM Mode:	OFF
Total Reps:	4	Sample Intro:	AUTOSAMPLER	PAM Volume (ul):	0
Date:	07Nov2009	Remote Start:	OFF	PAM Purge (min:sec):	0:30
Dilution Factor:	1.00	File Name:	1107025.rlt		
Comments:					

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	23:49	13420	15.932	15.544
2	23:58	13571	16.116	15.723
3	00:06	13865	16.473	16.071
4	00:15	13602	16.153	15.759
	Avg.	13615	16.168	15.774
	Std. Dev	184.96		
	RSD (%)	1.36		

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Sample Information:

Sample #:	26
Sample Name:	CCB
Run Type:	CHK STD 5
Analysis Mode:	TOC
Total Reps:	4
Date:	08Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107026.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	00:24	620	0.386	0.377
2	00:32	326	0.029	0.028
3	00:40	267	-0.043	-0.041
4	00:50	289	-0.016	-0.015
	Avg.	376	0.089	0.087
	Std. Dev	164.81		
	RSD (%)	43.89		

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Sample Information:

Sample #:	27
Sample Name:	LCS
Run Type:	CHK STD 5
Analysis Mode:	TOC
Total Reps:	4
Date:	08Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107027.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	00:58	7818	9.128	8.906
2	01:06	8347	9.771	9.533
3	01:15	8650	10.139	9.892
4	01:24	8960	10.515	10.259
	Avg.	8444	9.888	9.647
	Std. Dev	486.48		
	RSD (%)	5.76		

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T1_150

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Sample Information:

Sample #:	28	Operator Name:	Unknown	Method Name:	toc1
Sample Name:	R0906198-013	Sample Volume (ml):	1.025	Sequence Name:	110709
Run Type:	SAMPLE	Loop Volume (ml):	1.025	Calibration Name:	081809rl
Analysis Mode:	TICTOC	Loop Size (ml):	1.000	PAM Mode:	OFF
Total Reps:	4	Sample Intro:	AUTOSAMPLER	PAM Volume (ul):	0
Date:	08Nov2009	Remote Start:	OFF	PAM Purge (min:sec):	0:30
Dilution Factor:	1.00	File Name:	1107028.rlt		
Comments:	10				

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	01:33	12481	14.888	14.525
2	01:41	14218	16.997	16.583
3	01:49	13561	16.199	15.804
4	01:58	13720	16.393	15.993
	Avg.	13495	16.119	15.726
	Std. Dev	731.64		
	RSD (%)	5.42		

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Sample Information:

Sample #:	29	Operator Name:	Unknown	Method Name:	toc1
Sample Name:	R0906198-017	Sample Volume (ml):	1.025	Sequence Name:	110709
Run Type:	SAMPLE	Loop Volume (ml):	1.025	Calibration Name:	081809rl
Analysis Mode:	TICTOC	Loop Size (ml):	1.000	PAM Mode:	OFF
Total Reps:	4	Sample Intro:	AUTOSAMPLER	PAM Volume (ul):	0
Date:	08Nov2009	Remote Start:	OFF	PAM Purge (min:sec):	0:30
Dilution Factor:	1.00	File Name:	1107029.rlt		
Comments:					

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	02:07	12856	15.343	14.969
2	02:15	15744	18.851	18.391
3	02:23	14837	17.749	17.316
4	02:33	14420	17.243	16.822
	Avg.	14464	17.296	16.875
	Std. Dev	1206.25		
	RSD (%)	8.34		

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Sample Information:

Sample #:	30	Operator Name:	Unknown	Method Name:	toc1
Sample Name:	R0906198-019	Sample Volume (ml):	1.025	Sequence Name:	110709
Run Type:	SAMPLE	Loop Volume (ml):	1.025	Calibration Name:	081809rl
Analysis Mode:	TICTOC	Loop Size (ml):	1.000	PAM Mode:	OFF
Total Reps:	4	Sample Intro:	AUTOSAMPLER	PAM Volume (ul):	0
Date:	08Nov2009	Remote Start:	OFF	PAM Purge (min:sec):	0:30
Dilution Factor:	1.00	File Name:	1107030.rlt		
Comments:					

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	02:41	2444	2.697	2.632
2	02:50	1916	2.056	2.006
3	02:58	1716	1.813	1.769
4	03:07	1590	1.660	1.620
	Avg.	1917	2.057	2.007
	Std. Dev	376.41		
	RSD (%)	19.64		

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Sample Information:

Sample #:	31	Operator Name:	Unknown	Method Name:	toc1
Sample Name:	R0906198-020	Sample Volume (ml):	1.025	Sequence Name:	110709
Run Type:	SAMPLE	Loop Volume (ml):	1.025	Calibration Name:	081809rl
Analysis Mode:	TICTOC	Loop Size (ml):	1.000	PAM Mode:	OFF
Total Reps:	4	Sample Intro:	AUTOSAMPLER	PAM Volume (ul):	0
Date:	08Nov2009	Remote Start:	OFF	PAM Purge (min:sec):	0:30
Dilution Factor:	1.00	File Name:	1107031.rlt		
Comments:					

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	03:16	1083	1.044	1.019
2	03:24	934	0.864	0.842
3	03:32	840	0.749	0.731
4	03:42	825	0.731	0.713
	Avg.	921	0.847	0.826
	Std. Dev	118.59		
	RSD (%)	12.88		

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GJ169

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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	32
Sample Name:	R0906198-021
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	08Nov2009
Dilution Factor:	1.00
Comments:	4

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107032.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	03:50	25669	30.905	30.151
2	03:59	31903	38.476	37.538
3	04:07	29366	35.395	34.532
4	04:16	30146	36.342	35.456
	Avg.	29271	35.280	34.419
	Std. Dev	2625.29		
	RSD (%)	8.97		

4X ↓

RPT @ 1/10
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Sample Information:

Sample #:	33
Sample Name:	R0906198-022
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	08Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107033.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	04:25	1969	2.121	2.069
2	04:33	1431	1.467	1.431
3	04:41	1306	1.315	1.283
4	04:51	1290	1.296	1.264
	Avg.	1499	1.550	1.512
	Std. Dev	319.61		
	RSD (%)	21.32		

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Sample Information:

Sample #:	34	Operator Name:	Unknown	Method Name:	toc1
Sample Name:	R0906198-023	Sample Volume (ml):	1.025	Sequence Name:	110709
Run Type:	SAMPLE	Loop Volume (ml):	1.025	Calibration Name:	081809rl
Analysis Mode:	TICTOC	Loop Size (ml):	1.000	PAM Mode:	OFF
Total Reps:	4	Sample Intro:	AUTOSAMPLER	PAM Volume (ul):	0
Date:	08Nov2009	Remote Start:	OFF	PAM Purge (min:sec):	0:30
Dilution Factor:	1.00	File Name:	1107034.rlt		
Comments:					

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	04:59	3699	4.222	4.119
2	05:07	4424	5.102	4.978
3	05:16	4042	4.638	4.525
4	05:25	3914	4.483	4.373
	Avg.	4020	4.611	4.499
	Std. Dev	304.40		
	RSD (%)	7.57		

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Sample Information:

Sample #:	35
Sample Name:	R0906198-024
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	08Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107035.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	05:34	4863	5.635	5.498
2	05:42	5067	5.883	5.740
3	05:50	5282	6.144	5.994
4	05:59	5379	6.262	6.109
	Avg.	5148	5.981	5.835
	Std. Dev	230.29		
	RSD (%)	4.47		

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Sample Information:

Sample #:	36
Sample Name:	R0906198-025
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	08Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107036.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	06:08	3892	4.456	4.347
2	06:16	4514	5.212	5.084
3	06:24	4237	4.875	4.756
4	06:34	4139	4.756	4.640
	Avg.	4196	4.825	4.707
	Std. Dev	257.21		
	RSD (%)	6.13		

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TOC by EPA 415.1 / 9060
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Sample Information:

Sample #:	37
Sample Name:	CCV
Run Type:	CHK STD 5
Analysis Mode:	TOC
Total Reps:	4
Date:	08Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107037.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	06:43	12177	14.423	14.071
2	06:51	13451	15.970	15.580
3	06:59	12686	15.041	14.674
4	07:08	13764	16.350	15.951
	Avg.	13020	15.446	15.069
	Std. Dev	721.46		
	RSD (%)	5.54		

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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	38
Sample Name:	CCB
Run Type:	CHK STD 5
Analysis Mode:	TOC
Total Reps:	4
Date:	08Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107038.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	07:17	316	0.017	0.017
2	07:25	183	-0.145	-0.141
3	07:33	213	-0.108	-0.105
4	07:43	227	-0.091	-0.089
	Avg.	235	-0.082	-0.080
	Std. Dev	57.19		
	RSD (%)	24.36		

OK
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09202

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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	39
Sample Name:	R0906209-001
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	08Nov2009
Dilution Factor:	1.00
Comments:	1000

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107039.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	07:51	1504	1.556	1.518
2	08:00	1471	1.516	1.479
3	08:08	1557	1.620	1.581
4	08:17	1552	1.614	1.575
	Avg.	1521	1.576	1.538
	Std. Dev	41.01		
	RSD (%)	2.70		

1000X ↓

RPT @ 1/100
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TOC by EPA 415.1 / 9060
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Sample Information:

Sample #:	40
Sample Name:	R0906277-001
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	08Nov2009
Dilution Factor:	1.00
Comments:	2000

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107040.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	08:26	20869	25.075	24.464
2	08:34	23750	28.574	27.877
3	08:42	24909	29.982	29.251
4	08:51	26473	31.881	31.104
	Avg.	24000	28.878	28.174
	Std. Dev	2366.97		
	RSD (%)	9.86		

2000X ↓

RPT @ 1/4000

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Sample Information:

Sample #:	41
Sample Name:	R0906277-010
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	08Nov2009
Dilution Factor:	1.00
Comments:	2000

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107041.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	09:00	19436	23.335	22.766
2	09:08	22065	26.528	25.881
3	09:17	23006	27.671	26.996
4	09:26	23446	28.205	27.517
	Avg.	21988	26.435	25.790
	Std. Dev	1796.36		
	RSD (%)	8.17		

2000X ↓

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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	42
Sample Name:	R0906101-001
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	08Nov2009
Dilution Factor:	1.00
Comments:	2000

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107042.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	09:35	30466	36.731	35.835
2	09:43	31412	37.880	36.956
3	09:51	34258	41.337	40.328
4	10:00	34584	41.732	40.715
	Avg.	32680	39.420	38.459
	Std. Dev	2051.42		
	RSD (%)	6.28		

2000X

RPT @ 1/4000

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Sample Information:

Sample #:	43
Sample Name:	R0906101-002
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	08Nov2009
Dilution Factor:	1.00
Comments:	2000

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107043.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	10:09	19723	23.683	23.106
2	10:17	21470	25.805	25.176
3	10:25	23560	28.343	27.652
4	10:35	23698	28.511	27.816
	Avg.	22113	26.586	25.937
	Std. Dev	1891.35		
	RSD (%)	8.55		

2000X ↓

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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	44
Sample Name:	R0906101-003
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	08Nov2009
Dilution Factor:	1.00
Comments:	2000

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107044.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	10:43	20766	24.950	24.342
2	10:52	22065	26.528	25.881
3	11:00	21678	26.058	25.422
4	11:09	22373	26.902	26.246
	Avg.	21721	26.109	25.473
	Std. Dev	696.97		
	RSD (%)	3.21		

2000X
↓
1/4000

RPT @
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TOC by EPA 415.1 / 9060
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Sample Information:

Sample #:	45
Sample Name:	R0906101-003DUP
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	08Nov2009
Dilution Factor:	1.00
Comments:	2000

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107045.rit

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	11:18	19049	22.865	22.307
2	11:26	20148	24.200	23.609
3	11:34	21293	25.590	24.966
4	11:43	21348	25.657	25.031
	Avg.	20460	24.578	23.978
	Std. Dev	1090.98		
	RSD (%)	5.33		

2000X

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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	46
Sample Name:	R0906209-003SPK
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	08Nov2009
Dilution Factor:	1.00
Comments:	2000

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107046.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	11:52	28265	34.058	33.227
2	12:00	30477	36.744	35.848
3	12:09	30756	37.083	36.179
4	12:18	31669	38.192	37.261
	Avg.	30292	36.519	35.629
	Std. Dev	1443.88		
	RSD (%)	4.77		

2000X

RPT @ Y4000

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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	47
Sample Name:	CCV
Run Type:	CHK STD 5
Analysis Mode:	TOC
Total Reps:	4
Date:	08Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107047.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	12:27	12479	14.789	14.429
2	12:35	13253	15.729	15.346
3	12:43	14169	16.842	16.431
4	12:53	13717	16.293	15.896
	Avg.	13405	15.913	15.525
	Std. Dev	721.48		
	RSD (%)	5.38		

OK
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007951

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OI Analytical Model 1010

Sample Information:

Sample #:	48
Sample Name:	CCB
Run Type:	CHK STD 5
Analysis Mode:	TOC
Total Reps:	4
Date:	08Nov2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	1107048.rlt

Method Name:	toc1
Sequence Name:	110709
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	13:01	486	0.223	0.218
2	13:10	384	0.100	0.097
3	13:18	371	0.084	0.082
4	13:27	332	0.036	0.036
	Avg.	393	0.111	0.108
	Std. Dev	65.66		
	RSD (%)	16.70		

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Columbia Analytical Services
1 Mustard St., Rochester NY 14609

General Chemistry Analytical Run Cover Sheet

Analyst: C. Schrader Date: 11/7/09

Analysis: Total Organic Carbon, 415.1/9060 Instrument: OI Analytical Model1010 TOC Analyzer
High Level: 1.0 to 30.0 ppm

Quality Control:

	Log#, Date,	Stocks Prep. Log#, Date,	Stock Sol (mLs)	Stock Sol (mg/L)	Final Vol (mLs)	True Value (mg/L)
a) Standards Prep.:	WC86012B, 08/18/09	WC86010B, 05/05/09				
b) I/CCV Preparation:	WC86012E, 08/18/09	WC86010A, 05/05/09	3.0	1000	200	15.00
c) LCS Preparation:	WC86012C, 08/18/09	WC86010B, 05/05/09	1.0	1000	100	10.00
d) Matrix Spike Prep.:	WC86012D, 08/18/09	WC86010B, 05/05/09	0.42	1000	42	10.00

Instrument log filled in? (Y) (N)

Comments:

Curve Date = 08/18/09

Note: Dilutions greater than 1/1 are placed in the "comments" section of the Model 1010 Analyzer report. The "Dilution Factor" on the Model 1010 will always read "1.00" TOC results on the Model 1010 Analyzer reports do not include the dilution factor. Final results on the Starlims run and final report include the dilution factor.

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****

** SEQUENCE **

****

081809RL Tue Aug 18 17:43:10 2009

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	BLANK	blk	Sample	4	1.000	15	1.00	No	
2	BLANK	blk	Sample	4	1.000	8	1.00	No	
3	BLANK	tocl	Sample	4	1.000	0	1.00	No	
4	0.00 STD	tocl	Std. 1	4	1.000	0	1.00	No	
5	1.00 STD	tocl	Std. 2	4	1.000	0	1.00	No	
6	5.00 STD	tocl	Std. 3	4	1.000	0	1.00	No	
7	10.00 STD	tocl	Std. 4	4	1.000	0	1.00	No	
8	30.00 STD	tocl	Std. 5	4	1.000	0	1.00	No	
9	ICV	tocl	Chk. 5	4	1.000	0	1.00	No	
10	ICB	tocl	Chk. 5	4	1.000	0	1.00	No	
11	LCS	tocl	Chk. 5	4	1.000	0	1.00	No	
12	MDL 1 TV= 0.500	tocl	Sample	4	1.000	0	1.00	No	
13	MDL 2 TV= 0.500	tocl	Sample	4	1.000	0	1.00	No	
14	MDL 3 TV= 0.500	tocl	Sample	4	1.000	0	1.00	No	
15	MDL 4 TV= 0.500	tocl	Sample	4	1.000	0	1.00	No	
16	MDL 5 TV= 0.500	tocl	Sample	4	1.000	0	1.00	No	
17	MDL 6 TV= 0.500	tocl	Sample	4	1.000	0	1.00	No	
18	MDL 7 TV= 0.500	tocl CS 8/19/09	Sample	4	1.000	0	1.00	No	
19	LOD TV= 0.500	tocl	Sample	4	1.000	0	1.00	No	
20	LOD TV= ~~0.500~~ 0.200	tocl	Sample	4	1.000	0	1.00	No	
21	CCV CS 8/19/09	tocl	Chk. 5	4	1.000	0	1.00	No	
22	CCB	tocl	Chk. 5	4	1.000	0	1.00	No	

Analyst: C. Schrader

Pipets: Spiderman
Wonder Woman

Columbia Analytical Srvcs.
1 Mustard Street
Rochester, NY. 14609
585-288-5380

OI Analytical Model 1010

TOC by EPA 415.1 / 9060 / SM20 5310 C

Sample Information:

Sample #:	1
Sample Name:	BLANK
Run Type:	BLANK
Analysis Mode:	TICTOC
Total Reps:	15
Date:	18Aug2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	0818001.rlt

Method Name:	blk
Sequence Name:	081809rl
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time		TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	17:50	*	377	0.518	0.505
2	17:55	*	255	0.351	0.342
3	18:01	*	219	0.302	0.294
4	18:06	*	266	0.366	0.357
5	18:12	*	329	0.452	0.441
6	18:18	*	310	0.426	0.416
7	18:23	*	326	0.448	0.437
8	18:29	*	218	0.300	0.293
9	18:35	*	248	0.341	0.333
10	18:40	*	222	0.306	0.298
11	18:46	*	215	0.296	0.289
12	18:51	*	225	0.310	0.302
13	18:57	*	230	0.317	0.309
14	19:03	*	235	0.323	0.316
15	19:10	*	231	0.318	0.310
	Avg.		260	0.358	0.350
	Std. Dev		50.72		
	RSD (%)		19.48		

Reagent blanks
OK
CS
8/19/09

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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	2
Sample Name:	BLANK
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	18Aug2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	0818002.rlt

Method Name:	blk
Sequence Name:	081809rl
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	19:17	333	0.138	0.135
2	19:22	209	-0.032	-0.031
3	19:28	196	-0.049	-0.048
4	19:36	209	-0.032	-0.031
	Avg.	237	0.007	0.006
	Std. Dev	64.46		
	RSD (%)	27.23		

Water blank
OK
CS
8/19/09

Report generrated by OI Analytical's TOC Reporter V5.0, using WinToc 1010 V5.0 and 1010 Firmware V5.0

'*' = modified '~' = unused

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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	3
Sample Name:	BLANK
Run Type:	BLANK
Analysis Mode:	TICTOC
Total Reps:	8
Date:	18Aug2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	0818003.rlt

Method Name:	blk
Sequence Name:	081809rl
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time		TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	19:42	*	259	0.356	0.348
2	19:48	*	250	0.344	0.336
3	19:53	*	233	0.321	0.313
4	19:59	*	262	0.360	0.352
5	20:04	*	248	0.341	0.333
6	20:10	*	255	0.351	0.342
7	20:16	*	214	0.295	0.288
8	20:23	*	200	0.276	0.269
	Avg.		240	0.331	0.322
	Std. Dev		22.55		
	RSD (%)		9.39		

Reagent blanks
OK
CS
8/19/09

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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	4
Sample Name:	BLANK
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	18Aug2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	0818004.rlt

Method Name:	blk
Sequence Name:	081809rl
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	20:30	278	0.075	0.074
2	20:35	177	-0.063	-0.062
3	20:41	237	0.019	0.019
4	20:49	160	-0.086	-0.084
	Avg.	213	-0.014	-0.013
	Std. Dev	54.49		
	RSD (%)	25.58		

Water blank
OK
CS
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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	5
Sample Name:	BLANK
Run Type:	SAMPLE
Analysis Mode:	TICTOC
Total Reps:	4
Date:	18Aug2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	0818005.rlt

Method Name:	toc1
Sequence Name:	081809rl
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	20:58	296	0.100	0.098
2	21:06	296	0.100	0.098
3	21:14	286	0.086	0.084
4	21:23	267	0.060	0.059
	Avg.	286	0.087	0.085
	Std. Dev	13.67		
	RSD (%)	4.78		

Water blank
OK
CS
8/19/09

60799

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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	6
Sample Name:	0.00 STD
Run Type:	STD 1
Analysis Mode:	TOC
Total Reps:	4
Date:	18Aug2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	0818006.rlt

Method Name:	toc1
Sequence Name:	081809rl
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	21:32	238	0.000	0.000
2	21:40	295	0.000	0.000
3	21:49	295	0.000	0.000
4	21:58	260	0.000	0.000
	Avg.	272	0.000	0.000
	Std. Dev	28.04		
	RSD (%)	10.31		

OK
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9999

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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	7
Sample Name:	1.00 STD
Run Type:	STD 2
Analysis Mode:	TOC
Total Reps:	4
Date:	18Aug2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	0818007.rlt

Method Name:	toc1
Sequence Name:	081809rl
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	22:07	1094	1.025	1.000
2	22:15	1030	1.025	1.000
3	22:23	1079	1.025	1.000
4	22:32	1132	1.025	1.000
	Avg.	1084	1.025	1.000
	Std. Dev	42.21		
	RSD (%)	3.89		

OK
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8/19/09

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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	8
Sample Name:	5.00 STD
Run Type:	STD 3
Analysis Mode:	TOC
Total Reps:	4
Date:	18Aug2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	0818008.rlt

Method Name:	toc1
Sequence Name:	081809rl
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	22:41	4391	5.125	5.000
2	22:49	4589	5.125	5.000
3	22:57	4771	5.125	5.000
4	23:07	4693	5.125	5.000
	Avg.	4611	5.125	5.000
	Std. Dev	164.53		
	RSD (%)	3.57		

OK
C.S
8/19/09

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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	9
Sample Name:	10.00 STD
Run Type:	STD 4
Analysis Mode:	TOC
Total Reps:	4
Date:	18Aug2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	0818009.rlt

Method Name:	toc1
Sequence Name:	081809rl
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	23:16	8591	10.250	10.000
2	23:24	8882	10.250	10.000
3	23:32	8965	10.250	10.000
4	23:41	8927	10.250	10.000
	Avg.	8841	10.250	10.000
	Std. Dev	170.25		
	RSD (%)	1.93		

OK
CS
8/19/09

6989

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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	10
Sample Name:	30.00 STD
Run Type:	STD 5
Analysis Mode:	TOC
Total Reps:	4
Date:	18Aug2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	0818010.rlt

Method Name:	toc1
Sequence Name:	081809rl
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	23:50	23659	30.750	30.000
2	23:58	25783	30.750	30.000
3	00:06	26255	30.750	30.000
4	00:16	26397	30.750	30.000
	Avg.	25524	30.750	30.000
	Std. Dev	1270.41		
	RSD (%)	4.98		

OK
CS
8/19/09

h0809

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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	11
Sample Name:	ICV
Run Type:	CHK STD 5
Analysis Mode:	TOC
Total Reps:	4
Date:	19Aug2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	0818011.rlt

Method Name:	toc1
Sequence Name:	081809rl
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	00:24	13002	15.425	15.048
2	00:32	13583	16.130	15.737
3	00:41	13434	15.949	15.560
4	00:50	13494	16.022	15.631
	Avg.	13378	15.882	15.494
	Std. Dev	258.19		
	RSD (%)	1.93		

OK
CS
8/19/09

5909

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585-288-5380

TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	12
Sample Name:	ICB
Run Type:	CHK STD 5
Analysis Mode:	TOC
Total Reps:	4
Date:	19Aug2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	0818012.rlt

Method Name:	toc1
Sequence Name:	081809rl
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	00:59	230	-0.087	-0.085
2	01:07	190	-0.136	-0.133
3	01:15	239	-0.077	-0.075
4	01:24	196	-0.129	-0.126
	Avg.	214	-0.107	-0.105
	Std. Dev	24.36		
	RSD (%)	11.40		

OK
CS
8/19/09

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'*' = modified '–' = unused

Columbia Analytical Srvcs.
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TOC by EPA 415.1 / 9060
OI Analytical Model 1010

Sample Information:

Sample #:	13
Sample Name:	LCS
Run Type:	CHK STD 5
Analysis Mode:	TOC
Total Reps:	4
Date:	19Aug2009
Dilution Factor:	1.00
Comments:	

Operator Name:	Unknown
Sample Volume (ml):	1.025
Loop Volume (ml):	1.025
Loop Size (ml):	1.000
Sample Intro:	AUTOSAMPLER
Remote Start:	OFF
File Name:	0818013.rlt

Method Name:	toc1
Sequence Name:	081809rl
Calibration Name:	081809rl
PAM Mode:	OFF
PAM Volume (ul):	0
PAM Purge (min:sec):	0:30

Sample Results:

Rep #	Time	TOC Area (cnts)	TOC Mass (ugC)	TOC Conc (ppm)
1	01:33	8506	9.964	9.721
2	01:41	8454	9.901	9.659
3	01:49	8741	10.249	9.999
4	01:59	9089	10.672	10.412
	Avg.	8698	10.197	9.948
	Std. Dev	289.33		
	RSD (%)	3.33		

OK
CS
8/19/09

Report generrated by OI Analytical's TOC Reporter V5.0, using WinToc 1010 V5.0 and 1010 Firmware V5.0

'*' = modified '~' = unused

5/5/09 CS

(A) TOC Reference Stock (1000 ppm)
2.128 g KHP (WC5/6/09 WC86062C), previously dried @ 104 °C for 2 hours, → 1000 mL w/ UPDI. Store @ RT (CS 5/5/09) in amber glass.
Exp. 1 yr., ~~5/5/09~~ 5/5/10

(B) TOC Standard Stock (1000 ppm)
2.128 g KHP ~~(WC8500~~ (CS 5/5/09) (WC86076G (5/5/09 CS)), previously dried @ 104 °C for 2 hours, → 1000 mL w/ UPDI. Store @ RT in amber glass.
Exp. 1 yr. 5/5/10.

(C) TOC High Level Calibration for OI Model 1010
Standards - fresh per calibration

Conc. (mg/L)	mLs 1000 ppm (WC86010B) ~~WC8500~~ (CS 5/5/09)	Final vol. w/ UP
0.00	0.00	100
1.00	0.10	100
5.00	0.50	100
10.00	1.00	100
30.00	3.00	100

(D) TOC High Level LCS TV = 10.0 mg/L fresh per run
1.0 mL 1000 ppm Std stock (WC86010B) diluted volumetrically to 100 mL w/ UPDI.

Continued on Page

Read and Understood By

Signed Date Signed Date

7/2/09 (E)(A) Matrix Spike - Add 20 mL of 10000 ppm CS 7/2/09 Standard stock (WC86008B) to sample and analyze. TV = $\frac{(20\ mL)(10000\ ppm)}{(X\ g\ sample)}$

8/18/09 (B) TOC High Level Calibration for OI Model 1010
CS Standards - fresh per calibration

Conc. (mg/L)	mLs 1000ppm (WC86010B)	Final vol w/ UPDI (m
0.00	0.000	100
1.00	0.100	100
5.00	0.500	100
10.00	1.000	100
30.00	3.000	100

(C) TOC High Level LCS. TV = 10.0 mg/L fresh per run. 1.0 mL 1000 ppm Std. Stock (WC86010B). Diluted volumetrically to 100 mL w/ UPDI

(D) TOC High level MS. TV = 10.0 mg/L. Add 0.420 mL 1000 ppm Std. Stock (WC86010B) to 42 mL in sample volume.

(E) TOC High Level ICV/CCV TV = 15.0 mg/L, fresh per run 3.0 mL 1000 ppm Ref. Stock (WC86010A) diluted to 200 mL volumetrically w/ UPDI.

Continued on Page

Read and Understood By

SD 8/18/09

Signed Date Signed Date

****
** CALIBRATION **
****

081809RL Wed Aug 19 00:16:03 2009

Std. #	Used	Conc. (ppm)	Volume (mL)
1	Yes	0.000	1.000
2	Yes	1.000	1.000
3	Yes	5.000	1.000
4	Yes	10.000	1.000
5	Yes	30.000	1.000

RF (ugC/k-cts):	1.215
R-Squared:	0.9970
Offset (cts):	301
Offset (ugC):	-0.367
Calibration Mode:	TOC
Allow Editing:	No

Rep	Std. 1	Std. 2	Std. 3	Std. 4	Std. 5
1	238	1094	4391	8591	23659
2	295	1030	4589	8882	25783
3	295	1079	4771	8965	26255
4	260	1132	4693	8927	26397
5	-	-	-	-	-
6	-	-	-	-	-
7	-	-	-	-	-
8	-	-	-	-	-
9	-	-	-	-	-
10	-	-	-	-	-

(* = unused)

Analytical Results Summary

Instrument Name: R-IC-01 **Analyst:** CWOODS **Analysis Lot:** 177711 **Method/Testcode:** 218.6/Cr6 D

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt.	Final Result	Dil	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
RQ0910884-04	Chromium, Hexavalent, Dissolved	MB		Water	0.00 mg/L	10 mL	0.010 mg/L U	1 ✓	0.010			11/3/09 11:55:16	N	IV
RQ0910884-05	Chromium, Hexavalent, Dissolved	LCS		Water	0.19 mg/L	10 mL	0.185 mg/L	1 ✓	0.010	93		11/3/09 12:16:04	N	IV
R0906095-005	Chromium, Hexavalent, Dissolved	N/A		Water	0.09 mg/L	10 mL	0.090 mg/L	1 ✓	0.010			11/3/09 15:12:54	N	IV
R0906095-006	Chromium, Hexavalent, Dissolved	N/A		Water	0.01 mg/L	10 mL	0.009 mg/L J	1 ✓	0.010			11/3/09 15:23:18	N	IV
R0906095-008	Chromium, Hexavalent, Dissolved	N/A		Water	0.05 mg/L	10 mL	0.051 mg/L	1 ✓	0.010			11/3/09 15:33:42	N	IV
R0906095-009	Chromium, Hexavalent, Dissolved	N/A		Water	0.08 mg/L	10 mL	0.081 mg/L	1 ✓	0.010			11/3/09 15:44:05	N	IV
R0906095-011	Chromium, Hexavalent, Dissolved	N/A		Water	0.05 mg/L	10 mL	0.050 mg/L	1 ✓	0.010			11/3/09 16:25:41	N	IV
RQ0910884-01	Chromium, Hexavalent, Dissolved	MS	R0906095-011	Water	0.24 mg/L	10 mL	0.236 mg/L	1 ✓	0.010	93		11/3/09 16:46:28	N	IV
R0906095-013	Chromium, Hexavalent, Dissolved	N/A		Water	0.05 mg/L	10 mL	0.050 mg/L	1 ✓	0.010			11/3/09 16:56:52	N	IV
RQ0910884-02	Chromium, Hexavalent, Dissolved	DUP	R0906095-013	Water	0.05 mg/L	10 mL	0.050 mg/L	1 ✓	0.010		1	11/3/09 17:07:16	N	IV
RQ0910884-03	Chromium, Hexavalent, Dissolved	MS	R0906095-013	Water	0.23 mg/L	10 mL	0.231 mg/L	1 ✓	0.010	91		11/3/09 17:17:40	N	IV
R0906095-016	Chromium, Hexavalent, Dissolved	N/A		Water	0.02 mg/L	10 mL	0.018 mg/L	1 ✓	0.010			11/3/09 17:28:04	N	IV
R0906095-017	Chromium, Hexavalent, Dissolved	N/A		Water	0.10 mg/L	10 mL	0.104 mg/L	1 ✓	0.010			11/3/09 17:38:29	N	IV
R0906270-001	Chromium, Hexavalent, Dissolved	N/A		Water	0.14 mg/L	10 mL	0.142 mg/L	1 ✓	0.010			11/3/09 17:48:52	N	IV
R0906270-002	Chromium, Hexavalent, Dissolved	N/A		Water	0.14 mg/L	10 mL	0.139 mg/L	1 ✓	0.010			11/3/09 18:20:02	N	IV
R0906270-003	Chromium, Hexavalent, Dissolved	N/A		Water	0.00 mg/L	10 mL	0.010 mg/L U	1 ✓	0.010			11/3/09 18:30:26	N	IV

00811

ⁱ indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Schedule File: J:\ACQUDATA\IC\SCHEDULE\IC#1\As-7\As7-110309.sch 11-03-09 IC#1 7199 SPLP 1218.6

Line	Sample	Sample Type	Level	Method	Data File	Dilution	Comment
1	CCV	Sample		1-1022.met	n03_001.dxd	1	7199/218.6
2	CCB	Sample		1-1022.met	n03_002.dxd	1	7199/218.6
3	LCS	Sample		1-1022.met	n03_003.dxd	1	7199/218.6
4	LCS	Sample		1-1022.met	n03_004.dxd	1	7199 REPLICATE
5	RQ0910788 SPLP MB	Sample		1-1022.met	n03_005.dxd	1	7199 SPLP
6	RQ0910788 SPLP MB	Sample		1-1022.met	n03_006.dxd	1	7199 SPLP REPLICATE
7	R0906056-001	Sample		1-1022.met	n03_007.dxd	1	7199 SPLP
8	R0906056-001	Sample		1-1022.met	n03_008.dxd	1	7199 SPLP REPLICATE
9	R0906056-003	Sample		1-1022.met	n03_009.dxd	1	7199 SPLP
10	R0906056-003	Sample		1-1022.met	n03_010.dxd	1	7199 SPLP REPLICATE
11	R0906056-005	Sample		1-1022.met	n03_011.dxd	1	7199 SPLP
12	R0906056-005	Sample		1-1022.met	n03_012.dxd	1	7199 SPLP REPLICATE
13	CCV	Sample		1-1022.met	n03_013.dxd	1	7199/218.6
14	CCB	Sample		1-1022.met	n03_014.dxd	1	7199/218.6
15	R0906056-007	Sample		1-1022.met	n03_015.dxd	1	7199 SPLP
16	R0906056-007	Sample		1-1022.met	n03_016.dxd	1	7199 SPLP REPLICATE
17	R0906056-007 DUP	Sample		1-1022.met	n03_017.dxd	1	7199 SPLP
18	R0906056-007 DUP	Sample		1-1022.met	n03_018.dxd	1	7199 SPLP REPLICATE
19	R0906056-007 SPK	Sample		1-1022.met	n03_019.dxd	1	7199 SPLP
20	R0906056-007 SPK	Sample		1-1022.met	n03_020.dxd	1	7199 SPLP REPLICATE
21	R0906095-005	Sample		1-1022.met	n03_021.dxd	1	218.6
22	R0906095-006	Sample		1-1022.met	n03_022.dxd	1	218.6
23	R0906095-008	Sample		1-1022.met	n03_023.dxd	1	218.6
24	R0906095-009	Sample		1-1022.met	n03_024.dxd	1	218.6
25	CCV	Sample		1-1022.met	n03_025.dxd	1	7199/218.6
26	CCB	Sample		1-1022.met	n03_026.dxd	1	7199/218.6
27	LCS	Sample		1-1022.met	n03_027.dxd	1	7199/218.6
28	R0906095-011	Sample		1-1022.met	n03_028.dxd	1	218.6
29	R0906095-011 DUP	Sample		1-1022.met	n03_029.dxd	1	218.6
30	R0906095-011 SPK	Sample		1-1022.met	n03_030.dxd	1	218.6
31	R0906095-013	Sample		1-1022.met	n03_031.dxd	1	218.6
32	R0906095-013 DUP	Sample		1-1022.met	n03_032.dxd	1	218.6
33	R0906095-013 SPK	Sample		1-1022.met	n03_033.dxd	1	218.6
34	R0906095-016	Sample		1-1022.met	n03_034.dxd	1	218.6
35	R0906095-017	Sample		1-1022.met	n03_035.dxd	1	218.6
36	R0906270-001	Sample		1-1022.met	n03_036.dxd	1	218.6
37	CCV	Sample		1-1022.met	n03_037.dxd	1	7199/218.6
38	CCB	Sample		1-1022.met	n03_038.dxd	1	7199/218.6
39	R0906270-002	Sample		1-1022.met	n03_039.dxd	1	218.6
40	R0906270-003	Sample		1-1022.met	n03_040.dxd	1	218.6
41	CCV	Sample		1-1022.met	n03_041.dxd	1	7199/218.6
42	CCB	Sample		1-1022.met	n03_042.dxd	1	7199/218.6

Default Method Path: J:\ACQUDATA\IC\METHOD.ACI\IC#1\CR6
Default Data Path: J:\ACQUDATA\IC\DATA\IC#1\CR6\110309
Comment:

Analyst: CWoods
Pipet: 01 Blue

3 copies

R-6056
R-6095
R-6270

Reviewed & Approved
By: B Bowe
Date: 11/6/09

05812

Columbia Analytical Services
1 Mustard St., Suite 250
Rochester, NY 14609-0859

Analyst: C. Woods
Date: 11/3/09
pH Meter ID: Bullwinkle
Adjustment Solutions: NaOH

Hexavalent Chromium: Method 218.6* Method 7199**

Folder Number	Sample ID	Sample pH at arrival	Date and Time pH check at arrival	Sample pH at analysis	Analysis Date	
MBSPLP	RQ0910788-01	5.87→9.34	11/3/09 1210	9.34	11/3/09	☆☆
6056	R0906056-001	8.22→9.37	11/3/09 1211	9.37	11/3/09	☆☆
	R0906056-003	9.11	11/3/09 1212	9.11	11/3/09	☆☆
	R0906056-005	8.87→9.40	11/3/09 1213	9.40	11/3/09	☆☆
	R0906056-007	7.89→9.19	11/3/09 1215	9.19	11/3/09	☆☆
6095	R0906095-005	9.381	10/27/09 850	9.40	11/3/09	☆
	R0906095-006	9.429	10/27/09 850	9.41	11/3/09	☆
	R0906095-008	9.478	10/28/09 930	9.49	11/3/09	☆
	R0906095-009	9.553	10/28/09 935	9.55	11/3/09	☆
	R0906095-011	9.575	10/29/09 820	9.59	11/3/09	☆
	R0906095-013	9.542	10/29/09 820	9.54	11/3/09	☆
	R0906095-016	9.551	10/30/09 920	9.53	11/3/09	☆
	R0906095-017	9.496	10/30/09 920	9.51	11/3/09	☆
6270	R0906270-001	9.518	11/3/09 856	9.52	11/3/09	☆
	R0906270-002	9.530	11/3/09 900	9.54	11/3/09	☆
	R0906270-003	6.114→9.372	11/3/09 1030	9.33	11/3/09	☆
			11/3/09			

*Note: Sample pH must be between 9.3 and 9.7 for 218.6

**Note: Sample pH must be between 9.0 and 9.5 for 7199

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\N03_001.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 11:44:52

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

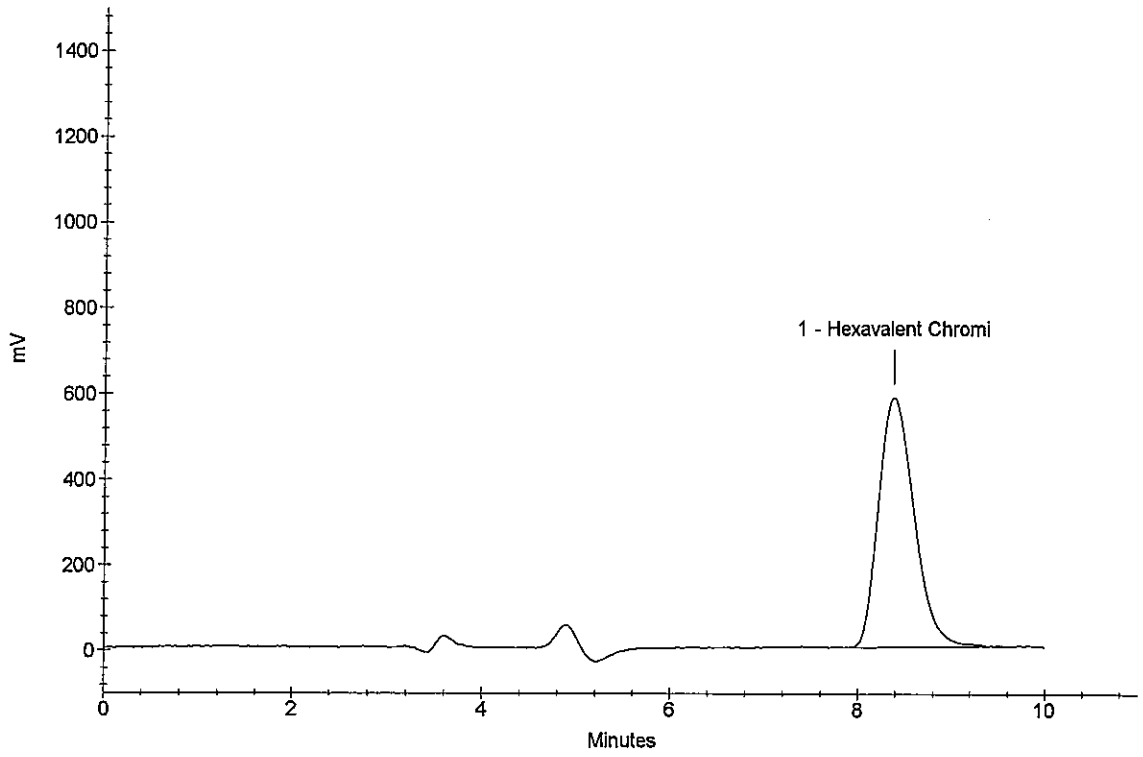
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199/218.6

Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.38	Hexavalent Chromi	0.4839	15404801

OK
11/3/09
CCV



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\N03_002.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 11:55:16

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199/218.6

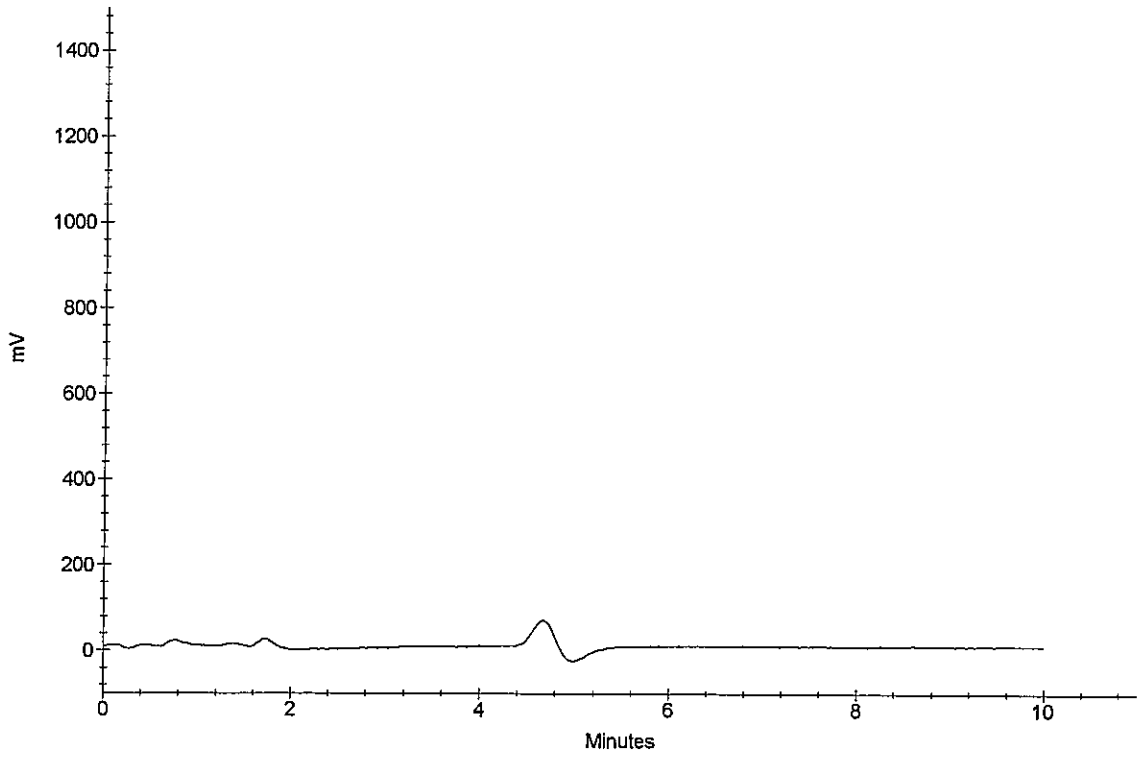
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
0	0.00	(null)	0.0000	0

OK 11/3/09

CCB



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCS
Data File Name : ...\N03_003.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 12:05:40

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

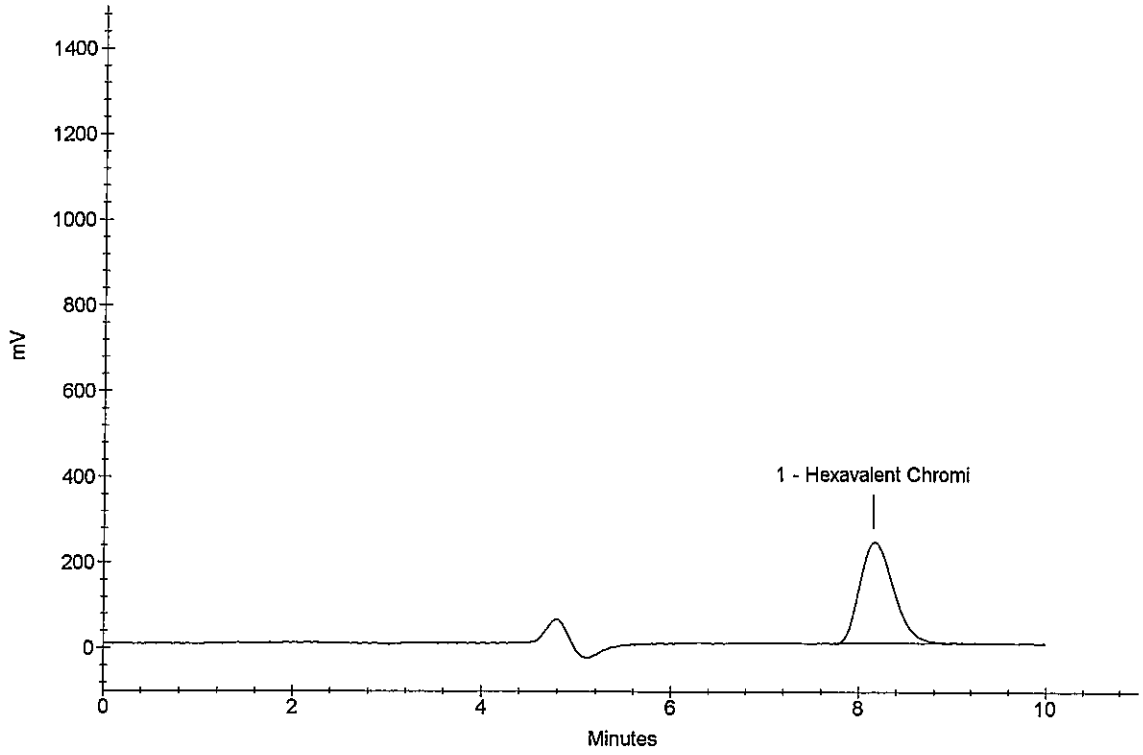
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199/218.6

Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.15	Hexavalent Chromi	0.1834	5878112

LCS



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCS
Data File Name : ...\N03_004.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 12:16:04

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199 REPLICATE

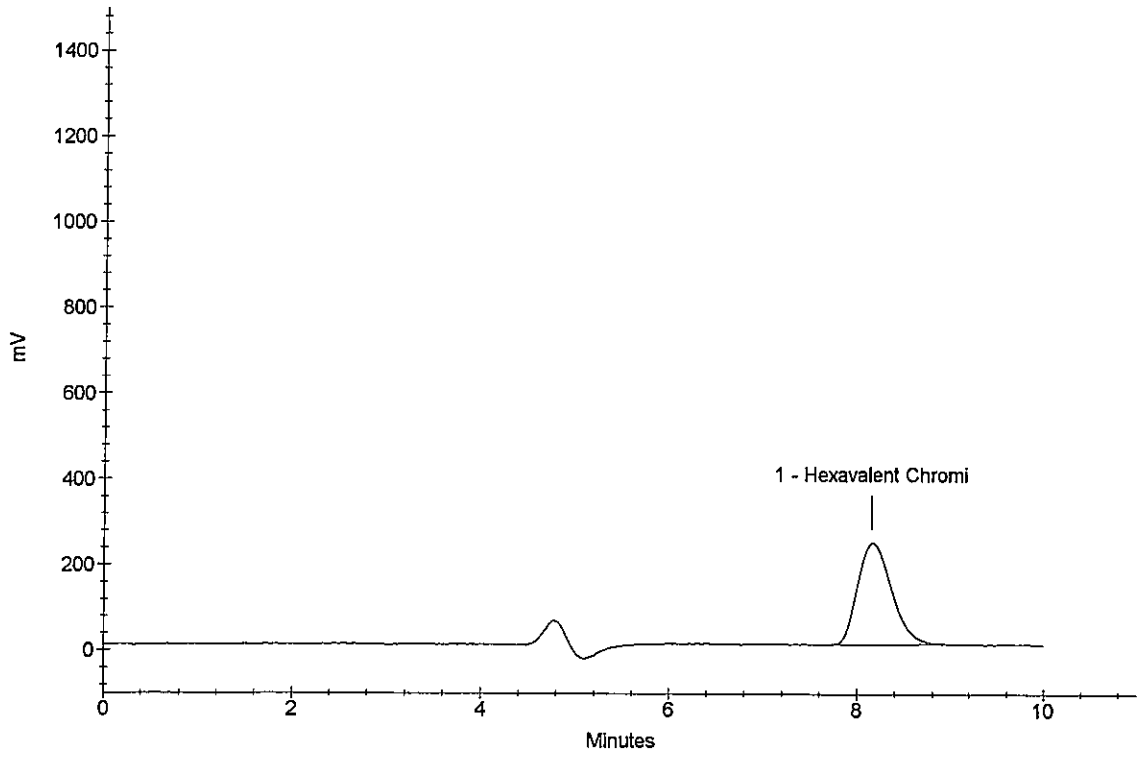
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.15	Hexavalent Chromi	0.1853	5939726

AK 11/3/09

LCS



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : RQ0910788 SPLP MB
Data File Name : ...\N03_005.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 12:26:28

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199 SPLP

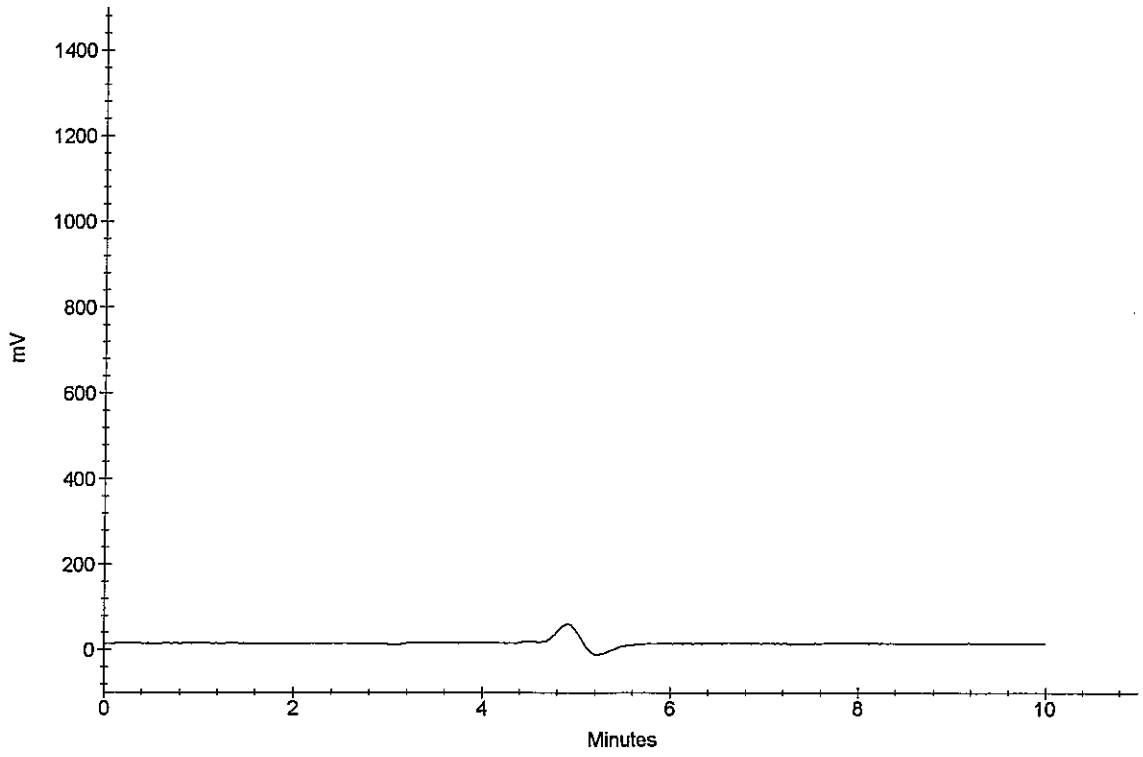
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
0	0.00	(null)	0.0000	0

OK
11/3/09

RQ0910788 SPLP MB



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : RQ0910788 SPLP MB
Data File Name : ...\N03_006.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 12:36:52

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199 SPLP REPLICATE

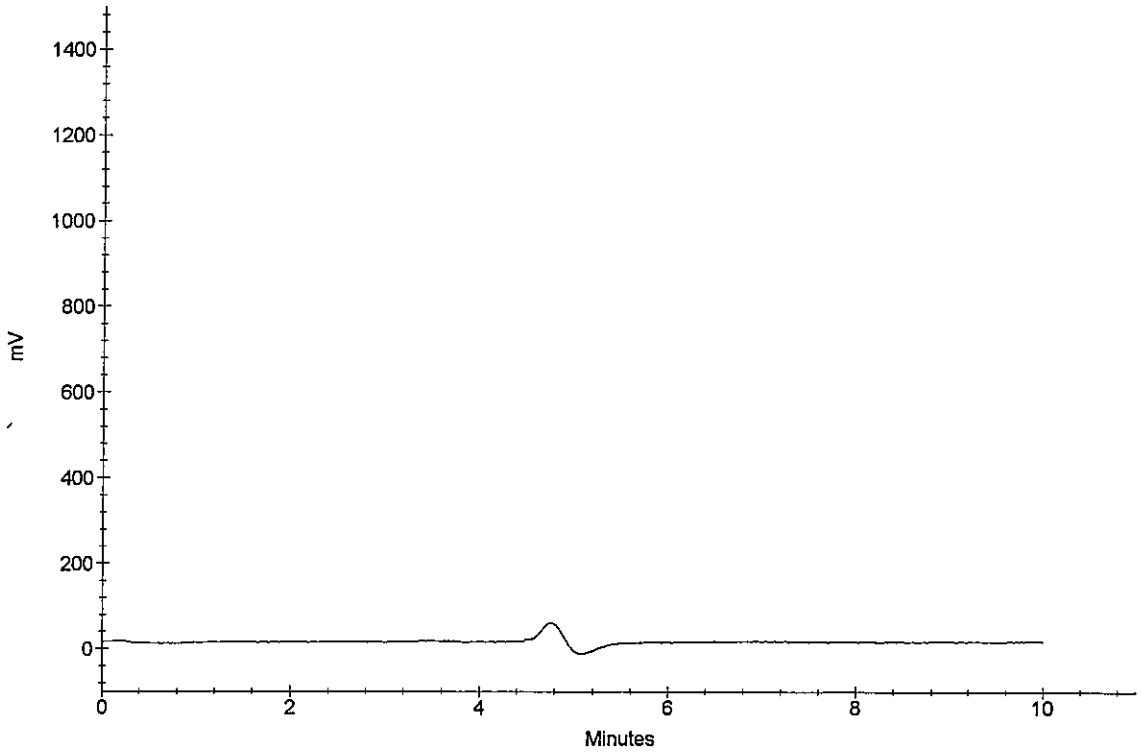
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
0	0.00	(null)	0.0000	0

ok
11/3/09

RQ0910788 SPLP MB



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-001
Data File Name : ...\N03_007.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 12:47:16

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199 SPLP

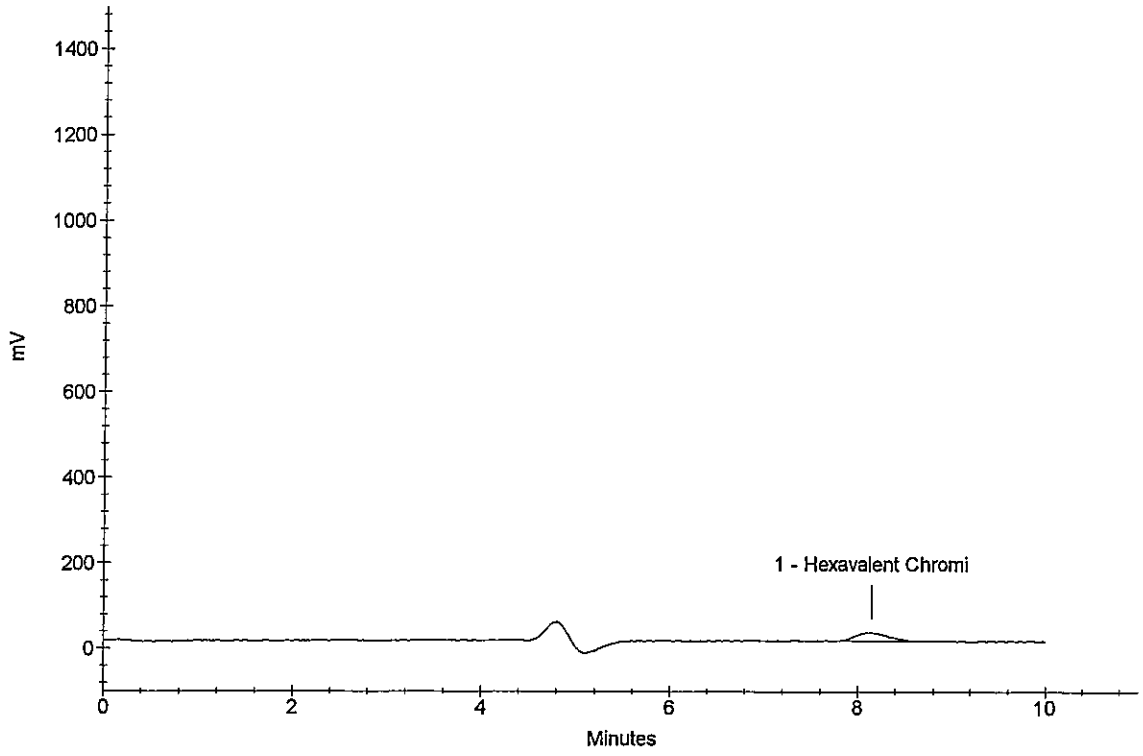
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.15	Hexavalent Chromi	0.0133	486522

11/3/09

R0906056-001



00829

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-001
Data File Name : ...\N03_008.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 12:57:41

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199 SPLP REPLICATE

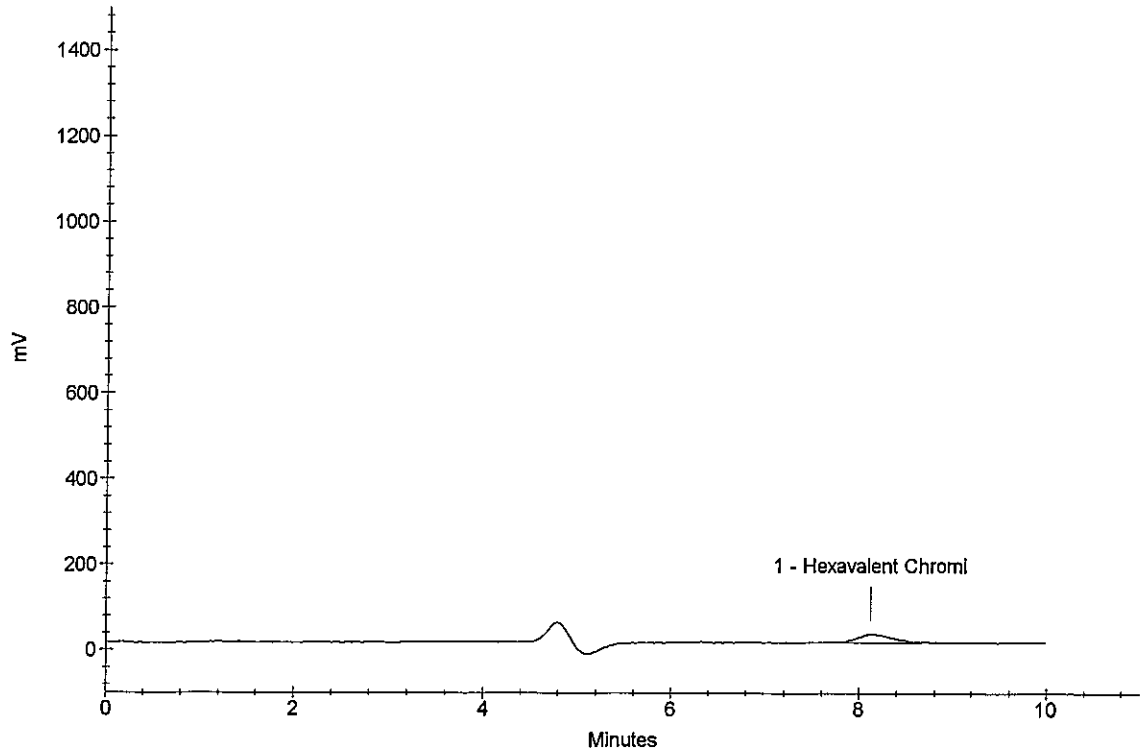
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.13	Hexavalent Chromi	0.0127	468222

11/3/09

R0906056-001



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-003
Data File Name : ...\N03_009.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 13:08:06

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199 SPLP

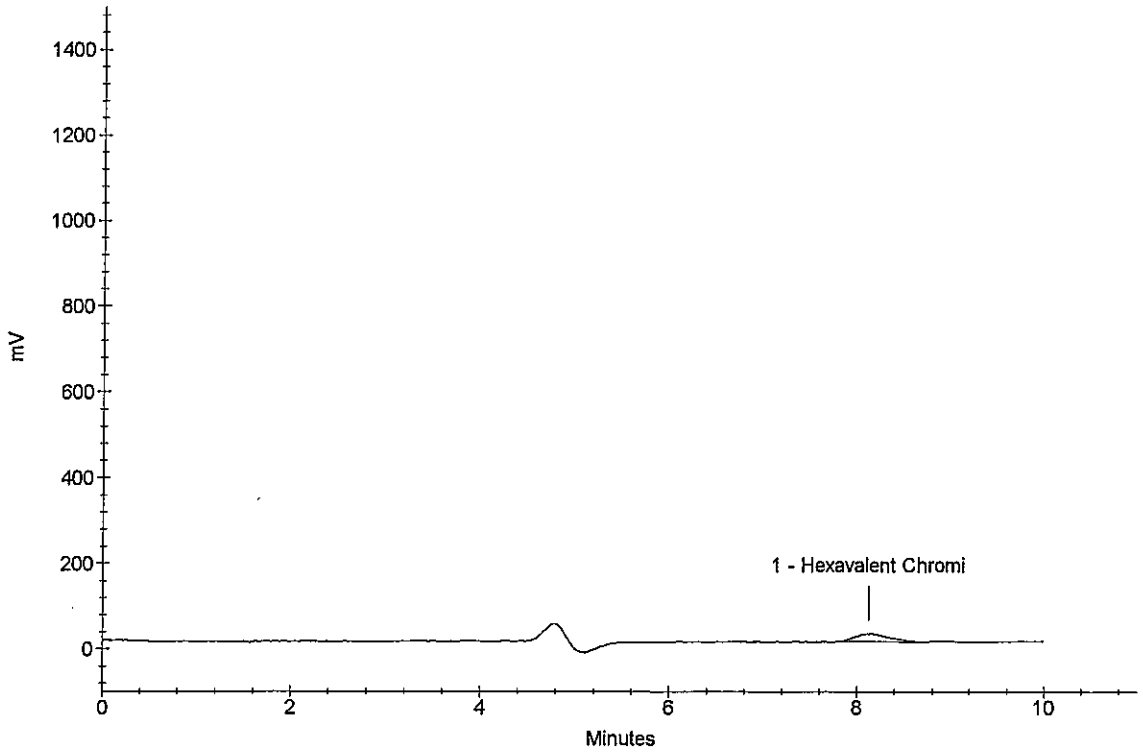
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.13	Hexavalent Chromi	0.0130	478271

OK
11/3/09

R0906056-003



00822

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-003
Data File Name : ...\N03_010.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 13:18:30

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

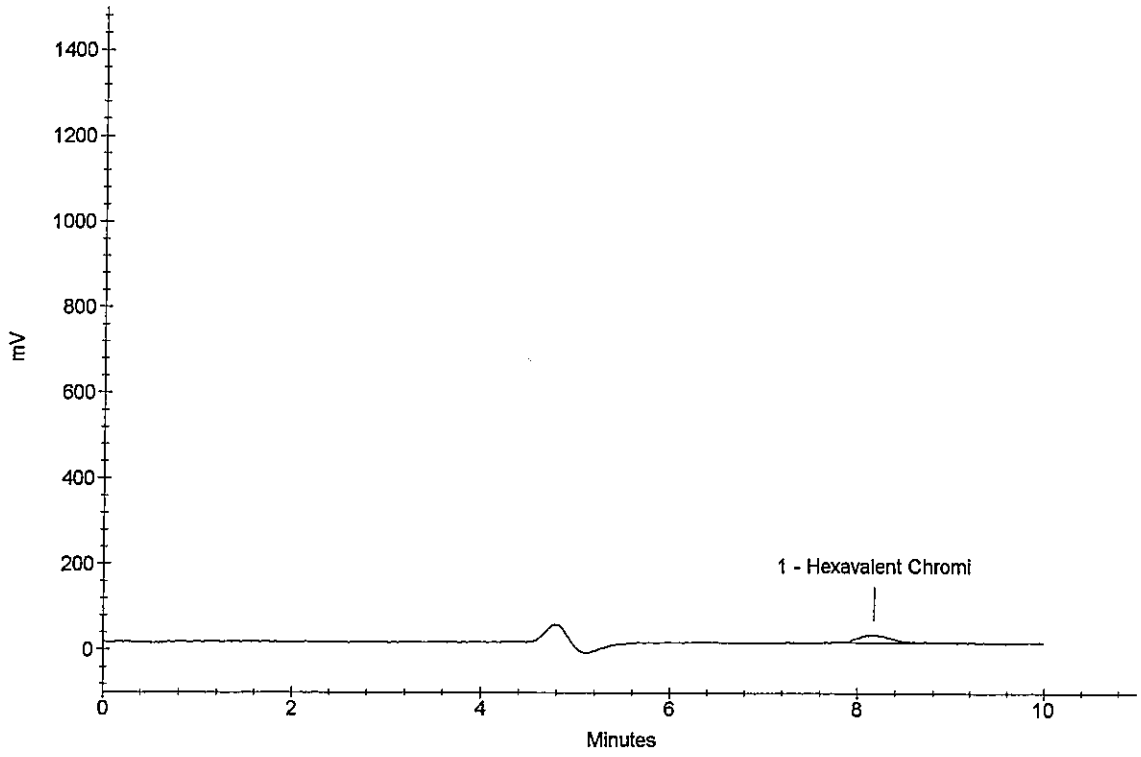
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199 SPLP REPLICATE

Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.18	Hexavalent Chromi	0.0109	409968

R0906056-003



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-005
Data File Name : ...\N03_011.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 13:28:55

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199 SPLP

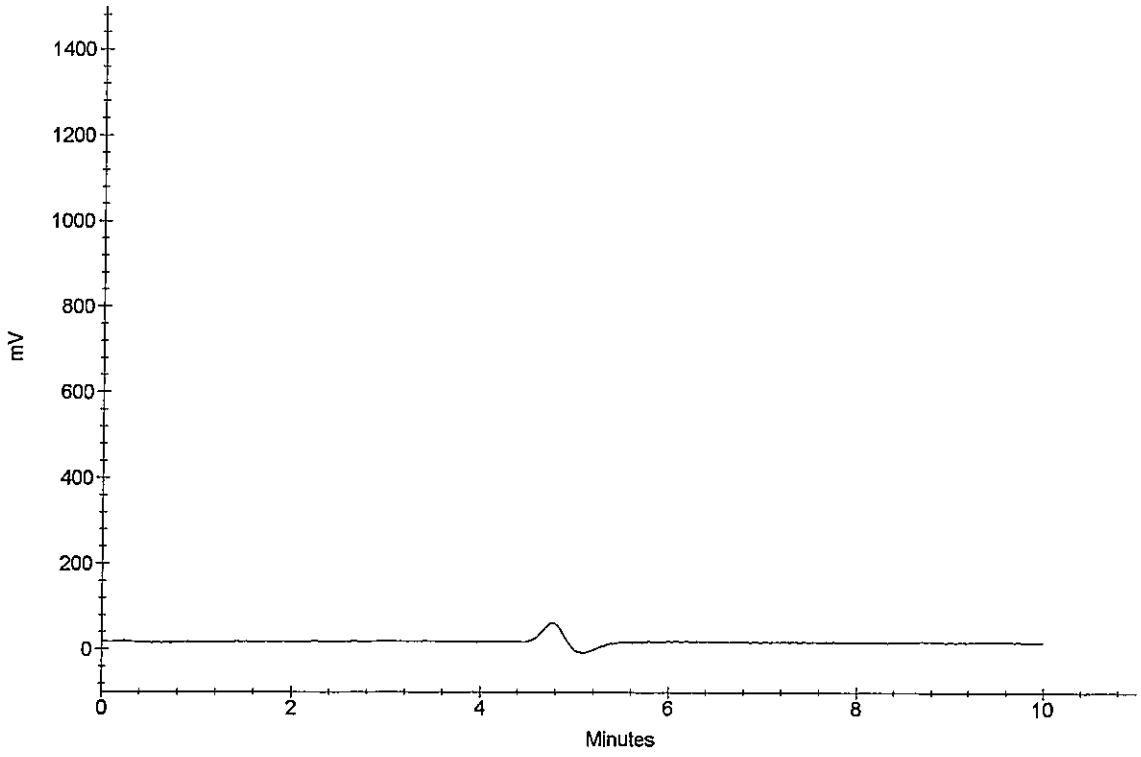
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
0	0.00	(null)	0.0000	0

11/3/09

R0906056-005



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-005
Data File Name : ...\N03_012.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 13:39:18

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

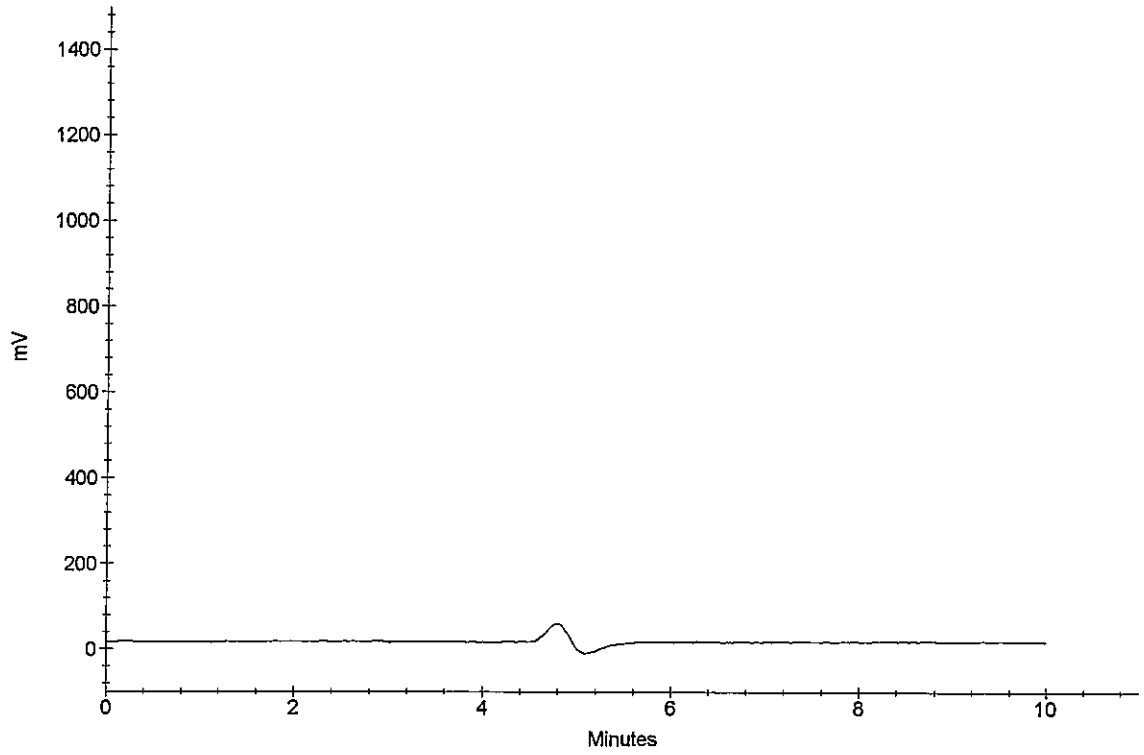
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199 SPLP REPLICATE

Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
0	0.00	(null)	0.0000	0

R0906056-005



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\N03_013.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 13:49:42

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

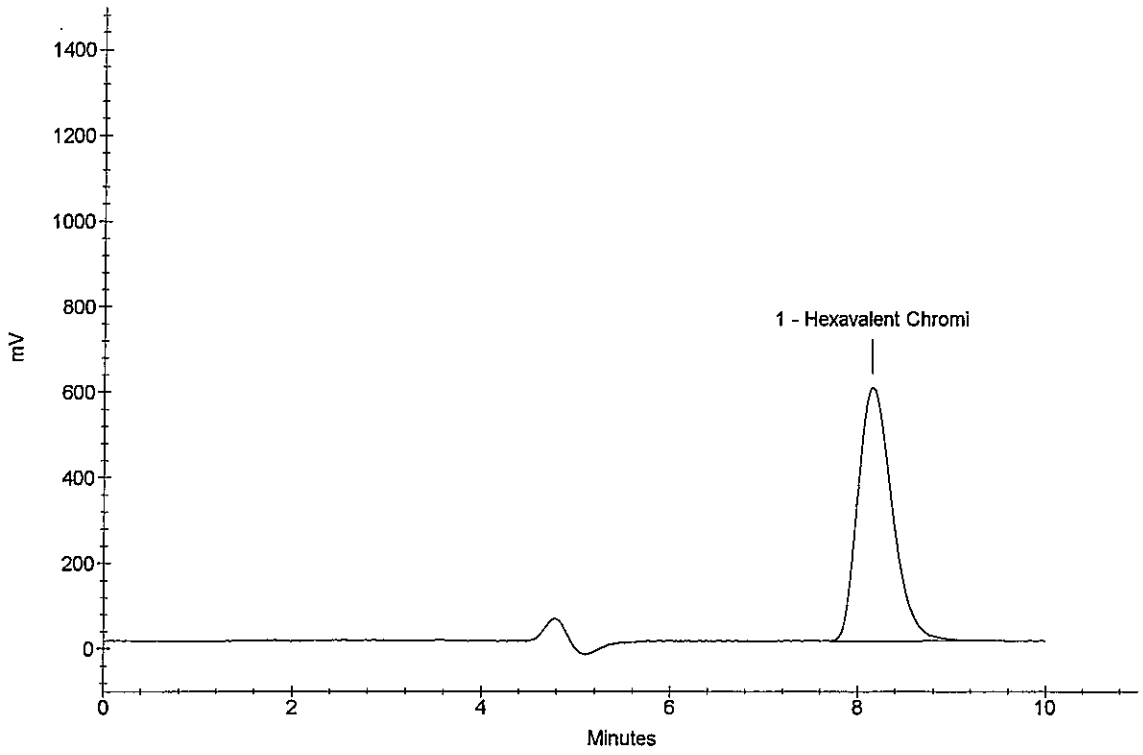
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199/218.6

Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.15	Hexavalent Chromi	0.4729	15056443

CCV 11/3/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\N03_014.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 14:00:07

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199/218.6

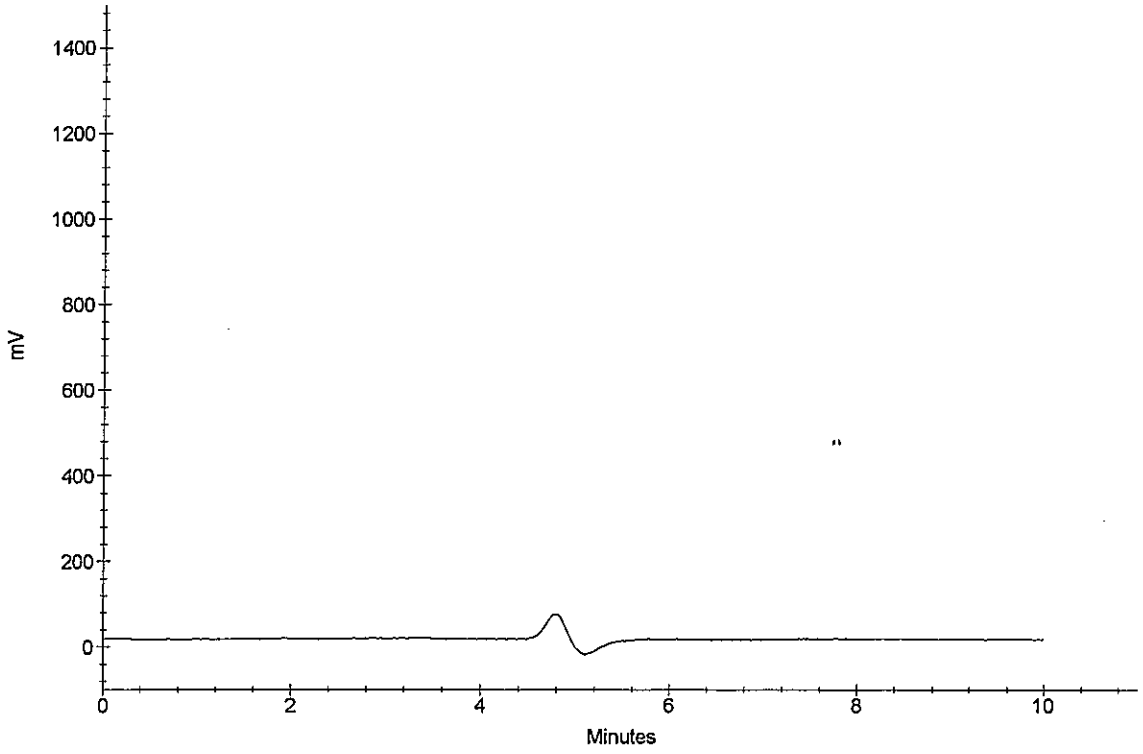
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
0	0.00	(null)	0.0000	0

OK
11/3/09

CCB



00827

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-007
Data File Name : ...\N03_015.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 14:10:31

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199 SPLP

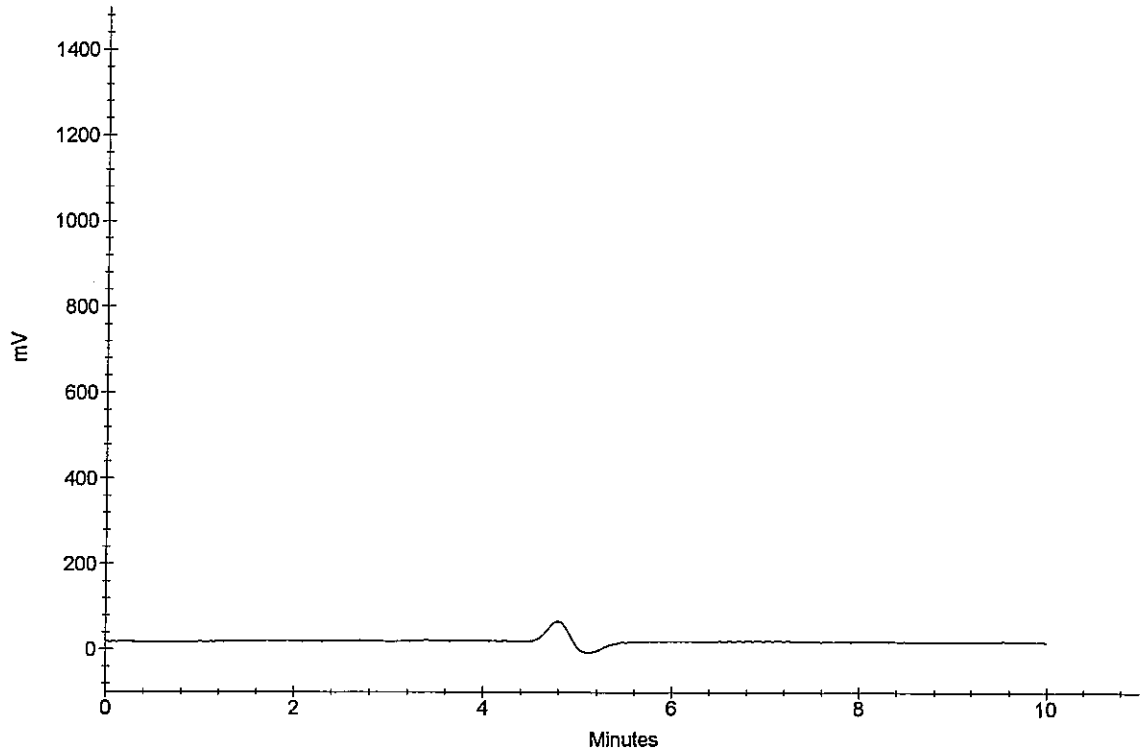
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
0	0.00	(null)	0.0000	0

OK 11/3/09

R0906056-007



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-007
Data File Name : ...\N03_016.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 14:20:55

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199 SPLP REPLICATE

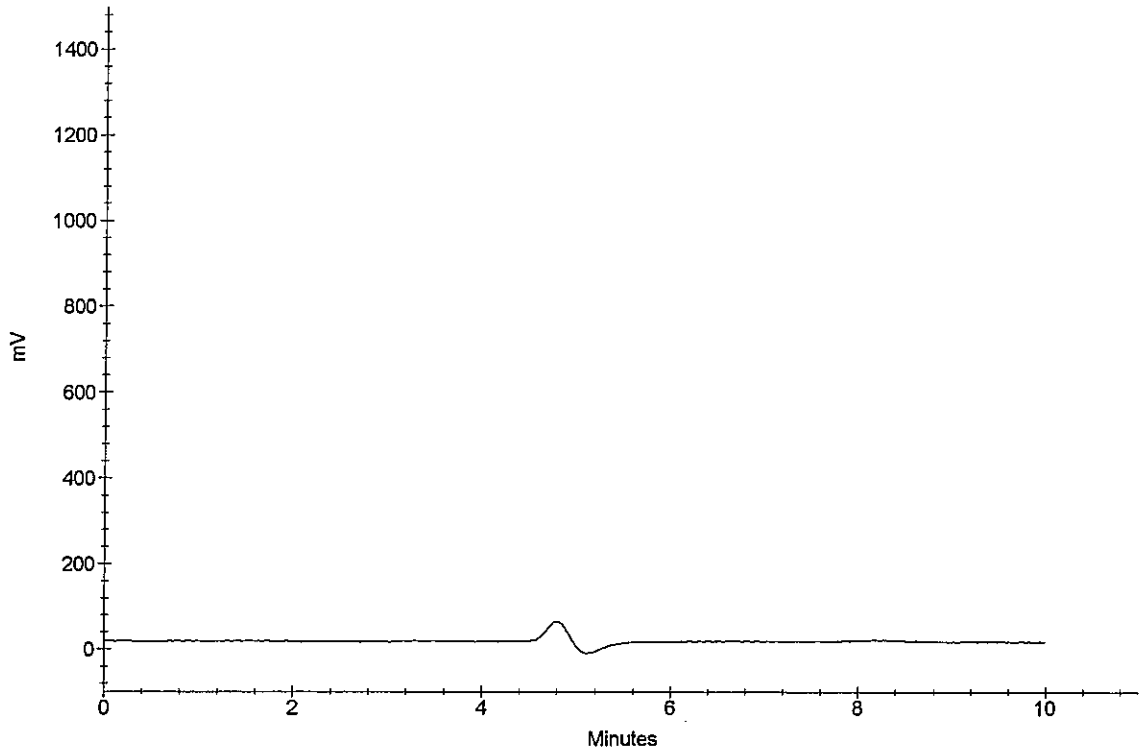
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount (PPM)	Peak Area
0	0.00	(null)		0.0000	0

OK
11/3/09

R0906056-007



00829

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-007 DUP
Data File Name : ...\N03_017.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 14:31:19

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

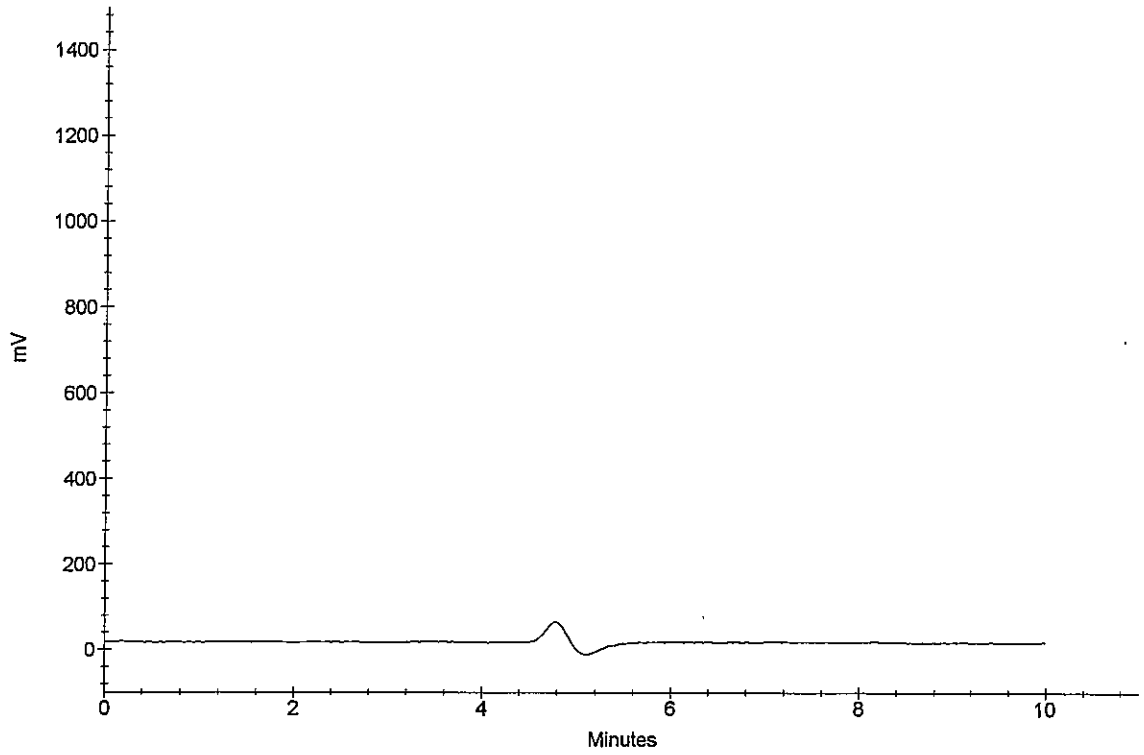
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199 SPLP

Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
0	0.00	(null)	0.0000	0

R0906056-007 DUP



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-007 DUP
Data File Name : ...\N03_018.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 14:41:43

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199 SPLP REPLICATE

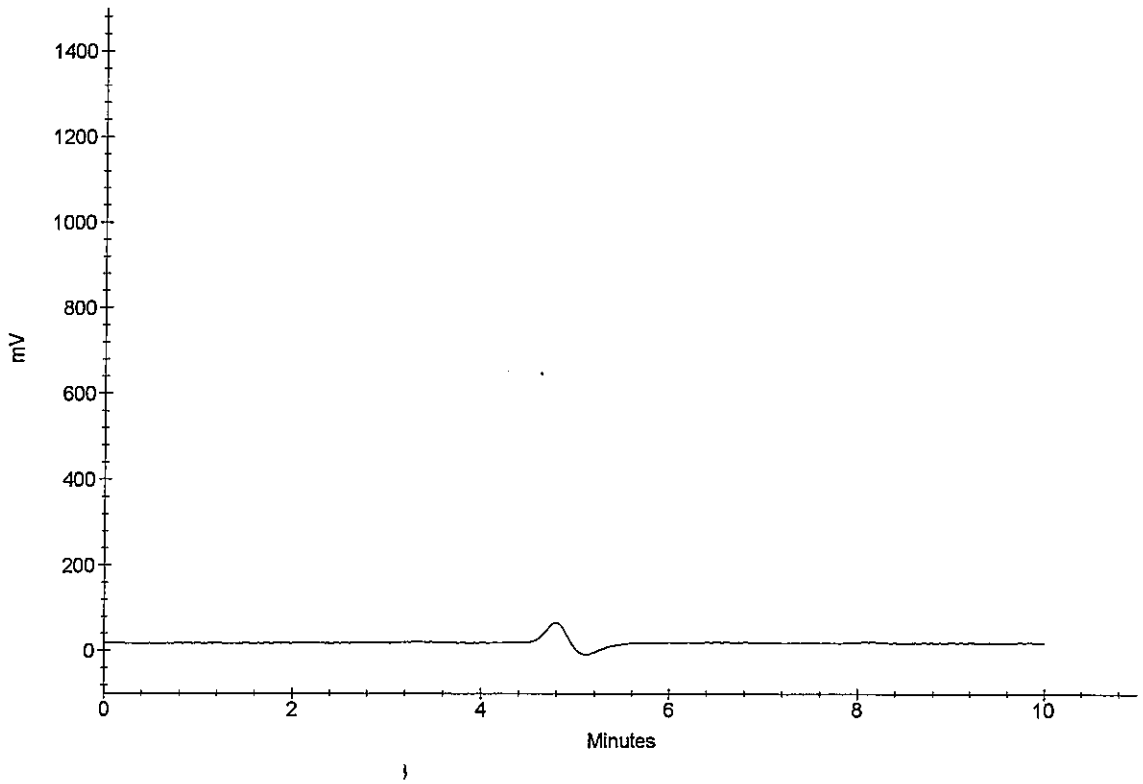
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
0	0.00	(null)	0.0000	0

OK 11/3

R0906056-007 DUP



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-007 SPK
Data File Name : ...\N03_019.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 14:52:06

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199 SPLP

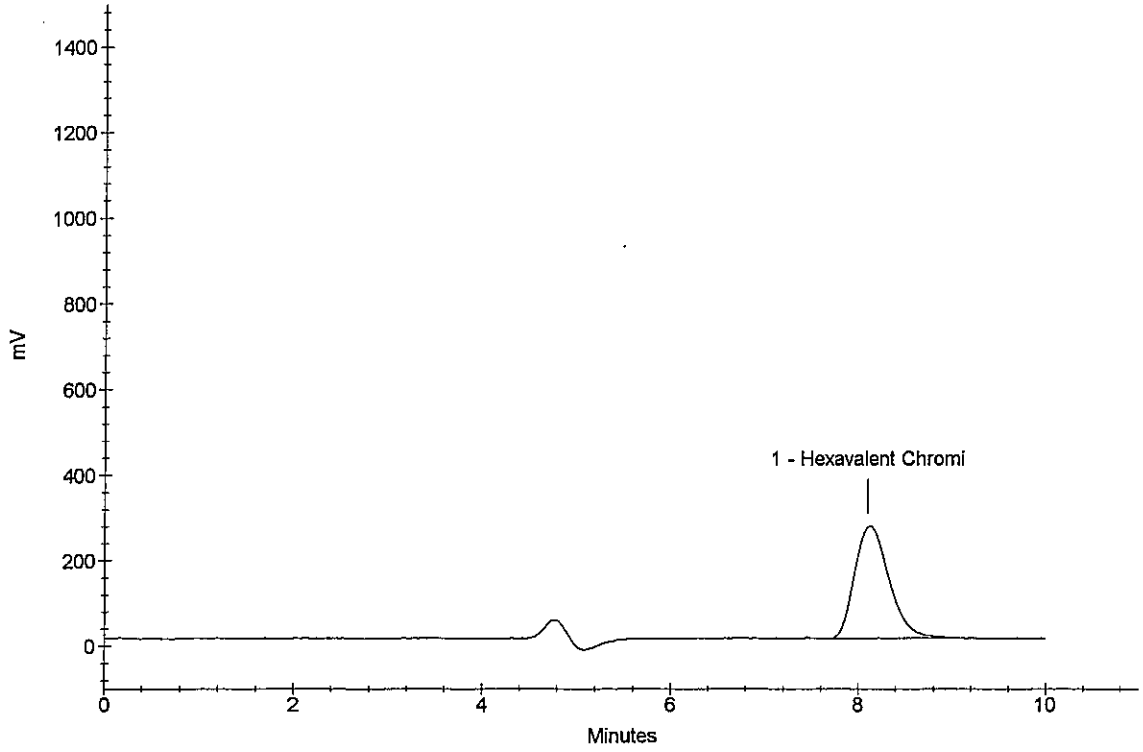
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.10	Hexavalent Chromi	0.2094	6704192

OK 11/30

R0906056-007 SPK



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-007 SPK
Data File Name : ...\N03_020.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 15:02:30

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199 SPLP REPLICATE

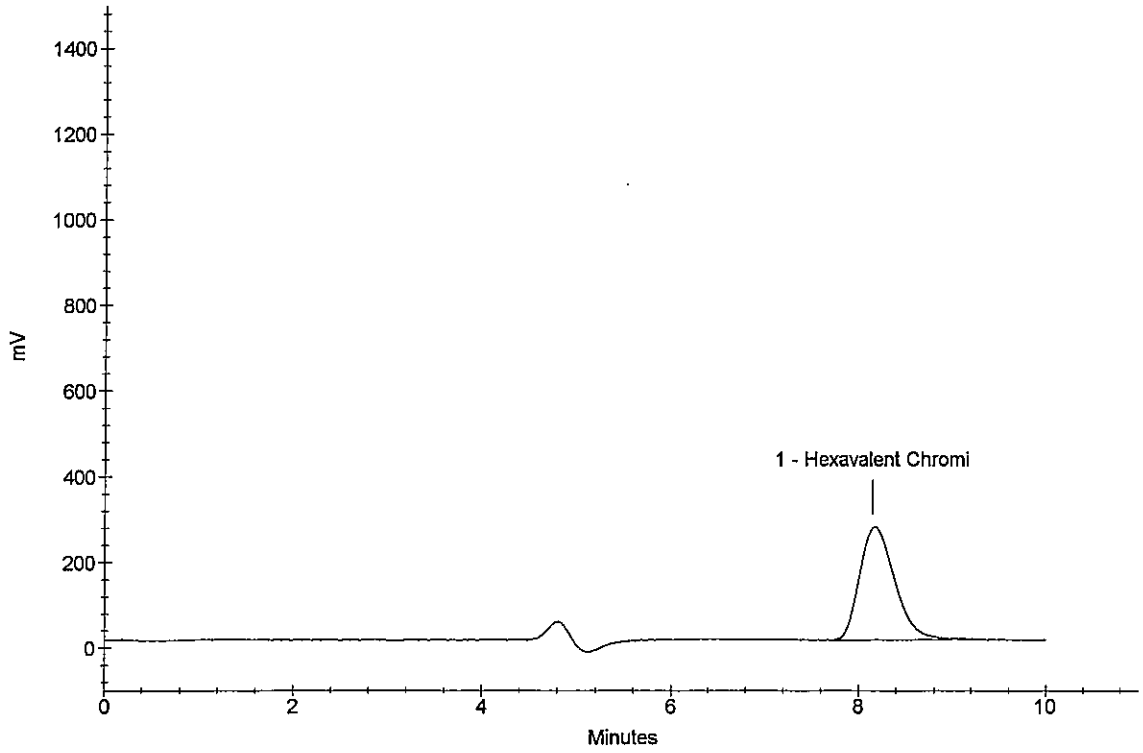
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.15	Hexavalent Chromi	0.2147	6869821

OK
11/3/09

R0906056-007 SPK



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906095-005
Data File Name : ...\N03_021.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 15:12:54

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 218.6

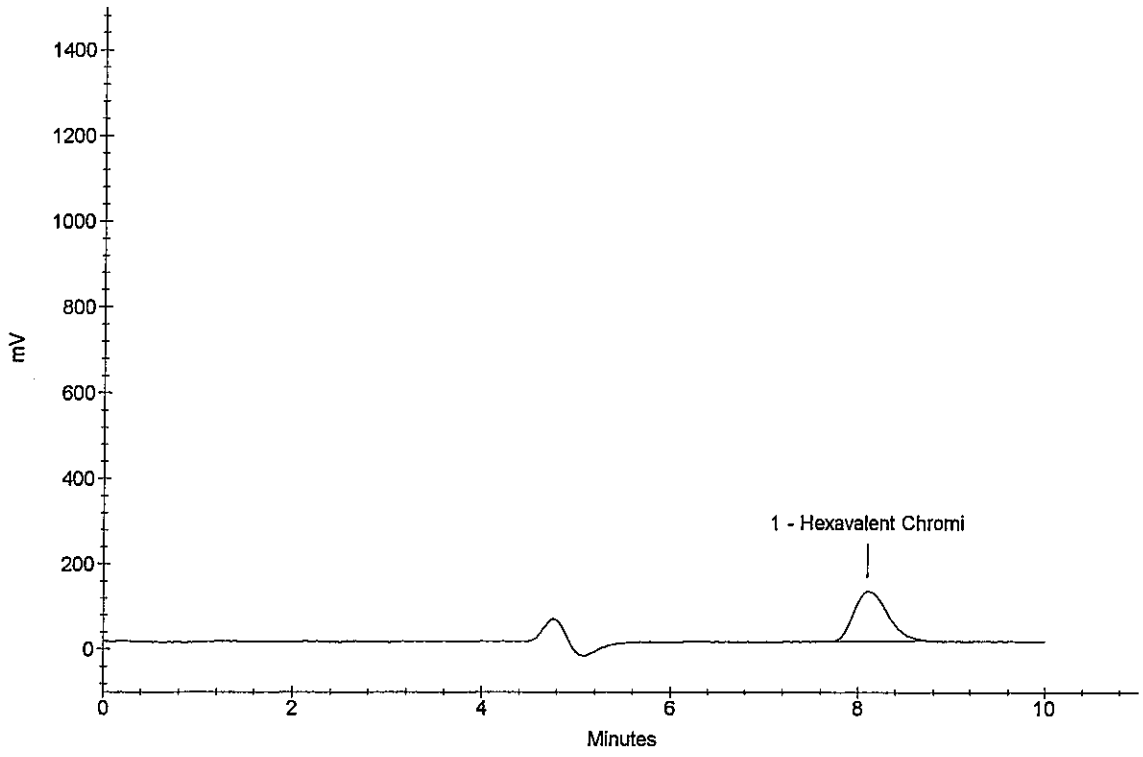
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.10	Hexavalent Chromi	0.0895	2903184

AK 11/3/09

R0906095-005



00834

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906095-006
Data File Name : ...\N03_022.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 15:23:18

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 218.6

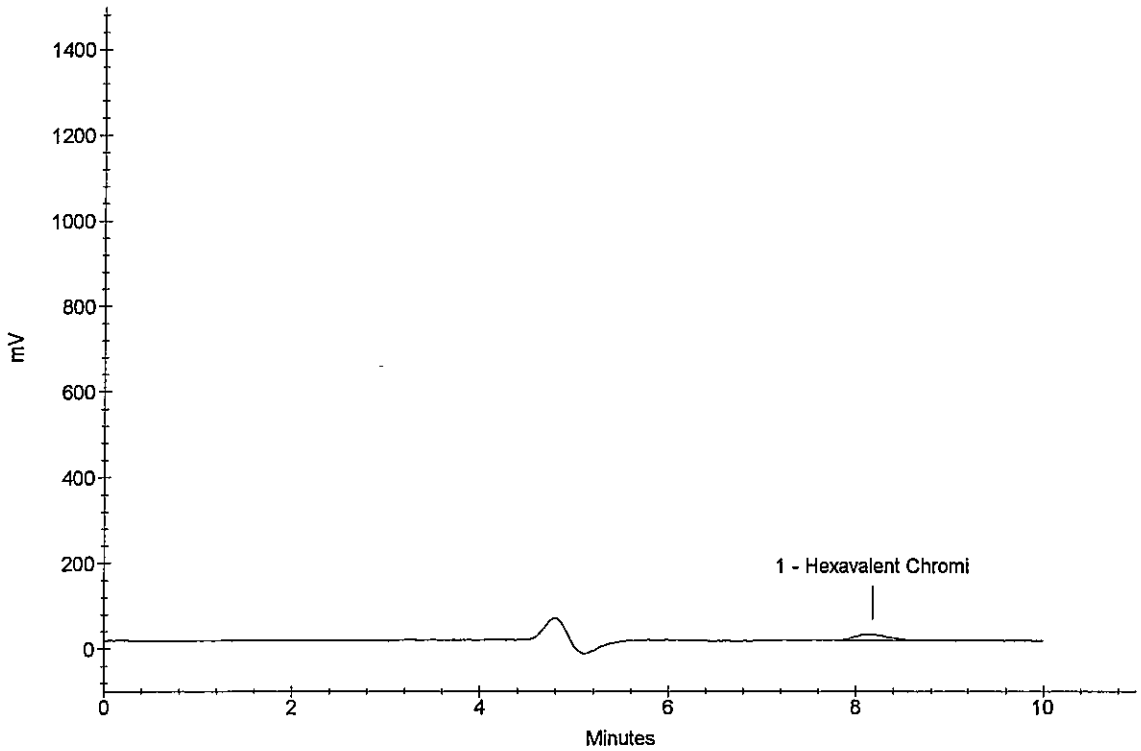
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.18	Hexavalent Chromi	0.0088	343743

OK
11/3/09

R0906095-006



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906095-008
Data File Name : ...\N03_023.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 15:33:42

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 218.6

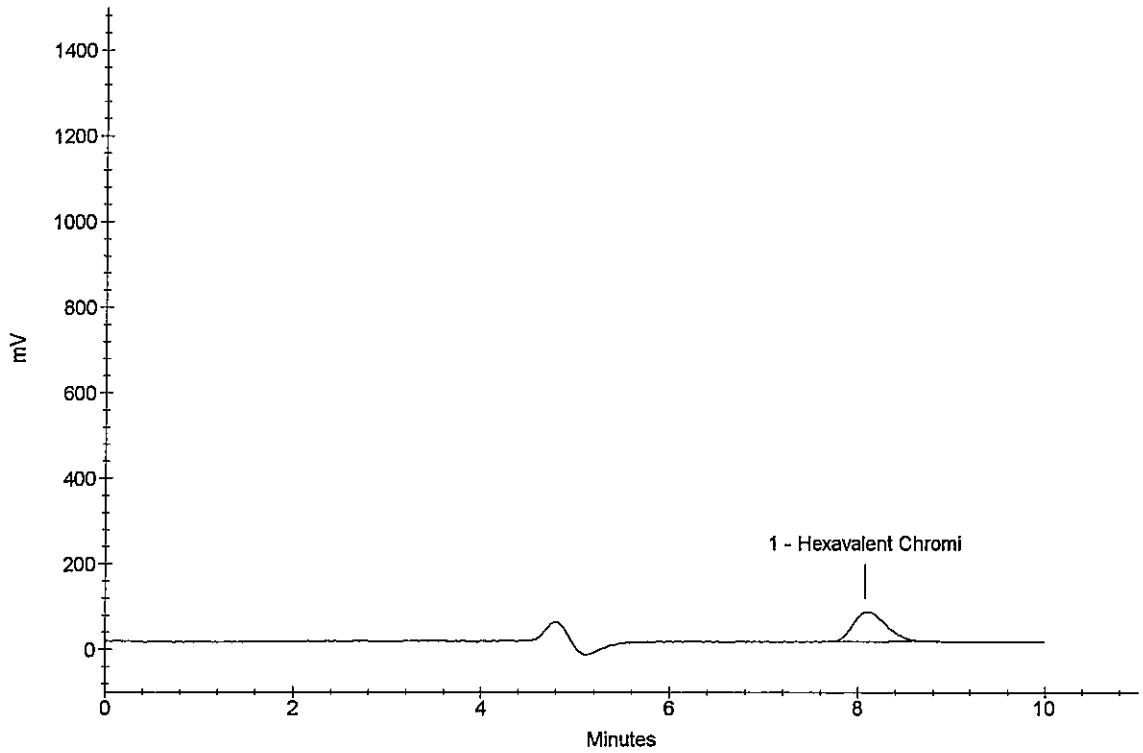
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.07	Hexavalent Chromi	0.0512	1687103

11/3/09

R0906095-008



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906095-009
Data File Name : ...\N03_024.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 15:44:05

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 218.6

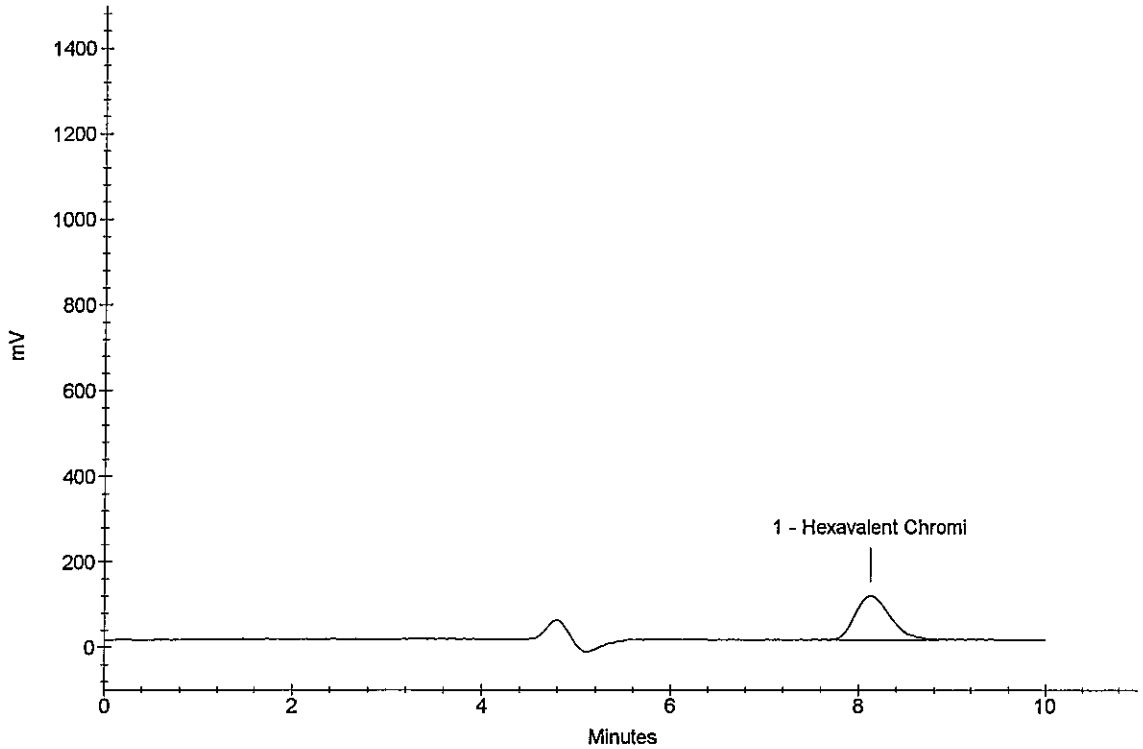
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.13	Hexavalent Chromi	0.0810	2632013

OK 11/3/09

R0906095-009



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\N03_025.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 15:54:29

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

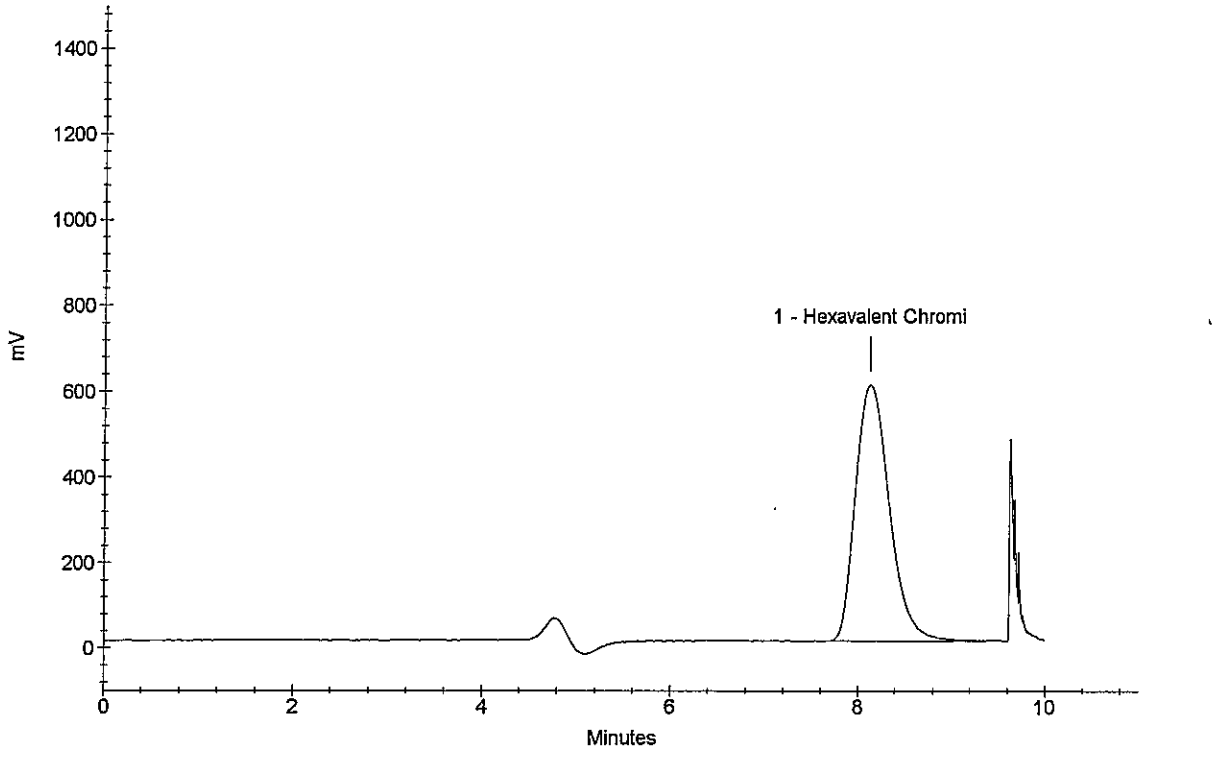
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199/218.6

Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.13	Hexavalent Chromi	0.4800	15280920

OK
CCV 11/3



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\N03_026.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 16:04:53

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

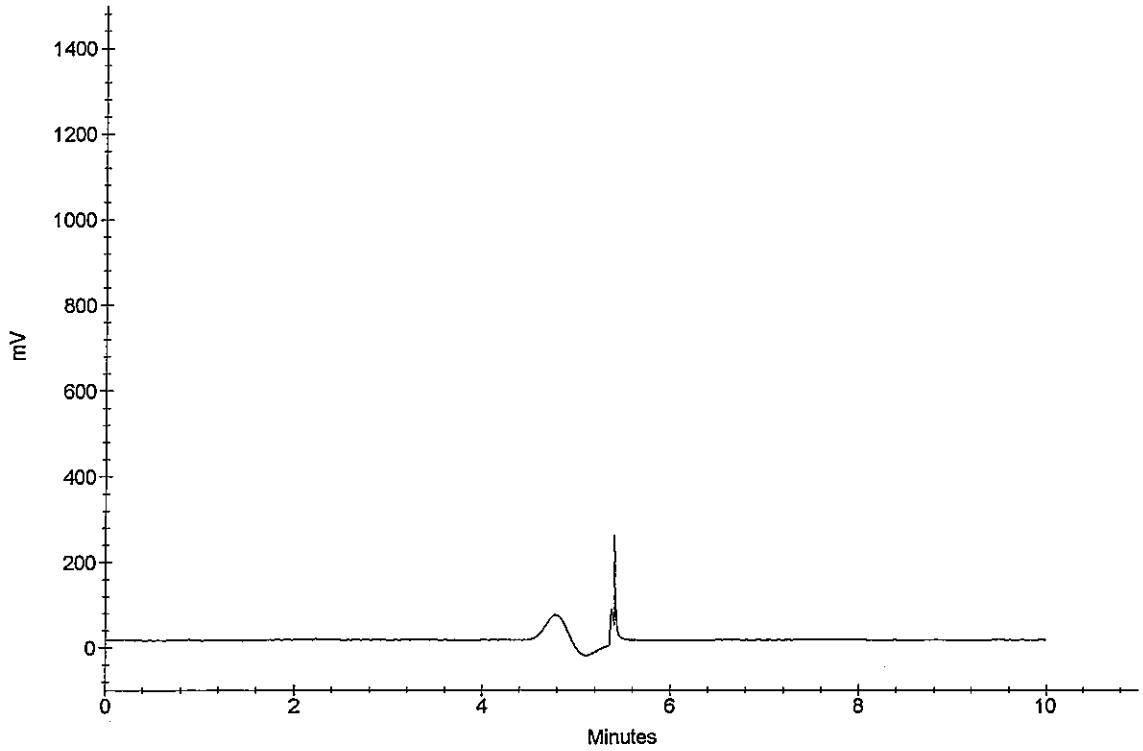
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199/218.6

Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount (PPM)	Peak Area
0	0.00	(null)	OK	0.0000	0

CCB 11/3/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCS
Data File Name : ...\N03_027.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 16:15:17

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199/218.6

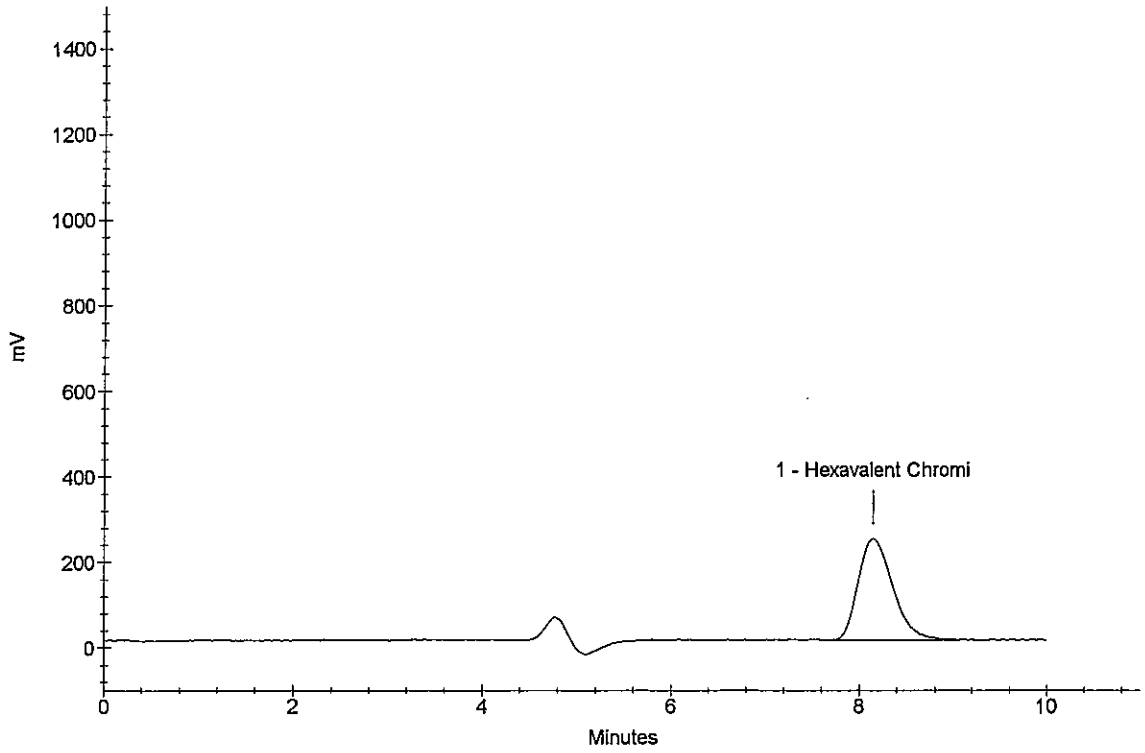
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.15	Hexavalent Chromi	0.1893	6065087

OK

LCS 11/3/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906095-011
Data File Name : ...\N03_028.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 16:25:41

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 218.6

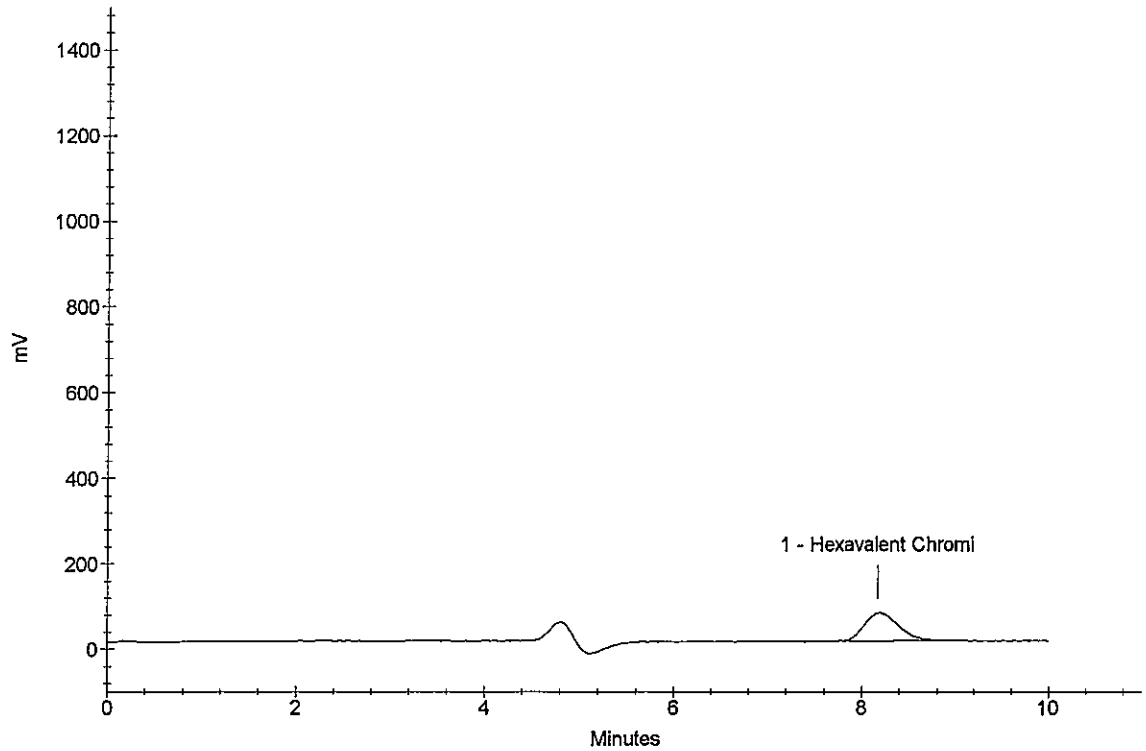
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.18	Hexavalent Chromi	0.0503	1660401

OK 11/3/09

R0906095-011



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906095-011 DUP
Data File Name : ...\N03_029.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 16:36:05

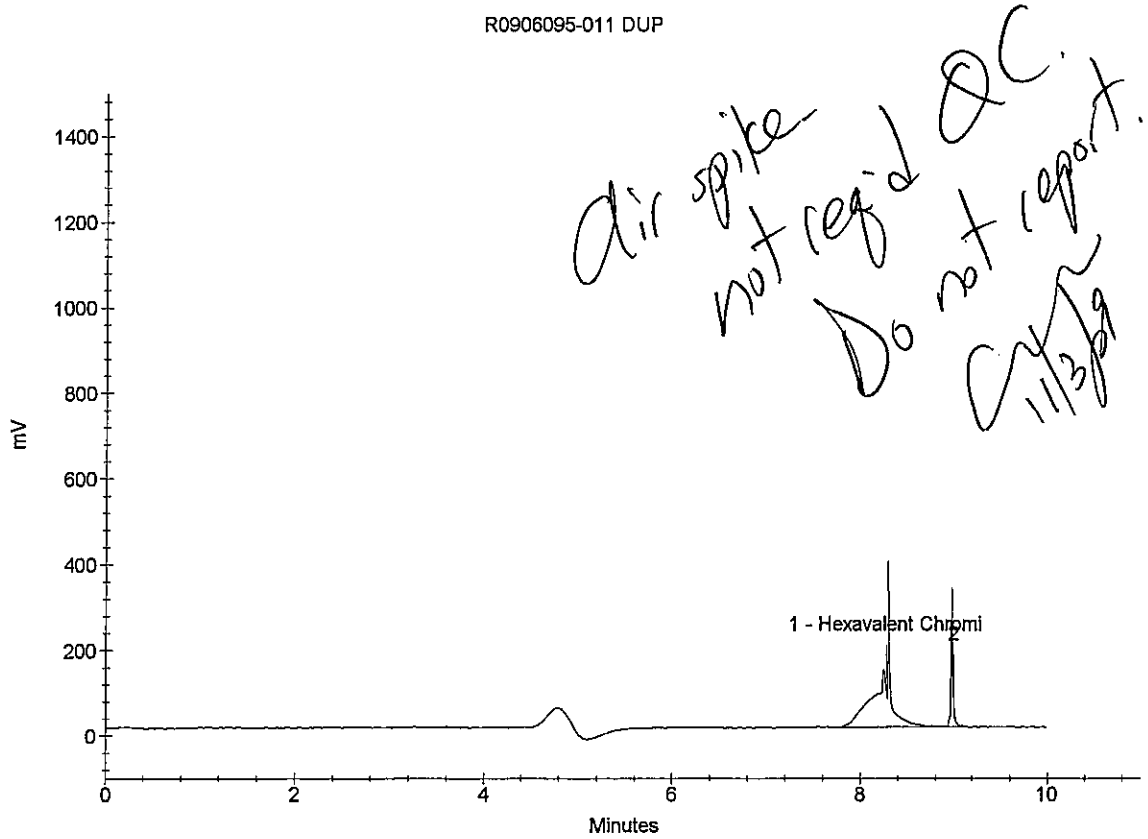
Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 218.6

Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.28	Hexavalent Chromi	0.0674	2203438



dir spike not req'd QC. Do not report.
11/3/09

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906095-011 SPK
Data File Name : ...\N03_030.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 16:46:28

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 218.6

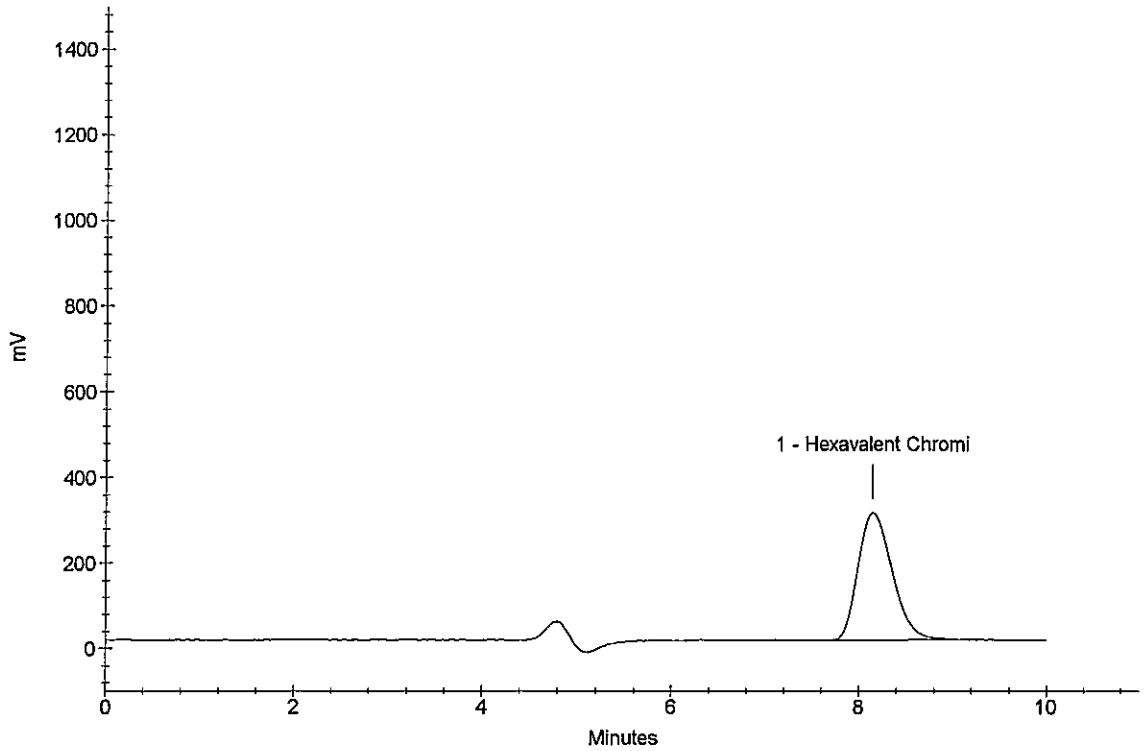
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.15	Hexavalent Chromi	0.2360	7546340

11/3/09

R0906095-011 SPK



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906095-013
Data File Name : ...\N03_031.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 16:56:52

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 218.6

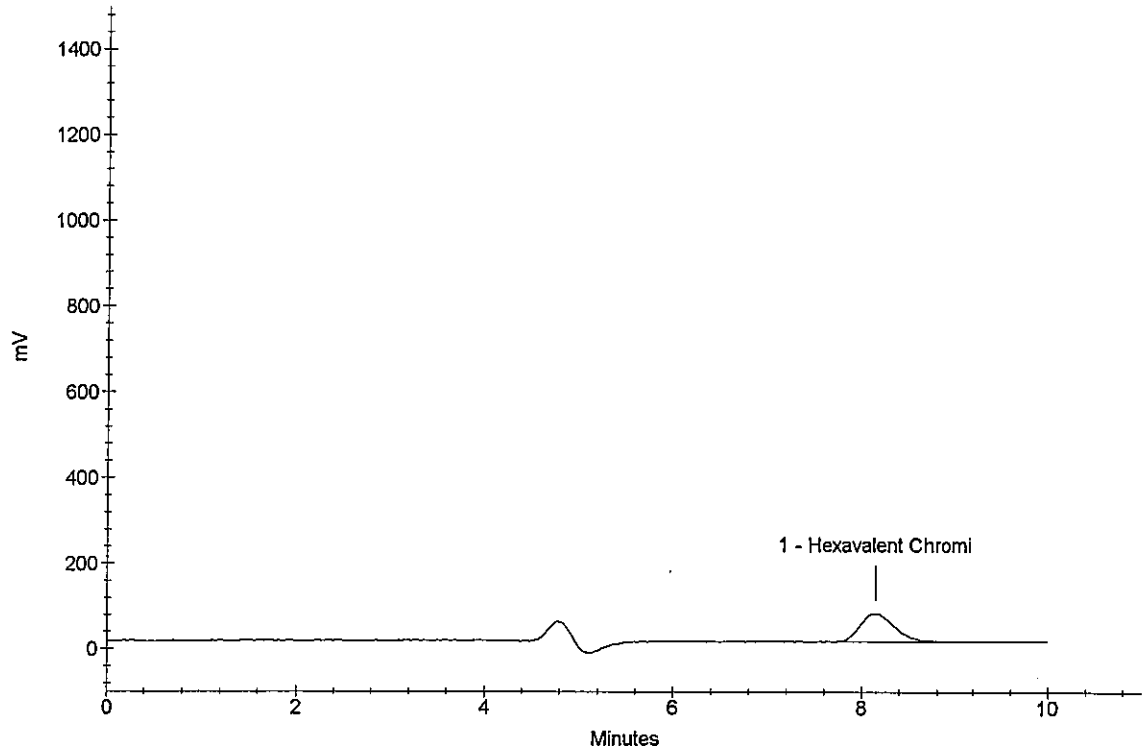
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.15	Hexavalent Chromi	0.0495	1635692

11/3/09

R0906095-013



00644

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906095-013 DUP
Data File Name : ...\N03_032.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 17:07:16

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 218.6

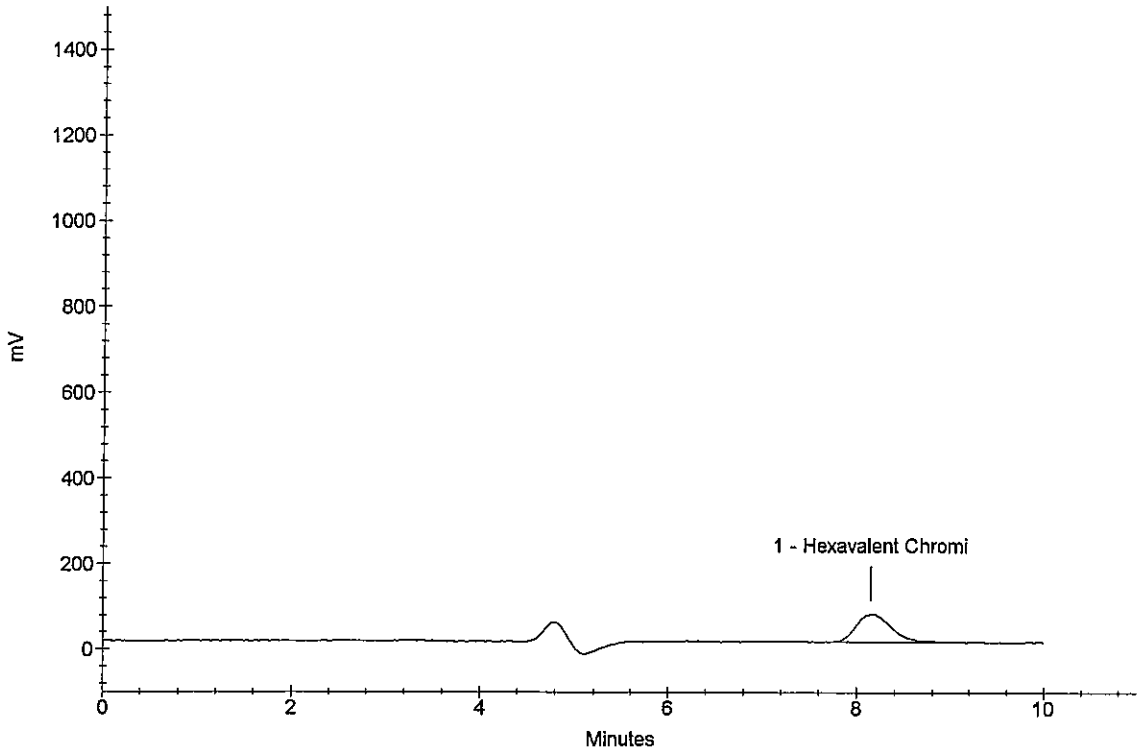
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.15	Hexavalent Chromi	0.0498	1645055

OK 11/3/09

R0906095-013 DUP



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906095-013 SPK
Data File Name : ...\N03_033.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 17:17:40

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

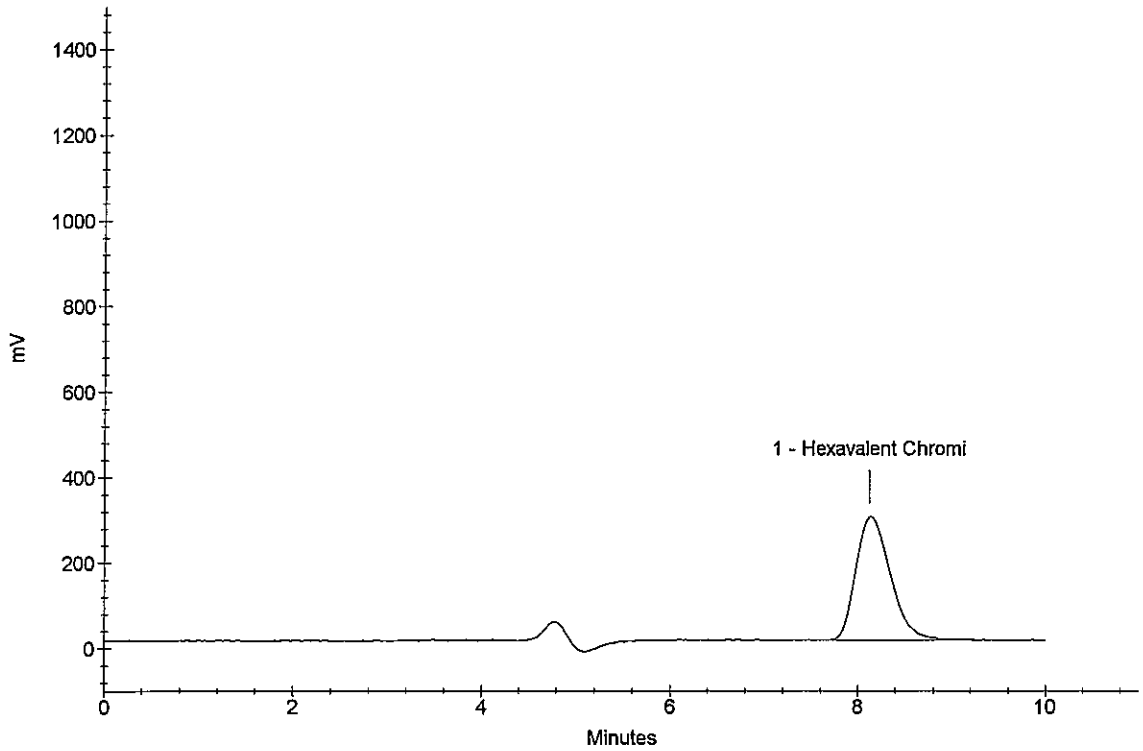
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 218.6

Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.13	Hexavalent Chromi	0.2310	7386093

R0906095-013 SPK



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906095-016
Data File Name : ...\N03_034.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 17:28:04

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 218.6

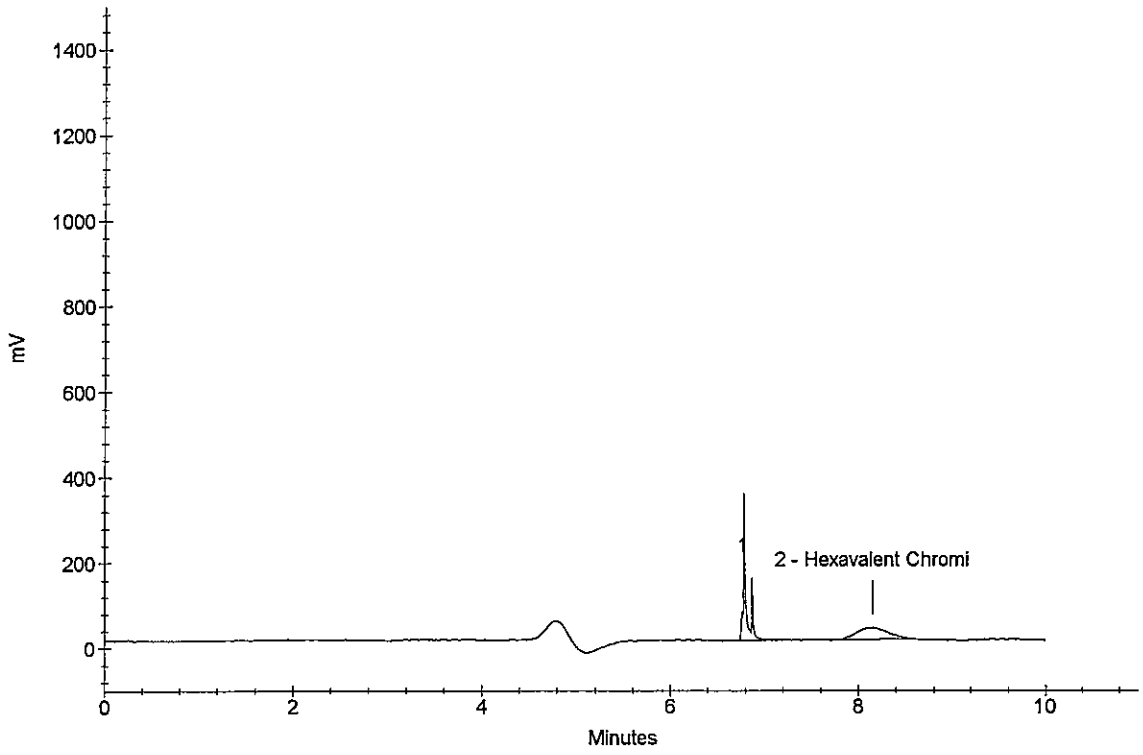
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
2	8.15	Hexavalent Chromi	0.0181	640193

OK
11/3/9

R0906095-016



00847

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906095-017
Data File Name : ...\N03_035.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 17:38:29

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

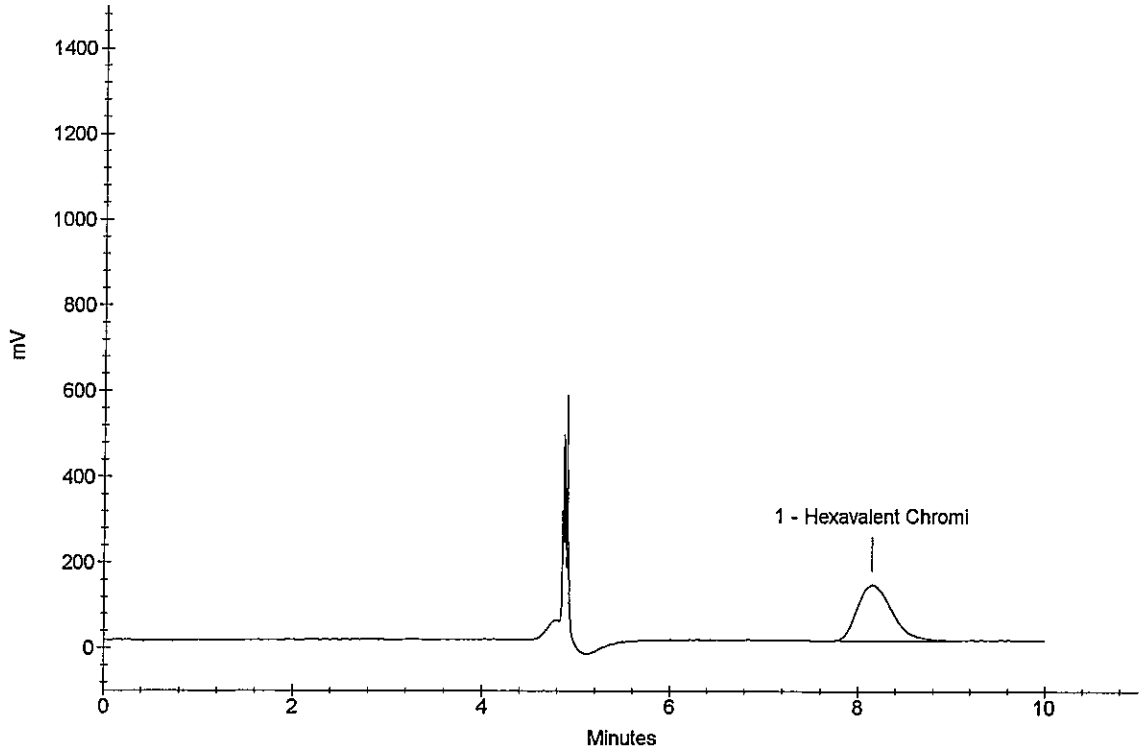
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 218.6

Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.15	Hexavalent Chromi	0.1037	3352711

11/3/09
R0906095-017



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906270-001
Data File Name : ...\N03_036.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 17:48:52

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

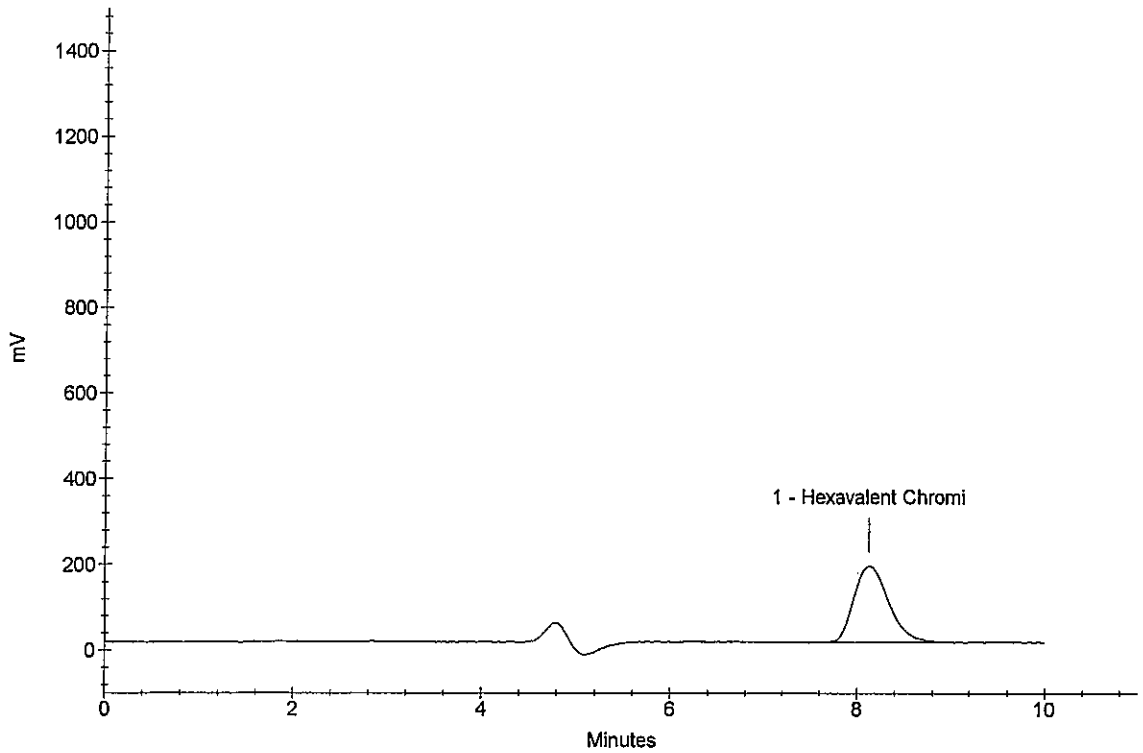
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 218.6

Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.13	Hexavalent Chromi	0.1415	4549653

R0906270-001



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\N03_037.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 17:59:14

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

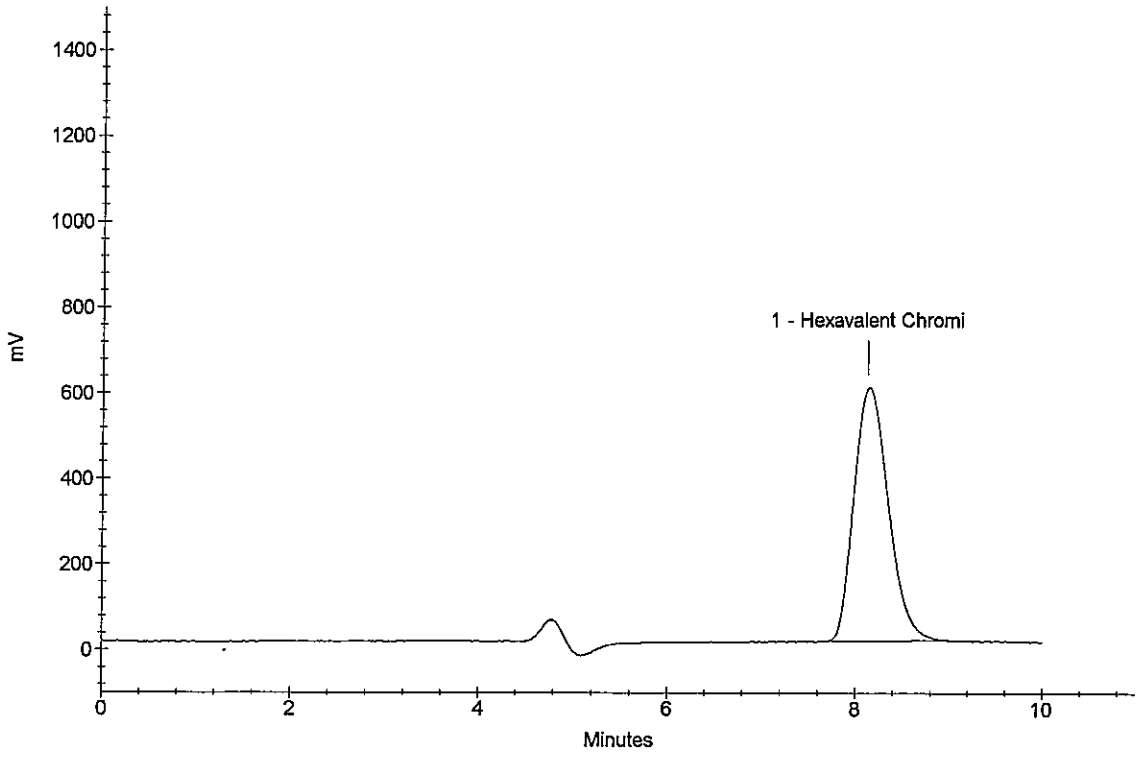
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199/218.6

Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.13	Hexavalent Chromi	0.4737	15082054

CCV



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\N03_038.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 18:09:39

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199/218.6

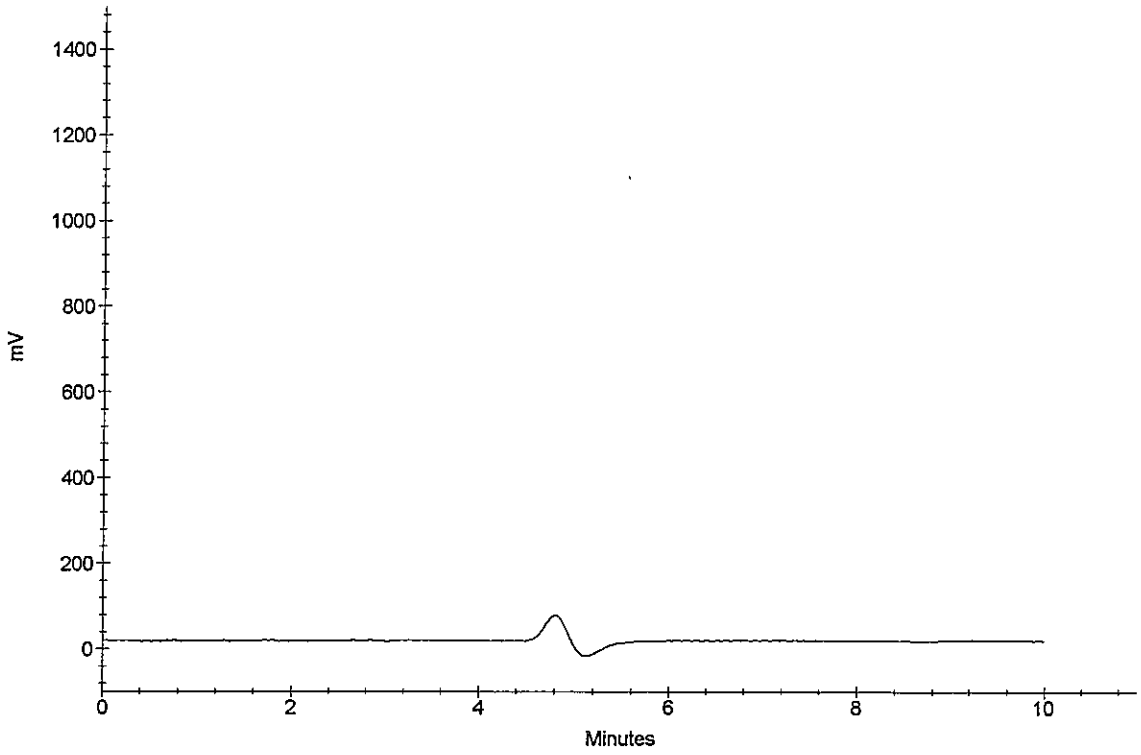
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
0	0.00	(null)	0.0000	0

OK
11/3/09

CCB



00851

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906270-002
Data File Name : ...\N03_039.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 18:20:02

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 218.6

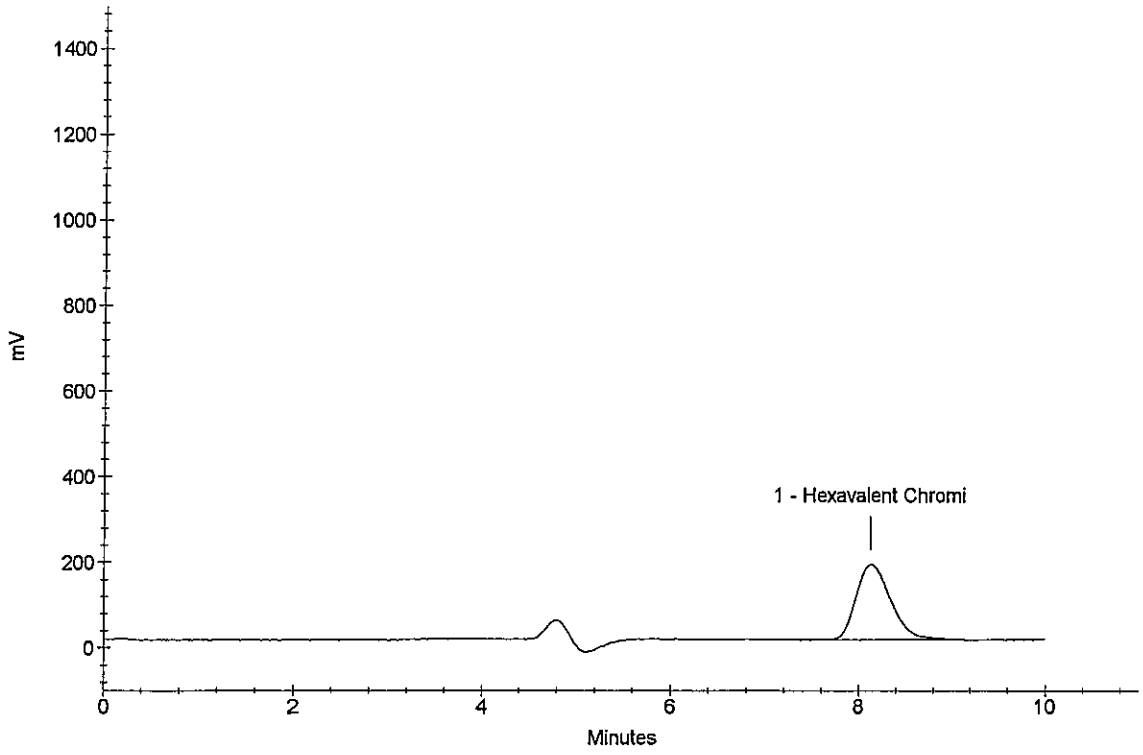
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.13	Hexavalent Chromi	0.1392	4477337

AK 11/3/09

R0906270-002



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906270-003
Data File Name : ...\N03_040.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 18:30:26

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

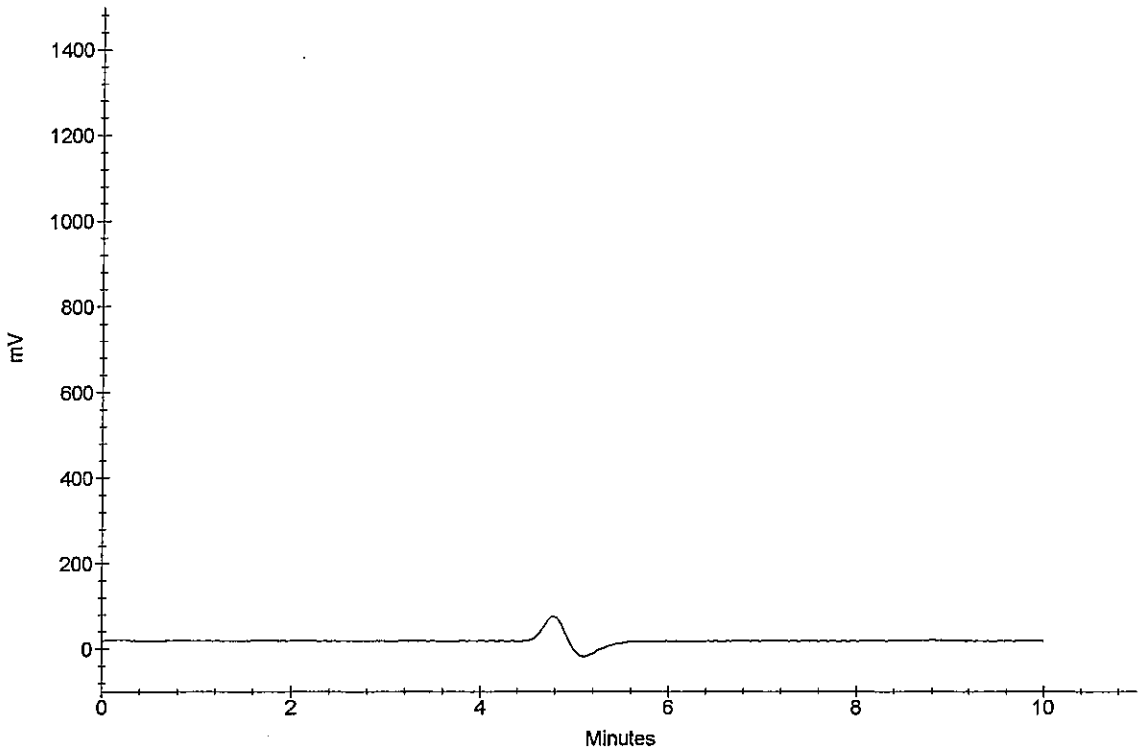
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 218.6

Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
0	0.00	(null)	0.0000	0

R0906270-003



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\N03_041.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 18:40:49

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

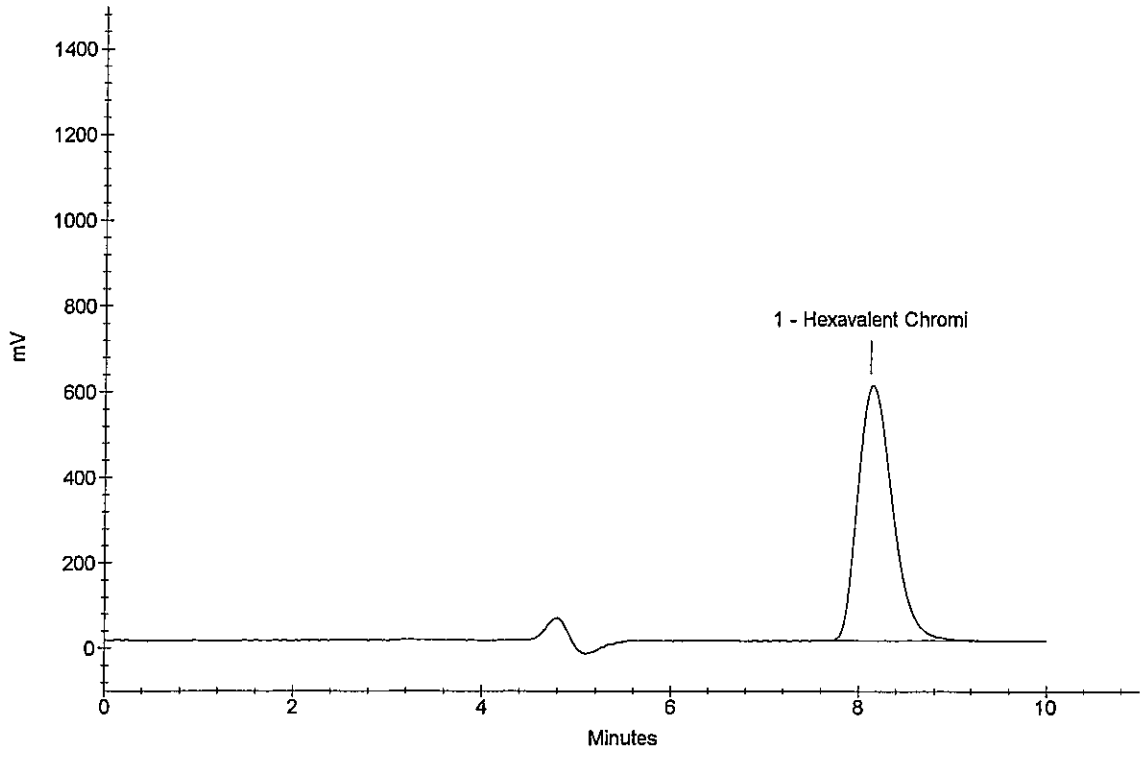
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199/218.6

Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.13	Hexavalent Chromi	0.4795	15264236

CCV 11/3/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\N03_042.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 11/3/09 18:51:12

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

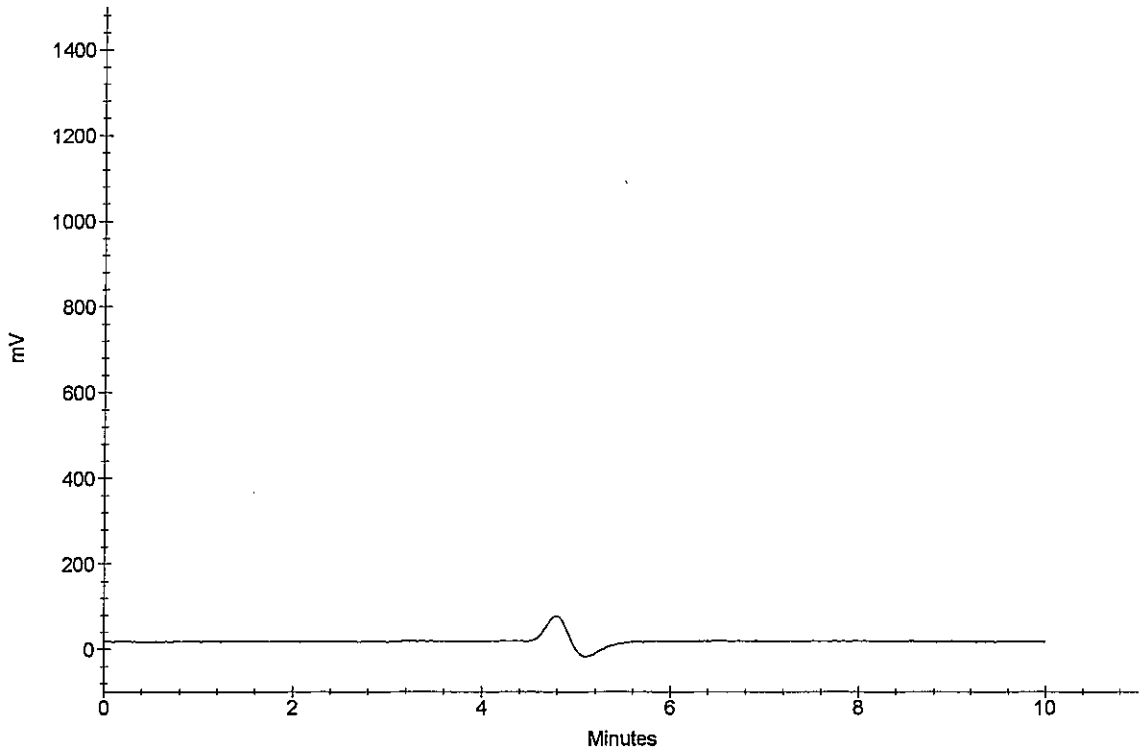
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199/218.6

Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
0	0.00	(null)	0.0000	0

OK
CCB 11/3/09



Columbia Analytical Services – Rochester, New York

Ion Chromatography Cover Sheet

Instrument: Dionex 1000I, IC #1

Column: AS7 Analytical Column, NG-1 Guard Column, 4mm, 06/02/08

Curve Date: 10/22/09 **Loop size:** 100 uL Loop

Analyst: C. Woods **Analysis Date:** 11/3/09

Standards Prep Dates & Log ID's:

Std Type	*Date Rec'd*	*Log ID*		*Std Type*	*Prep Date*	*Log ID*
Calibration Standard Stock	02/05/09	WC85265C		Calibration Stds	10/22/09	SAME AS WC85303E
LCS / MS Soluble Stock	02/05/09	WC85265C		Soluble MS	Daily	SAME AS WC85304B
I/CCV Standard Stock	02/05/09	WC85265D		I/CCV	Daily	SAME AS WC85303F
LCS / MS Insoluble Stock	01/11/08 Soils Only	WC85095H Soils Only		Insoluble LCS/MS	Daily	SAME AS WC85304C
LCS for Waters	Daily	SAME AS WC85304A		MS for Waters	Daily	SAME AS WC85304B

Comments:

Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 1
Sample Type : Calibration Update
Data File Name : ...\O22_001.DXD
Method File Name : ...\1-1022.met

Date Time Collected : 10/22/09 10:03:56
Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Analyst : CMW

Dilution Factor : 1.00
Sample Comment : 7199/218.6
Data Collection Rate : 20.00 Hz

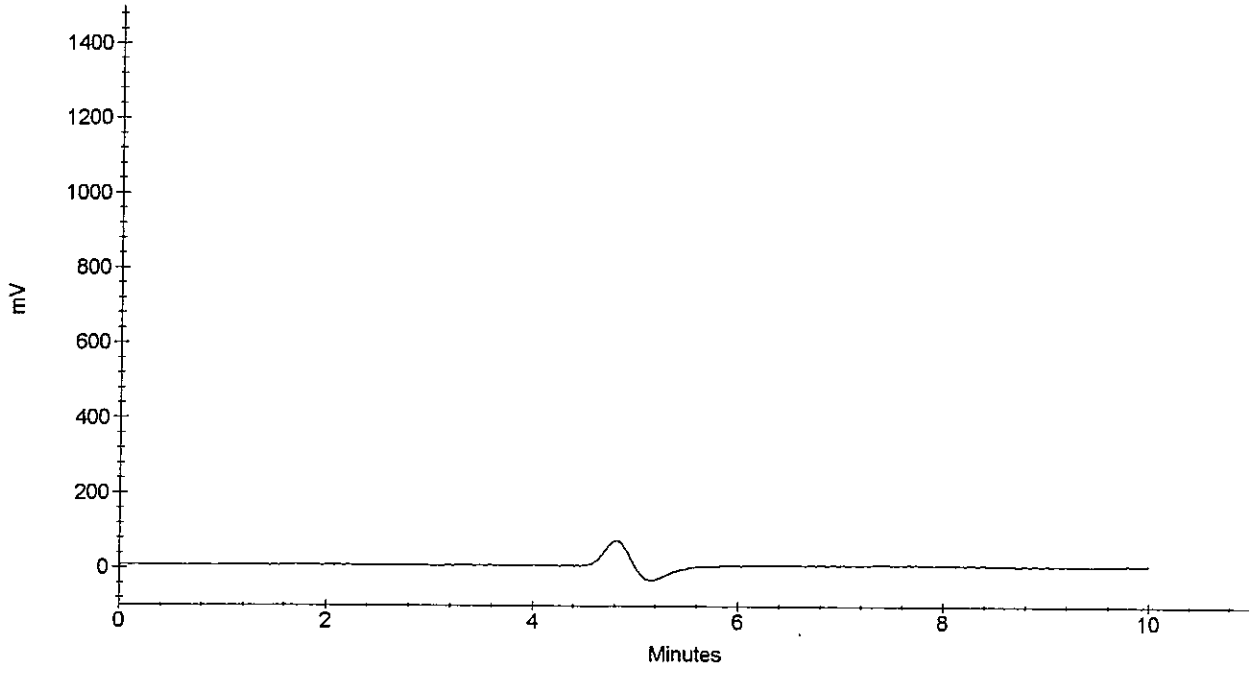
Calibration Type : EXTERNAL
Calibration Level : 1

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount (PPM)	Peak Area
0	0.00	(null)	OK	0.000	0

10/23/09

STANDARD 1



Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 2
Sample Type : Calibration Update
Data File Name : ...\O22_002.DXD
Method File Name : ...\1-1022.met

Date Time Collected : 10/22/09 10:14:21
Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Analyst : CMW

Dilution Factor : 1.00
Sample Comment : 7199/218.6
Data Collection Rate : 20.00 Hz

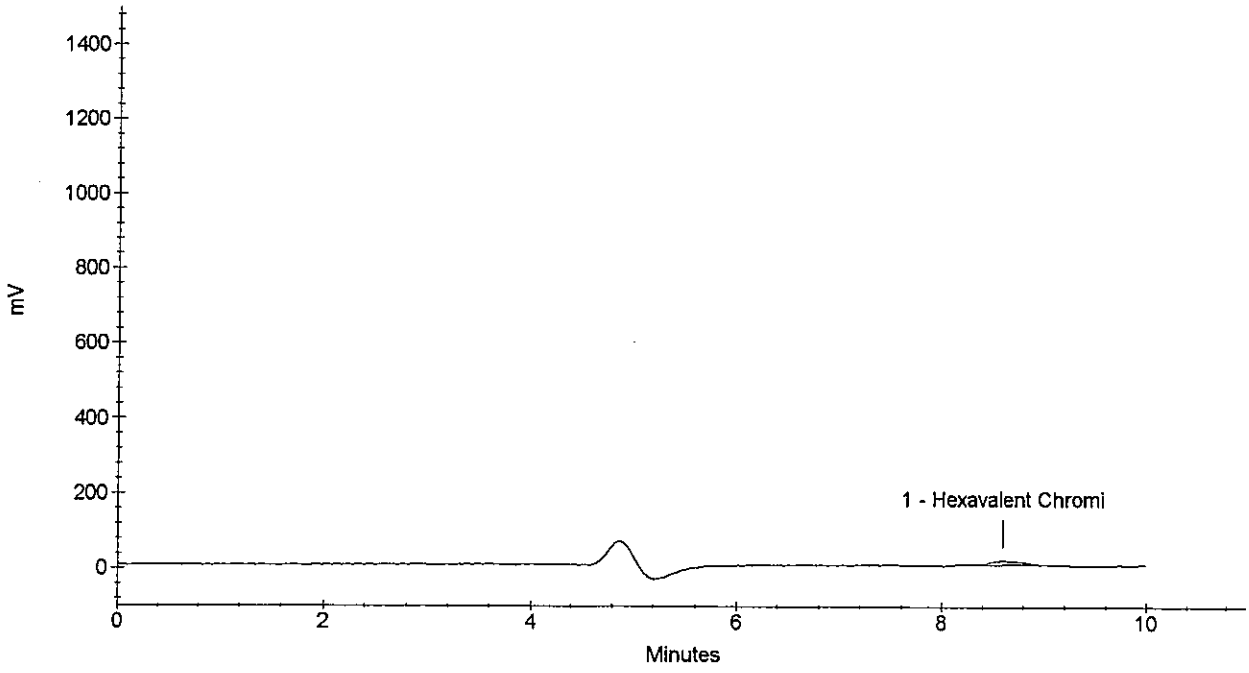
Calibration Type : EXTERNAL
Calibration Level : 2

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.60	Hexavalent Chromi	0.010	224648

AK
CMW 10/25/09

STANDARD 2



Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 3
Sample Type : Calibration Update
Data File Name : ...\O22_003.DXD
Method File Name : ...\1-1022.met

Date Time Collected : 10/22/09 10:24:45
Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Analyst : CMW

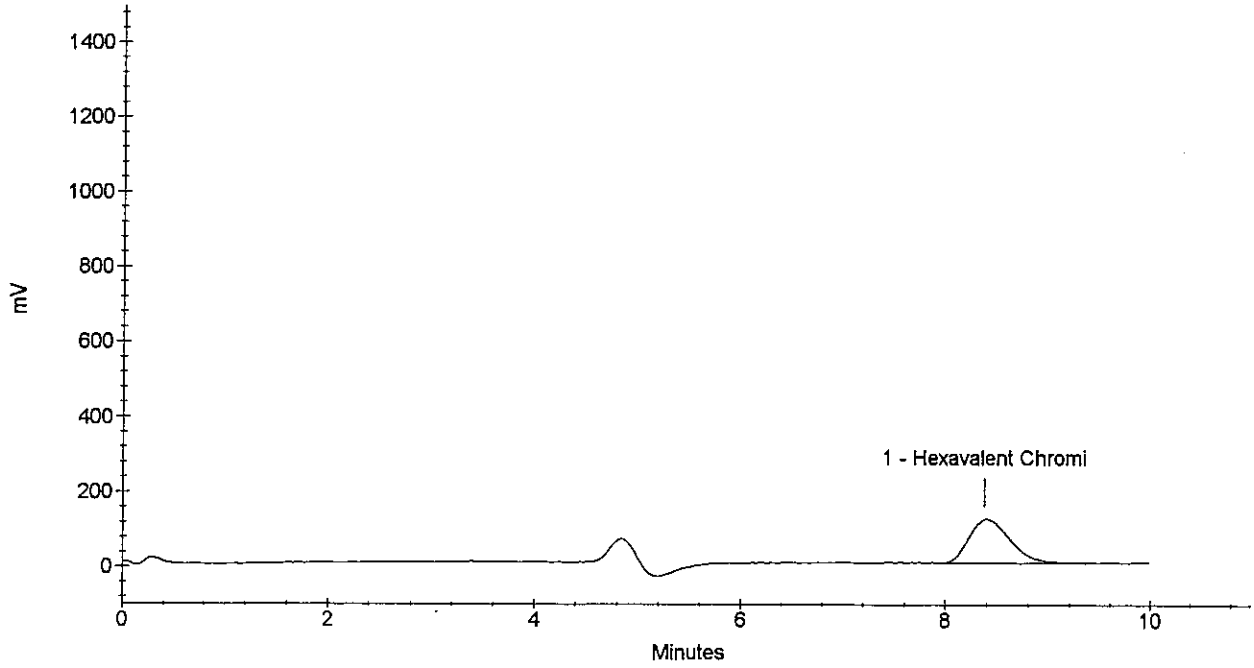
Dilution Factor : 1.00
Sample Comment : 7199/218.6
Data Collection Rate : 20.00 Hz

Calibration Type : EXTERNAL
Calibration Level : 3

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.38	Hexavalent Chromi	0.100	3238235

STANDARD 3



Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 4
Sample Type : Calibration Update
Data File Name : ...\O22_004.DXD
Method File Name : ...\1-1022.met

Date Time Collected : 10/22/09 10:35:09
Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Analyst : CMW

Dilution Factor : 1.00
Sample Comment : 7199/218.6
Data Collection Rate : 20.00 Hz

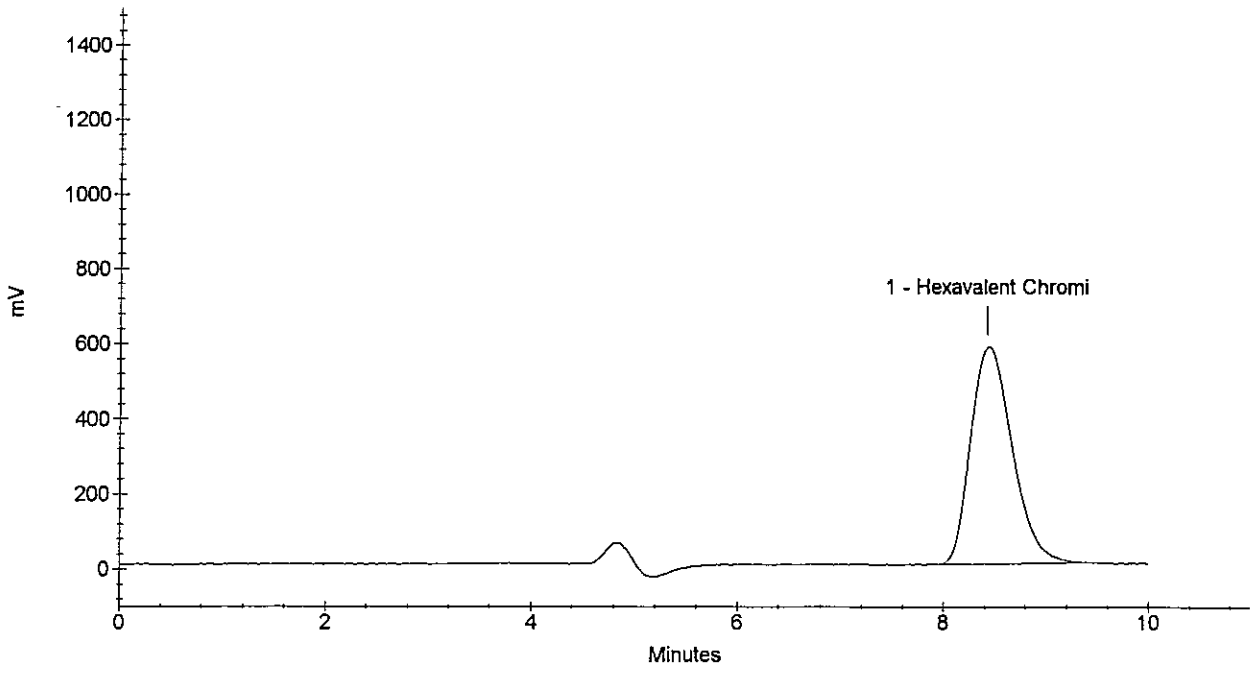
Calibration Type : EXTERNAL
Calibration Level : 4

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.43	Hexavalent Chromi	0.500	16376437

OK
10/29/09

STANDARD 4



00860

Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 5
Sample Type : Calibration Update
Data File Name : ...\O22_005.DXD
Method File Name : ...\1-1022.met

Date Time Collected : 10/22/09 10:45:33
Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Analyst : CMW

Dilution Factor : 1.00
Sample Comment : 7199/218.6
Data Collection Rate : 20.00 Hz

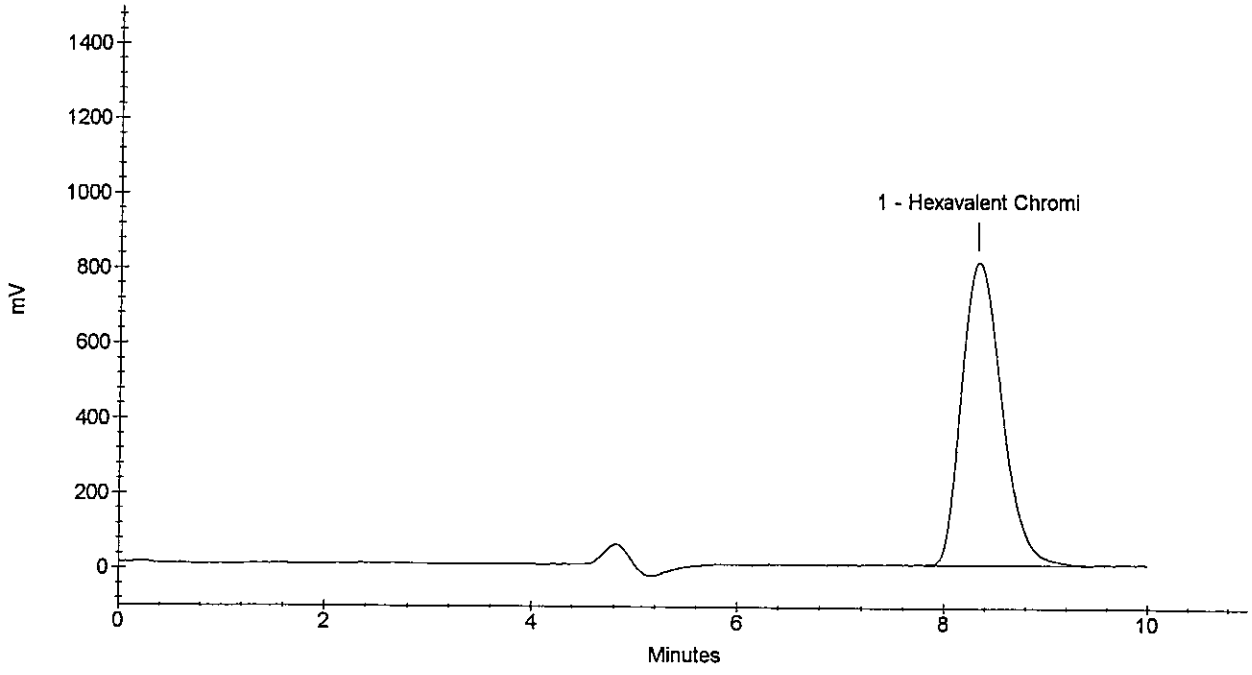
Calibration Type : EXTERNAL
Calibration Level : 5

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.32	Hexavalent Chromi	0.700	22244818

10/23/09

STANDARD 5



Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 6
Sample Type : Calibration Update
Data File Name : ...\O22_006.DXD
Method File Name : ...\1-1022.met

Date Time Collected : 10/22/09 10:55:56
Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Analyst : CMW

Dilution Factor : 1.00
Sample Comment : 7199/218.6
Data Collection Rate : 20.00 Hz

Calibration Type : EXTERNAL
Calibration Level : 6

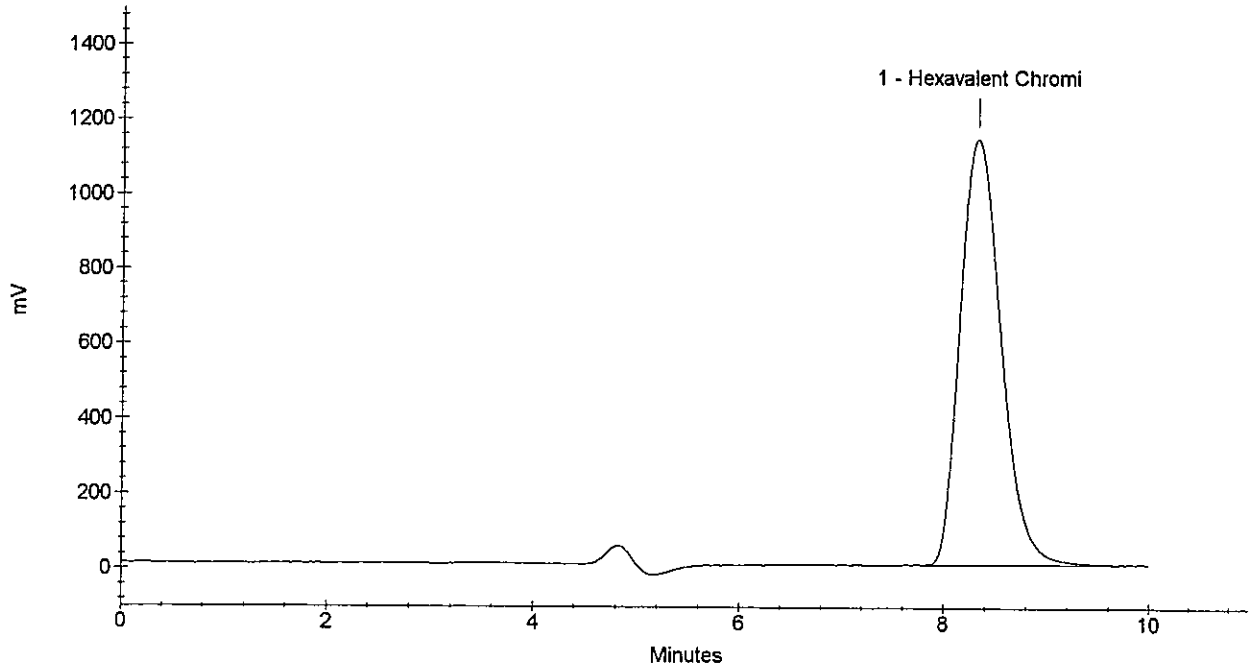
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.32	Hexavalent Chromi	1.000	31530713

OK

10/23/09

STANDARD 6



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : ICV
Data File Name : ...\O22_007.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 10/22/09 11:06:20

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

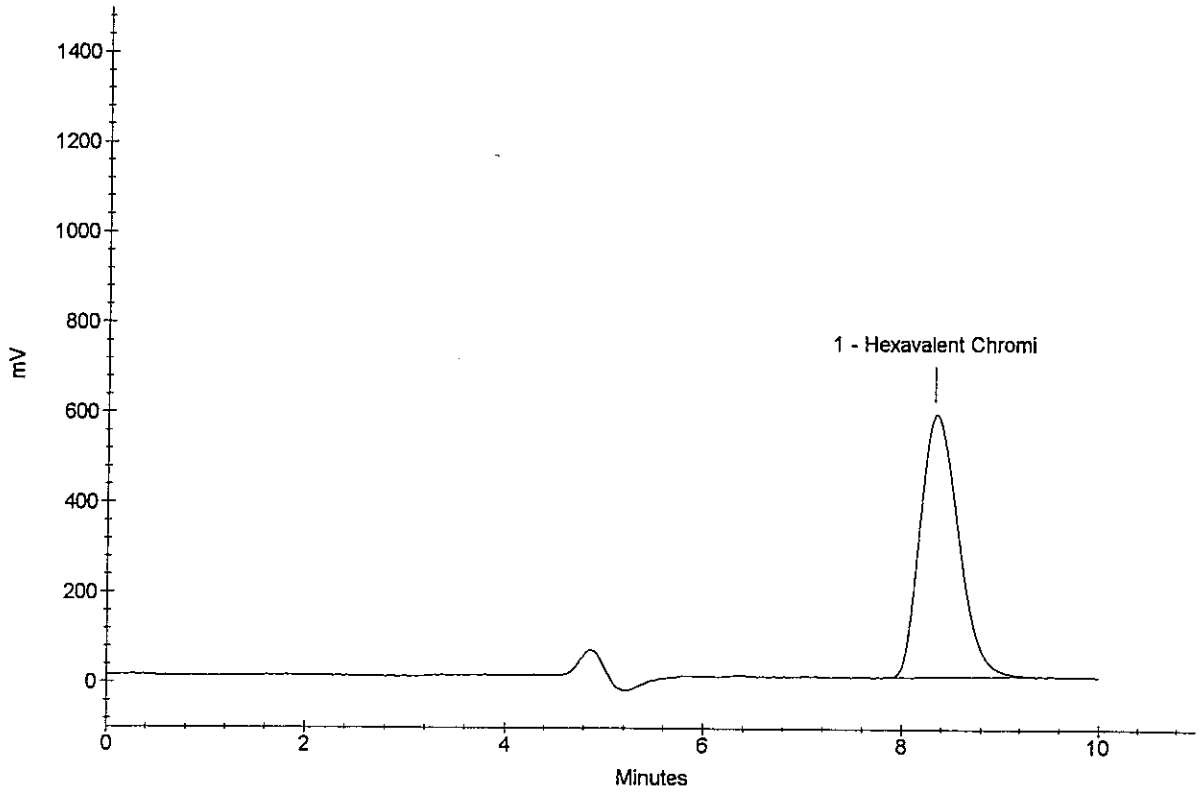
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199/218.6

Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.32	Hexavalent Chromi	0.4980	15850591

ICV



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : ICB
Data File Name : ...\O22_008.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 10/22/09 11:16:44

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199/218.6

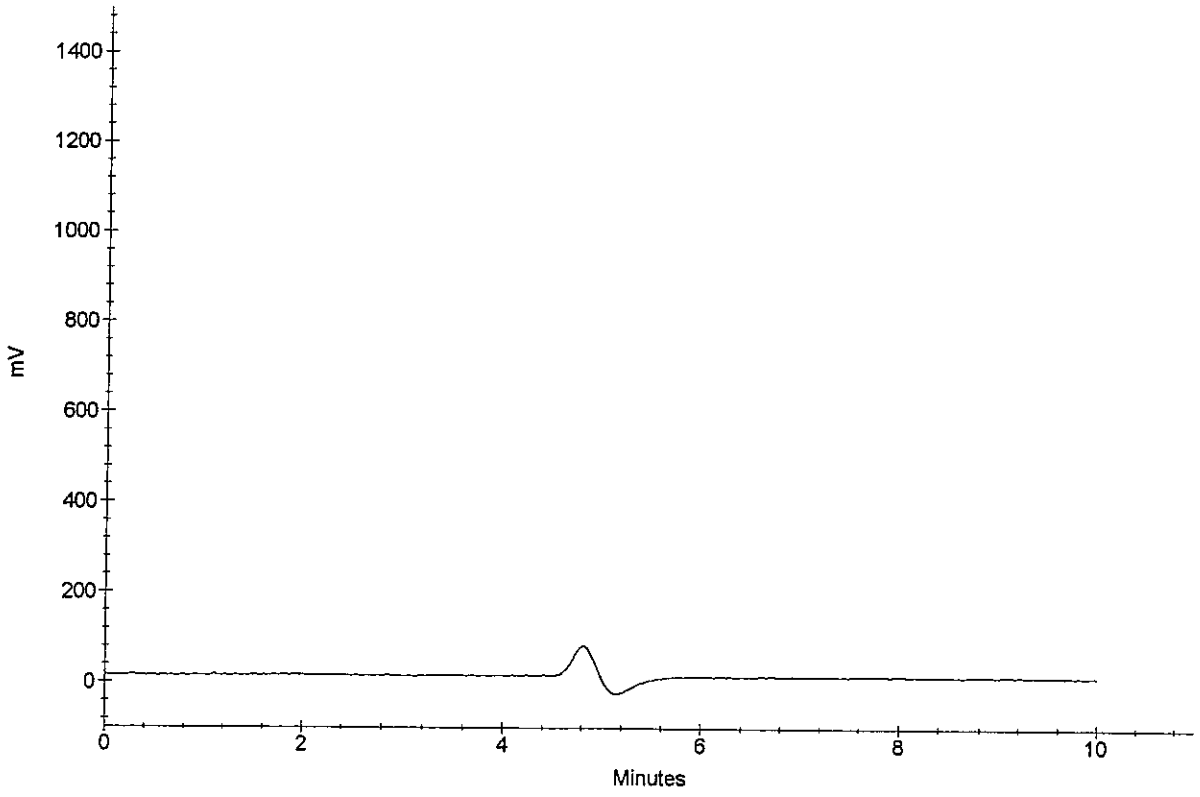
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
0	0.00	(null)	0.0000	0

10/23/09

ICB



00864

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCS
Data File Name : ...\O22_009.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 10/22/09 11:27:08

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199/218.6

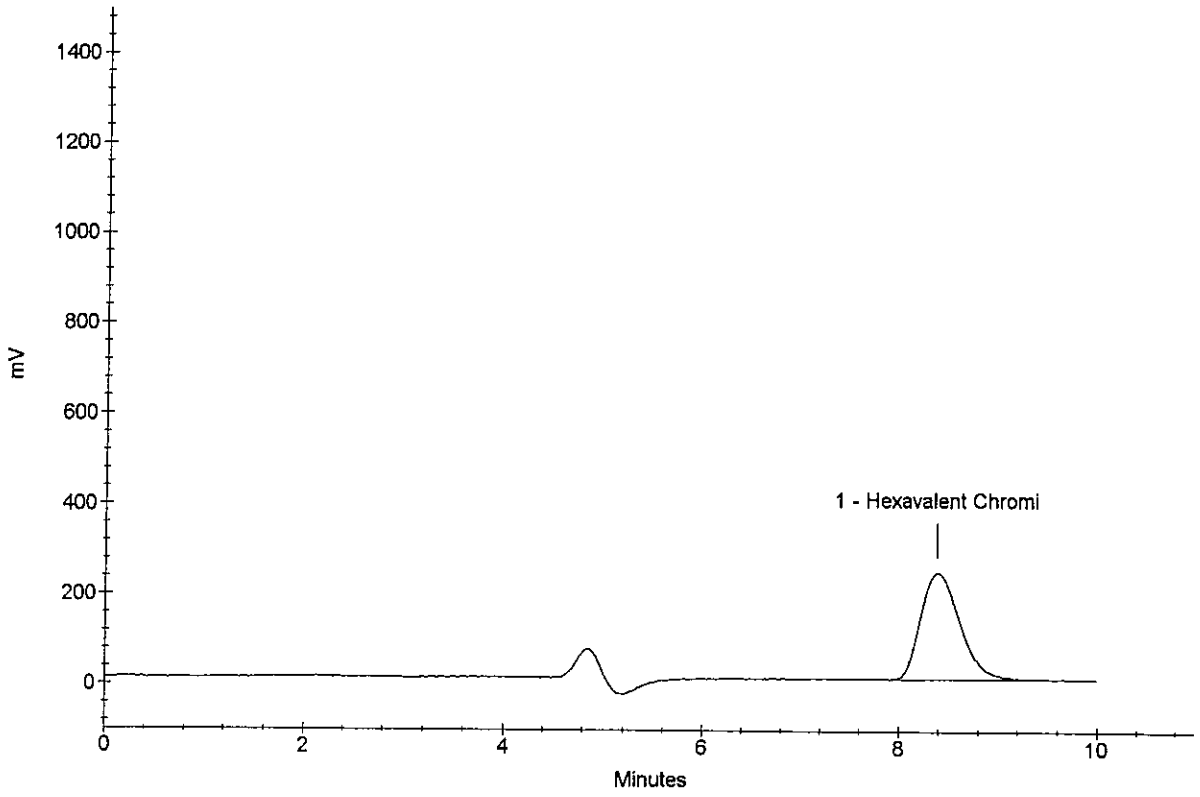
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.38	Hexavalent Chromi	0.2018	6461626

10/23/09

LCS



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCS
Data File Name : ...\O22_010.DXD
Method File Name : ...\1-1022.met
Date Time Collected : 10/22/09 11:37:32

Detector Name : UV/Vis
Column ID : AS7 (012190) NG-1 (020261)
Method Comment : Cal.: IC#1, 10/22/09 50uL Loop

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 7199/218.6

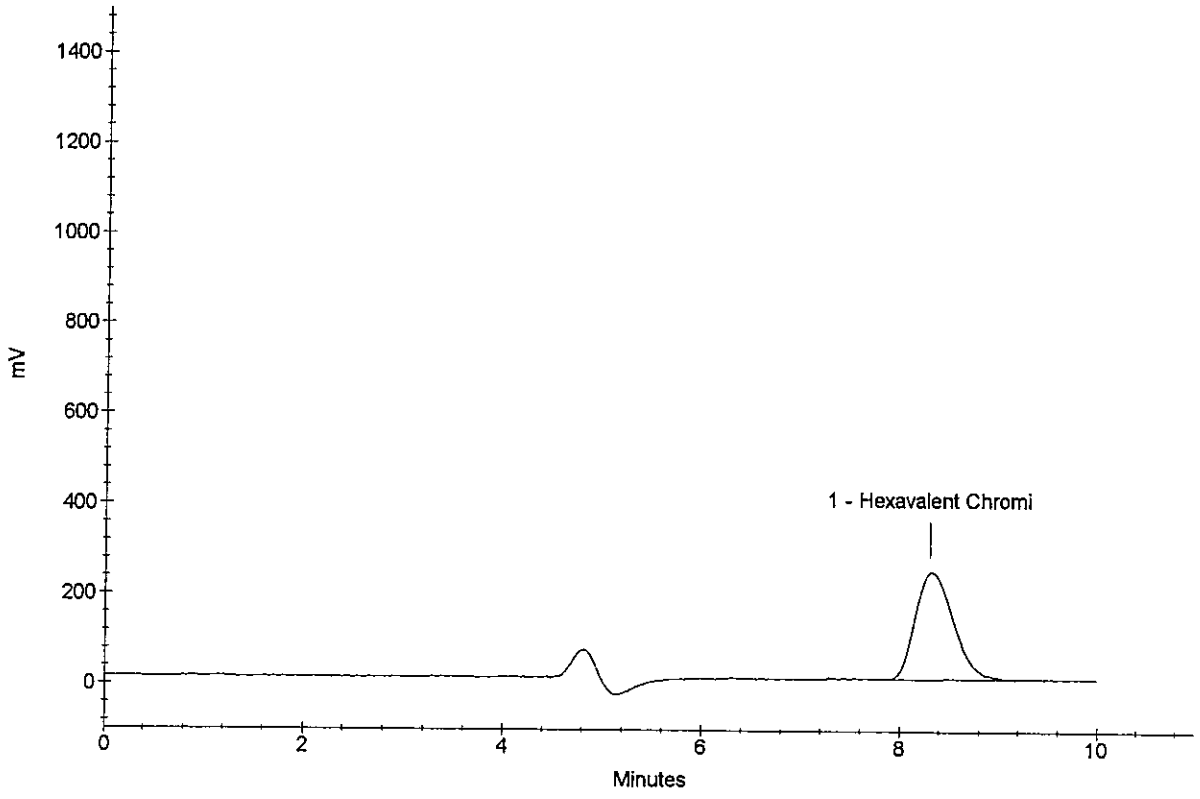
Data Collection Rate : 20.00 Hz
Data Collection Period : 600.00 seconds
Component Amount Units : PPM

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount (PPM)	Peak Area
1	8.30	Hexavalent Chromi	0.1991	6377765

10/25/09

LCS



00866

DIONEX ACI METHOD PARAMETERS - 1-1022.met

Method Information : All Modules

System Name : Dionex 4000i
System Number : 101
Method Type : Ion Chromatography
Column : AS7 (012190) NG-1 (020261)
Analyst : CMW
Comment : Cal.: IC#1, 10/22/09 50uL Loop

AI450 Detector Parameters

Detector Type : UV/Vis
Data collection time (minutes) : 10.00
Data Collection Rate : 20.00
Real time plot scale maximum (mV) : 1500.000
Real time plot scale minimum (mV) : -100.000

AI450 Integration Parameters

Peak detection algorithm : Standard
Starting peak width (seconds) : 15.00
Peak threshold : 5.00
Peak area reject (area counts) : 1000.00
Reference peak area reject (area counts) : 1000.00

AI450 Smoothing Parameters

Filter Type : No filter

AI450 Report Data

Report Format File : J:\ACQUDATA\IC\METHOD.ACI\IC#2\As7-cr6.rpt
Print Sample Analysis : Yes
Print Calibration Update : Yes
Print Check Standard : No
System Suitability Tests :
No system suitability tests selected.

AI450 Integration Data Events

Time	Description
0.00	Stop peak detection
4.40	Force baseline at start of all peaks
5.00	Double peak threshold
6.00	Start peak detection

AI450 Calibration Parameters

External or internal calibration : EXTERNAL
Number of replicates for calibration : 1
Rejection : Manual
Level Weighting : Equal
Calibration standard volume : 1.00
Default sample volume : 1.00
Amount units : PPM
Replace retention time : Yes
Update response : Yes
Default dilution factor : 1.00
Default response factor for unknown peaks : 0.00
Calculate unknowns by area or height : Area

AI450 Component Identification Table

Component	Retention	Tolerance	Reference
Hexavalent Chromi	8.32 min	1.00 min	

AI450 Component Quantitation Table

Component	Retention	Low Limit	High Limit
Hexavalent Chromi	8.32 min	0	0

AI450 Component Calibration Table

Component	Retention Time	Curve Fit	Origin	Cal. by	Response Component	Relative Factor
Hexavalent Chromi	8.32 min	Linear	Include	Area		0.00

AI450 Component = Hexavalent Chromi Levels Table

Retention Time : 8.32 min
Amount units : PPM
Replicate unit type : Area
Number of levels : 6
Number of replicates : 1

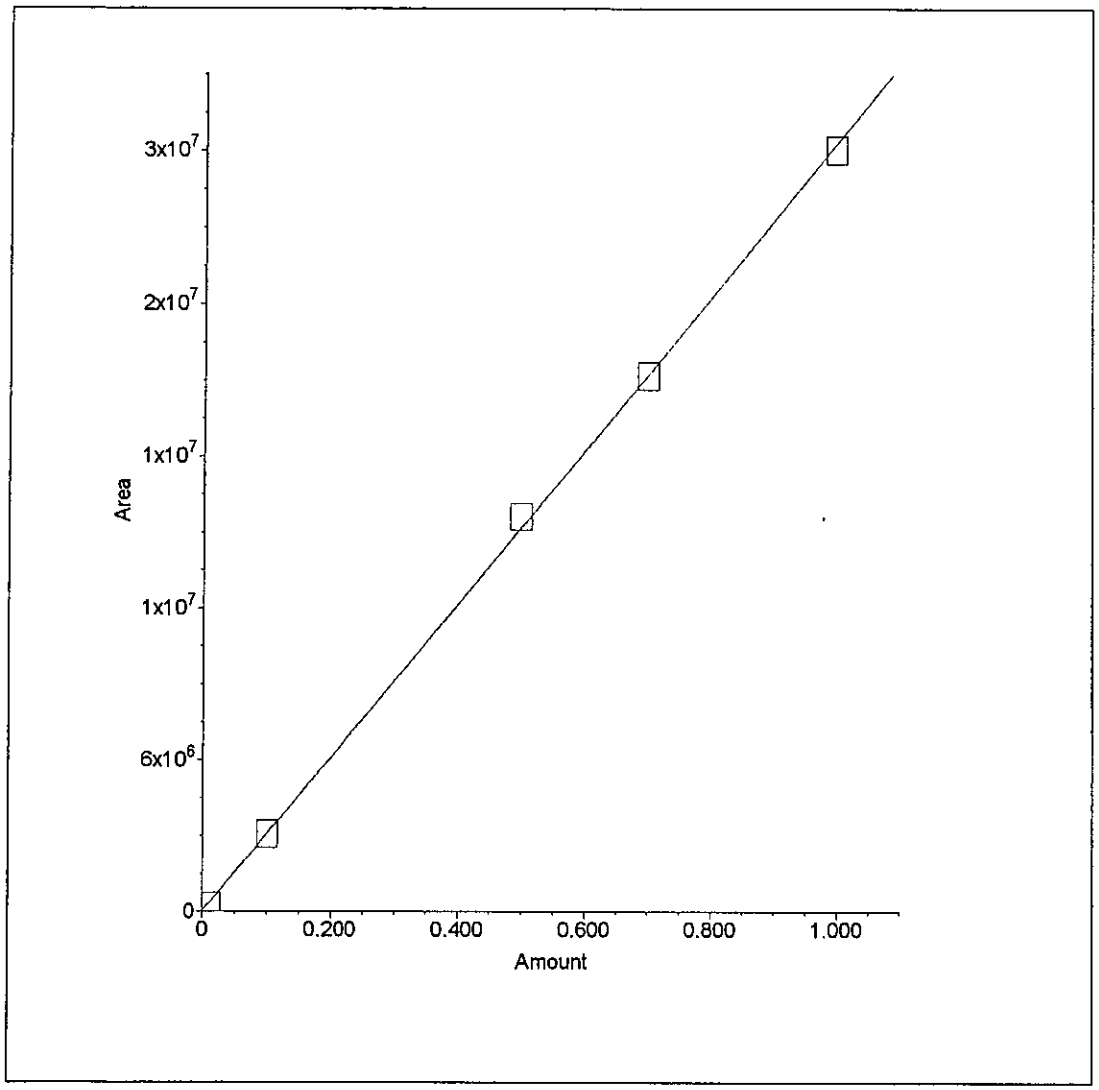
Level	Amount	Replicate 1
1	0.00	~~16802.4~~ No PEAK
2	0.01	224648
3	0.10	3.23823e+006
4	0.50	1.63764e+007
5	0.70	2.22448e+007
6	1.00	3.15307e+007

CW 10/22/09

AI450 XY Data Parameters

00869

1. Component:Hexavalent Chromi
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r^2=0.999657
Amt=3.155e-008*Resp+-0.002064



Columbia Analytical Services – Rochester, New York

Ion Chromatography Cover Sheet

Instrument: Dionex 1000I, IC #1

Column: AS7 Analytical Column, NG-1 Guard Column, 4mm, 06/02/08

Curve Date: 10/22/09 **Loop size:** 100 uL Loop

Analyst: C. Woods **Analysis Date:** 10/22/09

Standards Prep Dates & Log ID's:

Std Type	*Date Rec'd*	*Log ID*		*Std Type*	*Prep Date*	*Log ID*
Calibration Standard Stock	02/05/09	WC85265C		Calibration Stds	10/22/09	SAME AS WC85303E
LCS / MS Soluble Stock	02/05/09	WC85265C		Soluble MS	Daily	SAME AS WC85304B
I/CCV Standard Stock	02/05/09	WC85265D		I/CCV	Daily	SAME AS WC85303F
LCS / MS Insoluble Stock	01/11/08 Soils Only	WC85095H Soils Only		Insoluble LCS/MS	Daily	SAME AS WC85304C
LCS for Waters	Daily	SAME AS WC85304A		MS for Waters	Daily	SAME AS WC85304B

Comments:

sh each run.

j NH_2CO_3 (WC852100)

1X2.

d 0.2 ml acetone (WC852053)

c Stock (WC852150)
exp 2/2010

stock (WC850185)
exp 2/2009

510 g $CaCl_2 \cdot 6H_2O$
Store at

1 run.

Digest
1-L
p. lg 2/5/10

2/5/09 Received from HACH
(A) (3) x 25 BOD Nutrient Buffer Pillows, Cat. 14863-98, HACH Lot # A8339, CAS#s same as WC850174. Store @ RT. Expires 12/31/2013
(B) (2) x 150 COD Digestion Solution Vials, 0-1500 ppm, Cat # 21259-15, HACH Lot # A9017, CAS #s same as WC850083D. Store in cool, dark place. Expires 1/31/2014

Received from Thermo-Fisher
(C) (1) x 500 mL Chromium Reference Std Soln, 1000 mg/L. Cat # SC192-500, Fisher Lot # 076763, CAS# 7778-50-9 Store @ R.T. Expires 1/31/2010 [7980]

Received from Environmental Express
(D) (1) x 250 mL Chromium Std Soln, 1000 mg/L. Cat # HP100012-7, EE Lot # 0804608, CAS# 7778-50-9 Store @ R.T. Expires 7/30/2010 [7981]

Received from VWR
(E) (1) x 500 mL Phenol, liquefied, Cat # PX0511-1, EMD Lot # 48112, CAS# 108-95-2. Store in flammable cabinet. Expires 2/5/2014 [7983]
(F) (1) x 6 Membrane cap assemblies for BOD probe. Cat # YSI5906, YSI Lot # ~~590~~ 08M100071 (BS 2/5/09). Store @ RT. Exp: not listed.

2/5/09 (G) 0.00564N $Na_2S_2O_3$
Same as WC852561. Fresh per run.

(H) Stock Chlorine - Cl. Residual
Same as WC852560J Fresh per run

(I) DPD Indicator
Same as WC852560K store at 4°C. Exp 2/5/10 or when discolored

~~2/6/09 NM (J) 0.00564 N Sodium thiosulfate - Chlorine Demand~~
~~- Same as WC853421 Exp. 2 weeks, 2/20/09 2/20/09.~~
~~(K) Std. KIO_3 Titrant - Chlorine Demand~~
nm 2/6/09

1/10/08 (A) DPD Indicator TC 1/10/08
TC In a 500 mL vol flask, dissolve 0.50g DPD (WC76015F) and 0.100g EDTA and 4mL 1+3 H_2SO_4 (WC85027B) in UPDI, Bring to vol. Store @ RT in amber glass Exp 1 yR. or when discolored, 1/10/09.

1/10/08 NM (B) Sodium Phenolate - NH_3
- same as WC85088F. Exp. 1 year, 1/10/09.

1/11/08 NM (C) Eriochrome Black-T Indicator (Hardness)
- same as WC85075H. Exp. 5/31/08.

1/11/08 KB (D) TSS Reference
0.2152g Kaolin (WC69285G) brought to 1000g w/DI. Store at 4°C in a plastic bottle.
TV = 215 mg/L exp: 01/11/09

1/11/08 TC 1/11/08 (E) Cr+6 Soils Buffer
In a 500 mL vol. flask dissolve
- 43.545g K_2HPO_4 (WC76227G)
- 34.02g KH_2PO_4 (WC85054G)
in ~400 mL DI. Bring to vol. w/ DI. Store @ 4°C. Exp. 1 yR. 1/11/09.

(F) Cr+6 Soils Digest Solution
20.0g NaOH pellets (WC85072G) and 30.0g Na_2CO_3 (WC76232D) dissolved in DI Bring to 1 liter volumetrically w/ DI
Exp. 1 month, 2/11/08.

1/11/08 (G) 0.02500 $Na_2S_2O_3$ - Sulfides
TC Dilute 50 mLs 1.0N $Na_2S_2O_3$ (WC35067D) → 2000 mLs volumetrically w/ DI. Store for 2 weeks @ 4°C. Exp. 1/25/08.

1/11/08 BB Received from Alfa Aesar
(H) (1) x 100g Lead II Chromate. Cat # 14125, AA Lot# J03Q063, CAS # 7758-97-6. Store @ R.T. Expires 1/11/~~X~~13 BB 10/14/08 criteria change

3

CMW 5/15/09

Ⓐ LCS for Cr^{6+} Waters (TV=0.2ppm)

To 10mL of DI water, add 0.2mL of 10ppm Std. ~~Stock~~ CMW 5/15/09 (WC85303C). Mix thoroughly. Prepare as needed.

Ⓑ Matrix Spike for Cr^{6+} Waters (TV=0.2ppm)

To 10mL of sample, add 0.2mL of 10ppm Std. (WC85303C). Mix thoroughly + analyze.

Ⓒ LCS for Cr^{6+} Soils

To digestate add approximately 10mg of Lead(II) Chromate (WC85095H) + digest as normal.

$$TV = \frac{(mg\ PbCrO_4)}{(kg\ sample)} \times 0.161$$

Ⓓ Matrix Spike for Cr^{6+} Soils

To digestate add approximately 10mg of Lead(II) Chromate (WC85095H) + digest as normal.

$$TV = \frac{(mg\ PbCrO_4)}{(kg\ sample)} \times 0.161$$

Ⓔ Post-Verification Spike (PVS) for Cr^{6+} Soils

A- If a sample has no value, take a 45mL aliquot of digestate and add 0.45mLs of 100ppm Std. (WC85304F). Analyze as usual. TV= 1.00ppm (Needs to be run @ dilution on IC)

B- If a sample has a value, use the following to determine the amount of spike.

$$\left(\begin{matrix}\text{Amount of}\\ \text{spike, mL}\end{matrix}\right) = \frac{(45mLs)(2)(\text{Sample Value, mg/L})}{(100\ ppm)}$$

Spike a 45mL aliquot w/ the calculated amount of 100ppm Standard (WC85304F). Spike with whichever amount is greater, A or B.

Ⓕ 100ppm Standard Working Stock

Do a 1/10 serial dilution of 1000ppm Standard Stock (WC85265C). Prepare fresh as needed

Revie

CMW 5/15/09

Ⓐ Cr^{6+} 7199 Elvent

Dissolve 33g of Ammonium Sulfate (WC85040B) in 500mL of DI and add 6.5mL of Ammonium hydroxide (WC85188I). Dilute to 1L volumetrically w/ DI. Degas prior to use. Store @RT. Expires 6/15/09.

Ⓑ Cr^{6+} 7199 Post-Column Color Reagent

Dissolve 0.5g of 1,5-diphenylcarbohydrazide (WC85190E) in 100mL HPLC grade methanol (WC85284G) in a 1L volumetric flask. In a separate container add about 500mL DI then add 28mL of conc. H_2SO_4 (WC85276C), mix + degas before adding to diphenylcarbohydrazide solution. Dilute to volume w/ DI water. Store @ 4°C. Degas prior to use. Expires ~~6/15/09~~ 5/16/09 6/15/09.

Cr^{6+} 7199/218.6 Calibration on IC #5

Ⓒ 10ppm Standard Working Stock

Do two(2) 1/10 serial dilutions of 1000ppm Std. Stock (WC85265C). Prepare as needed.

Ⓓ 10ppm Reference Working Stock

Do two (2) 1/10 serial dilutions of 1000ppm Ref. Stock (WC85265D). Prepare as needed.

Ⓔ Calibration Standards

Std #	mLs 10ppm Std. (WC85303C)	mLs DI	concentration (ppm)
6	1.0	9.0	1.00
5	0.70	9.3	0.70
4	~~0.10~~ 0.50	~~9.9~~ 9.5	~~0.10~~ 0.50
3	0.10	9.9	0.10
2	1/10 dilution of Std. #3		0.010
1	0.0	10	0.00

5/15/09 ℰ

Ⓕ ICV/CCV (TV=0.50ppm) [Waters + Soils]

To 9.5mLs of DI add 0.5mLs of 10ppm Reference Stock (WC85303D). Mix + analyze. Prepare as needed.

Limits for DI Water if pH < 5.5, or > 7.5 Notify QA!

Limits for Spec. Cond. >= 1 - Notify QA! (Limit is 2 umohs/cm) **Date:** 11/3/09

Conductivity holding time is 48 hrs from sample date run: pH 177624 | Cond 177626 Pg. 1

pH holding time is 15 minutes from collection

Sub. #	Order #	pH 150.1/4500H+B 9040B	Corrsivity 9045C	CONDUCTVITY 120 raw data	units	mhos/cr	TEMP °C	Analyst	Time	HT** (y/n	Meter J/VWR
CCB	DI water	~~6.881~~ 6.881		0.319	uS	0.319		MWC	0835		J
R09	Cr6+	9.518		~~5.24~~	~~ms~~	~~5240~~	MRP 11/3/09	↓	↓	Y	↓
	Cr6+	9.530		~~5.25~~	ms	5250				↓	
CCV	4.01	4.037							0903		
CCV	10.01	9.963						MWC	10,20		
	Cr6+	6.114 → 9.372						↓	↓		
CCV	7.00	7.032						MRP	1040	yes	J
R09-6270	003	7.201		1.279	uS	1.279					
↓	003 dup	7.186		1.293	uS	1.293					
CCB	DI H_2O	— Start of Run —		0.732	uS	0.732					
R0910788	01			7.25	uS	7.25					
R0906056	001			0.744	ms	744					
	003			0.310	ms	310					
	005			174.8	uS	174.8					
	007			1.085	ms	1085					
↓	007dup			1.085	ms	1085					
R0906276	011	7.689	~~Cl~~ MRP 11/3/09	0.232	ms	232					
	001	7.521		103.2	uS	103.2					
	003	7.758		0.756	ms	756					
	005	7.892		0.610	ms	610					
	009	7.767		153.3	uS	153.3					
	007	7.477		56.0	uS	56.0					
↓	007 dup	7.435		57.1	uS	57.1		↓	↓	↓	↓

12.0 0001
08010001
07011023
07010005
11010157
11010215 dup

*Meters used will be designated by "J" for Jenway or "VWR" for the VWR meter, **HT = holding time

pH Meter Calibration 7.028

STANDARDS 4.00 ✓ 10.00 ✓ ICV check 7.00 TEMP. 21.1° C

LOT #: BDB2694H BDB2695A BDB2694I

Conductivity Meter Calibration (calibrate to 1412 and test 2767 & 146.9 standard)

N KCL: 1412 Calibrated (Yes / NO) LOT #: BDB2695F

Cell Constant: 1.124

N KCL: 2767 LOT #: BDB2695D Reading 2700

10% Limits: 2490.3 to 3043.7

N KCL: 146.9 LOT #: BDB2694B Reading 150.0

10% Limits: 132.2 TO 161.6

uS = 1 umhos/cm mS = 1,000 umhos/cm S = 1,000,000 umhos/cm

Analyst: MWC DATE: 11/3/09 TIME: 0835

Limits for DI Water if pH < 5.5, or > 7.5 Notify QA!

Limits for Spec. Cond. >= 1 - Notify QA! (Limit is 2 umohs/cm) **Date:** 11/3/09

Conductivity holding time is 48 hrs from sample date

pg. 2

pH holding time is 15 minutes from collection

Sub. #	Order #	pH 150.1/4500H+B 9040B	Corrsivity 9045C	CONDUCTVITY 120 raw data	units	mhos/cr	TEMP °C	Analyst	Time	HT** (y/n	Meter J/VWR	
CCV	7.00/2767	7.033		2.71	ms	2710		MRP	1040	Yes	J	
CCB	DI H_2O	-End of Run		0.389	ms	0.389		↓	↓	↓	↓	
R0906270	001	7.407		5.17	ms	5170		MRP	1040	yes	J	
↓	002	7.482		5.15	ms	5150						
↓	002 dup	7.499		5.17	ms	5170						
CCB	DI H_2O	-Beginning of Run		0.668	ms	0.668						
CCV	7.00/2767	7.022		2.71	ms	2710						
CCB	DI H_2O	-End of Run		0.792	ms	0.792						
CCB	DI H_2O			0.331	ms	0.331						
R09-6250	003	8.377		0.455	ms	0.455						DI-1A
	004	7.879		0.390	ms	0.390						DI-1A
	001	7.660		0.338	ms	0.338						MU-001
↓	002	7.275		0.300	ms	0.300						DV-001
R09-6276 (ribs ↓)	017	6.591		113.8	ms	113.8						02010023
↓	015	7.767		0.317	ms	.317						01031002
↓	019	8.189		0.284	ms	284						01010001
↓	019 dup	8.189 dup MRP 11/3/09 7.011		0.284	ms	284						dup
CCV	7.00/2767			2.72	ms	2720						
CCB	DI H_2O			0.289	ms	0.289		↓	↓	↓	↓	

MRP 11/3/09

*Meters used will be designated by "J" for Jenway or "VWR" for the VWR meter, **HT = holding time

pH Meter Calibration

STANDARDS 4.00 _____ 10.00 _____ ICV check 7.00 _____ TEMP. _____

LOT # : _____

Conductivity Meter Calibration (calibrate to 1412 and test 2767 & 146.9 standard)

N **KCL:** 1412 **Calibrated (Yes / NO)** **LOT # :** _____

Cell Constant: _____

N **KCL:** 2767 **LOT # :** _____ **Reading** _____

10% Limits: 2490.3 to 3043.7

N **KCL:** 146.9 **LOT # :** _____ **Reading** _____

10% Limits: 132.2 TO 161.6

uS = 1 umhos/cm mS = 1,000 umhos/cm S = 1,000,000 umhos/cm

Analyst: DATE: TIME:

Analytical Results Summary

Instrument Name: R-Discrete-01 **Analyst:** HLOVEJOY **Analysis Lot:** 178988 **Method/Testcode:** 335.4/CN T

3RUNS

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
RQ0911242-01	Cyanide, Total	MB		Water	0.00 mg/L	50 mL	0.010 mg/L U	1	0.010			11/11/09 16:40:46	N	II
RQ0911242-01	Cyanide, Total	MB		Water	0.00 mg/L	50 mL	0.010 mg/L U	1	0.010			11/11/09 16:40:46	N	II
RQ0911242-02	Cyanide, Total	LCS		Water	0.09 mg/L	50 mL	0.0903 mg/L	1	0.010	90		11/11/09 16:40:47	N	II
RQ0911242-02	Cyanide, Total	LCS		Water	0.09 mg/L	50 mL	0.0903 mg/L	1	0.010	90		11/11/09 16:40:47	N	II
RQ0911242-03	Cyanide, Total	LCS		Water	0.40 mg/L	50 mL	0.405 mg/L	1	0.010	101		11/11/09 16:40:48	N	II
RQ0911242-03	Cyanide, Total	LCS		Water	0.40 mg/L	50 mL	0.405 mg/L	1	0.010	101		11/11/09 16:40:48	N	II
R0906359-001	Cyanide, Total	N/A		Water	0.00 mg/L	50 mL	0.010 mg/L U	1	0.010			11/11/09 16:40:49	N	II
RQ0911242-04	Cyanide, Total	DUP	R0906359-001	Water	0.00 mg/L	50 mL	0.010 mg/L U	1	0.010		NC	11/11/09 16:40:50	N	II
RQ0911242-05	Cyanide, Total	MS	R0906359-001	Water	0.09 mg/L	50 mL	0.0873 mg/L	1	0.010	87*		11/11/09 16:40:51	N	II
R0906270-001	Cyanide, Total	N/A		Water	0.00 mg/L	50 mL	0.010 mg/L U	1	0.010			11/11/09 16:40:52	N	IV
R0906270-002	Cyanide, Total	N/A		Water	0.00 mg/L	50 mL	0.010 mg/L U	1	0.010			11/11/09 16:40:53	N	IV
R0906270-003	Cyanide, Total	N/A		Water	0.00 mg/L	50 mL	0.010 mg/L U	1	0.010			11/11/09 16:40:54	N	IV
R0906198-019	Cyanide, Total	N/A		Water	0.00 mg/L	50 mL	0.010 mg/L U	1	0.010			11/11/09 16:48:12	N	IV
R0906198-020	Cyanide, Total	N/A		Water	0.00 mg/L	50 mL	0.010 mg/L U	1	0.010			11/11/09 16:48:15	N	IV
RQ0911242-06	Cyanide, Total	DUP	R0906198-020	Water	0.00 mg/L	50 mL	0.010 mg/L U	1	0.010		NC	11/11/09 16:48:16	N	IV
RQ0911242-07	Cyanide, Total	MS	R0906198-020	Water	0.09 mg/L	50 mL	0.0939 mg/L	1	0.010	94		11/11/09 16:48:17	N	IV
R0906198-022	Cyanide, Total	N/A		Water	0.00 mg/L	50 mL	0.010 mg/L U	1	0.010			11/11/09 16:48:18	N	IV
R0906198-023	Cyanide, Total	N/A		Water	0.00 mg/L	50 mL	0.010 mg/L U	1	0.010			11/11/09 16:48:19	N	IV
R0906198-024	Cyanide, Total	N/A		Water	0.00 mg/L	50 mL	0.010 mg/L U	1	0.010			11/11/09 16:48:20	N	IV
R0906198-025	Cyanide, Total	N/A		Water	0.00 mg/L	50 mL	0.010 mg/L U	1	0.010			11/11/09 16:48:21	N	IV
R0906198-028	Cyanide, Total	N/A		Water	0.00 mg/L	50 mL	0.010 mg/L U	1	0.010			11/11/09 16:48:22	N	IV
R0906198-029	Cyanide, Total	N/A		Water	0.00 mg/L	50 mL	0.010 mg/L U	1	0.010			11/11/09 16:55:40	N	IV
R0906315-001	Cyanide, Total	N/A		Water	0.00 mg/L	50 mL	0.010 mg/L U	1	0.010			11/11/09 16:55:41	N	IV

R6270
R6198
R6315
R6403
H'opo

Reviewed & Approved
By: CK
Date: 11/12/09

# indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Printed 11/11/09 18:37

Preparation Information Benchsheet

Prep Run#: 100449
Team: GenChem/HLOVEJOY

Prep WorkFlow: Gen Dist CN
Prep Method: Method

Status: Prepped
Prep Date/Time: 11/10/09 09:45 AM

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ0911242-01	MB		50mL	335.4/CN T				50.00mL			
2	RQ0911242-01	MB		50mL	9012A/CN Tot				50.00mL			
3	RQ0911242-02	LCS		50mL	335.4/CN T				50.00mL		0.5000 mL/11016	
4	RQ0911242-02	LCS		50mL	9012A/CN Tot				50.00mL		0.5000 mL/11016	
5	RQ0911242-03	LCS		50mL	335.4/CN T				50.00mL		2.0000 mL/11016	
6	RQ0911242-03	LCS		50mL	9012A/CN Tot				50.00mL		2.0000 mL/11016	
7	R0906359-001	B325 Final Eff 24Hr Comp	.08	50mL	335.4/CN T				50.00mL			
8	RQ0911242-04	R0906359-001 DUP	.08	50mL	335.4/CN T				50.00mL			
9	RQ0911242-05	R0906359-001 MS	.08	50mL	335.4/CN T				50.00mL		0.5000 mL/11016	
10	R0906270-001	M-147B	.13	50mL	9012A/CN Tot				50.00mL			
11	R0906270-002	M-147009B	.13	50mL	9012A/CN Tot				50.00mL			
12	R0906270-003	EB110209-GWA3	.13	50mL	9012A/CN Tot				50.00mL			
13	R0906198-019	MW-316	.08	50mL	9012A/CN Tot				50.00mL			
14	R0906198-020	MW-306	.08	50mL	9012A/CN Tot				50.00mL			
15	RQ0911242-06	R0906198-020 DUP	.08	50mL	9012A/CN Tot				50.00mL			
16	RQ0911242-07	R0906198-020 MS	.08	50mL	9012A/CN Tot				50.00mL		0.5000 mL/11016	
17	R0906198-022	MW-315	.08	50mL	9012A/CN Tot				50.00mL			
18	R0906198-023	P-104	.08	50mL	9012A/CN Tot				50.00mL			
19	R0906198-024	NC POND	.08	50mL	9012A/CN Tot				50.00mL			
20	R0906198-025	MW-X	.08	50mL	9012A/CN Tot				50.00mL			
21	R0906198-028	NC-1	.08	50mL	9012A/CN Tot				50.00mL			
22	R0906198-029	NC-2	.08	50mL	9012A/CN Tot				50.00mL			
23	R0906315-001	RFW-4S	.10	50mL	9012A/CN Tot				50.00mL			

Spiking Solutions

Name: Cyanide 10 ppm as CN Inventory ID 11016 Logbook Ref: FRESH PER RUN Expires On: 07/10/2010

Preparation Steps

Step: Distillation
Started: 11/10/09 09:45
Finished: 11/10/09 11:15
By: HLOVEJOY

Preparation Information Benchsheet

Prep Run#: 100449
Team: GenChem/HLOVEJOY

Prep WorkFlow: Gen Dist CN
Prep Method: Method

Status: Prepped
Prep Date/Time: 11/10/09 09:45 AM

Comments: _____

Reviewed By: _____ Date: _____ Spike Witness: RPAWL Date: _____

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Midi-Cyanide Distillation Sheet

Stock ppm: 1016.314

Analyst: H. Lovejoy

Date Std'n: 7/10/09

Date: 11/10/09

10 ppm Spike Solution:

Start: 09:45
End: 11:15

Chiller Temp: 10°C

Date made: 11/10/09

Midi Block #1 Temp: 140°C

mL used: 0.9839

Midi Block #2 Temp: 135°C

Pipette ID: 01 Blue

Balance ID:

Spk Witness: RP

Still #	QC type	Order #	Dist. Vol.	Final Vol.	Method	pH	H2S +/-	Comments
1	Prep Blk		50	50	335.4/9012	NA	-	
2	LCS-LL		50	50	335.4/9012	NA	-	+ 0.5 ml 10 ppm
3	LCS-HL		50	50	335.4/9012	NA	-	+ 2.0 ml 10 ppm
4		R0906359-001	50	50	335.4	12	-	
5		6359-001 DUP	50	50	335.4	12	-	
6		6359-001 SPK	50	50	335.4	12	-	+ 0.5 ml 10 ppm
7		R0906270-001	50	50	9012	12	-	
8		R0906270-002	50	50	9012	12	-	
9		R0906270-003	50	50	9012	12	-	
10		R0906198-019	50	50	9012	12	-	
11		R0906198-020	50	50	9012	12	-	
12		6198-020 DUP	50	50	9012	12	-	
13		6198-020 SPK	50	50	9012	12	-	+ 0.5 ml 10 ppm
14		R0906198-022	50	50	9012	12	-	
15		R0906198-023	50	50	9012	12	-	
16		R0906198-024	50	50	9012	12	-	
17		R0906198-025	50	50	9012	12	-	
18		R0906198-028	50	50	9012	12	-	
19		R0906198-029	50	50	9012	12	-	
20		R0906315-001	50	50	9012	12	-	

Midi-Cyanide Distillation Sheet

Stock ppm:_____

Analyst: A. Lorega

Date Std'n:_____

Date: 11/10/09

10 ppm Spike Solution:

Chiller Temp: 10°C
Midi Block #1 Temp: 140°C
Midi Block #2 Temp: 135°C
Balance ID:_____

Date made:_____
mL used:_____
Pipette ID:_____
Spk wt/mass:

Start: 11:50
End: 13:20

2

Still #	QC type	Order #	Dist. Vol.	Final Vol.	Method	pH	H2S +/-	Comments
1	Prep Blk		50	50	9012	NA	-	
2	LCS-LL		50	50	9012	NA	-	+ 0.5 ml 10 ppm
3	LCS-HL		50	50	9012	NA	-	+ 2.0 ml 10 ppm
4		R0906315-003	50	50	9012	12	-	
5		6315-003 DUP	50	50	9012	12	-	
6		6315-003 SPK	50	50	9012	12	-	+ 0.5 ml 10 ppm
7		R0906315-005	50	50	9012	12	-	
8		R0906315-007	50	50	9012	12	-	
9		R0906315-009	50	50	9012	12	-	
10		R0906315-011	50	50	9012	12	-	
11		R0906315-014	50	50	9012	12	-	
12		R0906315-016	50	50	9012	12	-	
13		R0906315-018	50	50	9012	12	-	
14		R0906315-020	50	50	9012	12	-	
15		6315-020 DUP	50	50	9012	12	-	
16		6315-020 SPK	50	50	9012	12	-	+ 0.5 ml 10 ppm
17		R0906315-022	50	50	9012	12	-	
18		R0906315-024	50	50	9012	12	-	
19		R0906315-026	50	50	9012	12	-	
20		R0906315-028	50	50	9012	12	-	

Midi-Cyanide Distillation Sheet

Stock ppm:

Date Std'n:

10 ppm Spike Solution:

Date made:

mL used:

Pipette ID:

Start: 14:45
End: 16:15

Analyst: H Lovejoy

Date: 11/10/09

Chiller Temp: 11 C
Midi Block #1 Temp: 140°C
Midi Block #2 Temp: 135°C
Balance ID:

spk witness:

3

Still #	QC type	Order #	Dist. Vol.	Final Vol.	Method	pH	H2S +/-	Comments
1		R0906315-031	50	50	9012	12	-	
2		6315-031 DUP	50	50	9012	12	-	
3		6315-031 SPK	50	50	9012	12	-	+ 0.5 ml 10 ppm
4		R0906315-033	50	50	9012	12	-	
5		R0906315-035	50	50	9012	12	-	
6		R0906315-037	50	50	9012	12	-	
7		R0906315-039	50	50	9012	12	-	
8		R0906315-041	50	50	9012	12	-	
9	Prep Blk		1.0	50	9012	NA	-	
10	LCS-LL		1.0	50	9012	NA	-	+ 0.5 ml 10 ppm
11	LCS-HL		1.0	50	9012	NA	-	+ 2.0 ml 10 ppm
12		R0906252-001	1.11	50	9012	NA	-	
13		R0906252-002	1.00	50	9012	NA	-	
14		R0906252-003	1.13	50	9012	NA	-	
15		R0906403-002	1.09	50	9012	NA	-	
16		R0906403-003	1.04	50	9012	NA	-	
17		R0906403-004	1.02	50	9012	NA	-	
18		6403-004 DUP	1.02	50	9012	NA	-	
19		6403-004 SPK	1.04	50	9012	NA	-	+ 0.5 ml 10 ppm
20			[initials]	11/10/09				

Calibration results AquaKem 6.5 Page: 1

Columbia Analytical Services
Rochester, NY 14607
Analyst: H.Lovejoy
Pipette: 010506

11.11.2009 16:07

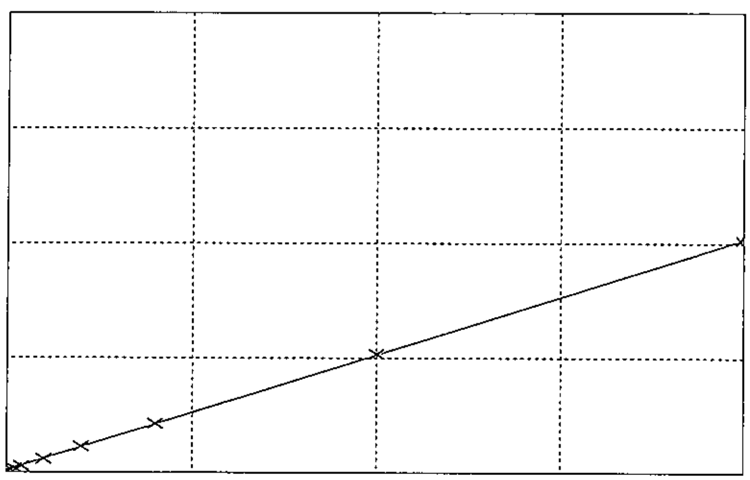
Test TCN

Accepted 11.11.2009 16:07

Factor 0.99268
Bias 0.00939

Coeff. of det. 0.999928

Errors



	Calibrator	Response	Calc. con.	Conc.	Errors
1	CN-0.00	0.00695	-0.00243	0.00000	
2	CN-0.01	0.01756	0.00811	0.01000	
3	CN-0.02	0.02745	0.01792	0.02000	
4	CN-0.05	0.05891	0.04916	0.05000	
5	CN-0.10	0.11314	0.10299	0.10000	
6	CN-0.20	0.21350	0.20262	0.20000	
7	CN-0.50	0.51780	0.50468	0.50000	
8	CN-1.00	1.01368	0.99694	1.00000	
9	1 ICV-TCN(contr	0.51224	0.49917	0.50000	
10	2 ICB-TCN(contr	0.00766	-0.00172	0.00000	

==

Columbia Analytical Services
Rochester, NY 14607
Analyst: H.Weyay
Pipette: 01 Blue

Date : 2009-11-11
Time : 17.48

Test : TCN
Unit : mg/L

Sample	Result	Date and Time	Note	Dilut
1 ICV-TCN	0.49917	2009-11-11 15.59		
2 ICB-TCN	-0.00172	2009-11-11 15.59		
3 CCV-TCN	0.48944	2009-11-11 16.40		
4 CCB-TCN	-0.00260	2009-11-11 16.40		
PB 1	-0.00233	2009-11-11 16.40		
LCS-LL 1	0.09035	2009-11-11 16.40		
LCS-HL 1	0.40489	2009-11-11 16.40		
R0906359-001	-0.00099	2009-11-11 16.40		
6359-001 DUP	-0.00141	2009-11-11 16.40		
6359-001 SPK	0.08727	2009-11-11 16.40		
R0906270-001	-0.00298	2009-11-11 16.40		
R0906270-002	-0.00300	2009-11-11 16.40		
R0906270-003	-0.00295	2009-11-11 16.40		
R0906198-019	-0.00155	2009-11-11 16.48		
3 CCV-TCN	0.49346	2009-11-11 16.48		
4 CCB-TCN	-0.00217	2009-11-11 16.48		
R0906198-020	-0.00281	2009-11-11 16.48		
6198-020 DUP	-0.00263	2009-11-11 16.48		
6198-020 SPK	0.09391	2009-11-11 16.48		
R0906198-022	-0.00273	2009-11-11 16.48		
R0906198-023	-0.00176	2009-11-11 16.48		
R0906198-024	-0.00273	2009-11-11 16.48		
R0906198-025	-0.00117	2009-11-11 16.48		
R0906198-028	-0.00162	2009-11-11 16.48		
R0906198-029	-0.00230	2009-11-11 16.55		
R0906315-001	-0.00185	2009-11-11 16.55		
3 CCV-TCN	0.49928	2009-11-11 16.55		
4 CCB-TCN	-0.00224	2009-11-11 16.55		
PB 2	-0.00169	2009-11-11 16.55		
LCS-LL 2	0.10239	2009-11-11 16.55		
LCS-HL 2	0.38691	2009-11-11 16.55		
R0906315-003	-0.00205	2009-11-11 16.55		
6315-003 DUP	-0.00248	2009-11-11 16.55		
6315-003 SPK	0.09213	2009-11-11 16.55		
R0906315-005	-0.00242	2009-11-11 16.55		
R0906315-007	-0.00265	2009-11-11 17.03		
R0906315-009	-0.00206	2009-11-11 17.03		
R0906315-011	-0.00214	2009-11-11 17.03		
3 CCV-TCN	0.50921	2009-11-11 17.03		
4 CCB-TCN	-0.00228	2009-11-11 17.03		
R0906315-0~~1~~14	-0.00088	2009-11-11 17.03		
R0906315-016	-0.00239	2009-11-11 17.03		
R0906315-018	-0.00230	2009-11-11 17.03		
R0906315-020	-0.00269	2009-11-11 17.03		
6315-020 DUP	-0.00277	2009-11-11 17.03		
6315-020 SPK	0.08713	2009-11-11 17.03		
R0906315-022	-0.00274	2009-11-11 17.10		
R0906315-024	-0.00258	2009-11-11 17.10		
R0906315-026	-0.00255	2009-11-11 17.10		
R0906315-028	-0.00194	2009-11-11 17.10		
3 CCV-TCN	0.50690	2009-11-11 17.10		

Columbia Analytical Services
Rochester, NY 14607
Analyst: H. Lowery
Pipette: 01 Blue

Date : 2009-11-11
Time : 17.48

Test : TCN
Unit : mg/L

Sample	Result	Date and Time	Note	Dilut
4 CCB-TCN	-0.00193	2009-11-11 17.10		
R0906315-031	-0.00152	2009-11-11 17.10		
6315-031 DUP	-0.00164	2009-11-11 17.10		
6315-031 SPK	0.09571	2009-11-11 17.10		
R0906315-033	-0.00216	2009-11-11 17.10		
R0906315-035	-0.00067	2009-11-11 17.10		
R0906315-037	-0.00269	2009-11-11 17.18		
R0906315-039	-0.00207	2009-11-11 17.18		
R0906315-041	-0.00267	2009-11-11 17.18		
PB 3	-0.00260	2009-11-11 17.18		
LCS-LL 3	0.09945	2009-11-11 17.18		
3 CCV-TCN	0.51470	2009-11-11 17.18		
4 CCB-TCN	-0.00145	2009-11-11 17.18		
LCS-HL 3	0.39564	2009-11-11 17.18		
R0906252-001	0.00694	2009-11-11 17.18		
R0906252-002	-0.00079	2009-11-11 17.18		
R0906252-003	0.01559	2009-11-11 17.18		
R0906403-002	-0.00258	2009-11-11 17.22		
R0906403-003	-0.00279	2009-11-11 17.22		
R0906403-004	-0.00276	2009-11-11 17.22		
6403-004 DUP	-0.00241	2009-11-11 17.22		
6403-004 SPK	0.10030	2009-11-11 17.22		
3 CCV-TCN	0.53364	2009-11-11 17.25		
4 CCB-TCN	-0.00240	2009-11-11 17.25		
3 CCV-TCN	0.51948	2009-11-11 17.41		
4 CCB-TCN	-0.00227	2009-11-11 17.41		
R0906252-003	0.01694	2009-11-11 17.41	repeated for confirmation only	
3 CCV-TCN	0.53485	2009-11-11 17.43		
4 CCB-TCN	-0.00234	2009-11-11 17.43		

Columbia Analytical Services
1 Mustard St., Rochester NY

General Chemistry Analytical Run Cover Sheet

Analyst: H. Lovejoy Distillation Date: 11/10/09

Analysis: Total Cyanide Instrument: AquaKem 200 Analyzer Date:

Quality Control:

	Same as Log #, Date	Stock Sol (mLs)	Stock Sol (mg/L)	Final Vol mLs	True Value (mg/L)
a) Stds. Prep. :	WC85134D, 4/3/08				
10 ppm Working Stock:	WC85134B, 4/3/08	0.9839	1016.371	100	10.0
b) I/CCV (Ref.) Prep.:	WC92067D, 8/20/09	0.5	10	10	0.500
10 ppm Working Stock:	WC85134C, 4/3/08	0.98	1020.365	100	10.0
c) LCS (water) Prep:	WC69160D , 8/02/04	2.0	10	50	0.4
LCS (water) Prep:	WC69160C , 8/02/04	0.5	10	50	0.1
LCS (soil) Prep. :	WC69160D , 8/02/04	2.0	10	~1 g.	~ 20 (see bench sheet)
LCS (soil) Prep:	WC69160C , 8/02/04	0.5	10	~1 g.	~ 5 (see bench sheet)
d) Mtx Spk (water) Prep:	WC69160E , 8/02/04	0.5	10	50	0.1
Mtx Spk (soil) Prep:	WC69160E , 8/02/04	0.5	10	~1 g.	~5 (see bench sheet)

Method Reference: 335.2 EPA 600; 9010A,9012 EPA SW-846; 335.2 CLP-M NYSASP

Instrument log filled in? (Y) (N)

Stock Prep:
1000 mg/L TCN Std. Stock prepared 7/10/09, WC92037C, standardized 7/10/09, WC91033A
1000 mg/L TCN Ref. Stock prepared 7/10/09, WC92037D, standardized 7/10/09, WC91033B

10 mg/L Std. And Ref. working stocks are prepared weekly using the above stock solutions, diluting to volume with 0.25N NaOH

0.25N NaOH, fresh daily: 26.14 mL 50% w/w NaOH WCC85271B diluted to 2L with DI

Reagents, Distillation:	**Log Book #**	**Comments**
Sulfamic Acid	WC92104D	
Sulfuric Acid, 1:1	WC923	
Magnesium Chloride	WC92093C	
Calcium Hypochlorite	NA	
Ascorbic Acid	NA	
Acetate Buffer	NA	
Zinc Acetate	NA	
Acetic Acid	NA	
Cadmium Carbonate	NA	
Anti-foam	NA	

Reagents, Autoanalyzer:		
Buffer		
Pyridine Barbituric Acid		

Chloramine-T, fresh daily: 2.00 g Chloramine-T WC76197G diluted to 200 mL with DI

Comments:

4/3/08 (A) 0.25N NaOH

26.14 mls conc. NaOH (WC85011C) → Liter w/ DI.
Fresh per run.

(B) 10ppm TCN Std. Stock

1.022 mls of the 978.432 ppm TCN Std. Stock (WC85007E)
→ 100 mls w/ 0.25N NaOH (WC85134A)

(C) 10ppm TCN Ref. Stock

1.002 mls of the 998.4 ppm TCN Ref. Stock (WC85007F)
→ 100 mls w/ 0.25N NaOH (WC85134A)

(D) TCN Calibration Stds. Fresh per run

conc.	mls 10ppm TCN Std. Stock (WC85134B)	mls 0.25N NaOH
1.00	1.0	9.0
0.50	0.50	9.50
0.20	0.20	9.80
0.10	1/10 dilution of 1.00 ppm Std	
0.05	1/10 dilution of 0.50 ppm Std	
0.02	1/10 dilution of 0.20 ppm Std	
0.01	1/10 dilution of 0.10 ppm Std	
0.00	0.00	10.0

(E) ICV/CCV TV=0.70 Fresh per run

0.70 mls 10ppm TCN Ref. Stock (WC85134C) + 9.30 mls
0.25N NaOH (WC85134A)

4/3/08 Nm (F) NH_3 Carrier/Diluent

-Same as WC85073F. Prepared solution x 3.

(G) Hypochlorite - NH_3

-Same as WC85109F. Prepare fresh each run.

4/3/08 (F) Iodide-Iodate Titrant - Sulfite

[illegible] g KIO_3 (WC85016E) + 4.25g KI (WC76272E) + 0.310g $NaHCO_3$ (WC76115E)
dissolved in DI in 1L volumetric flask and brought to volume. Store at 4°C exp 4/3/09

(G) Ascorbic Acid - Konelab

Same as WC85113C Store at 4°C exp 2 weeks 4/17/08

4/3/08 AB Received [illegible]
(A) (?) x [illegible]
CPI [illegible]
(B) (4) x 2[illegible]
CPI L[illegible]

Received [illegible]
(C) (1) x [illegible]
Orion [illegible]
431-[illegible]
Expire[illegible]

4/4/08 Nm (D) Post-Di[illegible]
To a 2-L[illegible]
(WC85133E[illegible]
Pour off 10[illegible]
w/UPDI. [illegible]

(E) Hypochlori[illegible]
-same as [illegible]

4/4/08 Nm (F) Color Re[illegible]
To a [illegible]
-75.0g [illegible]
-0.50g S[illegible]
-454g Ur[illegible]
Stir until [illegible]

(G) Buffer - T[illegible]
-same as W[illegible]

4/8/08 Nm (H) Post-Dig[illegible]
-same as S[illegible]

(I) Hypochlo[illegible]
-same as

8/2/04 CMW

TCN Distillation

Ⓐ 0.25N NaOH
- 40.0mLs NaOH (WC69074F, EM Lot # 3321) → 2 Liters w/ DI. Make fresh each run.

Ⓑ TCN 10ppm working stock (for LCS/MS/STANDARDS)
- 1.020mL TCN Std. Stock #1 (WC69154D), Standardization WC71016A → 100mL w/ 0.25 NaOH (WC69160A), Prepare fresh weekly. Store in amber glass @ 4°C.

Ⓒ TCN Low Level LCS:
Add 0.50mL 10ppm working Standard Stock (WC69160B) to 50mL DI. TV = 0.100ppm. For soils, add 1.0g Ottawa sand to 50.0mL DI and 0.50mL 10ppm Standard working stock (WC69160B). TV = 5.0ppm.

Ⓓ TCN High Level LCS:
Add 2.0mL 10 ppm Standard working stock (WC69160B) to 50mL DI. TV = 0.400ppm. For soils, add 1.0g Ottawa sand to 50mL DI and 2.0mL 10ppm Standard working stock (WC69160B). TV = 20.0ppm.

Ⓔ TCN Matrix Spike
Add 0.50mLs 10ppm Standard Working Stock (WC69160B) to 50.0mL sample. TV = 0.100ppm. For soils, 1.0g sample to 50.0mL DI and 0.50mL 10ppm Standard working stock (WC69160B). TV = 5.0ppm

Ⓕ TCN 10ppm Reference Working Stock
Add 1.002mL TCN Ref. Stock #2 (WC69154E) Standardization WC71016B → 100mls w/ 0.25N NaOH (WC69160A) Prep fresh weekly. Store in Amber glass @ 4°C.

CMW 8/2/04

8/2/04 CMW

Ⓐ TCN AA
Conc. (mg/L)
0.500
0.400
0.300
0.200
0.100
0.050
0.020
0.010
0.000

Ⓑ CCV/IC
- Add 0.3m to 9.7mLs 10 samples

8/3/04 CB Ⓒ TDS Refere
0.9120g Na DI H_2O [Vol Bottle @ 4

8/3/04 GN Ⓓ Post - A Same a

8/3/04 CMW Ⓔ 10% Ph Same a

8/3/04 CMW Ⓕ Phenols
- Same a

8/3/04 JJT Ⓖ Rec'd Ext - Sam

8/4/04 DK Ⓗ Total S.
400.00
DI
glass

TITLE

PROJECT

Continued from page

7/9/09 (A) 0.02500 N Iodine
[initials]
In a 1L vol flask dissolve 20.25g KI (WCES285J) in ~500ml DI. Add 3.2g Iodine (WCES262G) and bring to volume with DI. Stir until dissolved. Store in amber glass at 4°C. Exp 7/9/10. Standardized with each run.

7/10/09 (B) Ascorbic Acid - TPO4
GN
— Same as WC92004A . Exp 1wk 7/17/09

7/10/09 (C) 1000ppm TCN Stock #1: Standard Stock
BB
To a tared 500mL volumetric flask, add:
1.26g KCN (WC76005C)
1.00g KOH (WC76005D)
~400mL DI
Dissolve and bring to volume w/DI. Standardize, and store @ 4°C in amber glass. Expires 7/10/10.

(D) 1000ppm TCN Stock #2: Reference Stock
To a tared 500mL volumetric flask, add
1.26g KCN (WC76007B)
1.00g KOH (WC76005D)
~400mL DI
Dissolve and bring to volume w/DI. Standardize, and store @ 4°C in amber glass. Expires 7/10/10.

(E) 0.0192N $AgNO_3$
To a 500mL volumetric flask, add ~400mL DI and 1.6324g $AgNO_3$ (WC85285D) which has been dried @ 104°C for 1 hour and stored in a dessicator. Mix to dissolve, then bring to volume w/DI. Use to standardize TCN Stocks. Prepare fresh each use.

7/10/09 (F) TSS Reference
0.2150g Kaolin (WC69285G) brought to 1000g w/ DI.
Store in Plastic bottle @ 4°C.
TV = 215 mg/L Exp: 6/2/10 (10877)

SIGNATURE DATE Continued to page

DISCLOSED TO AND UNDERSTOOD BY DATE

7/10/09 TCN Stock Standardization

BB (A) Std'n of 1000ppm Stock #1 (WC92037C)

Trial #	mLs Stock #1	mLs 0.0192N $AgNO_3$ (WC92037E)	-BIK
BIK	0.0	0.03	-
1	5.0	5.13	5.10
2	5.0	5.11	5.08
3	5.0	5.12	5.09

$\bar{x}$ = 5.09 mLs

$mg/L\ CN^- = \frac{(5.09mL)(0.0192N)(52)(1000)}{5.0\ mL\ Stock\ \#1} = 1016.3712$

Dil'n Factor: $1000/1016.3712 = 0.9839\ mL \rightarrow 100\ mL$ for 10 ppm

(B) Std'n of 1000ppm Stock #2 (WC92037D)

Trial #	mLs Stock #2	mLs 0.0192N $AgNO_3$ (WC92037E)	-BIK
BIK	0.0	0.03	-
1	5.0	5.14	5.11
2	5.0	5.14	5.11
3	5.0	5.14	5.11

$\bar{x}$ = 5.11 mLs

$mg/L\ CN^- = \frac{(5.11mL)(0.0192N)(52)(1000)}{5.0\ mL\ Stock\ \#2} = 1020.3648$

Dil'n Factor: $1000/1020.3648 = 0.9800\ mL \rightarrow 100\ mL$ for 10 ppm

TITLE PROJECT

Continued from page

8/20/09 EW (A) TDS Reference
0.9153g NaCl (WC85215H) diluted volumetrically to 1 liter w/ DI. Store in plastic bottle @ 4°C
TV = 915 mg/L Exp 8/20/10 (11634)

8/20/09 NM (B) Color Reagent - TKN
- same as WC92059G. Exp 1 month, 9/20/09.

(C) NH3 Carrier/Diluent
To a 2 liter plastic bottle add:
- 998g UPDI
- 3.68g conc. insta-analyzed H_2SO_4 (WC92064B)
Prepared solution x4.

8/20/09 As of 8/18/09 for Kenelab.

(D) ICV/CCV TCN TV = 0.50
0.50 mls 10ppm TCN Ref Stock (WCr5134C) + 9.50 mls 0.25N NaOH (WCr5134H)
9.50 mls 8/20/09

(E) ICV/CCV CrO_4^{-2} TV = ~~0.45~~ 0.45 mls 8/20/09
0.25 mls 1.8ppm CrO_4 Ref Stock (WCr5136G) + 9.75 mls UPDI

(F) ICV/CCV CrO_4 TV = ~~0.45~~ 0.36 ctm 8/20/09
~~0.25 ml~~ 0.20ml 18.0ppm CrO_4 Ref Stock (WCr5136F) + ~~9.75~~ 9.80 mls UPDI

(G) ICV/CCV NO_2 TV = 0.45
0.25ml 18.0ppm NO_2 Ref Stock (1/10 dil of ~~WCr5135B~~ WC92CC 1G 8/20/09) + 9.75mls UPDI

(H) ICV/CCV Cr^{+6} TV = 0.25
0.25mls 10ppm Cr^{+6} Ref Stock (WCr5129G) + 9.75 mls UPDI

(I) ICV/CCV NH_3 TV = 0.10
0.50mls 18.0ppm NH_3 Reference Stock (1/10 dil of WCr5257G) + 9.50mls diluent (WC92045D)

8/20/09 NMead (J) ICV/CCV TKN's (TV=4.00)
9.9mls PDMM + 0.1 mls 400ppm Reference working stock (WC92420C)

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE PROPRIETARY INFORMATION

Analytical Results Summary

Instrument Name: R-Discrete-01 **Analyst:** HLOVEJOY **Analysis Lot:** 177699 **Method/Testcode:** 353.2/NO2 3 RUNS

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
RQ0910879-02	Nitrite as Nitrogen	MB		Water	0.01 mg/L	10 mL	0.010 mg/L U	1	0.010			11/3/09 20:08:00	N	IV
RQ0910879-01	Nitrite as Nitrogen	LCS		Soil	0.24 mg/L	10 mL	0.238 mg/L	1	0.010	95		11/3/09 20:08:00	N	IV
RQ0910879-03	Nitrite as Nitrogen	LCS		Water	0.24 mg/L	10 mL	0.238 mg/L	1	0.010	95		11/3/09 20:08:00	N	IV
RQ0910788-01	Nitrite as Nitrogen	MB		Soil	0.00 mg/L	10 mL	0.010 mg/L U	1	0.010			11/3/09 20:08:00	N	IV
R0906056-001	Nitrite as Nitrogen	N/A		Soil	0.01 mg/L	10 mL	0.010 mg/L U	1	0.010			11/3/09 20:08:00	N	IV
R0906056-003	Nitrite as Nitrogen	N/A		Soil	0.01 mg/L	10 mL	0.010 mg/L U	1	0.010			11/3/09 20:08:00	N	IV
R0906056-005	Nitrite as Nitrogen	N/A		Soil	0.01 mg/L	10 mL	0.010 mg/L U	1	0.010			11/3/09 20:08:00	N	IV
R0906056-007	Nitrite as Nitrogen	N/A		Soil	0.01 mg/L	10 mL	0.010 mg/L U	1	0.010			11/3/09 20:08:00	N	IV
R0906095-020	Nitrite as Nitrogen	N/A		Water	0.01 mg/L	10 mL	0.010 mg/L U	1	0.010			11/3/09 20:09:00	N	IV
R0906270-001	Nitrite as Nitrogen	N/A		Water	0.01 mg/L	10 mL	0.010 mg/L U	1	0.010			11/3/09 20:09:00	N	IV
RQ0910879-04	Nitrite as Nitrogen	DUP	R0906270-001	Water	0.01 mg/L	10 mL	0.010 mg/L U	1	0.010		NA	11/3/09 20:09:00	N	IV
RQ0910879-05	Nitrite as Nitrogen	MS	R0906270-001	Water	0.25 mg/L	10 mL	0.252 mg/L	1	0.010	101		11/3/09 20:09:00	N	IV
R0906270-002	Nitrite as Nitrogen	N/A		Water	0.01 mg/L	10 mL	0.008 mg/L J	1	0.010			11/3/09 20:15:00	N	IV
R0906270-003	Nitrite as Nitrogen	N/A		Water	0.01 mg/L	10 mL	0.010 mg/L U	1	0.010			11/3/09 20:15:00	N	IV
R0906276-001	Nitrite as Nitrogen	N/A		Water	0.01 mg/L	10 mL	0.010 mg/L U	1	0.010			11/3/09 20:15:00	N	IV
RQ0910879-06	Nitrite as Nitrogen	DUP	R0906276-001	Water	0.01 mg/L	10 mL	0.010 mg/L U	1	0.010		NA	11/3/09 20:15:00	N	IV
RQ0910879-07	Nitrite as Nitrogen	MS	R0906276-001	Water	0.24 mg/L	10 mL	0.243 mg/L	1	0.010	97		11/3/09 20:15:00	N	IV
R0906276-003	Nitrite as Nitrogen	N/A		Water	0.02 mg/L	10 mL	0.019 mg/L	1	0.010			11/3/09 21:00:00	N	IV
R0906276-005	Nitrite as Nitrogen	N/A		Water	0.01 mg/L	10 mL	0.014 mg/L	1	0.010			11/3/09 20:16:00	N	IV
R0906276-007	Nitrite as Nitrogen	N/A		Water	0.01 mg/L	10 mL	0.010 mg/L U	1	0.010			11/3/09 20:16:00	N	IV
R0906276-009	Nitrite as Nitrogen	N/A		Water	0.01 mg/L	10 mL	0.010 mg/L U	1	0.010			11/3/09 20:16:00	N	IV
R0906276-011	Nitrite as Nitrogen	N/A		Water	0.01 mg/L	10 mL	0.010 mg/L U	1	0.010			11/3/09 21:00:00	N	IV

R5963 R6270 R6056 R6276 R6095 R5744 R5882 TCQA

Reviewed & Approved
By: CK
Date: 11/6/09

00893

ǃ indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Columbia Analytical Services
Rochester, NY 14607
Analyst: MLovejoy
Pipette: 01 Blue

03.11.2009 19:48

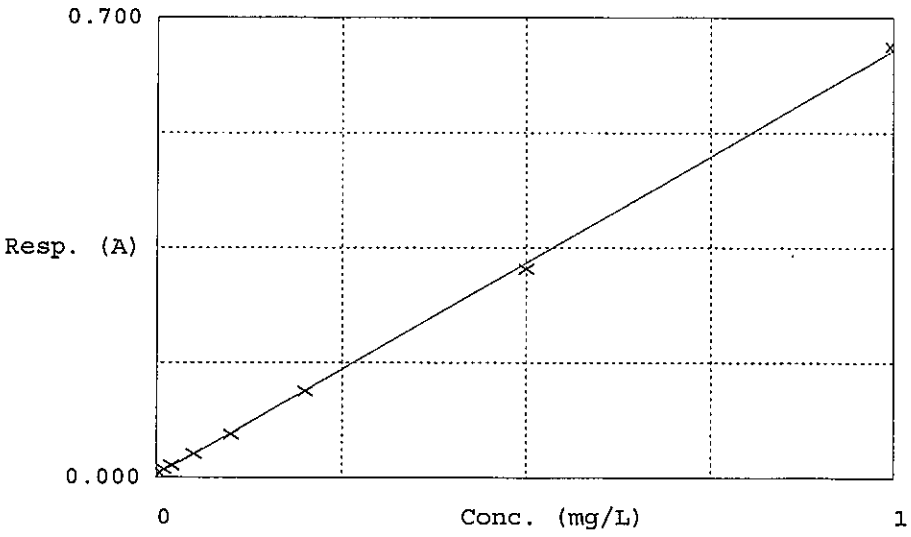
Test NO2

Accepted 03.11.2009 19:48

Factor 1.54547
Bias 0.00360

Coeff. of det. 0.999606

Errors



	Calibrator	Response	Calc. con.	Conc.	Errors
1	NO2-0.00	0.00686	0.00503	0.00000	
2	NO2-0.01	0.01260	0.01391	0.01000	
3	NO2-0.02	0.01870	0.02334	0.02000	
4	NO2-0.05	0.03618	0.05035	0.05000	
5	NO2-0.10	0.06581	0.09614	0.10000	
6	NO2-0.20	0.13149	0.19766	0.20000	
7	NO2-0.50	0.31786	0.48568	0.50000	
8	NO2-1.00	0.65576	1.00789	1.00000	
9	1 ICV-NO2(contr	0.30157	0.46050	0.45000	
10	2 ICB-NO2(contr	0.00646	0.00442	0.00000	

Columbia Analytical Services
Rochester, NY 14607
Analyst: H. Lovejoy
Pipette: orBlue

Date : 2009-11-03
Time : 21.54

Test : NO2
Unit : mg/L

Sample	Result	Date and Time	Note	Dilut
1 ICV-NO2	0.4605	2009-11-03 19.47		
2 ICB-NO2	0.0044	2009-11-03 19.47		
3 CCV-NO2	0.4513	2009-11-03 20.08		
4 CCB-NO2	0.0050	2009-11-03 20.08		
LCS NO2	0.2384	2009-11-03 20.08		
10788-01 MB SPLP	0.0046	2009-11-03 20.08		
R0906056-001	0.0061	2009-11-03 20.08		
R0906056-003	0.0056	2009-11-03 20.08		
R0906056-005	0.0052	2009-11-03 20.08		
R0906056-007	0.0053	2009-11-03 20.08		
R0906095-020	0.0052	2009-11-03 20.09		
R0906270-001	0.0067	2009-11-03 20.09		
6270-001 DUP	0.0060	2009-11-03 20.09		
6270-001 SPK	0.2520	2009-11-03 20.09		
3 CCV-NO2	0.4458	2009-11-03 20.15		
4 CCB-NO2	0.0050	2009-11-03 20.15		
R0906270-002	0.0076	2009-11-03 20.15		
R0906270-003	0.0052	2009-11-03 20.15		
R0906276-001	0.0061	2009-11-03 20.15		
6276-001 DUP	0.0058	2009-11-03 20.15		
6276-001 SPK	0.2433	2009-11-03 20.15		
R0906276-003	0.0436	2009-11-03 20.15	repeated. did not confirm.	
R0906276-005	0.0141	2009-11-03 20.16		
R0906276-007	0.0055	2009-11-03 20.16		
R0906276-009	0.0087	2009-11-03 20.16		
R0906276-011	0.1526	2009-11-03 20.16	repeated. did not confirm.	
3 CCV-NO2	0.4473	2009-11-03 20.22		
4 CCB-NO2	0.0052	2009-11-03 20.22		
LCS NO2 2	0.2431	2009-11-03 20.22		
LCS NO2 3	0.2410	2009-11-03 20.22		
10747-01 MB	0.0053	2009-11-03 20.22		
R0905744-001	0.0057	2009-11-03 20.22		
R0905744-002	0.0063	2009-11-03 20.22		
R0905744-003	0.0060	2009-11-03 20.22		
R0905744-004	0.0044	2009-11-03 20.23		
R0905744-005	0.0063	2009-11-03 20.23		
R0905744-006	0.0029	2009-11-03 20.23		
R0905744-007	0.0029	2009-11-03 20.23		
3 CCV-NO2	0.4450	2009-11-03 20.29		
4 CCB-NO2	0.0039	2009-11-03 20.29		
5744-007 DUP	0.0030	2009-11-03 20.29		
5744-007 SPK	0.2222	2009-11-03 20.29		
R0905744-008	0.0060	2009-11-03 20.29		
R0905744-009	0.0045	2009-11-03 20.29		
R0905744-012	0.0350	2009-11-03 20.29		
R0905744-013	0.0056	2009-11-03 20.29		
LCS NO2 4	0.2394	2009-11-03 20.30		
LCS NO2 5	0.2414	2009-11-03 20.30		
10845-01 MB	0.0059	2009-11-03 20.30		
R0905882-024	0.0039	2009-11-03 20.30		
3 CCV-NO2	0.4472	2009-11-03 20.36		

Columbia Analytical Services
Rochester, NY 14607
Analyst: H.Lovejoy
Pipette: 01 Blue

Date : 2009-11-03
Time : 21.54

Test : NO2
Unit : mg/L

Sample	Result	Date and Time	Note	Dilut
4 CCB-NO2	0.0050	2009-11-03 20.36		
R0905882-025	0.0041	2009-11-03 20.36		
R0905963-001	0.0222	2009-11-03 20.36		
5963-001 DUP	0.0236	2009-11-03 20.36		
5963-001 SPK	0.2713	2009-11-03 20.36		
R0905963-002	0.0099	2009-11-03 20.36		
R0905963-003	0.0023	2009-11-03 20.36		
R0905963-004	0.0044	2009-11-03 20.37		
R0905963-005	0.0061	2009-11-03 20.37		
R0905963-006	0.0027	2009-11-03 20.37		
R0905963-007	0.0010	2009-11-03 20.37		
3 CCV-NO2	0.4465	2009-11-03 20.41		
4 CCB-NO2	0.0041	2009-11-03 20.41		
R0905963-010	0.0052	2009-11-03 20.41		
R0905963-011	0.0015	2009-11-03 20.41		
R0905963-012	0.0336	2009-11-03 20.41 repeated did not confirm.		
R0905963-013	0.1624	2009-11-03 20.41 ↓		
3 CCV-NO2	0.4487	2009-11-03 20.42		
4 CCB-NO2	0.0036	2009-11-03 20.42		
3 CCV-NO2	0.4504	2009-11-03 21.00		
4 CCB-NO2	0.0038	2009-11-03 21.00		
R0906276-003	0.0194	2009-11-03 21.00 repeated then reported		
R0906276-005	0.0147	2009-11-03 21.00 confirmation only		
R0906276-011	0.0077	2009-11-03 21.00 repeated then reported		
R0905744-012	0.0358	2009-11-03 21.00 confirmation only		
R0905963-012	0.0101	2009-11-03 21.00 repeated then reported		
R0905963-013	0.0211	2009-11-03 21.00 repeated did not confirm		
3 CCV-NO2	0.4435	2009-11-03 21.03		
4 CCB-NO2	0.0040	2009-11-03 21.03		
3 CCV-NO2	0.4467	2009-11-03 21.30		
4 CCB-NO2	0.0031	2009-11-03 21.30		
R0906276-003	0.0190	2009-11-03 21.30 } confirmation only		
R0906276-011	0.0067	2009-11-03 21.30 }		
R0905963-012	0.0104	2009-11-03 21.30 }		
R0905963-013	0.0055	2009-11-03 21.30 repeated then reported		
3 CCV-NO2	0.4424	2009-11-03 21.32		
4 CCB-NO2	0.0028	2009-11-03 21.32		
3 CCV-NO2	0.4524	2009-11-03 21.50		
4 CCB-NO2	0.0074	2009-11-03 21.50		
R0905963-013	0.0045	2009-11-03 21.50		
3 CCV-NO2	0.4512	2009-11-03 21.53		
4 CCB-NO2	0.0039	2009-11-03 21.53		

Columbia Analytical Services
1 Mustard St., Rochester NY 14609

General Chemistry Analytical Run Cover Sheet

Analyst: H.Lovejoy Date: 11/3/09

Analysis: Nitrite Instrument: Aquakem

Quality Control:

	Same as Log#, Date,	Stocks Prep. Log#, Date,	Stock Sol (mLs)	Stock Sol (mg/L)	Final Vol (mLs)	True Value (mg/L)
a) Standards Prep.:	WC65144E, 3/5/03	WC72002F, 1/26/09				
b) ICV Preparation:	WC92067G, 8/20/09	WC72007G, 1/26/09	0.25	18	10	0.45
c) LCS Preparation:	WC65144G, 3/5/03	WC72002F, 1/26/09	0.25	10	10	0.25
d) Matrix Spike Prep.:	WC65144G, 3/5/03	WC72002F, 1/26/09	0.25	10	10	0.25

Instrument log filled in? (Y) (N)

Packages: Copy and attach Standards Preparation

Comments:

Production:

	Start Time	End Time	Total (minutes)
Preparation Time :			
Analytical Time:			
Finish Time:			

# of Samples (including Mtx QC): _____
Repeats due to Sample: _____
Repeats due to Error: _____

p:\greg\forms\cover.no2

REFERENCE (ICV / CCV) STOCK PREP

(Fluoride and Bromide are purchased 1000ppm standards)

Reviewed & Approved
By: CK SJ / CK SB
Date: 10/6/06 5/16/07 / 9/10/07 7/16/08 SJ 10/23/08

Chloride 650ppm Stock: 1.070g NaCl crystals dried for 2 hrs at 104 . Dissolve in approx. 800mls DI in 1 Liter volumetric flask. Bring to volume with DI water. Store in amber jar @ room temp. for 1 year.

ID Letter	NaCl Source	Analyst	Date Prepared	Date Expires	Final Cl Reference Stock ID
A					
B					
C					
D					
E					

Nitrite 180ppm Stock: 1.09g KNO2 previously dried for 2 hrs at 104 . Dissolve in approx. 800mls DI in 1 Liter volumetric flask. Bring to volume with DI water. Store in amber jar @ 4 for 1 year.

ID Letter	KNO2 Source	Analyst	Date Prepared	Date Expires	Final NO2 Reference Stock ID
F	WC760970	NM	1/31/08	1/31/09	WC72007F (3902)
G	WC850940	AR	1/26/09	1/26/10	WC72007G (7740)
H					
I					
J					

Nitrate 180ppm Stock: 1.30g KNO3 crystals dried for 2 hrs at 104 . Dissolve in approx. 800mls DI in 1 Liter volumetric flask. Bring to volume with DI water. Transfer to amber jar and add 1.0ml Chloroform. Store in amber jar @ room temp. for 6 months.

CK 10/5/06

ID Letter	~~KNO2~~ Source KND3	Chloroform Source ID	Analyst	Date Prepared	Date Expires	Final NO3 Reference Stock ID
K	WC76115G	WC76170J	FN	10/5/06	4/5/07	WC72007K
L	WC76115G1	WC76234A	FN	3/26/07	9/26/07	WC72007L
M	WC76115G	WC76234A	NM	9/21/07	3/21/08	WC72007M
N	WC76115G	WC76234A	CMW	3/25/08	9/25/08	WC72007N
O						

OPO4 180ppm Stock: 0.7909g granular KH2PO4 dried for 2 hrs at 104 . Dissolve in approx. 800mls DI in 1 Liter volumetric flask. Bring to volume with DI water. Store in amber jar @ 4 for 1 year.

ID Letter	KH2PO4 Source	Analyst	Date Prepared	Date Expires	Final OPO4/TPO4 Reference Stock ID
P	WC 65 196E	TC	2/23/07	11/3/07	WC72007P
Q	WC850546	AB	11/30/07	11/30/08	WC72007Q
R	WC850856	RP	2/14/08	2/14/09	WC72007R
S	WC850546	AR	1/26/09	1/26/10	WC72007S (7738)
T					

Sulfate 3200ppm Stock: 5.80g K2SO4 dried for 2 hrs at 104 . Dissolve in approx. 800mls DI in 1 Liter volumetric flask. Bring to volume with DI water. Store in amber jar @ 4 for 1 year.

ID Letter	K2SO4 Source	Analyst	Date Prepared	Date Expires	Final SO4 Reference Stock ID
U					
V					
W					
X					
Y					

STANDARD STOCK PREP

(Fluoride and Bromide are purchased 1000ppm standards)

Reviewed & Approved
By: CK SD | CK SD 1/17/08
Date: 10/16/06 5/1/07 | 9/10/07 SD 1/23/09

Chloride 1000ppm Stock: 1.648g NaCl crystals dried for 2 hrs at 104 . Dissolve in approx. 800mls DI in 1 Liter volumetric flask. Bring to volume with DI water. Store in amber jar @ room temp. for 1 year.

ID Letter	NaCl Source	Analyst	Date Prepared	Date Expires	Final Cl 1000ppm Stock ID
A	WC762546	CMW	1/26/09	1/26/10	~~WC720002A~~ CMW 1/26/09
B					
C					
D					
E					

Nitrite 1000ppm Stock: 6.07g KNO2 previously dried for 2 hrs at 104 . Dissolve in approx. 800mls DI in 1 Liter volumetric flask. Bring to volume with DI water. Store in amber jar @ 4 for 1 year.

ID Letter	KNO2 Source	Analyst	Date Prepared	Date Expires	Final NO2 1000ppm Stock ID
F	WC760970	CMW	1/26/09	1/26/10	WC720002F (7741)
G					
H					
I					
J					

Nitrate 1000ppm Stock: 7.22g KNO3 crystals dried for 2 hrs at 104 . Dissolve in approx. 800mls DI in 1 Liter volumetric flask. Bring to volume with DI water. Transfer to amber jar and add 1.0ml Chloroform. Store in amber jar @ room temp. for 6 months.

CK 10/5/06

ID Letter	~~KNO2~~ KNO3 Source	Chloroform Source ID	Analyst	Date Prepared	Date Expires	Final NO3 1000ppm Stock ID
K	WC761140	WC761705	FN	10/5/06	4/5/07	WC72002K
L	WC761140	WC76234A	FN	3/26/07	9/26/07	WC72002L
M	WC761140	WC76234A	NM	9/21/07	3/21/08	WC72002M
N	WC761140	WC76234A	CMW	3/25/08	9/25/08	WC72002N
O						

OPO4 / TPO4 1000ppm Stock: 4.394g KH2PO4 dried for 2 hrs at 104 . Dissolve in approx. 800mls DI in 1 Liter volumetric flask. Bring to volume with DI water. Store in amber jar @ 4 for 1 year.

ID Letter	KH2PO4 Source	Analyst	Date Prepared	Date Expires	Final OPO4/TPO4 1000ppm Stock ID
P	WC750856	CMW	1/26/09	1/26/10	WC720002P (7742)
Q					
R					
S					
T					

Sulfate 1000ppm Stock: 1.479g Na2SO4 dried overnight at 104 . Dissolve in approx. 800mls DI in 1 Liter volumetric flask. Bring to volume with DI water. Store in amber jar @ 4 for 1 year.

ID Letter	Na2SO4 Source	Analyst	Date Prepared	Date Expires	Final SO4 1000ppm Stock ID
U					
V					
W					
X					
Y					

3/5/03 NM (A) 4-AAP - Phenols
-same as WC65126H. Prepare fresh each run.

3/5/03 DMG (B) NH_4OH Buffer ($TOTN + NO_2$)
To a tared 1L amber jar add:
- 778.5 g DI
- 113.4 g HCl (WC65093I, EIN Lot # 42167)
- 76.5 g NH_4OH (WC65209B, EIN Lot # K28141705, 033)
- 0.90 g EDTA (WC65079D, EIN Lot # 42081224)

Stir until dissolved. Cool. Adjust pH to 8.5 w/conc. HCl or NaOH. Store @ RT. Exp. 1 year, 3/5/04.

(C) Sulfanilamide Color Reagent ($TOTN) + (NO_2$)
To a tared 1L amber jar add:
- 758 g DI
- 153 g H_3PO_4 (WC65027F, EIN Lot # 40341226)
- 0.90 g NED (WC55231B, Baker Lot # TC3600)
- 36 g Sulfanilamide (WC6497C, Baker Lot # V09H38)

Stir until dissolved. Store @ RT. Exp. 1 month, 4/5/03

3/5/03 DMG Nitrite (NO_2) (Lachat: PQL = 0.010 mg/L):
(D) 10 ppm Working Stock: do (2) two 1/10 serial dilutions of 1000 ppm STD Stock (WC65135A)

(E) Standards

STD.	Conc (mg/L)	mls 10 ppm (WC65144B)	mls DI
A	1.000	1.00	9.00
B	0.5000	0.50	9.50
C	0.200	0.20	9.80
D	0.100	1/10 dil'n of STD A) 1.000	
E	0.050	1/10 dil'n of STD B) 0.500	
F	0.020	1/10 dil'n of STD C) 0.200	
G	0.010	1/10 dil'N of STD D) 0.100	
H	0.000	10 mls DI	

Reviewed & Approved
By:
Date:

(F) ICV/CCV. (TV: 0.900 mg/L)
Add 0.50 mls 18.0 ppm Reference Stock ((1) one 1/10 dilution of 180 ppm Reference Stock (WC65135B)) to 9.5 mls DI.

(G) LCS/Matrix Spike: (TV = 0.250 mg/L)
Add 0.25 mls 10 ppm working stock (WC65144B) to 10 mls DI or Sample.

3/5/03 DMG (H) Nitrate/
(H) 10 ppm S
dilutions of
make fresh

(B) Standard

Std #	Conc
	2.00
B	1.00
C	0.50
D	0.200
E	0.100
F	0.050
G	0.020
H	0.010
I	0.000

(C) Referenc
make two
NO_3 Refer.

(D) LCS/Mat
Add 0.05
dilution of
to 10 mls

(E) Column
1.00 ppm
1.00 ppm

Revi
By:
Date

TITLE PROJECT

Continued from page

8/20/09 (A) TDS Reference
EW 0.9153g NaCl (WC85215H) diluted volumetrically to 1 ~~liter~~ liter w/ DI. Store in plastic bottle @ 4°C.
TV = 915 mg/L Exp: 8/20/10 (11634)

8/20/09 (B) Color Reagent - TKN
NM - same as WC92059G. Exp 1 month, 9/20/09.

(C) NH3 Carrier/Diluent
To a 2 liter plastic bottle add:
- 998g UPDI
- 3.68g conc. instra-analyzed H_2SO_4 (WC92064B)
- Prepared solution x4.

8/20/09 As of 8/18/09 for Konelab.

(D) ICV/CCV TCN TV = 0.50
0.50 mls 10ppm TCN Ref Stock (WC85134C) + ~~9.75~~ 9.50 mls 0.25N NaOH (WC85134I)

(E) ICV/CCV oPO_4-H TV = ~~0.45~~ 0.045
0.25 mls 1.80ppm oPO_4 Ref Stock (WC85130G) + 9.75 mls UPDI.

(F) ICV/CCV oPO_4 TV = ~~0.45~~ 0.36
~~0.25ml~~ 0.20ml 18.0ppm oPO_4 Ref Stock (WC85130F) + ~~9.75~~ 9.80 mls UPDI.

(G) ICV/CCV NO_2 TV = 0.45
0.25ml 18.0ppm NO_2 Ref Stock (1/10 dil of ~~WC85135B~~ WC72007G) + 9.75mls UPDI

(H) ICV/CCV Cr^{+6} TV = 0.25
0.25mls 10ppm Cr^{+6} Ref Stock (WC85129G) + 9.75 mls UPDI

(I) ICV/CCV NH_3 TV = 0.90
0.50mls 18.0ppm NH_3 Reference stock (1/10 dil of WC85257G) + 9.50mls diluent (WC92045D)

8/20/09 (J) ICV/CCV TKN'S (TV=4.00)
N Mead 9.9mls PDMM + 0.1 mls 400ppm Reference working stock (WC44420C)

SIGNATURE DATE Continued to page

DISCLOSED TO AND UNDERSTOOD BY DATE

Analytical Results Summary

Instrument Name: R-FIA-01 **Analyst:** NMEAD **Analysis Lot:** 178665 **Method/Testcode:** 365.1/Tot Phos T

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
R0911166-01	Phosphorus, Total	MB		Water	0.00 mg/L	25.0000 mL	0.050 mg/L U	1	0.050			11/10/09 10:12:58	N	I
R0911166-02	Phosphorus, Total	LCS		Water	0.81 mg/L	25.0000 mL	0.807 mg/L	1	0.050	101		11/10/09 10:13:41	N	I
R0906291-003	Phosphorus, Total	N/A		Water	0.80 mg/L	25.0000 mL	0.800 mg/L	1	0.050			11/10/09 10:17:57	N	I
R0906291-004	Phosphorus, Total	N/A		Water	0.73 mg/L	25.0000 mL	0.725 mg/L	1	0.050			11/10/09 10:18:40	N	I
R0906291-005	Phosphorus, Total	N/A		Water	0.07 mg/L	25.0000 mL	0.073 mg/L	1	0.050			11/10/09 10:19:22	N	I
R0906095-020	Phosphorus, Total	N/A		Water	0.00 mg/L	25.0000 mL	0.050 mg/L U	1	0.050			11/10/09 10:20:04	N	IV
R0906211-002	Phosphorus, Total	N/A		Water	0.86 mg/L	25.0000 mL	1.73 mg/L	2	0.10			11/10/09 10:40:10	N	II
R0911166-03	Phosphorus, Total	DUP	R0906211-002	Water	0.87 mg/L	25.0000 mL	1.74 mg/L	2	0.10		1	11/10/09 10:40:53	N	II
R0911166-04	Phosphorus, Total	MS	R0906211-002	Water	1.27 mg/L	25.0000 mL	2.54 mg/L	2	0.10	101		11/10/09 10:41:35	N	II
R0906262-001	Phosphorus, Total	N/A		Water	0.83 mg/L	25.0000 mL	3.32 mg/L	4	0.20			11/10/09 10:22:54	N	I
R0906262-002	Phosphorus, Total	N/A		Water	0.64 mg/L	25.0000 mL	2.57 mg/L	4	0.20			11/10/09 10:23:38	N	I
R0906262-003	Phosphorus, Total	N/A		Water	0.66 mg/L	25.0000 mL	2.65 mg/L	4	0.20			11/10/09 10:24:21	N	I
R0906262-004	Phosphorus, Total	N/A		Water	0.66 mg/L	25.0000 mL	2.63 mg/L	4	0.20			11/10/09 10:26:32	N	I
R0906262-005	Phosphorus, Total	N/A		Water	0.64 mg/L	25.0000 mL	2.56 mg/L	4	0.20			11/10/09 10:27:14	N	I
R0906262-006	Phosphorus, Total	N/A		Water	0.55 mg/L	25.0000 mL	2.20 mg/L	4	0.20			11/10/09 10:27:57	N	I
R0906270-001	Phosphorus, Total	N/A		Water	0.02 mg/L	25.0000 mL	0.020 mg/L J	1	0.050			11/10/09 10:28:40	N	IV
R0906270-002	Phosphorus, Total	N/A		Water	0.02 mg/L	25.0000 mL	0.019 mg/L J	1	0.050			11/10/09 10:29:22	N	IV
R0906270-003	Phosphorus, Total	N/A		Water	0.00 mg/L	25.0000 mL	0.050 mg/L U	1	0.050			11/10/09 10:30:05	N	IV
R0906368-003	Phosphorus, Total	N/A		Water	0.67 mg/L	25.0000 mL	2.67 mg/L	4	0.20			11/10/09 10:30:47	N	II
R0906371-001	Phosphorus, Total	N/A		Water	1.01 mg/L	25.0000 mL	2.01 mg/L	2	0.10			11/10/09 10:42:18	N	II
R0906371-002	Phosphorus, Total	N/A		Water	0.67 mg/L	25.0000 mL	2.67 mg/L	4	0.20			11/10/09 10:32:11	N	II
R0906371-003	Phosphorus, Total	N/A		Water	0.98 mg/L	25.0000 mL	1.96 mg/L	2	0.10			11/10/09 10:43:00	N	II
R0911166-05	Phosphorus, Total	DUP	R0906371-003	Water	0.96 mg/L	25.0000 mL	1.92 mg/L	2	0.10		2	11/10/09 10:43:43	N	II
R0911166-06	Phosphorus, Total	MS	R0906371-003	Water	1.38 mg/L	25.0000 mL	2.76 mg/L	2	0.10	100		11/10/09 10:44:25	N	II
R0906375-001	Phosphorus, Total	N/A		Water	0.14 mg/L	25.0000 mL	0.138 mg/L	1	0.050			11/10/09 10:39:26	N	II

28698

R0095
R0270
Copies

Reviewed & Approved
By: CB
Date: 11/11/09

I indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Preparation Information Benchsheet

Prep Run#: 100288
Team: GenChem/BBOWE run# 178665

Prep WorkFlow: Gen Dig Phos
Prep Method: Method

Status: Prepped
Prep Date/Time: 11/9/09 09:00 AM

#	Lab Code	Client ID	B#	Amt. Ext.	Method /Test	pH	AE	BN	Final Vol	Sample Desc. (Initial/Final)	SpikeAmt./Inv. ID	Comments
1	RQ0911166-01	MB		25mL	365.1/Tot Phos T				25.00mL			
2	RQ0911166-02	LCS		25mL	365.1/Tot Phos T				25.00mL		0.2000 mL/11400	
3	R0906291-003	SLP 002 24Hr Composite	.01	25mL	365.1/Tot Phos T				25.00mL			
4	R0906291-004	SLP 003 SAE 24 Hr Composite	.03	25mL	365.1/Tot Phos T				25.00mL			
5	R0906291-005	SLP 001 24 Hr Composite	.01	25mL	365.1/Tot Phos T				25.00mL			
6	R0906095-020	EB103009-GWA4	.12	25mL	365.1/Tot Phos T				25.00mL			
7	R0906211-002	Effluent	.01	25mL	365.1/Tot Phos T				25.00mL			
8	RQ0911166-03	R0906211-002 DUP	.01	25mL	365.1/Tot Phos T				25.00mL			
9	RQ0911166-04	R0906211-002 MS	.01	25mL	365.1/Tot Phos T				25.00mL		0.2000 mL/11400	
10	R0906262-001	MFC1 INFLUENT	.01	25mL	365.1/Tot Phos T				25.00mL			
11	R0906262-002	MFC1 EFFLUENT	.01	25mL	365.1/Tot Phos T				25.00mL			
12	R0906262-003	MFC3 INFLUENT	.01	25mL	365.1/Tot Phos T				25.00mL			
13	R0906262-004	MFC3 EFFLUENT	.01	25mL	365.1/Tot Phos T				25.00mL			
14	R0906262-005	MFC4 INFLUENT	.01	25mL	365.1/Tot Phos T				25.00mL			
15	R0906262-006	MFC4 EFFLUENT	.01	25mL	365.1/Tot Phos T				25.00mL			
16	R0906270-001	M-147B	.12	25mL	365.1/Tot Phos T				25.00mL			
17	R0906270-002	M-147009B	.12	25mL	365.1/Tot Phos T				25.00mL			
18	R0906270-003	EB110209-GWA3	.12	25mL	365.1/Tot Phos T				25.00mL			
19	R0906368-003	Effluent	.01	25mL	365.1/Tot Phos T				25.00mL			
20	R0906371-001	BT	.02	25mL	365.1/Tot Phos T				25.00mL			
21	R0906371-002	AB	.02	25mL	365.1/Tot Phos T				25.00mL			
22	R0906371-003	#2PL	.01	25mL	365.1/Tot Phos T				25.00mL			
23	RQ0911166-05	R0906371-003 DUP	.01	25mL	365.1/Tot Phos T				25.00mL			
24	RQ0911166-06	R0906371-003 MS	.01	25mL	365.1/Tot Phos T				25.00mL		0.2000 mL/11400	
25	R0906375-001	GP115	.04	25mL	365.1/Tot Phos T				25.00mL			

Spiking Solutions

Name: Phosphorous (Total) 100 ppm Inventory ID 11400 Logbook Ref: Fresh Daily Expires On: 01/26/2010

Preparation Materials

Water Deionized H2O	Millipore System (2263)	Sulfuric Acid, 5.6M	WC92108C (13166)	Ammonium Persulfate RG (NH4)2S2O8	WC92090C (12462)

Preparation Steps

Step: Digestion
Started: 11/9/09 09:00
Finished: 11/9/09 16:07
By: BBOWE

Preparation Information Benchsheet

Prep Run#: 100288
Team: GenChem/BBOWE

Prep WorkFlow: Gen Dig Phos
Prep Method: Method

Status: Prepped
Prep Date/Time: 11/9/09 09:00 AM

Comments: _____

_____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

#100288

Columbia Analytical Services
1 Mustard Street
Rochester, NY 14609

Analyte: TPO4 Digest Low Level / Regular Level
Analyst: B Bowie Date: 11/9/09
Pipet ID: Agilent Spk Witness: RP

#	Folder #	Order #	Sample Amt	Dilution	Spk Amount	Comments
1		PB	25 mL	STV		
2		LCS inorg			0.200	100 ppm
3		LCS org			0.200	100 ppm
4	6291	-003				
5		-004				
6		-005				
7	6095	-020				
8	6211 (4)	-002				
9		-002 Dup				
10		-002 Spk			0.200	100 ppm
11	6262	-001				
12		-002				
13		-003				
14		-004				
15		-005				
16		-006				
17	6270	-001				
18		-002				
19		-003				
20	6368	(4) -003				
21	6371	(4) -001				
22		(4) -002				
23		(1) -003				
24		-003 Dup				
25		-003 Spk			0.200	100 ppm
26	6375	-001	↓	↓		
27						
28						
29						
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45						
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47						
48						
49						
50						

BB 11/9/09

26+5=(31)

P 6.20g
D 12.0mL
S 15.5mL

Creator: NMEAD
Creation Date: Nov 10, 2009 9:02:57
Last Modified: Nov 10, 2009 9:02:57
Description: QC 8000 365.1 TPO4 - RUN LOG - TPO4B 0911100A

Cup #	Sample ID	Manual Dilution	Sample Type	
1	Standard A - 2.00	1.0000	CalStd	
2	Standard B - 1.00	1.0000	CalStd	
3	Standard C - 0.50	1.0000	CalStd	
4	Standard D - 0.20	1.0000	CalStd	
5	Standard E - 0.10	1.0000	CalStd	
6	Standard F - 0.05	1.0000	CalStd	
7	Standard G - 0.02	1.0000	CalStd	
8	Standard H - 0.00	1.0000	CalStd	
1	ICV TV= 0.8	1.0000	Unknown	
2	ICB	1.0000	Unknown	
3	PB-1	1.0000	Unknown	
4	LCS-1 INORG. TV= 0.8	1.0000	Unknown	
5	LCS-1 ORG. TV= 0.8	1.0000	Unknown	
6	CRDL - 0.100	1.0000	Unknown	
7	CRDL- 0.050	1.0000	Unknown	
8	CCV	1.0000	Unknown	
9	CCB	1.0000	Unknown	
10	R0906291-003	1.0000	Unknown	
11	R0906291-004	1.0000	Unknown	
12	R0906291-005	1.0000	Unknown	
13	R0906095-020	1.0000	Unknown	
14	R0906211-002	4.0000	Unknown	rpt c# 37 → 38-1/2
15	6211-002 DUP	4.0000	Unknown	
16	6211-002 SPK TV= 0.8	4.0000	Unknown	
17	R0906262-001	4.0000	Unknown	
18	R0906262-002	4.0000	Unknown	
19	R0906262-003	4.0000	Unknown	
20	CCV	1.0000	Unknown	
21	CCB	1.0000	Unknown	
22	R0906262-004	4.0000	Unknown	
23	R0906262-005	4.0000	Unknown	
24	R0906262-006	4.0000	Unknown	
25	R0906270-001	1.0000	Unknown	
26	R0906270-002	1.0000	Unknown	
27	R0906270-003	1.0000	Unknown	
28	R0906368-003	4.0000	Unknown	
29	R0906371-001	4.0000	Unknown	- rpt c# 40 - 1/2
30	R0906371-002	4.0000	Unknown	
31	R0906371-003	1.0000	Unknown	- rpt c# 41 - 1/2
32	CCV	1.0000	Unknown	

Cup #	Sample ID	Manual Dilution	Sample Type	
33	CCB	1.0000	Unknown	
34	6371-003 DUP	1.0000	Unknown	} spt C#42,43 -1/2
35	6371-003 SPK TV= 0.8	1.0000	Unknown	
36	R0906375-001	1.0000	Unknown	
37	R0906211-002 RPT 1/2	2.0000	Unknown	
38	6211-002 DUP RPT 1/2	2.0000	Unknown	
39	6211-002SPKRPT1/2TV=0.8	2.0000	Unknown	
40	R0906371-001 RPT 1/2	2.0000	Unknown	
41	R0906371-003 RPT 1/2	2.0000	Unknown	
42	6371-003 DUP RPT 1/2	2.0000	Unknown	
43	6371-003SPKRPT1/2TV=0.8	2.0000	Unknown	
44	CCV	1.0000	Unknown	
45	CCB	1.0000	Unknown	

OPERATOR: NMEAD
ACQ. TIME: Nov 10, 2009 10:11:27
DATA FILENAME: C:\OMNION\DATA\091110A1.FDT
TRAY FILENAME: C:\OMNION\TRAYS\0911100A.TRA

Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 1 to 25

Cup	Sample ID	Sampling Date	Sampling Time	Rep #	QC 8000 365.1 Total Phosphorus (mg/L)	Man Dil Factor	Auto Dil Factor
1	ICV TV= 0.8	10 Nov 2009	10:11:30	1	0.7932	1.0	1.00
2	ICB	10 Nov 2009	10:12:14	1	-0.0028	1.0	1.00
3	PB-1	10 Nov 2009	10:12:58	1	-0.0028	1.0	1.00
4	LCS-1 INORG. TV= 0.8	10 Nov 2009	10:13:41	1	0.8072	1.0	1.00
5	LCS-1 ORG. TV= 0.8	10 Nov 2009	10:14:25	1	0.8523	1.0	1.00
6	CRDL - 0.100	10 Nov 2009	10:15:07	1	0.0976	1.0	1.00
7	CRDL- 0.050	10 Nov 2009	10:15:50	1	0.0469	1.0	1.00
8	CCV	10 Nov 2009	10:16:32	1	0.7906	1.0	1.00
9	CCB	10 Nov 2009	10:17:15	1	-0.0028	1.0	1.00
10	R0906291-003	10 Nov 2009	10:17:57	1	0.7997	1.0	1.00
11	R0906291-004	10 Nov 2009	10:18:40	1	0.7250	1.0	1.00
12	R0906291-005	10 Nov 2009	10:19:22	1	0.0726	1.0	1.00
13	R0906095-020	10 Nov 2009	10:20:04	1	0.0020	1.0	1.00
14	R0906211-002	10 Nov 2009	10:20:45	1	1.7413	4.0	1.00
15	6211-002 DUP	10 Nov 2009	10:21:27	1	1.7411	4.0	1.00
16	6211-002 SPK TV= 0.8	10 Nov 2009	10:22:11	1	2.5374	4.0	1.00
17	R0906262-001	10 Nov 2009	10:22:54	1	3.3223	4.0	1.00
18	R0906262-002	10 Nov 2009	10:23:38	1	2.5682	4.0	1.00
19	R0906262-003	10 Nov 2009	10:24:21	1	2.6481	4.0	1.00
20	CCV	10 Nov 2009	10:25:05	1	0.7885	1.0	1.00
21	CCB	10 Nov 2009	10:25:48	1	-0.0028	1.0	1.00
22	R0906262-004	10 Nov 2009	10:26:32	1	2.6338	4.0	1.00
23	R0906262-005	10 Nov 2009	10:27:14	1	2.5602	4.0	1.00
24	R0906262-006	10 Nov 2009	10:27:57	1	2.1958	4.0	1.00
25	R0906270-001	10 Nov 2009	10:28:40	1	0.0196	1.0	1.00

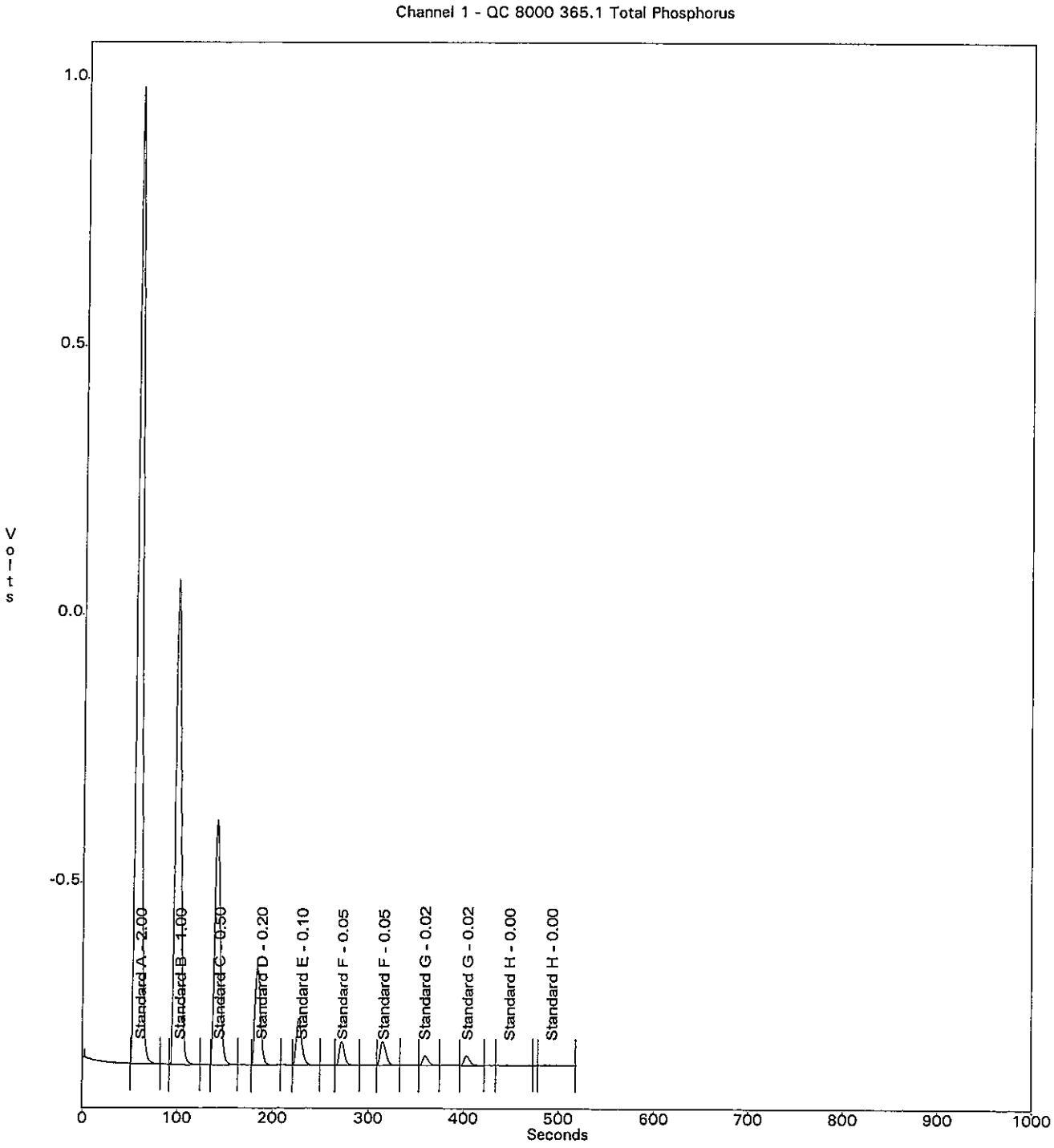
rpt @# 37→39-1/2

OPERATOR: NMEAD
ACQ. TIME: Nov 10, 2009 10:11:27
DATA FILENAME: C:\OMNION\DATA\091110A1.FDT
TRAY FILENAME: C:\OMNION\TRAYS\0911100A.TRA

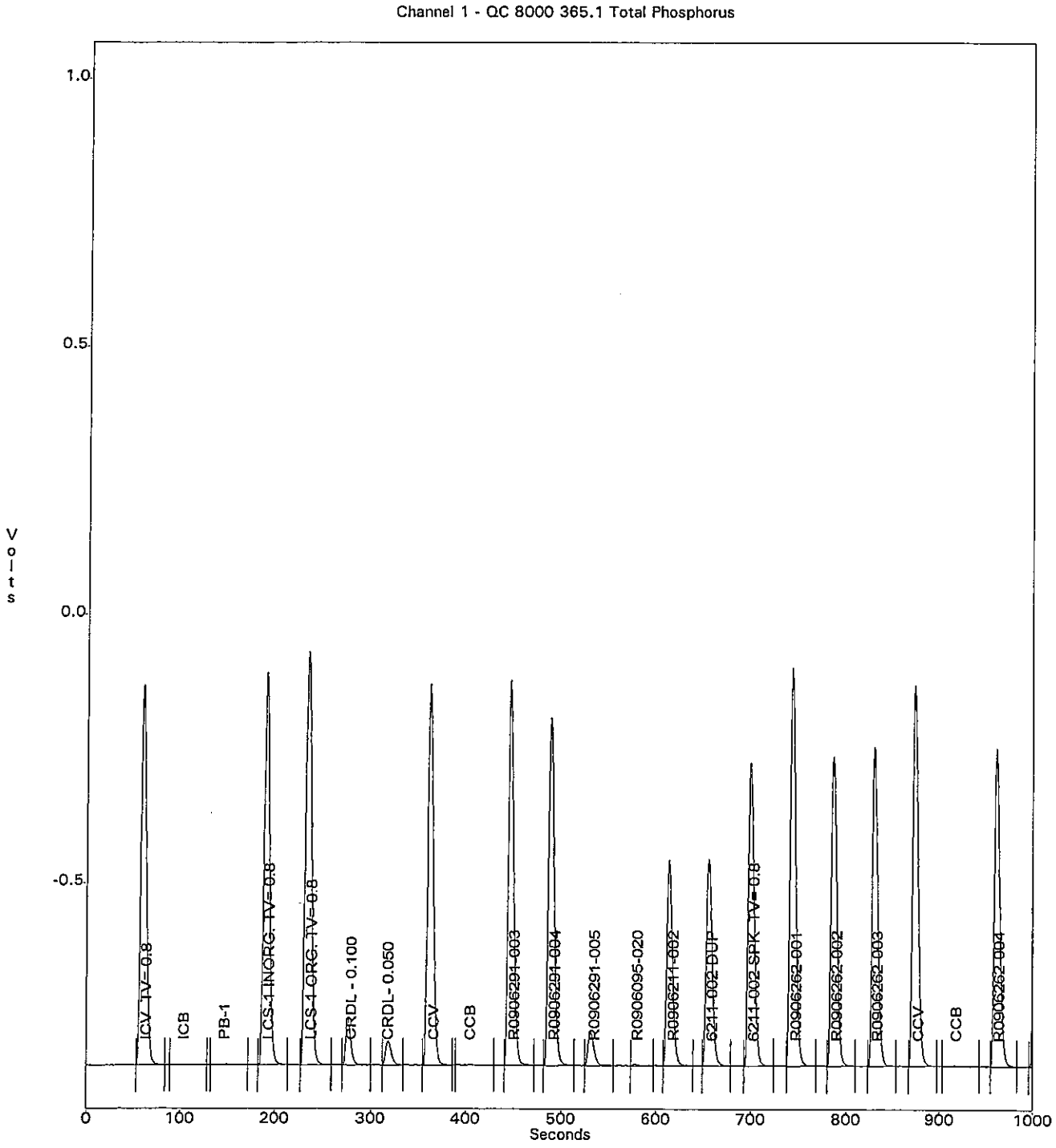
Multi-Channel Table
Type: Unknowns
Channel Range: 1 to 8 -- Cup Range: 26 to 50

Cup	Sample ID	Sampling Date	Sampling Time	Rep #	QC 8000 365.1 Total Phosphorus (mg/L)	Man Dil Factor	Auto Dil Factor	
26	R0906270-002	10 Nov 2009	10:29:22	1	0.0188	1.0	1.00	
27	R0906270-003	10 Nov 2009	10:30:05	1	0.0025	1.0	1.00	
28	R0906368-003	10 Nov 2009	10:30:47	1	2.6680	4.0	1.00	
29	R0906371-001	10 Nov 2009	10:31:30	1	1.9737	4.0	1.00	– rpt c# 40-1/2
30	R0906371-002	10 Nov 2009	10:32:11	1	2.6738	4.0	1.00	
31	R0906371-003	10 Nov 2009	10:32:55	1	1.9271	1.0	1.00	- rpt @ # 41-1/2
32	CCV	10 Nov 2009	10:33:38	1	0.7905	1.0	1.00	
33	CCB	10 Nov 2009	10:34:22	1	-0.0028	1.0	1.00	
34	6371-003 DUP	10 Nov 2009	10:37:59	1	1.9175	1.0	1.00	} rpt c# 42,43-1/2
35	6371-003 SPK TV= 0.8	10 Nov 2009	10:38:43	1	2.7217	1.0	1.00	
36	R0906375-001	10 Nov 2009	10:39:26	1	0.1382	1.0	1.00	
37	R0906211-002 RPT 1/2	10 Nov 2009	10:40:10	1	1.7295	2.0	1.00	
38	6211-002 DUP RPT 1/2	10 Nov 2009	10:40:53	1	1.7417	2.0	1.00	
39	6211-002SPKRPT1/2TV=0.8	10 Nov 2009	10:41:35	1	2.5408	2.0	1.00	
40	R0906371-001 RPT 1/2	10 Nov 2009	10:42:18	1	2.0127	2.0	1.00	
41	R0906371-003 RPT 1/2	10 Nov 2009	10:43:00	1	1.9578	2.0	1.00	
42	6371-003 DUP RPT 1/2	10 Nov 2009	10:43:43	1	1.9213	2.0	1.00	
43	6371-003SPKRPT1/2TV=0.8	10 Nov 2009	10:44:25	1	2.7565	2.0	1.00	
44	CCV	10 Nov 2009	10:45:08	1	0.7930	1.0	1.00	
45	CCB	10 Nov 2009	10:45:49	1	-0.0028	1.0	1.00	

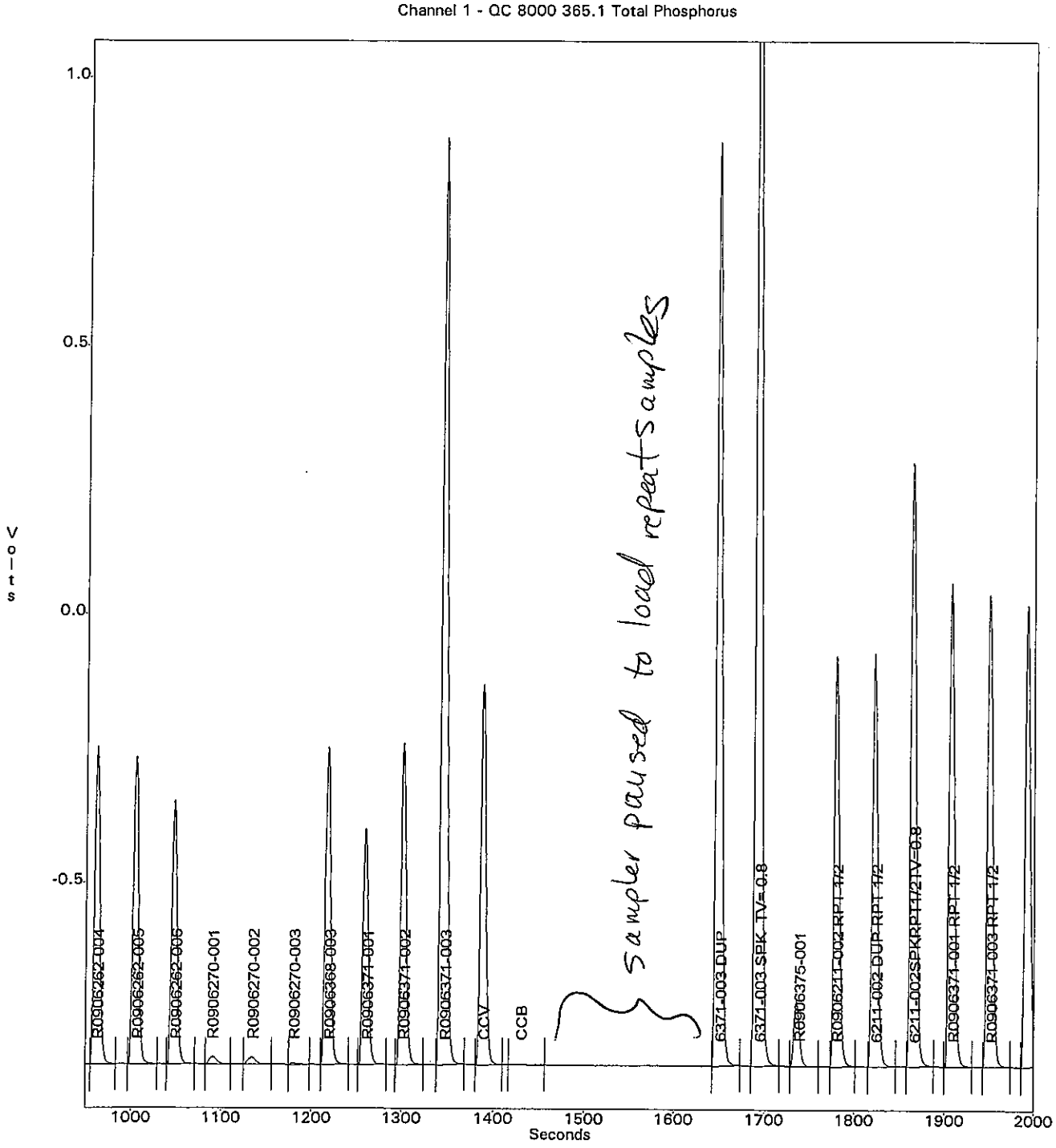
OPERATOR:	NMEAD
ACQ. TIME:	Nov 10, 2009 10:01:39
DATA FILENAME:	C:\OMNION\DATA\0911100A.FDT
TRAY FILENAME:	C:\OMNION\TRAYS\0911100A.TRA



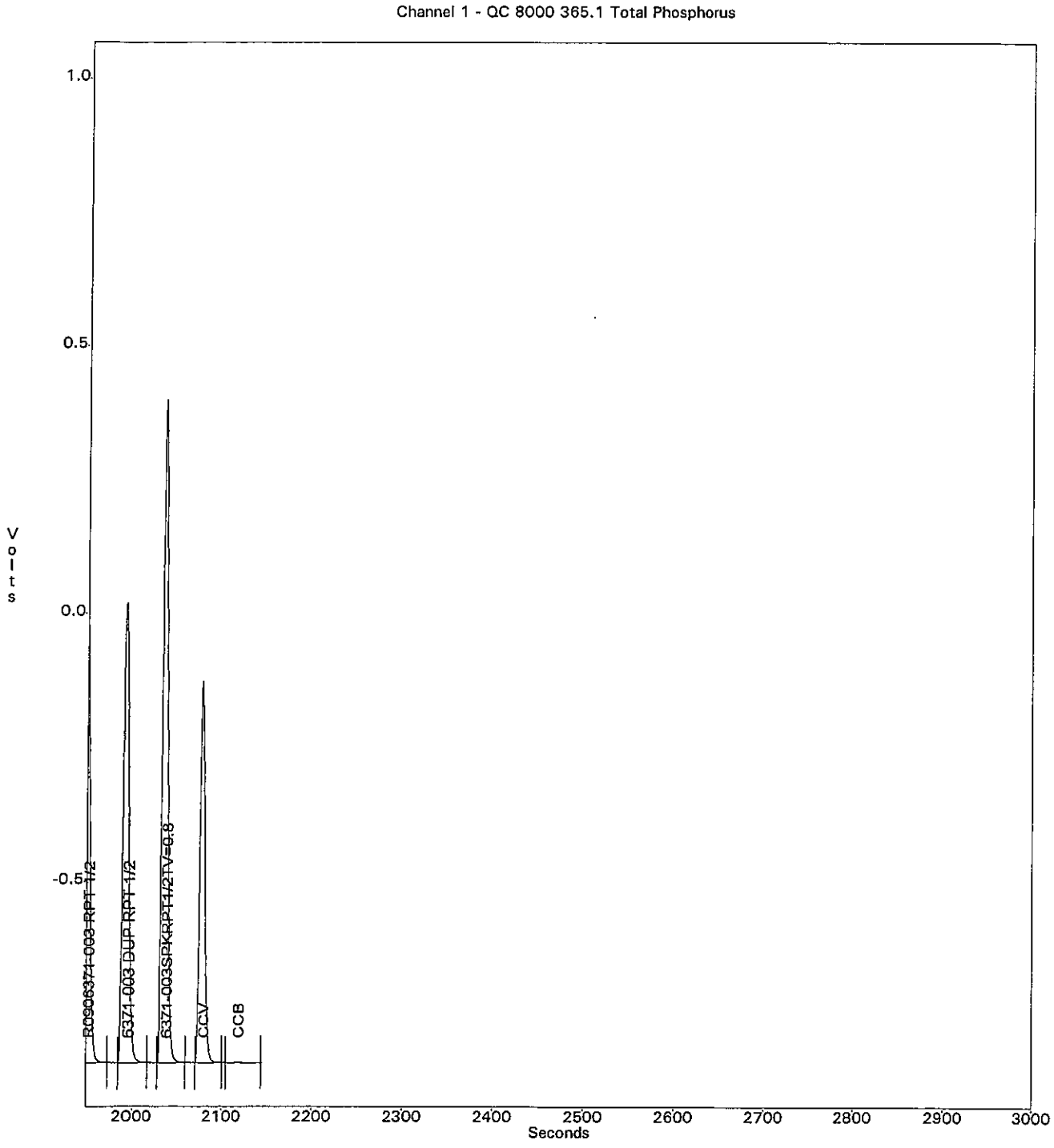
OPERATOR:	NMEAD
ACQ. TIME:	Nov 10, 2009 10:11:27
DATA FILENAME:	C:\OMNION\DATA\091110A1.FDT
TRAY FILENAME:	C:\OMNION\TRAYS\0911100A.TRA



OPERATOR: NMEAD
ACQ. TIME: Nov 10, 2009 10:11:27
DATA FILENAME: C:\OMNION\DATA\091110A1.FDT
TRAY FILENAME: C:\OMNION\TRAYS\0911100A.TRA



OPERATOR:	NMEAD
ACQ. TIME:	Nov 10, 2009 10:11:27
DATA FILENAME:	C:\OMNION\DATA\091110A1.FDT
TRAY FILENAME:	C:\OMNION\TRAYS\0911100A.TRA



OPERATOR:	NMEAD
ACQ. TIME:	Nov 10, 2009 10:01:39
DATA FILENAME:	C:\OMNION\DATA\0911100A.FDT
METHOD FILENAME:	C:\OMNION\METHODS\TPO4B.MET
TRAY FILENAME:	C:\OMNION\TRAYS\0911100A.TRA

TRAY DESCRIPTION:

Created:	Nov 10, 2009 9:02:57
Modified:	Nov 10, 2009 9:02:57

QC 8000 365.1 TPO4 - RUN LOG - TPO4B 0911100A

DATA DESCRIPTION:

Created:	Nov 10, 2009 10:01:39
Modified:	Nov 10, 2009 10:01:39

Method - Ch. 1 (QC 8000 365.1 Total Phosphorus)

METHOD DESCRIPTION:

Created:	Feb 25, 2008 14:38:43
Modified:	Nov 5, 2009 13:46:28

Total Phosphorus - 2.00 -- 0.05

ANALYTE DATA:

Analyte Name:	QC 8000 365.1 Total Phosphorus
Concentration Units:	mg/L
Chemistry:	Direct
Inject to Peak Start (s):	11.0
Peak Base Width (s):	18.000
% Width Tolerance:	60.000
Threshold:	6416.000
Autodilution Trigger:	Off
QuikChem Method:	10-115-01-1-E

CALIBRATION DATA:

Levels:

1 : 2.000	2 : 1.000	3 : 0.500	4 : 0.200
5 : 0.100	6 : 0.050	7 : 0.020	8 : 0.000

Calibration Rep Handling:	Average
Calibration Fit Type:	1st Order Poly
Force Though Zero:	No
Weighting Method:	None
Concentration Scaling:	None

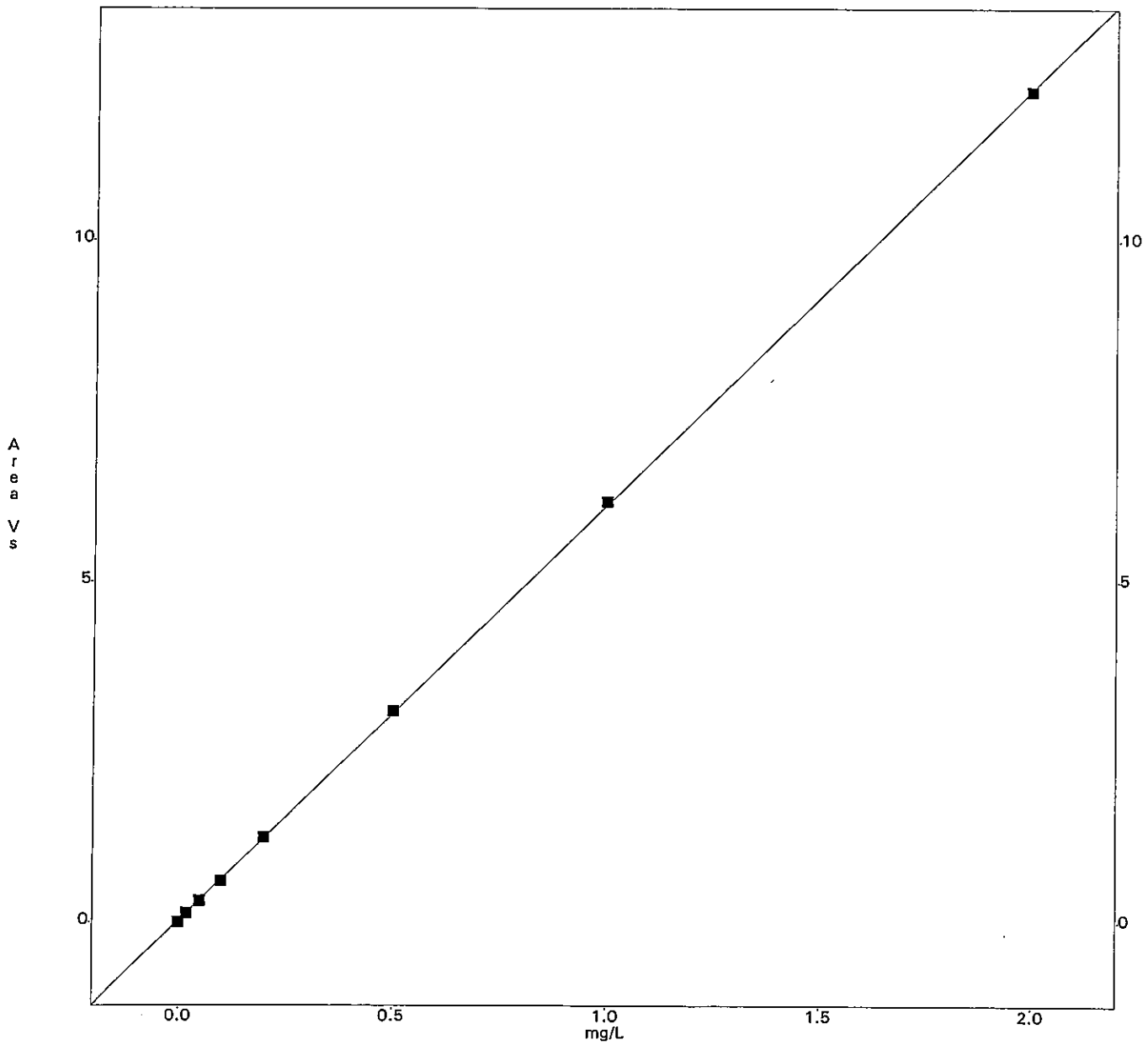
QC 8000 365.1 Total Phosphorus

Lvl	Area	mg/L	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Replic STD	Replic % RSD	Residual 1st Poly
1	12193941	2.00	12193941					0.0	0.0	0.3
2	6171255	1.00	6171255					0.0	0.0	-0.8
3	3105877	0.50	3105877					0.0	0.0	-1.2
4	1250202	0.20	1250202					0.0	0.0	-1.0
5	604726	0.10	604726					0.0	0.0	3.8
6	308215	0.05	306235	310194				2799.4	0.9	4.7
7	130750	0.02	131845	129654				1549.3	1.2	7.1
8	0	0.00	0	0				0.0	0.0	

1st Order Poly
Conc = 1.638e-007 Area - 2.830e-003
r = 1.0000

pipette ID: E-2

Scaling: None - Weighting: None



Printed: Tuesday, November 10, 2009 - 10:10 AM

Columbia Analytical Services

1 Mustard St., Rochester NY 14609

General Chemistry Analytical Run Cover Sheet

Analyst: N. Mead Date: 11/10/09

Analysis: Total Phosphorus, 0.05 - 2.0 mg/L Instrument: Lachat

Quality Control:

	Same as Log#, Date,	Stocks Prep. Log#, Date,	Stock Sol (mLs)	Stock Sol (mg/L)	Final Vol (mLs)	True Value (mg/L)
a) Standards Prep.:	WC85114C, 02/25/08	WC72002P, 1/26/09				
b) I/CCV Preparation:	WC92069F, 08/24/09	WC85232H, 11/11/08	0.8	10	10	0.80
c) Inorganic LCS Prep:	WC85114F, 2/25/08	WC72002P, 1/26/09	0.2	100	25	0.80
d) Organic LCS Prep:	WC85052A, 10/10/07	WC92104B, 10/28/09	0.2	100	25	0.80
e) Matrix Spike Prep.:	WC85114F, 2/25/08	WC72002P, 1/26/09	0.2	100	25	0.80

Instrument log filled in? (Y) (N)

Packages:

Copy and attach Standards Preparation.

Comments:

p:\greg\forms\covert.po4

TITLE

PROJECT

Continued from page

8/24/09 SBR

Ⓐ TKN Digest Reagent

To a 2L vol. flask, add 268g K_2SO_4 (WC92055E) and 14.6g $CuSO_4$ (WC8527IE) Fill ~ 1/2 way with UPDI. Slowly add 268mL omni trace H_2SO_4 (WC92064B). Allow to dissolve and cool. Bring to vol. with UPDI. Store @ RT in amber glass. Exp 9/24/09

8/24/09 DPW

Recieved from EMD

Ⓑ 4X4L chloroform, Cat#: CX1054-1, lot#: 48171. Store@RT, exp: 8/24/2012, Cas#: 67-66-3.

Ⓒ MBAS Wash Solution

To a tared 2L vol. flask add: 100g sodium phosphate monobasic monohydrate (WC92035H) and 13.7mL conc. H_2SO_4 (WC92040B). Bring to vol. w/ DI, Store@RT. ~~Prep'd~~ DPW 8/24/09

Prep'd: 8/21/09, exp: 8/21/2010

Ⓓ MBAS Color Reagent

To a tared 2L vol. flask add: 100g sodium phosphate monobasic monohydrate (WC92035H), 13.7mL conc. H_2SO_4 (WC92040B) and 60mL of methylene blue stock (WC92017E). Bring to Volume w/ DI, Store@RT. Prep'd: 8/21/09 exp: 8/21/2010.

Ⓔ 1.0ppm LAS Working Standard Stock

Dilute 1.0mL of 1000ppm LAS Standard Stock (WC85268F) to 1L volumetrically w/ DI. Store@4°C, exp: 8/24/2010.

8/24/09 GN

Ⓕ TPO_4 - RL - ICV/CCV, TV = 0.80 ppm

Add 0.8 mls of 10ppm Reference Stock (Two 1/10 serial dilution of 1000ppm Reference stock (WC85232H)) to 9.2 mls carrier / Diluent. Make fresh each run

Continued to page

SIGNATURE | DATE

DISCLOSED TO AND UNDERSTOOD BY | DATE

2/26/08 RP (A) $0.0250N\ Na_2S_2O_3$ - Sulfides
Dilute 50mLs 0.1N $Na_2S_2O_3$ (WC850670) to 200mLs volumetrically w/ DI. Store for 2 weeks at 4°C. Exp. 3/11/08

TC 2/26/08
2/25/08 ~~(B)~~ TPO_4 Reg. Level Calibration for WC8000
TC (B) Make a ~~1/2~~ 10 ppm Standard Working Stock by preparing two serial dilutions of the 1000ppm TPO_4 Standard Stock (WC72000IT)

(C) Cal. Standards - fresh per run

Std	Std Conc. (mg/L)	mls of 10ppm Working Stock (WC...)	mls ~~DI~~ TC 2/26/08 Carrier/Diluent
A	2.00	2.0	8.0
B	1.00	1.0	9.0
C	~~0.05~~ 0.50	0.50	9.5
D	0.20	1/10 dilution of Std A	
E	0.10	1/10 dilution of Std B	
F	0.050	1/10 dilution of Std C	
G	0.020	1/10 dilution of Std D.	
H	0.000	use Carrier/Diluent only	

~~(D) CCV/ICV TV=1.50~~ TC 2/25/08
~~Add~~

(D) Make a 10ppm Reference Working Stock by preparing two serial dilutions of the 1000ppm TPO_4 Reference Stock (WC85071F)

(E) ICV/CCV TV=1.50
Add 1.50mls of the 10ppm Reference Working Stock (WC85C114D) to 8.5mls Carrier/Diluent. Fresh per run.

(F) TPO_4-RL LCS/MS TV=0.80ppm (Inorganic/Organic)
To 25 mls sample or LIPDI add 0.20 mLs of 100ppm Standard Stock (prepared by making a 1/10 dilution of the 1000ppm Standard Stock (WC72000IT))
Organic LCS is prepared from 100ppm Organic Standard (WC85C05IH)

10/10/07 TC

Ⓐ TPOy-RL Organic LCS $\bar{x}$=1.40
To 25 mL UPDI in vial add 0.35mL 100ppm Organic Standard (WC85059H)

Ⓑ Organic TPOy Working Standard 10ppm
Make a 1/10 dilution of 100 ppm Organic Phosphorous Standard (WC85051H).

Ⓒ TPOy-LL Organic LCS $\bar{x}$=0.025
To 20 mL UPDI in vial add 0.05mL 10ppm Organic TPOy Working Standard (WC85052B)

11/7/08 NM (A) Buffer - TOTN
- same as WC85226F. Exp. 1 year, 11/7/09.

11/7/08 AB Received from VWR
(B) · (2) x 500g Ascorbic Acid, Cat. # 0938-07, JT. Baker Lot # G29621, CAS # 50-81-7. Store @ RT. Expires 11/7/13

11/10/08 GN (C) Sulfide Reference
To a tared amber jar add ~ 0.4 Na_2S (WC 82308) and dilute to 100g w/DI. Mixed until dissolved. Store at 4°C for 2 weeks. Exp 11/24/08. Standardize w/each use

11/10/08 GN (D) 0.025000 N $Na_2S_2O_3$ - Sulfides
Dilute 50mls 0.1N $Na_2S_2O_3$ (WC 82402L) w/DI volumetrically. Store at 4°C for 2 weeks. Exp 11/24/08

11/10/08 SBR (E) TKN Digest Reagent
- same as WC85228G. EXP 12/10/08

11/11/08 NM (F) Post-Digestion Matrix Match - TKN
To a 2-L vol. flask add 800 mL TKN Digest Reagent (WC85232E) and bring to volume w/ uPDI. Mix thoroughly. Pour off 100 mL and discard. Bring back to volume w/ uPDI. Mix thoroughly. Store @ RT in amber glass Exp. 12/10/08.

(G) Hypochlorite - TKN
- Same as WC85220H. Prepare fresh each run.

11/11/08 NM (H) TPO4 1000ppm Reference Stock
4.394g KH_2PO_4 (WC85054G) previously dried for 2 hours @ 104°C. Dissolve in ~ 800 mLs DI in a 1 liter vol. flask. Bring to volume w/DI. Store in amber glass @ 4°C. for 1 year. Expires 11/11/09.

TITLE

PROJECT

Continued from page

10/28/09 (A) MBAS Wash Solution

To a tared 2L vol Flask add: 100g Sodium Phosphate Monobasic, Monohydrate (WC 920920) add 13.7 ml conc H_2SO_4 (M1780089K) Store @ RT. Bring to vol w/DI

exp 10/28/10

10/28/09 (B) 100 ppm Organic Phosphorous Standard - TPO4

SQR In a 1 liter vol. flask, dissolve 0.9885g β-Glycerophosphonic Acid, Disulium Salt, 5-Hydrate (WC761430) in DI. Bring to volume w/ DI Store in amber glass at 4°C Exp 1yr. 10/28/10.

10/28/09 (C) Ascorbic Acid - TPO4

NM -same as WC92086D. Exp. 1 week, 11/4/09

10/28/09 (D) Sulfamic Acid - CN

QN -same as WC92089E. Exp 1 year: 10/28/10

Continued to page

SIGNATURE

DATE

DISCLOSED TO AND UNDERSTOOD BY

DATE

PROPRIETARY INFORMATION

STANDARD STOCK PREP

(Fluoride and Bromide are purchased 1000ppm standards)

Reviewed & Approved
By: CK SJ / CK SJ 1/7/05
Date: 10/16/06 5/1/07 / 9/10/07

Chloride 1000ppm Stock: 1.648g NaCl crystals dried for 2 hrs at 104 . Dissolve in approx. 800mls DI in 1 Liter volumetric flask. Bring to volume with DI water. Store in amber jar @ room temp. for 1 year.

ID Letter	NaCl Source	Analyst	Date Prepared	Date Expires	Final Cl 1000ppm Stock ID
A	WC76259E	CMM	1/26/09	1/26/10	~~WC72002A~~ CMM 1/26/09
B					
C					
D					
E					

Nitrite 1000ppm Stock: 6.07g KNO2 previously dried for 2 hrs at 104 . Dissolve in approx. 800mls DI in 1 Liter volumetric flask. Bring to volume with DI water. Store in amber jar @ 4 for 1 year.

ID Letter	KNO2 Source	Analyst	Date Prepared	Date Expires	Final NO2 1000ppm Stock ID
F	WC760970	CMM	1/26/09	1/26/10	WC72002F (7741)
G					
H					
I					
J					

Nitrate 1000ppm Stock: 7.22g KNO3 crystals dried for 2 hrs at 104 . Dissolve in approx. 800mls DI in 1 Liter volumetric flask. Bring to volume with DI water. Transfer to amber jar and add 1.0ml Chloroform. Store in amber jar @ room temp. for 6 months.

CK 10/5/06

ID Letter	~~KNO2~~ KNO3 Source	Chloroform Source ID	Analyst	Date Prepared	Date Expires	Final NO3 1000ppm Stock ID
K	WC76114C	WC76170J	FN	10/5/06	4/5/07	WC72002K
L	WC76114C	WC76234A	FN	3/26/07	9/26/07	WC72002L
M	WC76114C	WC76234A	NM	9/21/07	3/31/08	WC72002M
N	WC76114C	WC76234A	CMM	3/25/08	9/25/08	WC72002N
O						

OPO4 / TPO4 1000ppm Stock: 4.394g KH2PO4 dried for 2 hrs at 104 . Dissolve in approx. 800mls DI in 1 Liter volumetric flask. Bring to volume with DI water. Store in amber jar @ 4 for 1 year.

ID Letter	KH2PO4 Source	Analyst	Date Prepared	Date Expires	Final OPO4/TPO4 1000ppm Stock ID
P	WC85C85E	CMM	1/26/09	1/26/10	WC72002P (7742)
Q					
R					
S					
T					

Sulfate 1000ppm Stock: 1.479g Na2SO4 dried overnight at 104 . Dissolve in approx. 800mls DI in 1 Liter volumetric flask. Bring to volume with DI water. Store in amber jar @ 4 for 1 year.

ID Letter	Na2SO4 Source	Analyst	Date Prepared	Date Expires	Final SO4 1000ppm Stock ID
U	WC76153E	CMM	1/27/09	1/27/10	WC72002U (7752)
V					
W					
X					
Y					

Analytical Results Summary

4 runs

Instrument Name: R-Balance-02 **Analyst:** EWOLFE **Analysis Lot:** 178291 **Method/Testcode:** SM 2540 C/TDS

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
RQ0911075-01	Solids, Total Dissolved	MB		Water	7.00 mg/L	100 mL	7 mg/L J	1	10			11/6/09 10:40	N	IV
RQ0911075-02	Solids, Total Dissolved	LCS		Water	913.73 mg/L	51 mL	914 mg/L	1	20	100		11/6/09 10:40	N	IV
R0906198-019	Solids, Total Dissolved	N/A		Water	80.00 mg/L	100 mL	80 mg/L	1	10			11/6/09 10:40	N	IV
R0906198-020	Solids, Total Dissolved	N/A		Water	58.00 mg/L	100 mL	58 mg/L	1	10			11/6/09 10:40	N	IV
R0906198-022	Solids, Total Dissolved	N/A		Water	96.00 mg/L	100 mL	96 mg/L	1	10			11/6/09 10:40	N	IV
R0906198-023	Solids, Total Dissolved	N/A		Water	177.00 mg/L	100 mL	177 mg/L	1	10			11/6/09 10:40	N	IV
R0906198-024	Solids, Total Dissolved	N/A		Water	167.00 mg/L	100 mL	167 mg/L	1	10			11/6/09 10:40	N	IV
R0906198-025	Solids, Total Dissolved	N/A		Water	180.00 mg/L	100 mL	180 mg/L	1	10			11/6/09 10:40	N	IV
R0906270-001	Solids, Total Dissolved	N/A		Water	4476.47 mg/L	34 mL	4480 mg/L	1	29			11/6/09 10:40	N	IV
RQ0911075-03	Solids, Total Dissolved	DUP	R0906270-001	Water	4505.88 mg/L	34 mL	4510 mg/L	1	29		1	11/6/09 10:40	N	IV
R0906270-002	Solids, Total Dissolved	N/A		Water	4562.16 mg/L	37 mL	4560 mg/L	1	27			11/6/09 10:40	N	IV
R0906270-003	Solids, Total Dissolved	N/A		Water	9.00 mg/L	100 mL	9 mg/L BJ	1	10			11/6/09 10:40	N	IV
R0906276-001	Solids, Total Dissolved	N/A		Water	75.00 mg/L	100 mL	75 mg/L	1	10			11/6/09 10:40	N	IV
R0906276-003	Solids, Total Dissolved	N/A		Water	458.00 mg/L	100 mL	458 mg/L	1	10			11/6/09 10:40	N	IV
R0906276-005	Solids, Total Dissolved	N/A		Water	346.00 mg/L	100 mL	346 mg/L	1	10			11/6/09 10:40	N	IV
R0906276-007	Solids, Total Dissolved	N/A		Water	44.00 mg/L	100 mL	44 mg/L	1	10			11/6/09 10:40	N	IV
R0906276-009	Solids, Total Dissolved	N/A		Water	98.00 mg/L	100 mL	98 mg/L	1	10			11/6/09 10:40	N	IV
R0906276-011	Solids, Total Dissolved	N/A		Water	161.00 mg/L	100 mL	161 mg/L	1	10			11/6/09 10:40	N	IV
RQ0911075-04	Solids, Total Dissolved	DUP	R0906276-011	Water	164.00 mg/L	100 mL	164 mg/L	1	10		2	11/6/09 10:40	N	IV
R0906277-002	Solids, Total Dissolved	N/A		Water	1403.85 mg/L	52 mL	1400 mg/L	1	19			11/6/09 10:40	N	IV
R0906277-005	Solids, Total Dissolved	N/A		Water	1494.52 mg/L	73 mL	1490 mg/L	1	14			11/6/09 10:40	N	IV
R0906277-008	Solids, Total Dissolved	N/A		Water	1781.48 mg/L	54 mL	1780 mg/L	1	19			11/6/09 10:40	N	IV
R0906277-011	Solids, Total Dissolved	N/A		Water	1143.24 mg/L	74 mL	1140 mg/L	1	14			11/6/09 10:40	N	IV
R0906277-013	Solids, Total Dissolved	N/A		Water	1362.07 mg/L	58 mL	1360 mg/L	1	17			11/6/09 10:40	N	IV

6198
6270
6276
6277
6056

Reviewed & Approved
By: SDeb
Date: 11/11/09

ł indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

COLUMBIA ANALYTICAL SERVICES, INC.
Rochester, NY

Analyte: Total Suspended Solids (TSS) Analyst: E. WOLFE Date: 11/6/09
Method: SM20 2540D Pipet: NA Time: 10:40
Analyte: Total Dissolved Solids (TDS)
Method: SM20 2540C **TS** ____ **TDS** X **TSS** ____
Analyte: Total Solids (TS)
Method SM20 2540B LCS Lot: WC92085A TV: **913** Balance ID: **AE240**
Filter Lot: **WC92107A** Oven ID: 1 *Lower tare weight used unless marked: ____

	Misc.	Order #	Dish ID	Sample Vol. (mLs)	Used all	Raw Data				Total Solids (mg/L)
1		MB	A14	100		Gross (A) 1:	85.3567	Gross (A) 3:		7.00
						Gross (A) 2:	85.3566			
						B)	85.3559	A-B=	0.0007	
2		LCS	PM	51		Gross (A) 1:	84.9654	Gross (A) 3:		913.73
						Gross (A) 2:	84.9655			
						B)	84.9188	A-B=	0.0466	
3		R0906198-019	KR	100		Gross (A) 1:	73.1001	Gross (A) 3:		80.00
						Gross (A) 2:	73.1004			
						B)	73.0921	A-B=	0.0080	
4		R0906198-020	OH	100		Gross (A) 1:	76.6073	Gross (A) 3:		58.00
						Gross (A) 2:	79.6073			
						B)	76.6015	A-B=	0.0058	
5		R0906198-022	UI	100		Gross (A) 1:	87.6806	Gross (A) 3:		96.00
						Gross (A) 2:	87.6804			
						B)	87.6708	A-B=	0.0096	
6		R0906198-023	BP	100		Gross (A) 1:	72.2323	Gross (A) 3:		177.00
						Gross (A) 2:	72.2325			
						B)	72.2146	A-B=	0.0177	
7		R0906198-024	AT	100		Gross (A) 1:	72.9829	Gross (A) 3:		167.00
						Gross (A) 2:	72.9828			
						B)	72.9661	A-B=	0.0167	
8		R0906198-025	CC	100		Gross (A) 1:	84.0987	Gross (A) 3:		180.00
						Gross (A) 2:	84.0985			
						B)	84.0805	A-B=	0.0180	
9		R0906270-001	50	34		Gross (A) 1:	84.8624	Gross (A) 3:		4476.47
						Gross (A) 2:	84.8622			
						B)	84.7100	A-B=	0.1522	
10		R0906270-001 DUP	TC	34		Gross (A) 1:	72.2547	Gross (A) 3:		4505.88
						Gross (A) 2:	72.2550			
						B)	72.1015	A-B=	0.1532	
11		R0906270-002	EW	37		Gross (A) 1:	74.6242	Gross (A) 3:		4562.16
						Gross (A) 2:	74.6240			
						B)	74.4552	A-B=	0.1688	
12		R0906270-003	VAN	100		Gross (A) 1:	79.2056	Gross (A) 3:		9.00
						Gross (A) 2:	79.2058			
						B)	79.2047	A-B=	0.0009	
13		R0906276-001	V9	100		Gross (A) 1:	81.6301	Gross (A) 3:		75.00
						Gross (A) 2:	81.6299			
						B)	81.6224	A-B=	0.0075	

TS, TDS, TSS mg/L = (A-B)*1,000,000 Sample Vol. (mls)
Where: A = wgt (g) of dried residue + dish
B = wgt (g) of tared dish

COLUMBIA ANALYTICAL SERVICES, INC.
Rochester, NY

Analyte: Total Suspended Solids (TSS) Analyst: E. WOLFE Date: 11/6/09
Method: SM20 2540D Pipet: NA Time: 10:40
Analyte: Total Dissolved Solids (TDS)
Method: SM20 2540C TS ____ TDS X TSS ____
Analyte: Total Solids (TS)
Method SM20 2540B LCS Lot: WC92085A TV: 913 Balance ID: AE240
Filter Lot: WC92107A Oven ID: 1 *Lower tare weight used unless marked: ____

	Misc.	Order #	Dish ID	Sample Vol. (mLs)	Used all	Raw Data				Total Solids (mg/L)
14		R0906276-003	SR	100		Gross (A) 1:	66.7493	Gross (A) 3:		458.00
						Gross (A) 2:	66.7489			
						B)	66.7031	A-B=	0.0458	
15		R0906276-005	YU	100		Gross (A) 1:	85.0678	Gross (A) 3:		346.00
						Gross (A) 2:	85.0666			
						B)	85.0320	A-B=	0.0346	
16		R0906276-007	37	100		Gross (A) 1:	83.9603	Gross (A) 3:		44.00
						Gross (A) 2:	83.9600			
						B)	83.9556	A-B=	0.0044	
17		R0906276-009	XC	100		Gross (A) 1:	83.2375	Gross (A) 3:		98.00
						Gross (A) 2:	83.2374			
						B)	83.2276	A-B=	0.0098	
18		R0906276-011	BB	100		Gross (A) 1:	82.1530	Gross (A) 3:		161.00
						Gross (A) 2:	82.1527			
						B)	82.1366	A-B=	0.0161	
19		R0906276-011 DUP	VA	100		Gross (A) 1:	71.6614	Gross (A) 3:		164.00
						Gross (A) 2:	71.6611			
						B)	71.6447	A-B=	0.0164	
20		R0906277-002	55	52		Gross (A) 1:	87.2755	Gross (A) 3:		1403.85
						Gross (A) 2:	87.2754			
						B)	87.2024	A-B=	0.0730	
21		R0906277-005	18	73		Gross (A) 1:	86.8068	Gross (A) 3:		1494.52
						Gross (A) 2:	86.8068			
						B)	86.6977	A-B=	0.1091	
22		R0906277-008	CO	54		Gross (A) 1:	81.5996	Gross (A) 3:		1781.48
						Gross (A) 2:	81.5993			
						B)	81.5031	A-B=	0.0962	
23		R0906277-011	KL	74		Gross (A) 1:	79.0954	Gross (A) 3:		1143.24
						Gross (A) 2:	79.0950			
						B)	79.0104	A-B=	0.0846	
24		R0906277-013	QO	58		Gross (A) 1:	80.6268	Gross (A) 3:		1362.07
						Gross (A) 2:	80.6266			
						B)	80.5476	A-B=	0.0790	
25		MB	GY	100		Gross (A) 1:	85.6860	Gross (A) 3:		6.00
						Gross (A) 2:	85.6861			
						B)	85.6854	A-B=	0.0006	
26		LCS	NN	61		Gross (A) 1:	87.2738	Gross (A) 3:		901.64
						Gross (A) 2:	87.2739			
						B)	87.2188	A-B=	0.0550	

TS, TDS, TSS mg/L = (A-B)*1,000,000 Sample Vol. (mls)
Where: A = wgt (g) of dried residue + dish
B = wgt (g) of tared dish

COLUMBIA ANALYTICAL SERVICES, INC.
Rochester, NY

Analyte: Total Suspended Solids (TSS) Analyst: E. WOLFE Date: 11/6/09
Method: SM20 2540D Pipet: NA Time: 10:40
Analyte: Total Dissolved Solids (TDS)
Method: SM20 2540C **TS** ____ **TDS** X **TSS** ____
Analyte: Total Solids (TS)
Method SM20 2540B LCS Lot: WC92085A TV: **913** Balance ID: **AE240**
Filter Lot: **WC92107A** Oven ID: 1 *Lower tare weight used unless marked: ____

	Misc.	Order #	Dish ID	Sample Vol. (mLs)	Used all	Raw Data				Total Solids (mg/L)
27		R0906277-015	J1	62		Gross (A) 1:	84.4080	Gross (A) 3:		1433.87
						Gross (A) 2:	84.4078			
						B)	84.3189	A-B=	0.0889	
28		R0906318-011	OJ	100		Gross (A) 1:	85.9707	Gross (A) 3:		678.00
						Gross (A) 2:	85.9706			
						B)	85.9028	A-B=	0.0678	
29		R0906318-012	T4	100		Gross (A) 1:	83.2783	Gross (A) 3:		242.00
						Gross (A) 2:	83.2779			
						B)	83.2537	A-B=	0.0242	
30		R0906320-005	RO	100		Gross (A) 1:	87.9191	Gross (A) 3:		685.00
						Gross (A) 2:	87.9188			
						B)	87.8503	A-B=	0.0685	
31		R0906320-006	A	100		Gross (A) 1:	85.2109	Gross (A) 3:		676.00
						Gross (A) 2:	85.2104			
						B)	85.1428	A-B=	0.0676	
32		R0906320-007	E16	100		Gross (A) 1:	89.3127	Gross (A) 3:		462.00
						Gross (A) 2:	89.3127			
						B)	89.2665	A-B=	0.0462	
33		R0906320-007 DUP	ANT	100		Gross (A) 1:	82.7465	Gross (A) 3:		451.00
						Gross (A) 2:	82.7466			
						B)	82.7014	A-B=	0.0451	
34		R0906320-008	47	100		Gross (A) 1:	83.4102	Gross (A) 3:		516.00
						Gross (A) 2:	83.4101			
						B)	83.3585	A-B=	0.0516	
35		R0906282-001	F4	100		Gross (A) 1:	83.6842	Gross (A) 3:		636.00
						Gross (A) 2:	83.6841			
						B)	83.6205	A-B=	0.0636	
36		R0906282-002	40	99		Gross (A) 1:	83.1577	Gross (A) 3:		991.92
						Gross (A) 2:	83.1574			
						B)	83.0592	A-B=	0.0982	
37		R0906282-003	TIE	48		Gross (A) 1:	81.1114	Gross (A) 3:		2133.33
						Gross (A) 2:	81.1120			
						B)	81.0090	A-B=	0.1024	
38		R0906282-003 DUP	N6	49		Gross (A) 1:	77.6702	Gross (A) 3:		2124.49
						Gross (A) 2:	77.6695			
						B)	77.5654	A-B=	0.1041	
39		R0906282-004	OX	50		Gross (A) 1:	89.4221	Gross (A) 3:		2074.00
						Gross (A) 2:	89.4209			
						B)	89.3172	A-B=	0.1037	

TS, TDS, TSS mg/L = (A-B)*1,000,000 Sample Vol. (mls)
Where: A = wgt (g) of dried residue + dish
B = wgt (g) of tared dish

COLUMBIA ANALYTICAL SERVICES, INC.
Rochester, NY

Analyte: Total Suspended Solids (TSS) Analyst: E. WOLFE Date: 11/6/09
Method: SM20 2540D Pipet: NA Time: 10:40
Analyte: Total Dissolved Solids (TDS)
Method: SM20 2540C **TS** ____ **TDS** X **TSS** ____
Analyte: Total Solids (TS)
Method SM20 2540B LCS Lot: WC92085A TV: **913** Balance ID: **AE240**
Filter Lot: **WC92107A** Oven ID: 1 *Lower tare weight used unless marked: ____

	Misc.	Order #	Dish ID	Sample Vol. (mLs)	Used all	Raw Data				Total Solids (mg/L)
40		R0906282-005	IR	45		Gross (A) 1:	88.5172	Gross (A) 3:		2575.56
						Gross (A) 2:	88.5156			
						B)	88.3997	A-B=	0.1159	
41		R0906282-006	H10	77		Gross (A) 1:	73.8241	Gross (A) 3:		1181.82
						Gross (A) 2:	73.8236			
						B)	73.7326	A-B=	0.0910	
42		R0906282-007	74	100		Gross (A) 1:	85.3982	Gross (A) 3:		780.00
						Gross (A) 2:	85.3976			
						B)	85.3196	A-B=	0.0780	
43		R0906282-008	A10	26		Gross (A) 1:	85.1660	Gross (A) 3:		4865.38
						Gross (A) 2:	85.1651			
						B)	85.0386	A-B=	0.1265	
44		R0906317-002	ED	100		Gross (A) 1:	89.1225	Gross (A) 3:		231.00
						Gross (A) 2:	89.1224			
						B)	89.0993	A-B=	0.0231	
45		R0906317-003	SS	100		Gross (A) 1:	81.0450	Gross (A) 3:		213.00
						Gross (A) 2:	81.0447			
						B)	81.0234	A-B=	0.0213	
46		R0906317-004	A4	95		Gross (A) 1:	86.3867	Gross (A) 3:		651.58
						Gross (A) 2:	86.3858			
						B)	86.3239	A-B=	0.0619	
47		R0906317-005	F16	100		Gross (A) 1:	84.3910	Gross (A) 3:		377.00
						Gross (A) 2:	84.3911			
						B)	84.3533	A-B=	0.0377	
48		R0906317-006	F8	90		Gross (A) 1:	82.7915	Gross (A) 3:		602.22
						Gross (A) 2:	82.7917			
						B)	82.7373	A-B=	0.0542	
49		MB	DF	100		Gross (A) 1:	78.2476	Gross (A) 3:		2.00
						Gross (A) 2:	78.2477			
						B)	78.2474	A-B=	0.0002	
50		LCS	AM	55		Gross (A) 1:	81.6872	Gross (A) 3:		900.00
						Gross (A) 2:	81.6874			
						B)	81.6377	A-B=	0.0495	
51		R0906317-008	BF	94		Gross (A) 1:	75.4037	Gross (A) 3:		455.32
						Gross (A) 2:	75.4035			
						B)	75.3607	A-B=	0.0428	
52		R0906317-010	NM	100		Gross (A) 1:	72.0071	Gross (A) 3:		500.00
						Gross (A) 2:	72.0073			
						B)	71.9571	A-B=	0.0500	

TS, TDS, TSS mg/L = (A-B)*1,000,000 Sample Vol. (mls)
Where: A = wgt (g) of dried residue + dish
B = wgt (g) of tared dish

COLUMBIA ANALYTICAL SERVICES, INC.
Rochester, NY

Analyte: Total Suspended Solids (TSS) Analyst: E. WOLFE Date: 11/6/09
Method: SM20 2540D Pipet: NA Time: 10:40
Analyte: Total Dissolved Solids (TDS)
Method: SM20 2540C **TS** ____ **TDS** X **TSS** ____
Analyte: Total Solids (TS)
Method SM20 2540B LCS Lot: WC92085A TV: **913** Balance ID: **AE240**
Filter Lot: **WC92107A** Oven ID: 1 *Lower tare weight used unless marked: ____

	Misc.	Order #	Dish ID	Sample Vol. (mLs)	Used all	Raw Data				Total Solids (mg/L)
53		R0906321-001	FT	100		Gross (A) 1:	86.2242	Gross (A) 3:		339.00
						Gross (A) 2:	86.2246			
						B)	86.1903	A-B=	0.0339	
54		R0906358-001	TT	100		Gross (A) 1:	88.7207	Gross (A) 3:		160.00
						Gross (A) 2:	88.7207			
						B)	88.7047	A-B=	0.0160	
55		R0906359-001	80	52		Gross (A) 1:	86.0367	Gross (A) 3:		2055.77
						Gross (A) 2:	86.0368			
						B)	85.9298	A-B=	0.1069	
56		R0906359-001 DUP	VI	54		Gross (A) 1:	88.2132	Gross (A) 3:		2042.59
						Gross (A) 2:	88.2134			
						B)	88.1029	A-B=	0.1103	
57		R0906056-001	TY	97		Gross (A) 1:	80.2221	Gross (A) 3:		577.32
						Gross (A) 2:	80.2219			
						B)	80.1659	A-B=	0.0560	
58		R0906056-003	CN	100		Gross (A) 1:	90.3033	Gross (A) 3:		176.00
						Gross (A) 2:	90.3035			
						B)	90.2857	A-B=	0.0176	
59		R0906056-005	ER	100		Gross (A) 1:	81.9442	Gross (A) 3:		94.00
						Gross (A) 2:	81.9444			
						B)	81.9348	A-B=	0.0094	
60		R0906056-007	FG	100		Gross (A) 1:	81.9203	Gross (A) 3:		869.00
						Gross (A) 2:	81.9203			
						B)	81.8334	A-B=	0.0869	
61		RQ0910788-01	GH	100		Gross (A) 1:	83.1998	Gross (A) 3:		6.00
						Gross (A) 2:	83.1999			
						B)	83.1992	A-B=	0.0006	

TS, TDS, TSS mg/L = (A-B)*1,000,000 Sample Vol. (mls)
Where: A = wgt (g) of dried residue + dish
B = wgt (g) of tared dish

COLUMBIA ANALYTICAL SERVICES, INC

Tare Weights:

Instrument: X Mettler AE240 Analytical Balance
____ Mettler AG204 Analytical Balance

Analyst: E. WOLFE
Date: 11/6/09

Drying Tins: ____ Dish 104°C: ____
Crucible 550°C: ____ Dish 550°C: ____
Dish 180°C: X G/O Dishes: ____

	Weight	Actual
s Weights (s):	100 g	100 g
	____ g	____ g

ID Number	Weight	
OH	76.6015	76.6016
BP	72.2146	72.2146
AT	72.9662	72.9661
PM	84.9189	84.9188
KR	73.0924	73.0921
A14	85.3561	85.3559
CC	84.0806	84.0805
37	83.9557	83.9556
YU	85.0321	85.0320
SR	66.7031	66.7032
EW	74.4554	74.4552
TC	72.1016	72.1015
VAN	79.2048	79.2047
UI	87.6712	87.6708
50	84.7103	84.7100
V9	81.6224	81.6224
ANT	82.7014	82.7014
IR	88.3998	88.3997
40	83.0592	83.0593
F4	83.6206	83.6205
OX	89.3173	89.3172
N6	77.5655	77.5654
47	83.3585	83.3586
H10	73.7327	73.7326
NM	71.9571	71.9573
TY	80.1663	80.1659
CN	90.2857	90.2857
TT	88.7050	88.7047
80	85.9299	85.9298
VI	88.1029	88.1029
ER	81.9348	81.9350

ID Number	Weight	
E16	89.2666	89.2665
OJ	85.9030	85.9028
A	85.1428	85.1428
J1	84.3189	84.3189
RO	87.8507	87.8503
NN	87.2191	87.2188
T4	83.2537	83.2537
GY	85.6857	85.6854
QO	80.5476	80.5476
KL	79.0104	79.0104
55	87.2024	87.2024
BB	82.1367	82.1366
VA	71.6448	71.6447
18	86.6977	86.6977
CO	81.5033	81.5031
XC	83.2276	83.2277
F8	82.7373	82.7374
ED	89.0995	89.0993
TIE	81.0092	81.0090
A10	85.0386	85.0387
F16	84.3533	84.3533
74	85.3196	85.3197
A4	86.3240	86.3239
SS	81.0234	81.0234
GH	83.1993	83.1992
FG	81.8335	81.8334
DF	78.2474	78.2474
FT	86.1903	86.1904
AM	81.6377	81.6378
BF	75.3609	75.3607

EW 11/10/09

J:\ACQUDATA\WetChem\Solids\Solids\TDS\TDS110609

Columbia Analytical Services
1 Mustard St., Rochester, NY 14609-0859

General Chemistry Analytical Run Cover Sheet

Analyst: EW Date: 11/6/09

Analysis: Total Dissolved Solids Instrument: ✓ Mettler AE 240 Analytical Balance
_____ Mettler AG 204 Analytical Balance

Quality Control:

	Log Book #	Log Book Date	Stock Sol (m/Ls)	Stock Sol (mg/L)	Final Vol (mLs)	True Value (mg/L)
a) Standards Prep.:						
b) I/CCV Preparation:						
c) LCS Preparation:	WC92085A	9/21/2009				913
d) Matrix Spike Prep.:						

Instrument log filled in? (Y)(N)

Packages: Copy and attach LCS Preparation

Comments:

The weight loss between successive gross dry weights should not exceed 4% or 1.0 mg, whichever is less.

For calculations, used: ✓ lower ___ higher tare weight

As a rule, the lower of the successive dry weights is used to calculate the result.

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TITLE PROJECT

Continued from page

9/21/09 (A) TDS Reference
EW 0.9126 ~~0.1926g~~ NaCl (WC85215H) diluted volumetrically to
EW 9/21/09 1 Liter ~~mod 9/21/09~~ with DI. Store in plastic bottle @ 4°C.
TV = 913 mg/L Exp: 9/21/10 (12306)

9/21/09 (B) TKN Digest Reagent
SBR To a 2L vol. flask, add 268g K_2SO_4 (WC92081G) and 14.6g $CuSO_4$ (WC85271E). Fill ~½ way with UPDI. Slowly add 26.8 mL omnitrace H_2SO_4 (WC92064B). Allow to dissolve and cool. Bring to vol. with UPDI. Store in amber glass @ RT for 1 month. Exp 10/21/09

9/21/09 (C) Color Reagent - TPO4
GN - same as WC92075G. Exp 1 year. 9/21/09 or when discolored

9/21/09 (D) Ascorbic Acid - TPO4
EW - same as WC92080C. Exp 1 week: 9/28/09

9/22/09 (E) Hypochlorite - TKN
NW - same as WC92082B. Prepare fresh each run.

9/22/09 Received from VWR:

(F) EDTA 1x500g CAT# EX0539-1 EMD Lot# 49077930 CAS# 6381-92-6
Store at room temp Exp 9/22/14 [12329]

(G) 1x4L 0.02500N Sulfuric Acid Solution CAT# BDH3229-4 BDH Lot# 9089 CAS# 7664-93-9
Store at room temp Exp 3/31/10 [12330]

(H) 1x500g Sodium Formate Crystal CAT# 3700-01 J.T.Baker Lot# 1340601 CAS# 141-53-7
Store at room temp Exp 9/22/14

(I) 1x 125ml Bromide Standard 1000 ppm CAT# 1CC-CO1 Ultra Scientific Lot# J00147
Store at 4°C in Standards fridge Exp 3/31/11 [12327]

(J) 1x 500ml Phenol Solution CAT# PX0511-1 EMD Lot# 48112 CAS# 108-95-2
Store in flammable cabinet Exp 9/22/14 [12328]

9/22/09 (K) TS/TVS Reference
EW 0.3001 g KHP (WC85062C) diluted volumetrically to 1 Liter w/ DI. Store in plastic bottle @ 4°C. TV_{TS} = 300 mg/L TV_{TVS} = 200 mg/L Exp: 9/22/10 (12331)

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE PROPRIETARY INFORMATION

Analytical Results Summary

Instrument Name: R-Balance-02 **Analyst:** EWOLFE **Analysis Lot:** 178086 **Method/Testcode:** SM 2540 D/TSS

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
RQ0911021-01	Solids, Total Suspended (TSS)	MB		Water	-0.20 mg/L	1000 mL	1.0 mg/L U	1	1.0			11/5/09 14:40	N	II
RQ0911021-02	Solids, Total Suspended (TSS)	LCS		Water	212.00 mg/L	100 mL	212 mg/L	1	10	99		11/5/09 14:40	N	II
R0906258-005	Solids, Total Suspended (TSS)	N/A		Water	6.50 mg/L	1000 mL	6.5 mg/L	1	1.0			11/5/09 14:40	N	II
R0906258-009	Solids, Total Suspended (TSS)	N/A		Water	2.10 mg/L	1000 mL	2.1 mg/L	1	1.0			11/5/09 14:40	N	II
R0906258-013	Solids, Total Suspended (TSS)	N/A		Water	7.37 mg/L	990 mL	7.4 mg/L	1	1.0			11/5/09 14:40	N	II
RQ0911021-03	Solids, Total Suspended (TSS)	DUP	R0906258-013	Water	7.24 mg/L	995 mL	7.2 mg/L	1	1.0		2	11/5/09 14:40	N	II
R0906265-002	Solids, Total Suspended (TSS)	N/A		Water	13.65 mg/L	447 mL	13.6 mg/L	1	2.2			11/5/09 14:40	N	II
R0906270-001	Solids, Total Suspended (TSS)	N/A		Water	0.70 mg/L	1000 mL	1.0 mg/L U	1	1.0			11/5/09 14:40	N	IV
R0906270-002	Solids, Total Suspended (TSS)	N/A		Water	0.81 mg/L	990 mL	1.0 mg/L U	1	1.0			11/5/09 14:40	N	IV
R0906270-003	Solids, Total Suspended (TSS)	N/A		Water	0.00 mg/L	1000 mL	1.0 mg/L U	1	1.0			11/5/09 14:40	N	IV
R0906276-001	Solids, Total Suspended (TSS)	N/A		Water	5.60 mg/L	1000 mL	5.6 mg/L	1	1.0			11/5/09 14:40	N	IV
R0906276-003	Solids, Total Suspended (TSS)	N/A		Water	6.80 mg/L	1000 mL	6.8 mg/L	1	1.0			11/5/09 14:40	N	IV
R0906276-005	Solids, Total Suspended (TSS)	N/A		Water	5.30 mg/L	1000 mL	5.3 mg/L	1	1.0			11/5/09 14:40	N	IV
R0906276-007	Solids, Total Suspended (TSS)	N/A		Water	1.50 mg/L	1000 mL	1.5 mg/L	1	1.0			11/5/09 14:40	N	IV
R0906276-009	Solids, Total Suspended (TSS)	N/A		Water	12.50 mg/L	1000 mL	12.5 mg/L	1	1.0			11/5/09 14:40	N	IV
R0906276-011	Solids, Total Suspended (TSS)	N/A		Water	17.53 mg/L	810 mL	17.5 mg/L	1	1.2			11/5/09 14:40	N	IV
R0906277-002	Solids, Total Suspended (TSS)	N/A		Water	117.27 mg/L	139 mL	117 mg/L	1	7.2			11/5/09 14:40	N	IV
R0906277-005	Solids, Total Suspended (TSS)	N/A		Water	87.50 mg/L	144 mL	87.5 mg/L	1	6.9			11/5/09 14:40	N	IV
R0906277-008	Solids, Total Suspended (TSS)	N/A		Water	132.00 mg/L	150 mL	132 mg/L	1	6.7			11/5/09 14:40	N	IV
R0906277-011	Solids, Total Suspended (TSS)	N/A		Water	50.74 mg/L	270 mL	50.7 mg/L	1	3.7			11/5/09 14:40	N	IV
RQ0911021-04	Solids, Total Suspended (TSS)	DUP	R0906277-011	Water	51.66 mg/L	271 mL	51.7 mg/L	1	3.7		2	11/5/09 14:40	N	IV
R0906277-013	Solids, Total Suspended (TSS)	N/A		Water	51.53 mg/L	326 mL	51.5 mg/L	1	3.1			11/5/09 14:40	N	IV
R0906277-015	Solids, Total Suspended (TSS)	N/A		Water	72.76 mg/L	246 mL	72.8 mg/L	1	4.1			11/5/09 14:40	N	IV
R0906303-002	Solids, Total Suspended (TSS)	N/A		Water	5.20 mg/L	1000 mL	5.2 mg/L	1	1.0			11/5/09 14:40	N	II

I indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

COLUMBIA ANALYTICAL SERVICES, INC.
Rochester, NY

Analyte: Total Suspended Solids (TSS) Analyst: E. WOLFE Date: 11/5/09
Method: SM20 2540D Pipet: NA Time: 14:40
Analyte: Total Dissolved Solids (TDS)
Method: SM20 2540C **TS** ____ **TDS** ____ **TSS** X
Analyte: Total Solids (TS)
Method SM20 2540B LCS Lot: WC92106B TV: **215** Balance ID: **AE240**
Filter Lot: **WC92107A** Oven ID: 2 *Lower tare weight used unless marked: ____

	Misc.	Order #	Dish ID	Sample Vol. (mLs)	Used all	Raw Data				Total Solids (mg/L)
1		MB	28	1000		Gross (A) 1:	1.4120	Gross (A) 3:		-0.20
						Gross (A) 2:	1.4118			
						B)	1.4120	A-B=	-0.0002	
2		LCS	29	100		Gross (A) 1:	1.4280	Gross (A) 3:		212.00
						Gross (A) 2:	1.4280			
						B)	1.4068	A-B=	0.0212	
3		R0906268-001	30	435	X	Gross (A) 1:	1.4143	Gross (A) 3:		6.21
						Gross (A) 2:	1.4143			
						B)	1.4116	A-B=	0.0027	
4		R0906268-002	31	455	X	Gross (A) 1:	1.4180	Gross (A) 3:		4.40
						Gross (A) 2:	1.4181			
						B)	1.4160	A-B=	0.0020	
5		R0906268-003	32	430	X	Gross (A) 1:	1.4157	Gross (A) 3:		9.07
						Gross (A) 2:	1.4157			
						B)	1.4118	A-B=	0.0039	
6		R0906268-004	33	430	X	Gross (A) 1:	1.4343	Gross (A) 3:		45.12
						Gross (A) 2:	1.4344			
						B)	1.4149	A-B=	0.0194	
7		R0906268-005	34	440	X	Gross (A) 1:	1.4253	Gross (A) 3:		19.77
						Gross (A) 2:	1.4253			
						B)	1.4166	A-B=	0.0087	
8		R0906268-006	35	435	X	Gross (A) 1:	1.4067	Gross (A) 3:		8.97
						Gross (A) 2:	1.4066			
						B)	1.4027	A-B=	0.0039	
9		R0906268-007	36	440	X	Gross (A) 1:	1.4138	Gross (A) 3:		11.59
						Gross (A) 2:	1.4136			
						B)	1.4085	A-B=	0.0051	
10		R0906268-008	37	450	X	Gross (A) 1:	1.4244	Gross (A) 3:		5.56
						Gross (A) 2:	1.4246			
						B)	1.4219	A-B=	0.0025	
11		R0906268-009	38	430	X	Gross (A) 1:	1.4155	Gross (A) 3:		3.49
						Gross (A) 2:	1.4154			
						B)	1.4139	A-B=	0.0015	
12		R0906268-010	39	430	X	Gross (A) 1:	1.4118	Gross (A) 3:		5.35
						Gross (A) 2:	1.4117			
						B)	1.4094	A-B=	0.0023	
13		R0906268-011	40	460	X	Gross (A) 1:	1.4291	Gross (A) 3:		4.57
						Gross (A) 2:	1.4291			
						B)	1.4270	A-B=	0.0021	

TS, TDS, TSS mg/L = (A-B)*1,000,000 Sample Vol. (mls)
Where: A = wgt (g) of dried residue + dish
B = wgt (g) of tared dish

COLUMBIA ANALYTICAL SERVICES, INC.
Rochester, NY

Analyte: Total Suspended Solids (TSS) Analyst: E. WOLFE Date: 11/5/09
Method: SM20 2540D Pipet: NA Time: 14:40
Analyte: Total Dissolved Solids (TDS)
Method: SM20 2540C **TS** ____ **TDS** ____ **TSS** X
Analyte: Total Solids (TS)
Method SM20 2540B LCS Lot: WC92106B TV: **215** Balance ID: **AE240**
Filter Lot: **WC92107A** Oven ID: 2 *Lower tare weight used unless marked: ____

	Misc.	Order #	Dish ID	Sample Vol. (mLs)	Used all	Raw Data				Total Solids (mg/L)
14		R0906268-012	41	460	X	Gross (A) 1:	1.4172	Gross (A) 3:		8.91
						Gross (A) 2:	1.4173			
						B)	1.4131	A-B=	0.0041	
15		R0906268-013	42	425	X	Gross (A) 1:	1.4231	Gross (A) 3:		9.41
						Gross (A) 2:	1.4231			
						B)	1.4191	A-B=	0.0040	
16		R0906268-014	43	415	X	Gross (A) 1:	1.4240	Gross (A) 3:		17.59
						Gross (A) 2:	1.4240			
						B)	1.4167	A-B=	0.0073	
17		R0906268-015	44	410	X	Gross (A) 1:	1.4176	Gross (A) 3:		11.46
						Gross (A) 2:	1.4176			
						B)	1.4129	A-B=	0.0047	
18		R0906259-001	45	1000		Gross (A) 1:	1.4258	Gross (A) 3:		3.40
						Gross (A) 2:	1.4259			
						B)	1.4224	A-B=	0.0034	
19		R0906259-001 DUP	46	1000		Gross (A) 1:	1.4195	Gross (A) 3:		3.60
						Gross (A) 2:	1.4196			
						B)	1.4159	A-B=	0.0036	
20		R0906260-001	47	1000		Gross (A) 1:	1.4204	Gross (A) 3:		0.00
						Gross (A) 2:	1.4204			
						B)	1.4204	A-B=	0.0000	
21		R0906260-003	48	1000		Gross (A) 1:	1.4151	Gross (A) 3:		3.40
						Gross (A) 2:	1.4151			
						B)	1.4117	A-B=	0.0034	
22		R0906253-003	49	1000		Gross (A) 1:	1.4182	Gross (A) 3:		0.00
						Gross (A) 2:	1.4183			
						B)	1.4182	A-B=	0.0000	
23		R0906258-001	50	775		Gross (A) 1:	1.4288	Gross (A) 3:		16.00
						Gross (A) 2:	1.4289			
						B)	1.4164	A-B=	0.0124	
24		R0906258-001 DUP	51	775		Gross (A) 1:	1.4260	Gross (A) 3:		15.74
						Gross (A) 2:	1.4261			
						B)	1.4138	A-B=	0.0122	
25		MB	52	1000		Gross (A) 1:	1.4137	Gross (A) 3:		-0.20
						Gross (A) 2:	1.4138			
						B)	1.4139	A-B=	-0.0002	
26		LCS	53	100		Gross (A) 1:	1.4373	Gross (A) 3:		212.00
						Gross (A) 2:	1.4373			
						B)	1.4161	A-B=	0.0212	

TS, TDS, TSS mg/L = (A-B)*1,000,000 Sample Vol. (mls)
Where: A = wgt (g) of dried residue + dish
B = wgt (g) of tared dish

COLUMBIA ANALYTICAL SERVICES, INC.
Rochester, NY

Analyte: Total Suspended Solids (TSS) Analyst: E. WOLFE Date: 11/5/09
Method: SM20 2540D Pipet: NA Time: 14:40
Analyte: Total Dissolved Solids (TDS)
Method: SM20 2540C **TS** _____ **TDS** _____ **TSS** X
Analyte: Total Solids (TS)
Method SM20 2540B LCS Lot: WC92106B TV: **215** Balance ID: **AE240**
Filter Lot: **WC92107A** Oven ID: 2 *Lower tare weight used unless marked: _____

	Misc.	Order #	Dish ID	Sample Vol. (mLs)	Used all	Raw Data				Total Solids (mg/L)
27		R0906258-005	54	1000		Gross (A) 1:	1.4224	Gross (A) 3:		6.50
						Gross (A) 2:	1.4224			
						B)	1.4159	A-B=	0.0065	
28		R0906258-009	55	1000		Gross (A) 1:	1.4106	Gross (A) 3:		2.10
						Gross (A) 2:	1.4106			
						B)	1.4085	A-B=	0.0021	
29		R0906258-013	56	990	X	Gross (A) 1:	1.4294	Gross (A) 3:		7.37
						Gross (A) 2:	1.4294			
						B)	1.4221	A-B=	0.0073	
30		R0906258-013 DUP	57	995	X	Gross (A) 1:	1.4256	Gross (A) 3:		7.24
						Gross (A) 2:	1.4255			
						B)	1.4183	A-B=	0.0072	
31		R0906265-002	58	447		Gross (A) 1:	1.4306	Gross (A) 3:		13.65
						Gross (A) 2:	1.4306			
						B)	1.4245	A-B=	0.0061	
32		R0906270-001	59	1000		Gross (A) 1:	1.4125	Gross (A) 3:		0.70
						Gross (A) 2:	1.4123			
						B)	1.4116	A-B=	0.0007	
33		R0906270-002	60	990	X	Gross (A) 1:	1.4195	Gross (A) 3:		0.81
						Gross (A) 2:	1.4194			
						B)	1.4186	A-B=	0.0008	
34		R0906270-003	61	1000		Gross (A) 1:	1.4116	Gross (A) 3:		0.00
						Gross (A) 2:	1.4116			
						B)	1.4116	A-B=	0.0000	
35		R0906276-001	62	1000		Gross (A) 1:	1.4209	Gross (A) 3:		5.60
						Gross (A) 2:	1.4208			
						B)	1.4152	A-B=	0.0056	
36		R0906276-003	63	1000		Gross (A) 1:	1.4221	Gross (A) 3:		6.80
						Gross (A) 2:	1.4221			
						B)	1.4153	A-B=	0.0068	
37		R0906276-005	64	1000		Gross (A) 1:	1.4198	Gross (A) 3:		5.30
						Gross (A) 2:	1.4198			
						B)	1.4145	A-B=	0.0053	
38		R0906276-007	65	1000		Gross (A) 1:	1.4109	Gross (A) 3:		1.50
						Gross (A) 2:	1.4109			
						B)	1.4094	A-B=	0.0015	
39		R0906276-009	66	1000		Gross (A) 1:	1.4210	Gross (A) 3:		12.50
						Gross (A) 2:	1.4210			
						B)	1.4085	A-B=	0.0125	

TS, TDS, TSS mg/L = (A-B)*1,000,000 Sample Vol. (mls)
Where: A = wgt (g) of dried residue + dish
B = wgt (g) of tared dish

COLUMBIA ANALYTICAL SERVICES, INC.
Rochester, NY

Analyte: Total Suspended Solids (TSS) Analyst: E. WOLFE Date: 11/5/09
Method: SM20 2540D Pipet: NA Time: 14:40
Analyte: Total Dissolved Solids (TDS)
Method: SM20 2540C **TS** ____ **TDS** ____ **TSS** X
Analyte: Total Solids (TS)
Method SM20 2540B LCS Lot: WC92106B TV: **215** Balance ID: **AE240**
Filter Lot: **WC92107A** Oven ID: 2 *Lower tare weight used unless marked: ____

	Misc.	Order #	Dish ID	Sample Vol. (mLs)	Used all	Raw Data				Total Solids (mg/L)
40		R0906276-011	67	810		Gross (A) 1:	1.4373	Gross (A) 3:		17.53
						Gross (A) 2:	1.4372			
						B)	1.4230	A-B=	0.0142	
41		R0906277-002	68	139		Gross (A) 1:	1.4247	Gross (A) 3:		117.27
						Gross (A) 2:	1.4245			
						B)	1.4082	A-B=	0.0163	
42		R0906277-005	69	144		Gross (A) 1:	1.4253	Gross (A) 3:		87.50
						Gross (A) 2:	1.4252			
						B)	1.4126	A-B=	0.0126	
43		R0906277-008	70	150		Gross (A) 1:	1.4395	Gross (A) 3:		132.00
						Gross (A) 2:	1.4395			
						B)	1.4197	A-B=	0.0198	
44		R0906277-011	71	270		Gross (A) 1:	1.4330	Gross (A) 3:		50.74
						Gross (A) 2:	1.4328			
						B)	1.4191	A-B=	0.0137	
45		R0906277-011 DUP	72	271		Gross (A) 1:	1.4324	Gross (A) 3:		51.66
						Gross (A) 2:	1.4325			
						B)	1.4184	A-B=	0.0140	
46		R0906277-013	73	326		Gross (A) 1:	1.4391	Gross (A) 3:		51.53
						Gross (A) 2:	1.4391			
						B)	1.4223	A-B=	0.0168	
47		R0906277-015	74	246		Gross (A) 1:	1.4372	Gross (A) 3:		72.76
						Gross (A) 2:	1.4371			
						B)	1.4192	A-B=	0.0179	
48		R0906303-002	75	1000		Gross (A) 1:	1.4138	Gross (A) 3:		5.20
						Gross (A) 2:	1.4139			
						B)	1.4086	A-B=	0.0052	
49		MB	76	1000		Gross (A) 1:	1.4170	Gross (A) 3:		-0.10
						Gross (A) 2:	1.4170			
						B)	1.4171	A-B=	-0.0001	
50		LCS	77	100		Gross (A) 1:	1.4310	Gross (A) 3:		210.00
						Gross (A) 2:	1.4309			
						B)	1.4099	A-B=	0.0210	
51		R0906282-008	78	5.3		Gross (A) 1:	1.4240	Gross (A) 3:		698.11
						Gross (A) 2:	1.4239			
						B)	1.4202	A-B=	0.0037	
52		R0906282-008 DUP	79	5.7		Gross (A) 1:	1.4261	Gross (A) 3:		771.93
						Gross (A) 2:	1.4262			
						B)	1.4217	A-B=	0.0044	

TS, TDS, TSS mg/L = (A-B)*1,000,000 Sample Vol. (mls)
Where: A = wgt (g) of dried residue + dish
B = wgt (g) of tared dish

COLUMBIA ANALYTICAL SERVICES, INC.
Rochester, NY

Analyte: Total Suspended Solids (TSS) Analyst: E. WOLFE Date: 11/5/09
Method: SM20 2540D Pipet: NA Time: 14:40
Analyte: Total Dissolved Solids (TDS)
Method: SM20 2540C **TS** ____ **TDS** ____ **TSS** X
Analyte: Total Solids (TS)
Method SM20 2540B LCS Lot: WC92106B TV: **215** Balance ID: **AE240**
Filter Lot: **WC92107A** Oven ID: 2 *Lower tare weight used unless marked: ____

	Misc.	Order #	Dish ID	Sample Vol. (mLs)	Used all	Raw Data				Total Solids (mg/L)
53		R0906282-009	80	4.2		Gross (A) 1:	1.4199	Gross (A) 3:		2690.48
						Gross (A) 2:	1.4200			
						B)	1.4086	A-B=	0.0113	
54		R0906282-010	81	3		Gross (A) 1:	1.4287	Gross (A) 3:		4233.33
						Gross (A) 2:	1.4289			
						B)	1.4160	A-B=	0.0127	
55		R0906285-001	82	24		Gross (A) 1:	1.4355	Gross (A) 3:		383.33
						Gross (A) 2:	1.4355			
						B)	1.4263	A-B=	0.0092	
56		R0906285-002	83	145		Gross (A) 1:	1.4132	Gross (A) 3:		36.55
						Gross (A) 2:	1.4132			
						B)	1.4079	A-B=	0.0053	
57		R0906285-003	84	1.5		Gross (A) 1:	1.4201	Gross (A) 3:		4733.33
						Gross (A) 2:	1.4202			
						B)	1.4130	A-B=	0.0071	
58		R0906285-003 DUP	85	1.3		Gross (A) 1:	1.4222	Gross (A) 3:		4538.46
						Gross (A) 2:	1.4223			
						B)	1.4163	A-B=	0.0059	
59		R0906285-004	86	45		Gross (A) 1:	1.4209	Gross (A) 3:		28.89
						Gross (A) 2:	1.4209			
						B)	1.4196	A-B=	0.0013	
60		R0906306-001	87	1000		Gross (A) 1:	1.4319	Gross (A) 3:		8.00
						Gross (A) 2:	1.4319			
						B)	1.4239	A-B=	0.0080	
61		R0906319-001	88	515	X	Gross (A) 1:	1.4149	Gross (A) 3:		0.19
						Gross (A) 2:	1.4150			
						B)	1.4148	A-B=	0.0001	
62		R0906324-001	89	1000		Gross (A) 1:	1.4081	Gross (A) 3:		0.50
						Gross (A) 2:	1.4080			
						B)	1.4075	A-B=	0.0005	
63		R0906321-001	90	385		Gross (A) 1:	1.4114	Gross (A) 3:		12.99
						Gross (A) 2:	1.4112			
						B)	1.4062	A-B=	0.0050	
64		R0906325-001	91	920	X	Gross (A) 1:	1.4083	Gross (A) 3:		1.85
						Gross (A) 2:	1.4081			
						B)	1.4064	A-B=	0.0017	
65		R0906325-002	92	925	X	Gross (A) 1:	1.4153	Gross (A) 3:		2.38
						Gross (A) 2:	1.4151			
						B)	1.4129	A-B=	0.0022	

TS, TDS, TSS mg/L = (A-B)*1,000,000 Sample Vol. (mls)
Where: A = wgt (g) of dried residue + dish
B = wgt (g) of tared dish

Analyte: Total Suspended Solids (TSS) Analyst: E. WOLFE Date: 11/5/09
Method: SM20 2540D Pipet: NA Time: 14:40
Analyte: Total Dissolved Solids (TDS)
Method: SM20 2540C **TS** ____ **TDS** ____ **TSS** X
Analyte: Total Solids (TS)
Method SM20 2540B LCS Lot: WC92106B TV: **215** Balance ID: **AE240**
Filter Lot: **WC92107A** Oven ID: 2 *Lower tare weight used unless marked: ____

	Misc.	Order #	Dish ID	Sample Vol. (mLs)	Used all	Raw Data				Total Solids (mg/L)
66		R0906339-001	93	1000		Gross (A) 1:	1.4312	Gross (A) 3:		4.50
						Gross (A) 2:	1.4310			
						B)	1.4265	A-B=	0.0045	
67		R0906339-005	94	680		Gross (A) 1:	1.4171	Gross (A) 3:		9.56
						Gross (A) 2:	1.4170			
						B)	1.4105	A-B=	0.0065	
68		R0906339-009	95	975	X	Gross (A) 1:	1.4141	Gross (A) 3:		6.97
						Gross (A) 2:	1.4139			
						B)	1.4071	A-B=	0.0068	
69		R0906339-013	96	985	X	Gross (A) 1:	1.4168	Gross (A) 3:		5.38
						Gross (A) 2:	1.4167			
						B)	1.4114	A-B=	0.0053	

TS, TDS, TSS mg/L = (A-B)*1,000,000 Sample Vol. (mls)
Where: A = wgt (g) of dried residue + dish
B = wgt (g) of tared dish

COLUMBIA ANALYTICAL SERVICES, INC

Tare Weights:

Instrument: X Mettler AE240 Analytical Balance
____ Mettler AG204 Analytical Balance

Analyst: E. WOLFE
Date: 11/5/09

Drying Tins: X Dish 104°C: ____
Crucible 550°C: ____ Dish 550°C: ____
Dish 180°C: ____ G/O Dishes: ____

	Weight	Actual
s Weights (s):	0.9999 g	1 g
	____ g	____ g

BB 11/9/09

ID Number	Weight	
28	1.4120	1.4120
29	1.4068	1.4069
30	1.4116	1.4116
31	1.4160	1.4160
32	1.4118	1.4118
33	1.4149	~~1.4119~~ 1.4149
34	1.4166 ~~1.4366~~	1.4167
35	1.4028	1.4027
36	1.4087	1.4085
37	1.4219	1.4220
38	1.4140	1.4139
39	1.4094	1.4095
40	1.4270	1.4270
41	1.4131	1.4131
42	1.4191	1.4191
43	1.4167	1.4168
44	1.4129	1.4129
45	1.4225	1.4224
46	1.4159	1.4160
47	1.4204	1.4204
48	1.4117	1.4117
49	1.4182	1.4182
50	1.4164	1.4165
51	1.4138	1.4139
52	1.4140	1.4139
53	1.4161	1.4161
54	1.4159	1.4159
55	1.4085	1.4085
56	1.4221	1.4221
57	1.4183	1.4183
58	1.4245	1.4245
59	1.4116	1.4116
60	1.4187	1.4186
61	1.4117	1.4116
62	1.4154	1.4152

ID Number	Weight	
63	1.4153	1.4153
64	1.4145	1.4145
65	1.4095	1.4094
66	1.4085	1.4085
67	1.4231	1.4230
68	1.4083	1.4082
69	1.4126	1.4126
70	1.4198	1.4197
71	1.4191	1.4192
72	1.4184	1.4184
73	1.4223	1.4223
74	1.4192	1.4192
75	1.4087	1.4086
76	1.4171	1.4172
77	1.4099	1.4099
78	1.4202	1.4202
79	1.4218	1.4217
80	1.4086	1.4087
81	1.4161	1.4160
82	1.4263	1.4264
83	1.4079	1.4080
84	1.4130	1.4131
85	1.4163	1.4164
86	1.4196	1.4196
87	1.4239	1.4239
88	1.4148	1.4149
89	1.4076	1.4075
90	1.4062	1.4062
91	1.4065	1.4064
92	1.4129	1.4129
93	1.4265	1.4265
94	1.4105	1.4105
95	1.4071	1.4071
96	1.4114	1.4115

EW 11/9/09

J:\ACQUDATA\WetChem\Solids\Solids\TSS\TSS110509

Columbia Analytical Services
1 Mustard St., Rochester, NY 14609-0859

General Chemistry Analytical Run Cover Sheet

Analyst: EW Date: 11/5/09

Analysis: Total Suspended Solids Instrument: ✓ Mettler AE 240 Analytical Balance
_____ Mettler AG 204 Analytical Balance

Quality Control:

	Log Book #	Log Book Date	Stock Sol (m/Ls)	Stock Sol (mg/L)	Final Vol (mLs)	True Value (mg/L)
a) Standards Prep.:						
b) I/CCV Preparation:						
c) LCS Preparation:	WC92106B	11/2/2009				215
d) Matrix Spike Prep.:						

Instrument log filled in? (Y) (N)

Packages: Copy and attach LCS Preparation

Comments:

The difference between successive gross dry weights should be less than 4% of the previous weight or 0.5 mg, whichever is less.

As a rule, both the lower tare weight and the lower of the successive dry weights are used for calculation.

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Continued from page

11/2/09 (A) TKN Digest Reagent
SBR same as WC92085B. Exp 12/2/09

11/2/09 (B) TSS Reference
EW 0.2146 g Kaolin (WC09285G) brought to ~~Heter~~ 1000g w/ DI. exp 11/2/09
Store in plastic bottle @ 4°C.
TV = 215 mg/L Exp 6/2/10 (13074)

11/2/09 Received from RICCA (VWR)
AB (C) · (1) x 500mL Calcium Chloride Standard, 1.00mL = 1.00mg $CaCO_3$, Cat. # 1780-16, RICCA Lot # 2904100, CAS #s 471-34-1, 7647-01-0, 7732-18-5. Store @ 4°C. Expires 9/30/10. 13084
(D) · (1) x 500mL 0.1% Phenanthroline, Cat # 5520-16, RICCA Lot # 2910596, CAS #s 5144-89-8, 7647-01-0, 7732-18-5. Store @ 4°C Expires 10/31/11.
(E) · (1) x 1L Chloride Color Reagent, Cat # 1940-32, RICCA Lot # 2910359, CAS #s 592-85-8, 7782-61-8, 7699-87-2, 67-56-1, 9002-92-0, 7732-18-5. Store @ R.T. Expires 10/31/10. 13099

Received from Alfa Aesar (VWR)
(F) (1) x 1 Kg Sodium Persulfate, Cat # 54100 or 215748, AA Lot # E27U015, CAS # 7775-27-1. Store @ R.T. Expires 11/2/14

Received from VWR
(G) · (4) x 500g Sodium Carbonate Anhydrous, Cat # SX0395-1, EMD Lot # 49203934, CAS # 497-19-8. Store @ R.T. Expires 11/2/14 13094
(H) · (1) x 500g Sodium Salicylate powder, Cat # 2094-12, Mallinckrodt Lot # H30581, CAS # 54-21-7. Store @ R.T. Expires 11/2/14 13097
(I) · (1) x 500g Zinc Acetate Dihydrate, Cat # 8740-04, Mallinckrodt Lot # G'29406, CAS # 5970-45-6. Store @ R.T. Expires 11/2/14 13098

Continued to page

SIGNATURE DATE

DISCLOSED TO AND UNDERSTOOD BY DATE PROPRIETARY INFORMATION

Analytical Results Summary

Instrument Name: R-IC-07 **Analyst:** RPAWL **Analysis Lot:** 177795 **Method/Testcode:** 9056/Br

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
RQ0910927-01	Bromide	MB		Water	0.00 mg/L	10 mL	0.10 mg/L U	1	0.10			11/3/09 10:29:10	N	IV
RQ0910927-01	Chloride	MB		Water	0.09 mg/L	10 mL	0.09 mg/L J	1	0.20			11/3/09 10:29:10	N	IV
RQ0910927-01	Nitrate as Nitrogen	MB		Water	0.00 mg/L	10 mL	0.050 mg/L U	1	0.050			11/3/09 10:29:10	N	IV
RQ0910927-01	Sulfate	MB		Water	0.00 mg/L	10 mL	0.20 mg/L U	1	0.20			11/3/09 10:29:10	N	IV
RQ0910927-02	Bromide	LCS		Water	0.98 mg/L	10 mL	0.975 mg/L	1	0.10	98		11/3/09 10:45:28	N	IV
RQ0910927-02	Chloride	LCS		Water	1.87 mg/L	10 mL	1.87 mg/L	1	0.20	94		11/3/09 10:45:28	N	IV
RQ0910927-02	Nitrate as Nitrogen	LCS		Water	0.95 mg/L	10 mL	0.947 mg/L	1	0.050	95		11/3/09 10:45:28	N	IV
RQ0910927-02	Sulfate	LCS		Water	1.89 mg/L	10 mL	1.89 mg/L	1	0.20	94		11/3/09 10:45:28	N	IV
R0906270-003	Bromide	N/A		Water	0.00 mg/L	10 mL	0.10 mg/L U	1	0.10			11/3/09 16:30:01	N	IV
R0906270-003	Chloride	N/A		Water	0.08 mg/L	10 mL	0.08 mg/L BJ	1	0.20			11/3/09 16:30:01	N	IV
R0906270-003	Nitrate as Nitrogen	N/A		Water	0.00 mg/L	10 mL	0.050 mg/L U	1	0.050			11/3/09 16:30:01	N	IV
R0906270-003	Sulfate	N/A		Water	0.11 mg/L	10 mL	0.11 mg/L J	1	0.20			11/3/09 16:30:01	N	IV

I indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Analytical Results Summary

Instrument Name: R-IC-07 **Analyst:** RPAWL **Analysis Lot:** 177796 **Method/Testcode:** 9056/Br

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
3Q0910928-05	Bromide	MB		Water	0.00 mg/L	10 mL	0.10 mg/L U	1	0.10			11/3/09 17:02:41	N	IV
3Q0910928-05	Nitrate as Nitrogen	MB		Water	0.00 mg/L	10 mL	0.050 mg/L U	1	0.050			11/3/09 17:02:41	N	IV
3Q0910928-07	Chloride	MB		Water	0.08 mg/L	10 mL	0.08 mg/L J	1	0.20			11/3/09 17:02:41	N	I
3Q0910928-06	Bromide	LCS		Water	1.01 mg/L	10 mL	1.01 mg/L	1	0.10	101		11/3/09 17:18:57	N	IV
3Q0910928-06	Nitrate as Nitrogen	LCS		Water	0.97 mg/L	10 mL	0.968 mg/L	1	0.050	97		11/3/09 17:18:57	N	IV
3Q0910928-08	Chloride	LCS		Water	1.91 mg/L	10 mL	1.91 mg/L	1	0.20	96		11/3/09 17:18:57	N	I
3R0906270-001	Bromide	N/A		Water	1.42 mg/L	10 mL	1.4 mg/L	10	1.0			11/3/09 17:35:14	N	IV
3R0906270-001	Nitrate as Nitrogen	N/A		Water	12.39 mg/L	10 mL	12.4 mg/L	10	0.50			11/3/09 17:35:14	N	IV
3Q0910928-01	Bromide	DUP	R0906270-001	Water	1.49 mg/L	10 mL	1.5 mg/L	10	1.0		5	11/3/09 17:51:33	N	IV
3Q0910928-01	Nitrate as Nitrogen	DUP	R0906270-001	Water	12.48 mg/L	10 mL	12.5 mg/L	10	0.50		1	11/3/09 17:51:33	N	IV
3Q0910928-02	Bromide	MS	R0906270-001	Water	11.03 mg/L	10 mL	11.0 mg/L	10	1.0	96		11/3/09 18:07:55	N	IV
3Q0910928-02	Nitrate as Nitrogen	MS	R0906270-001	Water	21.65 mg/L	10 mL	21.6 mg/L	10	0.50	93		11/3/09 18:07:55	N	IV
3R0906270-002	Bromide	N/A		Water	1.43 mg/L	10 mL	1.4 mg/L	10	1.0			11/3/09 18:24:14	N	IV
3R0906270-002	Nitrate as Nitrogen	N/A		Water	12.28 mg/L	10 mL	12.3 mg/L	10	0.50			11/3/09 18:24:14	N	IV
3Q0910928-03	Bromide	DUP	R0906270-002	Water	1.46 mg/L	10 mL	1.5 mg/L	10	1.0		2	11/3/09 18:40:32	N	IV
3Q0910928-03	Nitrate as Nitrogen	DUP	R0906270-002	Water	12.24 mg/L	10 mL	12.2 mg/L	10	0.50		<1	11/3/09 18:40:32	N	IV
3Q0910928-04	Bromide	MS	R0906270-002	Water	11.12 mg/L	10 mL	11.1 mg/L	10	1.0	97		11/3/09 18:56:49	N	IV
3Q0910928-04	Nitrate as Nitrogen	MS	R0906270-002	Water	21.71 mg/L	10 mL	21.7 mg/L	10	0.50	94		11/3/09 18:56:49	N	IV
3R0906010-001	Chloride	N/A		Water	13973.26 mg/L	10 mL	14000 mg/L	4000	800			11/3/09 21:07:11	N	I
3R0906019-001	Chloride	N/A		Water	31760.60 mg/L	10 mL	31800 mg/L	4000	800			11/3/09 21:39:48	N	I
3R0906026-001	Chloride	N/A		Water	164.82 mg/L	10 mL	165 mg/L	40	8.0			11/3/09 21:56:05	N	I

I indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

11-5-09 IC # 1

Line	Sample	Sample Type	Level	Method	Data File	Dilution	Comment
1	CCV	Sample		7-102209.met	1103_001.dxd	1	9056/300.0
2	CCB	Sample		7-102209.met	1103_002.dxd	1	9056/300.0
3	LCS	Sample		7-102209.met	1103_003.dxd	1	9056/300.0
4	R0905901-001	Sample		7-102209.met	1103_004.dxd	1	S (300.0 SOIL)
5	R0905901-002	Sample		7-102209.met	1103_005.dxd	1	S (300.0 SOIL)
6	R0905901-003	Sample		7-102209.met	1103_006.dxd	1	S (300.0 SOIL)
7	R0905901-004	Sample		7-102209.met	1103_007.dxd	1	S (300.0 SOIL)
8	R0905901-005	Sample		7-102209.met	1103_008.dxd	1	S (300.0 SOIL)
9	R0905901-006	Sample		7-102209.met	1103_009.dxd	1	S (300.0 SOIL)
10	R0905567-006	Sample		7-102209.met	1103_010.dxd	10	C (9056 EXT)
11	R0905567-009	Sample		7-102209.met	1103_011.dxd	20	CS (9056 EXT)
12	R0905567-020	Sample		7-102209.met	1103_012.dxd	20	C (9056 EXT)
13	CCV	Sample		7-102209.met	1103_013.dxd	1	9056/300.0
14	CCB	Sample		7-102209.met	1103_014.dxd	1	9056/300.0
15	R0905626-008	Sample		7-102209.met	1103_015.dxd	4	C (9056 SPLP)
16	R0906056-008	Sample		7-102209.met	1103_016.dxd	200	S (9056 SPLP)
17	MB 10788-01	Sample		7-102209.met	1103_017.dxd	1	CBNS (9056 SPLP)
18	R0906056-001	Sample		7-102209.met	1103_018.dxd	1	CBNS (9056 SPLP)
19	R0906056-001 DUP AT IC	Sample		7-102209.met	1103_019.dxd	1	CBNS (9056 SPLP)
20	R0906056-001 SPK AT IC	Sample		7-102209.met	1103_020.dxd	1	CBNS (9056 SPLP)
21	R0906056-003	Sample		7-102209.met	1103_021.dxd	1	CBNS (9056 SPLP)
22	R0906056-005	Sample		7-102209.met	1103_022.dxd	1	CBNS (9056 SPLP)
23	R0906056-007	Sample		7-102209.met	1103_023.dxd	1	CBNS (9056 SPLP)
24	EB110209-GWA3	Sample		7-102209.met	1103_024.dxd	1	CBNS (9056 SPLP)
25	CCV	Sample		7-102209.met	1103_025.dxd	10	CBNS (9056)
26	CCB	Sample		7-102209.met	1103_026.dxd	1	9056/300.0
27	LCS	Sample		7-102209.met	1103_027.dxd	1	9056/300.0
28	M-147B	Sample		7-102209.met	1103_028.dxd	10	CBNS (9056)
29	M-147B DUP	Sample		7-102209.met	1103_029.dxd	10	CBNS (9056)
30	M-147B SPK	Sample		7-102209.met	1103_030.dxd	10	CBNS (9056)
31	M-147009B	Sample		7-102209.met	1103_031.dxd	10	CBNS (9056)
32	M-147009B DUP	Sample		7-102209.met	1103_032.dxd	10	CBNS (9056)
33	M-147009B SPK	Sample		7-102209.met	1103_033.dxd	10	CBNS (9056)
34	PB-SOIL	Sample		7-102209.met	1103_034.dxd	1	C (300.0 SOIL)
35	LCS EXTRACTION	Sample		7-102209.met	1103_035.dxd	1	C (300.0 SOIL)
36	CCV	Sample		7-102209.met	1103_036.dxd	1	9056/300.0
37	CCB	Sample		7-102209.met	1103_037.dxd	1	9056/300.0
38	R0906025-003	Sample		7-102209.met	1103_038.dxd	200	C (300.0 SOIL)
39	R0906025-003 DUP AT IC	Sample		7-102209.met	1103_039.dxd	200	C (300.0 SOIL)
40	R0906025-003 SPK AT IC	Sample		7-102209.met	1103_040.dxd	200	C (300.0 SOIL)
41	R0906010-001	Sample		7-102209.met	1103_041.dxd	4000	C (300.0)
42	R0906016-001	Sample		7-102209.met	1103_042.dxd	40	C (300.0)
43	R0906019-001	Sample		7-102209.met	1103_043.dxd	4000	C (300.0)
44	R0906026-001	Sample		7-102209.met	1103_044.dxd	40	C (300.0)
45	R0906026-003	Sample		7-102209.met	1103_045.dxd	4000	C (300.0)
46	R0906026-005	Sample		7-102209.met	1103_046.dxd	4000	C (300.0)
47	R0906026-007	Sample		7-102209.met	1103_047.dxd	4000	C (300.0)
48	CCV	Sample		7-102209.met	1103_048.dxd	1	9056/300.0
49	CCB	Sample		7-102209.met	1103_049.dxd	1	9056/300.0
50	LCS	Sample		7-102209.met	1103_050.dxd	1	9056/300.0
51	MB 10845-01	Sample		7-102209.met	1103_051.dxd	1	CBNS (9056 EXT)
52	LCS EXTRACTION	Sample		7-102209.met	1103_052.dxd	1	CBNS (9056 EXT)
53	R0905882-024	Sample		7-102209.met	1103_053.dxd	1	CBNS (9056 EXT)
54	R0905882-025	Sample		7-102209.met	1103_054.dxd	1	CBNS (9056 EXT)
55	R0905963-001	Sample		7-102209.met	1103_055.dxd	1	CBNS (9056 EXT)
56	R0905963-001 DUP	Sample		7-102209.met	1103_056.dxd	1	CBNS (9056 EXT)
57	R0905963-001 SPK	Sample		7-102209.met	1103_057.dxd	1	CBNS (9056 EXT)
58	R0905963-002	Sample		7-102209.met	1103_058.dxd	1	CBNS (9056 EXT)
59	R0905963-003	Sample		7-102209.met	1103_059.dxd	1	CBNS (9056 EXT)
60	CCV	Sample		7-102209.met	1103_060.dxd	1	9056/300.0
61	CCB	Sample		7-102209.met	1103_061.dxd	1	9056/300.0
62	R0905963-004	Sample		7-102209.met	1103_062.dxd	1	CBNS (9056 EXT)
63	R0905963-005	Sample		7-102209.met	1103_063.dxd	1	CBNS (9056 EXT)
64	R0905963-006	Sample		7-102209.met	1103_064.dxd	1	CBNS (9056 EXT)
65	R0905963-007	Sample		7-102209.met	1103_065.dxd	1	CBNS (9056 EXT)
66	R0905963-007 DUP AT IC	Sample		7-102209.met	1103_066.dxd	1	CBNS (9056 EXT)

Analyst: R. Paul
Pipets: Mine
Lucy

R5901
R5567
R5626
R6056
R6270

R5882
R5963

Reviewed & Approved
By: [signature]
Date: 11/6/09

Line	Sample	Sample Type	Level	Method	Data File	Dilution	Comment
67	R0905963-007 SPK AT IC	Sample		7-102209.met	1103_067.dxd	1	CBNS (9056 EXT)
68	R0905963-010	Sample		7-102209.met	1103_068.dxd	1	CBNS (9056 EXT)
69	R0905963-011	Sample		7-102209.met	1103_069.dxd	1	CBNS (9056 EXT)
70	R0905963-012	Sample		7-102209.met	1103_070.dxd	1	CBNS (9056 EXT)
71	R0905963-013	Sample		7-102209.met	1103_071.dxd	1	CBNS (9056 EXT)
72	CCV	Sample		7-102209.met	1103_072.dxd	1	9056/300.0
73	CCB	Sample		7-102209.met	1103_073.dxd	1	9056/300.0
74	LCS	Sample		7-102209.met	1103_074.dxd	1	9056/300.0
75	MW-1	Sample		7-102209.met	1103_075.dxd	10	CNN (300.0)
76	MW-2	Sample		7-102209.met	1103_076.dxd	10	CNN (300.0)
77	MW-2 DUP	Sample		7-102209.met	1103_077.dxd	10	CNN (300.0)
78	MW-2 SPK	Sample		7-102209.met	1103_078.dxd	10	CNN (300.0)
79	MW-5	Sample		7-102209.met	1103_079.dxd	10	CNN (300.0)
80	MW-7	Sample		7-102209.met	1103_080.dxd	10	CNN (300.0)
81	MW-8	Sample		7-102209.met	1103_081.dxd	10	CNN (300.0)
82	MW-9	Sample		7-102209.met	1103_082.dxd	10	CNN (300.0)
83	MW-10D	Sample		7-102209.met	1103_083.dxd	10	CNN (300.0)
84	CCV	Sample		7-102209.met	1103_084.dxd	1	9056/300.0
85	CCB	Sample		7-102209.met	1103_085.dxd	1	9056/300.0
86	PT EFF 001A	Sample		7-102209.met	1103_086.dxd	10	CNN (300.0)
87	CCV	Sample		7-102209.met	1103_087.dxd	1	9056/300.0
88	CCB	Sample		7-102209.met	1103_088.dxd	1	9056/300.0
89	END	Sample		j:\acqudata\ic\method.aci\ic#7\shutdown.met	1103	1	9056/300.0

Default Method Path: J:\ACQUDATA\IC\METHOD.ACI\IC#7\DI METHODS
Default Data Path: J:\ACQUDATA\IC\DATA\IC#7\110309
Comment:

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Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\1103_001.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 10:12:49 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

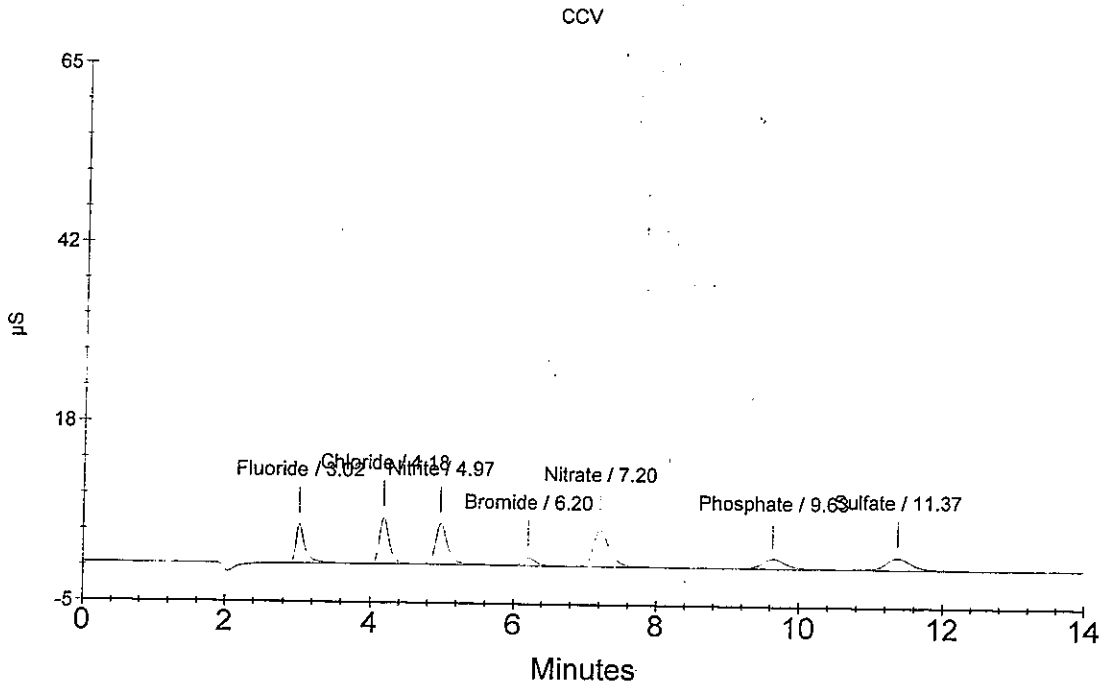
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	1.929	456960
2	4.18	Chloride	3.014	564494
3	4.97	Nitrite	1.778	638728
4	6.20	Bromide	1.994	138729
5	7.20	Nitrate	1.768	773293
6	9.63	Phosphate	1.771	299296
7	11.37	Sulfate	3.101	389573

RP 11/4/09



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Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\1103_002.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 10:29:10 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

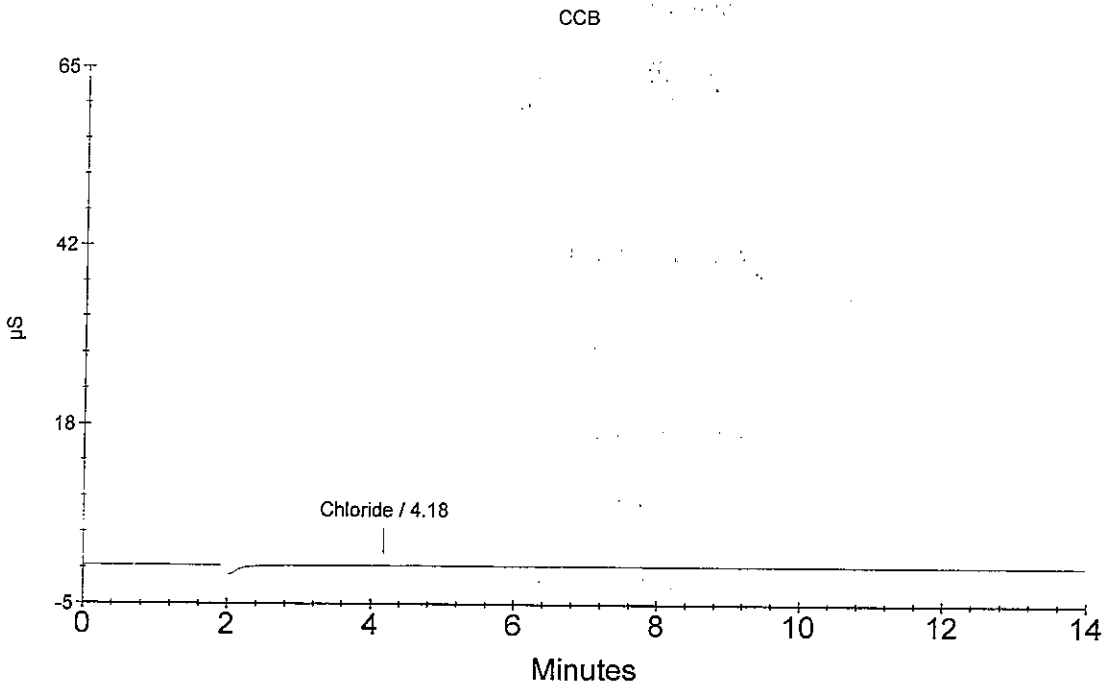
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	4.18	Chloride	ac	0.088	4309

RP 11/4/09



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Rochester, NY 14607

Sample Name : LCS
Data File Name : ...\1103_003.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 10:45:28 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

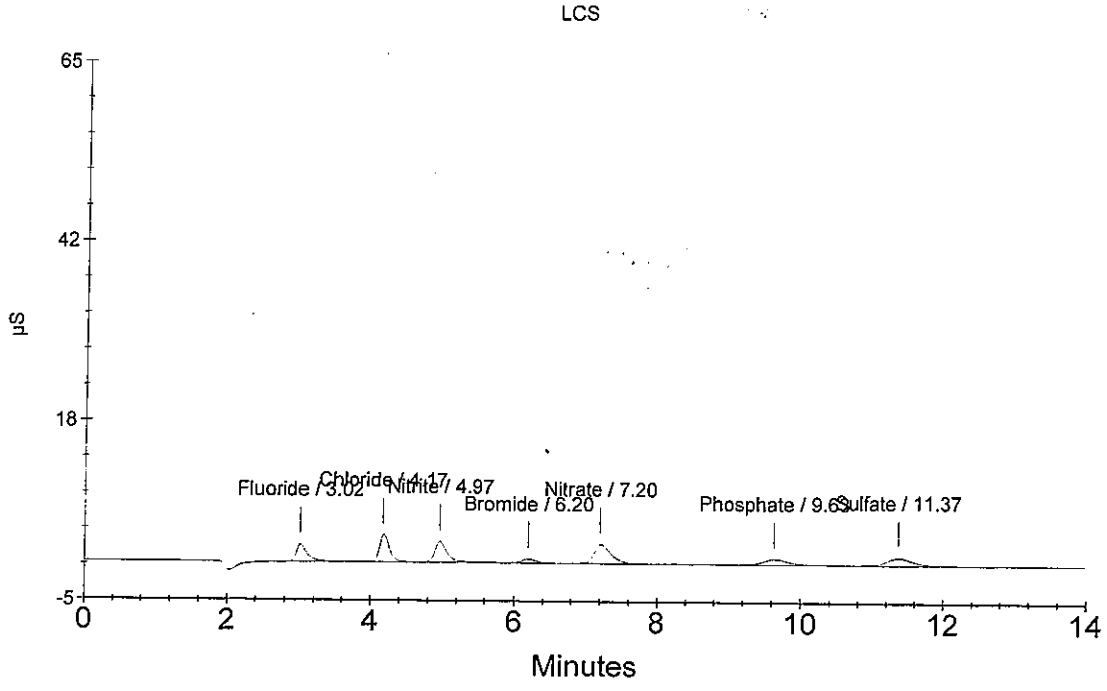
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	0.941	215776
2	4.17	Chloride	1.871	345595
3	4.97	Nitrite	0.942	328193
4	6.20	Bromide	0.975	66326
5	7.20	Nitrate	0.947	400678
6	9.63	Phosphate	0.946	166633
7	11.37	Sulfate	1.890	234699

RB 11/4/09



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Sample Name : R0905901-001
Data File Name : ...\1103_004.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 11:03:50 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

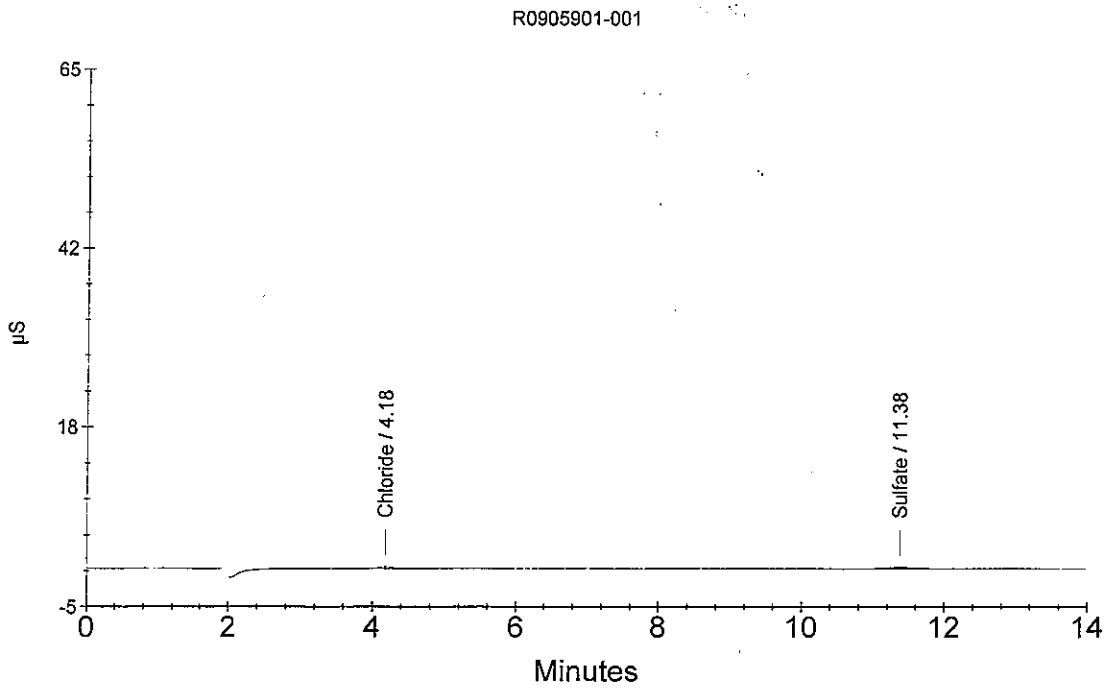
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : S (300.0 SOIL)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.18	Chloride Nitrite Bromide	0.183	22448
2	11.38	Sulfate	0.353	38205

RP 11/4/09



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Sample Name : R0905901-002
Data File Name : ...\1103_005.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 11:20:08 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

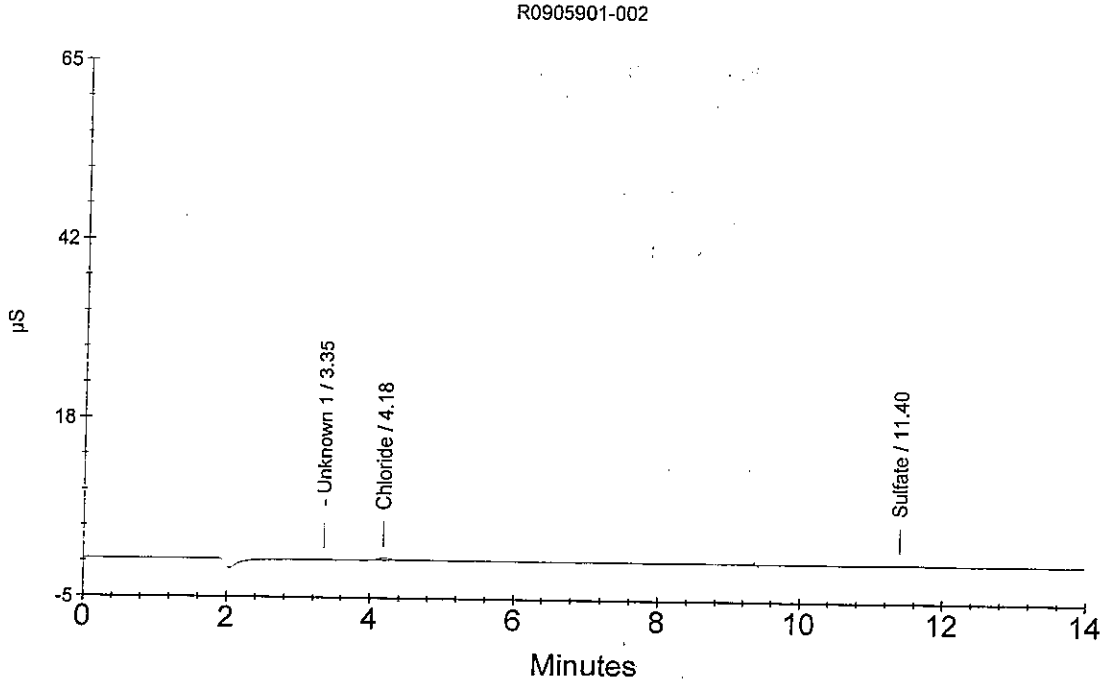
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : S (300.0 SOIL)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
2	4.18	Chloride Nitrite Bromide		0.259	36934
3	11.40	Sulfate	OVL	0.290	30156

RP 11/4/09



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Sample Name : R0905901-003
Data File Name : ...\1103_006.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 11:36:30 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

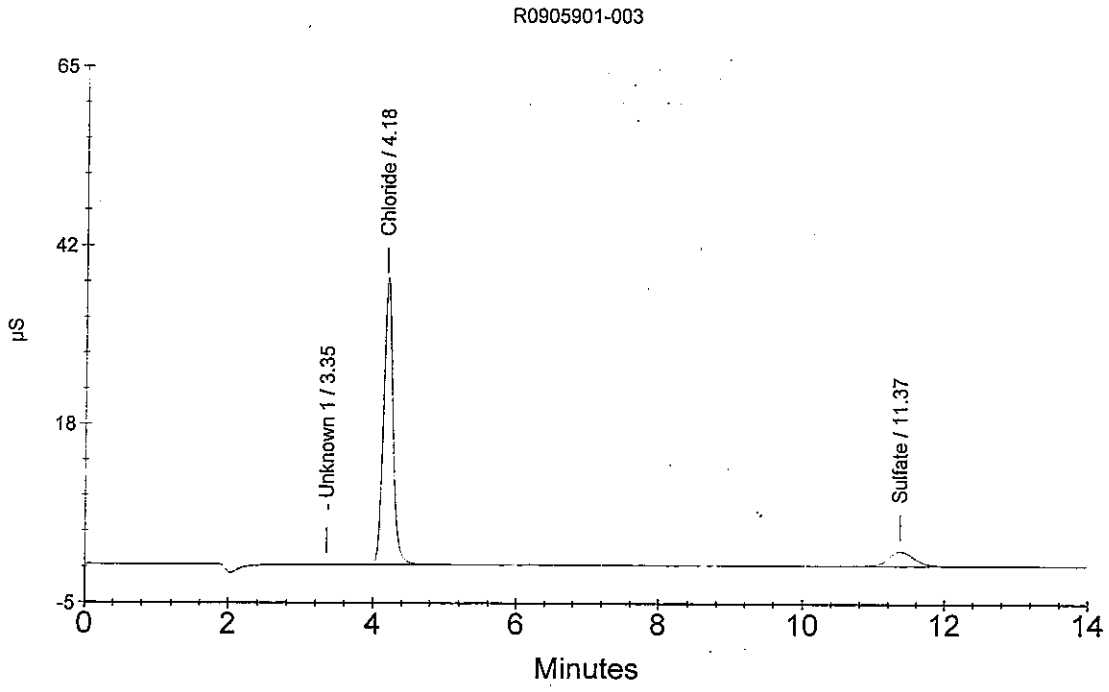
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : S (300.0 SOIL)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	4.18	Chloride	17.855	3405539
3	11.37	Sulfate	OK 3.714	467923

RP 11/4/09



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Sample Name : R0905901-004
Data File Name : ...\1103_007.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 11:52:48 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : S (300.0 SOIL)

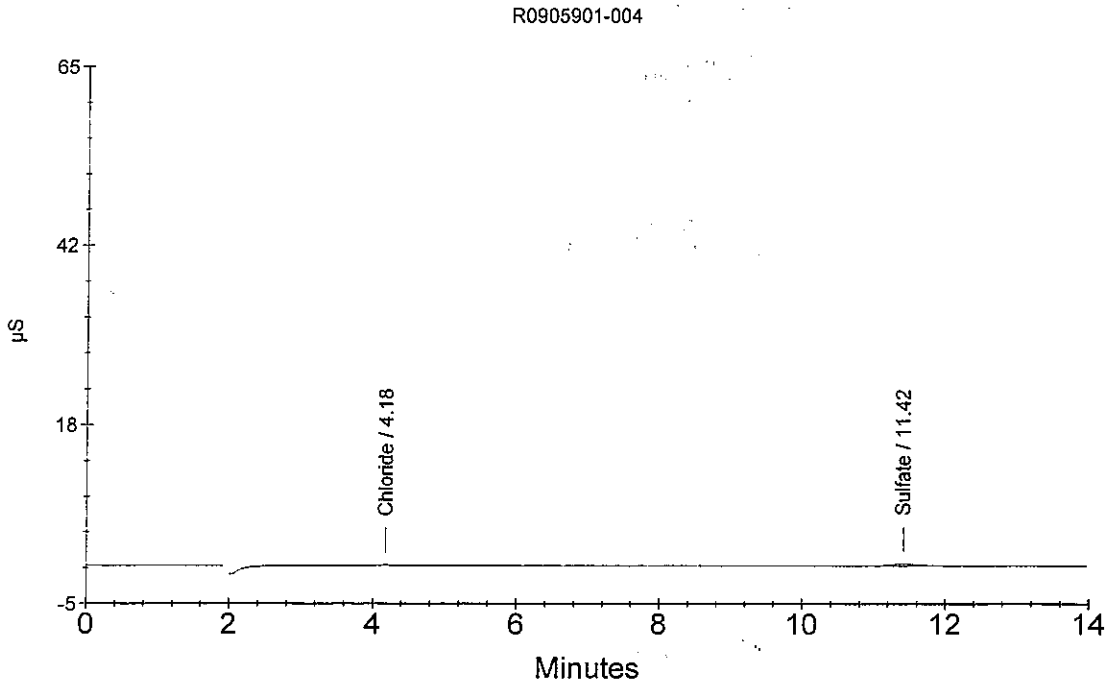
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.18	Chloride	0.118	10058
2	11.42	Sulfate	0.476	53980

OK

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905901-005
Data File Name : ...\1103_008.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 12:09:05 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

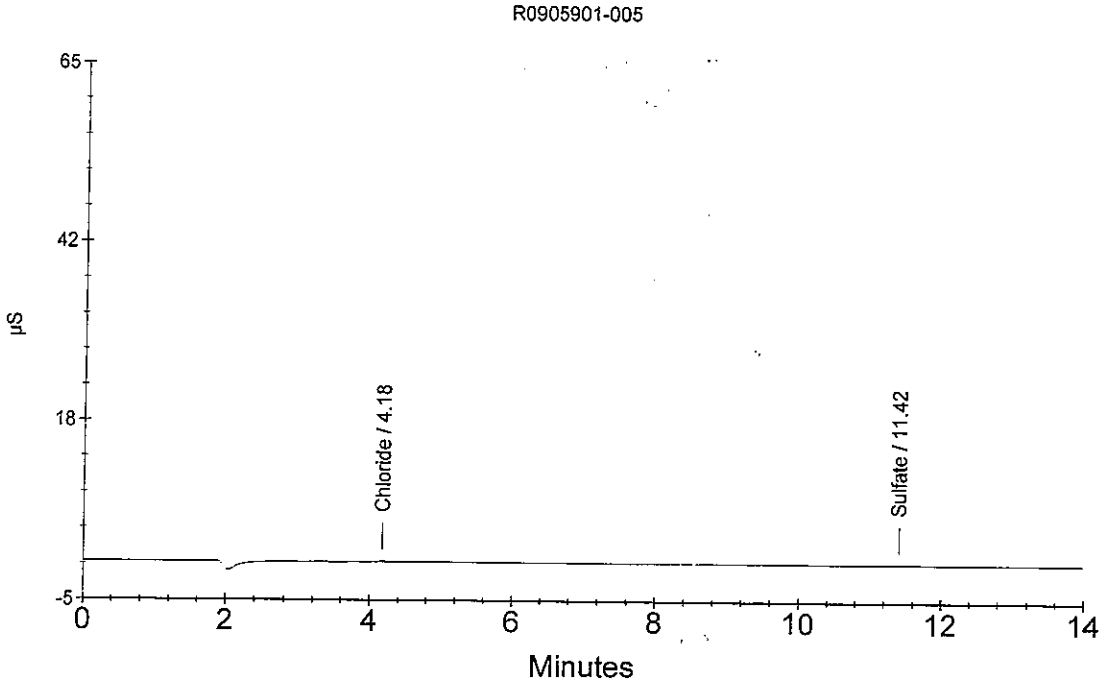
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : S (300.0 SOIL)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.18	Chloride	0.117	9923
2	11.42	Sulfate	0.169	14718

RP 11/4/09



Ion Chromatography Analytical Report
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Rochester, NY 14607

Sample Name : R0905901-006
Data File Name : ...\1103_009.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 12:25:28 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : S (300.0 SOIL)

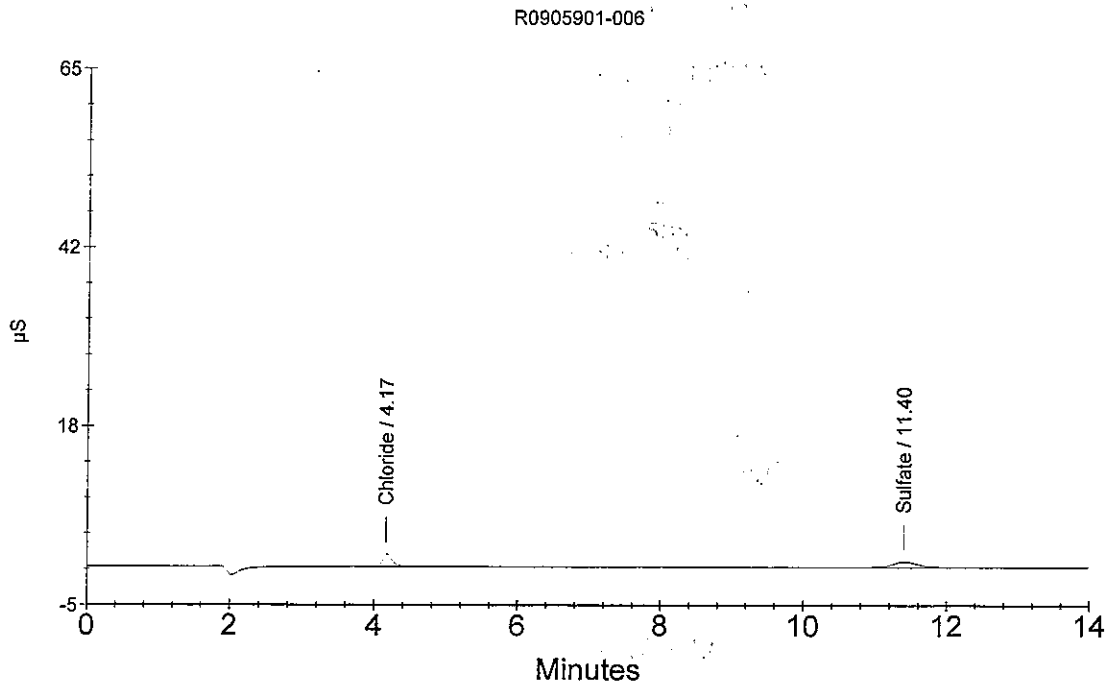
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.17	Chloride	0.889	157723
2	11.40	Sulfate	1.505	185459

OK

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905567-006
Data File Name : ...\1103_010.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 12:41:46 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : C (9056 EXT)

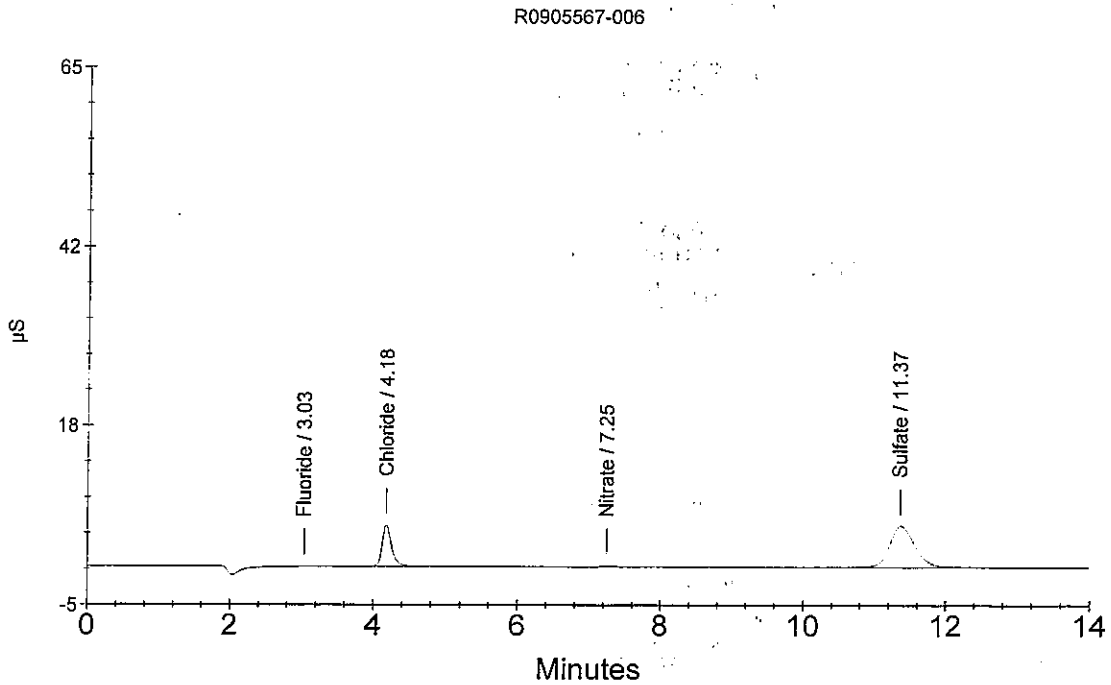
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.03	Fluoride	0.642	1658
2	4.18	Chloride	27.686	517463
3	7.25	Nitrate	1.074	20158
4	11.37	Sulfate	102.800	1307446

OK

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905567-009
Data File Name : ...\1103_011.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 12:58:03 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

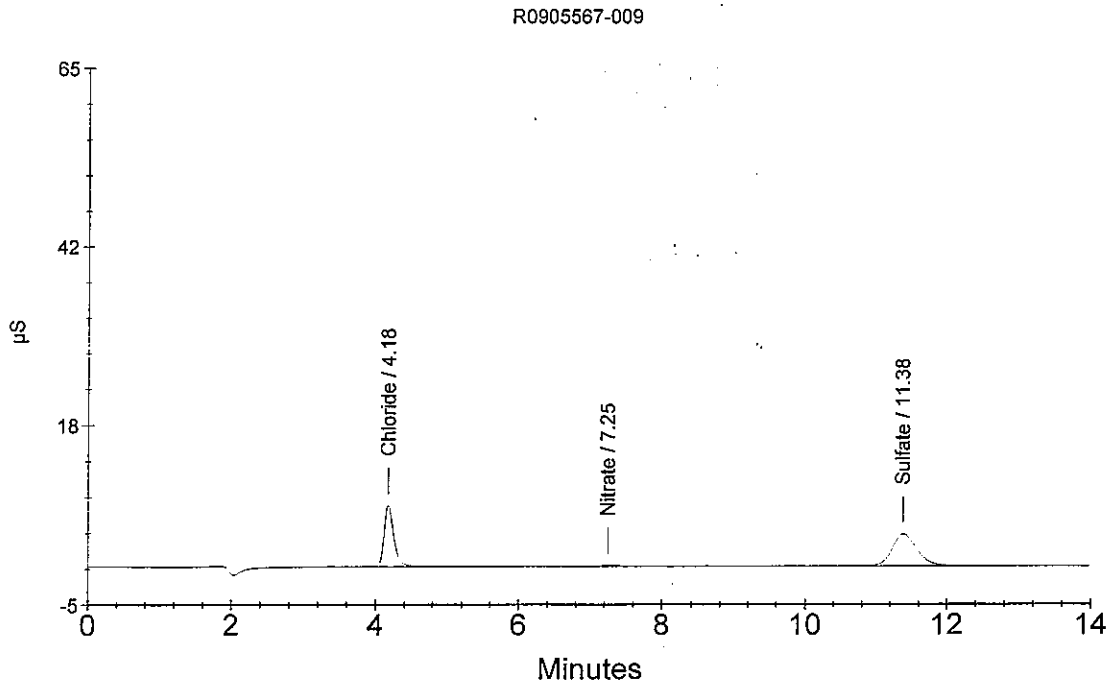
Dilution Factor : 20.00
Sample Type : Sample Analysis
Sample Comment : CS (9056 EXT)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.18	Chloride	78.949	743143
2	7.25	Nitrate	2.419	26322
3	11.38	Sulfate	159.475	1012570

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905567-020
Data File Name : ...\1103_012.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 1:14:19 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

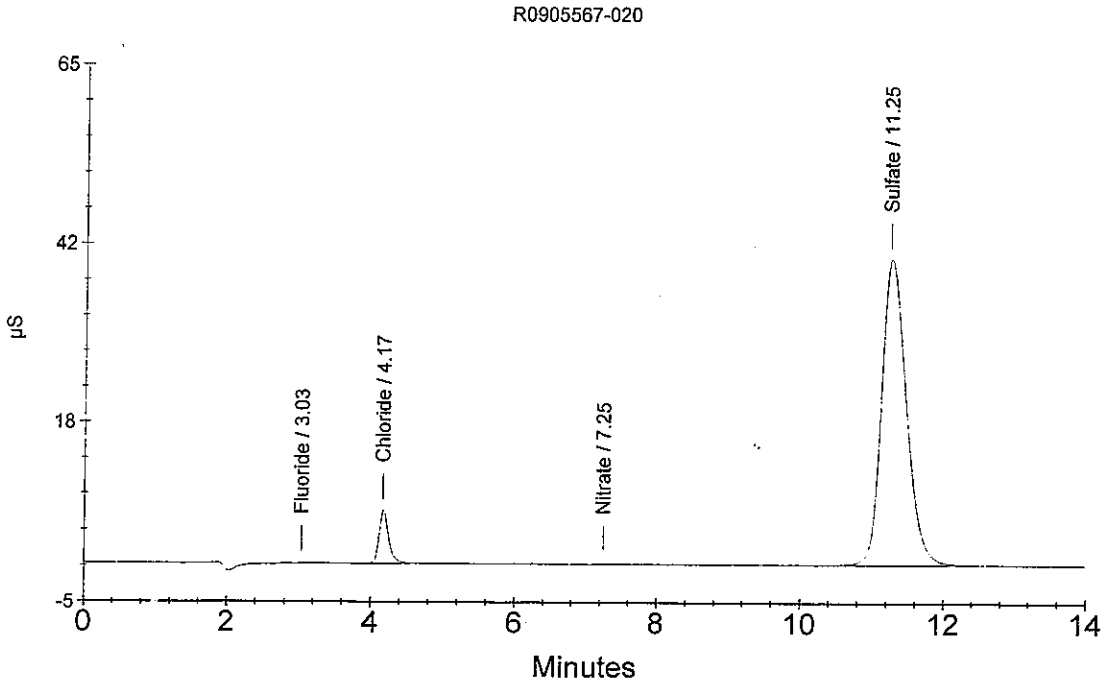
Dilution Factor : 20.00
Sample Type : Sample Analysis
Sample Comment : C (9056 EXT)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.03	Fluoride	1.545	4840
2	4.17	Chloride	OK 69.588	653536
3	7.25	Nitrate	1.991	16610
4	11.25	Sulfate	1509.505	9643157

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\1103_013.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 1:30:36 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

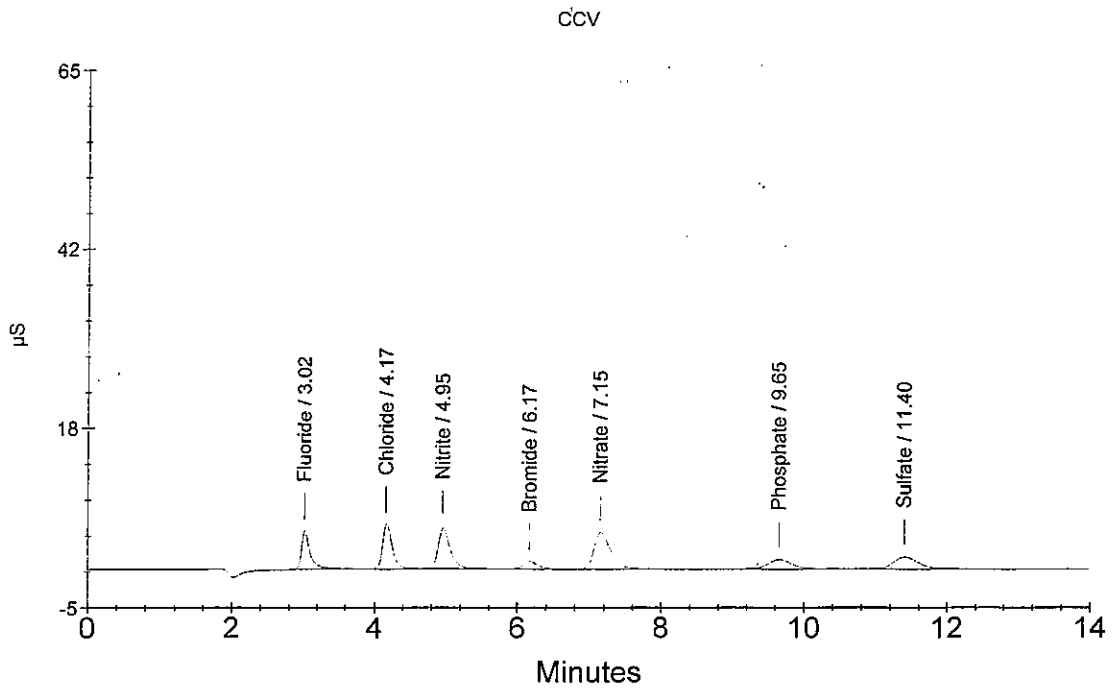
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	1.904	450957
2	4.17	Chloride	2.978	557557
3	4.95	Nitrite	1.778	638824
4	6.17	Bromide	2.011	139930
5	7.15	Nitrate	1.777	777234
6	9.65	Phosphate	1.755	296785
7	11.40	Sulfate	3.108	390409

RR 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\1103_014.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 1:46:54 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

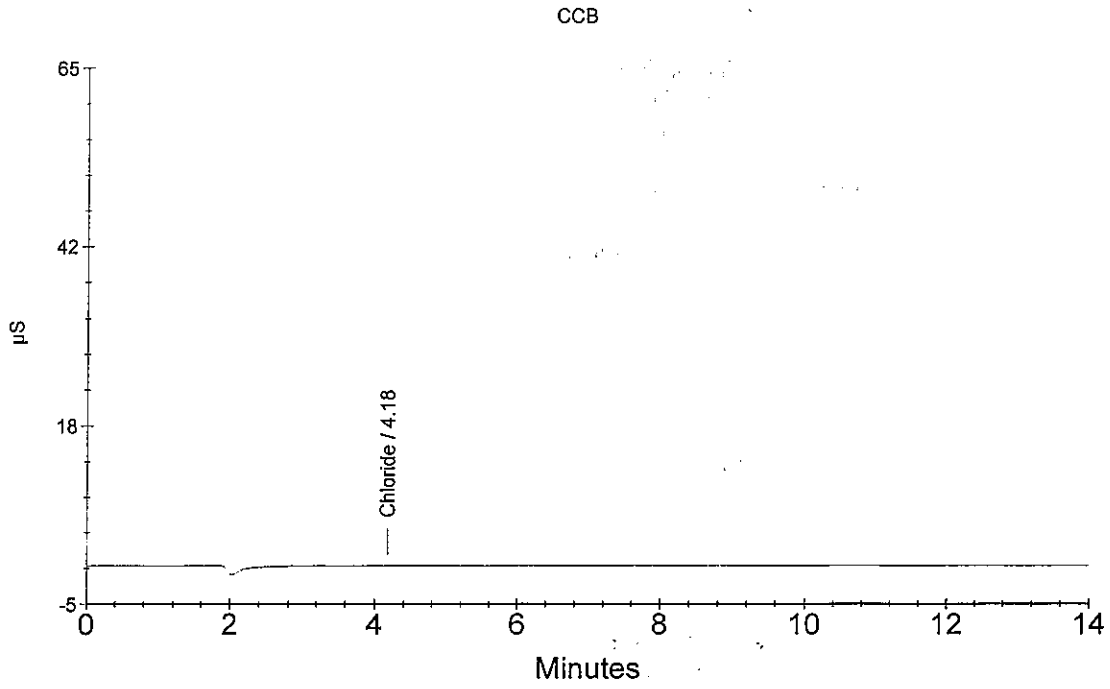
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.18	Chloride	DL 0.085	3723

RR 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905626-008
Data File Name : ...\1103_015.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 2:03:10 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

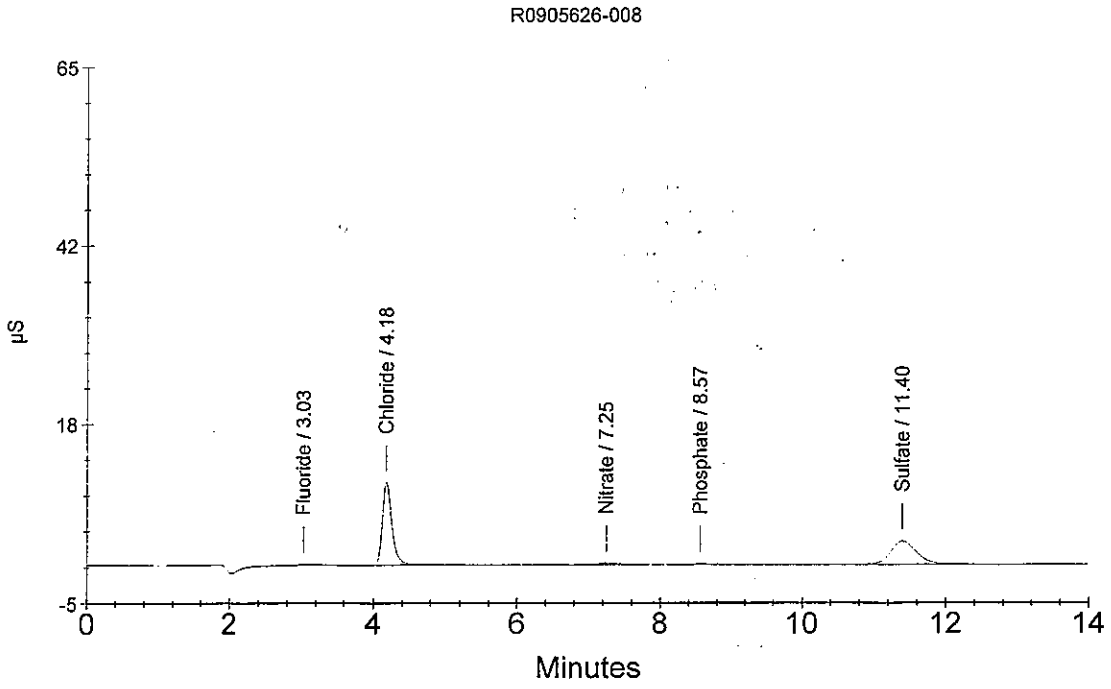
Dilution Factor : 4.00
Sample Type : Sample Analysis
Sample Comment : C (9056 SPLP)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.03	Fluoride	0.318	5404
2	4.18	Chloride	21.114	997939
3	7.25	Nitrate	0.504	28643
4	8.57	Phosphate	0.109	18813
5	11.40	Sulfate	23.332	738865

RP 11/4/09



00960

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-008
Data File Name : ...\1103_016.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 2:19:27 PM

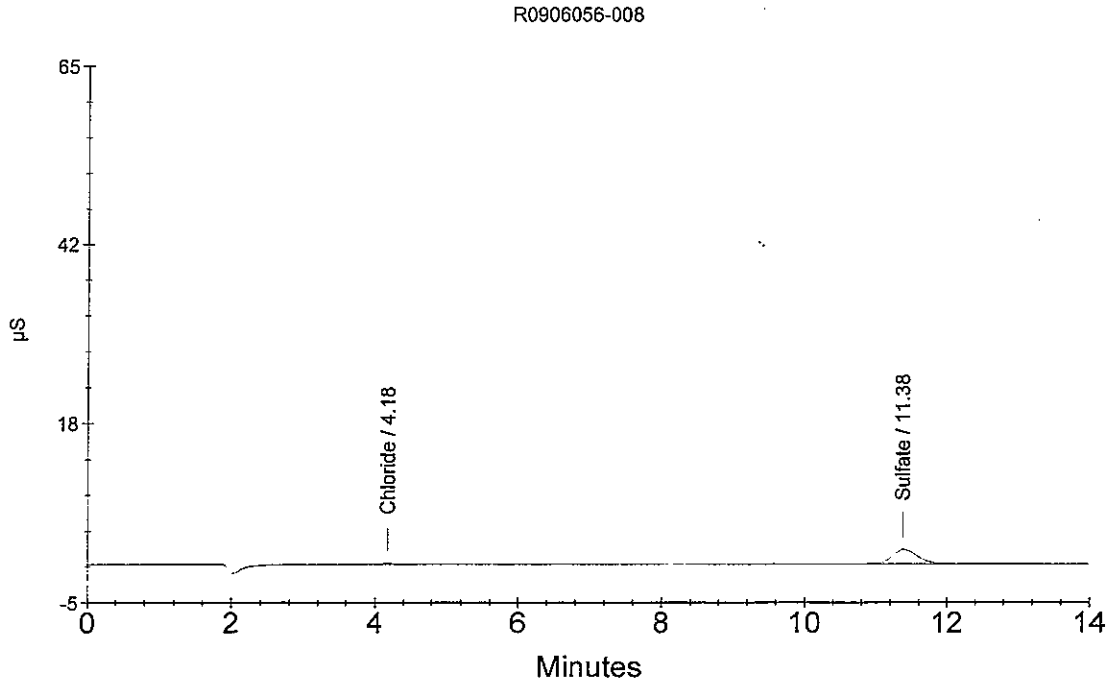
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 200.00
Sample Type : Sample Analysis
Sample Comment : S (9056 SPLP)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.18	Chloride	27.321	13596
2	11.38	Sulfate	730.125	459827



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : MB 10788-01
Data File Name : ...\1103_017.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 2:35:47 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

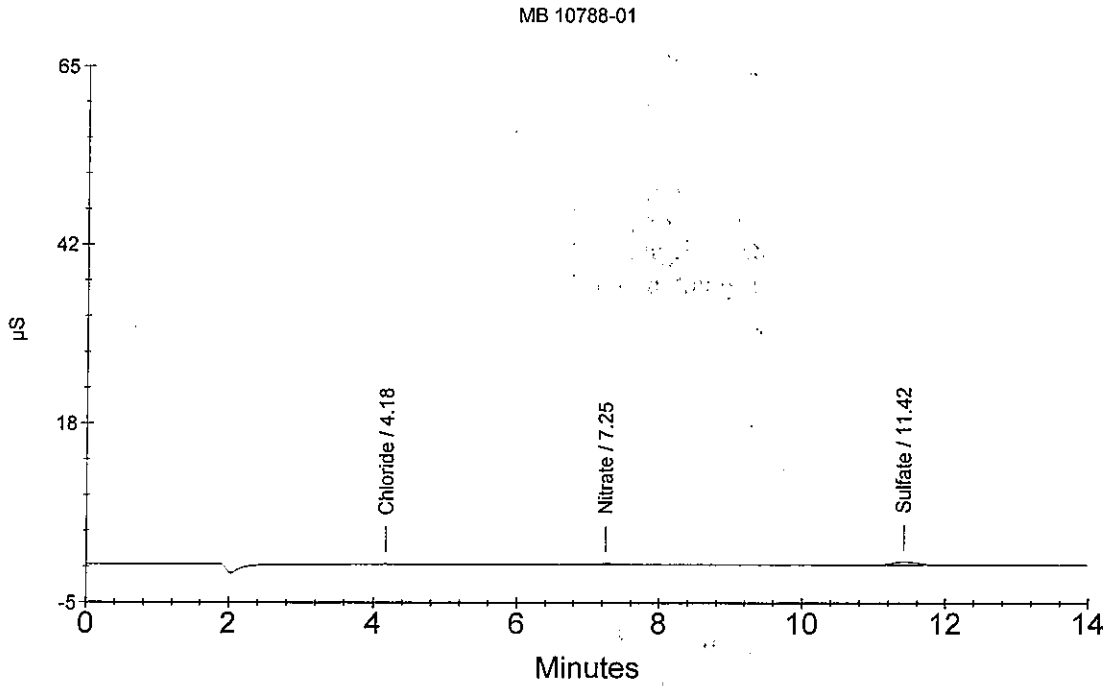
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 SPLP)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.18	Chloride	0.078	2289
2	7.25	Nitrate	0.121	26319
3	11.42	Sulfate	0.793	94460

OK
RR 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-001
Data File Name : ...\1103_018.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 2:52:06 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 SPLP)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

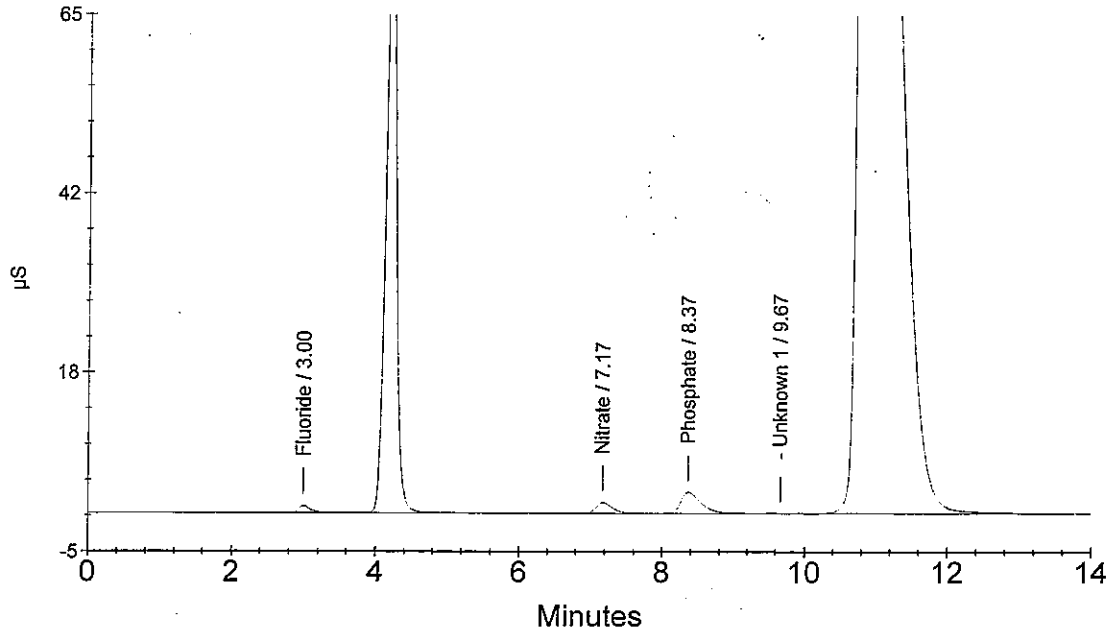
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.00	Fluoride	0.525	114079
2	4.20	Chloride	1/10 42.170	8060485
3	7.17	Nitrate	OK 0.565	227759
4	8.37	Phosphate	3.353	553900
6	10.88	Sulfate	1/100 468.624	59910201

Br OK

RR 11/4/09

R0906056-001



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-001 DUP AT IC
Data File Name : ...\1103_019.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 3:08:28 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 SPLP)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

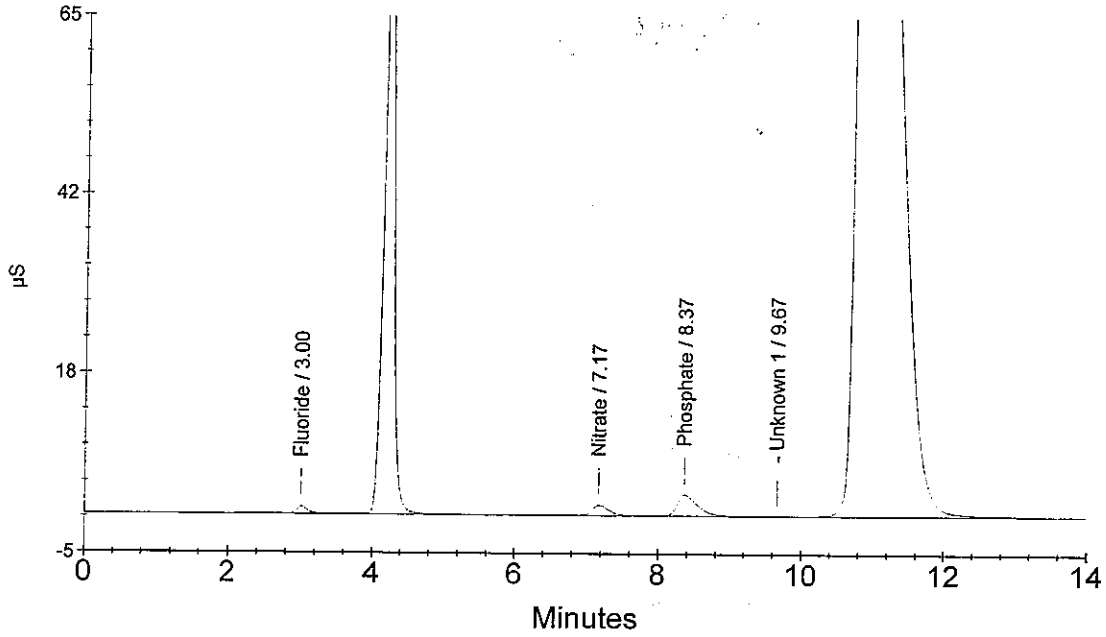
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	3.00	Fluoride		0.518	112528
2	4.20	Chloride	1/10	42.153	8057142
3	7.17	Nitrate	OK	0.551	221353
4	8.37	Phosphate		3.333	550563
6	10.88	Sulfate	1/100	468.814	59934518

Br - OK

RP 11/4/09

R0906056-001 DUP AT IC



00964

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-001 SPK AT IC
Data File Name : ...\1103_020.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 3:24:49 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 SPLP)

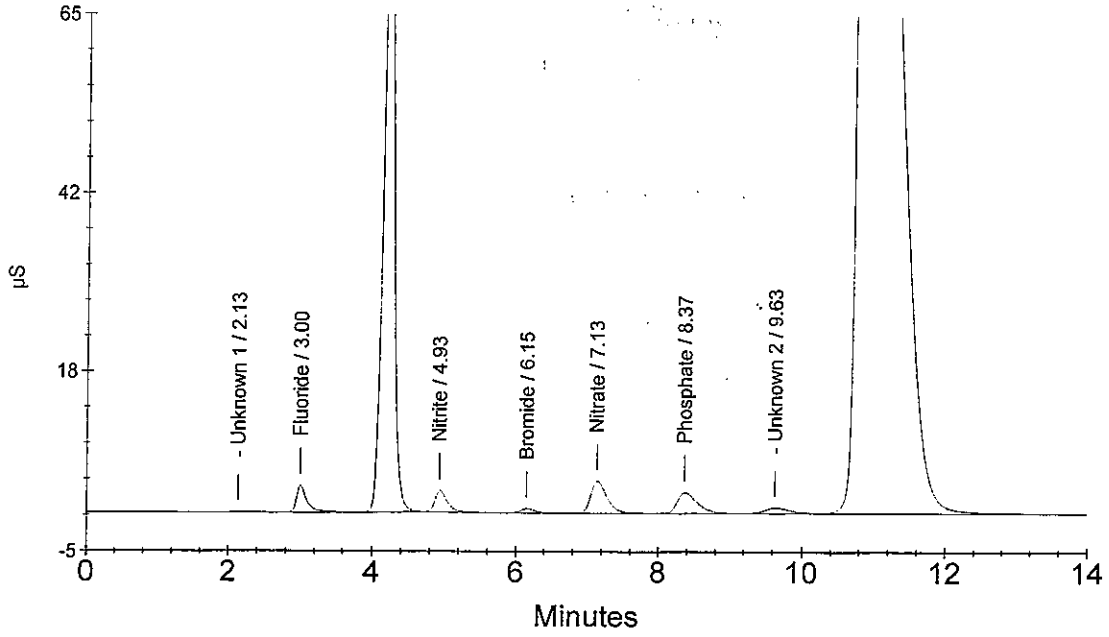
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
2	3.00	Fluoride		1.500	352156
3	4.20	Chloride	1/10	43.856	8383224
4	4.93	Nitrite		0.945	329267
5	6.15	Bromide	OK	1.064	72687
6	7.13	Nitrate	OK	1.513	657599
7	8.37	Phosphate		3.240	535678
9	10.90	Sulfate	1/100	461.378	58983749

RB 11/4/09

R0906056-001 SPK AT IC



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-003
Data File Name : ...\1103_021.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 3:41:10 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

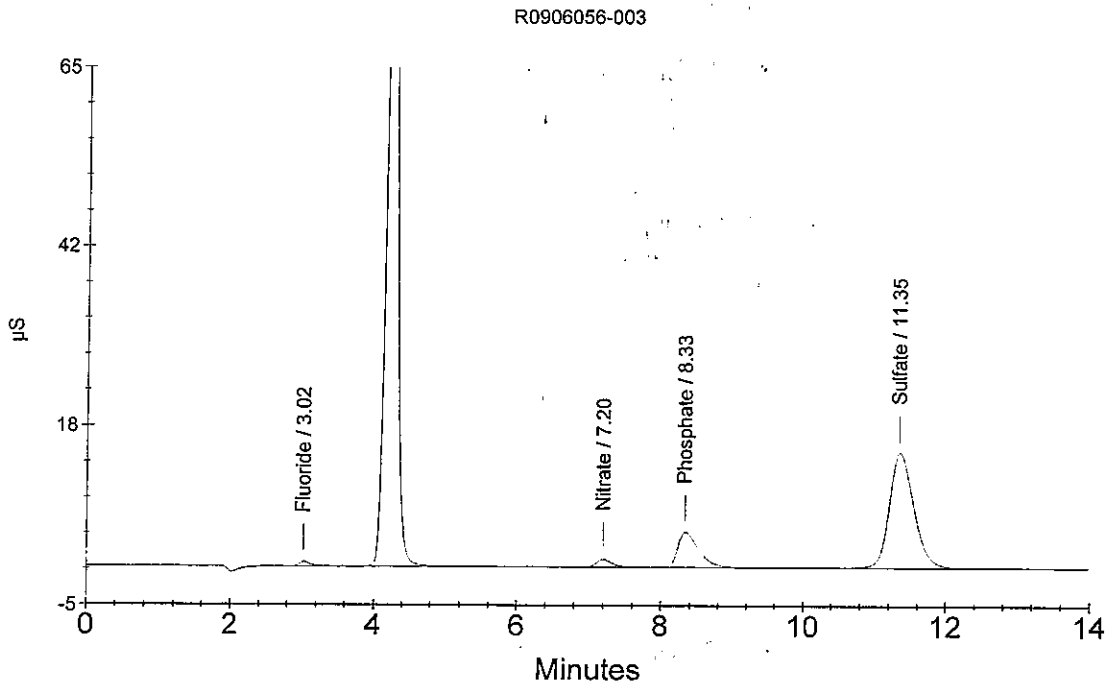
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 SPLP)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	3.02	Fluoride		0.359	73528
2	4.23	Chloride	1/10	54.531	10426849
3	7.20	Nitrate	OK	0.409	157140
4	8.33	Phosphate		5.693	930200
5	11.35	Sulfate	1/4	28.144	3591435

Br - OK
RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-005
Data File Name : ...\1103_022.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 3:57:27 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 SPLP)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

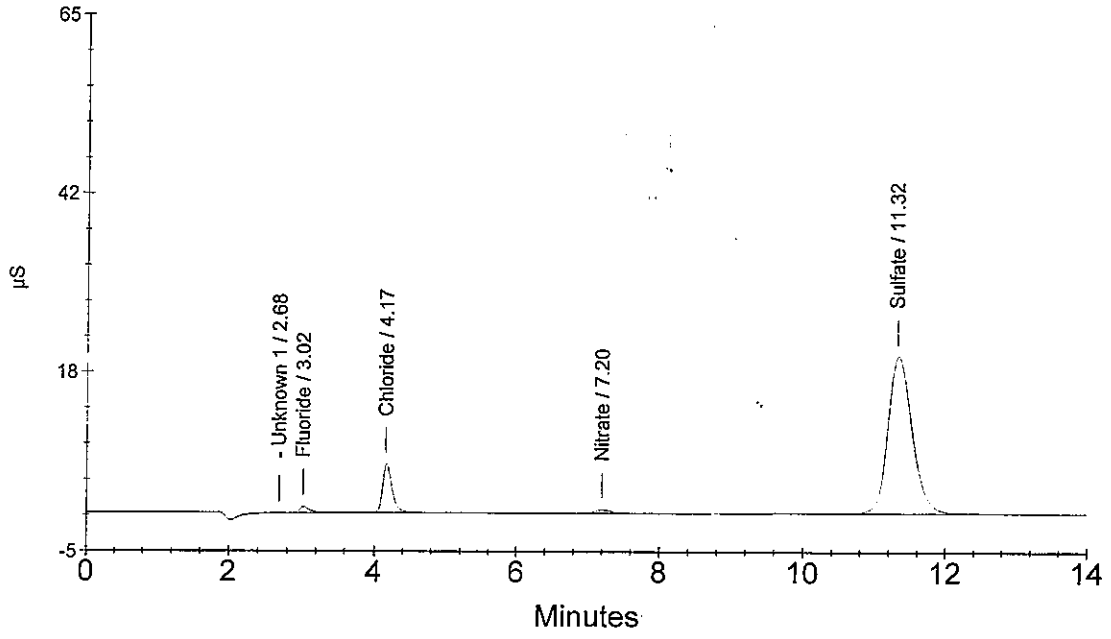
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	3.02	Fluoride	0.441	93658
3	4.17	Chloride	OK 3.236	606894
4	7.20	Nitrate	OK 0.229	75514
5	11.32	Sulfate	HD 38.282	4887686

Br - OK

RP 11/4/09

R0906056-005



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-007
Data File Name : ...\1103_023.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 4:13:43 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 SPLP)

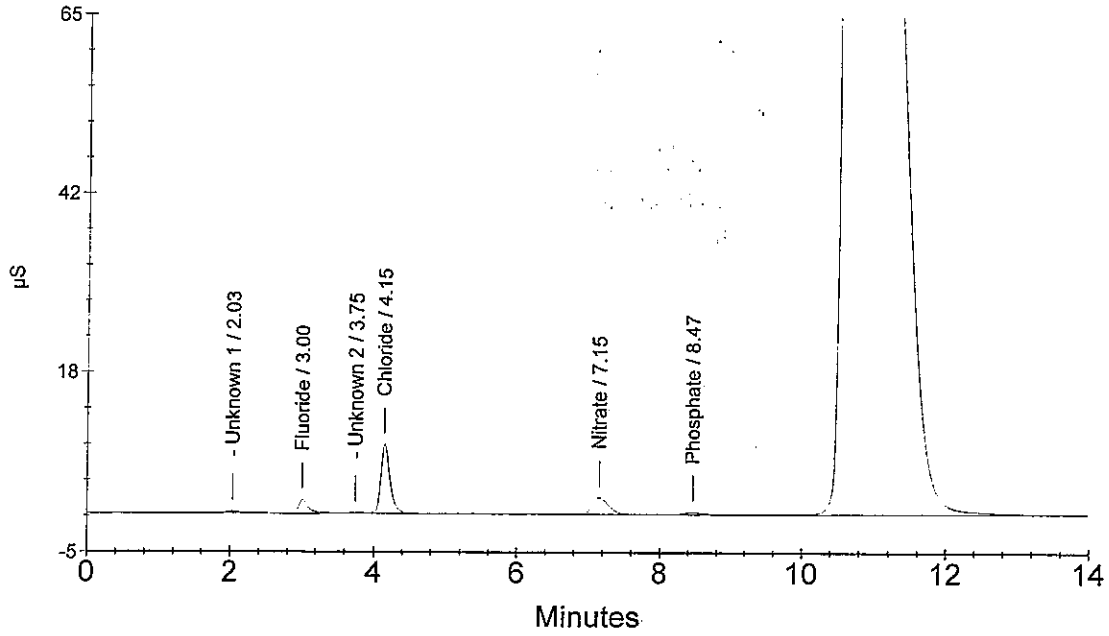
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	3.00	Fluoride	0.832	189226
4	4.15	Chloride	4.401	829919
5	7.15	Nitrate	0.831	348468
6	8.47	Phosphate	0.246	53960
7	10.70	Sulfate	803.441	102719120

OK
OK
1/100 OK
Br OK
RP 11/4/09

R0906056-007



00968

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : EB110209-GWA3 R0906270-003
Data File Name : ...\1103_024.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 4:30:01 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 SPLP)

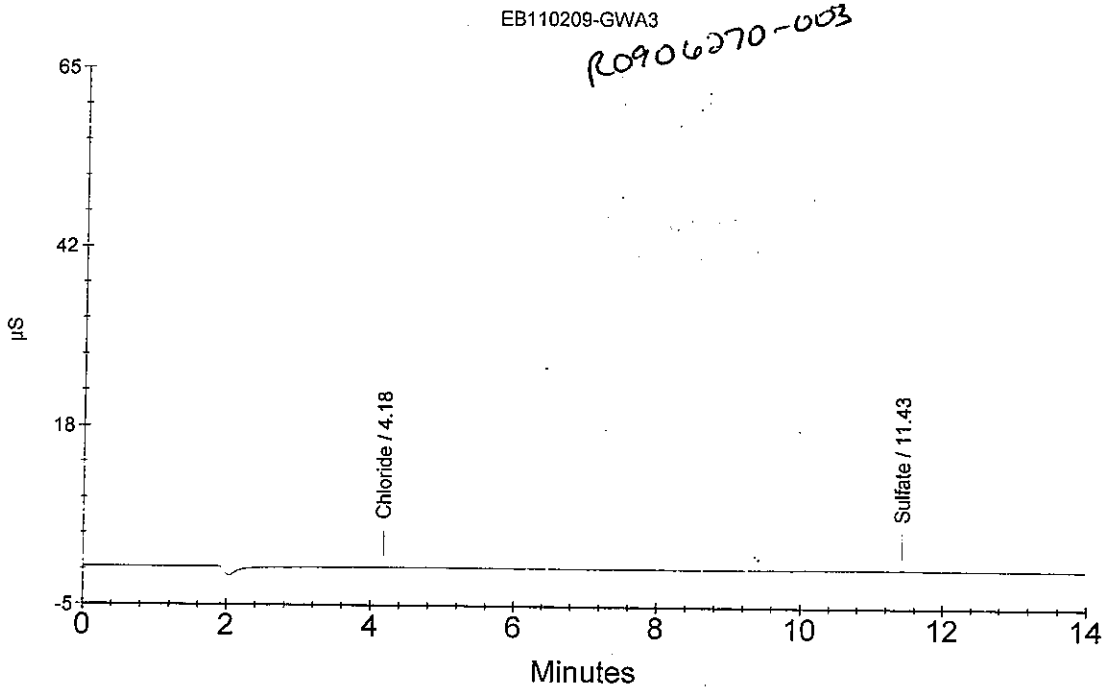
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.18	Chloride	OK 0.084	3460
2	11.43	Sulfate	0.106	6585

NO_3
Br

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\1103_025.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 4:46:24 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

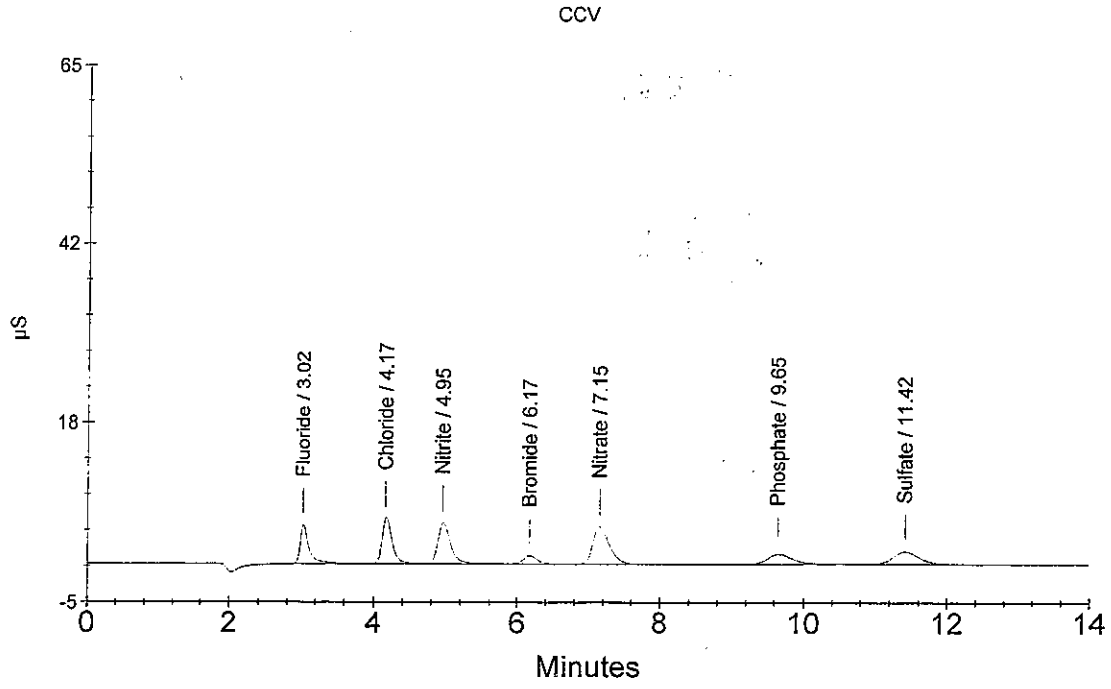
Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	19.023	450449
2	4.17	Chloride	30.047	562656
3	4.95	Nitrite	17.859	641642
4	6.17	Bromide	20.031	139371
5	7.15	Nitrate	17.802	778623
6	9.65	Phosphate	19.257	324231
7	11.42	Sulfate	31.821	399926

reprocess dilution
RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\1103_025.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 4:46:24 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

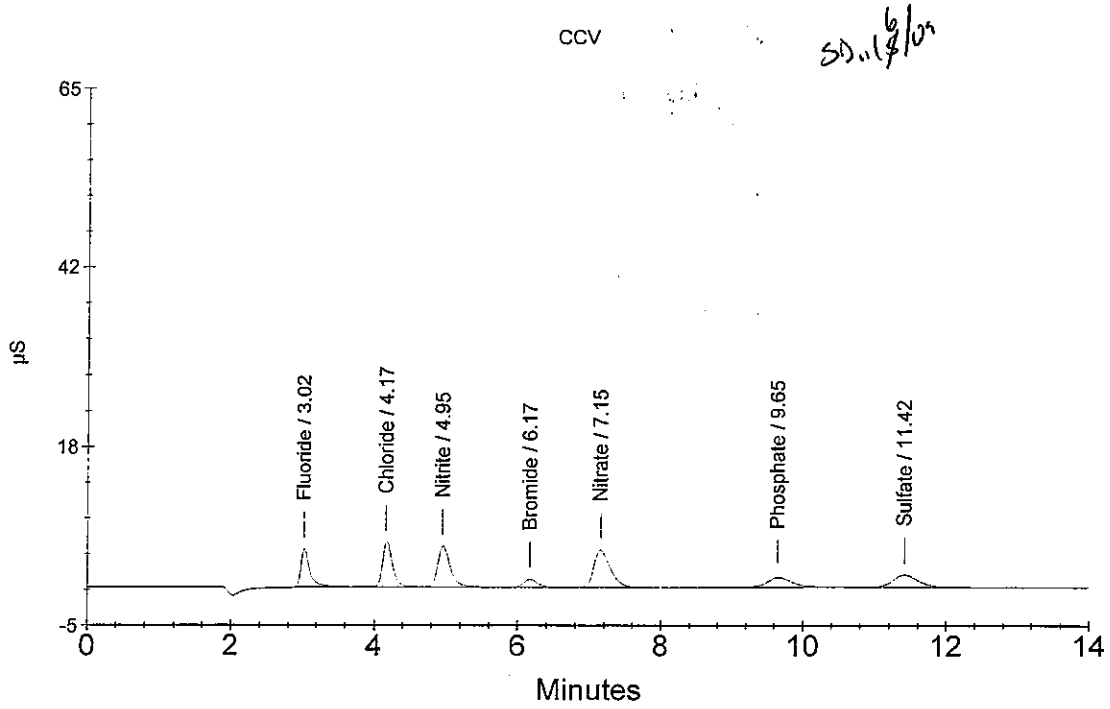
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	1.902	450449
2	4.17	Chloride	3.005	562656
3	4.95	Nitrite	1.786	641642
4	6.17	Bromide	2.003	139371
5	7.15	Nitrate	1.780	778623
6	9.65	Phosphate	1.926	324231
7	11.42	Sulfate	3.182	399926

OK

RP 11/4/09 dilution reprocessed

SD 11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\1103_026.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 5:02:41 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

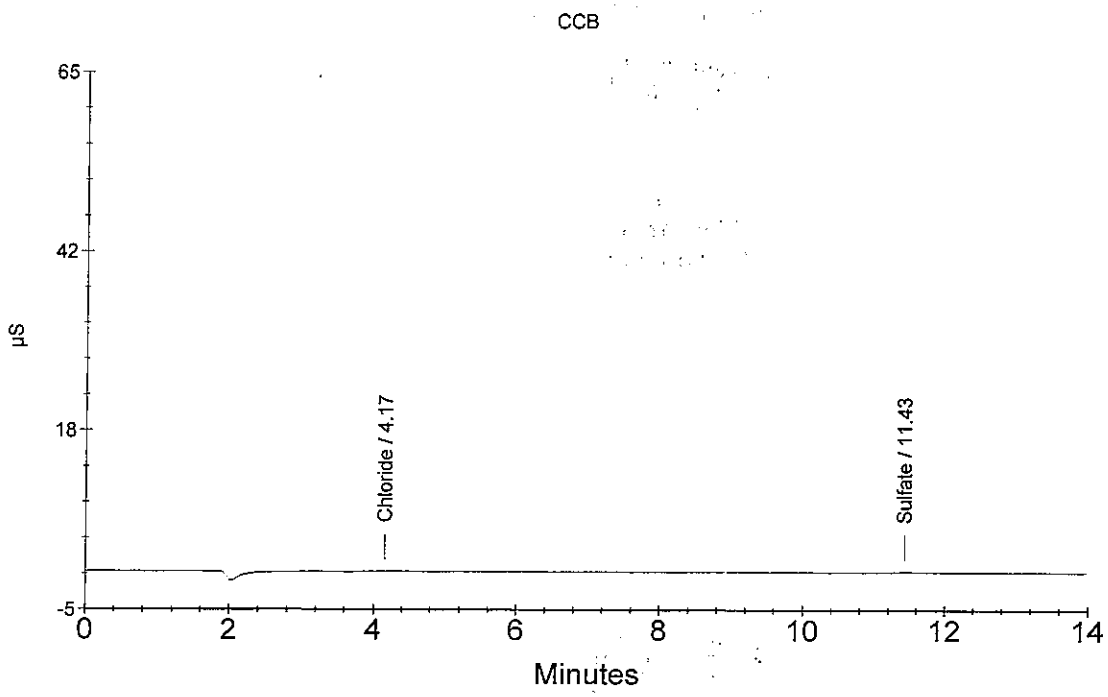
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.17	Chloride	0.078	2345
2	11.43	Sulfate	0.193	17755

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCS
Data File Name : ...\1103_027.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 5:18:57 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

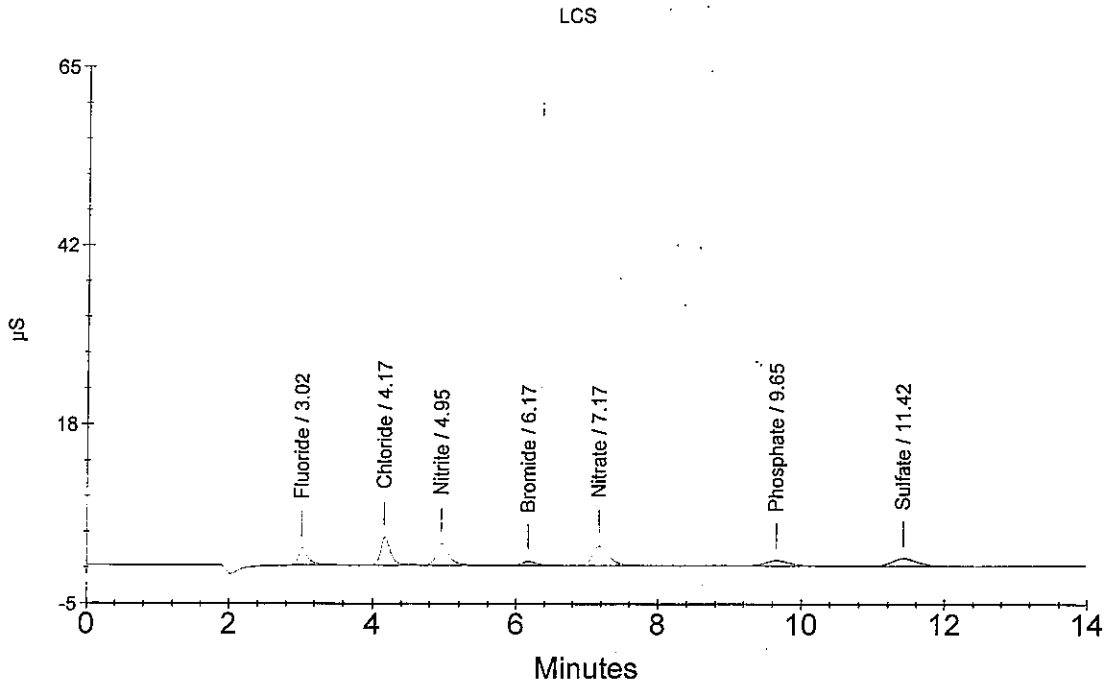
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	0.953	218558
2	4.17	Chloride	1.913	353734
3	4.95	Nitrite	0.958	334272
4	6.17	Bromide	1.008	68690
5	7.17	Nitrate	0.968	410188
6	9.65	Phosphate	0.944	166249
7	11.42	Sulfate	1.993	247937

OK

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : M-147B 9C9106270-001
Data File Name : ...\1103_028.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 5:35:14 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

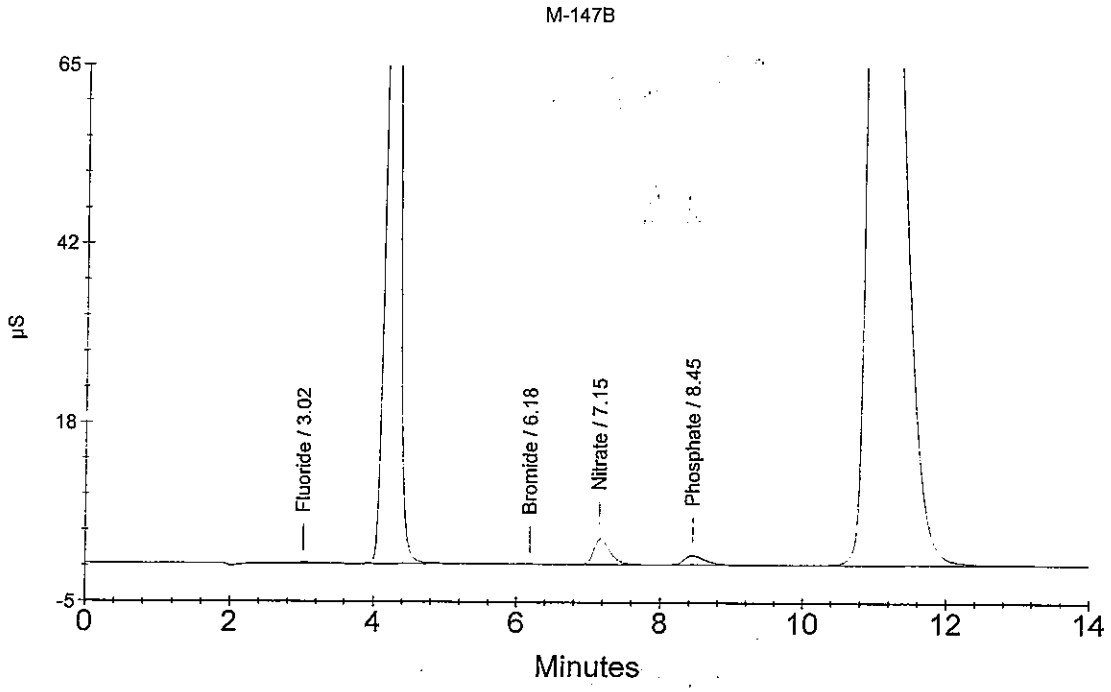
Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	3.02	Fluoride		1.326	18364
2	4.27	Chloride	1/100	778.274	14886636
3	6.18	Bromide	OK	1.421	7161
4	7.15	Nitrate	OK	12.393	533363
5	8.45	Phosphate		14.432	246613
6	11.02	Sulfate	1/40	3331.936	42594418

RP
11/4/09



00974

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : M-147B DUP R0906270-001
Data File Name : ...\1103_029.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 5:51:33 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

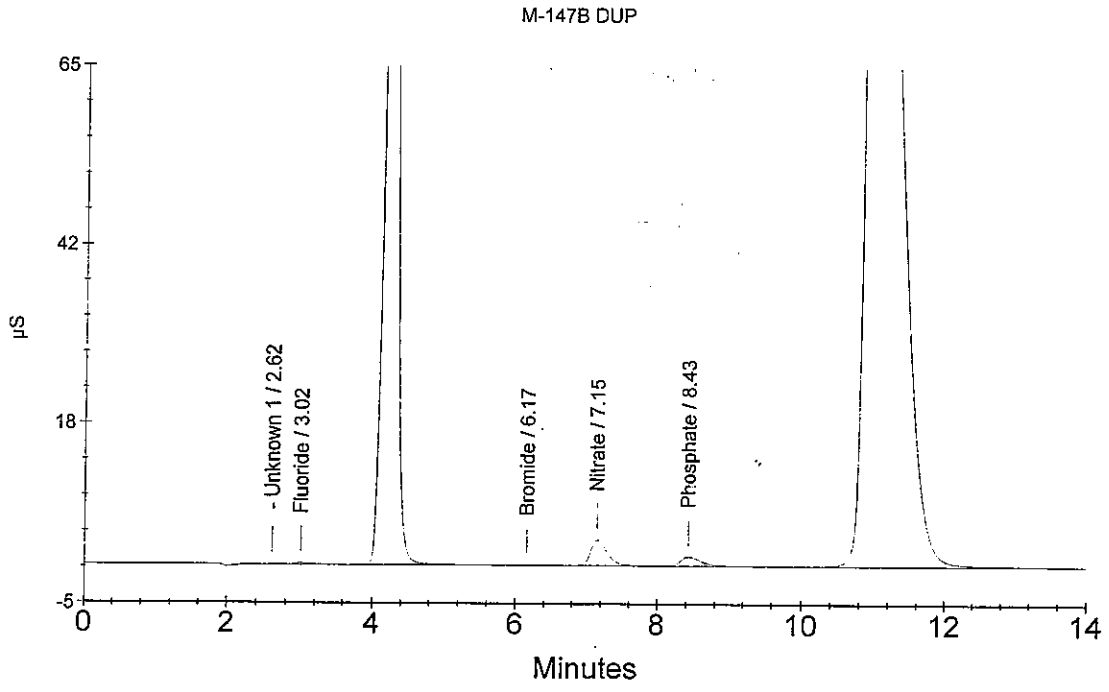
Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
2	3.02	Fluoride		1.522	23148
3	4.25	Chloride	1/100	777.622	14874161
4	6.17	Bromide	OK	1.489	7642
5	7.15	Nitrate	OK	12.475	537107
6	8.43	Phosphate		14.449	246884
7	11.00	Sulfate	1/400	3328.559	42551240

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : M-147B SPK R0906270-001 SPK
Data File Name : ...\1103_030.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 6:07:55 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

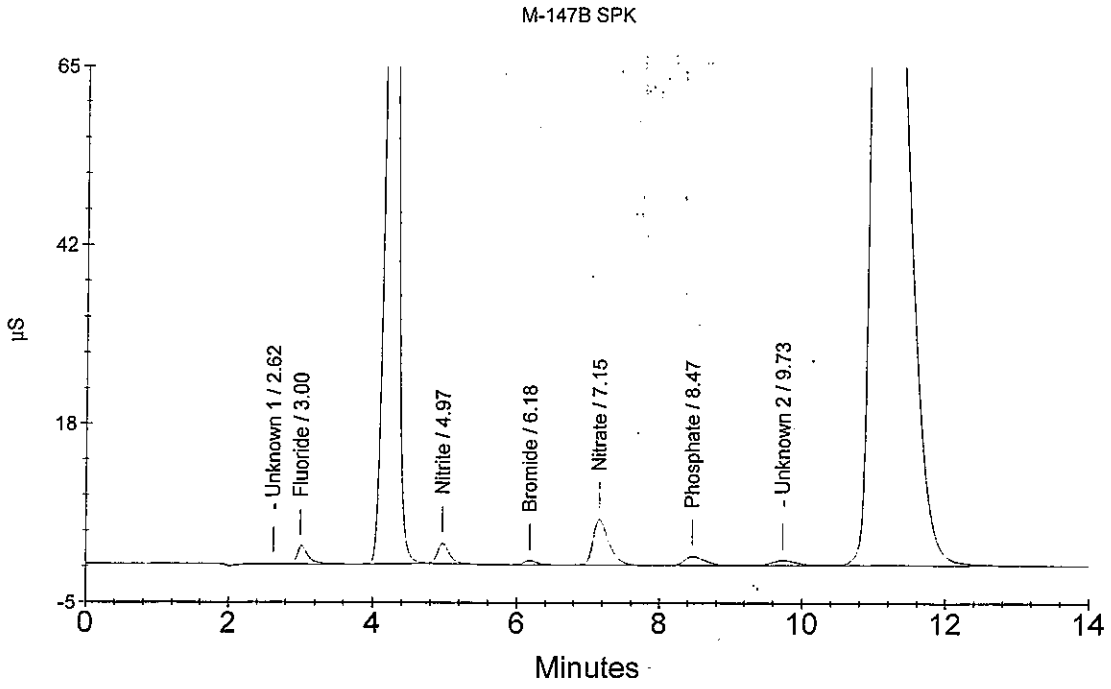
Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	3.00	Fluoride	11.233	260246
3	4.25	Chloride	1/100 768.780	14704892
4	4.97	Nitrite	8.887	308454
5	6.18	Bromide	OK 11.031	75435
6	7.15	Nitrate	OK 21.647	952955
7	8.47	Phosphate	13.557	232538
9	11.08	Sulfate	1/400 3208.796	41019978

R.P 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : M-147009B R0906270-002
Data File Name : ...\1103_031.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 6:24:14 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

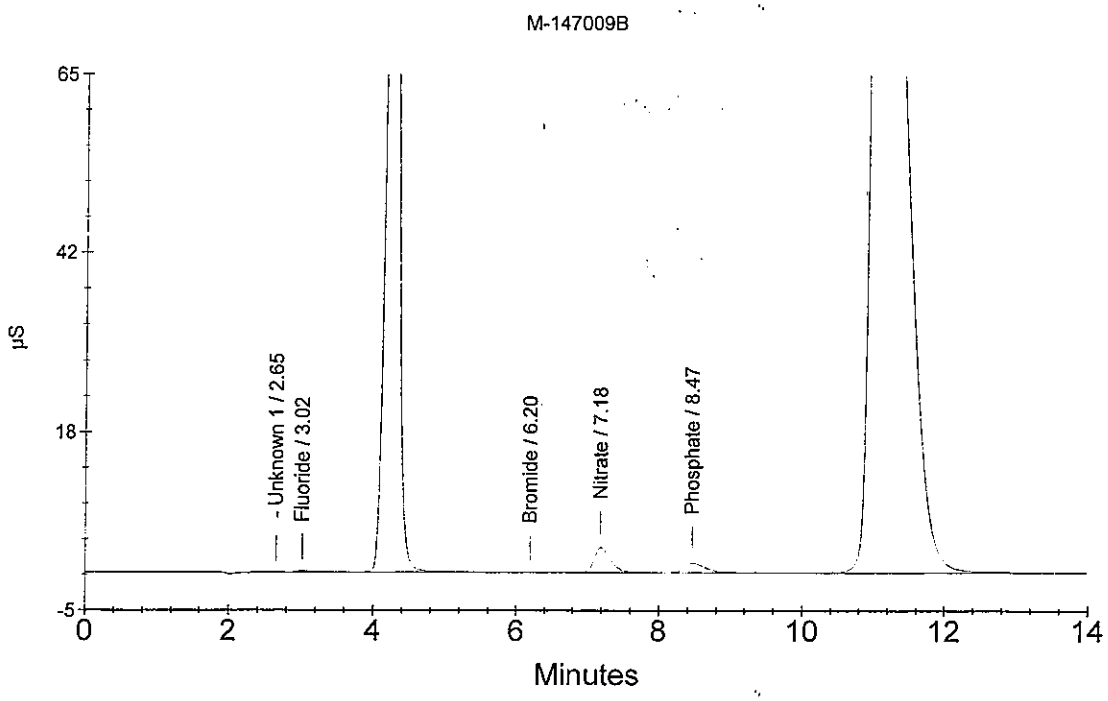
Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	3.02	Fluoride	1.572	24371
3	4.27	Chloride	1/100 770.723	14742093
4	6.20	Bromide	OK 1.431	7229
5	7.18	Nitrate	OK 12.284	528444
6	8.47	Phosphate	14.601	249325
7	11.08	Sulfate	1/400 3338.668	42680486

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : M-147009B DUP R1090270-002 DUP
Data File Name : ...\1103_032.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 6:40:32 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056)

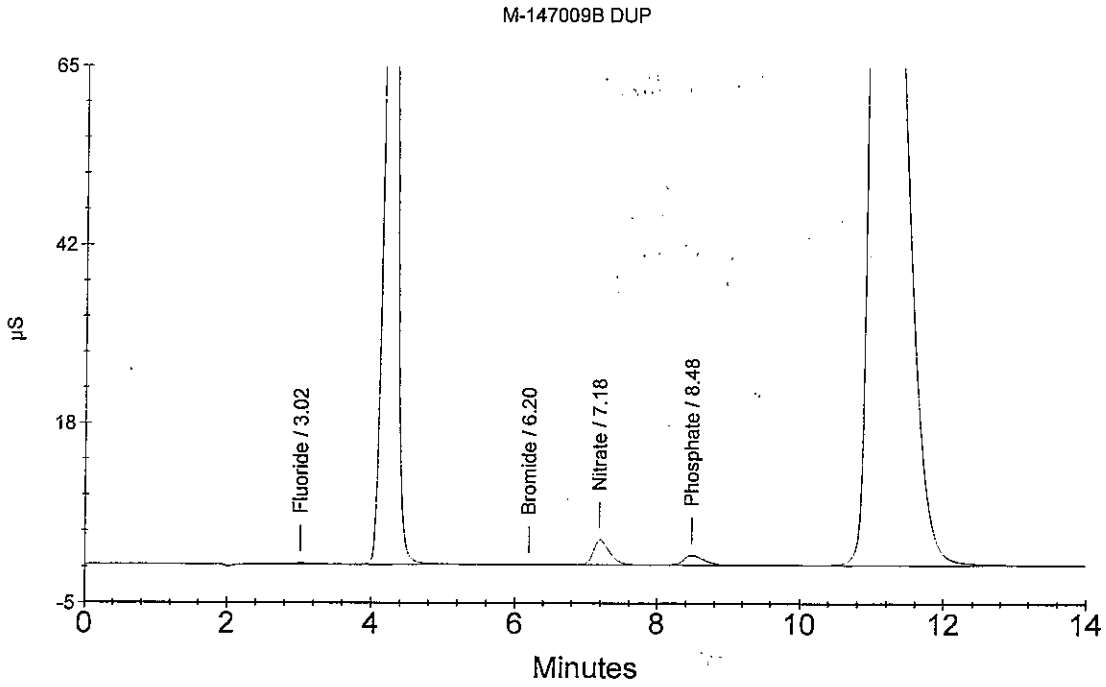
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	1.334	18555
2	4.27	Chloride	770.041	14729029
3	6.20	Bromide	1.457	7413
4	7.18	Nitrate	12.236	526279
5	8.48	Phosphate	14.680	250599
6	11.08	Sulfate	3336.592	42653951

1/100 OK OK 1/400

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : M-147009B SPK h0906270-002 SPK
Data File Name : ...\1103_033.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 6:56:49 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

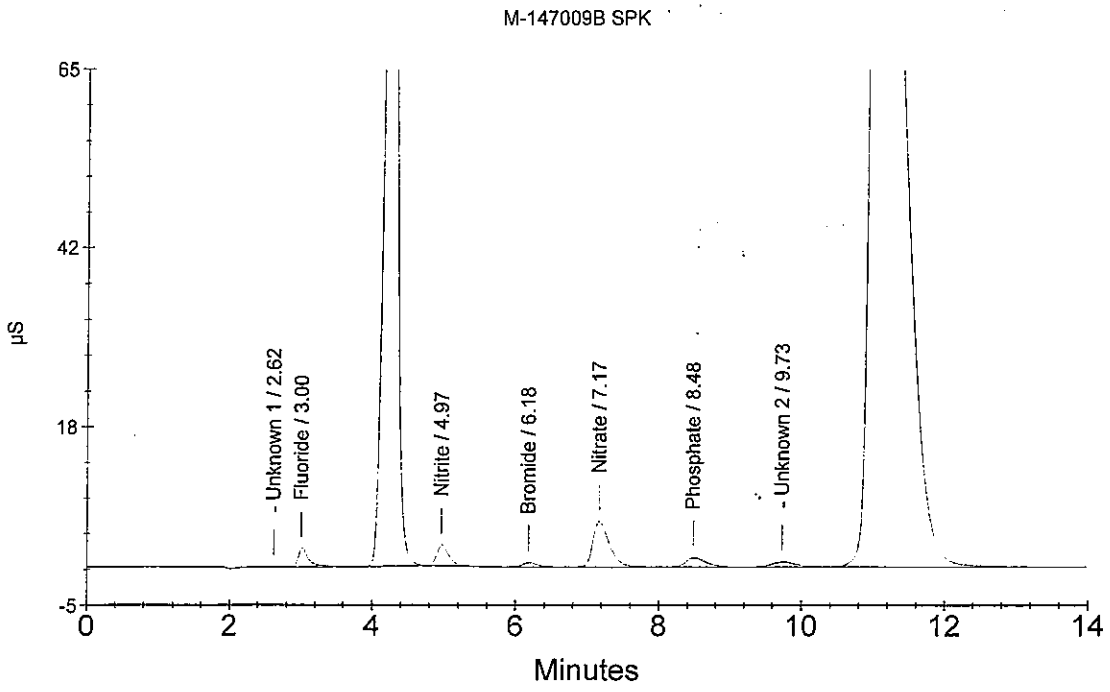
Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
2	3.00	Fluoride		11.310	262119
3	4.27	Chloride	1/100	769.094	14710899
4	4.97	Nitrite		8.943	310529
5	6.18	Bromide	OK	11.123	76089
6	7.17	Nitrate	OK	21.712	955919
7	8.48	Phosphate		13.972	239200
9	11.08	Sulfate	1/100	3251.517	41566201

RR 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : PB-SOIL
Data File Name : ...\1103_034.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 7:13:08 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

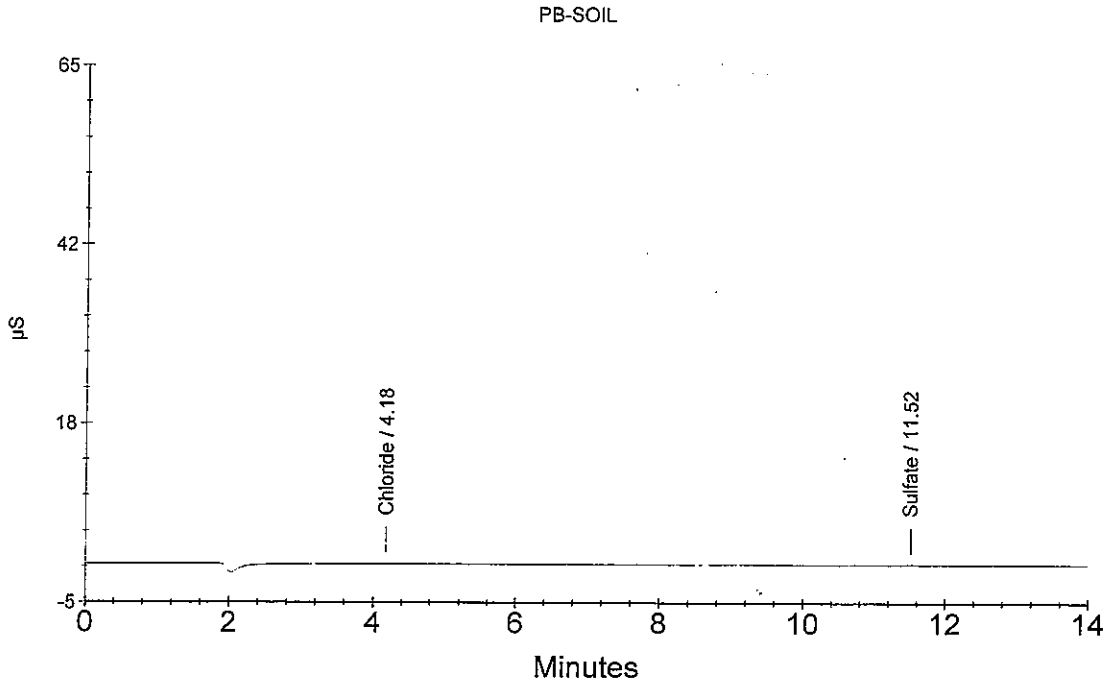
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : C (300.0 SOIL)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	4.18	Chloride	OK	0.079	2632
2	11.52	Sulfate	↓	0.119	8247

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Soil RP 11/4/09

Sample Name : LCS ~~EXTRACTION~~
Data File Name : ...\1103_035.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 7:29:26 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

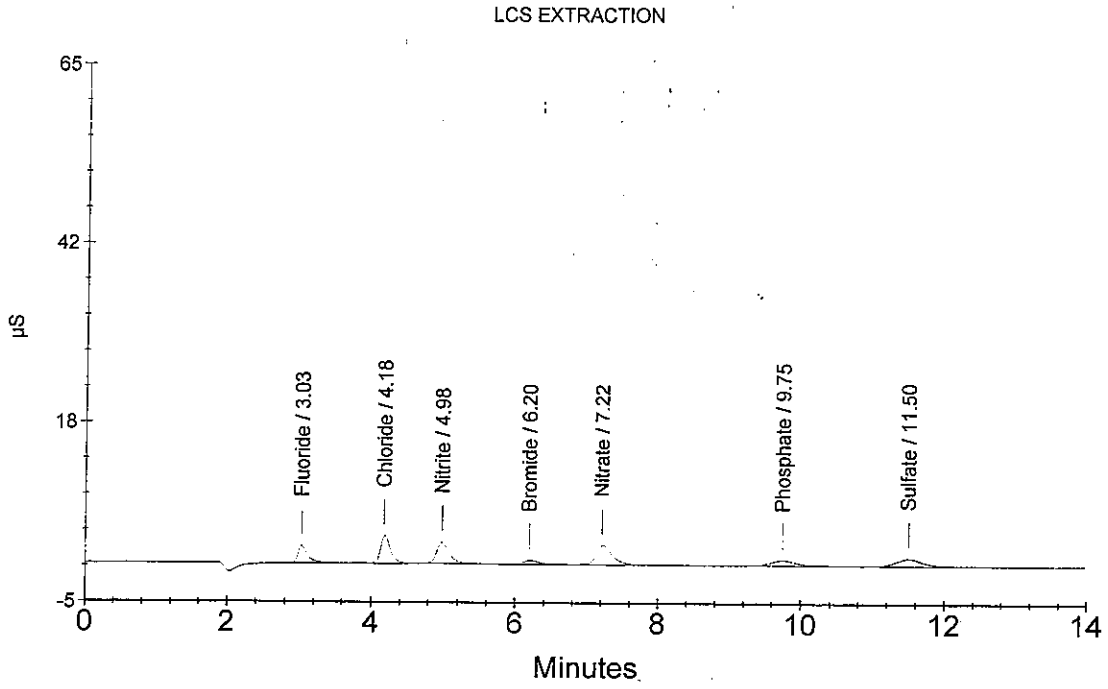
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : C (300.0 SOIL)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.03	Fluoride	OK 0.948	217536
2	4.18	Chloride	1.902	351581
3	4.98	Nitrite	0.968	337742
4	6.20	Bromide	0.996	67824
5	7.22	Nitrate	0.960	406811
6	9.75	Phosphate	0.923	162963
7	11.50	Sulfate	1.970	244999

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\1103_036.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 7:45:43 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

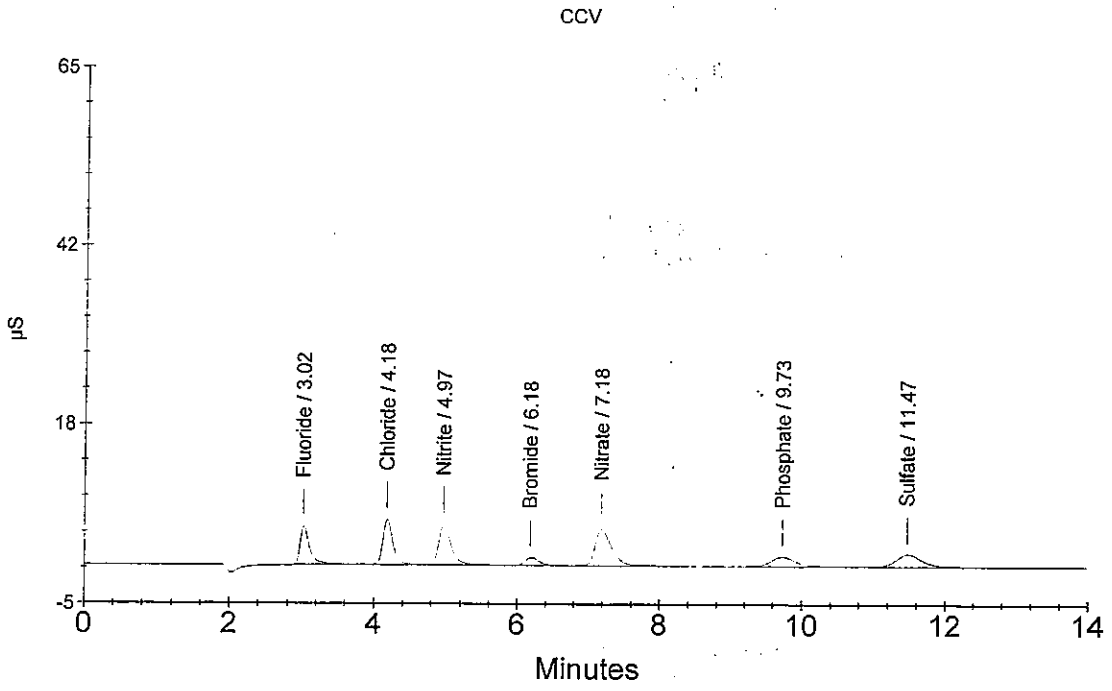
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	1.901	450196
2	4.18	Chloride	2.978	557525
3	4.97	Nitrite	1.784	641120
4	6.18	Bromide	2.005	139526
5	7.18	Nitrate	1.777	777363
6	9.73	Phosphate	1.724	291754
7	11.47	Sulfate	3.183	400054

OK

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\1103_037.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 8:02:01 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

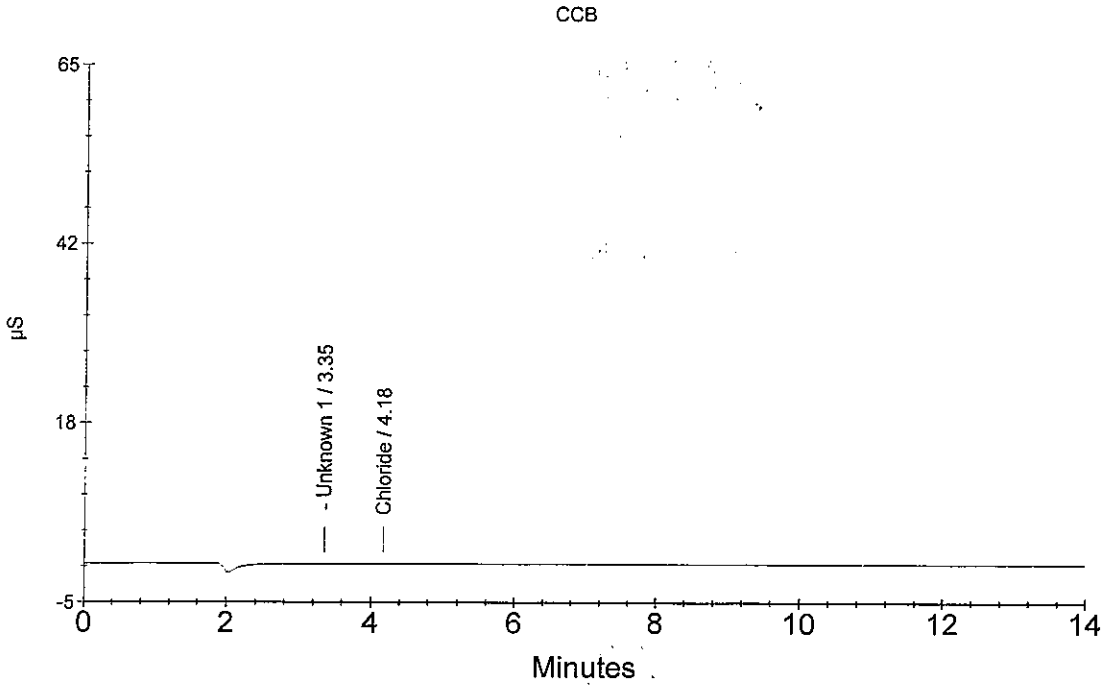
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	4.18	Chloride	0.122	10878

RR 11/4/09



Ion Chromatography Analytical Report
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Rochester, NY 14607

Sample Name : R0906025-003
Data File Name : ...\1103_038.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 8:18:18 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

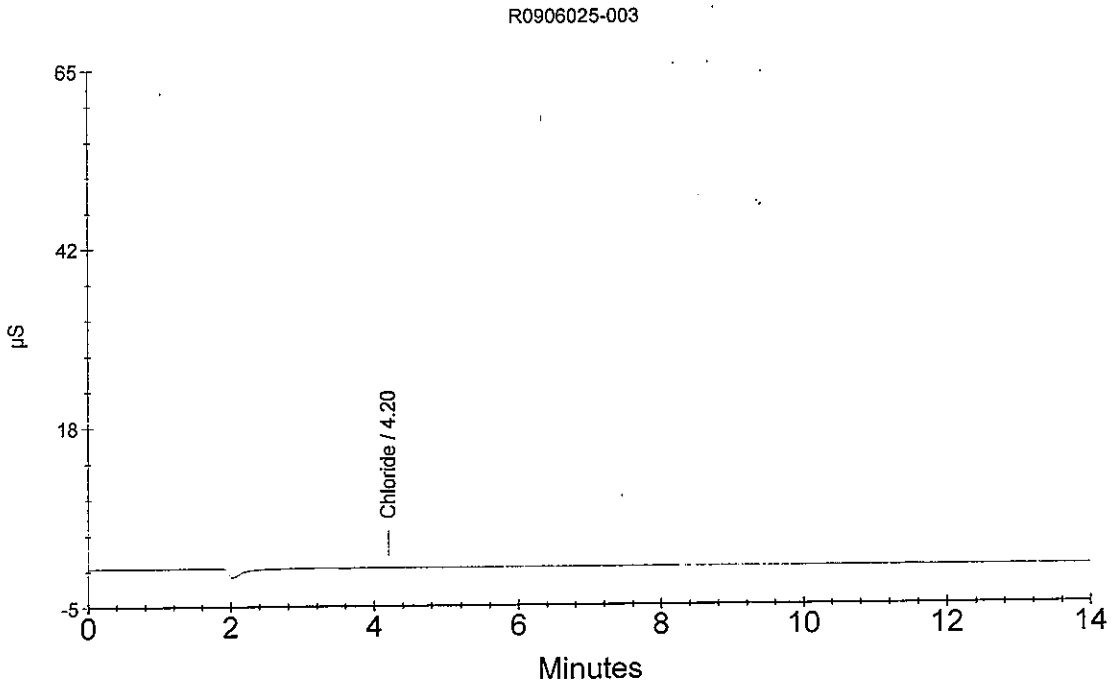
Dilution Factor : 200.00
Sample Type : Sample Analysis
Sample Comment : C (300.0 SOIL)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.20	Chloride	15.946	2708

ok
RP 11/5/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906025-003 DUP AT IC
Data File Name : ...\1103_039.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 8:34:36 PM

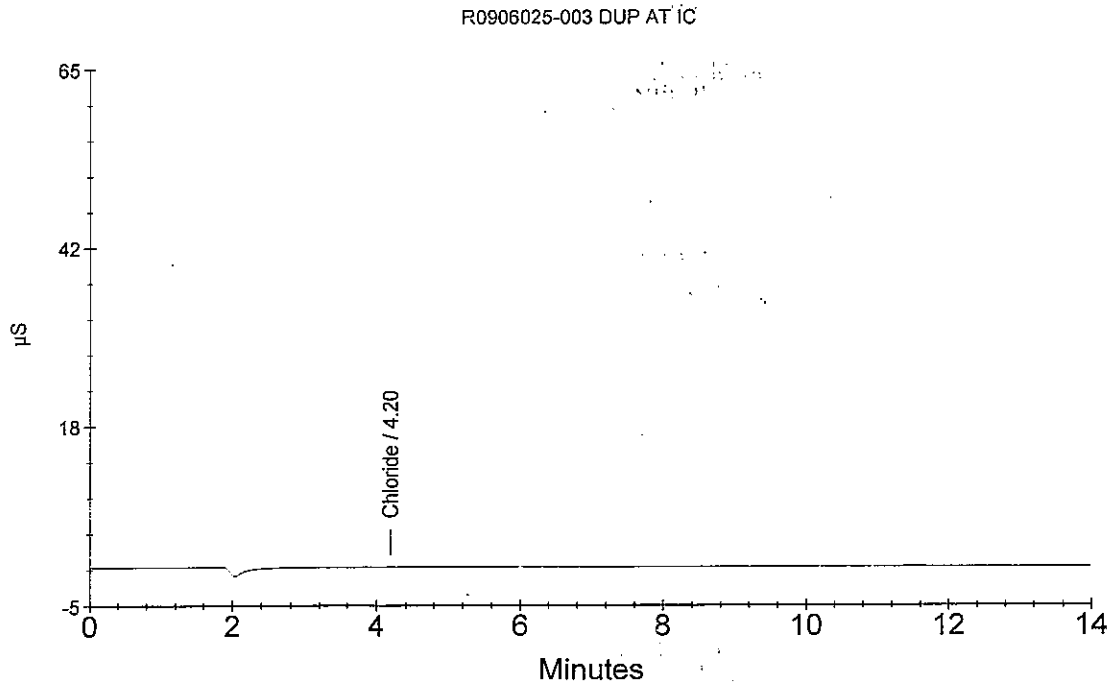
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 200.00
Sample Type : Sample Analysis
Sample Comment : C (300.0 SOIL)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.20	Chloride	OK 16.709 RP 4/5/09	3439



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906025-003 SPK AT IC
Data File Name : ...\1103_040.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 8:50:53 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 200.00
Sample Type : Sample Analysis
Sample Comment : C (300.0 SOIL)

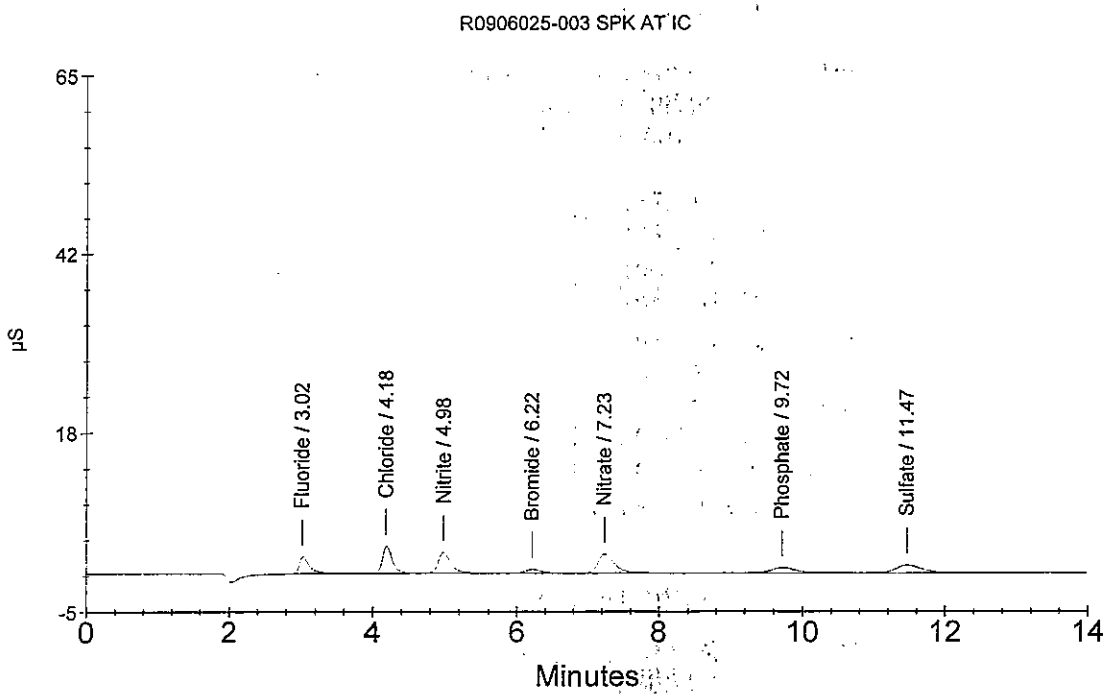
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	187.111	214410
2	4.18	Chloride	375.589	346957
3	4.98	Nitrite	190.344	331854
4	6.22	Bromide	196.860	66994
5	7.23	Nitrate	191.075	404645
6	9.72	Phosphate	184.422	162782
7	11.47	Sulfate	407.372	253495

DIC

RP 11/5/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906010-001
Data File Name : ...\1103_041.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 9:07:11 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 4000.00
Sample Type : Sample Analysis
Sample Comment : C (300.0)

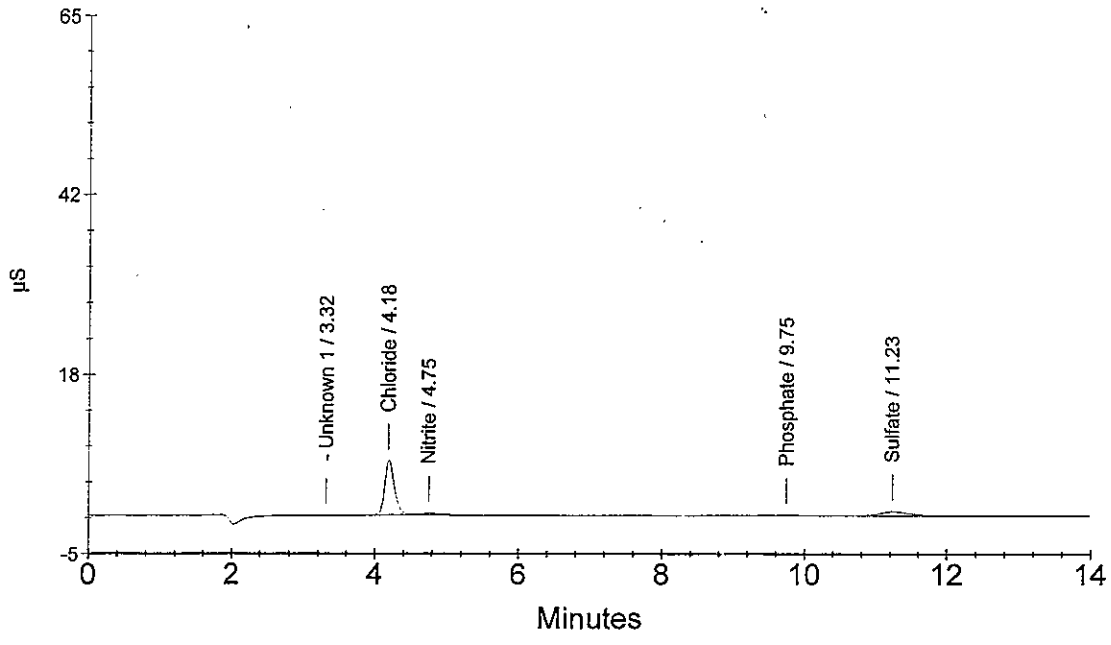
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	4.18	Chloride	OK 13973.256	656201
3	4.75	Nitrite	509.606	25709
4	9.75	Phosphate	19.421	15229
5	11.23	Sulfate	4718.247	143883

RP 11/4/09

R0906010-001



00987

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906016-001
Data File Name : ...\1103_042.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 9:23:29 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

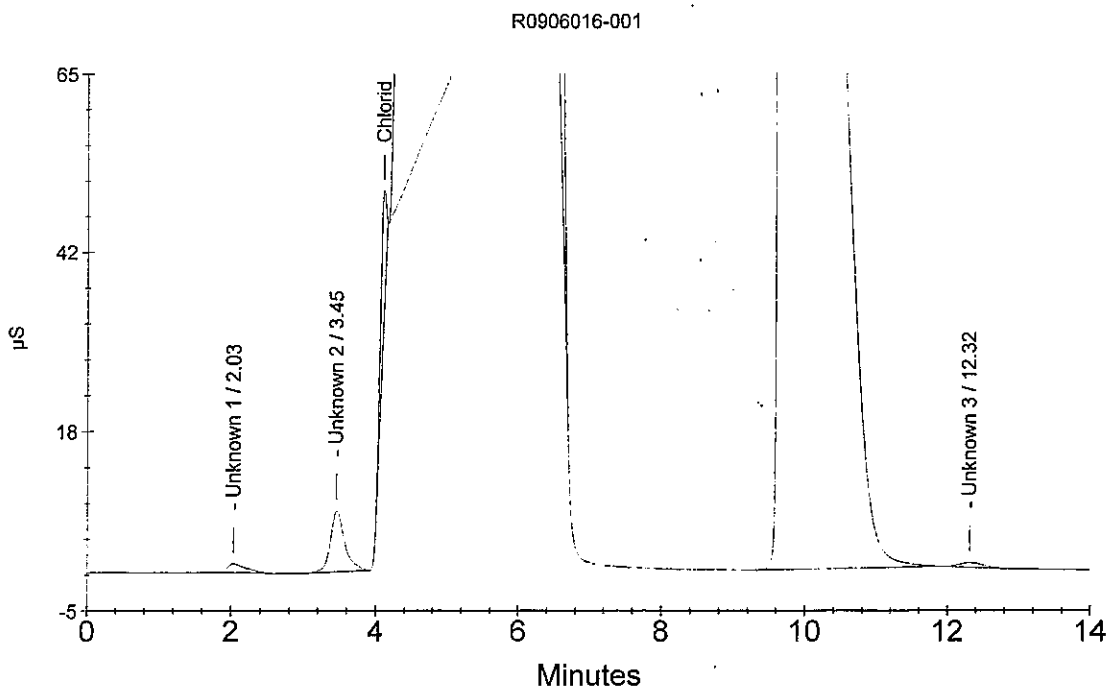
Dilution Factor : 40.00
Sample Type : Sample Analysis
Sample Comment : C (300.0)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
3	4.12	Chloride	1/10000 195.788	924481
4	4.93	Nitrite	44000.613	408514359
5	6.53	Bromide	2422.592	4299825
6	9.75	Phosphate	36963.064	148665075

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906019-001
Data File Name : ...\1103_043.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 9:39:48 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 4000.00
Sample Type : Sample Analysis
Sample Comment : C (300.0)

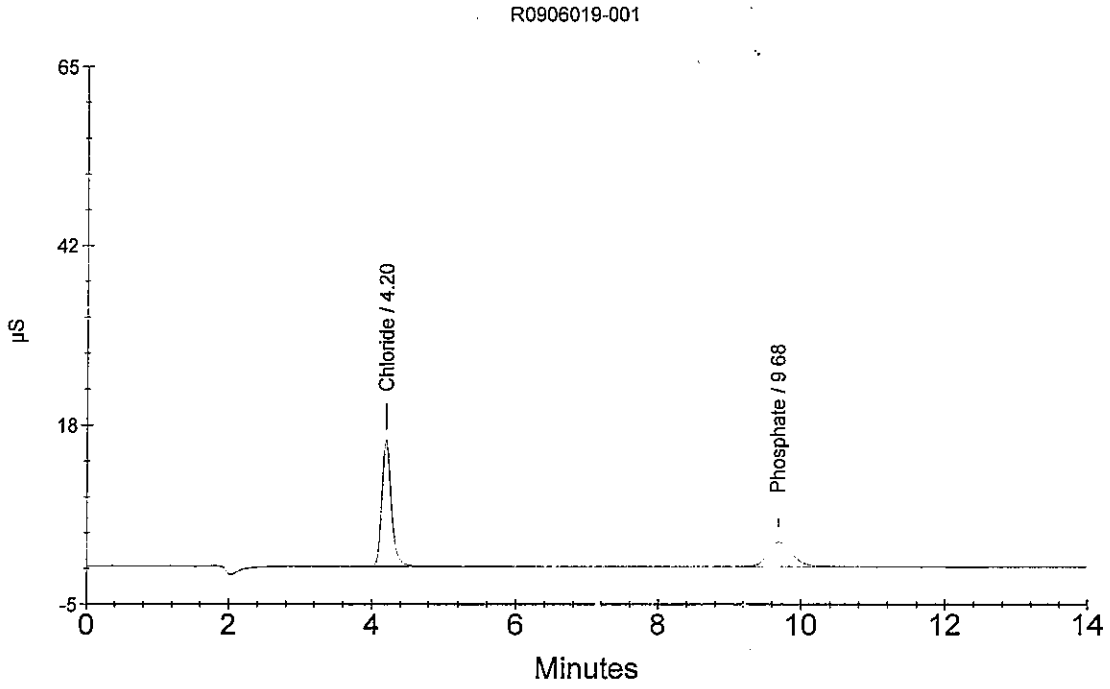
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.20	Chloride	31760.600	1507499
2	9.68	Phosphate	18419.117	755191

OK

RP
11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-001
Data File Name : ...\1103_044.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 9:56:05 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

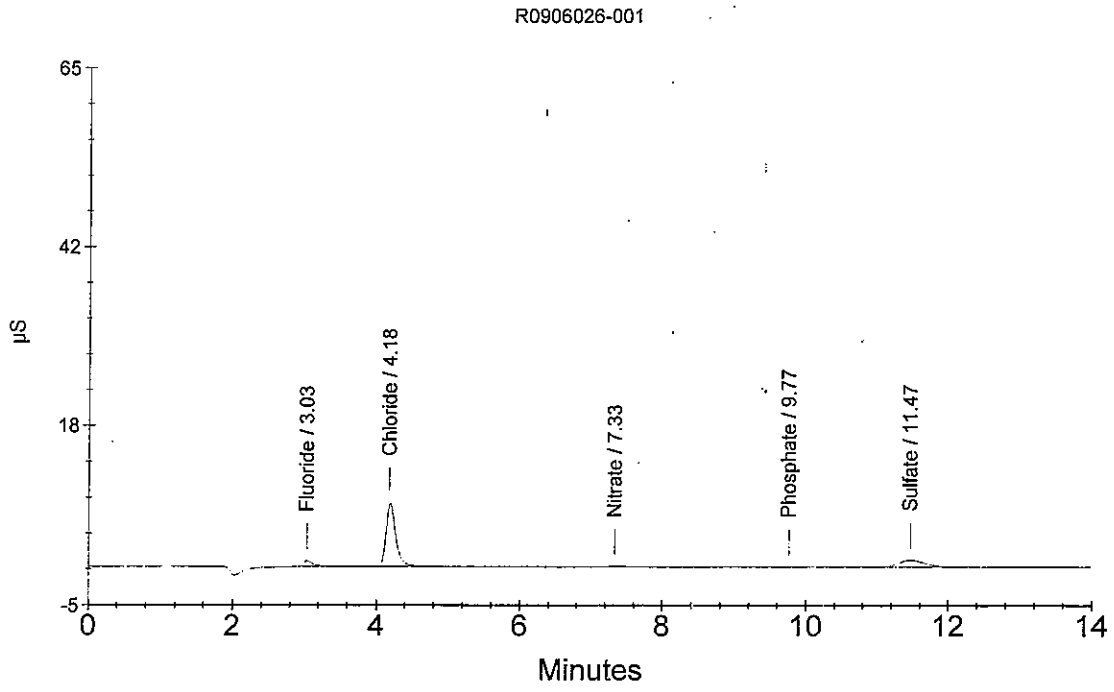
Dilution Factor : 40.00
Sample Type : Sample Analysis
Sample Comment : C (300.0)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.03	Fluoride	14.845	76598
2	4.18	Chloride	164.821	776273
3	7.33	Nitrate	3.360	9568
4	9.77	Phosphate	-2.100	6002
5	11.47	Sulfate	72.322	224241

RP 11/4/09



Ion Chromatography Analytical Report
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Rochester, NY 14607

Sample Name : R0906026-003
Data File Name : ...\1103_045.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 10:12:24 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

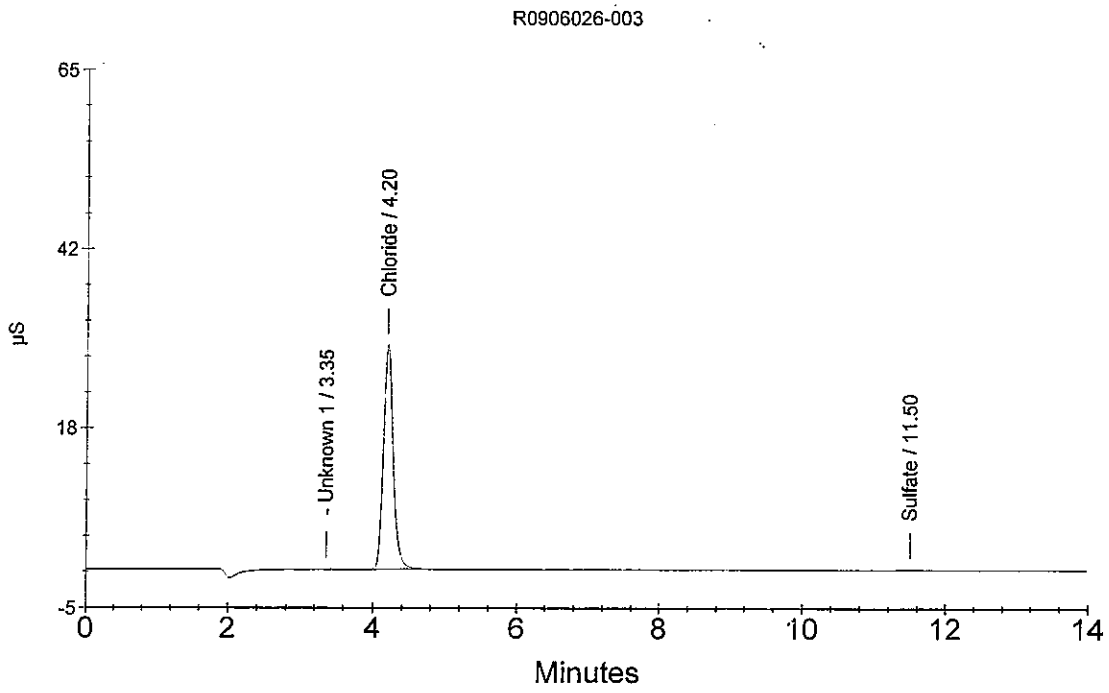
Dilution Factor : 4000.00
Sample Type : Sample Analysis
Sample Comment : C (300.0)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	4.20	Chloride	55863.480	2661056
3	11.50	Sulfate	481.714	8464

RP 11/4/09



Ion Chromatography Analytical Report
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Rochester, NY 14607

Sample Name : R0906026-005
Data File Name : ...\1103_046.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 10:28:42 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

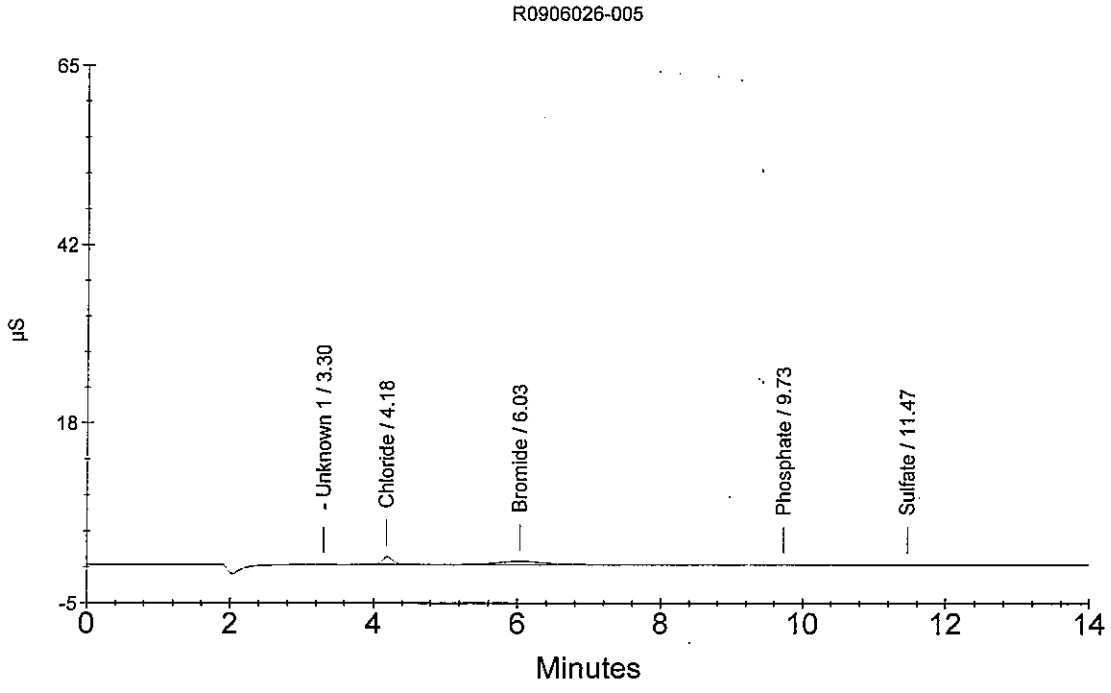
Dilution Factor : 4000.00
Sample Type : Sample Analysis
Sample Comment : C (300.0)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	4.18	Chloride	1/1000 2560.025	109967
3	6.03	Bromide	10194.037	178122
4	9.73	Phosphate	-234.498	5017
5	11.47	Sulfate	697.860	15373

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-007
Data File Name : ...\1103_047.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 10:44:59 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

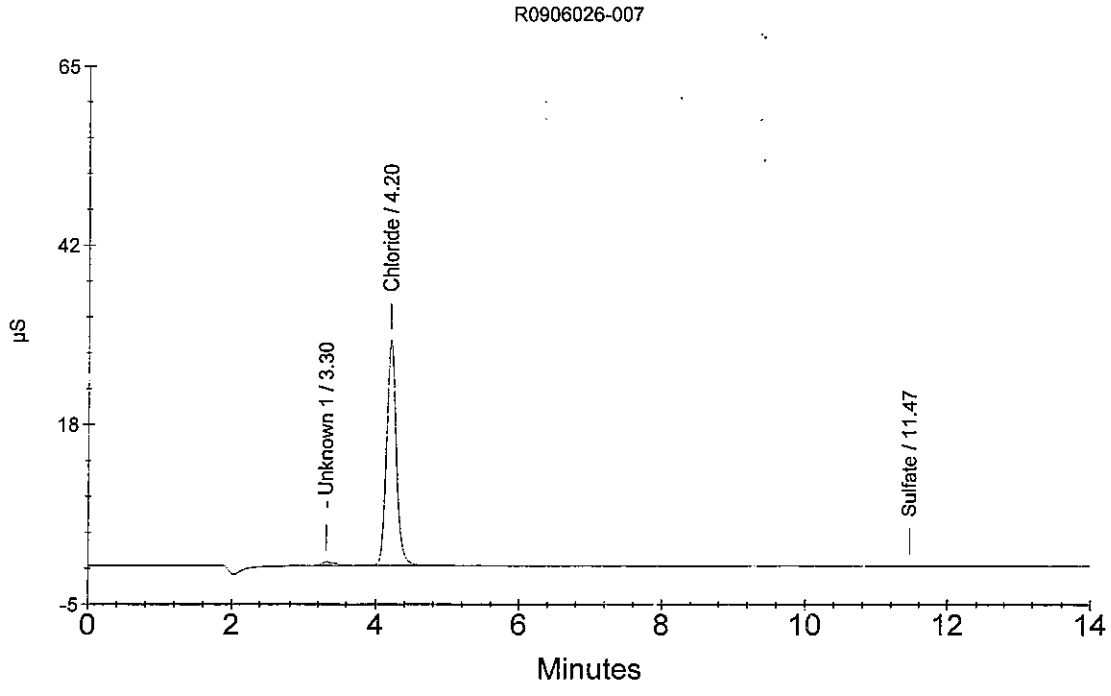
Dilution Factor : 4000.00
Sample Type : Sample Analysis
Sample Comment : C (300.0)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	4.20	Chloride	1/10000 56446.534	2688961
3	11.47	Sulfate	422.736	6579

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\1103_048.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 11:01:17 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

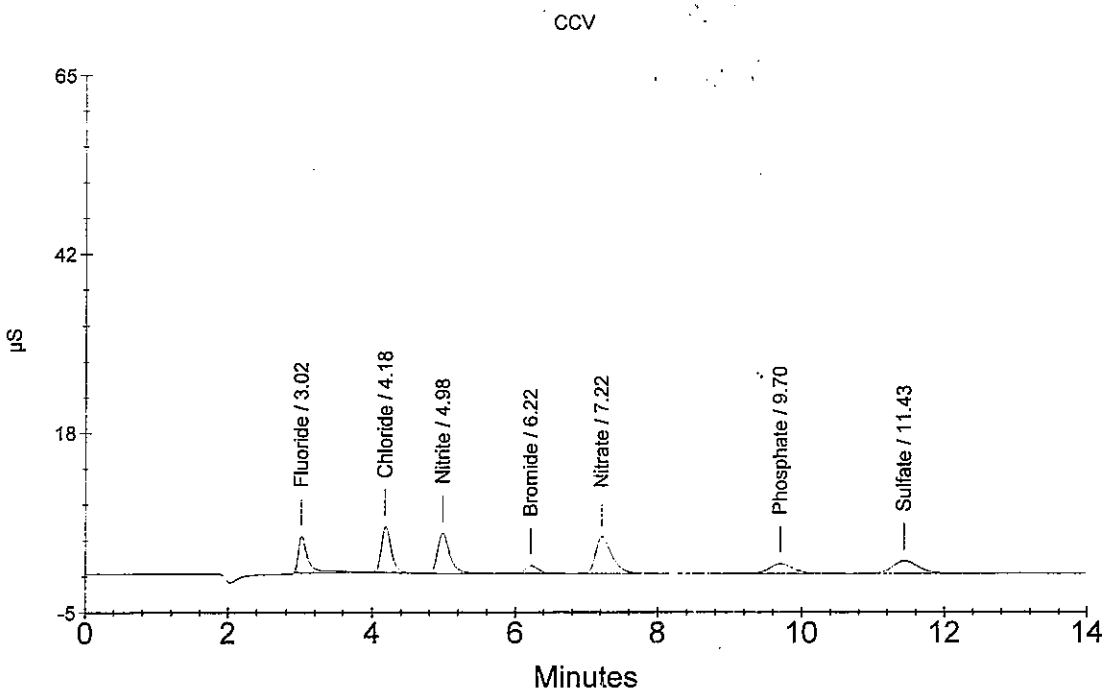
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	1.946	461151
2	4.18	Chloride	2.976	557140
3	4.98	Nitrite	1.767	634780
4	6.22	Bromide	1.993	138676
5	7.22	Nitrate	1.772	775010
6	9.70	Phosphate	1.742	294621
7	11.43	Sulfate	3.170	398344

RR 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\1103_049.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 11:17:34 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

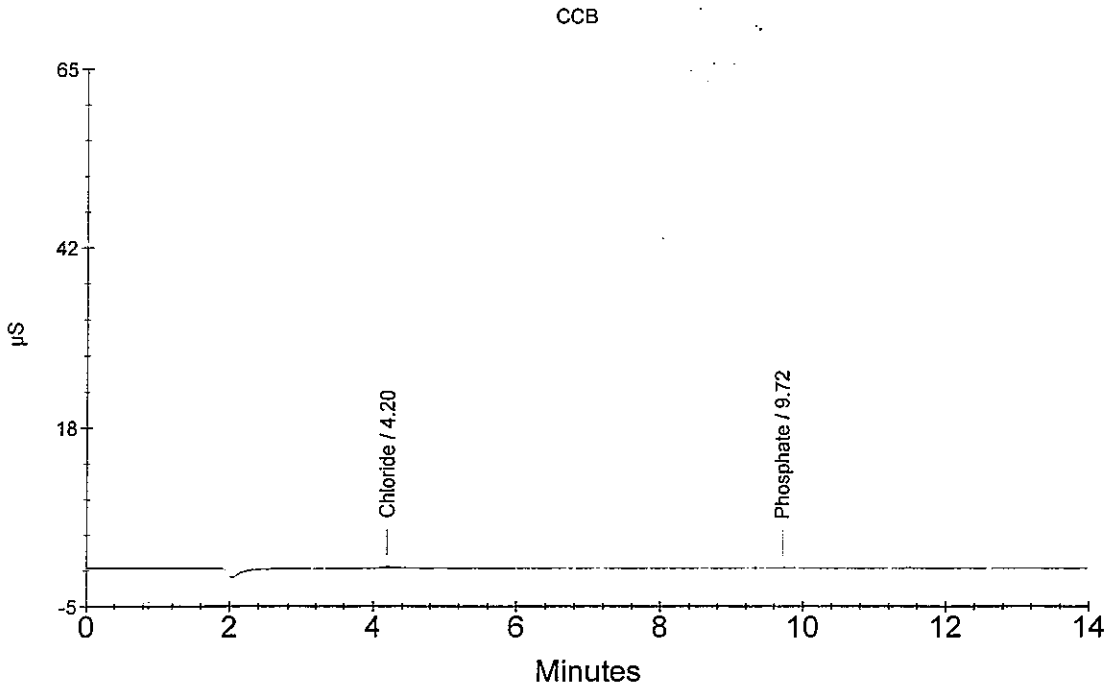
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.20	Chloride	0.174	20687
2	9.72	Phosphate	-0.070	3108

RS 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCS
Data File Name : ...\1103_050.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 11:33:51 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

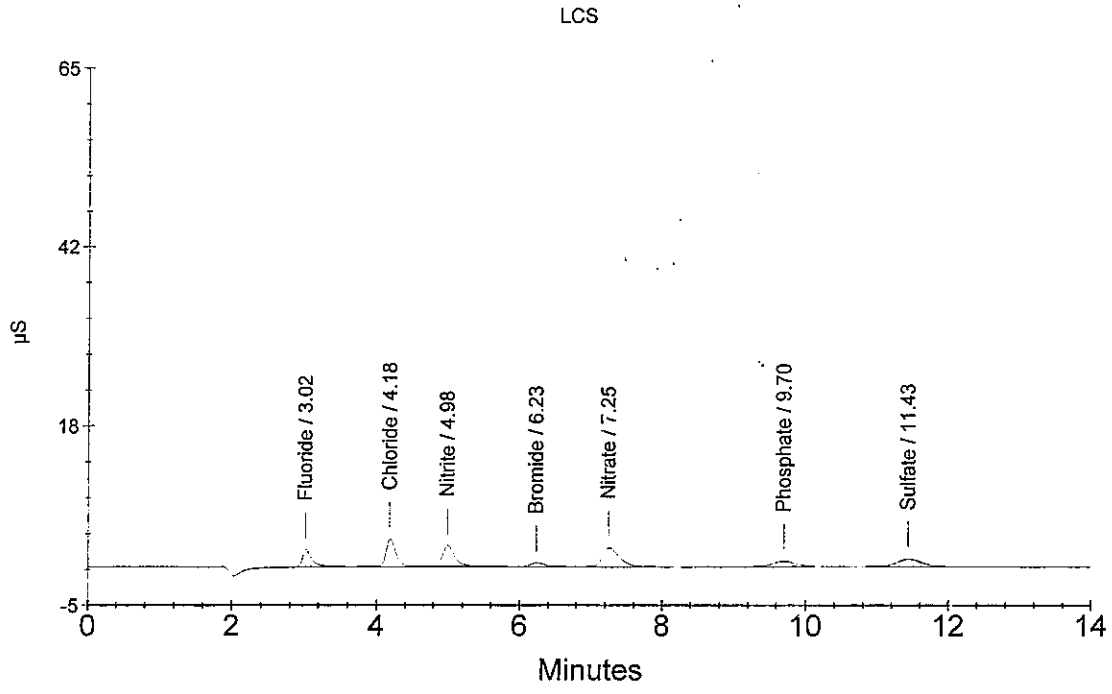
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	0.945	216614
2	4.18	Chloride	1.918	354560
3	4.98	Nitrite	0.961	335240
4	6.23	Bromide	0.992	67570
5	7.25	Nitrate	0.960	406533
6	9.70	Phosphate	0.930	164056
7	11.43	Sulfate	2.000	248750

RR 11/4/09



Ion Chromatography Analytical Report
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Rochester, NY 14607

Sample Name : MB 10845-01
Data File Name : ...\1103_051.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/3/09 11:50:09 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

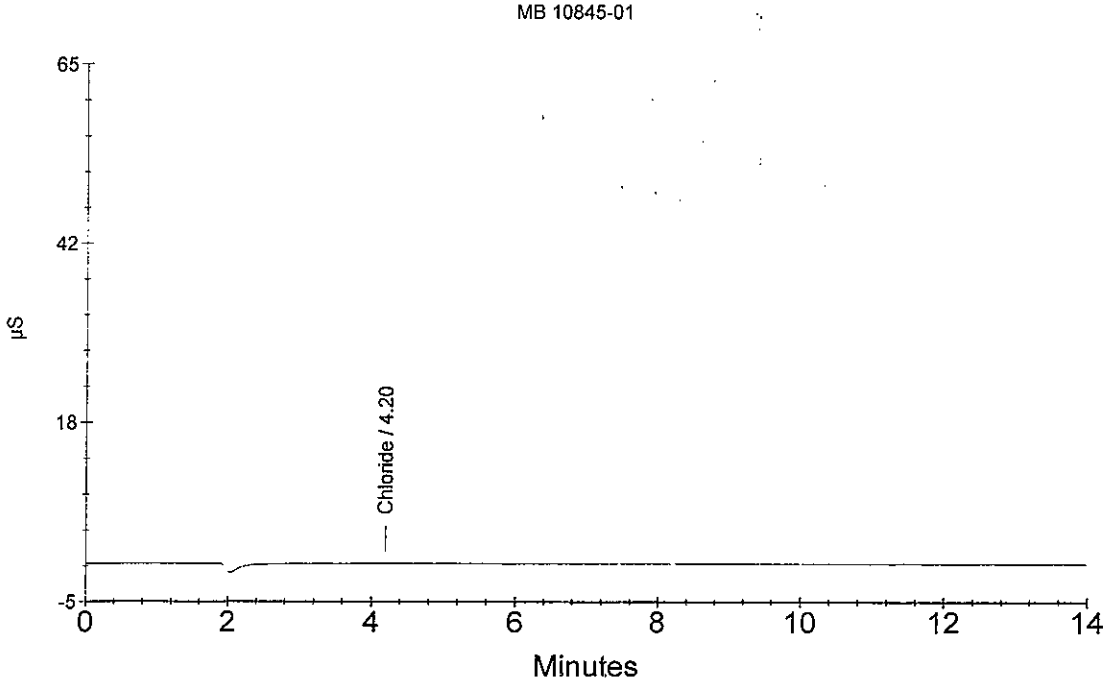
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.20	Chloride	0.098	6158

RR 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCS EXTRACTION
Data File Name : ...\1103_052.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 12:06:26 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

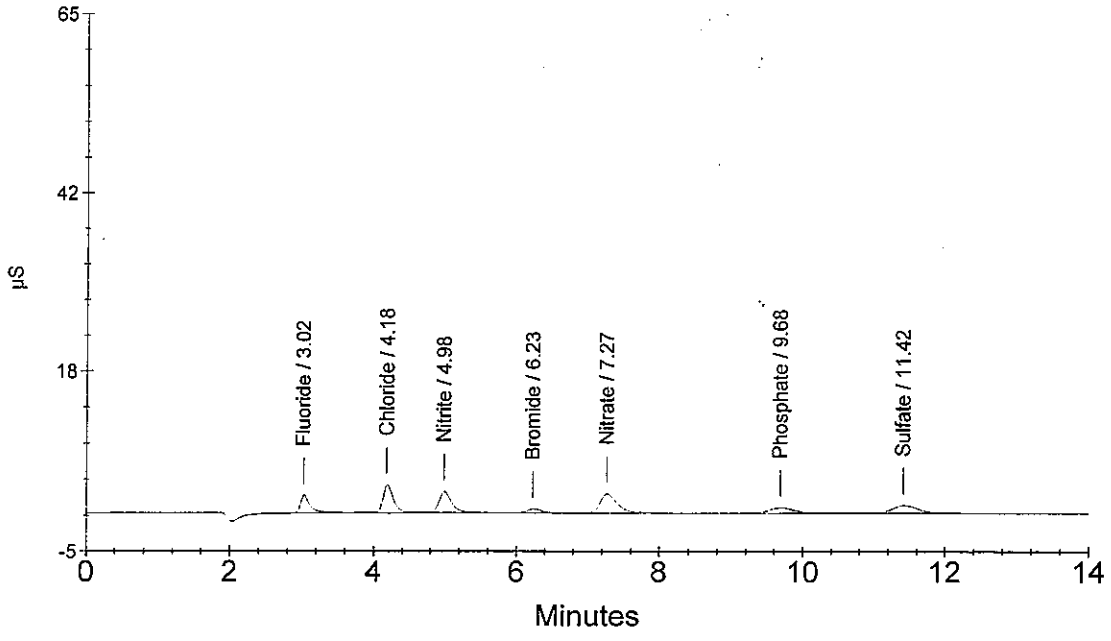
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	0.947	217169
2	4.18	Chloride	1.899	350949
3	4.98	Nitrite	0.959	334742
4	6.23	Bromide	0.999	68073
5	7.27	Nitrate	0.957	405195
6	9.68	Phosphate	0.930	163976
7	11.42	Sulfate	1.994	248002

OK
RL 11/4/09

LCS EXTRACTION



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905882-024
Data File Name : ...\1103_053.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 12:22:44 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

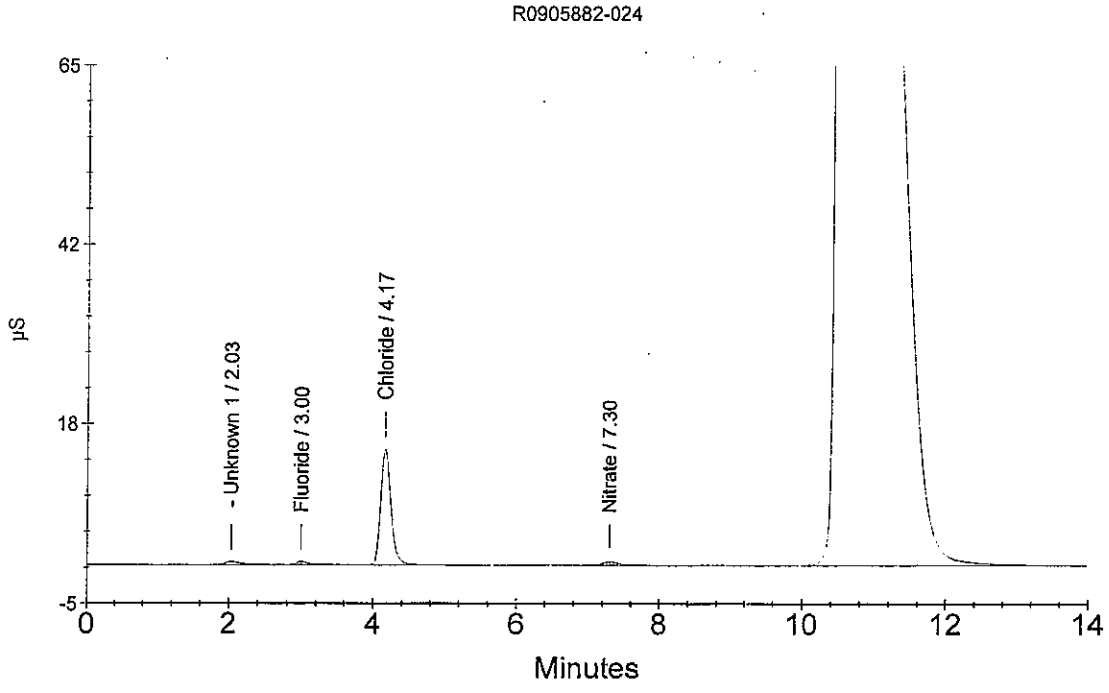
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	3.00	Fluoride	0.244	45493
3	4.17	Chloride	OK 7.552	1433146
4	7.30	Nitrate	OK 0.222	72253
5	10.62	Sulfate	1/100 952.494	121776659

Br OK

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905882-025
Data File Name : ...\1103_054.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 12:39:01 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

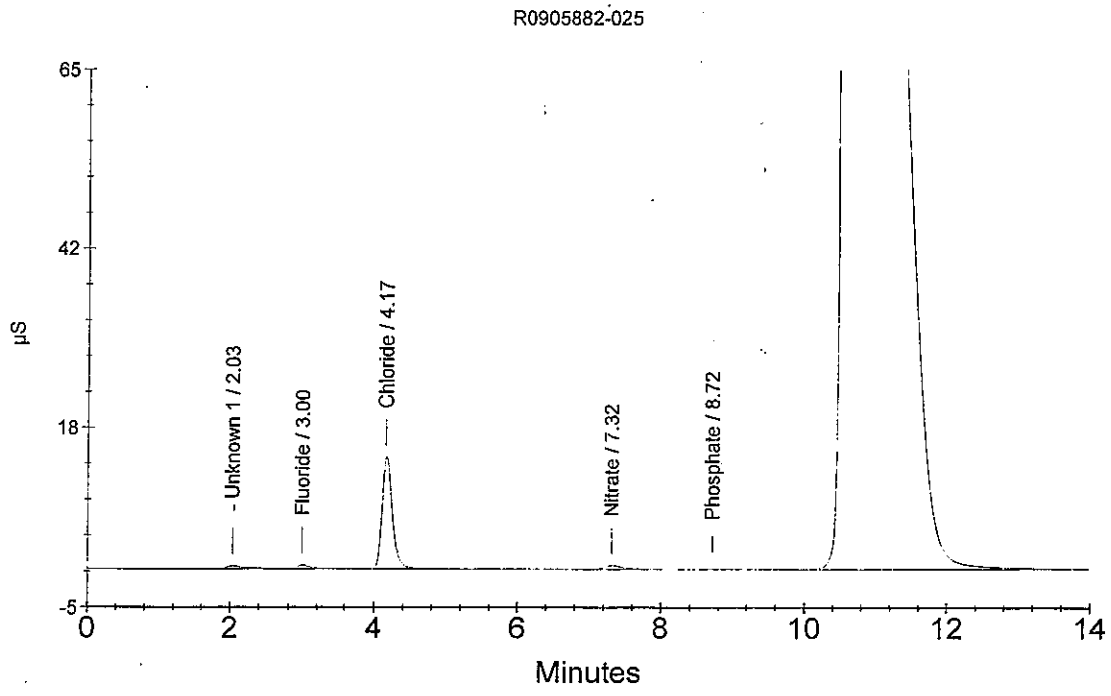
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
2	3.00	Fluoride		0.294	57828
3	4.17	Chloride	OK	7.350	1394536
4	7.32	Nitrate	OK	0.232	76531
5	8.72	Phosphate		-0.067	3701
6	10.67	Sulfate	1/100	941.539	120376036

B / OK

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905963-001
Data File Name : ...\1103_055.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 12:55:18 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

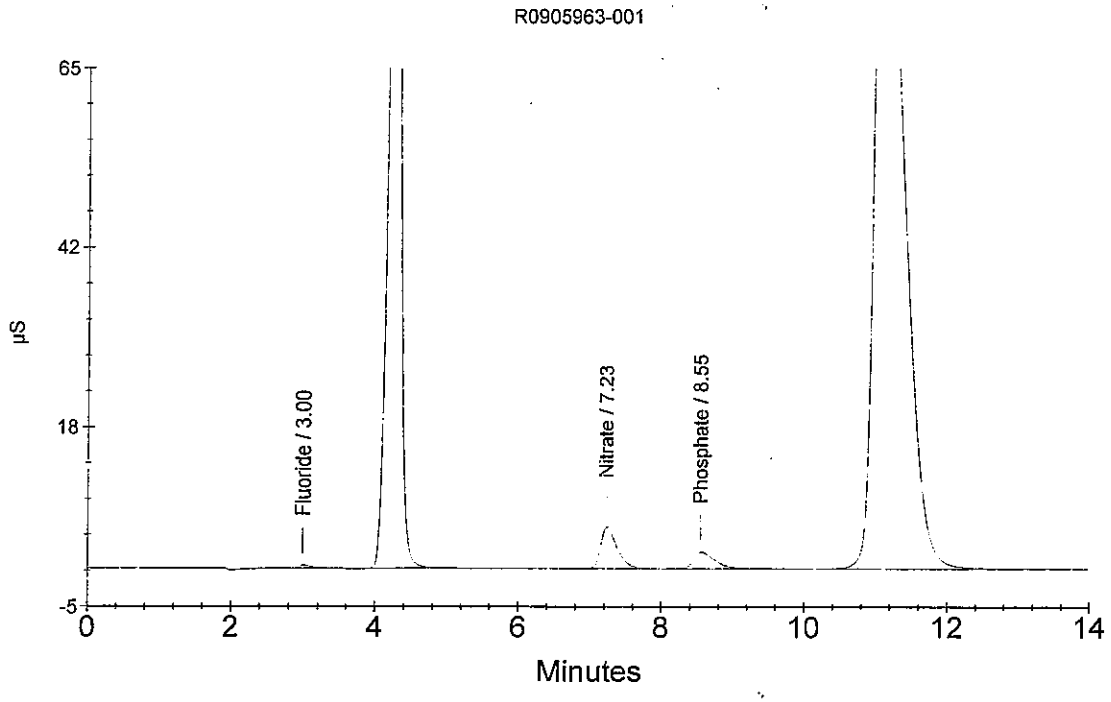
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.00	Fluoride	0.201	34965
2	4.25	Chloride	72.124	13794843
3	7.23	Nitrate	2.011	883378
4	8.55	Phosphate	2.670	443922
5	11.10	Sulfate	222.864	28487893

1/10 OK 1/40

BY OK

RP 11/4/09



01001

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905963-001 DUP
Data File Name : ...\1103_056.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 1:11:41 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

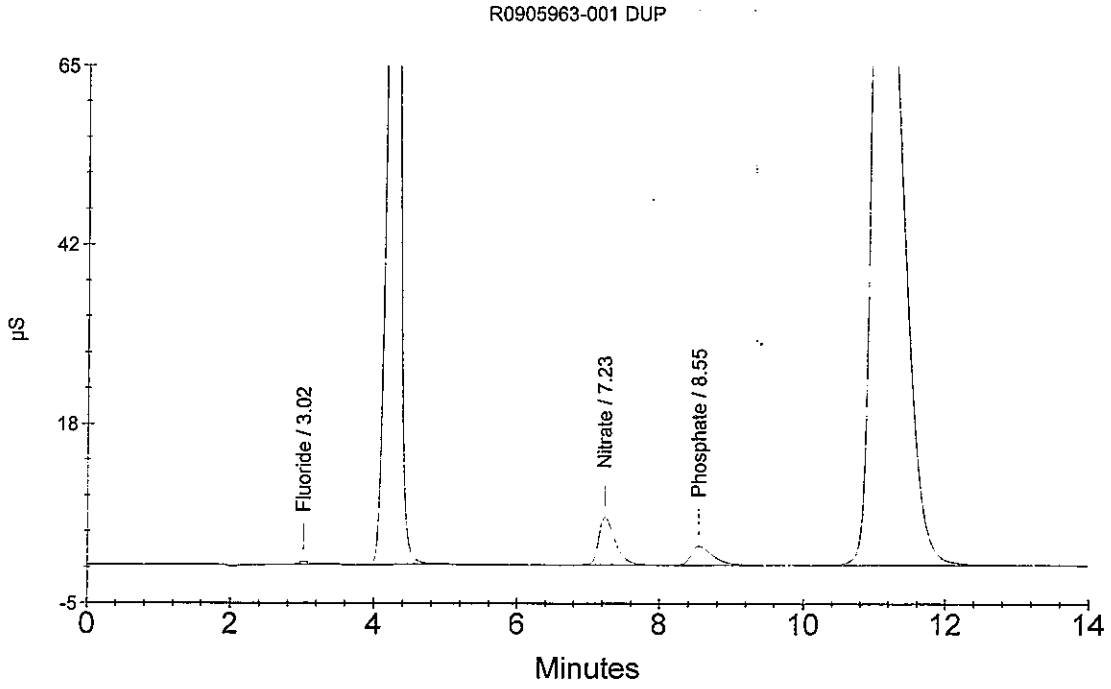
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	3.02	Fluoride		0.208	36715
2	4.27	Chloride	1/10	82.821	15842601
3	7.23	Nitrate	OK	2.289	1009147
4	8.55	Phosphate		3.018	499924
5	11.08	Sulfate	1/40	240.397	30729639

Br OK

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905963-001 SPK
Data File Name : ...\1103_057.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 1:28:04 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

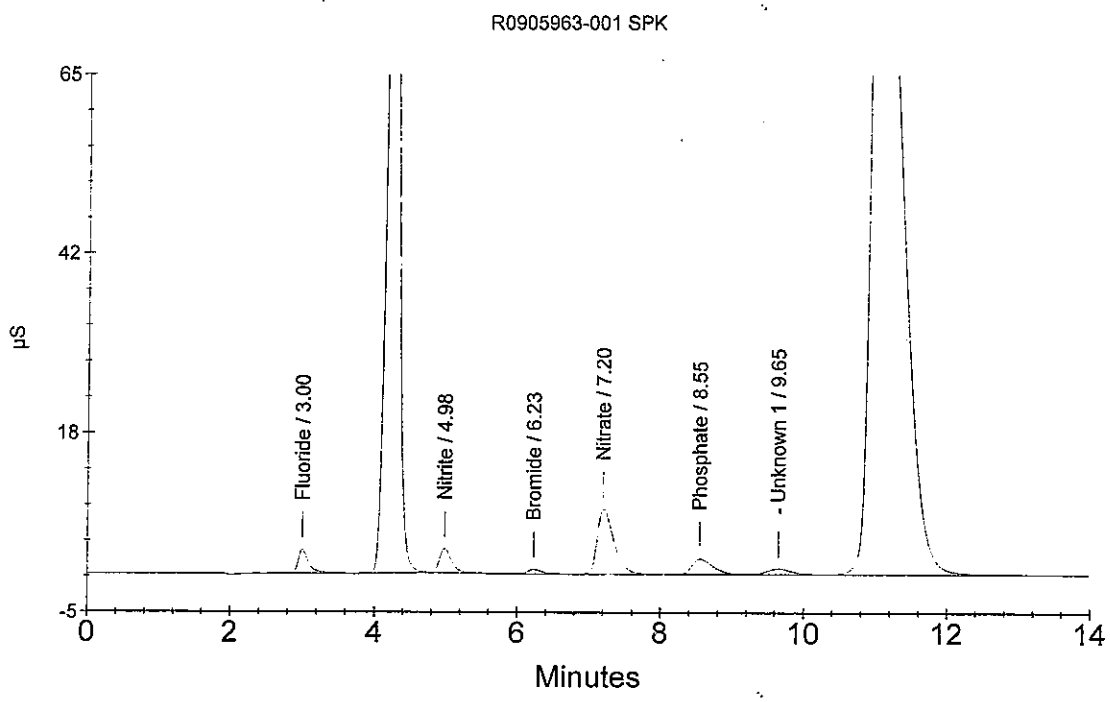
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	3.00	Fluoride		1.395	326595
2	4.25	Chloride	1/10	70.659	13514244
3	4.98	Nitrite		1.058	371271
4	6.23	Bromide	OK	1.194	81899
5	7.20	Nitrate	OK	3.112	1382279
6	8.55	Phosphate		2.451	408681
8	11.07	Sulfate	1/40	242.240	30965284

RL 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905963-002
Data File Name : ...\1103_058.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 1:44:31 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

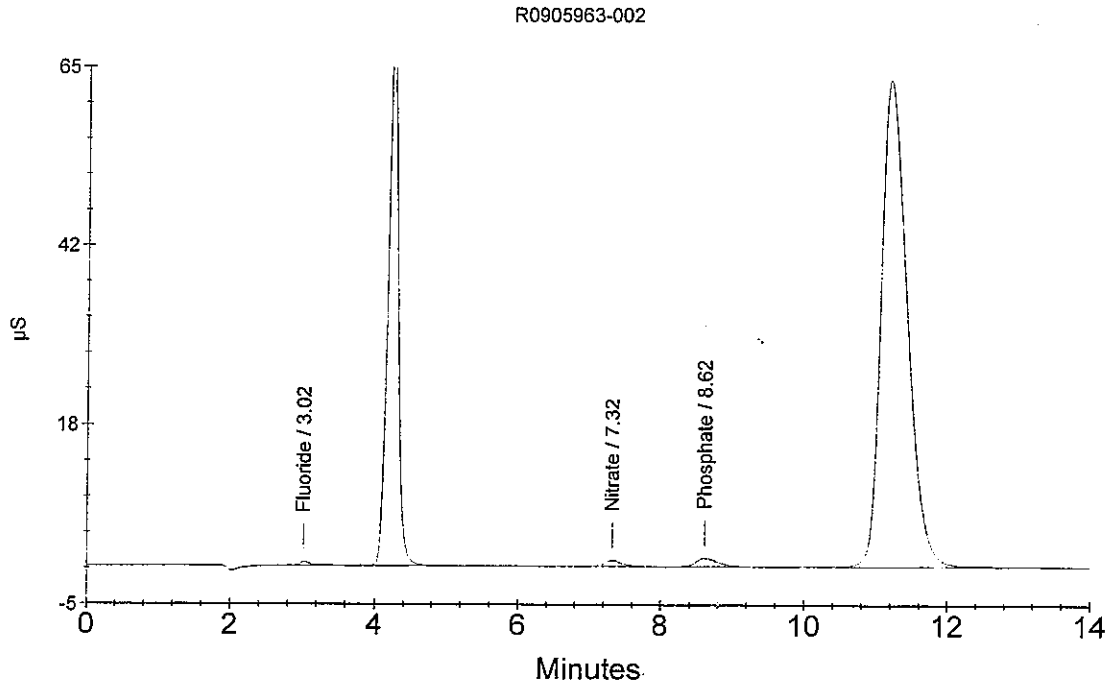
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	3.02	Fluoride		0.305	60401
2	4.23	Chloride	1/4	34.835	6656237
3	7.32	Nitrate	OK	0.346	128290
4	8.62	Phosphate		1.330	228334
5	11.18	Sulfate	1/20	125.270	16009794

Br OK

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905963-003
Data File Name : ...\1103_059.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 2:00:54 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

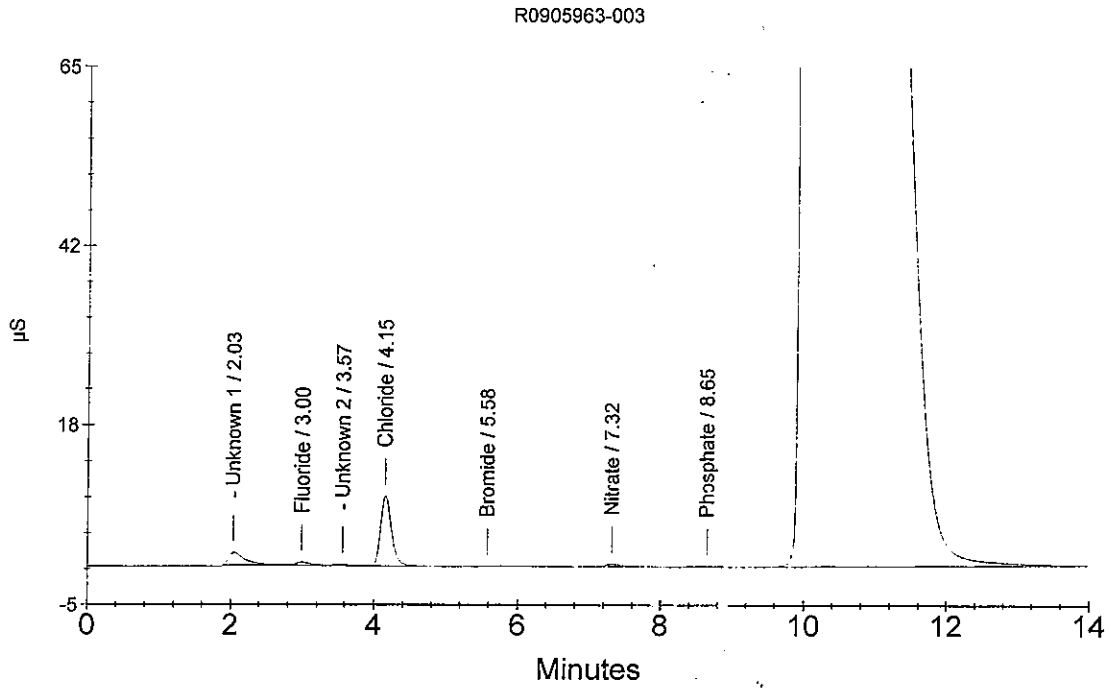
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
2	3.00	Fluoride		0.263	50257
4	4.15	Chloride	OK	4.970	938886
5	5.58	Bromide	OK	0.170	9147
6	7.32	Nitrate	OK	0.176	51070
7	8.65	Phosphate		-0.025	10430
8	10.12	Sulfate	1/400	2362.772	302091528

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\1103_060.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 2:17:17 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

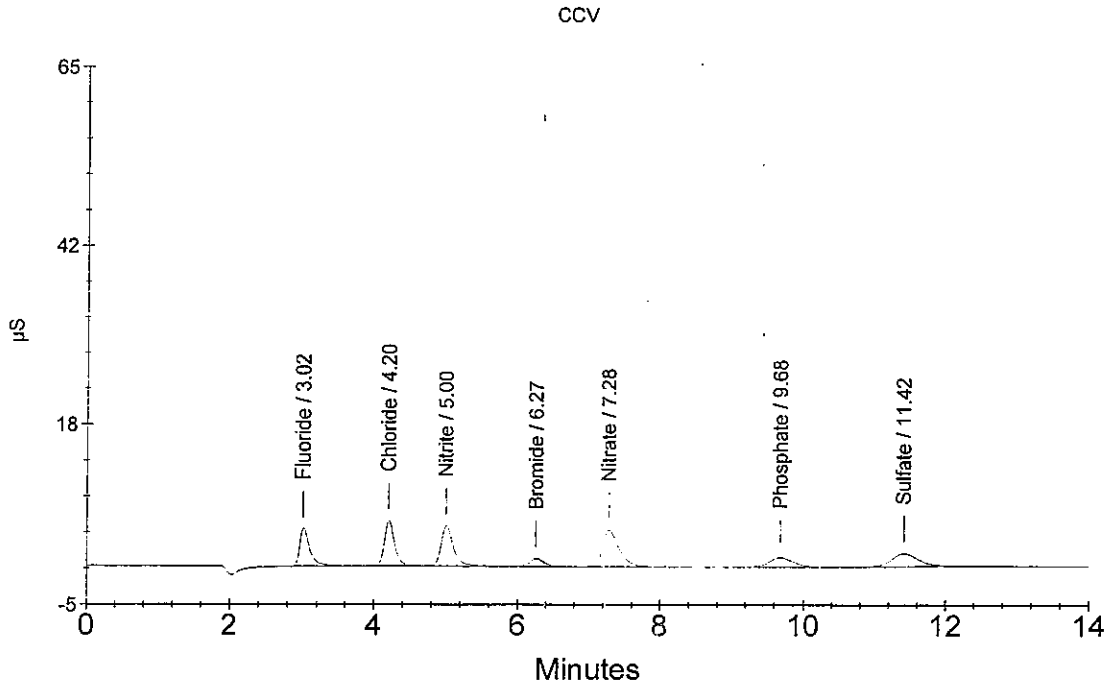
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	1.903	450643
2	4.20	Chloride	2.987	559215
3	5.00	Nitrite	1.781	639717
4	6.27	Bromide	2.015	140186
5	7.28	Nitrate	1.774	775652
6	9.68	Phosphate	1.693	286858
7	11.42	Sulfate	3.470	436780

OK

RB 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\1103_061.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 2:33:42 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

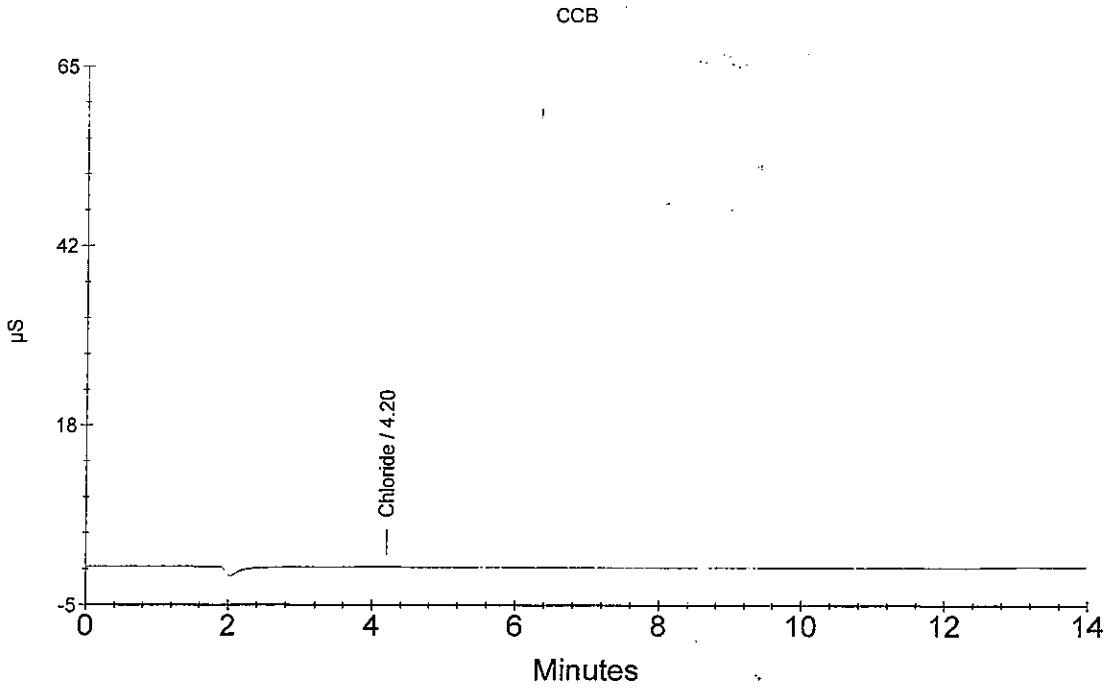
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	4.20	Chloride	OK	0.084	3494

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905963-004
Data File Name : ...\1103_062.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 2:50:08 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

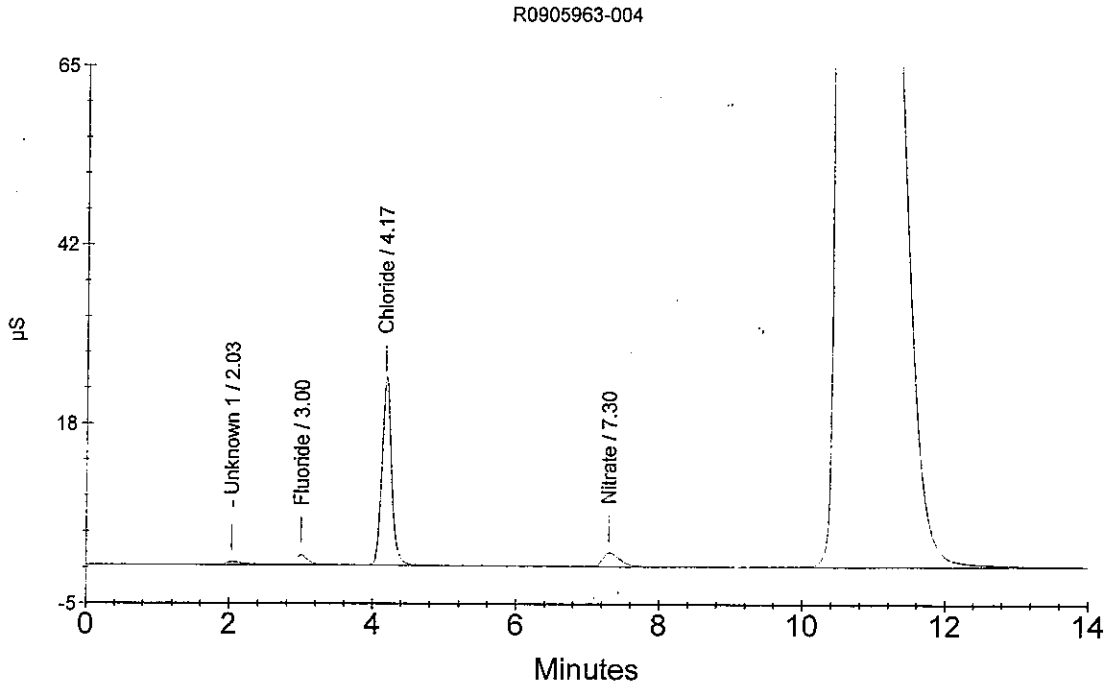
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
2	3.00	Fluoride		0.630	139698
3	4.17	Chloride	1/2	11.941	2273508
4	7.30	Nitrate	OK	0.714	295242
5	10.60	Sulfate	1/100	947.871	121185688

Br OK

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905963-005
Data File Name : ...\1103_063.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 3:06:27 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

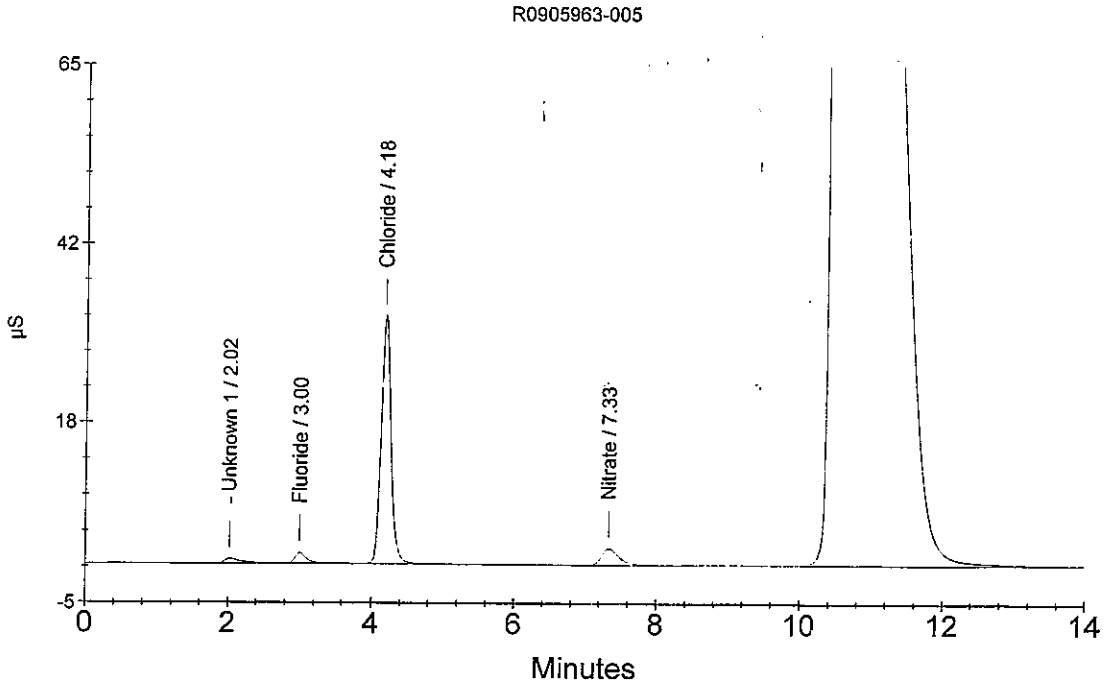
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
2	3.00	Fluoride		0.679	151811
3	4.18	Chloride	1/2	15.815	3015104
4	7.33	Nitrate	OK	0.879	369921
5	10.57	Sulfate	1/200	1106.140	141421504

Br OK

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905963-006
Data File Name : ...\1103_064.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 3:22:53 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

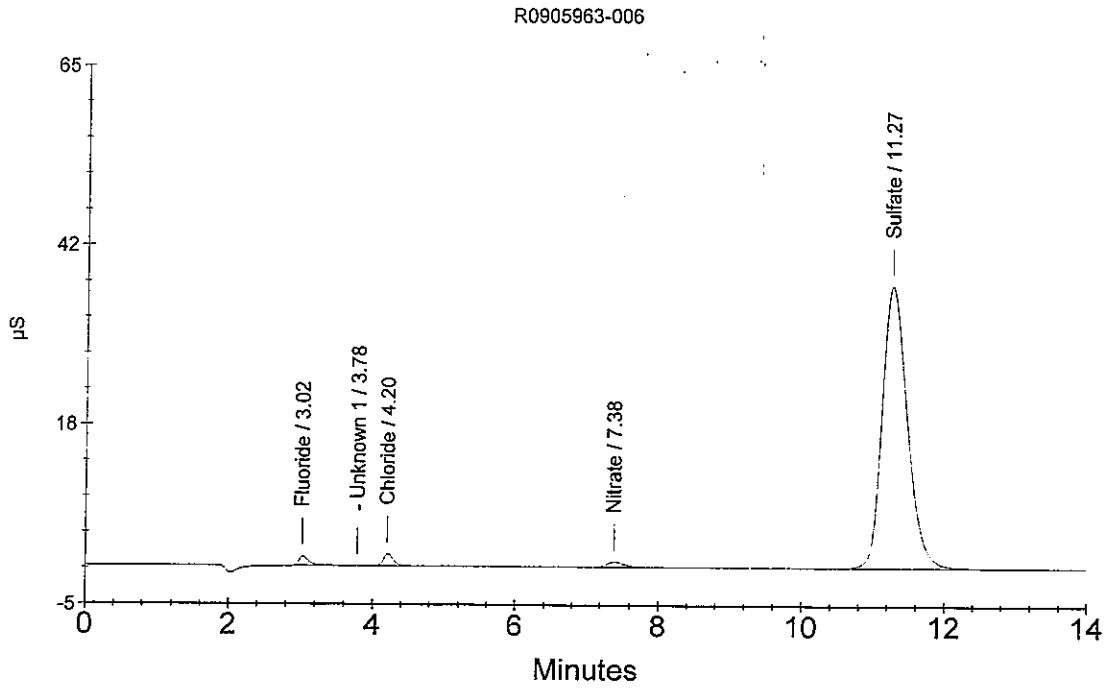
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	0.567	124450
3	4.20	Chloride	OK 0.868	153554
4	7.38	Nitrate	OK 0.329	120660
5	11.27	Sulfate	4/10 70.207	8969613

BY OK

RP 11/4/09



Ion Chromatography Analytical Report
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Rochester, NY 14607

Sample Name : R0905963-007
Data File Name : ...\1103_065.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 3:39:15 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

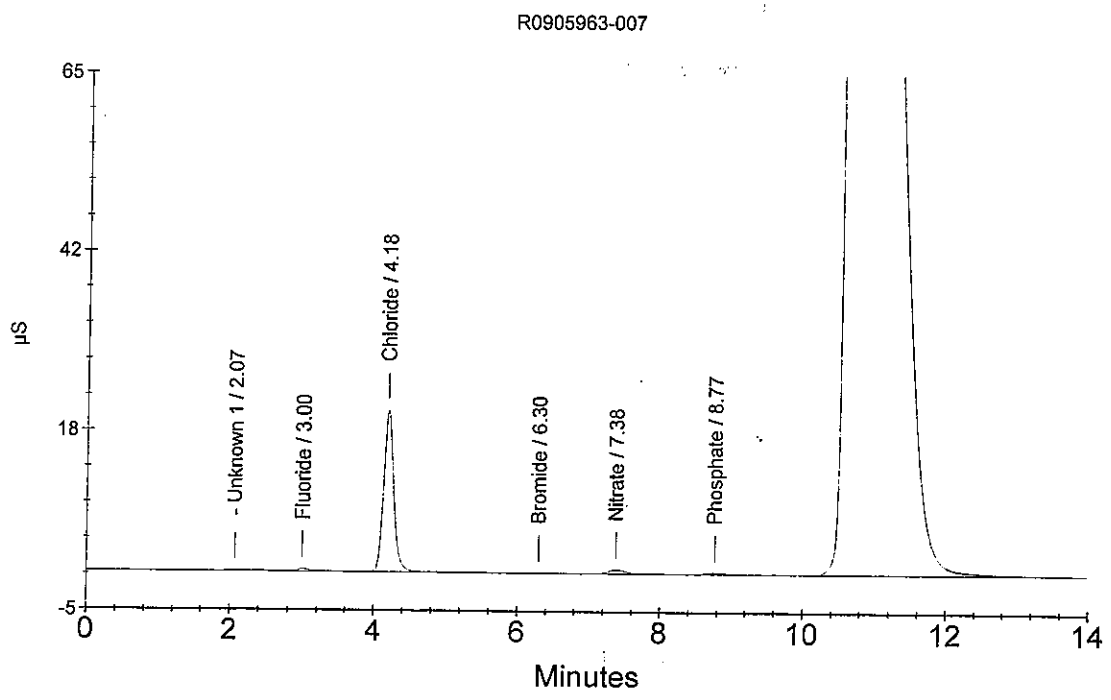
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
2	3.00	Fluoride		0.213	37875
3	4.18	Chloride	1/2	10.480	1993682
4	6.30	Bromide	OK	0.083	2990
5	7.38	Nitrate	OK	0.245	82357
6	8.77	Phosphate		0.128	35035
7	10.72	Sulfate	4/100	722.737	92400577

RP 11/4/09



Ion Chromatography Analytical Report
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Sample Name : R0905963-007 DUP AT IC
Data File Name : ...\1103_066.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 3:55:36 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

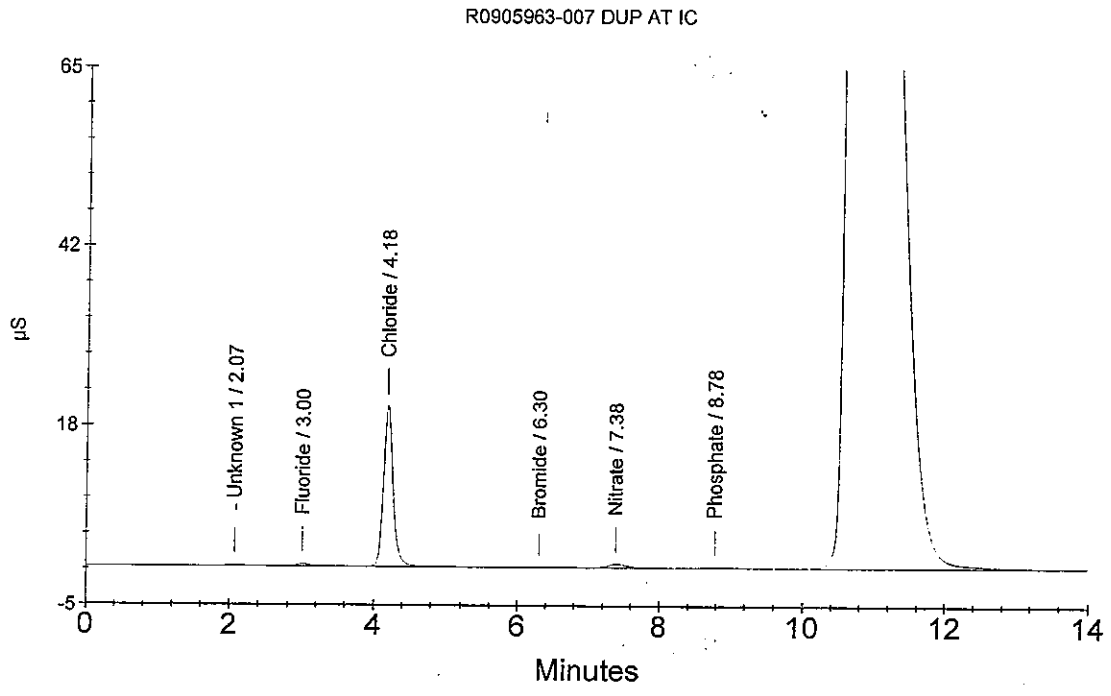
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	3.00	Fluoride	0.212	37769
3	4.18	Chloride	1/2 10.472	1992196
4	6.30	Bromide	OK 0.082	2911
5	7.38	Nitrate	OK 0.243	81518
6	8.78	Phosphate	0.126	34697
7	10.72	Sulfate	1/100 722.792	92407528

RP 11/4/09



Ion Chromatography Analytical Report
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Sample Name : R0905963-007 SPK AT IC
Data File Name : ...\1103_067.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 4:11:56 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

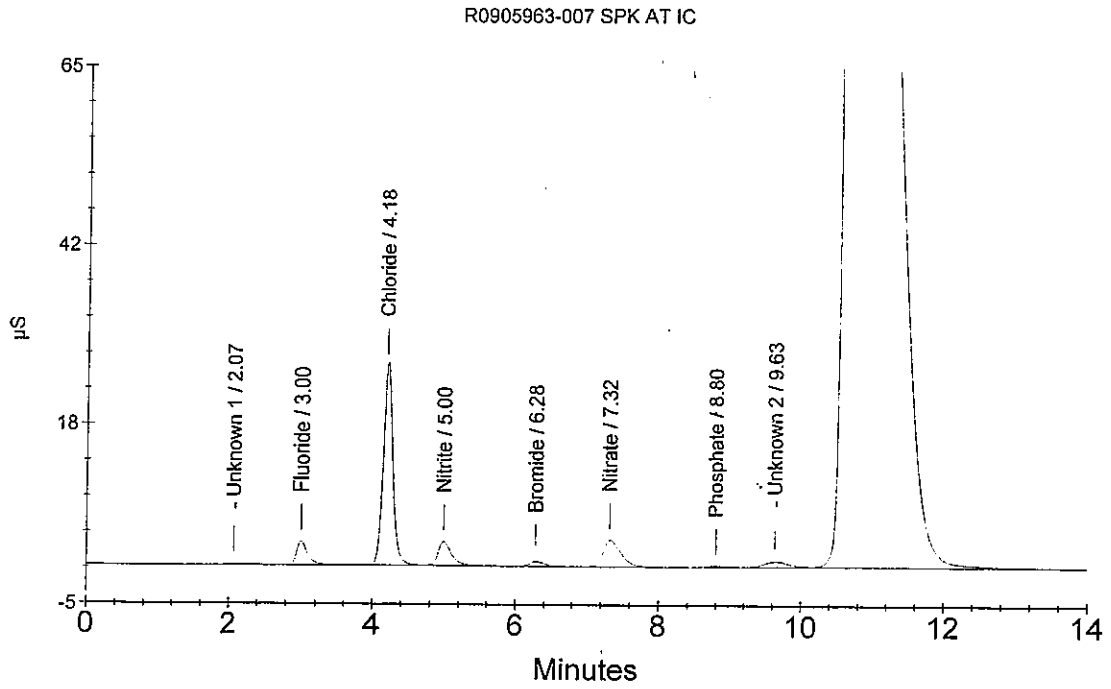
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
2	3.00	Fluoride		1.347	314860
3	4.18	Chloride	1/2	13.101	2495438
4	5.00	Nitrite		1.116	392763
5	6.28	Bromide	OK	1.259	86516
6	7.32	Nitrate	OK	1.349	583168
7	8.80	Phosphate		0.089	28794
9	10.72	Sulfate	1/100	712.036	91032365

RR 11/4/09



Ion Chromatography Analytical Report
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Sample Name : R0905963-010
Data File Name : ...\1103_068.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 4:28:20 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

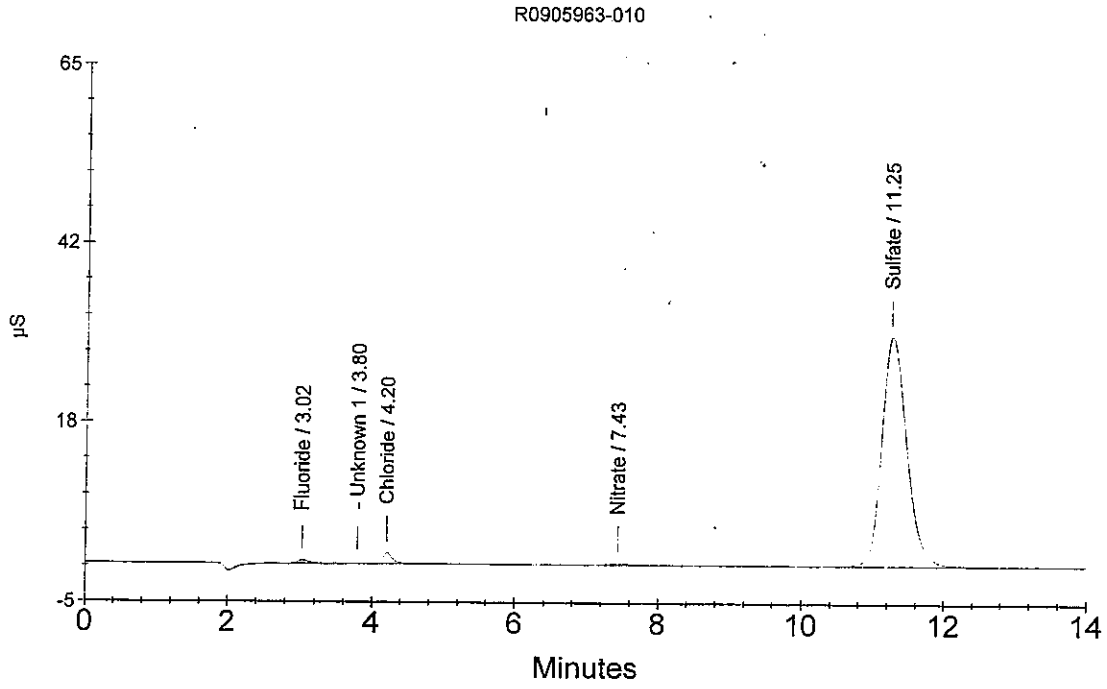
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	3.02	Fluoride		0.249	46796
3	4.20	Chloride	OK	0.773	135385
4	7.43	Nitrate	OK	0.145	37193
5	11.25	Sulfate	1/10	56.975	7277695

Br OK

RP 11/4/09



Ion Chromatography Analytical Report
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Rochester, NY 14607

Sample Name : R0905963-011
Data File Name : ...\1103_069.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 4:44:43 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

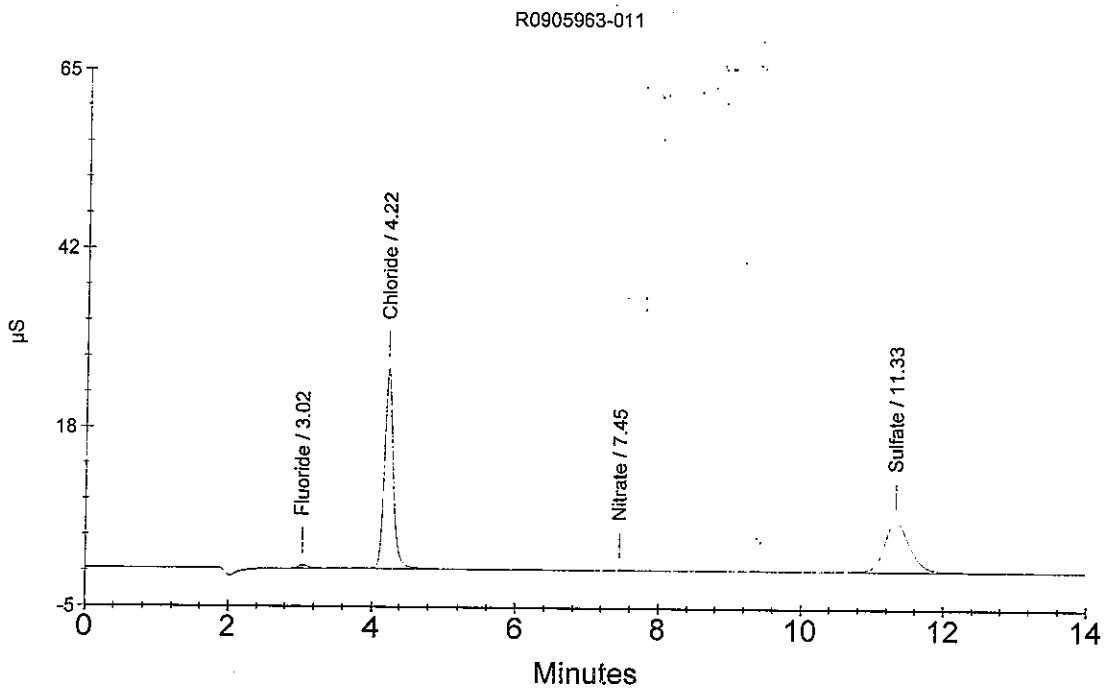
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	0.252	47558
2	4.22	Chloride	12.685	2415822
3	7.45	Nitrate	0.094	13957
4	11.33	Sulfate	12.977	1652212

1/2 OK
1/2 OK
Br OK
RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905963-012
Data File Name : ...\1103_070.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 5:01:06 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

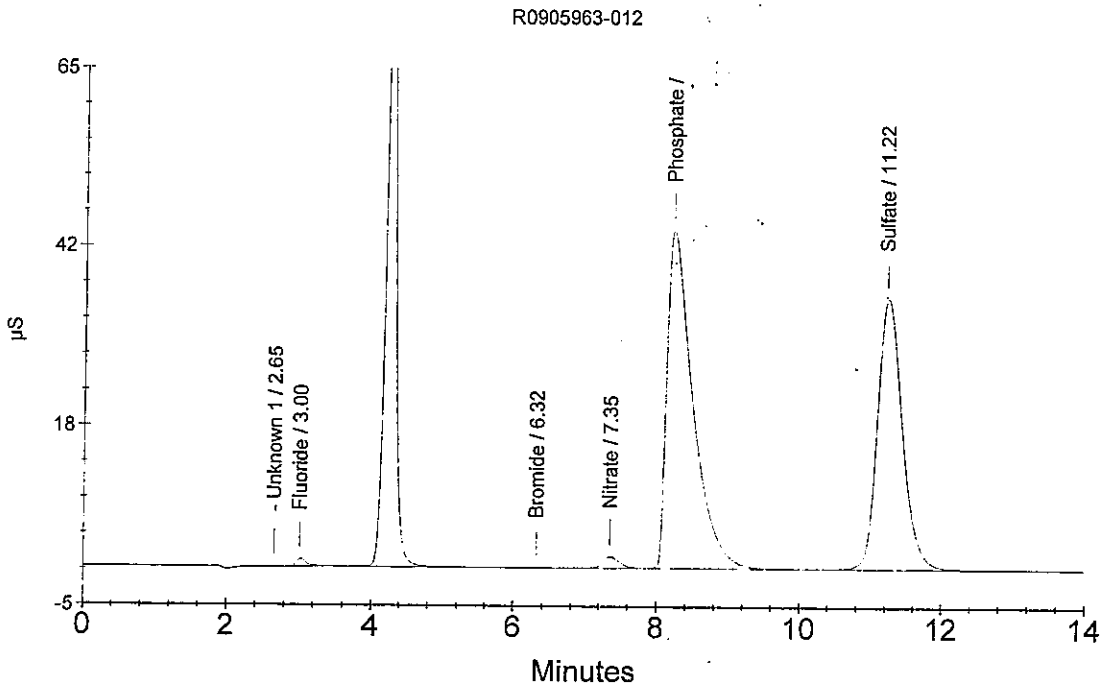
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
2	3.00	Fluoride		0.447	95154
3	4.25	Chloride	1/10	46.288	8848733
4	6.32	Bromide	OK	0.119	5534
5	7.35	Nitrate	OK	0.568	228800
6	8.22	Phosphate		68.184	10982766
7	11.22	Sulfate	1/10	67.201	8585253

RP 11/4/09



Ion Chromatography Analytical Report
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Sample Name : R0905963-013
Data File Name : ...\1103_071.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 5:17:24 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

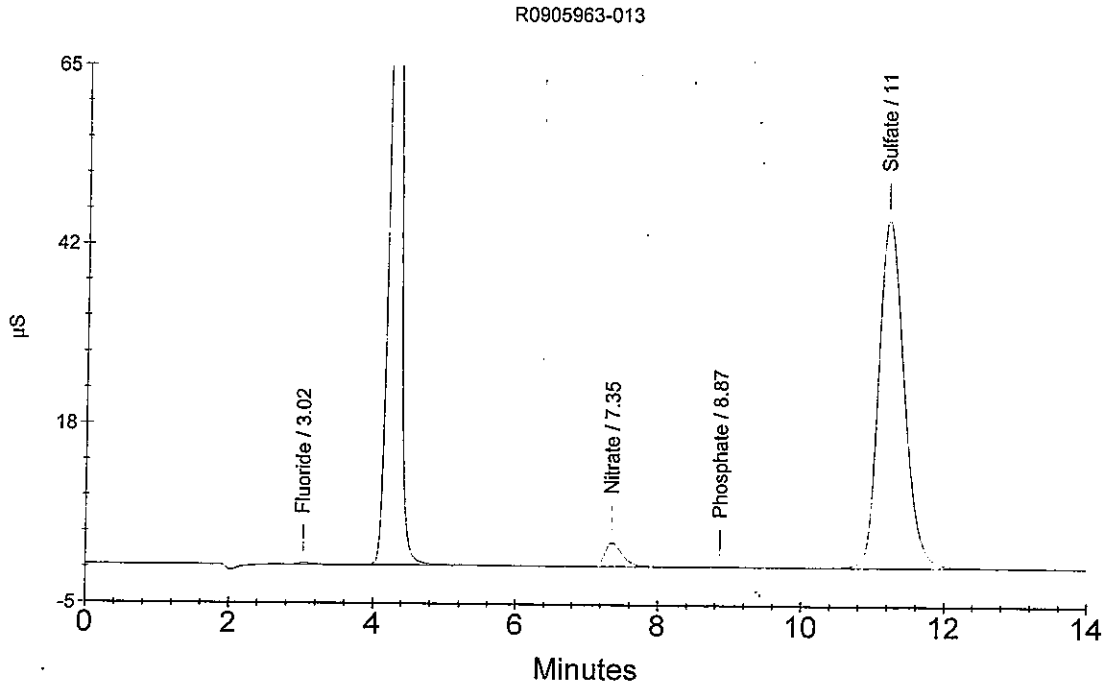
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : CBNS (9056 EXT)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	3.02	Fluoride		0.209	36932
2	4.28	Chloride	1/10	66.167	12654319
3	7.35	Nitrate	OK	1.206	518308
4	8.87	Phosphate		-0.007	13375
5	11.20	Sulfate	1/10	87.659	11200973

Br OK
RP 11/4/09



Ion Chromatography Analytical Report
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Sample Name : CCV
Data File Name : ...\1103_072.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 5:33:46 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

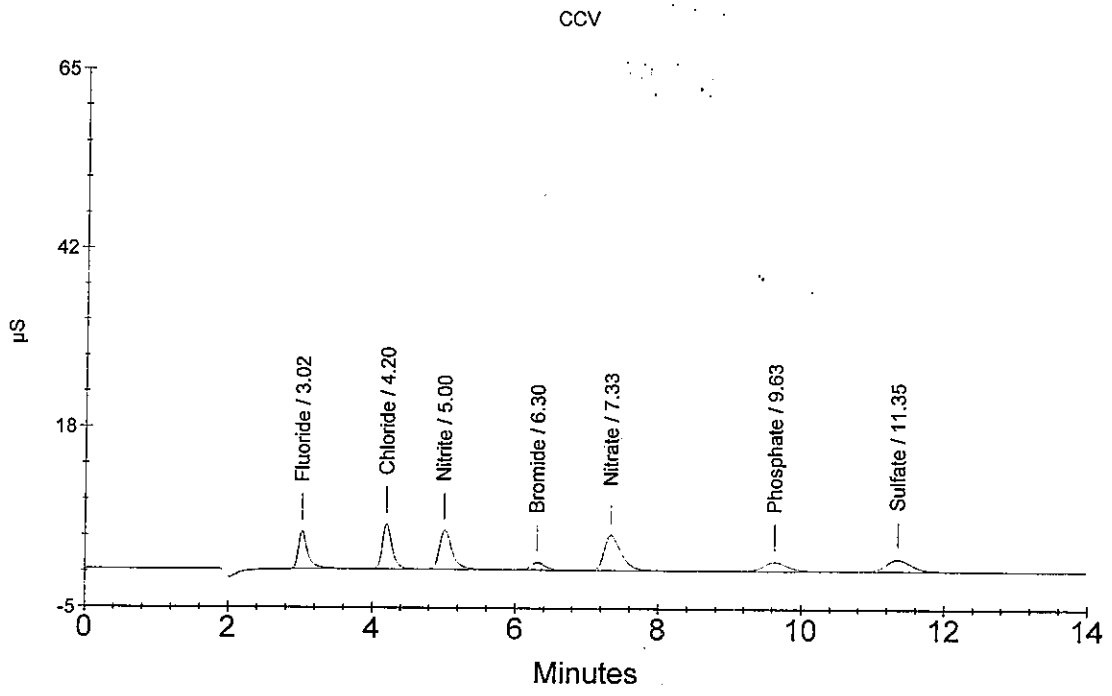
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	1.883	445648
2	4.20	Chloride	2.976	557258
3	5.00	Nitrite	1.770	635584
4	6.30	Bromide	1.983	137975
5	7.33	Nitrate	1.765	771728
6	9.63	Phosphate	1.681	284842
7	11.35	Sulfate	3.133	393640

OK RR 11/4/09



Ion Chromatography Analytical Report
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Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\1103_073.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 5:50:08 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

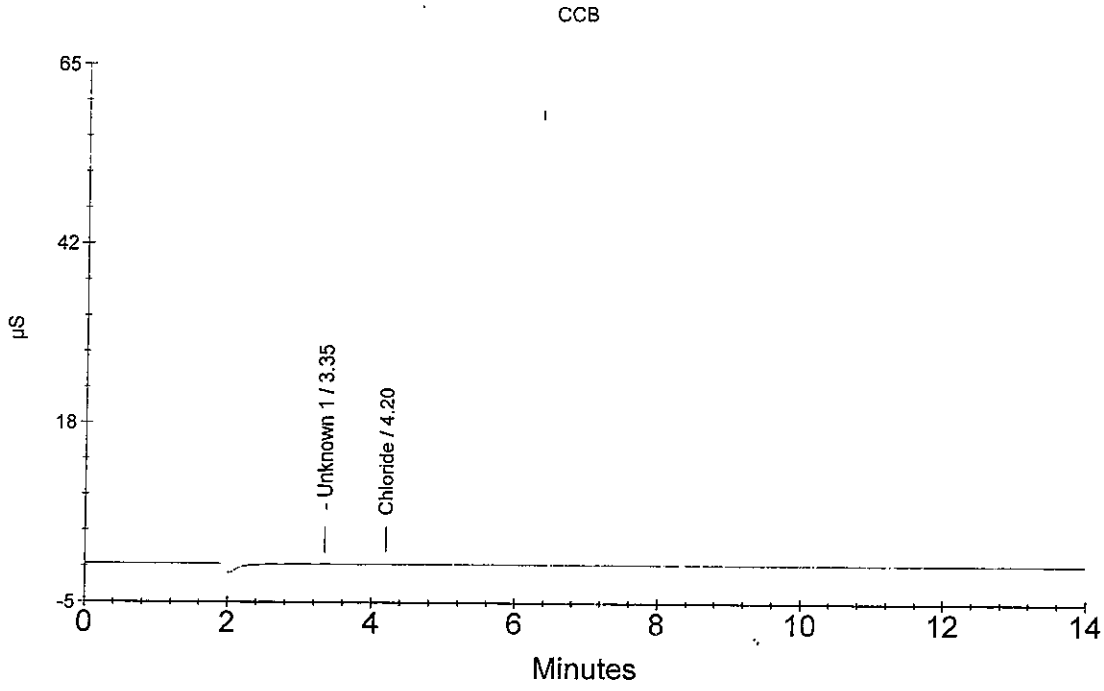
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	4.20	Chloride	0.114	9265

JK 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCS
Data File Name : ...\1103_074.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 6:06:27 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

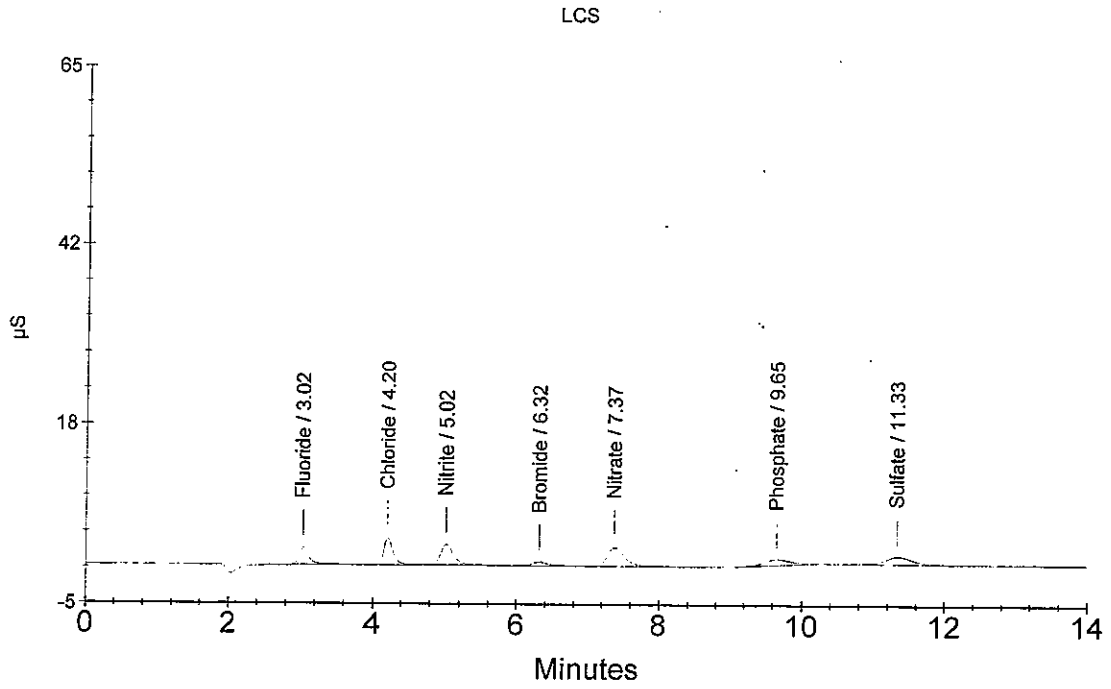
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	3.02	Fluoride	OK	0.943	216156
2	4.20	Chloride		1.883	347912
3	5.02	Nitrite		0.964	336449
4	6.32	Bromide		1.002	68229
5	7.37	Nitrate		0.958	405930
6	9.65	Phosphate	OUT ↑	1.163	201512
7	11.33	Sulfate	OK	2.030	252607

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : MW-1 R0906282-001
Data File Name : ...\1103_075.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 6:22:48 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

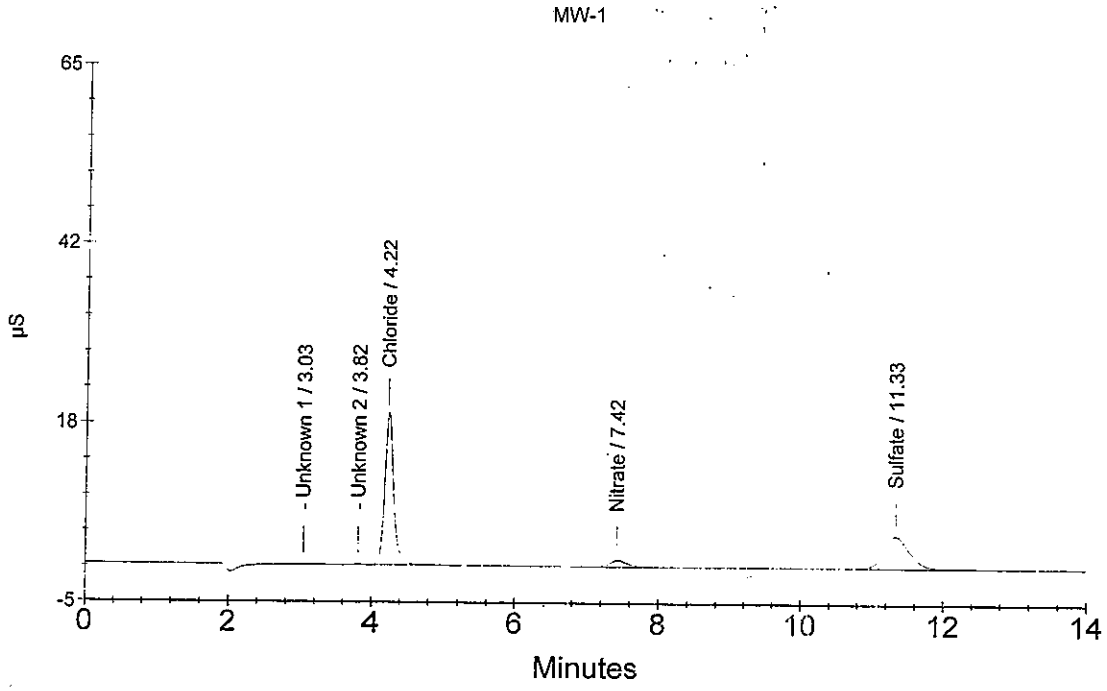
Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : CNN (300.0)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
3	4.22	Chloride	RP 11/3/09 OK 95.965	1824581
4	7.42	Nitrate	OK 3.845	145814
5	11.33	Sulfate	81.972	1041143

NO2 OK
RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : MW-2 R0906282-002
Data File Name : ...\1103_076.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 6:39:10 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : CNN (300.0)

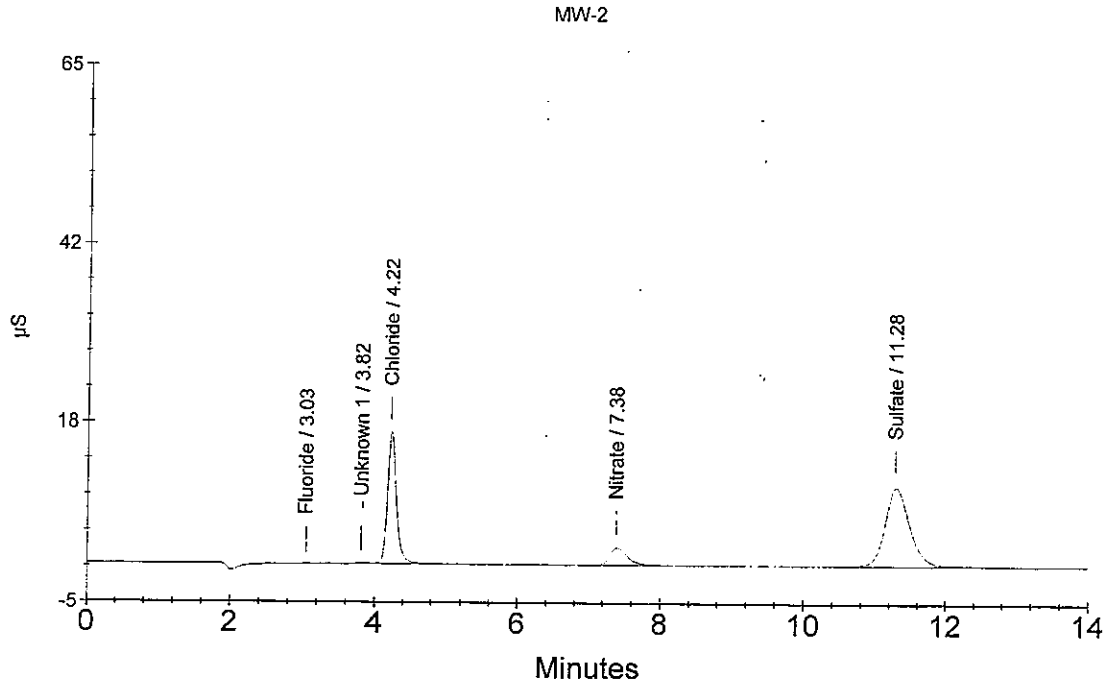
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.03	Fluoride	RR 11/3/09 OK 0.726	3708
3	4.22	Chloride	OK 82.943	1575304
4	7.38	Nitrate	OK 9.156	386607
5	11.28	Sulfate	196.161	2501129

NO2 OK

RR 11/4/09



Ion Chromatography Analytical Report
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Rochester, NY 14607

Sample Name : MW-2 DUP R0906282-002
Data File Name : ...\1103_077.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 6:55:30 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

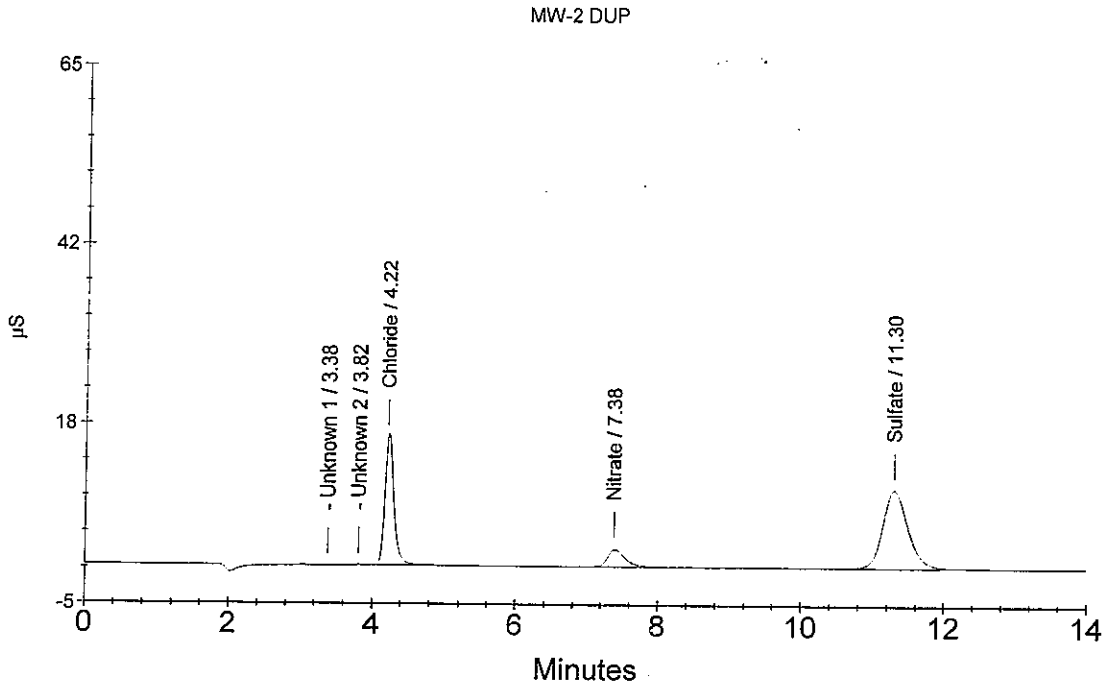
Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : CNN (300.0)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
3	4.22	Chloride	RP 11/3/09 OK 82.859	1573687
4	7.38	Nitrate	OK 9.206	388900
5	11.30	Sulfate	195.900	2497797

NO2 OK RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : MW-2 SPK
Data File Name : ...\1103_078.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 7:11:50 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

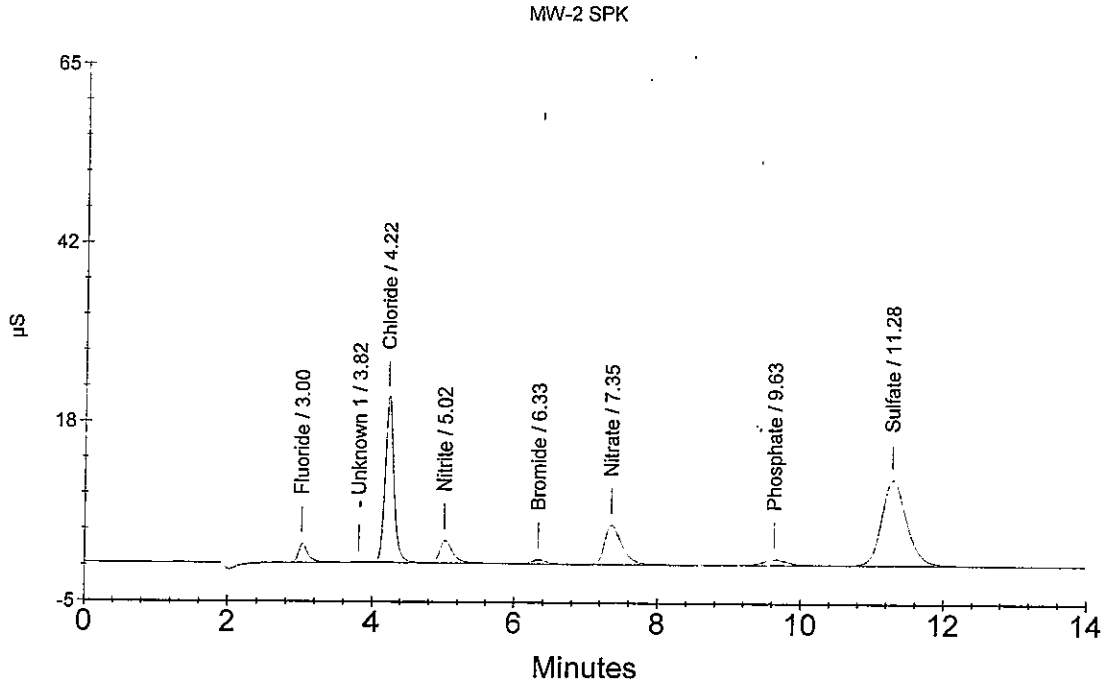
Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : CNN (300.0)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	3.00	Fluoride	RR 11/13/09 STE	10.262	236536
3	4.22	Chloride		104.905	1995743
4	5.02	Nitrite	OK	10.306	361157
5	6.33	Bromide	Ø	11.152	76293
6	7.35	Nitrate	OK	19.581	859277
7	9.63	Phosphate		10.306	180233
8	11.28	Sulfate		213.145	2718283

RR 11/14/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : MW-5 R0904282-003
Data File Name : ...\1103_079.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 7:28:11 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : CNN (300.0)

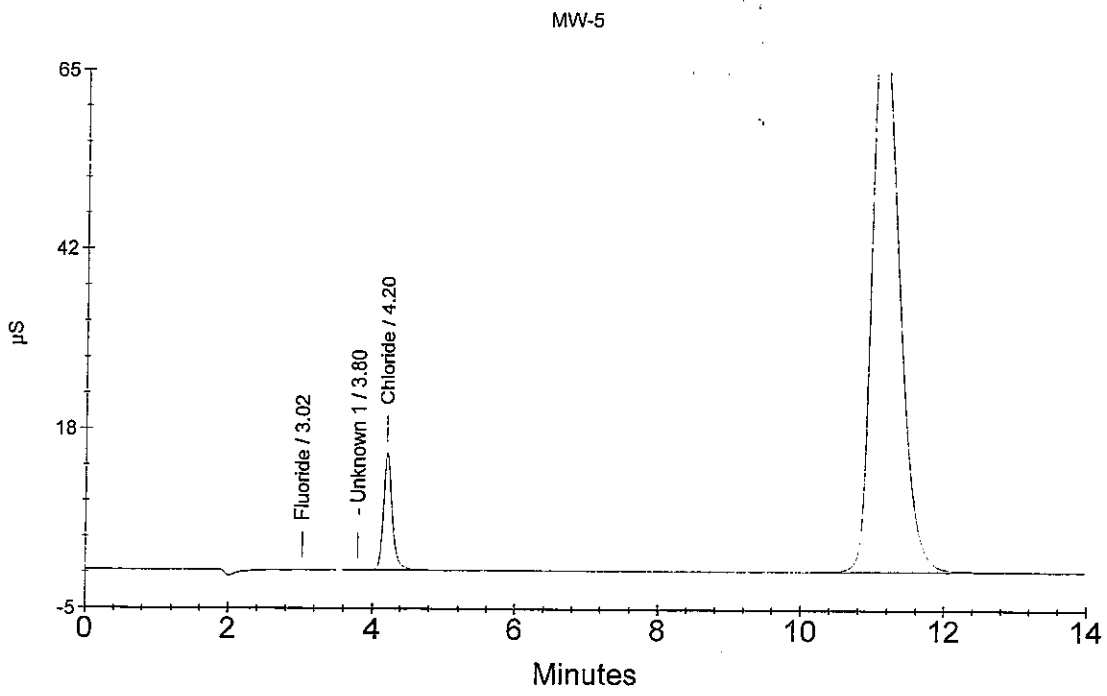
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	0.630	1366
3	4.20	Chloride	RP 11/3/09 OK 74.833	1420041
4	11.10	Sulfate	1494.382	19099885

NO_2 OK
NO_3 OK

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : MW-7 A0906282-004
Data File Name : ...\1103_080.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 7:44:30 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : CNN (300.0)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

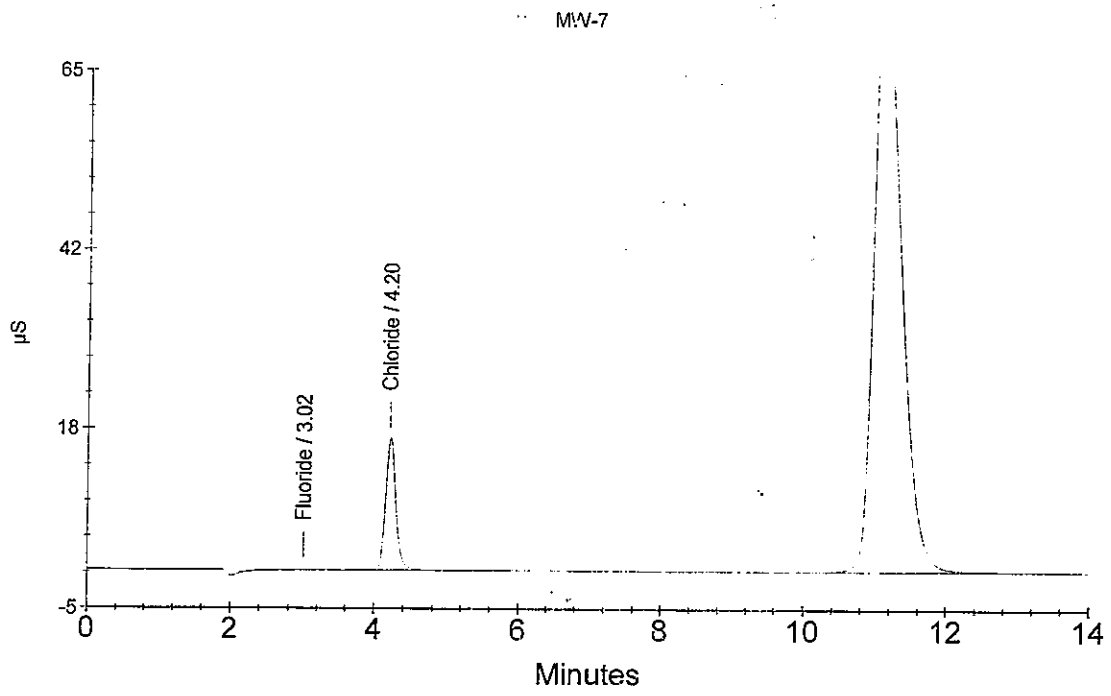
Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	0.747	4217
2	4.20	Chloride	85.346	1621306
3	11.10	Sulfate	1596.925	20410979

RB 11/13/09 OK

NO_2 OK

NO_3 OK

RB 11/14/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : MW-8 R0906282-005
Data File Name : ...\1103_081.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 8:00:52 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

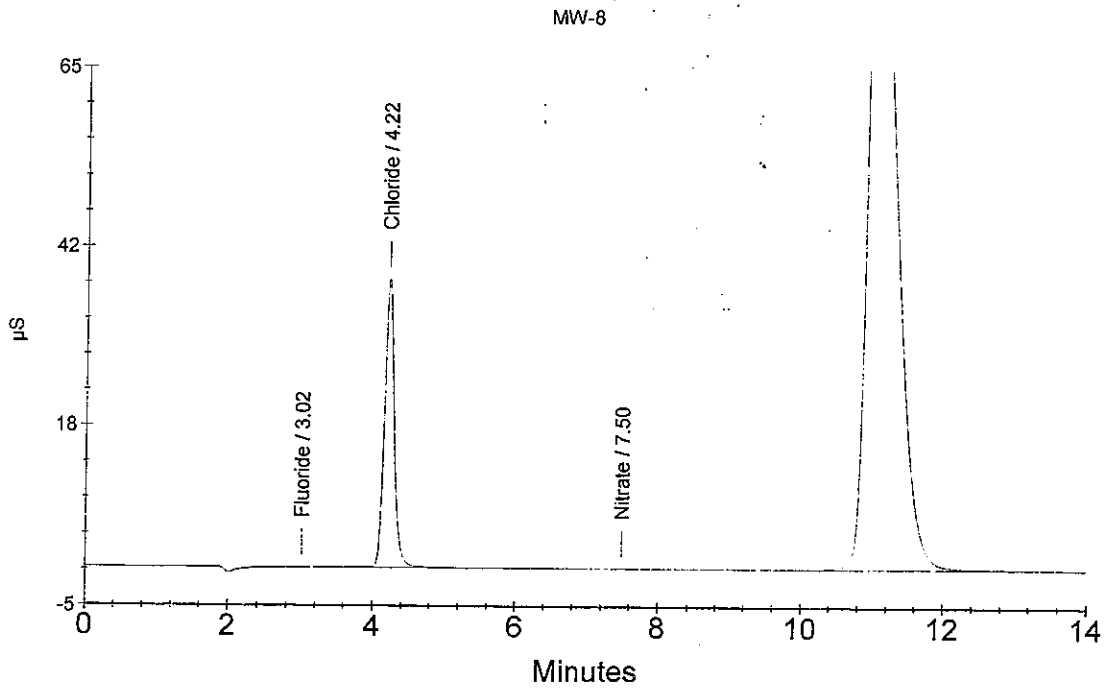
Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : CNN (300.0)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	3.02	Fluoride	RP 11/3/09	0.750	4302
2	4.22	Chloride	~~1/20~~ OK	184.311	3515870
3	7.50	Nitrate		0.704	3412
4	11.05	Sulfate		2091.558	26735233

NO_2 OK
RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : MW-9 A0906282-006
Data File Name : ...\1103_082.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 8:17:15 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

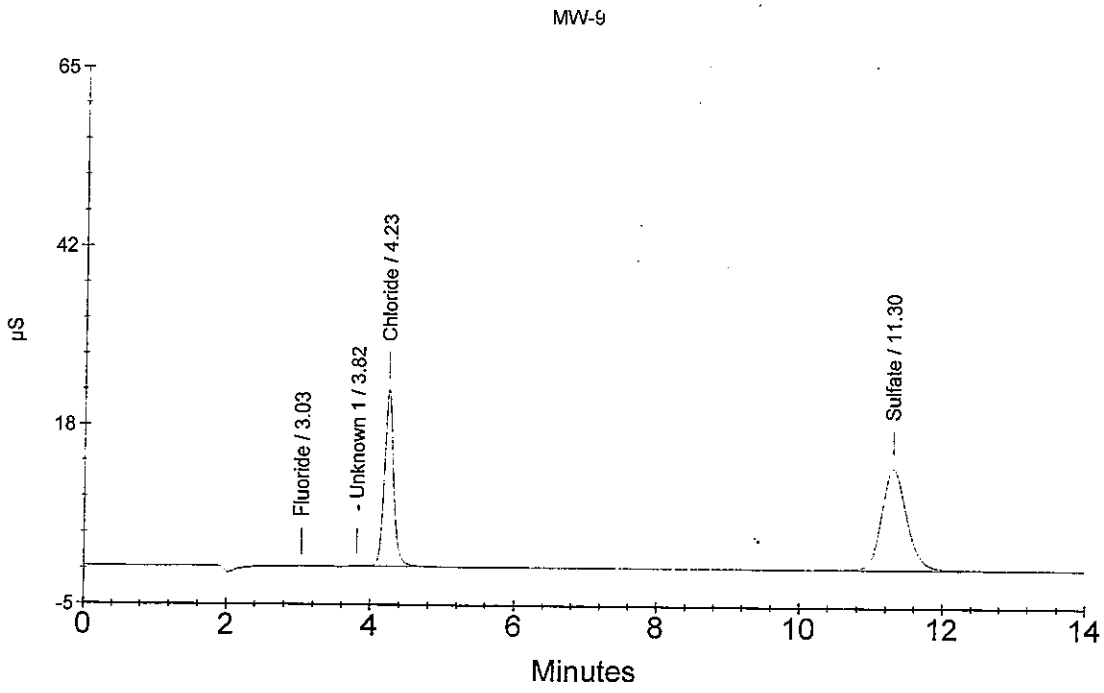
Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : CNN (300.0)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	3.03	Fluoride	RR 11/3/09 1:20	0.697	3006
3	4.23	Chloride		111.009	2112589
4	11.30	Sulfate		252.545	3222046

NO_2 OK
NO_3 OK
RR 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : MW-10D R0906282-007
Data File Name : ...\1103_083.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 8:33:37 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

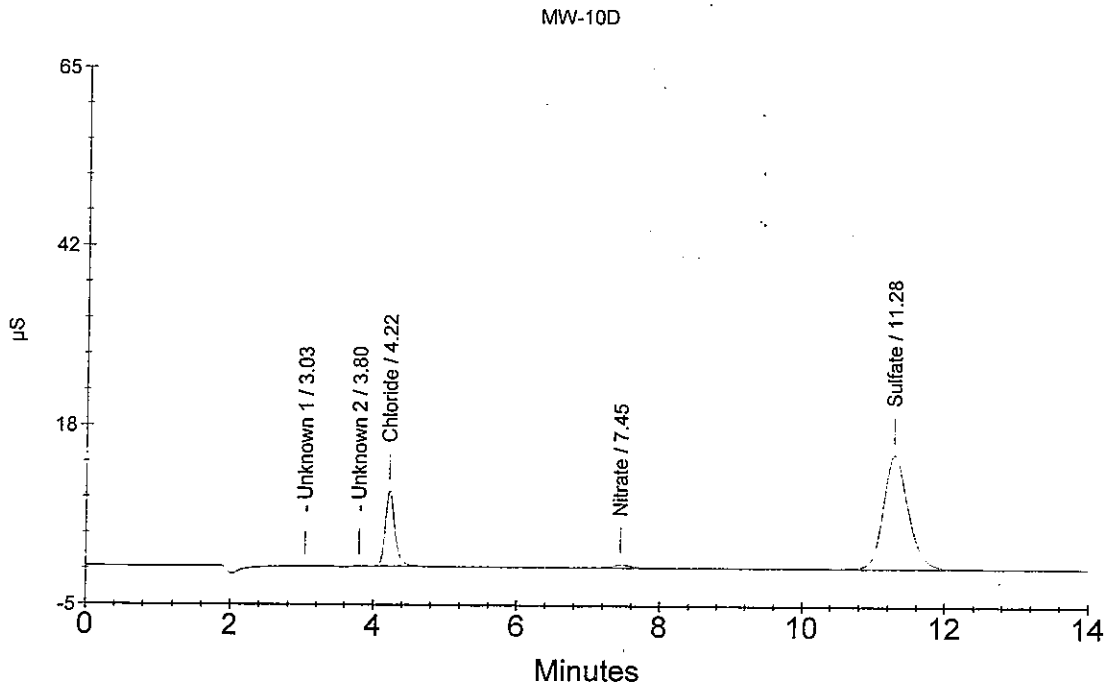
Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : CNN (300.0)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
3	4.22	Chloride	48.768	921059
4	7.45	Nitrate	2.016	62864
5	11.28	Sulfate	283.517	3618052

RP 11/3/09 OK
OK
NO_2 OK
RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\1103_084.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 8:49:56 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

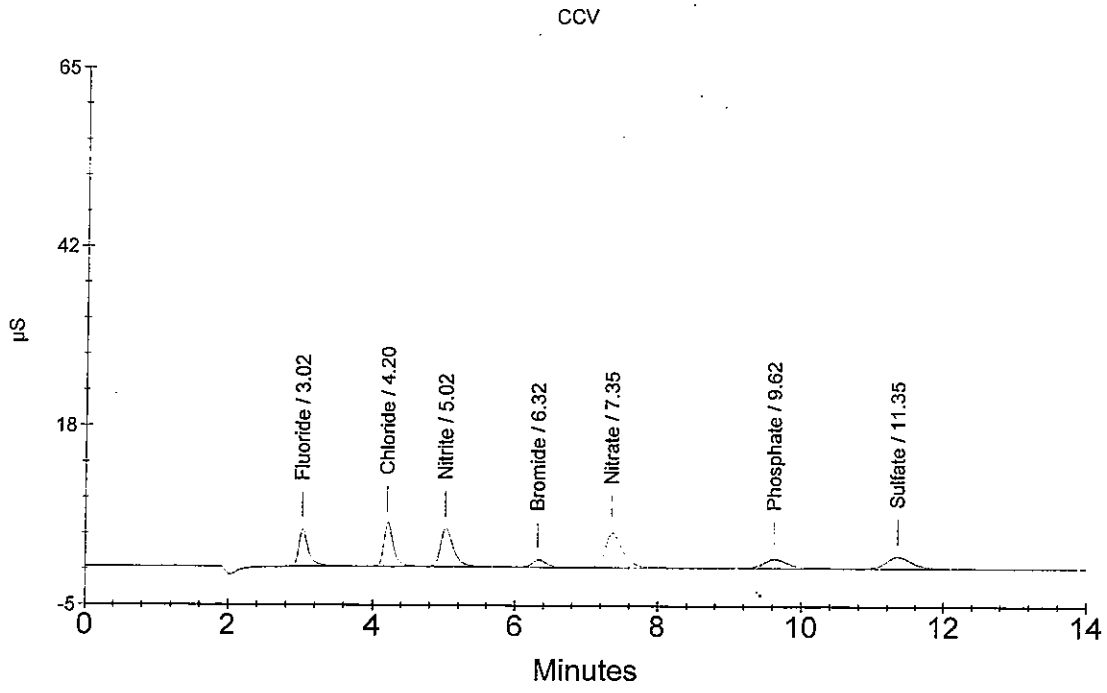
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	1.876	444084
2	4.20	Chloride	2.964	554881
3	5.02	Nitrite	1.767	634823
4	6.32	Bromide	1.987	138249
5	7.35	Nitrate	1.761	770103
6	9.62	Phosphate	1.694	286969
7	11.35	Sulfate	3.125	392612

RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\1103_085.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 9:06:14 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

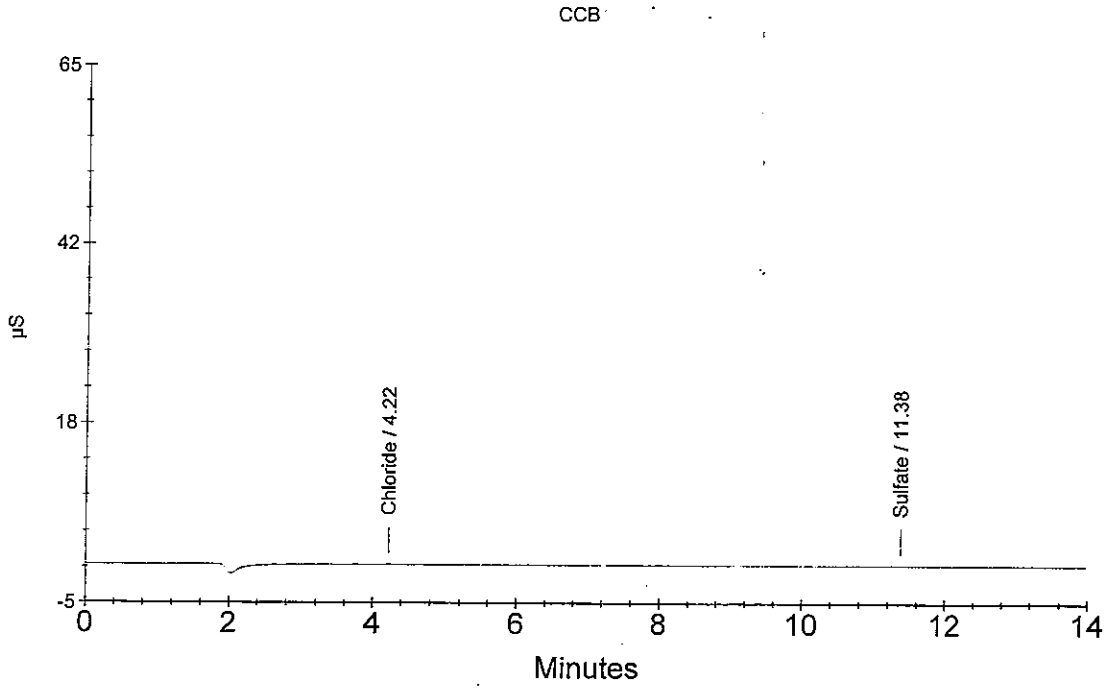
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.22	Chloride	0.078	2465
2	11.38	Sulfate	0.097	5416

RL 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : PT EFF 001A R0906282-008
Data File Name : ...\1103_086.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 9:22:34 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

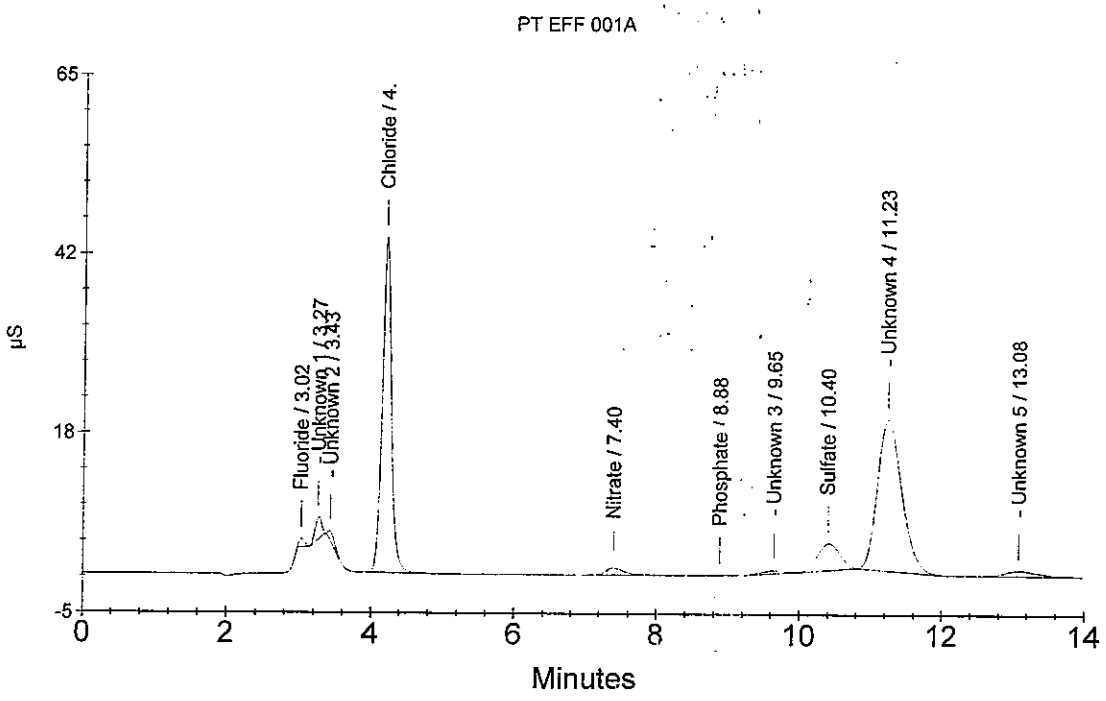
Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : CNN (300.0)

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	2.932	57580
4	4.20	Chloride	215.003	4103446
5	7.40	Nitrate	4.164	160295
6	8.88	Phosphate	-0.577	5168
8	10.40	Sulfate	58.889	746008

11/3/09 OK
NO2 OK
RP 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\1103_087.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 9:38:52 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

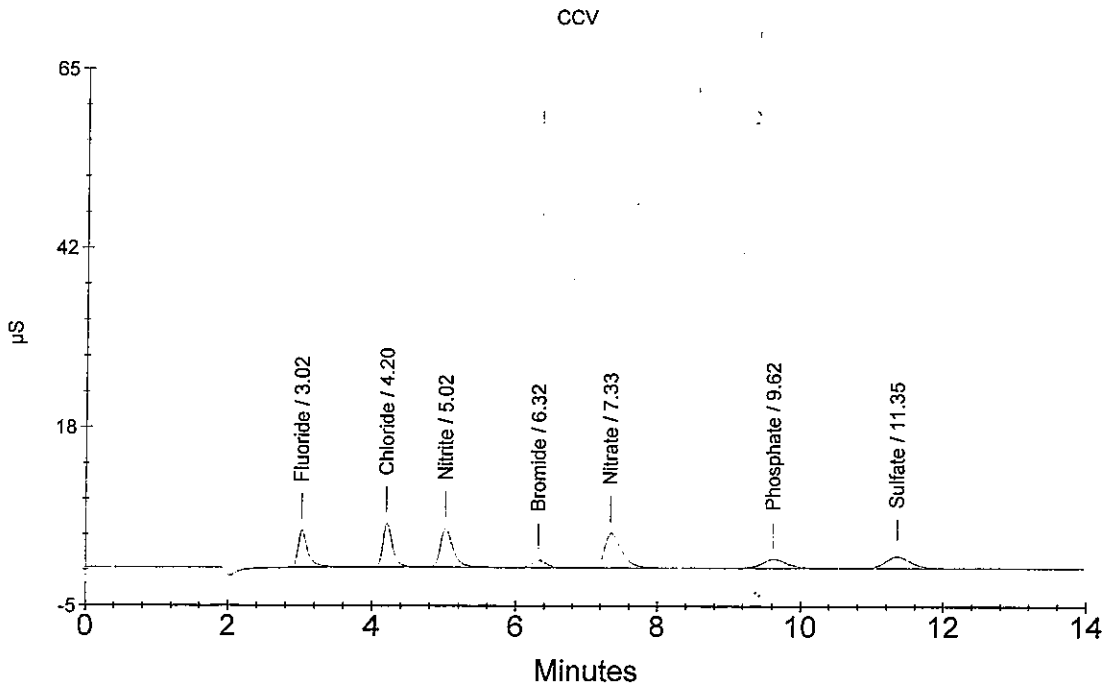
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	3.02	Fluoride	OK 1.876	444046
2	4.20	Chloride	2.962	554510
3	5.02	Nitrite	1.765	633760
4	6.32	Bromide	1.994	138745
5	7.33	Nitrate	1.761	770039
6	9.62	Phosphate	1.709	289314
7	11.35	Sulfate	3.132	393544

RL 11/4/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\1103_088.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 11/4/09 9:55:12 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

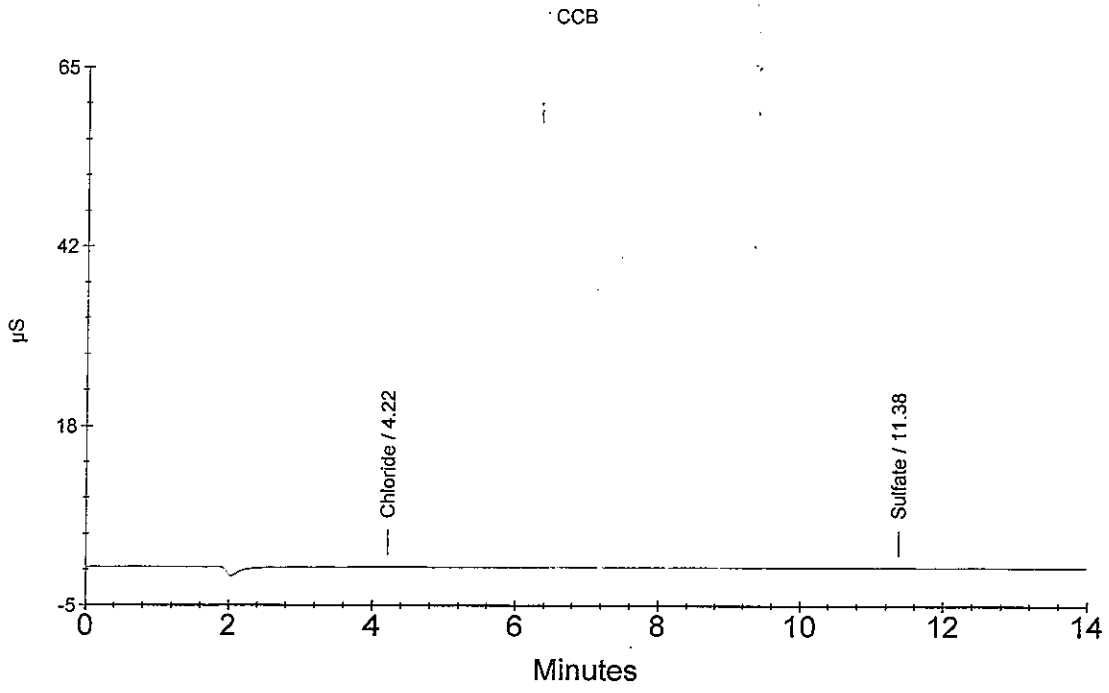
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.22	Chloride	0.079	2592
2	11.38	Sulfate	0.127	9267

RL 11/9/09



Columbia Analytical Services – Rochester, New York

Ion Chromatography Cover Sheet

Instrument: Dionex DX-500 Ion Chromatogram

Column: Dionex AS-14/AG-14, 10/12/09 – IC # 7

Curve Date: 10/22/09 **Loop size:** 50 uL

Analyst: R.Pawl **Analysis Date:** 11/3/09

Is copy of LCS attached to run? (YES) NO

Standards Prep Dates & Log ID's:

Std Type	*Prep Date*	*Log ID*		*Std Type*	*Prep Date*	*Log ID*
Calibration Intermediate	10/06/09	WC940011B		Working Calibration Stds	10/22/09	WC940021C
LCS / MS Intermediate	10/06/09	WC940011B		Working LCS/MS Standard	11/03/09	WC940053E
ICV Intermediate	10/09/09	WC940012H		Working ICV Standard	10/26/09	WC940027L
CCV Intermediate	10/9/09	WC940012H		Working CCV Standard	11/03/09	WC940028C

Original Retention Times for this method are based on the ICV and are as follows:

Fluoride: 2.97 Bromide: 6.15
Chloride: 4.12 Nitrate: 7.13
Nitrite: 4.90 Phosphate: 8.92
Sulfate: 10.62

Comments:

ICV / CCV PREP

(A 1:2 dilution of the **Reference Intermediate Stock is done daily)**

Analyte	ICV / CCV Intermediate Stock ID	Conc. mg/L	mLs Stock	Final Vol. mL	Final Conc. mg/L	Analyst/ Date Prepped	Lot ID	Exp. Date	Matrix H2SO4 / NaOH / DI	H2SO4 / NaOH Lot #
F	WC9H0012H	4.00	5.0	10	2.00	11/2/09	A	11/3/09	DI	
Cl		6.50			3.25	11/2/09	B	11/3/09	NaOH	WC850306
NO2		3.60			1.80	11/3/09	C	11/4/09	DI	
Br		4.00			2.00	11/3/09	D	11/4/09	NaOH	WC850306
NO3		3.60			1.80	10/30/09	E	10/31/09	H_2SO_4	WC85294I
OPO4		3.60			1.80	11/4/09	F	11/5/09	DI	
SO4		6.40			3.20	11/4/09	G	11/5/09	H_2SO_4	WC85294I
							H			
							I			
							J			
							K			
							L			
							M			
							N			
							O			
							P			
							Q			

0028

01035

LCS PREP

(Stocks delivered using Volumetric glassware and brought to volume with DI. LCS expires after 7 days; if NO2 is needed, LCS must be prepared daily.)

(MS prepared fresh daily using same volume of intermediate stock added to 100mls sample. MS not prepared volumetrically.)

Analyte	Calibration Intermediate Stock ID	Intermediate Stock Conc (mg/L)	mLs Intermediate Stock	Final Vol. mLs	Final Conc. (mg/L)	Analyst/ Date Prepped	Lot ID	Exp. Date	Matrix H2SO4 / NaOH / DI	H2SO4 / NaOH Lot #
F	WC940012A	50	2.0	100	1.0	RP 10/28/09	A	11/4/09	DI	
Cl		100			2.0	RP 10/29/09	B	11/5/09	DI	
NO2		50			1.0	RP 11/2/09	C	11/9/09	DI	
Br		50			1.0	RP 11/2/09	D	11/9/09	NaOH	WC850306
NO3		50			1.0	RP 11/3/09	E	11/10/09	DI	
OPO4		50			1.0	RP 10/30/09	F	11/6/09	H_2SO_4	WC8294I
SO4		100			2.0	R.P 11/4/09	G	11/11/09	DI	
						RP 11/4/09	H	11/11/09	H_2SO_4	WC85294I
						RP 11/5/09	I	11/12/09	DI	
							J			
							K			
							L			
							M			
							N			
							O			
							P			
							Q			
							R			

0053

01037

Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 1
Sample Type : Calibration Update
Data File Name : ...\1022_001.DXD
Method File Name : ...\7-102209.met

Date Time Collected : 10/22/09 11:10:10 AM
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Comment :
Data Collection Rate : 5.00 Hz

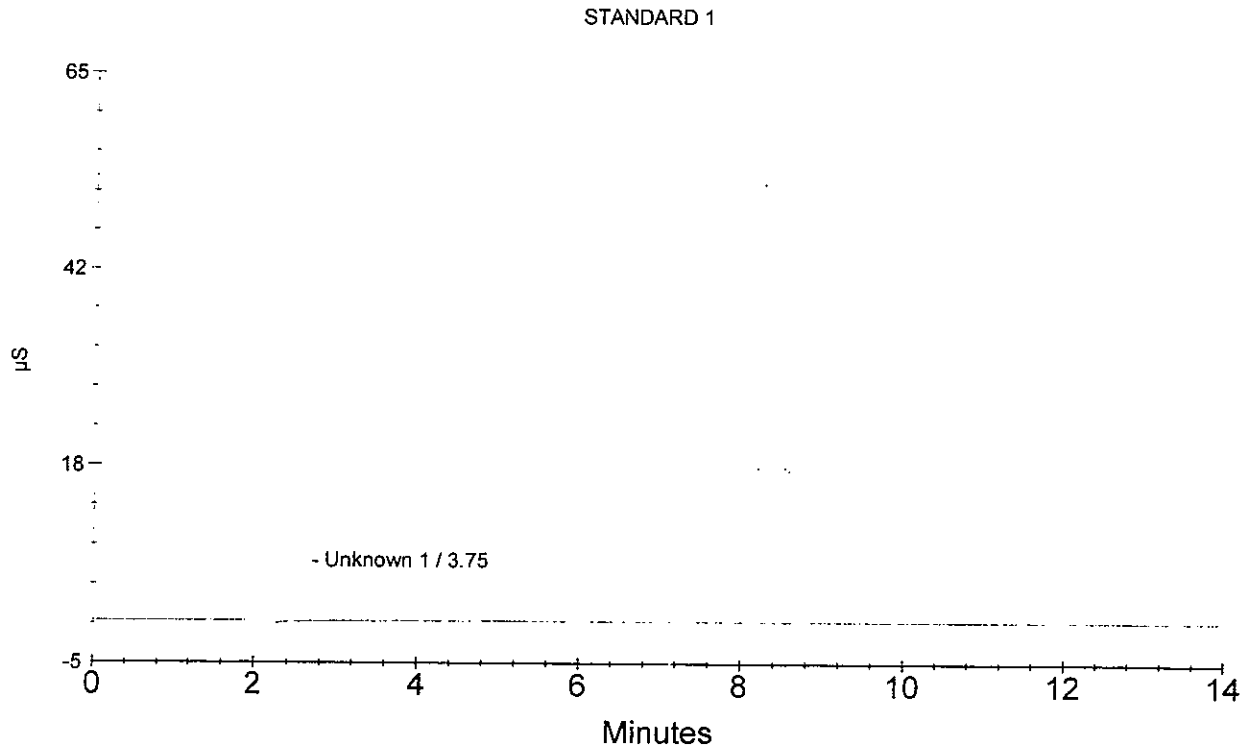
Calibration Type : EXTERNAL
Calibration Level : 1

Peak Information : Found Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area	Cal Response Previous

OK
CS
11/2/09

11/3/09



Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 2
Sample Type : Calibration Update
Data File Name : ...\1022_002.DXD
Method File Name : ...\7-102209.met

Date Time Collected : 10/22/09 11:26:26 AM
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Comment :
Data Collection Rate : 5.00 Hz

Calibration Type : EXTERNAL
Calibration Level : 2

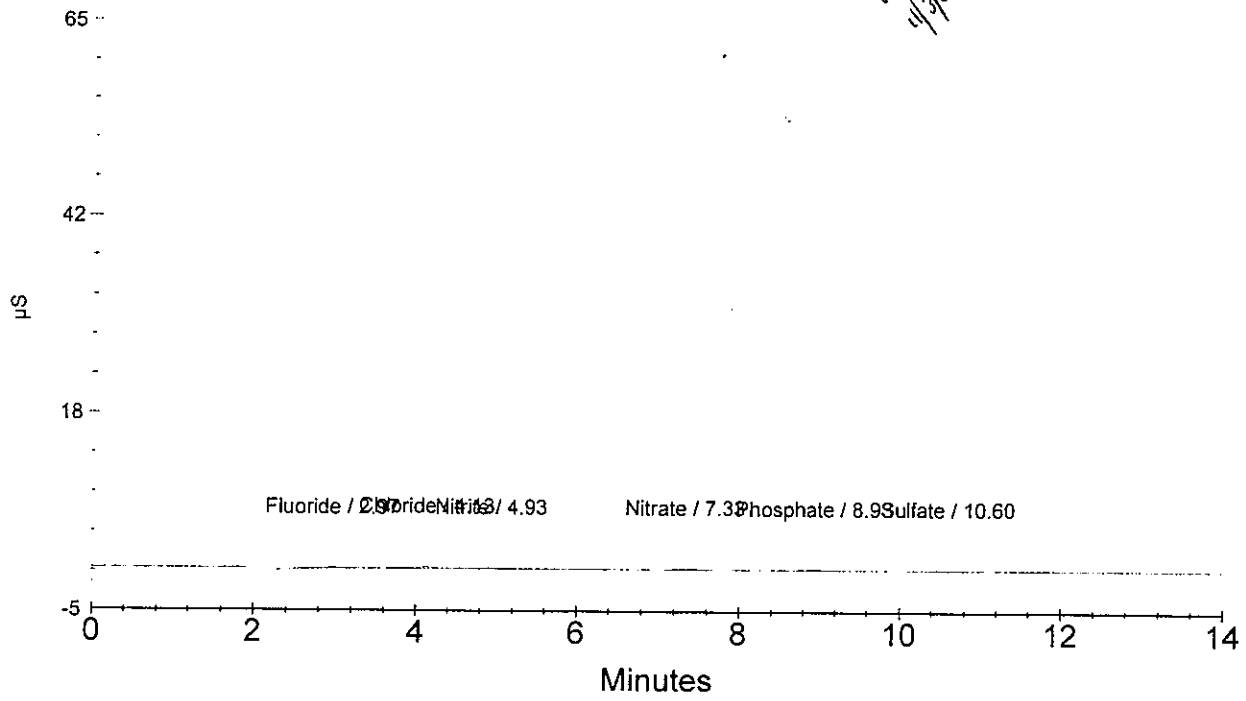
Peak Information : Found Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area	Cal Response Previous
1	2.97	Fluoride	OK 0.05	5274	5659.10
2	4.13	Chloride	0.10	30495	23855.20
3	4.93	Nitrite	0.05	13397	12913.60
4	7.33	Nitrate	0.05	18020	15540.80
5	8.93	Phosphate	0.05	13728	8039.00
6	10.60	Sulfate	0.10	11220	10133.40

CS
11/2/09

STANDARD 2

DY 11/3/09



Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 3
Sample Type : Calibration Update
Data File Name : ...\1022_003.DXD
Method File Name : ...\7-102209.met

Date Time Collected : 10/22/09 11:42:46 AM
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Comment :
Data Collection Rate : 5.00 Hz

Calibration Type : EXTERNAL
Calibration Level : 3

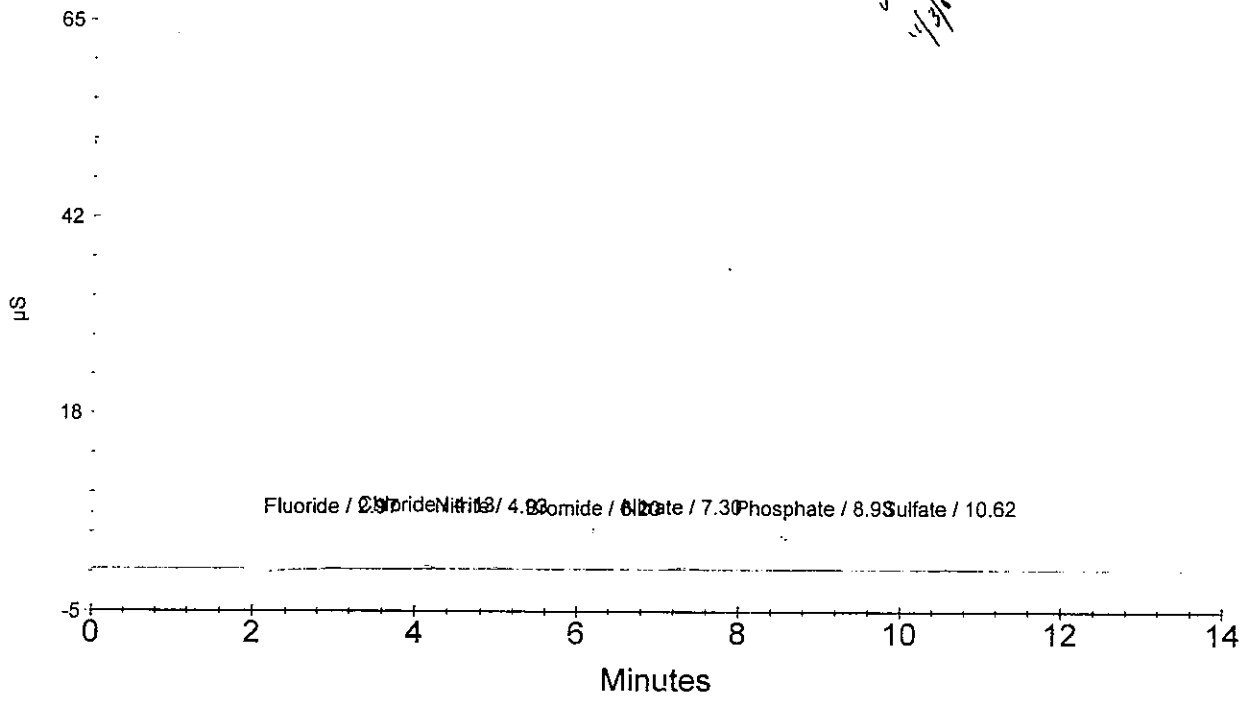
Peak Information : Found Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area	Cal Response Previous
1	2.97	Fluoride	0.10	24249	15084.40
2	4.13	Chloride	0.20	46248	34978.50
3	4.93	Nitrite	0.10	29646	30617.80
4	6.20	Bromide	0.10	5617	5371.00
5	7.30	Nitrate	0.10	37082	35967.00
6	8.93	Phosphate	0.10	24618	14606.40
7	10.62	Sulfate	0.20	22634	23524.60

OK
CS
11/2/09

STANDARD 3

DM
11/3/09



Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 4
Sample Type : Calibration Update
Data File Name : ...\1022_004.DXD
Method File Name : ...\7-102209.met

Date Time Collected : 10/22/09 11:59:04 AM
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Comment :
Data Collection Rate : 5.00 Hz

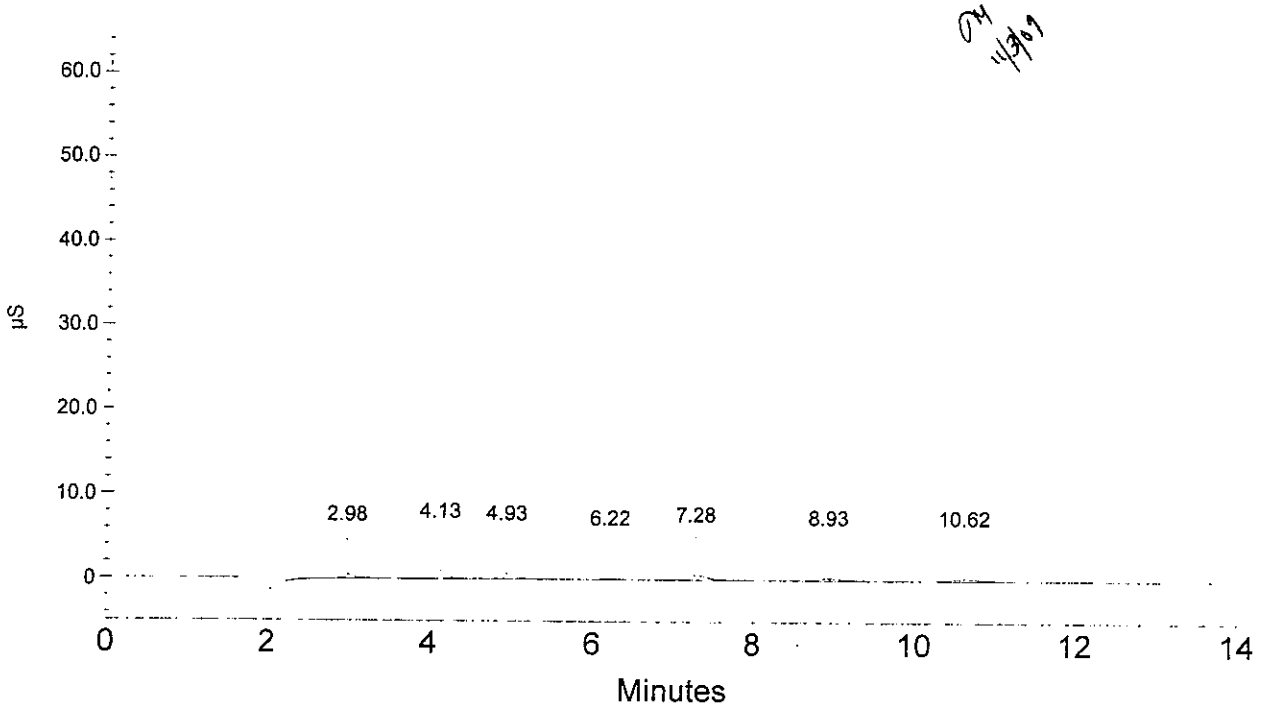
Calibration Type : EXTERNAL
Calibration Level : 4

Peak Information : Found Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area	Cal Response Previous
1	2.98	Fluoride	OK 0.25	54128	54127.60
2	4.13	Chloride	0.50	94807	94806.80
3	4.93	Nitrite	0.25	77508	77507.60
4	6.22	Bromide	0.25	16355	16355.10
5	7.28	Nitrate	0.25	95606	95605.90
6	8.93	Phosphate	0.25	53821	53821.40
7	10.62	Sulfate	0.50	57119	57119.20

CS
11/2/09

STANDARD 4



01041

Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 5
Sample Type : Calibration Update
Data File Name : ...\1022_005.DXD
Method File Name : ...\7-102209.met

Date Time Collected : 10/22/09 12:15:23 PM
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Comment :
Data Collection Rate : 5.00 Hz

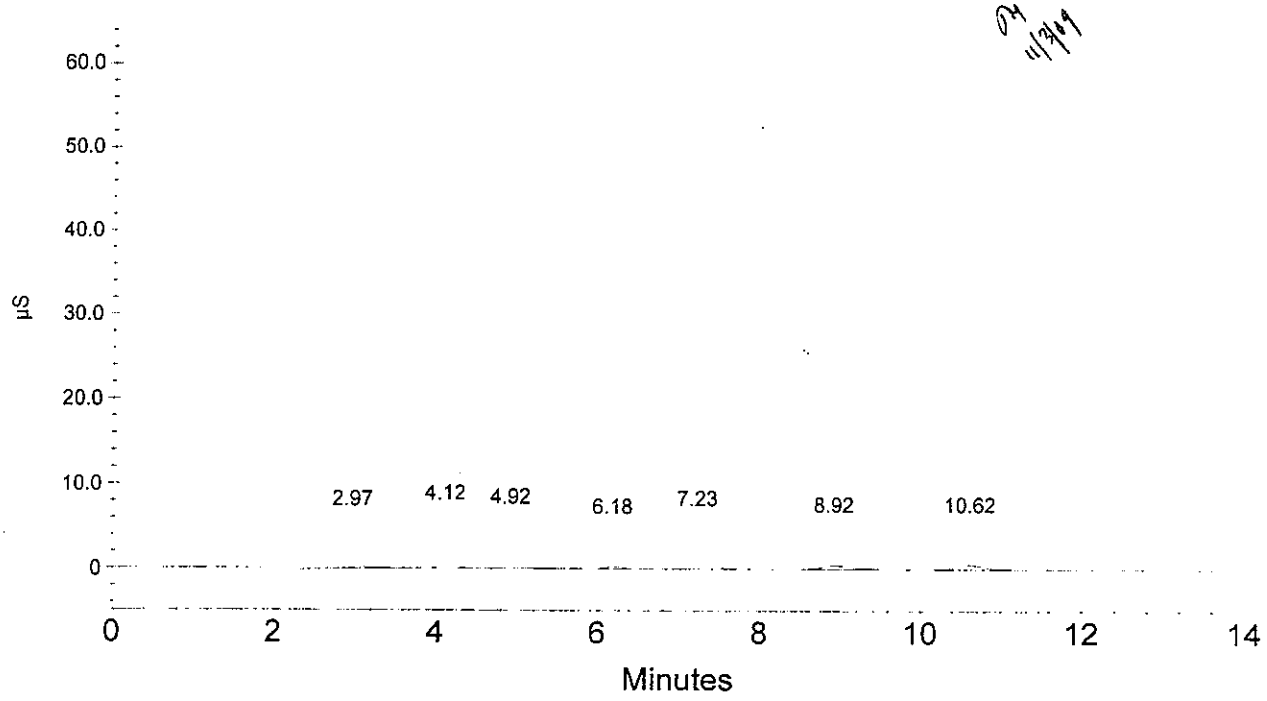
Calibration Type : EXTERNAL
Calibration Level : 5

Peak Information : Found Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area	Cal Response Previous
1	2.97	Fluoride	OK 0.50	105841	105840.90
2	4.12	Chloride	1.00	172177	172177.20
3	4.92	Nitrite	0.50	157736	157735.80
4	6.18	Bromide	0.50	31704	31704.00
5	7.23	Nitrate	0.50	191058	191058.20
6	8.92	Phosphate	0.50	103016	103015.70
7	10.62	Sulfate	1.00	117492	117491.60

CS
11/2/09

STANDARD 5



01042

Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 6
Sample Type : Calibration Update
Data File Name : ...\1022_006.DXD
Method File Name : ...\7-102209.met

Date Time Collected : 10/22/09 12:31:42 PM
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Comment :
Data Collection Rate : 5.00 Hz

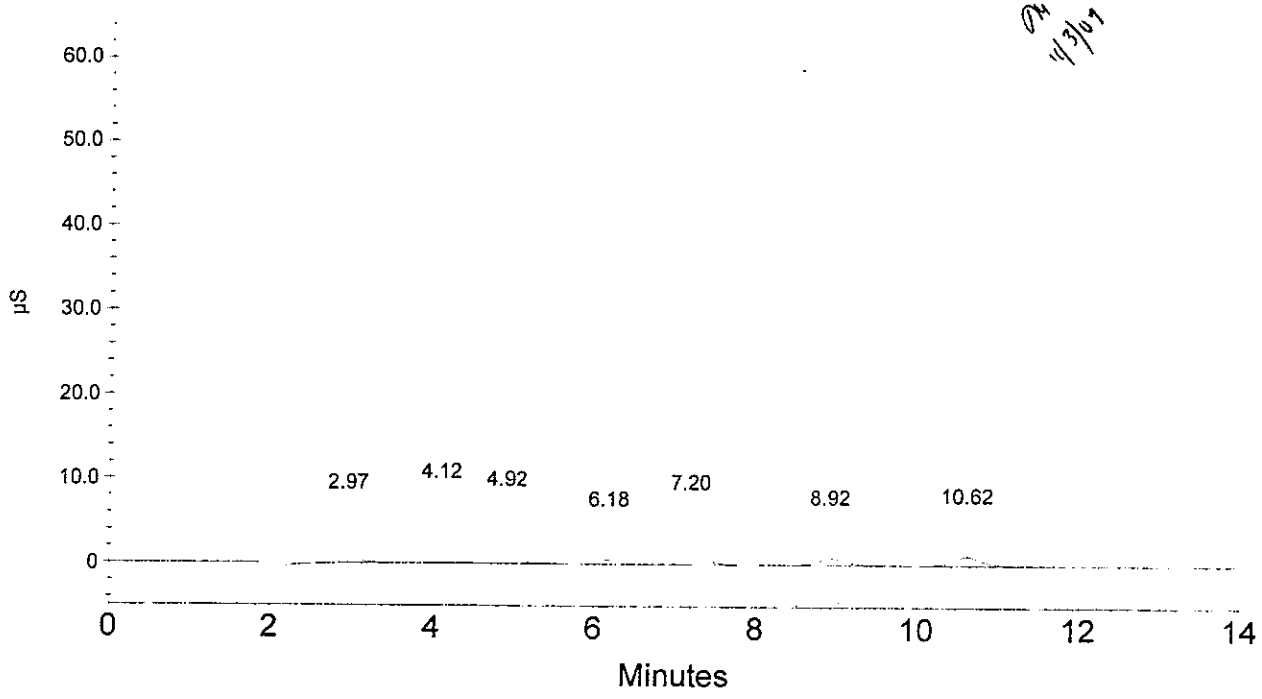
Calibration Type : EXTERNAL
Calibration Level : 6

Peak Information : Found Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area	Cal Response Previous
1	2.97	Fluoride	OK 1.00	217377	217377.20
2	4.12	Chloride	2.00	347885	347884.60
3	4.92	Nitrite	1.00	332903	332903.40
4	6.18	Bromide	1.00	66997	66997.20
5	7.20	Nitrate	1.00	402912	402912.20
6	8.92	Phosphate	1.00	184988	184987.90
7	10.62	Sulfate	2.00	247790	247790.40

CS
11/2/09

STANDARD 6



DN
11/3/09

Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 7
Sample Type : Calibration Update
Data File Name : ...\1022_007.DXD
Method File Name : ...\7-102209.met

Date Time Collected : 10/22/09 12:48:01 PM
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Comment :
Data Collection Rate : 5.00 Hz

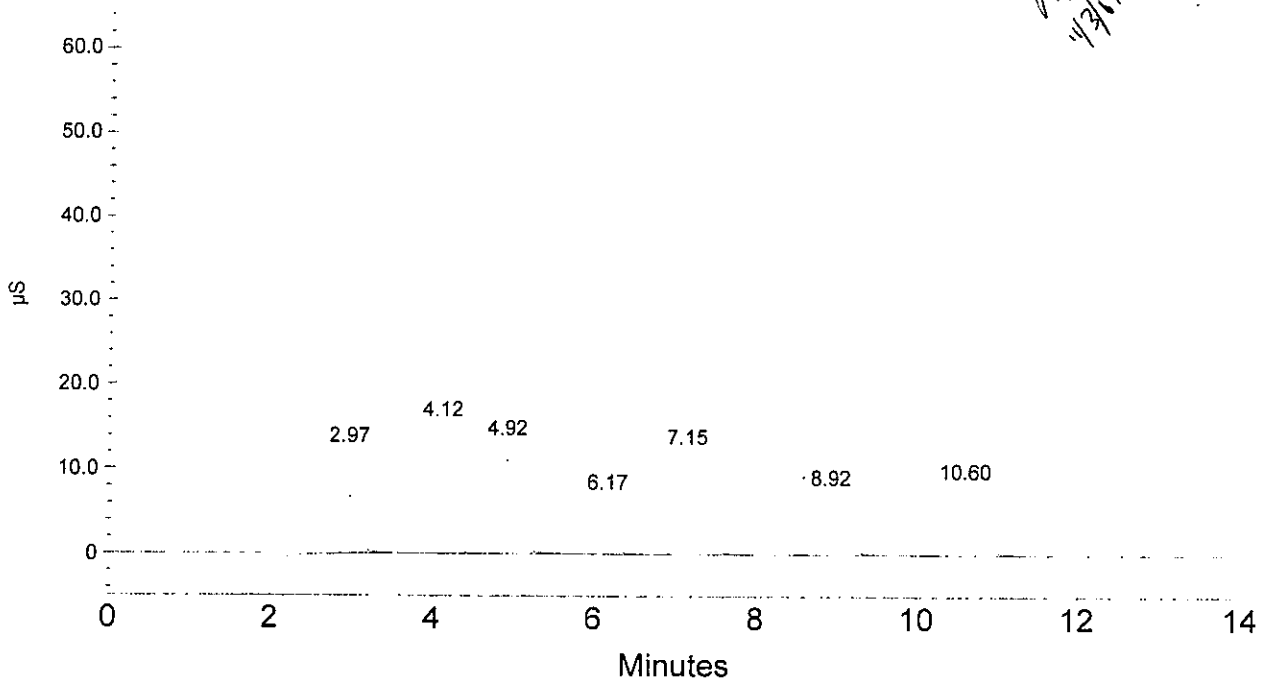
Calibration Type : EXTERNAL
Calibration Level : 7

Peak Information : Found Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area	Cal Response Previous
1	2.97	Fluoride	2.50	571442	571441.80
2	4.12	Chloride	5.00	893359	893358.60
3	4.92	Nitrite	2.50	878414	878414.20
4	6.17	Bromide	2.50	172459	172458.80
5	7.15	Nitrate	2.50	1055545	1055545.00
6	8.92	Phosphate	2.50	418315	418314.50
7	10.60	Sulfate	5.00	621748	621747.70

CS
11/2/09

STANDARD 7



01044

Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 8
Sample Type : Calibration Update
Data File Name : ...\1022_008.DXD
Method File Name : ...\7-102209.met

Date Time Collected : 10/22/09 1:04:20 PM
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Comment :
Data Collection Rate : 5.00 Hz

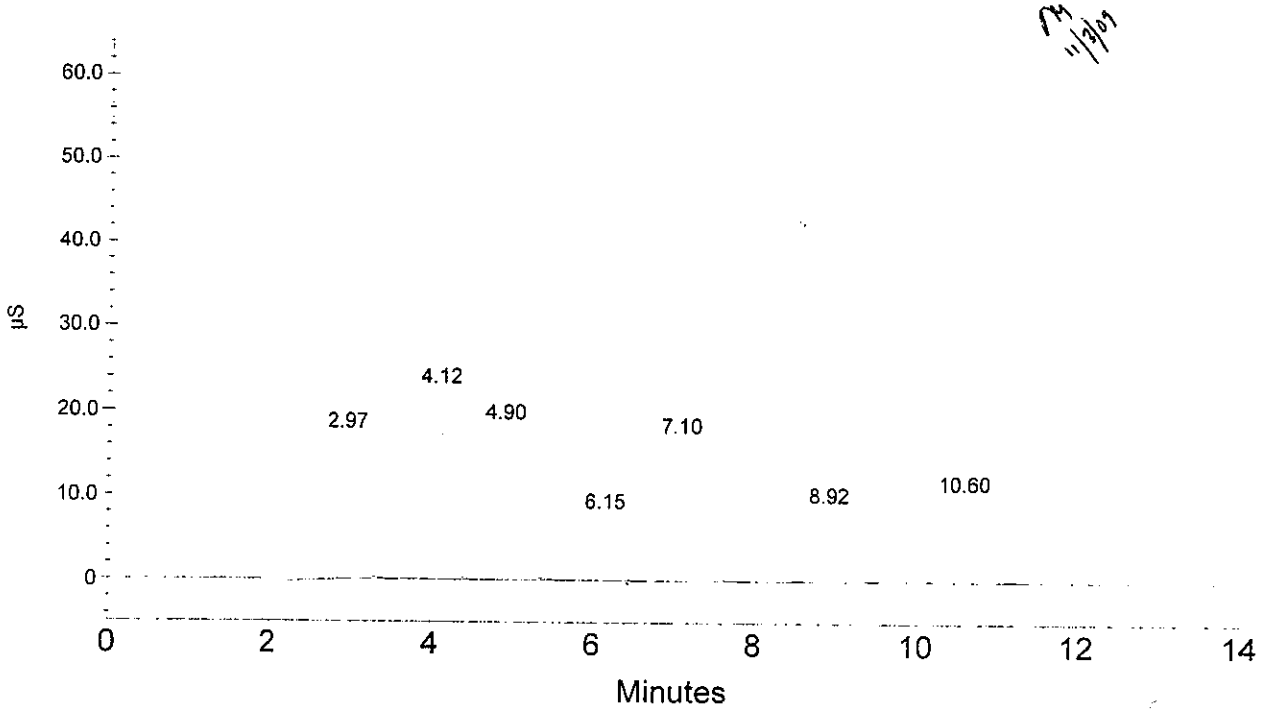
Calibration Type : EXTERNAL
Calibration Level : 8

Peak Information : Found Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area	Cal Response Previous
1	2.97	Fluoride	OK 4.00	955528	955528.30
2	4.12	Chloride	8.00	1507791	1507791.40
3	4.90	Nitrite	4.00	1456801	1456800.60
4	6.15	Bromide	4.00	281052	281052.00
5	7.10	Nitrate	4.00	1772223	1772223.20
6	8.92	Phosphate	4.00	656452	656451.80
7	10.60	Sulfate	8.00	1015910	1015910.00

CS
11/2/09

STANDARD 8



11/3/09

Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 9
Sample Type : Calibration Update
Data File Name : ...\1022_009.DXD
Method File Name : ...\7-102209.met

Date Time Collected : 10/22/09 1:20:40 PM
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Comment :
Data Collection Rate : 5.00 Hz

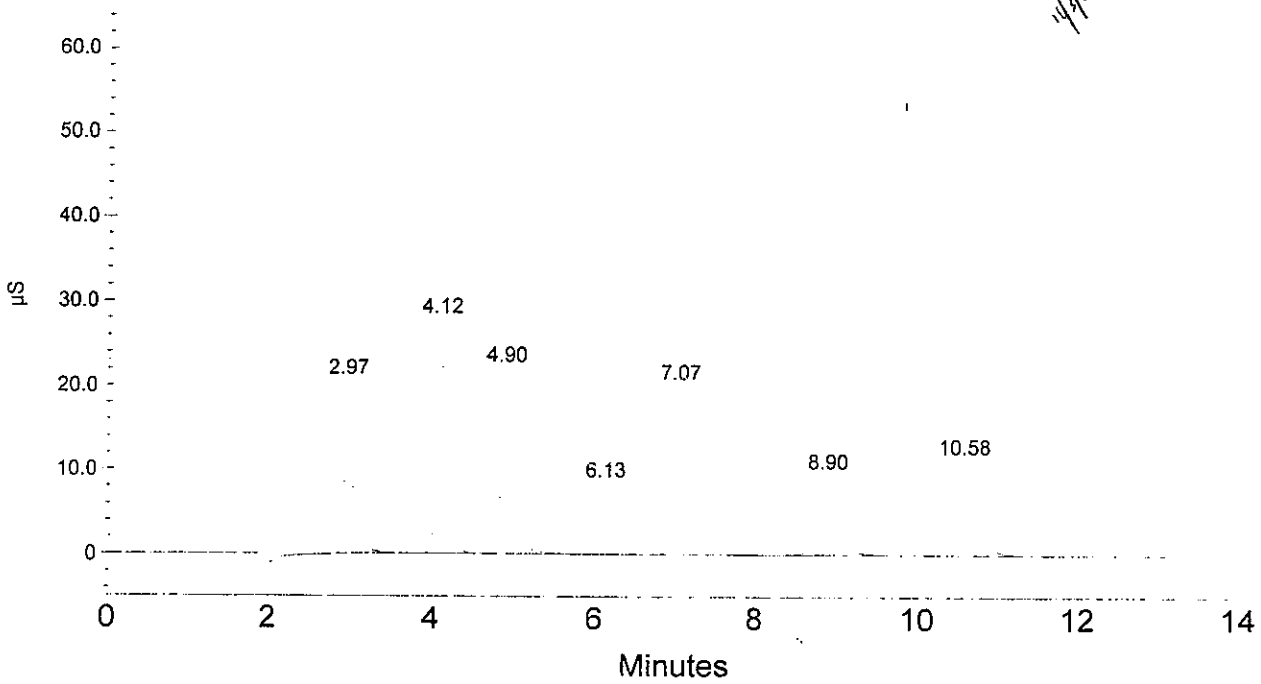
Calibration Type : EXTERNAL
Calibration Level : 9

Peak Information : Found Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area	Cal Response Previous
1	2.97	Fluoride	5.00	1225788	1225787.60
2	4.12	Chloride	10.00	1937360	1937359.80
3	4.90	Nitrite	5.00	1857380	1857380.10
4	6.13	Bromide	5.00	353713	353712.80
5	7.07	Nitrate	5.00	2274924	2274923.60
6	8.90	Phosphate	5.00	816222	816222.00
7	10.58	Sulfate	10.00	1277206	1277205.80

OK
CS
11/2/09

STANDARD 9



01046

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : ICV
Data File Name : ...\1022_010.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 10/22/09 1:36:59 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment :

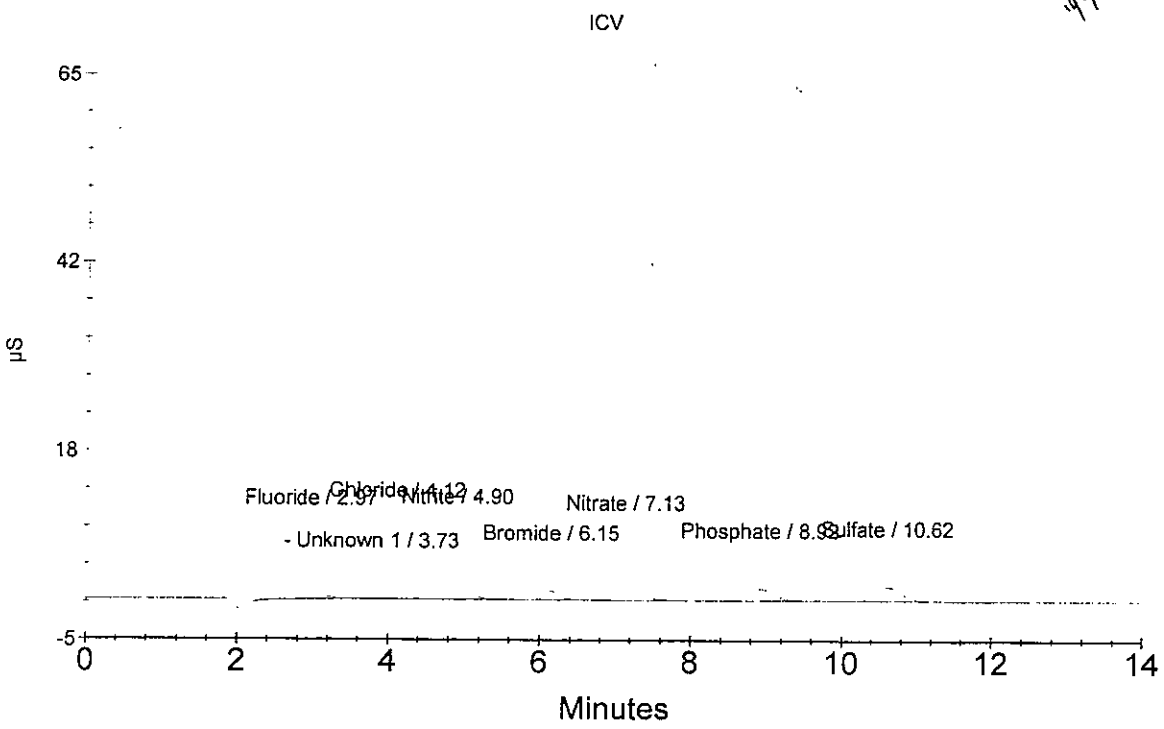
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	1.898	449417
3	4.12	Chloride	2.935	551051
4	4.90	Nitrite	1.763	633181
5	6.15	Bromide	1.959	136259
6	7.13	Nitrate	1.728	755139
7	8.92	Phosphate	1.818	306924
8	10.62	Sulfate	3.065	384994

OK
CS
11/2/09

OK
4/3/11



01047

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : ICB
Data File Name : ...\1022_011.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 10/22/09 1:53:17 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment :

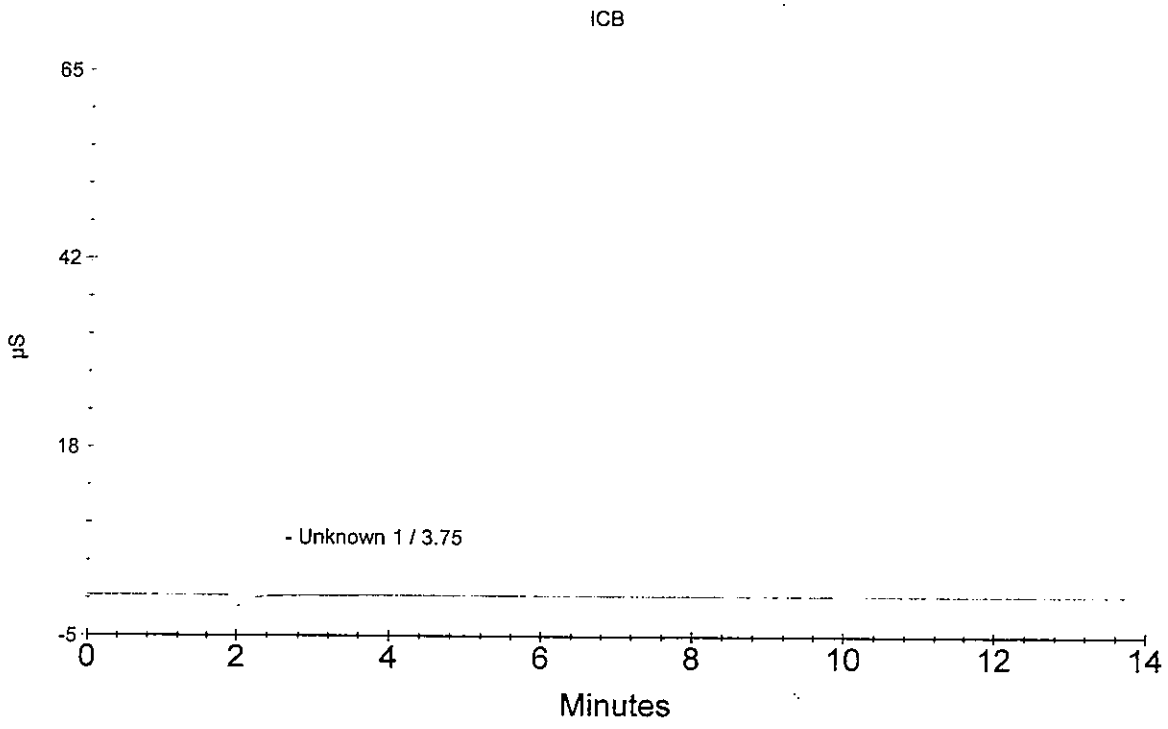
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area

OK
CS
11/2/09

GH 11/3/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCS
Data File Name : ...\1022_012.DXD
Method File Name : ...\7-102209.met
Date Time Collected : 10/22/09 2:09:35 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment :

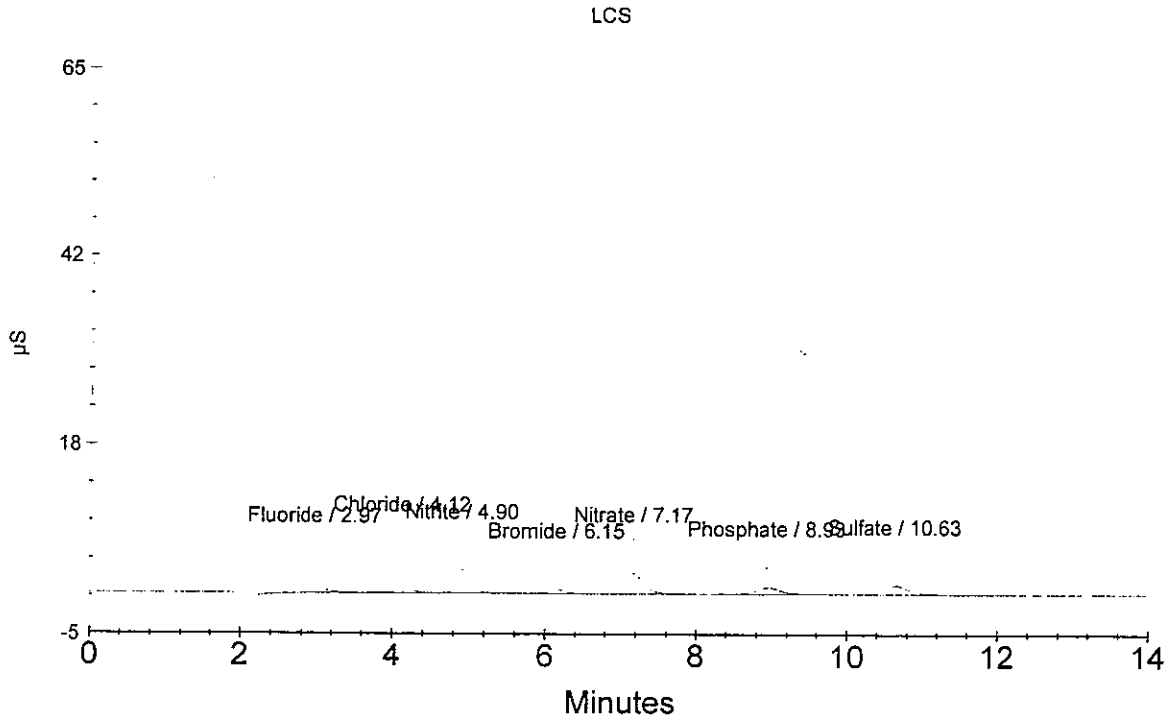
Data Collection Rate : 5.00 Hz
Data Collection Period : 840.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	2.97	Fluoride	OK	0.944	216508
2	4.12	Chloride		1.865	346819
3	4.90	Nitrite		0.958	334356
4	6.15	Bromide		0.993	67628
5	7.17	Nitrate		0.946	400558
6	8.93	Phosphate		1.038	181387
7	10.63	Sulfate		2.003	249201

CS
11/2/09

OM 4/7/11



01049

Method Report - 7-102209

Method Information : All Modules

System Name : DX-500
System Number : 2
Method Type : Ion Chromatography
Column : AS-14 / AG-14
Analyst :
Comment : Dionex DX-500 (IC #7)
Calibration 10.22.09

CD20 Timed Events

Module Name :
Module Serial Number :
SRS Current : 100 mA
Temperature Compensation : 1.7 (% / °C)
Cell Temperature : 35 °C

Time	Range (μS)	Offset	Mark	TTL1	TTL2	Relay1	Relay2	Collect
Init	0.010			Low	Low	Open	Open	
0.00	0.010	*		High	Low	Open	Open	
0.10	0.010			Low	Low	Open	Open	
2.20	0.010	*		Low	Low	Open	Closed	Begin

CD20 Detector Parameters

Detector Type : CD20
Data collection time (minutes) : 14.00
Data Collection Rate (Hz.) : 5.00
Real time plot scale maximum (μS) : 40.000
Real time plot scale minimum (μS) : -5.000

CD20 Integration Parameters

Peak detection algorithm : Standard
Starting peak width (seconds) : 10.00
Peak threshold : 1.000000
Peak area reject (area counts) : 1000.00
Reference peak area reject (area counts) : 1000.00

CD20 Smoothing Parameters

Filter Type : No filter

CD20 Report Data

Report Format File : J:\ACQUDATA\IC\METHOD.ACI\Ic#7\ANIONS-IC7.rpt
Print Sample Analysis : Yes
Print Calibration Update : Yes
Print Check Standard : Yes
System Suitability Tests :
No system suitability tests selected.

CD20 Integration Data Events

Time	Description
0.00	Force baseline at start of all peaks
1.70	Void volume treatment for this peak

CD20 Calibration Parameters

External or internal calibration : EXTERNAL
Number of replicates for calibration : 1
Rejection : Manual
Level Weighting : Equal
Sample Weight : 1.000000
Calibration standard volume : 1.000000
Default sample volume : 1.000000
Amount units :
Replace retention time : Yes
Update response : Yes
Default dilution factor : 1.000000
Default response factor for unknown peaks : 0.000000
Calculate unknowns by area or height : Area

CD20 Component Identification Table

Component	Retention	Tolerance	Reference
Fluoride	2.97 min	10.00 %	
Chloride	4.12 min	10.00 %	
Nitrite	4.90 min	10.00 %	
Bromide	6.15 min	10.00 %	
Nitrate	7.13 min	10.00 %	
Phosphate	8.92 min	10.00 %	
Sulfate	10.62 min	10.00 %	

CD20 Component Quantitation Table

Component	Retention	Low Limit	High Limit
Fluoride	2.97 min	0.05	5
Chloride	4.12 min	0.1	10
Nitrite	4.90 min	0.05	5
Bromide	6.15 min	0.05	5
Nitrate	7.13 min	0.05	5
Phosphate	8.92 min	0.1	5
Sulfate	10.62 min	0.05	10

CD20 Component Calibration Table

Component	Retention Time	Curve Fit	Origin	Cal. by	Response Component	Relative Factor
Fluoride	2.97 min	Linear	Ignore	Area	Fluoride	0.00
Chloride	4.12 min	Linear	Ignore	Area	Fluoride	0.00
Nitrite	4.90 min	Linear	Ignore	Area	Fluoride	0.00
Bromide	6.15 min	Linear	Ignore	Area	Fluoride	0.00
Nitrate	7.13 min	Linear	Ignore	Area	Fluoride	0.00
Phosphate	8.92 min	Linear	Ignore	Area	Fluoride	0.00
Sulfate	10.62 min	Linear	Ignore	Area	Fluoride	0.00

CD20 Component = Fluoride Levels Table

Retention Time : 2.97 min
Amount units :
Replicate unit type : Area
Number of levels : 9
Number of replicates : 1

Level	Amount	Replicate 1
1	0.00	~~1.08174e+006~~ NO PEAK CS 11/2/09
2	0.05	5274.4
3	0.10	24248.5
4	0.25	54127.6
5	0.50	105841
6	1.00	217377
7	2.50	571442
8	4.00	955528
9	5.00	1.22579e+006

CD20 Component = Chloride Levels Table

Retention Time : 4.12 min
Amount units :
Replicate unit type : Area
Number of levels : 9
Number of replicates : 1

Level	Amount	Replicate 1
1	0.00	~~3554.8~~ NO PEAK CS 11/2/09
2	0.10	30494.8
3	0.20	46248.4
4	0.50	94806.8
5	1.00	172177
6	2.00	347885
7	5.00	893359
8	8.00	1.50779e+006
9	10.00	1.93736e+006

CD20 Component = Nitrite Levels Table

Retention Time : 4.90 min
Amount units :
Replicate unit type : Area
Number of levels : 9
Number of replicates : 1

Level	Amount	Replicate 1
1	0.00	~~1684.2~~ NO PEAK CS 11/2/09
2	0.05	13397.4
3	0.10	29646.4
4	0.25	77507.6
5	0.50	157736
6	1.00	332903
7	2.50	878414
8	4.00	1.4568e+006
9	5.00	1.85738e+006

CD20 Component = Bromide Levels Table

Retention Time : 6.15 min
Amount units :
Replicate unit type : Area
Number of levels : 9
Number of replicates : 1

Level	Amount	Replicate 1
1	0.00	~~3471.6~~ NO PEAK CS 11/2/09
2	0.05	~~2375.4~~
3	0.10	5616.6
4	0.25	16355.1
5	0.50	31704
6	1.00	66997.2
7	2.50	172459
8	4.00	281052
9	5.00	353713

CD20 Component = Nitrate Levels Table

Retention Time : 7.13 min
Amount units :
Replicate unit type : Area
Number of levels : 9
Number of replicates : 1

Level	Amount	Replicate 1
1	0.00	~~6351.4~~ NO PEAK CS 11/2/09
2	0.05	18019.8
3	0.10	37081.8
4	0.25	95605.9
5	0.50	191058
6	1.00	402912
7	2.50	1.05555e+006
8	4.00	1.77222e+006
9	5.00	2.27492e+006

CD20 Component = Phosphate Levels Table

Retention Time : 8.92 min
Amount units :
Replicate unit type : Area
Number of levels : 9
Number of replicates : 1

Level	Amount	Replicate 1
1	0.00	~~3.6675e+006~~ NO PEAK C 11/2/1
2	0.05	13727.7
3	0.10	24618.2
4	0.25	53821.4
5	0.50	103016
6	1.00	184988
7	2.50	418315
8	4.00	656452
9	5.00	816222

CD20 Component = Sulfate Levels Table

Retention Time : 10.62 min
Amount units :
Replicate unit type : Area
Number of levels : 9
Number of replicates : 1

Level	Amount	Replicate 1
1	0.00	~~10388.6~~ NO PEAK CS 11/2/09
2	0.10	11219.6
3	0.20	22634.4
4	0.50	57119.2
5	1.00	117492
6	2.00	247790
7	5.00	621748
8	8.00	1.01591e+006
9	10.00	1.27721e+006

CD20 XY Data Parameters

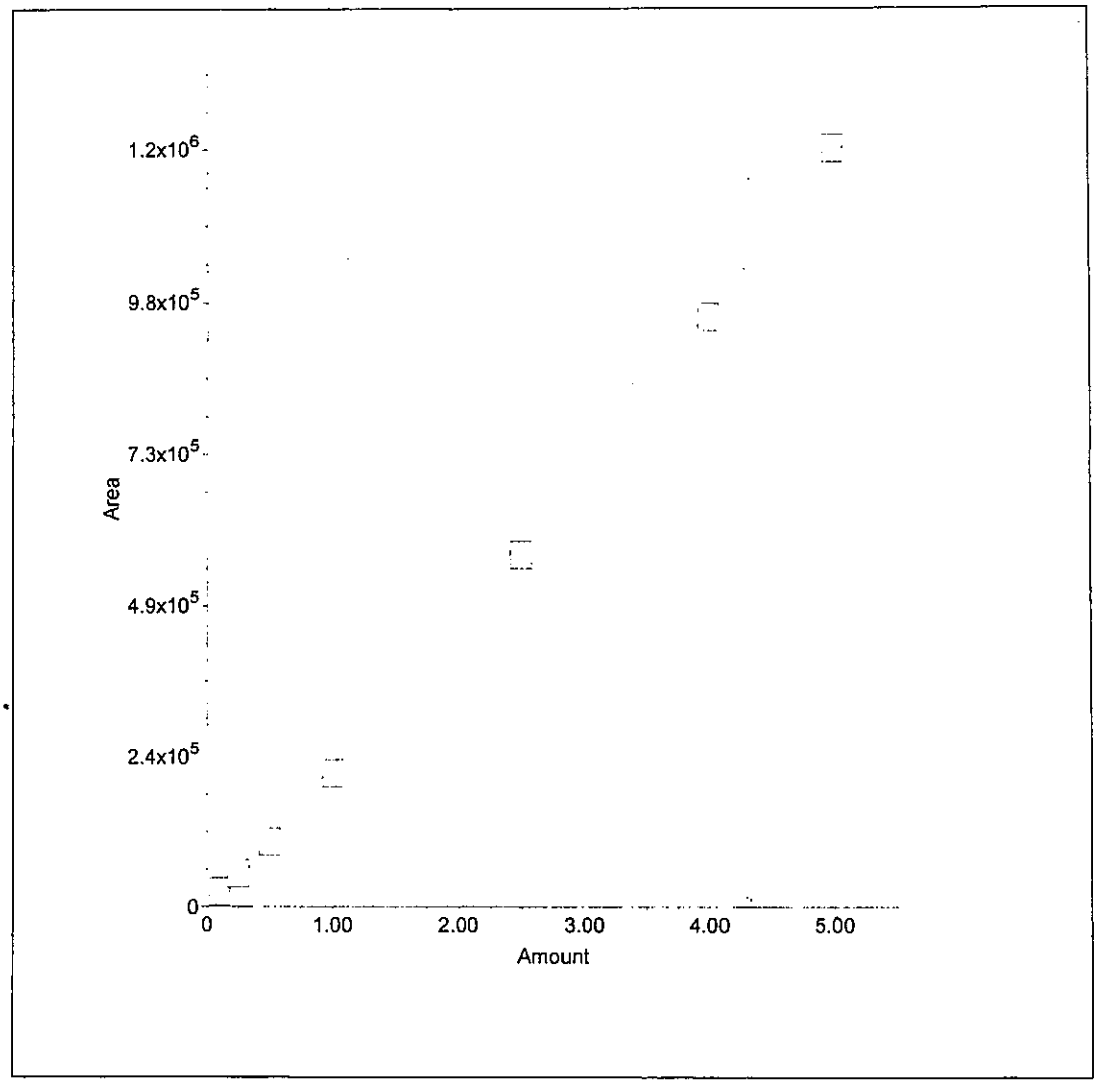
GP50 Timed Events

Module Name :
Module Serial Number :
Description :
High Pressure Limit : 3000.0
Low Pressure Limit : 0.0
Eluent A :
Eluent B :
Eluent C :
Eluent D :
Piston Size : Standard
Pressure Unit : psi
Oven Not Installed

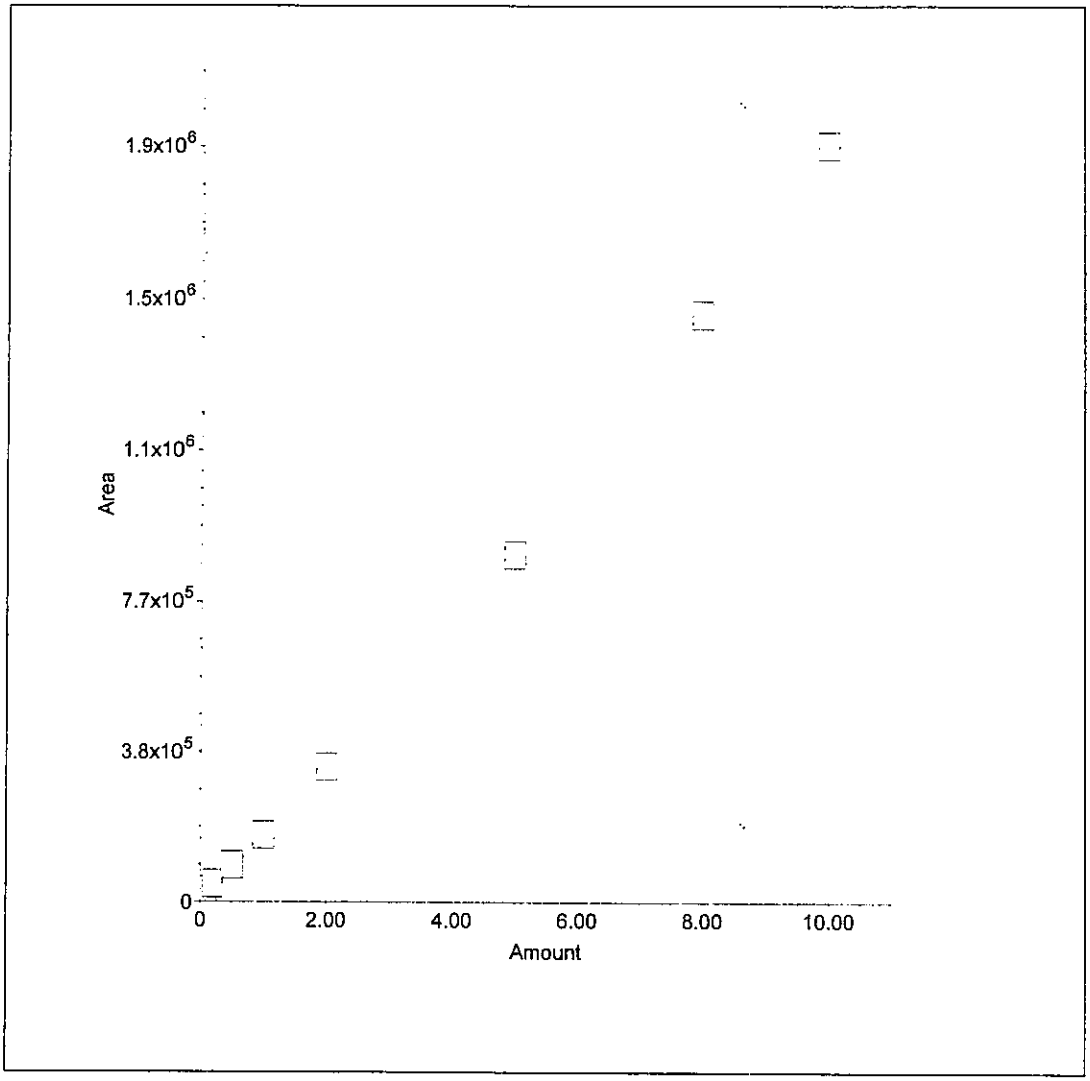
Time	Flow	%A	%B	%C	%D	Curve	Comment
Init	1.20	0.00	0.00	100.00	0.00	5	
0.00	1.20	0.00	0.00	100.00	0.00	5	
2.20	1.20	0.00	0.00	100.00	0.00	5	

Time	Valve	Column	TTL1	TTL2	Relay1	Relay2
Init	Load	A	Low	Low	Open	Open
0.00	Load	A	Low	Low	Open	Open
2.20	Inject	A	Low	Low	Open	Open

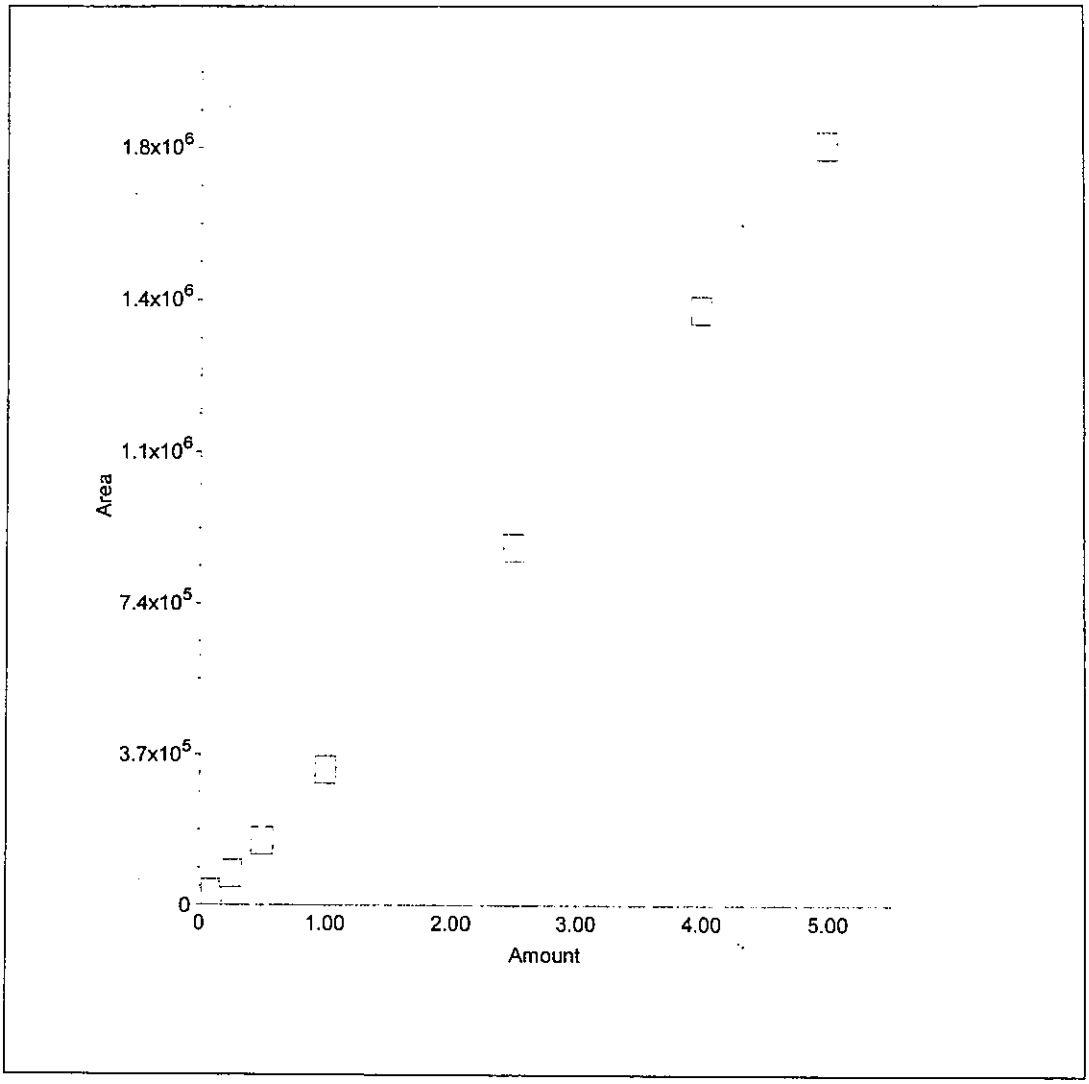
1. Component:Fluoride
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999041
Amt=4.096e-006*Resp+0.0574



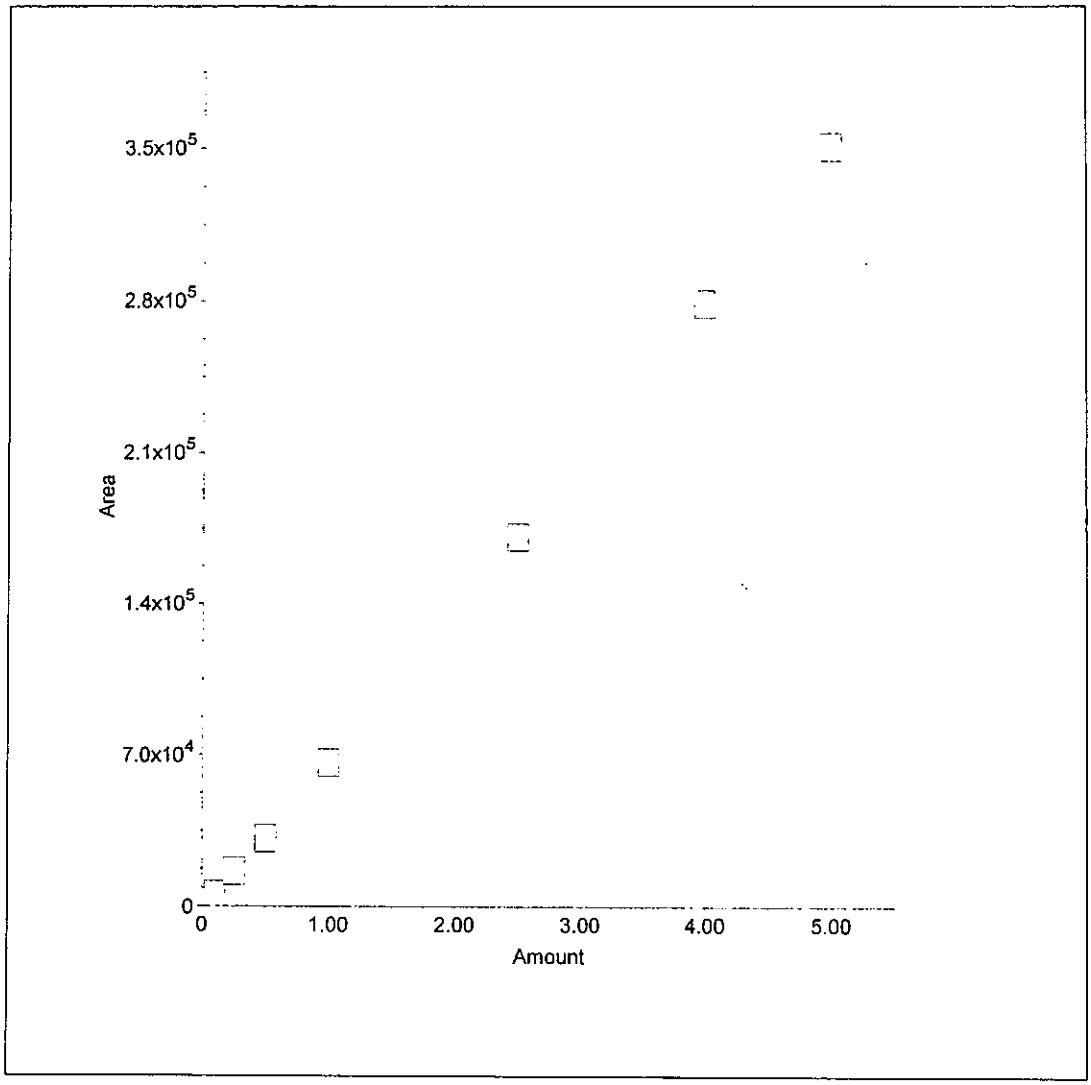
2. Component:Chloride
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.998514
Amt=5.224e-006*Resp+0.06558



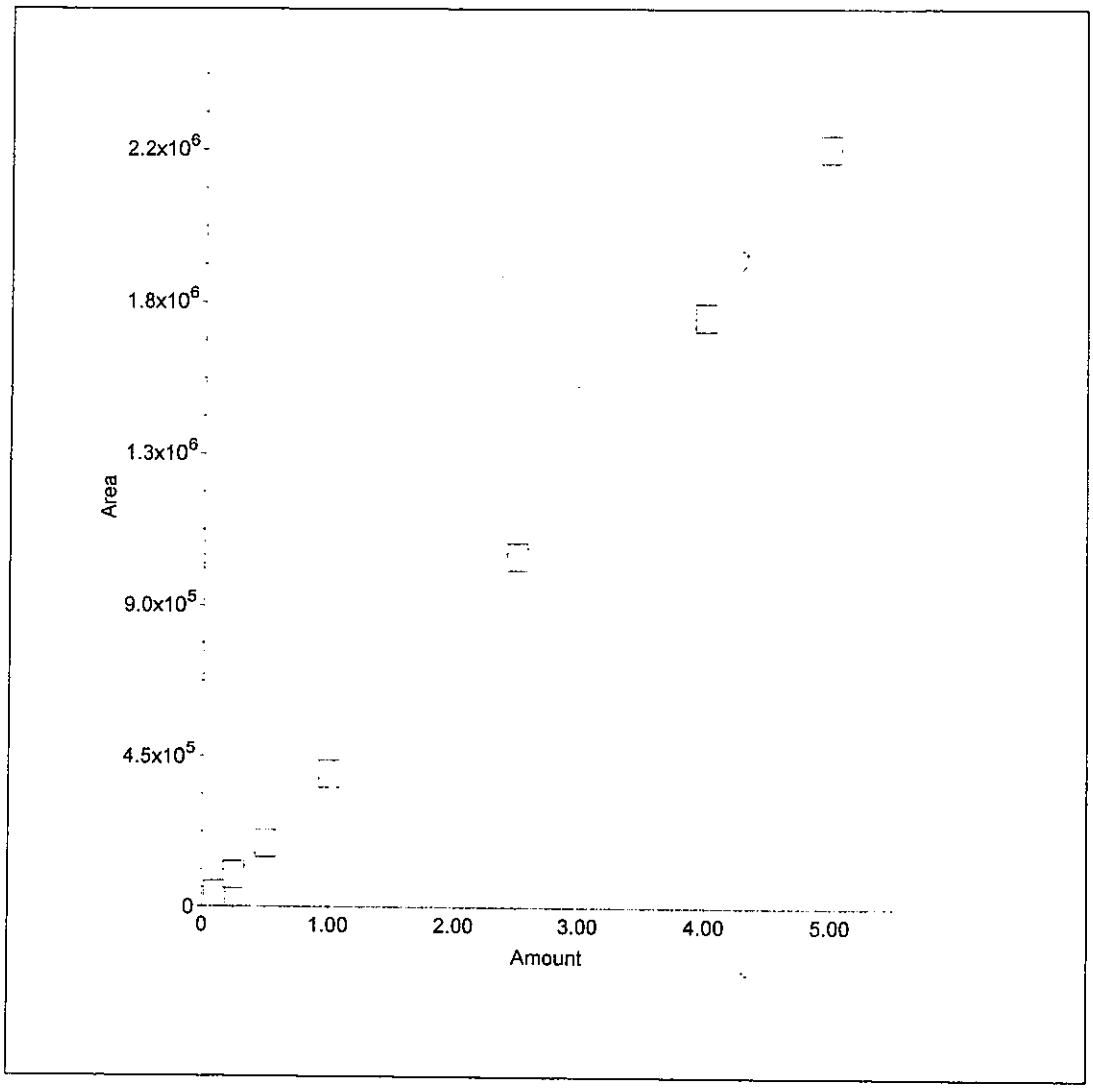
3. Component:Nitrite
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999395
Amt=2.693e-006*Resp+0.05818



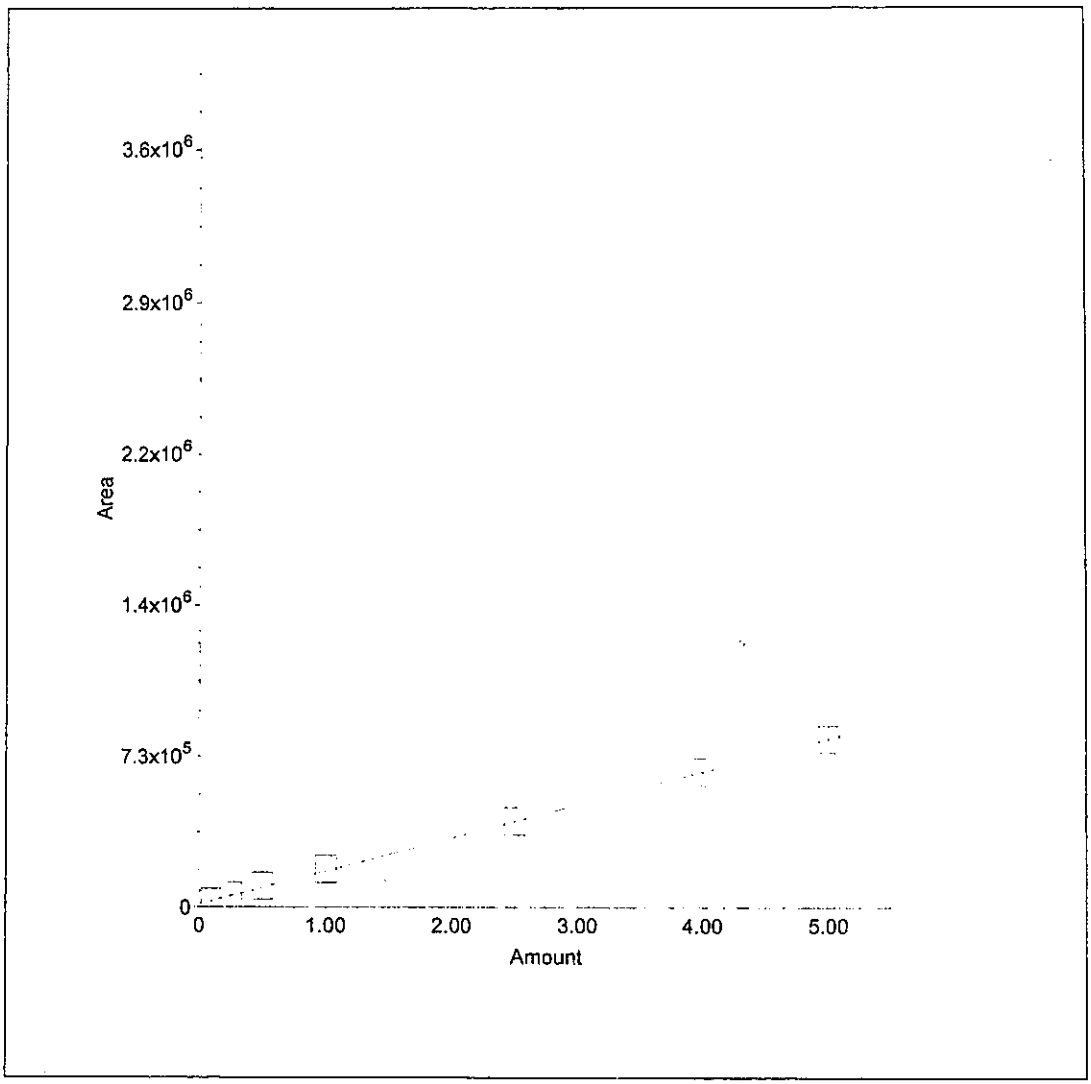
4. Component:Bromide
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999880
Amt=1.41e-005*Resp+0.03572



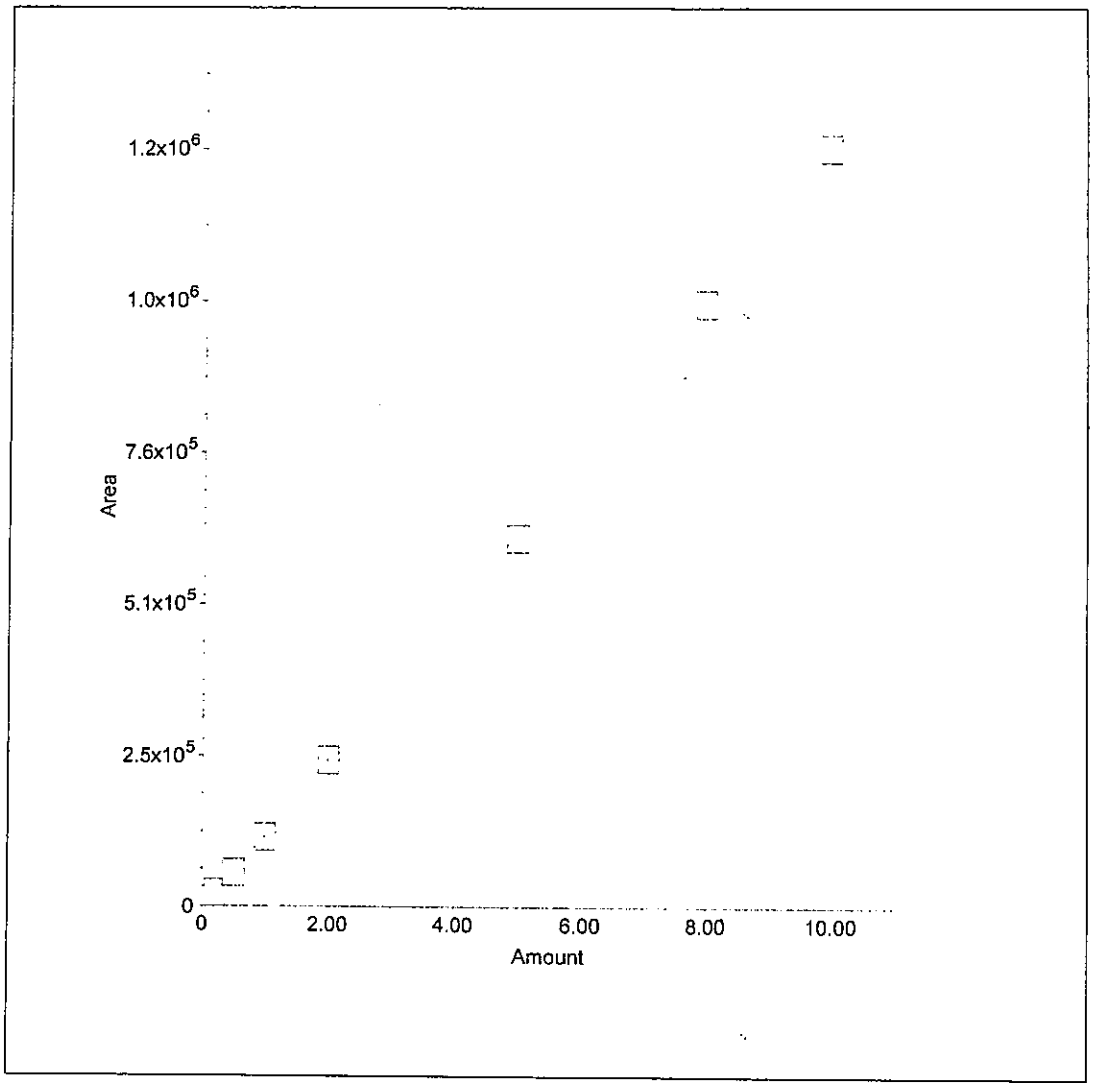
5. Component:Nitrate
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.998964
Amt=2.206e-006*Resp+0.0629



6. Component:Phosphate
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999580
Amt=6.216e-006*Resp+-0.08981



7. Component:Sulfate
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999882
Amt=7.821e-006*Resp+0.05423



Columbia Analytical Services – Rochester, New York

Ion Chromatography Cover Sheet

Instrument: Dionex DX-500 Ion Chromatogram

Column: Dionex AS-14/AG-14, 10/12/09 – IC # 7

Curve Date: 10/22/09 **Loop size:** 50 uL

Analyst: RP, CS **Analysis Date:** 10/22/09

Is copy of LCS attached to run? (YES) / NO

Standards Prep Dates & Log ID's:

Std Type	*Prep Date*	*Log ID*		*Std Type*	*Prep Date*	*Log ID*
Calibration Intermediate	10/06/09	WC940011B		Working Calibration Stds	10/22/09	WC940021C
LCS / MS Intermediate	10/06/09	WC940011B		Working LCS/MS Standard	10/22/09	WC940052N
ICV Intermediate	10/09/09	WC940012H		Working ICV Standard	10/22/09	WC940027J
CCV Intermediate	10/09/09	WC940012H		Working CCV Standard	10/22/09	WC940027J

Original Retention Times for this method are based on the ICV and are as follows:

Fluoride: 2.97 Bromide: 6.15
Chloride: 4.12 Nitrate: 7.13
Nitrite: 4.90 Phosphate: 8.92
Sulfate: ~~10.162~~ 10.62 ON 11/3/09

Comments:

01064

CALIBRATION INTERMEDIATE STOCK PREP
(used for Calibration and LCS / MS)

Analyte	1000ppm Stock ID	Conc. mg/L	mLs Stock	Final Vol. mL	Final Conc. mg/L	Analyst	Date Prepped	Lot ID	Exp. Date
F	WC920636	1000	10	200	50	RP	9/10/09	A	1/26/10
Cl	WC72001E	1000	20		100	RP	10/6/09	B	1/26/10
NO2	WC72002F	1000	10		50			C	
Br	WC920634	1000	10		50			D	
NO3	WC90001I	1000	10		50		RP 10/22/09	E	
OPO4	WC72002?	1000	10		50			F	
SO4	WC72002U	1000	20		100			G	

ICV/CCV INTERMEDIATE STOCK PREP

Analyte	ICV/CCV Stock ID	Conc. mg/L	mLs Stock	Final Vol. mL	Final Conc. mg/L	Analyst	Date Prepped	Lot ID	Exp. Date
F	WC852841	1000	4.0	1000	4.00	RP	9/22/09	H	1/26/10
Cl	WC72006E	650	10		6.50	CS	10/9/09	I	1/26/10
NO2	WC72007G	180	20		3.60			J	
Br	WC850371	1000	4.0		4.00			K	
NO3	WC920206	180	20		3.60	CS 10/13/09		L	
OPO4	WC72007S	180	20		3.60			M	
SO4	WC72007U	3200	2.0		6.40			N	

CALIBRATION INTERMEDIATE STOCK PREP
(used for Calibration and LCS / MS)

Analyte	1000ppm Stock ID	Conc. mg/L	mLs Stock	Final Vol. mL	Final Conc. mg/L	Analyst	Date Prepped	Lot ID	Exp. Date
F	WC92063G	1000	10	200	50	RP	10/28/09	A	1/26/10
Cl	WC72001E	1000	20		100			B	
NO2	WC72002F	1000	10		50			C	
Br	WC92063H	1000	10		50			D	
NO3	WC90001F	1000	10		50			E	
OPO4	WC72002P	1000	10		50			F	
SO4	WC72002U	1000	20		100			G	

ICV/CCV INTERMEDIATE STOCK PREP

Analyte	ICV/CCV Stock ID	Conc. mg/L	mLs Stock	Final Vol. mL	Final Conc. mg/L	Analyst	Date Prepped	Lot ID	Exp. Date
F	WC85284I	1000	4.0	1000	4.00	CS	10/9/09	H	11/26/10
Cl	WC72006E	650	10		6.50			I	
NO2	WC72007G	180	20		3.60			J	
Br	WC92085I	1000	4.0		4.00			K	
NO3	WC90006G	180	20		3.60			L	
OPO4	WC72007S	180	20		3.60			M	
SO4	WC72007U	3200	2.0		6.40			N	

CALIBRATION STANDARDS PREP

(Stocks delivered using Volumetric glassware and brought to volume with DI. Expire after 7 days.)

Std #	mLs Intermediate Stock	Final Vol. mLs	F	Cl	NO2	Br	NO3	OPO4	SO4
			Final Std Conc. (mg/L)						
9	10.0	100	5.0	10.0	5.0	5.0	5.0	5.0	10.0
8	8.0	100	4.0	8.0	4.0	4.0	4.0	4.0	8.0
7	5.0	100	2.5	5.0	2.5	2.5	2.5	2.5	5.0
6	2.0	100	1.0	2.0	1.0	1.0	1.0	1.0	2.0
5	1.0	100	0.5	1.0	0.50	0.50	0.50	0.50	1.0
4	0.5	100	0.25	0.50	0.25	0.25	0.25	0.25	0.50
3	0.2	100	0.10	0.20	0.10	0.10	0.10	0.10	0.20
2	0.1	100	0.05	0.10	0.05	0.05	0.05	0.05	0.10
1	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Calibration Intermediate Stock ID	Analyst/ Date Prepped	Lot ID	Exp. Date	Matrix H2SO4 / NaOH / DI	H2SO4 / NaOH Lot #
WC9401IA	RP / 10/7/09	A	10/8/09	H_2SO_4	WC85294I
WC9401IB	RP/10/09/09	B	10/14/09	DI	
WC9400IIB	RP 10/22/09	C	10/29/09	DI	
		D			
		D			
		F			
		G			
		H			
		I			
		J			
		K			
		L			
		M			
		N			
		O			
		P			
		Q			

ICV / CCV PREP

(A 1:2 dilution of the Reference Intermediate Stock is done daily)

Analyte	ICV / CCV Intermediate Stock ID	Conc. mg/L	mLs Stock	Final Vol. mL	Final Conc. mg/L	Analyst/ Date Prepped	Lot ID	Exp. Date CS 10/16/09	Matrix H2SO4 / NaOH / DI	H2SO4 / NaOH Lot #
F	WC9902A	4.00	5.0	10	2.00	RP 10/10/09	A	10/18/09	DI	
Cl		6.50			3.25	RP 10/12/09	B	10/19/09	DI	
NO2		3.60			1.80	RP 10/15/09	C	10/20/09	DI	
Br		4.00			2.00	CS 10/16/09	D	10/21/09	DI	
NO3		3.60			1.80	CS 10/15/09	E	10/22/09	DI	
OPO4		3.60			1.80	CS 10/16/09	F	10/23/09	DI	
SO4		6.40			3.20	CS 10/19/09	G	10/26/09	DI	
						RP 10/20/09	H	10/20/09	DI	
						RP 10/21/09	I	10/21/09	DI	
						RP 10/22/09	J	10/22/09	DI	
						RP 10/23/09	K	10/23/09	DI	
						RP 10/26/09	L	10/26/09	DI	
						RP 10/27/09	M	10/27/09	DI	
							N			
							O			
							P			
							Q			

LCS PREP

(Stocks delivered using Volumetric glassware and brought to volume with DI. LCS expires after 7 days; if NO2 is needed, LCS must be prepared daily.)

(MS prepared fresh daily using same volume of intermediate stock added to 100mls sample. MS not prepared volumetrically.)

Analyte	Calibration Intermediate Stock ID	Intermediate Stock Conc (mg/L)	mLs Intermediate Stock	Final Vol. mLs	Final Conc. (mg/L)	Analyst/ Date Prepped	Lot ID	Exp. Date	Matrix H2SO4 / NaOH / DI	H2SO4 / NaOH Lot #
F	WC9408	50	2.0	100	1.0	RP 10/6/09	A	10/13/09	DI	
Cl	011B	100			2.0	RP 10/7/09	B	10/14/09	DI	
NO2		50			1.0	RP 10/8/09	C	10/15/09	DI	
Br		50			1.0	RP 10/9/09	D	10/16/09	DI	
NO3		50			1.0	RP 10/10/09	E	10/17/09	DI	
OPO4		50			1.0	RP 10/12/09	F	10/19/09	DI	
SO4		100			2.0	RP 10/13/09	G	10/20/09	DI	
						CS 10/14/09	H	10/21/09	DI	
						CS 10/15/09	I	10/22/09	DI	
						CS 10/16/09	J	10/23/09	DI	
						CS 10/19/09	K	10/26/09	DI	
						RP 10/20/09	L	10/27/09	DI	
						RP 10/21/09	M	10/28/09	DI	
						RP 10/22/09	N	10/29/09	DI	
						RP 10/23/09	O	10/30/09	DI	
						RP 10/26/09	P	11/2/09	DI	
						RP 10/27/09	Q	11/3/09	DI	
							R			

0052

Analytical Results Summary

Instrument Name: R-IC-06 **Analyst:** CWOODS **Analysis Lot:** 178208 **Method/Testcode:** 300.0/Br

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
2Q0911054-05	Bromide	MB		Water	0.00 mg/L	10 mL	0.10 mg/L U	1	0.10			11/5/09 11:16:23	N	I
2Q0911054-05	Chloride	MB		Water	0.00 mg/L	10 mL	0.20 mg/L U	1	0.20			11/5/09 11:16:23	N	I
2Q0911054-05	Sulfate	MB		Water	0.00 mg/L	10 mL	0.20 mg/L U	1	0.20			11/5/09 11:16:23	N	I
2Q0911054-06	Bromide	LCS		Water	1.01 mg/L	10 mL	1.01 mg/L	1	0.10	101		11/5/09 11:32:08	N	I
2Q0911054-06	Chloride	LCS		Water	1.88 mg/L	10 mL	1.88 mg/L	1	0.20	94		11/5/09 11:32:08	N	I
2Q0911054-06	Sulfate	LCS		Water	2.01 mg/L	10 mL	2.01 mg/L	1	0.20	101		11/5/09 11:32:08	N	I
20905976-012	Bromide	N/A		Water	64.71 mg/L	10 mL	64.7 mg/L	40	4.0			11/5/09 13:32:34	N	I
20906270-001	Chloride	N/A		Water	582.52 mg/L	10 mL	583 mg/L	100	20			11/5/09 14:04:06	N	IV
20906270-001	Sulfate	N/A		Water	2275.25 mg/L	10 mL	2280 mg/L	400	80			11/5/09 14:19:53	N	IV
2Q0911054-01	Sulfate	DUP	R0906270-001	Water	2284.56 mg/L	10 mL	2280 mg/L	400	80		<1	11/5/09 14:35:39	N	IV
2Q0911054-02	Sulfate	MS	R0906270-001	Water	2873.00 mg/L	10 mL	2870 mg/L	400	80	75		11/5/09 14:51:27	N	IV
20906270-002	Chloride	N/A		Water	572.24 mg/L	10 mL	572 mg/L	100	20			11/5/09 15:38:47	N	IV
20906270-002	Sulfate	N/A		Water	2264.71 mg/L	10 mL	2260 mg/L	400	80			11/5/09 15:54:33	N	IV
2Q0911054-03	Sulfate	DUP	R0906270-002	Water	2259.02 mg/L	10 mL	2260 mg/L	400	80		<1	11/5/09 16:10:20	N	IV
2Q0911054-04	Sulfate	MS	R0906270-002	Water	2596.64 mg/L	10 mL	2600 mg/L	400	80	41*		11/5/09 16:26:05	N	IV

0167

I indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

Printed 11/6/09 13:31

Line	Sample	Sample Type	Level	Method	Data File	Dilution	Comment
1	CCV	Sample		6-102609.met	1105_001.dxd	1	
2	CCB	Sample		6-102609.met	1105_002.dxd	1	
3	LCS	Sample		6-102609.met	1105_003.dxd	1	
4	R0906024-006	Sample		6-102609.met	1105_004.dxd	4	N (9056 EXT)
5	R0905976-009	Sample		6-102609.met	1105_005.dxd	40	B (300.0)
6	R0905976-009	Sample		6-102609.met	1105_006.dxd	100	B (300.0)
7	R0905976-012	Sample		6-102609.met	1105_007.dxd	40	B (300.0)
8	R0905976-012	Sample		6-102609.met	1105_008.dxd	100	B (300.0)
9	R0906270-001	Sample		6-102609.met	1105_009.dxd	100	C (9056)
10	R0906270-001	Sample		6-102609.met	1105_010.dxd	400	S (9056)
11	R0906270-001 DUP	Sample		6-102609.met	1105_011.dxd	400	S (9056)
12	R0906270-001 SPK	Sample		6-102609.met	1105_012.dxd	400	S (9056)
13	CCV	Sample		6-102609.met	1105_013.dxd	1	9056/300.0
14	CCB	Sample		6-102609.met	1105_014.dxd	1	9056/300.0
15	R0906270-002	Sample		6-102609.met	1105_015.dxd	100	C (9056)
16	R0906270-002	Sample		6-102609.met	1105_016.dxd	400	S (9056)
17	R0906270-002 DUP	Sample		6-102609.met	1105_017.dxd	400	S (9056)
18	R0906270-002 SPK	Sample		6-102609.met	1105_018.dxd	400	S (9056)
19	MB 10788-01	Sample		6-102609.met	1105_019.dxd	1	S (9056 SPLP)
20	R0906056-001	Sample		6-102609.met	1105_020.dxd	10	C (9056 SPLP)
21	R0906056-001	Sample		6-102609.met	1105_021.dxd	100	S (9056 SPLP)
22	R0906056-003	Sample		6-102609.met	1105_022.dxd	10	C (9056 SPLP)
23	R0906056-003	Sample		6-102609.met	1105_023.dxd	4	S (9056 SPLP)
24	R0906056-005	Sample		6-102609.met	1105_024.dxd	10	S (9056 SPLP)
25	CCV	Sample		6-102609.met	1105_025.dxd	1	9056/300.0
26	CCB	Sample		6-102609.met	1105_026.dxd	1	9056/300.0
27	LCS	Sample		6-102609.met	1105_027.dxd	1	9056/300.0
28	R0906056-007	Sample		6-102609.met	1105_028.dxd	100	S (9056 SPLP)
29	R0906056-012	Sample		6-102609.met	1105_029.dxd	10	S (9056 SPLP)
30	BLK1029A	Sample		6-102609.met	1105_030.dxd	1	%CL (9056)
31	LHAL1029A	Sample		6-102609.met	1105_031.dxd	1	%CL (9056)
32	LNAQ1029A	Sample		6-102609.met	1105_032.dxd	40	BTU (9056)
33	LCL1029A	Sample		6-102609.met	1105_033.dxd	100	%CL (9056)
34	R0905958-002A	Sample		6-102609.met	1105_034.dxd	1	%CL,BTU (9056)
35	R0905958-002A DUP AT IC	Sample		6-102609.met	1105_035.dxd	1	%CL,BTU (9056)
36	R0905958-002A SPK AT IC	Sample		6-102609.met	1105_036.dxd	1	%CL,BTU (9056)
37	CCV	Sample		6-102609.met	1105_037.dxd	1	9056/300.0
38	CCB	Sample		6-102609.met	1105_038.dxd	1	9056/300.0
39	R0905958-005A	Sample		6-102609.met	1105_039.dxd	400	%CL (9056)
40	R0905958-005A	Sample		6-102609.met	1105_040.dxd	40	BTU (9056)
41	R0905958-006A	Sample		6-102609.met	1105_041.dxd	1	%CL,BTU (9056)
42	R0905958-007A	Sample		6-102609.met	1105_042.dxd	1	%CL,BTU (9056)
43	R0905958-008A	Sample		6-102609.met	1105_043.dxd	400	%CL (9056)
44	R0905958-008B	Sample		6-102609.met	1105_044.dxd	400	%CL (9056)
45	R0905958-008A SPK	Sample		6-102609.met	1105_045.dxd	400	%CL (9056)
46	R0905958-008A	Sample		6-102609.met	1105_046.dxd	40	BTU (9056)
47	R0905958-008B	Sample		6-102609.met	1105_047.dxd	40	BTU (9056)
48	R0905958-008A SPK	Sample		6-102609.met	1105_048.dxd	40	BTU (9056)
49	CCV	Sample		6-102609.met	1105_049.dxd	1	9056/300.0
50	CCB	Sample		6-102609.met	1105_050.dxd	1	9056/300.0
51	LCS	Sample		6-102609.met	1105_051.dxd	1	9056/300.0
52	R0905958-009A	Sample		6-102609.met	1105_052.dxd	1	%CL,BTU (9056)
53	R0905958-010A	Sample		6-102609.met	1105_053.dxd	1	%CL,BTU (9056)
54	R0905958-011A	Sample		6-102609.met	1105_054.dxd	1	%CL,BTU (9056)
55	BLK1102C	Sample		6-102609.met	1105_055.dxd	1	%CL (9506)
56	LHAL1102A	Sample		6-102609.met	1105_056.dxd	1	%CL (9506)
57	LCL1102A	Sample		6-102609.met	1105_057.dxd	1	%CL (9506)
58	LNAQ1102B	Sample		6-102609.met	1105_058.dxd	1	BTU (9506)
59	R0906025-003A	Sample		6-102609.met	1105_059.dxd	1	%CL, %F,%BR,BTU (9056)
60	R0906025-003B	Sample		6-102609.met	1105_060.dxd	1	%CL, %F,%BR,BTU (9056)
61	CCV	Sample		6-102609.met	1105_061.dxd	1	9056/300.0
62	CCB	Sample		6-102609.met	1105_062.dxd	1	9056/300.0
63	R0906025-003A SPK	Sample		6-102609.met	1105_063.dxd	1	%CL, %F,%BR,BTU (9056)
64	R0906026-009A	Sample		6-102609.met	1105_064.dxd	1	%CL, %F,%BR,BTU (9056)
65	R0906026-010A	Sample		6-102609.met	1105_065.dxd	1	%CL, %F,%BR,BTU (9056)
66	R0906026-011A	Sample		6-102609.met	1105_066.dxd	1	%CL, %F,%BR,BTU (9056)

~~10~~ 11-5-09 #6

Analyst: R. Paul
pipets: Lucy
Mine

R6101
R6024
R6270
R6056
4 pass

Reviewed & Approved
By: CK
Date: 11/11/09

PeakNet 5.2

11/6/09 12:55:31 PM

01071

Line	Sample	Sample Type	Level	Method	Data File	Dilution	Comment
67	R0906026-012A	Sample		6-102609.met	1105_067.dxd	1	%CL, %F,%BR,BTU (9056)
68	R0906026-013A	Sample		6-102609.met	1105_068.dxd	1	%CL, %F,%BR,BTU (9056)
69	BLK1103C	Sample		6-102609.met	1105_069.dxd	1	%CL,TH:CL (9056)
70	LHAL1103A	Sample		6-102609.met	1105_070.dxd	1	TH:CL (9056)
71	LNAQ1103A	Sample		6-102609.met	1105_071.dxd	1	BTU (9056)
72	LCL1103A	Sample		6-102609.met	1105_072.dxd	1	%CL (9056)
73	CCV	Sample		6-102609.met	1105_073.dxd	1	9056/300.0
74	CCB	Sample		6-102609.met	1105_074.dxd	1	9056/300.0
75	LCS	Sample		6-102609.met	1105_075.dxd	1	9056/300.0
76	R0906082-001A	Sample		6-102609.met	1105_076.dxd	40	BTU (9056)
77	R0906082-001B	Sample		6-102609.met	1105_077.dxd	40	BTU (9056)
78	R0906082-001A SPK	Sample		6-102609.met	1105_078.dxd	40	BTU (9056)
79	R0906119-001B	Sample		6-102609.met	1105_079.dxd	40	BTU (9056)
80	R0906240-001A	Sample		6-102609.met	1105_080.dxd	1	%CL-LL (9056)
81	R0906240-001B	Sample		6-102609.met	1105_081.dxd	1	%CL-LL (9056)
82	R0906240-001A SPK	Sample		6-102609.met	1105_082.dxd	1	%CL-LL (9056)
83	R0906101-001A	Sample		6-102609.met	1105_083.dxd	1	TH, BTU, %CL (9056)
84	R0906101-002A	Sample		6-102609.met	1105_084.dxd	1	TH, BTU, %CL (9056)
85	CCV	Sample		6-102609.met	1105_085.dxd	1	9056/300.0
86	CCB	Sample		6-102609.met	1105_086.dxd	1	9056/300.0
87	R0906101-003A	Sample		6-102609.met	1105_087.dxd	1	TH, BTU, %CL (9056)
88	R0906101-003B	Sample		6-102609.met	1105_088.dxd	1	TH, BTU, %CL (9056)
89	R0906101-003A SPK	Sample		6-102609.met	1105_089.dxd	1	TH, BTU, %CL (9056)
90	CCV	Sample		6-102609.met	1105_090.dxd	1	9056/300.0
91	CCB	Sample		6-102609.met	1105_091.dxd	1	9056/300.0
92	END	Sample		j:\acqudata\ic\method.aci\ic#6\shutdown.met	1105	1	

Default Method Path: J:\ACQUDATA\IC\METHOD.ACI\IC#6\DI METHODS
Default Data Path: J:\ACQUDATA\IC\DATA\IC#6\110509
Comment:

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\1105_001.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 11:00:39 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment :

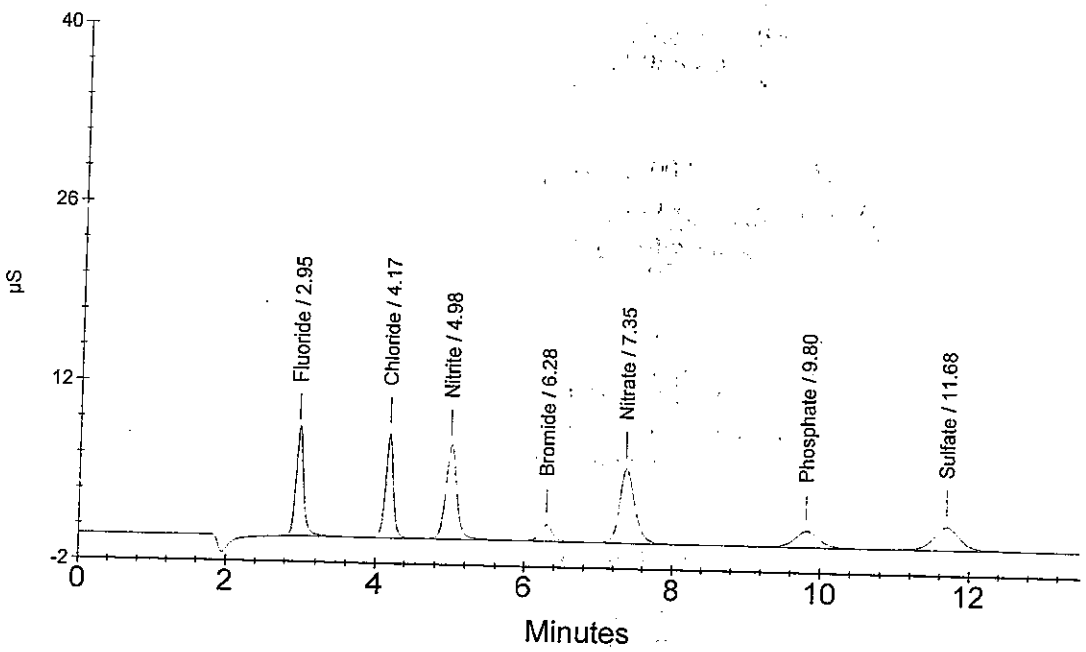
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.95	Fluoride	2.008	571103
2	4.17	Chloride	3.039	621926
3	4.98	Nitrite	1.837	743192
4	6.28	Bromide	2.033	153193
5	7.35	Nitrate	1.813	859120
6	9.80	Phosphate	1.834	290036
7	11.68	Sulfate	3.460	463004

11/6/09

CCV



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\1105_002.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 11:16:23 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

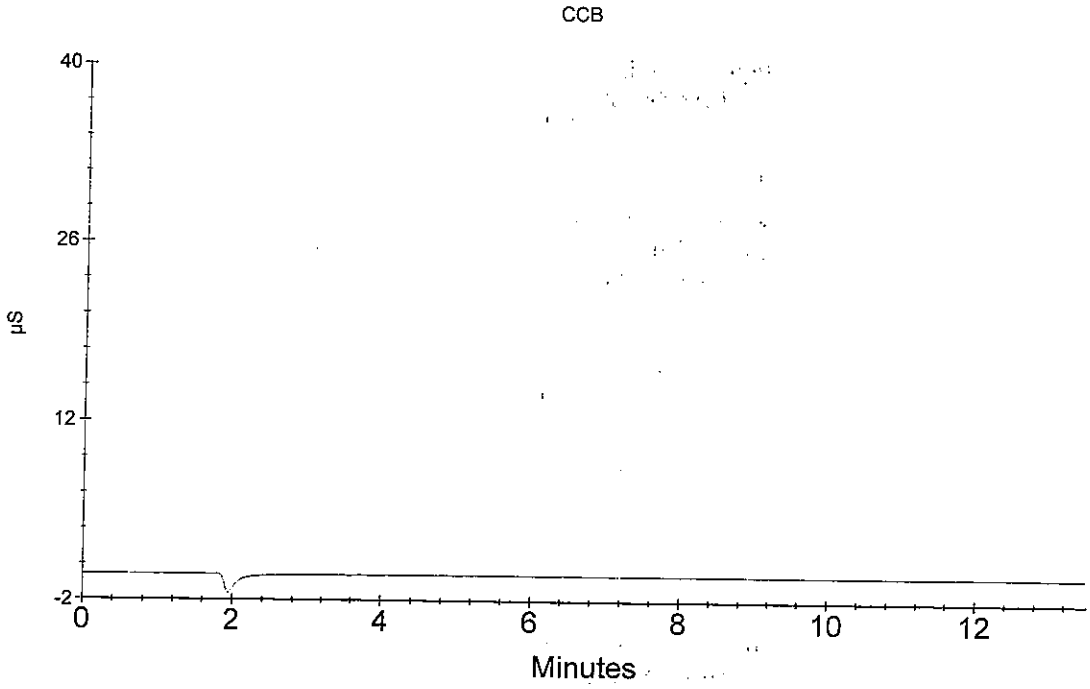
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment :

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area

OK
11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCS
Data File Name : ...\1105_003.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 11:32:08 AM

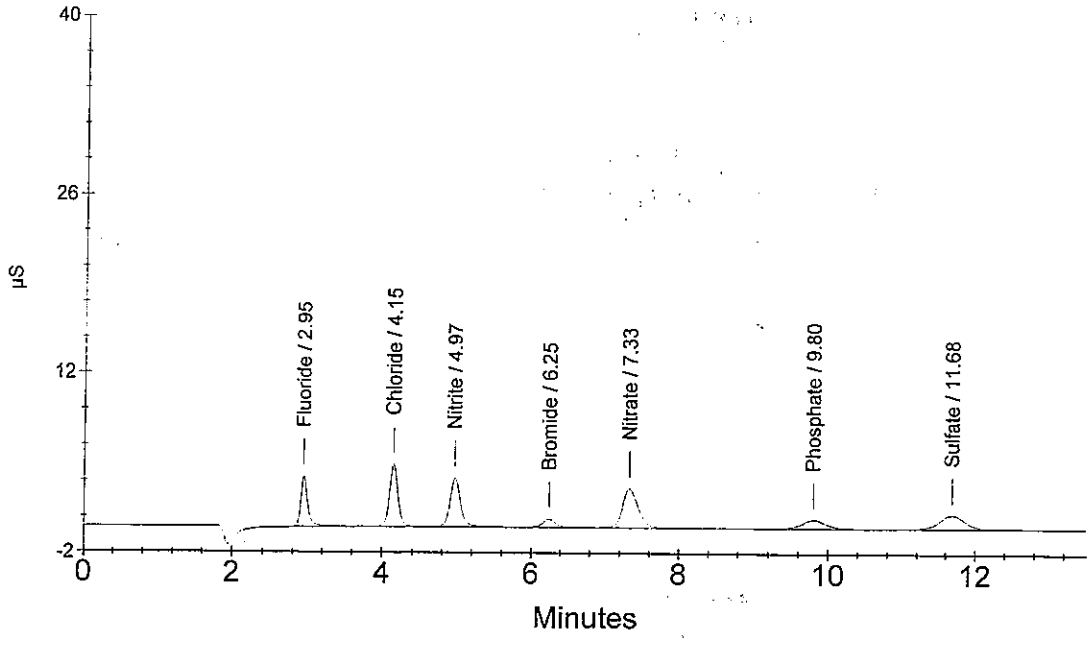
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment :

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.95	Fluoride	0.992	270636
2	4.15	Chloride	1.877	376213
3	4.97	Nitrite	0.973	382908
4	6.25	Bromide	1.005	75155
5	7.33	Nitrate	0.972	445245
6	9.80	Phosphate	0.999	154460
7	11.68	Sulfate	2.011	267067



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906024-006
Data File Name : ...\1105_004.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 12:45:16 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 4.00
Sample Type : Sample Analysis
Sample Comment : N (9056 EXT)

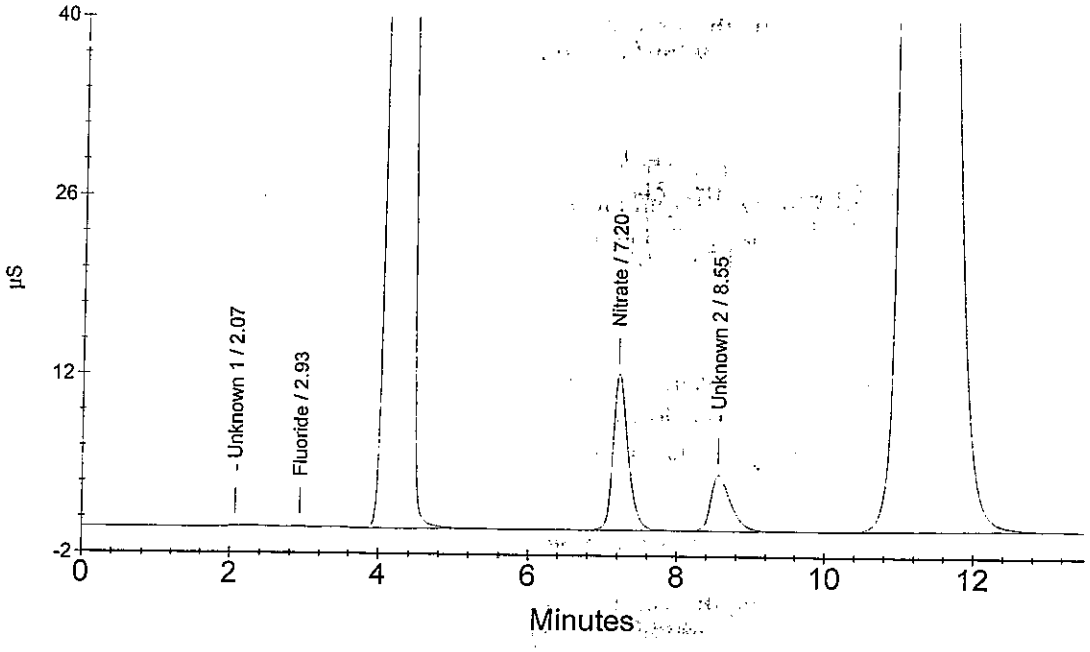
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	2.93	Fluoride	0.414	8241
3	4.37	Chloride	845.250	44657085
4	7.20	Nitrate	14.300	1726654
6	11.08	Sulfate	2081.974	70373632

ok
11/6/09

R0906024-006



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905976-009
Data File Name : ...\1105_005.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 1:01:04 PM

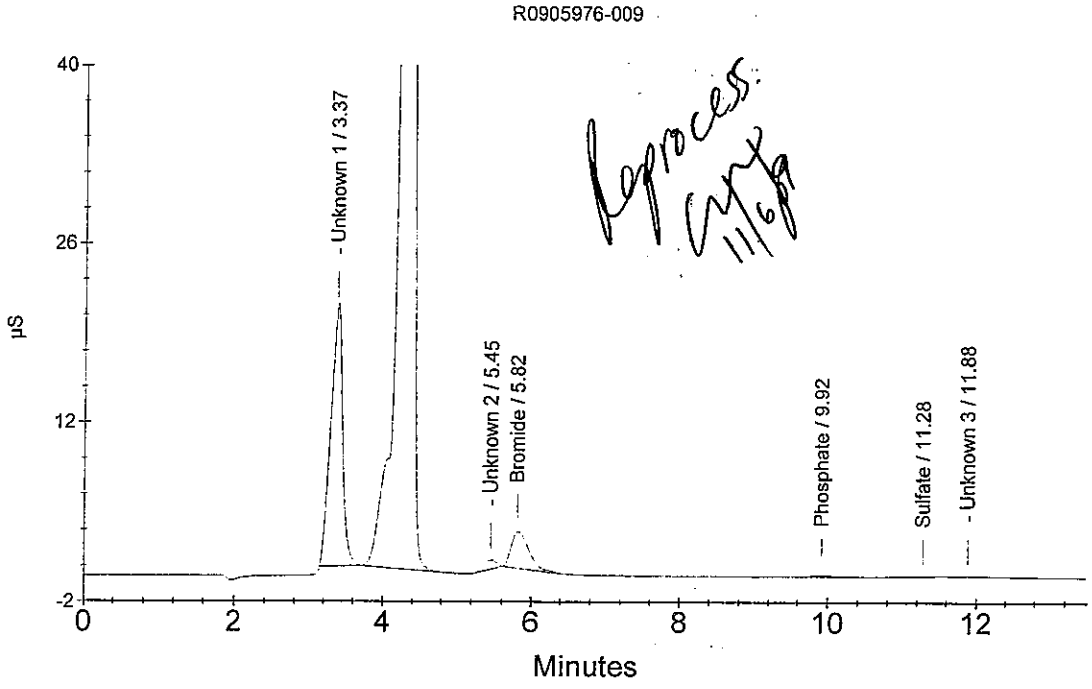
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 40.00
Sample Type : Sample Analysis
Sample Comment : B (300.0)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	4.33	Chloride	3476.140	18353373
4	5.82	Bromide	249.399	472357
5	9.92	Phosphate	8.356	26129
6	11.28	Sulfate	3.822	8124



Reprocess
11/6/09

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905976-009
Data File Name : ...\1105_005.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 1:01:04 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

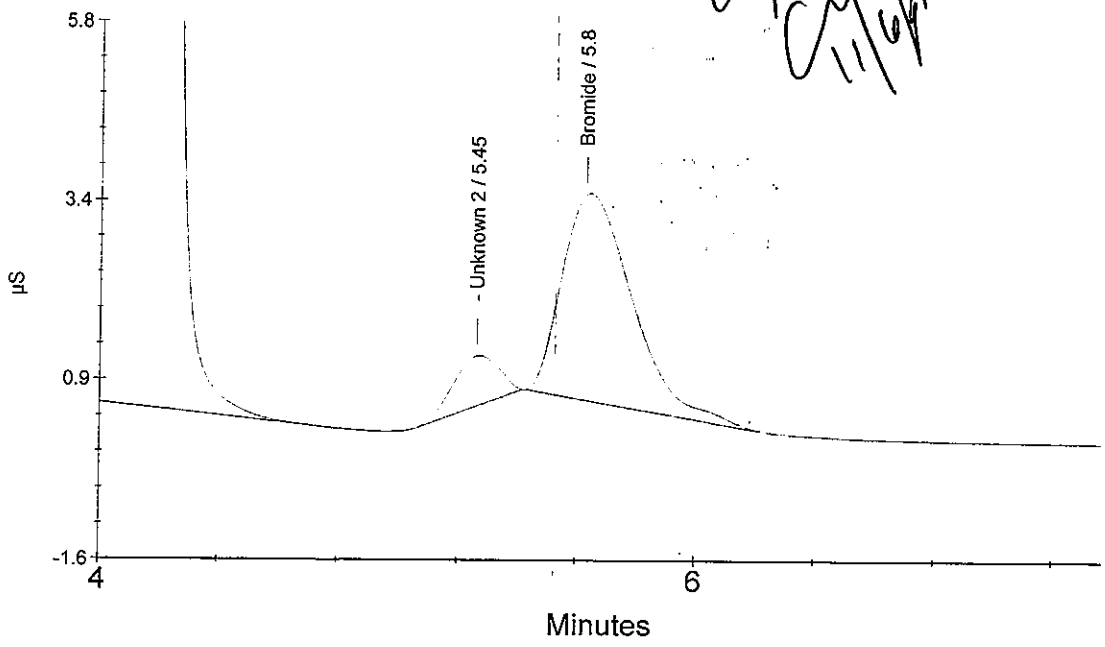
Dilution Factor : 40.00
Sample Type : Sample Analysis
Sample Comment : B (300.0)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	4.33	Chloride	3476.140	18353373
4	5.82	Bromide	249.399	472357
5	9.92	Phosphate	8.356	26129
6	11.28	Sulfate	3.822	8124

Expanded
11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905976-009
Data File Name : ...\1105_005.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 1:01:04 PM

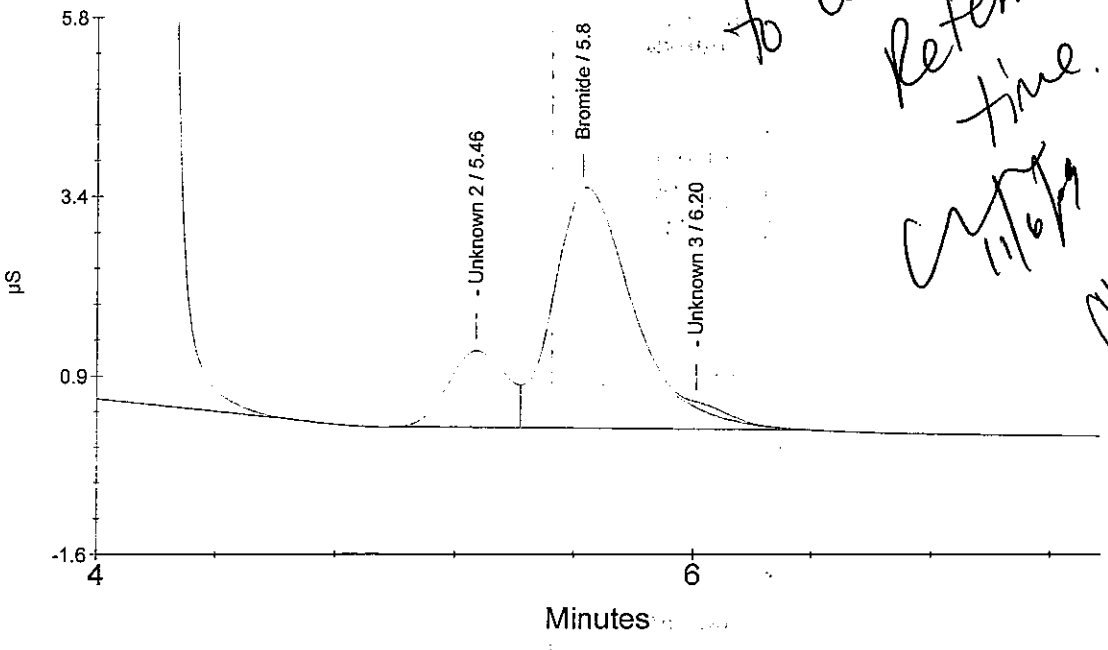
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 40.00
Sample Type : Sample Analysis
Sample Comment : B (300.0)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	4.33	Chloride	3476.140	18353373
4	5.82	Bromide	330.309	625976
6	9.92	Phosphate	8.356	26129
7	11.28	Sulfate	3.822	8124



Analyze w/ MS to confirm Br retention time.
11/6/09

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905976-009
Data File Name : ...\1105_006.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 1:16:48 PM

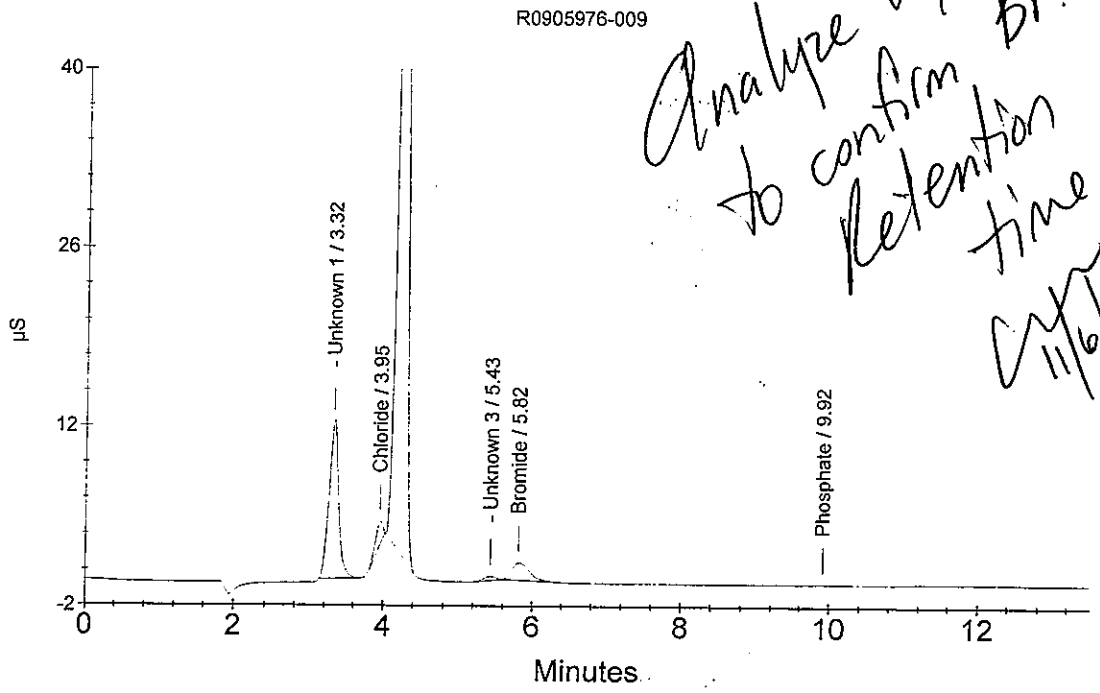
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 100.00
Sample Type : Sample Analysis
Sample Comment : B (300.0)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	3.95	Chloride	67.925	123048
5	5.82	Bromide	294.482	222479
6	9.92	Phosphate	11.011	10090



Analyze w/ IC to confirm Br. retention time.
11/6/09

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905976-012
Data File Name : ...\1105_007.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 1:32:34 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 40.00
Sample Type : Sample Analysis
Sample Comment : B (300.0)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

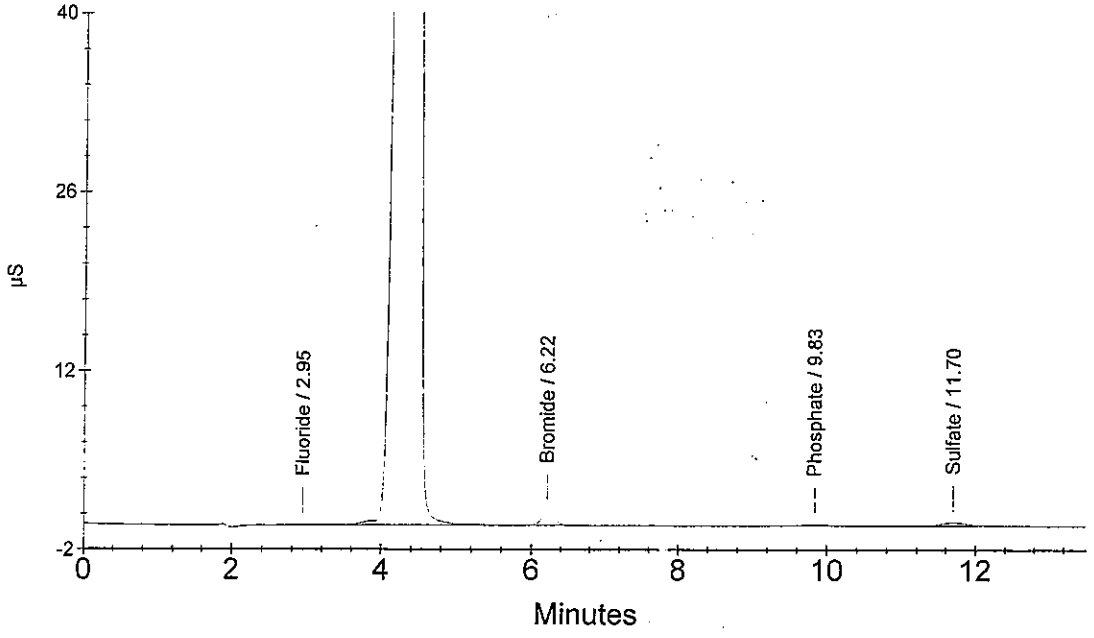
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.95	Fluoride	3.279	1873
2	4.45	Chloride	9343.270	49365447
3	6.22	Bromide	64.710	121694
4	9.83	Phosphate	5.254	13538
5	11.70	Sulfate	19.340	60582

OK

11/6/09

R0905976-012



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905976-012
Data File Name : ...\1105_008.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 1:48:20 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 100.00
Sample Type : Sample Analysis
Sample Comment : B (300.0)

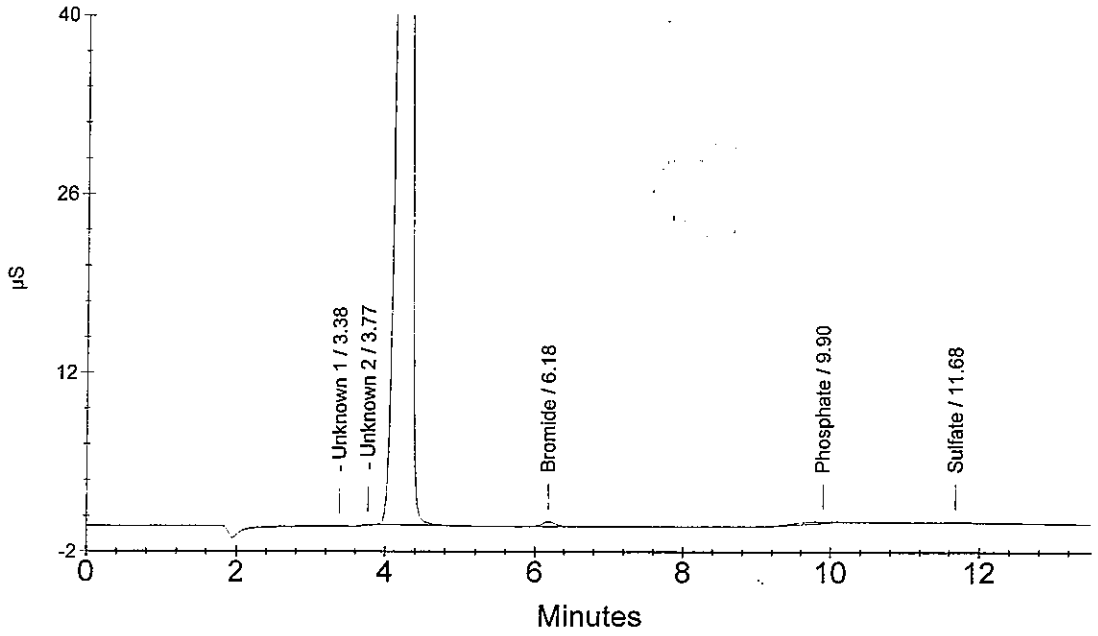
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
3	4.28	Chloride	8322.274	17575156
4	6.18	Bromide	60.208	44556
5	9.90	Phosphate	32.199	44489
6	11.68	Sulfate	20.021	22277

Report 1/40
11/6/09

R0905976-012



01082

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906270-001
Data File Name : ...\1105_009.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 2:04:06 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 100.00
Sample Type : Sample Analysis
Sample Comment : C (9056)

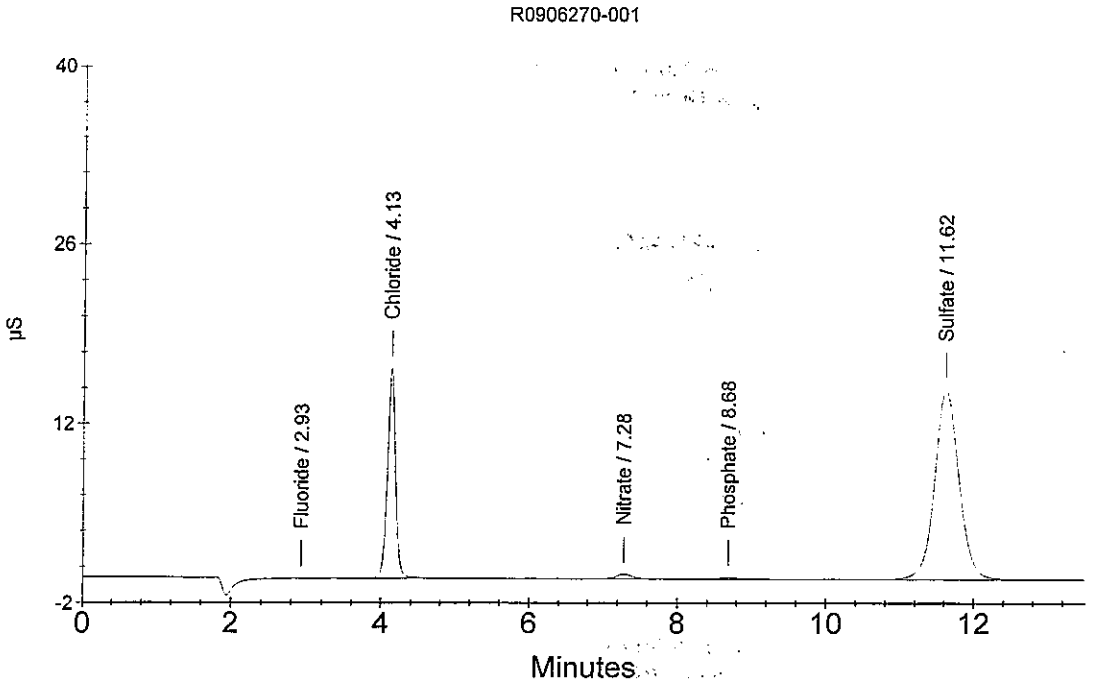
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	8.021	1350
2	4.13	Chloride	582.523	1211057
3	7.28	Nitrate	17.530	52922
4	8.68	Phosphate	18.990	23045
5	11.62	Sulfate	2541.053	3431085

ok

11/6



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906270-001
Data File Name : ...\1105_010.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 2:19:53 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 400.00
Sample Type : Sample Analysis
Sample Comment : S (9056)

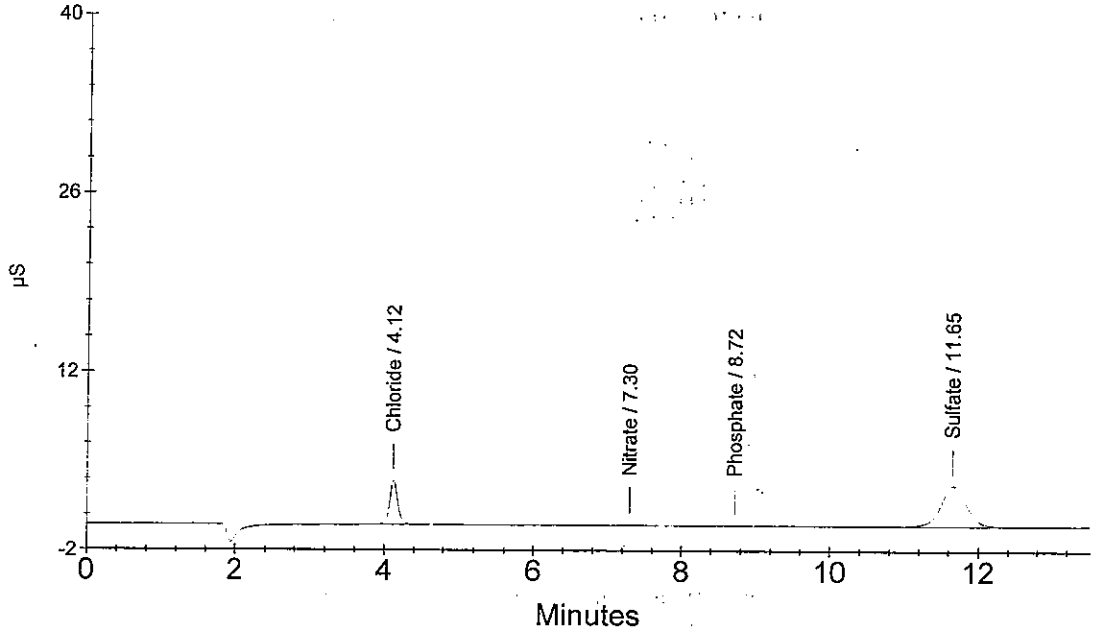
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.12	Chloride	534.583	262000
2	7.30	Nitrate	36.498	11540
3	8.72	Phosphate	30.552	4615
4	11.65	Sulfate	2275.254	764325

ok

11/6



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906270-001 DUP
Data File Name : ...\1105_011.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 2:35:39 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

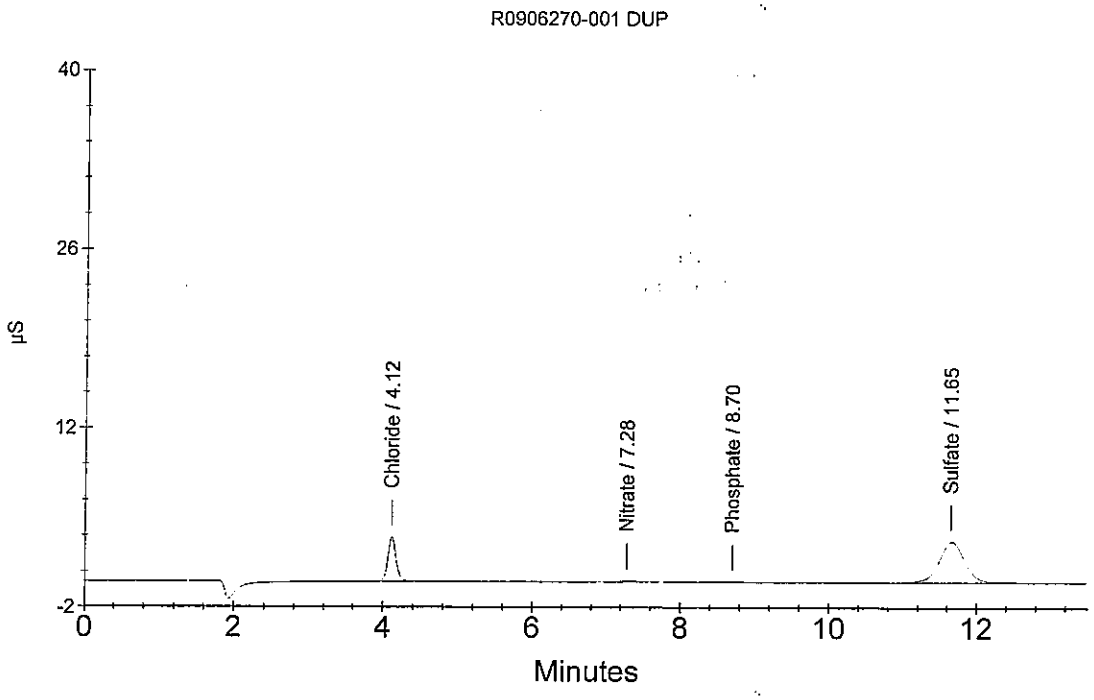
Dilution Factor : 400.00
Sample Type : Sample Analysis
Sample Comment : S (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.12	Chloride	536.256	262884
2	7.28	Nitrate	36.575	11634
3	8.70	Phosphate	30.778	4706
4	11.65	Sulfate	2284.555	767469

ok
11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906270-001 SPK
Data File Name : ...\1105_012.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 2:51:27 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 400.00
Sample Type : Sample Analysis
Sample Comment : S (9056)

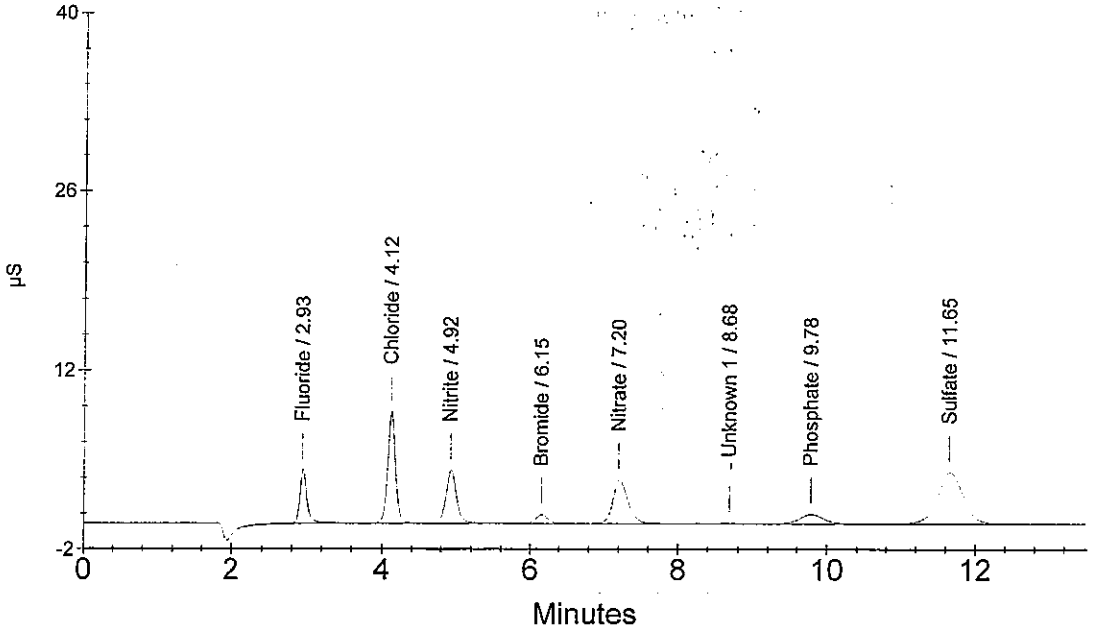
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	419.663	287653
2	4.12	Chloride	1281.132	656606
3	4.92	Nitrite	413.871	408494
4	6.15	Bromide	427.312	79962
5	7.20	Nitrate	423.947	488405
7	9.78	Phosphate	423.506	164104
8	11.65	Sulfate	2873.001	966386

OK
11/6/09

R0906270-001 SPK



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\1105_013.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 3:07:13 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

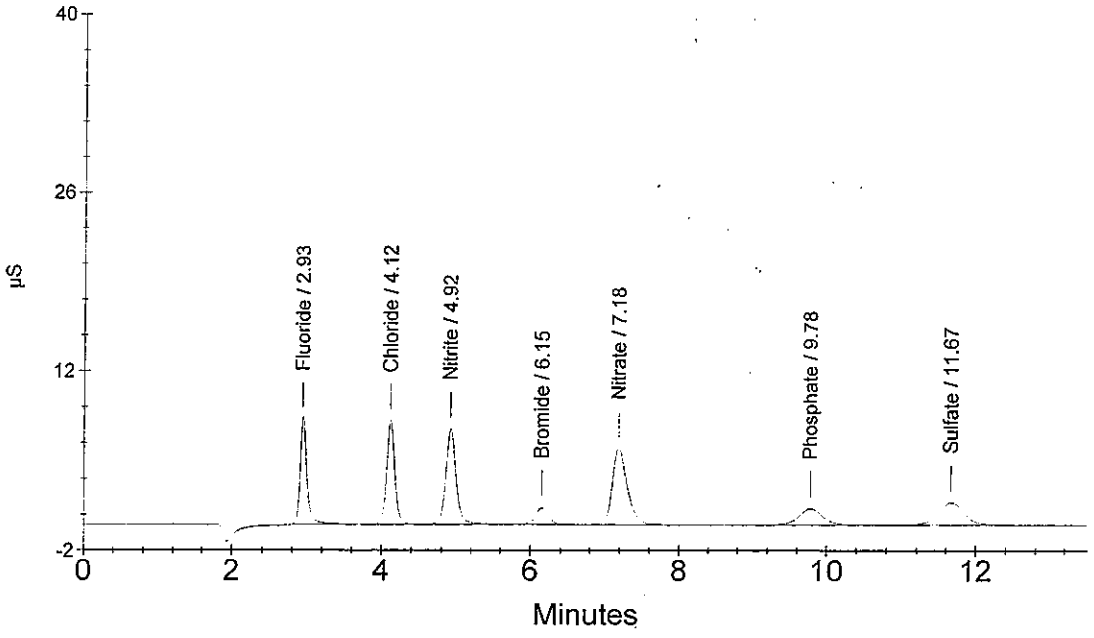
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	1.937	549974
2	4.12	Chloride	2.971	607553
3	4.92	Nitrite	1.800	727820
4	6.15	Bromide	2.000	150744
5	7.18	Nitrate	1.774	839763
6	9.78	Phosphate	1.806	285424
7	11.67	Sulfate	3.127	418033

ok

11/6/09

CCV



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\1105_014.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 3:23:00 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

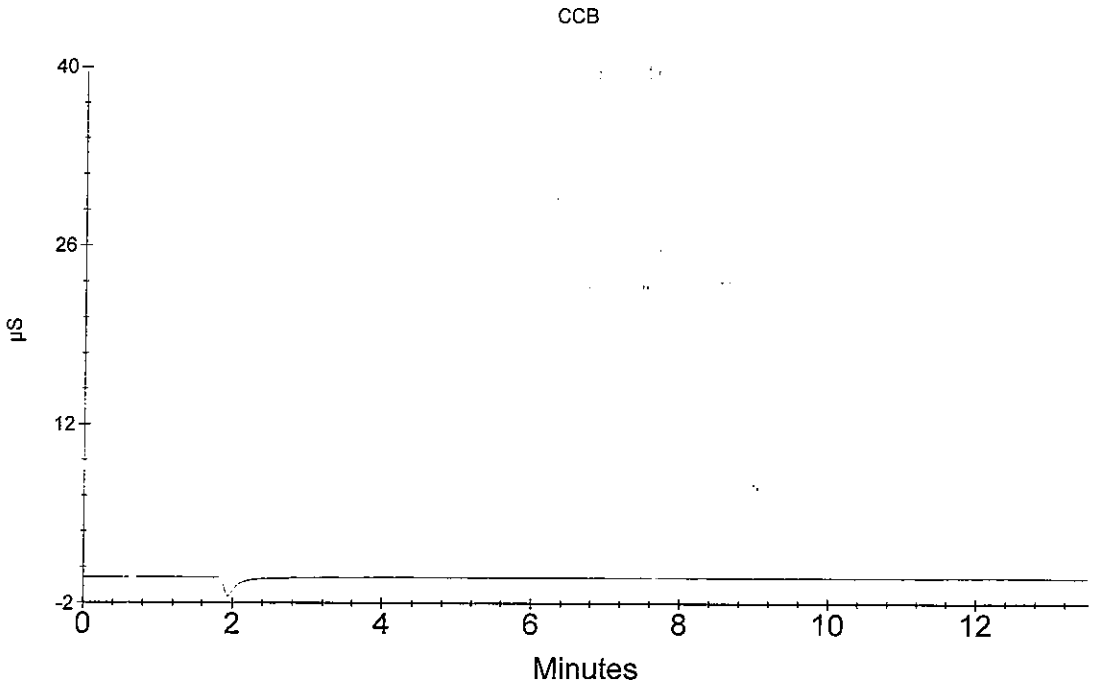
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area

OK
11/6



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906270-002
Data File Name : ...\1105_015.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 3:38:47 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 100.00
Sample Type : Sample Analysis
Sample Comment : C (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

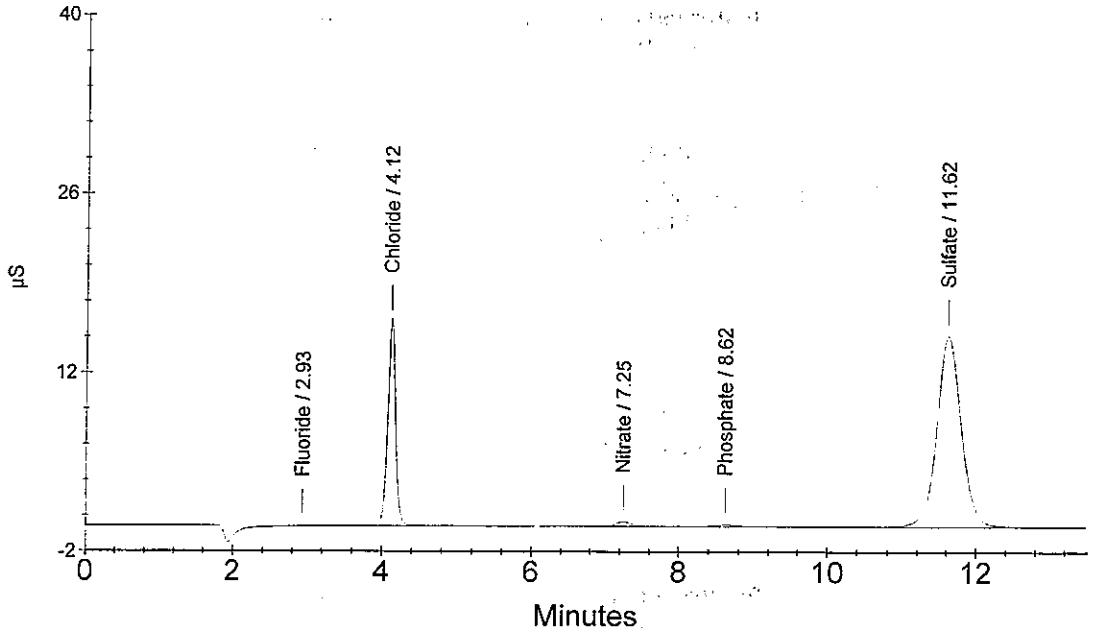
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	8.069	1491
2	4.12	Chloride	572.243	1189322
3	7.25	Nitrate	17.433	52443
4	8.62	Phosphate	19.590	24018
5	11.62	Sulfate	2545.534	3437145

OK

11/6/09

R0906270-002



01089

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906270-002
Data File Name : ...\1105_016.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 3:54:33 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 400.00
Sample Type : Sample Analysis
Sample Comment : S (9056)

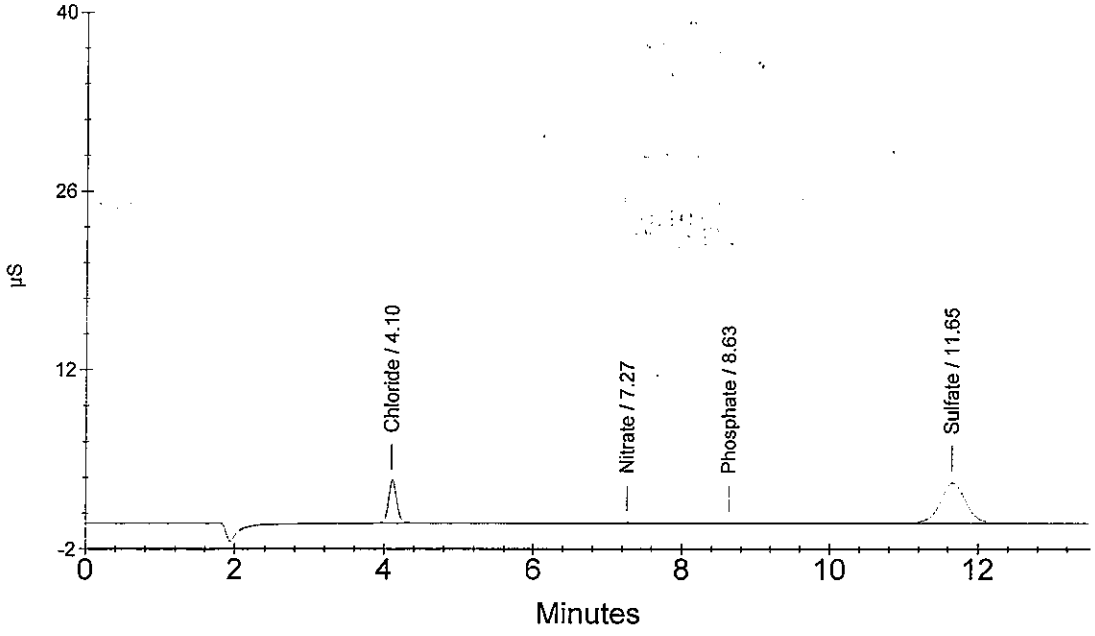
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.10	Chloride	526.823	257898
2	7.27	Nitrate	36.251	11235
3	8.63	Phosphate	30.108	4434
4	11.65	Sulfate	2264.710	760761

ok

11/6



01090

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906270-002 DUP
Data File Name : ...\1105_017.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 4:10:20 PM

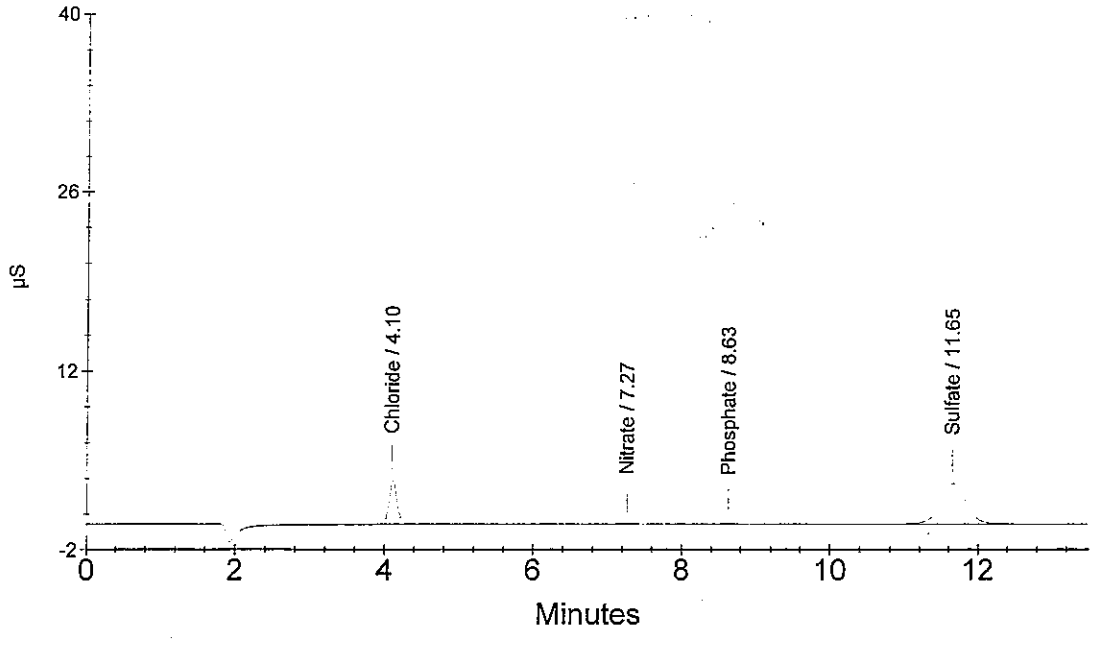
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 400.00
Sample Type : Sample Analysis
Sample Comment : S (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.10	Chloride	531.704	260478
2	7.27	Nitrate	36.355	11363
3	8.63	Phosphate	30.775	4705
4	11.65	Sulfate	2259.018	758837



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906270-002 SPK
Data File Name : ...\1105_018.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 4:26:05 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 400.00
Sample Type : Sample Analysis
Sample Comment : S (9056)

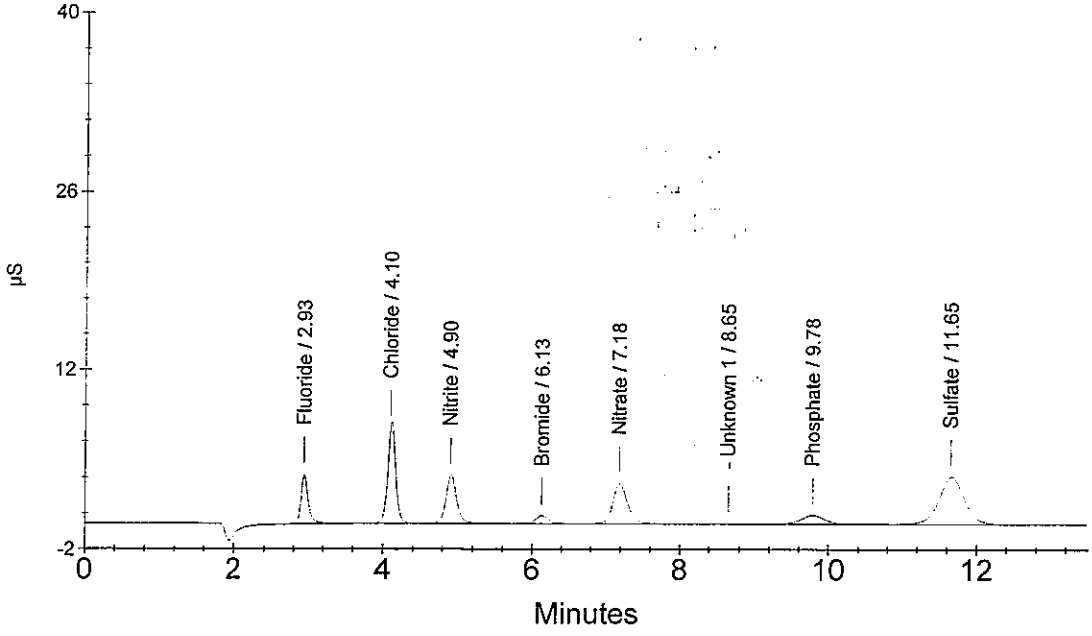
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	380.485	258713
2	4.10	Chloride	1152.410	588566
3	4.90	Nitrite	376.397	369402
4	6.13	Bromide	387.177	72342
5	7.18	Nitrate	382.336	437191
7	9.78	Phosphate	384.000	148070
8	11.65	Sulfate	2596.640	872966

OK
11/6/09

R0906270-002.SPK



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : MB 10788-01
Data File Name : ...\1105_019.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 4:41:52 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

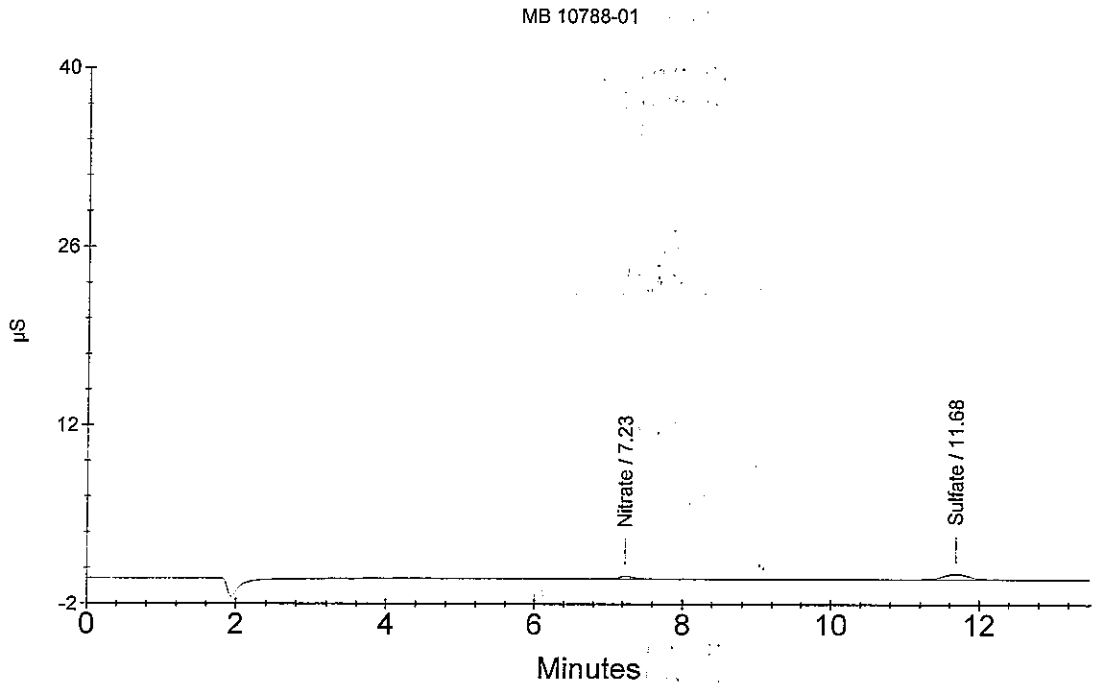
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : S (9056 SPLP)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
		Chloride			
1	7.23	Nitrate		0.124	27653
2	11.68	Sulfate	OK	0.783	101138

11/6/09



01093

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-001
Data File Name : ...\1105_020.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 4:57:39 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : C (9056 SPLP)

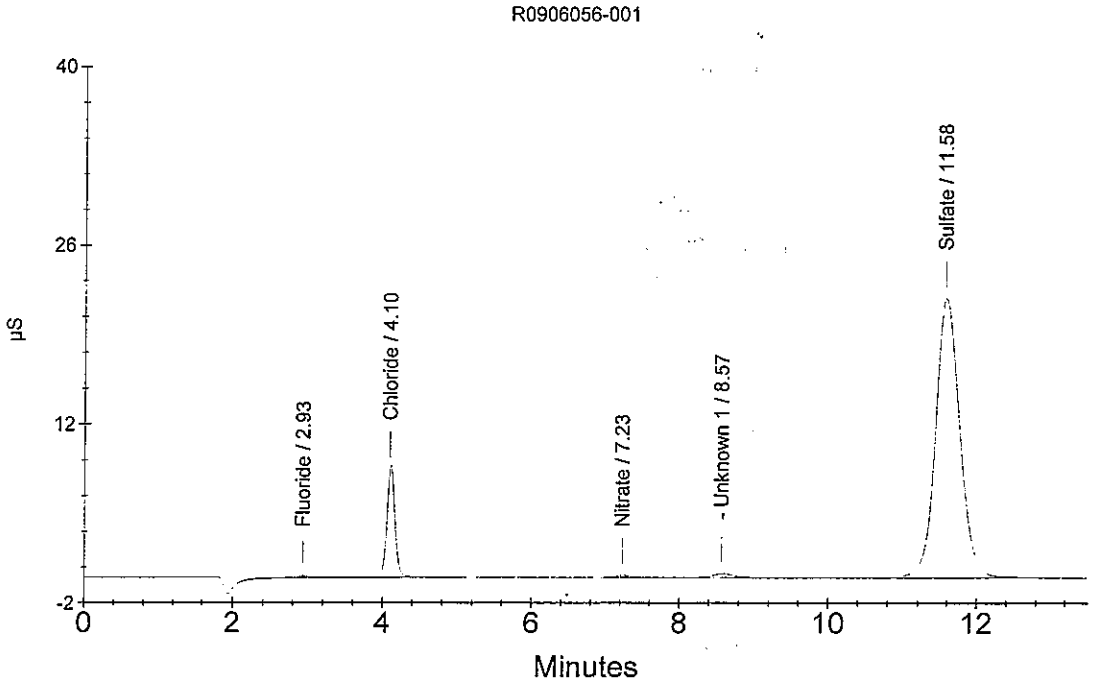
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	1.082	9612
2	4.10	Chloride	32.288	662104
3	7.23	Nitrate	1.127	22124
5	11.58	Sulfate	368.852	4982634

OK

11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-001
Data File Name : ...\1105_021.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 5:13:24 PM

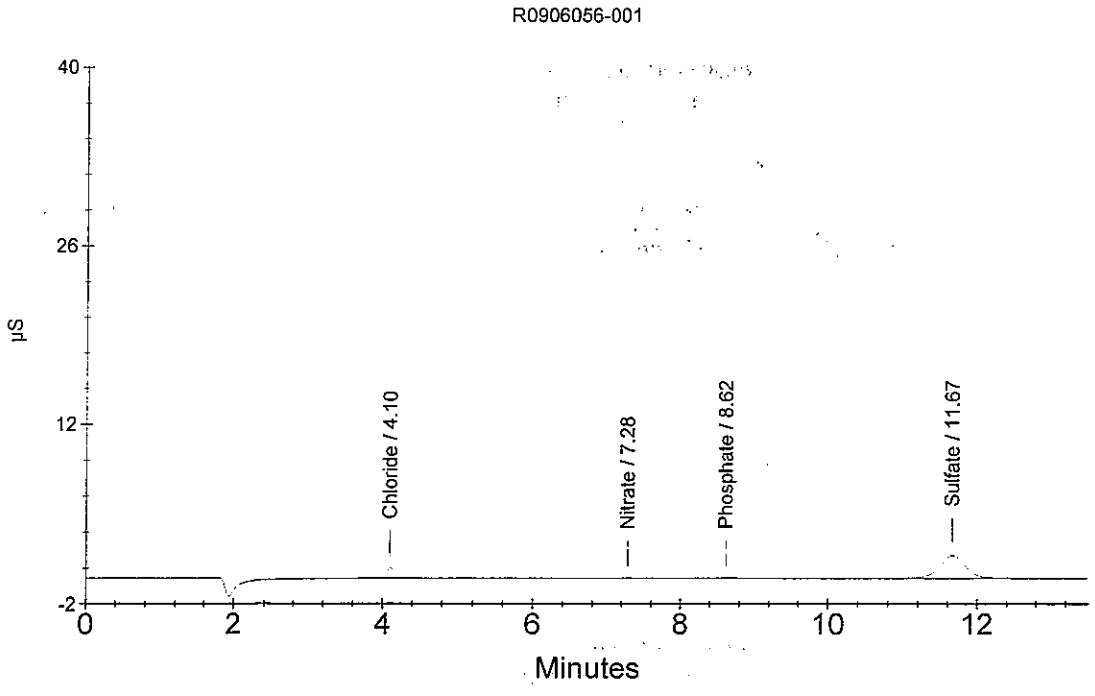
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 100.00
Sample Type : Sample Analysis
Sample Comment : S (9056 SPLP)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.10	Chloride	38.394	60609
2	7.28	Nitrate	7.278	2447
3	8.62	Phosphate	7.008	3592
4	11.67	Sulfate	316.720	423457



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-003
Data File Name : ...\1105_022.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 5:29:11 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : C (9056 SPLP)

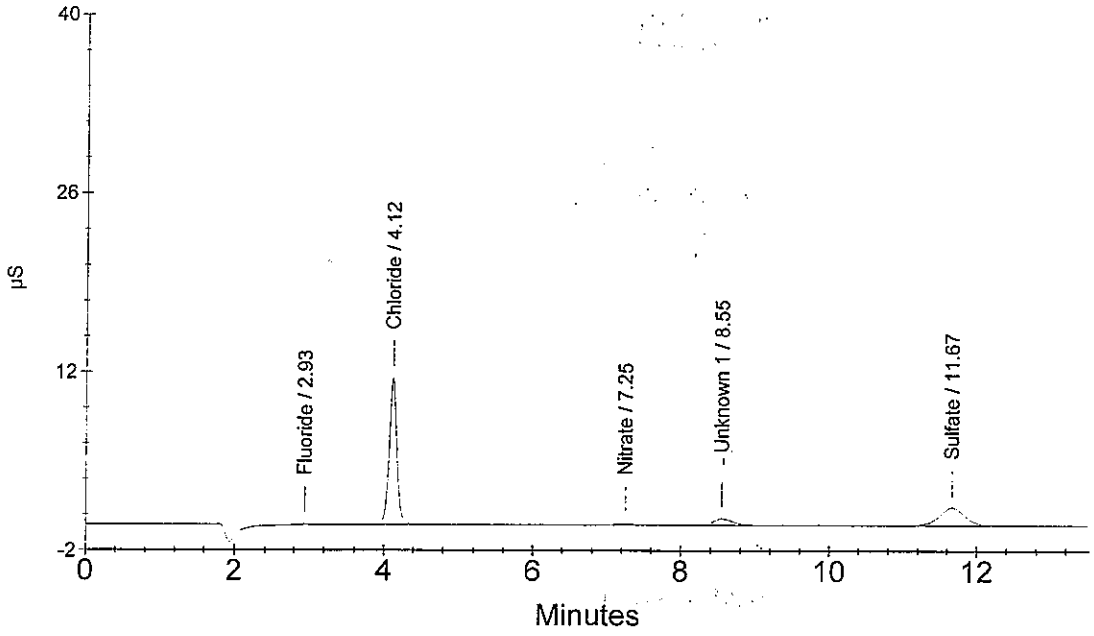
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	0.925	4989
2	4.12	Chloride	41.466	856147
3	7.25	Nitrate	0.974	14592
5	11.67	Sulfate	25.290	337162

11/6/09

R0906056-003



01096

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-003
Data File Name : ...\1105_023.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 5:44:57 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 4.00
Sample Type : Sample Analysis
Sample Comment : S (9056 SPLP)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

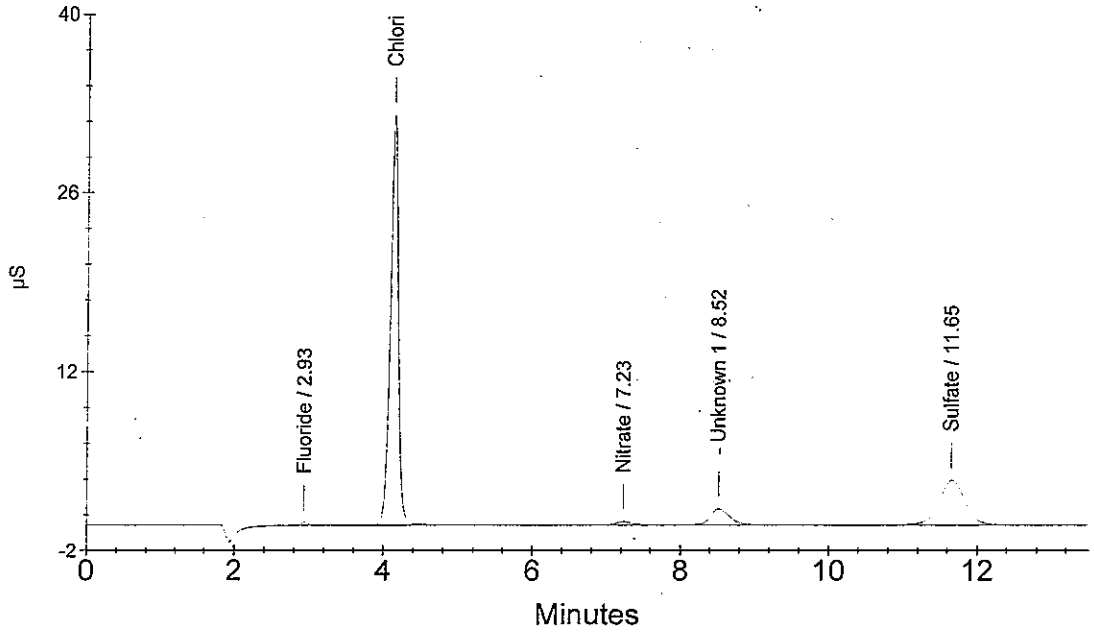
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	0.509	15212
2	4.13	Chloride	44.438	2328309
3	7.23	Nitrate	0.564	35989
5	11.65	Sulfate	24.809	833826

ok

11/6/9

R0906056-003



01097

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-005
Data File Name : ...\1105_024.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 6:00:43 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : S (9056 SPLP)

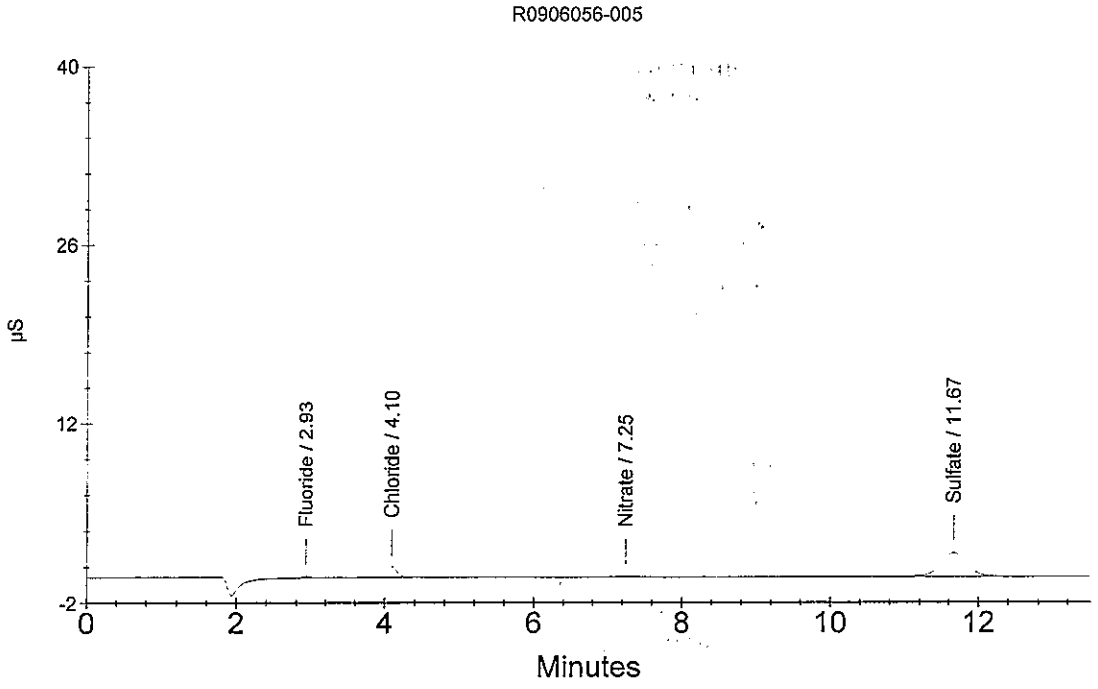
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	0.993	6976
2	4.10	Chloride	4.139	66945
3	7.25	Nitrate	0.811	6538
4	11.67	Sulfate	32.883	439832

ok

CYT 11/6/09



01098

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\1105_025.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 6:16:28 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

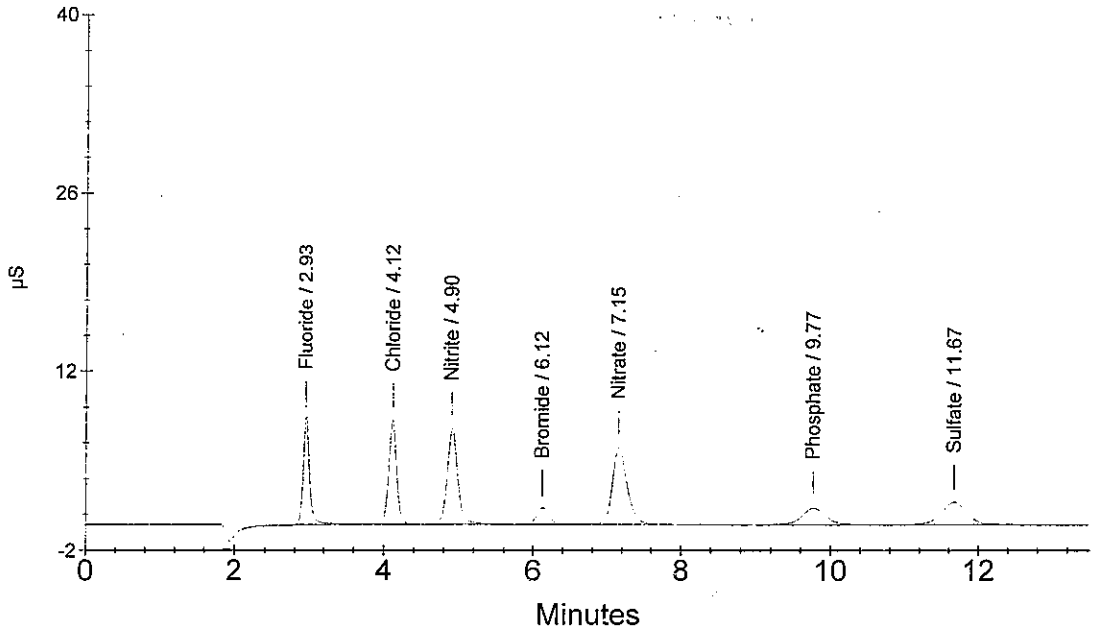
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	1.927	546953
2	4.12	Chloride	2.964	606090
3	4.90	Nitrite	1.797	726681
4	6.12	Bromide	1.987	149721
5	7.15	Nitrate	1.768	837217
6	9.77	Phosphate	1.791	282958
7	11.67	Sulfate	3.113	416193

11/6/09

CCV



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\1105_026.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 6:32:14 PM

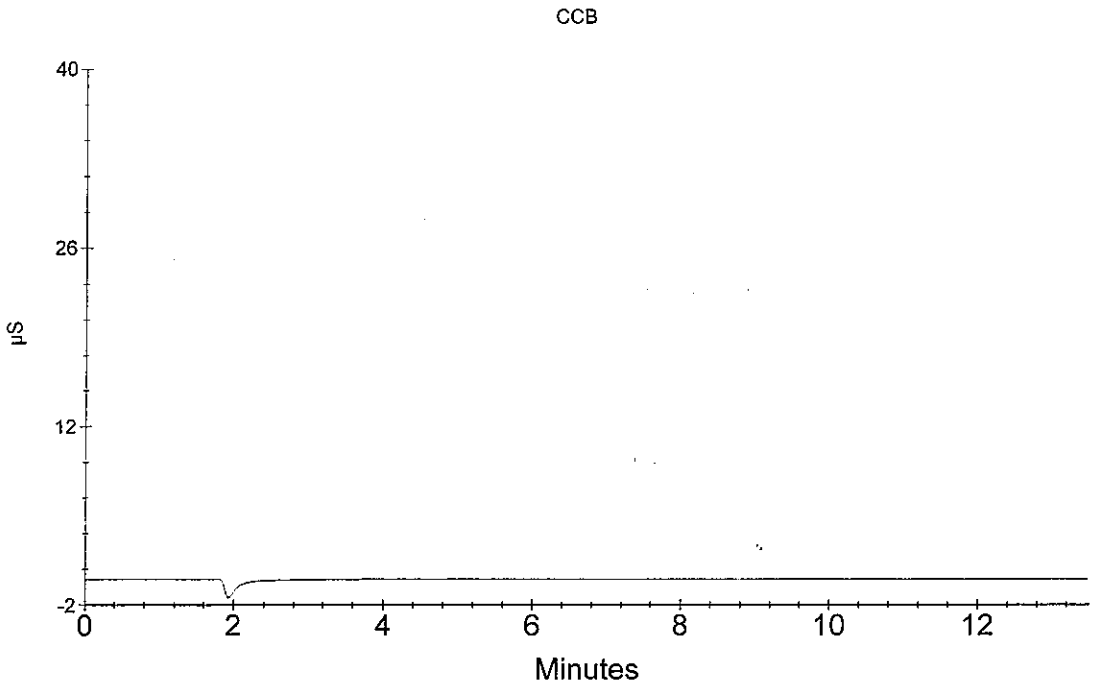
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCS
Data File Name : ...\1105_027.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 6:48:00 PM

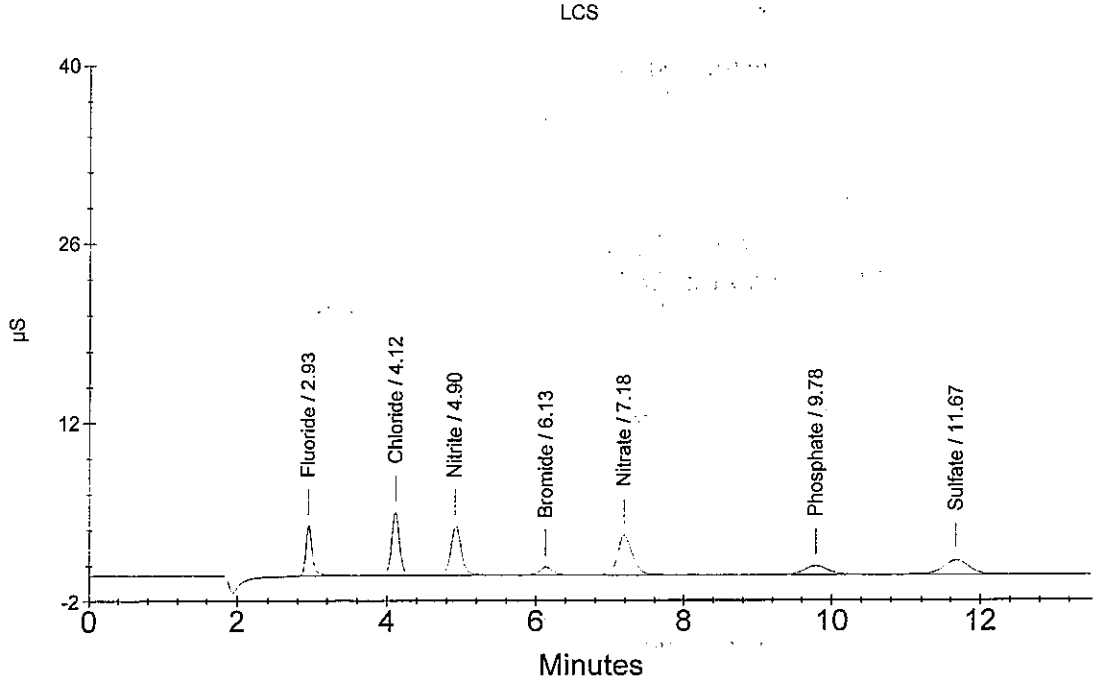
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	0.973	265122
2	4.12	Chloride	1.871	374990
3	4.90	Nitrite	0.972	382464
4	6.13	Bromide	0.988	73872
5	7.18	Nitrate	0.962	439995
6	9.78	Phosphate	1.000	154549
7	11.67	Sulfate	2.026	269137



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-007
Data File Name : ...\1105_028.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 7:03:47 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 100.00
Sample Type : Sample Analysis
Sample Comment : S (9056 SPLP)

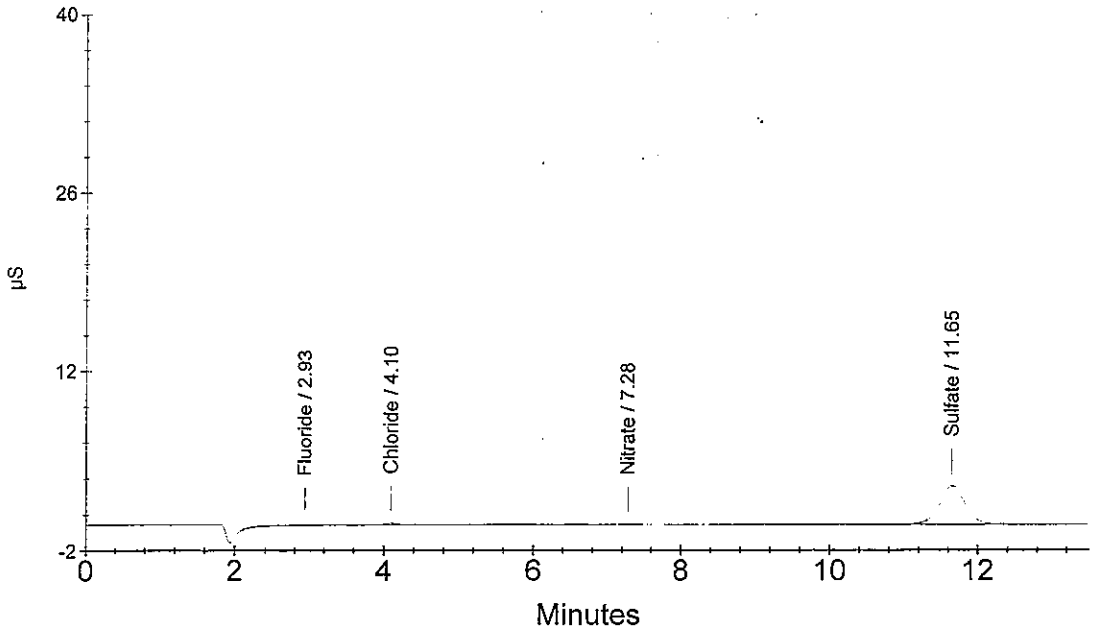
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	7.930	1079
2	4.10	Chloride	14.409	9898
3	7.28	Nitrate	7.477	3429
4	11.65	Sulfate	531.760	714223

OK
11/6/09

R0906056-007



01102

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906056-012
Data File Name : ...\1105_029.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 7:19:33 PM

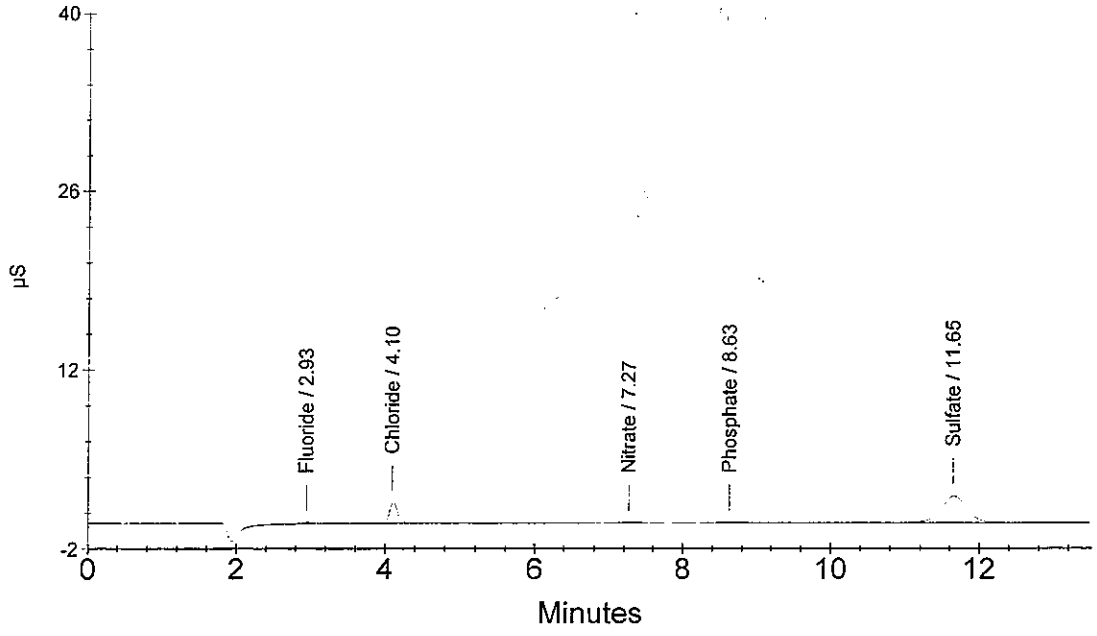
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 10.00
Sample Type : Sample Analysis
Sample Comment : S (9056 SPLP)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	0.932	5183
2	4.10	Chloride	7.329	134387
3	7.27	Nitrate	0.847	8330
4	8.63	Phosphate	1.334	13865
5	11.65	Sulfate	37.161	497673



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

CK 11/11/09

Sample Name : BLK1029A/C TYP
Data File Name : ...\1105_030.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 7:35:17 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL (9056)

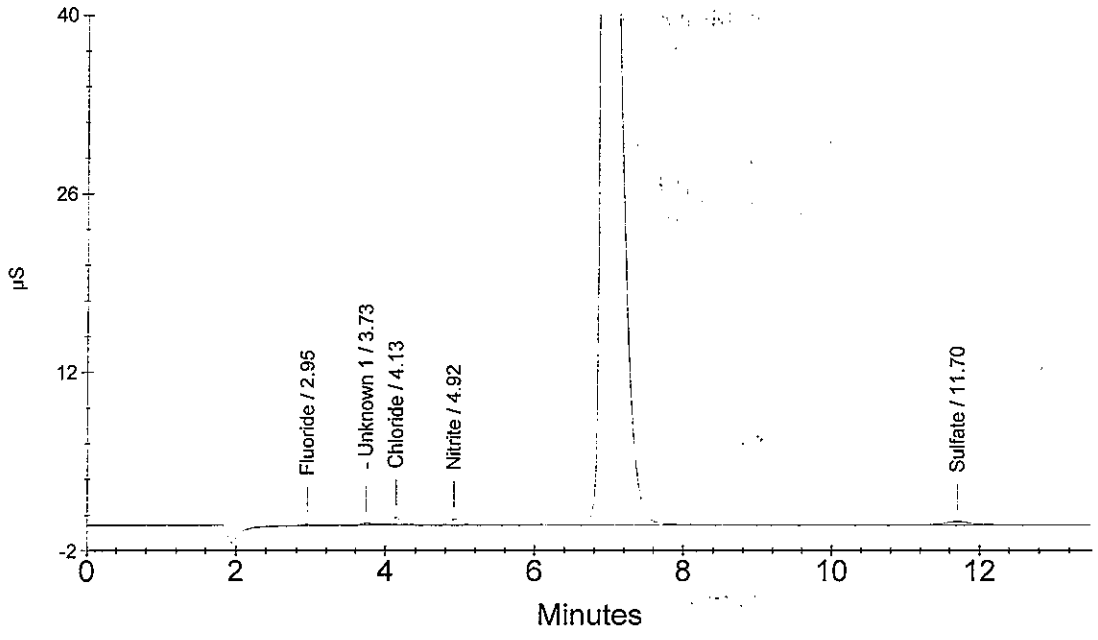
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	2.95	Fluoride		0.095	5744
3	4.13	Chloride	OK	0.301	43172
4	4.92	Nitrite Bromide		0.164	45085
5	6.95	Nitrate		32.305	15870951
6	11.70	Sulfate		0.502	63103

11/6/09

BLK1029A



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LHAL1029A
Data File Name : ...\1105_031.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 7:51:03 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

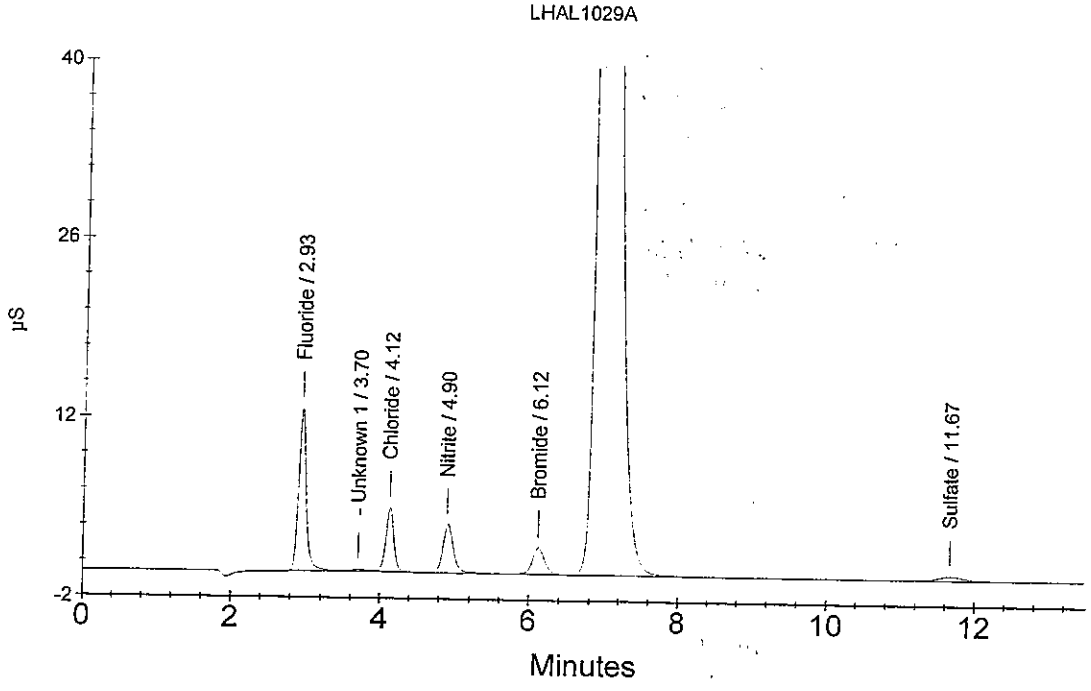
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	3.046	877598
3	4.12	Chloride	1.888	378618
4	4.90	Nitrite	0.961	377645
5	6.12	Bromide	3.125	236149
6	6.90	Nitrate	45.439	22336994
7	11.67	Sulfate	0.616	78485

ok
11/6/09



Ion Chromatography Analytical Report
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Rochester, NY 14607

Sample Name : LNAQ1029A
Data File Name : ...\1105_032.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 8:06:50 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 40.00
Sample Type : Sample Analysis
Sample Comment : BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

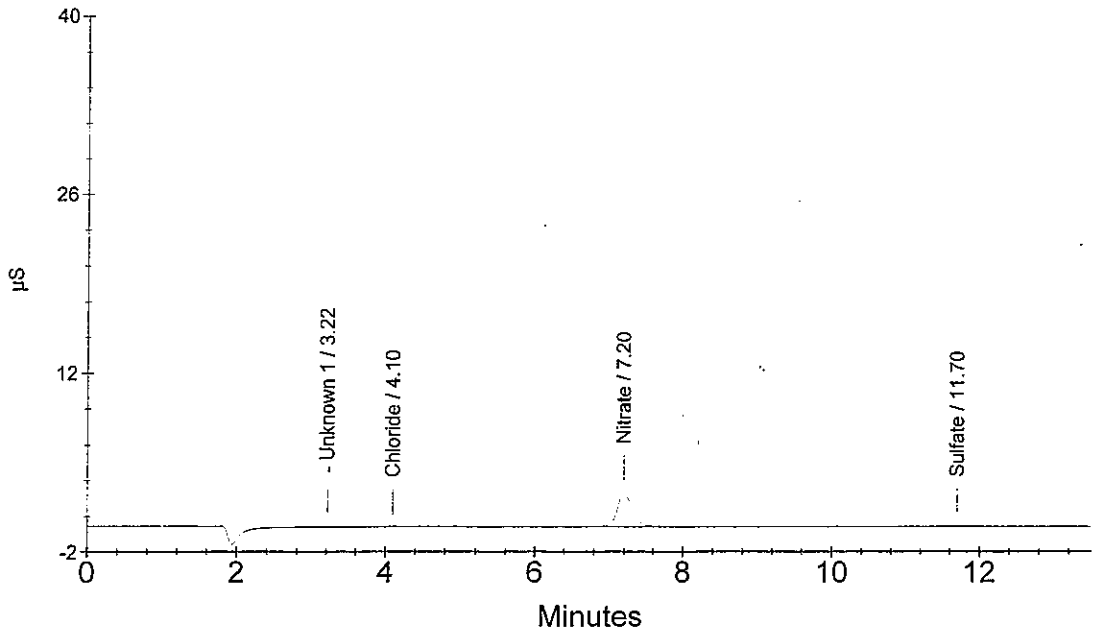
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	4.10	Chloride	5.151	6659
3	7.20	Nitrate	33.330	376839
4	11.70	Sulfate	3.465	6919

OK

11/6/09

LNAQ1029A



01106

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCL1029A
Data File Name : ...\1105_033.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 8:22:35 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

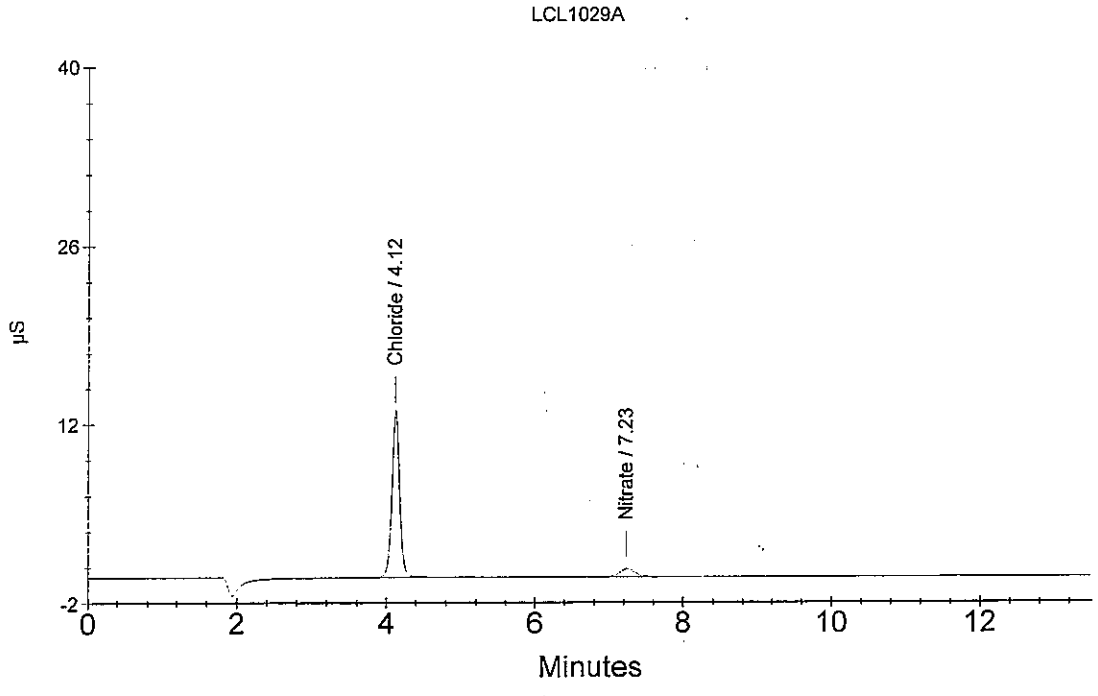
Dilution Factor : 100.00
Sample Type : Sample Analysis
Sample Comment : %CL (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.12	Chloride	462.660	957633
2	7.23	Nitrate	24.490	87184

11/6/09



01107

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905958-002A
Data File Name : ...\1105_034.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 8:38:21 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

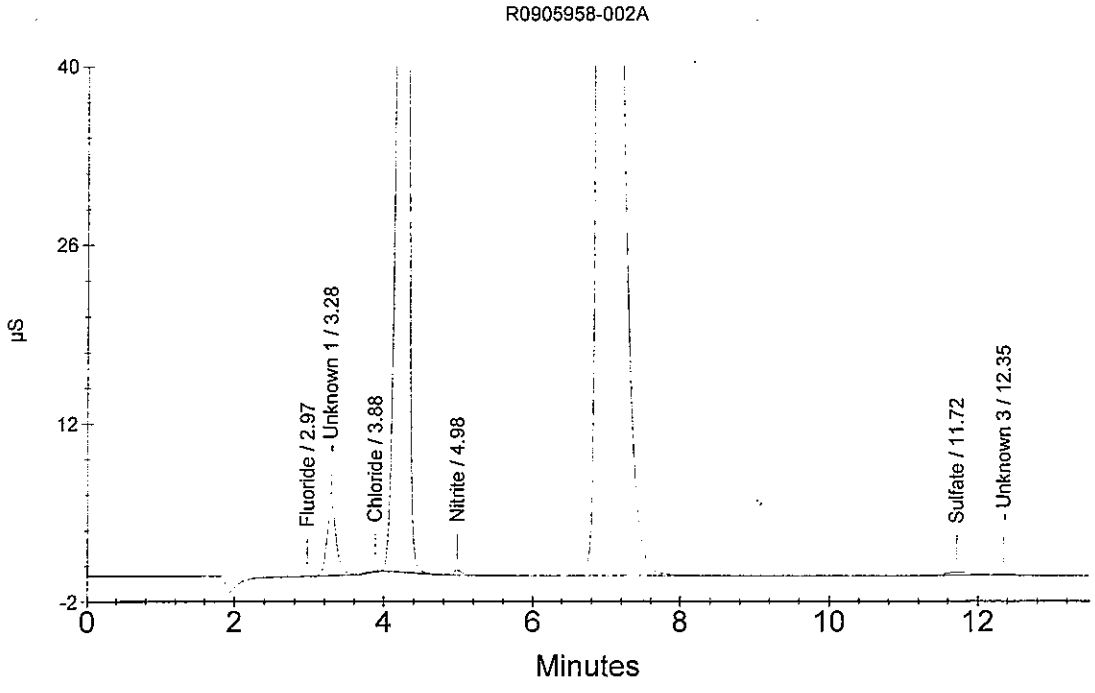
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	0.081	1661
3	3.88	Chloride	0.140	9062
5	4.98	Nitrite	0.131	31311
6	6.92	Nitrate	60.491	29747050
7	11.72	Sulfate	0.383	47055

1/40

OK

11/6/09



01108

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905958-002A DUP AT IC
Data File Name : ...\1105_035.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 8:54:14 PM

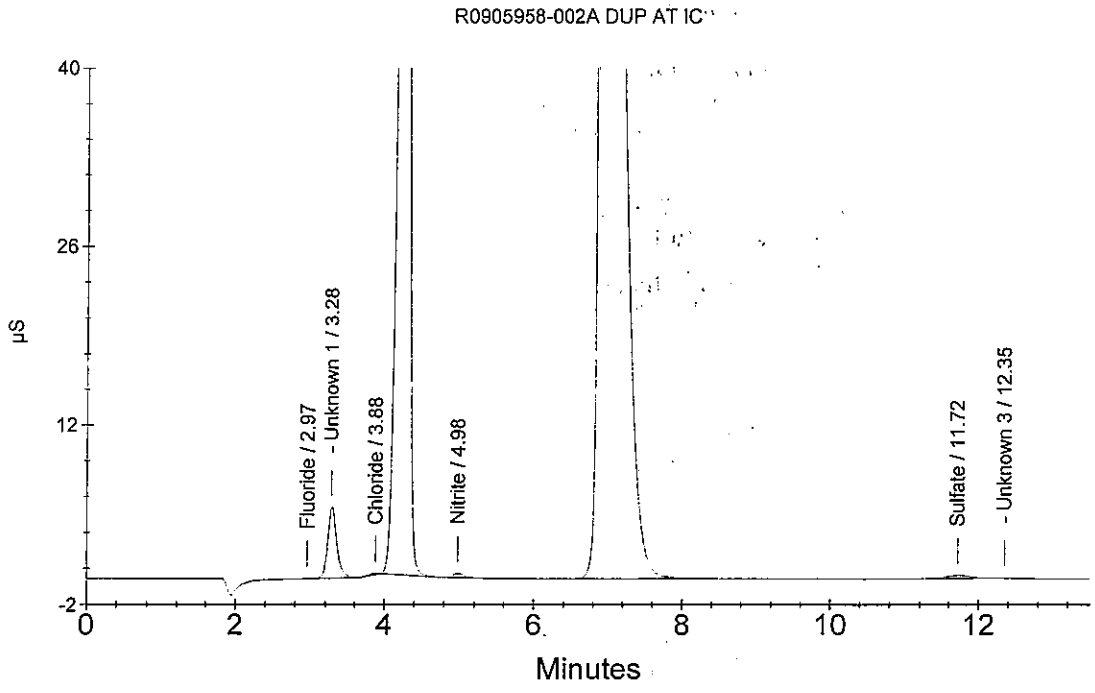
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	0.082	1786
3	3.88	Chloride	0.140	8973
5	4.98	Nitrite	0.134	32748
6	6.93	Nitrate	60.470	29736858
7	11.72	Sulfate	0.404	49840



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905958-002A SPK AT IC
Data File Name : ...\1105_036.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 9:10:00 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL,BTU (9056)

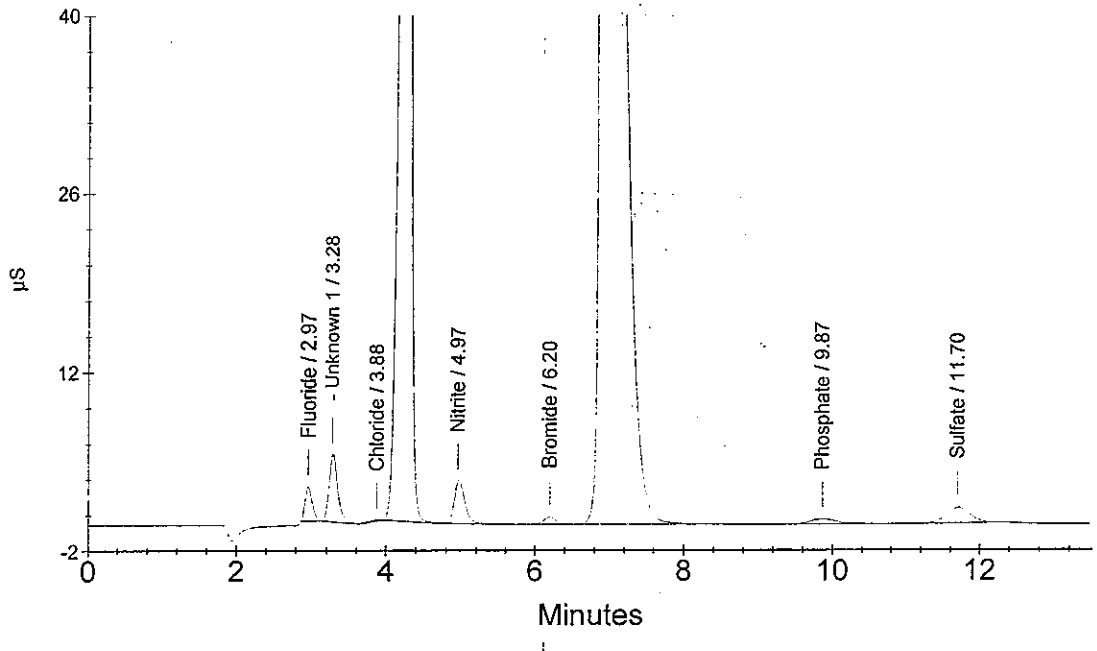
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	0.651	170020
3	3.88	Chloride	0.138	8692
5	4.97	Nitrite	0.855	333495
6	6.20	Bromide	0.886	66119
7	6.93	Nitrate	60.752	29875818
8	9.87	Phosphate	0.654	98352
9	11.70	Sulfate	2.066	274622

OK
11/6

R0905958-002A SPK AT IC



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\1105_037.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 9:25:46 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

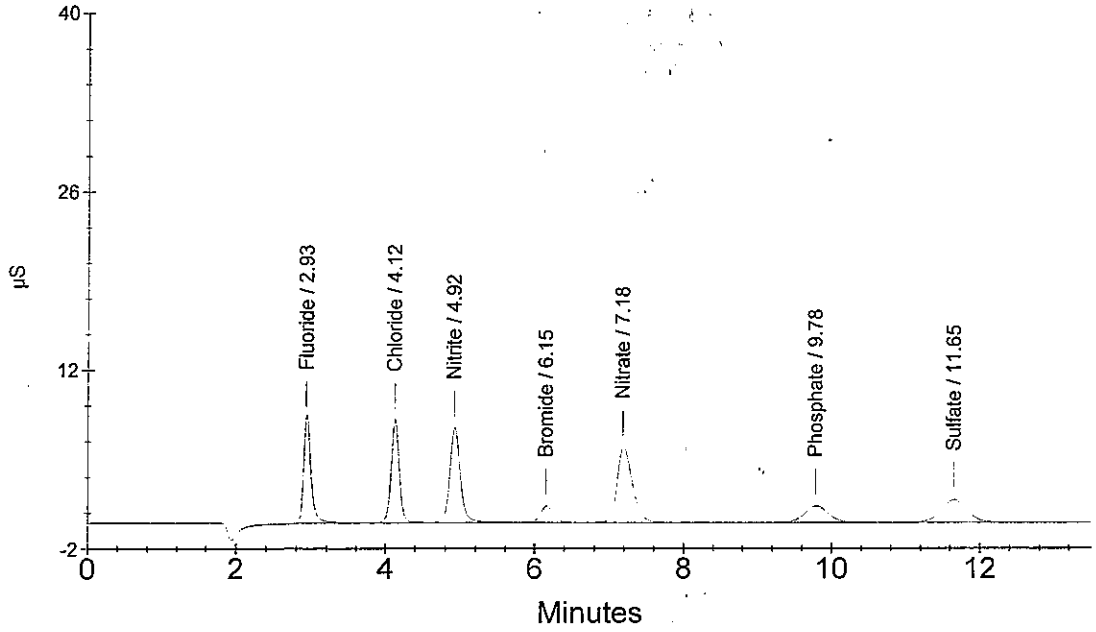
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	1.946	552783
2	4.12	Chloride	2.988	611283
3	4.92	Nitrite	1.805	729727
4	6.15	Bromide	2.003	150960
5	7.18	Nitrate	1.780	842830
6	9.78	Phosphate	1.829	289090
7	11.65	Sulfate	3.164	423079

ok

11/6/09

CCV



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\1105_038.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 9:41:34 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

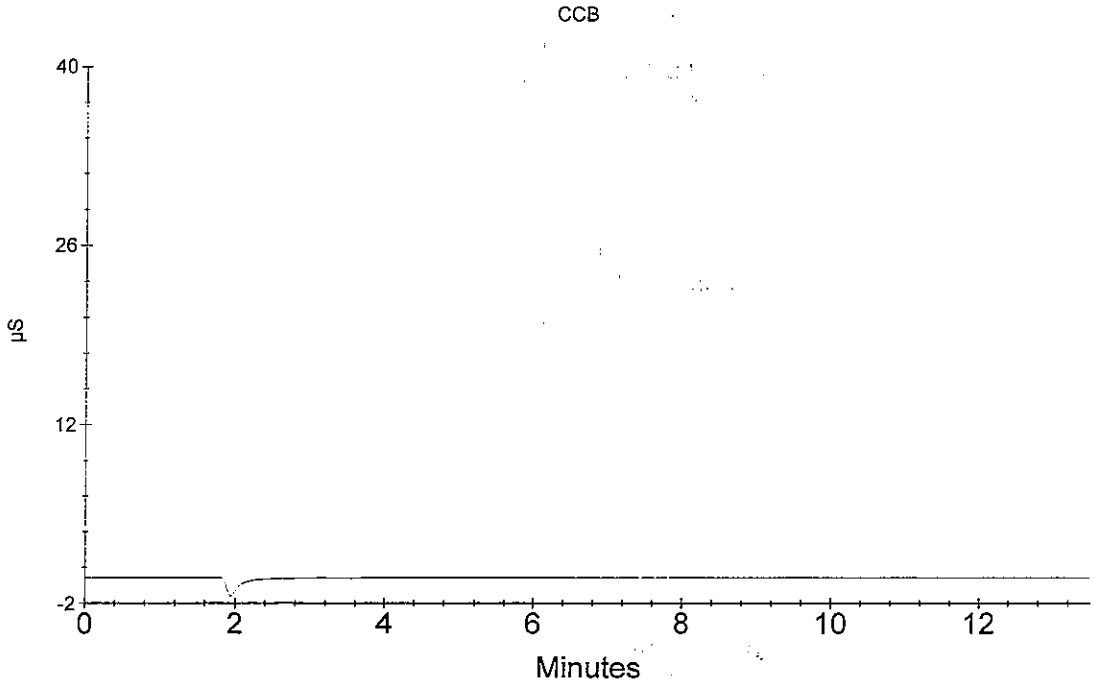
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area

OK
11/6/09



01112

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905958-005A
Data File Name : ...\1105_039.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 9:57:19 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

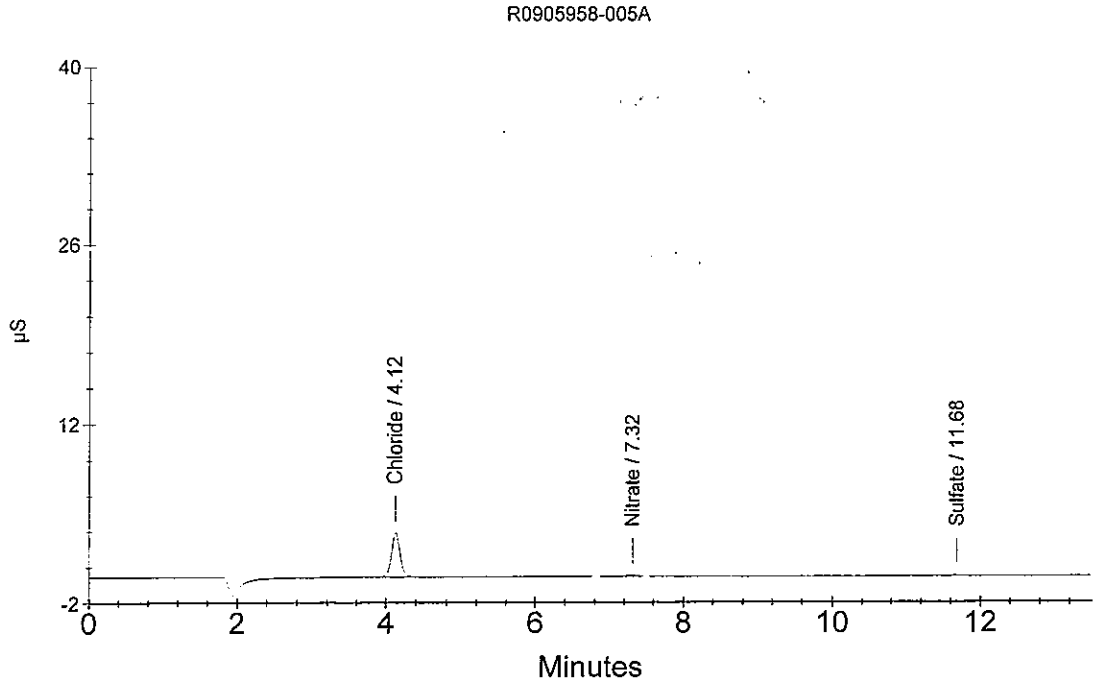
Dilution Factor : 400.00
Sample Type : Sample Analysis
Sample Comment : %CL (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	4.12	Chloride	1/200	541.131	265461
2	7.32	Nitrate		35.869	10765
3	11.68	Sulfate		31.571	5877

11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905958-005A
Data File Name : ...\1105_040.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 10:13:05 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 40.00
Sample Type : Sample Analysis
Sample Comment : BTU (9056)

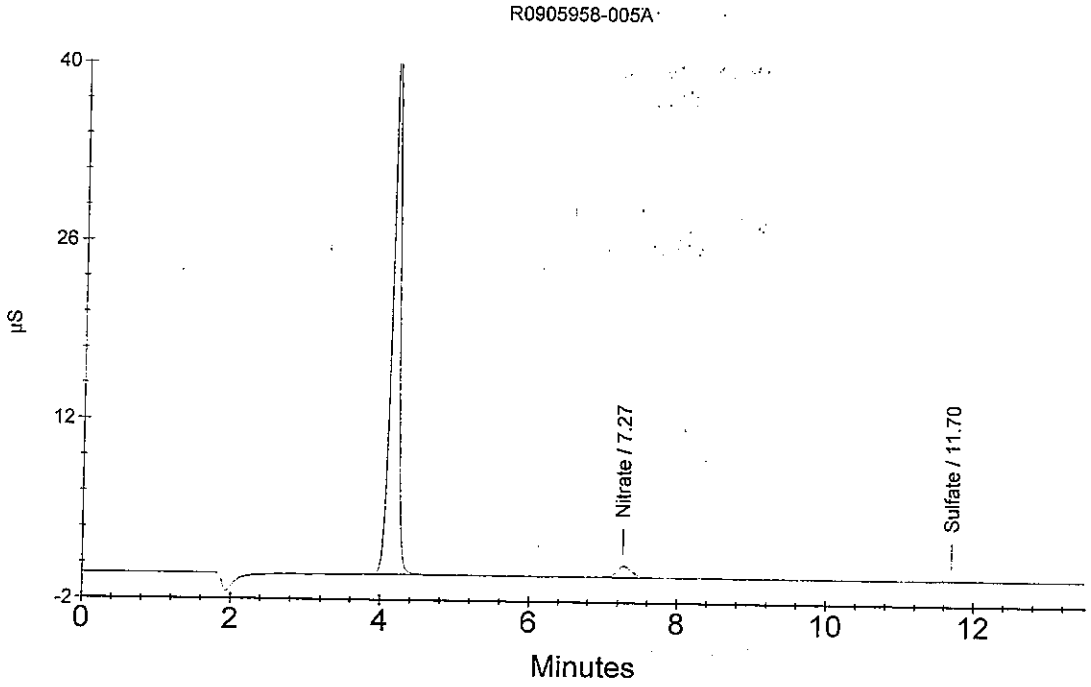
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.15	Chloride	589.321	3094428
2	7.27	Nitrate	12.780	123914
3	11.70	Sulfate	4.867	11656

OK

11/6/09



01114

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905958-006A
Data File Name : ...\1105_041.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 10:28:51 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL,BTU (9056)

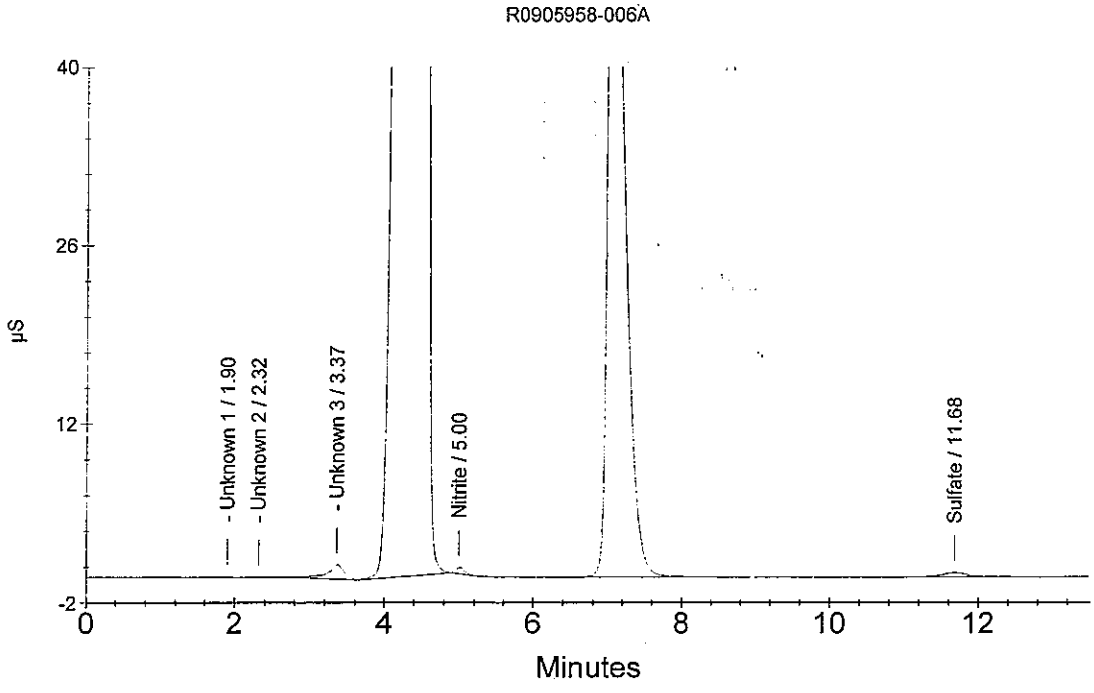
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
5	5.00	Nitrite	0.146	37642
6	7.05	Nitrate	20.488	10053376
7	11.68	Sulfate	0.564	71499

ok

Repeat ClO cnt 11/6/09
1/100



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905958-007A
Data File Name : ...\1105_042.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 10:44:36 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL,BTU (9056)

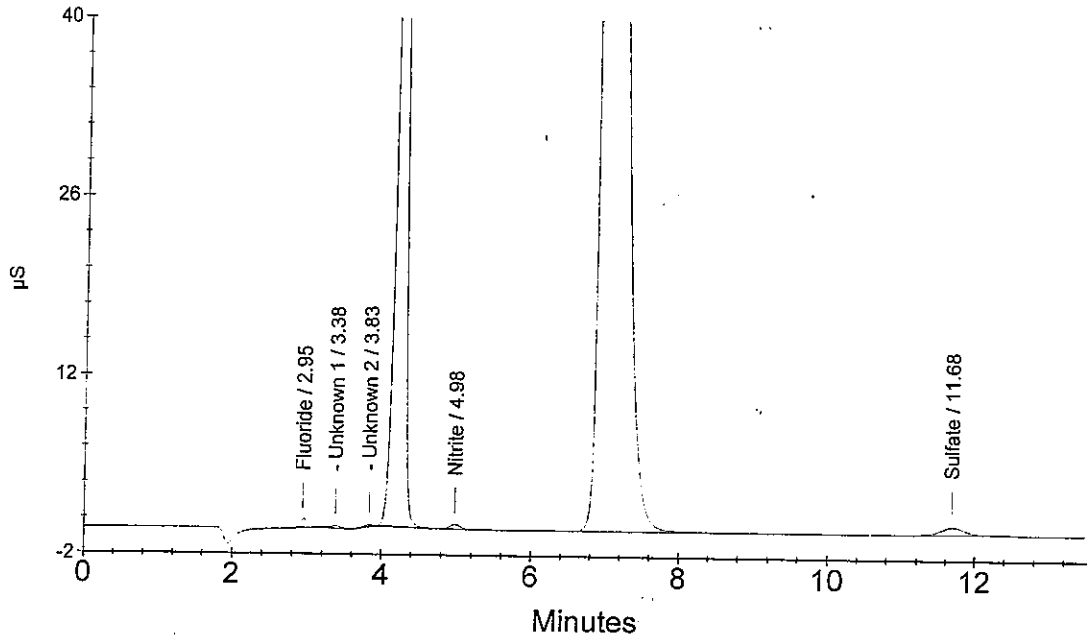
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	2.95	Fluoride		0.221	43011
4	4.23	Chloride	~~4/4~~ 5/6	32.663	6885275
5	4.98	Nitrite		0.139	34866
6	6.95	Nitrate		59.084	29054451
7	11.68	Sulfate	OK	0.994	129645

11/6/09

R0905958-007A



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905958-008A
Data File Name : ...\1105_043.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 11:00:24 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 400.00
Sample Type : Sample Analysis
Sample Comment : %CL (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

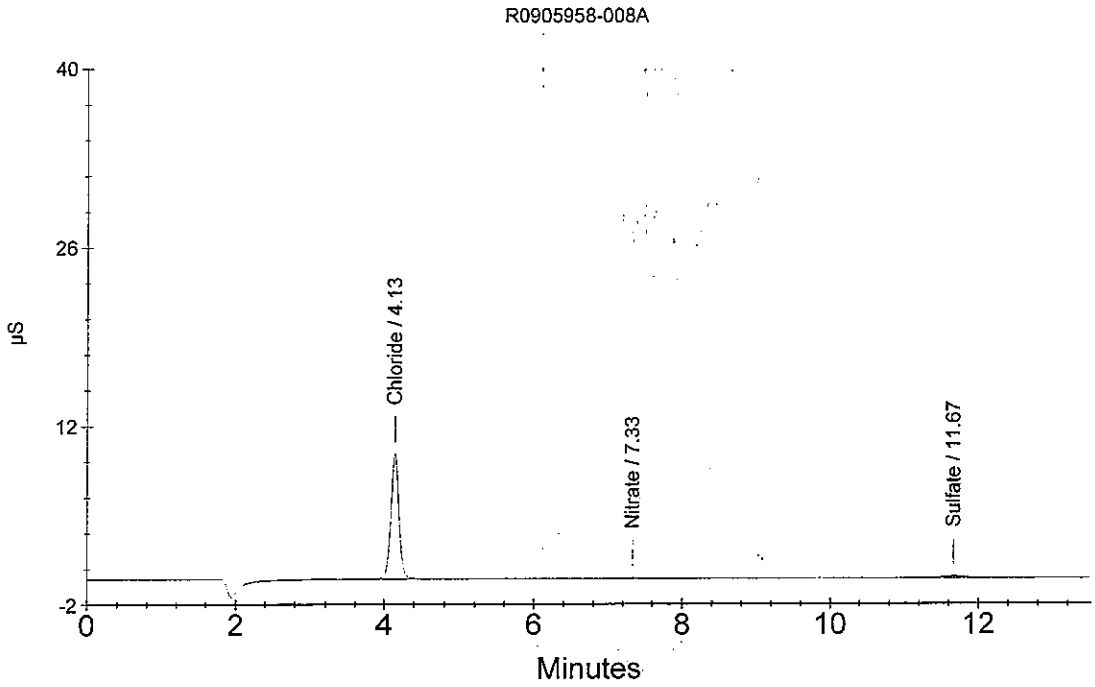
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.13	Chloride	1424.064	732156
2	7.33	Nitrate	34.673	9293
3	11.67	Sulfate	104.855	30650

ok

11/6/09

$\times \frac{150.2}{0.7167} \times \frac{1}{10000}$



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905958-008B
Data File Name : ...\1105_044.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 11:16:09 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 400.00
Sample Type : Sample Analysis
Sample Comment : %CL (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

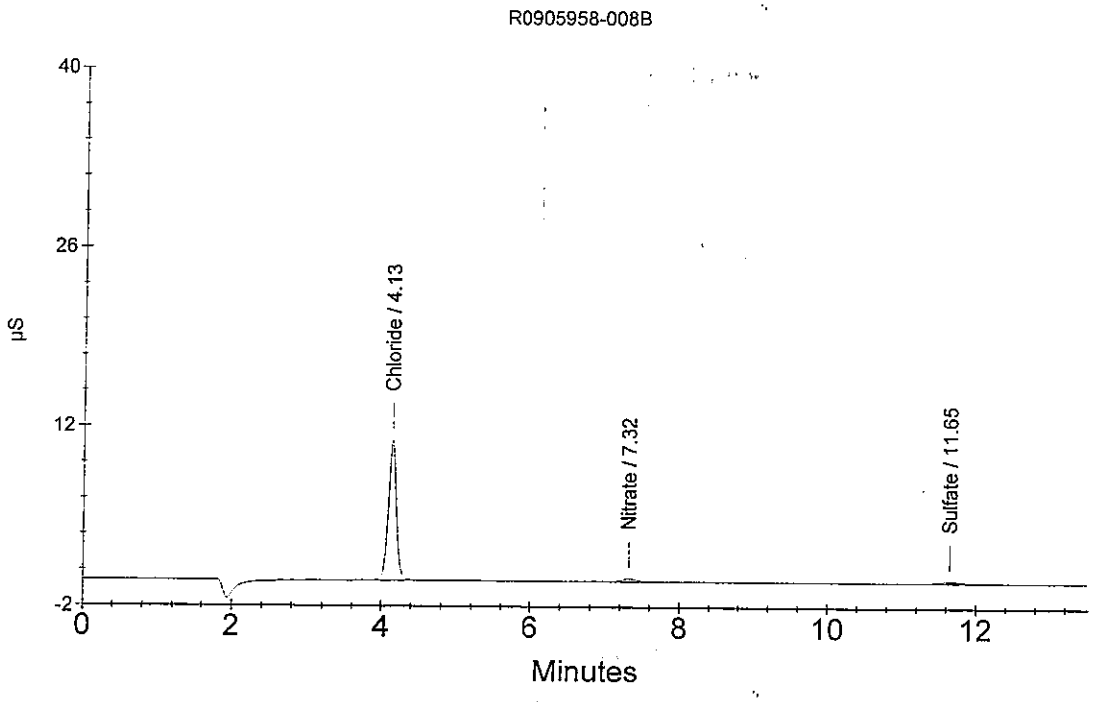
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.13	Chloride	1574.300	811566
2	7.32	Nitrate	51.844	30426
3	11.65	Sulfate	98.906	28639

OK

$\times \frac{150.4}{0.7108} \times \frac{1}{10000}$

11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905958-008A SPK
Data File Name : ...\1105_045.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 11:31:56 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 400.00
Sample Type : Sample Analysis
Sample Comment : %CL (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

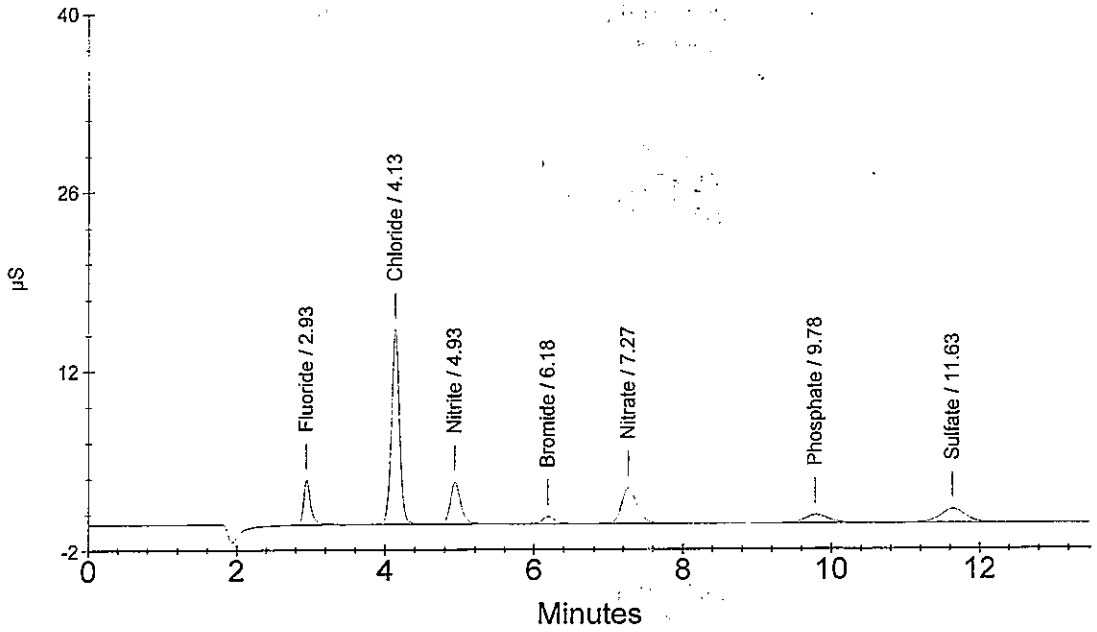
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	357.054	241405
2	4.13	Chloride	2175.250	1129212
3	4.93	Nitrite	329.950	320949
4	6.18	Bromide	350.738	65424
5	7.27	Nitrate	353.591	401812
6	9.78	Phosphate	366.518	140974
7	11.63	Sulfate	750.929	249047

OK

11/6/09

R0905958-008A SPK



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905958-008A
Data File Name : ...\1105_046.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/5/09 11:47:43 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 40.00
Sample Type : Sample Analysis
Sample Comment : BTU (9056)

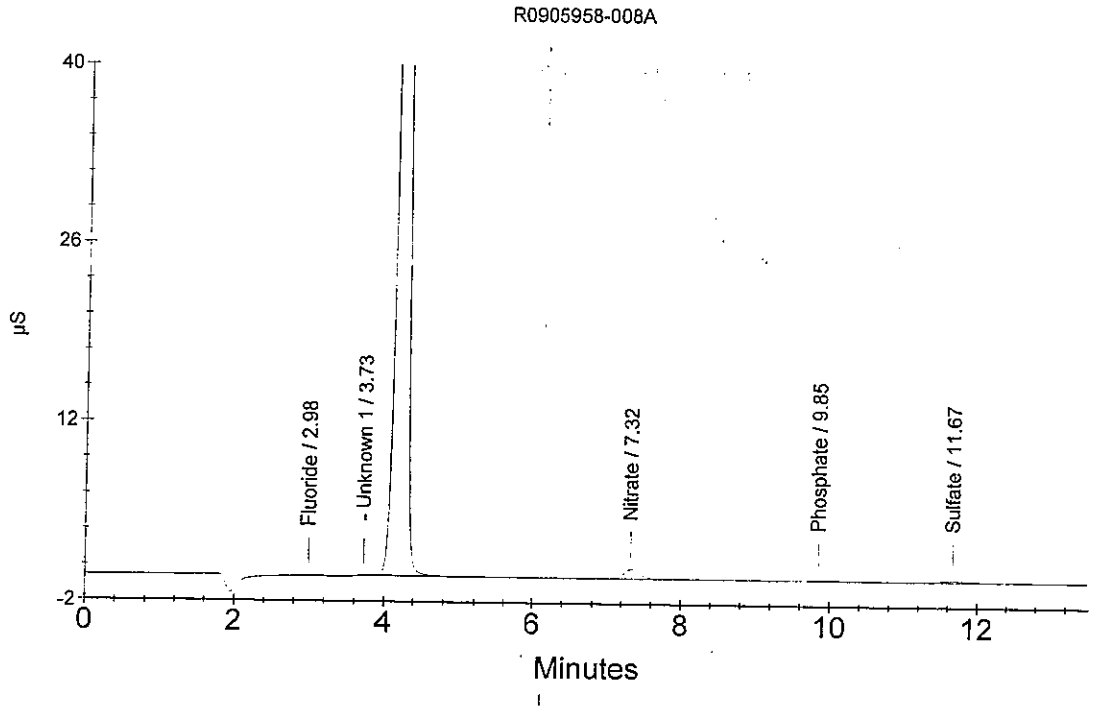
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.98	Fluoride	3.797	5700
3	4.23	Chloride	1886.361	9950233
4	7.32	Nitrate	11.618	109606
5	9.85	Phosphate	2.957	4214
6	11.67	Sulfate	8.669	24508

OK

11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905958-008B
Data File Name : ...\1105_047.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 12:03:28 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 40.00
Sample Type : Sample Analysis
Sample Comment : BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

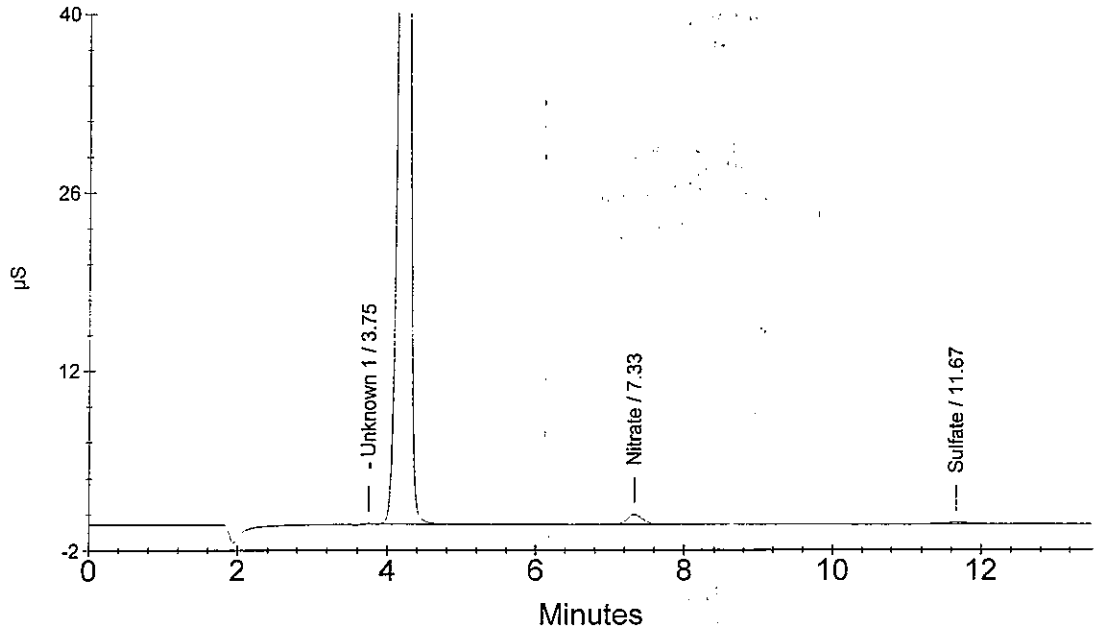
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
2	4.23	Chloride	2068.014	10910399
3	7.33	Nitrate	11.437	107377
4	11.67	Sulfate	9.933	28784

OK

11/6/09

R0905958-008B



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905958-008A SPK
Data File Name : ...\1105_048.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 12:19:15 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

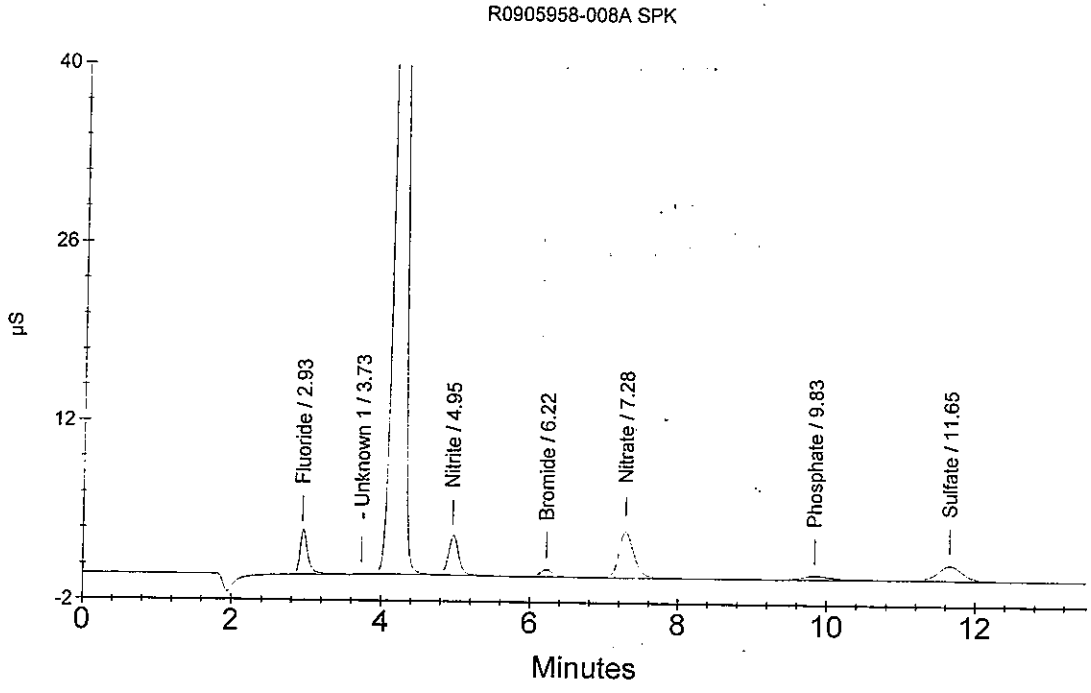
Dilution Factor : 40.00
Sample Type : Sample Analysis
Sample Comment : BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	37.490	254585
3	4.23	Chloride	1951.088	10292359
4	4.95	Nitrite	30.557	295518
5	6.22	Bromide	35.649	66516
6	7.28	Nitrate	44.861	518764
7	9.83	Phosphate	23.467	87461
8	11.65	Sulfate	86.358	287128

OK



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\1105_049.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 12:35:02 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

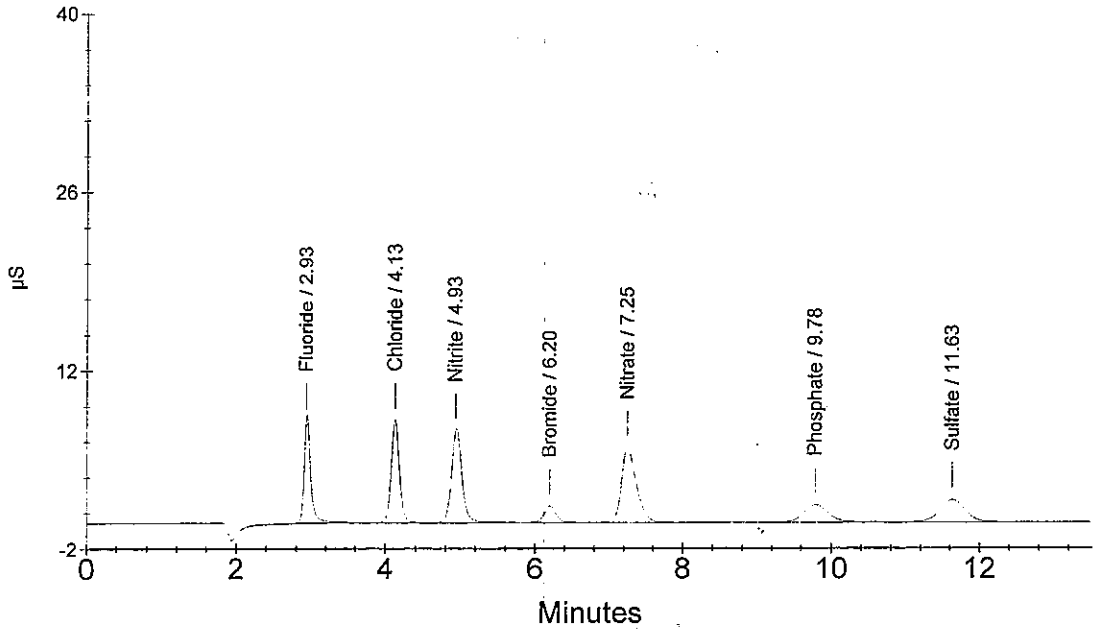
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	1.974	561059
2	4.13	Chloride	3.005	614848
3	4.93	Nitrite	1.808	731268
4	6.20	Bromide	2.020	152251
5	7.25	Nitrate	1.786	845821
6	9.78	Phosphate	2.005	317735
7	11.63	Sulfate	3.167	423414

CCV



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\1105_050.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 12:50:49 AM

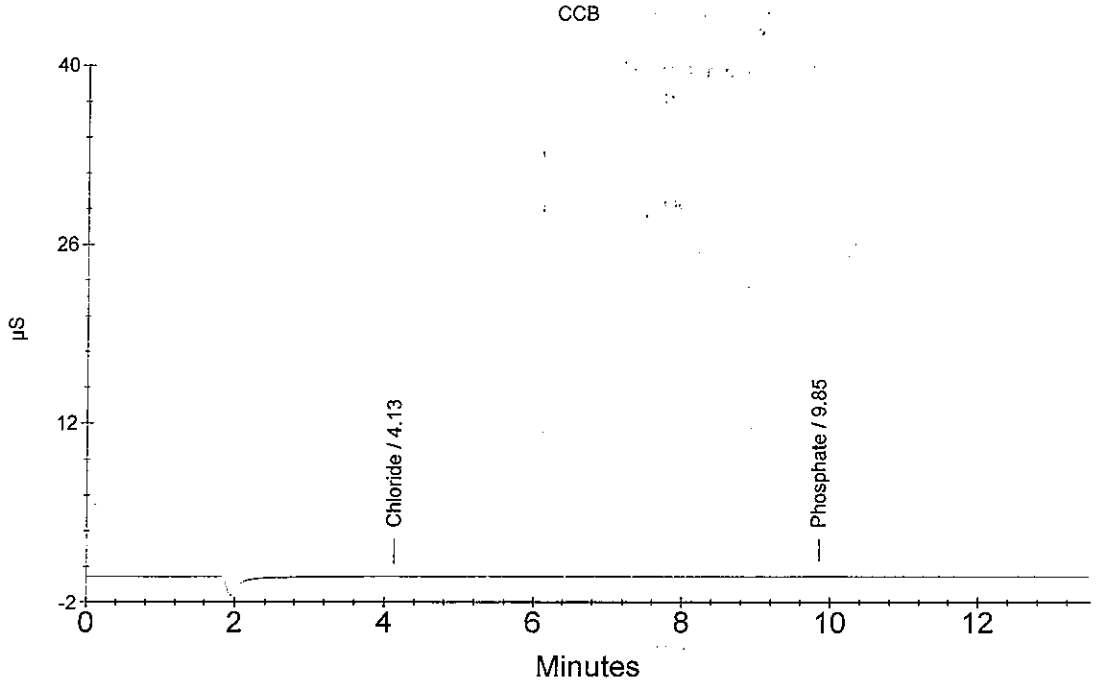
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.13	Chloride	0.106	1826
2	9.85	Phosphate	0.076	4628



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCS
Data File Name : ...\1105_051.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 1:06:35 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

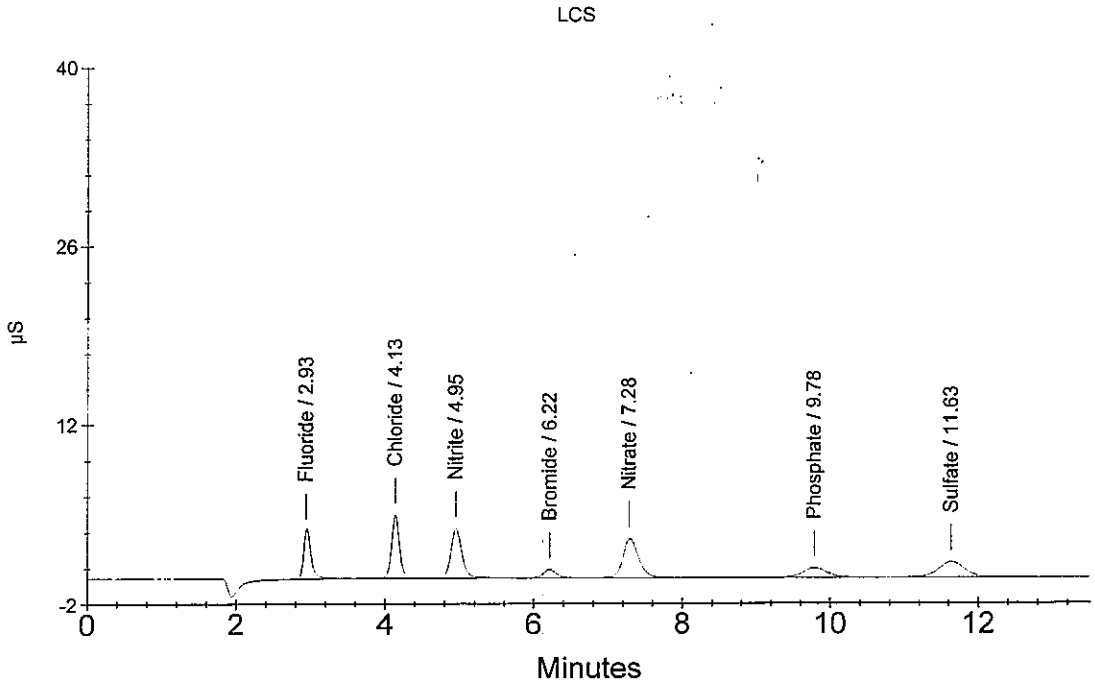
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	0.987	269394
2	4.13	Chloride	1.893	379588
3	4.95	Nitrite	0.973	382561
4	6.22	Bromide	0.997	74573
5	7.28	Nitrate	0.971	444838
6	9.78	Phosphate	1.070	165896
7	11.63	Sulfate	2.165	287982

ok

11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905958-009A
Data File Name : ...\1105_052.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 1:22:21 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

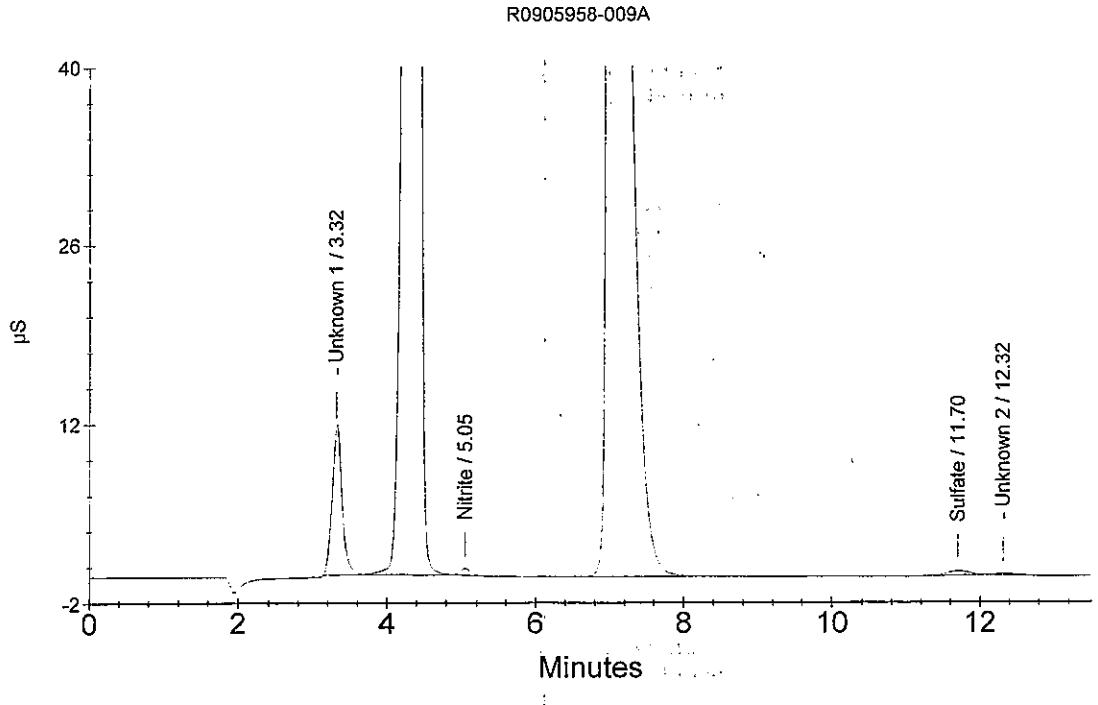
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
2	4.40	Chloride	1/40	126.374	26698569
3	5.05	Nitrite		0.169	47453
4	7.03	Nitrate		53.693	26400415
5	11.70	Sulfate	OK	0.555	70252

11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905958-010A
Data File Name : ...\1105_053.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 1:38:08 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

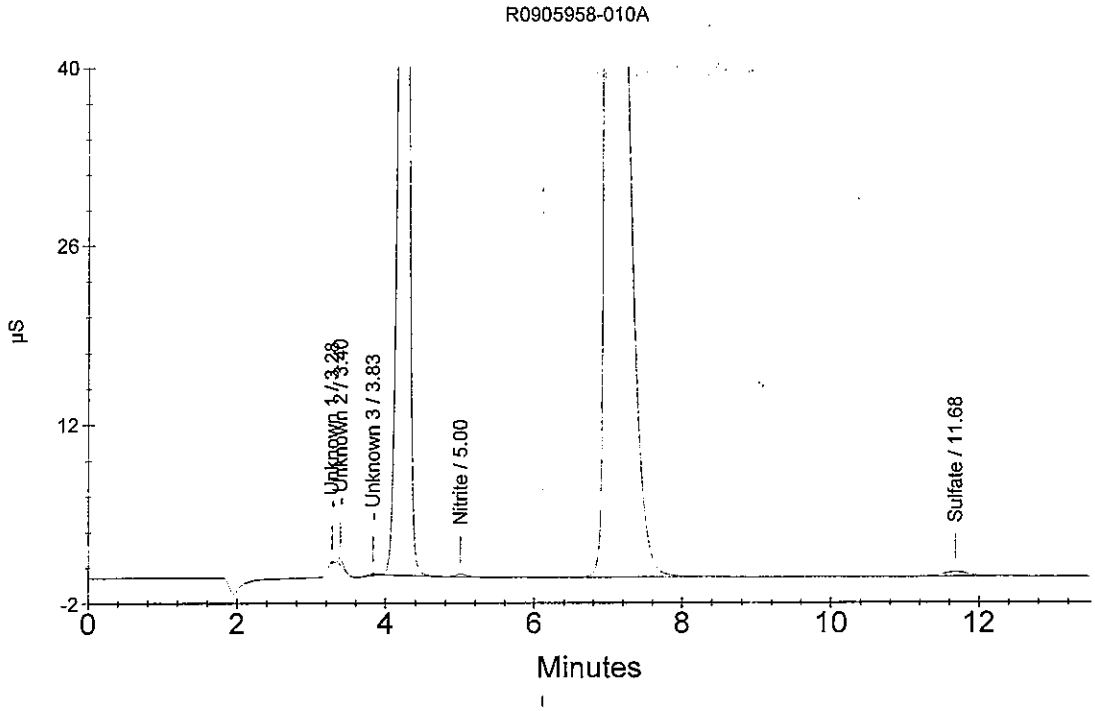
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
4	4.25	Chloride	1/10	43.426	9161007
5	5.00	Nitrite		0.106	20878
6	7.02	Nitrate		45.801	22514952
7	11.68	Sulfate	ok	0.619	78955

11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0905958-011A
Data File Name : ...\1105_054.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 1:53:55 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL,BTU (9056)

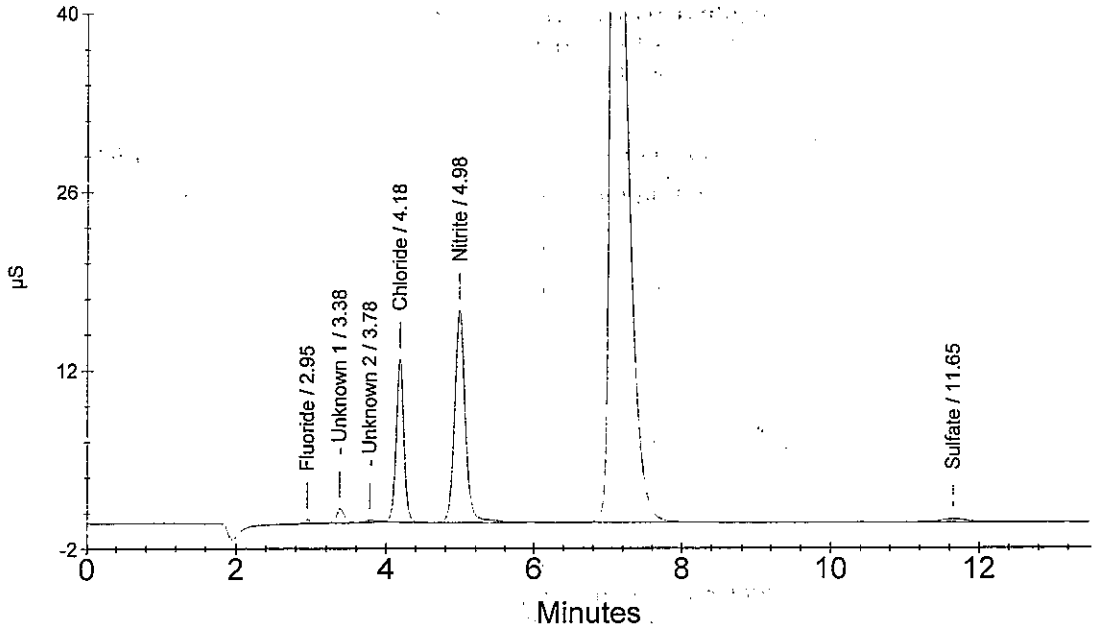
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	2.95	Fluoride		0.132	16587
4	4.18	Chloride	OK	4.583	948420
5	4.98	Nitrite		3.976	1635900
6	7.10	Nitrate		21.848	10722902
7	11.65	Sulfate	OK	0.459	57271

11/6/09

R0905958-011A



01128

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : BLK1102C
Data File Name : ...\1105_055.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 2:09:40 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL (9506)

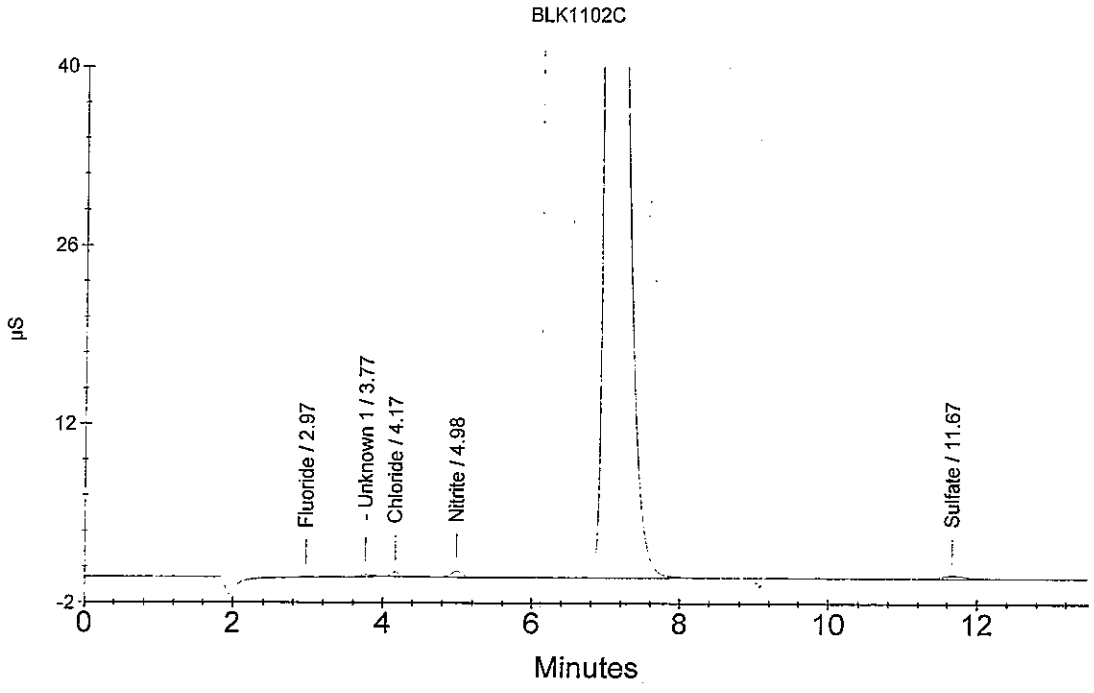
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	0.079	1131
3	4.17	Chloride	0.227	27421
4	4.98	Nitrite	0.165	45493
5	7.02	Nitrate	42.829	21051769
6	11.67	Sulfate	0.433	53820

OK

11/10/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LHAL1102A
Data File Name : ...\1105_056.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 2:25:27 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

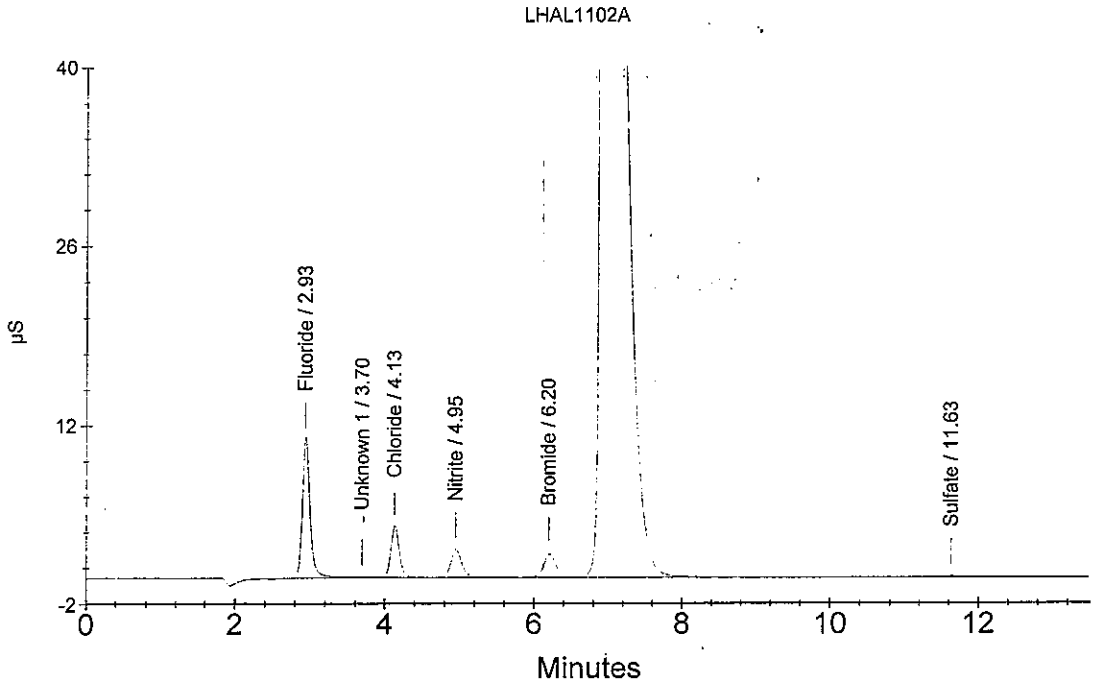
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL (9506)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	2.93	Fluoride	ok	2.668	765910
3	4.13	Chloride	ok	1.634	324982
4	4.95	Nitrite		0.591	223300
5	6.20	Bromide	ok	2.790	210712
6	6.97	Nitrate		56.906	27982375
7	11.63	Sulfate		0.160	16775

11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCL1102A
Data File Name : ...\1105_057.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 2:41:14 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL (9506)

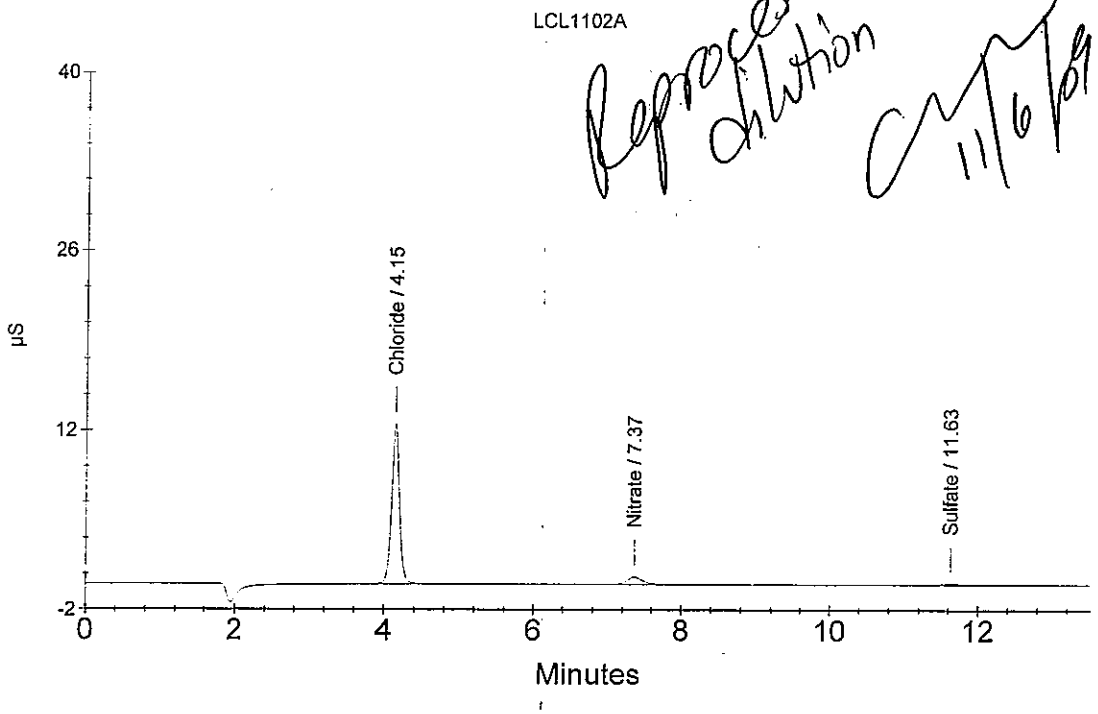
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount.	Peak Area
1	4.15	Chloride	4.505	931833
2	7.37	Nitrate	0.244	86701
3	11.63	Sulfate	0.185	20197

OK

Reprocess dilution = 100
11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCL1102A
Data File Name : ...\1105_057.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 2:41:14 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 100.00
Sample Type : Sample Analysis
Sample Comment : %CL (9506)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.15	Chloride	450.458	931833
2	7.37	Nitrate	24.392	86701
3	11.63	Sulfate	18.483	20197

OK

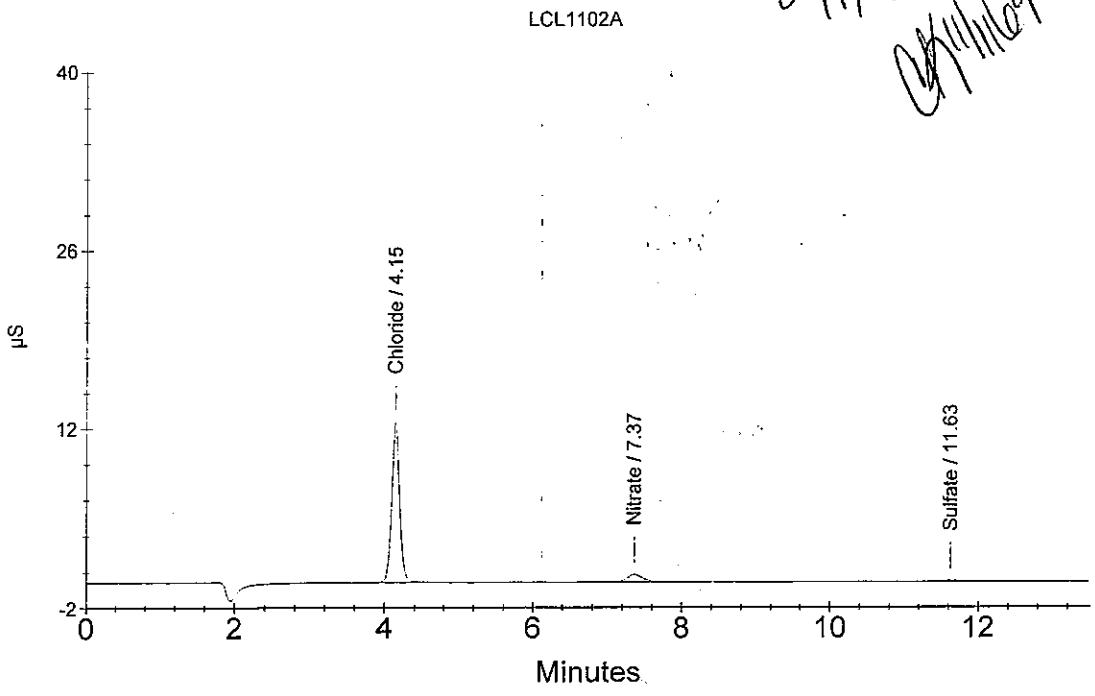
931833 X 150.6/0.109 X 1/10000

11/6/09

Reprocessed.

11/6/09

11/11/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LNAQ1102B
Data File Name : ...\1105_058.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 2:57:00 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : BTU (9506)

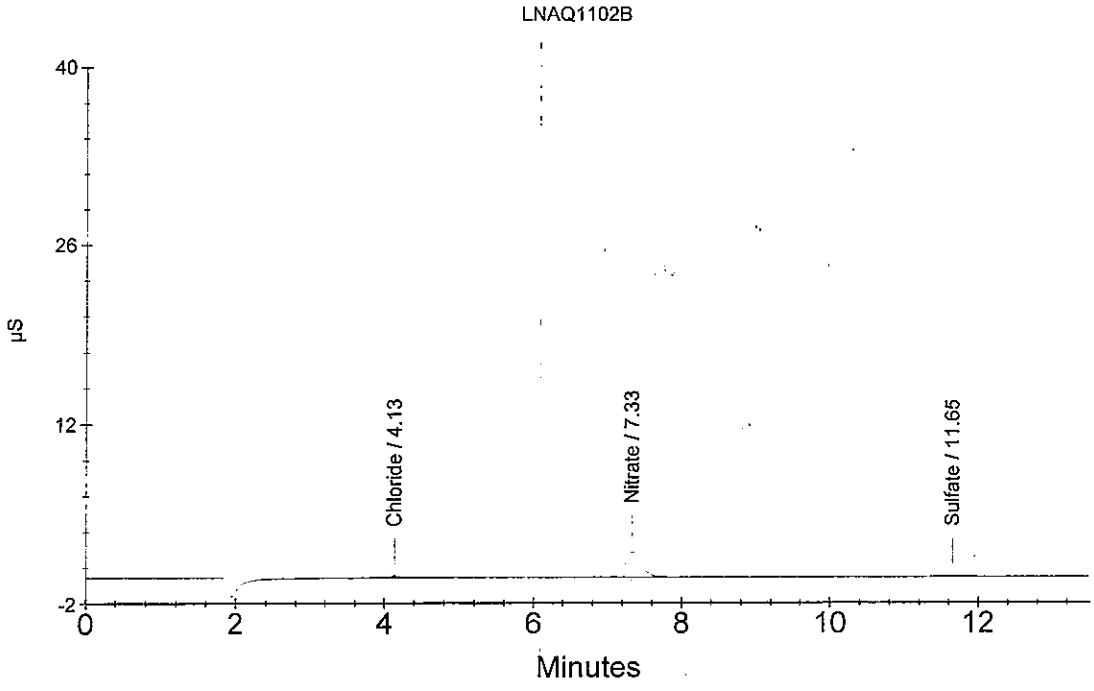
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.13	Chloride	0.152	11619
2	7.33	Nitrate	0.647	285309
3	11.65	Sulfate	0.195	21607

ok

11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906025-003A
Data File Name : ...\1105_059.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 3:12:46 AM

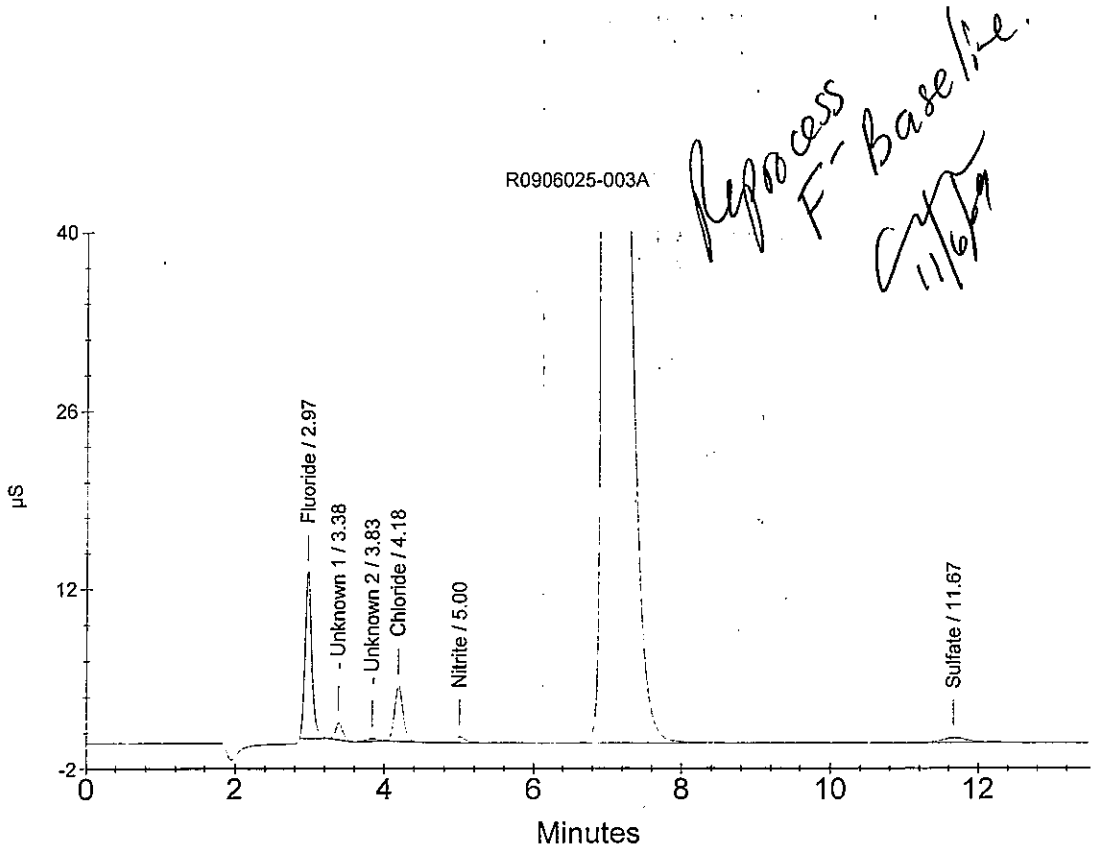
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	2.942	847043
4	4.18	Chloride	1.715	342109
5	5.00	Nitrite	0.163	44723
6	6.98	Nitrate	67.828	33359297
7	11.67	Sulfate	0.659	84281



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906025-003A
Data File Name : ...\1105_059.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 3:12:46 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

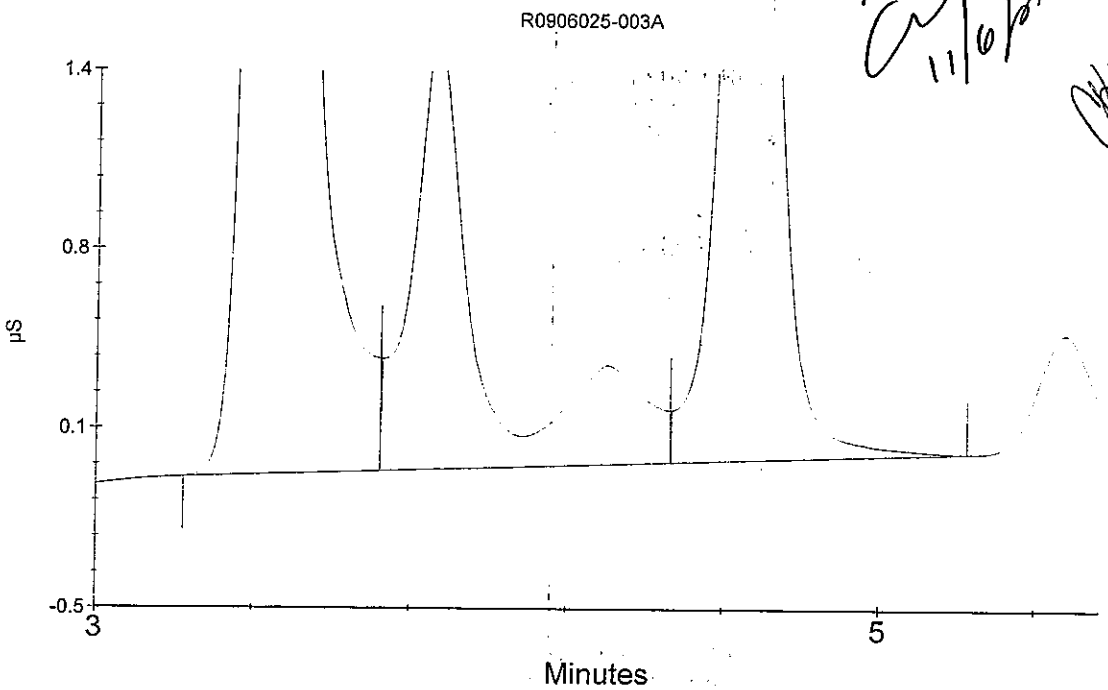
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F, %BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	3.295	951262
3	4.19	Chloride	1.893	379754
4	6.98	Nitrate Phosphate	67.828	33359297
5	11.67	Sulfate	0.659	84281

Reprocessed + Expanded.
11/6/09
11/11/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906025-003A
Data File Name : ...\1105_059.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 3:12:46 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

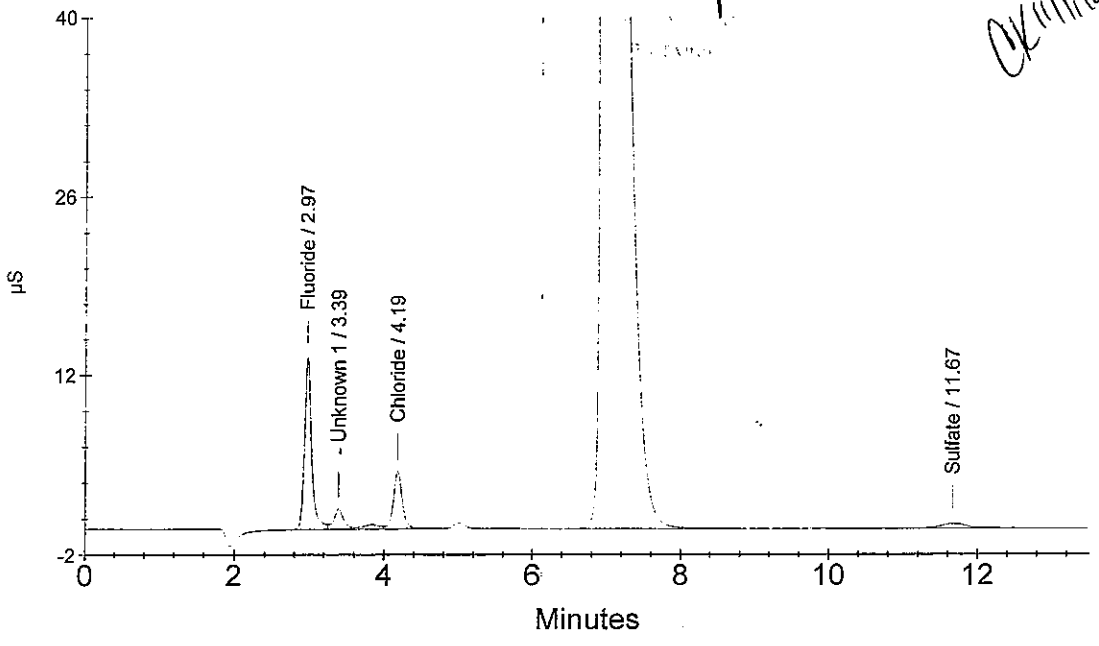
Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	2.97	Fluoride	OK	3.295	951262
3	4.19	Chloride	OK	1.893	379754
4	6.98	Nitrate		67.828	33359297
5	11.67	Sulfate	OK	0.659	84281

$\times \frac{150.7}{1.0199} \times \frac{1}{10000}$

Br OK CM 11/6/09

Reprocessed. CM 11/6/09

OK 11/11/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906025-003B
Data File Name : ...\1105_060.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 3:28:32 AM

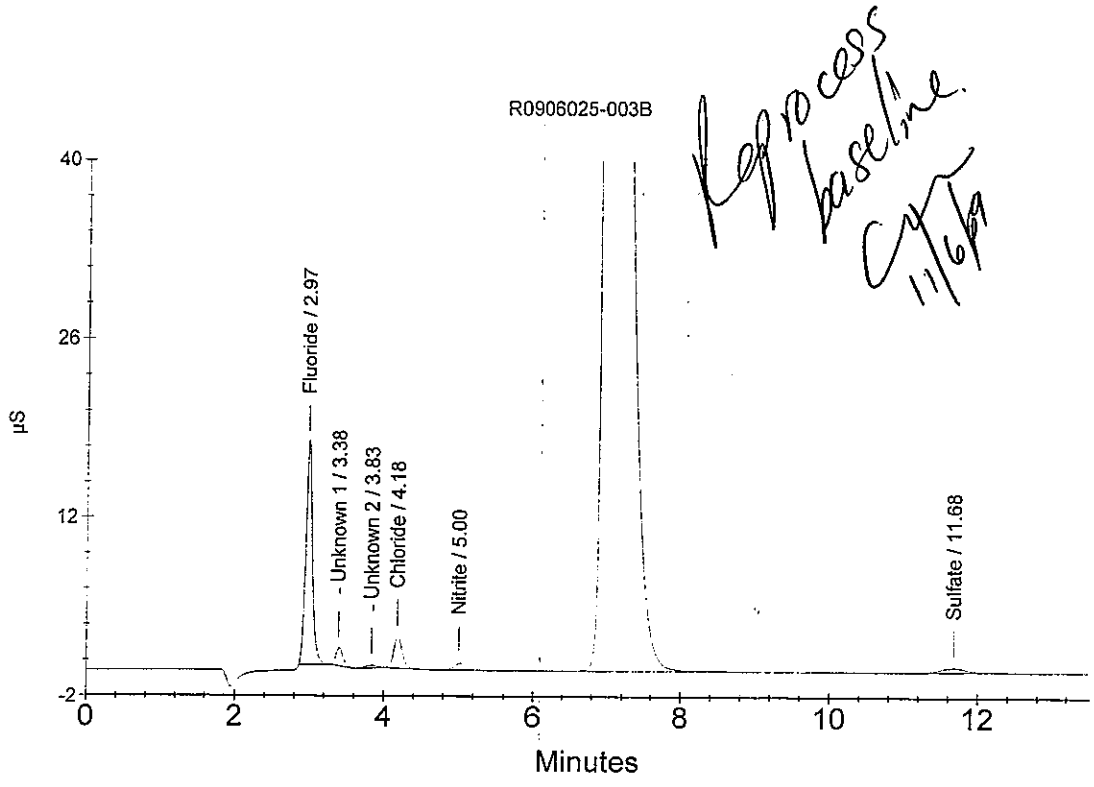
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	3.991	1157060
4	4.18	Chloride	1.024	196028
5	5.00	Nitrite	0.181	52273
6	6.98	Nitrate	70.728	34786933
7	11.68	Sulfate	0.626	79884



Reprocess baseline. CK 11/6/09

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906025-003B
Data File Name : ...\1105_060.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 3:28:32 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

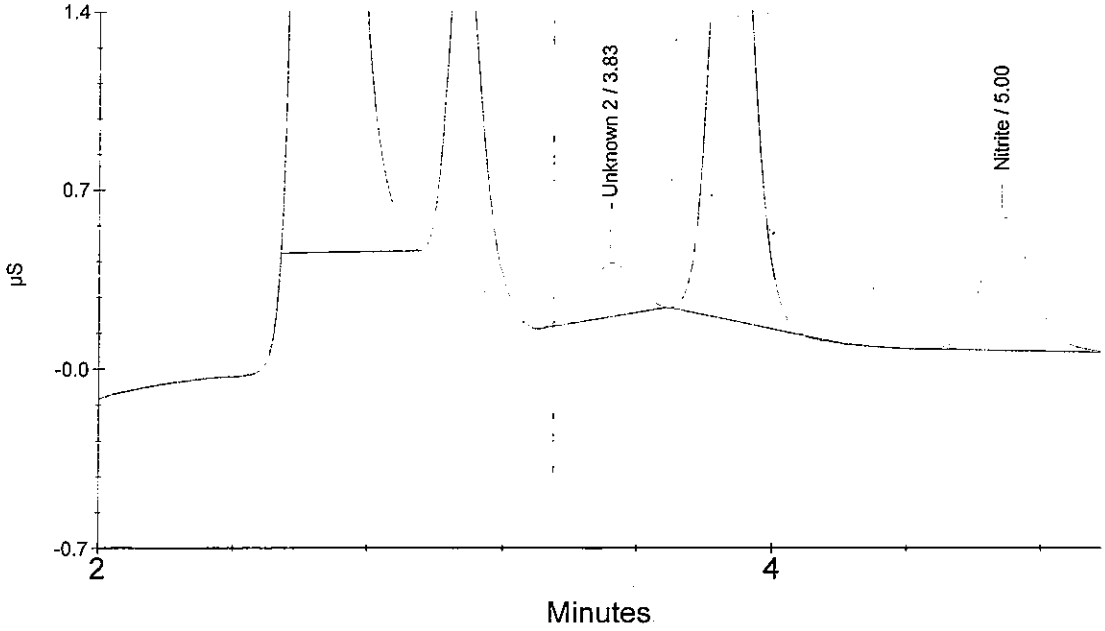
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	3.991	1157060
4	4.18	Chloride	1.024	196028
5	5.00	Nitrite	0.181	52273
6	6.98	Nitrate	70.728	34786933
7	11.68	Sulfate	0.626	79884

Expanded.
11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906025-003B
Data File Name : ...\1105_060.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 3:28:32 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

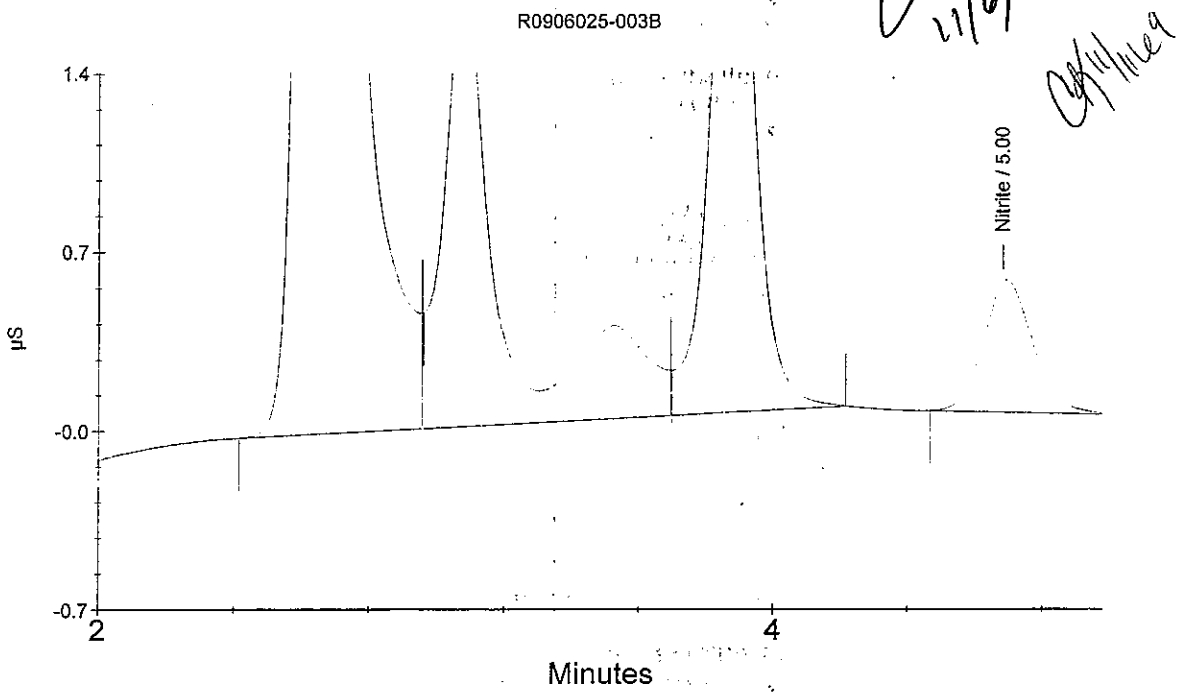
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	4.393	1275599
3	4.18	Chloride	1.155	223542
4	5.00	Nitrite	0.181	52273
5	6.98	Nitrate	70.728	34786933
6	11.68	Sulfate	0.626	79884

Reprocessed + Expanded
11/6/09



01139

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906025-003B
Data File Name : ...\1105_060.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 3:28:32 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

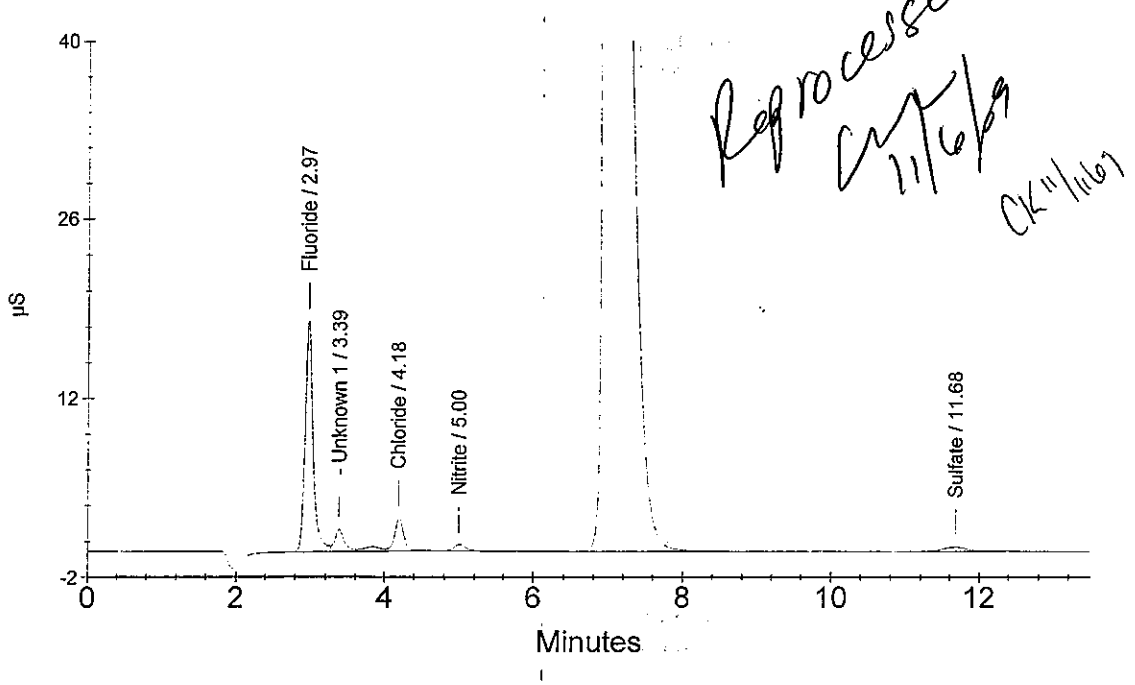
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	2.97	Fluoride	ok	4.393	1275599
3	4.18	Chloride	ok	1.155	223542
4	5.00	Nitrite		0.181	52273
5	6.98	Nitrate		70.728	34786933
6	11.68	Sulfate	ok	0.626	79884

$\times \frac{151}{1.001} \times \frac{1}{10000}$

Br ok
11/6/09



Reprocessed
11/6/09
CK 11/16/09

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\1105_061.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 3:44:19 AM

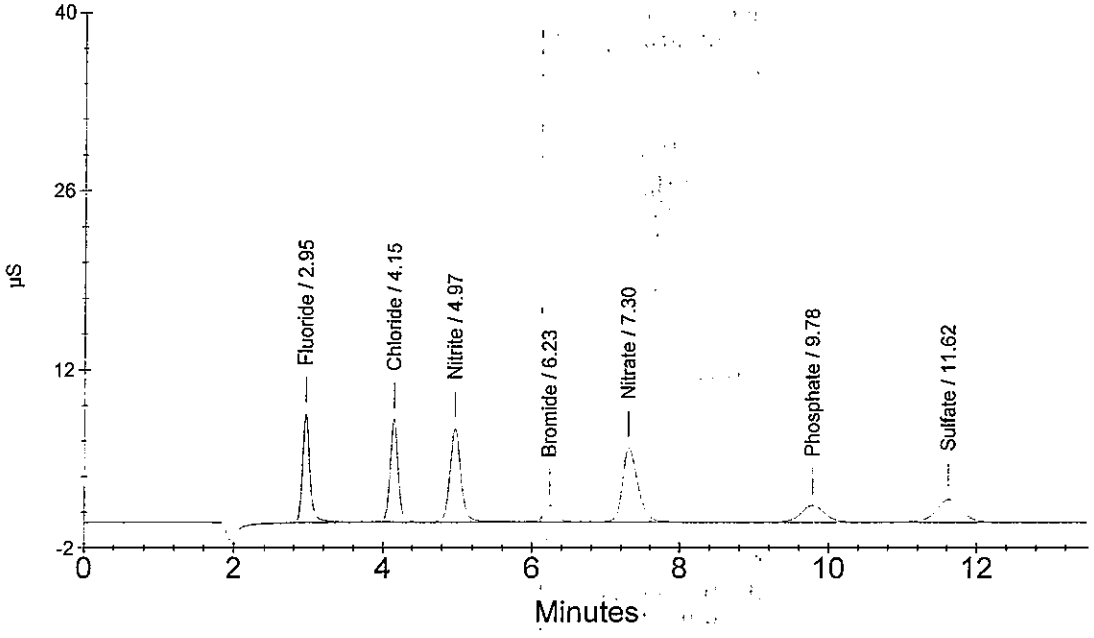
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.95	Fluoride	1.991	565946
2	4.15	Chloride	3.015	616852
3	4.97	Nitrite	1.819	735615
4	6.23	Bromide	2.011	151527
5	7.30	Nitrate	1.795	850339
6	9.78	Phosphate	1.888	298788
7	11.62	Sulfate	3.194	427148



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\1105_062.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 4:00:04 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

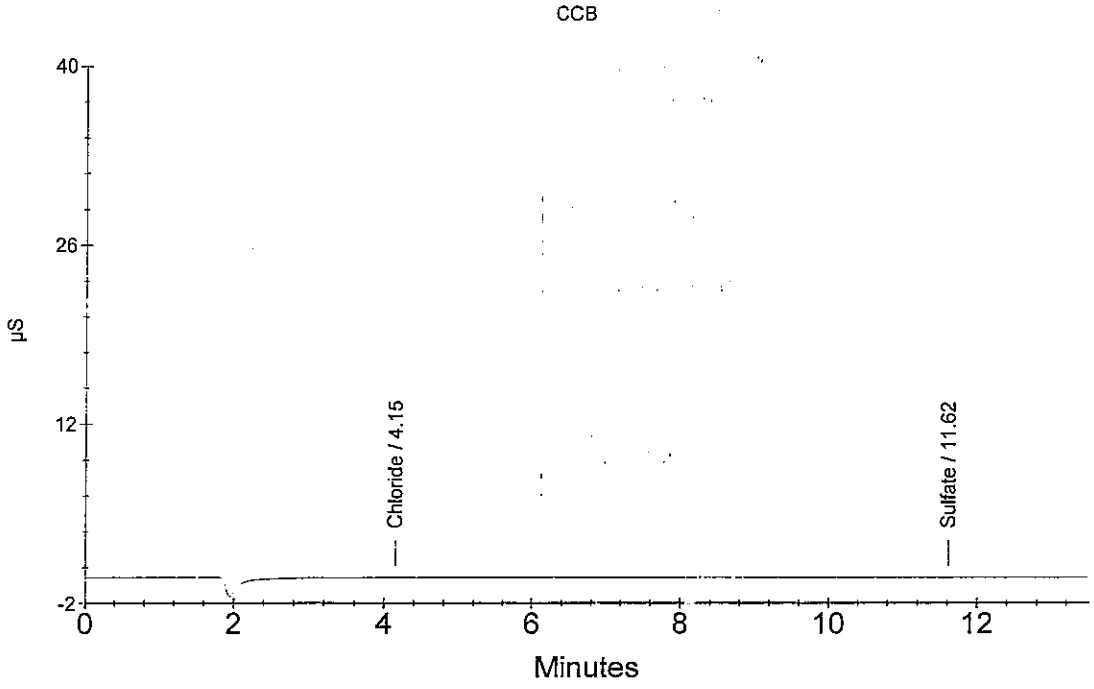
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	4.15	Chloride	ok	0.103	1216
2	11.62	Sulfate	ok	0.063	3700

11/6/09



01142

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906025-003A SPK
Data File Name : ...\1105_063.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 4:15:50 AM

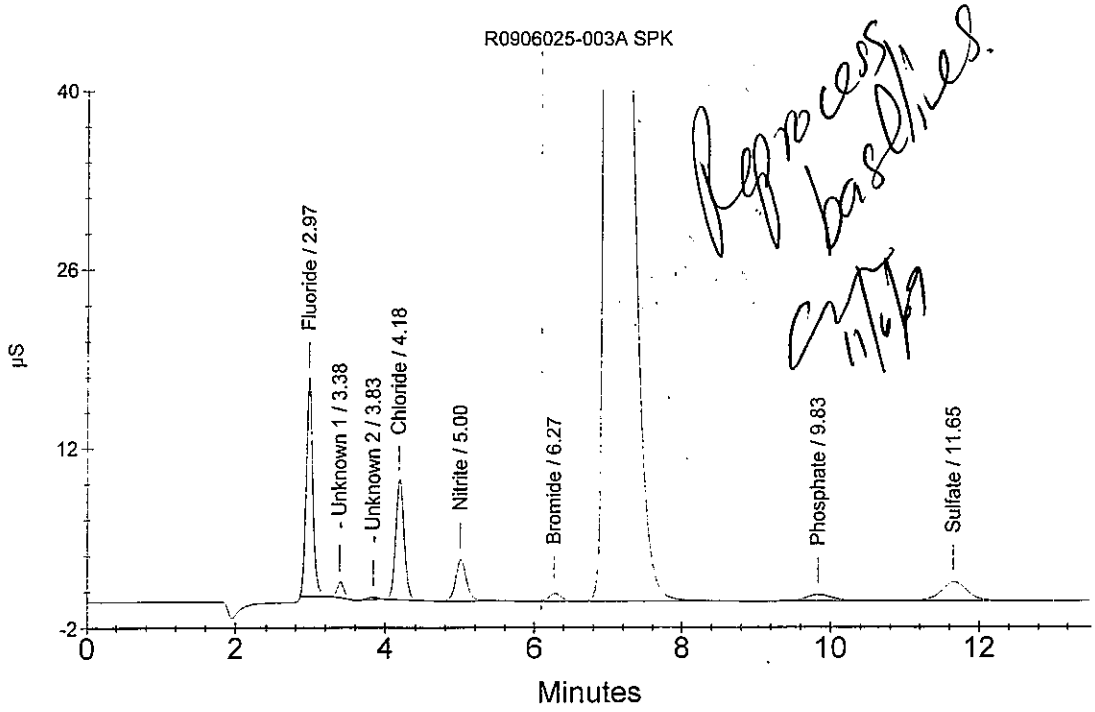
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	3.857	1117357
4	4.18	Chloride	3.576	735510
5	5.00	Nitrite	0.861	336139
6	6.27	Bromide	0.961	71832
7	7.00	Nitrate	68.240	33561896
8	9.83	Phosphate	0.783	119320
9	11.65	Sulfate	2.727	363923



Reprocess baselines. 11/6/09

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906025-003A SPK
Data File Name : ...\1105_063.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 4:15:50 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

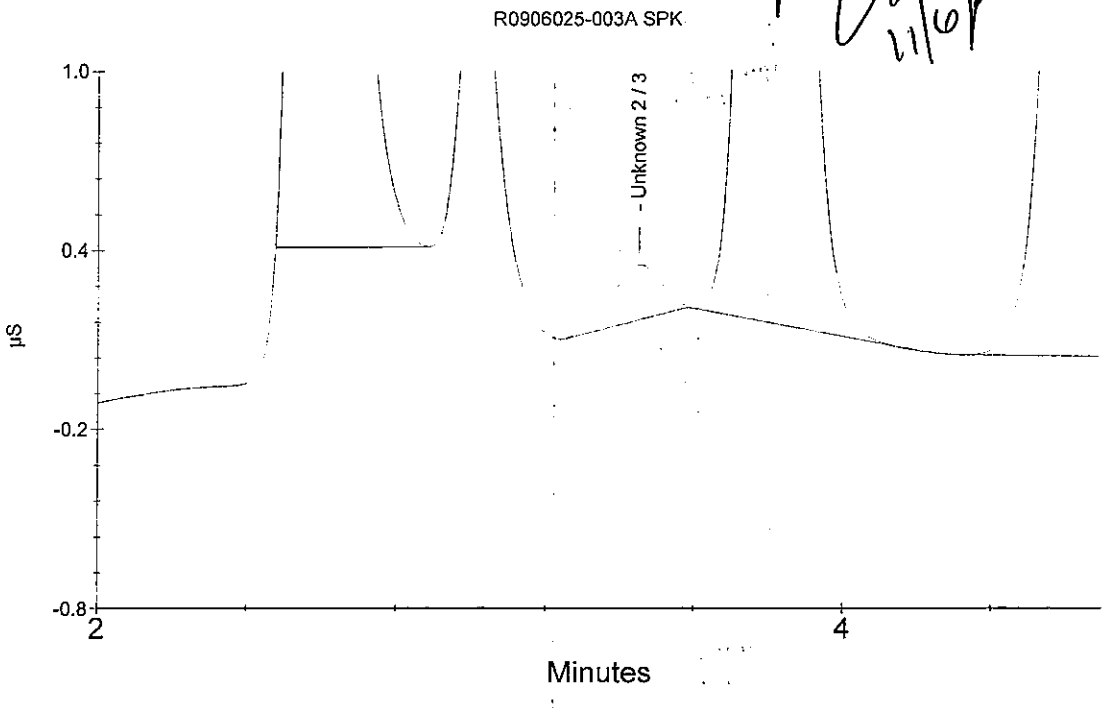
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	3.857	1117357
4	4.18	Chloride	3.576	735510
5	5.00	Nitrite	0.861	336139
6	6.27	Bromide	0.961	71832
7	7.00	Nitrate	68.240	33561896
8	9.83	Phosphate	0.783	119320
9	11.65	Sulfate	2.727	363923

Expanded
11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906025-003A SPK
Data File Name : ...\1105_063.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 4:15:50 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

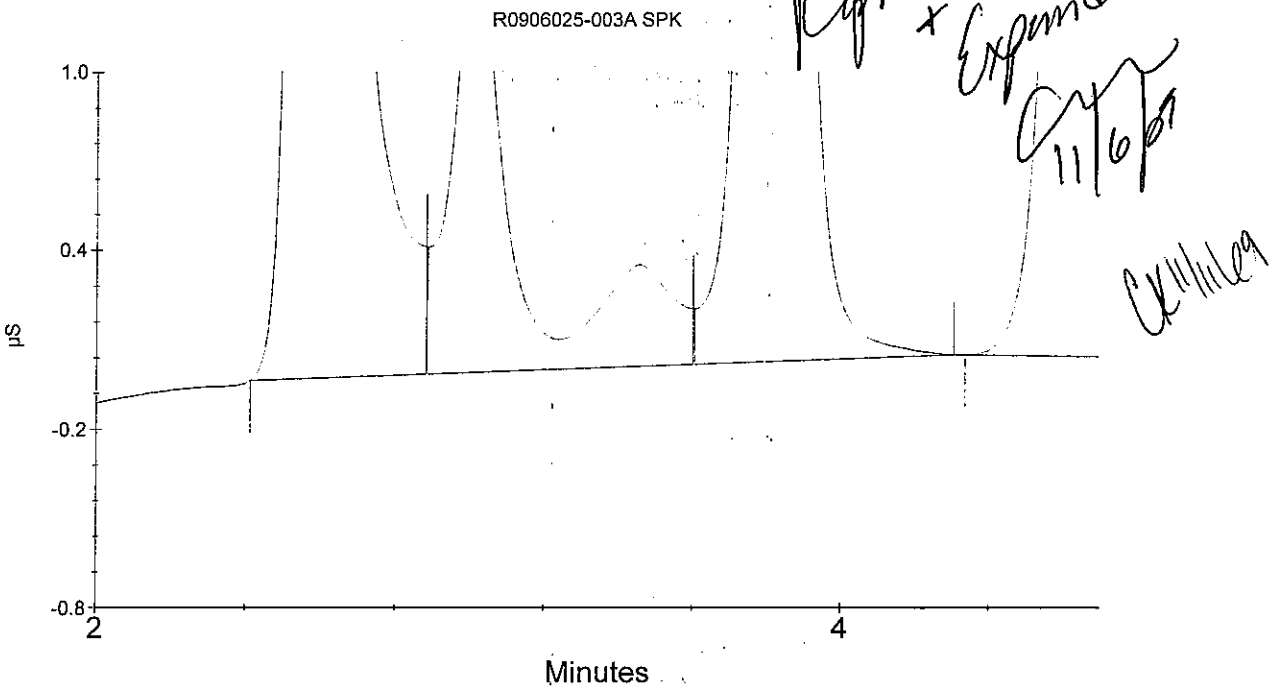
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	4.242	1231222
3	4.20	Chloride	3.757	773740
4	5.00	Nitrite	0.861	336139
5	6.27	Bromide	0.961	71832
6	7.00	Nitrate	68.240	33561896
7	9.83	Phosphate	0.783	119320
8	11.65	Sulfate	2.727	363923

Reprocessed + Expanded.
11/16/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906025-003A SPK
Data File Name : ...\1105_063.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 4:15:50 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

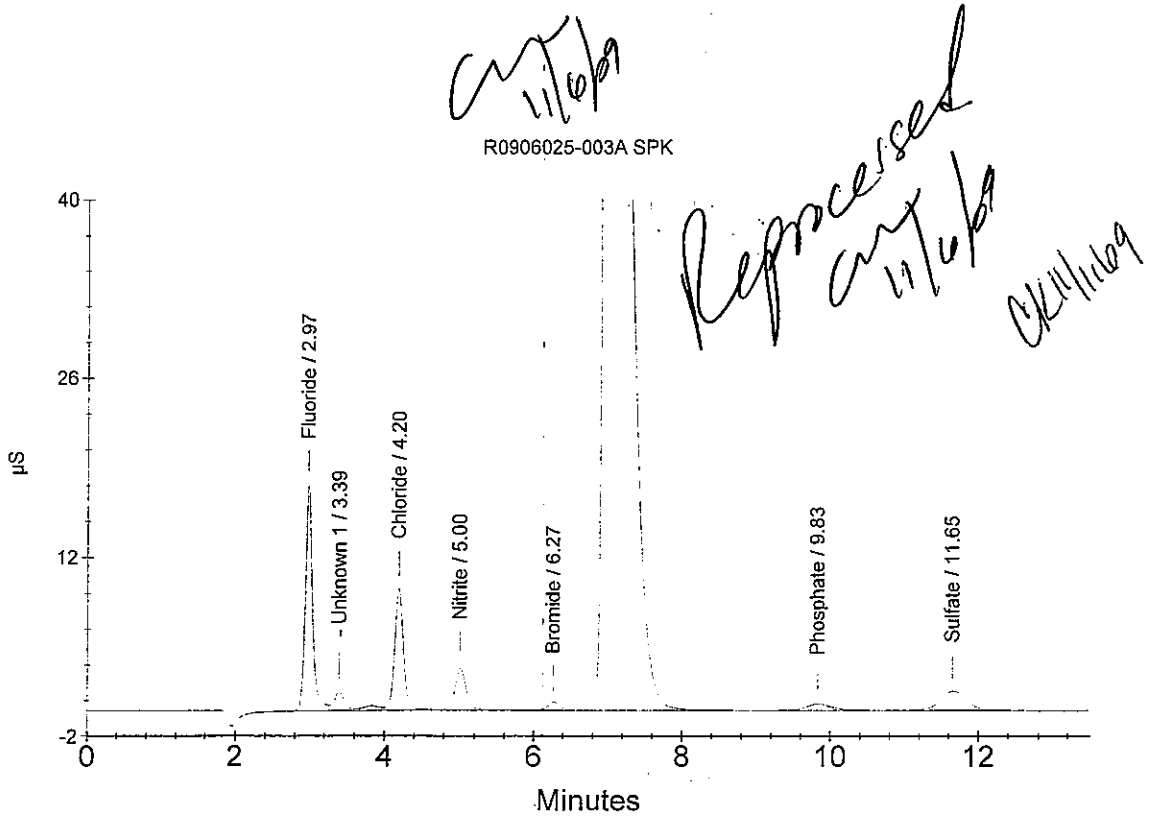
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	2.97	Fluoride	OK	4.242	1231222
3	4.20	Chloride	OK	3.757	773740
4	5.00	Nitrite		0.861	336139
5	6.27	Bromide	OK	0.961	71832
6	7.00	Nitrate		68.240	33561896
7	9.83	Phosphate		0.783	119320
8	11.65	Sulfate	OK	2.727	363923

CMT 11/6/09



Reprocessed CMT 11/6/09 CK 11/10/09

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-009A
Data File Name : ...\1105_064.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 4:31:37 AM

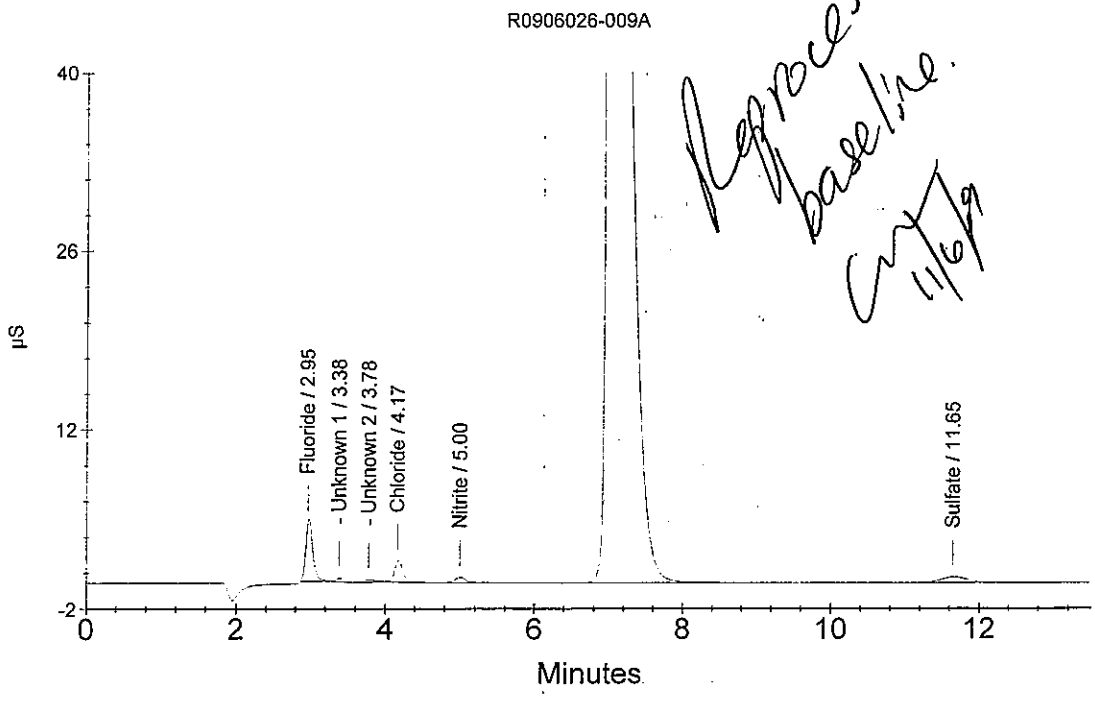
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.95	Fluoride	1.174	324666
4	4.17	Chloride	0.719	131386
5	5.00	Nitrite	0.155	41499
6	7.03	Nitrate	48.196	23694251
7	11.65	Sulfate	0.813	105069



Approves baseline. 11/6/09

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-009A
Data File Name : ...\1105_064.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 4:31:37 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

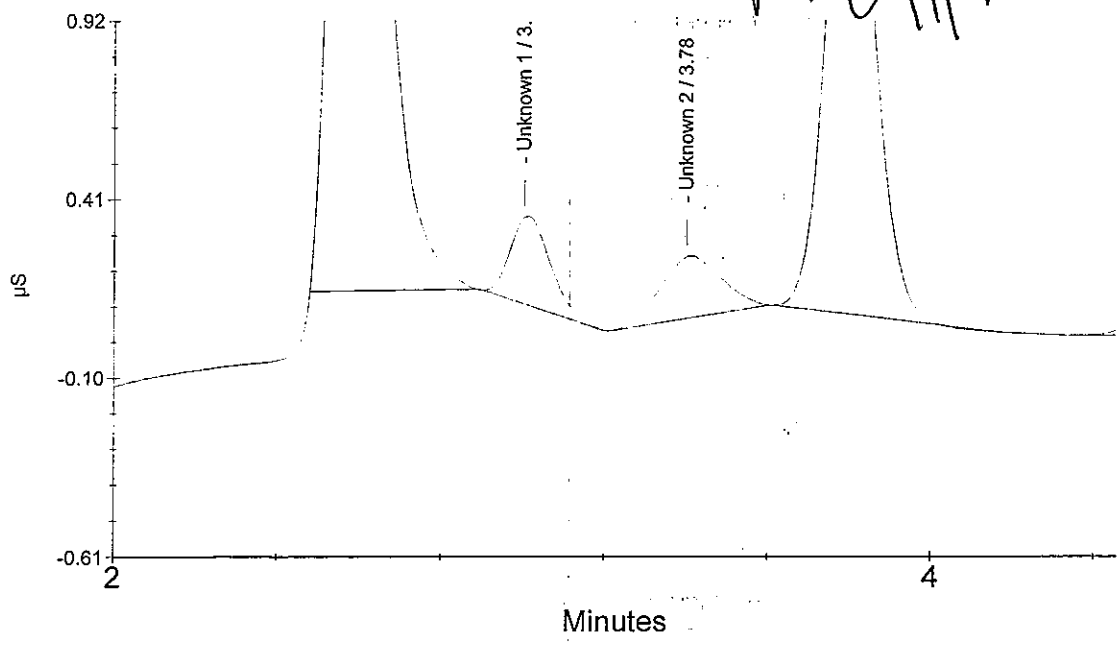
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.95	Fluoride	1.174	324666
4	4.17	Chloride	0.719	131386
5	5.00	Nitrite	0.155	41499
6	7.03	Nitrate Phosphate	48.196	23694251
7	11.65	Sulfate	0.813	105069

reprocess, CM 11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-009A
Data File Name : ...\1105_064.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 4:31:37 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

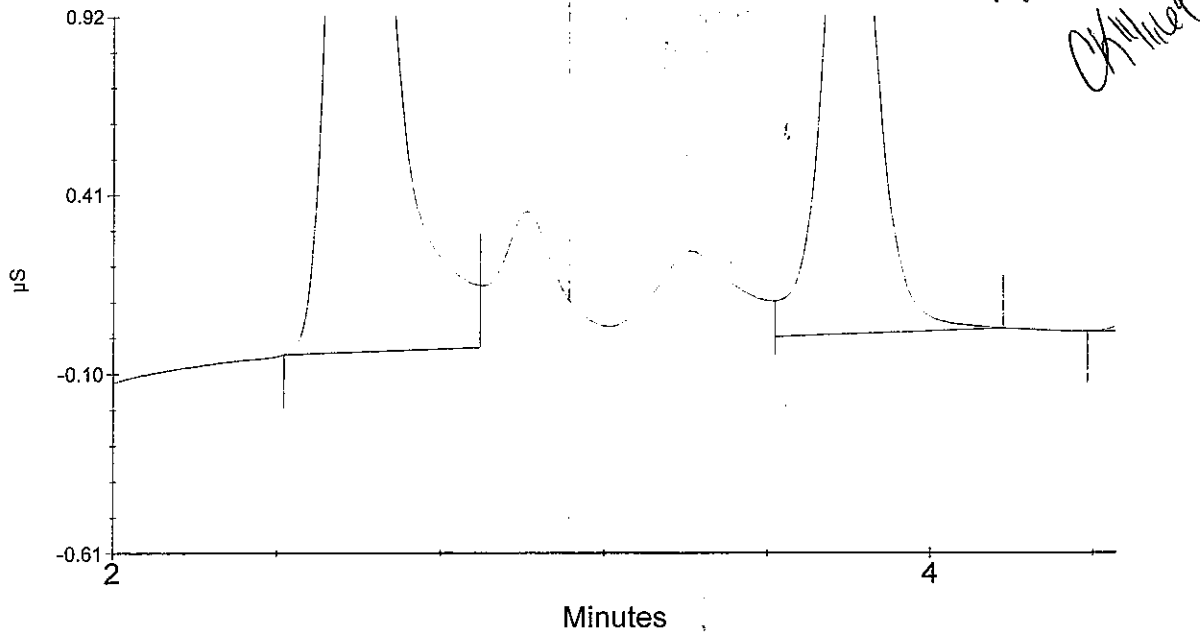
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.95	Fluoride	1.337	372610
2	4.17	Chloride	0.799	148467
3	5.00	Nitrite	0.155	41499
4	7.03	Nitrate	48.196	23694251
5	11.65	Sulfate	0.813	105069

Reprocessed + Expanded. 11/6/09

R0906026-009A



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-009A
Data File Name : ...\1105_064.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 4:31:37 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

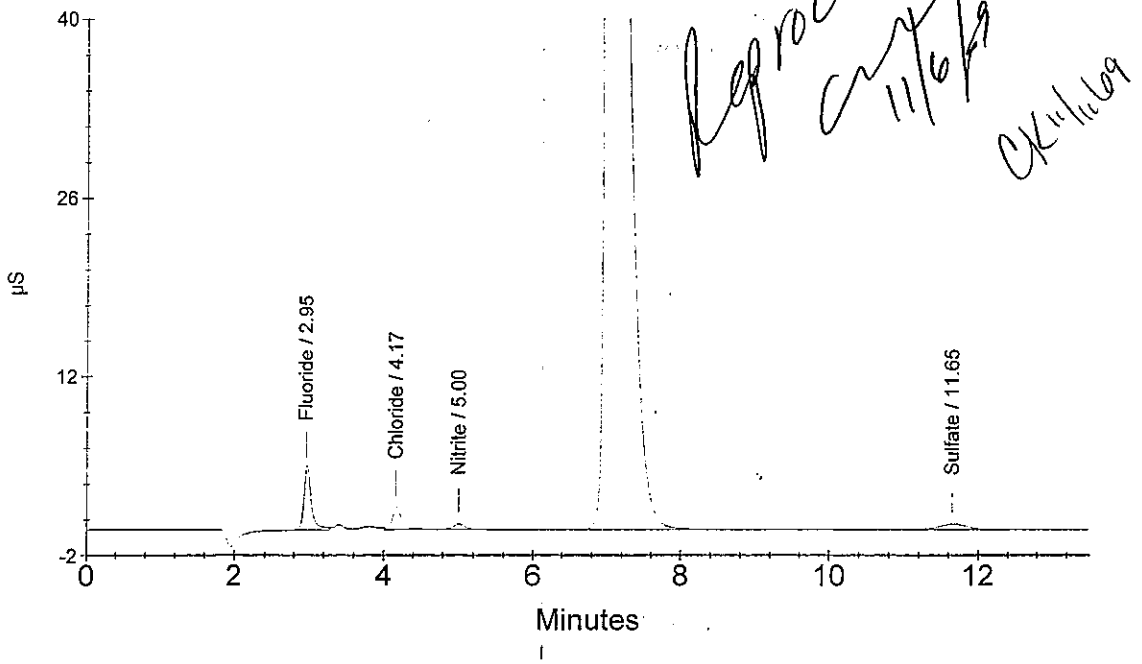
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	2.95	Fluoride	OK	1.337	372610
2	4.17	Chloride	OK	0.799	148467
3	5.00	Nitrite		0.155	41499
4	7.03	Nitrate		48.196	23694251
5	11.65	Sulfate	OK	0.813	105069

$\times \frac{150.3}{0.8491} \times \frac{1}{10000}$

for OK 11/9/09

Reprocessed 11/6/09 OK 11.09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-010A
Data File Name : ...\1105_065.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 4:47:22 AM

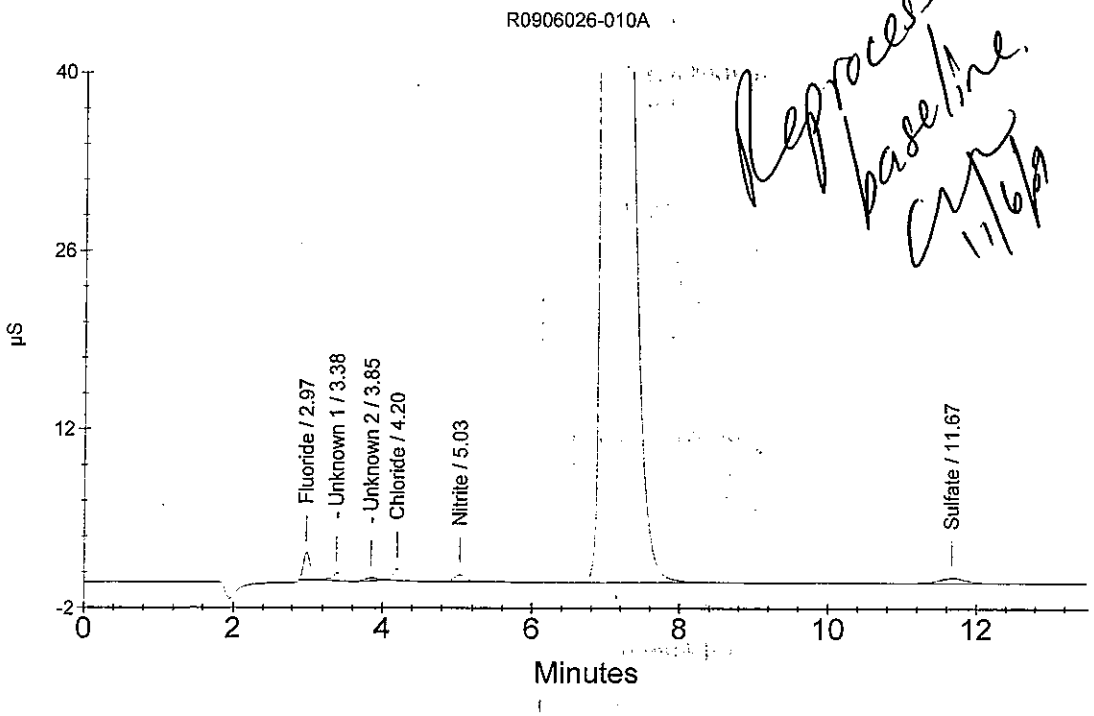
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	0.559	142923
4	4.20	Chloride	0.442	72808
5	5.03	Nitrite	0.208	63653
6	6.98	Nitrate	85.267	41944892
7	11.67	Sulfate	0.776	100144



Reprocess baseline. 11/6/09

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-010A
Data File Name : ...\1105_065.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 4:47:22 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

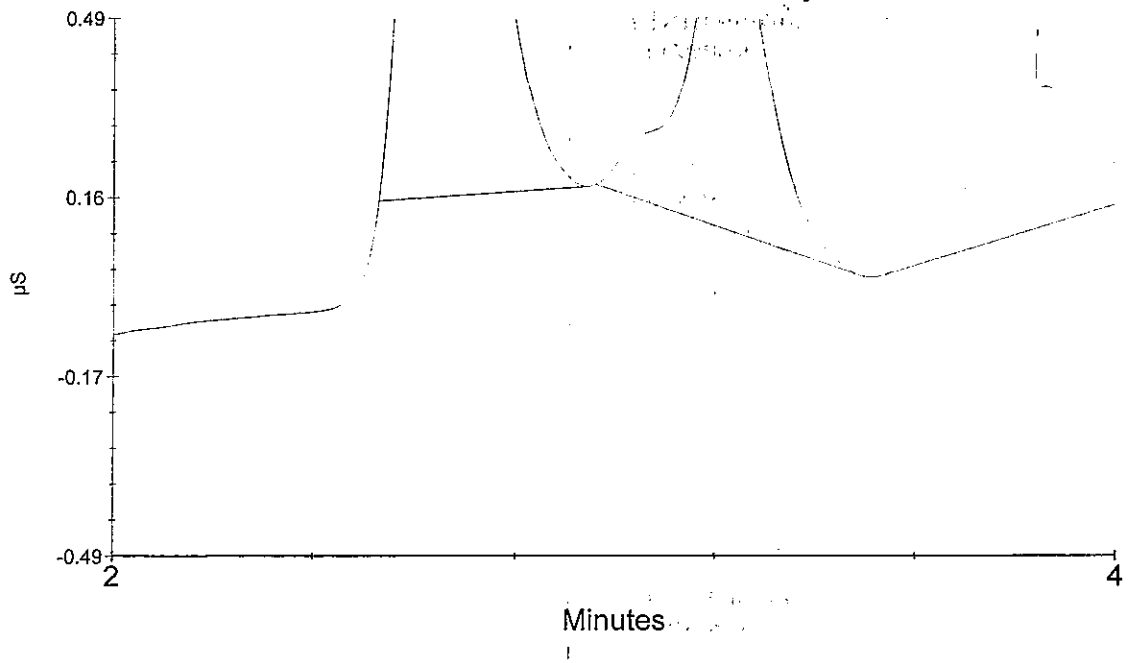
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	0.559	142923
4	4.20	Chloride	0.442	72808
5	5.03	Nitrite	0.208	63653
6	6.98	Nitrate	85.267	41944892
7	11.67	Sulfate	0.776	100144

Reprocess. 11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-010A
Data File Name : ...\1105_065.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 4:47:22 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

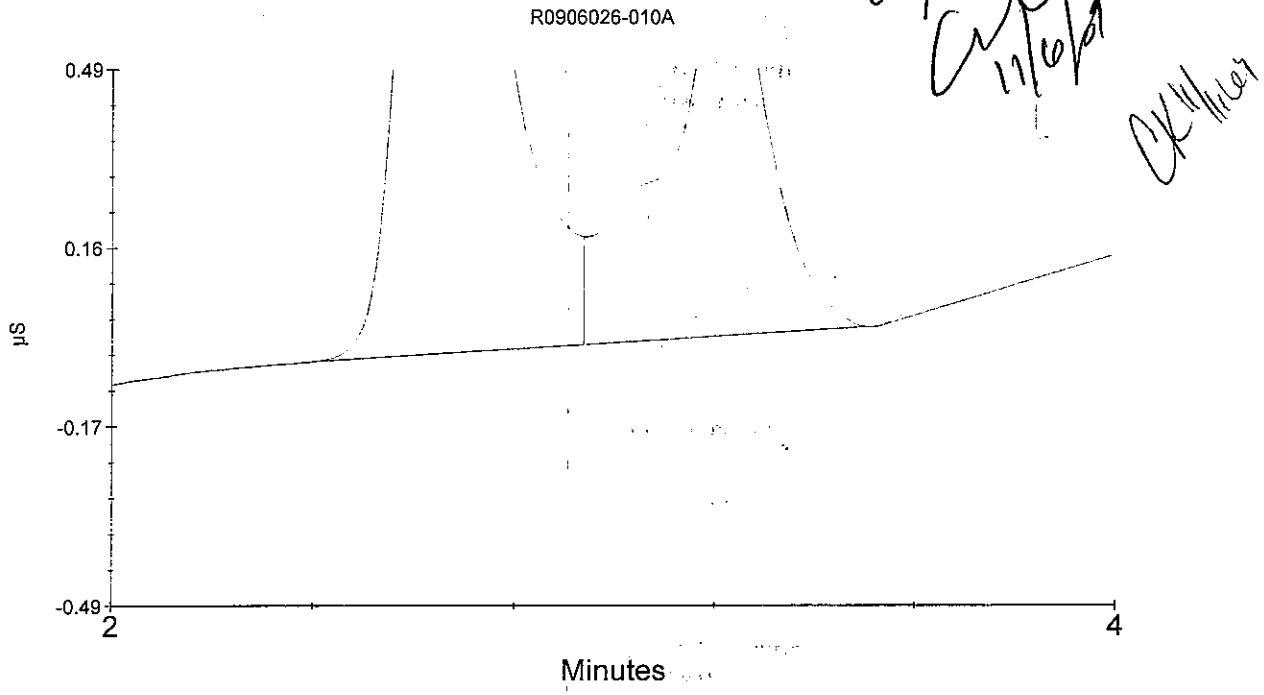
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	0.688	180963
4	4.20	Chloride	0.442	72808
5	5.03	Nitrite	0.208	63653
6	6.98	Nitrate	85.267	41944892
7	11.67	Sulfate	0.776	100144

Reprocessed Expanded. 11/10/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-010A
Data File Name : ...\1105_065.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 4:47:22 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

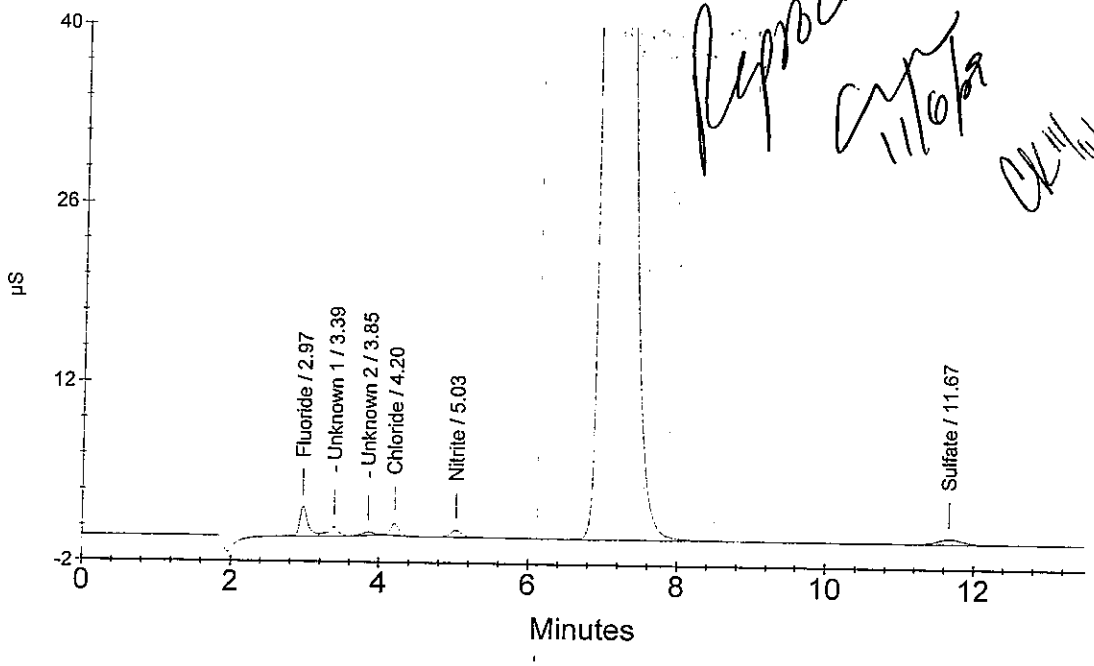
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	2.97	Fluoride	ok	0.688	180963
4	4.20	Chloride	ok	0.442	72808
5	5.03	Nitrite		0.208	63653
6	6.98	Nitrate		85.267	41944892
7	11.67	Sulfate	ok	0.776	100144

$\times \frac{150.9}{0.8324} \times \frac{1}{10000}$

Br ok
11/6/09

Reprocessed.
11/6/09
ok 11.6.09



01154

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-011A
Data File Name : ...\1105_066.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 5:03:09 AM

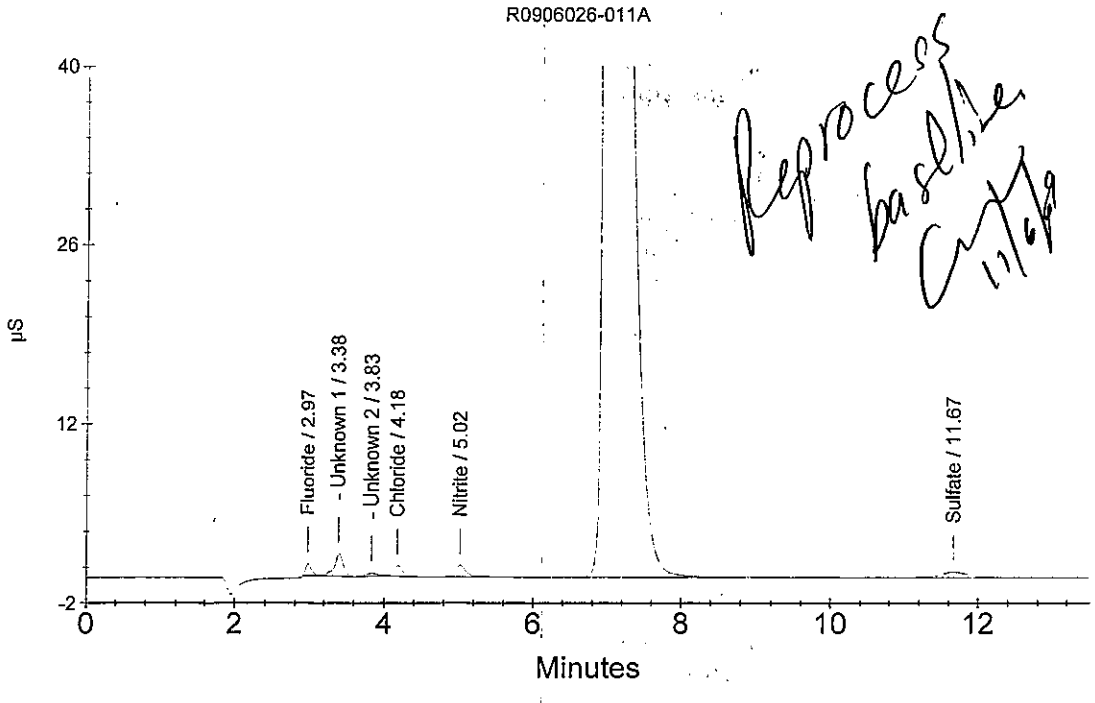
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	0.272	58103
4	4.18	Chloride	0.402	64338
5	5.02	Nitrite	0.284	95394
6	7.00	Nitrate	72.141	35482773
7	11.67	Sulfate	0.806	104228



Reprocess baseline 11/6/09

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-011A
Data File Name : ...\1105_066.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 5:03:09 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

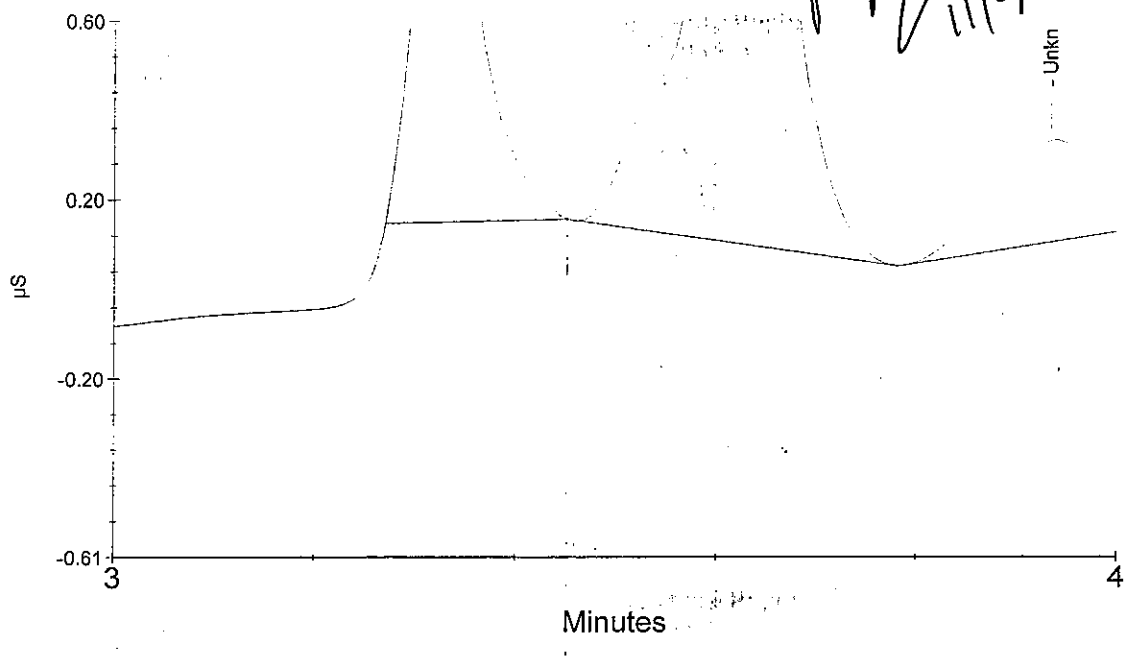
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	0.272	58103
4	4.18	Chloride	0.402	64338
5	5.02	Nitrite	0.284	95394
6	7.00	Nitrate	72.141	35482773
7	11.67	Sulfate	0.806	104228

Expanded Reprocess. 11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-011A
Data File Name : ...\1105_066.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 5:03:09 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

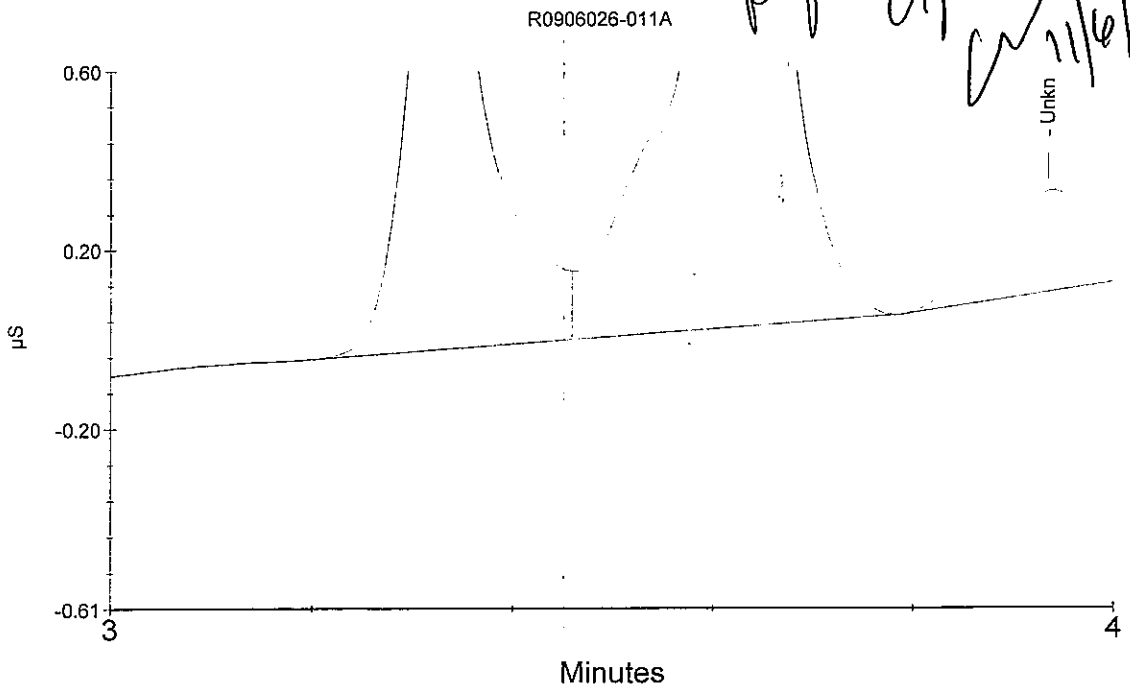
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	0.371	87309
4	4.18	Chloride	0.402	64338
5	5.02	Nitrite	0.284	95394
6	7.00	Nitrate	72.141	35482773
7	11.67	Sulfate	0.806	104228

Reprocessed. Expanded.
11/6/09
11/11/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-011A
Data File Name : ...\1105_066.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 5:03:09 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

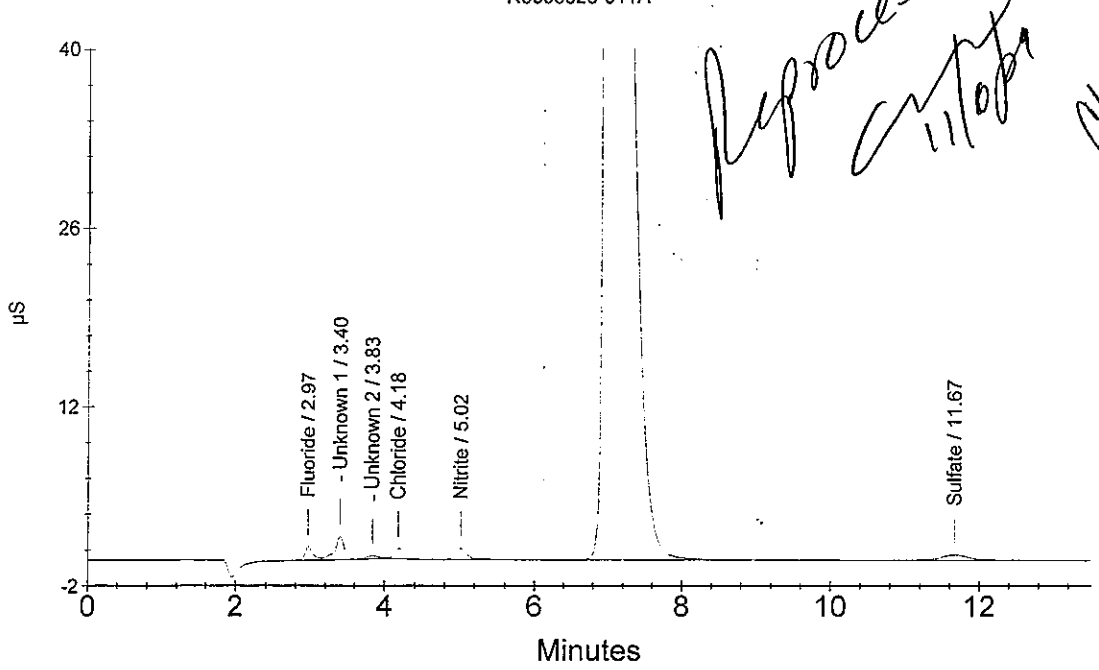
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	2.97	Fluoride	ok	0.371	87309
4	4.18	Chloride	ok	0.402	64338
5	5.02	Nitrite		0.284	95394
6	7.00	Nitrate		72.141	35482773
7	11.67	Sulfate	ok	0.806	104228

$\times \frac{150.6}{0.8347} \times \frac{1}{10000}$

BrOk 11/6/09



Reprocessed. 11/6/09 CK 11/11/09

01158

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-012A
Data File Name : ...\1105_067.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 5:18:54 AM

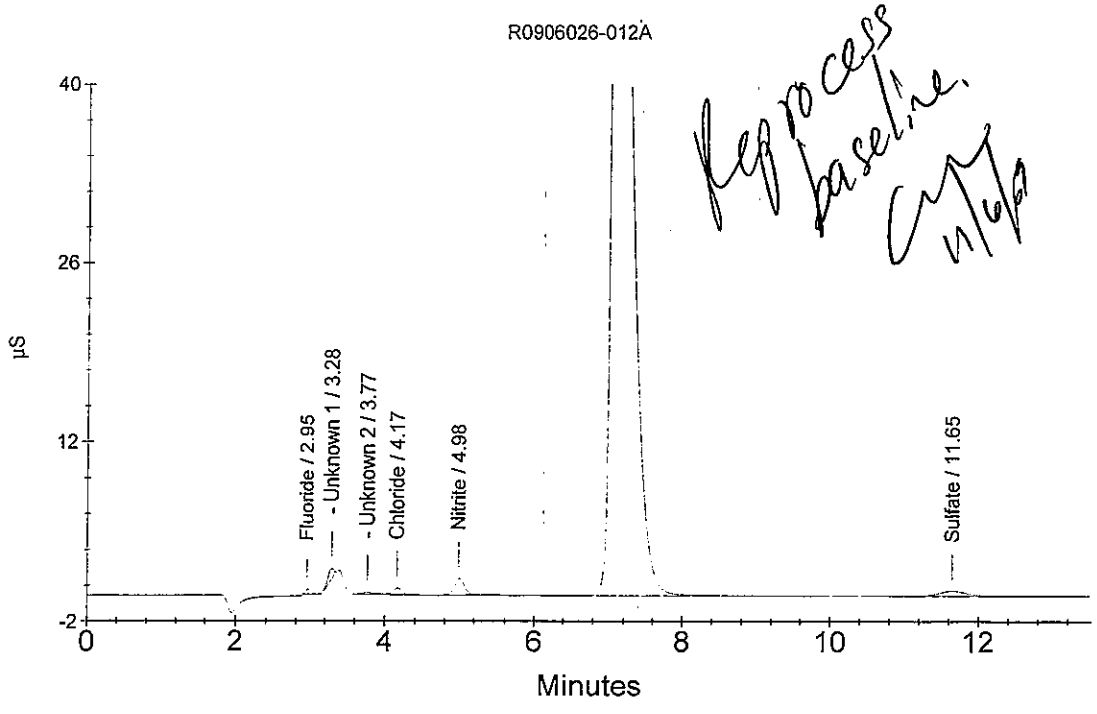
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.95	Fluoride	0.155	23454
4	4.17	Chloride	0.289	40439
5	4.98	Nitrite	0.363	128070
6	7.08	Nitrate	32.945	16186058
7	11.65	Sulfate	0.745	95974



keep process baseline. 11/6/09

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-012A
Data File Name : ...\1105_067.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 5:18:54 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

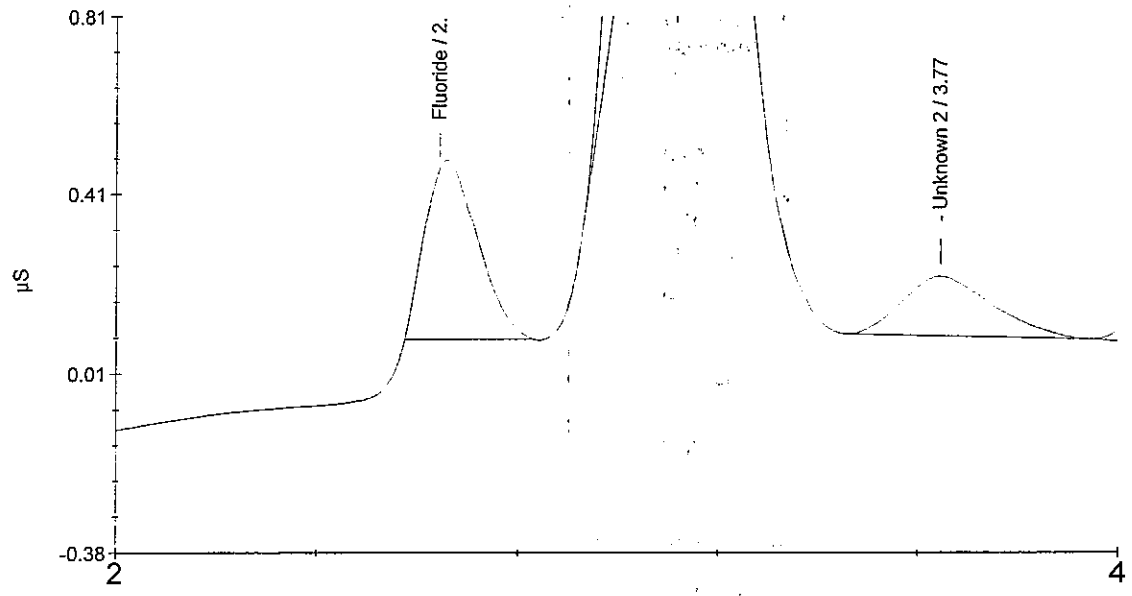
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.95	Fluoride	0.155	23454
4	4.17	Chloride	0.289	40439
5	4.98	Nitrite	0.363	128070
6	7.08	Nitrate	32.945	16186058
7	11.65	Sulfate	0.745	95974

Reprocess. 11/6/09



01160

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-012A
Data File Name : ...\1105_067.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 5:18:54 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

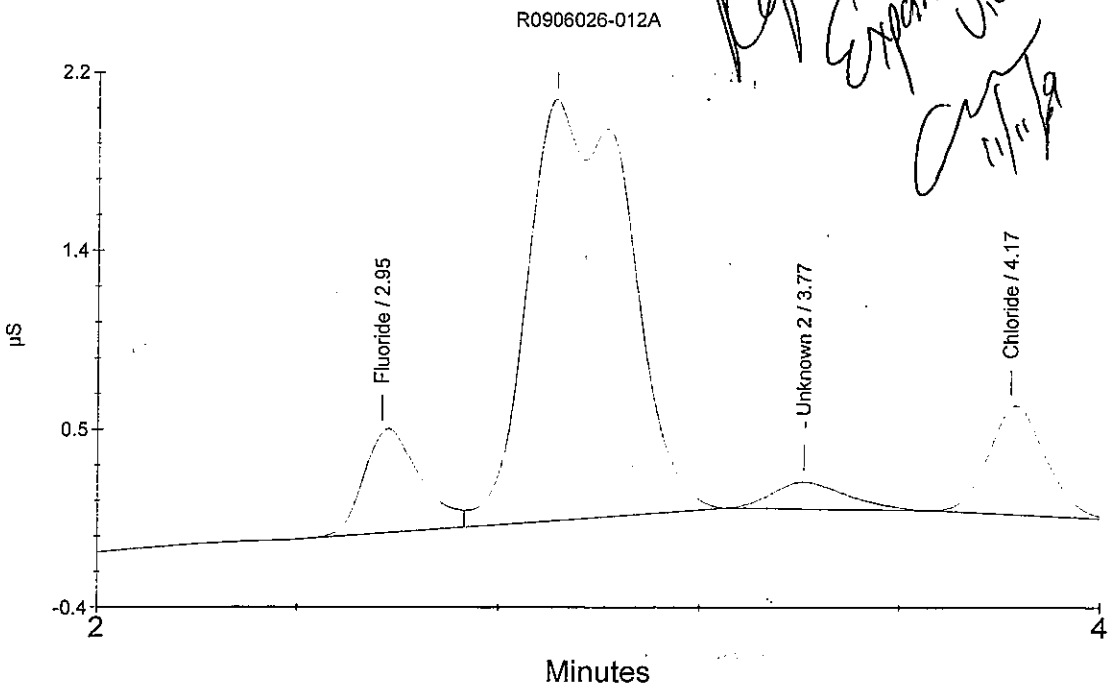
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.95	Fluoride	0.205	38187
4	4.17	Chloride	0.289	40439
5	4.98	Nitrite	0.363	128070
6	7.08	Nitrate	32.945	16186058
7	11.65	Sulfate	0.745	95974

Reprocessed. Expanded view. 11/11/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-012A
Data File Name : ...\1105_067.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 5:18:54 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F, %BR, BTU (9056)

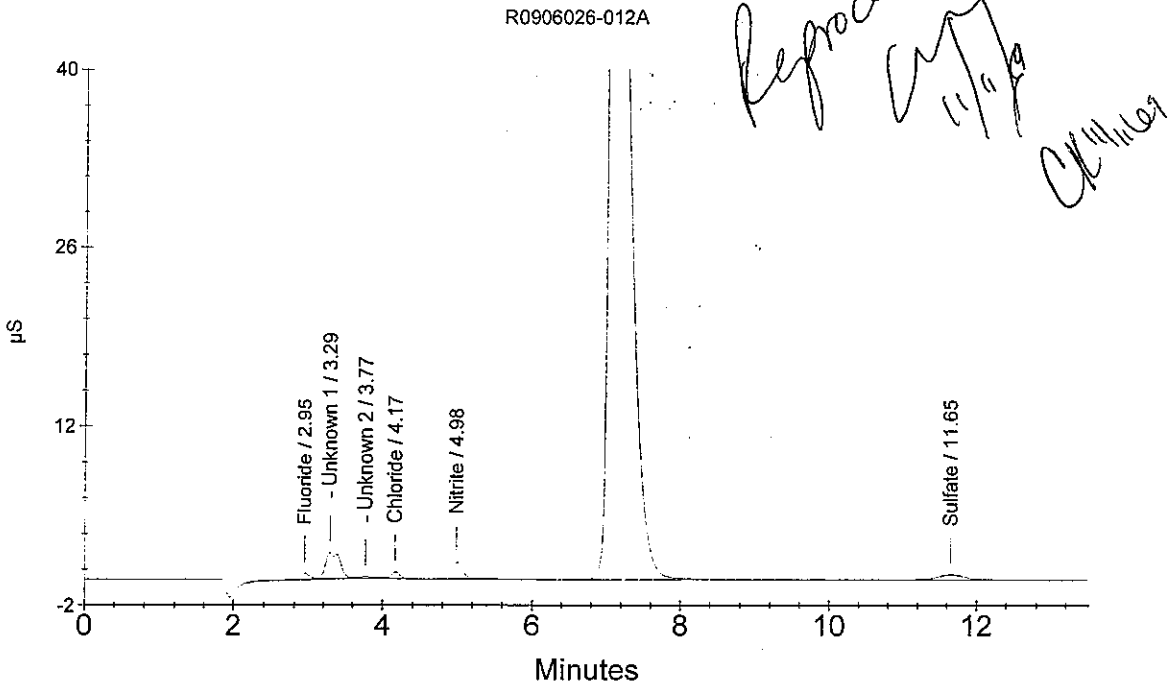
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	2.95	Fluoride	ok	0.205	38187
4	4.17	Chloride	ok	0.289	40439 x 150.5 / 0.8014 x 1/10000
5	4.98	Nitrite		0.363	128070
6	7.08	Nitrate		32.945	16186058
7	11.65	Sulfate	ok	0.745	95974

Br OK
11/11/09

Reprocessed.
11/11/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-013A
Data File Name : ...\1105_068.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 5:34:40 AM

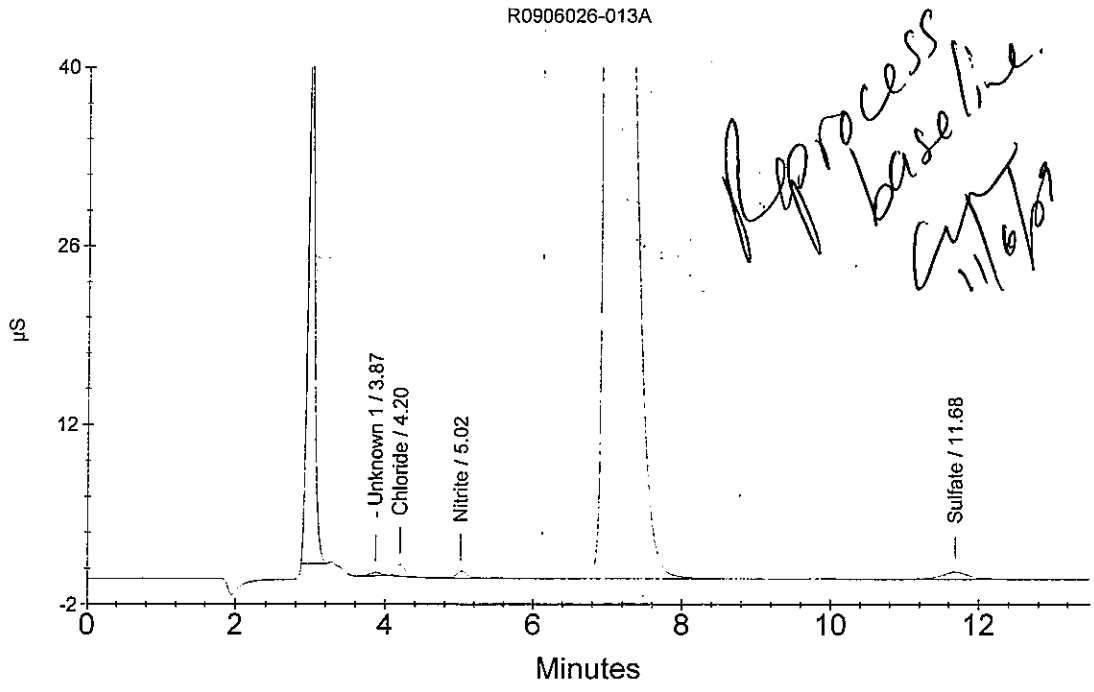
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.98	Fluoride	9.483	2779692
3	4.20	Chloride	0.435	71481
4	5.02	Nitrite	0.189	55498
5	7.00	Nitrate	78.538	38632006
6	11.68	Sulfate	0.986	128589



Approx baseline.
11/6/09

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-013A
Data File Name : ...\1105_068.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 5:34:40 AM

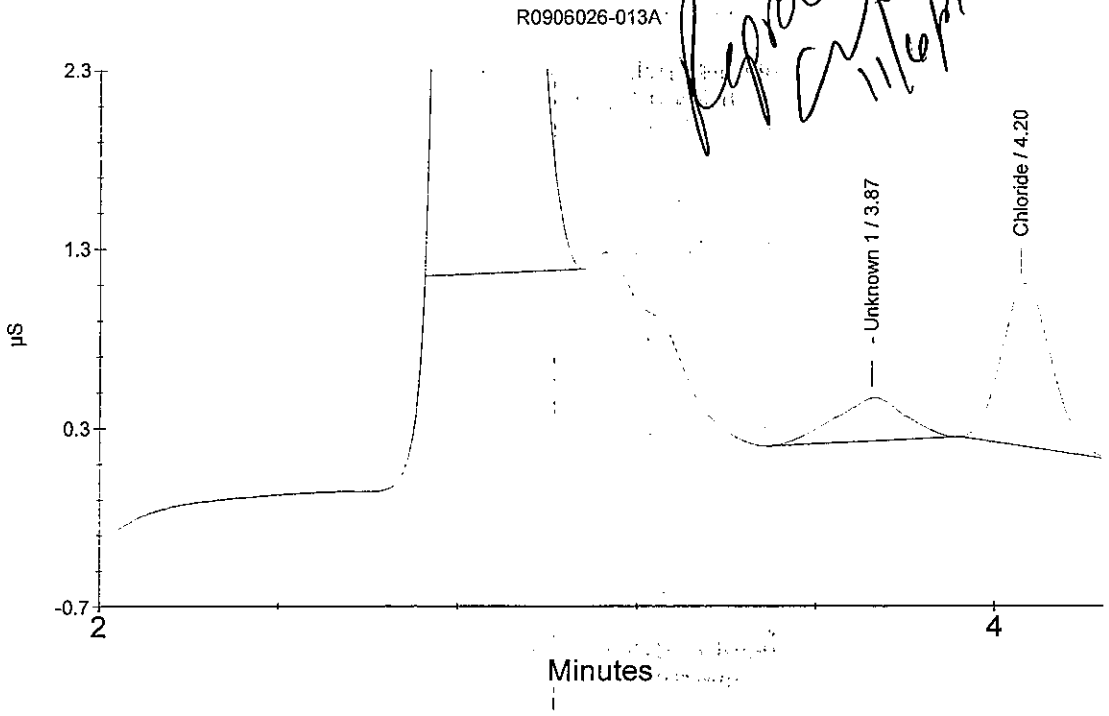
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.98	Fluoride	9.483	2779692
3	4.20	Chloride	0.435	71481
4	5.02	Nitrite	0.189	55498
5	7.00	Nitrate	78.538	38632006
6	11.68	Sulfate	0.986	128589



Reprocess. 11/6/09

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-013A
Data File Name : ...\1105_068.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 5:34:40 AM

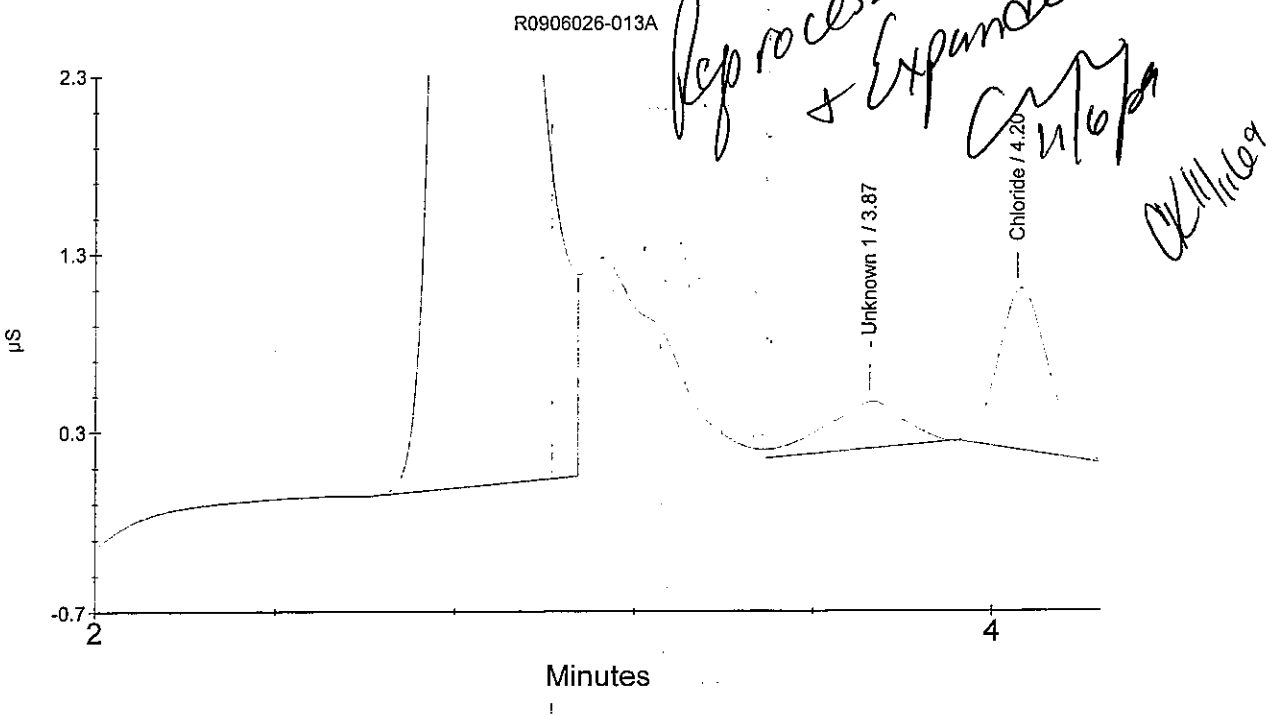
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.98	Fluoride	10.363	3039805
3	4.20	Chloride	0.435	71481
4	5.02	Nitrite	0.189	55498
5	7.00	Nitrate	78.538	38632006
6	11.68	Sulfate	0.986	128589



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906026-013A
Data File Name : ...\1105_068.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 5:34:40 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL, %F,%BR,BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

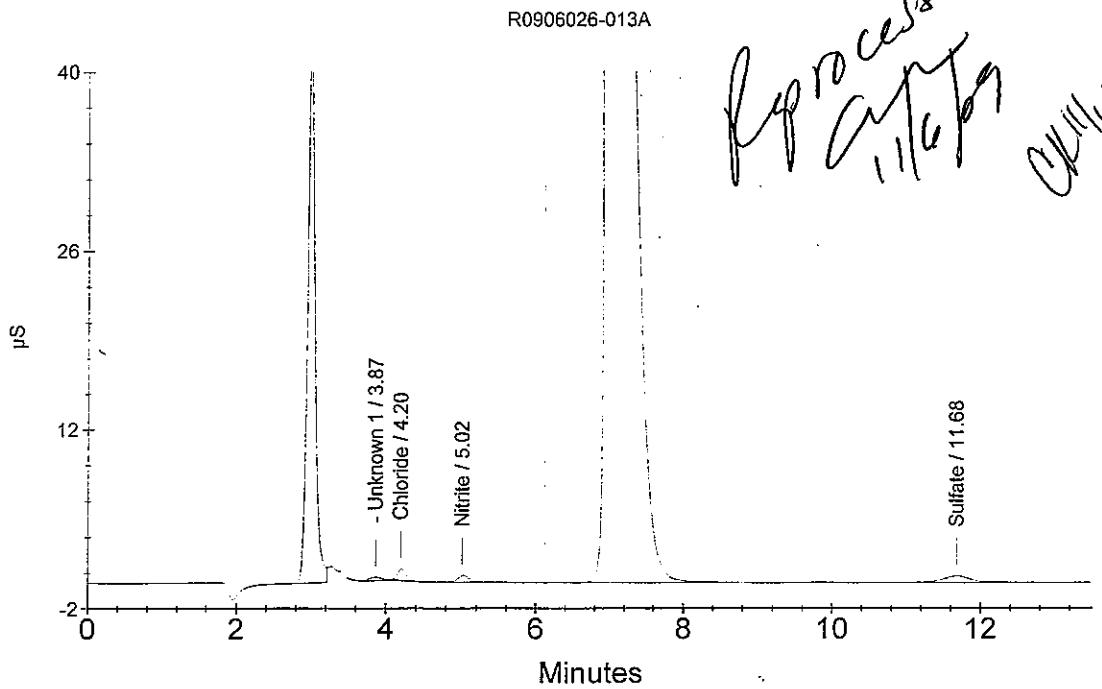
Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.98	Fluoride	10.363	3039805
3	4.20	Chloride	0.435	71481
4	5.02	Nitrite	0.189	55498
5	7.00	Nitrate	78.538	38632006
6	11.68	Sulfate	0.986	128589

1/4 ok

X 150.7 / 0.860F × 1/10000

Br ok 11/6/09

Reprocessed 11/6/09 OK 11/11/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : BLK1103C
Data File Name : ...\1105_069.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 5:50:27 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL,TH:CL (9056)

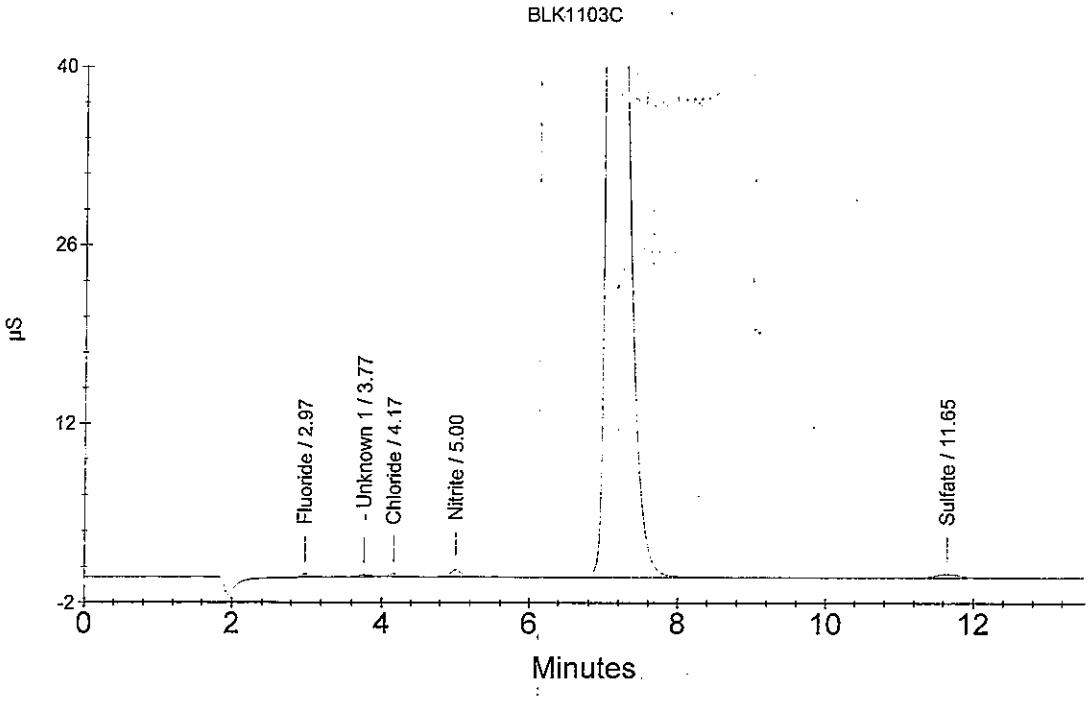
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.97	Fluoride	0.144	20319
3	4.17	Chloride	0.187	19052
4	5.00	Nitrite	0.193	57339
5	7.08	Nitrate	35.405	17397099
6	11.65	Sulfate	0.539	68082

OK

11/6/9



01167

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LHAL1103A
Data File Name : ...\1105_070.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 6:06:12 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : TH:CL (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

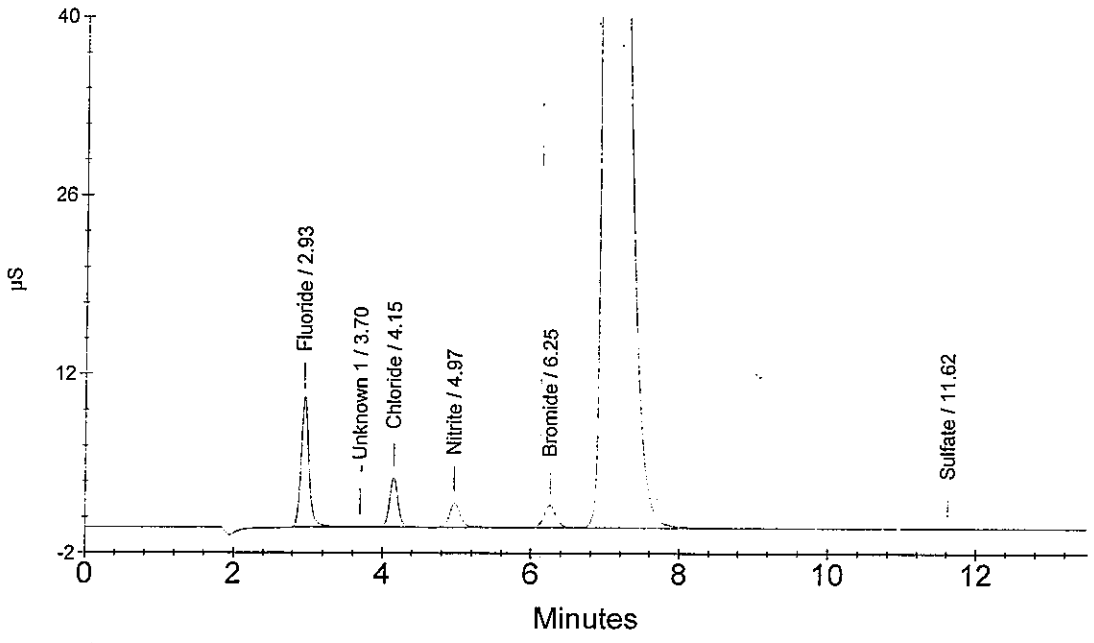
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	2.471	707706
3	4.15	Chloride	1.555	308277
4	4.97	Nitrite	0.513	190894
5	6.25	Bromide	2.660	200835
6	7.00	Nitrate	55.774	27424974
7	11.62	Sulfate	0.131	12910

OK

11/6/09

LHAL1103A



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LNAQ1103A
Data File Name : ...\1105_071.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 6:21:59 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

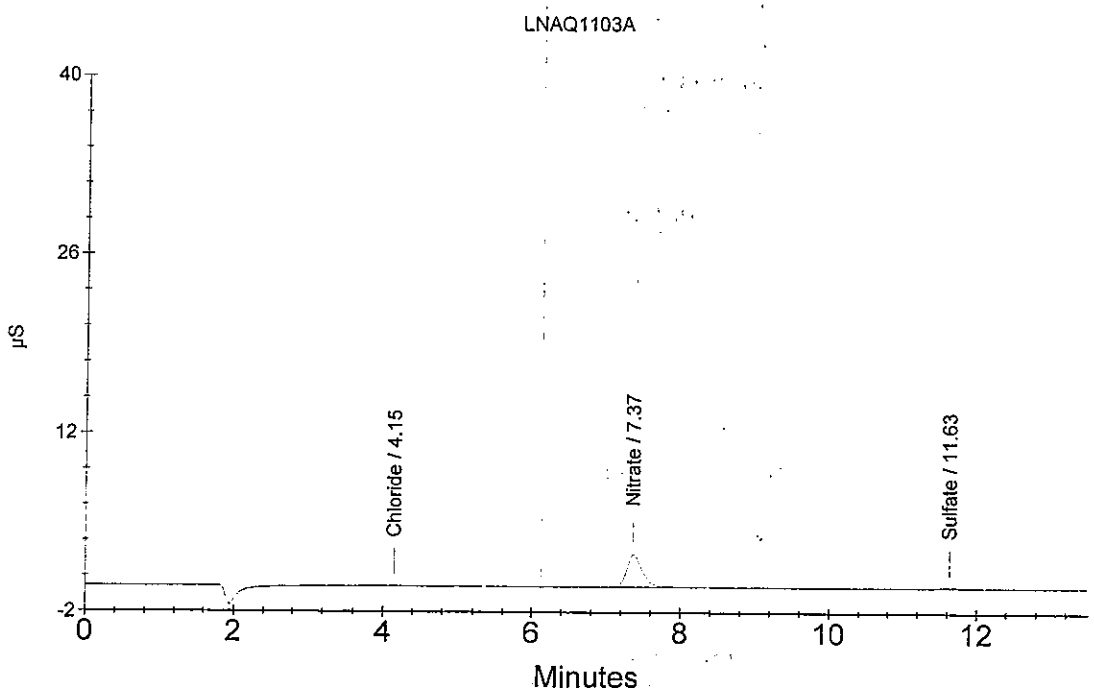
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.15	Chloride	0.106	1835
2	7.37	Nitrate	0.836	378207
3	11.63	Sulfate	0.159	16747

11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCL1103A
Data File Name : ...\1105_072.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 6:37:45 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL (9056)

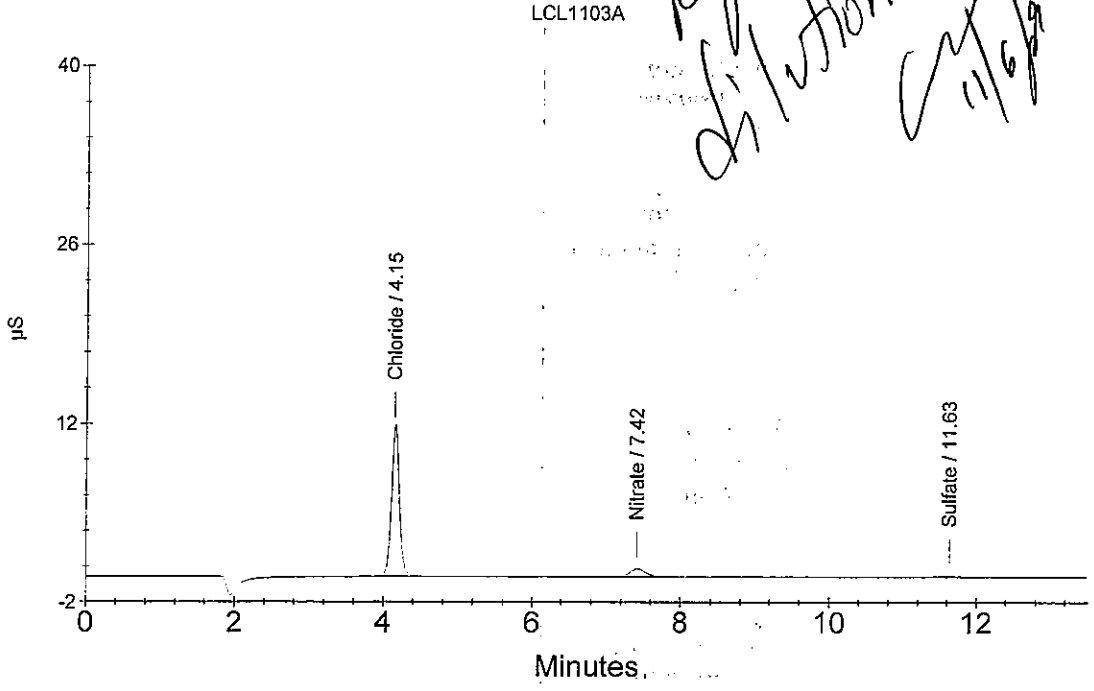
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.15	Chloride	4.350	899122
2	7.42	Nitrate	0.258	93843
3	11.63	Sulfate	0.191	21055

OK
11/6

Reprocess
dilution = 100
11/6



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCL1103A
Data File Name : ...\1105_072.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 6:37:45 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 100.00
Sample Type : Sample Analysis
Sample Comment : %CL (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

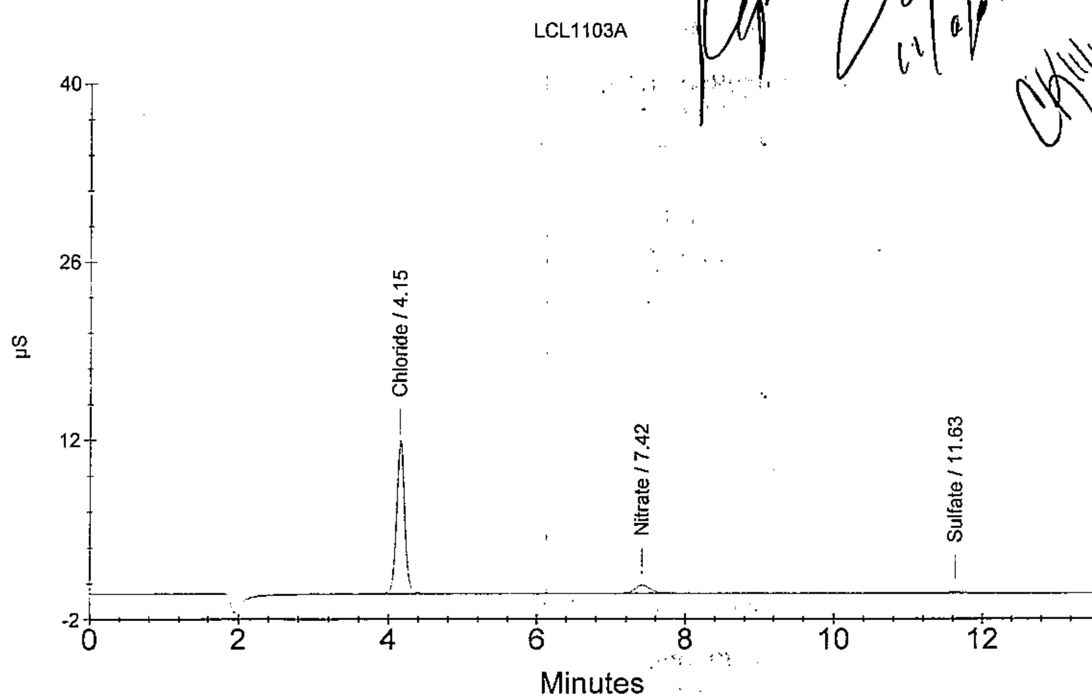
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.15	Chloride	434.986	899122
2	7.42	Nitrate	25.842	93843
3	11.63	Sulfate	19.118	21055

11/6/09

Reprocessed 11/6/09

11/11/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\1105_073.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 6:53:31 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

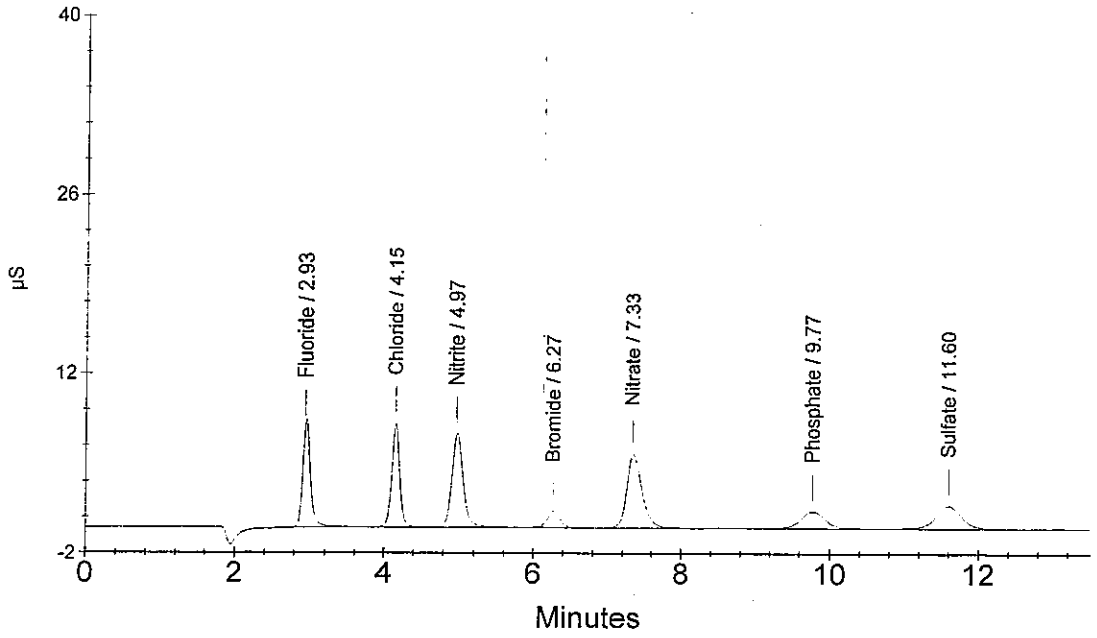
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.93	Fluoride	1.964	557990
2	4.15	Chloride	3.026	619261
3	4.97	Nitrite	1.810	731867
4	6.27	Bromide	2.017	151982
5	7.33	Nitrate	1.788	846726
6	9.77	Phosphate	1.855	293351
7	11.60	Sulfate	3.173	424224

11/6/09

CCV



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\1105_074.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 7:09:18 AM

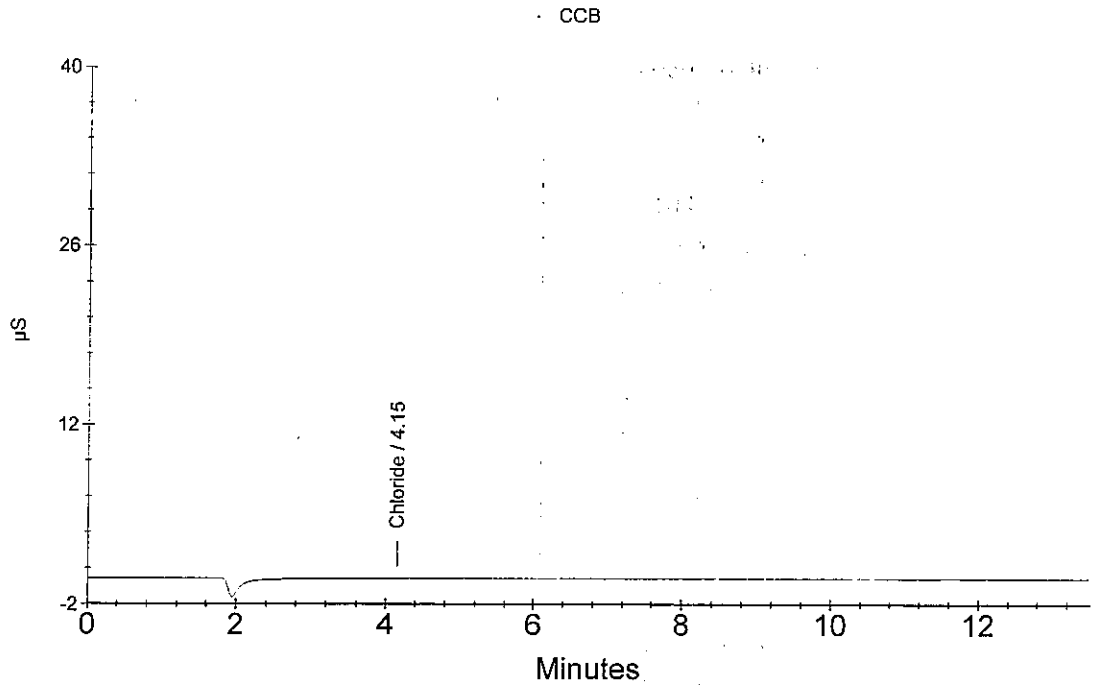
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	4.15	Chloride	0.103	1170



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCS
Data File Name : ...\1105_075.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 7:25:03 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

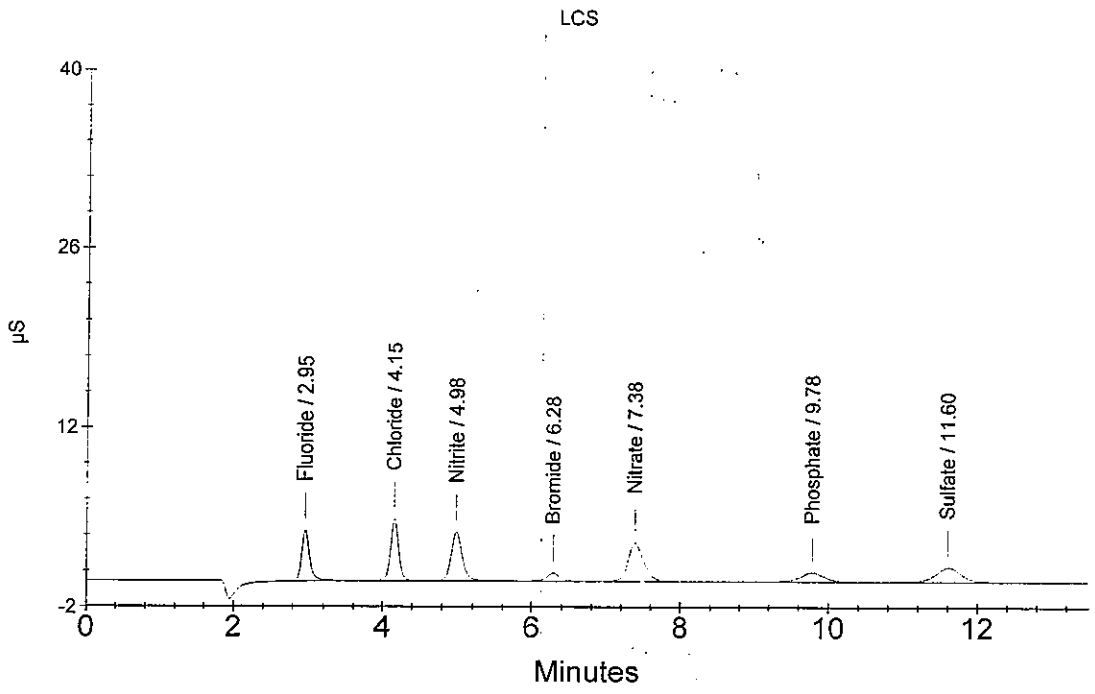
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.95	Fluoride	0.992	270786
2	4.15	Chloride	1.884	377676
3	4.98	Nitrite	0.975	383776
4	6.28	Bromide	1.002	74894
5	7.38	Nitrate	0.973	445532
6	9.78	Phosphate	1.043	161532
7	11.60	Sulfate	2.063	274095

ok

11/6



01174

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906082-001A
Data File Name : ...\1105_076.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 7:40:50 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

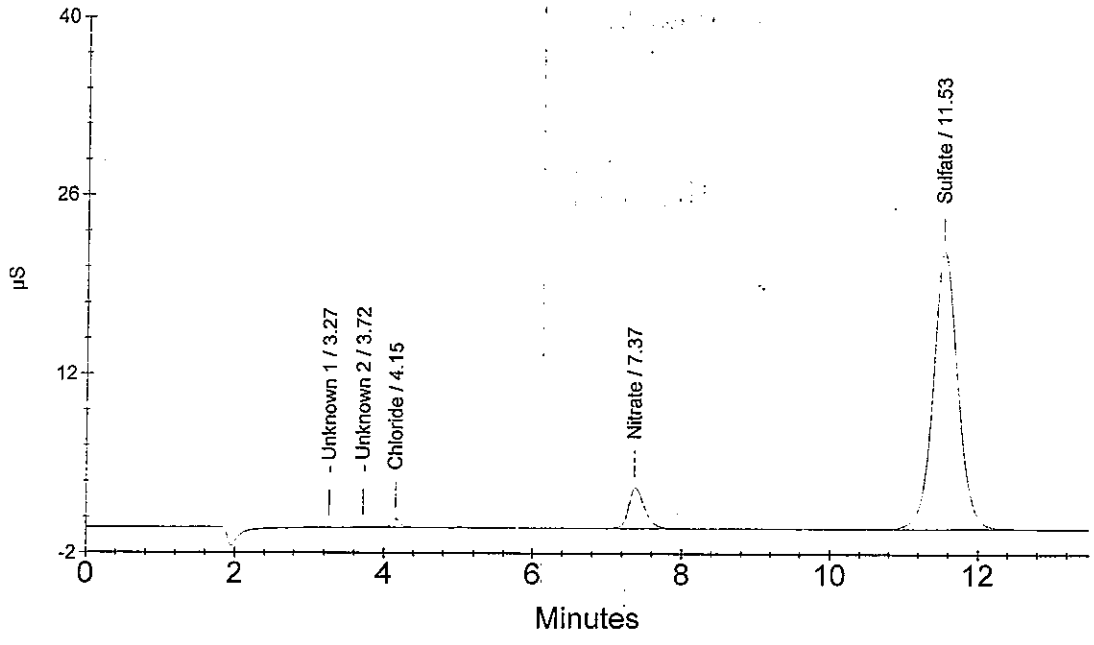
Dilution Factor : 40.00
Sample Type : Sample Analysis
Sample Comment : BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
3	4.15	Chloride	13.539	50997
4	7.37	Nitrate	40.534	465502
5	11.53	Sulfate	1481.909	5004605

R0906082-001A



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906082-001B
Data File Name : ...\1105_077.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 7:56:36 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 40.00
Sample Type : Sample Analysis
Sample Comment : BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

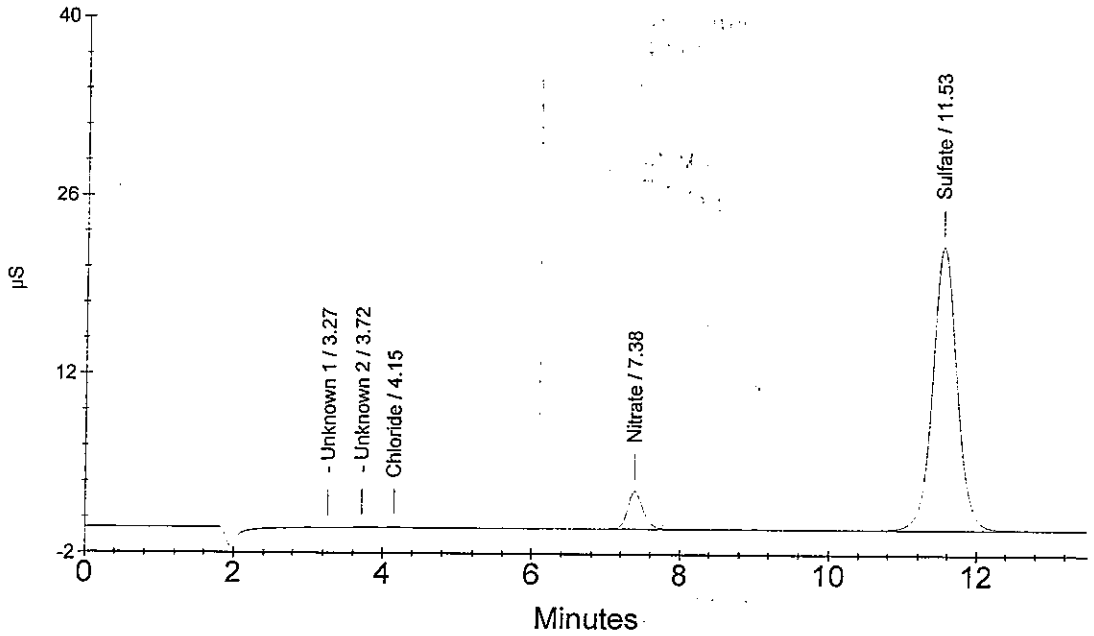
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
3	4.15	Chloride	4.530	3379
4	7.38	Nitrate	37.696	430575
5	11.53	Sulfate	1515.720	5118900

1/400

11/6/09

R0906082-001B



01176

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906082-001A SPK
Data File Name : ...\1105_078.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 8:12:22 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 40.00
Sample Type : Sample Analysis
Sample Comment : BTU (9056)

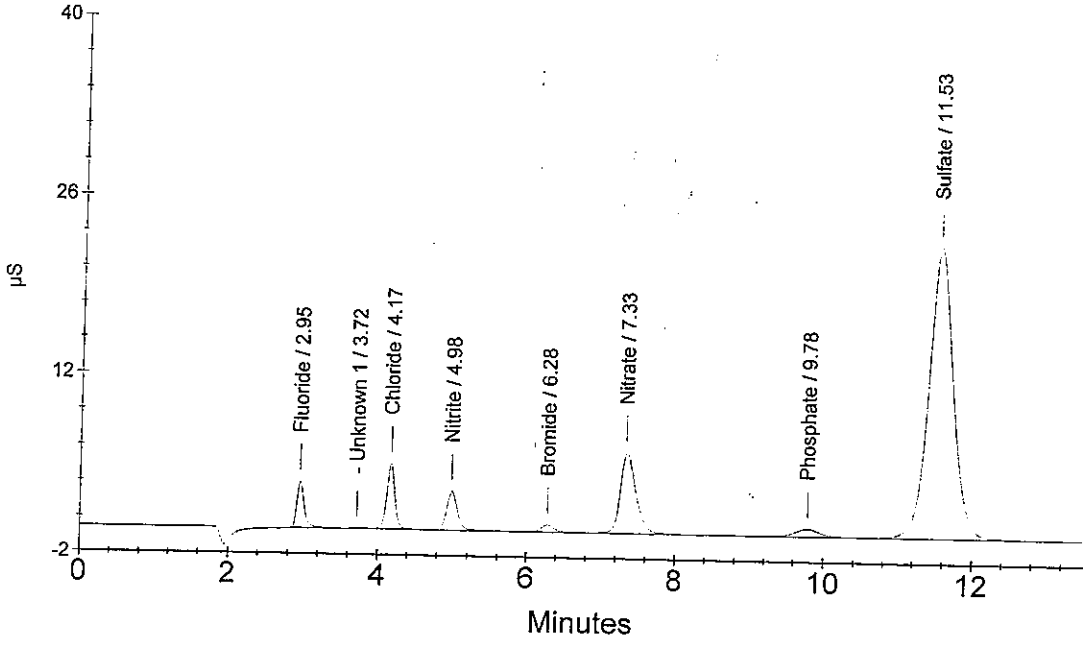
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.95	Fluoride	37.572	255194
3	4.17	Chloride	78.292	393262
4	4.98	Nitrite	31.843	308930
5	6.28	Bromide	37.333	69714
6	7.33	Nitrate	78.118	928087
7	9.78	Phosphate	36.653	140978
8	11.53	Sulfate	1557.943	5261629

11/6/09

R0906082-001A SPK



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906119-001B
Data File Name : ...\1105_079.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 8:28:09 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

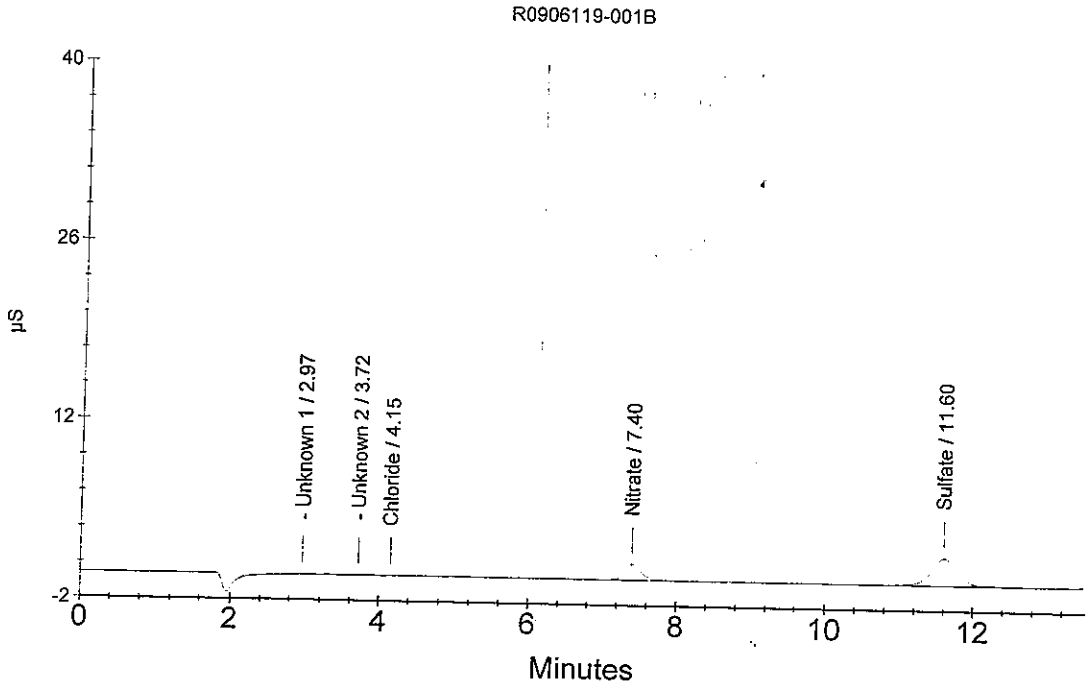
Dilution Factor : 40.00
Sample Type : Sample Analysis
Sample Comment : BTU (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
3	4.15	Chloride	4.460	3006
4	7.40	Nitrate	17.593	183154
5	11.60	Sulfate	154.403	517144

AK 11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906240-001A
Data File Name : ...\1105_080.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 8:43:55 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

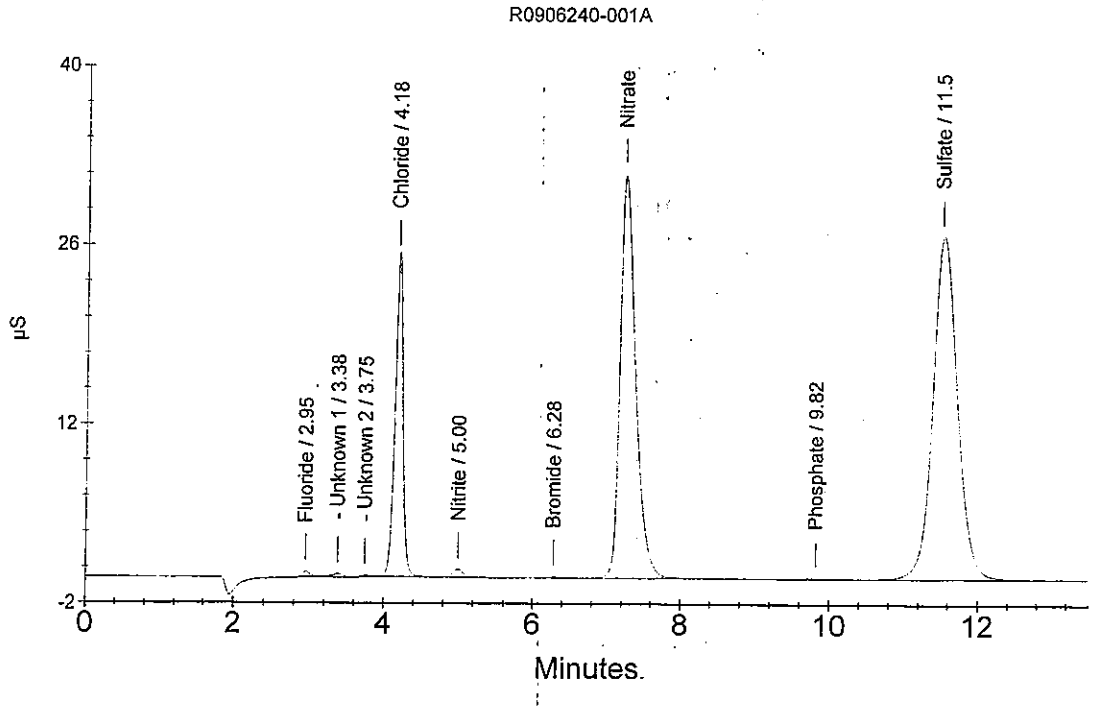
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL-LL (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.95	Fluoride	0.161	25296
4	4.18	Chloride	8.895	1860182
5	5.00	Nitrite	0.204	61729
6	6.28	Bromide	0.139	9421
7	7.23	Nitrate	9.440	4614217
8	9.82	Phosphate	0.140	14865
9	11.52	Sulfate	45.731	6178734

11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906240-001B
Data File Name : ...\1105_081.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 8:59:41 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL-LL (9056)

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

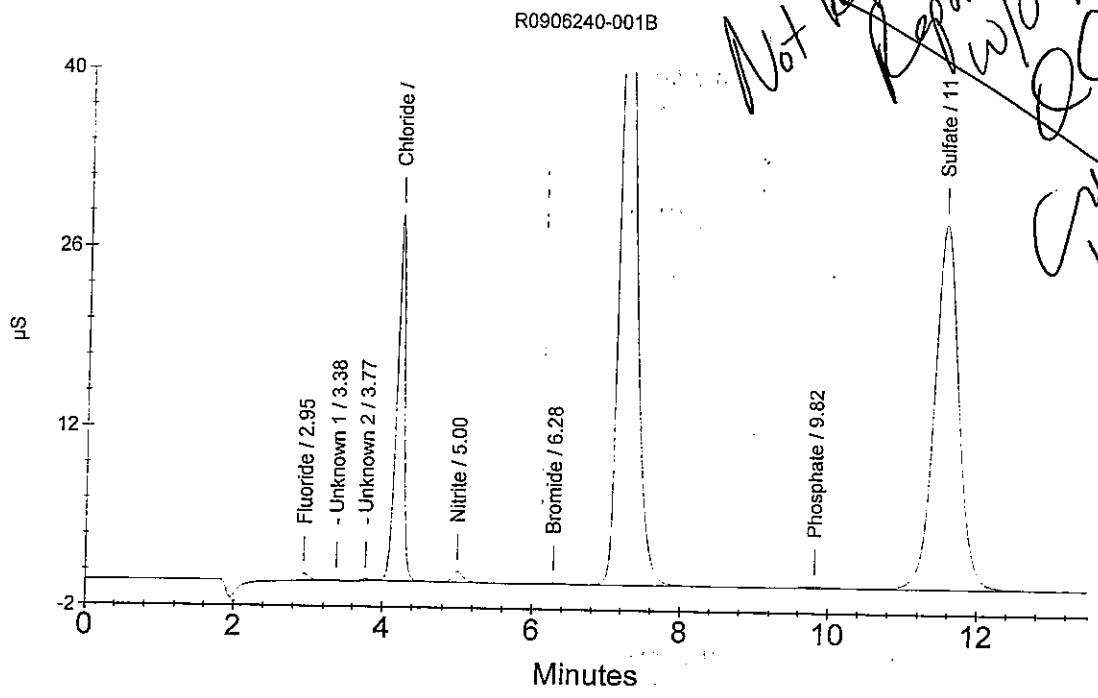
Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.95	Fluoride	0.195	35123
4	4.20	Chloride	10.050	2104215
5	5.00	Nitrite	0.252	81935
6	6.28	Bromide	0.147	10000
7	7.18	Nitrate	16.536	8107514
8	9.82	Phosphate	0.206	25653
9	11.53	Sulfate	48.513	6554861

1/2

SAMPLE REPEAT

11/6/09

Not Rpt'd QC Report w/o QC RS 11/6/09



01180

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906240-001A SPK
Data File Name : ...\1105_082.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 9:15:28 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : %CL-LL (9056)

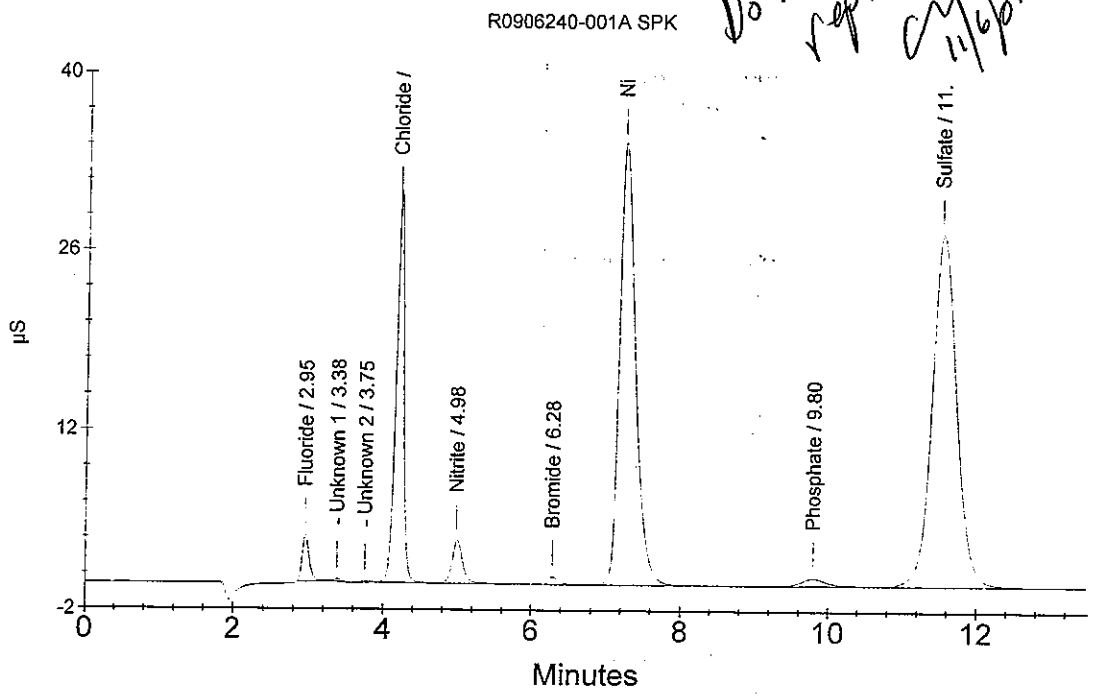
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.95	Fluoride	0.868	234236
4	4.18	Chloride	10.781	2258781
5	4.98	Nitrite	0.867	338485
6	6.28	Bromide	0.894	66757
7	7.22	Nitrate	10.451	5111717
8	9.80	Phosphate	0.892	137048
9	11.52	Sulfate	46.898	6336518

1/2

Overrange Do not report 11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906101-001A
Data File Name : ...\1105_083.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 9:31:15 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : TH, BTU, %CL (9056)

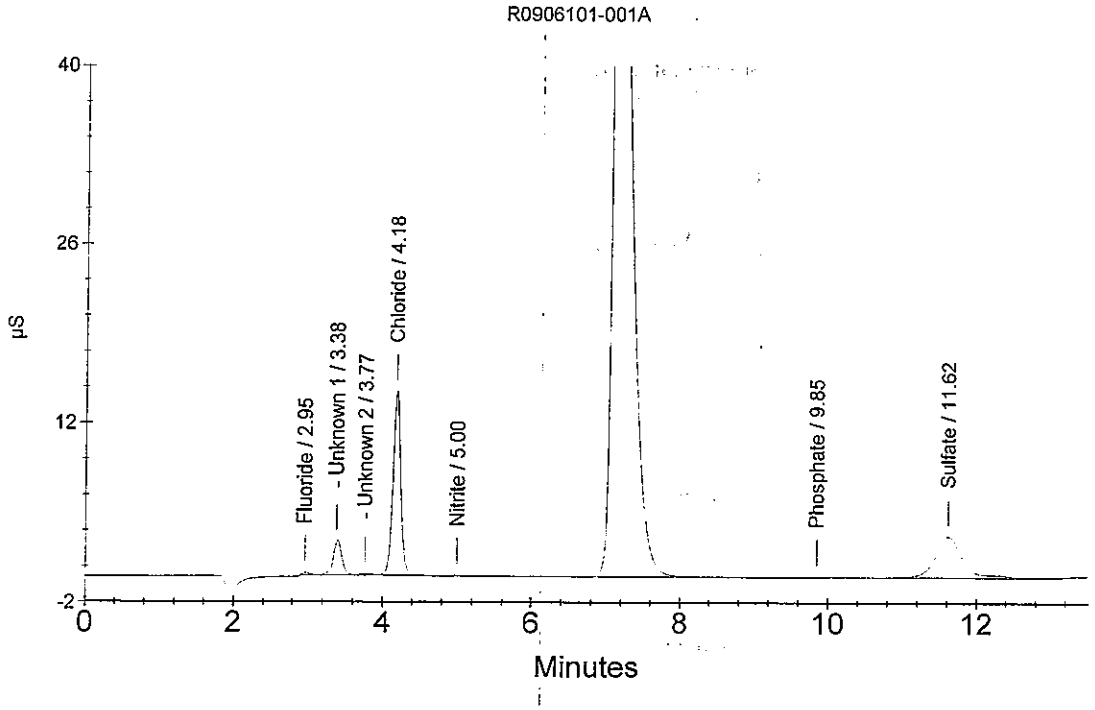
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	2.95	Fluoride		0.107	9351
4	4.18	Chloride	OK	5.179	1074396
5	5.00	Nitrite		0.069	5668
6	7.13	Nitrate		23.854	11710203
7	9.85	Phosphate		0.100	8501
8	11.62	Sulfate	OK	6.120	822787

1074396 X 150.1/1.002 X 1/10000

11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906101-002A
Data File Name : ...\1105_084.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 9:47:02 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : TH, BTU, %CL (9056)

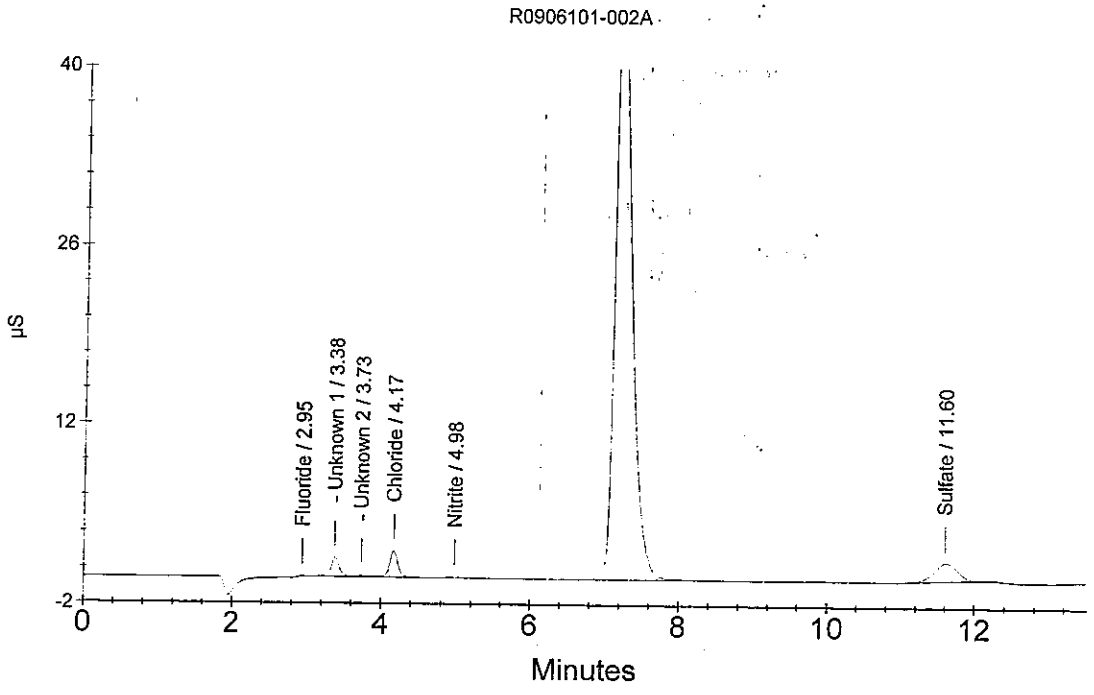
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
1	2.95	Fluoride	ok	0.084	2405
4	4.17	Chloride		0.838	156713
5	4.98	Nitrite		0.086	12847
6	7.17	Nitrate		14.688	7197525
7	11.60	Sulfate	ok	2.382	317324

$\times \frac{150.2}{0.9931} \times \frac{1}{10000}$

11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\1105_085.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 10:02:47 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

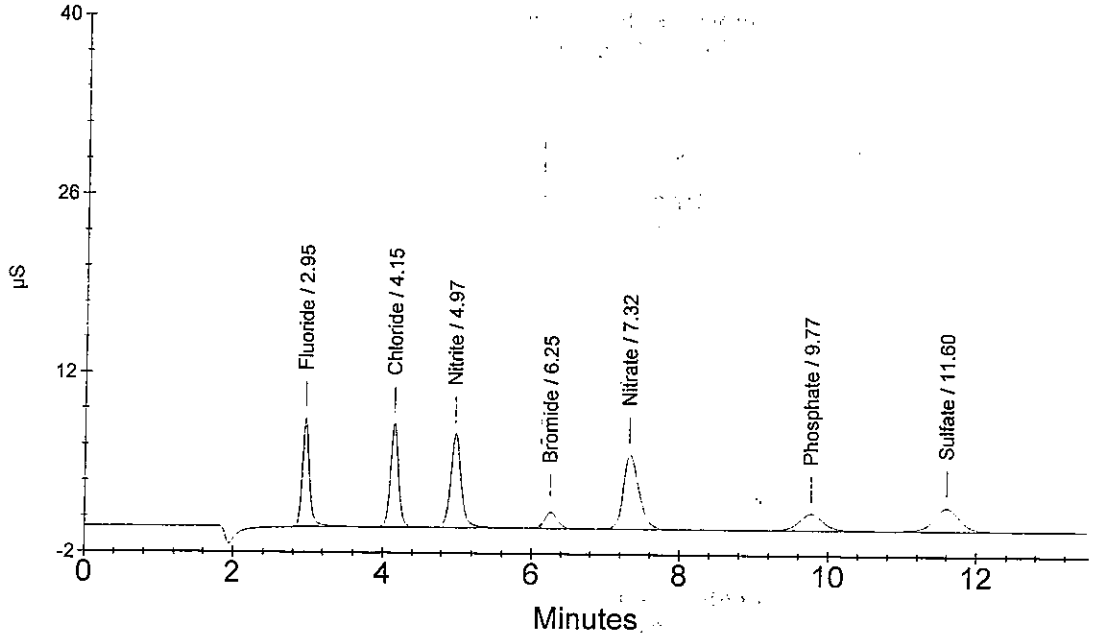
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.95	Fluoride	1.966	558523
2	4.15	Chloride	3.027	619326
3	4.97	Nitrite	1.814	733500
4	6.25	Bromide	2.027	152793
5	7.32	Nitrate	1.794	849968
6	9.77	Phosphate	1.868	295540
7	11.60	Sulfate	3.279	438509

CCV



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\1105_086.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 10:18:34 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

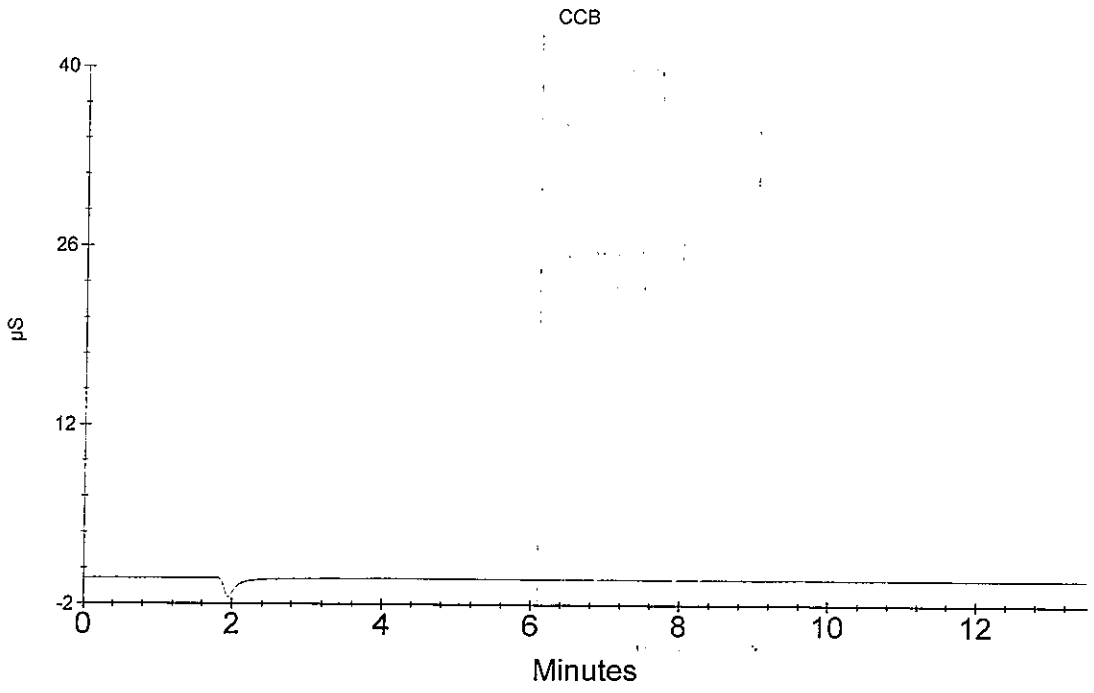
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area

OK
11/6/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906101-003A
Data File Name : ...\1105_087.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 10:34:21 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : TH, BTU, %CL (9056)

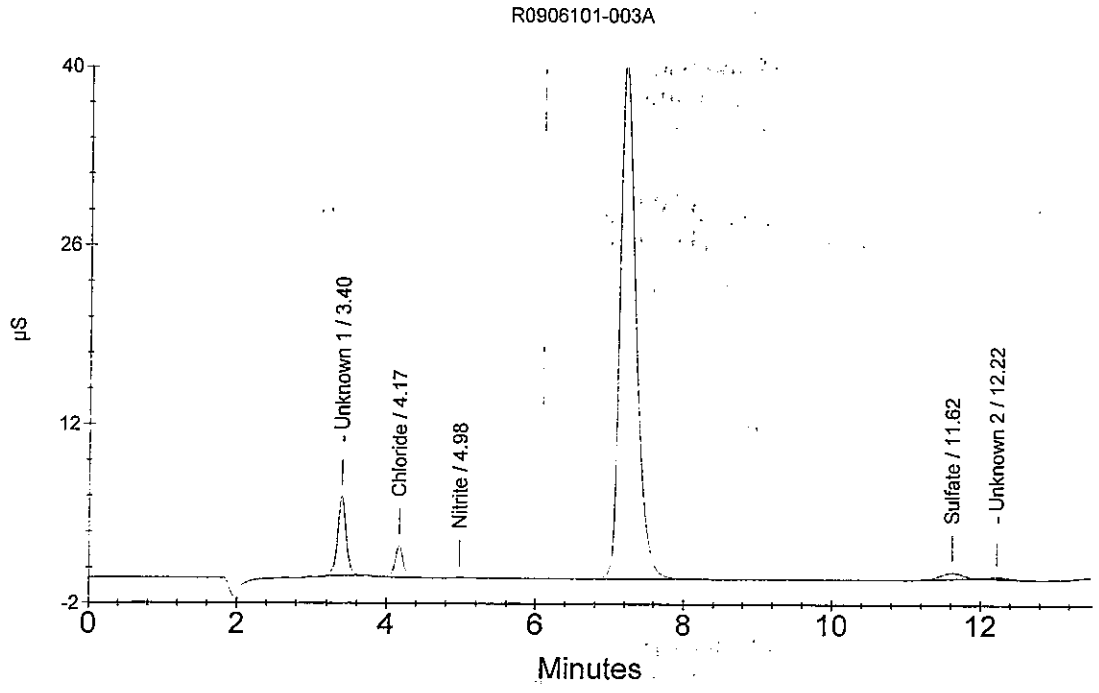
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
2	4.17	Chloride	ok	0.979	186424
3	4.98	Nitrite		0.069	5696
4	7.18	Nitrate		12.204	5974937
5	11.62	Sulfate	ok	0.759	97815

$\times \frac{150.1}{1.0314} \times \frac{1}{10000}$

11/6



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906101-003B
Data File Name : ...\1105_088.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 10:50:06 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : TH, BTU, %CL (9056)

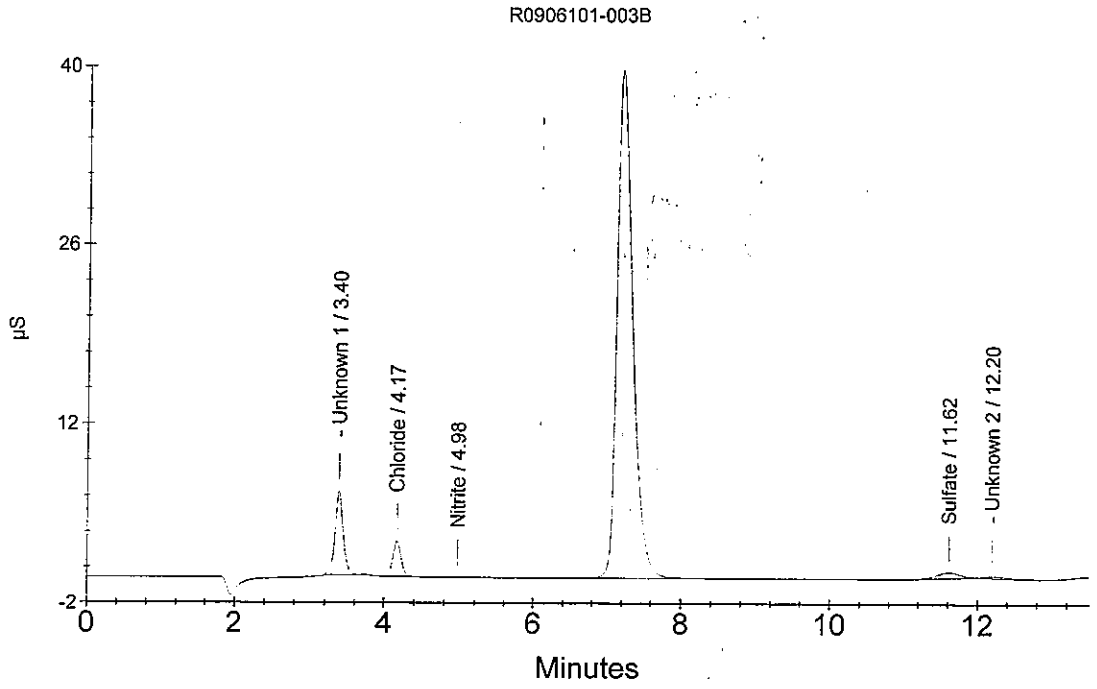
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area
2	4.17	Chloride	DH	1.094	210682
3	4.98	Nitrite		0.070	5832
4	7.18	Nitrate		11.940	5844978
5	11.62	Sulfate	DH	0.730	93902

$\times \frac{151.1}{1.0269} \times \frac{1}{10000}$

11/16



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : R0906101-003A SPK
Data File Name : ...\1105_089.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 11:05:52 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : TH, BTU, %CL (9056)

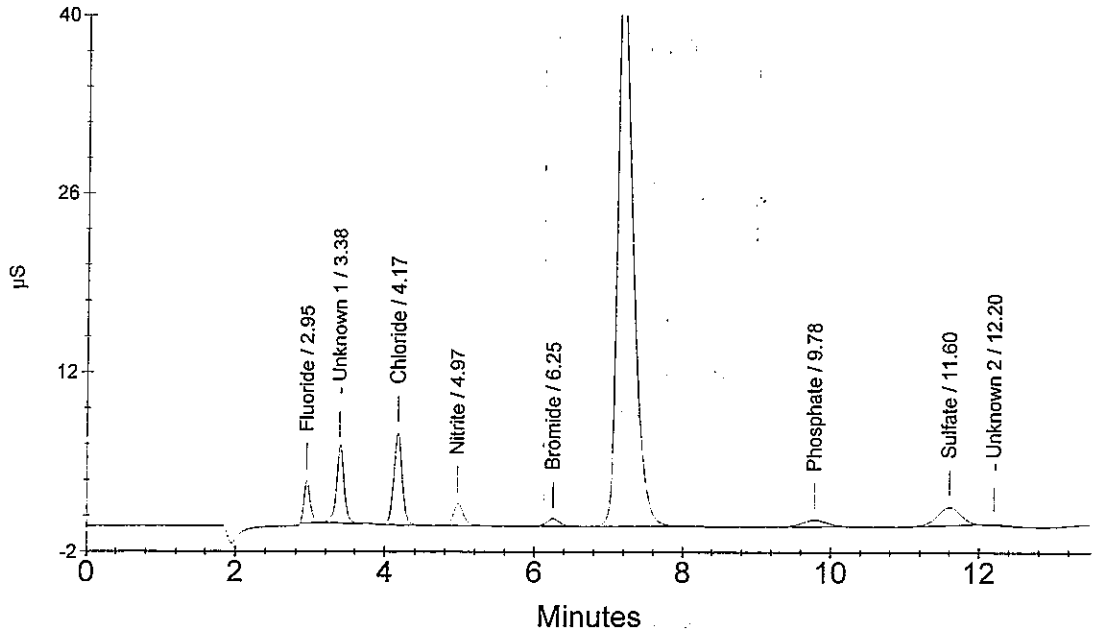
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.95	Fluoride	0.775	206556
3	4.17	Chloride	2.643	538320
4	4.97	Nitrite	0.480	177192
5	6.25	Bromide	0.901	67228
6	7.17	Nitrate	13.104	6417690
7	9.78	Phosphate	0.809	123563
8	11.60	Sulfate	2.357	313881

ak

R0906101-003A SPK



01188

Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCV
Data File Name : ...\1105_090.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 11:21:37 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

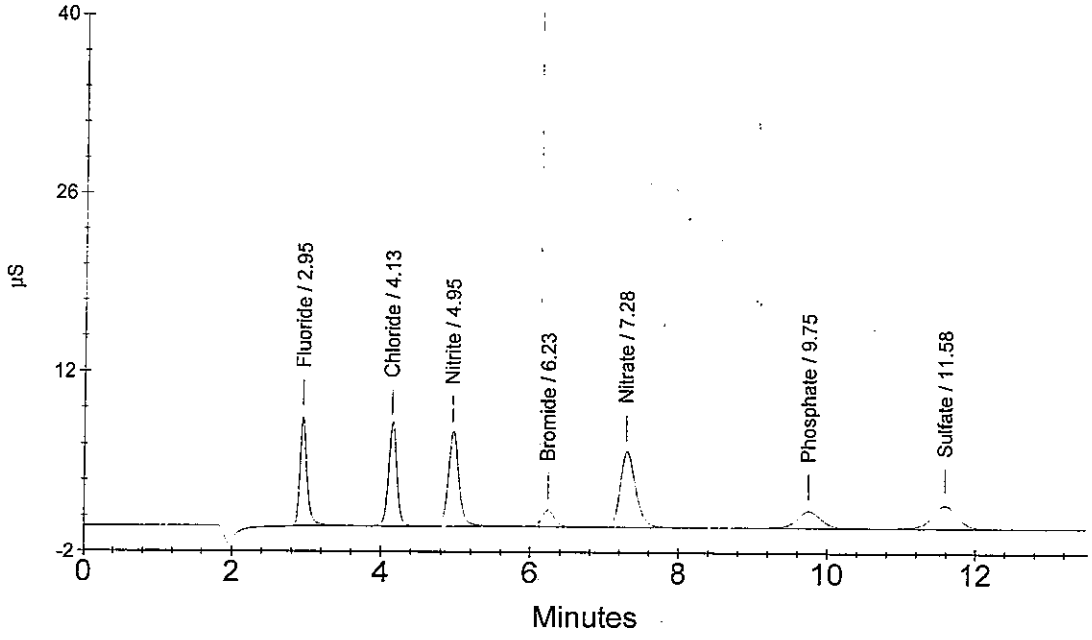
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.95	Fluoride	1.972	560477
2	4.13	Chloride	3.027	619413
3	4.95	Nitrite	1.820	735989
4	6.23	Bromide	2.026	152689
5	7.28	Nitrate	1.797	851134
6	9.75	Phosphate	1.864	294847
7	11.58	Sulfate	3.188	426290

CCV



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : CCB
Data File Name : ...\1105_091.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 11/6/09 11:37:25 AM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

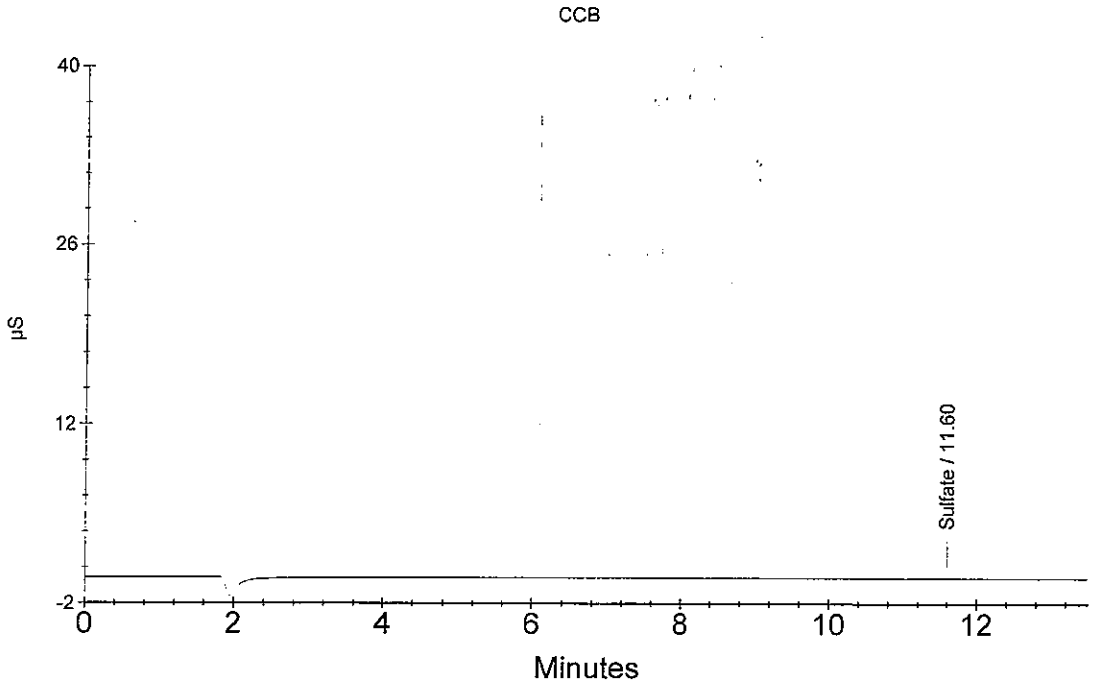
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment : 9056/300.0

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	11.60	Chloride Sulfate	0.064	3878

11/6/09



Columbia Analytical Services – Rochester, New York

Ion Chromatography Cover Sheet

Instrument: Dionex DX-120 Ion Chromatogram – IC # 6

Column: Dionex AS-14/AG-14, 10/09/09

Curve Date: 10/26/09 **Loop size:** 50 uL

Analyst: RF **Analysis Date:** 11/5/09

Is copy of LCS attached to run? (YES) / NO

Standards Prep Dates & Log ID's:

Std Type	*Prep Date*	*Log ID*		*Std Type*	*Prep Date*	*Log ID*
Calibration Intermediate	10/06/09	WC940011B		Working Calibration Stds	10/22/09	WC940021C
LCS / MS Intermediate	10/06/09	WC940011B		Working LCS/MS Standard	11/05/09	WC940053I
ICV Intermediate	10/09/09	WC940012H		Working ICV Standard	10/26/09	WC940027L
CCV Intermediate	10/9/09	WC940012H		Working CCV Standard	11/05/09	WC940028H

Original Retention Times for this method are based on the ICV and are as follows:

Fluoride: 2.90	Bromide: 6.02
Chloride: 4.05	Nitrate: 7.03
Nitrite: 4.83	Phosphate: 9.55
Sulfate: 11.43	

Additional Comments: _____

ICV / CCV PREP

(A 1:2 dilution of the Reference Intermediate Stock is done daily)

Analyte	ICV / CCV Intermediate Stock ID	Conc. mg/L	mLs Stock	Final Vol. mL	Final Conc. mg/L	Analyst/ Date Prepped	Lot ID	Exp. Date	Matrix H2SO4 / NaOH / DI	H2SO4 / NaOH Lot #
F	WC9400124	4.00	5.0	10	2.00	11/2/09	A	11/3/09	DI	
Cl		6.50			3.25	11/2/09	B	11/3/09	NaOH	WC850306
NO2		3.60			1.80	11/3/09	C	11/4/09	DI	
Br		4.00			2.00	11/3/09	D	11/4/09	NaOH	WC850306
NO3		3.60			1.80	10/30/09	E	10/31/09	H_2SO_4	WC85294I
OPO4		3.60			1.80	11/4/09	F	11/5/09	DI	
SO4		6.40			3.20	11/4/09	G	11/5/09	H_2SO_4	WC85294I
						11/5/09	H	11/6/09	DI	
							I			
							J			
							K			
							L			
							M			
							N			RP 11/18/09
							O			
							P			
							Q			

0028

91152

LCS PREP

(Stocks delivered using Volumetric glassware and brought to volume with DI. LCS expires after 7 days; if NO2 is needed, LCS must be prepared daily.)

(MS prepared fresh daily using same volume of intermediate stock added to 100mls sample. MS not prepared volumetrically.)

Analyte	Calibration Intermediate Stock ID	Intermediate Stock Conc (mg/L)	mLs Intermediate Stock	Final Vol. mLs	Final Conc. (mg/L)	Analyst/ Date Prepped	Lot ID	Exp. Date	Matrix H2SO4 / NaOH / DI	H2SO4 / NaOH Lot #
F	WC940012A	50	2.0	100	1.0	RP 10/28/09	A	11/4/09	DI	
Cl		100			2.0	RP 10/29/09	B	11/5/09	DI	
NO2		50			1.0	RP 11/2/09	C	11/9/09	DI	
Br		50			1.0	RP 11/2/09	D	11/9/09	NaOH	WC850306
NO3		50			1.0	RP 11/3/09	E	11/10/09	DI	
OPO4		50			1.0	RP 10/30/09	F	11/6/09	H_2SO_4	WC8294I
SO4		100			2.0	R.P 11/4/09	G	11/11/09	DI	
						RP 11/4/09	H	11/11/09	H_2SO_4	WC85294I
						RP 11/5/09	I	11/12/09	DI	
							J			
							K			
							L			
							M			
							N			
							O			RP 11/10/09
							P			
							Q			
							R			

0053

01953

Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 1
Sample Type : Calibration Update
Data File Name : ...\1026_001.DXD
Method File Name : ...\6-102609.met

Date Time Collected : 10/26/09 12:38:04 PM
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

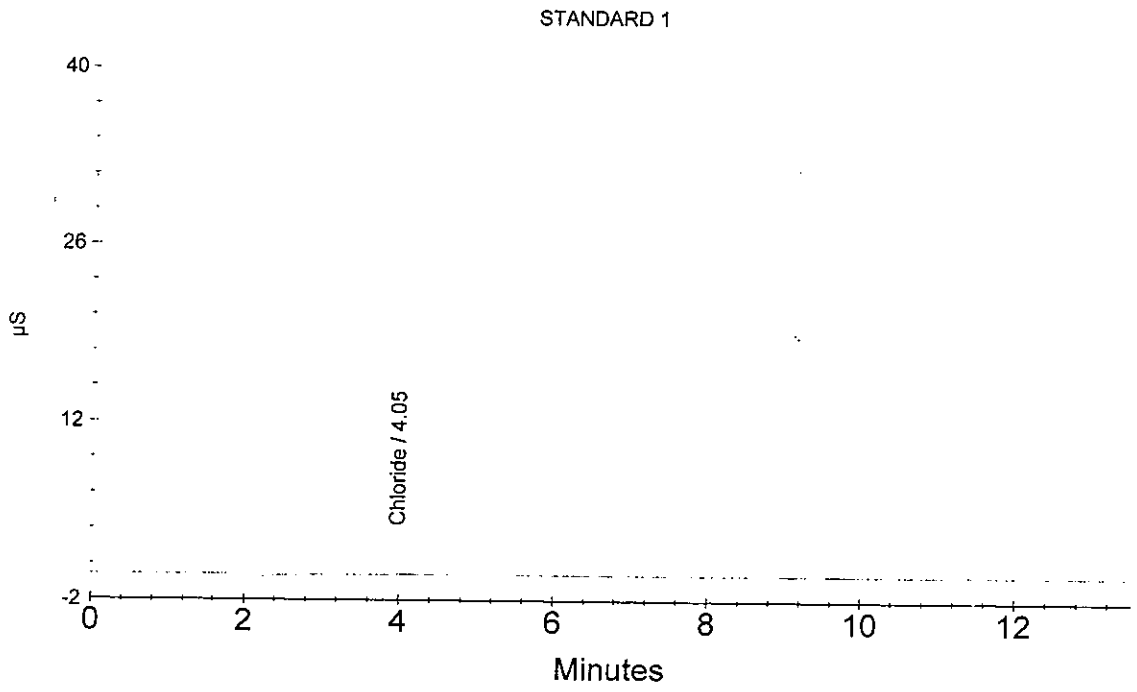
Dilution Factor : 1.00
Sample Comment :
Data Collection Rate : 5.00 Hz

Calibration Type : EXTERNAL
Calibration Level : 1

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area	Cal Response Previous
1	4.05	Chloride	CK	0.00	2068	2068.40

RP 10/27/09



Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 2
Sample Type : Calibration Update
Data File Name : ...\1026_002.DXD
Method File Name : ...\6-102609.met

Date Time Collected : 10/26/09 12:53:48 PM
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

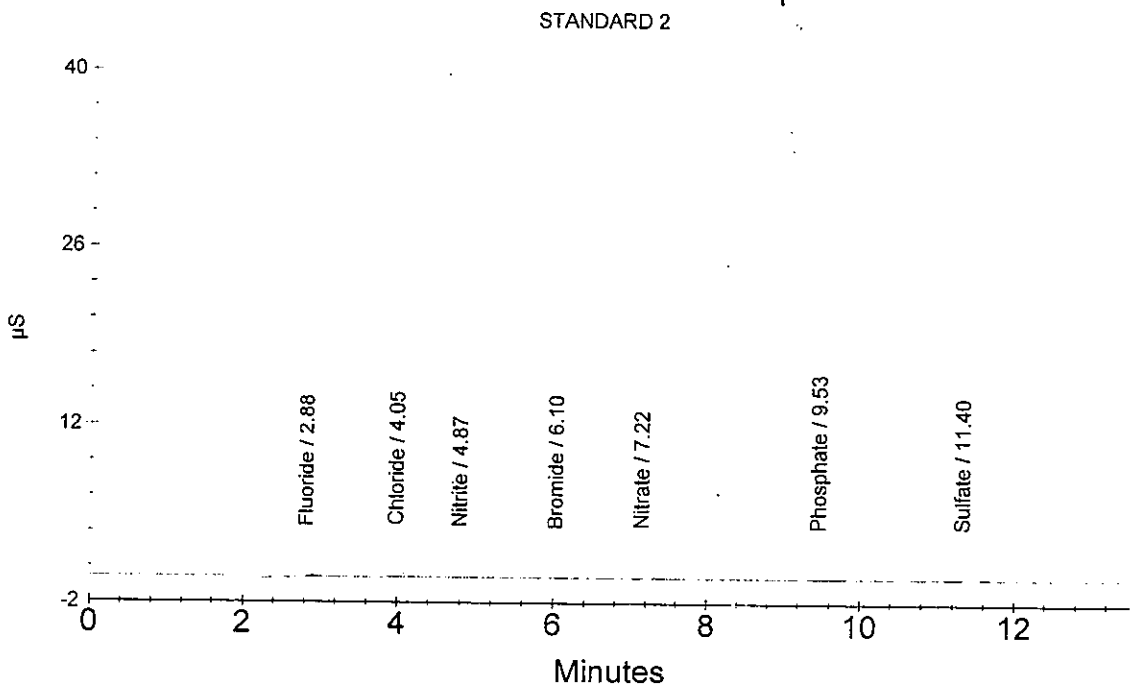
Dilution Factor : 1.00
Sample Comment :
Data Collection Rate : 5.00 Hz

Calibration Type : EXTERNAL
Calibration Level : 2

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name		Component Amount	Peak Area	Cal Response Previous
1	2.88	Fluoride	OK	0.05	8987	8986.60
2	4.05	Chloride		0.10	22579	22578.70
3	4.87	Nitrite		0.05	15988	15988.00
4	6.10	Bromide		0.05	2682	2681.80
5	7.22	Nitrate		0.05	18058	18058.40
6	9.53	Phosphate		0.05	4705	4656.20
7	11.40	Sulfate		0.10	11637	4705.20

RP 10/27/09



Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 3
Sample Type : Calibration Update
Data File Name : ...\1026_003.DXD
Method File Name : ...\6-102609.met

Date Time Collected : 10/26/09 1:09:37 PM
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Comment :
Data Collection Rate : 5.00 Hz

Calibration Type : EXTERNAL
Calibration Level : 3

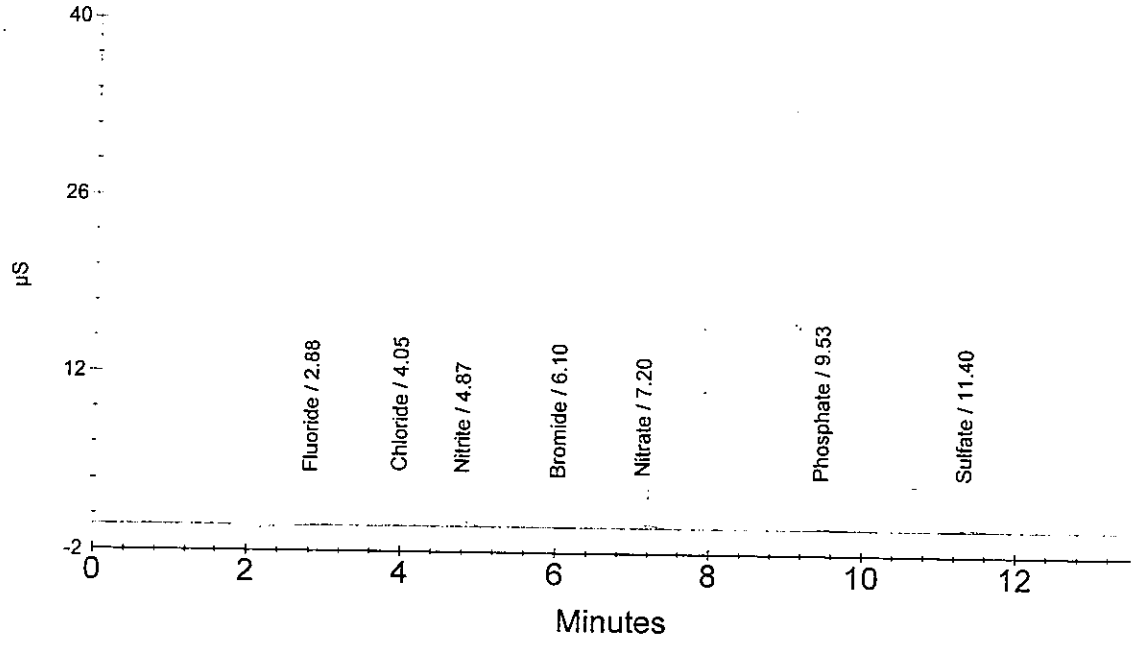
Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area	Cal Response Previous
1	2.88	Fluoride	0.10	21129	21129.40
2	4.05	Chloride	0.20	38723	38723.00
3	4.87	Nitrite	0.10	34146	34145.60
4	6.10	Bromide	0.10	8014	8013.60
5	7.20	Nitrate	0.10	39938	39938.30
6	9.53	Phosphate	0.10	11678	12052.30
7	11.40	Sulfate	0.20	26529	11678.20

OK

RP 10/27/09

STANDARD 3



Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 4
Sample Type : Calibration Update
Data File Name : ...\1026_004.DXD
Method File Name : ...\6-102609.met

Date Time Collected : 10/26/09 1:25:24 PM
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

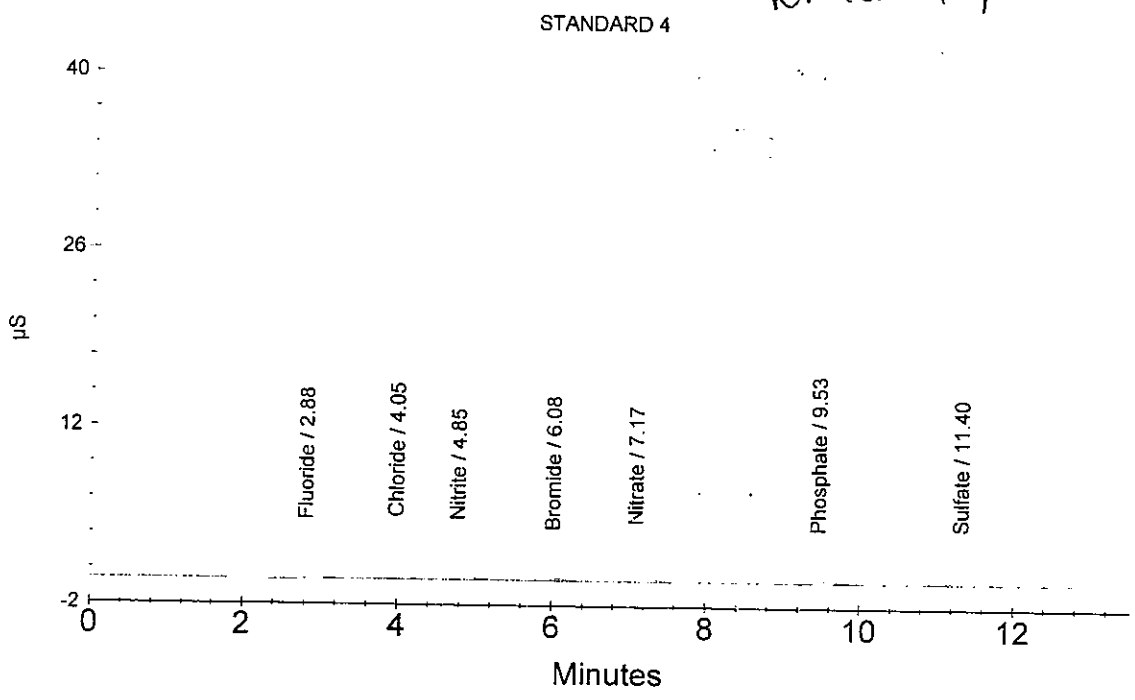
Dilution Factor : 1.00
Sample Comment :
Data Collection Rate : 5.00 Hz

Calibration Type : EXTERNAL
Calibration Level : 4

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area	Cal Response Previous
1	2.88	Fluoride	0.25	57667	57666.60
2	4.05	Chloride	0.50	86462	86462.00
3	4.85	Nitrite	0.25	87551	87551.20
4	6.08	Bromide	0.25	18954	18954.50
5	7.17	Nitrate	0.25	103219	103219.00
6	9.53	Phosphate	0.25	33531	35711.60
7	11.40	Sulfate	0.50	65634	33530.70

RP 10/27/09



Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 5
Sample Type : Calibration Update
Data File Name : ...\1026_005.DXD
Method File Name : ...\6-102609.met

Date Time Collected : 10/26/09 1:41:12 PM
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

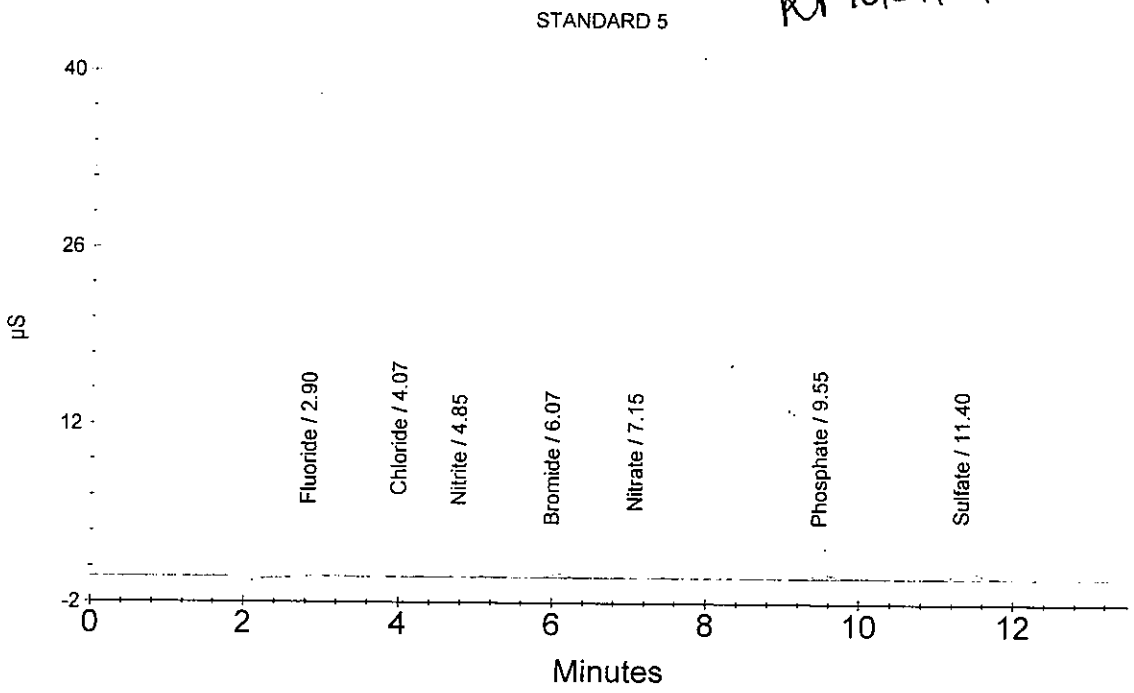
Dilution Factor : 1.00
Sample Comment :
Data Collection Rate : 5.00 Hz

Calibration Type : EXTERNAL
Calibration Level : 5

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area	Cal Response Previous
1	2.90	Fluoride	0.50	111063	111062.50
2	4.07	Chloride	1.00	198049	198049.30
3	4.85	Nitrite	0.50	178463	178463.40
4	6.07	Bromide	0.50	36386	36385.60
5	7.15	Nitrate	0.50	208490	208490.10
6	9.55	Phosphate	0.50	72532	76005.00
7	11.40	Sulfate	1.00	128729	72531.80

RR 10/27/09



Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 6
Sample Type : Calibration Update
Data File Name : ...\1026_006.DXD
Method File Name : ...\6-102609.met

Date Time Collected : 10/26/09 1:57:00 PM
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

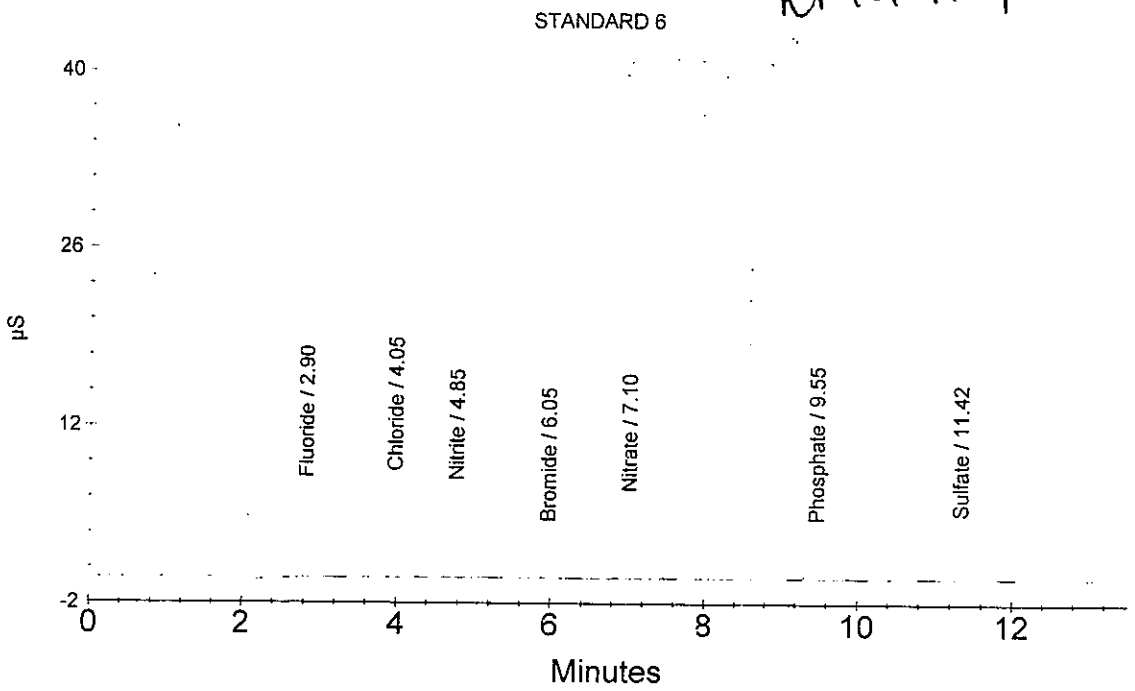
Dilution Factor : 1.00
Sample Comment :
Data Collection Rate : 5.00 Hz

Calibration Type : EXTERNAL
Calibration Level : 6

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area	Cal Response Previous
1	2.90	Fluoride	OK 1.00	261486	261486.20
2	4.05	Chloride	2.00	362961	362960.80
3	4.85	Nitrite	1.00	375530	375529.80
4	6.05	Bromide	1.00	74185	74185.40
5	7.10	Nitrate	1.00	431933	431933.30
6	9.55	Phosphate	1.00	150277	156496.00
7	11.42	Sulfate	2.00	265742	150276.80

RP 10/27/09



Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 7
Sample Type : Calibration Update
Data File Name : ...\1026_007.DXD
Method File Name : ...\6-102609.met

Date Time Collected : 10/26/09 2:12:47 PM
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Comment :
Data Collection Rate : 5.00 Hz

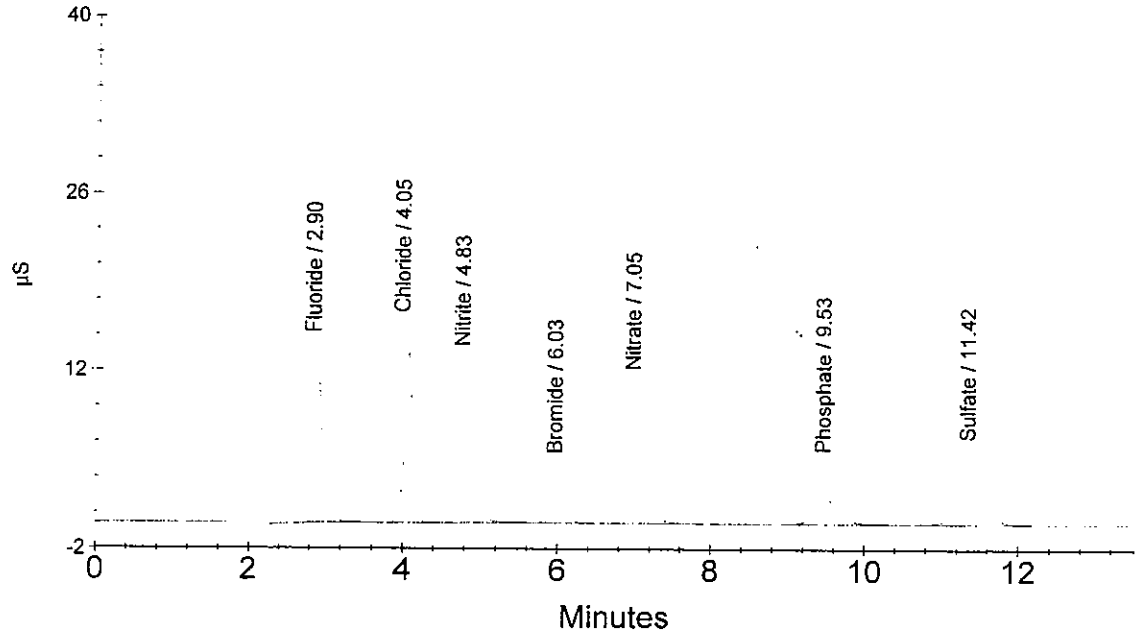
Calibration Type : EXTERNAL
Calibration Level : 7

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area	Cal Response Previous
1	2.90	Fluoride	OK 2.50	692867	692866.80
2	4.05	Chloride	5.00	975428	975427.80
3	4.83	Nitrite	2.50	987818	987817.60
4	6.03	Bromide	2.50	185483	185482.90
5	7.05	Nitrate	2.50	1136396	1136396.10
6	9.53	Phosphate	2.50	390856	403540.40
7	11.42	Sulfate	5.00	657511	390856.20

RP 10/27/09

STANDARD 7



01260

Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 8
Sample Type : Calibration Update
Data File Name : ...\1026_008.DXD
Method File Name : ...\6-102609.met

Date Time Collected : 10/26/09 2:28:37 PM
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

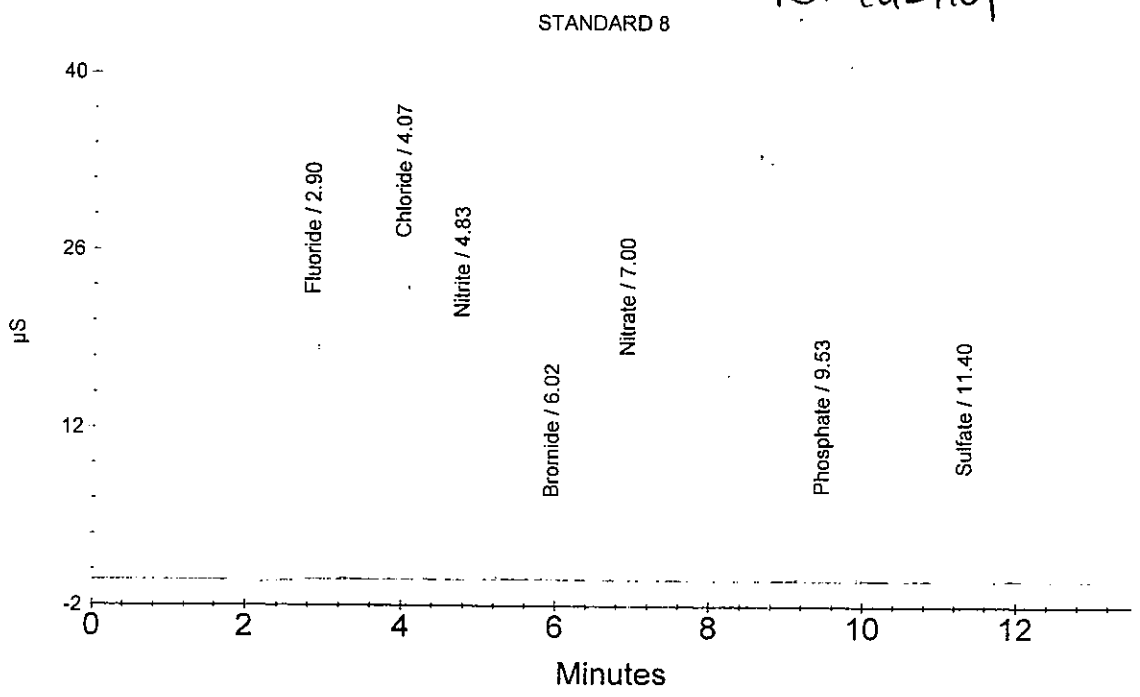
Dilution Factor : 1.00
Sample Comment :
Data Collection Rate : 5.00 Hz

Calibration Type : EXTERNAL
Calibration Level : 8

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area	Cal Response Previous
1	2.90	Fluoride	DK 4.00	1155579	1155579.40
2	4.07	Chloride	8.00	1657657	1657657.50
3	4.83	Nitrite	4.00	1639153	1639152.70
4	6.02	Bromide	4.00	301715	301714.60
5	7.00	Nitrate	4.00	1917680	1917679.70
6	9.53	Phosphate	4.00	640556	662562.60
7	11.40	Sulfate	8.00	1071153	640556.20

RP 10/27/09



Ion Chromatography Calibration Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : STANDARD 9
Sample Type : Calibration Update
Data File Name : ...\1026_009.DXD
Method File Name : ...\6-102609.met

Date Time Collected : 10/26/09 2:44:24 PM
Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

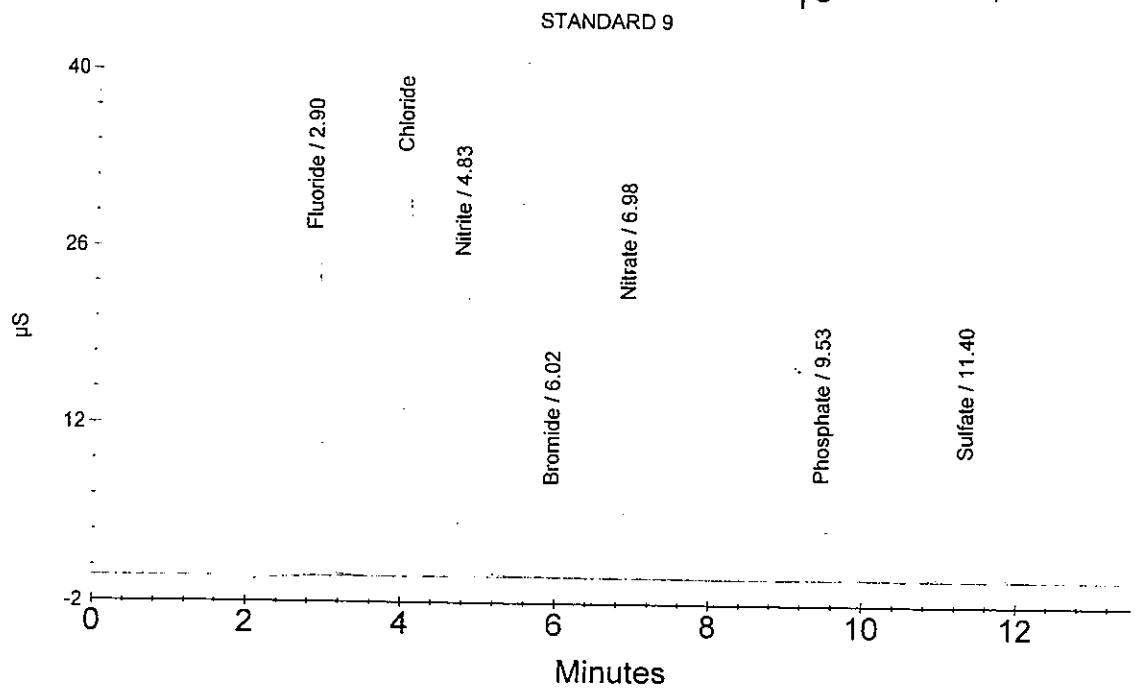
Dilution Factor : 1.00
Sample Comment :
Data Collection Rate : 5.00 Hz

Calibration Type : EXTERNAL
Calibration Level : 9

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area	Cal Response Previous
1	2.90	Fluoride	OK 5.00	1471849	1471849.10
2	4.07	Chloride	10.00	2137279	2137278.70
3	4.83	Nitrite	5.00	2086787	2086787.00
4	6.02	Bromide	5.00	380908	380908.20
5	6.98	Nitrate	5.00	2474229	2474228.90
6	9.53	Phosphate	5.00	809064	844196.20
7	11.40	Sulfate	10.00	1358462	809063.80

RP 10/27/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : ICV
Data File Name : ...\1026_010.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 10/26/09 3:00:11 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

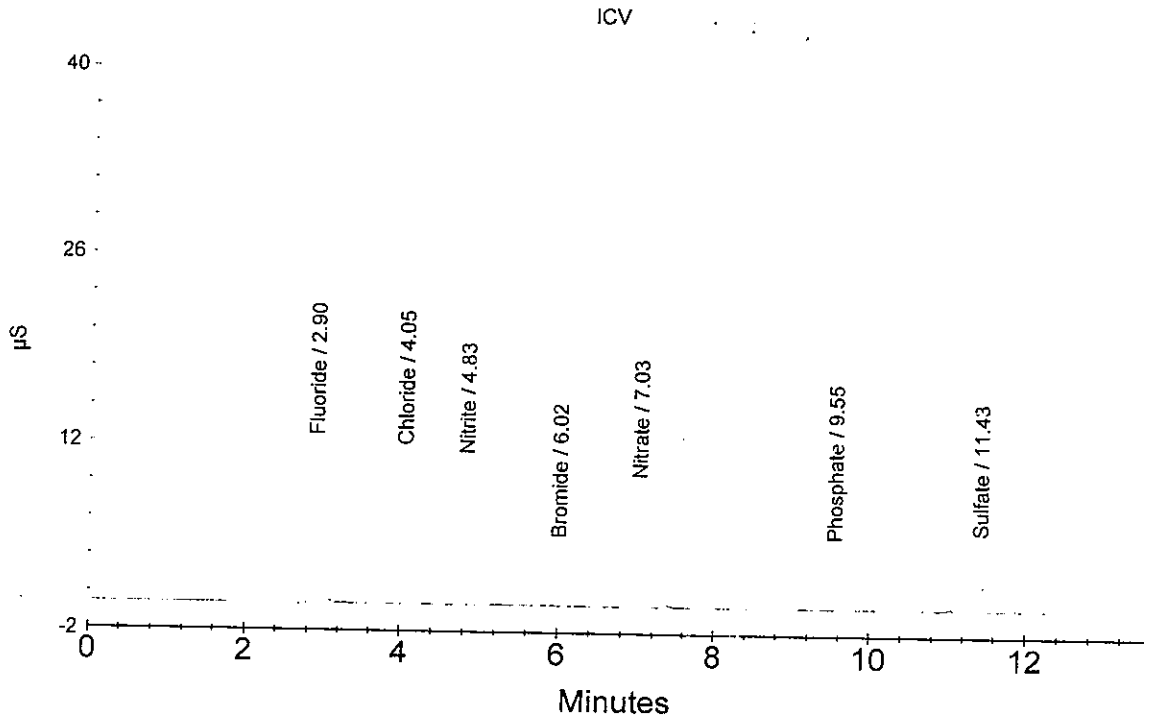
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment :

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.90	Fluoride	OK 1.915	543576
2	4.05	Chloride	2.955	604155
3	4.83	Nitrite	1.762	712163
4	6.02	Bromide	1.954	147192
5	7.03	Nitrate	1.715	810932
6	9.55	Phosphate	1.773	280012
7	11.43	Sulfate	3.086	412450

RP 10/27/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : ICB
Data File Name : ...\1026_011.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 10/26/09 3:15:59 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

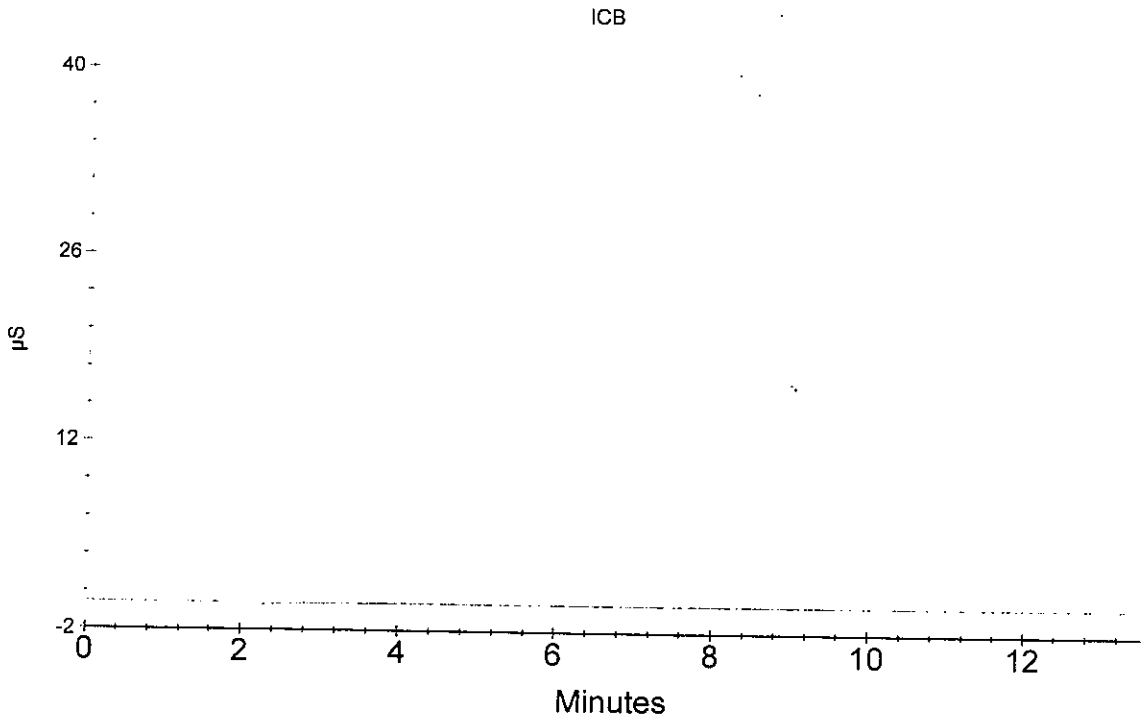
Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment :

Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area

OK
RP
10/27/09



Ion Chromatography Analytical Report
Columbia Analytical Services
Rochester, NY 14607

Sample Name : LCS
Data File Name : ...\1026_012.DXD
Method File Name : ...\6-102609.met
Date Time Collected : 10/26/09 3:31:46 PM

Detector Name :
Column ID : AS-14 / AG-14
Method Analyst :

Dilution Factor : 1.00
Sample Type : Sample Analysis
Sample Comment :

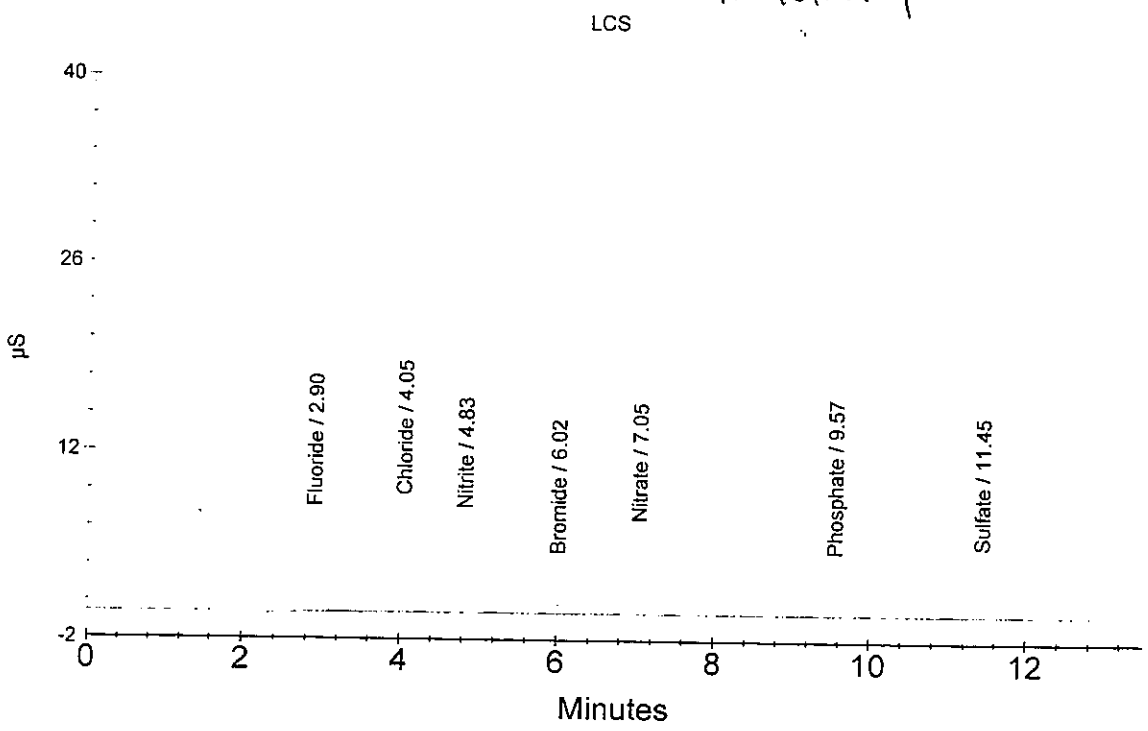
Data Collection Rate : 5.00 Hz
Data Collection Period : 810.00 seconds
Component Amount Units :

Peak Information : All Components

Peak Number	Peak Retention Time	Component Name	Component Amount	Peak Area
1	2.90	Fluoride	0.960	261323
2	4.05	Chloride	1.836	367572
3	4.83	Nitrite	0.964	378884
4	6.02	Bromide	0.984	73573
5	7.05	Nitrate	0.948	433552
6	9.57	Phosphate	0.971	149912
7	11.45	Sulfate	1.993	264662

OK

RP 10/27/09



Method Report - 6-102609

Method Information : All Modules

System Name : DX120
System Number : 1
Method Type : Ion Chromatography
Column : AS-14 / AG-14
Analyst :
Comment : Dionex DX-120 (IC #6)
Calibration 10.09.09

DX-120 Timed Events

Module Name :
Module Serial Number :
System Mode : Column
Column : A
Pump : On
SRS / Cell : On
Eluent Pressure : Off
Pressure Unit : psi
TTL 1 Label : TTL 1
TTL 2 Label : TTL 2
Comment :

Time	Offset	Valve	TTL1	TTL2	AC	Collect
Init		Load	Low	Low	Off	
0.00	*	Load	High	Low	Off	
2.20	*	Inject	Low	Low	Off	Begin
15.00		Load	Low	Low	Off	

DX-120 Detector Parameters

Detector Type : DX-120
Data collection time (minutes) : 13.50
Data Collection Rate (Hz.) : 5.00
Real time plot scale maximum (μS) : 20.000
Real time plot scale minimum (μS) : -5.000

DX-120 Integration Parameters

Peak detection algorithm : Standard
Starting peak width (seconds) : 10.00
Peak threshold : 1.000000
Peak area reject (area counts) : 1000.00
Reference peak area reject (area counts) : 1000.00

DX-120 Smoothing Parameters

Filter Type : No filter

DX-120 Report Data

Report Format File : J:\ACQUDATA\IC\METHOD.ACI\Ic#4\DX120ANION.rpt
Print Sample Analysis : Yes
Print Calibration Update : Yes
Print Check Standard : Yes
System Suitability Tests :
No system suitability tests selected.

DX-120 Integration Data Events

Time	Description
0.00	Force baseline at start of all peaks
2.10	Void volume treatment for this peak

DX-120 Calibration Parameters

External or internal calibration : EXTERNAL
Number of replicates for calibration : 1
Rejection : Manual
Level Weighting : Equal
Sample Weight : 1.000000
Calibration standard volume : 1.000000
Default sample volume : 1.000000
Amount units :
Replace retention time : Yes
Update response : Yes
Default dilution factor : 1.000000
Default response factor for unknown peaks : 0.000000
Calculate unknowns by area or height : Area

DX-120 Component Identification Table

Component	Retention	Tolerance	Reference
Fluoride	2.90 min	10.00 %	
Chloride	4.07 min	10.00 %	
Nitrite	4.83 min	10.00 %	
Bromide	6.02 min	10.00 %	
Nitrate	6.98 min	10.00 %	
Phosphate	9.53 min	10.00 %	
Sulfate	11.40 min	10.00 %	

DX-120 Component Quantitation Table

Component	Retention	Low Limit	High Limit
Fluoride	2.90 min	0.05	5
Chloride	4.07 min	0.1	10
Nitrite	4.83 min	0.05	5
Bromide	6.02 min	0.05	5
Nitrate	6.98 min	0.05	5
Phosphate	9.53 min	0.05	5
Sulfate	11.40 min	0.1	10

DX-120 Component Calibration Table

Component	Retention Time	Curve Fit	Origin	Cal. by	Response Component	Relative Factor
Fluoride	2.90 min	Linear	Ignore	Area		0.00
Chloride	4.07 min	Linear	Ignore	Area		0.00
Nitrite	4.83 min	Linear	Ignore	Area		0.00
Bromide	6.02 min	Linear	Ignore	Area		0.00
Nitrate	6.98 min	Linear	Ignore	Area		0.00
Phosphate	9.53 min	Linear	Ignore	Area		0.00
Sulfate	11.40 min	Linear	Ignore	Area		0.00

DX-120 Component = Fluoride Levels Table

Retention Time : 2.90 min
Amount units :
Replicate unit type : Area
Number of levels : 9
Number of replicates : 1

Level	Amount	Replicate 1
1	0.00	0
2	0.05	8986.6
3	0.10	21129.4
4	0.25	57666.6
5	0.50	111063
6	1.00	261486
7	2.50	692867
8	4.00	1.15558e+006
9	5.00	1.47185e+006

DX-120 Component = Chloride Levels Table

Retention Time : 4.07 min
Amount units :
Replicate unit type : Area
Number of levels : 9
Number of replicates : 1

Level	Amount	Replicate 1
1	0.00	2068.4
2	0.10	22578.7
3	0.20	38723
4	0.50	86462
5	1.00	198049
6	2.00	362961
7	5.00	975428
8	8.00	1.65766e+006
9	10.00	2.13728e+006

DX-120 Component = Nitrite Levels Table

Retention Time : 4.83 min
Amount units :
Replicate unit type : Area
Number of levels : 9
Number of replicates : 1

Level	Amount	Replicate 1
1	0.00	0
2	0.05	15988
3	0.10	34145.6
4	0.25	87551.2
5	0.50	178463
6	1.00	375530
7	2.50	987818
8	4.00	1.63915e+006
9	5.00	2.08679e+006

DX-120 Component = Bromide Levels Table

Retention Time : 6.02 min
Amount units :
Replicate unit type : Area
Number of levels : 9
Number of replicates : 1

Level	Amount	Replicate 1
1	0.00	~~1200.5~~ NO PEAK RP 10/27/09
2	0.05	2681.8
3	0.10	8013.6
4	0.25	18954.5
5	0.50	36385.6
6	1.00	74185.4
7	2.50	185483
8	4.00	301715
9	5.00	380908

DX-120 Component = Nitrate Levels Table

Retention Time : 6.98 min
Amount units :
Replicate unit type : Area
Number of levels : 9
Number of replicates : 1

Level	Amount	Replicate 1
1	0.00	~~9156.4~~ NO PEAK RP 10/27/09
2	0.05	18058.4
3	0.10	39938.3
4	0.25	103219
5	0.50	208490
6	1.00	431933
7	2.50	1.1364e+006
8	4.00	1.91768e+006
9	5.00	2.47423e+006

DX-120 Component = Phosphate Levels Table

Retention Time : 9.53 min
Amount units :
Replicate unit type : Area
Number of levels : 9
Number of replicates : 1

Level	Amount	Replicate 1
1	0.00	~~7622.6~~ NO PEAK RP 10/27/09
2	0.05	4705.2
3	0.10	11678.2
4	0.25	33530.7
5	0.50	72531.8
6	1.00	150277
7	2.50	390856
8	4.00	640556
9	5.00	809064

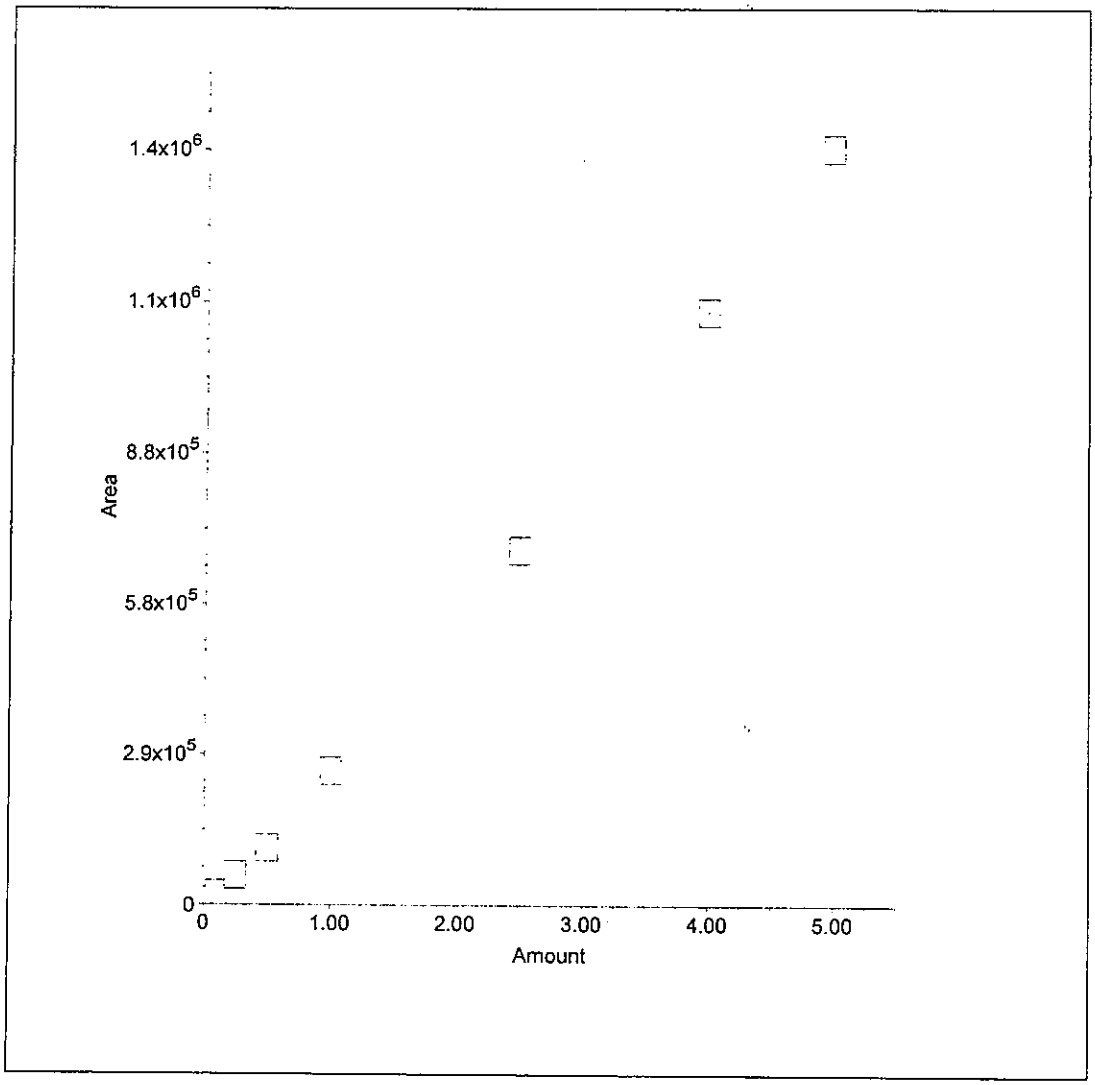
DX-120 Component = Sulfate Levels Table

Retention Time : 11.40 min
Amount units :
Replicate unit type : Area
Number of levels : 9
Number of replicates : 1

Level	Amount	Replicate 1
1	0.00	~~1078.1~~ NO PEAK RP 10/27/09
2	0.10	11637.4
3	0.20	26529.2
4	0.50	65633.8
5	1.00	128729
6	2.00	265742
7	5.00	657511
8	8.00	1.07115e+006
9	10.00	1.35846e+006

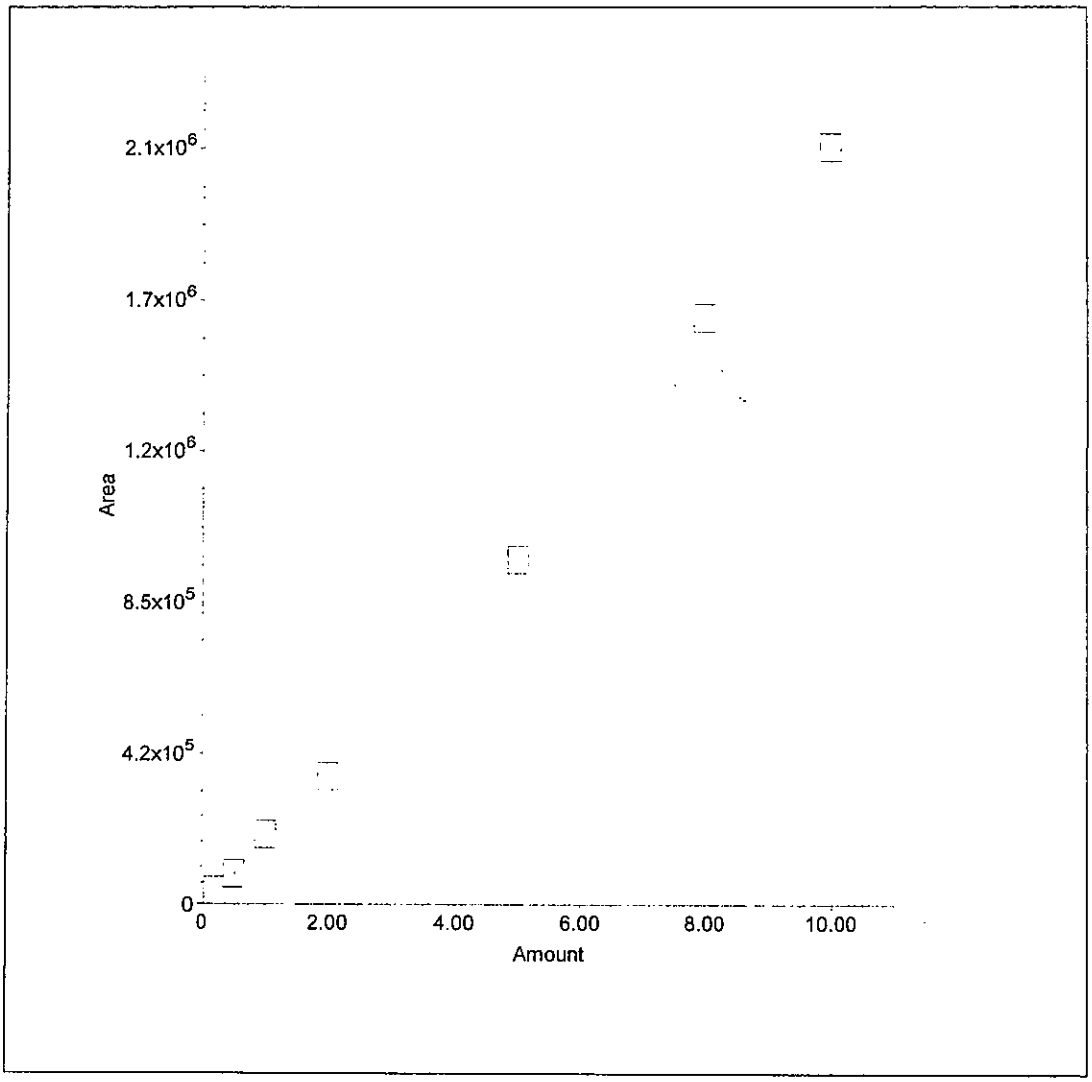
DX-120 XY Data Parameters

1. Component:Fluoride
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999256
Amt=3.384e-006*Resp+0.07565



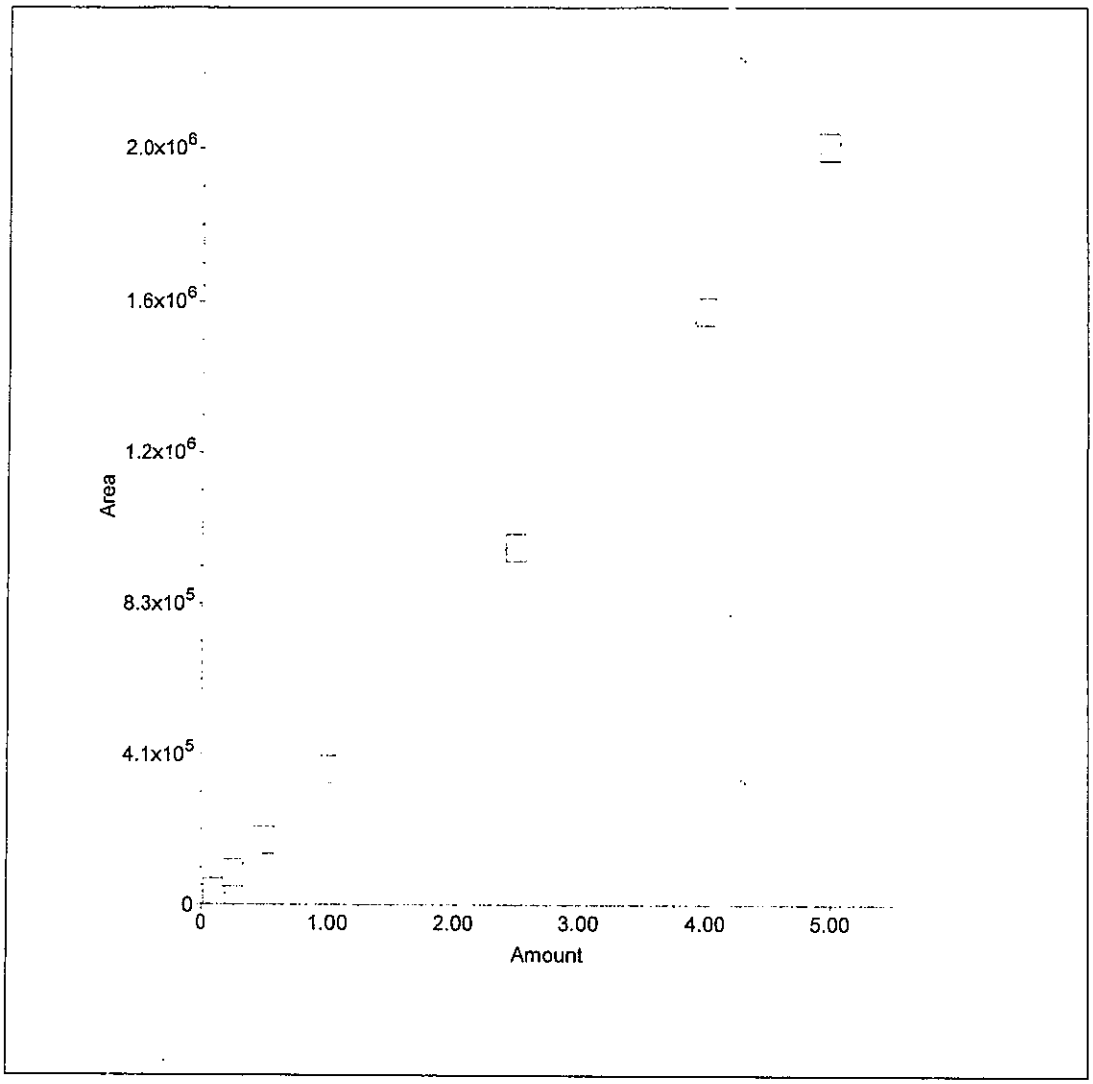
RP 102709

2. Component:Chloride
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.998301
Amt=4.73e-006*Resp+0.09727



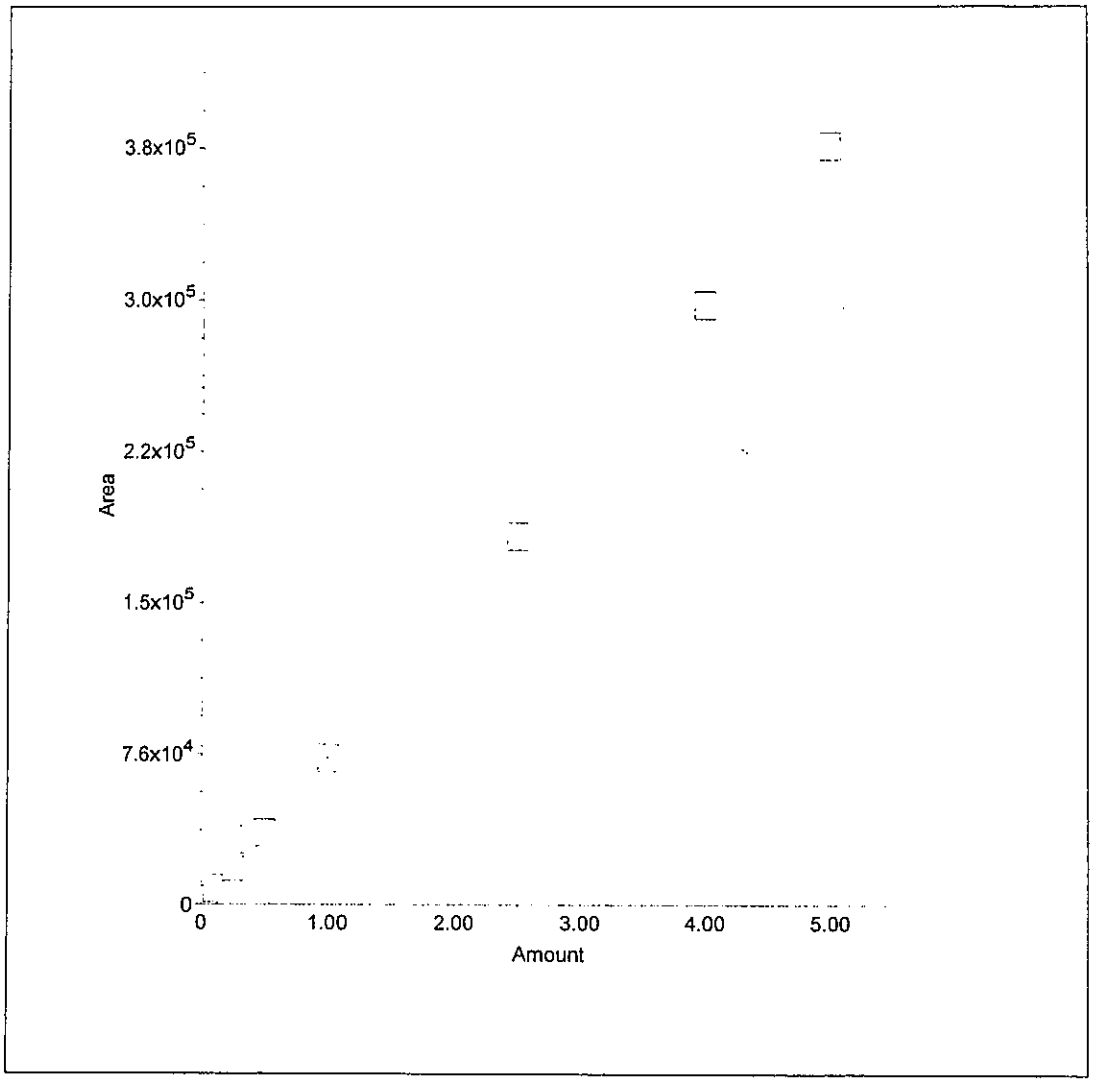
RR 10/27/09

3. Component:Nitrite
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999417
Amt=2.397e-006*Resp+0.0557



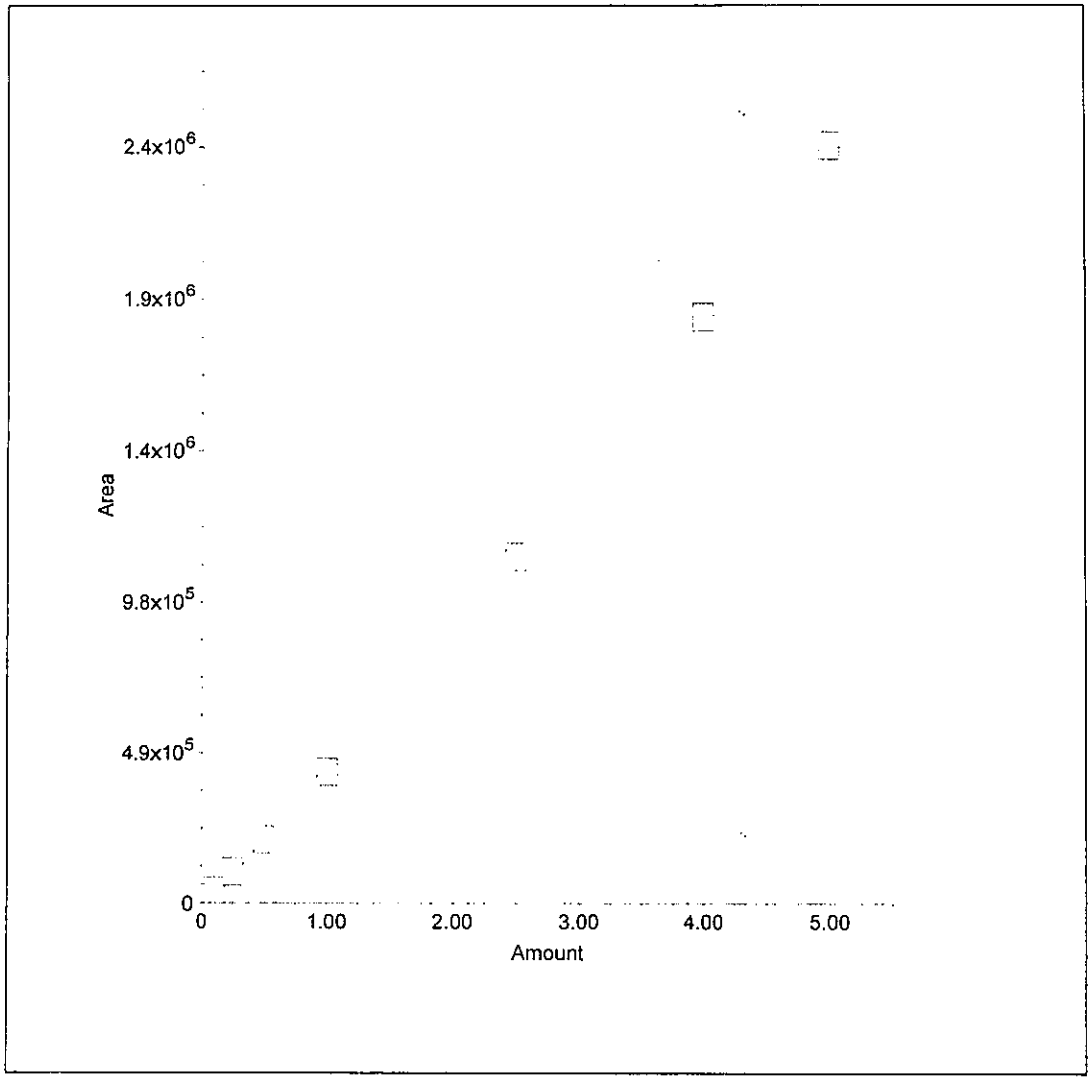
RP 10/27/09

4. Component:Bromide
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999861
Amt=1.317e-005*Resp+0.0154



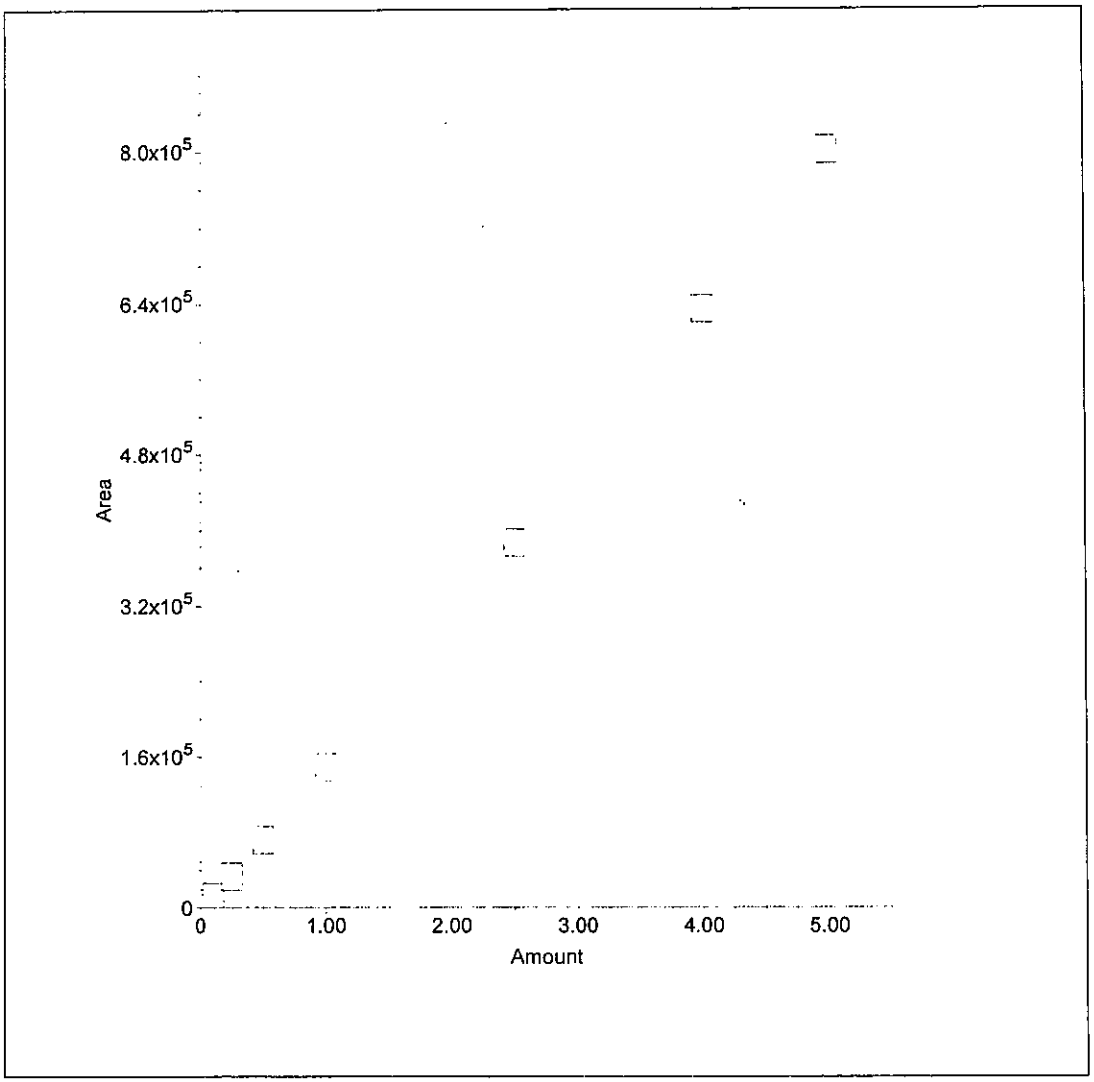
RP 10/27/09

5. Component:Nitrate
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.998673
Amt=2.031e-006*Resp+0.06781



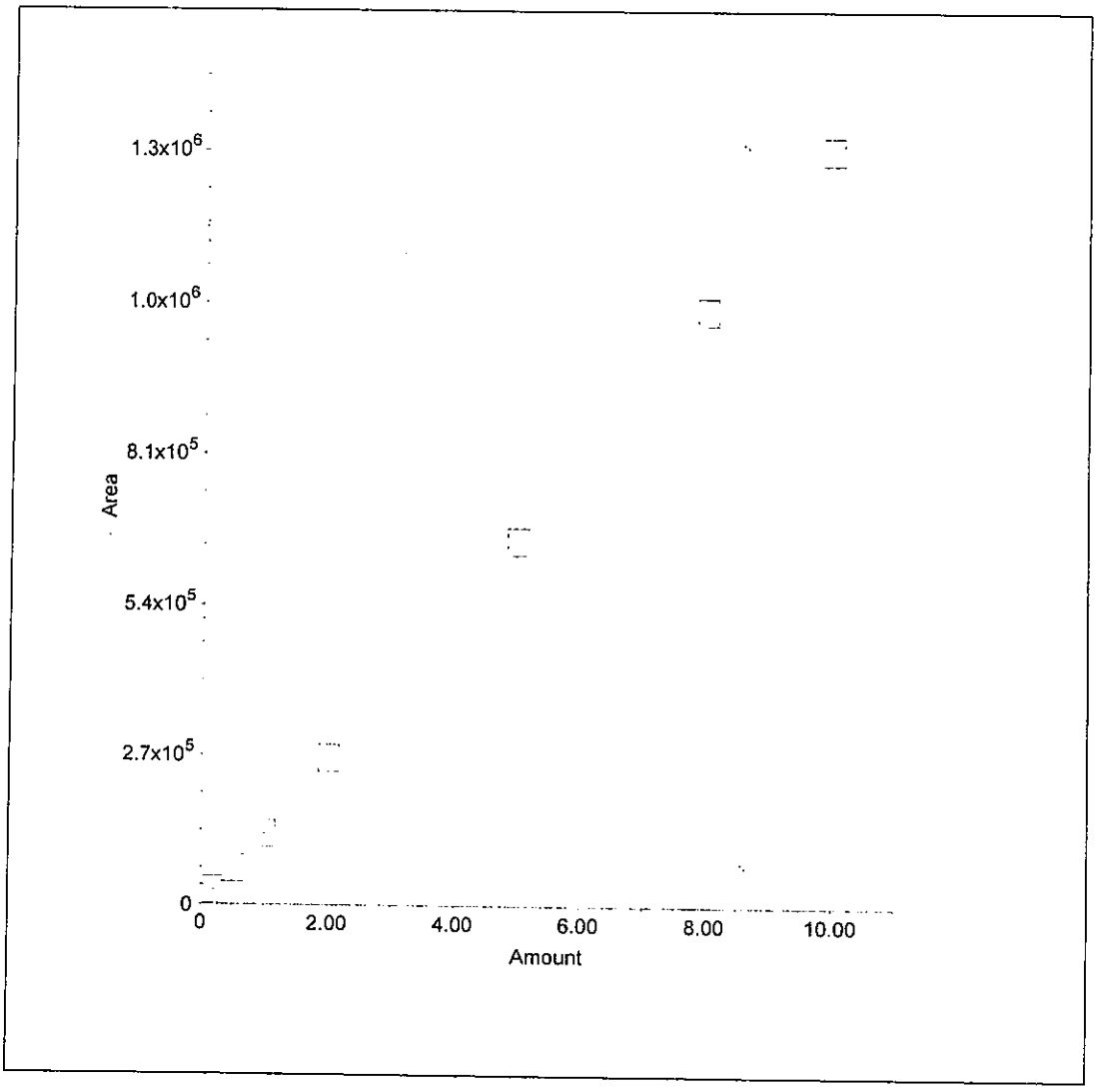
RP 10/27/09

6. Component:Phosphate
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999813
Amt=6.16e-006*Resp+0.04796



RP 10/27/09

7. Component:Sulfate
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999799
Amt=7.396e-006*Resp+0.03546



RP 10/27/09

Columbia Analytical Services – Rochester, New York

Ion Chromatography Cover Sheet

Instrument: Dionex DX-120 Ion Chromatogram – IC # 6

Column: Dionex AS-14/AG-14, 10/09/09

Curve Date: 10/26/09 **Loop size:** 50 uL

Analyst: RP **Analysis Date:** 10/26/09

Is copy of LCS attached to run? (YES) NO

Standards Prep Dates & Log ID's:

Std Type	*Prep Date*	*Log ID*		*Std Type*	*Prep Date*	*Log ID*
Calibration Intermediate	10/06/09	WC940011B		Working Calibration Stds	10/22/09	WC940021C
LCS / MS Intermediate	10/06/09	WC940011B		Working LCS/MS Standard	10/26/09	WC940052P
ICV Intermediate	10/09/09	WC940012H		Working ICV Standard	10/26/09	WC940027L
CCV Intermediate	10/9/09	WC940012H		Working CCV Standard	10/26/09	WC940027L

Comments:

Original retention times based on ICV:
Fluoride 2.90 Bromide 6.02
Chloride 4.05 Nitrate 7.03 Sulfate 11.43
Nitrite 4.83 Phosphate 9.55

CALIBRATION INTERMEDIATE STOCK PREP
(used for Calibration and LCS / MS)

Analyte	1000ppm Stock ID	Conc. mg/L	mLs Stock	Final Vol. mL	Final Conc. mg/L	Analyst	Date Prepped	Lot ID	Exp. Date
F	WC920636	1000	10	200	50	RP	9/10/09	A	1/26/10
Cl	WC72001E	1000	20		100	RP	10/6/09	B	1/26/10
NO2	WC72002F	1000	10		50			C	
Br	WC92063H	1000	10		50			D	
NO3	WC90001I	1000	10		50		RP 10/23/09	E	
OPO4	WC72002?	1000	10		50			F	
SO4	WC72002U	1000	20		100			G	

ICV/CCV INTERMEDIATE STOCK PREP

Analyte	ICV/CCV Stock ID	Conc. mg/L	mLs Stock	Final Vol. mL	Final Conc. mg/L	Analyst	Date Prepped	Lot ID	Exp. Date
F	WC85284I	1000	4.0	1000	4.00	RP	9/22/09	H	1/26/10
Cl	WC72006E	650	10		6.50	CS	10/9/09	I	1/26/10
NO2	WC72007G	180	20		3.60			J	
Br	WC85037D	1000	4.0		4.00			K	
NO3	WC900066	180	20		3.60	CS	10/13/09	L	
OPO4	WC72007S	180	20		3.60			M	
SO4	WC72007U	3200	2.0		6.40			N	

CALIBRATION INTERMEDIATE STOCK PREP
(used for Calibration and LCS / MS)

Analyte	1000ppm Stock ID	Conc. mg/L	mLs Stock	Final Vol. mL	Final Conc. mg/L	Analyst	Date Prepped	Lot ID	Exp. Date
F	WC92063G	1000	10	200	50	RP	10/28/09	A	1/26/10
Cl	WC72001E	1000	20		100			B	
NO2	WC72002F	1000	10		50			C	
Br	WC92063H	1000	10		50			D	
NO3	WC90001F	1000	10		50			E	
OPO4	WC72002P	1000	10		50			F	
SO4	WC72002U	1000	20		100			G	

ICV/CCV INTERMEDIATE STOCK PREP

Analyte	ICV/CCV Stock ID	Conc. mg/L	mLs Stock	Final Vol. mL	Final Conc. mg/L	Analyst	Date Prepped	Lot ID	Exp. Date
F	WC85284I	1000	4.0	1000	4.00	CS	10/9/09	H	1/26/10
Cl	WC72006E	650	10		6.50			I	
NO2	WC72007G	180	20		3.60			J	
Br	WC92085I	1000	4.0		4.00			K	
NO3	WC90006G	180	20		3.60			L	
OPO4	WC72007S	180	20		3.60			M	
SO4	WC72007U	3200	2.0		6.40			N	

CALIBRATION STANDARDS PREP

(Stocks delivered using Volumetric glassware and brought to volume with DI. Expire after 7 days.)

Std #	mLs Intermediate Stock	Final Vol. mLs	Conc. (mg/L) F	Cl	Final NO2	Std Br	NO3	PO4	SO4	Calibration Intermediate Stock ID	Analyst/ Date Prepped	Lot ID	Exp. Date	Matrix H2SO4 / NaOH / DI	H2SO4 / NaOH Lot #
9	10.0	100	5.0	10.0	5.0	5.0	5.0	5.0	10.0	WC9401IA	RP / 10/1/09	A	10/8/09	H_2SO_4	WC85294I
8	8.0	100	4.0	8.0	4.0	4.0	4.0	4.0	8.0	WC9401IB	RP / 10/09/09	B	10/15/09	DI	
7	5.0	100	2.5	5.0	2.5	2.5	2.5	2.5	5.0	WC9400IIB	RP 10/23/09	C	10/29/09	DI	
6	2.0	100	1.0	2.0	1.0	1.0	1.0	1.0	2.0			D			
5	1.0	100	0.5	1.0	0.50	0.50	0.50	0.50	1.0			D			
4	0.5	100	0.25	0.50	0.25	0.25	0.25	0.25	0.50			F			
3	0.2	100	0.10	0.20	0.10	0.10	0.10	0.10	0.20			G			
2	0.1	100	0.05	0.10	0.05	0.05	0.05	0.05	0.10			H			
1	0.0	100	0.0	0.0	0.0	0.0	0.0	0.0	0.0			I			
												J			
												K			
												L			
												M			
												N			
												O			
												P			
												Q			

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ICV / CCV PREP

(A 1:2 dilution of the Reference Intermediate Stock is done daily)

Analyte	ICV / CCV Intermediate Stock ID	Conc. mg/L	mLs Stock	Final Vol. mL	Final Conc. mg/L	Analyst/ Date Prepped	Lot ID	Exp. Date CS 10/16/09	Matrix H2SO4 / NaOH / DI	H2SO4 / NaOH Lot #
F	WC9401ZH	4.00	5.0	10	2.00	RP 10/10/09	A	10/18/09	DI	
Cl		6.50			3.25	RP 10/12/09	B	10/19/09	DI	
NO2		3.60			1.80	RP 10/15/09	C	10/20/09	DI	
Br		4.00			2.00	CS 10/16/09	D	10/21/09	DI	
NO3		3.60			1.80	CS 10/15/09	E	10/22/09	DI	
OPO4		3.60			1.80	CS 10/16/09	F	10/23/09	DI	
SO4		6.40			3.20	CS 10/19/09	G	10/26/09	DI	
						RP 10/20/09	H	10/20/09	DI	
						RP 10/21/09	I	10/21/09	DI	
						RP 10/22/09	J	10/22/09	DI	
						RP 10/23/09	K	10/23/09	DI	
						RP 10/20/09	L	10/26/09	DI	
						RP 10/27/09	M	10/27/09	DI	
							N			
							O			
							P			
							Q			

LCS PREP

(Stocks delivered using Volumetric glassware and brought to volume with DI. LCS expires after 7 days; if NO2 is needed, LCS must be prepared daily.)

(MS prepared fresh daily using same volume of intermediate stock added to 100mls sample. MS not prepared volumetrically.)

Analyte	Calibration Intermediate Stock ID	Intermediate Stock Conc (mg/L)	mLs Intermediate Stock	Final Vol. mLs	Final Conc. (mg/L)	Analyst/ Date Prepped	Lot ID	Exp. Date	Matrix H2SO4 / NaOH / DI	H2SO4 / NaOH Lot #
F	WC9408 011B	50	2.0	100	1.0	RP 10/6/09	A	10/13/09	DI	
Cl		100			2.0	RP 10/7/09	B	10/14/09	DI	
NO2		50			1.0	RP 10/8/09	C	10/15/09	DI	
Br		50			1.0	RP 10/9/09	D	10/16/09	DI	
NO3		50			1.0	RP 10/10/09	E	10/17/09	DI	
OPO4		50			1.0	RP 10/12/09	F	10/19/09	DI	
SO4		100			2.0	RP 10/13/09	G	10/20/09	DI	
						CS 10/14/09	H	10/21/09	DI	
						CS 10/15/09	I	10/22/09	DI	
						CS 10/16/09	J	10/23/09	DI	
						CS 10/19/09	K	10/26/09	DI	
						RP 10/20/09	L	10/27/09	DI	
						RP 10/21/09	M	10/28/09	DI	
						RP 10/22/09	N	10/29/09	DI	
						RP 10/23/09	O	10/30/09	DI	
						RP 10/26/09	P	11/2/09	DI	
						RP 10/27/09	Q	11/3/09	DI	
							R			

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Analytical Results Summary

Instrument Name: R-UV-VIS-01 **Analyst:** DWARD **Analysis Lot:** 178409 **Method/Testcode:** SM 5540 C/MBAS Hendext

Lab Code	Target Analytes	QC	Parent Sample	Matrix	Raw Result	Sample Amt	Final Result	Dil	PQL	% Rec	% RSD	Date Analyzed	QC?	Tier
RQ0910747-01	Surfactants	MB		Soil	0.32 mg/L	25 g	2.0 mg/Kg U	10	2.0			11/3/09 09:20	N	IV
RQ0911136-06	Surfactants	LCS		Soil	0.21 mg/L	25 g	0.208 mg/Kg	1	0.20	104		11/3/09 09:20	N	IV
RQ0911136-07	Surfactants	LCS		Soil	3.35 mg/L	25 g	3.35 mg/Kg	1	0.20	96		11/3/09 09:20	N	IV
R0905744-001	Surfactants	N/A		Soil	0.42 mg/L	25 g	2.2 mg/Kg U	10	2.2			11/3/09 09:20	N	IV
R0905744-002	Surfactants	N/A		Soil	0.42 mg/L	25 g	2.2 mg/Kg U	10	2.2			11/3/09 09:20	N	IV
R0905744-003	Surfactants	N/A		Soil	0.52 mg/L	25 g	2.2 mg/Kg U	10	2.2			11/3/09 09:20	N	IV
R0905744-004	Surfactants	N/A		Soil	0.91 mg/L	25 g	1.0 mg/Kg J	10	2.2			11/3/09 09:20	N	IV
R0905744-005	Surfactants	N/A		Soil	0.52 mg/L	25 g	2.6 mg/Kg U	10	2.6			11/3/09 09:20	N	IV
R0905744-006	Surfactants	N/A		Soil	1.01 mg/L	25 g	1.1 mg/Kg J	10	2.1			11/3/09 09:20	N	IV
R0905744-007	Surfactants	N/A		Soil	1.10 mg/L	25 g	1.2 mg/Kg J	10	2.2			11/3/09 09:20	Y	IV
RQ0910747-02	Surfactants	DUP	R0905744-007	Soil	1.10 mg/L	25 g	1.2 mg/Kg J	10	2.2		<1	11/3/09 09:20	N	IV
RQ0910747-03	Surfactants	MS	R0905744-007	Soil	31.13 mg/L	25 g	33.8 mg/Kg	10	2.2	86		11/3/09 09:20	N	IV
R0905744-008	Surfactants	N/A		Soil	0.81 mg/L	25 g	1.1 mg/Kg J	10	2.7			11/3/09 09:20	N	IV
R0905744-009	Surfactants	N/A		Soil	0.52 mg/L	25 g	3.0 mg/Kg U	10	3.0			11/3/09 09:20	N	IV
R0905744-012	Surfactants	N/A		Soil	0.91 mg/L	25 g	0.9 mg/Kg J	10	2.0			11/3/09 09:20	N	IV
R0905744-013	Surfactants	N/A		Soil	0.81 mg/L	25 g	0.9 mg/Kg J	10	2.1			11/3/09 09:20	N	IV
RQ0910788-01	Surfactants	MB		Soil	0.00 mg/L	500 mL	0.020 mg/L U	1	0.020			11/3/09 09:20	N	IV
RQ0911136-01	Surfactants	LCS		Soil	0.02 mg/L	500 mL	0.0208 mg/L	1	0.020	104		11/3/09 09:20	N	IV
RQ0911136-02	Surfactants	LCS		Soil	0.33 mg/L	500 mL	0.335 mg/L	1	0.020	96		11/3/09 09:20	N	IV
R0906056-001	Surfactants	N/A		Soil	0.02 mg/L	500 mL	0.016 mg/L J	1	0.020			11/3/09 09:20	N	IV
R0906056-003	Surfactants	N/A		Soil	0.01 mg/L	500 mL	0.012 mg/L J	1	0.020			11/3/09 09:20	N	IV
R0906056-005	Surfactants	N/A		Soil	0.01 mg/L	500 mL	0.011 mg/L J	1	0.020			11/3/09 09:20	N	IV
R0906056-007	Surfactants	N/A		Soil	0.01 mg/L	500 mL	0.006 mg/L J	1	0.020			11/3/09 09:20	N	IV
RQ0911136-03	Surfactants	MB		Water	0.00 mg/L	500 mL	0.020 mg/L U	1	0.020			11/3/09 09:20	N	IV
RQ0911136-04	Surfactants	LCS		Water	0.02 mg/L	500 mL	~~0.0208~~ 0.0198 mg/L SD 11/10/09	1	0.020	104		11/3/09 09:20	N	IV
RQ0911136-05	Surfactants	LCS		Water	0.33 mg/L	500 mL	~~0.335~~ 0.3424 mg/L	1	0.020	96		11/3/09 09:20	N	IV
R0906270-001	Surfactants	N/A		Water	0.01 mg/L	500 mL	0.010 mg/L J	1	0.020			11/3/09 09:20	N	IV
R0906270-002	Surfactants	N/A		Water	0.01 mg/L	500 mL	0.009 mg/L J	1	0.020			11/3/09 09:20	N	IV
R0906270-003	Surfactants	N/A		Water	0.01 mg/L	500 mL	0.008 mg/L J	1	0.020			11/3/09 09:20	N	IV

5744
6056
6270

Reviewed & Approved
By: SD
Date: 11/10/09

ǂ indicates Final Result is not yet adjusted for Solids because it has not yet been determined.

COLUMBIA ANALYTICAL SERVICES, INC.
Rochester, NY

Analyte: Surfactants (MBAs) Analyst: DWARD Date: 11/3/09
Method: SM20 5540C Pipette: Volumetrics Time: 9:20
Spectrophotometer: MR21 (R-UV-VIS-01)

Calibration:

Std	Conc.	Absorb.	Result	% Rec
1	0.00	0.000	0.00323	
2	0.02	0.019	0.02175	108.7%
3	0.04	0.039	0.04124	103.1%
4	0.06	0.059	0.06074	101.2%
5	0.08	0.075	0.07633	95.4%
6	0.10	0.101	0.10168	101.7%
7	0.15	0.154	0.15334	102.2%
8	0.20	0.190	0.18843	94.2%
9	0.25	0.240	0.23717	94.9%
10	0.30	0.319	0.31418	104.7%
11	0.40	0.409	0.40191	100.5%

Curve Date: 5/28/09
C.C = 0.998342
y-int. = -0.003311
Slope: 1.025888

Working Std Stock Log I WC92105C
Working Standard Stock Prep Date: 10/30/2009
Working Ref Stock Log WC92104E
Working Reference Stock Prep Date: 10/29/2009

* Soil - 25 g diluted to 250 mLs

	Misc.	Order #	Sample Vol. (mLs)	Absorbance @ 652 nm	MBAs mg/L	Bench Dilution	Final Dilution	Final Result	*Soil
	TV= 0.300	ICV	500.000	0.320	0.3152	1.0	1.00	105.1%	
		ICB/PB	500.000	0.000	0.0032	1.0	1.00	0.0032	
1	TV= 0.300	CCV	500.000	0.291	0.2869	1.0	1.00	0.2869	
2		CCB/PB	500.000	0.000	0.0032	1.0	1.00	0.0032	
3	TV= 0.020	LCS-LL	500.000	0.018	0.0208	1.0	1.00	0.0208	
4	TV= 0.350	LCS-HL	500.000	0.340	0.3346	1.0	1.00	0.3346	
5	MB	RQ0910747-01	50.000	0.000	0.0032	1.0	10.00	0.3227	*
6		R0905744-001	50.000	0.001	0.0042	1.0	10.00	0.4202	*
7		R0905744-002	50.000	0.001	0.0042	1.0	10.00	0.4202	*
8		R0905744-003	50.000	0.002	0.0052	1.0	10.00	0.5177	*
9		R0905744-004	50.000	0.006	0.0091	1.0	10.00	0.9076	*
10		R0905744-005	50.000	0.002	0.0052	1.0	10.00	0.5177	*
11		R0905744-006	50.000	0.007	0.0101	1.0	10.00	1.0051	*
12		R0905744-007	50.000	0.008	0.0110	1.0	10.00	1.1026	*
13		CCV	500.000	0.285	0.2810	1.0	1.00	0.2810	
14		CCB/PB	500.000	0.000	0.0032	1.0	1.00	0.0032	
15	DUP	RQ0910747-02	50.000	0.008	0.0110	1.0	10.00	1.1026	*
16	MS	RQ0910747-03	50.000	0.316	0.3113	1.0	10.00	31.1253	*
17		R0905744-008	50.000	0.005	0.0081	1.0	10.00	0.8101	*
18		R0905744-009	50.000	0.002	0.0052	1.0	10.00	0.5177	*
19		R0905744-012	50.000	0.006	0.0091	1.0	10.00	0.9076	*
20		R0905744-013	50.000	0.005	0.0081	1.0	10.00	0.8101	*
21	SPLPMB	RQ0910788-01	500.000	0.000	0.0032	1.0	1.00	0.0032	
22		R0906056-001	500.000	0.013	0.0159	1.0	1.00	0.0159	
23		R0906056-003	500.000	0.009	0.0120	1.0	1.00	0.0120	
24		R0906056-005	500.000	0.008	0.0110	1.0	1.00	0.0110	
25		CCV	500.000	0.285	0.2810	1.0	1.00	0.2810	
26		CCB/PB	500.000	0.000	0.0032	1.0	1.00	0.0032	

MBAs, mg/L = $\frac{\text{Conc. (mg/L) x Dil'n x 500 mL}}{\text{Sample Volume}}$

COLUMBIA ANALYTICAL SERVICES, INC.
Rochester, NY

Analyte: Surfactants (MBAs) Analyst: DWARD Date: 11/3/09
Method: SM20 5540C Pipette: Volumetrics Time: 9:20
Spectrophotometer: MR21 (R-UV-VIS-01)

Calibration:

Std	Conc.	Absorb.	Result	% Rec
1	0.00	0.000	0.00323	
2	0.02	0.019	0.02175	108.7%
3	0.04	0.039	0.04124	103.1%
4	0.06	0.059	0.06074	101.2%
5	0.08	0.075	0.07633	95.4%
6	0.10	0.101	0.10168	101.7%
7	0.15	0.154	0.15334	102.2%
8	0.20	0.190	0.16843	94.2%
9	0.25	0.240	0.23717	94.9%
10	0.30	0.319	0.31418	104.7%
11	0.40	0.409	0.40191	100.5%

Curve Date: 5/28/09
C.C = 0.998342
y-int. = -0.003311
Slope: 1.025888

Working Std Stock Log I WC92105C
Working Standard Stock Prep Date: 10/30/2009
Working Ref Stock Log WC92104E
Working Reference Stock Prep Date: 10/29/2009

* Soil - 25 g diluted to 250 mLs

	Misc.	Order #	Sample Vol. (mLs)	Absorbance @ 652 nm	MBAs mg/L	Bench Dilution	Final Dilution	Final Result	*Soil
27		LCS-LL-2	500.000	0.017	0.0198	1.0	1.00	0.0198	
28		LCS-HL-2	500.000	0.348	0.3424	1.0	1.00	0.3424	
29		R0906056-007	500.000	0.003	0.0062	1.0	1.00	0.0062	
30		R0906270-003	500.000	0.005	0.0081	1.0	1.00	0.0081	
31		R0906270-001	500.000	0.007	0.0101	1.0	1.00	0.0101	
32		R0906270-002	500.000	0.006	0.0091	1.0	1.00	0.0091	
33		CCV	500.000	0.285	0.2810	1.0	1.00	0.2810	
34		CCB/PB	500.000	0.000	0.0032	1.0	1.00	0.0032	
35									
36									
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54									

DPW 11/9/09

MBAs, mg/L = $\frac{\text{Conc. (mg/L) x Dil'n x 500 mL}}{\text{Sample Volume}}$

Columbia Analytical Services
1 Mustard Street, Rochester, NY 14609

General Chemistry Analytical Run Cover Sheet

Analyst: DWM Date: 11/3/09

Analysis: MBAS (Surfactants) ✓ Instrument: Milton Roy Spec 21 ✓

Quality Control: Curve Date: 05/28/09

	Same as Log Book #	Same as Log Book Date	Working Stocks Prep. Log#, Date,	Stock Sol (mls)	Stock Sol (mg/L)	Final Vol (mls)	True Value (mg/L)
a) Standards Prep:	WC92008D	5/28/2009	WC92008B, 5/28/09				
b) ICV Prep:	WC92008E	5/28/2009	WC92008C, 5/28/09				
b) CCV Prep:	WC92008E	5/28/2009	see bench sheet	150	1	500	0.3
c) LCS-LL Prep:	WC92009A	5/28/2009	see bench sheet	10	1	500	0.02
c) LCS-HL Prep:	WC92009B	5/28/2009	see bench sheet	175	1	500	0.35
d) Matrix Spike	WC92009C	5/28/2009	WC85268F, 2/12/09	0.175	1000	500	0.35

Instrument log filled in? (Y) (N)

Packages:

Copy and attach Standards Preparation.

Comments: 1000 ppm Standard Stock: WC85268F

1000 ppm Reference Stock: WC92092F

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1109 (A) Alkalinity Reference Solution: 50 mg/L
2 Volumetrically add 10.0mL of the 5000 mg/L Alkalinity Reference Stock (WC92104I) and dilute to 1L with DI. Store in a plastic bottle @ 4°C exp. 4/29/10

30/09 (B) Hypochlorite - NH_3
JM -same as WC92097A. Prepare fresh each run.

1/09 (C) 1.0 ppm LAS Standard Working Stock
✓ Dilute 1.0mL of 1000 ppm LAS Standard (WC85268F) to 1L w/ DI.
Store @ 4°C, exp: 11/30/2009.

2/09 (D) Na_2S - sulfide Reference
N To a tared amber jar add aprox ~0.4g $Na_2S \cdot 9H_2O$ (WC76230B) and dilute to 100g w/ DI. Mix until dissolved.
Exp: 2 weeks: 11/11/09.

0/09 (E) Color Reagent - TKN
JM -Same as WC92088D. Exp. 1 month, 11/30/09

0/09 (F) TSS Reference
W 0.2123g ~~exp 10/30/09~~ 10/30/09 Kaolin (WC69285G) brought to 1000g w/ DI.
Store in plastic bottle @ 4°C.
TV - 212 mg/L Exp: 6/2/10 (13073)

2/09 (G) IS/TVS Reference
J 0.3002g KHP (WC85076G) diluted volumetrically to 1 liter w/ DI. Store in plastic bottle @ 4°C.
TV - 300 mg/L TV - 300 mg/L Exp: 10/30/10 (13075)

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10/28/09 (A) MBAS Wash Solution
To a tared 2L vol flask add: 100g Sodium Phosphate Monobasic, Monohydrate (WC 92092D) add 13.7 ml conc. H_2SO_4 (M1780089K) Store @ RT. Bring to vol w/DI
exp 10/28/10

10/28/09 (B) 100 ppm Organic Phosphorous Standard - TPO4
SBR In a 1 liter vol. flask, dissolve 0.9885g β-Glycerophosphoric Acid, Disodium Salt, 5-Hydrate (WC761430) in DI. Bring to volume w/ DI. Store in amber glass at 4°C Exp 1yr. 10/28/10.

10/28/09 (C) Ascorbic Acid - TPO4
NM -same as WC92086D. Exp. 1 week, 11/4/09

10/28/09 (D) Sulfamic Acid - CN
QN -same as WC92089E. Exp 1 year: 10/28/10

10/29/09 (E) 1.0ppm Working Reference Stock
DPW Dilute 1.0mL of 1000ppm MBAS/LAS Standard (WC92092F) to 1L Volumetrically w/ DI, store @ ~~RT~~ 4°C Exp: 10/29/09.

10/29/09 (F) NH3 Carrier/Diluent
NM -same as WC92067C. Prepared solution x3

(G) Buffer - NH3
-same as WC92091G. ~~Exp:~~ DM 10/29/09 Exp. 10/29/10.

10/29/09 (H) Alkalinity LCS/MS Solution: 1000mg/L
KVE Dissolve 1.0590g Na_2CO_3 (WC76232D) in ~800mL of DI. Bring up to 1L volumetrically with DI. Store in a plastic bottle @ 4°C exp: 4/29/10

(I) Alkalinity Reference Stock: 5000mg/L
Dissolve 5.300g Na_2CO_3 (WC76294G) in ~800mL DI. Bring up to 1L

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5/28/09 (A) Buffer - TOTN
NM -same as WC92003E. Exp. 1 year, 5/28/10

5/28/09 Calibration for Surfactants (MBAS)
cmw (B) 1.0ppm Working Standard Stock
Dilute 1mL of 1000ppm Standard (WC85268F) to 1L w/ DI water volumetrically. Store in amber glass @ 4°C. Expires 1 year, 5/28/2010.

(C) 1.0ppm Working Reference Stock
Dilute 1mL of 1000ppm Reference (WC85215G) to 1L w/ DI water volumetrically. Store in amber glass @ 4°C. Expires 1 year, 5/28/2010.

(D) Calibration Standard

Cal Std	mLs DI	mLs Standard (WC92008B)	Conc.
1	500	0	0.00
2	490	10	0.02
3	480	20	0.04
4	470	30	0.06
5	460	40	0.08
6	450	50	0.10
7	425	75	0.15
8	400	100	0.20
9	375	125	0.25
10	350	150	0.30
11	300	200	0.40

(E) ICV/CCV
To a ~~5~~ 05/28/09 1L separatory funnel add 350ml of DI water and 150mL of working reference stock (WC92008C). Analyze as a normal sample. True Value = 0.30mg/L.

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(A) LCS-Low Level

5/28/09 To a 1L separatory funnel add 490mL of DI water and 10mL of working standard stock (WC92008B). Analyze as normal sample. True Value = 0.02mg/L.

(B) LCS-High Level

To a 1L separatory funnel add 325mL of DI water and 175mL of working standard stock (WC92008B). Analyze as normal sample. True Value = 0.35mg/L.

(C) Matrix Spike

To a 1L separatory funnel add ~~325mL of~~ 500mL ~~sample an~~ of sample and add ~~0.325ml~~ 0.175ml of 1000ppm Standard Stock (WC85268F). Analyze as normal. True Value = 0.35mg/L.

(initials 5/28/09)

(D) 5/22/09 (D) TKN Digest Reagent
(initials) Same as WC91001D Store at RT in amber glass Exp 6/22/09

5/28/09 (E) 10% Phosphoric Acid
(initials) Same as WC92007H. Expires 5/28/10.

5/22/09 (F) Ascorbic Acid - Konelab
(initials) Same as WC91002A. Exp 6/12/09

5/28/09 (G) Received from CPI
(initials) 6 (12) x 20 Oil & Grease Filter SPE discs, Cat# 4350-13, CPI Lot# 050809. Store at O/G hood. Exp: NA

Received from VWR
(H) 1 x 2.5 Kg Ammonium Sulfate, Cat# AX1385-3, EMD Lot# 48164910, CAS# 7783 20-2 Store @ R.T. Expires 5/28/14 [10181]

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2/12/09 BB Ethylene Glycol
(A) ICV/CCV Prep (final vol = 1mL)
0.60 mL DI + 0.40mL 10ppm Ref. Stock (WC85268 D)
TV = 4.00 ppm
(B) LCS/MS Prep
To 1.0 mL DI or sample, add 0.30mL 10ppm Std. Working Stock (WC85268C).
TV = 3.00 ppm

(C) Glycol Std. Working Stock, 10ppm
in a volumetric flask, dilute 0.10mL Ethylene Glycol 10,000 ppm Std (WC85241A) to 100 mLs.
Make fresh per run.

(D) Glycol Ref. Working Stock, 10ppm
in a volumetric flask, dilute 0.10mL Ethylene Glycol 10,000 ppm Ref (WC85241B) to 100mLs. Fresh each run.

(E) Standards for Glycol (final vol. = 1.0mL)

Conc (ppm)	vol. 10ppm Std working Stock (WC85268C)	Vol DI (mL)
1.0	0.10 mL	0.90
2.0	0.20 mL	0.80
4.0	0.40 mL	0.60
8.0	0.80 mL	0.20
10.0	1.00 mL	0.0

2/12/09 BB Received from VWR
(F) (1) x 120mL LAS Standard, 1.00 mL = 1.00mg LAS
Cat # 4350-4, RICCA Lot # 2811283, CAS # 7664-93-9, 68411-30-3. Store @ 4°C. Expires 11/30/09 [8187]

2/13/09 (G) Phosphate Buffer for UV254
Same as WC85254G. Expires 2/20/09
(H) KHP Std 500 ~~5.6mg/L as C~~ BB 2/13/09
Same as WC85254H, except phosphate buffer is WC85268G + KHP is WC85062C.

2/18/09 SBR (I) Cr^{+6} Color Reagent
In a 50mL vol. flask dissolve 0.25g 1,5-Diphenylcarbohydrazide (WC85190E) in acetone (WC85203J) and bring to volume. Store @ 4°C. EXP 3/18/09

2/18/09 EW (A) TSS Re...
0.2148...
DI.
TV = 2...

2/18/09 EW (B) Erich...
Add 5...
(WC692...
Store...

2/18/09 SBR (C) NO_2 Color...
In a 100...
0.10g NE...
volume...

(D) Ascorbic A...
- same a...

2/18/09 SBR (E) 10% Phosp...
- same a...

(F) Phenol...
- same a...

2/19/09 ... (G) Cr^{+6} Digest...
Sam...

2/19/09 NIN (H) NH_3 C...
- Same...

(I) Hypoc...
- Same a...

2/20/09 BB (J) 0.5m...
0.200...
Phosp...
Expire...

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10/15/09 (A) Recieved from CPI
LLR
15 x 20/pk Oil & Grease fiber SPE disks, 47mm, Cat #: 4350-13
CPI lot #: 080409 No expiration Date

10/5/09 Recieved from VWR
EW (B) 10 x 100/pk Glass microfibre filter, 691. 4.7cm, CAT # 28333-129.
VWR LOT # G1823159. No expiration Date.

SBR
10/05/09 (C) TKN Digest Reagent
same as WC92085B EXP 11/05/09

10/15/09 Recieved from ~~EMB~~ EMD DPW 10/15/09
DPW (D) 4x500g Sodium phosphate monobasic monohydrate, cat#: SX0710-1, lot#: 46317936.
Store @ RT, exp: 10/15/2014. Cas#: 10049-21-5.

(E) 4x4L chloroform. Cat#: CX1059-1, lot#: 48171. Store @ RT, exp 10/5/2012.
CAS#: 67-66-3

Recieved from ERA
(F) 1x10mL vial MBAS/LAS Standard, 1000mg/L. ERA lot#: 170865, Cat#: 975.
Store @ 4°C, exp: ~~5/30/2011~~ DPW 10/15/09 5/31/2011.

10/6/09 (G) Post-Digestion Matrix Match - TKN
NM
To a 2-L vol. flask add 800mL TKN Digest Reagent (WC92092C) and bring to volume w/ UPDI. Mix thoroughly. Pour off 100 mL and discard. Bring back to volume w/ UPDI. Mix thoroughly. Store @ RT in amber glass. Exp. 11/5/09.

(H) Hypochlorite - TKN
- Same as WC92082B. Prepare fresh each run.

10/6/09 (I) Color Reagent - TPO4
NM
- Same as WC92086C. Exp. 1 year, 10/6/10, or when discolored.

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