Columbia Analytical Services™ 2655 Park Center Drive, Suite A | Simi Valley, CA 93065 | 805.526.7161 | 805.526.7270 fax | www.caslab.com

LABORATORY REPORT

October 2, 2009

Brian Baker
Environmental Health & Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494

RE: 16512

Dear Brian:

Enclosed are the results of the samples submitted to our laboratory on September 4, 2009. For your reference, these analyses have been assigned our service request number P0903146.

All analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein. Your report contains 229 pages.

Columbia Analytical Services, Inc. is certified by the California Department of Health Services, NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA20007; The American Industrial Hygiene Association, Laboratory #101661; Department of the Navy (NFESC); Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-08-TX. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

Columbia Analytical Services, Inc.

Kate Aguilera

Kate Aguilera
Project Manager

100% Recycled Paper

Client: Environmental Health & Engineering, Inc. CAS Project No: P0903146
Project: 16512

CASE NARRATIVE

The samples were received intact under chain of custody on September 4, 2009 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

Aldehyde Analysis

The samples were analyzed for aldehydes according to EPA Method TO-11A using high performance liquid chromatography (HPLC).

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for utilization of less than the complete report.

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Client: Environmental Health & Engineering, Inc.
Project: 16512

Service Request: P0903146

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
P0903146-001	102819	9/2/09	00:00
P0903146-002	102820	9/2/09	00:00
P0903146-003	102821	9/2/09	00:00
P0903146-004	102822	9/2/09	00:00
P0903146-005	102823	9/2/09	00:00
P0903146-006	102824	9/2/09	00:00

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Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 09/02/09

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

P0403146

TO: Columbia Analytical IH Lab

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 16512

The cost of this analysis will be covered by EH&E Purchase Order # 16512

For EH & E Data Coordinator - URGENT DATA ☐

	SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
1	102819	AIR	EPA TO-11 Full List Aldehydes	09/02/09 103.4 L
2	102820	↓	↓	100.9 ↓
3	102821	↓	↓	101.8 ↓
4	102822	↓	↓	109.7 ↓
5	102823	↓	↓	94.3 ↓
6	102824	↓	↓	0 L

Special instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient tminogislaw@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: [signature] of Environmental Health & Engineering, Inc. Date: 09/02/09

Received by: [signature] of (company name) CAL Date: 9/4/09 1005

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page ___ of ___ 4

50C

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Environmental Health & Engineering, Inc. Work order: P0903146

Project: 16512

Sample(s) received on: 09/04/09 Date opened: 09/04/09 by: MZAMORA

Note: This form is used for all samples received by CAS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by CAS**?	☐	☒	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Was a **chain-of-custody** provided?	☒	☐	☐
5	Was the **chain-of-custody** properly completed?	☐	☒	☐
6	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
7	Was **sample volume** received adequate for analysis?	☒	☐	☐
8	Are samples within specified holding times?	☒	☐	☐
9	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☒	☐	☐
	Cooler Temperature 5 °C Blank Temperature _____ °C			
10	Was a **trip blank** received?	☐	☒	☐
	Trip blank supplied by CAS: _____			
11	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
12	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
13	**Tubes:** Are the tubes capped and intact?	☒	☐	☐
	Do they contain moisture?	☐	☒	☐
14	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P0903146-001.01	Silica Gel DNPH Tube					
P0903146-002.01	Silica Gel DNPH Tube					
P0903146-003.01	Silica Gel DNPH Tube					
P0903146-004.01	Silica Gel DNPH Tube					
P0903146-005.01	Silica Gel DNPH Tube					
P0903146-006.01	Silica Gel DNPH Tube					

Explain any discrepancies: (include lab sample ID numbers):

Chain of Custody is missing time collected

*Required pH: Phenols/COD/NH3/TOC/TOX/NO3+NO2/TKN/T.PHOS, H2SO4 (pH<2); Metals, HNO3 (pH<2); CN (NaOH or NaOH/Asc Acid) (pH>12); Diss. Sulfide, NaOH (pH>12); T. Sulfide, NaOH/ZnAc (pH>12); RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

RESULTS OF ANALYSIS

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **102819**
Client Project ID: **16512**

CAS Project ID: P0903146
CAS Sample ID: P0903146-001

Test Code: EPA Method TO-11A
Instrument ID: HP1050/LC2
Analyst: Madeleine Dangazyan
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 9/2/09
Date Received: 9/4/09
Date Analyzed: 9/16/09
Desorption Volume: 1.0 ml
Volume Sampled: 103.4 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**2,400**	**24**	0.97	**19**	0.79	**BH**
75-07-0	**Acetaldehyde**	**1,800**	**17**	0.97	**9.4**	0.54	**BH**
123-38-6	**Propionaldehyde**	**150**	**1.5**	0.97	**0.63**	0.41	**BH**
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.97	ND	0.34	
123-72-8	**Butyraldehyde**	**220**	**2.1**	0.97	**0.72**	0.33	**BH**
100-52-7	**Benzaldehyde**	**290**	**2.8**	0.97	**0.65**	0.22	**BH**
590-86-3	Isovaleraldehyde	< 100	ND	0.97	ND	0.27	
110-62-3	**Valeraldehyde**	**850**	**8.3**	0.97	**2.3**	0.27	**BH**
529-20-4	o-Tolualdehyde	< 100	ND	0.97	ND	0.20	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.9	ND	0.39	
66-25-1	**n-Hexaldehyde**	**3,300**	**32**	0.97	**7.8**	0.24	**BH**
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.97	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
BH = The back section of the tube yielded higher results than the front.

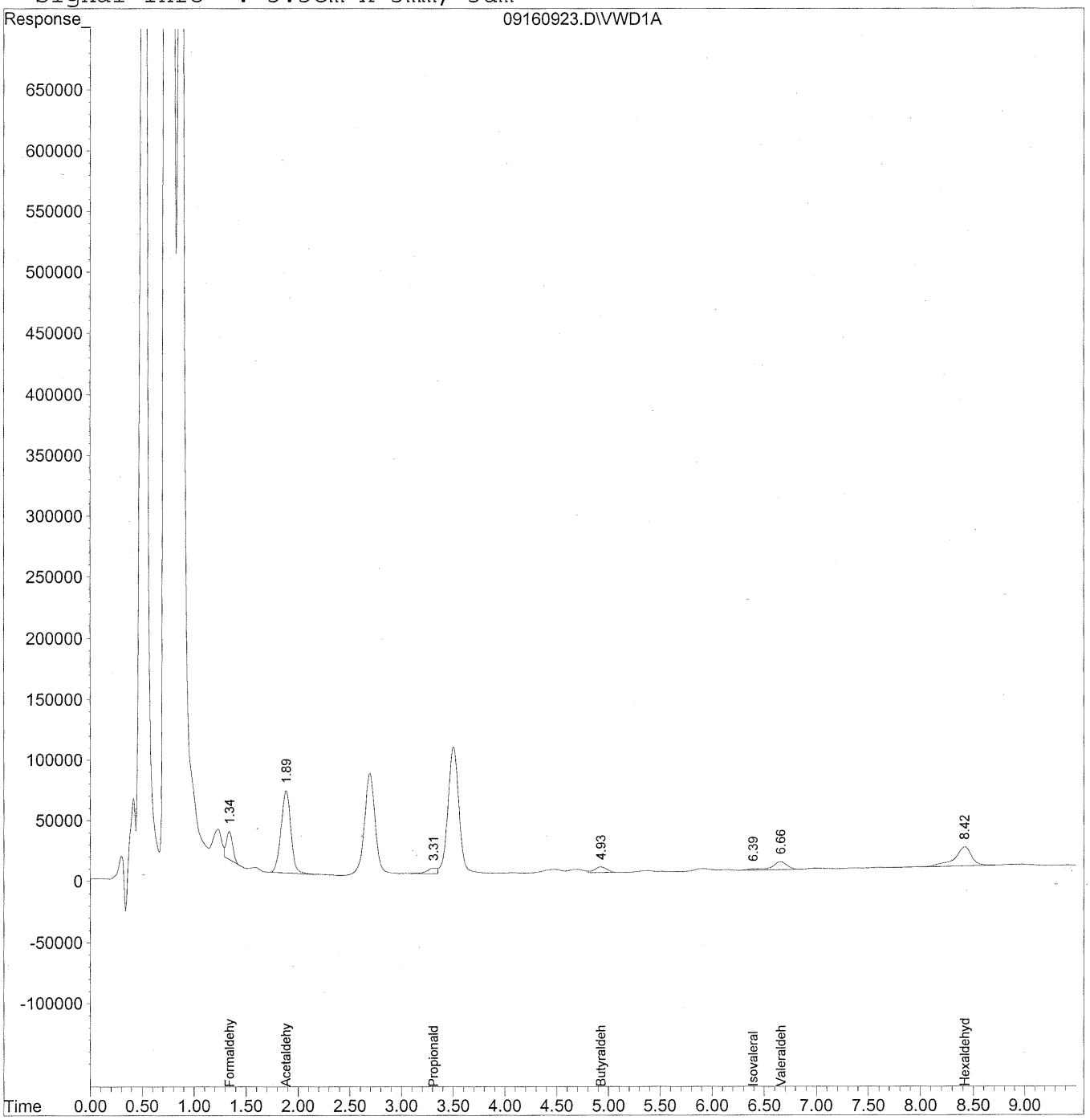
Verified By: Rc Date: 9/23/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160923.D Vial: 109
Acq On : 16-Sep-2009, 15:14 Operator: MD
Sample : P0903146-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:15 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



8

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160923.D Vial: 109
Acq On : 16-Sep-2009, 15:14 Operator: MD
Sample : P0903146-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:15 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

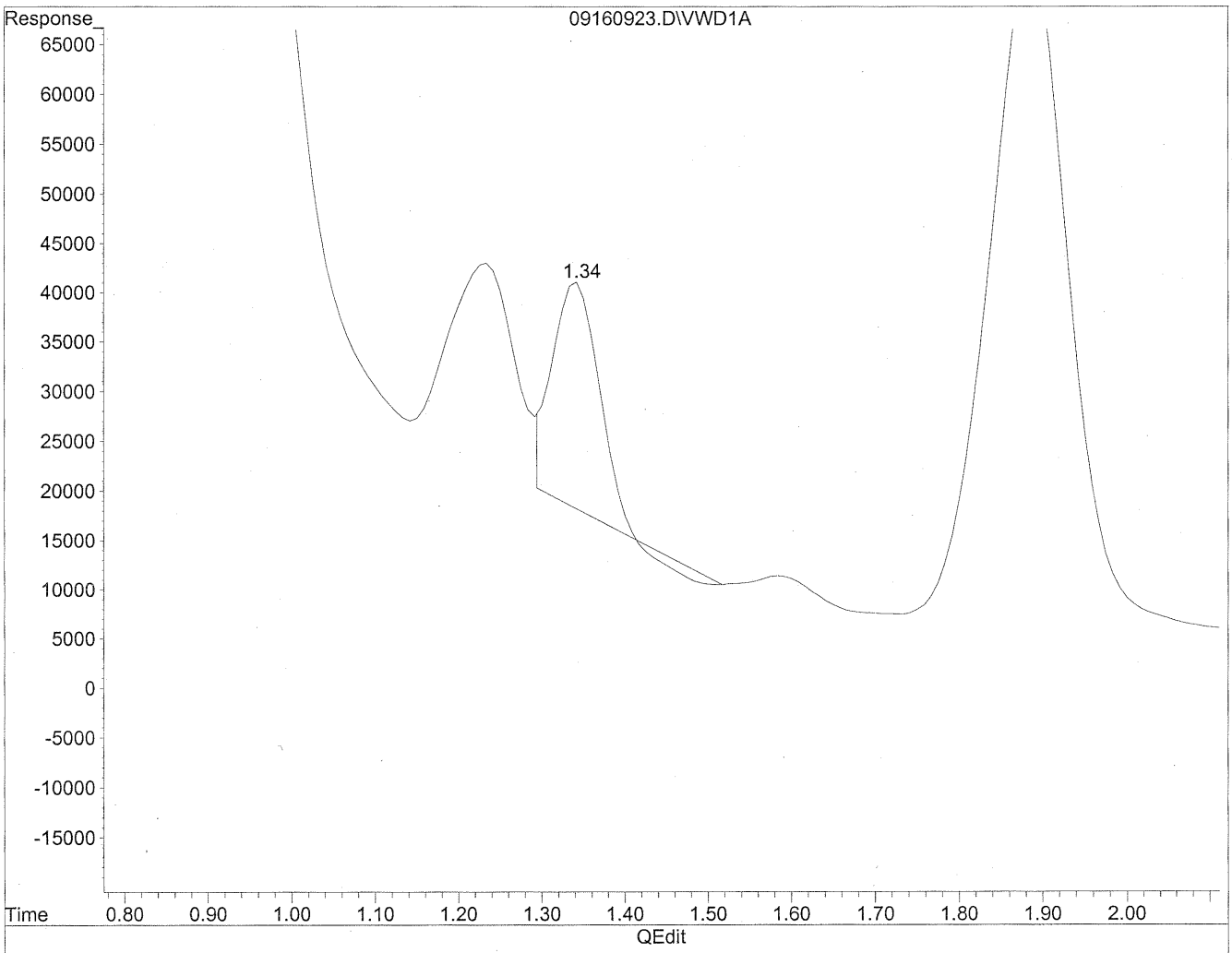
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	947025	105.985	ng/mlm
2)	Acetaldehyde	1.89	4439198	682.870	ng/mlm
3)	Propionaldehyde	3.31	311335	59.897	ng/mlm
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	4.93	394765	97.406	ng/mlm
6)	Benzaldehyde	0.00	0	N.D.	ng/mld
7)	Isovaleraldehyde	6.40	73416	21.331	ng/ml
8)	Valeraldehyde	6.66	627050	184.446	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	8.42	1727602	583.506	ng/mlm
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.
09160923.D TO110909.M Tue Sep 22 08:14:33 2009 Page 1

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160923.D Vial: 109
Acq On : 16-Sep-2009, 15:14 Operator: MD
Sample : P0903146-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(1) Formaldehyde

1.34min 99.415ng/ml

response 888315

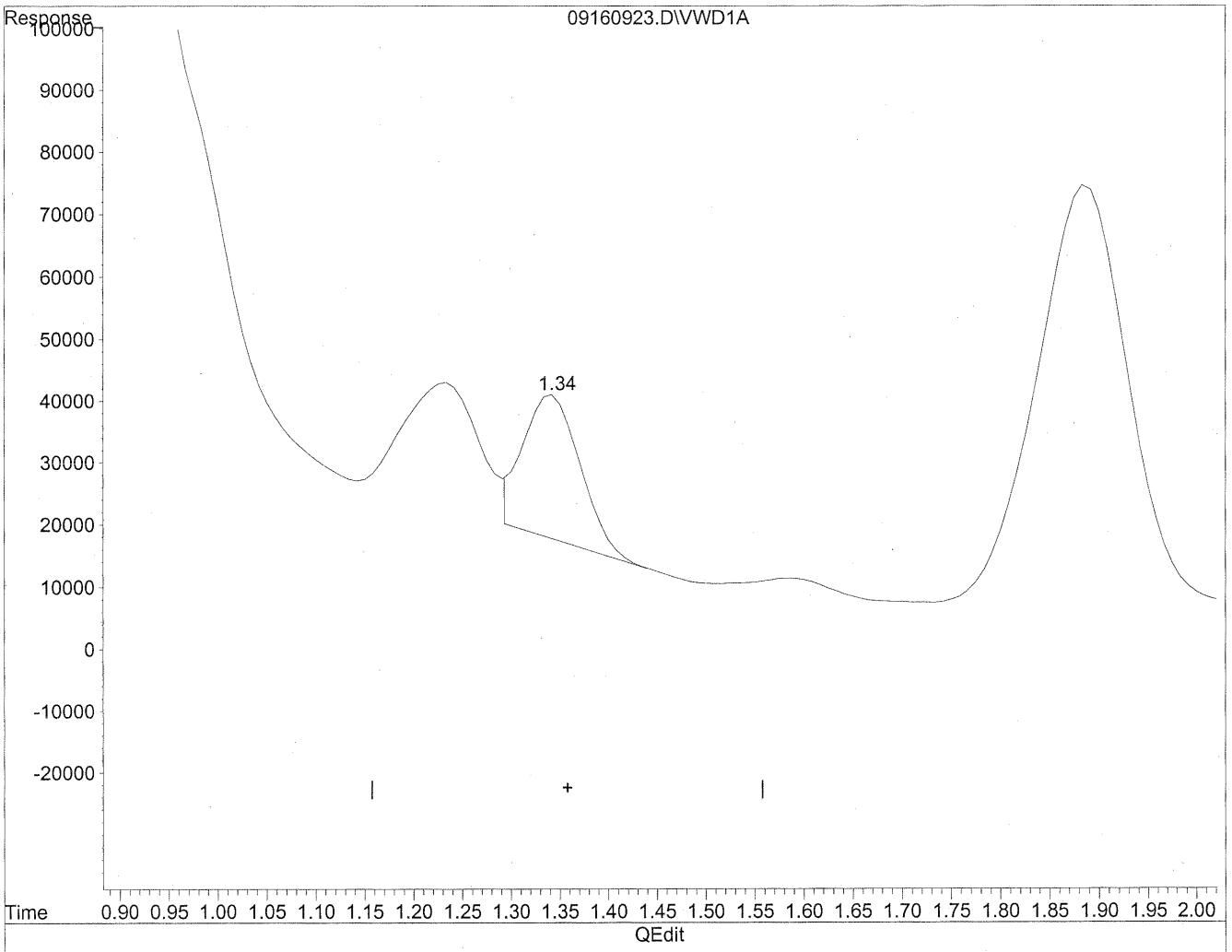
(+) = Expected Retention Time

09160923.D TO110909.M Mon Sep 21 16:13:45 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160923.D Vial: 109
Acq On : 16-Sep-2009, 15:14 Operator: MD
Sample : P0903146-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(1) Formaldehyde

1.34min 105.985ng/ml m

response 947025

MK 9/22/09

TC 9/22/09

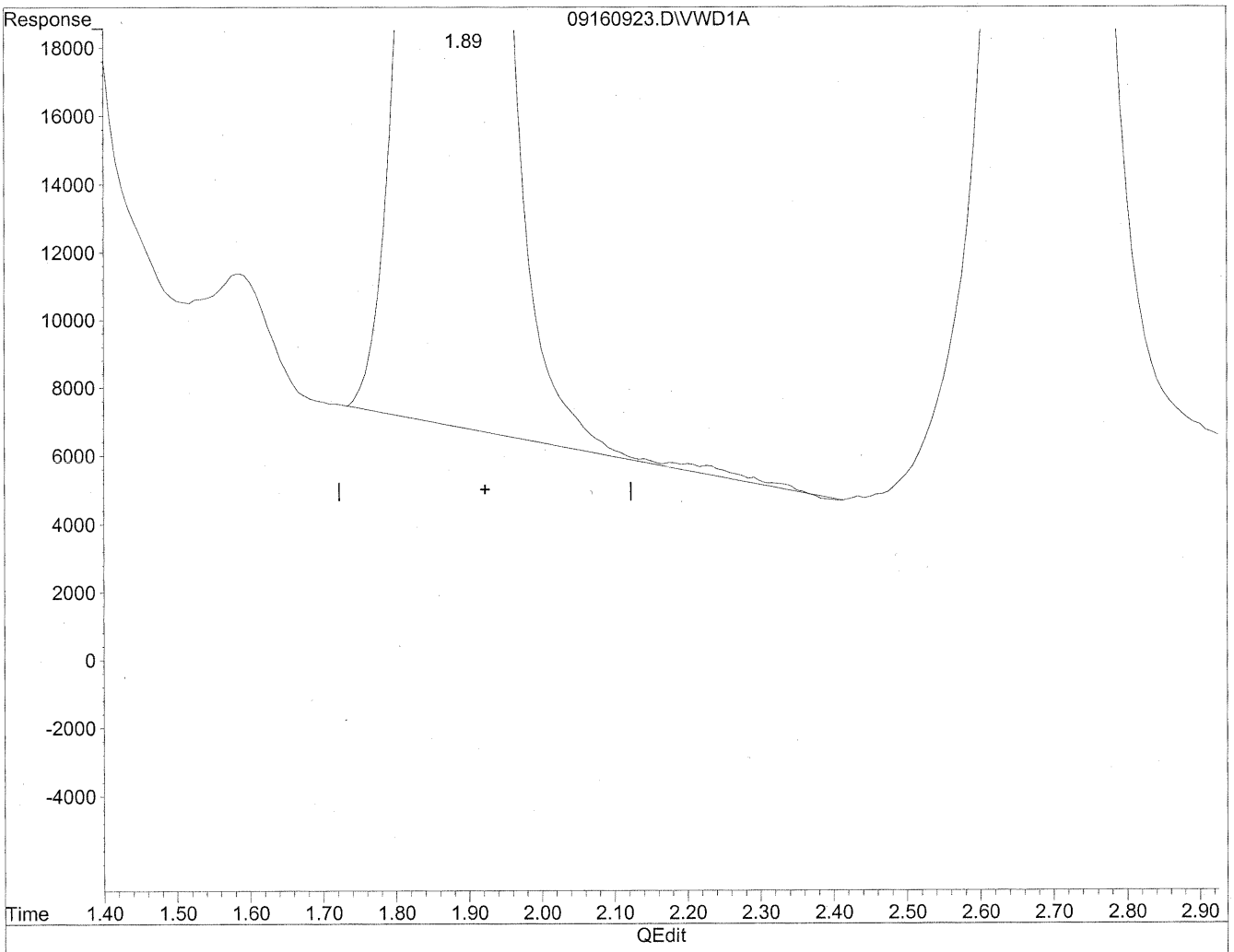
(+) = Expected Retention Time

09160923.D TO110909.M Mon Sep 21 16:13:56 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160923.D Vial: 109
Acq On : 16-Sep-2009, 15:14 Operator: MD
Sample : P0903146-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.89min 683.393ng/ml

response 4442599

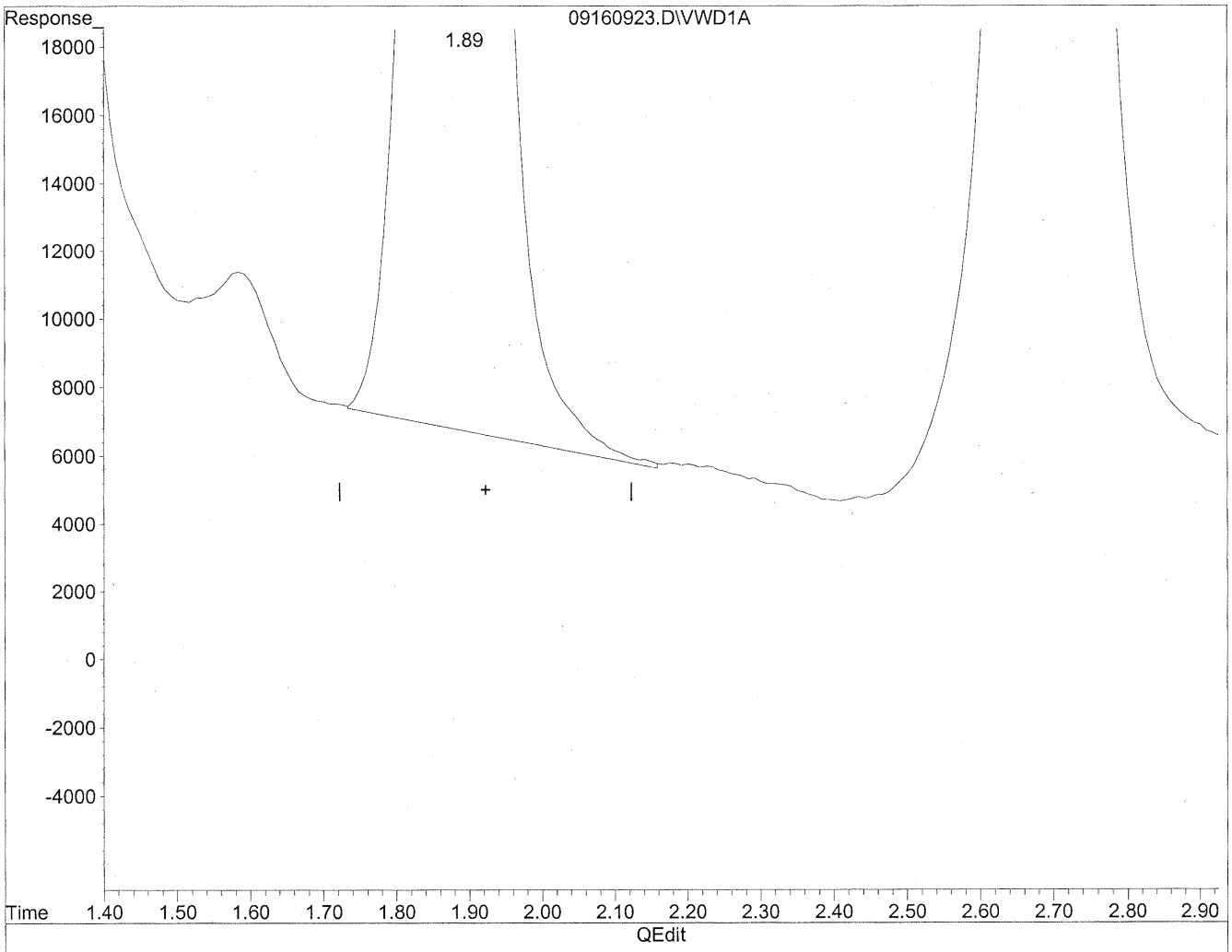
(+) = Expected Retention Time

09160923.D TO110909.M Mon Sep 21 16:14:04 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160923.D Vial: 109
Acq On : 16-Sep-2009, 15:14 Operator: MD
Sample : P0903146-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.89min 682.870ng/ml m

response 4439198

HC 9/22/09

MN 9/22/09 IC

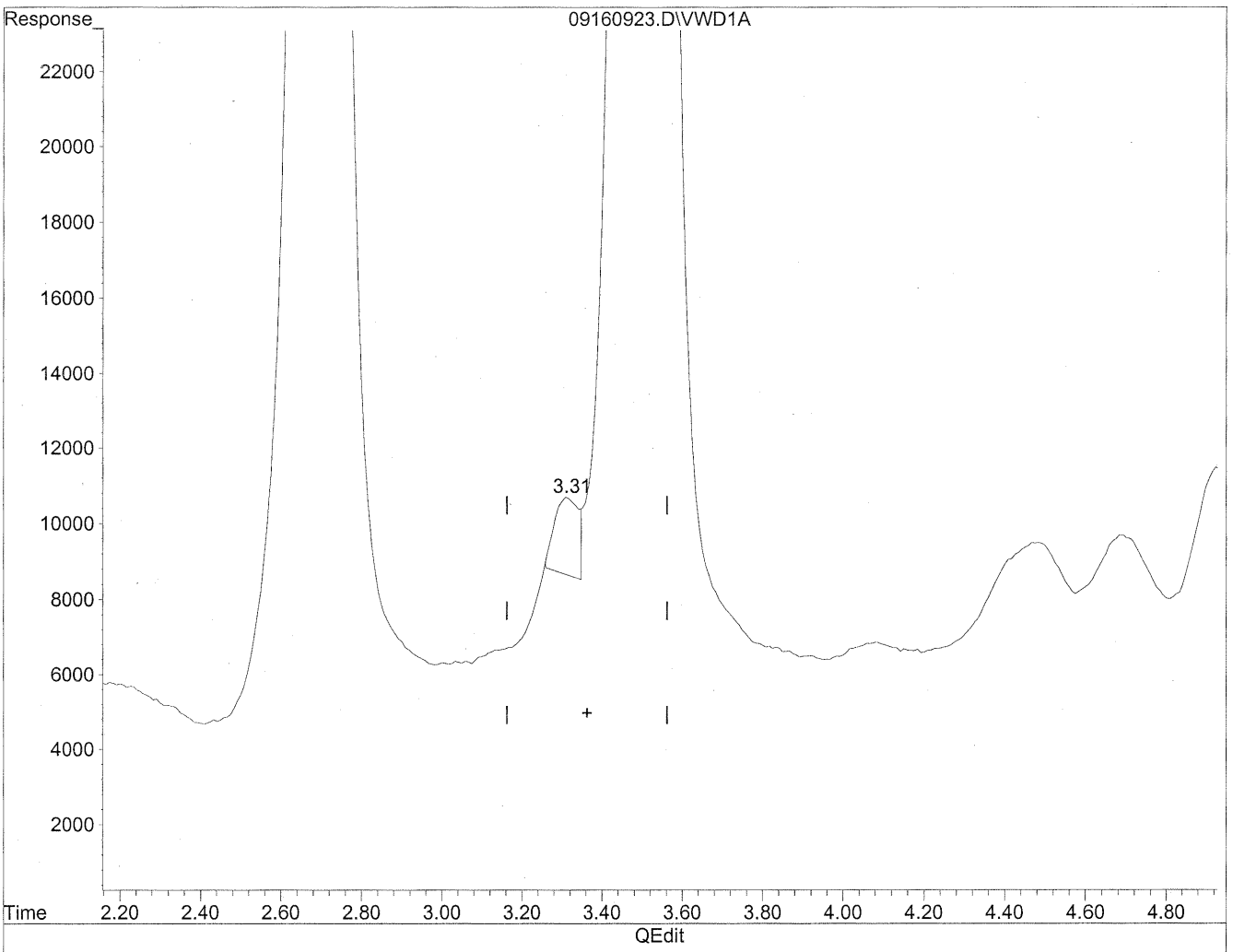
(+) = Expected Retention Time

09160923.D TO110909.M Mon Sep 21 16:14:09 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160923.D Vial: 109
Acq On : 16-Sep-2009, 15:14 Operator: MD
Sample : P0903146-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde

3.31min 15.581ng/ml

response 80988

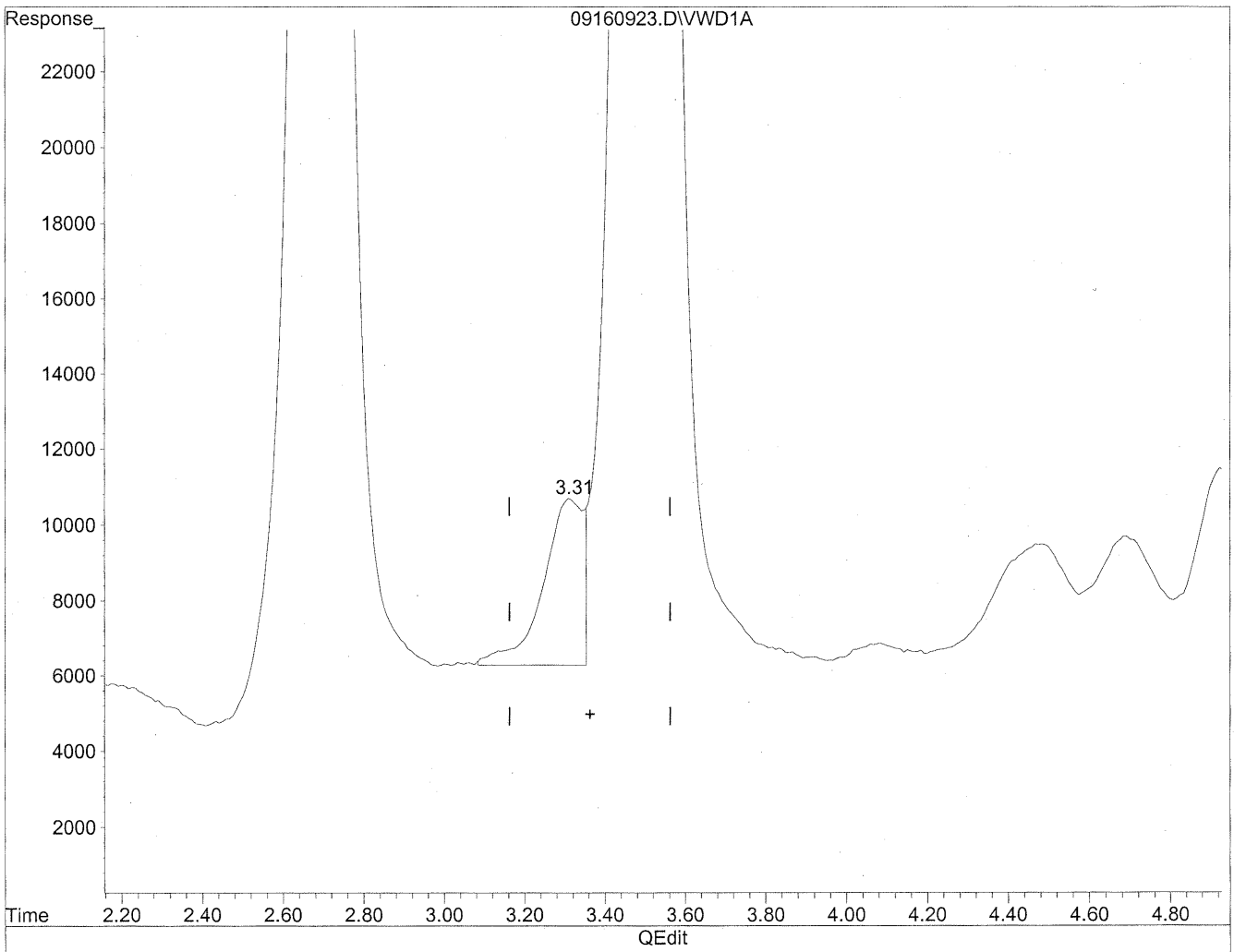
(+) = Expected Retention Time

09160923.D TO110909.M Mon Sep 21 16:14:16 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160923.D Vial: 109
Acq On : 16-Sep-2009, 15:14 Operator: MD
Sample : P0903146-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde

3.31min 59.897ng/ml m

response 311335

HC 9/22/09

9/22/09 TC

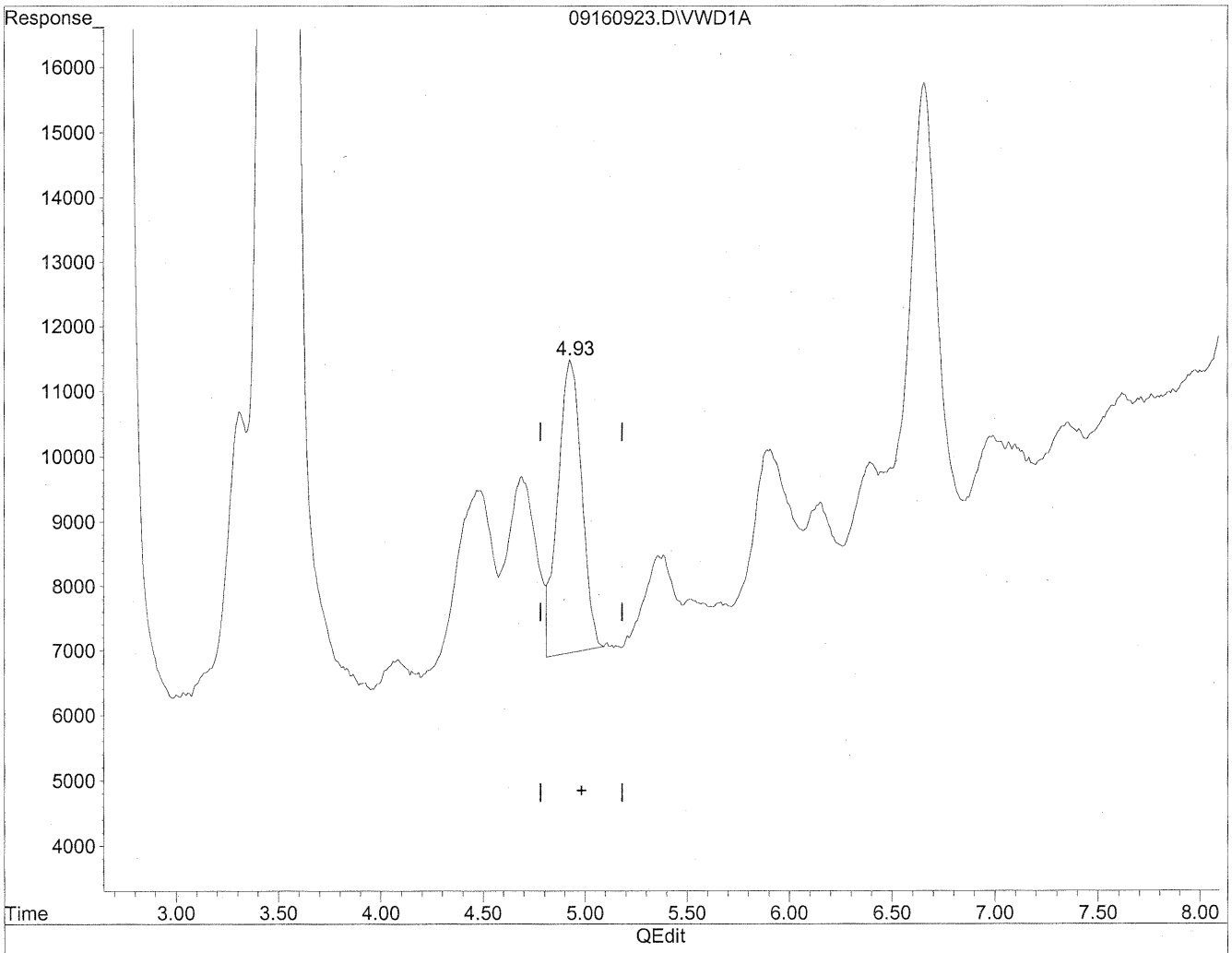
(+) = Expected Retention Time

09160923.D TO110909.M Mon Sep 21 16:14:27 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160923.D Vial: 109
Acq On : 16-Sep-2009, 15:14 Operator: MD
Sample : P0903146-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(5) Butyraldehyde

4.93min 91.278ng/ml

response 369929

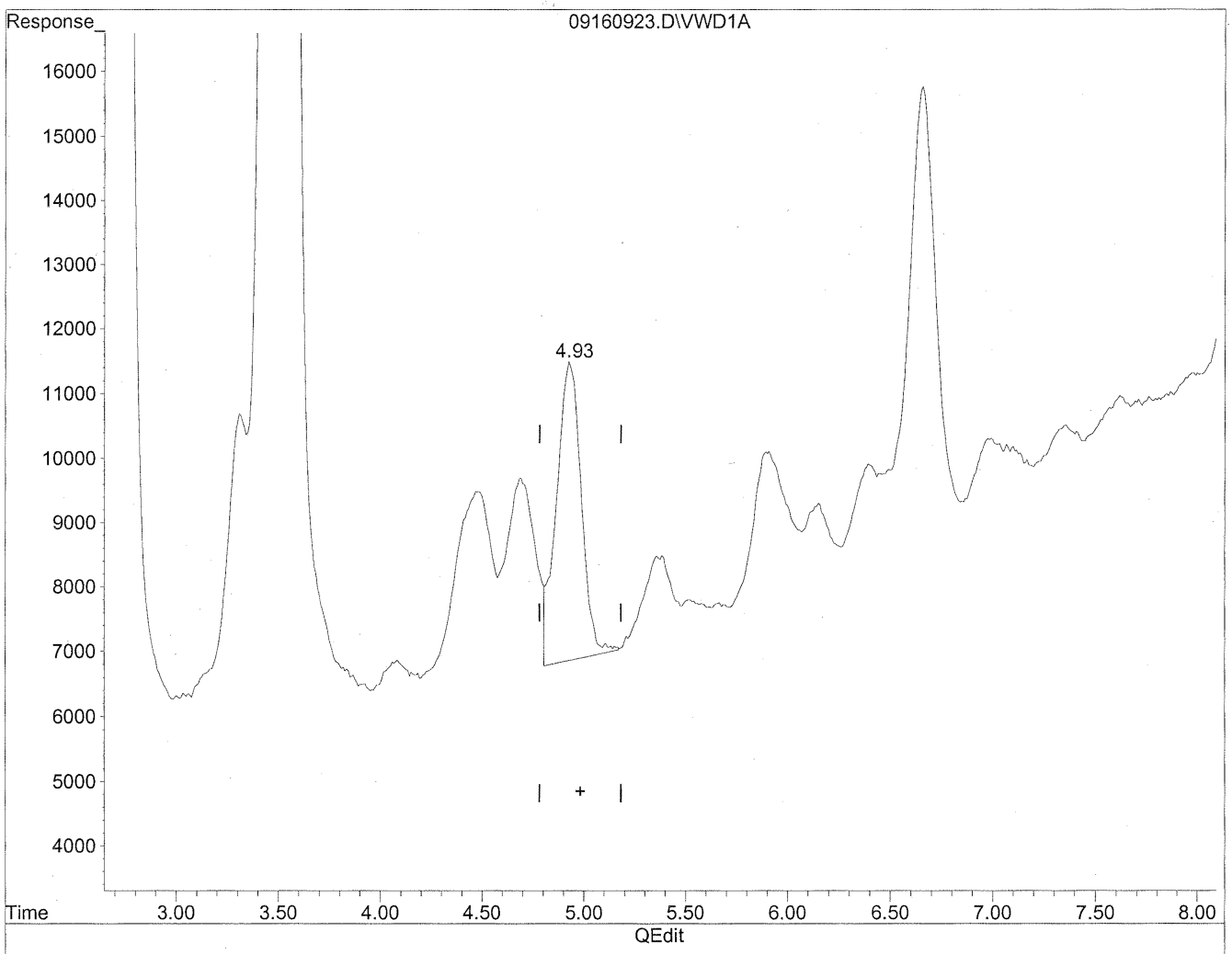
(+) = Expected Retention Time

09160923.D TO110909.M Mon Sep 21 16:14:40 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160923.D Vial: 109
Acq On : 16-Sep-2009, 15:14 Operator: MD
Sample : P0903146-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(5) Butyraldehyde

4.93min 97.406ng/ml m

response 394765

9/22/09 BC

HC 9/22/09

(+) = Expected Retention Time

09160923.D TO110909.M Mon Sep 21 16:14:56 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160923.D Vial: 109
Acq On : 16-Sep-2009, 15:14 Operator: MD
Sample : P0903146-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
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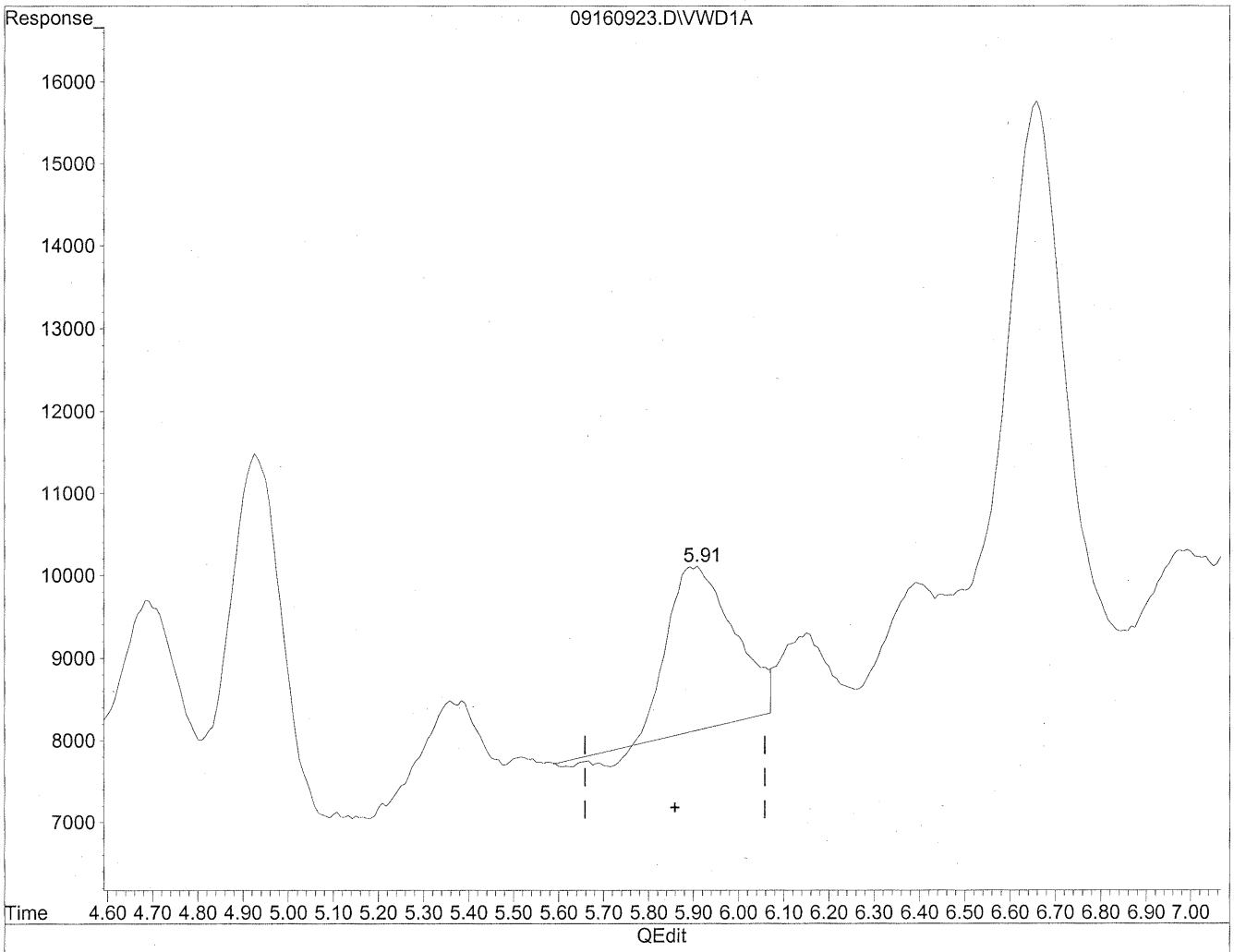
Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

5.91min 70.847ng/ml

response 193298

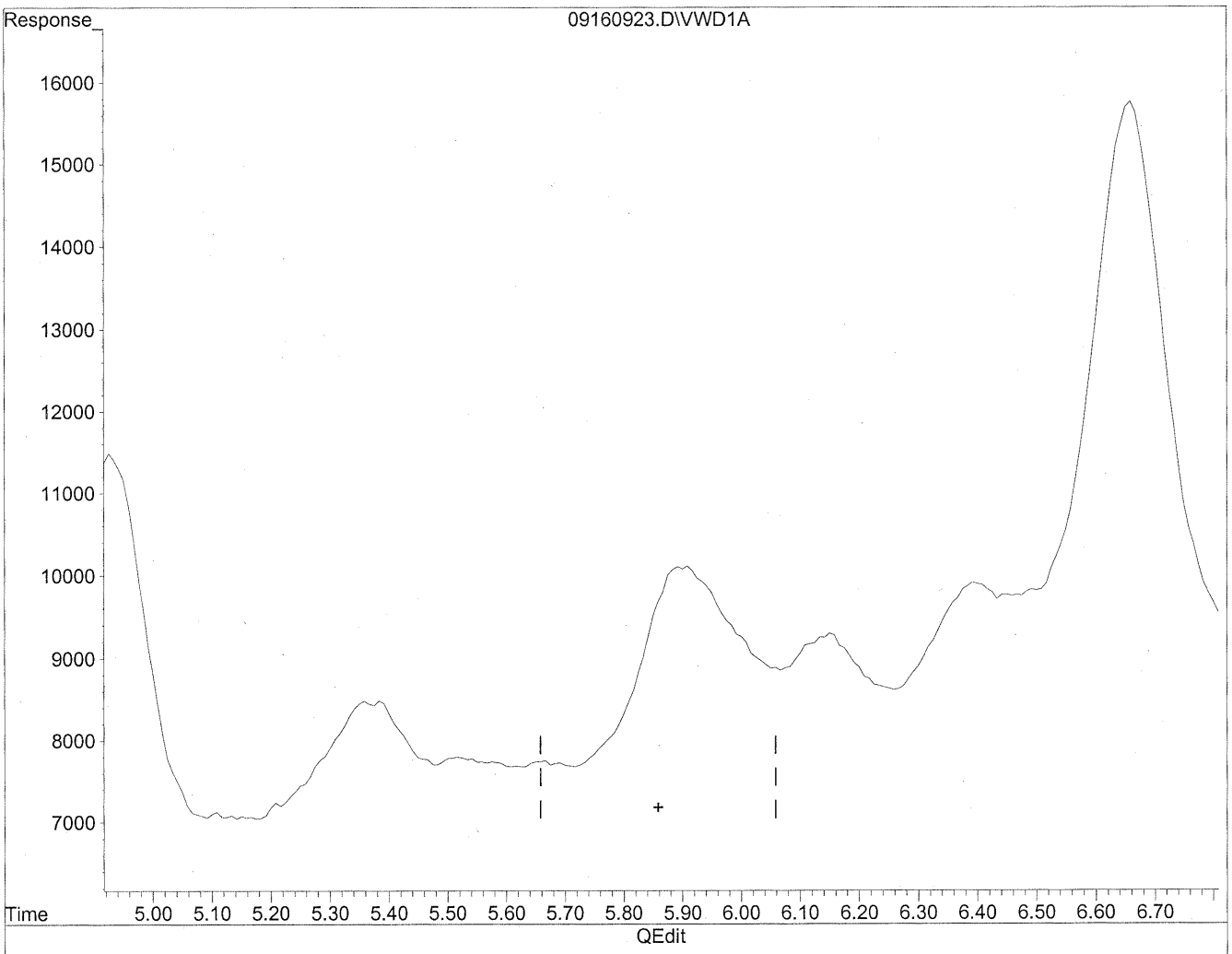
(+) = Expected Retention Time

09160923.D TO110909.M Mon Sep 21 16:15:21 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160923.D Vial: 109
Acq On : 16-Sep-2009, 15:14 Operator: MD
Sample : P0903146-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

0.00min 0.000ng/ml d

response 0

9/22/09 MP

9/23/09

19

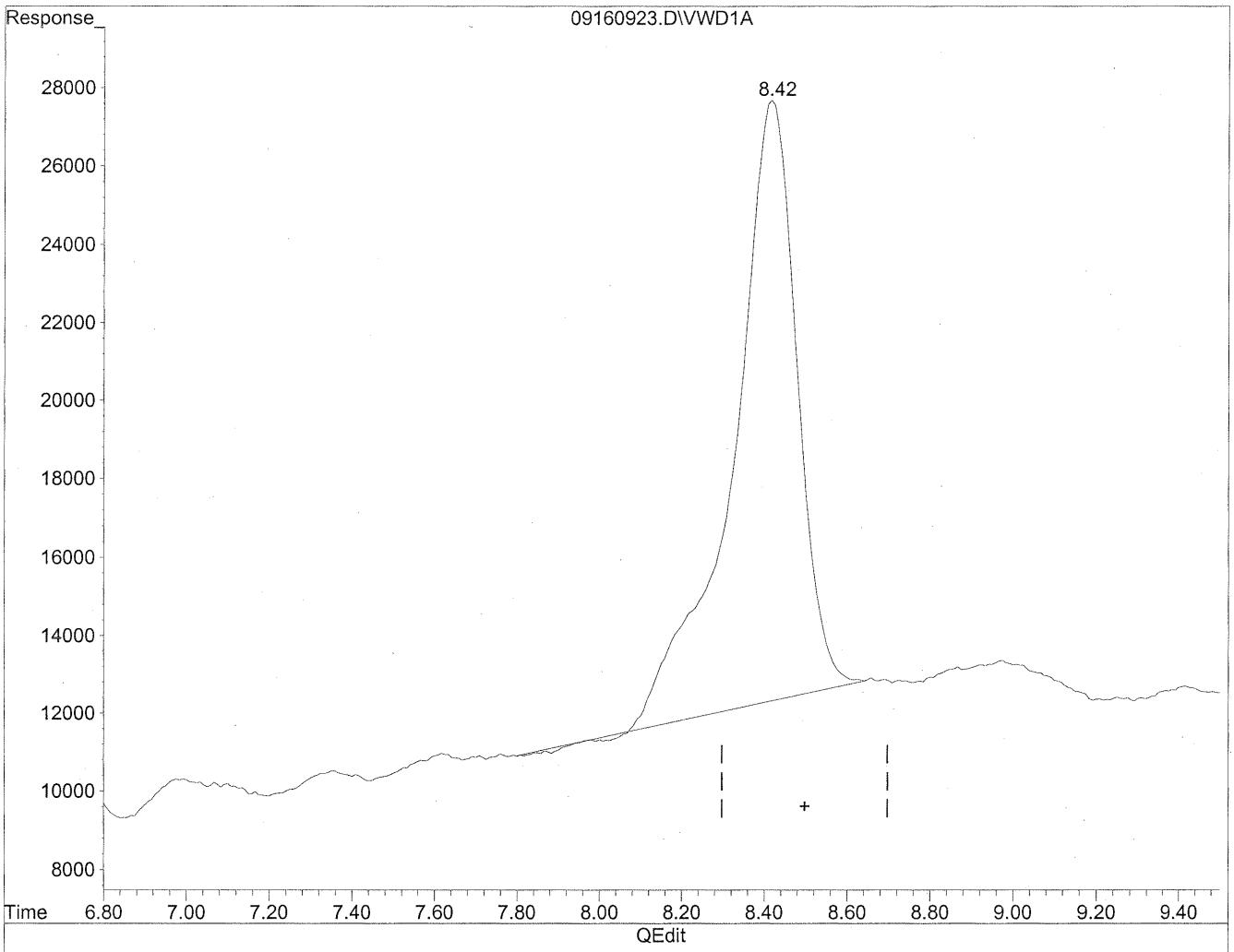
(+) = Expected Retention Time

09160923.D TO110909.M Mon Sep 21 16:15:24 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160923.D Vial: 109
Acq On : 16-Sep-2009, 15:14 Operator: MD
Sample : P0903146-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.42min 553.237ng/ml

response 1637983

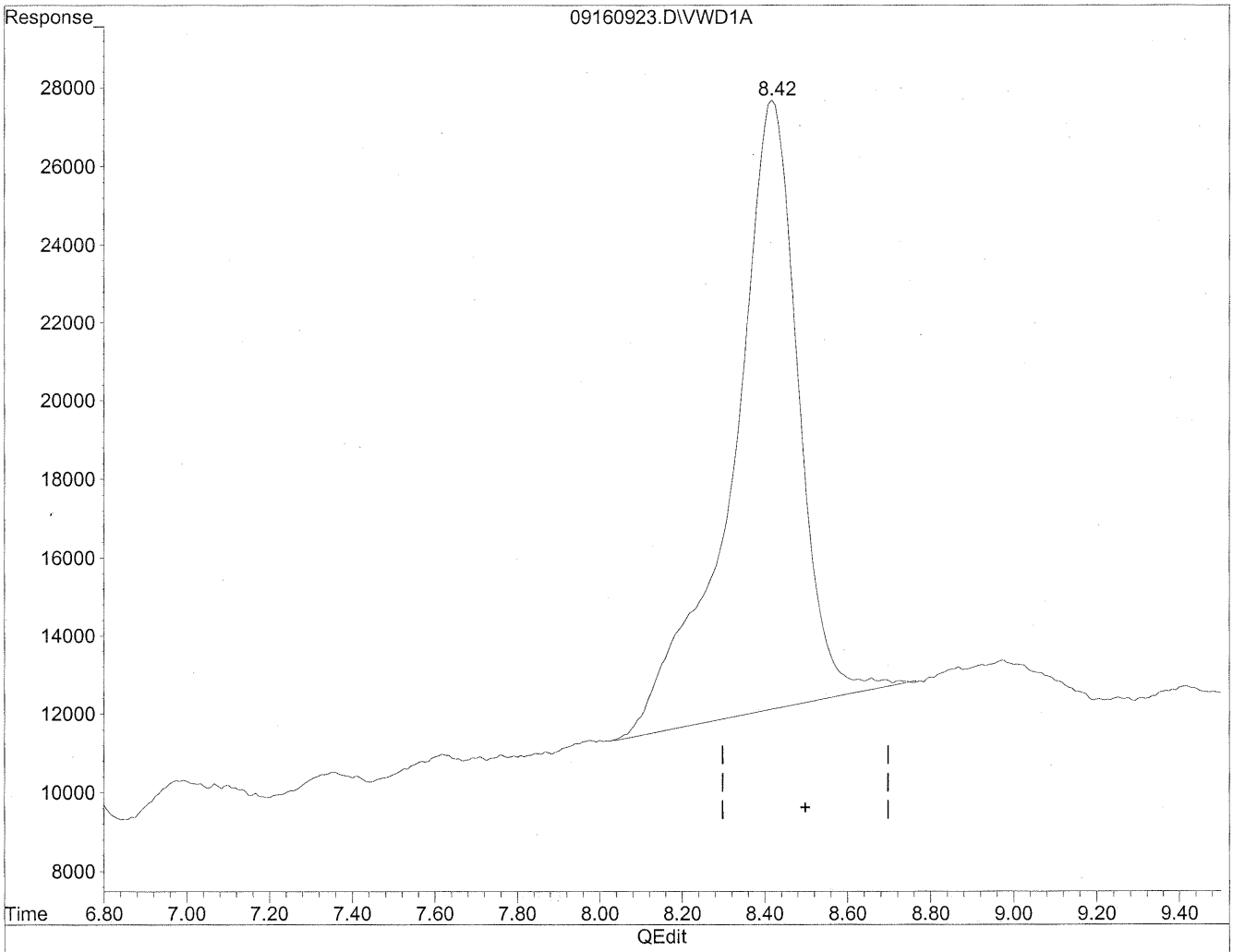
(+) = Expected Retention Time

09160923.D TO110909.M Mon Sep 21 16:15:40 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160923.D Vial: 109
Acq On : 16-Sep-2009, 15:14 Operator: MD
Sample : P0903146-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.42min 583.506ng/ml m

response 1727602

MK 9/22/09

MC 9/22/09

FC

21

(+) = Expected Retention Time

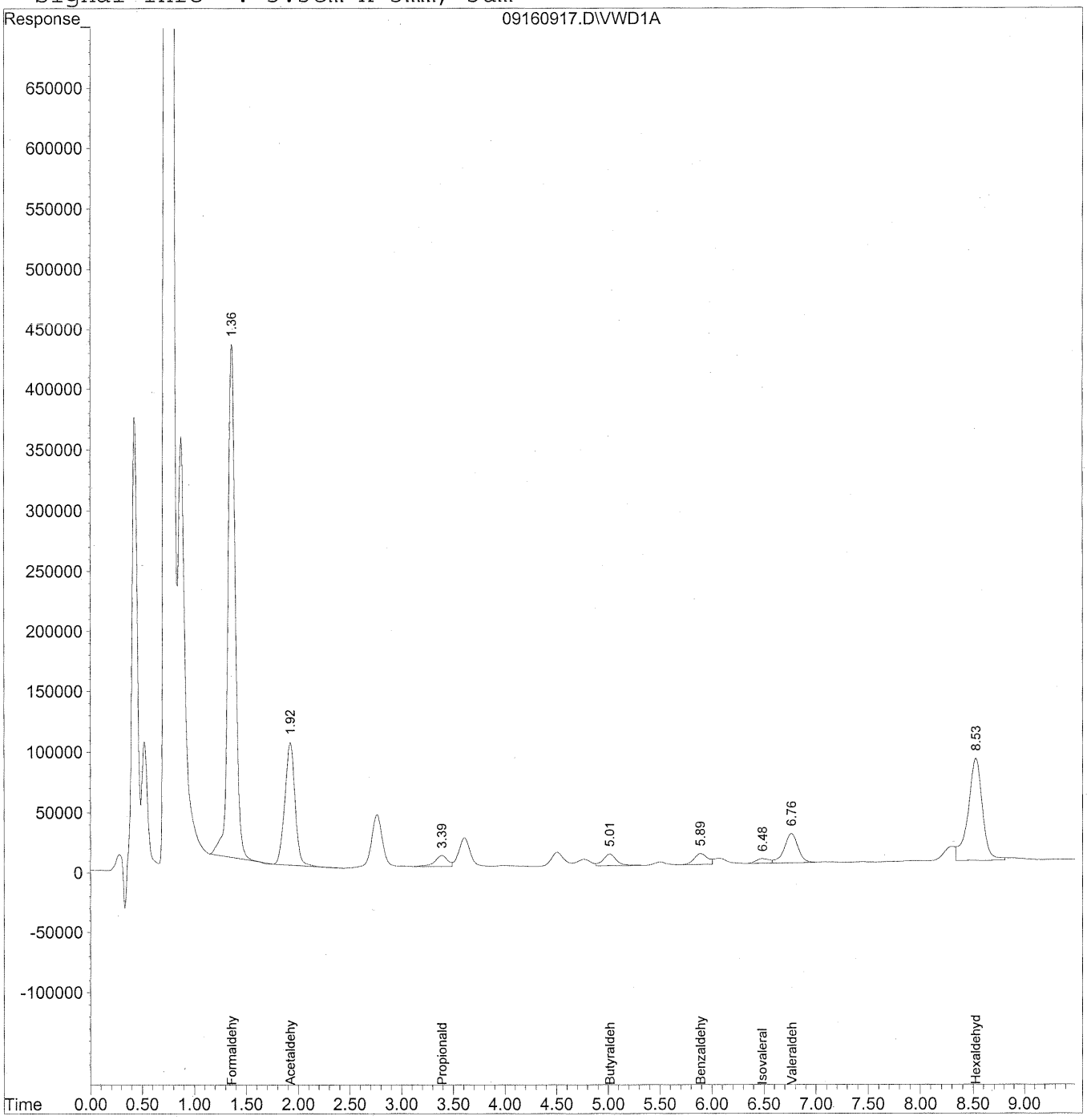
09160923.D TO110909.M Mon Sep 21 16:15:45 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160917.D Vial: 103
Acq On : 16-Sep-2009, 14:02 Operator: MD
Sample : P0903146-001 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:08 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



22

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160917.D Vial: 103
Acq On : 16-Sep-2009, 14:02 Operator: MD
Sample : P0903146-001 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:08 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

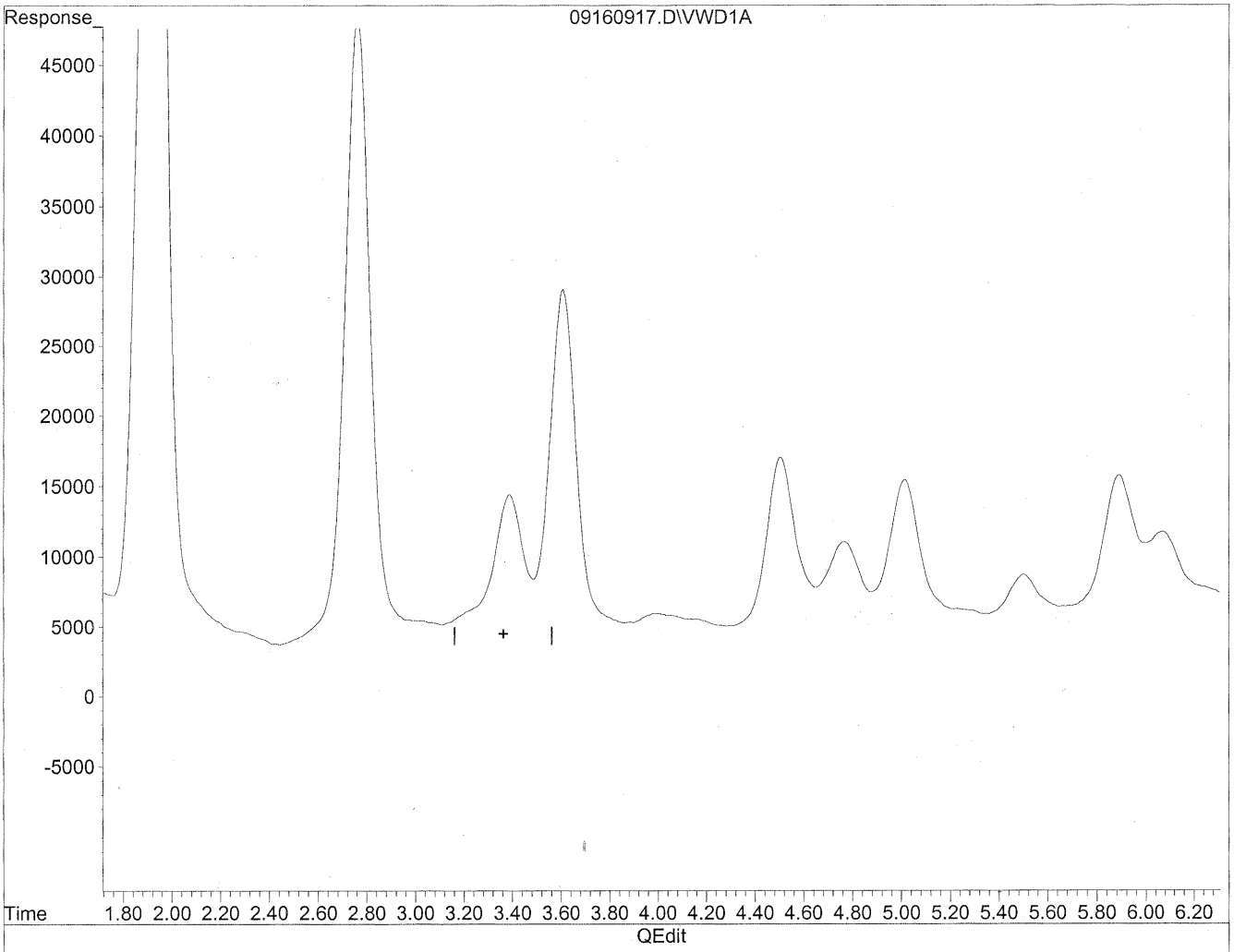
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.37	20937908	2343.245	ng/ml
2)	Acetaldehyde	1.93	6981341	1073.921	ng/ml
3)	Propionaldehyde	3.39	802946	154.477	ng/mlm
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	5.02	885481	218.488	ng/ml
6)	Benzaldehyde	5.89	797466	292.286	ng/ml
7)	Isovaleraldehyde	6.49	334070	97.063	ng/ml
8)	Valeraldehyde	6.76	2277403	669.895	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	8.53	8073683	2726.928	ng/mlm
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/mld

(f)=RT Delta > 1/2 Window (m)=manual int.
09160917.D TO110909.M Tue Sep 22 08:14:23 2009 Page 1

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160917.D Vial: 103
Acq On : 16-Sep-2009, 14:02 Operator: MD
Sample : P0903146-001 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:05 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde

3.36min 0.000ng/ml

response 0

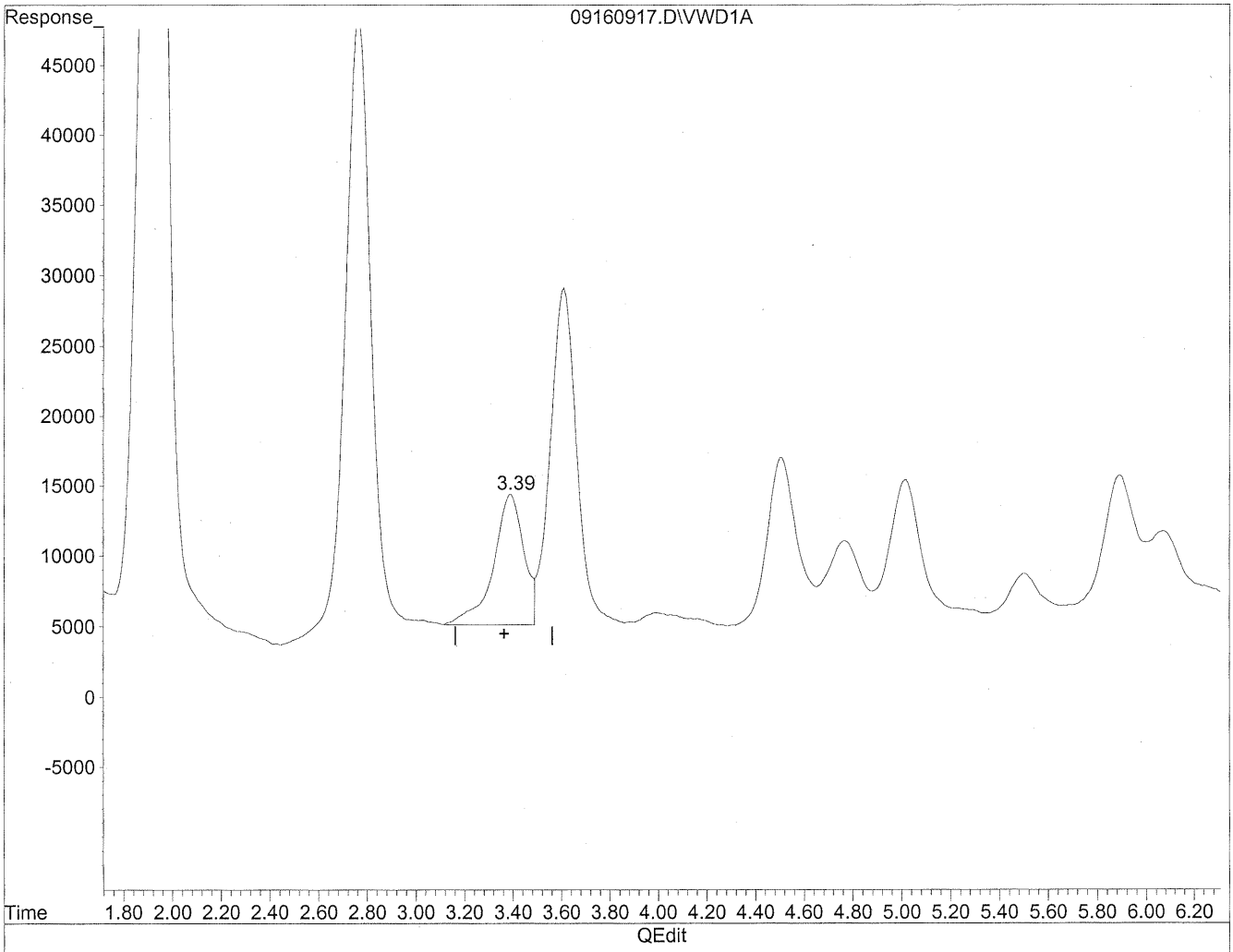
(+) = Expected Retention Time

09160917.D TO110909.M Mon Sep 21 16:06:35 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160917.D Vial: 103
Acq On : 16-Sep-2009, 14:02 Operator: MD
Sample : P0903146-001 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:05 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde

3.39min 154.477ng/ml m

response 802946

HC 9/22/09

9/22/09 BMI

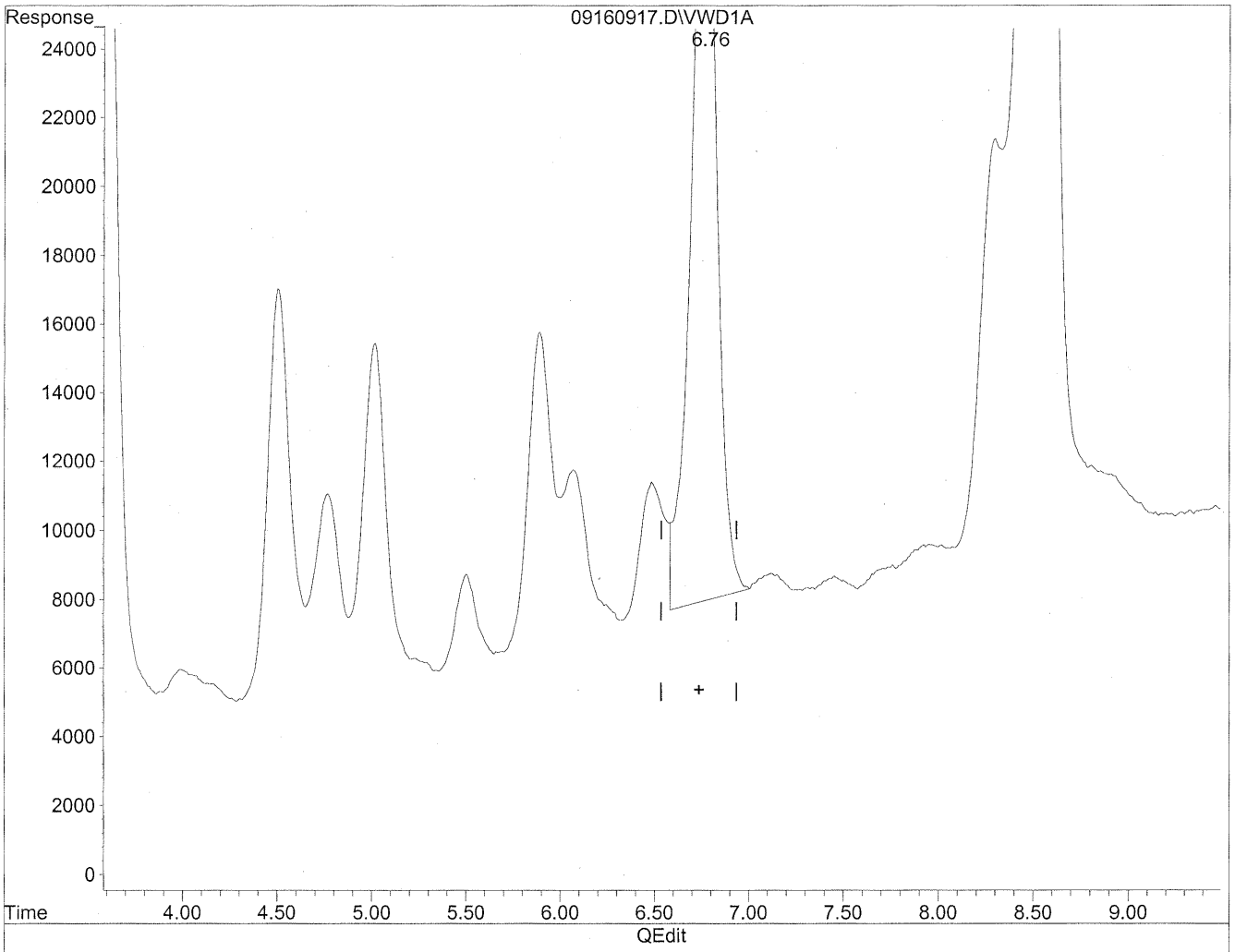
(+) = Expected Retention Time

09160917.D TO110909.M Mon Sep 21 16:06:47 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160917.D Vial: 103
Acq On : 16-Sep-2009, 14:02 Operator: MD
Sample : P0903146-001 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:05 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(8) Valeraldehyde

6.77min 654.799ng/ml

response 2226081

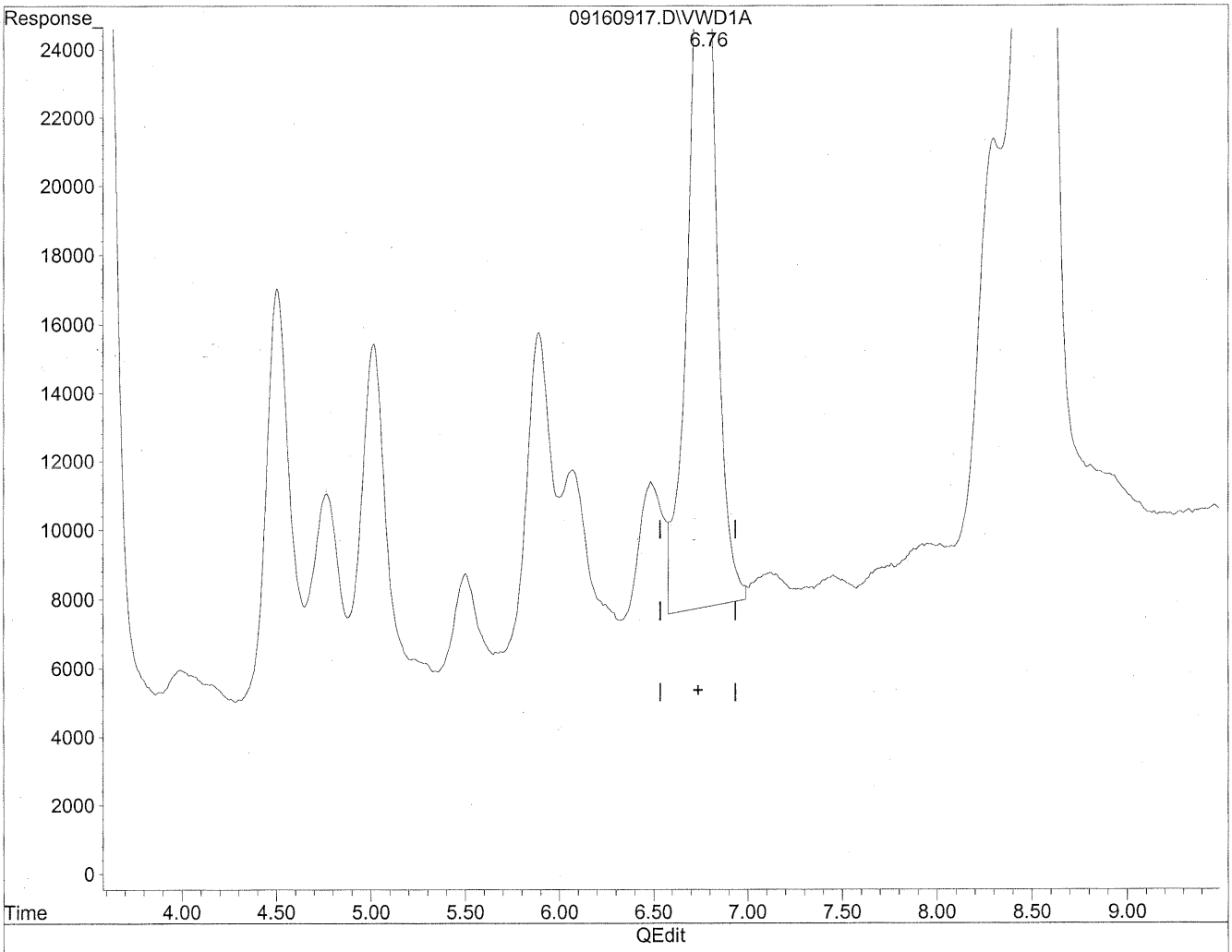
(+) = Expected Retention Time

09160917.D TO110909.M Mon Sep 21 16:07:25 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160917.D Vial: 103
Acq On : 16-Sep-2009, 14:02 Operator: MD
Sample : P0903146-001 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:05 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(8) Valeraldehyde

6.76min 669.895ng/ml m

response 2277403

MC 9/22/09

9/22/09 BC

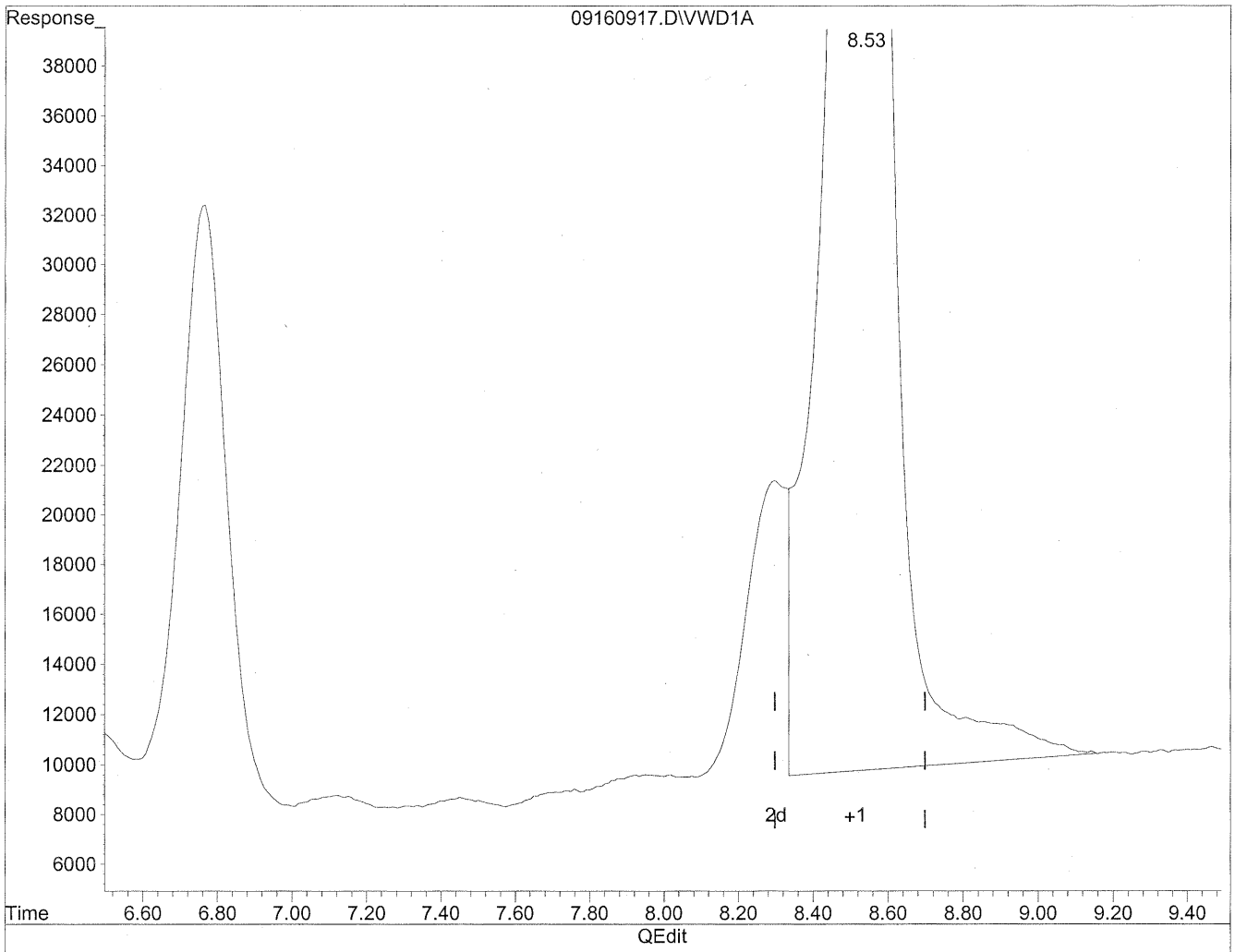
(+) = Expected Retention Time

09160917.D TO110909.M Mon Sep 21 16:07:39 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160917.D Vial: 103
Acq On : 16-Sep-2009, 14:02 Operator: MD
Sample : P0903146-001 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:05 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.53min 2807.486ng/ml

response 8312193

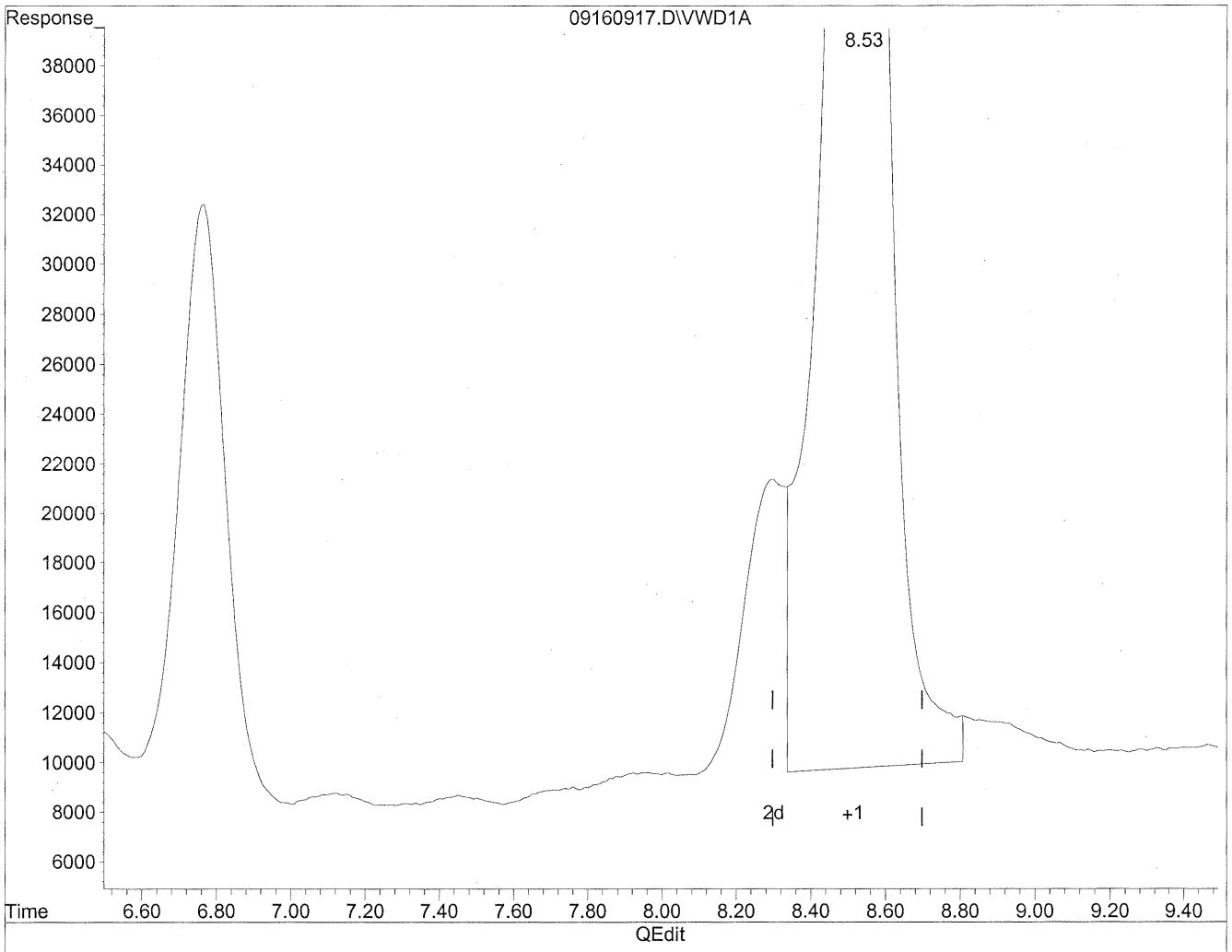
(+) = Expected Retention Time

09160917.D TO110909.M Mon Sep 21 16:07:50 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160917.D Vial: 103
Acq On : 16-Sep-2009, 14:02 Operator: MD
Sample : P0903146-001 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:05 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.53min 2726.928ng/ml m

response 8073683

HC 9/22/09 MW 9/22/09 SH

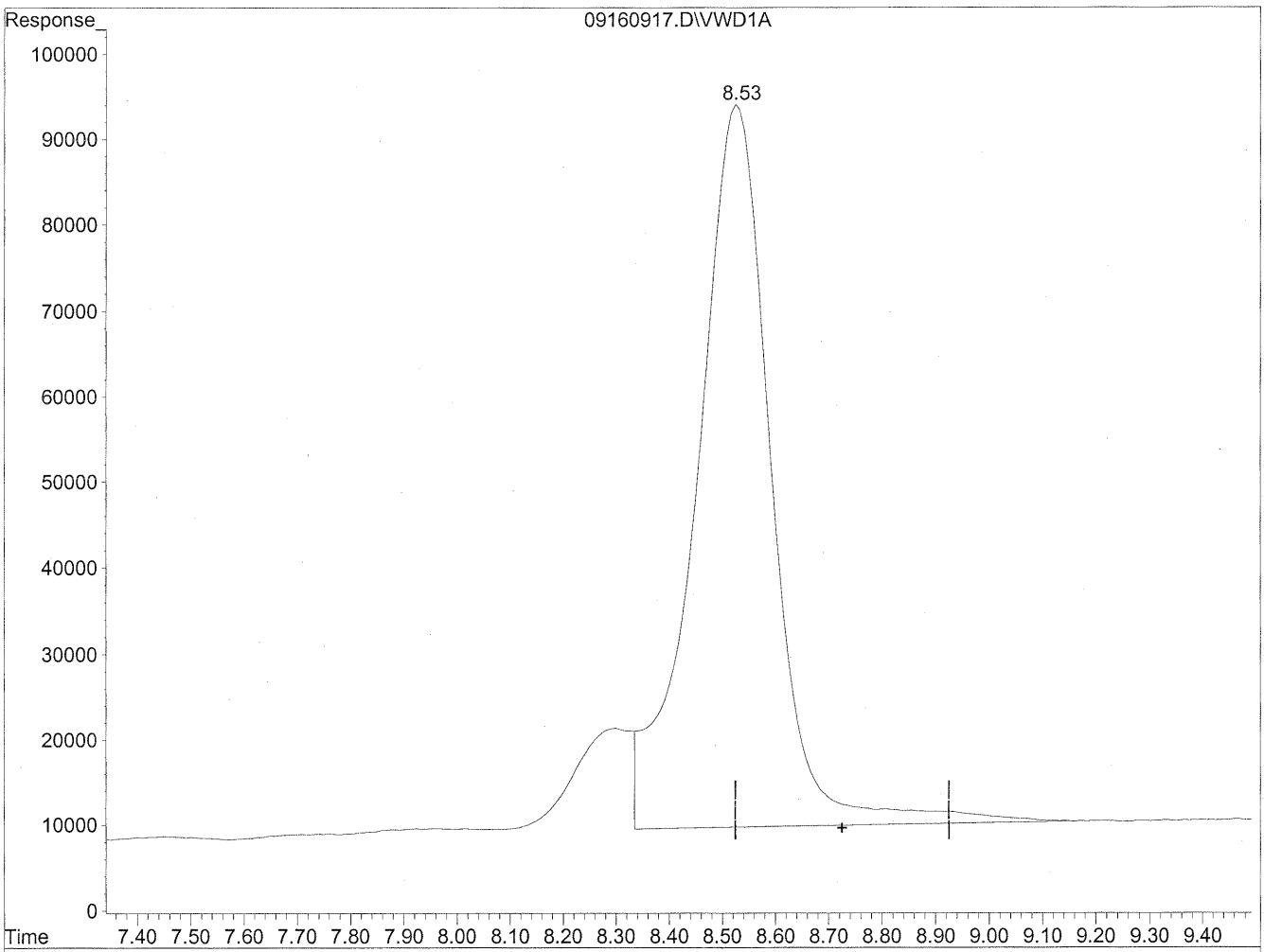
(+) = Expected Retention Time

09160917.D TO110909.M Mon Sep 21 16:07:57 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160917.D Vial: 103
Acq On : 16-Sep-2009, 14:02 Operator: MD
Sample : P0903146-001 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:05 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

8.53min 4165.486ng/ml

response 8312193

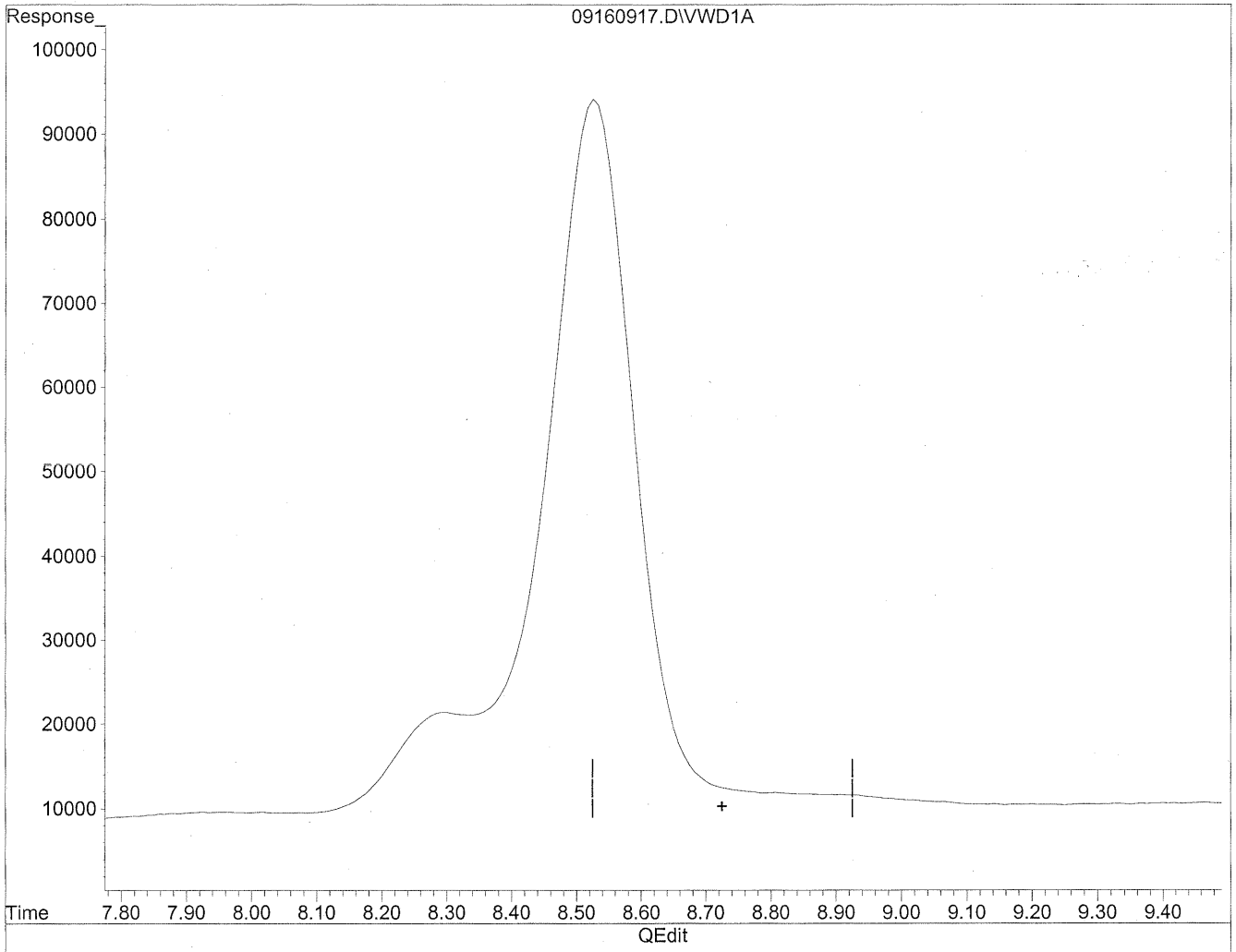
(+) = Expected Retention Time

09160917.D TO110909.M Mon Sep 21 16:08:00 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160917.D Vial: 103
Acq On : 16-Sep-2009, 14:02 Operator: MD
Sample : P0903146-001 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:05 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

0.00min 0.000ng/ml d

response 0

HC 9/22/09

9/22/09 mp

(+) = Expected Retention Time

09160917.D TO110909.M Mon Sep 21 16:08:04 2009

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **102820**
Client Project ID: **16512**

CAS Project ID: P0903146
CAS Sample ID: P0903146-002

Test Code: EPA Method TO-11A
Instrument ID: HP1050/LC2
Analyst: Madeleine Dangazyan
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 9/2/09
Date Received: 9/4/09
Date Analyzed: 9/16/09
Desorption Volume: 1.0 ml
Volume Sampled: 100.9 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**3,000**	**30**	0.99	**24**	0.81	**BH**
75-07-0	**Acetaldehyde**	**2,200**	**21**	0.99	**12**	0.55	**BT**
123-38-6	**Propionaldehyde**	**230**	**2.3**	0.99	**0.96**	0.42	**BT**
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.99	ND	0.35	
123-72-8	**Butyraldehyde**	**390**	**3.8**	0.99	**1.3**	0.34	**BT**
100-52-7	**Benzaldehyde**	**240**	**2.3**	0.99	**0.54**	0.23	**BH**
590-86-3	Isovaleraldehyde	< 100	ND	0.99	ND	0.28	
110-62-3	**Valeraldehyde**	**1,000**	**10**	0.99	**2.9**	0.28	**BT**
529-20-4	o-Tolualdehyde	< 100	ND	0.99	ND	0.20	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	2.0	ND	0.40	
66-25-1	**n-Hexaldehyde**	**4,200**	**42**	0.99	**10**	0.24	**BT, M**
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.99	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
BH = The back section of the tube yielded higher results than the front.
BT = Results indicated possible breakthrough; back section > 10% front section.
M = Matrix interference; results may be biased high.

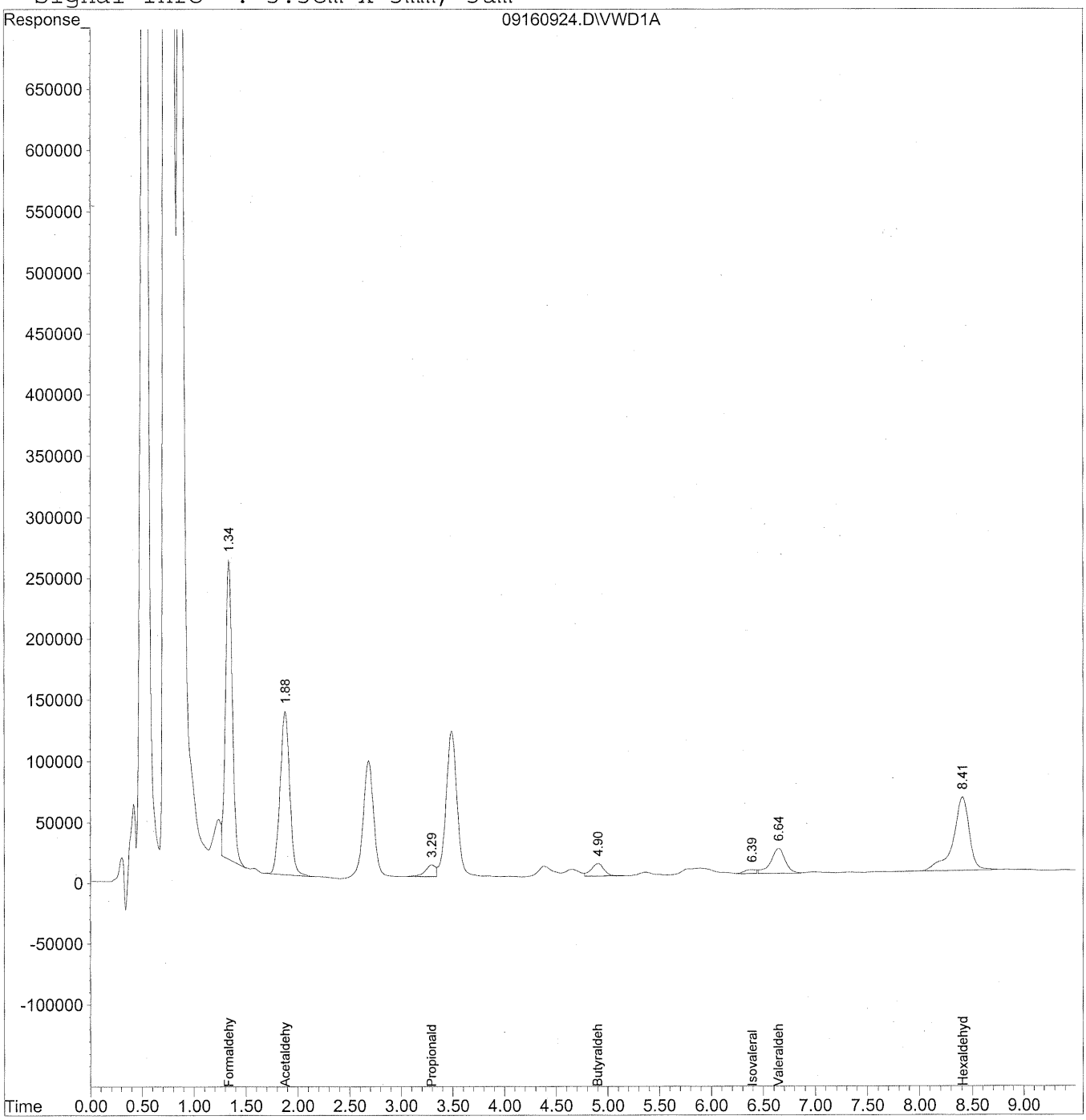
Verified By: Re Date: 9/23/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160924.D Vial: 110
Acq On : 16-Sep-2009, 15:26 Operator: MD
Sample : P0903146-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:17 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



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Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160924.D Vial: 110
Acq On : 16-Sep-2009, 15:26 Operator: MD
Sample : P0903146-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:17 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	11247061	1258.704	ng/mlm
2)	Acetaldehyde	1.88	8739747	1344.412	ng/mlm
3)	Propionaldehyde	3.29	654435	125.906	ng/mlm
4)	Crotonaldehyde	0.00	0	N.D.	ng/mld
5)	Butyraldehyde	4.91	898292	221.649	ng/ml
6)	Benzaldehyde	0.00	0	N.D.	ng/mld
7)	Isovaleraldehyde	6.39	253949	73.784	ng/ml
8)	Valeraldehyde	6.64	1989576	585.231	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	8.41	6326985	2136.972	ng/ml *
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

* m flag

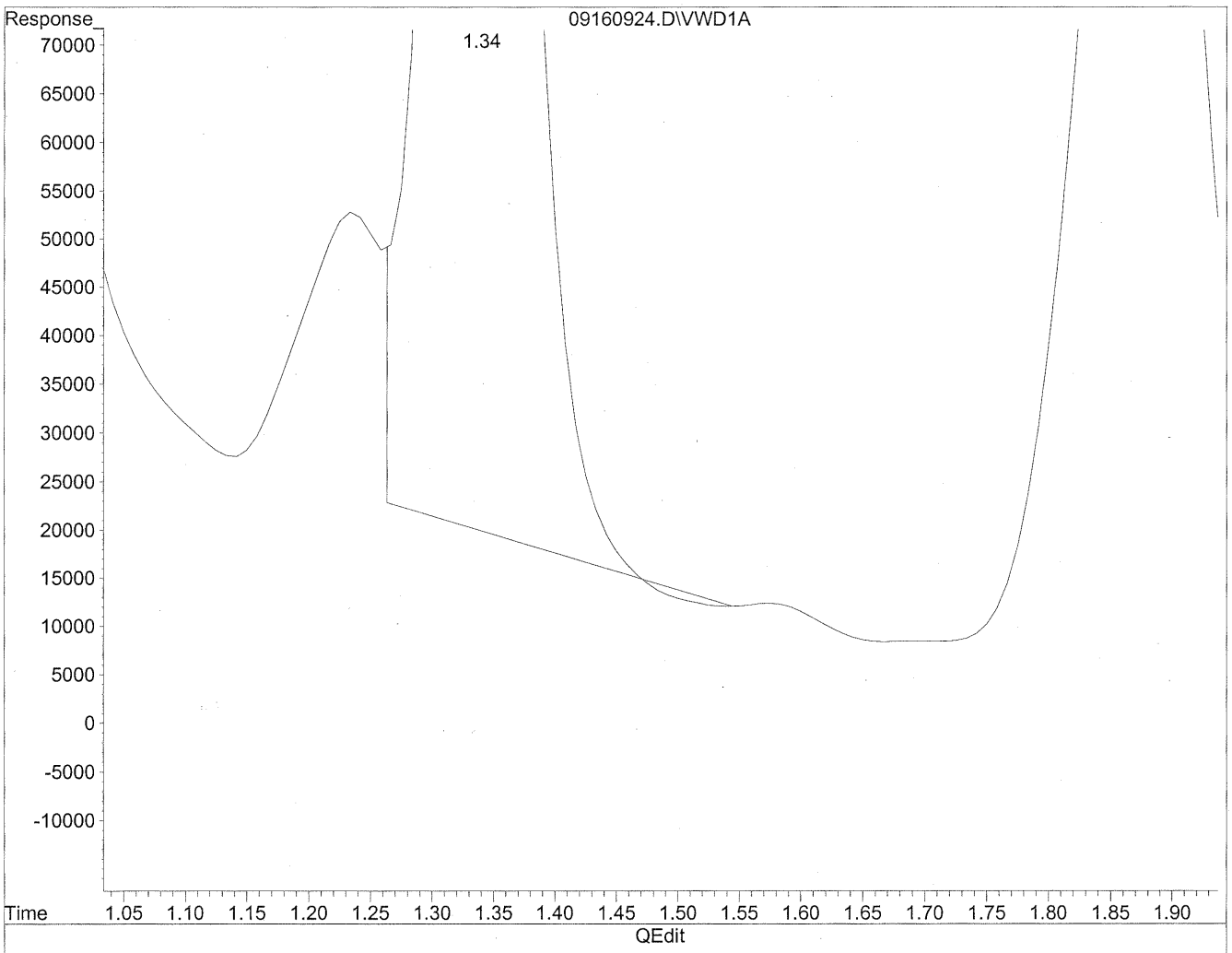
34

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

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160924.D Vial: 110
Acq On : 16-Sep-2009, 15:26 Operator: MD
Sample : P0903146-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:16 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(1) Formaldehyde

1.34min 1257.124ng/ml

response 11232946

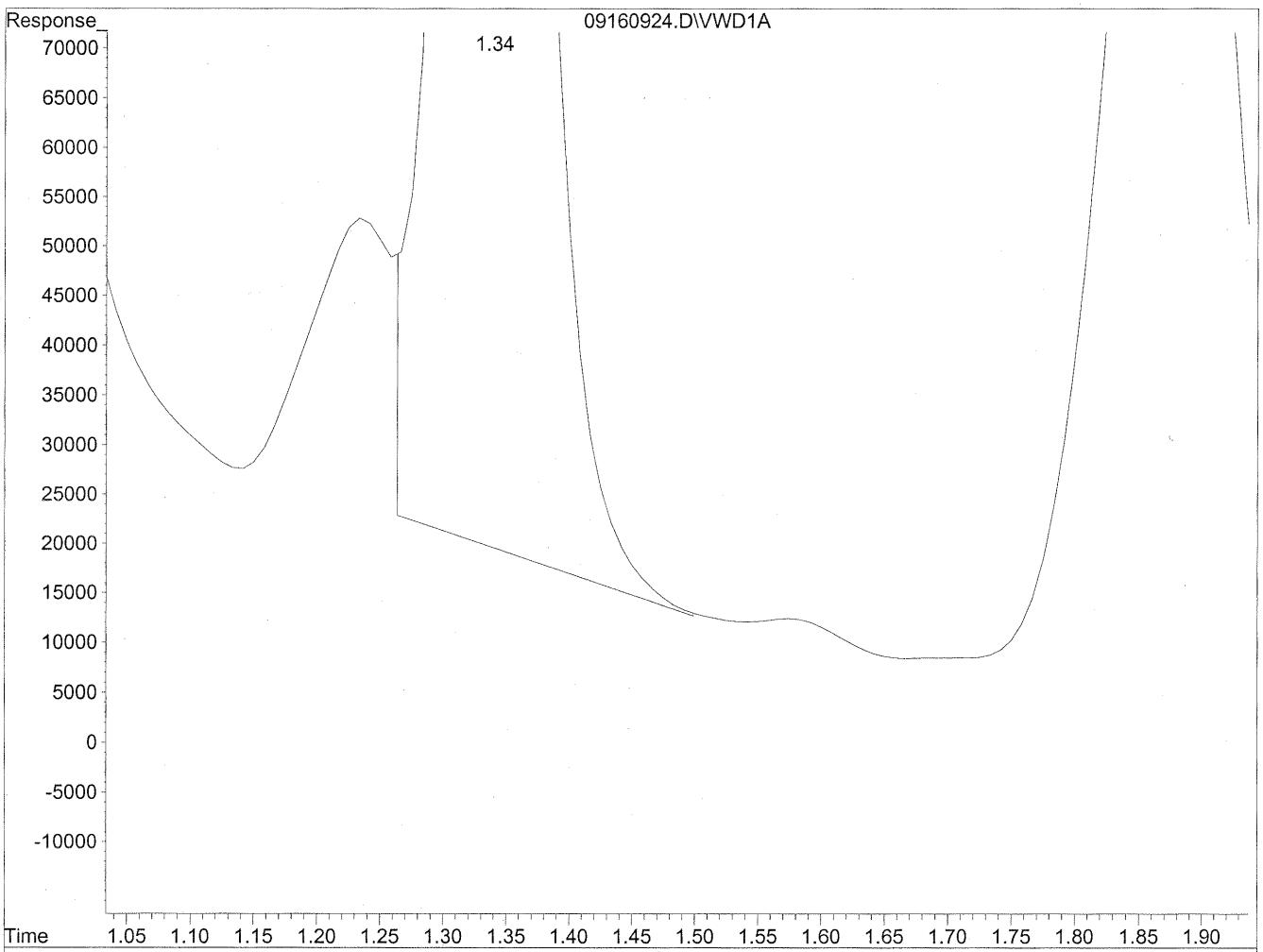
(+) = Expected Retention Time

09160924.D TO110909.M Mon Sep 21 16:16:11 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160924.D Vial: 110
Acq On : 16-Sep-2009, 15:26 Operator: MD
Sample : P0903146-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:16 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(1) Formaldehyde

1.34min 1258.704ng/ml m

response 11247061

MR 9/22/09 R

MC 9/22/09

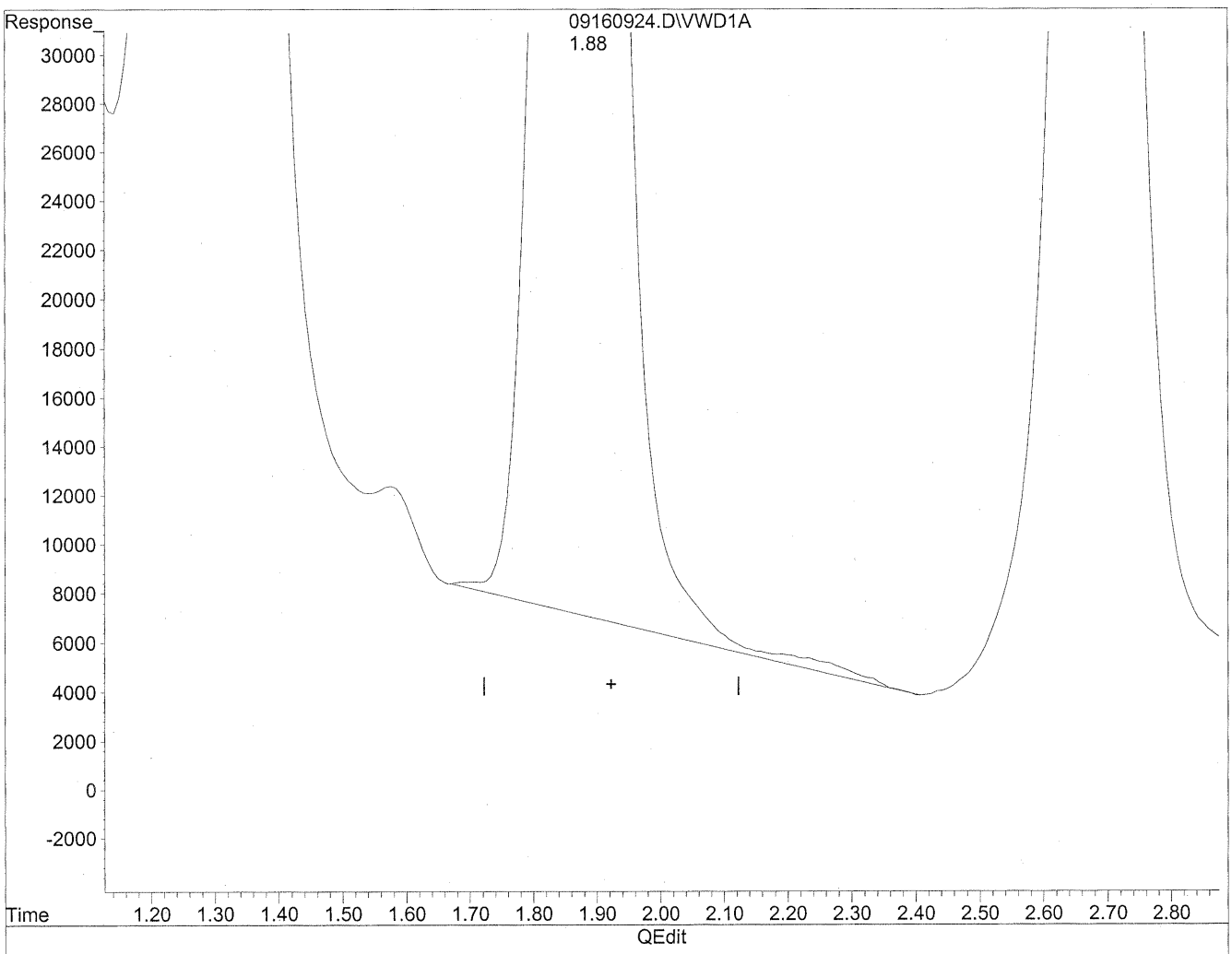
(+) = Expected Retention Time

09160924.D TO110909.M Mon Sep 21 16:16:20 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160924.D Vial: 110
Acq On : 16-Sep-2009, 15:26 Operator: MD
Sample : P0903146-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:16 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.88min 1351.261ng/ml

response 8784275

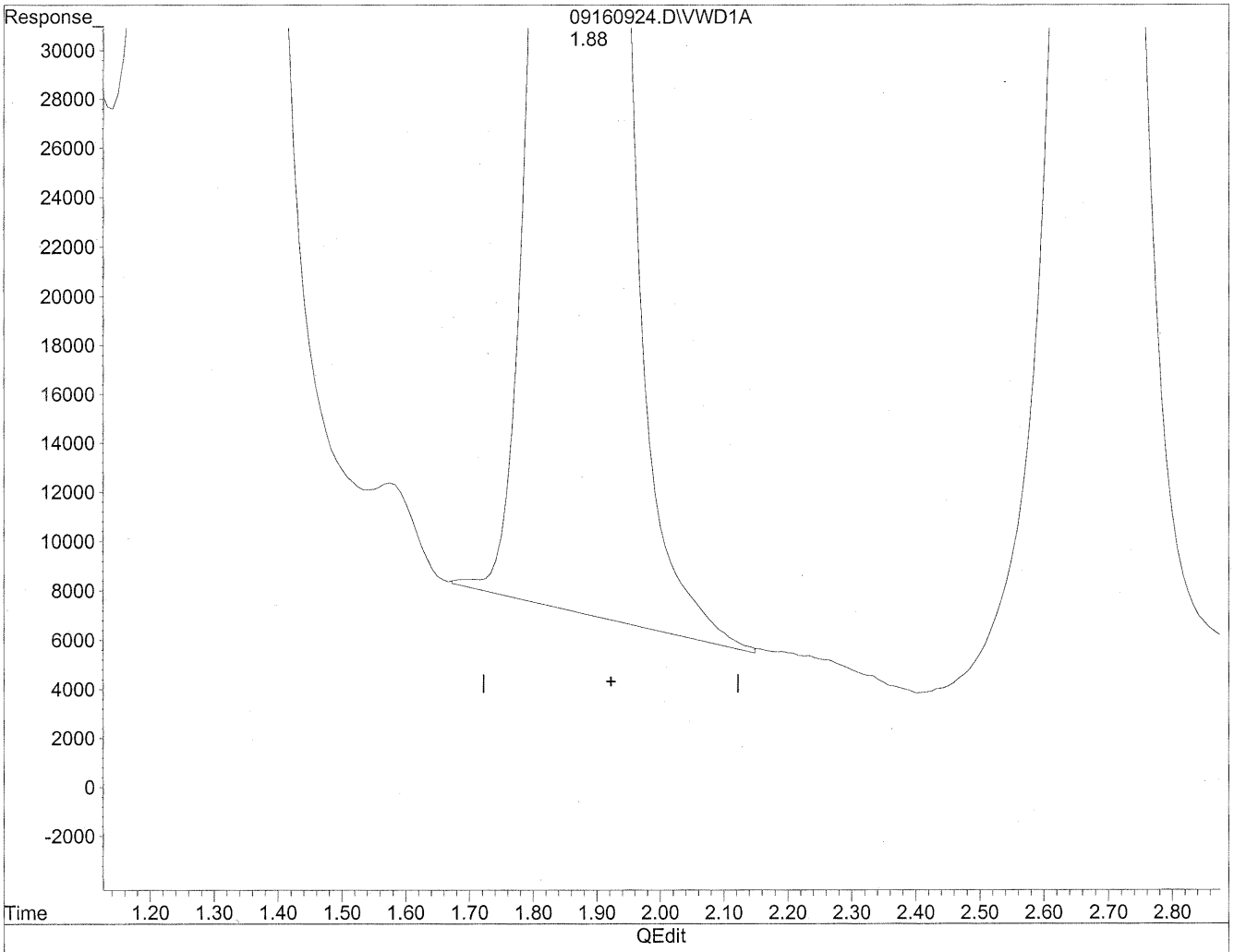
(+) = Expected Retention Time

09160924.D TO110909.M Mon Sep 21 16:16:26 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160924.D Vial: 110
Acq On : 16-Sep-2009, 15:26 Operator: MD
Sample : P0903146-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:16 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.88min 1344.412ng/ml m

response 8739747

HC 9/22/09

HC 9/22/09

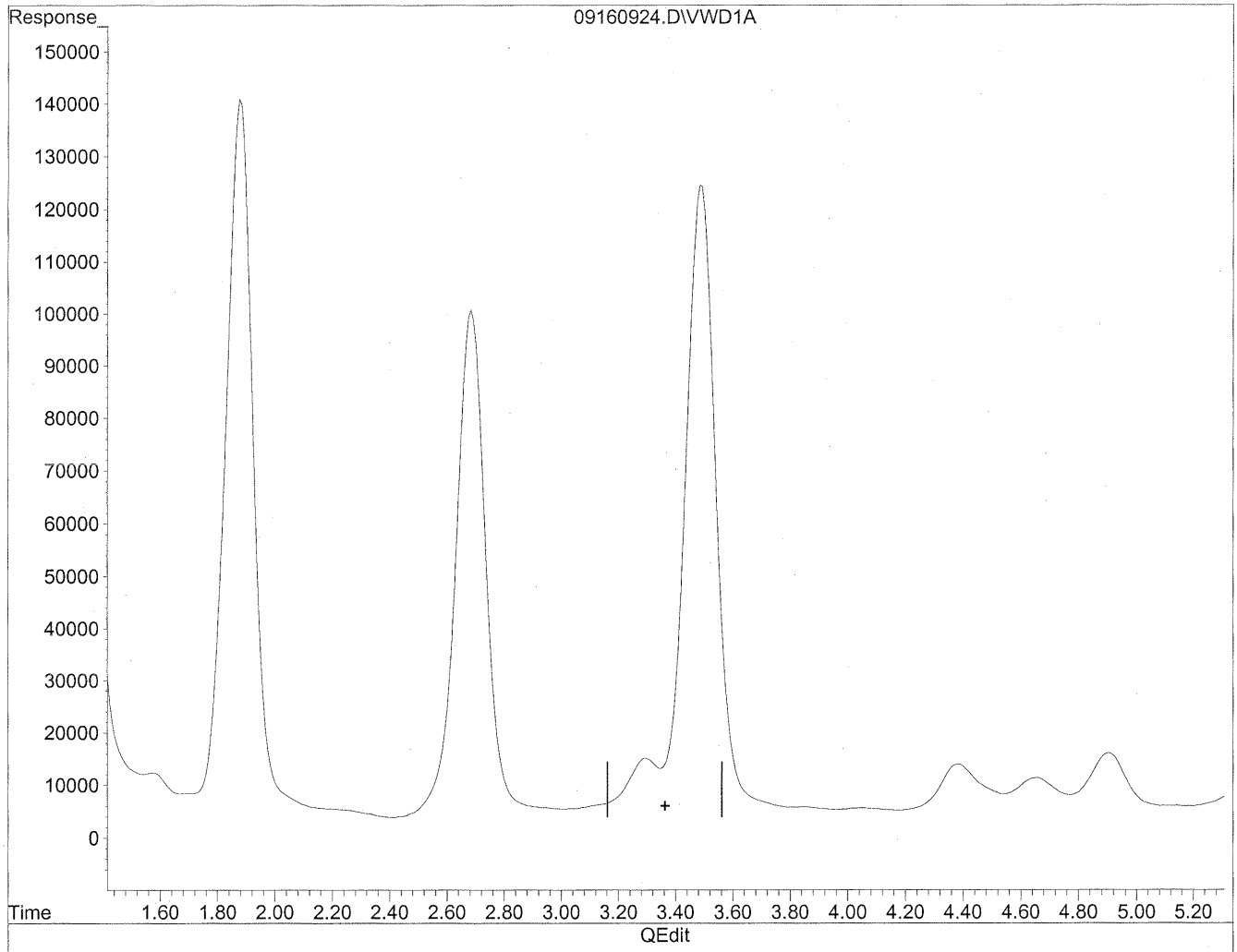
(+) = Expected Retention Time

09160924.D TO110909.M Mon Sep 21 16:16:33 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160924.D Vial: 110
Acq On : 16-Sep-2009, 15:26 Operator: MD
Sample : P0903146-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:16 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde

3.36min 0.000ng/ml

response 0

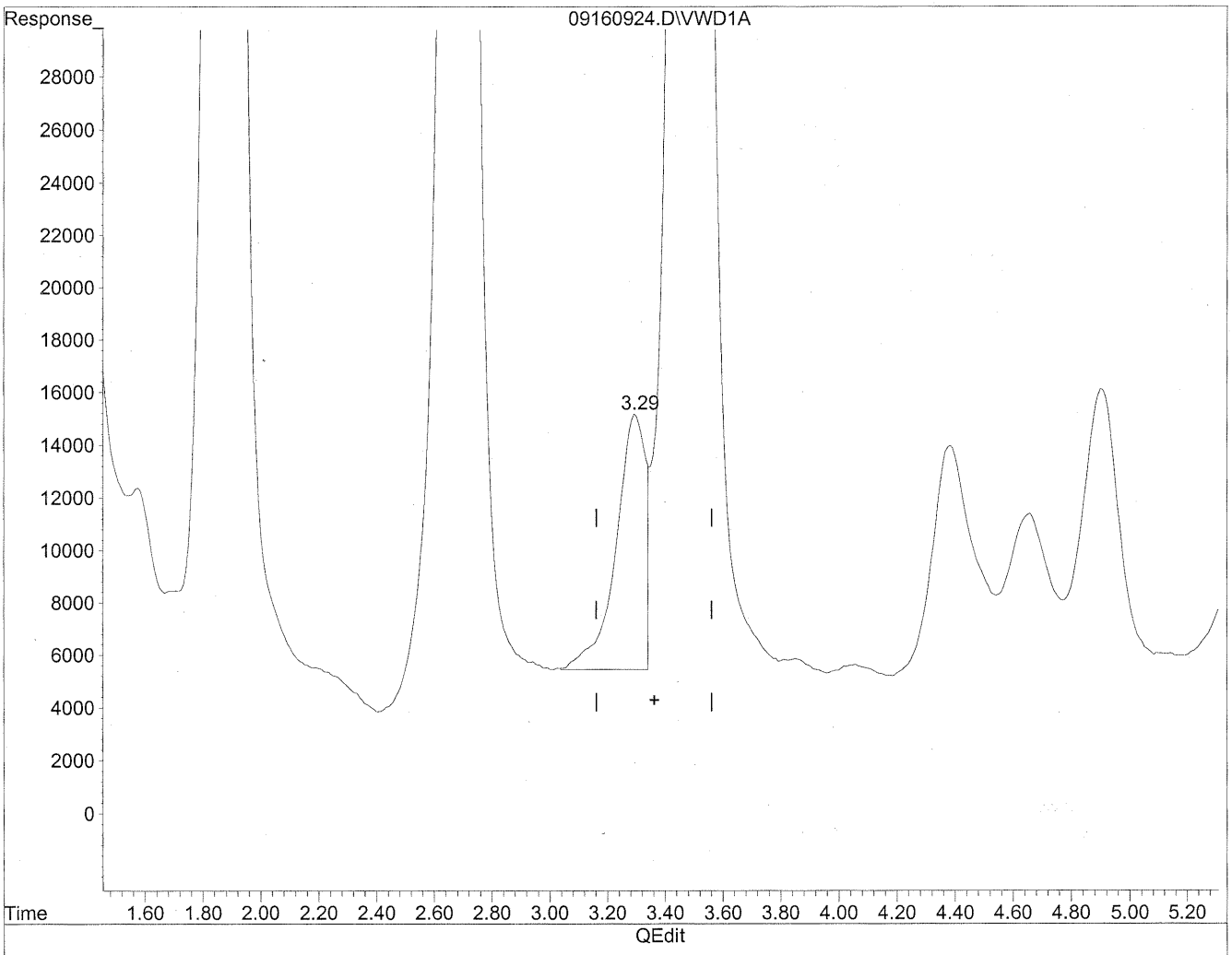
(+) = Expected Retention Time

09160924.D TO110909.M Mon Sep 21 16:16:40 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160924.D Vial: 110
Acq On : 16-Sep-2009, 15:26 Operator: MD
Sample : P0903146-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:16 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde

3.29min 125.906ng/ml m

response 654435

HC 9/22/09

9/22/09 BMI

40

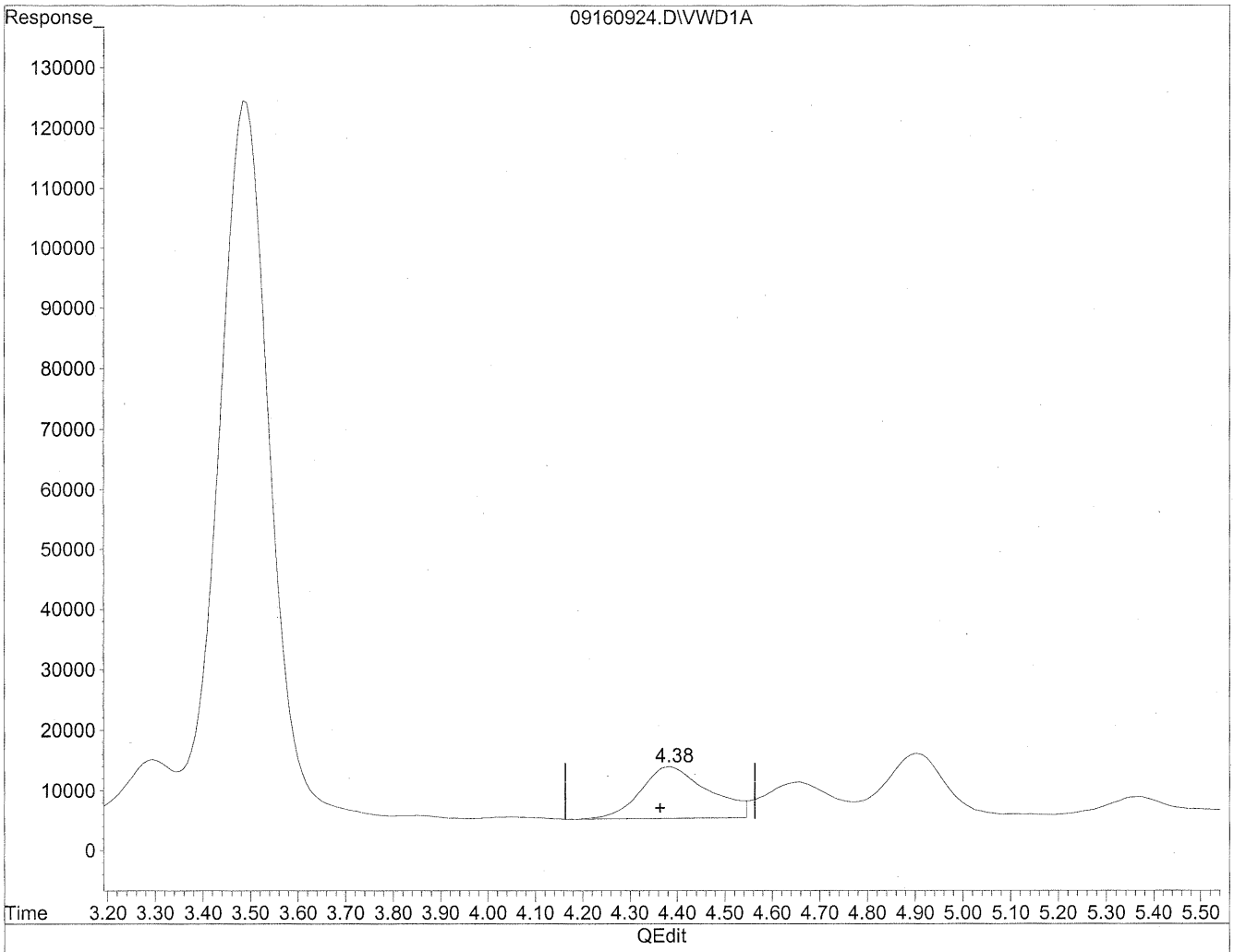
(+) = Expected Retention Time

09160924.D TO110909.M Mon Sep 21 16:16:56 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160924.D Vial: 110
Acq On : 16-Sep-2009, 15:26 Operator: MD
Sample : P0903146-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:16 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(4) Crotonaldehyde

4.39min 211.515ng/ml

response 858659

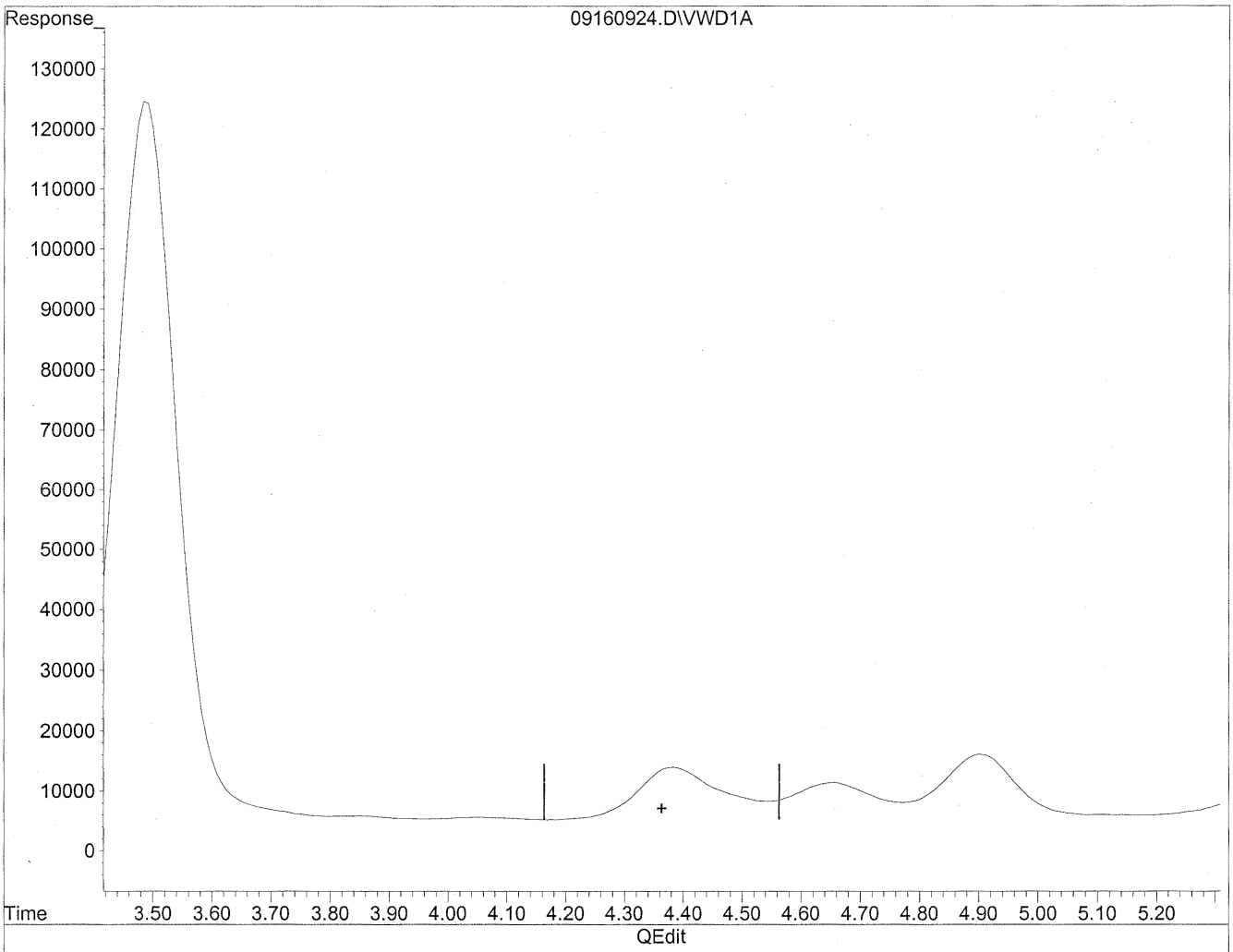
(+) = Expected Retention Time

09160924.D TO110909.M Mon Sep 21 16:17:00 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160924.D Vial: 110
Acq On : 16-Sep-2009, 15:26 Operator: MD
Sample : P0903146-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:16 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(4) Crotonaldehyde

0.00min 0.000ng/ml d

response 0

9/22/09

9/22/09

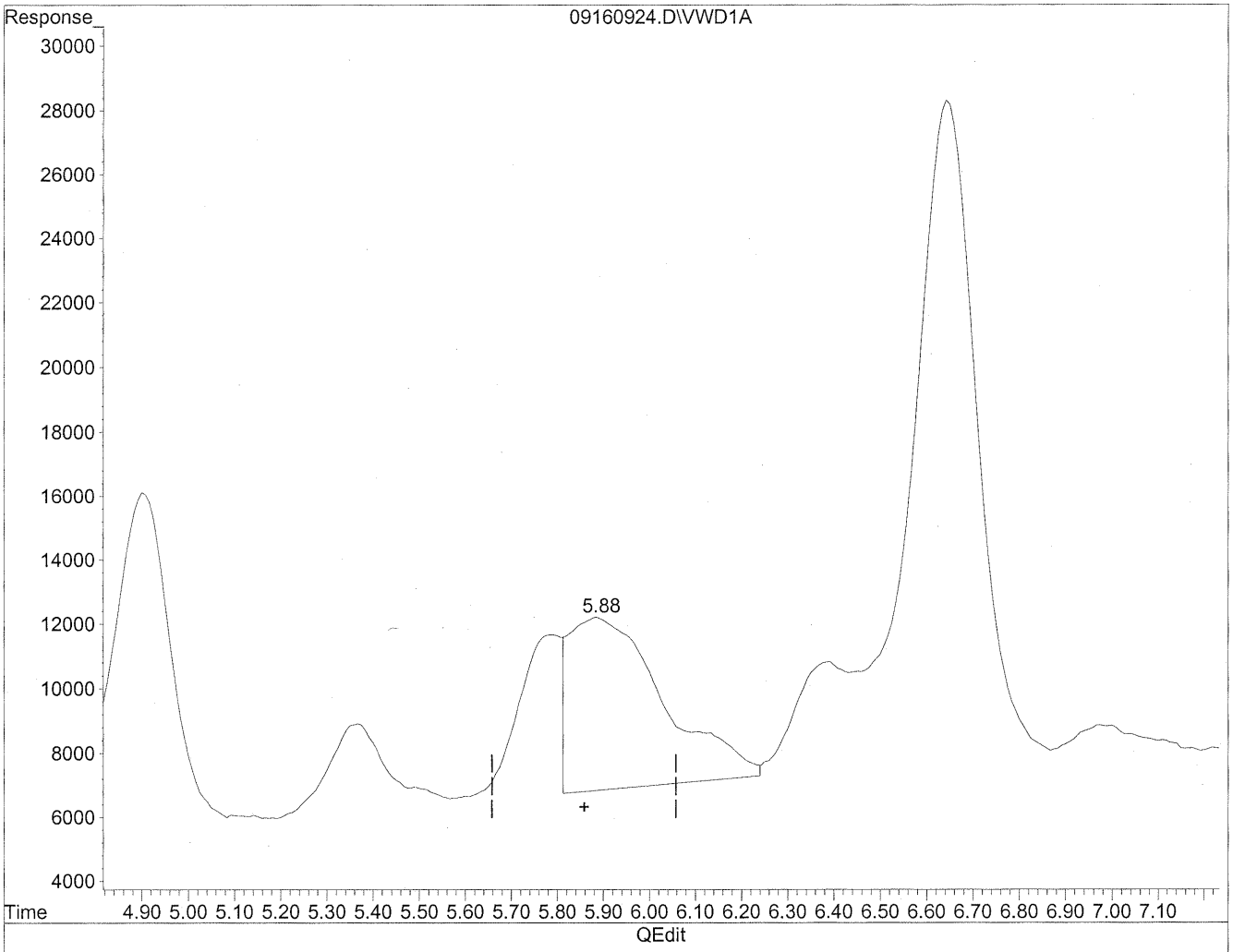
(+) = Expected Retention Time

09160924.D TO110909.M Mon Sep 21 16:17:03 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160924.D Vial: 110
Acq On : 16-Sep-2009, 15:26 Operator: MD
Sample : P0903146-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:16 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

5.89min 282.193ng/ml

response 769930

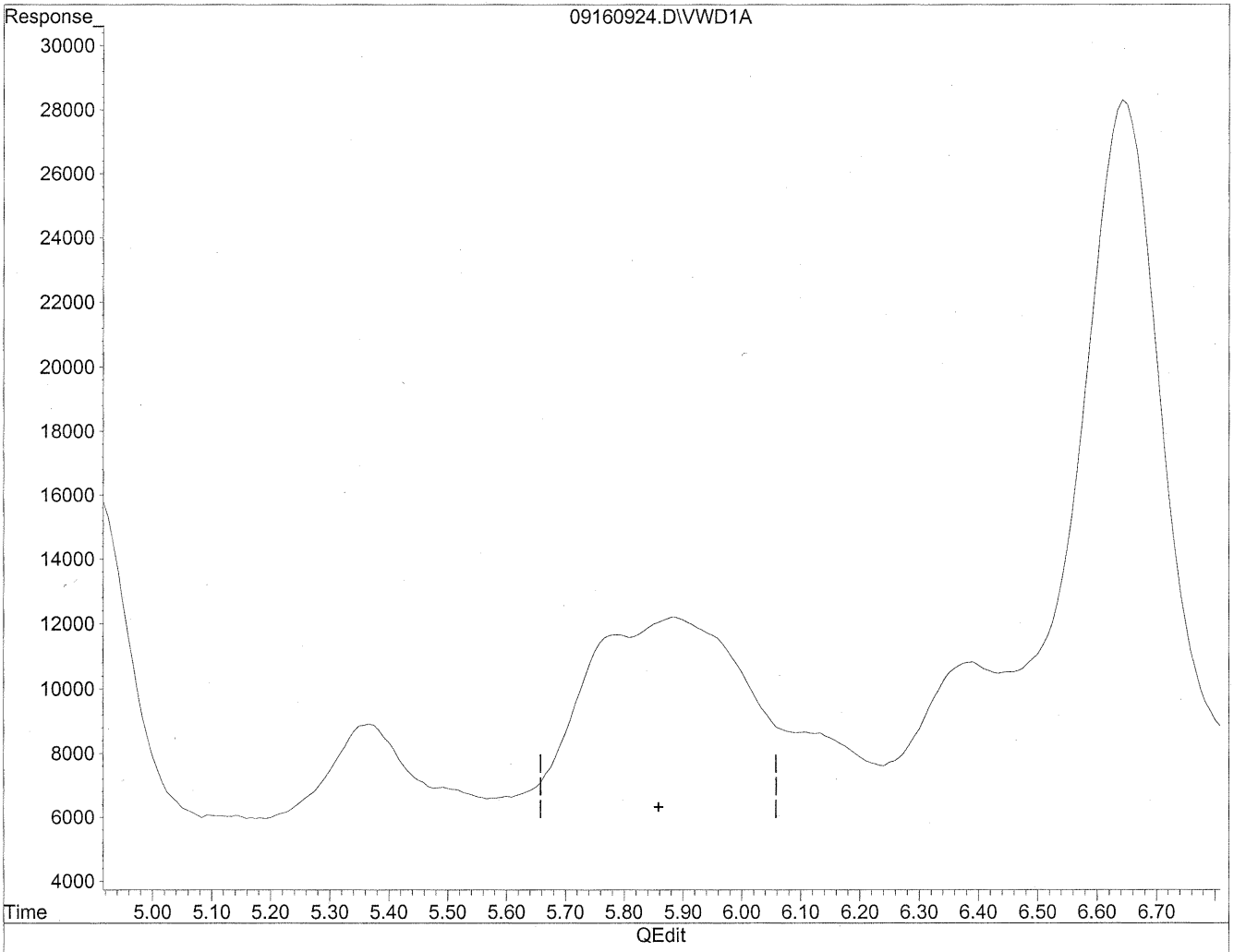
(+) = Expected Retention Time

09160924.D TO110909.M Mon Sep 21 16:17:30 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160924.D Vial: 110
Acq On : 16-Sep-2009, 15:26 Operator: MD
Sample : P0903146-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:16 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

0.00min 0.000ng/ml d

response 0

9/22/09
not real

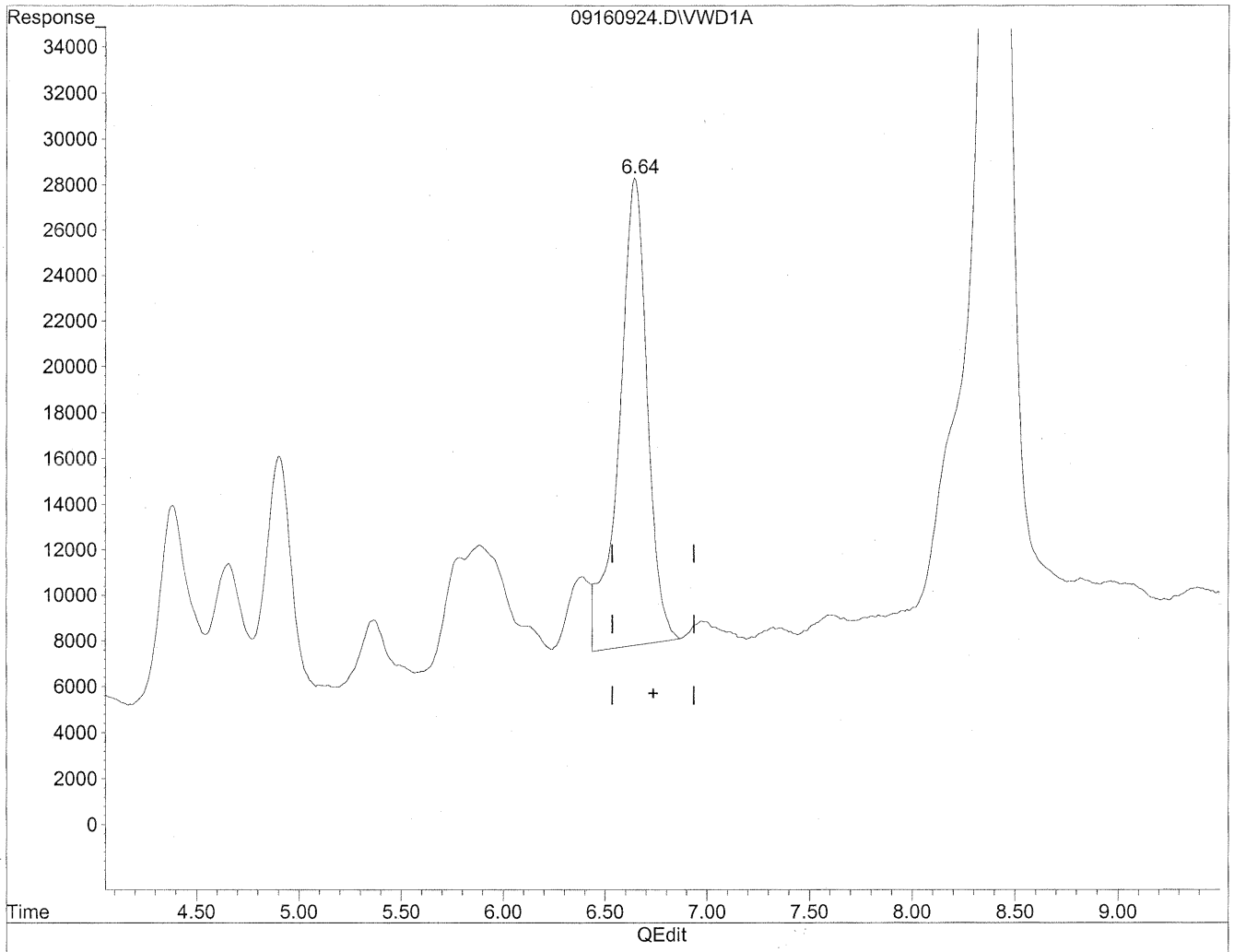
(+) = Expected Retention Time

09160924.D TO110909.M Mon Sep 21 16:17:33 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160924.D Vial: 110
Acq On : 16-Sep-2009, 15:26 Operator: MD
Sample : P0903146-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:16 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(8) Valeraldehyde

6.65min 582.079ng/ml

response 1978858

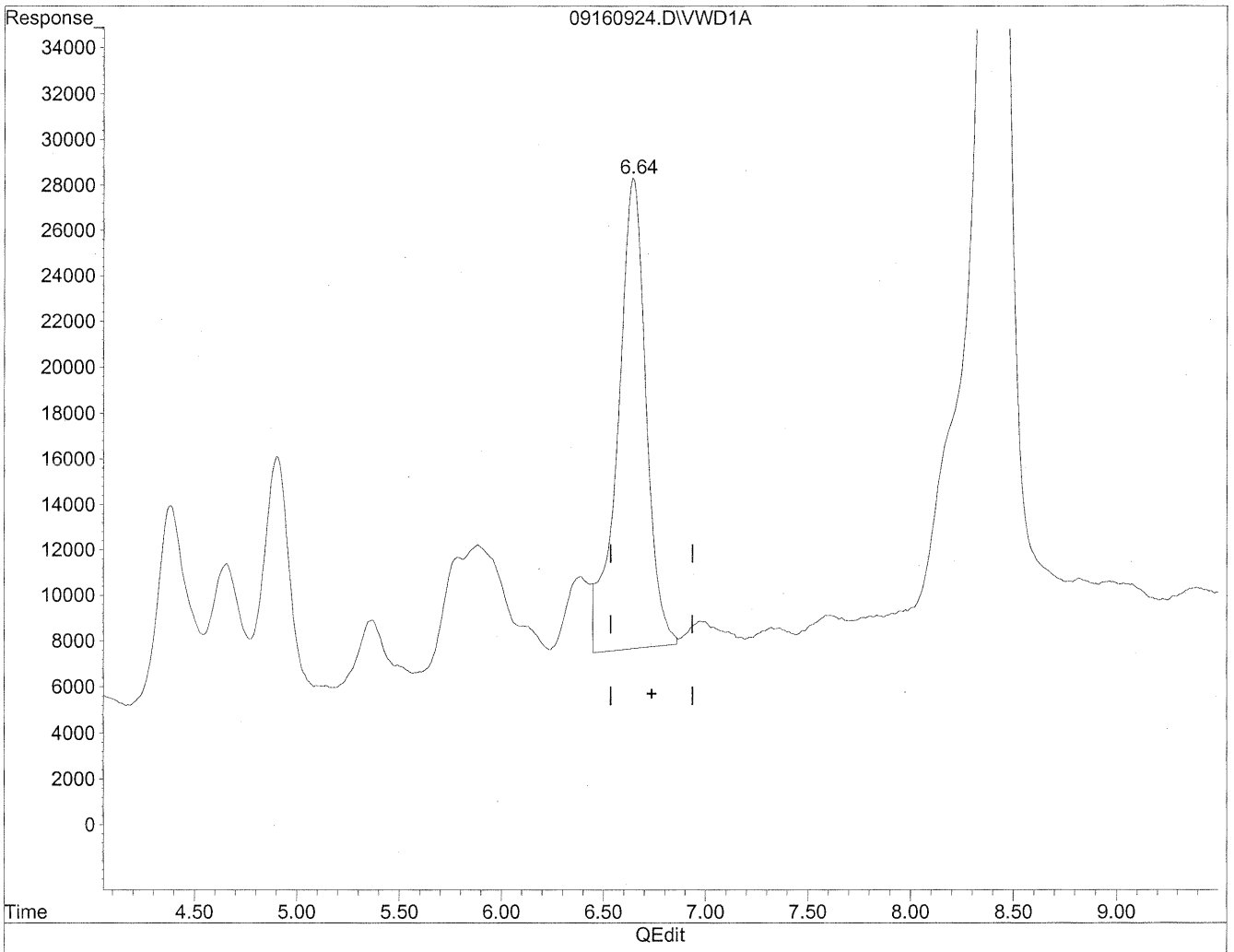
(+) = Expected Retention Time

09160924.D TO110909.M Mon Sep 21 16:17:47 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160924.D Vial: 110
Acq On : 16-Sep-2009, 15:26 Operator: MD
Sample : P0903146-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:16 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(8) Valeraldehyde

6.64min 585.231ng/ml m

response 1989576

MC 9/22/09

BC

HC 9/22/09

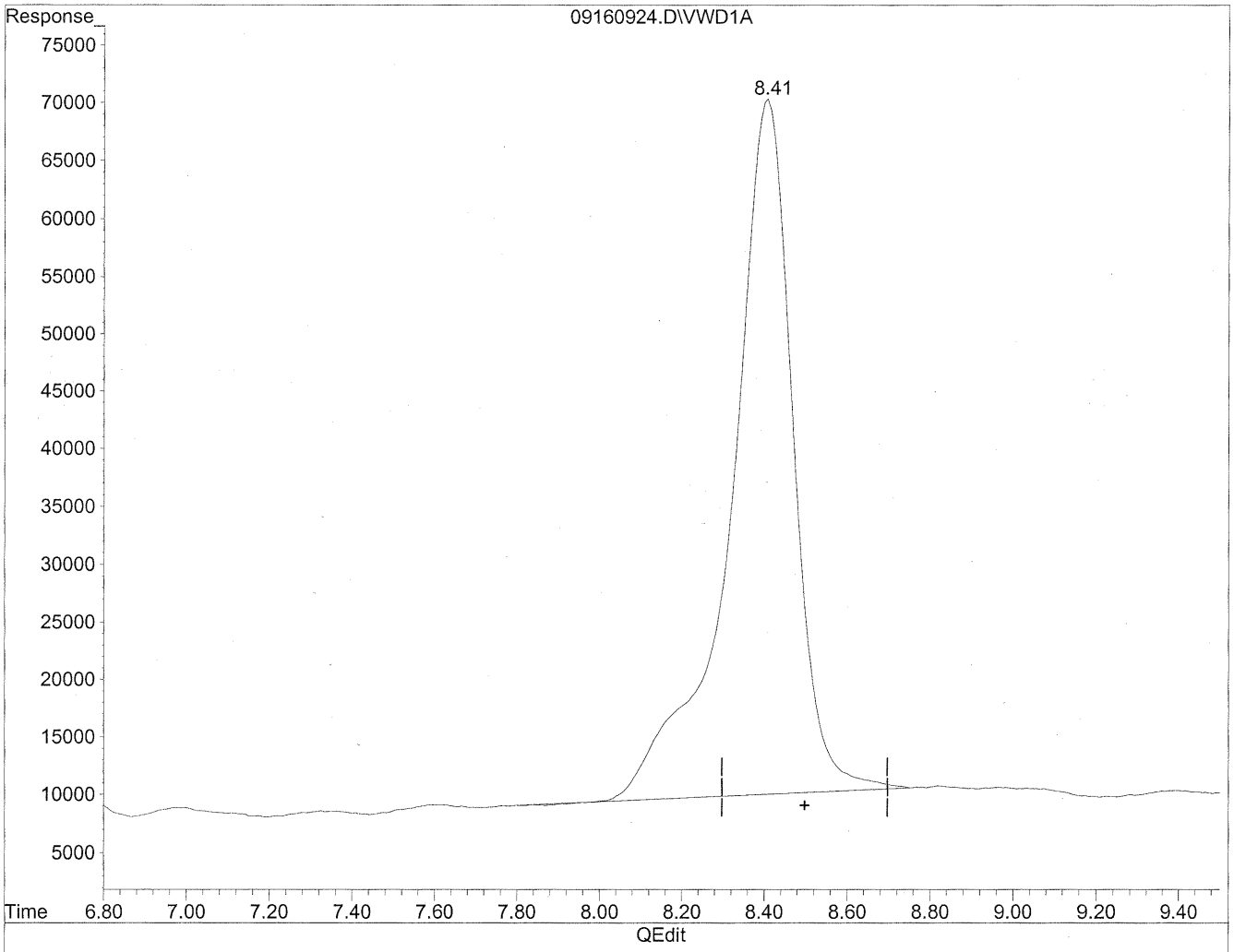
(+) = Expected Retention Time

09160924.D TO110909.M Mon Sep 21 16:17:54 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160924.D Vial: 110
Acq On : 16-Sep-2009, 15:26 Operator: MD
Sample : P0903146-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:16 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.41min 2136.972ng/ml

response 6326985

9/22/09
m flag

(+) = Expected Retention Time

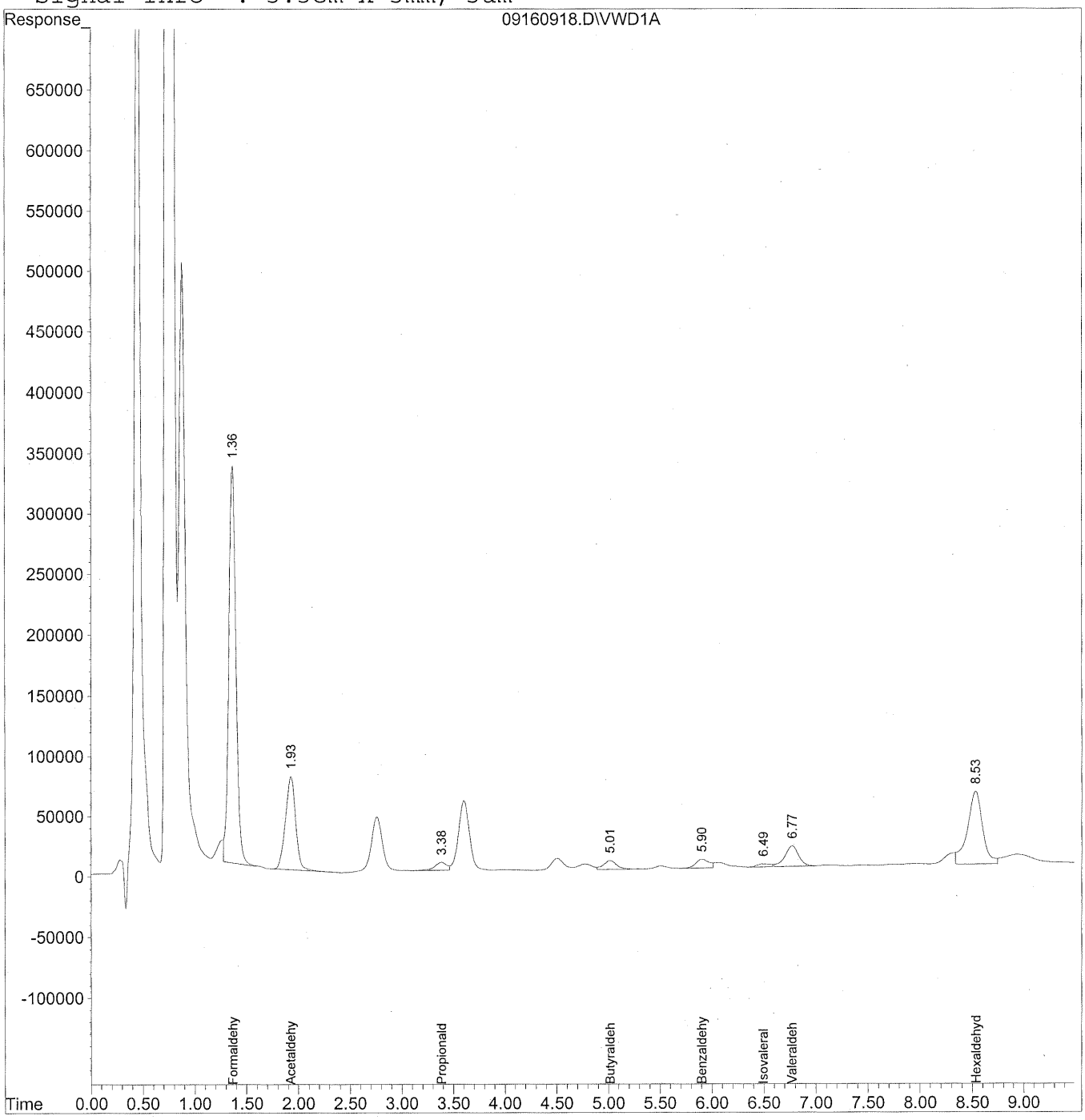
09160924.D TO110909.M Mon Sep 21 16:18:02 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160918.D Vial: 104
Acq On : 16-Sep-2009, 14:14 Operator: MD
Sample : P0903146-002 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:09 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



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Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160918.D Vial: 104
Acq On : 16-Sep-2009, 14:14 Operator: MD
Sample : P0903146-002 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:09 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

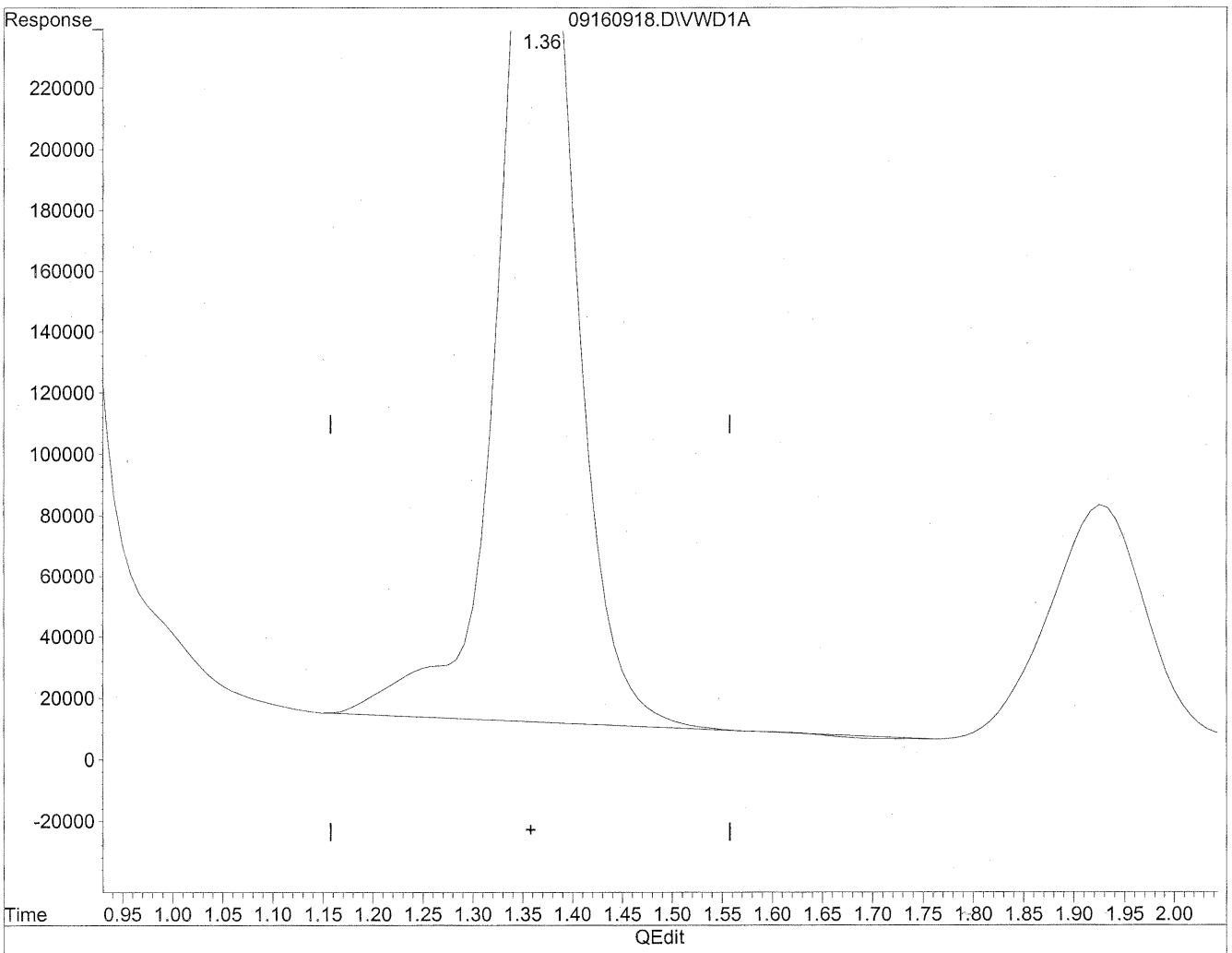
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.36	15769592	1764.838	ng/mlm
2)	Acetaldehyde	1.93	5329767	819.864	ng/ml
3)	Propionaldehyde	3.38	545892	105.023	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	5.02	674282	166.376	ng/ml
6)	Benzaldehyde	5.90	646100	236.807	ng/ml
7)	Isovaleraldehyde	6.50	212874	61.850	ng/ml
8)	Valeraldehyde	6.77	1568224	461.291	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	8.53	6108026	2063.017	ng/mlm
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/mld

(f)=RT Delta > 1/2 Window (m)=manual int.
09160918.D TO110909.M Tue Sep 22 08:14:25 2009 Page 1

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160918.D Vial: 104
Acq On : 16-Sep-2009, 14:14 Operator: MD
Sample : P0903146-002 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(1) Formaldehyde

1.37min 1824.986ng/ml

response 16307034

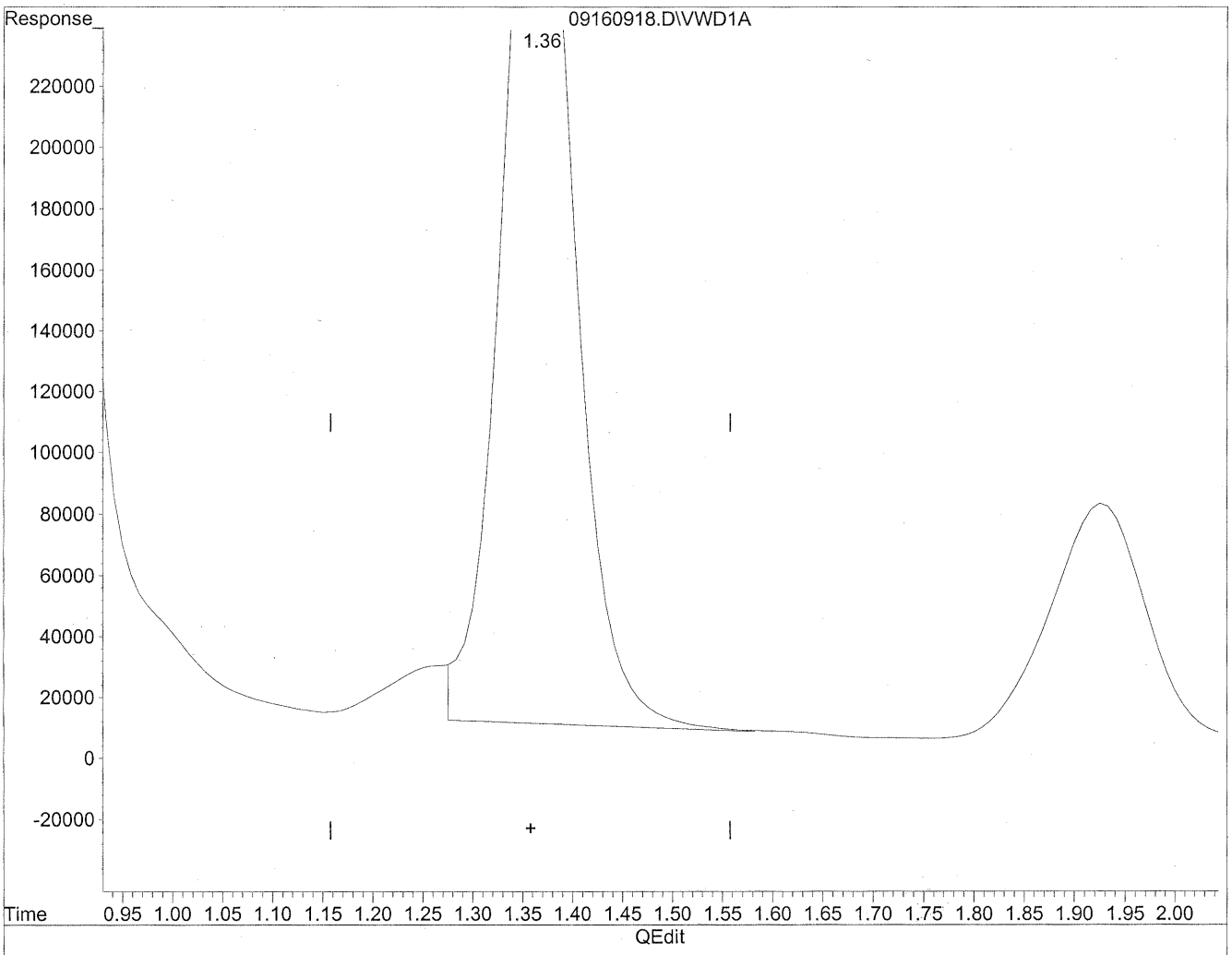
(+) = Expected Retention Time

09160918.D TO110909.M Mon Sep 21 16:08:20 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160918.D Vial: 104
Acq On : 16-Sep-2009, 14:14 Operator: MD
Sample : P0903146-002 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(1) Formaldehyde

1.36min 1764.838ng/ml m

response 15769592

MN 9/22/09

HC 9/22/09 sh

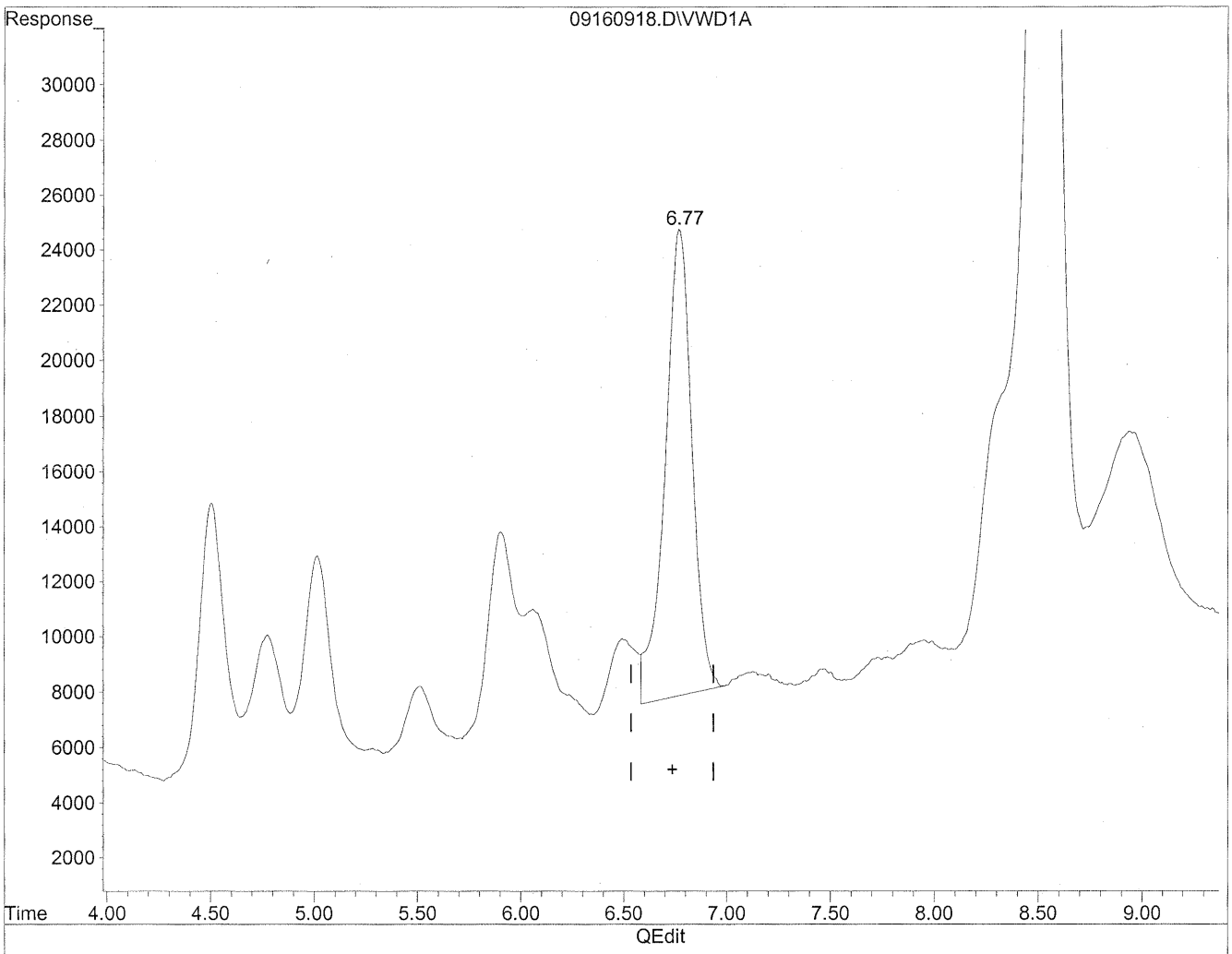
(+) = Expected Retention Time

09160918.D TO110909.M Mon Sep 21 16:08:32 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160918.D Vial: 104
Acq On : 16-Sep-2009, 14:14 Operator: MD
Sample : P0903146-002 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(8) Valeraldehyde

6.77min 453.403ng/ml

response 1541408

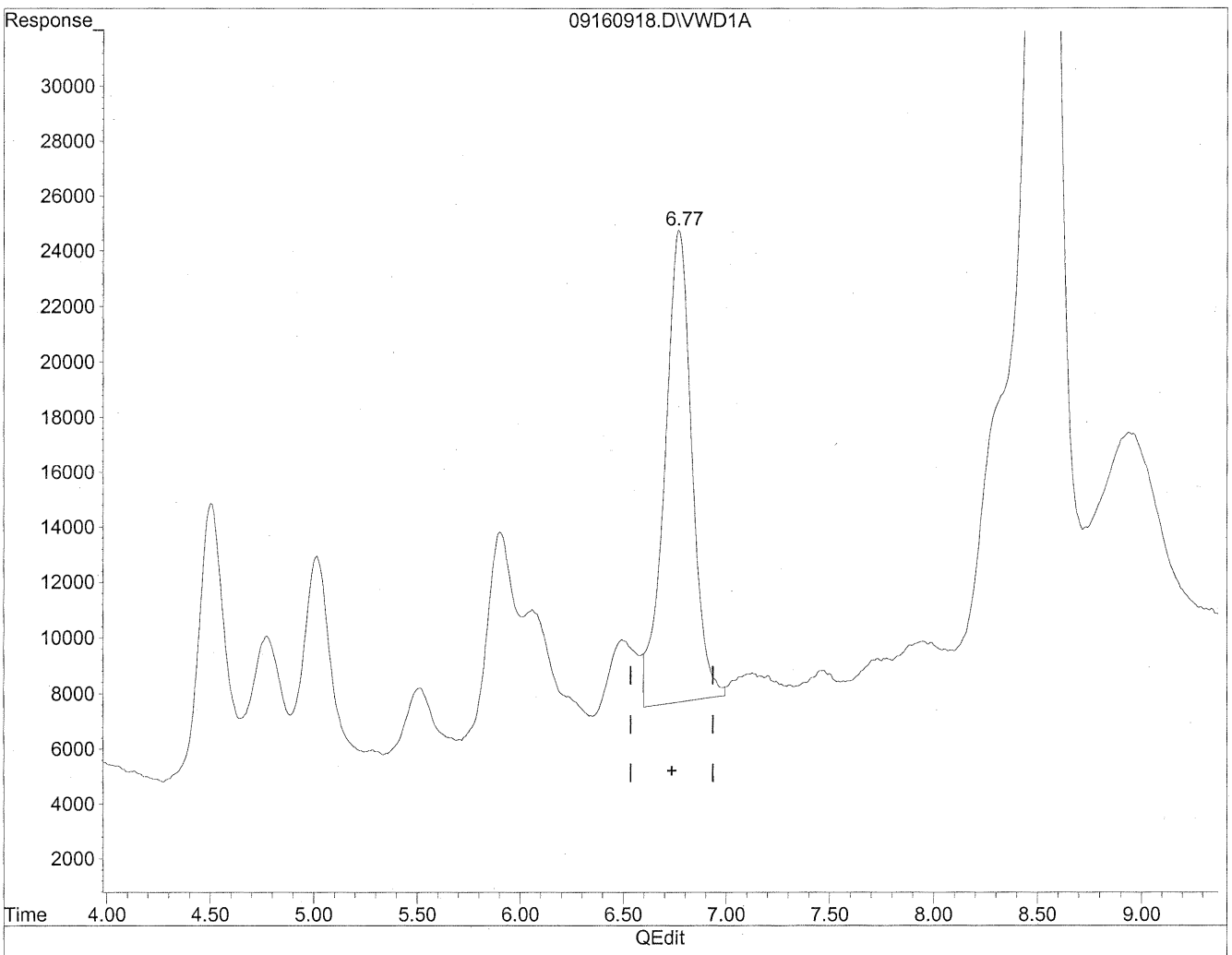
(+) = Expected Retention Time

09160918.D TO110909.M Mon Sep 21 16:09:15 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160918.D Vial: 104
Acq On : 16-Sep-2009, 14:14 Operator: MD
Sample : P0903146-002 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(8) Valeraldehyde

6.77min 461.291ng/ml m

response 1568224

MH 9/22/09

BC

HC 9/22/09

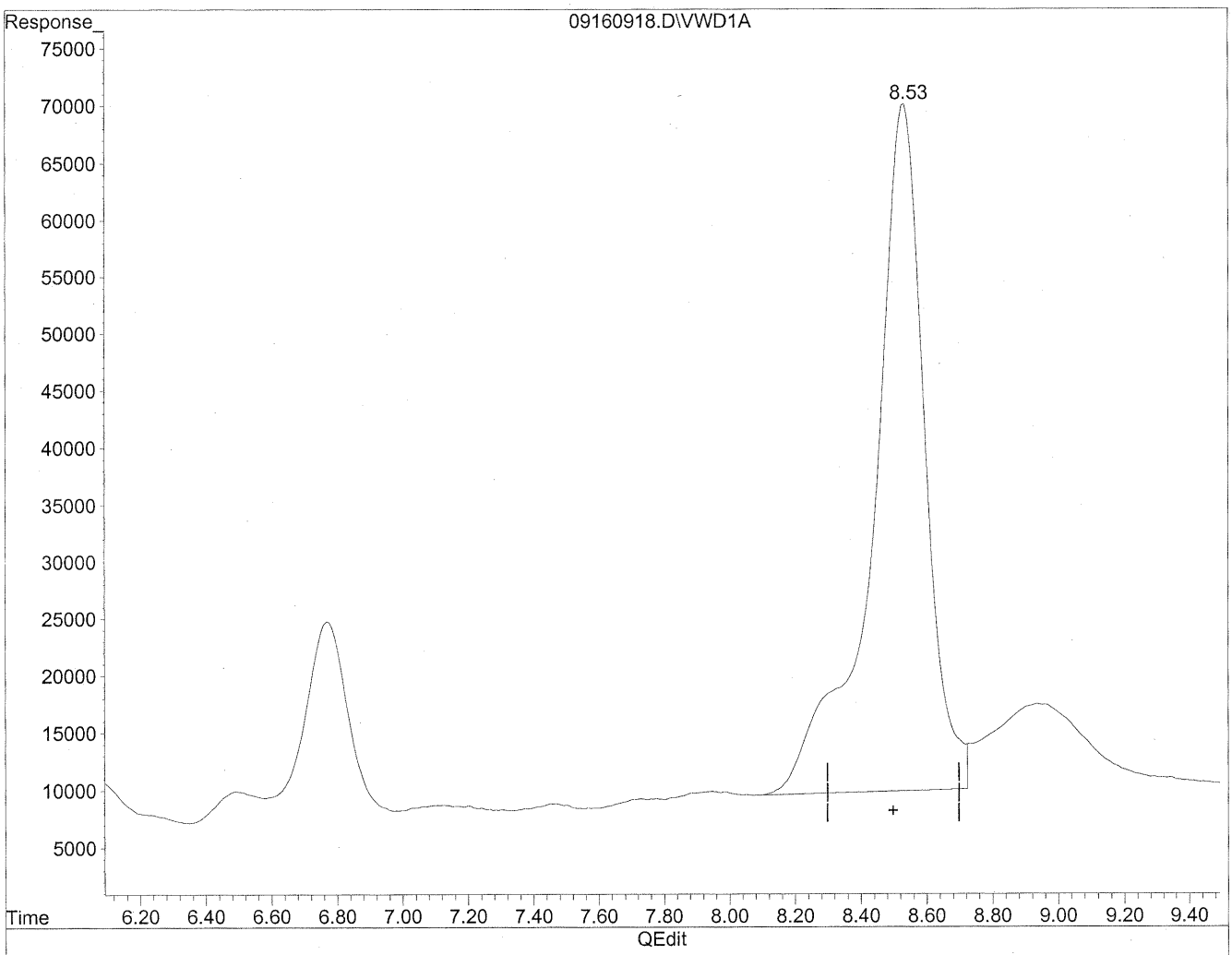
(+) = Expected Retention Time

09160918.D TO110909.M Mon Sep 21 16:09:22 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160918.D Vial: 104
Acq On : 16-Sep-2009, 14:14 Operator: MD
Sample : P0903146-002 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.53min 2217.896ng/ml

response 6566580

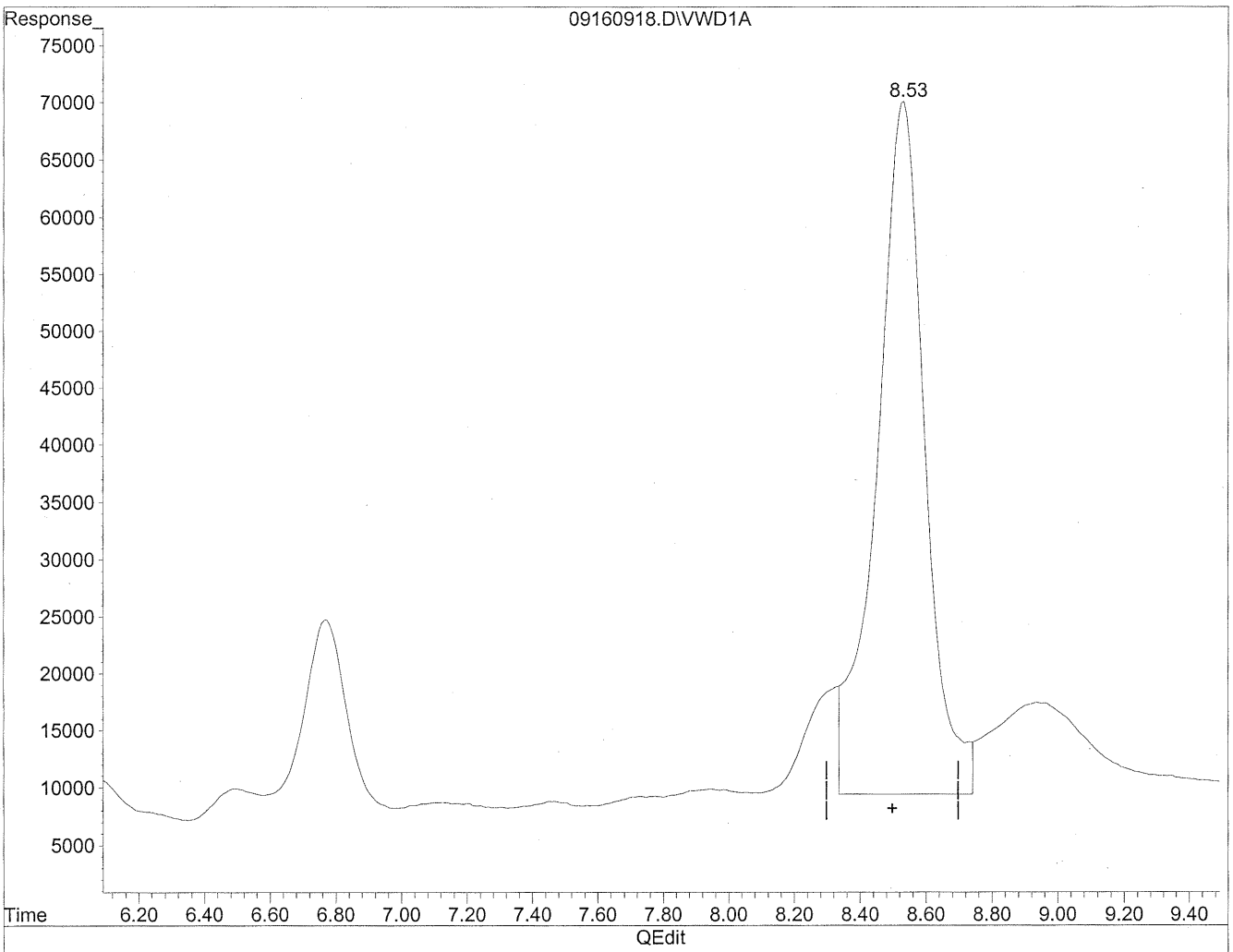
(+) = Expected Retention Time

09160918.D TO110909.M Mon Sep 21 16:09:30 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160918.D Vial: 104
Acq On : 16-Sep-2009, 14:14 Operator: MD
Sample : P0903146-002 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.53min 2063.017ng/ml m

response 6108026

MN 9/22/09 SH

HC 9/22/09

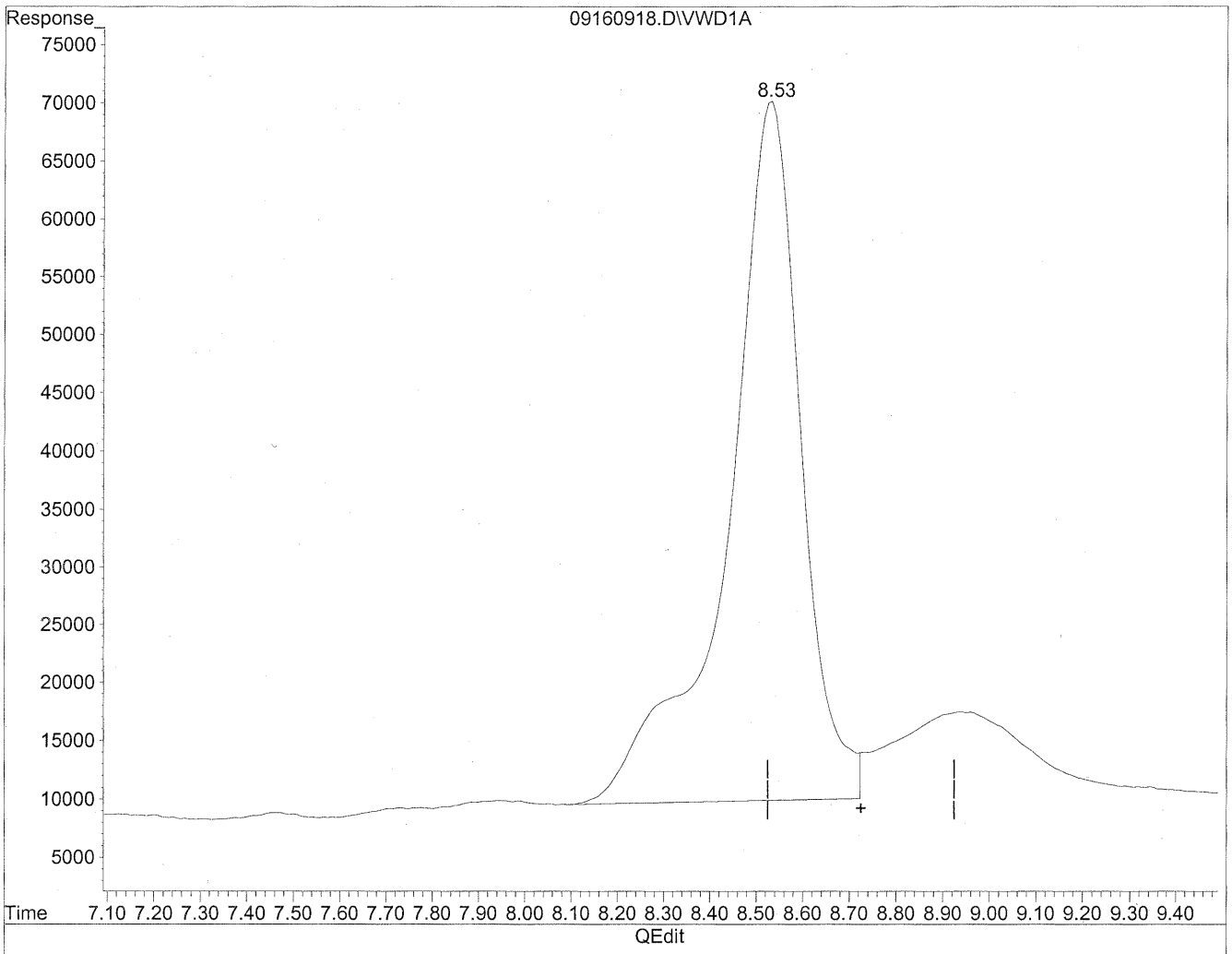
(+) = Expected Retention Time

09160918.D TO110909.M Mon Sep 21 16:09:47 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160918.D Vial: 104
Acq On : 16-Sep-2009, 14:14 Operator: MD
Sample : P0903146-002 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

8.53min 3290.707ng/ml

response 6566580

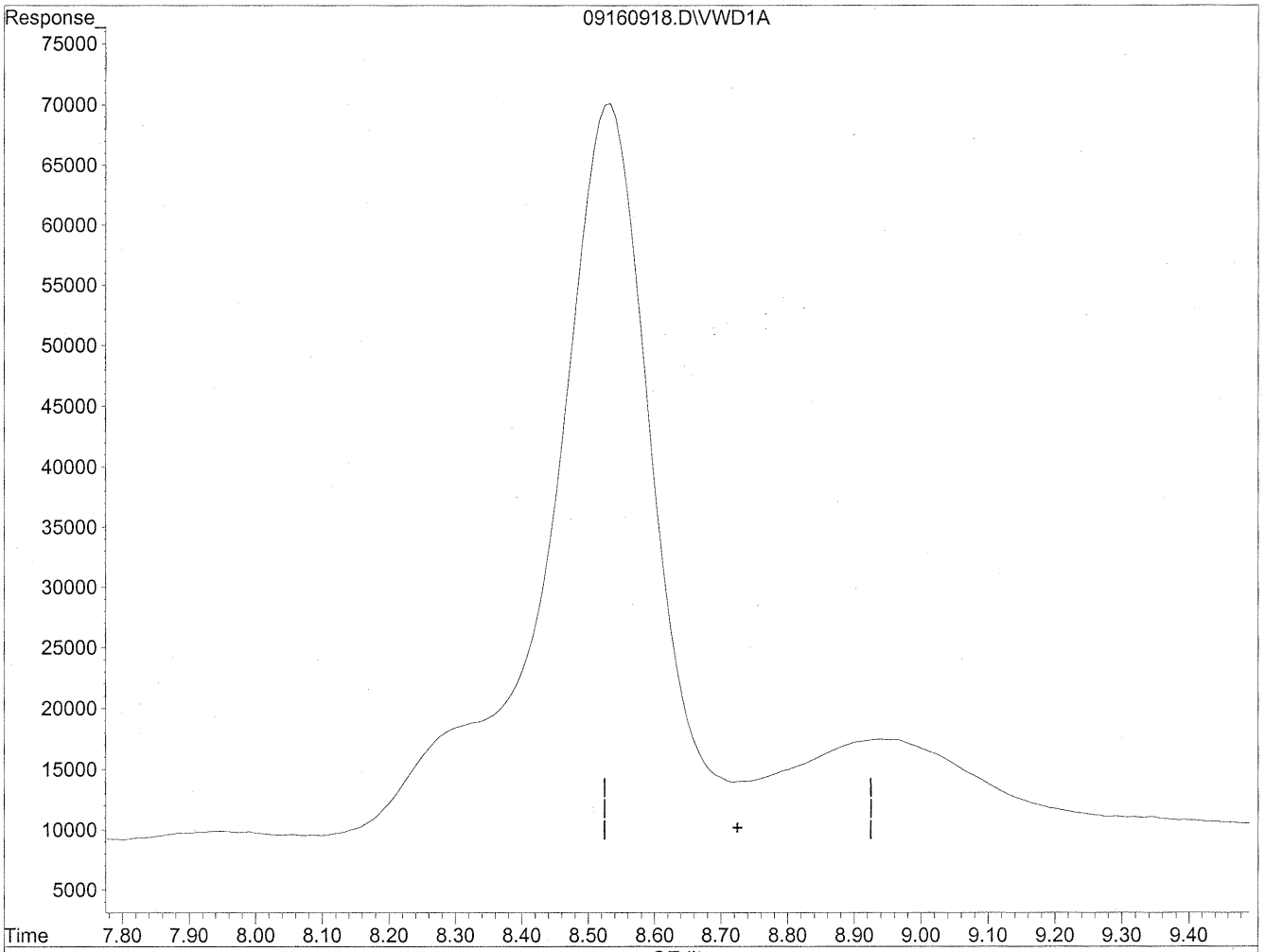
(+) = Expected Retention Time

09160918.D TO110909.M Mon Sep 21 16:09:50 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160918.D Vial: 104
Acq On : 16-Sep-2009, 14:14 Operator: MD
Sample : P0903146-002 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

0.00min 0.000ng/ml d

response 0

MD 9/22/09

KC 9/22/09

MP

(+) = Expected Retention Time

09160918.D TO110909.M Mon Sep 21 16:09:53 2009

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **102821**
Client Project ID: **16512**

CAS Project ID: P0903146
CAS Sample ID: P0903146-003

Test Code: EPA Method TO-11A
Instrument ID: HP1050/LC2
Analyst: Madeleine Dangazyan
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 9/2/09
Date Received: 9/4/09
Date Analyzed: 9/16/09
Desorption Volume: 1.0 ml
Volume Sampled: 101.8 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**2,700**	**27**	0.98	**22**	0.80	
75-07-0	**Acetaldehyde**	**1,600**	**16**	0.98	**8.7**	0.55	**BT**
123-38-6	**Propionaldehyde**	**170**	**1.7**	0.98	**0.72**	0.41	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.98	ND	0.34	
123-72-8	**Butyraldehyde**	**270**	**2.6**	0.98	**0.90**	0.33	
100-52-7	**Benzaldehyde**	**650**	**6.4**	0.98	**1.5**	0.23	**M**
590-86-3	**Isovaleraldehyde**	**110**	**1.1**	0.98	**0.32**	0.28	
110-62-3	**Valeraldehyde**	**760**	**7.5**	0.98	**2.1**	0.28	
529-20-4	o-Tolualdehyde	< 100	ND	0.98	ND	0.20	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	2.0	ND	0.40	
66-25-1	**n-Hexaldehyde**	**3,200**	**31**	0.98	**7.7**	0.24	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.98	ND	0.18	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
BT = Results indicated possible breakthrough; back section > 10% front section.
M = Matrix interference; results may be biased high.

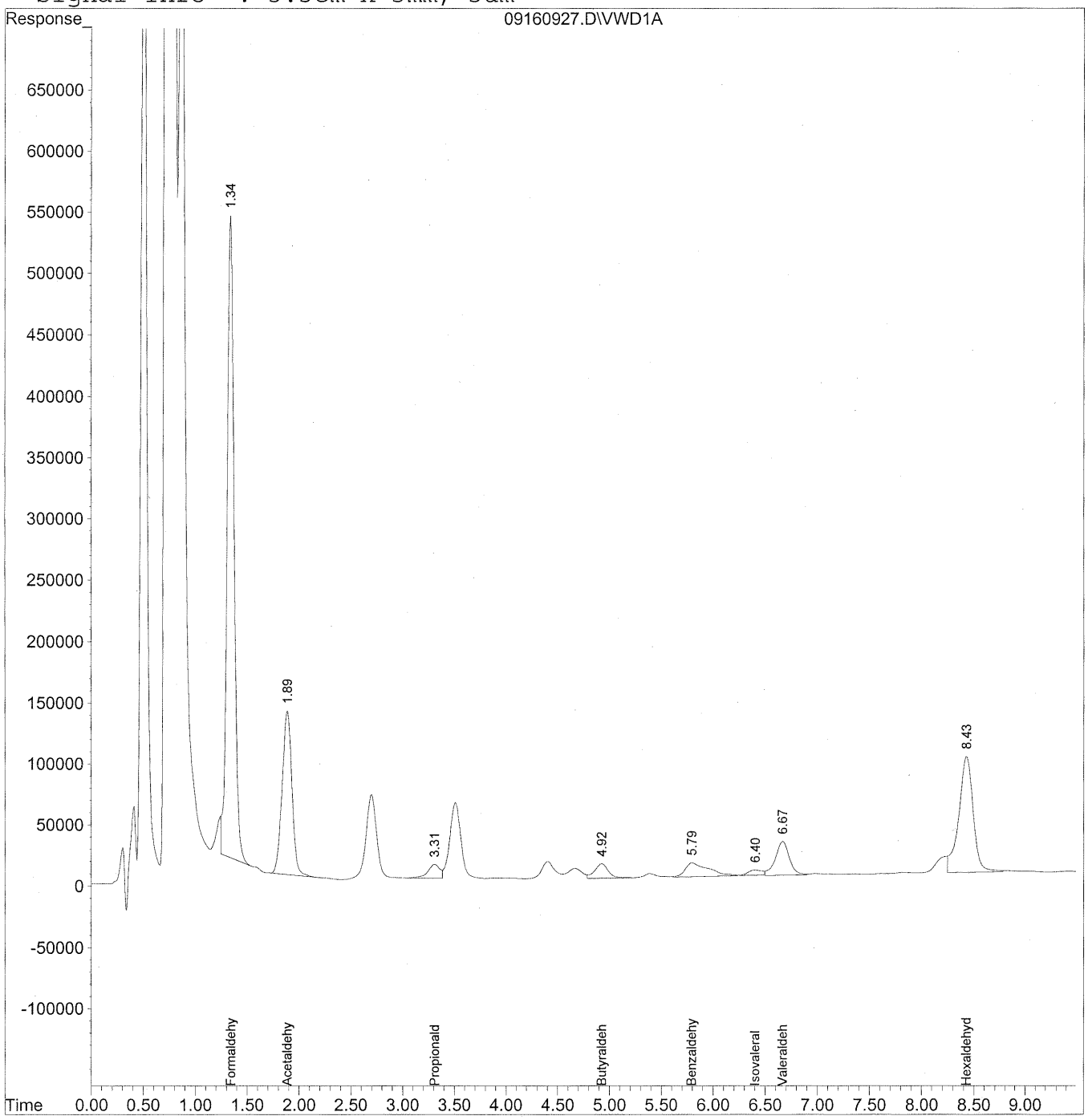
Verified By: Rc Date: 9/23/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160927.D Vial: 111
Acq On : 16-Sep-2009, 16:01 Operator: MD
Sample : P0903146-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:21 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



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Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160927.D Vial: 111
Acq On : 16-Sep-2009, 16:01 Operator: MD
Sample : P0903146-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:21 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	24408214	2731.621	ng/mlm
2)	Acetaldehyde	1.89	8802259	1354.028	ng/mlm
3)	Propionaldehyde	3.31	906582	174.416	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/mld
5)	Butyraldehyde	4.92	1089474	268.822	ng/mlm
6)	Benzaldehyde	5.79	1780593	652.620	ng/mlm *
7)	Isovaleraldehyde	6.41	390622	113.494	ng/ml
8)	Valeraldehyde	6.67	2587021	760.969	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	8.43	9034790	3051.547	ng/mlm
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

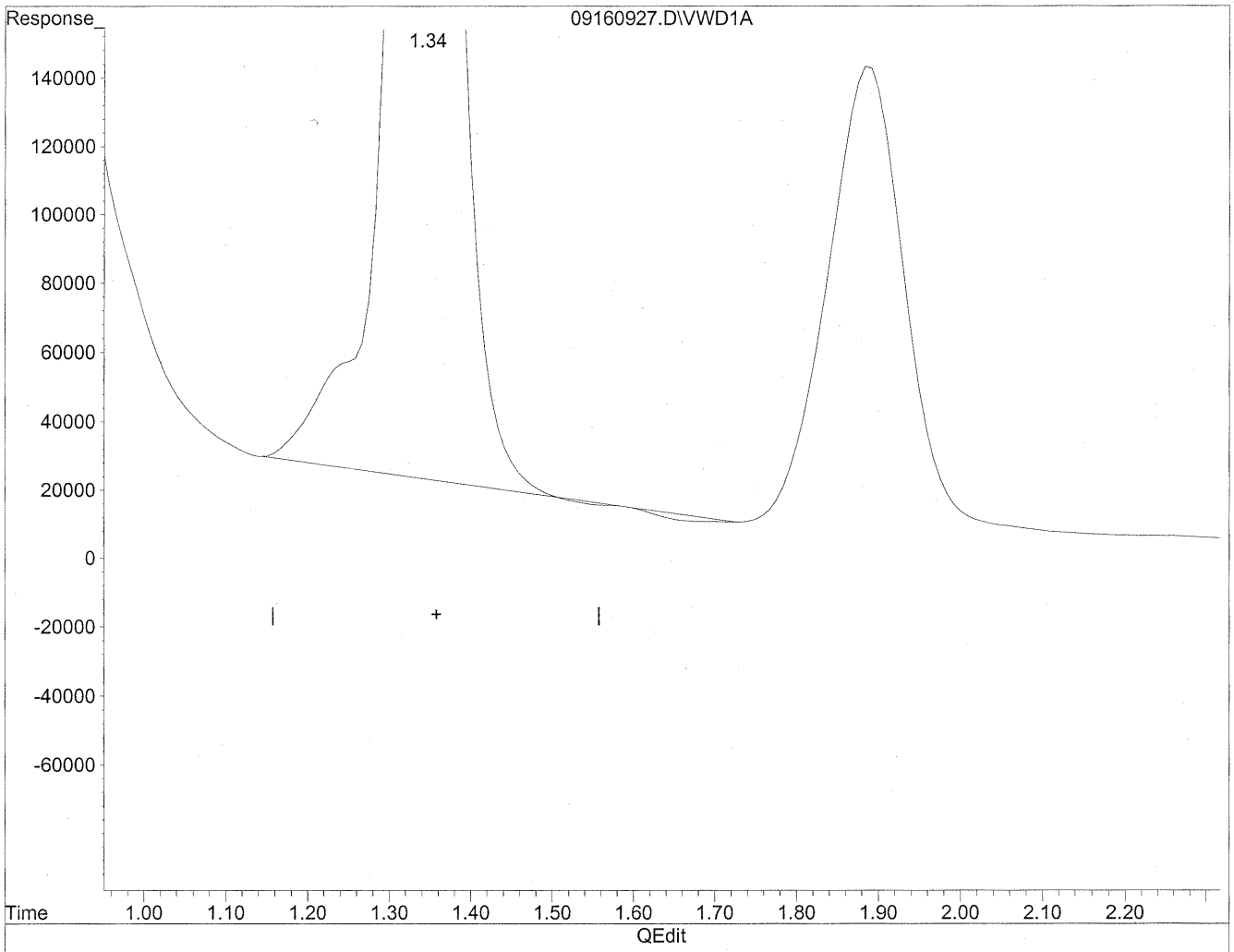
(* m flag)

(f)=RT Delta > 1/2 Window (m)=manual int.
09160927.D TO110909.M Tue Sep 22 08:14:36 2009 Page 1

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160927.D Vial: 111
Acq On : 16-Sep-2009, 16:01 Operator: MD
Sample : P0903146-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(1) Formaldehyde

1.34min 2811.679ng/ml

response 25123566

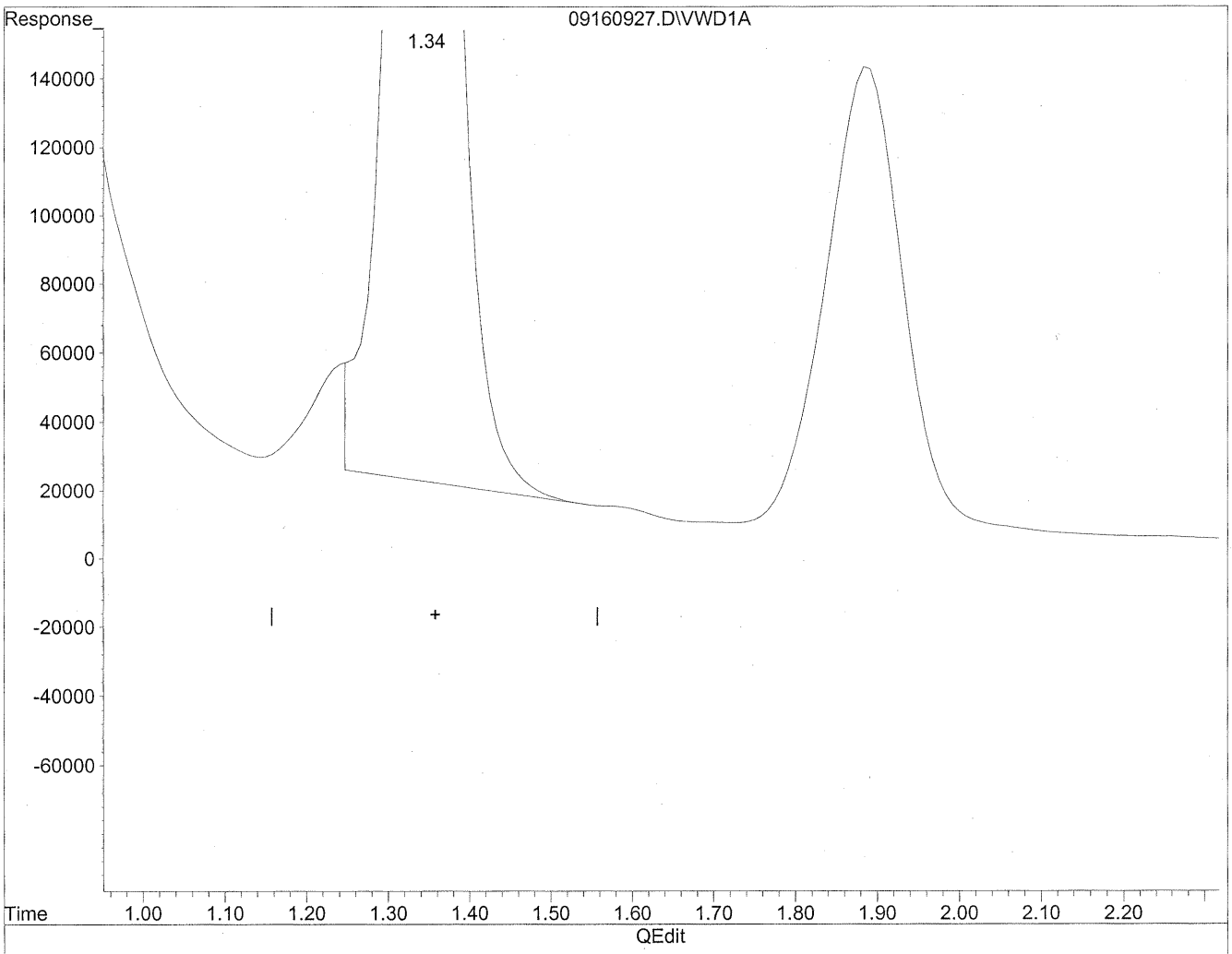
(+) = Expected Retention Time

09160927.D TO110909.M Mon Sep 21 16:19:04 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160927.D Vial: 111
Acq On : 16-Sep-2009, 16:01 Operator: MD
Sample : P0903146-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(1) Formaldehyde

1.34min 2731.621ng/ml m

response 24408214

MD 9/22/09

LC 9/22/09 SH

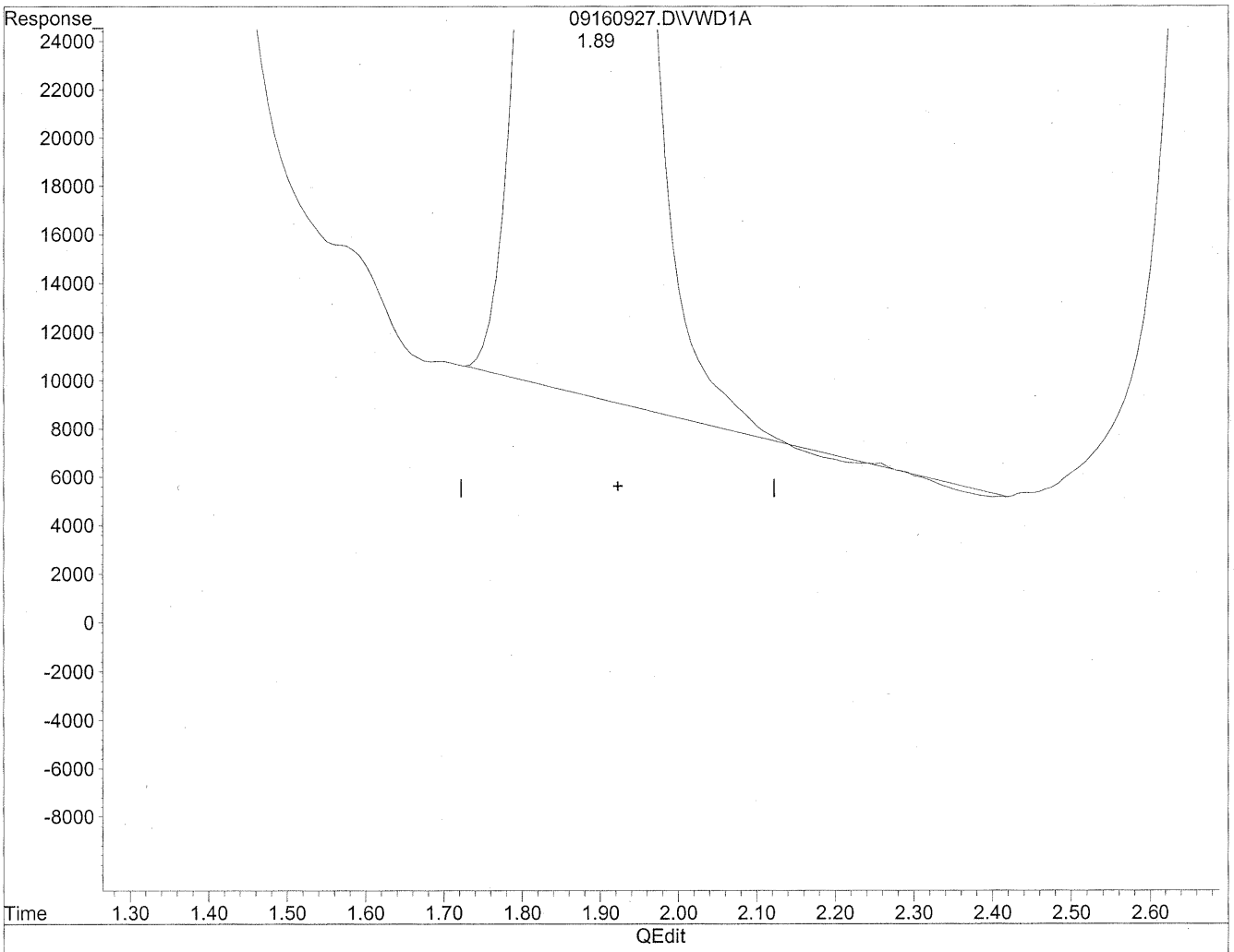
(+) = Expected Retention Time

09160927.D TO110909.M Mon Sep 21 16:19:20 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160927.D Vial: 111
Acq On : 16-Sep-2009, 16:01 Operator: MD
Sample : P0903146-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.89min 1347.312ng/ml

response 8758602

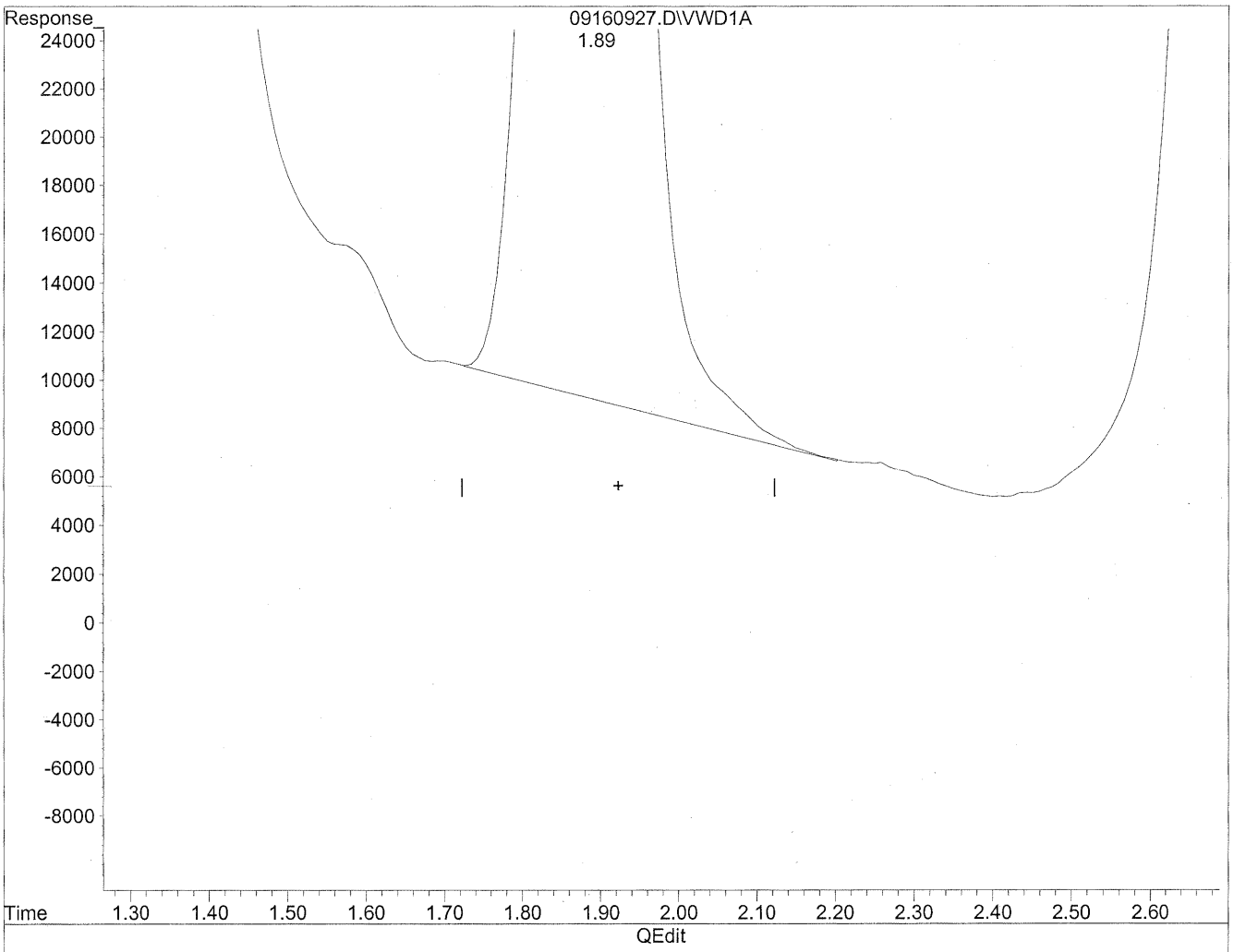
(+) = Expected Retention Time

09160927.D TO110909.M Mon Sep 21 16:19:59 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160927.D Vial: 111
Acq On : 16-Sep-2009, 16:01 Operator: MD
Sample : P0903146-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.89min 1354.028ng/ml m

response 8802259

9/22/09

9/22/09

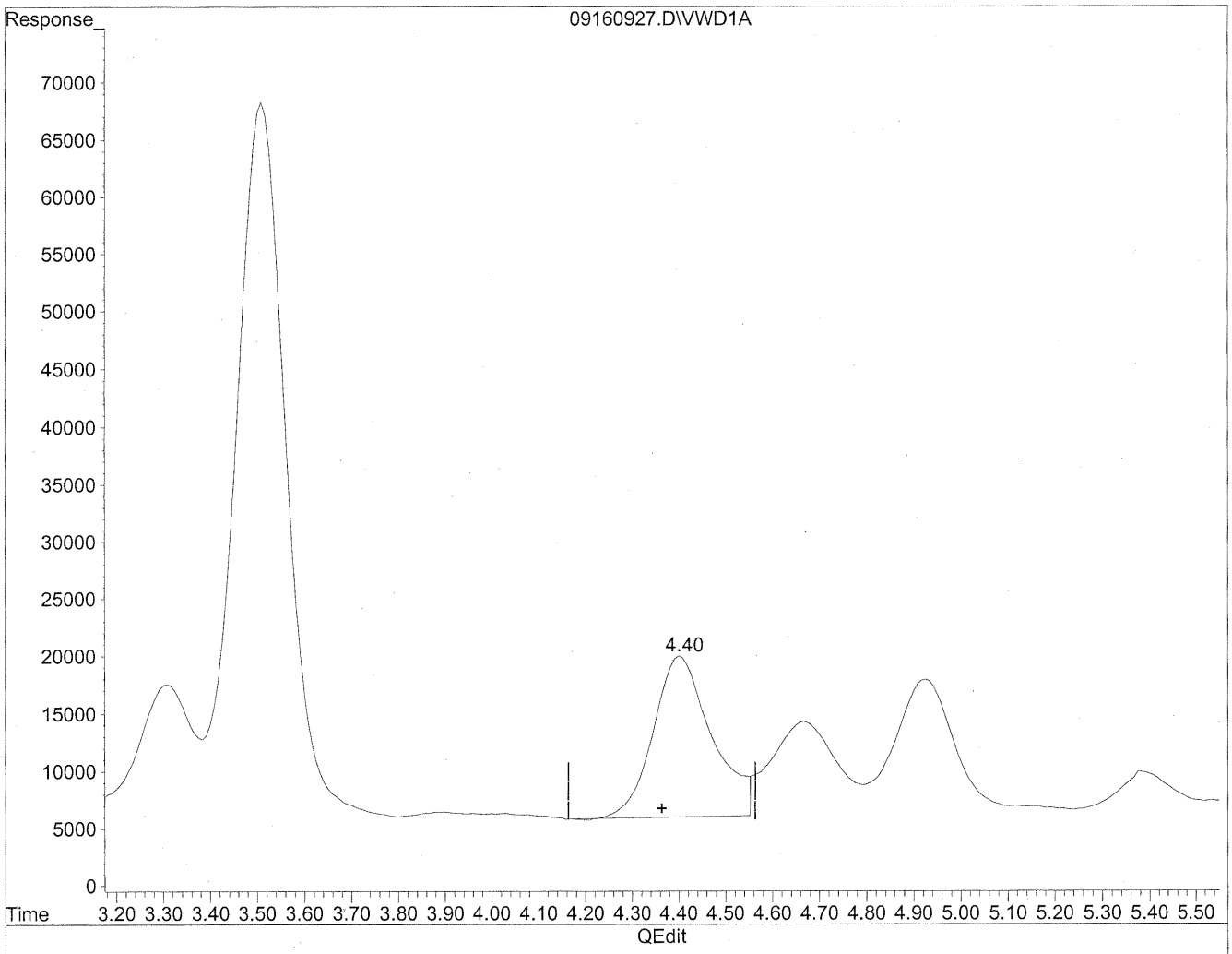
(+) = Expected Retention Time

09160927.D TO110909.M Mon Sep 21 16:20:04 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160927.D Vial: 111
Acq On : 16-Sep-2009, 16:01 Operator: MD
Sample : P0903146-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(4) Crotonaldehyde

4.40min 296.385ng/ml

response 1203196

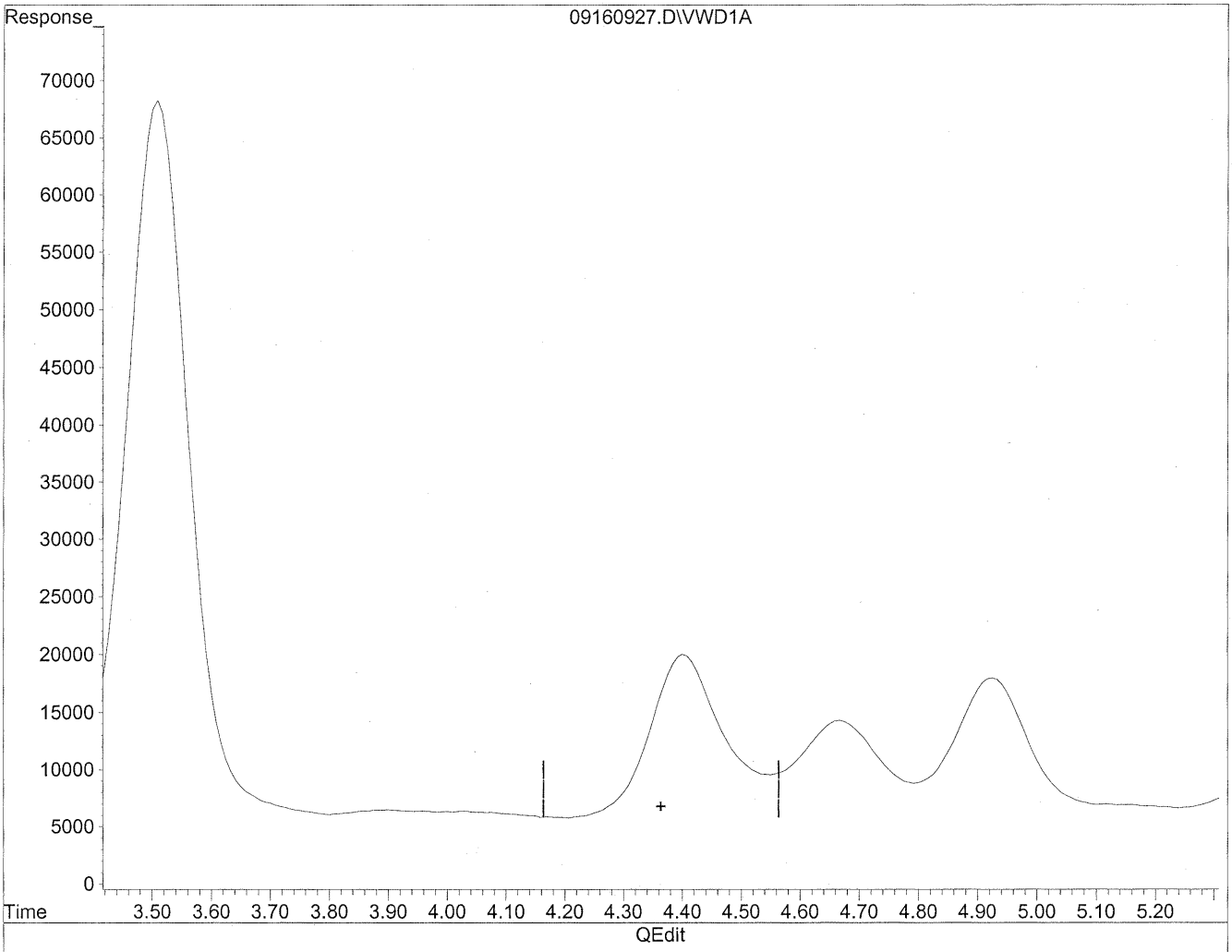
(+) = Expected Retention Time

09160927.D TO110909.M Mon Sep 21 16:20:14 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160927.D Vial: 111
Acq On : 16-Sep-2009, 16:01 Operator: MD
Sample : P0903146-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(4) Crotonaldehyde

0.00min 0.000ng/ml d

response 0

mn 9/22/09 mp

HC 9/22/09

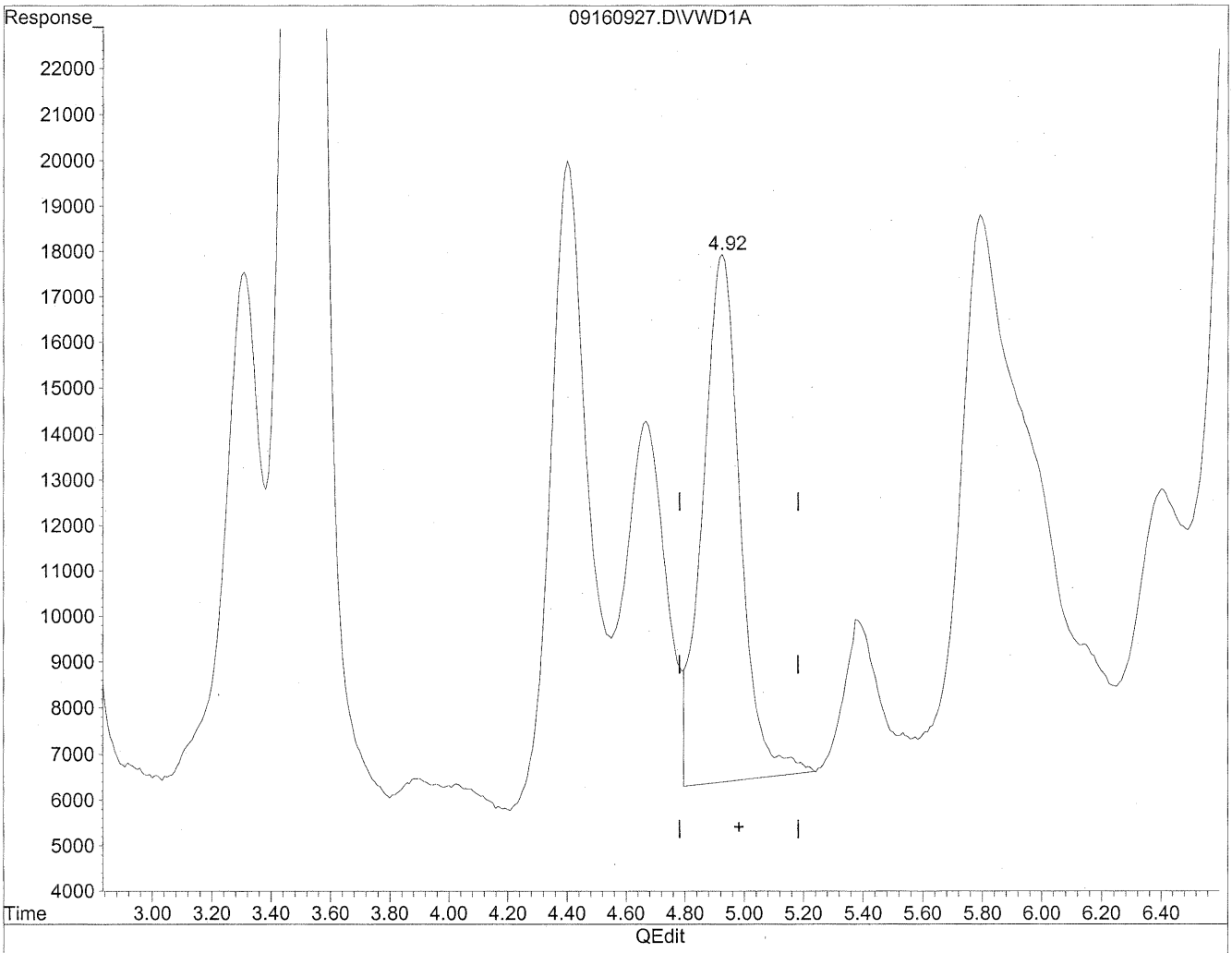
(+) = Expected Retention Time

09160927.D TO110909.M Mon Sep 21 16:20:17 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160927.D Vial: 111
Acq On : 16-Sep-2009, 16:01 Operator: MD
Sample : P0903146-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(5) Butyraldehyde

4.93min 253.131ng/ml

response 1025883

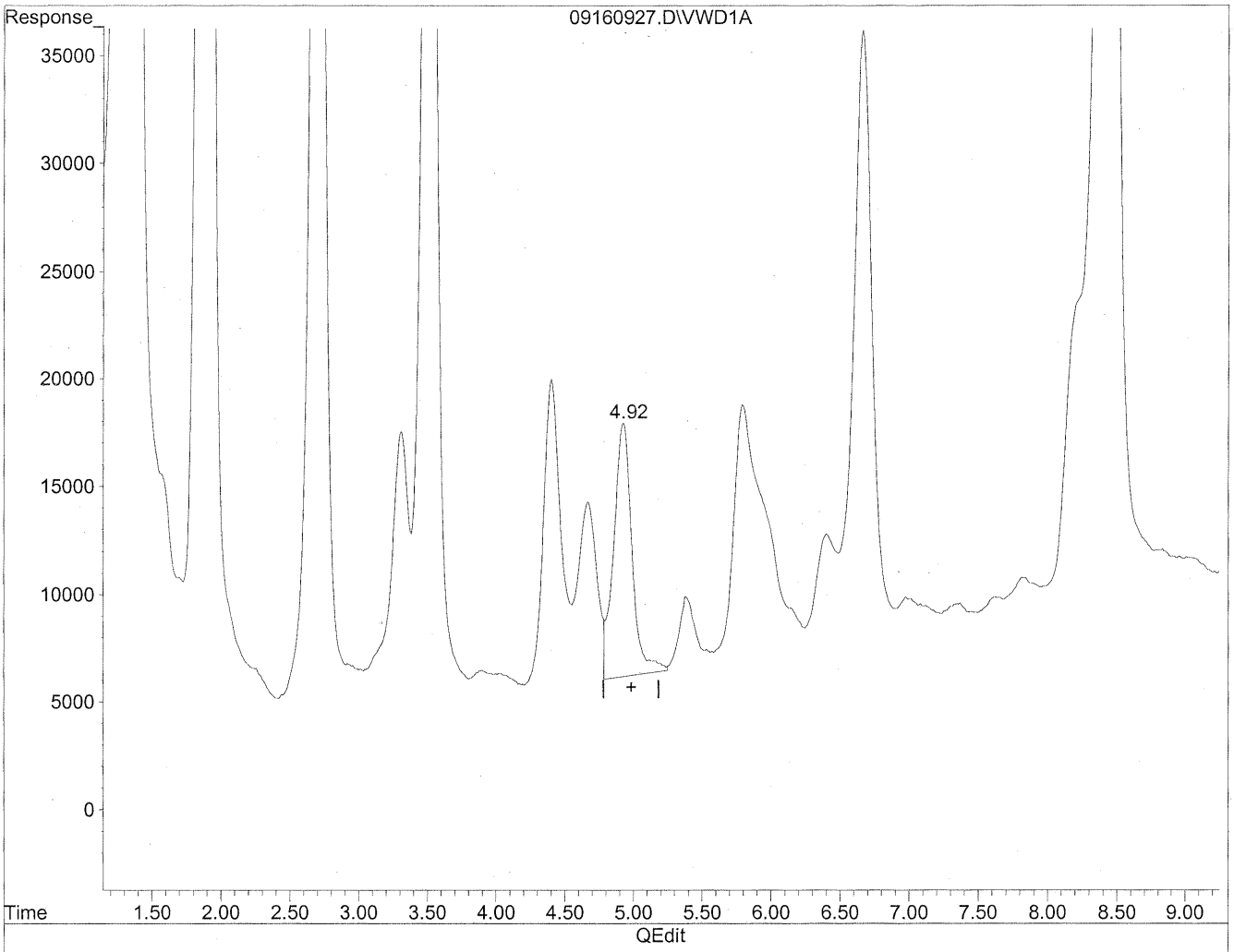
(+) = Expected Retention Time

09160927.D TO110909.M Mon Sep 21 16:20:30 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160927.D Vial: 111
Acq On : 16-Sep-2009, 16:01 Operator: MD
Sample : P0903146-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(5) Butyraldehyde

4.92min 268.822ng/ml m

response 1089474

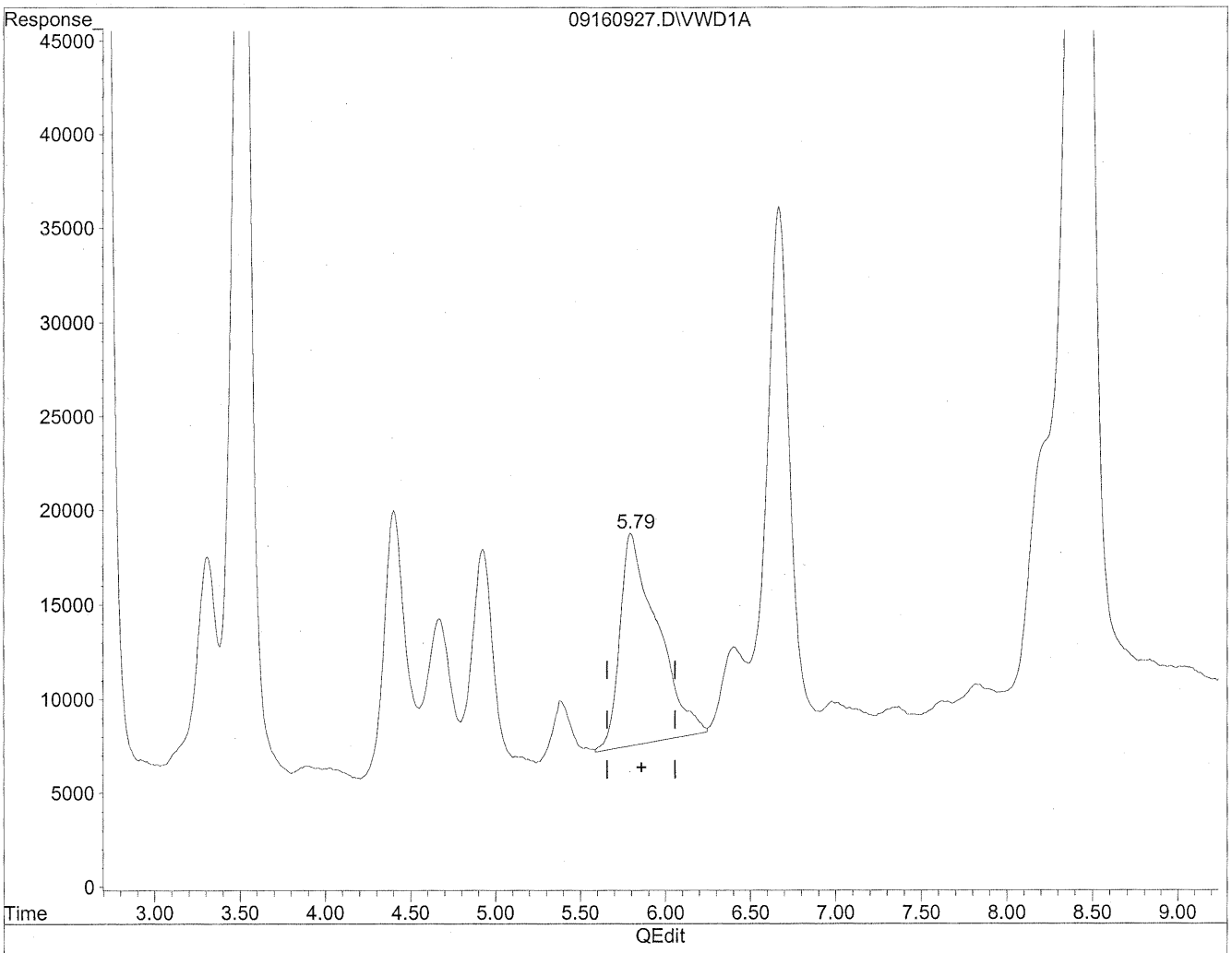
(+) = Expected Retention Time

09160927.D TO110909.M Mon Sep 21 16:20:43 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160927.D Vial: 111
Acq On : 16-Sep-2009, 16:01 Operator: MD
Sample : P0903146-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

5.80min 629.999ng/ml

response 1718874

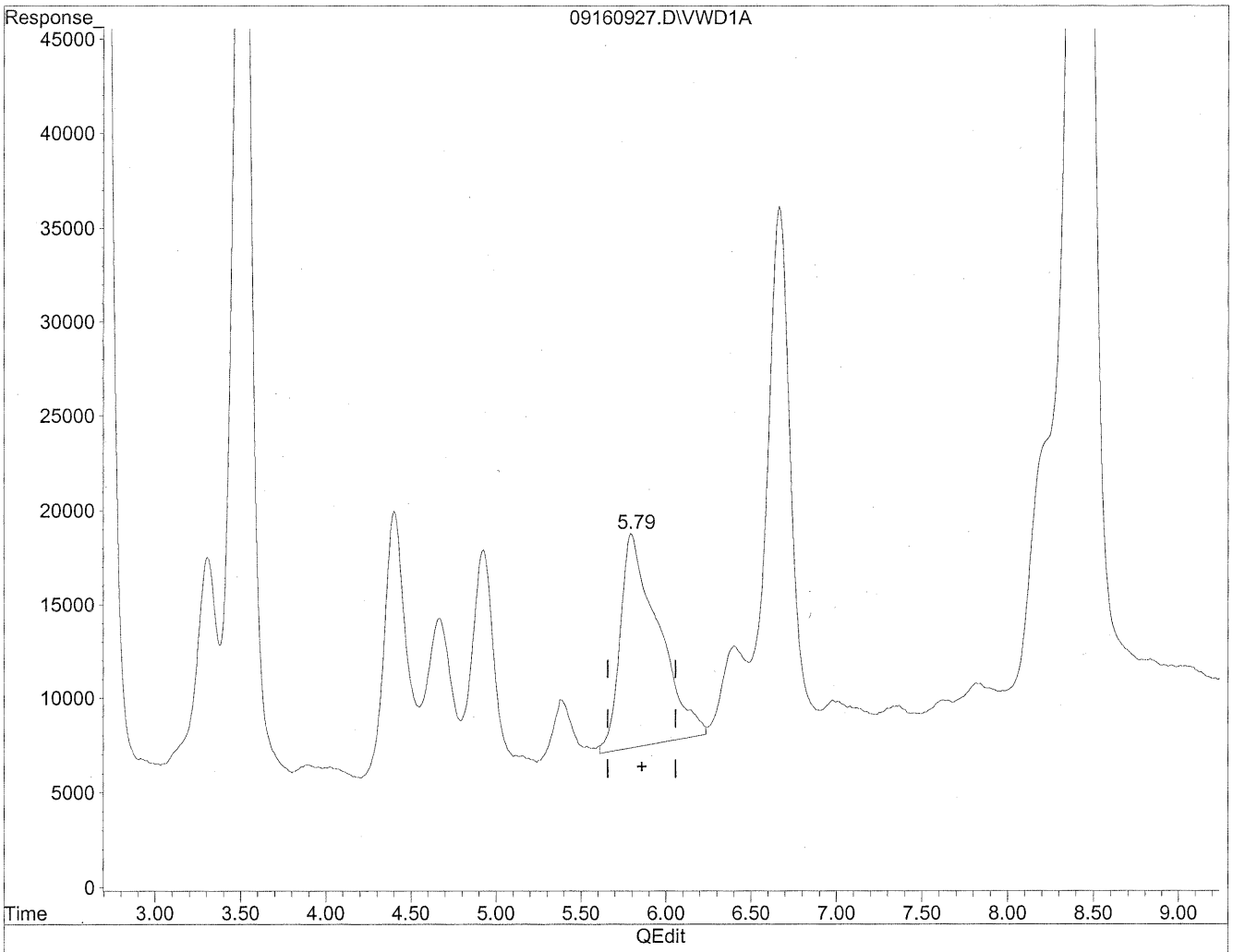
(+) = Expected Retention Time

09160927.D TO110909.M Mon Sep 21 16:20:56 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160927.D Vial: 111
Acq On : 16-Sep-2009, 16:01 Operator: MD
Sample : P0903146-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

5.79min 652.620ng/ml m

response 1780593

mw
9/22/09
BC
(m flag)

HC
9/22/09

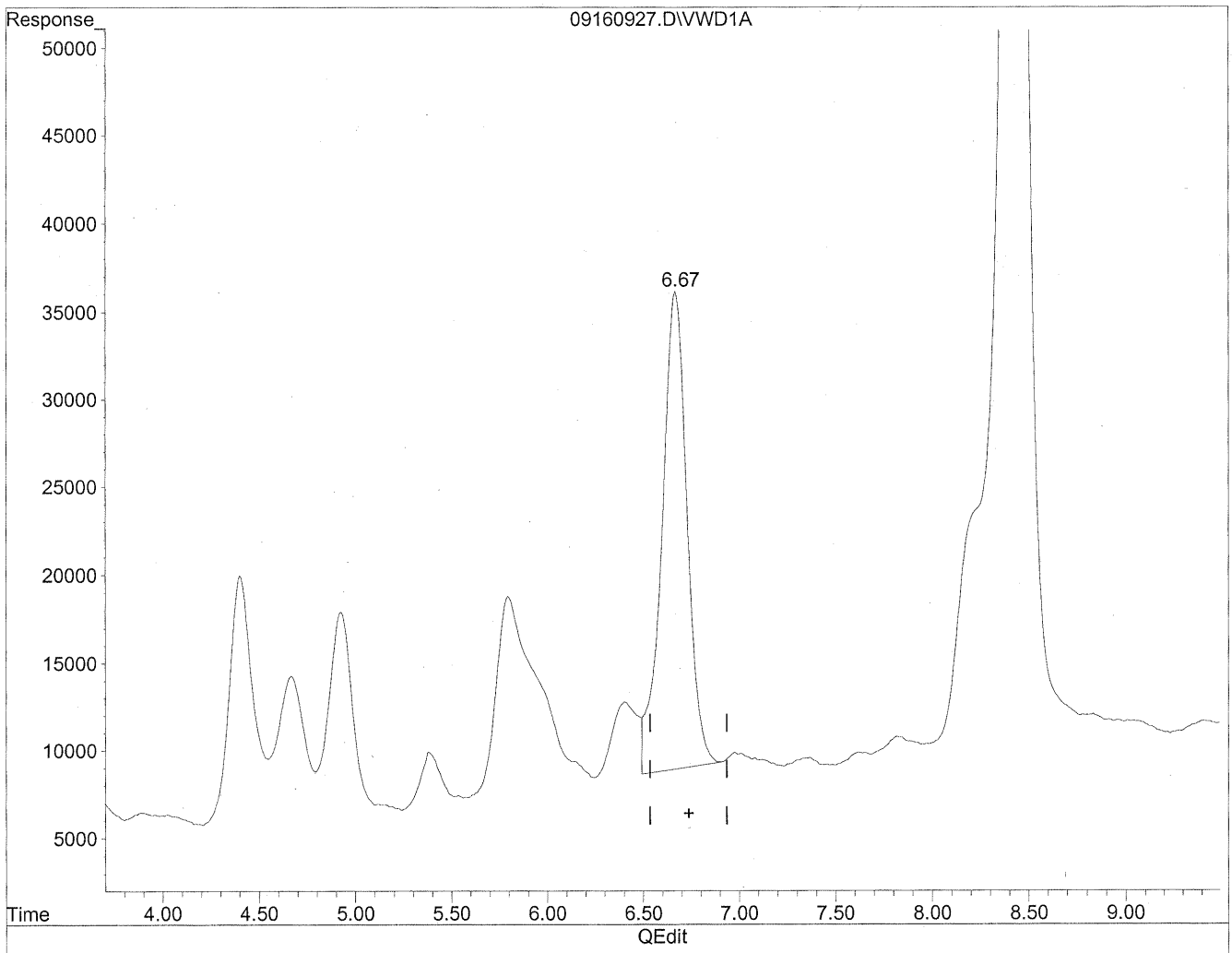
(+) = Expected Retention Time

09160927.D TO110909.M Mon Sep 21 16:21:02 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160927.D Vial: 111
Acq On : 16-Sep-2009, 16:01 Operator: MD
Sample : P0903146-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(8) Valeraldehyde

6.67min 732.047ng/ml

response 2488696

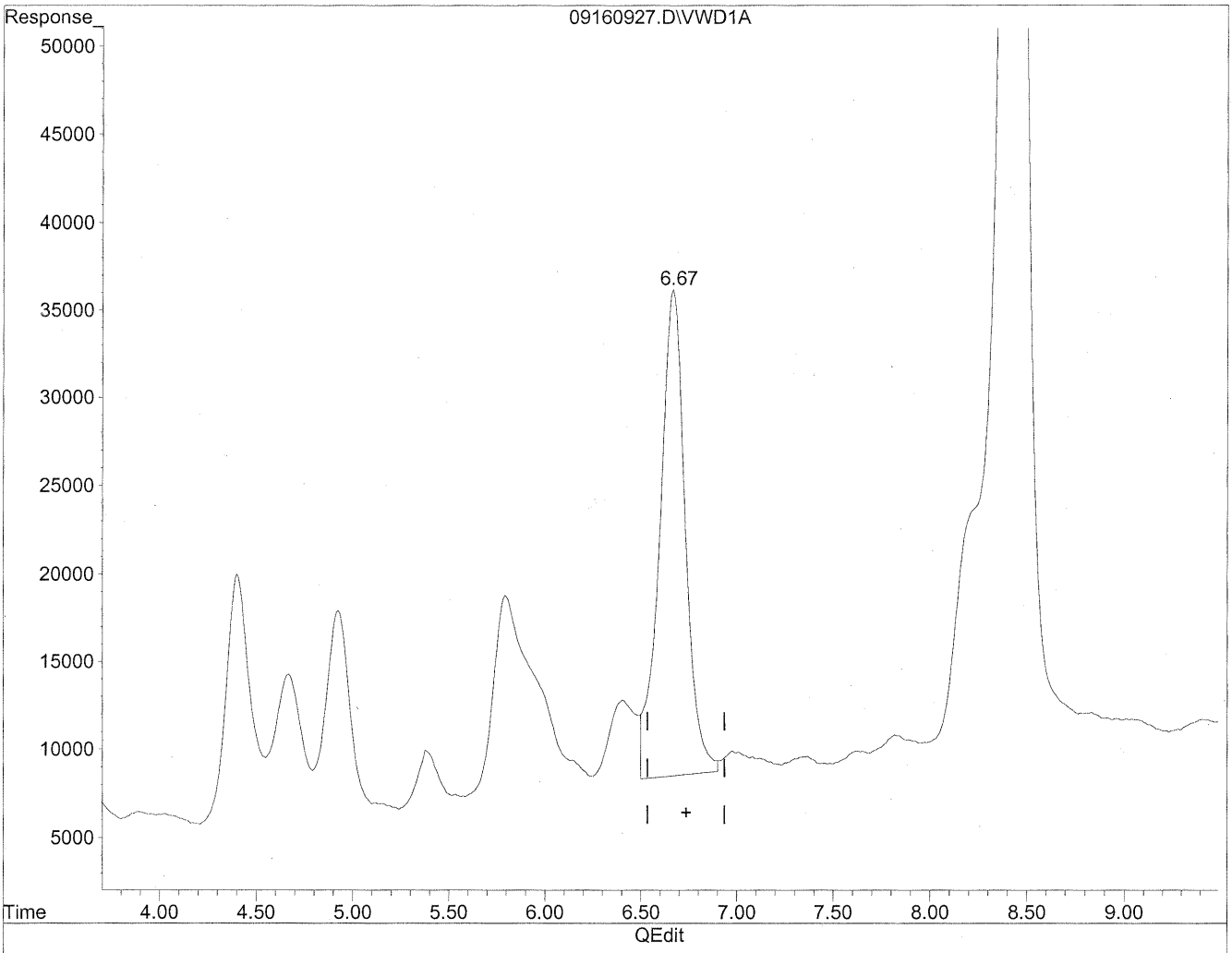
(+) = Expected Retention Time

09160927.D TO110909.M Mon Sep 21 16:21:16 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160927.D Vial: 111
Acq On : 16-Sep-2009, 16:01 Operator: MD
Sample : P0903146-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(8) Valeraldehyde

6.67min 760.969ng/ml m

response 2587021

mm 9/22/09 PC

HC 9/22/09

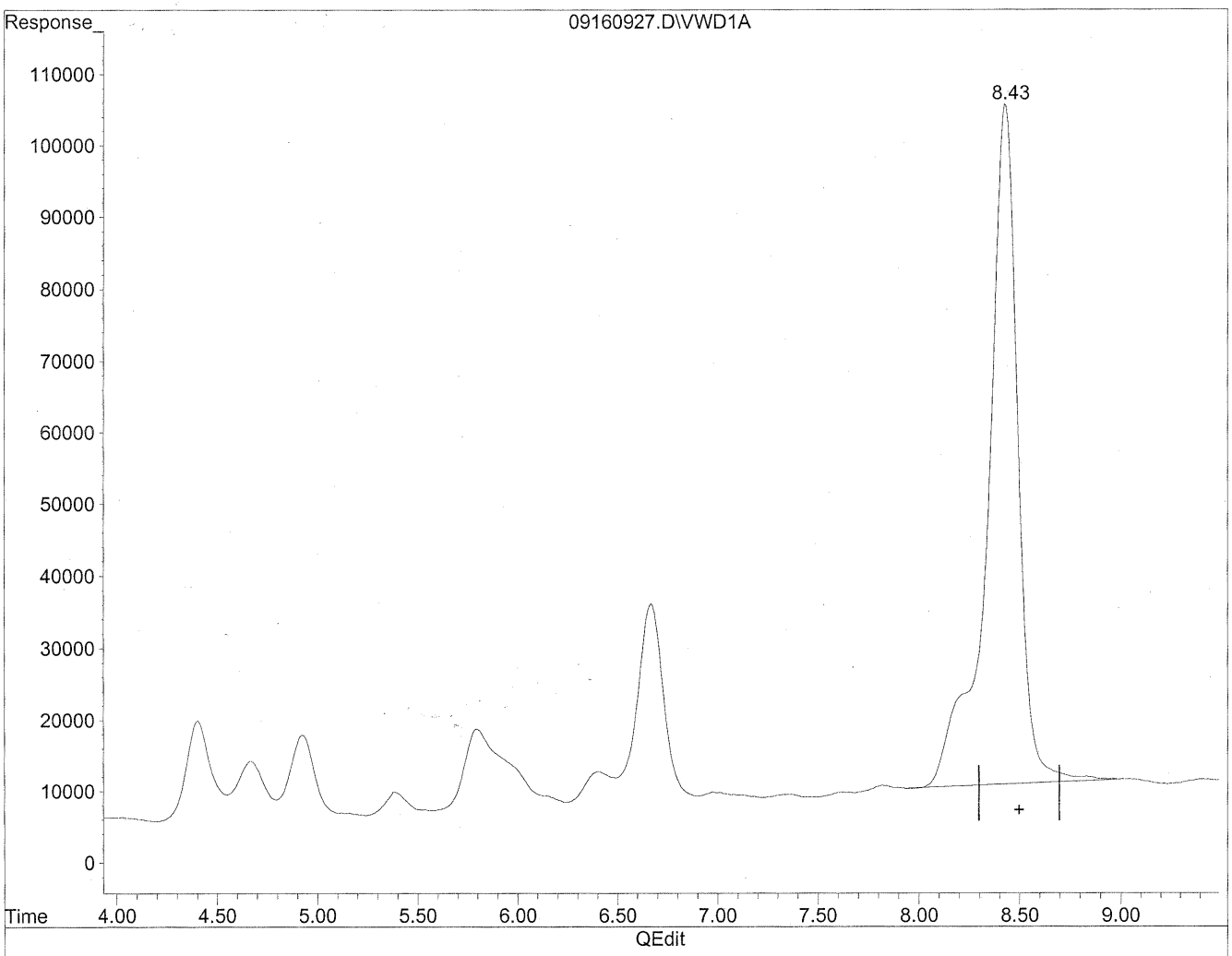
(+) = Expected Retention Time

09160927.D TO110909.M Mon Sep 21 16:21:23 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160927.D Vial: 111
Acq On : 16-Sep-2009, 16:01 Operator: MD
Sample : P0903146-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.43min 3364.815ng/ml

response 9962292

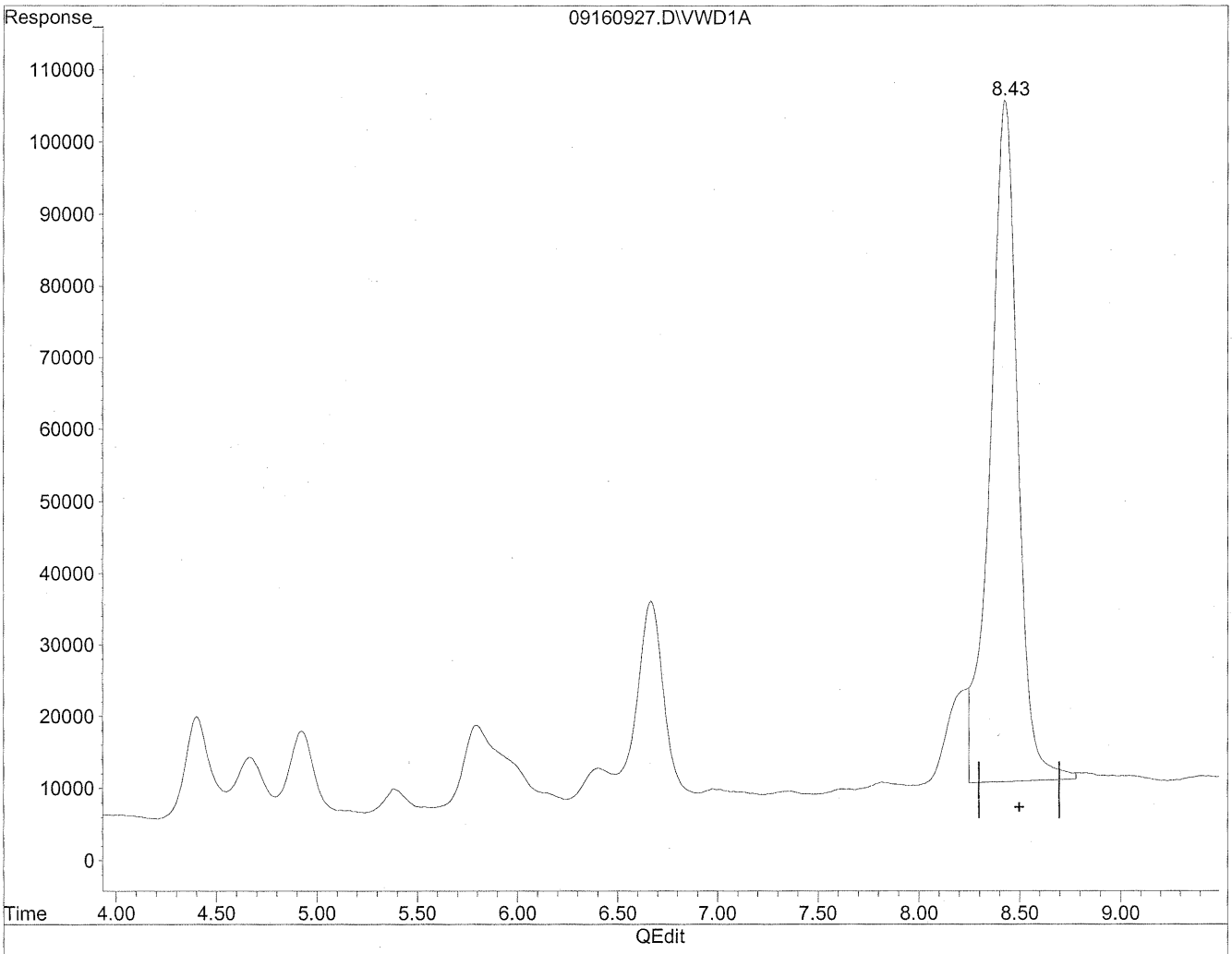
(+) = Expected Retention Time

09160927.D TO110909.M Mon Sep 21 16:21:36 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160927.D Vial: 111
Acq On : 16-Sep-2009, 16:01 Operator: MD
Sample : P0903146-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.43min 3051.547ng/ml m

response 9034790

HC 9/22/09

9/22/09 SL

(+) = Expected Retention Time

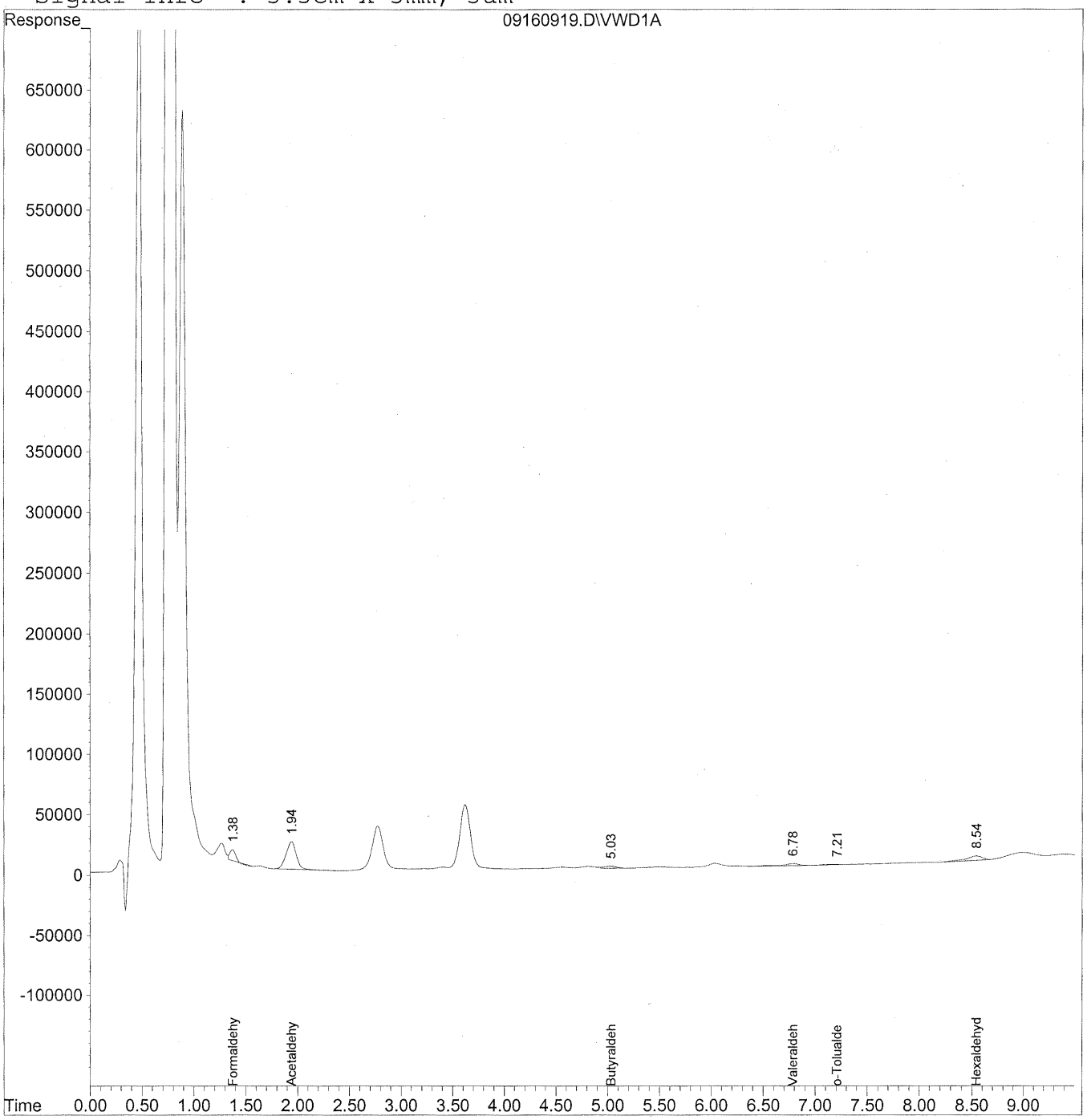
09160927.D TO110909.M Mon Sep 21 16:21:54 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160919.D Vial: 105
Acq On : 16-Sep-2009, 14:26 Operator: MD
Sample : P0903146-003 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:11 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160919.D Vial: 105
Acq On : 16-Sep-2009, 14:26 Operator: MD
Sample : P0903146-003 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:11 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

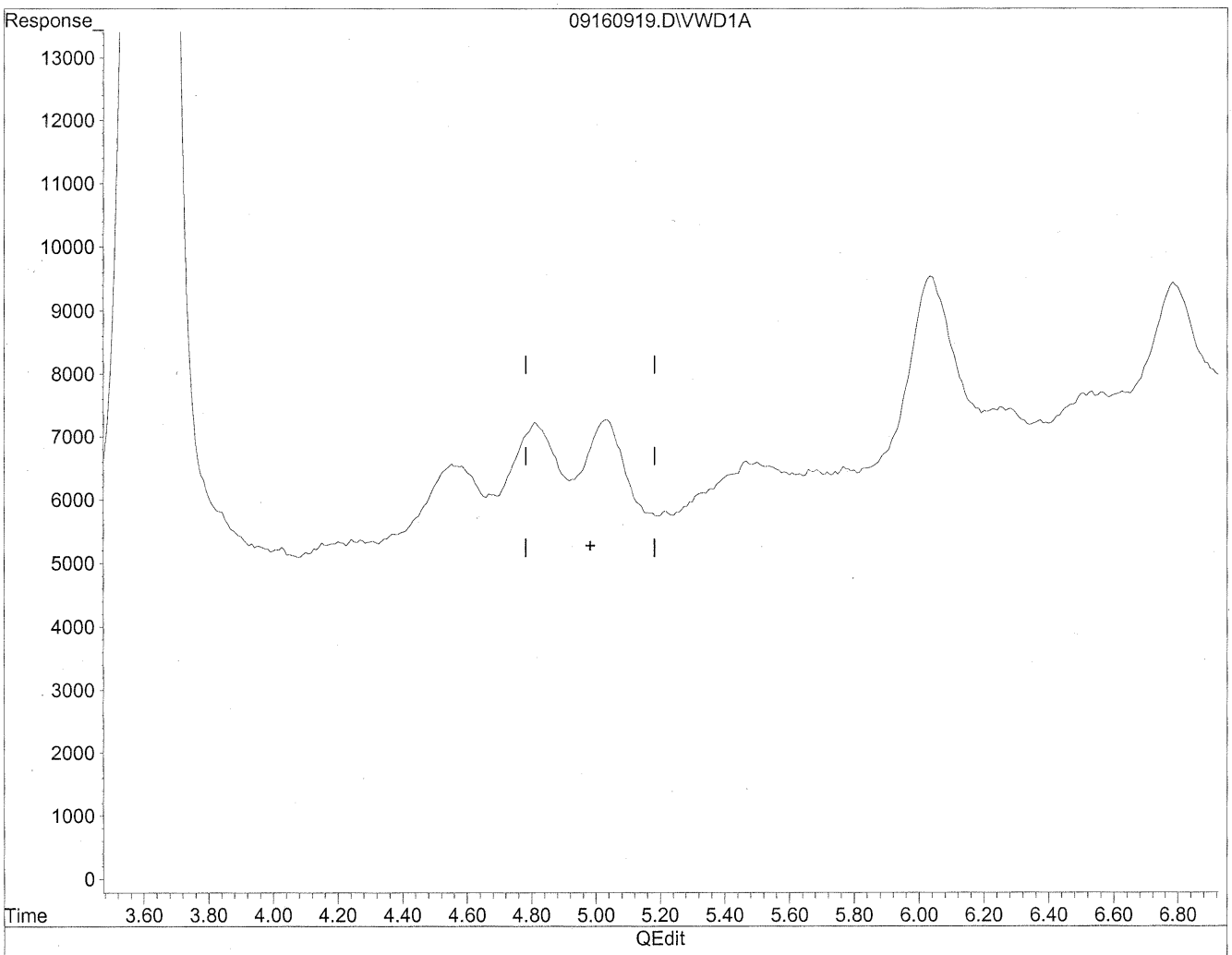
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.38	329216	36.844	ng/ml
2)	Acetaldehyde	1.94	1586227	244.005	ng/ml
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	5.03	141513	34.918	ng/mlm
6)	Benzaldehyde	0.00	0	N.D.	ng/ml
7)	Isovaleraldehyde	0.00	0	N.D.	ng/ml
8)	Valeraldehyde	6.79	178150	52.403	ng/ml
9)	o-Tolualdehyde	7.21	46226	21.064	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	8.54	411181	138.879	ng/mlm
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/mld

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

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160919.D Vial: 105
Acq On : 16-Sep-2009, 14:26 Operator: MD
Sample : P0903146-003 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:10 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(5) Butyraldehyde

4.98min 0.000ng/ml

response 0

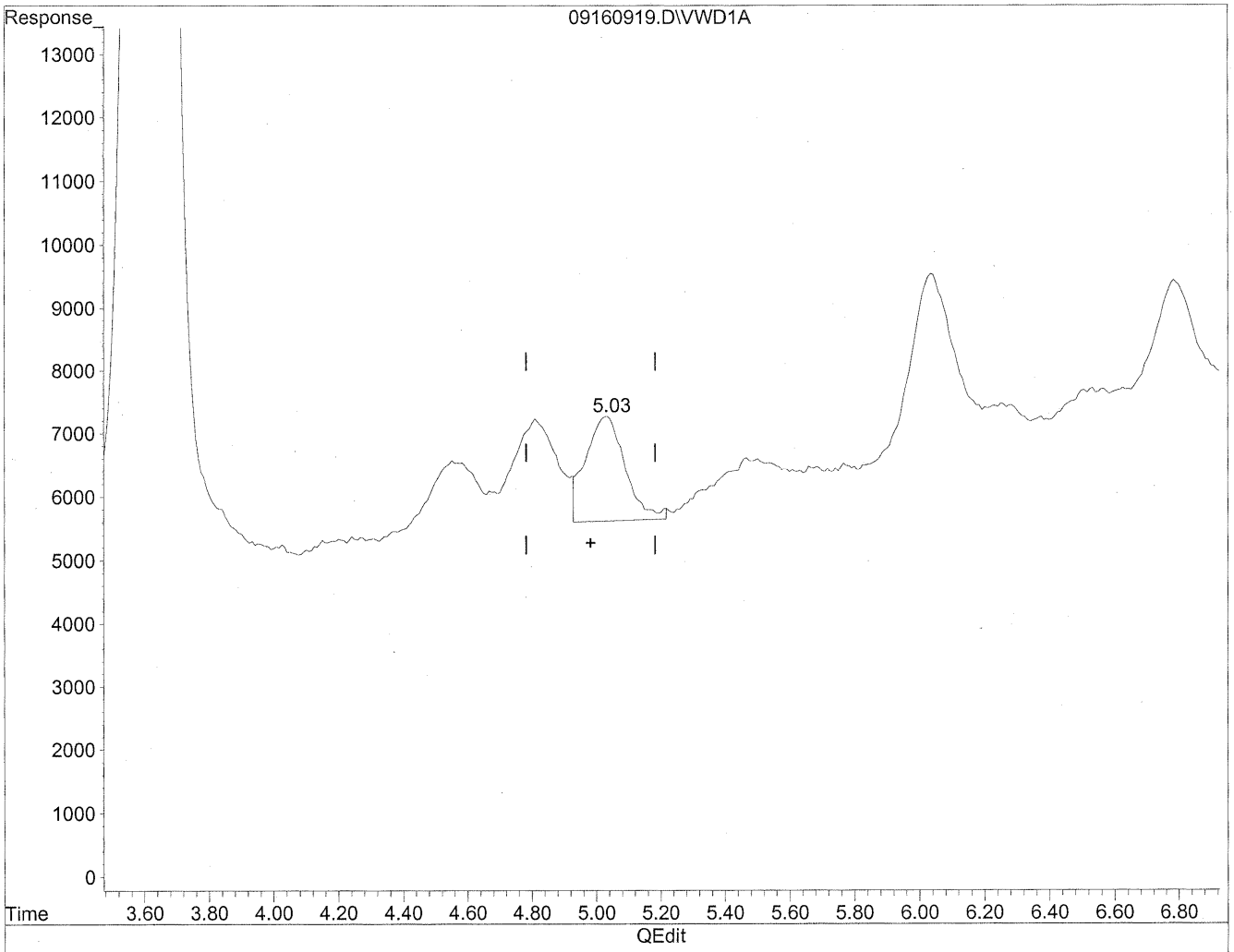
(+) = Expected Retention Time

09160919.D TO110909.M Mon Sep 21 16:10:35 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160919.D Vial: 105
Acq On : 16-Sep-2009, 14:26 Operator: MD
Sample : P0903146-003 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:10 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(5) Butyraldehyde

5.03min 34.918ng/ml m

response 141513

HC 9/22/09

FMN 9/22/09

LRL

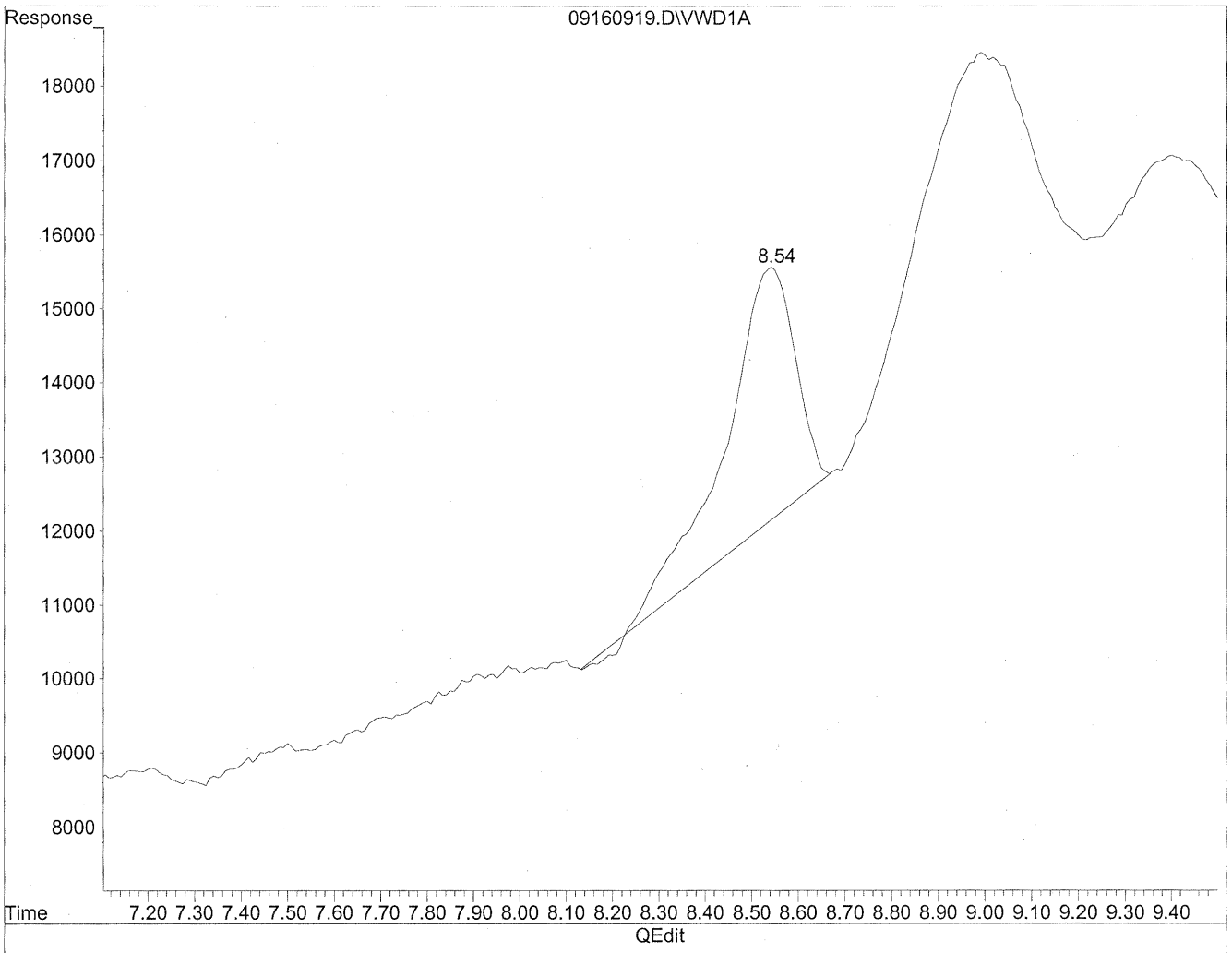
(+) = Expected Retention Time

09160919.D TO110909.M Mon Sep 21 16:10:41 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160919.D Vial: 105
Acq On : 16-Sep-2009, 14:26 Operator: MD
Sample : P0903146-003 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:10 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.54min 117.092ng/ml

response 346679

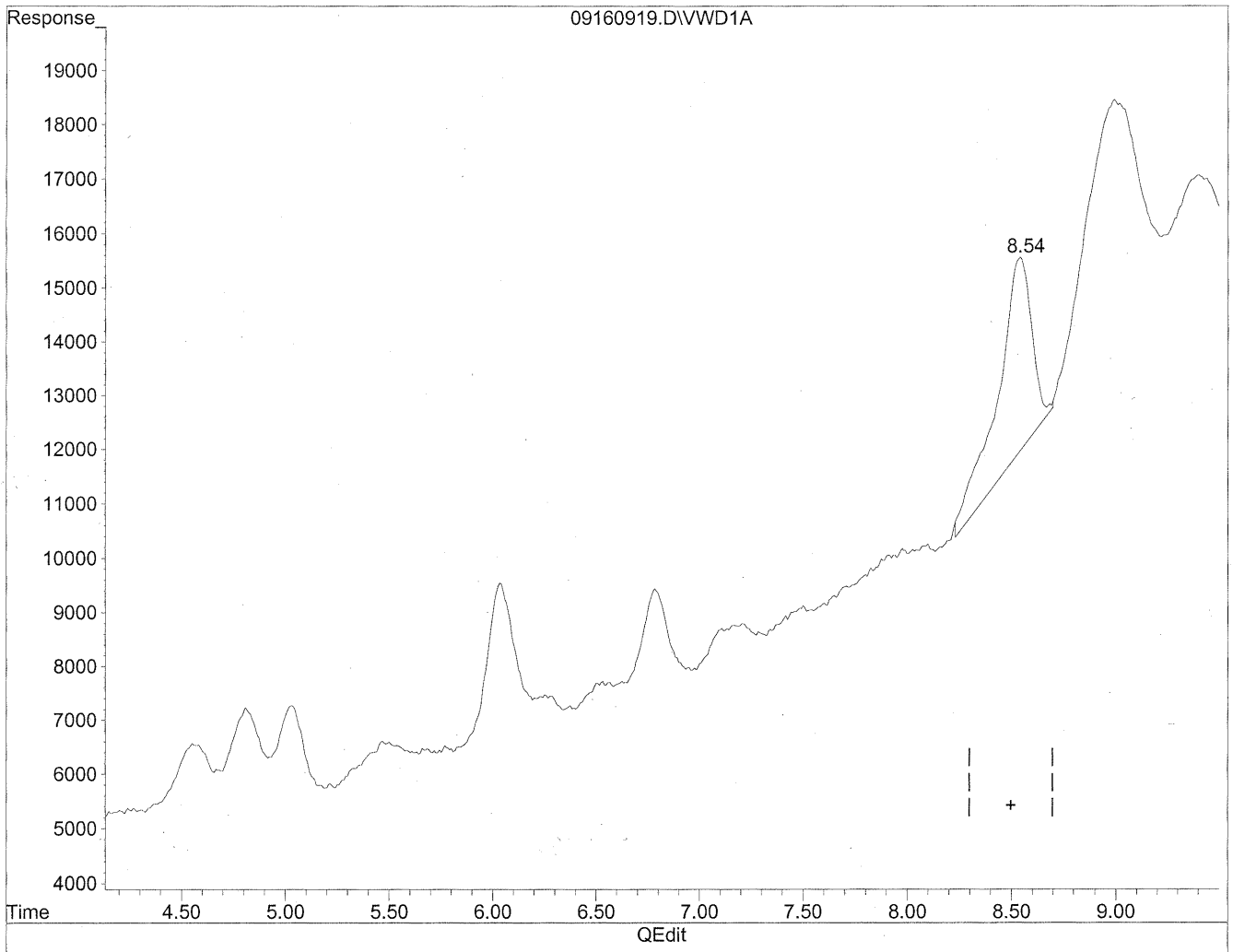
(+) = Expected Retention Time

09160919.D TO110909.M Mon Sep 21 16:11:04 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160919.D Vial: 105
Acq On : 16-Sep-2009, 14:26 Operator: MD
Sample : P0903146-003 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:10 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.54min 138.879ng/ml m

response 411181

tc 9/22/09

9/22/09 TC

80

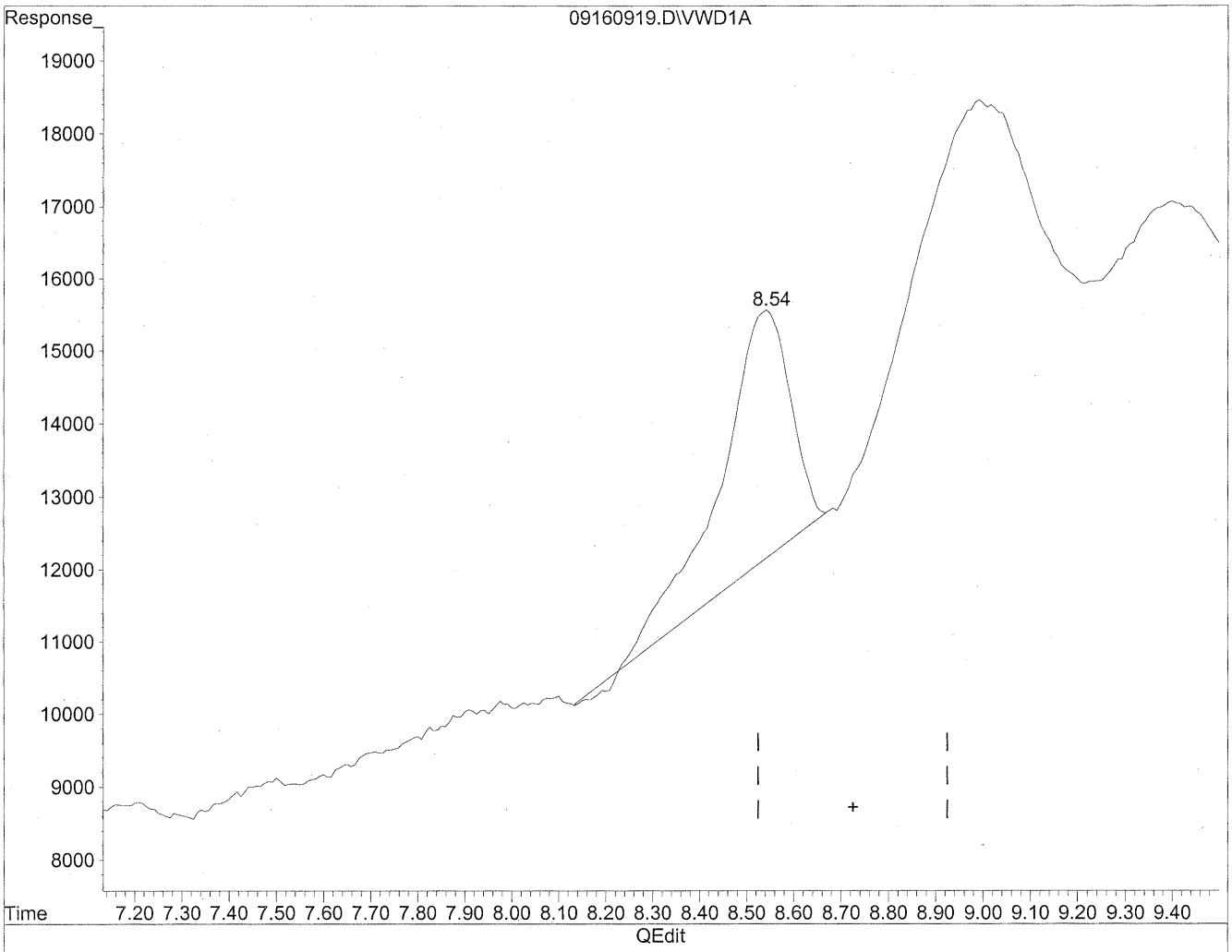
(+) = Expected Retention Time

09160919.D TO110909.M Mon Sep 21 16:11:18 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160919.D Vial: 105
Acq On : 16-Sep-2009, 14:26 Operator: MD
Sample : P0903146-003 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:10 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

8.54min 173.731ng/ml

response 346679

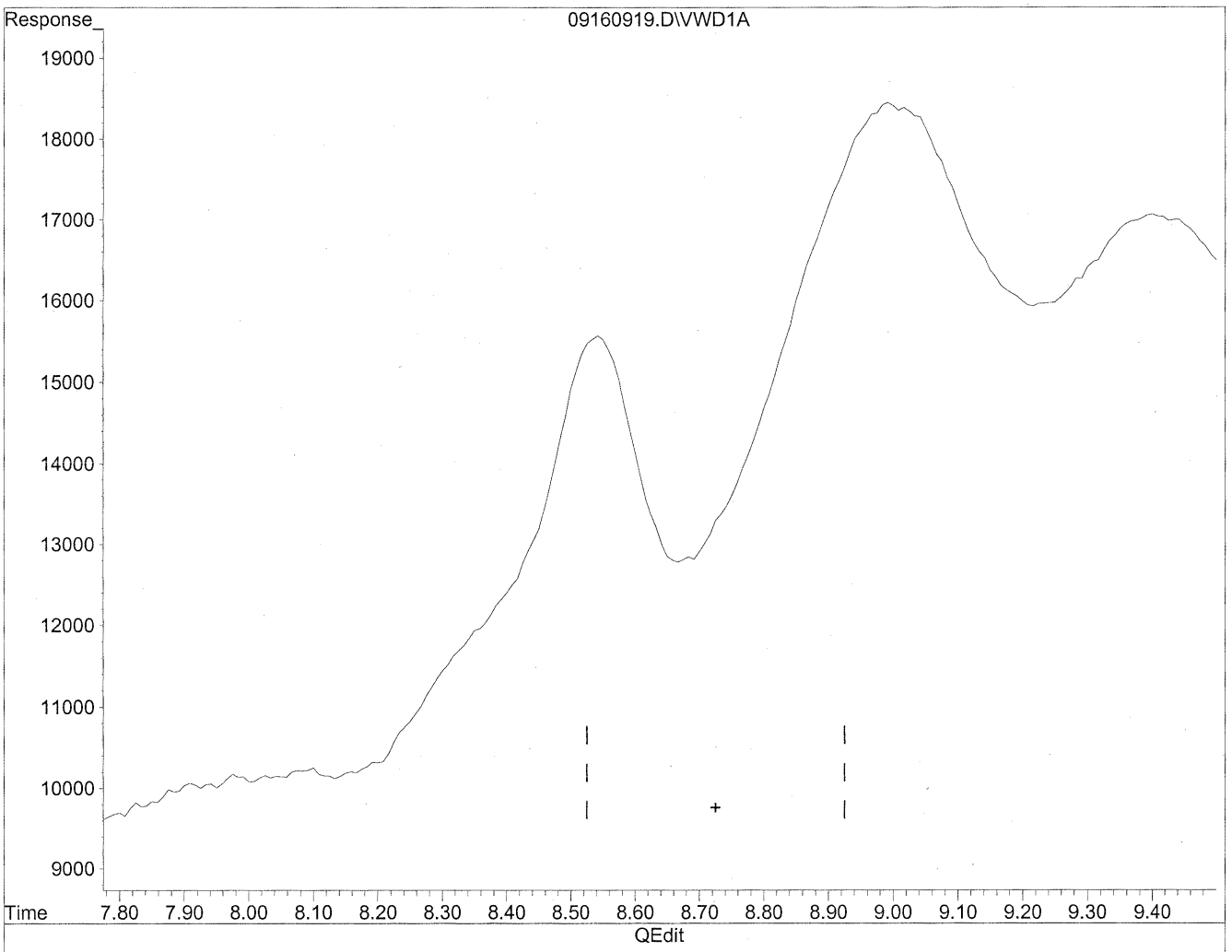
(+) = Expected Retention Time

09160919.D TO110909.M Mon Sep 21 16:11:21 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160919.D Vial: 105
Acq On : 16-Sep-2009, 14:26 Operator: MD
Sample : P0903146-003 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:10 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

0.00min 0.000ng/ml d

response 0

HC 9/22/09

9/22/09 MP

(+) = Expected Retention Time

09160919.D TO110909.M Mon Sep 21 16:11:28 2009

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **102822**
Client Project ID: **16512**

CAS Project ID: P0903146
CAS Sample ID: P0903146-004

Test Code: EPA Method TO-11A
Instrument ID: HP1050/LC2
Analyst: Madeleine Dangazyan
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 9/2/09
Date Received: 9/4/09
Date Analyzed: 9/16/09
Desorption Volume: 1.0 ml
Volume Sampled: 109.7 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	**Formaldehyde**	**3,200**	**29**	0.91	**24**	0.74	
75-07-0	**Acetaldehyde**	**1,900**	**17**	0.91	**9.4**	0.51	**BT**
123-38-6	**Propionaldehyde**	**210**	**1.9**	0.91	**0.79**	0.38	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.91	ND	0.32	
123-72-8	**Butyraldehyde**	**310**	**2.8**	0.91	**0.96**	0.31	
100-52-7	**Benzaldehyde**	**440**	**4.0**	0.91	**0.93**	0.21	
590-86-3	**Isovaleraldehyde**	**110**	**1.0**	0.91	**0.29**	0.26	
110-62-3	**Valeraldehyde**	**930**	**8.5**	0.91	**2.4**	0.26	
529-20-4	o-Tolualdehyde	< 100	ND	0.91	ND	0.19	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.8	ND	0.37	
66-25-1	**n-Hexaldehyde**	**4,300**	**39**	0.91	**9.5**	0.22	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.91	ND	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
BT = Results indicated possible breakthrough; back section > 10% front section.

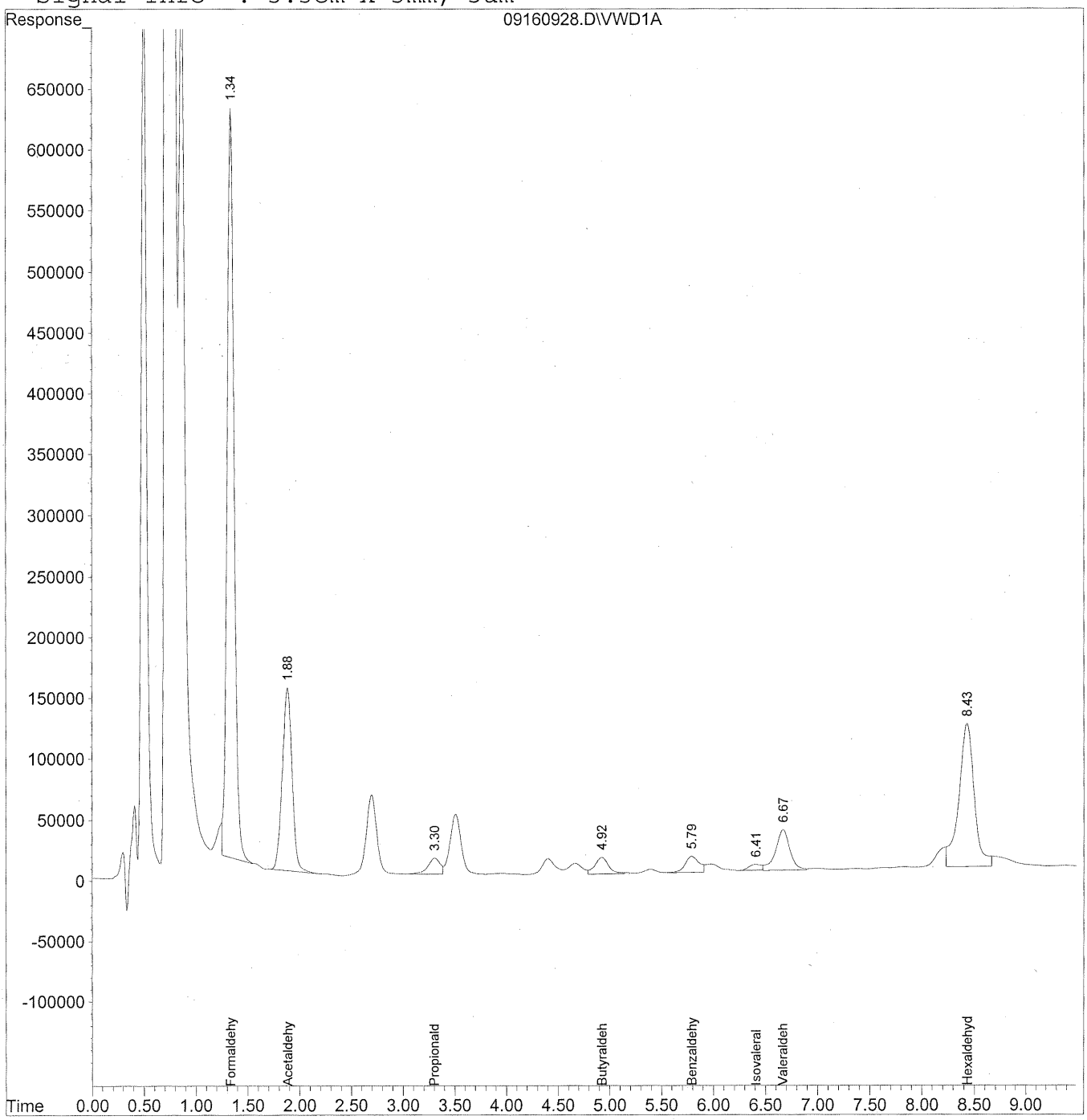
Verified By: Re Date: 9/25/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160928.D Vial: 112
Acq On : 16-Sep-2009, 16:13 Operator: MD
Sample : P0903146-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:25 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



84

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160928.D Vial: 112
Acq On : 16-Sep-2009, 16:13 Operator: MD
Sample : P0903146-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:25 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

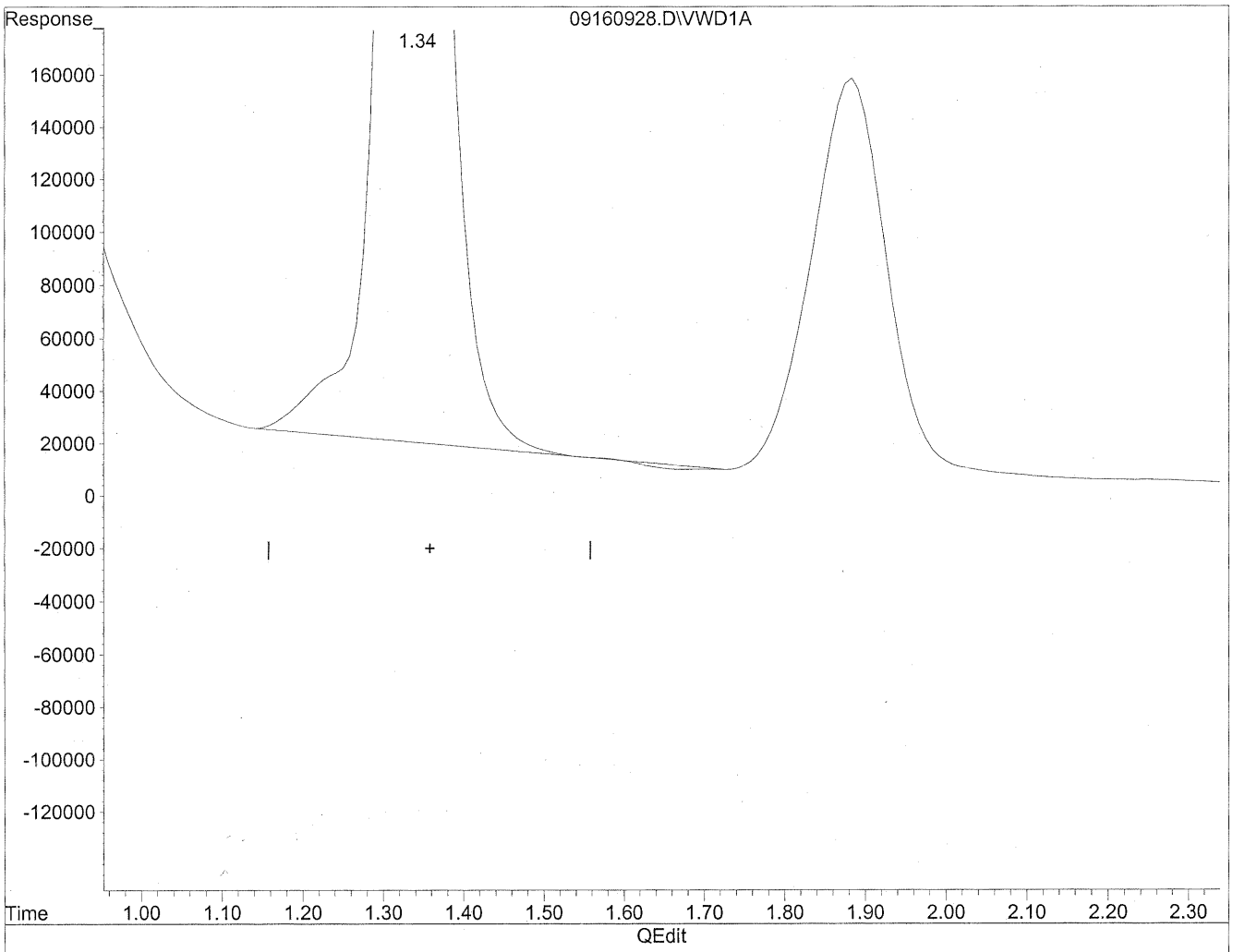
Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	28521374	3191.942	ng/mlm
2)	Acetaldehyde	1.88	9814586	1509.751	ng/mlm
3)	Propionaldehyde	3.30	1074962	206.810	ng/mlm
4)	Crotonaldehyde	0.00	0	N.D.	ng/mld
5)	Butyraldehyde	4.92	1262619	311.545	ng/mlm
6)	Benzaldehyde	5.79	1212120	444.264	ng/mlm
7)	Isovaleraldehyde	6.41	385464	111.995	ng/ml
8)	Valeraldehyde	6.67	3178440	934.934	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	8.43	11821903	3992.909	ng/mlm
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160928.D Vial: 112
Acq On : 16-Sep-2009, 16:13 Operator: MD
Sample : P0903146-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(1) Formaldehyde

1.34min 3259.872ng/ml

response 29128360

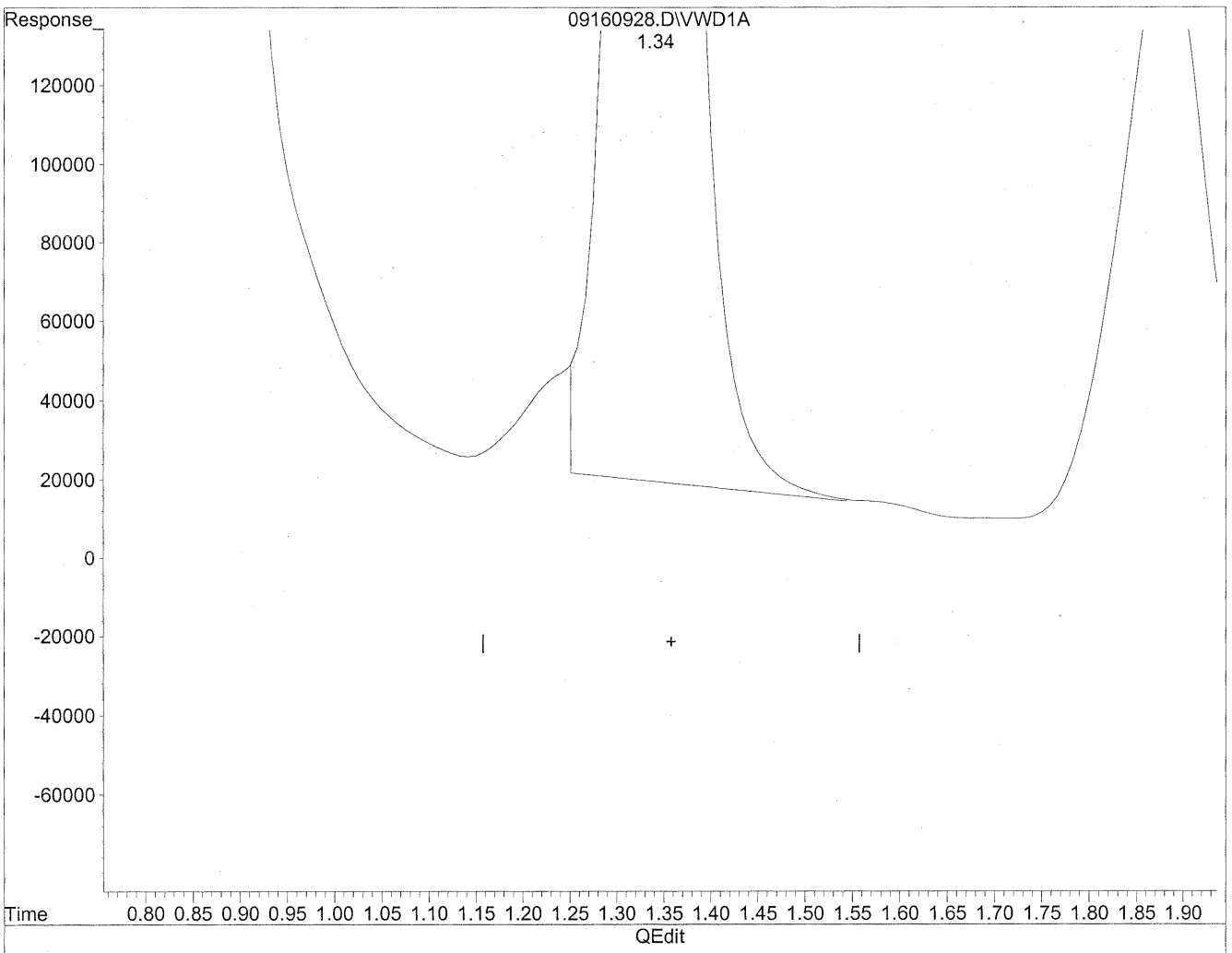
(+) = Expected Retention Time

09160928.D TO110909.M Mon Sep 21 16:22:24 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160928.D Vial: 112
Acq On : 16-Sep-2009, 16:13 Operator: MD
Sample : P0903146-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(1) Formaldehyde

1.34min 3191.942ng/ml m

response 28521374

9/22/09

9/22/09

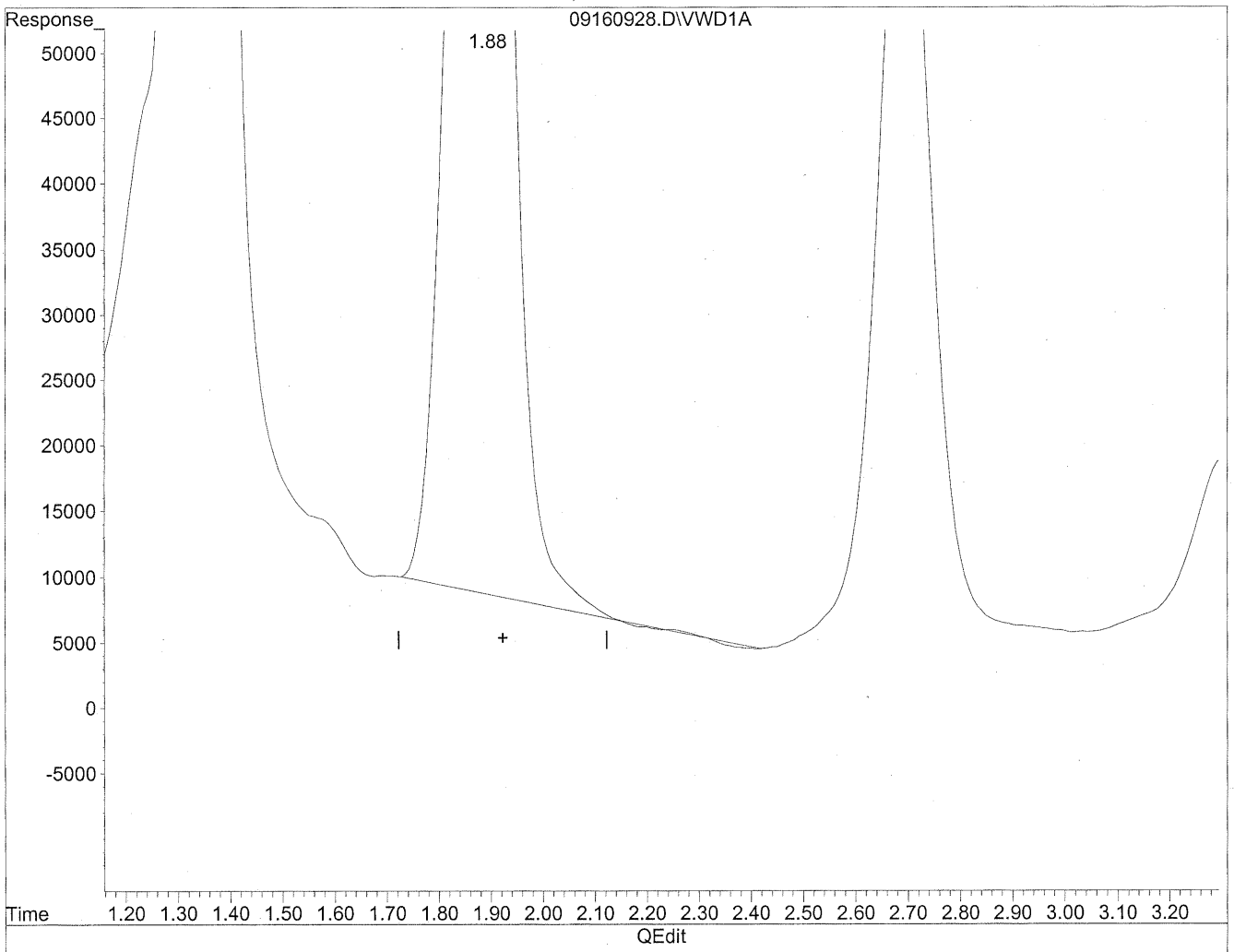
(+) = Expected Retention Time

09160928.D TO110909.M Mon Sep 21 16:22:40 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160928.D Vial: 112
Acq On : 16-Sep-2009, 16:13 Operator: MD
Sample : P0903146-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.89min 1507.967ng/ml

response 9802986

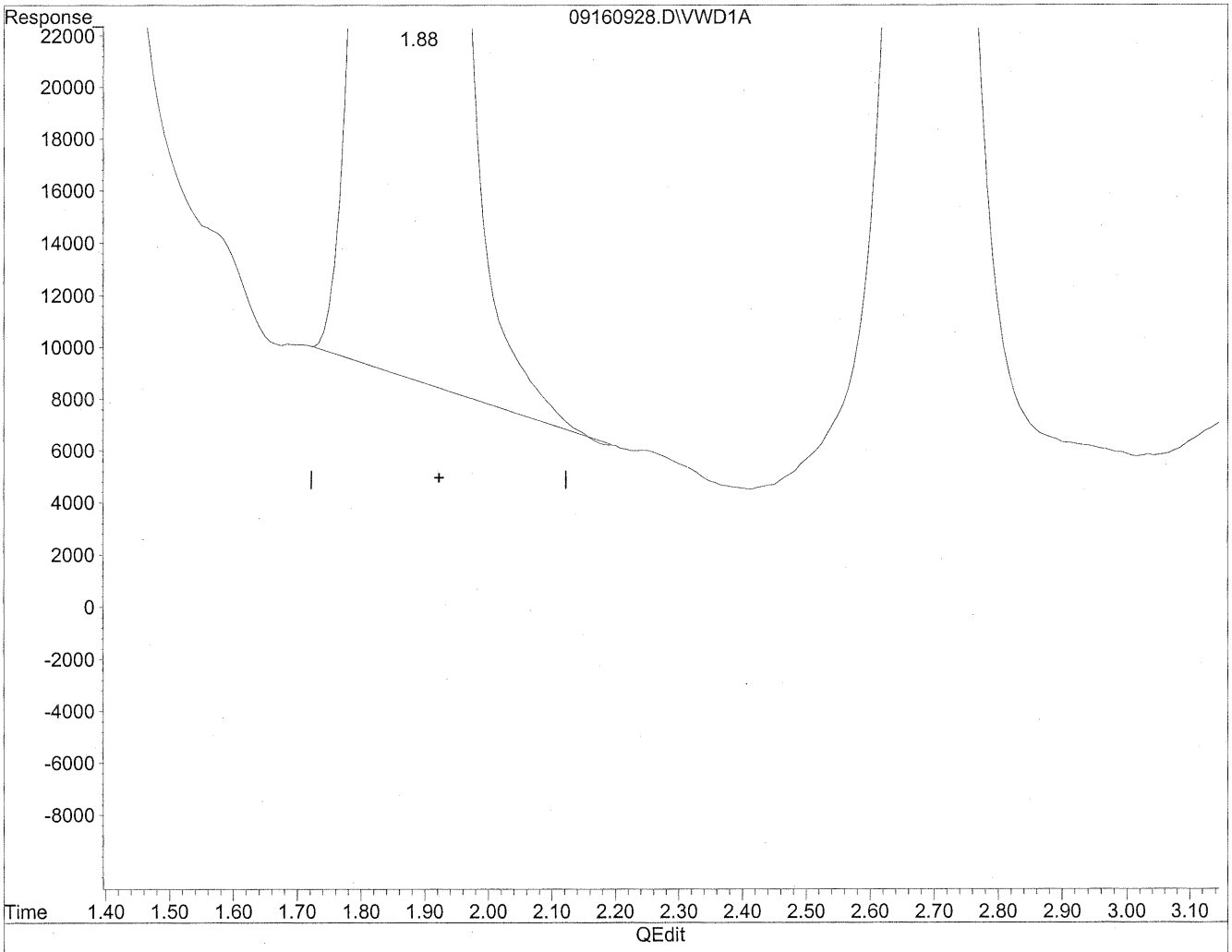
(+) = Expected Retention Time

09160928.D TO110909.M Mon Sep 21 16:22:47 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160928.D Vial: 112
Acq On : 16-Sep-2009, 16:13 Operator: MD
Sample : P0903146-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.88min 1509.751ng/ml m

response 9814586

MN 9/22/09 IC

HC 9/22/09

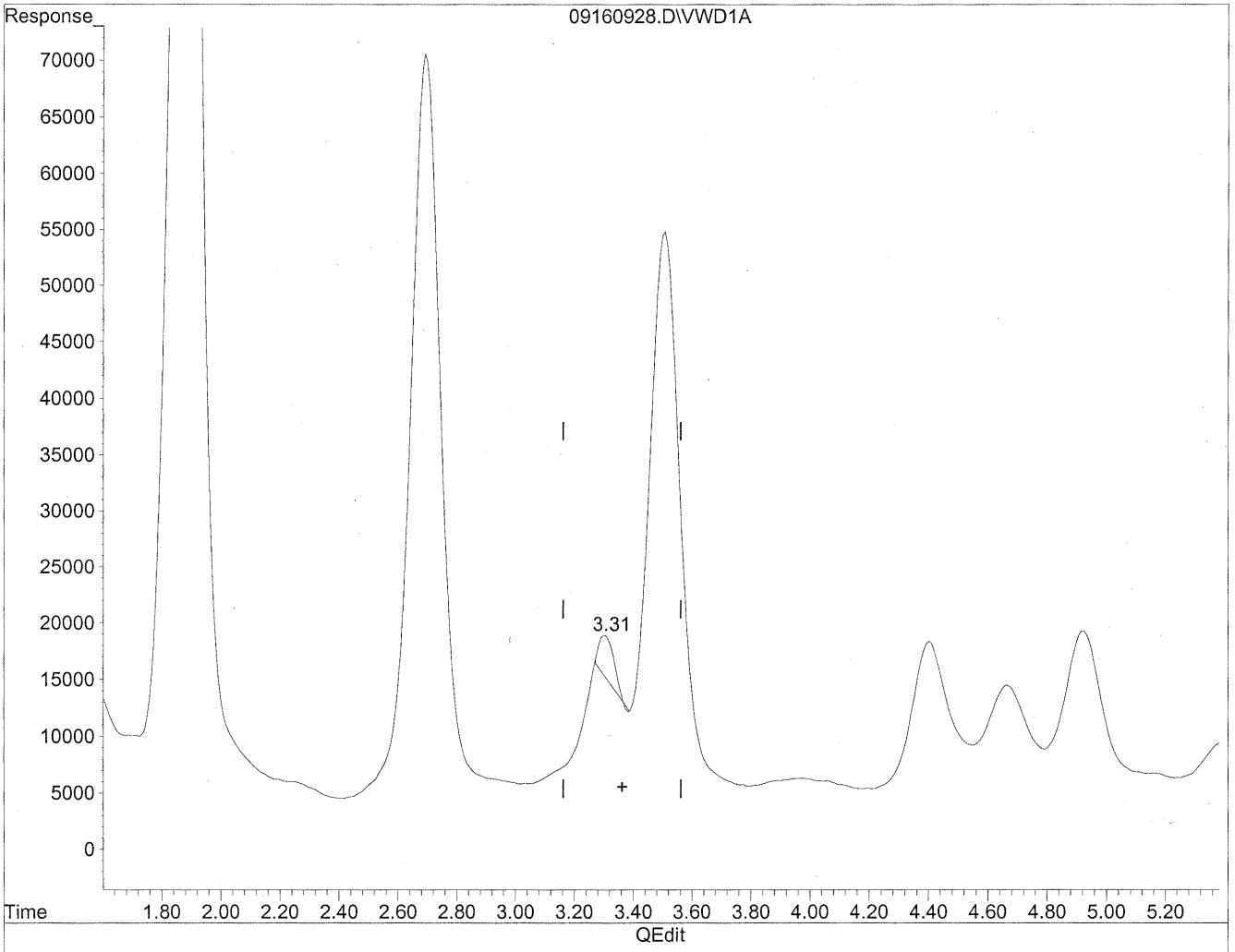
(+) = Expected Retention Time

09160928.D TO110909.M Mon Sep 21 16:22:53 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160928.D Vial: 112
Acq On : 16-Sep-2009, 16:13 Operator: MD
Sample : P0903146-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde

3.31min 26.440ng/ml

response 137430

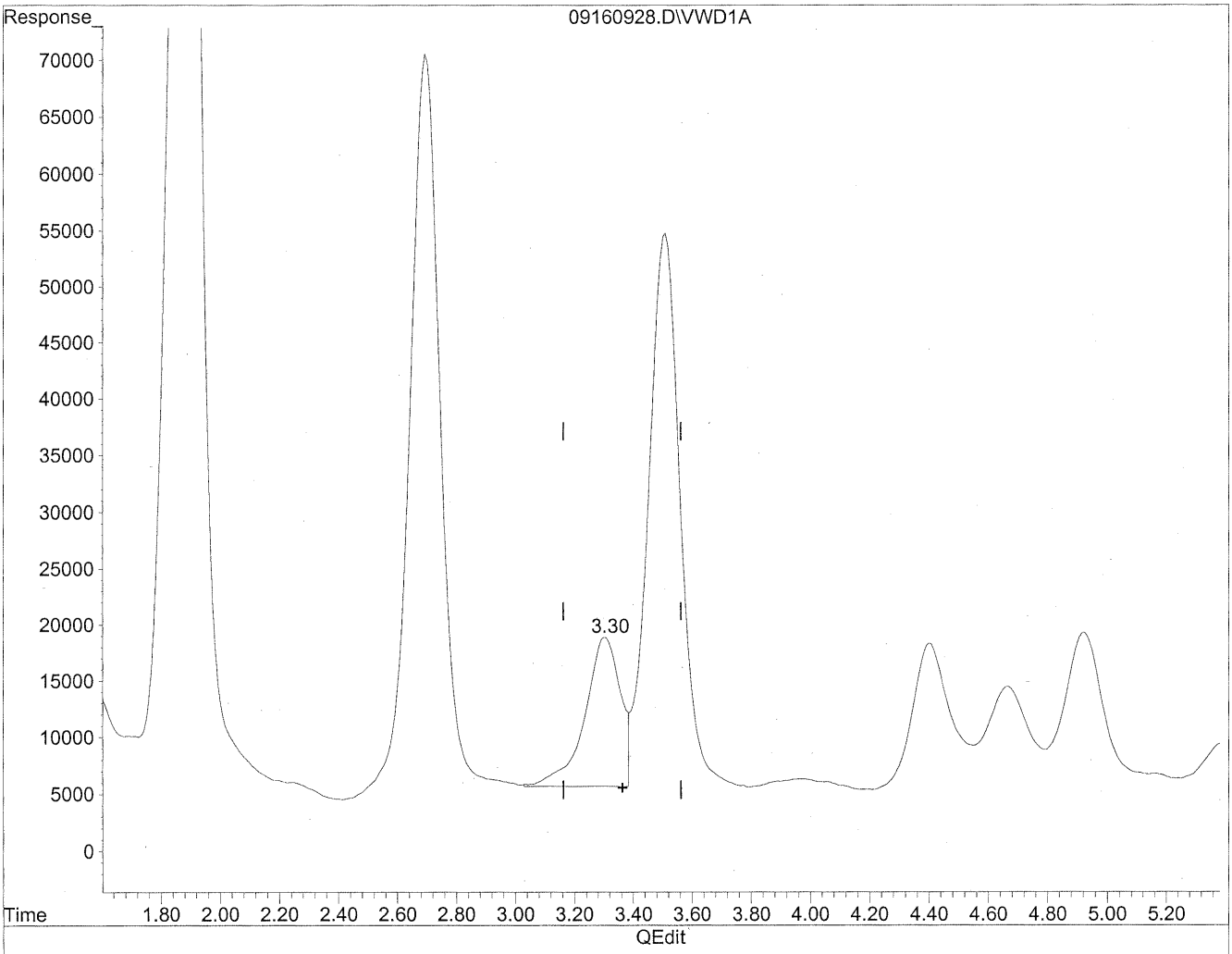
(+) = Expected Retention Time

09160928.D TO110909.M Mon Sep 21 16:23:01 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160928.D Vial: 112
Acq On : 16-Sep-2009, 16:13 Operator: MD
Sample : P0903146-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde

3.30min 206.810ng/ml m

response 1074962

MD 9/22/09 RC

HC 9/22/09

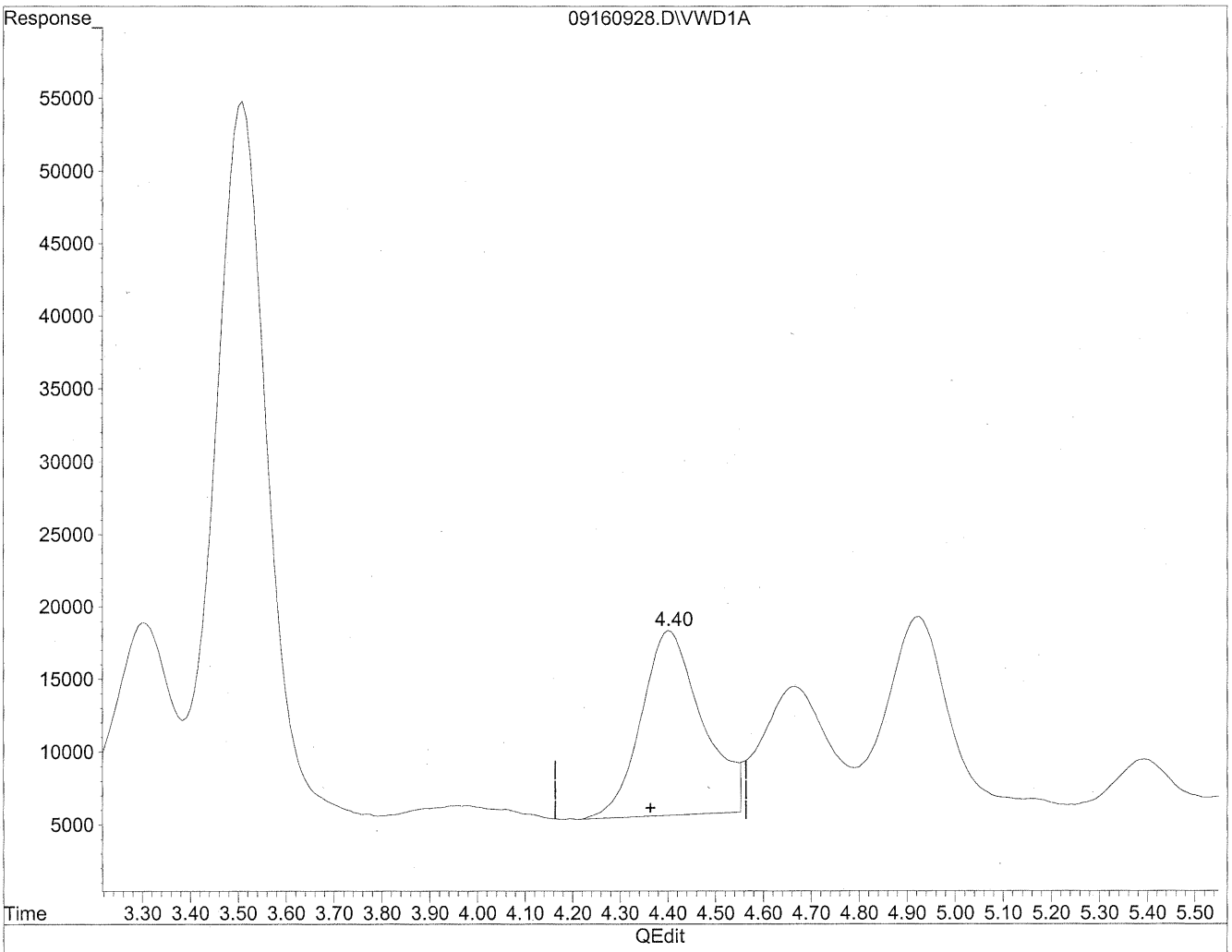
(+) = Expected Retention Time

09160928.D TO110909.M Mon Sep 21 16:23:17 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160928.D Vial: 112
Acq On : 16-Sep-2009, 16:13 Operator: MD
Sample : P0903146-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(4) Crotonaldehyde

4.40min 276.599ng/ml

response 1122872

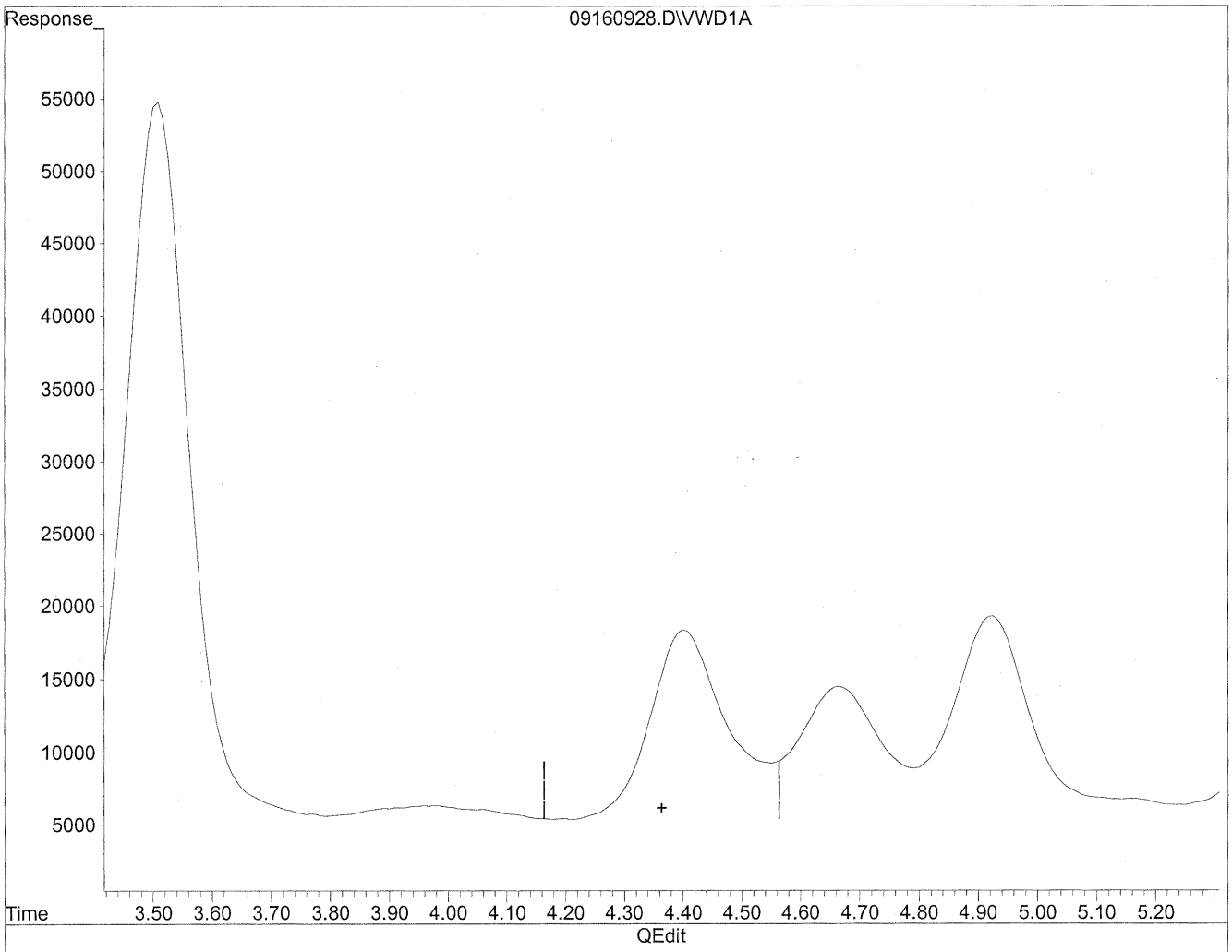
(+) = Expected Retention Time

09160928.D TO110909.M Mon Sep 21 16:23:20 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160928.D Vial: 112
Acq On : 16-Sep-2009, 16:13 Operator: MD
Sample : P0903146-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(4) Crotonaldehyde

0.00min 0.000ng/ml d

response 0

MN 9/22/09

MP

HC 9/22/09

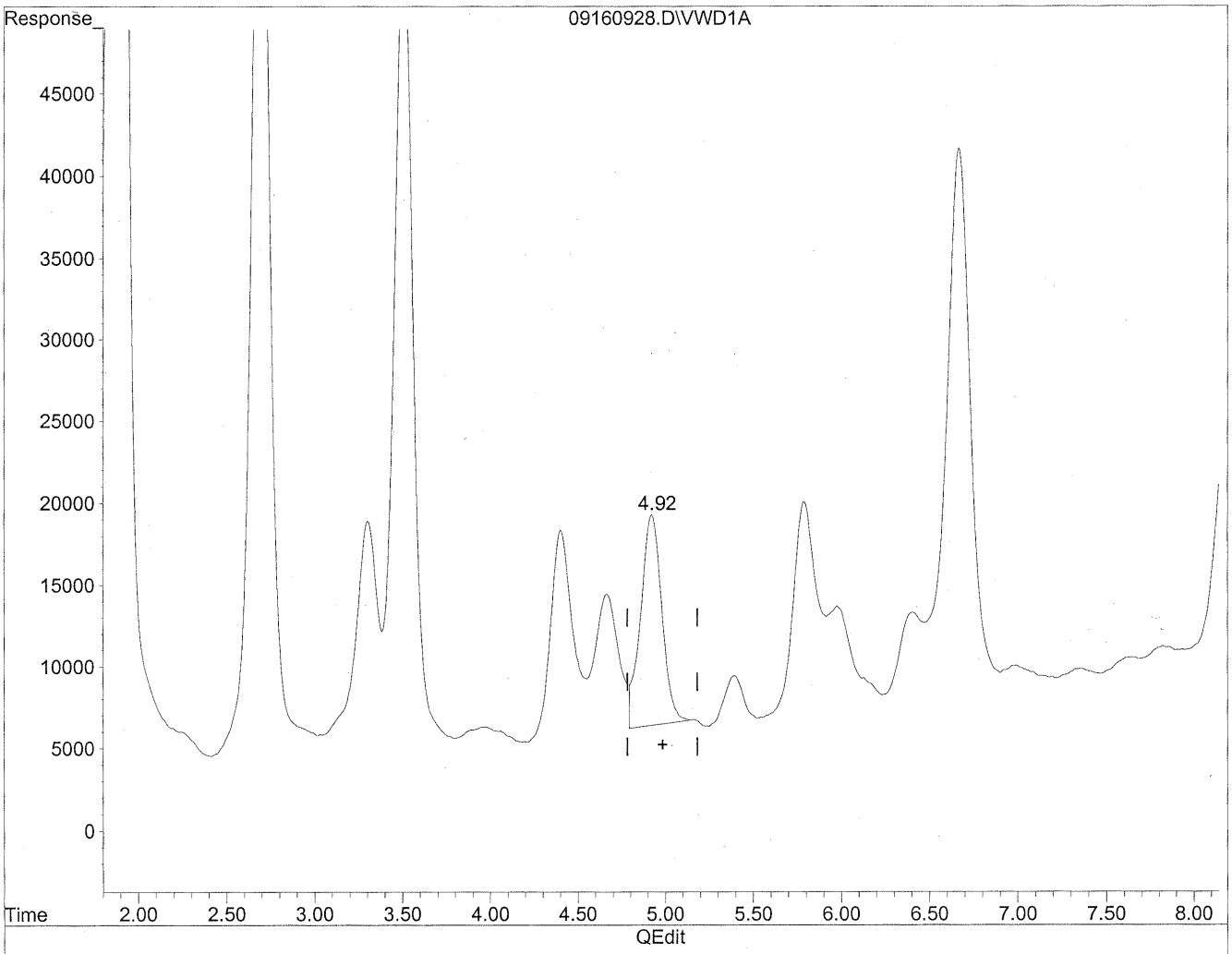
(+) = Expected Retention Time

09160928.D TO110909.M Mon Sep 21 16:23:24 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160928.D Vial: 112
Acq On : 16-Sep-2009, 16:13 Operator: MD
Sample : P0903146-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(5) Butyraldehyde

4.93min 270.389ng/ml

response 1095825

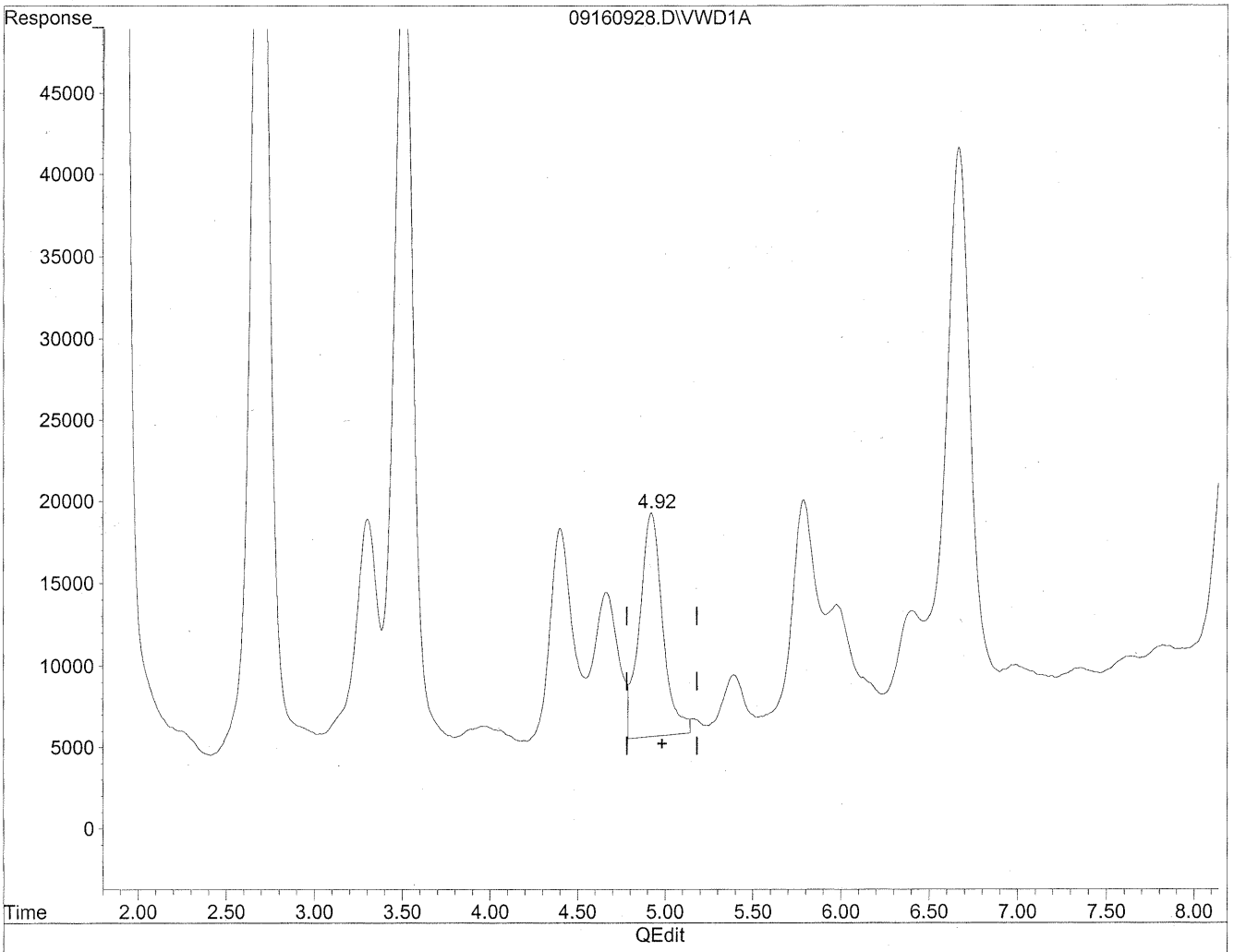
(+) = Expected Retention Time

09160928.D TO110909.M Mon Sep 21 16:23:33 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160928.D Vial: 112
Acq On : 16-Sep-2009, 16:13 Operator: MD
Sample : P0903146-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(5) Butyraldehyde

4.92min 311.545ng/ml m

response 1262619

MD 9/22/09

HC 9/22/09

PC

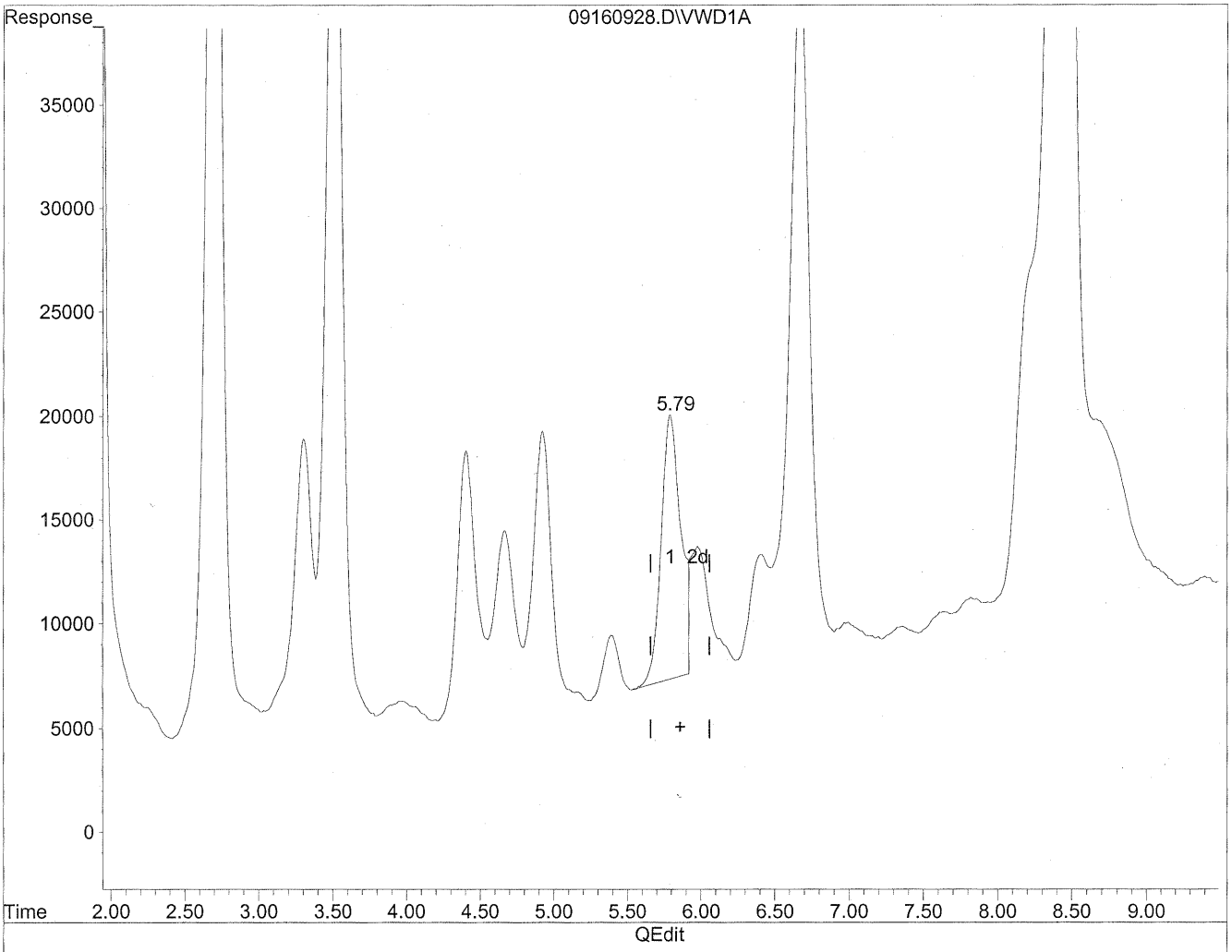
(+) = Expected Retention Time

09160928.D TO110909.M Mon Sep 21 16:23:50 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160928.D Vial: 112
Acq On : 16-Sep-2009, 16:13 Operator: MD
Sample : P0903146-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

5.79min 427.299ng/ml

response 1165833

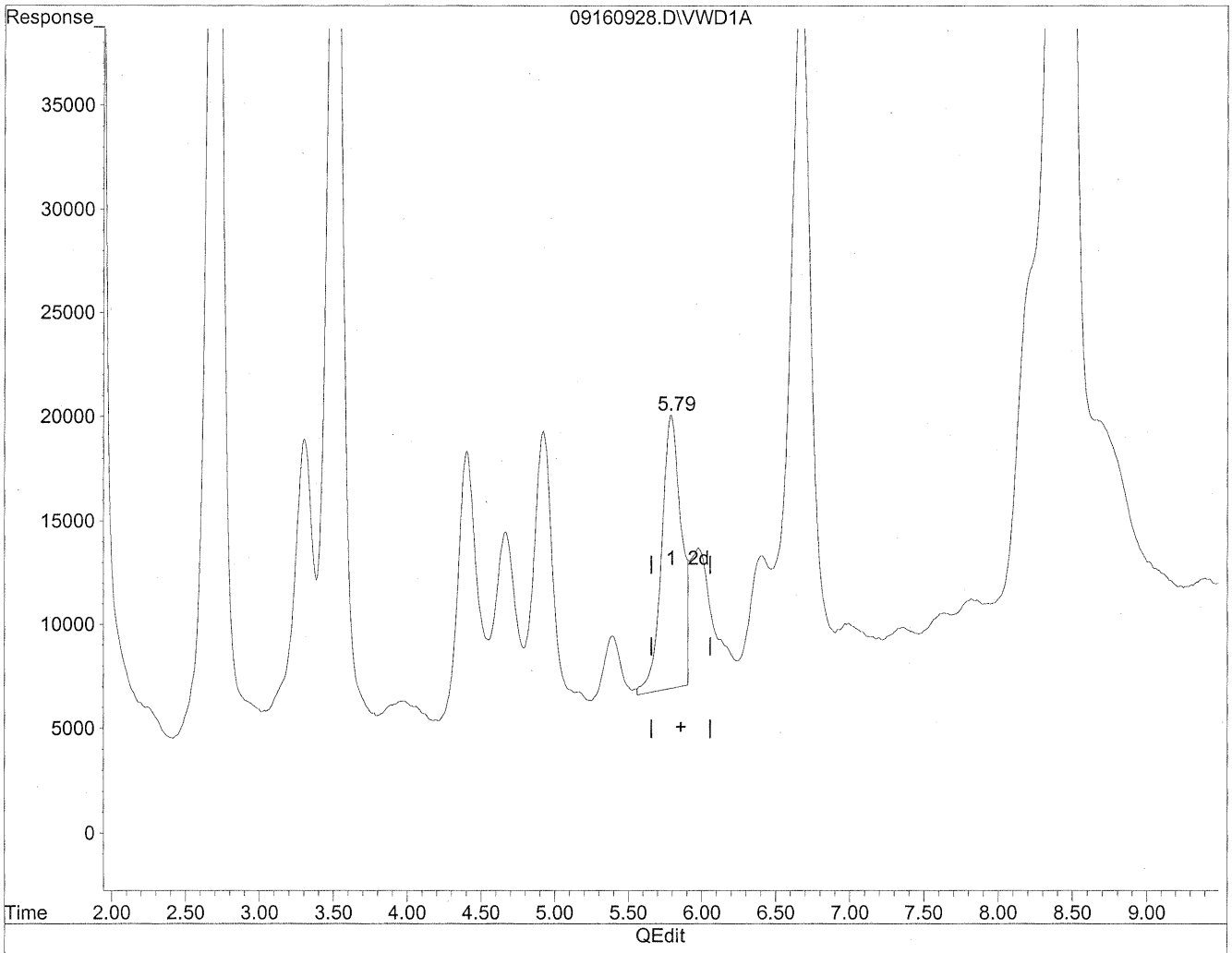
(+) = Expected Retention Time

09160928.D TO110909.M Mon Sep 21 16:24:02 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160928.D Vial: 112
Acq On : 16-Sep-2009, 16:13 Operator: MD
Sample : P0903146-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

5.79min 444.264ng/ml m

response 1212120

mk 9/22/09

9/22/09 pc

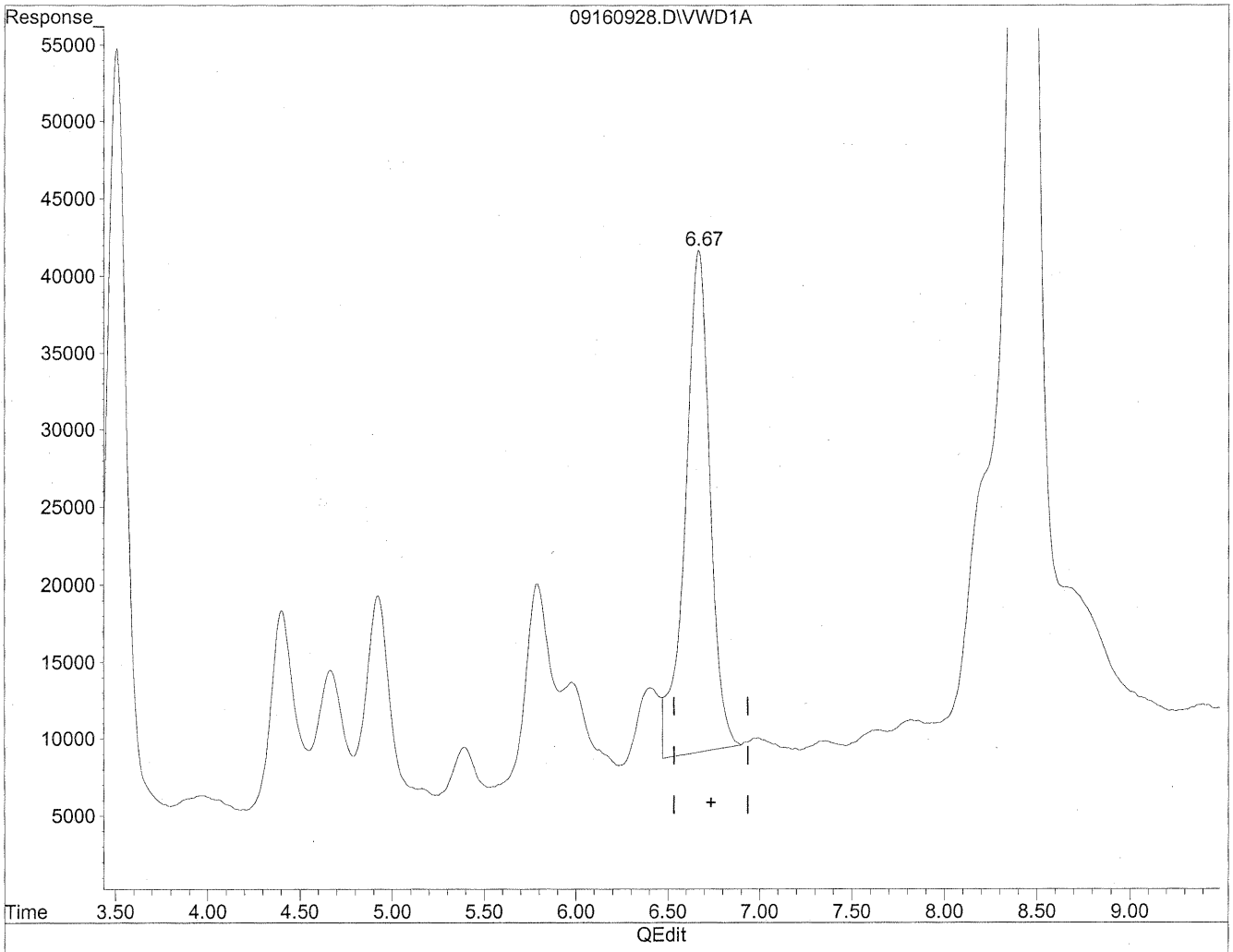
(+) = Expected Retention Time

09160928.D TO110909.M Mon Sep 21 16:24:15 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160928.D Vial: 112
Acq On : 16-Sep-2009, 16:13 Operator: MD
Sample : P0903146-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(8) Valeraldehyde

6.67min 900.852ng/ml

response 3062572

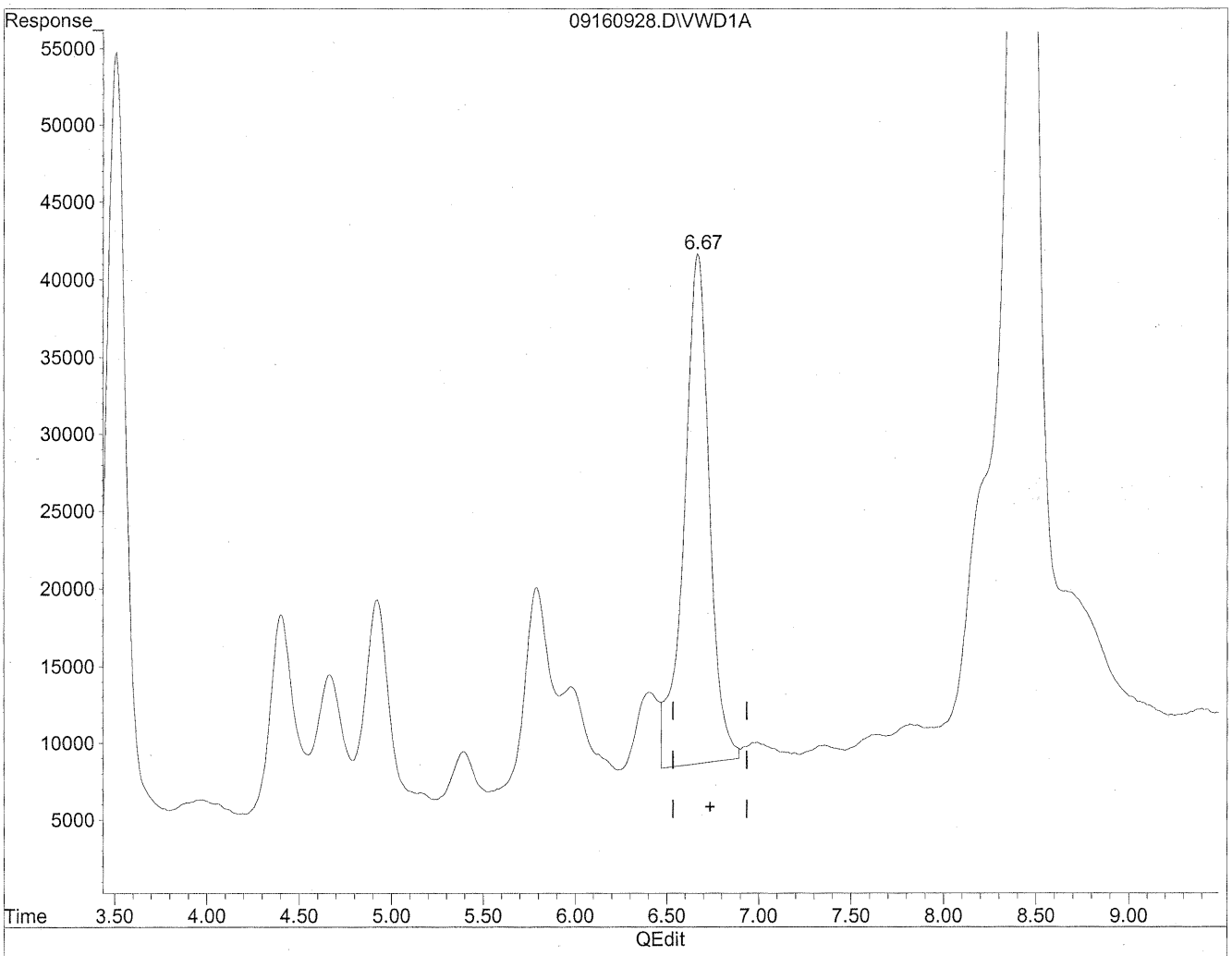
(+) = Expected Retention Time

09160928.D TO110909.M Mon Sep 21 16:24:29 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160928.D Vial: 112
Acq On : 16-Sep-2009, 16:13 Operator: MD
Sample : P0903146-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(8) Valeraldehyde

6.67min 934.934ng/ml m

response 3178440

TC 9/22/09

9/22/09 BC

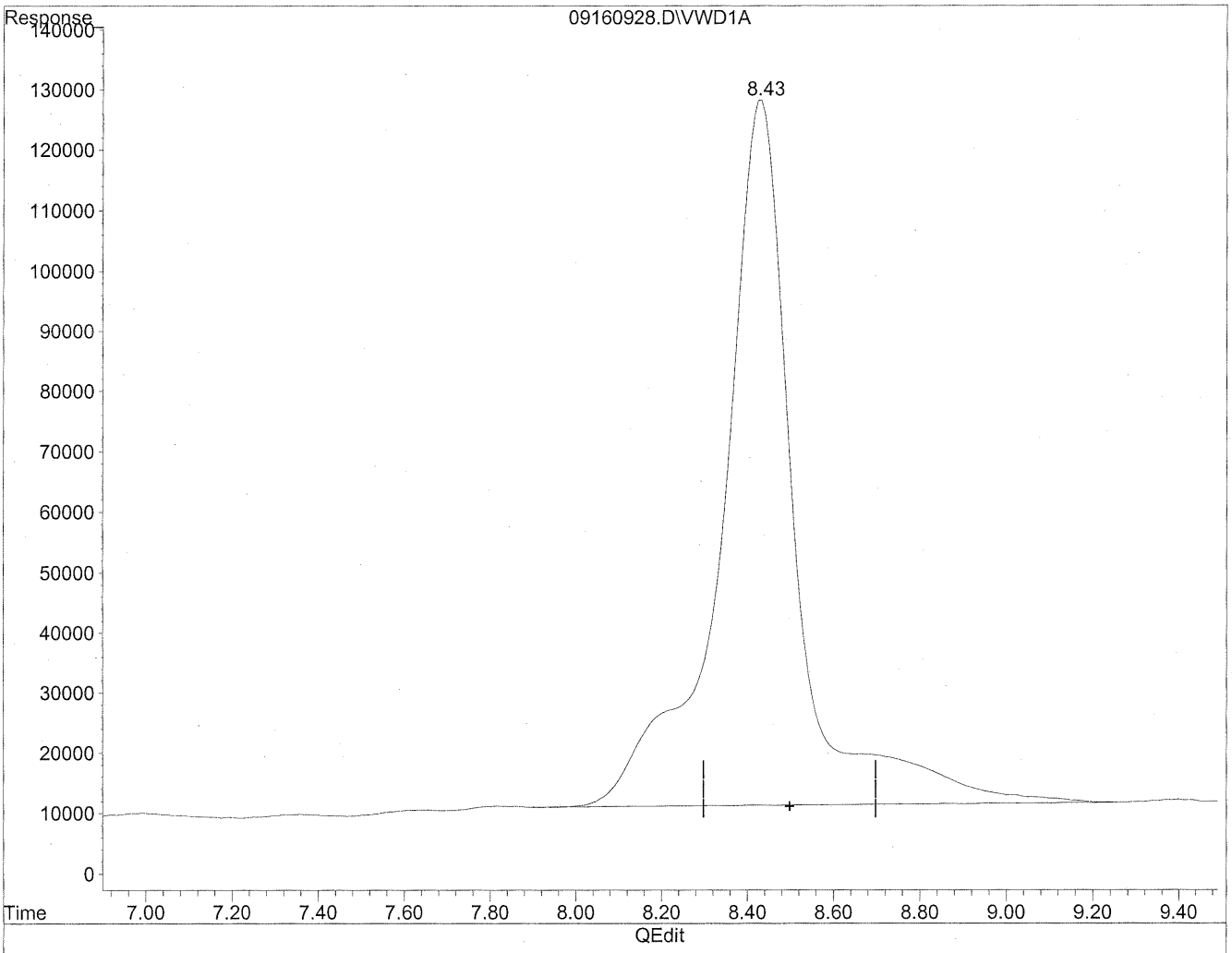
(+) = Expected Retention Time

09160928.D TO110909.M Mon Sep 21 16:24:38 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160928.D Vial: 112
Acq On : 16-Sep-2009, 16:13 Operator: MD
Sample : P0903146-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.43min 4715.016ng/ml

response 13959864

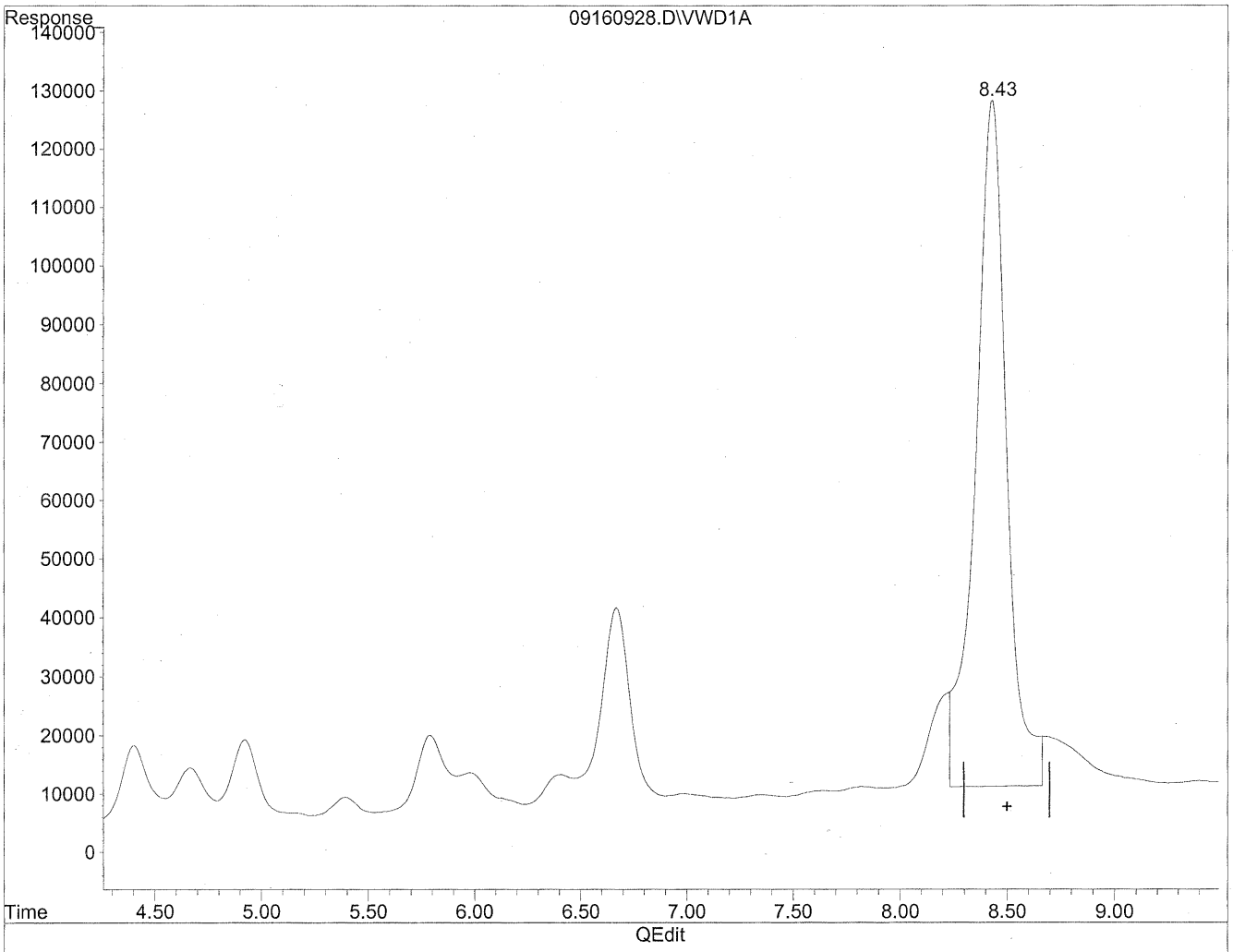
(+) = Expected Retention Time

09160928.D TO110909.M Mon Sep 21 16:24:43 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160928.D Vial: 112
Acq On : 16-Sep-2009, 16:13 Operator: MD
Sample : P0903146-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.43min 3992.909ng/ml m

response 11821903

EMD 9/22/09

HC 9/22/09

SH

(+) = Expected Retention Time

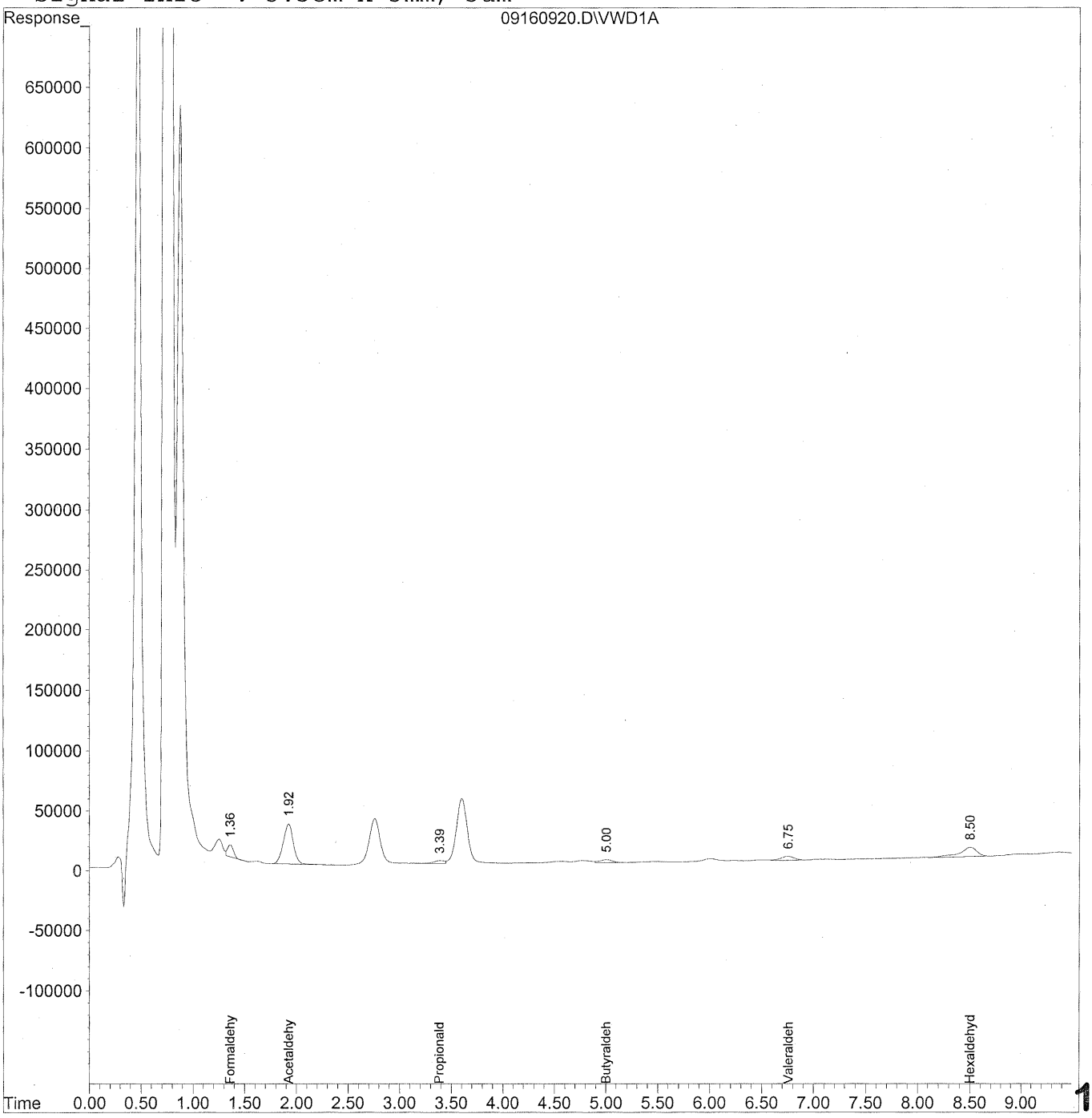
09160928.D TO110909.M Mon Sep 21 16:25:10 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160920.D Vial: 106
Acq On : 16-Sep-2009, 14:38 Operator: MD
Sample : P0903146-004 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:12 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



102

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160920.D Vial: 106
Acq On : 16-Sep-2009, 14:38 Operator: MD
Sample : P0903146-004 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:12 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

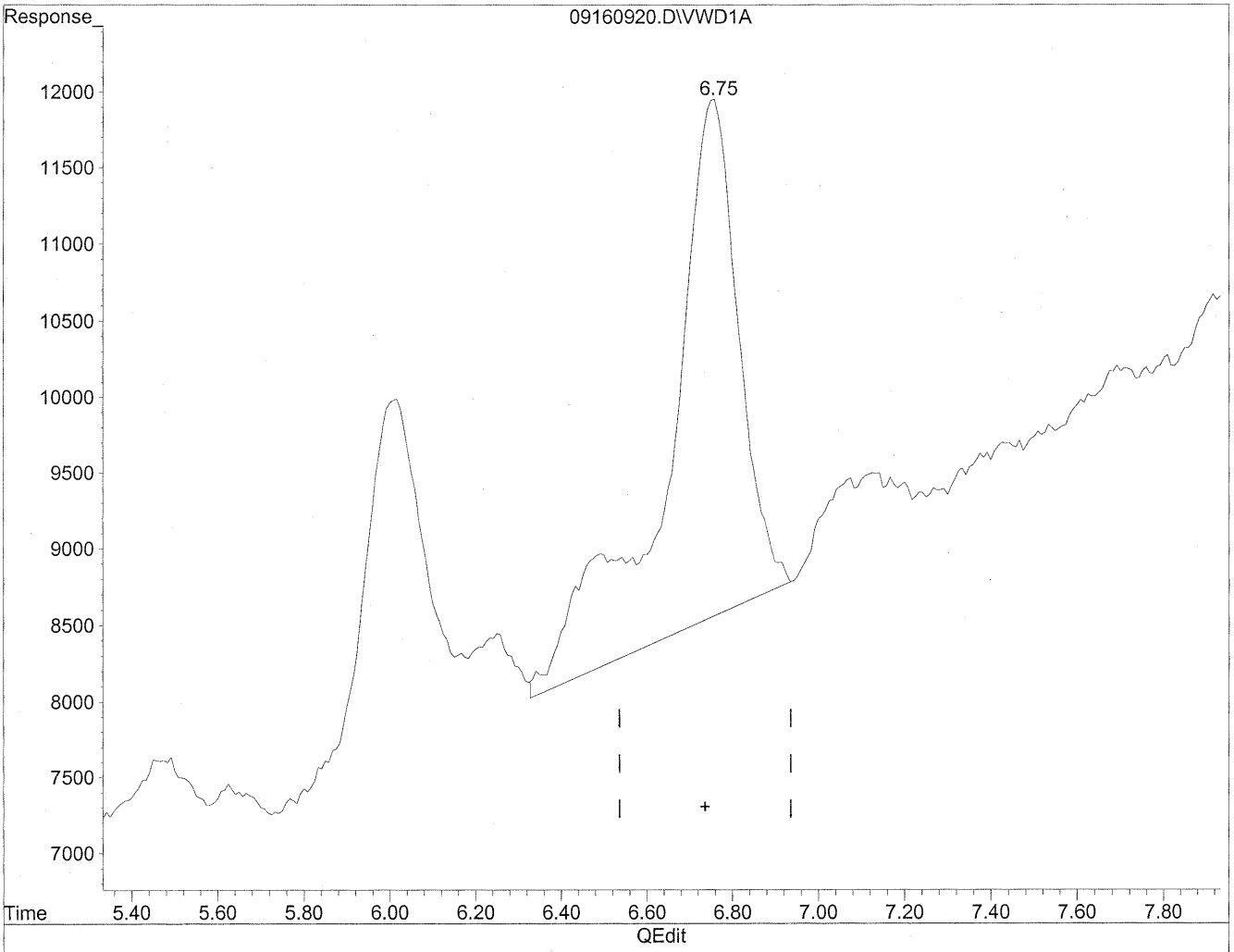
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.36	408433	45.709	ng/ml
2)	Acetaldehyde	1.93	2288069	351.967	ng/ml
3)	Propionaldehyde	3.39	163357	31.428	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	5.01	212572	52.451	ng/ml
6)	Benzaldehyde	0.00	0	N.D.	ng/ml
7)	Isovaleraldehyde	0.00	0	N.D.	ng/ml
8)	Valeraldehyde	6.75	318597	93.715	ng/mlm
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	8.50	860520	290.645	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.
09160920.D TO110909.M Tue Sep 22 08:14:28 2009 Page 1

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160920.D Vial: 106
Acq On : 16-Sep-2009, 14:38 Operator: MD
Sample : P0903146-004 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:11 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(8) Valeraldehyde

6.76min 114.844ng/ml

response 390428

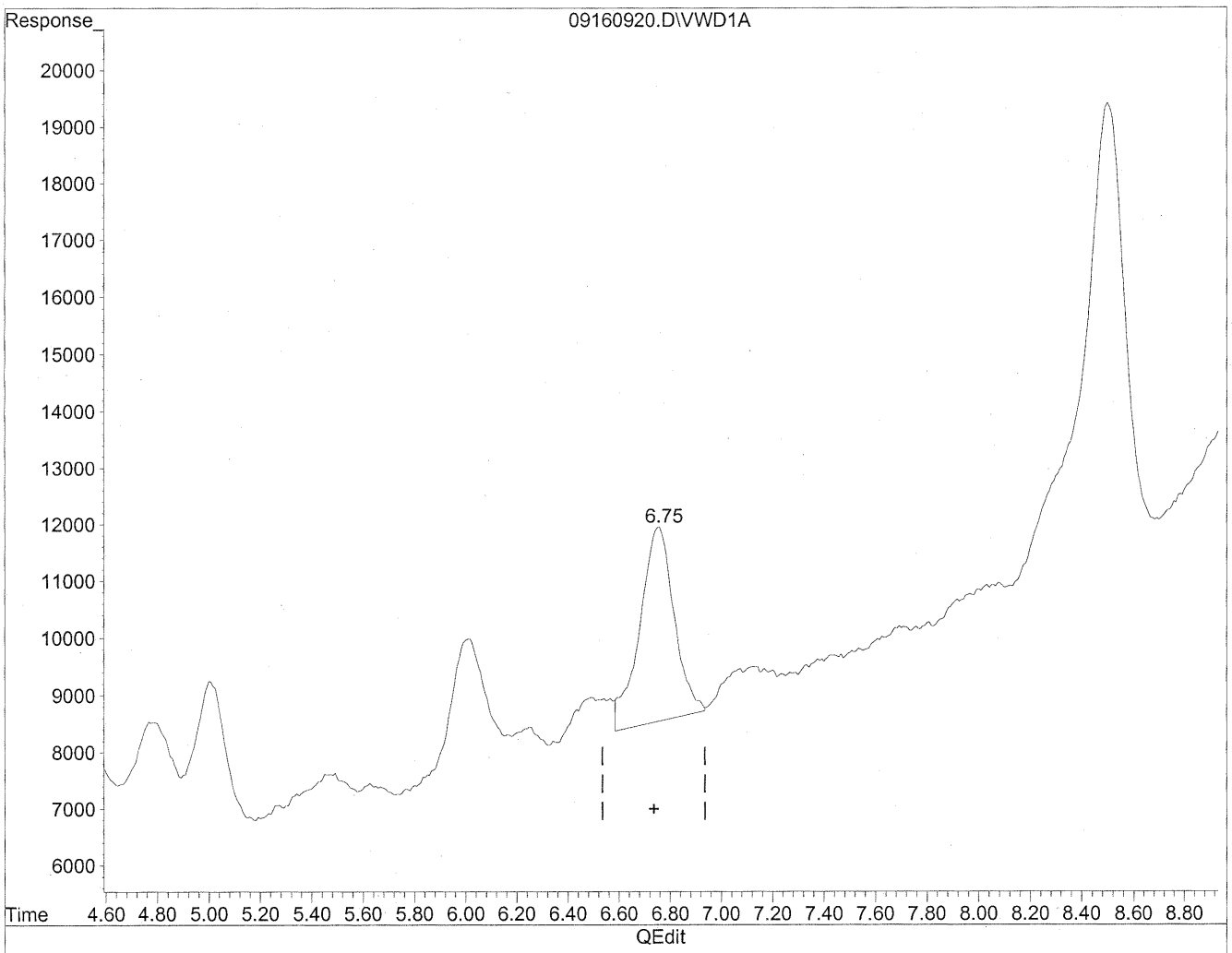
(+) = Expected Retention Time

09160920.D TO110909.M Mon Sep 21 16:12:04 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160920.D Vial: 106
Acq On : 16-Sep-2009, 14:38 Operator: MD
Sample : P0903146-004 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:11 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(8) Valeraldehyde

6.75min 93.715ng/ml m

response 318597

HC 9/22/09

9/22/09

(+) = Expected Retention Time

09160920.D TO110909.M Mon Sep 21 16:12:14 2009

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **102823**
Client Project ID: **16512**

CAS Project ID: P0903146
CAS Sample ID: P0903146-005

Test Code: EPA Method TO-11A
Instrument ID: HP1050/LC2
Analyst: Madeleine Dangazyan
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 9/2/09
Date Received: 9/4/09
Date Analyzed: 9/16/09
Desorption Volume: 1.0 ml
Volume Sampled: 94.3 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 100	ND	1.1	ND	0.86	
75-07-0	Acetaldehyde	< 100	ND	1.1	ND	0.59	
123-38-6	Propionaldehyde	< 100	ND	1.1	ND	0.45	
4170-30-3	Crotonaldehyde, Total	< 100	ND	1.1	ND	0.37	
123-72-8	Butyraldehyde	< 100	ND	1.1	ND	0.36	
100-52-7	Benzaldehyde	< 100	ND	1.1	ND	0.24	
590-86-3	Isovaleraldehyde	< 100	ND	1.1	ND	0.30	
110-62-3	Valeraldehyde	< 100	ND	1.1	ND	0.30	
529-20-4	o-Tolualdehyde	< 100	ND	1.1	ND	0.22	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	2.1	ND	0.43	
66-25-1	n-Hexaldehyde	< 100	ND	1.1	ND	0.26	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	1.1	ND	0.19	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.

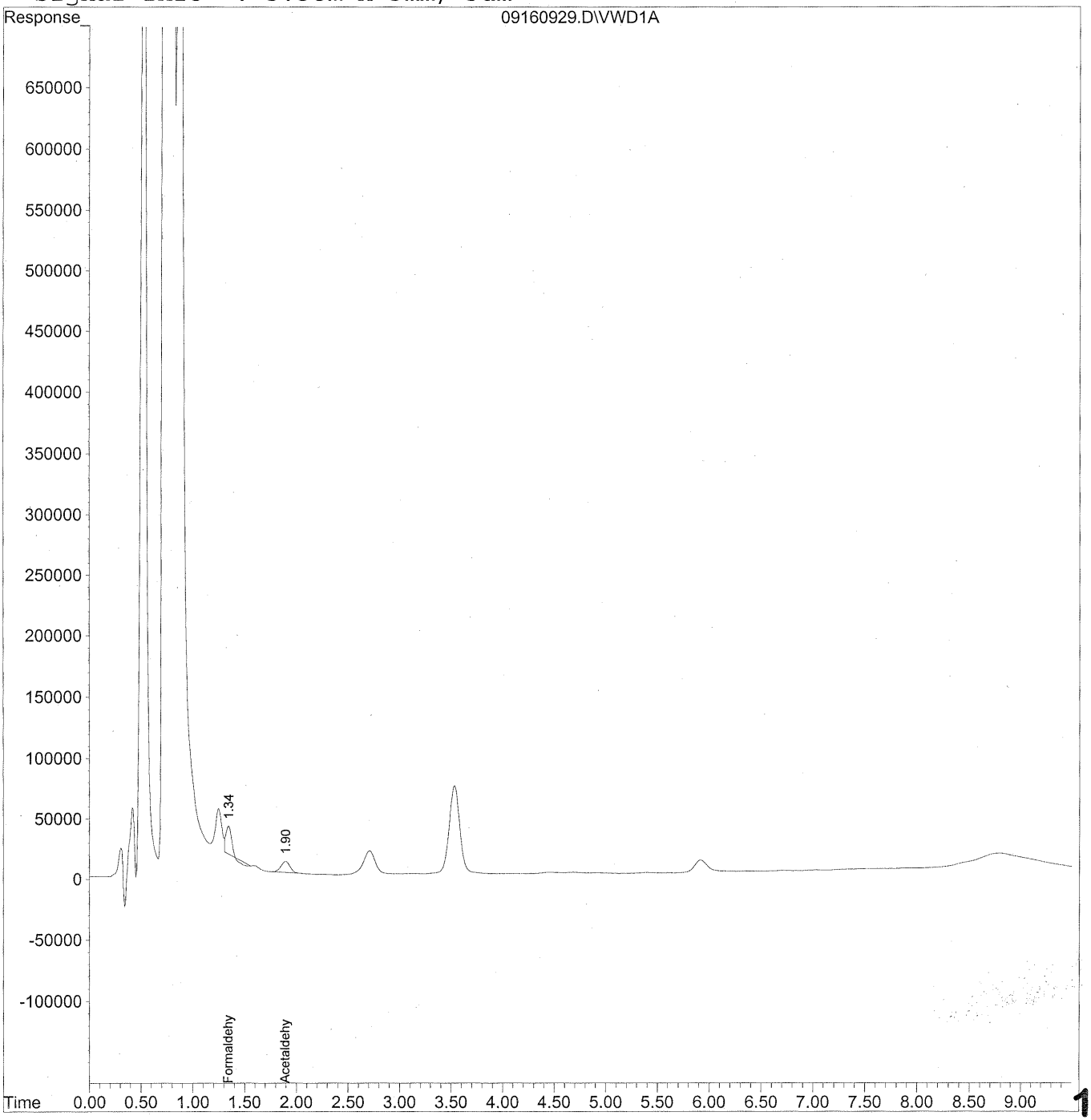
Verified By: Re Date: 9/23/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160929.D Vial: 113
Acq On : 16-Sep-2009, 16:25 Operator: MD
Sample : P0903146-005 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:26 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160929.D Vial: 113
Acq On : 16-Sep-2009, 16:25 Operator: MD
Sample : P0903146-005 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:26 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

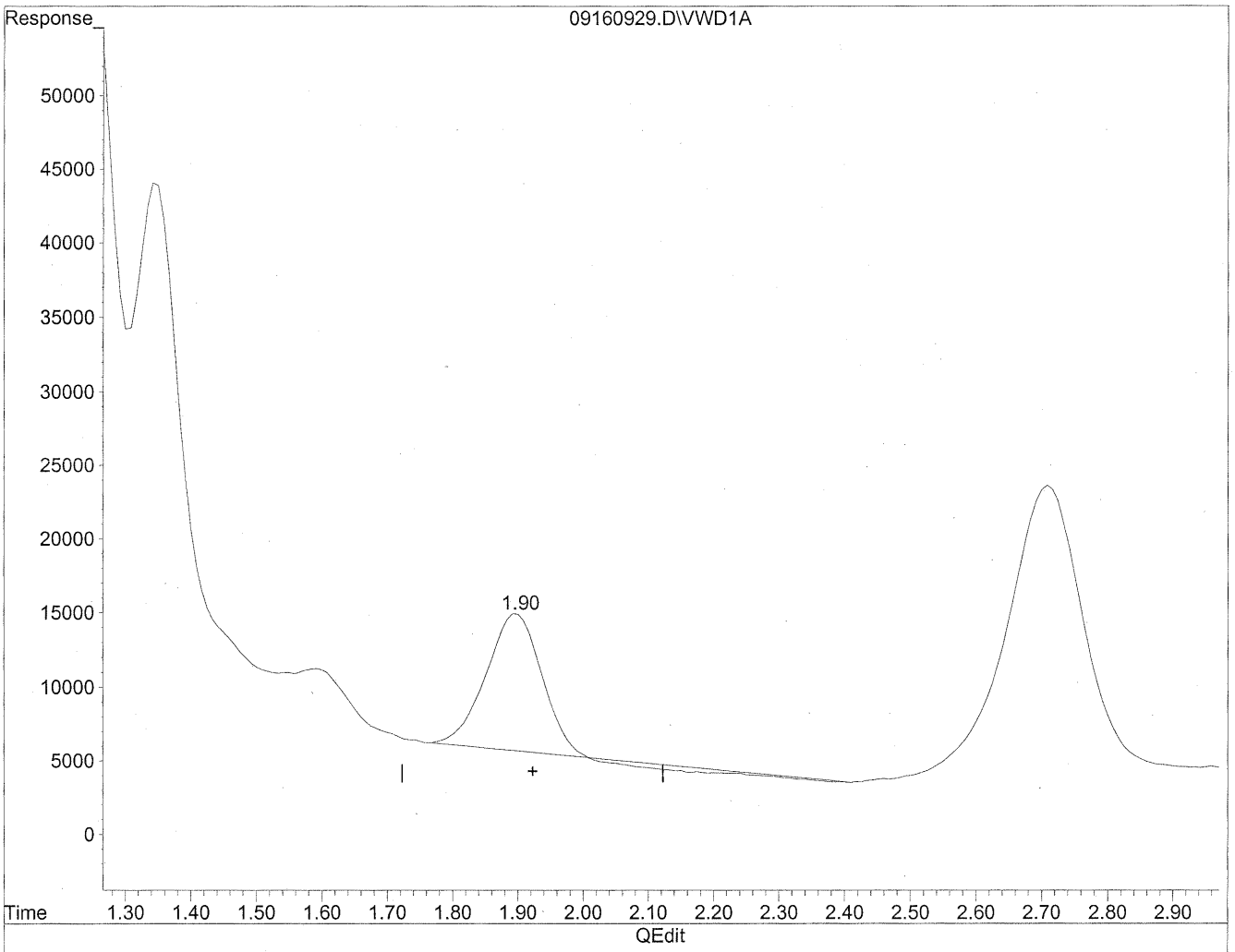
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.35	747790	83.688	ng/ml
2)	Acetaldehyde	1.90	565604	87.005	ng/mlm
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	0.00	0	N.D.	ng/mld
7)	Isovaleraldehyde	0.00	0	N.D.	ng/ml
8)	Valeraldehyde	0.00	0	N.D.	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	0.00	0	N.D.	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/mld

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

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160929.D Vial: 113
Acq On : 16-Sep-2009, 16:25 Operator: MD
Sample : P0903146-005 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.90min 78.754ng/ml

response 511962

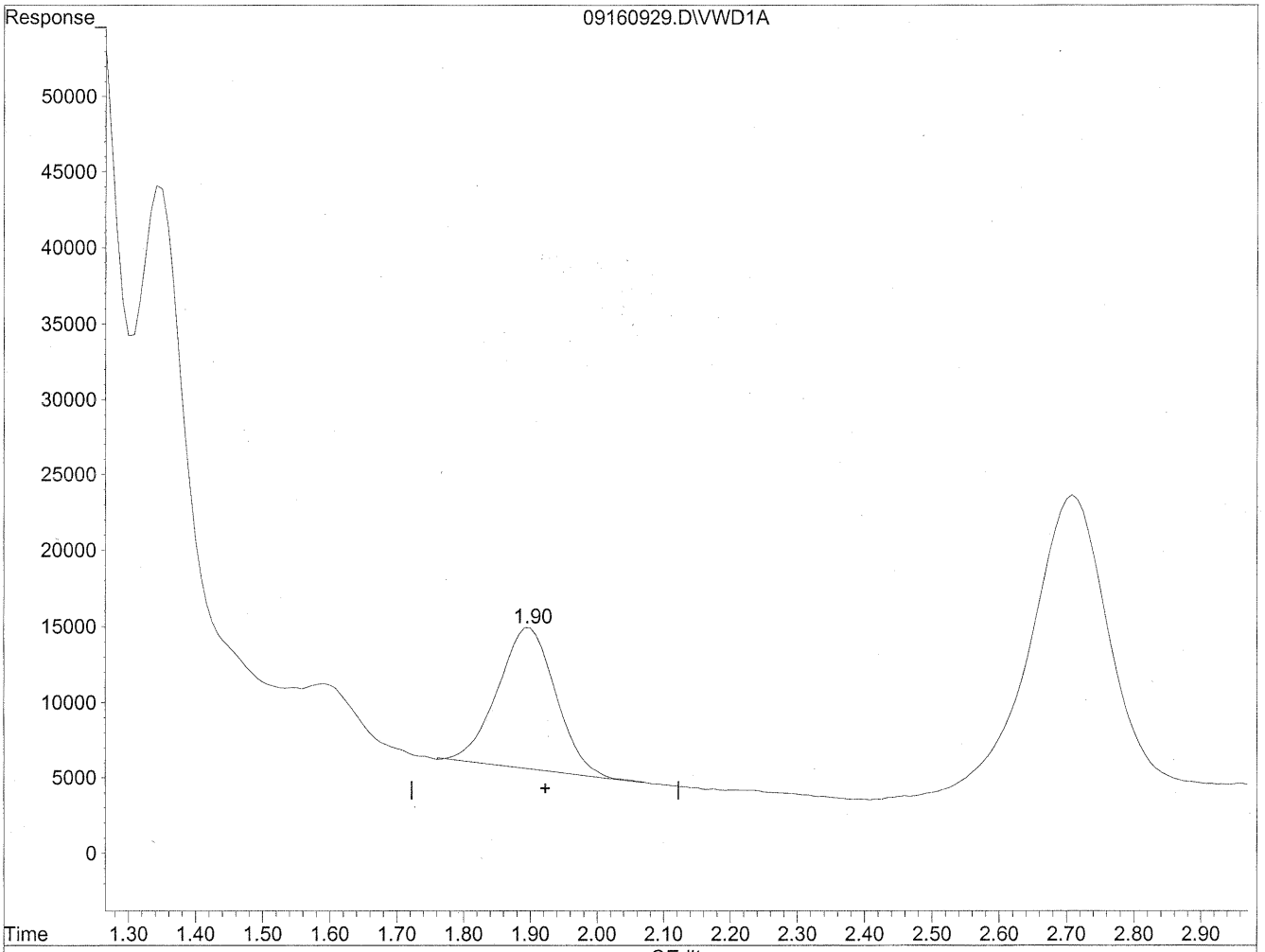
(+) = Expected Retention Time

09160929.D TO110909.M Mon Sep 21 16:25:47 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160929.D Vial: 113
Acq On : 16-Sep-2009, 16:25 Operator: MD
Sample : P0903146-005 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.90min 87.005ng/ml m

response 565604

MN 9/22/09

HC 9/22/09

TC

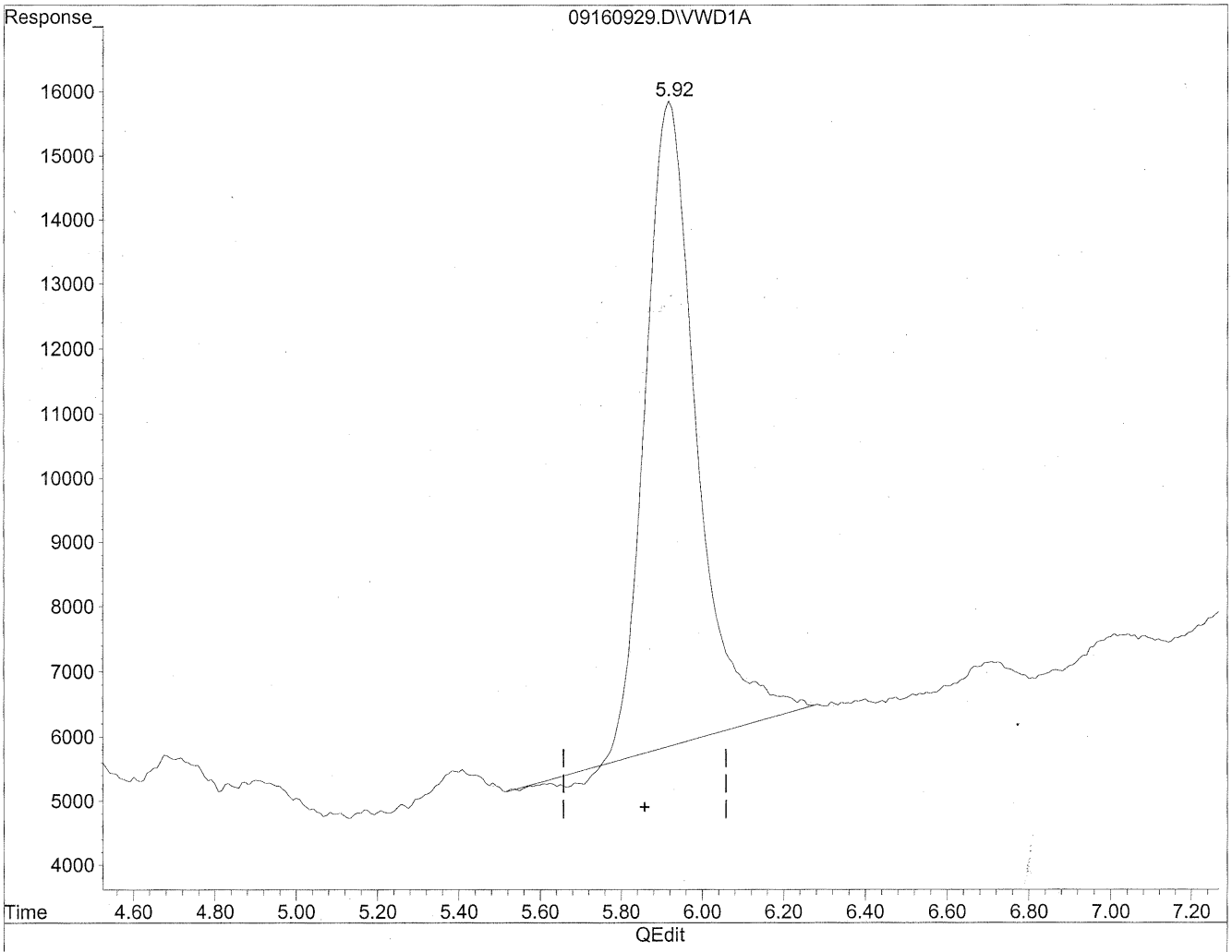
(+) = Expected Retention Time

09160929.D TO110909.M Mon Sep 21 16:25:53 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160929.D Vial: 113
Acq On : 16-Sep-2009, 16:25 Operator: MD
Sample : P0903146-005 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

5.92min 318.782ng/ml

response 869758

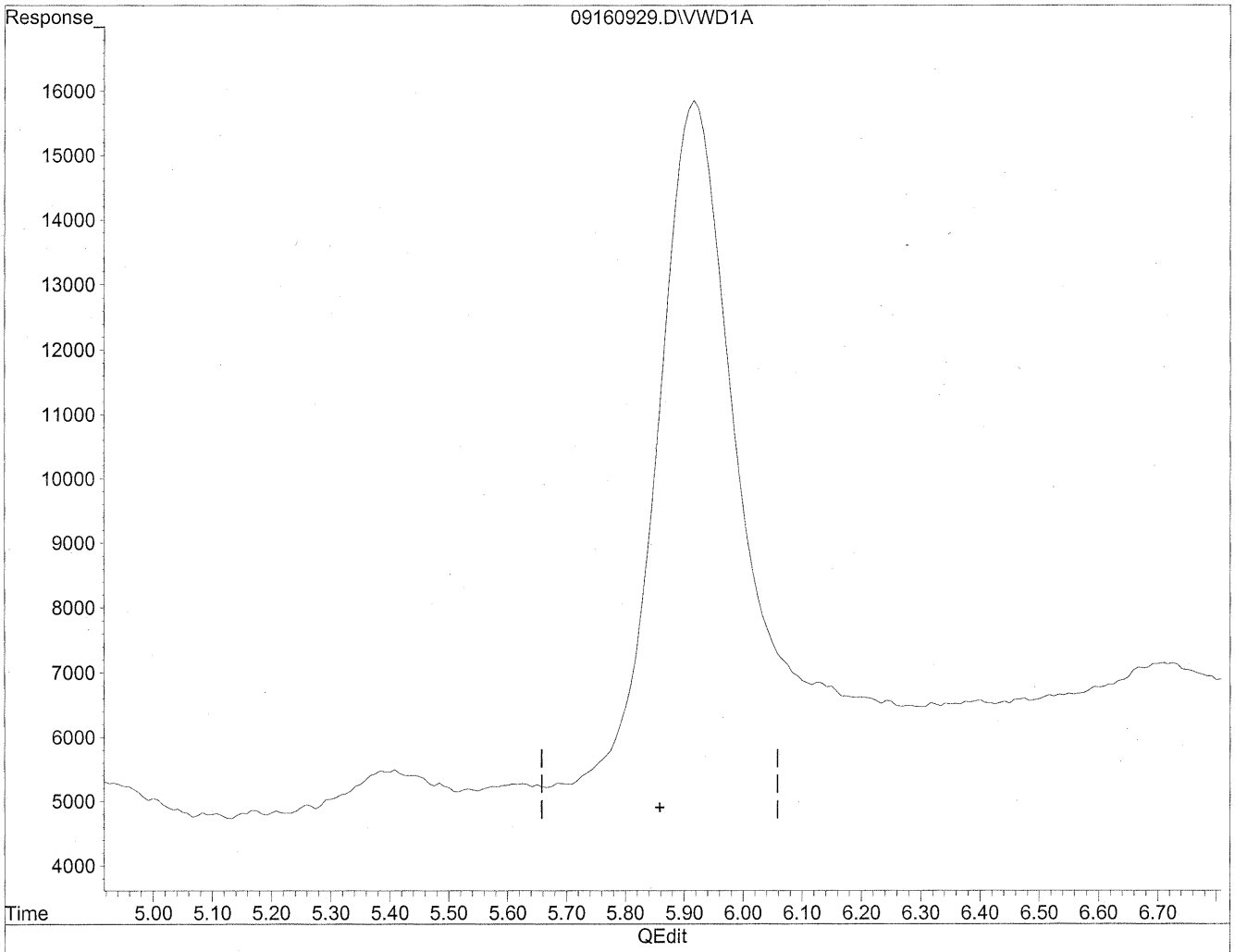
(+) = Expected Retention Time

09160929.D TO110909.M Mon Sep 21 16:26:04 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160929.D Vial: 113
Acq On : 16-Sep-2009, 16:25 Operator: MD
Sample : P0903146-005 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

0.00min 0.000ng/ml d

response 0

MD 9/22/09 MP

HC 9/22/09

112

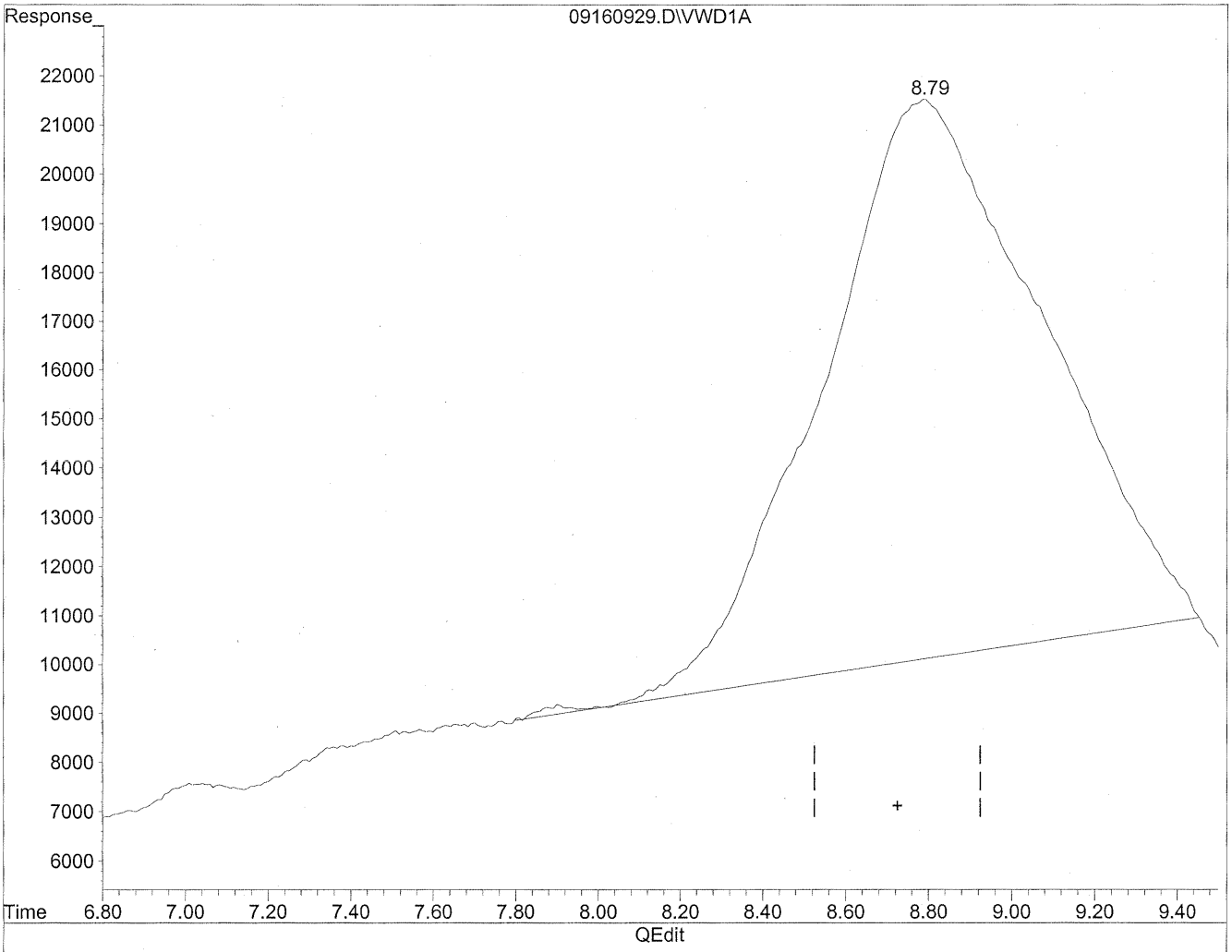
(+) = Expected Retention Time

09160929.D TO110909.M Mon Sep 21 16:26:06 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160929.D Vial: 113
Acq On : 16-Sep-2009, 16:25 Operator: MD
Sample : P0903146-005 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

8.79min 2107.190ng/ml

response 4204880

113

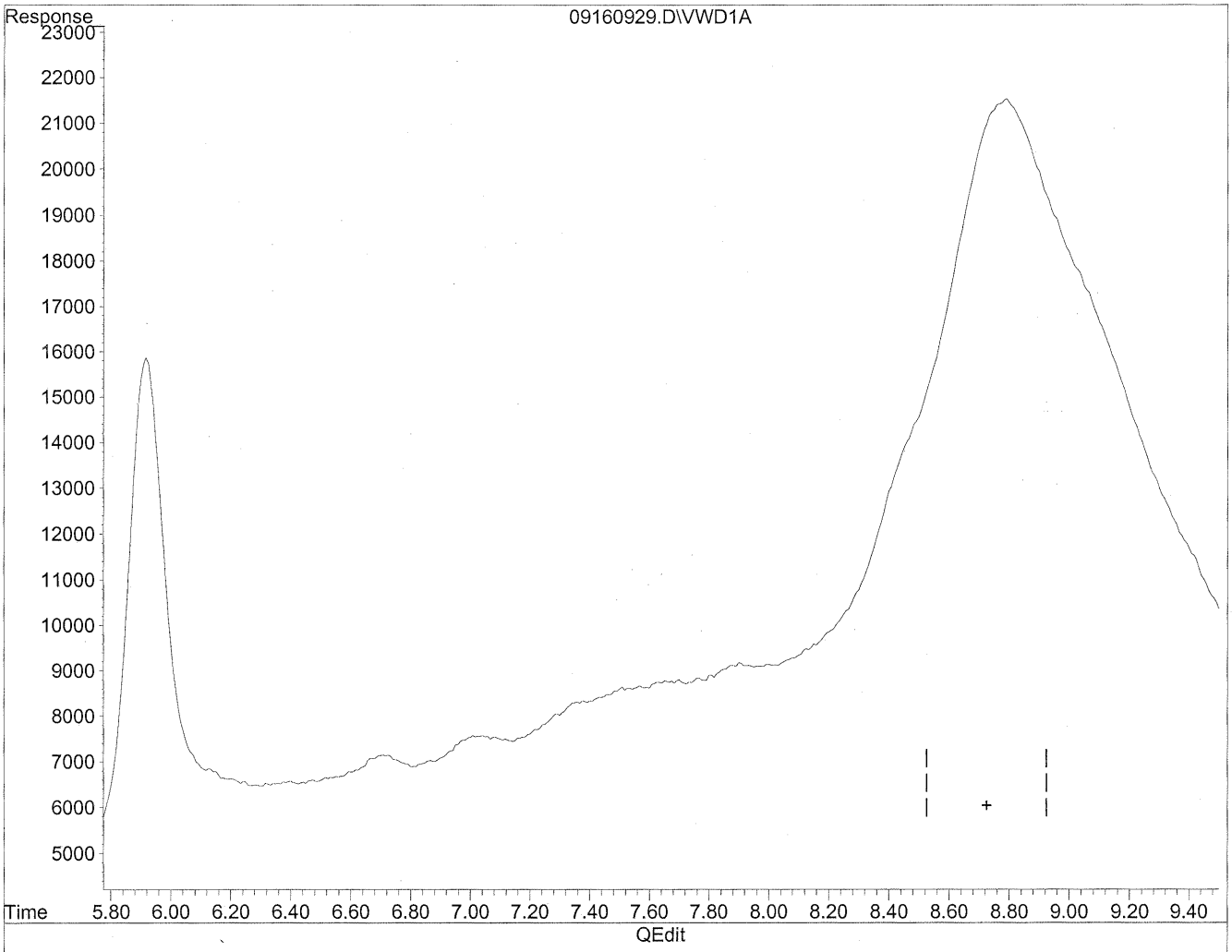
(+) = Expected Retention Time

09160929.D TO110909.M Mon Sep 21 16:26:14 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160929.D Vial: 113
Acq On : 16-Sep-2009, 16:25 Operator: MD
Sample : P0903146-005 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

0.00min 0.000ng/ml d

response 0

MC 9/22/09 9/22/09 not real

(+) = Expected Retention Time

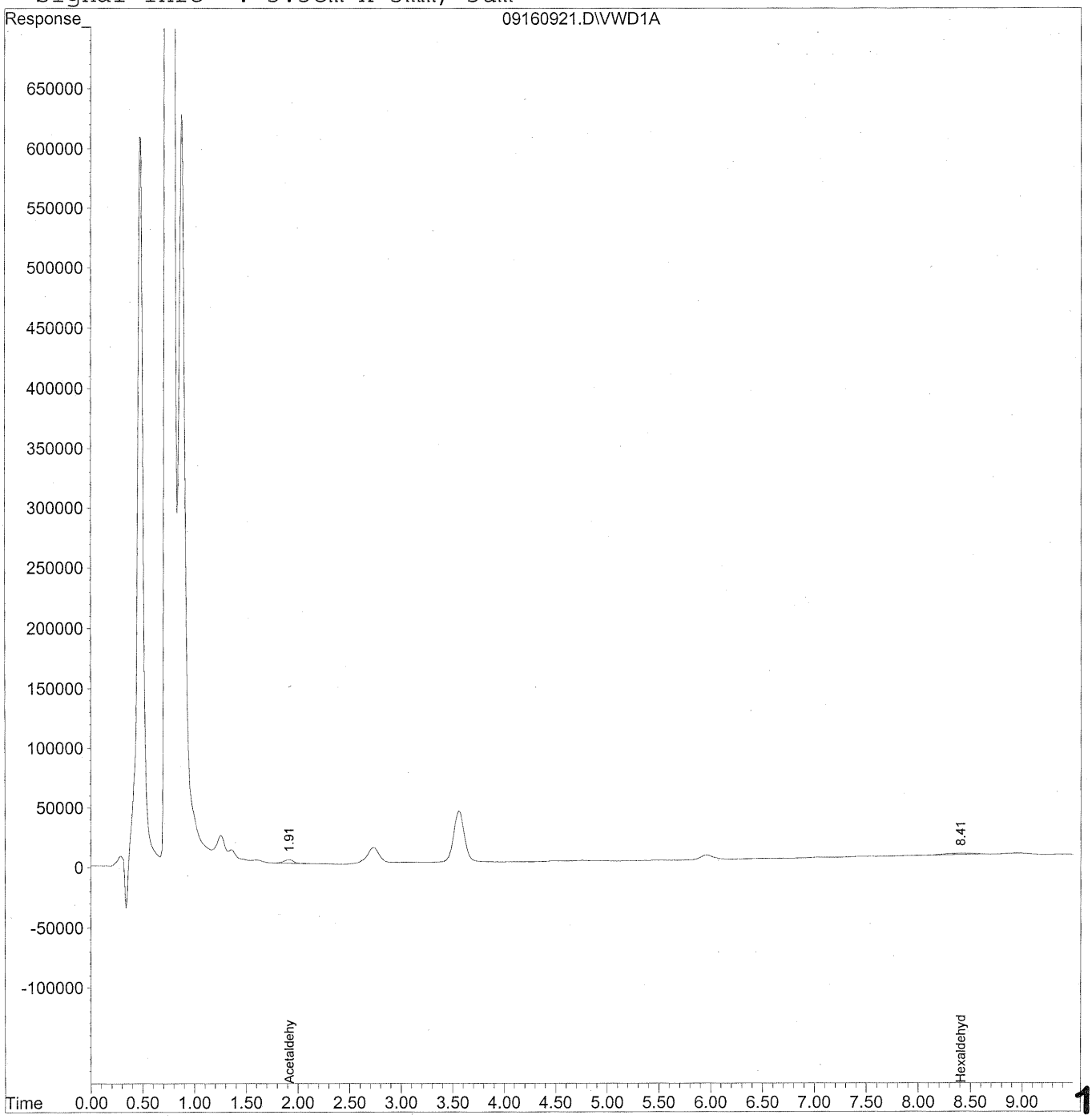
09160929.D TO110909.M Mon Sep 21 16:26:20 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160921.D Vial: 107
Acq On : 16-Sep-2009, 14:50 Operator: MD
Sample : P0903146-005 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:12 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160921.D Vial: 107
Acq On : 16-Sep-2009, 14:50 Operator: MD
Sample : P0903146-005 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:12 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

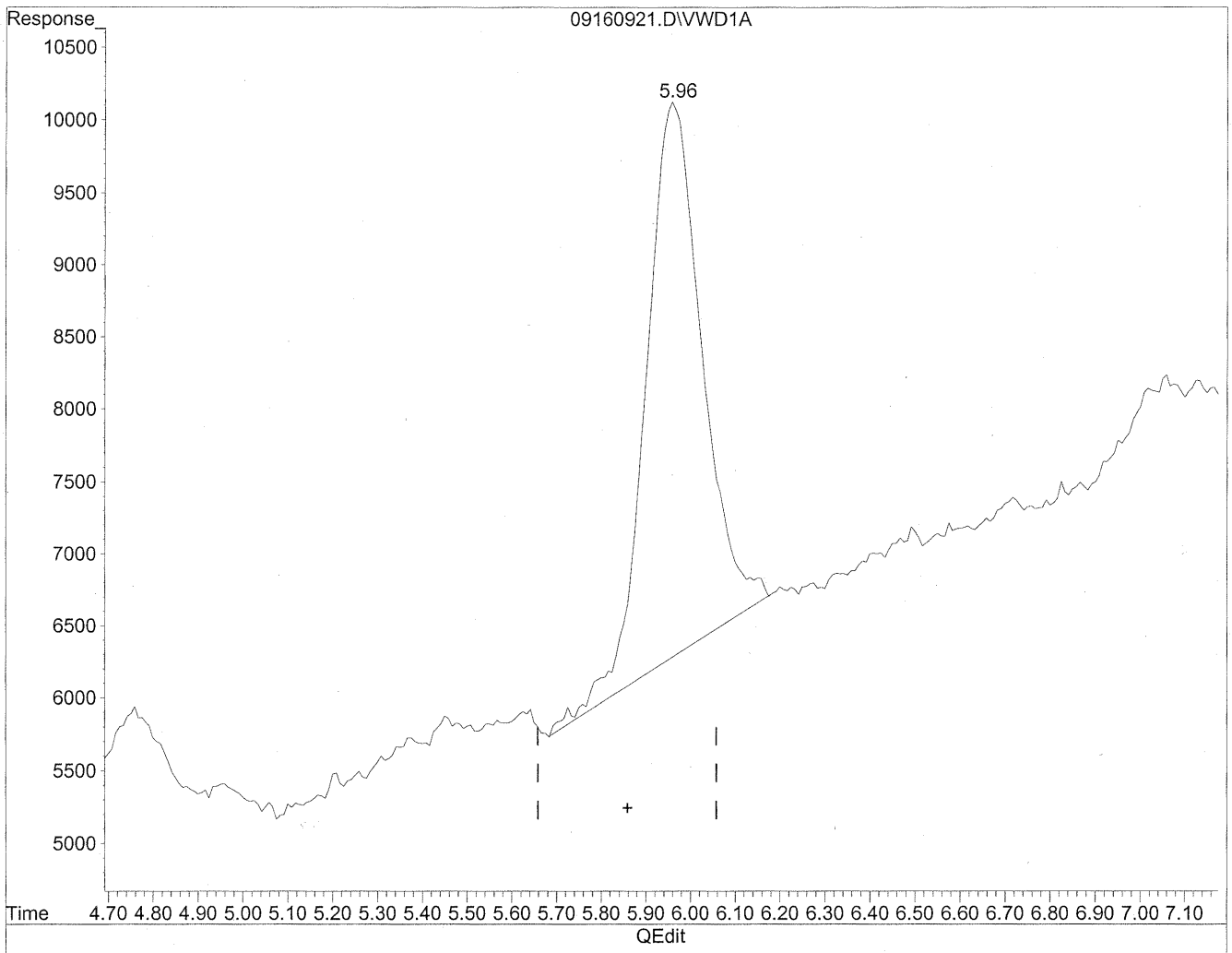
Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	0.00	0	N.D.	ng/ml
2)	Acetaldehyde	1.92	183751	28.266	ng/ml
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	0.00	0	N.D.	ng/mld
7)	Isovaleraldehyde	0.00	0	N.D.	ng/ml
8)	Valeraldehyde	0.00	0	N.D.	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	8.41	205562	69.430	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160921.D Vial: 107
Acq On : 16-Sep-2009, 14:50 Operator: MD
Sample : P0903146-005 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:12 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

5.96min 122.945ng/ml

response 335440

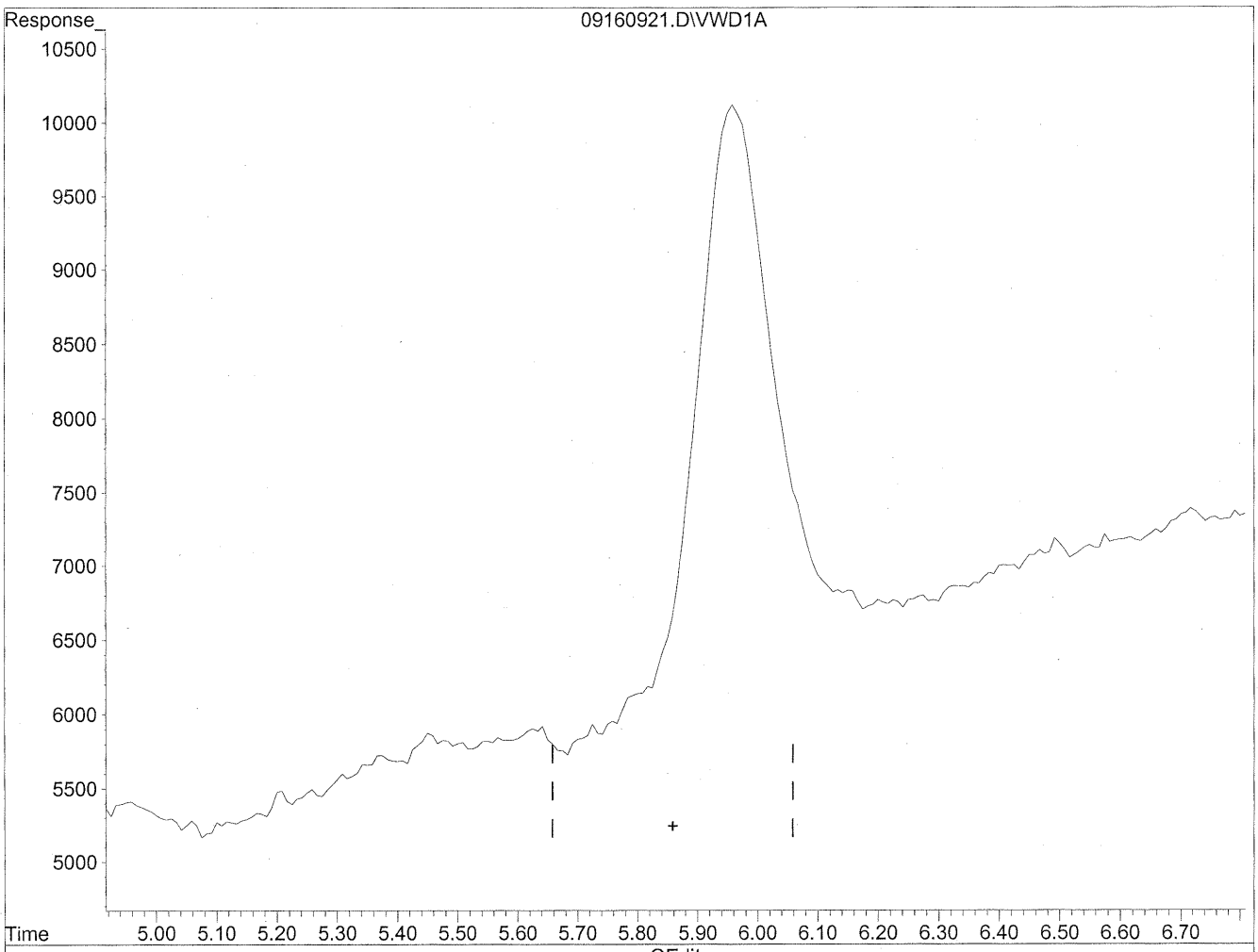
(+) = Expected Retention Time

09160921.D TO110909.M Mon Sep 21 16:12:43 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160921.D Vial: 107
Acq On : 16-Sep-2009, 14:50 Operator: MD
Sample : P0903146-005 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:12 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

0.00min 0.000ng/ml d

response 0

MD 9/22/09 MP

HC 9/22/09

(+) = Expected Retention Time

09160921.D TO110909.M Mon Sep 21 16:12:45 2009

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **102824**
Client Project ID: **16512**

CAS Project ID: P0903146
CAS Sample ID: P0903146-006

Test Code: EPA Method TO-11A
Instrument ID: HP1050/LC2
Analyst: Madeleine Dangazyan
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: 9/2/09
Date Received: 9/4/09
Date Analyzed: 9/16/09
Desorption Volume: 1.0 ml
Volume Sampled: NA Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 100	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 100	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 100	NA	NA	NA	NA	
4170-30-3	Crotonaldehyde, Total	< 100	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 100	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 100	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 100	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 100	NA	NA	NA	NA	
529-20-4	o-Tolualdehyde	< 100	NA	NA	NA	NA	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 100	NA	NA	NA	NA	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

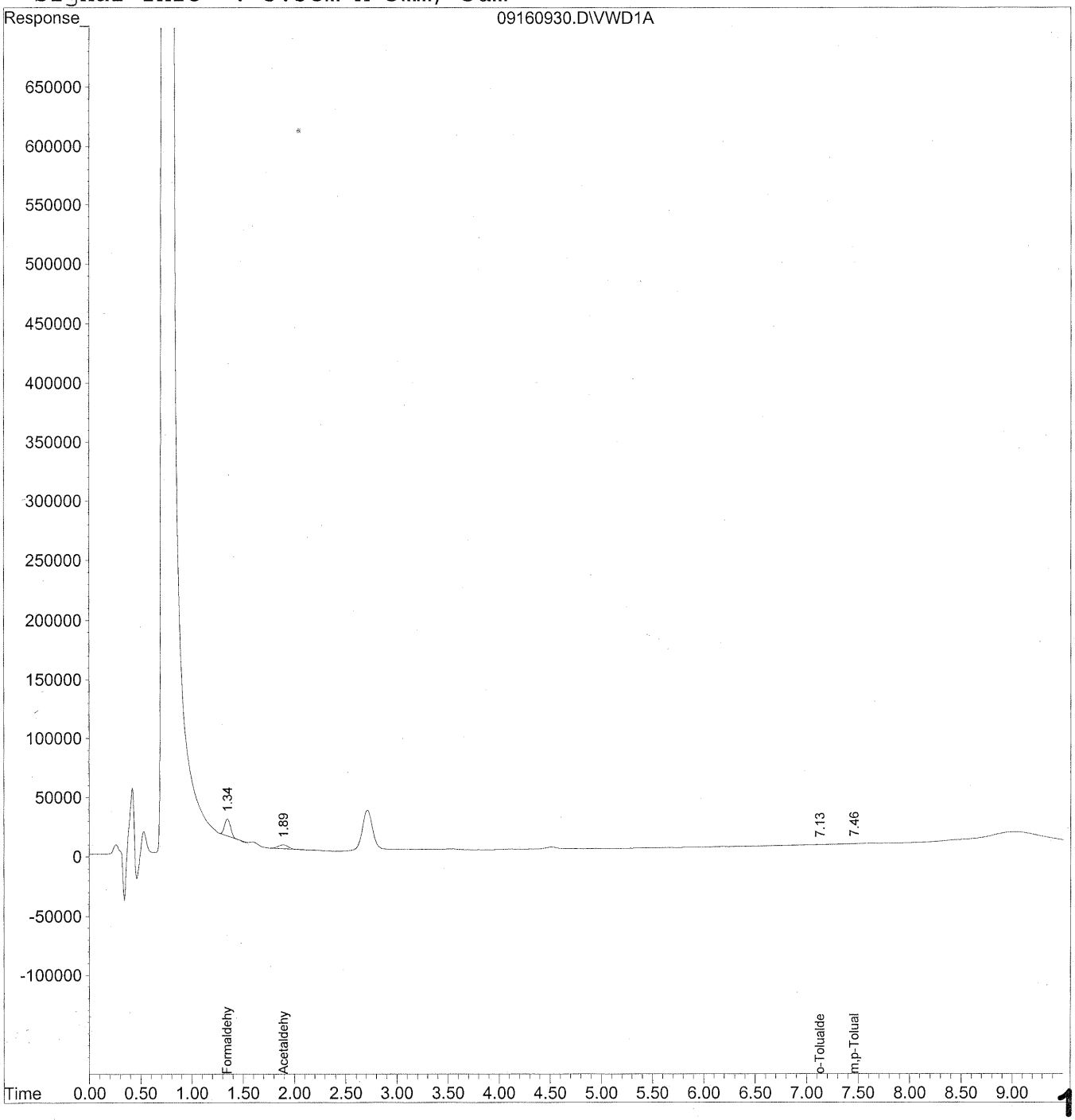
Verified By: Re Date: 9/23/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160930.D Vial: 114
Acq On : 16-Sep-2009, 16:37 Operator: MD
Sample : P0903146-006 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:26 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160930.D Vial: 114
Acq On : 16-Sep-2009, 16:37 Operator: MD
Sample : P0903146-006 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:26 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

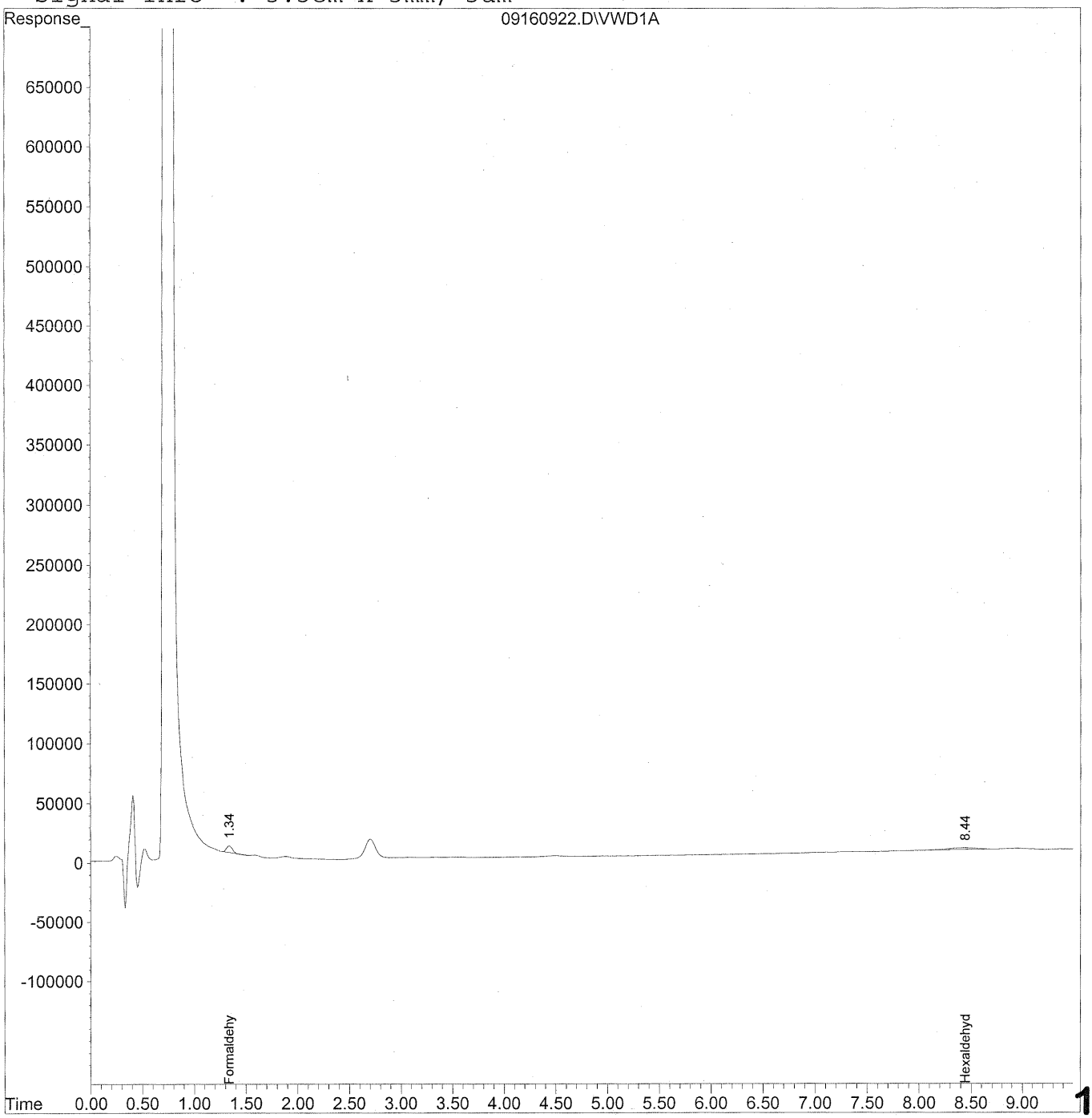
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.35	559374	62.602	ng/ml
2)	Acetaldehyde	1.89	196703	30.258	ng/ml
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	0.00	0	N.D.	ng/ml
7)	Isovaleraldehyde	0.00	0	N.D.	ng/ml
8)	Valeraldehyde	0.00	0	N.D.	ng/ml
9)	o-Tolualdehyde	7.13	5185	2.363	ng/ml
10)	m,p-Tolualdehyde	7.46	14821	6.453	ng/ml
11)	Hexaldehyde	0.00	0	N.D.	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160922.D Vial: 108
Acq On : 16-Sep-2009, 15:02 Operator: MD
Sample : P0903146-006 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:13 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160922.D Vial: 108
Acq On : 16-Sep-2009, 15:02 Operator: MD
Sample : P0903146-006 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:13 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

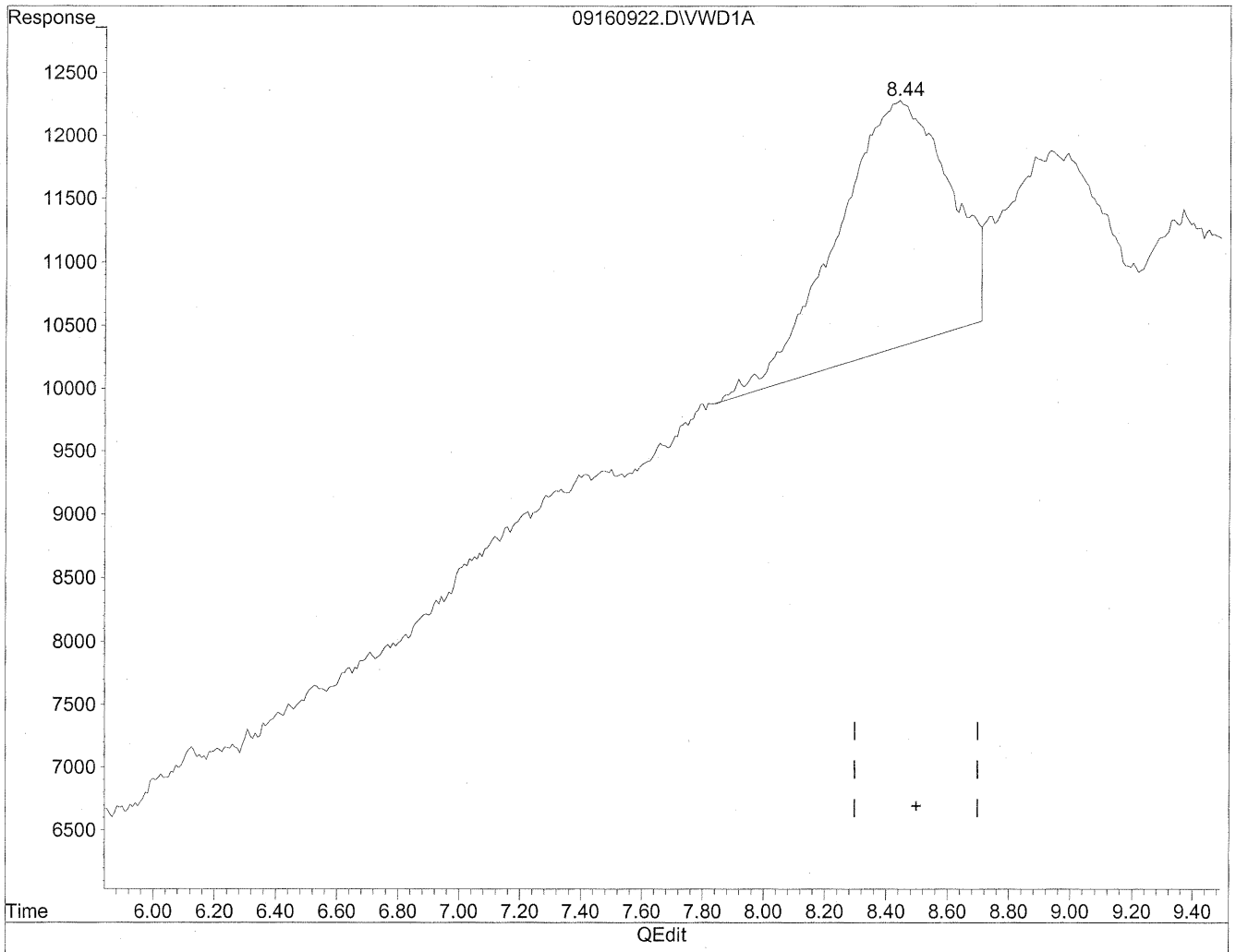
Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	216980	24.283	ng/ml
2)	Acetaldehyde	0.00	0	N.D.	ng/ml
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	0.00	0	N.D.	ng/ml
7)	Isovaleraldehyde	0.00	0	N.D.	ng/ml
8)	Valeraldehyde	0.00	0	N.D.	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	8.44	274883	92.843	ng/mlm
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160922.D Vial: 108
Acq On : 16-Sep-2009, 15:02 Operator: MD
Sample : P0903146-006 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:12 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.44min 165.298ng/ml

response 489402

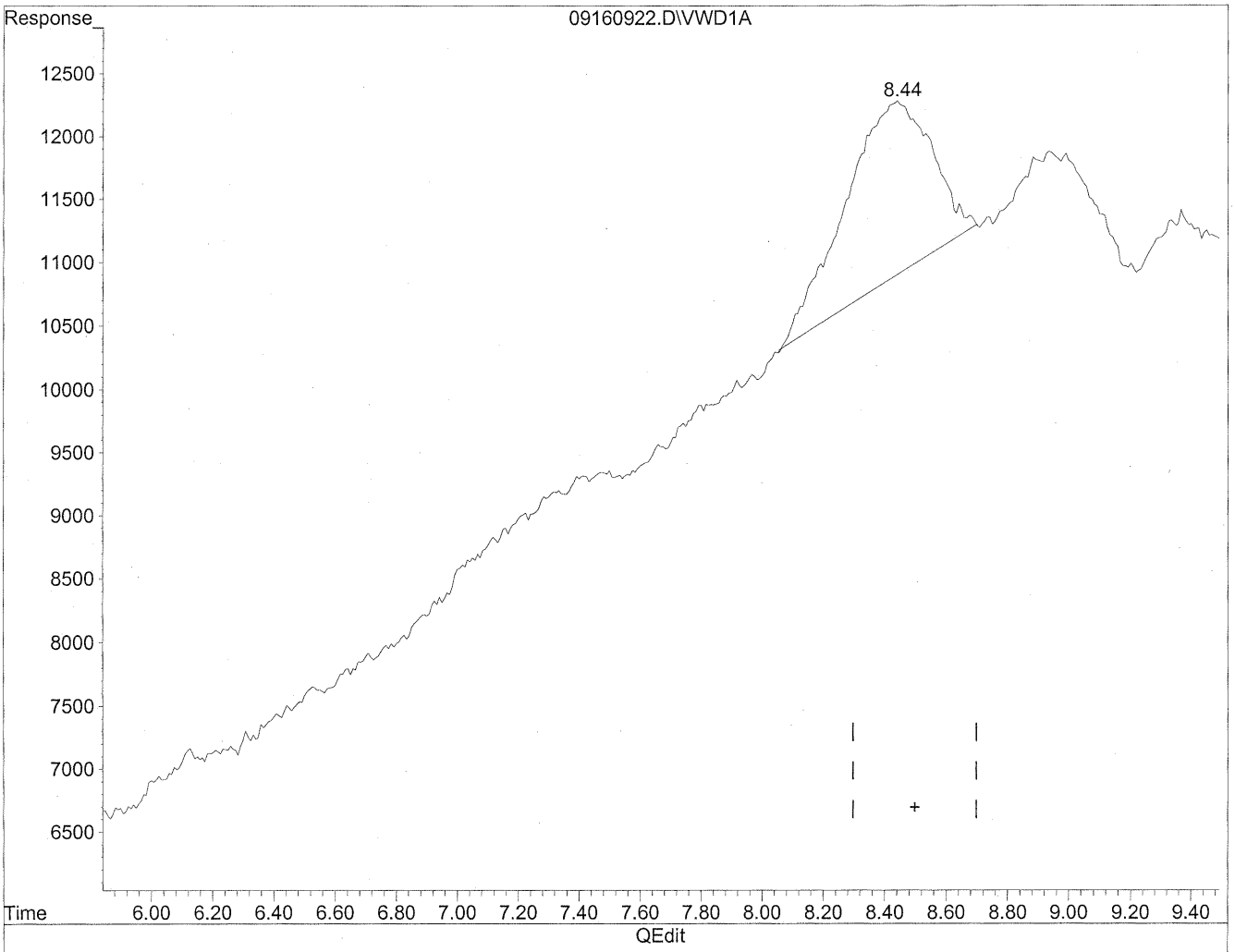
(+) = Expected Retention Time

09160922.D TO110909.M Mon Sep 21 16:13:13 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160922.D Vial: 108
Acq On : 16-Sep-2009, 15:02 Operator: MD
Sample : P0903146-006 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:12 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.44min 92.843ng/ml m

response 274883

HC 9/22/09

MN 9/22/09 TL

(+) = Expected Retention Time

09160922.D TO110909.M Mon Sep 21 16:13:25 2009

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Client: **Environmental Health & Engineering, Inc.**
Client Sample ID: **Method Blank**
Client Project ID: **16512**

CAS Project ID: P0903146
CAS Sample ID: P090916-MB

Test Code: EPA Method TO-11A
Instrument ID: HP1050/LC2
Analyst: Madeleine Dangazyan
Sampling Media: Silica Gel DNPH Tube
Test Notes: **BC**

Date Collected: NA
Date Received: NA
Date Analyzed: 09/16/09
Desorption Volume: 1.0 ml
Volume Sampled: NA Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m³	MRL µg/m³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 100	NA	NA	NA	NA	
75-07-0	Acetaldehyde	< 100	NA	NA	NA	NA	
123-38-6	Propionaldehyde	< 100	NA	NA	NA	NA	
4170-30-3	Crotonaldehyde, Total	< 100	NA	NA	NA	NA	
123-72-8	Butyraldehyde	< 100	NA	NA	NA	NA	
100-52-7	Benzaldehyde	< 100	NA	NA	NA	NA	
590-86-3	Isovaleraldehyde	< 100	NA	NA	NA	NA	
110-62-3	Valeraldehyde	< 100	NA	NA	NA	NA	
529-20-4	o-Tolualdehyde	< 100	NA	NA	NA	NA	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	NA	NA	NA	NA	
66-25-1	n-Hexaldehyde	< 100	NA	NA	NA	NA	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	NA	NA	NA	NA	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.
BC = Results reported are not blank corrected.
NA = Not applicable.

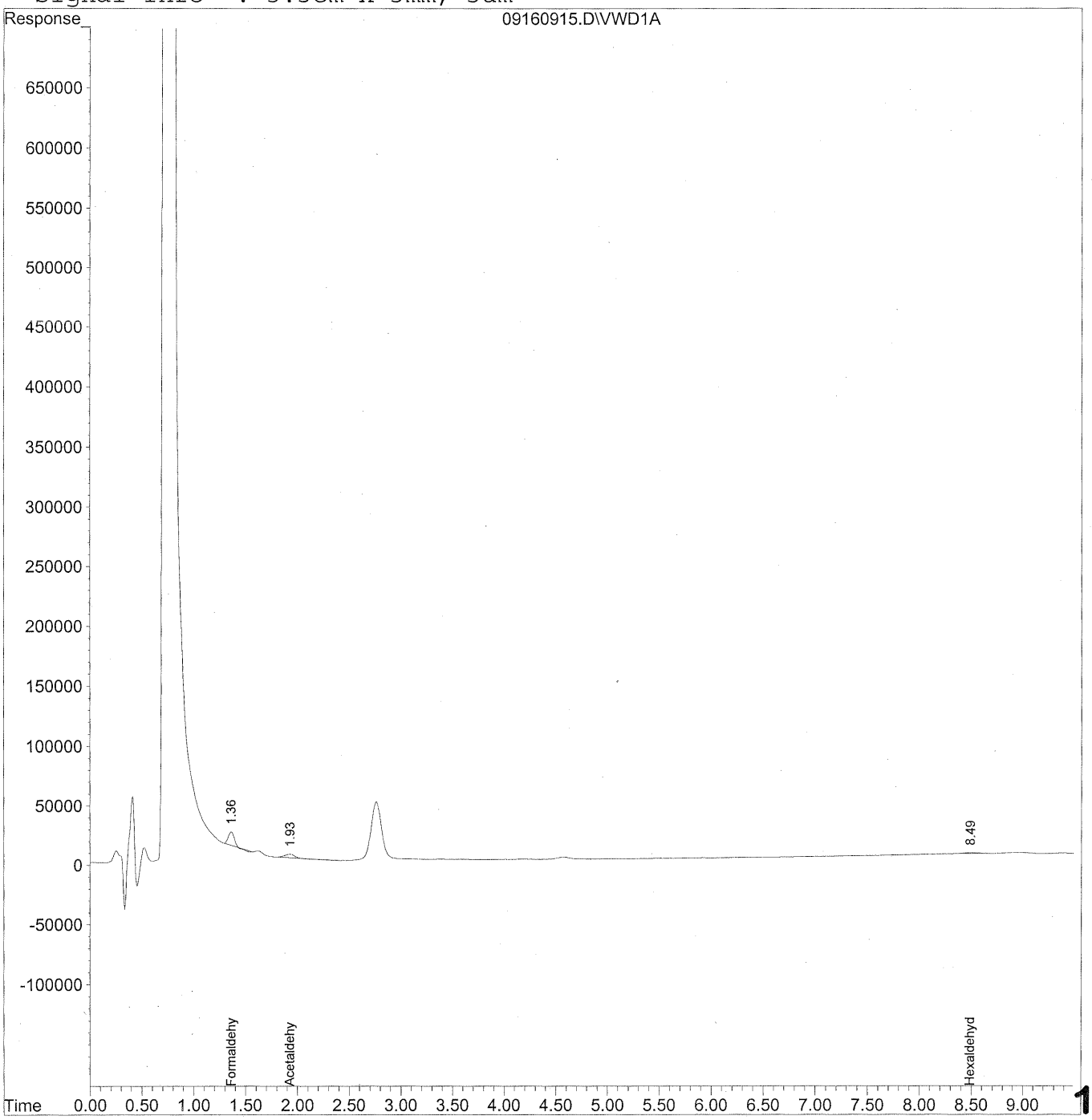
Verified By: Rc Date: 9/23/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160915.D Vial: 101
Acq On : 16-Sep-2009, 13:37 Operator: MD
Sample : MB-1 front 1.0ml lot 5855/5994 Inst : VWD
Misc : 9/15 Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:05 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



127

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160915.D Vial: 101
Acq On : 16-Sep-2009, 13:37 Operator: MD
Sample : MB-1 front 1.0ml lot 5855/5994 Inst : VWD
Misc : 9/15 Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:05 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

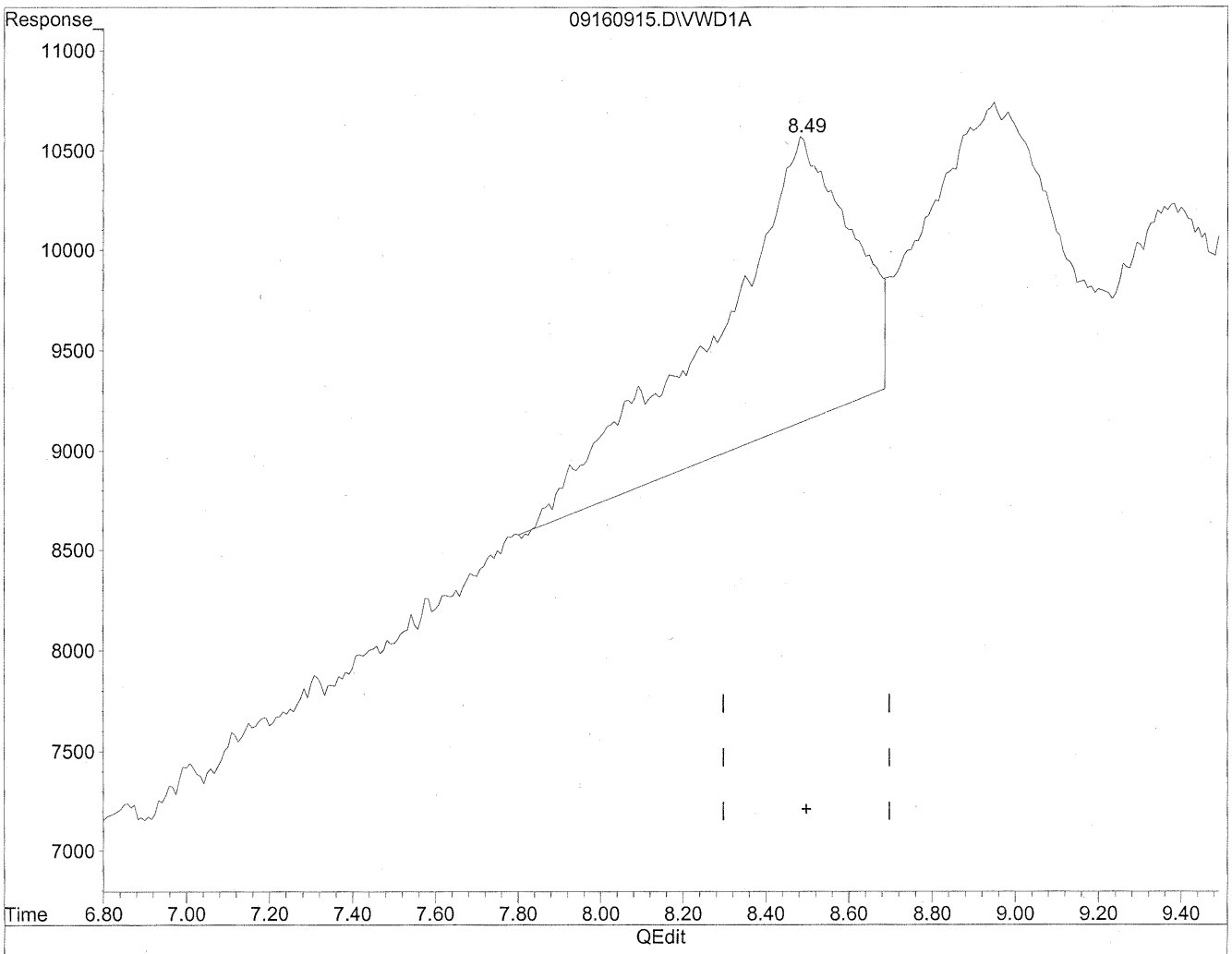
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.36	429707	48.090	ng/ml
2)	Acetaldehyde	1.93	162241	24.957	ng/ml
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	0.00	0	N.D.	ng/ml
7)	Isovaleraldehyde	0.00	0	N.D.	ng/ml
8)	Valeraldehyde	0.00	0	N.D.	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	8.49	64931	21.931	ng/mlm
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

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

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160915.D Vial: 101
Acq On : 16-Sep-2009, 13:37 Operator: MD
Sample : MB-1 front 1.0ml lot 5855/5994 Inst : VWD
Misc : 9/15 Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:05 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.49min 109.220ng/ml

response 323369

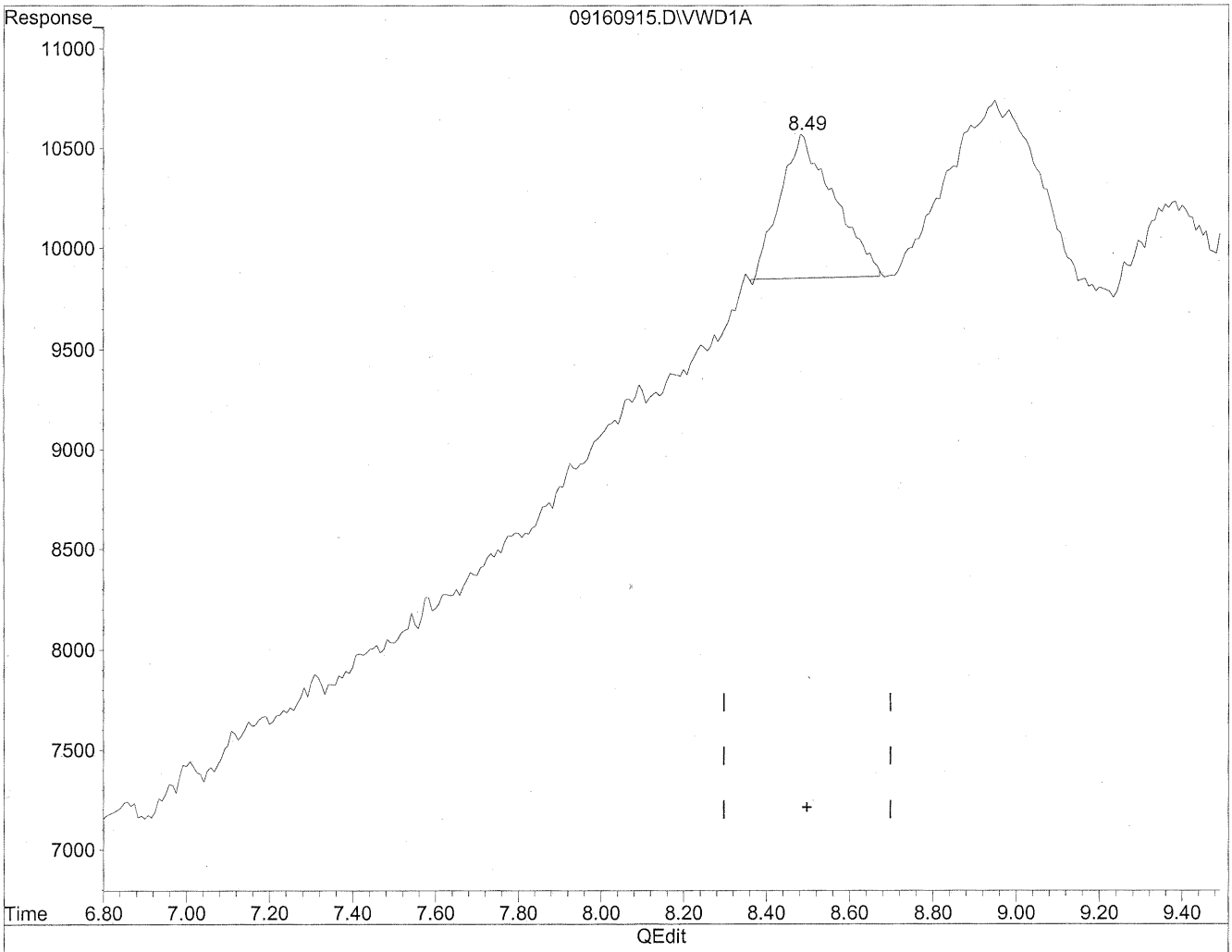
(+) = Expected Retention Time

09160915.D TO110909.M Mon Sep 21 16:05:13 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160915.D Vial: 101
Acq On : 16-Sep-2009, 13:37 Operator: MD
Sample : MB-1 front 1.0ml lot 5855/5994 Inst : VWD
Misc : 9/15 Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:05 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.49min 21.931ng/ml m

response 64931

mn 9/21/09
JC 9/21/09
IC

(+) = Expected Retention Time

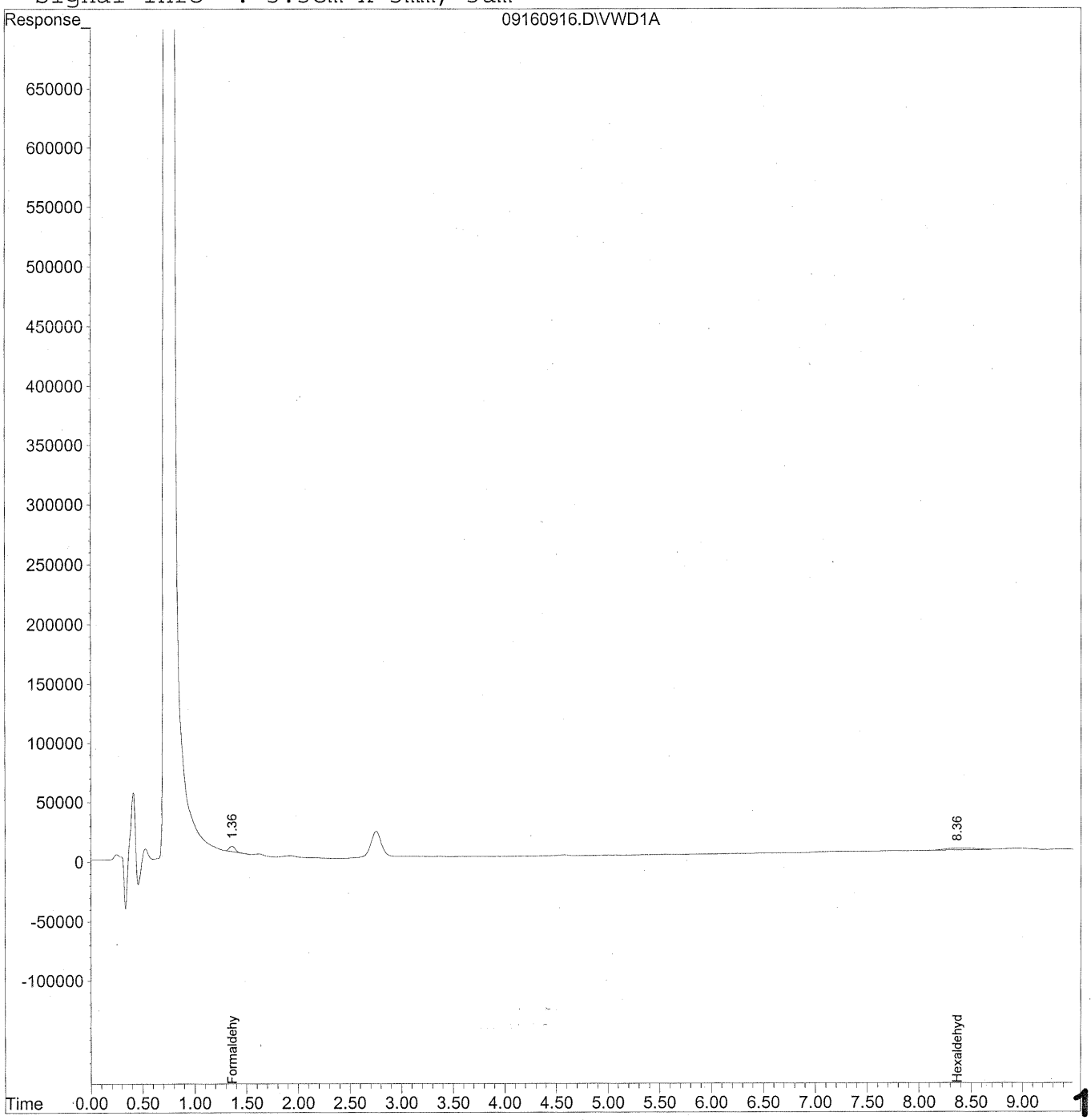
09160915.D TO110909.M Mon Sep 21 16:05:21 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160916.D Vial: 102
Acq On : 16-Sep-2009, 13:50 Operator: MD
Sample : MB-1 back 1.0ml lot 5855/5994 Inst : VWD
Misc : 9/15 Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:05 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160916.D Vial: 102
Acq On : 16-Sep-2009, 13:50 Operator: MD
Sample : MB-1 back 1.0ml lot 5855/5994 Inst : VWD
Misc : 9/15 Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:05 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.36	178183	19.941	ng/ml
2)	Acetaldehyde	0.00	0	N.D.	ng/ml
3)	Propionaldehyde	0.00	0	N.D.	ng/ml
4)	Crotonaldehyde	0.00	0	N.D.	ng/ml
5)	Butyraldehyde	0.00	0	N.D.	ng/ml
6)	Benzaldehyde	0.00	0	N.D.	ng/ml
7)	Isovaleraldehyde	0.00	0	N.D.	ng/ml
8)	Valeraldehyde	0.00	0	N.D.	ng/ml
9)	o-Tolualdehyde	0.00	0	N.D.	ng/ml
10)	m,p-Tolualdehyde	0.00	0	N.D.	ng/ml
11)	Hexaldehyde	8.37f	284258	96.010	ng/ml
12)	2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

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

INITIAL CALIBRATION STANDARDS

Response Factor Report VWD

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 11 13:54:46 2008

Calibration Files
50 =09090910.D 100 =09090913.D 500 =09090916.D
1500 =09090919.D 5000 =09090922.D 10 =09090925.D

	Compound	50	100	500	1500	5000	10	Avg		%RSD
1)	Formaldehyde	9.033	8.595	8.515	9.020	9.302	9.148	8.935	E3	3.50
2)	Acetaldehyde	6.537	6.232	6.129	6.593	6.799	6.715	6.501	E3	4.10
3)	Propionaldehyde	5.378	4.996	5.013	5.195	5.337	5.268	5.198	E3	3.13
4)	Crotonaldehyde	3.974	3.795	3.909	4.099	4.319	4.261	4.060	E3	5.04
5)	Butyraldehyde	4.071	3.828	3.819	4.080	4.290	4.229	4.053	E3	4.86
6)	Benzaldehyde	2.793	2.509	2.569	2.745	2.894	2.860	2.728	E3	5.74
7)	Isovaleraldehyde	3.594	3.260	3.257	3.437	3.577	3.525	3.442	E3	4.42
8)	Valeraldehyde	3.385	3.277	3.176	3.434	3.588	3.539	3.400	E3	4.58
9)	o-Tolualdehyde	2.114	1.981	2.037	2.249	2.401	2.386	2.195	E3	8.13
10)	m,p-Tolualdehyde	2.187	2.029	2.198	2.391	2.507	2.470	2.297	E3	8.18
11)	Hexaldehyde	2.976	2.854	2.845	2.973	3.086	3.031	2.961	E3	3.24
12)	2,5-Dimethylbenzald	1.800	1.761	1.922	2.067	2.228	2.194	1.995	E3	9.95

(#) = Out of Range

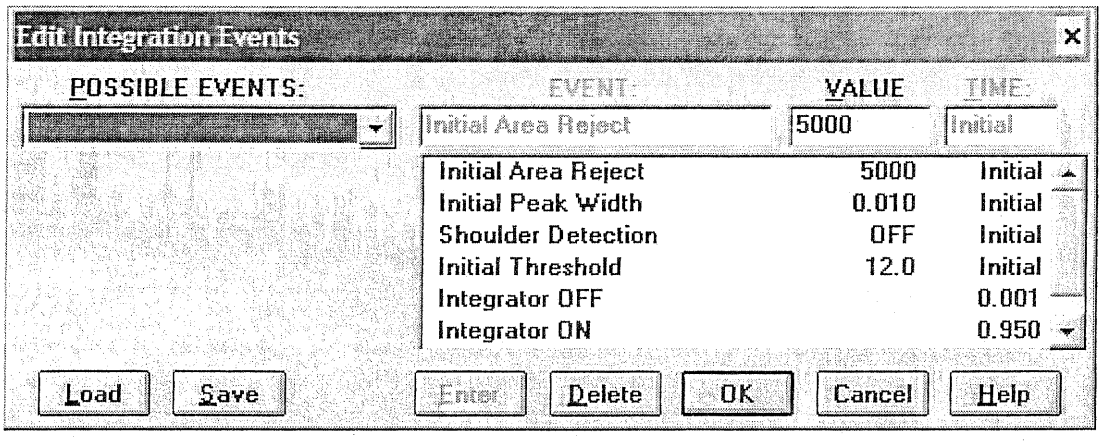
Calibration Status Report VWD

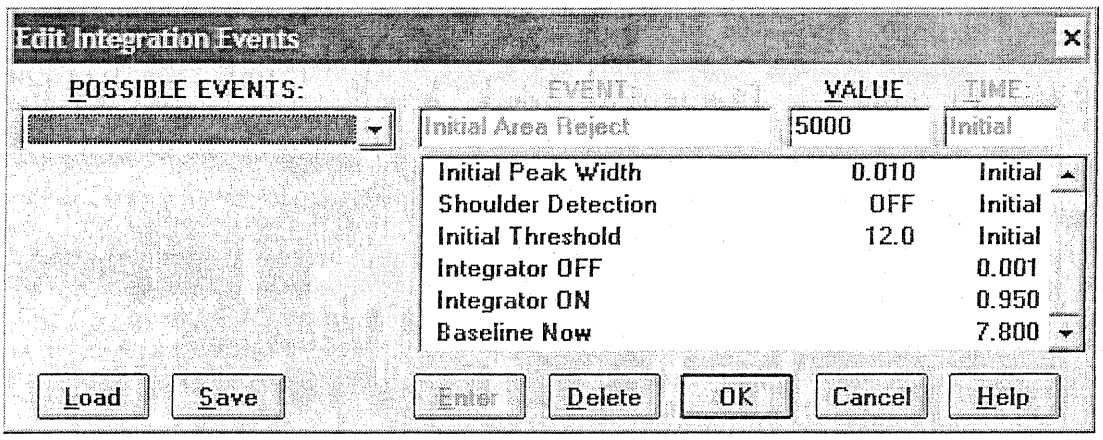
Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	50	50.00	0.00	J:\LC02\DATA\TO11A\2009_09\09\09090910.D
2	100	100.00	0.00	J:\LC02\DATA\TO11A\2009_09\09\09090913.D
3	500	500.00	0.00	J:\LC02\DATA\TO11A\2009_09\09\09090916.D
4	1500	1500.00	0.00	J:\LC02\DATA\TO11A\2009_09\09\09090919.D
5	5000	5000.00	0.00	J:\LC02\DATA\TO11A\2009_09\09\09090922.D
6	10	10000.00	0.00	J:\LC02\DATA\TO11A\2009_09\09\09090924.D

#	ID	Update Time	Quant Time	Acquisition Time
1	50	Sep 10 08:49 2009	Sep 10 08:49 19109	09-Sep-2009, 15:43
2	100	Sep 10 09:03 2009	Sep 10 09:02 19109	09-Sep-2009, 16:17
3	500	Sep 10 08:54 2009	Sep 10 08:54 19109	09-Sep-2009, 16:51
4	1500	Sep 10 08:56 2009	Sep 10 08:56 19109	09-Sep-2009, 17:26
5	5000	Sep 10 08:58 2009	Sep 10 08:58 19109	09-Sep-2009, 18:00
6	10	Sep 10 08:59 2009	Sep 10 08:59 19109	09-Sep-2009, 18:23

TO110909.M Thu Sep 10 10:45:40 2009


Edit Integration Events
POSSIBLE EVENTS:
EVENT:
VALUE
TIME:
Initial Area Reject
5000
Initial
Initial Area Reject 5000 Initial
Initial Peak Width 0.010 Initial
Shoulder Detection OFF Initial
Initial Threshold 12.0 Initial
Integrator OFF 0.001
Integrator ON 0.950
Load
Save
Enter
Delete
OK
Cancel
Help


Edit Integration Events
POSSIBLE EVENTS:
EVENT:
VALUE
TIME:
Initial Area Reject
5000
Initial
Initial Peak Width 0.010 Initial
Shoulder Detection OFF Initial
Initial Threshold 12.0 Initial
Integrator OFF 0.001
Integrator ON 0.950
Baseline Now 7.800
Load
Save
Enter
Delete
OK
Cancel
Help

TO-11A Aldehyde-DNPH Stock Solution Standard S21-06300801

Source: AccuStandard Inc.
Catalog No: M-8315-R2-DNPH
Lot : B8060121
Solvent: ACN
Expiration Date: 06/12/11

	MW	Aldehyde-DNPH MW*	Manufacturer Prepared Concentration as Aldehyde-DNPH (ug/mL)	Calculated Concentration as Aldehyde (ug/mL)	ICV S21-07270907 (nominal ng/mL)	ICV S21-07270907 (Actual, ng/mL)	% Diff
Formaldehyde	30.03	210.03	100	14.30	1430	1453.52	1.64%
Acetaldehyde	44.05	224.05	100.2	19.70	1970	2007.42	1.90%
Acetone	58.08	238.08	100.2	24.44	2444	not reported	
Acrolein	56.06	236.06	103.1	24.48	2448	not reported	
Propionaldehyde	58.08	238.08	100.2	24.44	2444	2388.13	2.29%
Crotonaldehyde	70.09	250.09	100.2	28.08	2808	2879.18	2.53%
Butyraldehyde	72.11	252.11	100	28.60	2860	2877.59	0.61%
Benzaldehyde	106.12	286.12	100	37.09	3709	3693.25	0.42%
Isovaleraldehyde	86.13	266.13	100.2	32.43	3243	3227.07	0.49%
Valeraldehyde	86.13	266.13	100.1	32.40	3240	3280.39	1.25%
o-Tolualdehyde	120.15	300.15	100.1	40.07	4007	4053.17	1.15%
m,p-Tolualdehyde	120.15	300.15	100.3	80.30	8030	8394.52	4.54%
Hexaldehyde	100.16	280.16	100.3	35.86	3586	3443.52	3.97%
2,5-Dimethylbenzaldehyde	134.18	314.18	100.3	42.84	4284	4423.49	3.26%

(* MW of DNPH is 198g/mol. The result of a nucleophilic reaction of aldehyde & DNPH is a hydrazone derivative with the loss of H20, 18g/mol)

COLUMBIA ANALYTICAL SERVICES, INC.

Method: TO-11A
Analyst: MD

Printed : 09/10/09
Instrument : LC#02
Date Analysis : 09/09/09
Detector : UV-VIS 360
Sample Amount : 3ul

CALIBRATION RESPONSE FACTOR SUMMARY

Calibration Level	Form-Aldehyde	% rpd	Acet-Aldehyde	% rpd	Propion-Aldehyde	% rpd	Croton-Aldehyde	% rpd	Butyr-Aldehyde	% rpd	Benz-Aldehyde	% rpd
50ng/ml TO-11A S2	443088	1.89%	311721	4.62%	257497	4.24%	205520	3.43%	199284	2.09%	136041	2.60%
50ng/ml TO-11A S2	447251	0.97%	327663	0.25%	268082	0.31%	200887	1.10%	217482	6.85%	140658	0.71%
50ng/ml TO-11A S2	464552	2.86%	341116	4.37%	281140	4.55%	189710	4.53%	193856	4.76%	142307	1.89%
100ng/ml TO-11A S	857936	0.18%	602866	3.27%	495705	0.77%	389577	2.65%	390139	1.92%	249897	0.42%
100ng/ml TO-11A S	856527	0.34%	664731	6.66%	489979	1.92%	375407	1.09%	399611	4.39%	241433	3.79%
100ng/ml TO-11A S	864000	0.53%	602096	3.39%	512978	2.69%	373596	1.56%	358623	6.31%	261486	4.20%
500ng/ml TO-11A S	4290125	0.77%	3109621	1.47%	2494796	0.47%	1900371	2.76%	1886701	1.19%	1323186	3.01%
500ng/ml TO-11A S	4242920	0.34%	2996333	2.23%	2520033	0.54%	1968873	0.75%	1894865	0.76%	1238947	3.54%
500ng/ml TO-11A S	4239441	0.42%	3088021	0.76%	2504937	0.07%	1993623	2.01%	1946571	1.95%	1291253	0.53%
1500ng/ml TO-11A	13461963	0.50%	9836721	0.53%	7740242	0.67%	6180043	0.51%	6161274	0.67%	4059200	1.43%
1500ng/ml TO-11A	13578339	0.36%	9942887	0.54%	7876607	1.08%	6053894	1.54%	6038847	1.33%	4163474	1.11%
1500ng/ml TO-11A	13548320	0.14%	9888425	0.01%	7759817	0.42%	6211709	1.03%	6160753	0.66%	4131112	0.32%
5000ng/ml TO-11A	46422998	0.19%	33949113	0.13%	26460164	0.85%	21469148	0.59%	21371531	0.37%	14455457	0.09%
5000ng/ml TO-11A	46464064	0.10%	33977292	0.05%	26758092	0.27%	21604348	0.03%	21444271	0.03%	14435192	0.23%
5000ng/ml TO-11A	46648983	0.29%	34054104	0.18%	26843474	0.59%	21717189	0.56%	21538832	0.41%	14515721	0.32%
10000ng/ml TO-11A	91542792	0.07%	67198566	0.07%	52731710	0.10%	42623472	0.03%	42304249	0.04%	28602353	0.02%
10000ng/ml TO-11A	91301664	0.20%	67004053	0.22%	52551284	0.24%	42531897	0.18%	42207282	0.19%	28552063	0.15%
10000ng/ml TO-11A	91595894	0.13%	67244158	0.14%	52752024	0.14%	42676337	0.15%	42347195	0.14%	28631645	0.13%

COLUMBIA ANALYTICAL SERVICES, INC.

Method: TO-11A
Analyst:

Printed : 09/10/09
Instrument : LC#02
Date Analysis : 09/09/09
Detector : UV-VIS 360
Sample Amount : 3ul

CALIBRATION RESPONSE FACTOR SUMMARY

Calibration Level	Isovaler-Aldehyde	% rpd	Valer-Aldehyde	% rpd	o-Tolu-Aldehyde	% rpd	m,p-Tolu-Aldehyde	% rpd	Hex-Aldehyde	% rpd	2,5-Dimethl benz-Aldehyde	% rpd
50ng/ml TO-11A S2	186226	3.64%	166401	1.67%	109996	4.04%	216426	1.05%	145487	2.24%	84766	5.84%
50ng/ml TO-11A S2	175760	2.19%	171974	1.62%	93386	11.67%	227448	3.99%	145697	2.10%	96663	7.37%
50ng/ml TO-11A S2	177082	1.45%	169317	0.05%	113786	7.63%	212270	2.95%	155285	4.34%	88645	1.53%
100ng/ml TO-11A S	323665	0.72%	320426	2.21%	207105	4.56%	397976	1.92%	282439	1.03%	170783	3.03%
100ng/ml TO-11A S	313564	3.82%	335005	2.24%	188768	4.70%	416110	2.55%	285615	0.08%	182724	3.75%
100ng/ml TO-11A S	340775	4.53%	327561	0.03%	198353	0.14%	403186	0.63%	288074	0.95%	174836	0.73%
500ng/ml TO-11A S	1631123	0.17%	1598180	0.63%	1023918	0.55%	2205841	0.36%	1425262	0.21%	964881	0.39%
500ng/ml TO-11A S	1614213	0.87%	1593172	0.32%	1018615	0.03%	2181093	0.76%	1423115	0.06%	956005	0.53%
500ng/ml TO-11A S	1639714	0.70%	1572954	0.95%	1012283	0.59%	2206747	0.40%	1418487	0.27%	962409	0.14%
1500ng/ml TO-11A	5115478	0.79%	5104937	0.89%	3347391	0.77%	7133126	0.55%	4465907	0.15%	3088612	0.37%
1500ng/ml TO-11A	5182178	0.51%	5176264	0.50%	3396097	0.67%	7179077	0.09%	4448983	0.23%	3056583	1.41%
1500ng/ml TO-11A	5170579	0.28%	5170597	0.39%	3376687	0.10%	7206393	0.47%	4462344	0.07%	3155386	1.78%
5000ng/ml TO-11A	17854488	0.18%	17905508	0.18%	11990582	0.11%	25039167	0.12%	15466841	0.25%	11107870	0.29%
5000ng/ml TO-11A	17875029	0.07%	17921465	0.09%	11986554	0.15%	25032033	0.15%	15380456	0.31%	11113181	0.24%
5000ng/ml TO-11A	17932725	0.25%	17988106	0.28%	12035186	0.26%	25134428	0.26%	15437631	0.06%	11198210	0.52%
10000ng/ml TO-11A	35277028	0.07%	35412579	0.06%	23892692	0.14%	49431359	0.07%	30345892	0.11%	21989696	0.21%
10000ng/ml TO-11A	35194712	0.17%	35338059	0.15%	23813504	0.19%	49315533	0.17%	30246038	0.22%	21823086	0.55%
10000ng/ml TO-11A	35288997	0.10%	35418570	0.08%	23869930	0.05%	49446486	0.10%	30343150	0.10%	22018475	0.34%

AVERAGE RESPONSE FACTOR

	Form-Aldehyde	Acet-Aldehyde	Propion-Aldehyde	Croton-Aldehyde	Butyr-Aldehyde	Benz-Aldehyde
50ng/ml TO-11A S	451630	326833	268906	198706	203541	139669
100ng/ml TO-11A	859488	623231	499554	379527	382791	250939
500ng/ml TO-11A	4257495	3064658	2506589	1954289	1909379	1284462
1500ng/ml TO-11A	13529541	9889344	7792222	6148549	6120291	4117929
5000ng/ml TO-11A	46512015	33993503	26687243	21596895	21451545	14468790
10000ng/ml TO-11	91480117	67148926	52678339	42610569	42286242	28595354

AVERAGE RESPONSE FACTOR

	Isovaler-Aldehyde	Valer-Aldehyde	o-Tolu-Aldehyde	m,p-Tolu-Aldehyde	Hex-Aldehyde	2,5-Dimethl benz-Aldehyde
50ng/ml TO-11A S	179689	169231	105723	218715	148823	90025
100ng/ml TO-11A	326001	327664	198075	405757	285376	176114
500ng/ml TO-11A	1628350	1588102	1018272	2197894	1422288	961098
1500ng/ml TO-11A	5156078	5150599	3373392	7172865	4459078	3100194
5000ng/ml TO-11A	17887414	17938360	12004107	25068543	15428309	11139754
10000ng/ml TO-11	35253579	35389736	23858709	49397793	30311693	21943752

COMPOUND	50	100	500	1500	5000	10000	AVERAGE	SD	%RSD
Formaldehyde	9.033E+03	8.595E+03	8.515E+03	9.020E+03	9.302E+03	9.148E+03	8.935E+03	3.13E+02	3.50%
Acetaldehyde	6.537E+03	6.232E+03	6.129E+03	6.593E+03	6.799E+03	6.715E+03	6.501E+03	2.66E+02	4.10%
Propionaldehyde	5.378E+03	4.996E+03	5.013E+03	5.195E+03	5.337E+03	5.268E+03	5.198E+03	1.62E+02	3.13%
Crotonaldehyde	3.974E+03	3.795E+03	3.909E+03	4.099E+03	4.319E+03	4.261E+03	4.060E+03	2.05E+02	5.04%
Butyraldehyde	4.071E+03	3.828E+03	3.819E+03	4.080E+03	4.290E+03	4.229E+03	4.053E+03	1.97E+02	4.86%
Benzaldehyde	2.793E+03	2.509E+03	2.569E+03	2.745E+03	2.894E+03	2.860E+03	2.728E+03	1.56E+02	5.74%
Isovaleraldehyde	3.594E+03	3.260E+03	3.257E+03	3.437E+03	3.577E+03	3.525E+03	3.442E+03	1.52E+02	4.42%
Valeraldehyde	3.385E+03	3.277E+03	3.176E+03	3.434E+03	3.588E+03	3.539E+03	3.400E+03	1.56E+02	4.58%
o-Tolualdehyde	2.114E+03	1.981E+03	2.037E+03	2.249E+03	2.401E+03	2.386E+03	2.195E+03	1.78E+02	8.13%
m,p-Tolualdehyde	2.187E+03	2.029E+03	2.198E+03	2.391E+03	2.507E+03	2.470E+03	2.297E+03	1.88E+02	8.18%
Hexaldehyde	2.976E+03	2.854E+03	2.845E+03	2.973E+03	3.086E+03	3.031E+03	2.961E+03	9.58E+01	3.24%
2,5-Dimethylbenzaldehyde	1.800E+03	1.761E+03	1.922E+03	2.067E+03	2.228E+03	2.194E+03	1.995E+03	1.98E+02	9.95%

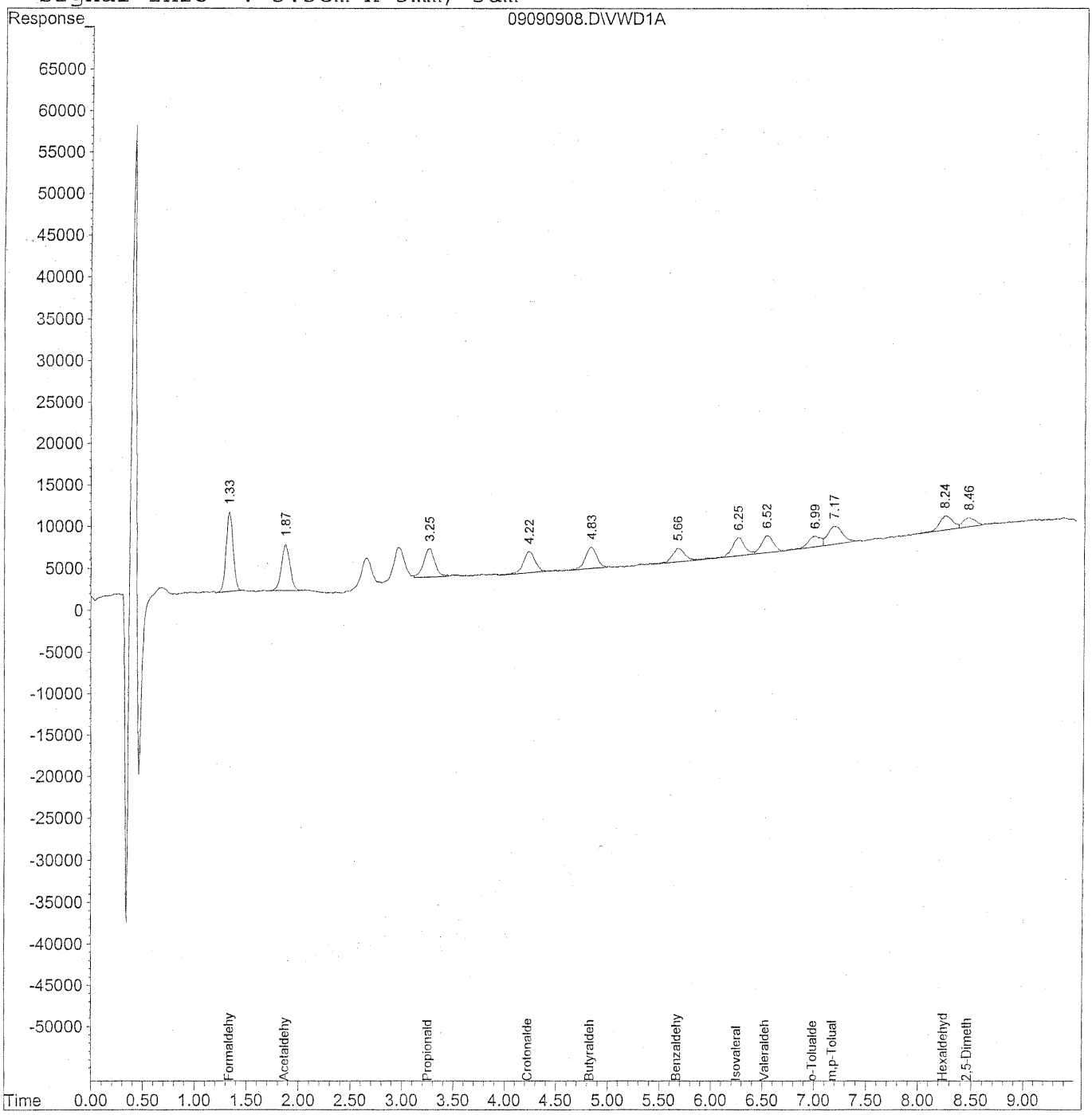
	TO-11A CALIBRATION STANDARDS LIST						
50ng/ml TO-11A S21-09080905							
100ng/ml TO-11A S21-09080904							
500ng/ml TO-11A S21-09080903							
1500ng/ml TO-11A S21-09090903							
5000ng/ml TO-11A S21-09080902							
10000ng/ml TO-11A S21-09080901							

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090908.D Vial: 9
Acq On : 09-Sep-2009, 15:20 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:46 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



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Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090908.D Vial: 9
Acq On : 09-Sep-2009, 15:20 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:46 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

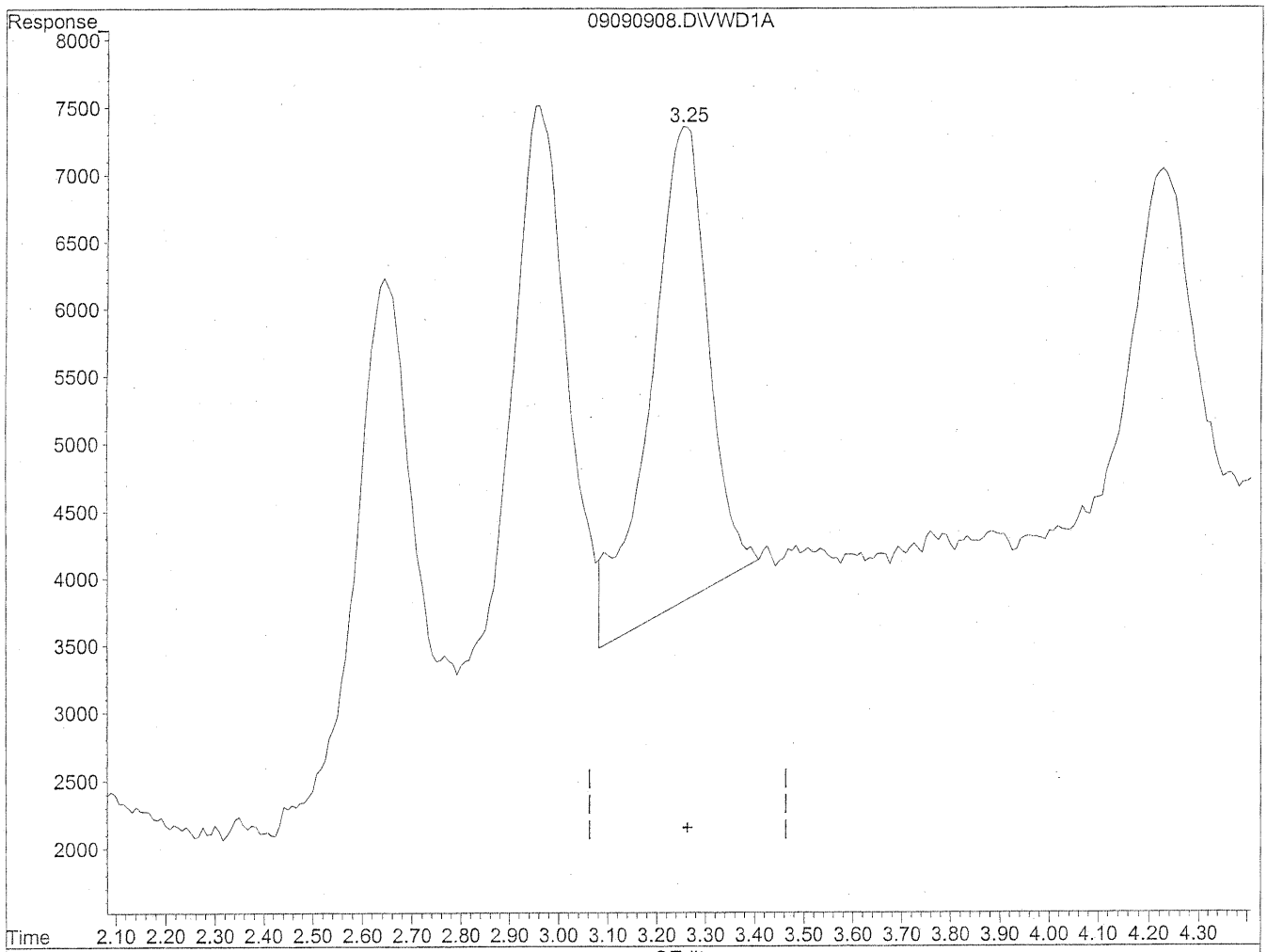
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.33	443088	48.300	ng/ml
2)	Acetaldehyde	1.87	311721	47.262	ng/ml
3)	Propionaldehyde	3.25	257497	49.595	ng/mlm
4)	Crotonaldehyde	4.23	205520	50.553	ng/ml
5)	Butyraldehyde	4.83	199284	48.165	ng/ml
6)	Benzaldehyde	5.67	136041	50.640	ng/ml
7)	Isovaleraldehyde	6.25	186226	53.155	ng/ml
8)	Valeraldehyde	6.53	166401	50.588	ng/ml
9)	o-Tolualdehyde	6.99	109996	48.007	ng/ml
10)	m,p-Tolualdehyde	7.18	216426	93.961	ng/ml
11)	Hexaldehyde	8.24	145487	51.040	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.46	84766	42.867	ng/ml

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

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090908.D Vial: 9
Acq On : 09-Sep-2009, 15:20 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:45 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde

3.26min 56.431ng/ml

response 292995

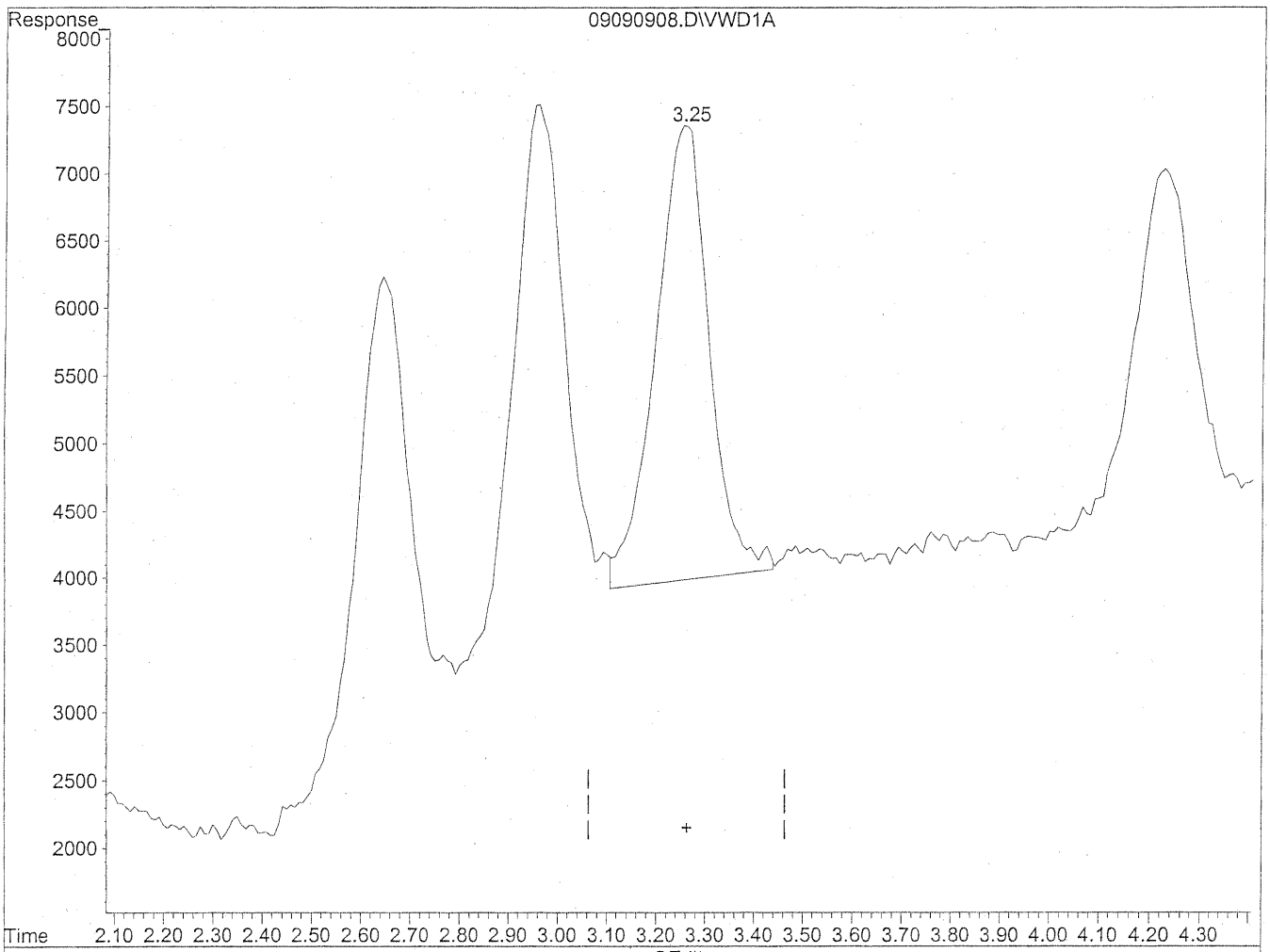
(+) = Expected Retention Time

09090908.D TO110909.M Thu Sep 10 08:45:50 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090908.D Vial: 9
Acq On : 09-Sep-2009, 15:20 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:45 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde

3.25min 49.595ng/ml m

response 257497

9/10/09

KK 9/10/09

147

(+) = Expected Retention Time

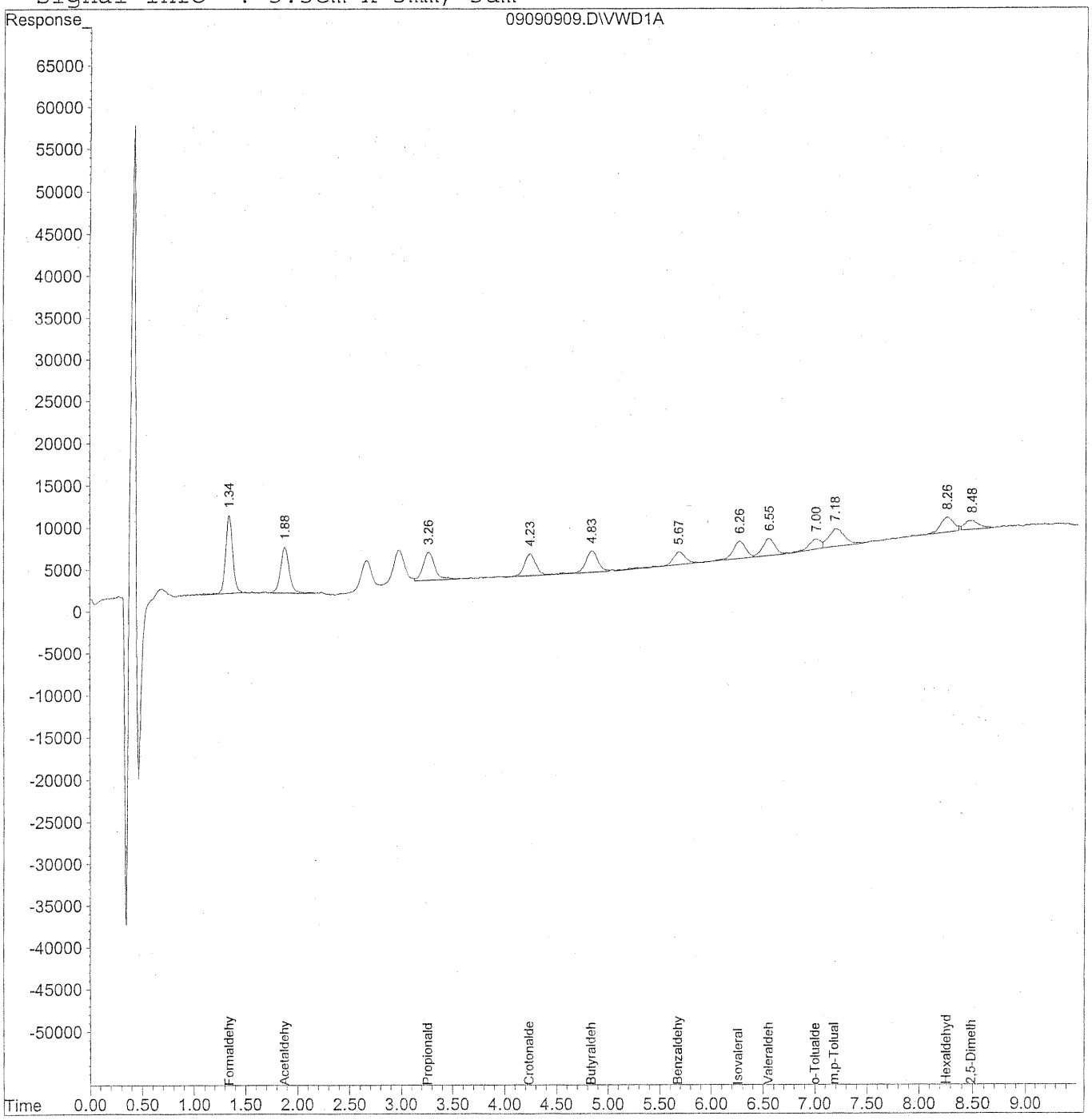
09090908.D TO110909.M Thu Sep 10 08:46:01 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090909.D Vial: 9
Acq On : 09-Sep-2009, 15:31 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:48 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



148

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090909.D Vial: 9
Acq On : 09-Sep-2009, 15:31 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:48 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

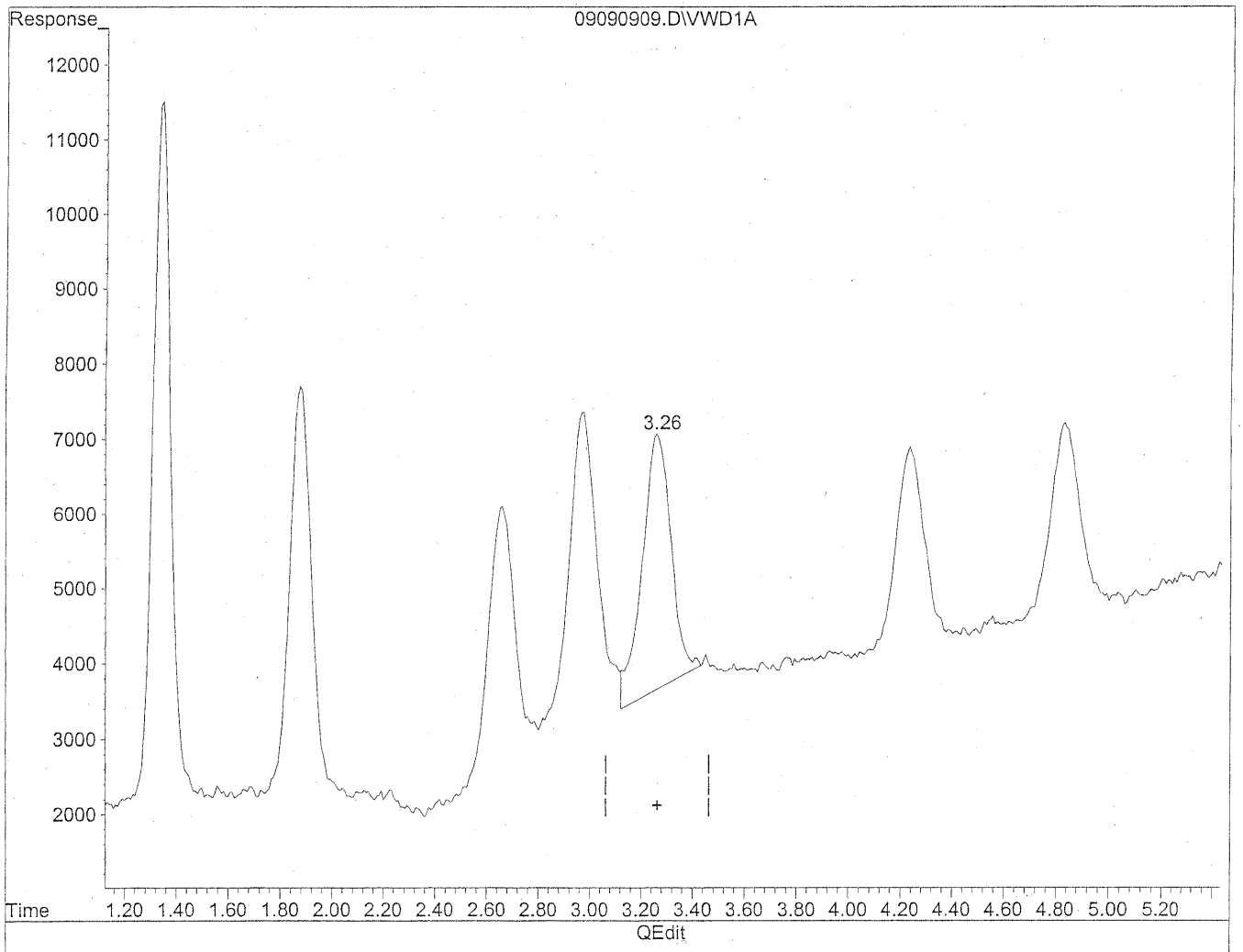
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	447251	48.810	ng/ml
2)	Acetaldehyde	1.88	327663	49.697	ng/ml
3)	Propionaldehyde	3.26	268082	51.767	ng/mlm
4)	Crotonaldehyde	4.24	200887	48.943	ng/ml
5)	Butyraldehyde	4.84	217482	52.896	ng/ml
6)	Benzaldehyde	5.68	140658	52.629	ng/ml
7)	Isovaleraldehyde	6.27	175760	49.313	ng/ml
8)	Valeraldehyde	6.55	171974	52.000	ng/ml
9)	o-Tolualdehyde	7.01	93386	40.816	ng/ml
10)	m,p-Tolualdehyde	7.18	227448	98.156	ng/mlm
11)	Hexaldehyde	8.26	145697	49.945	ng/mlm
12)	2,5-Dimethylbenzaldehyde	8.48	96663	49.614	ng/mlm

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

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090909.D Vial: 9
Acq On : 09-Sep-2009, 15:31 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:46 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde

3.26min 51.274ng/ml

response 265532

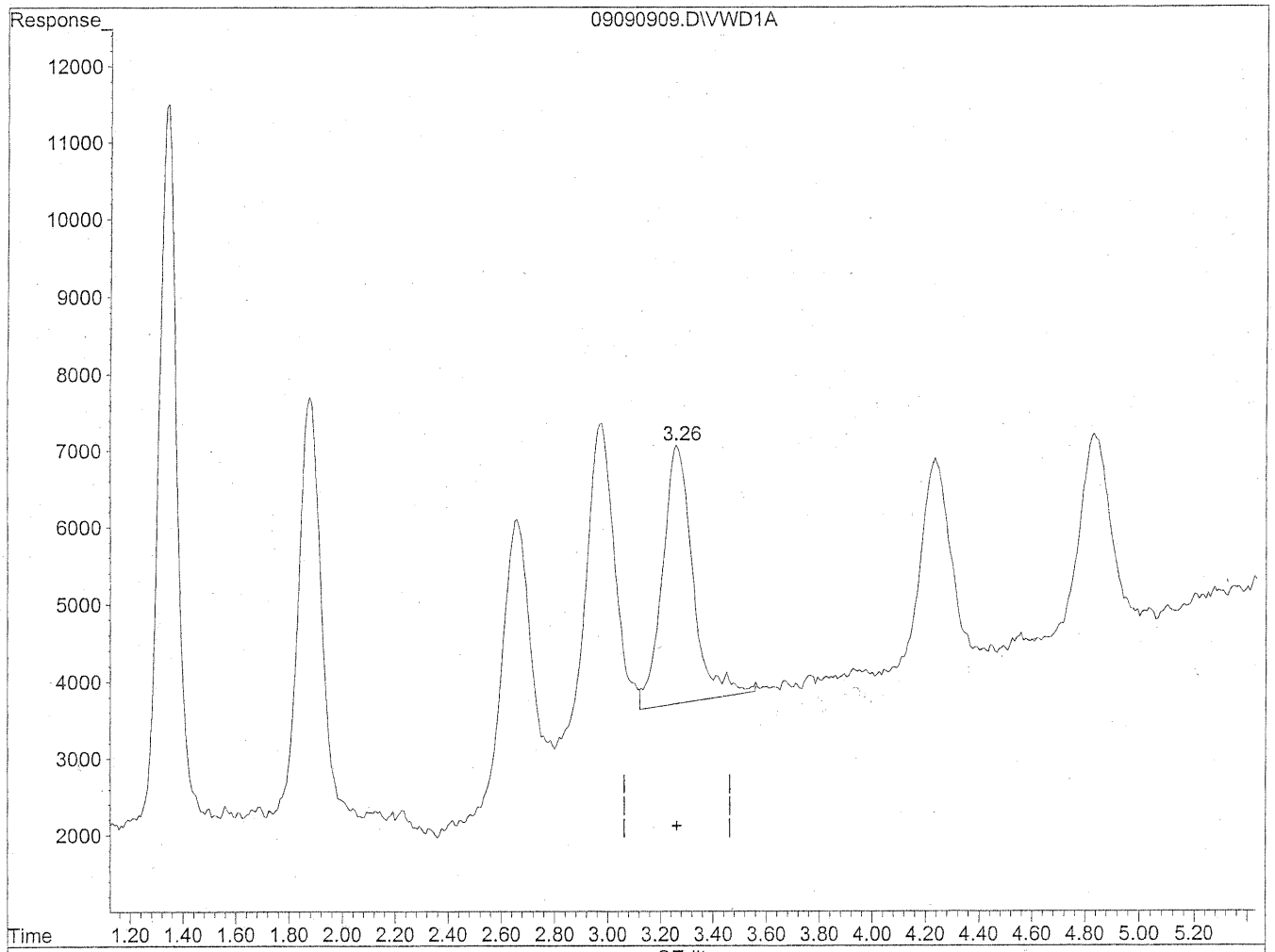
(+) = Expected Retention Time

09090909.D TO110909.M Thu Sep 10 08:46:54 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090909.D Vial: 9
Acq On : 09-Sep-2009, 15:31 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:46 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde

3.26min 51.767ng/ml m

response 268082

9/10/09

9/10/09

151

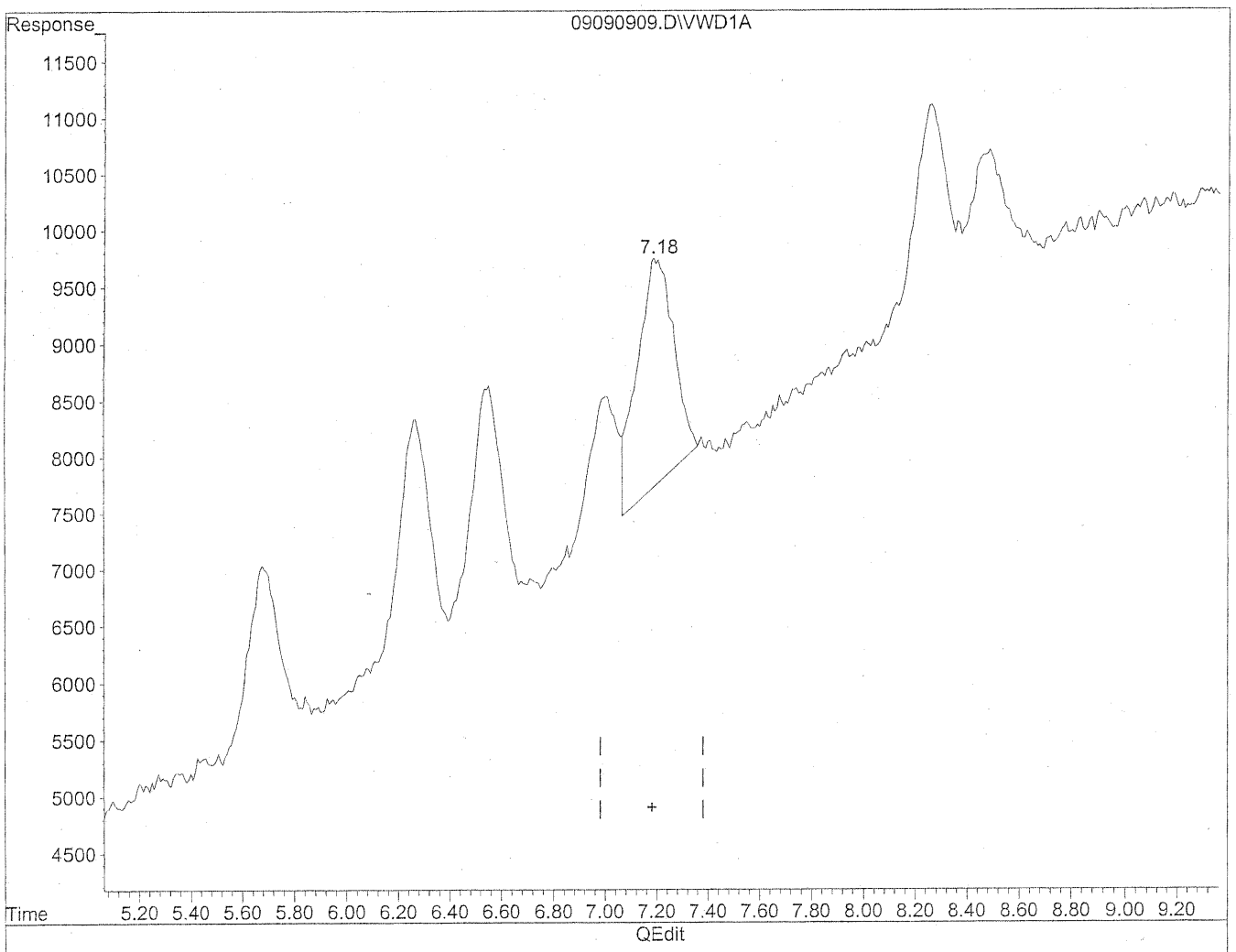
(+) = Expected Retention Time

09090909.D TO110909.M Thu Sep 10 08:47:01 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090909.D Vial: 9
Acq On : 09-Sep-2009, 15:31 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:46 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

7.19min 86.656ng/ml

response 200799

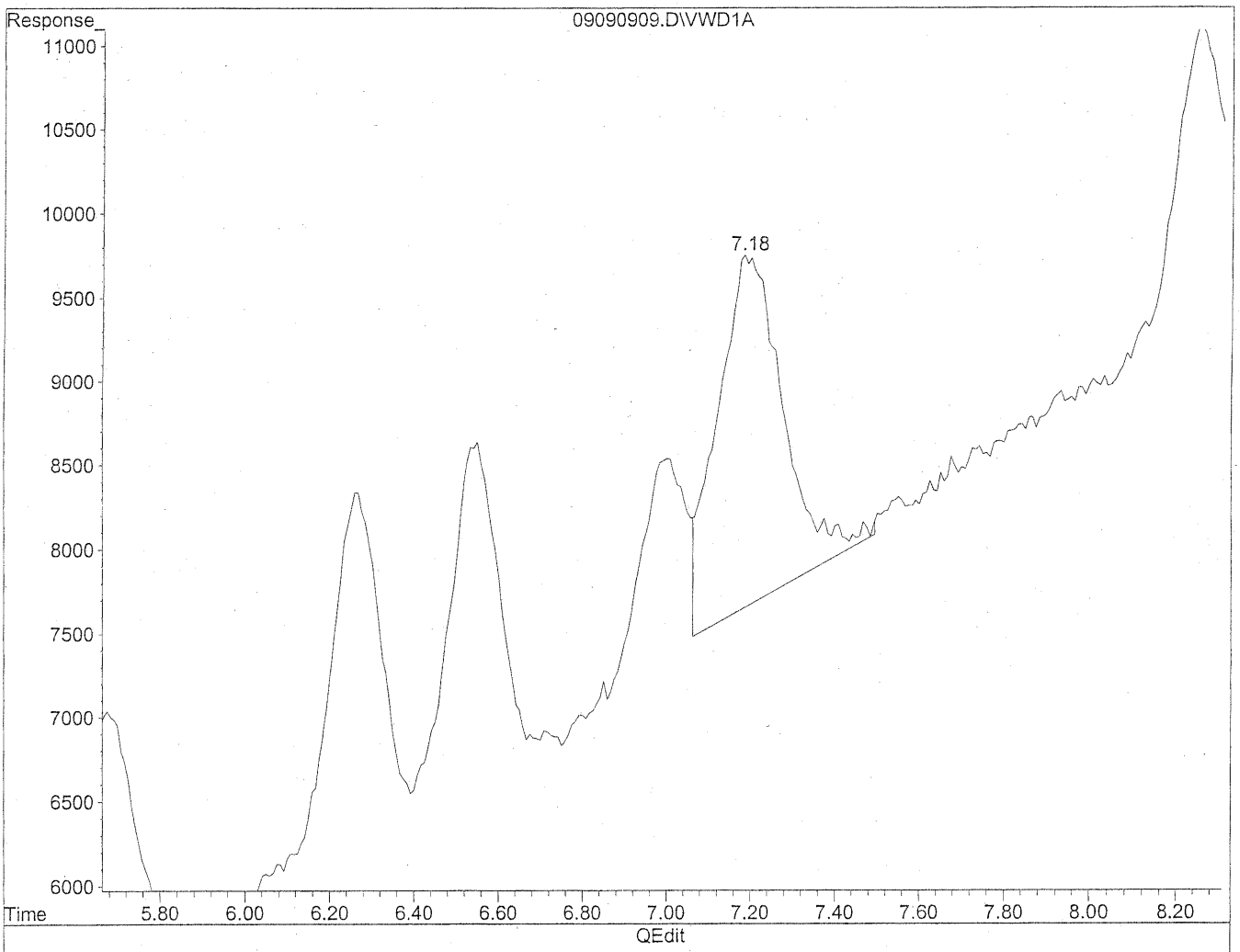
(+) = Expected Retention Time

09090909.D TO110909.M Thu Sep 10 08:47:13 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090909.D Vial: 9
Acq On : 09-Sep-2009, 15:31 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:46 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

7.18min 98.156ng/ml m

response 227448

9/10/09

KR 9/10/09

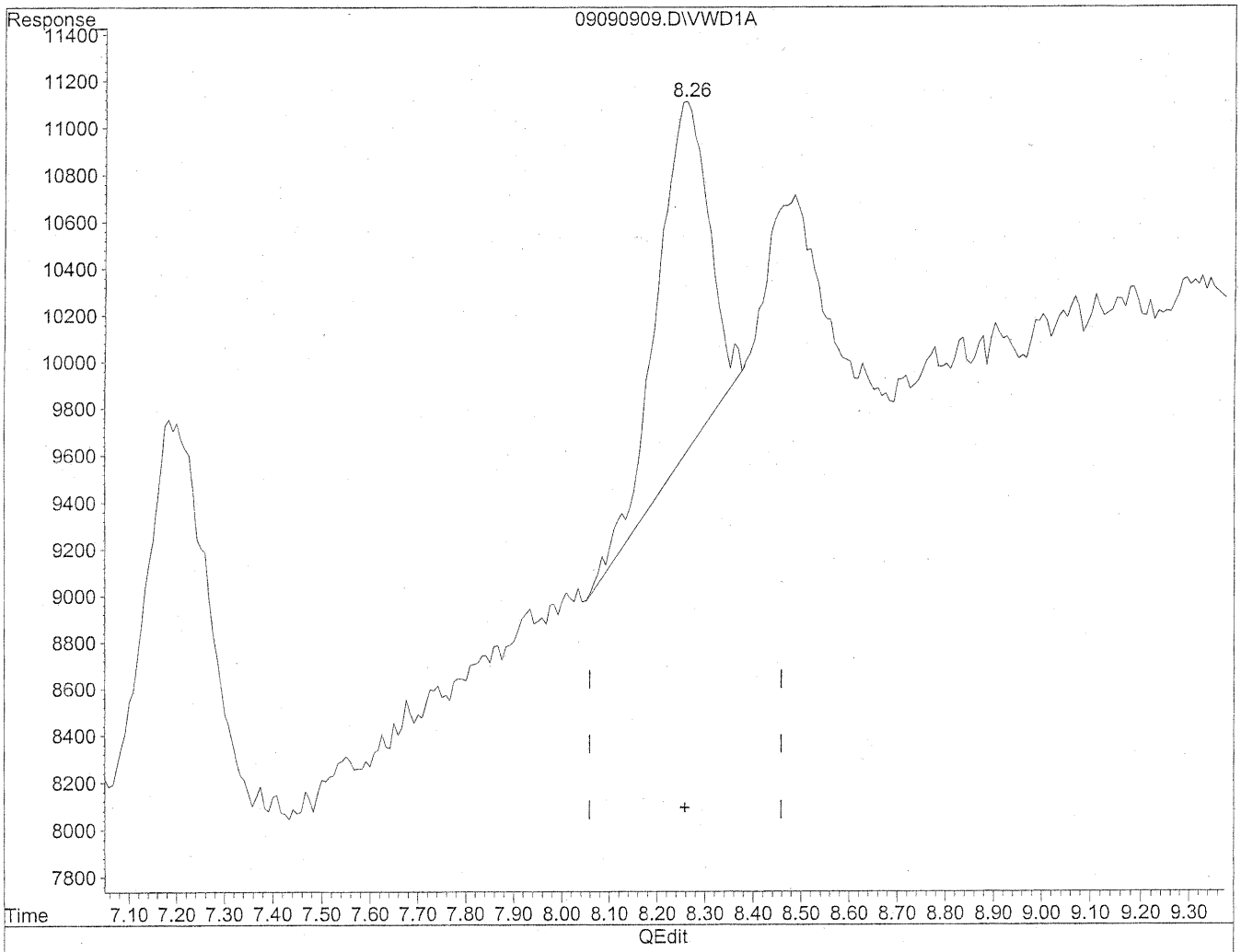
(+) = Expected Retention Time

09090909.D TO110909.M Thu Sep 10 08:47:57 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090909.D Vial: 9
Acq On : 09-Sep-2009, 15:31 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:46 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.26min 38.176ng/ml

response 111365

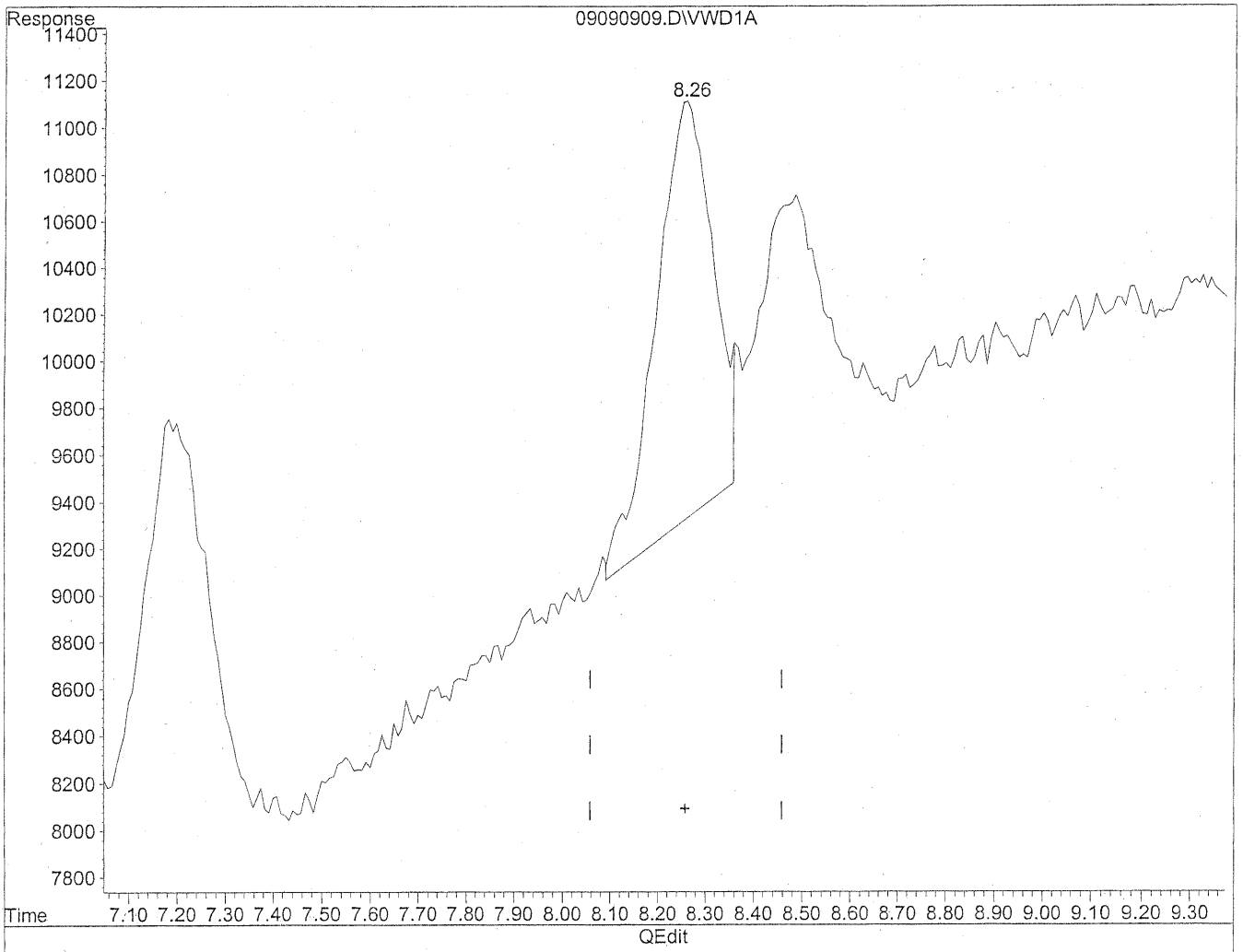
(+) = Expected Retention Time

09090909.D TO110909.M Thu Sep 10 08:48:01 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090909.D Vial: 9
Acq On : 09-Sep-2009, 15:31 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:46 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.26min 49.945ng/ml m

response 145697

9/10/09

9/10/09

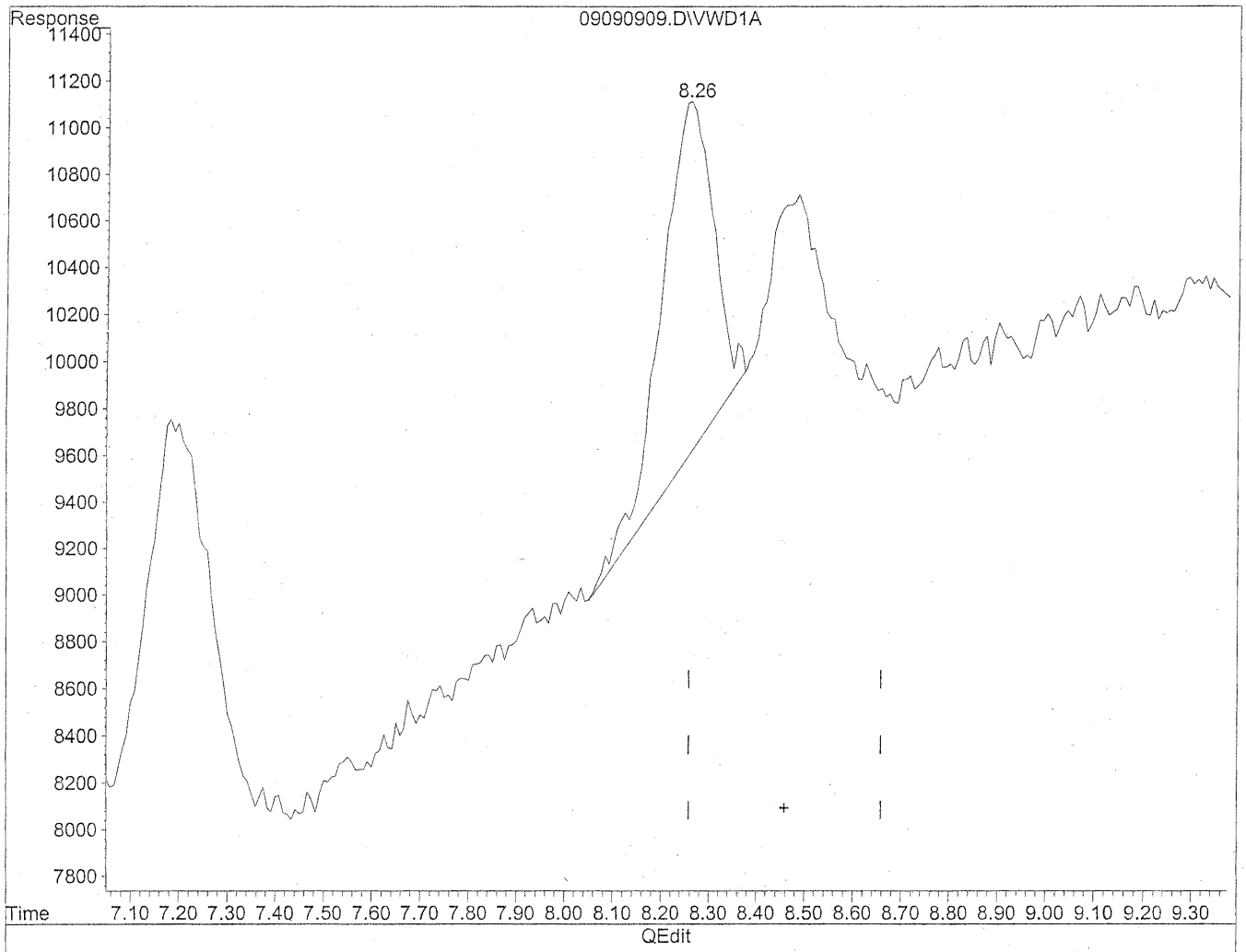
(+) = Expected Retention Time

09090909.D TO110909.M Thu Sep 10 08:48:07 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090909.D Vial: 9
Acq On : 09-Sep-2009, 15:31 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:46 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

8.26min 57.160ng/ml

response 111365

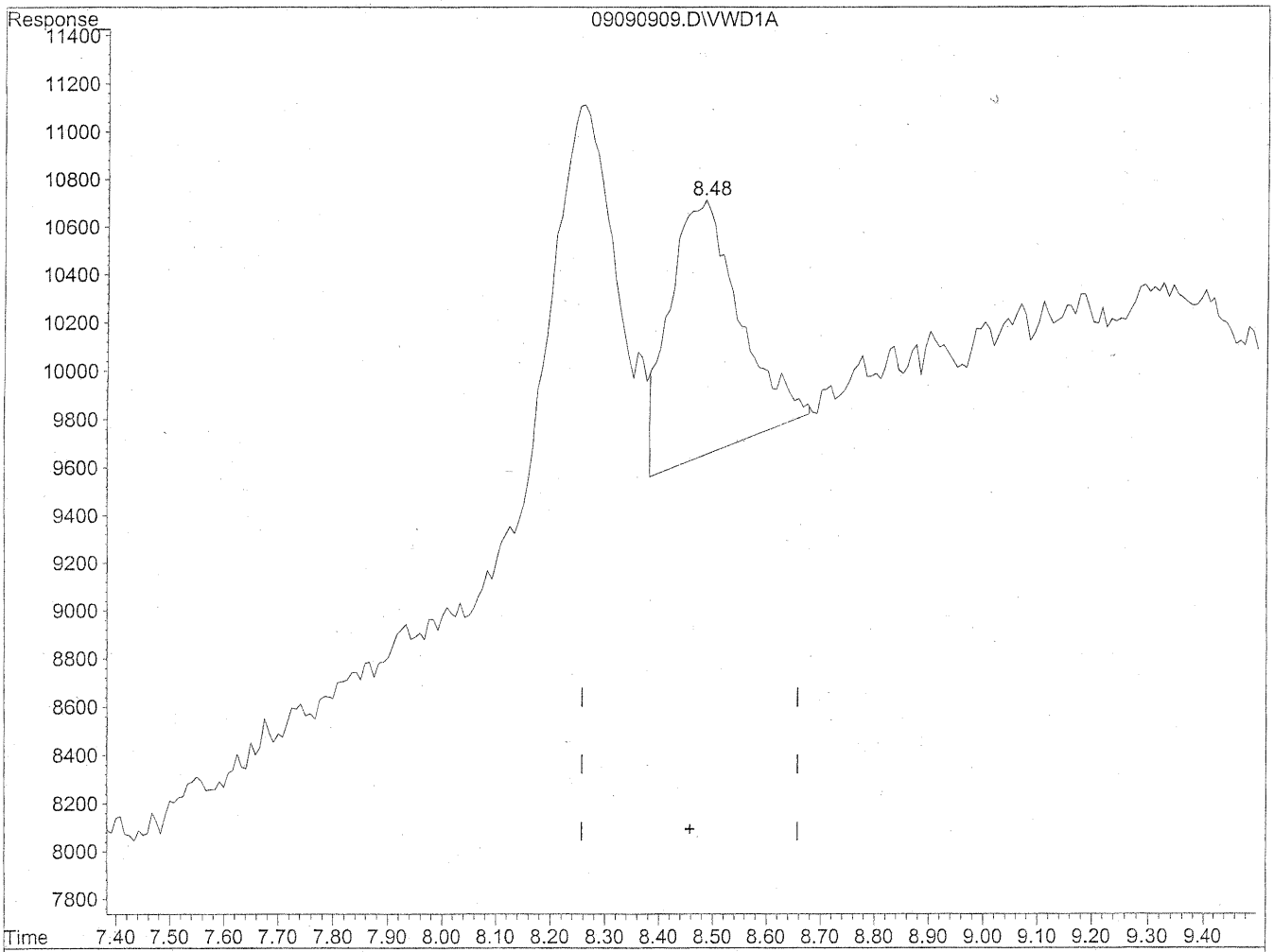
(+) = Expected Retention Time

09090909.D TO110909.M Thu Sep 10 08:48:09 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090909.D Vial: 9
Acq On : 09-Sep-2009, 15:31 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:48 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 11 13:54:46 2008
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

8.48min 49.614ng/ml m

response 96663

9/10/09

KR 9/10/09

(+) = Expected Retention Time

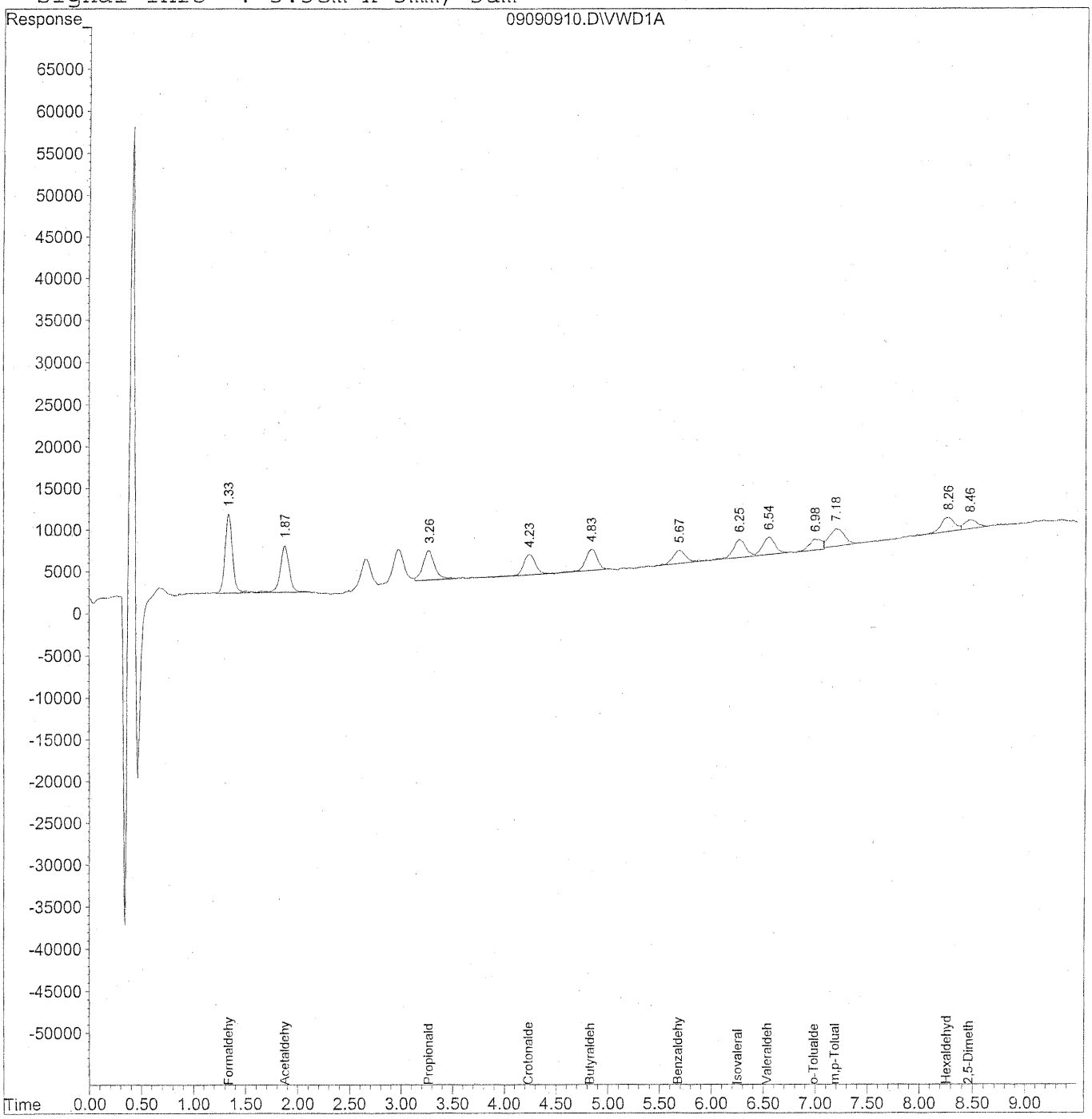
09090909.D TO110909.M Thu Sep 10 11:14:04 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090910.D Vial: 9
Acq On : 09-Sep-2009, 15:43 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:49 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



158

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090910.D Vial: 9
Acq On : 09-Sep-2009, 15:43 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:49 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

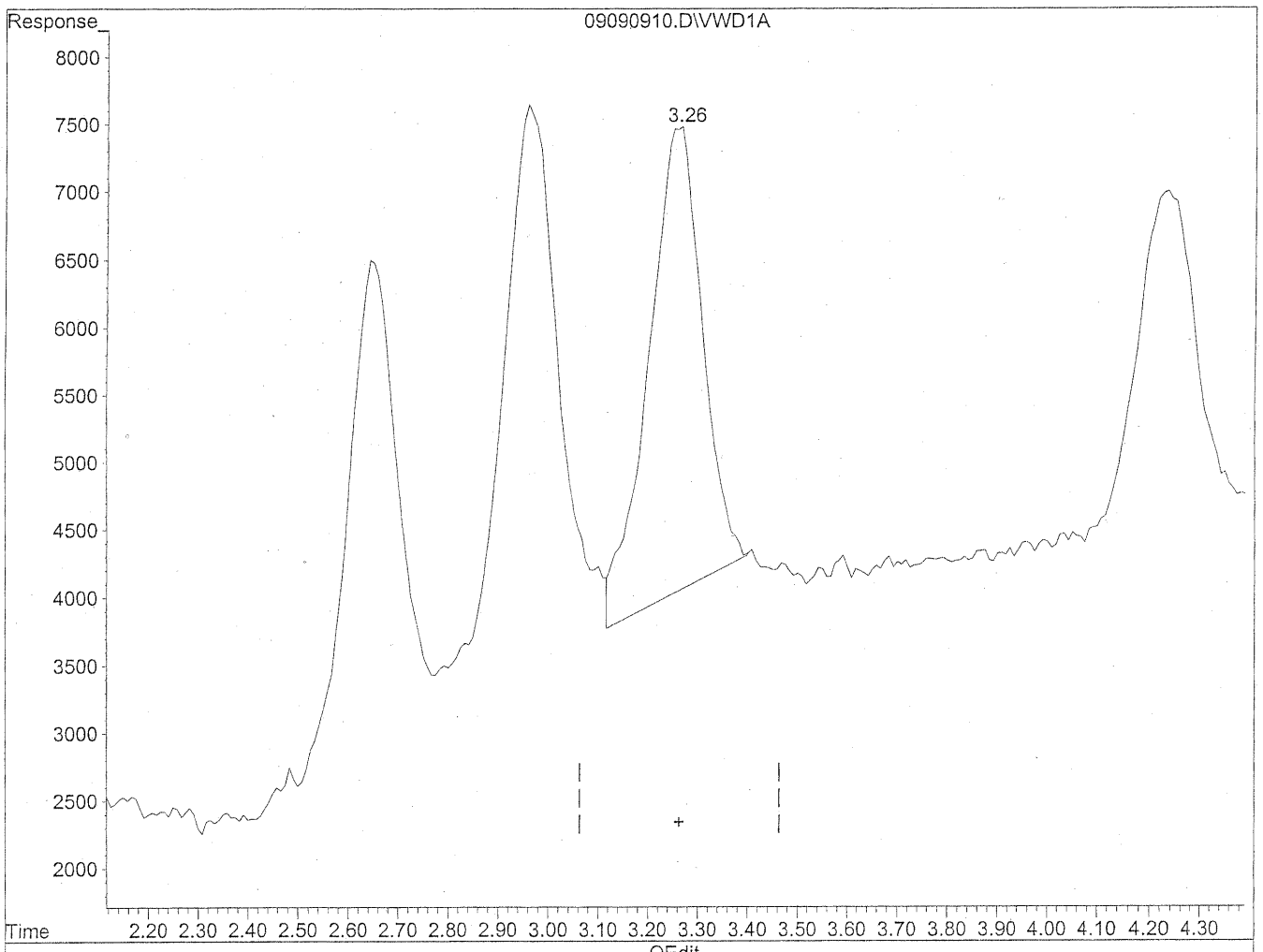
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.33	464552	50.660	ng/ml
2)	Acetaldehyde	1.87	341116	51.530	ng/ml
3)	Propionaldehyde	3.26	281140	54.104	ng/mlm
4)	Crotonaldehyde	4.23	189710	46.307	ng/ml
5)	Butyraldehyde	4.83	193856	46.804	ng/ml
6)	Benzaldehyde	5.67	142307	53.093	ng/mlm
7)	Isovaleraldehyde	6.26	177082	49.928	ng/ml
8)	Valeraldehyde	6.54	169317	51.053	ng/ml
9)	o-Tolualdehyde	6.98	113786	50.342	ng/mlm
10)	m,p-Tolualdehyde	7.19	212270	91.245	ng/ml
11)	Hexaldehyde	8.26	155285	53.226	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.46	88645	45.040	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.
09090910.D TO110909.M Thu Sep 10 10:44:20 2009 Page 1

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090910.D Vial: 9
Acq On : 09-Sep-2009, 15:43 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:48 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde

3.26min 49.837ng/ml

response 258964

160

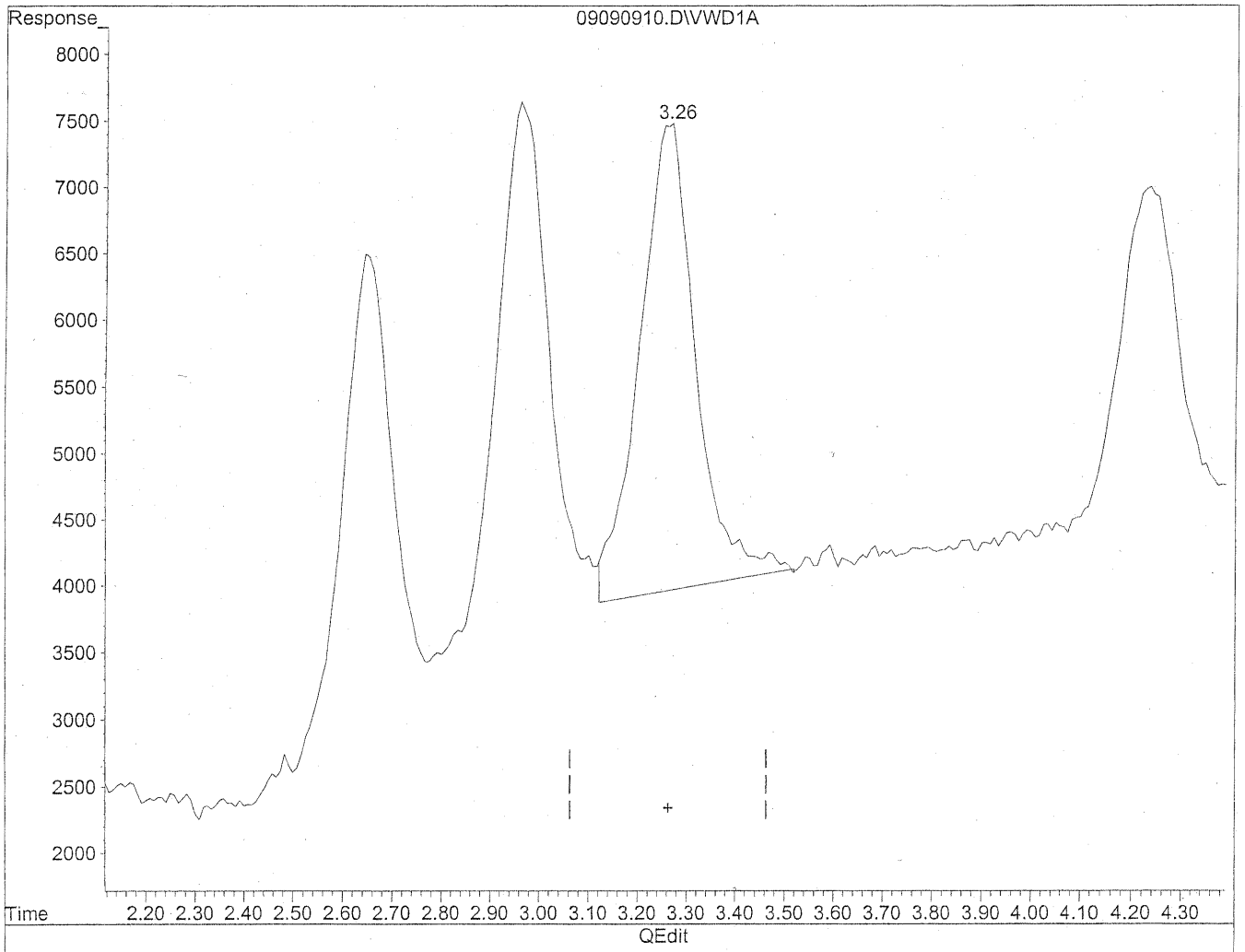
(+) = Expected Retention Time

09090910.D TO110909.M Thu Sep 10 08:48:55 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090910.D Vial: 9
Acq On : 09-Sep-2009, 15:43 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:48 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde

3.26min 54.104ng/ml m

response 281140

9/10/09

9/10/09

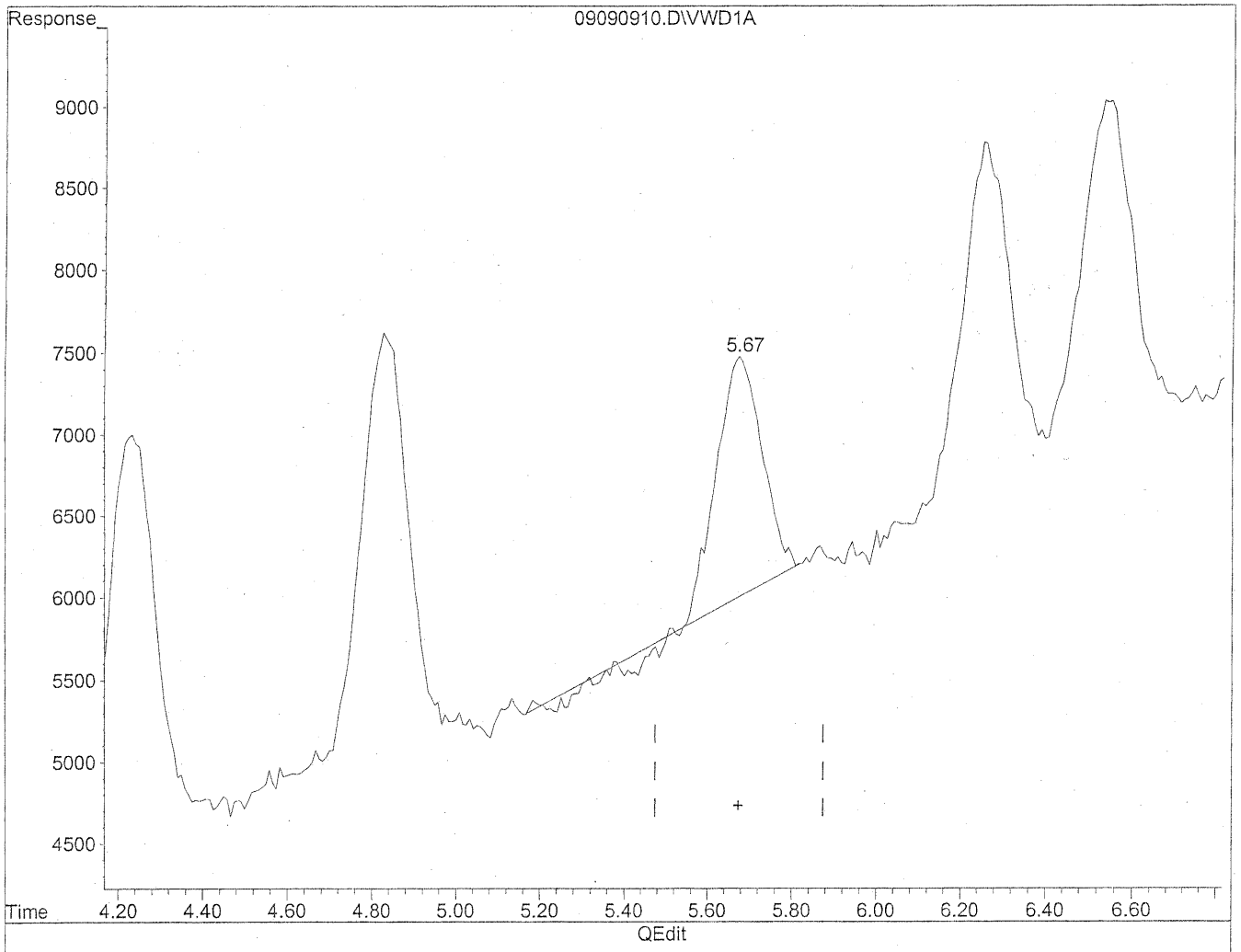
(+) = Expected Retention Time

09090910.D TO110909.M Thu Sep 10 08:49:06 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090910.D Vial: 9
Acq On : 09-Sep-2009, 15:43 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:48 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

5.68min 37.890ng/ml

response 101557

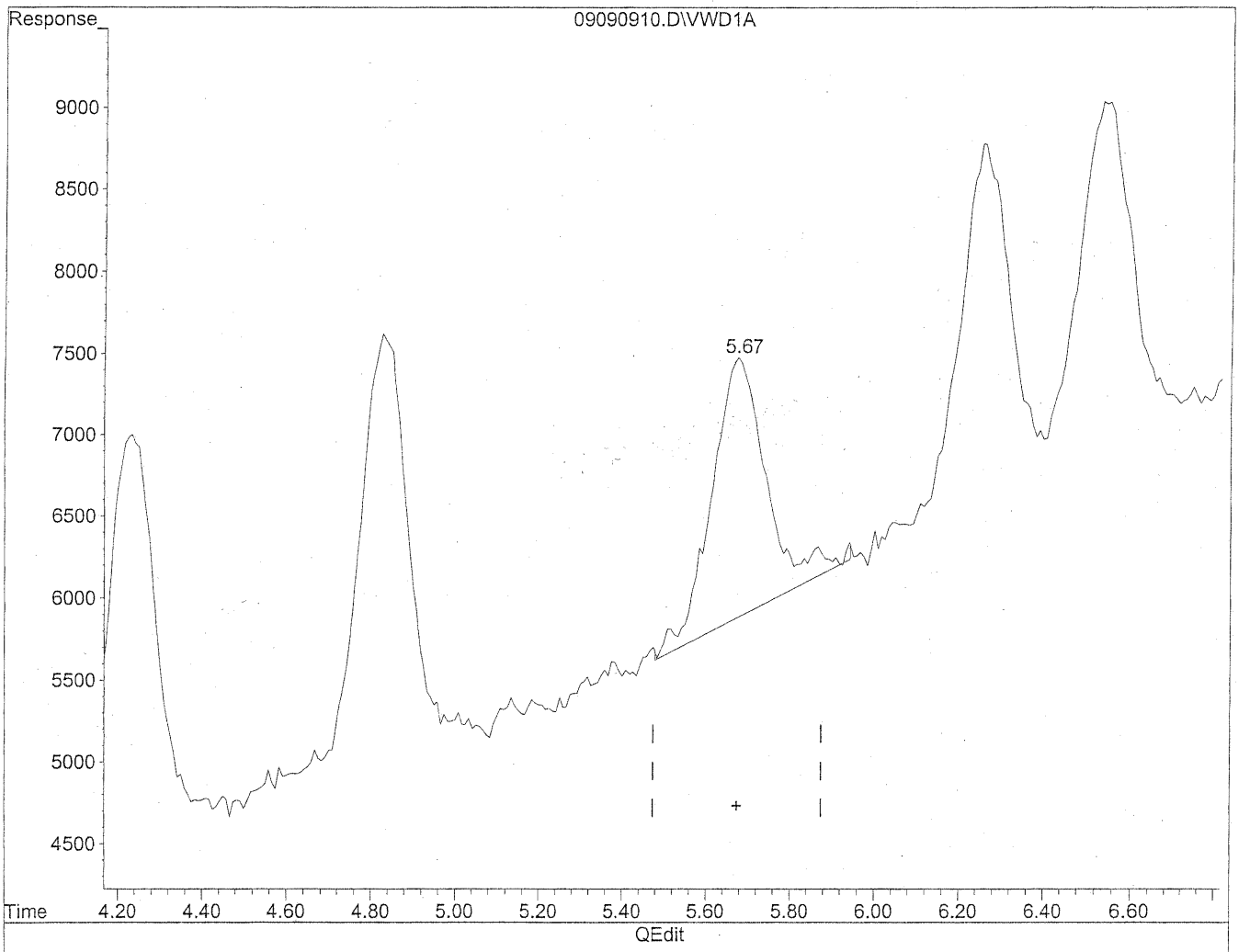
(+) = Expected Retention Time

09090910.D TO110909.M Thu Sep 10 08:49:11 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090910.D Vial: 9
Acq On : 09-Sep-2009, 15:43 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:48 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

5.67min 53.093ng/ml m

response 142307

MR 9/10/09 TZ

KR 9/10/09

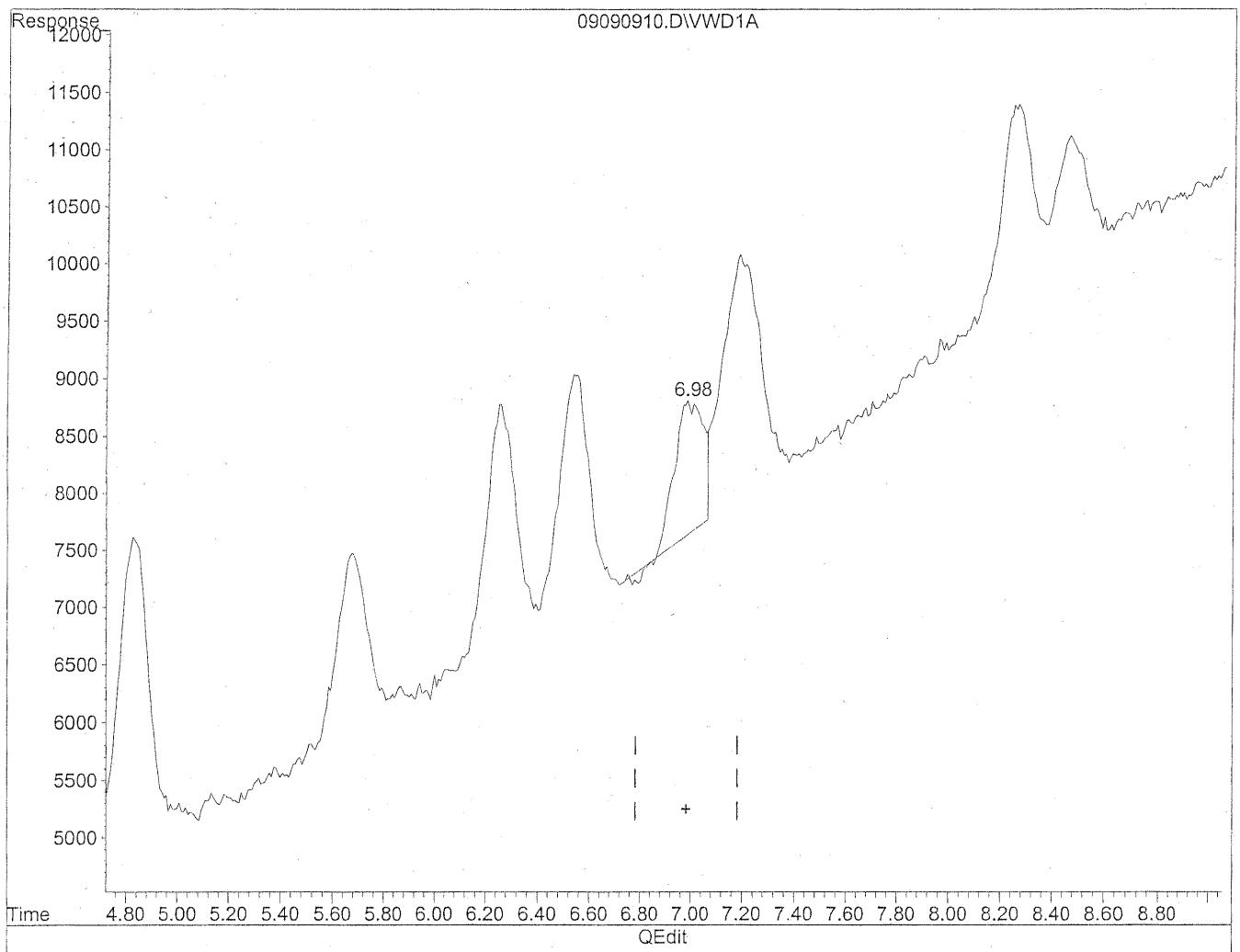
(+) = Expected Retention Time

09090910.D TO110909.M Thu Sep 10 08:49:16 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090910.D Vial: 9
Acq On : 09-Sep-2009, 15:43 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:48 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

6.99min 38.054ng/ml

response 86012

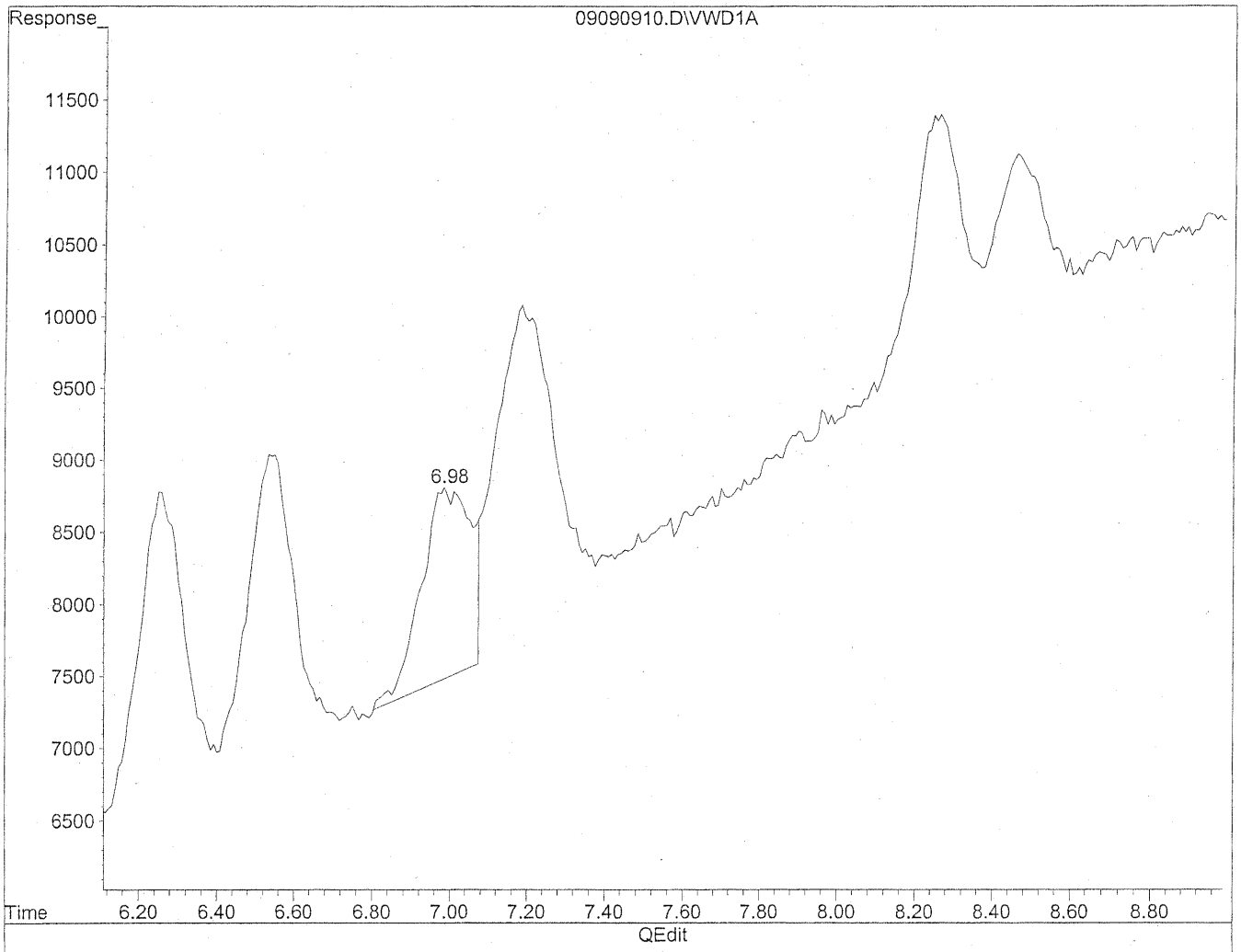
(+) = Expected Retention Time

09090910.D TO110909.M Thu Sep 10 08:49:25 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090910.D Vial: 9
Acq On : 09-Sep-2009, 15:43 Operator: MD
Sample : 50ng/ml TO-11A S21-09080905 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:48 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

6.98min 50.342ng/ml m

response 113786

9/10/09

9/10/09

(+) = Expected Retention Time

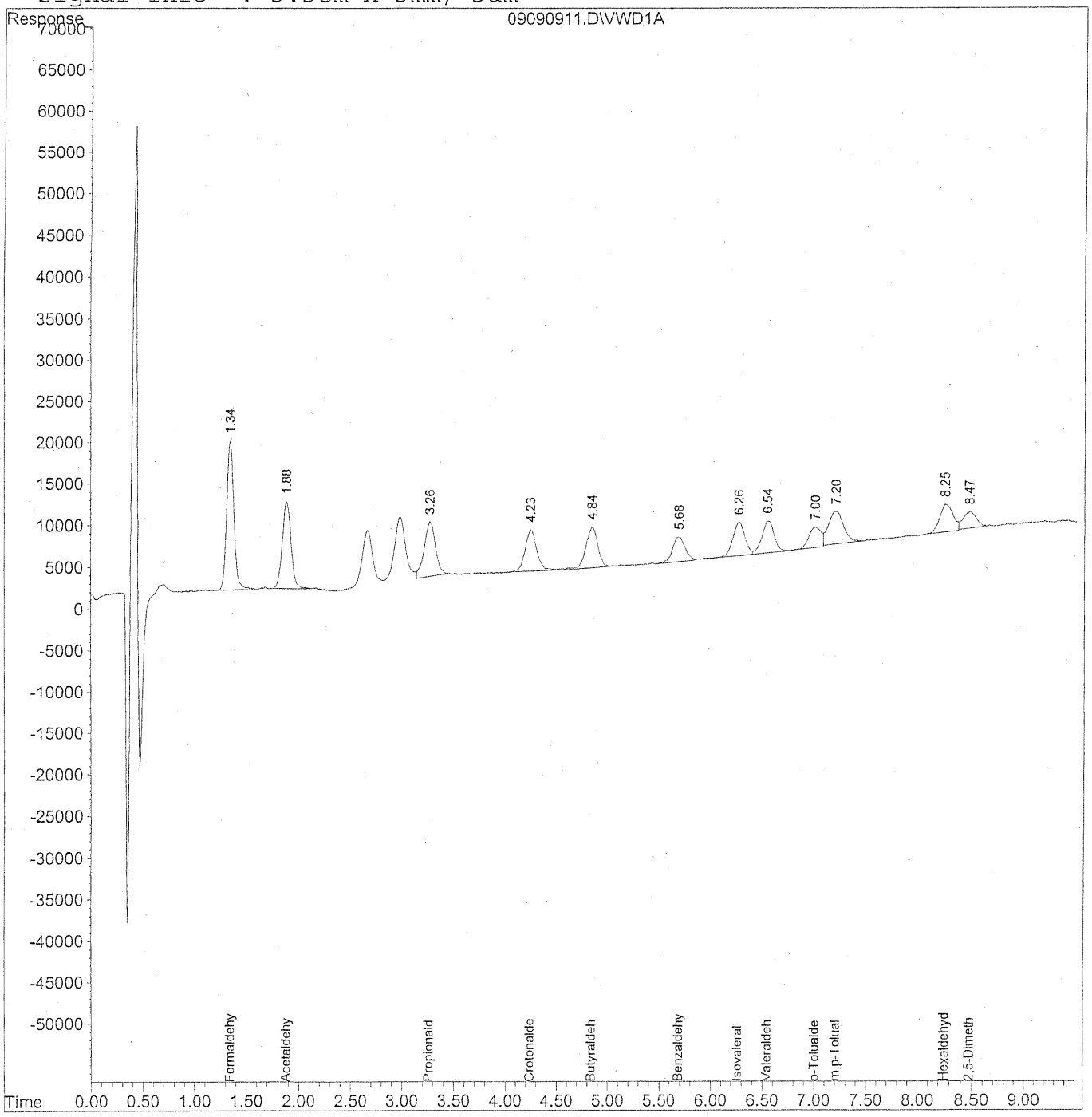
09090910.D TO110909.M Thu Sep 10 08:49:36 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090911.D Vial: 8
Acq On : 09-Sep-2009, 15:54 Operator: MD
Sample : 100ng/ml TO-11A S21-09080904 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 9:02 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



166

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090911.D Vial: 8
Acq On : 09-Sep-2009, 15:54 Operator: MD
Sample : 100ng/ml TO-11A S21-09080904 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 9:02 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

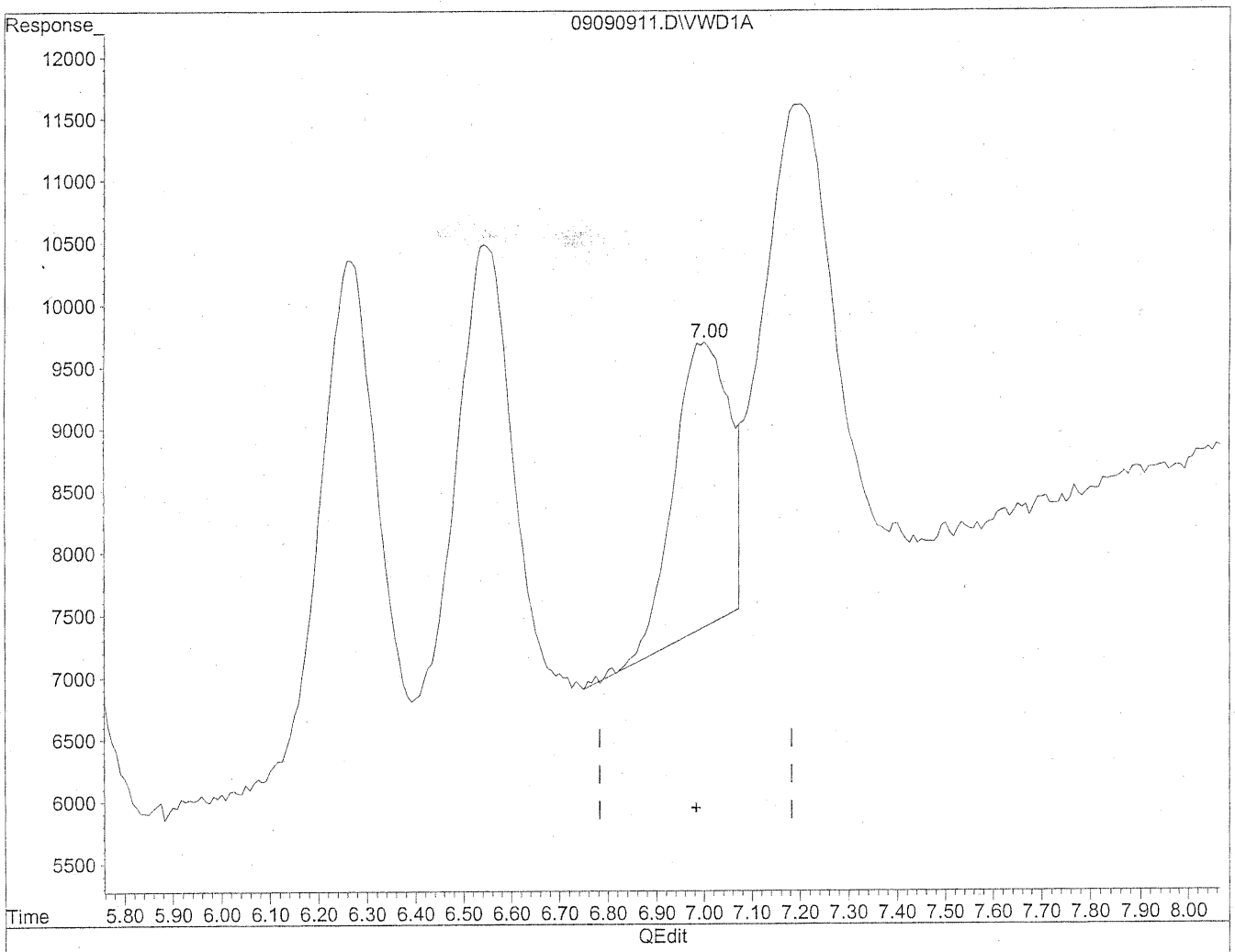
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	857936	93.340	ng/ml
2)	Acetaldehyde	1.88	602866	90.745	ng/ml
3)	Propionaldehyde	3.26	495705	95.023	ng/ml
4)	Crotonaldehyde	4.24	389577	95.443	ng/ml
5)	Butyraldehyde	4.84	390139	94.563	ng/ml
6)	Benzaldehyde	5.68	249897	93.081	ng/ml
7)	Isovaleraldehyde	6.27	323665	91.369	ng/ml
8)	Valeraldehyde	6.55	320426	96.613	ng/ml
9)	o-Tolualdehyde	7.00	207105	91.087	ng/mlm
10)	m,p-Tolualdehyde	7.20	397976	171.466	ng/mlm
11)	Hexaldehyde	8.25	282439	96.453	ng/mlm
12)	2,5-Dimethylbenzaldehyde	8.48	170783	86.876	ng/ml

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

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090911.D Vial: 8
Acq On : 09-Sep-2009, 15:54 Operator: MD
Sample : 100ng/ml TO-11A S21-09080904 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

7.00min 80.006ng/ml

response 181910

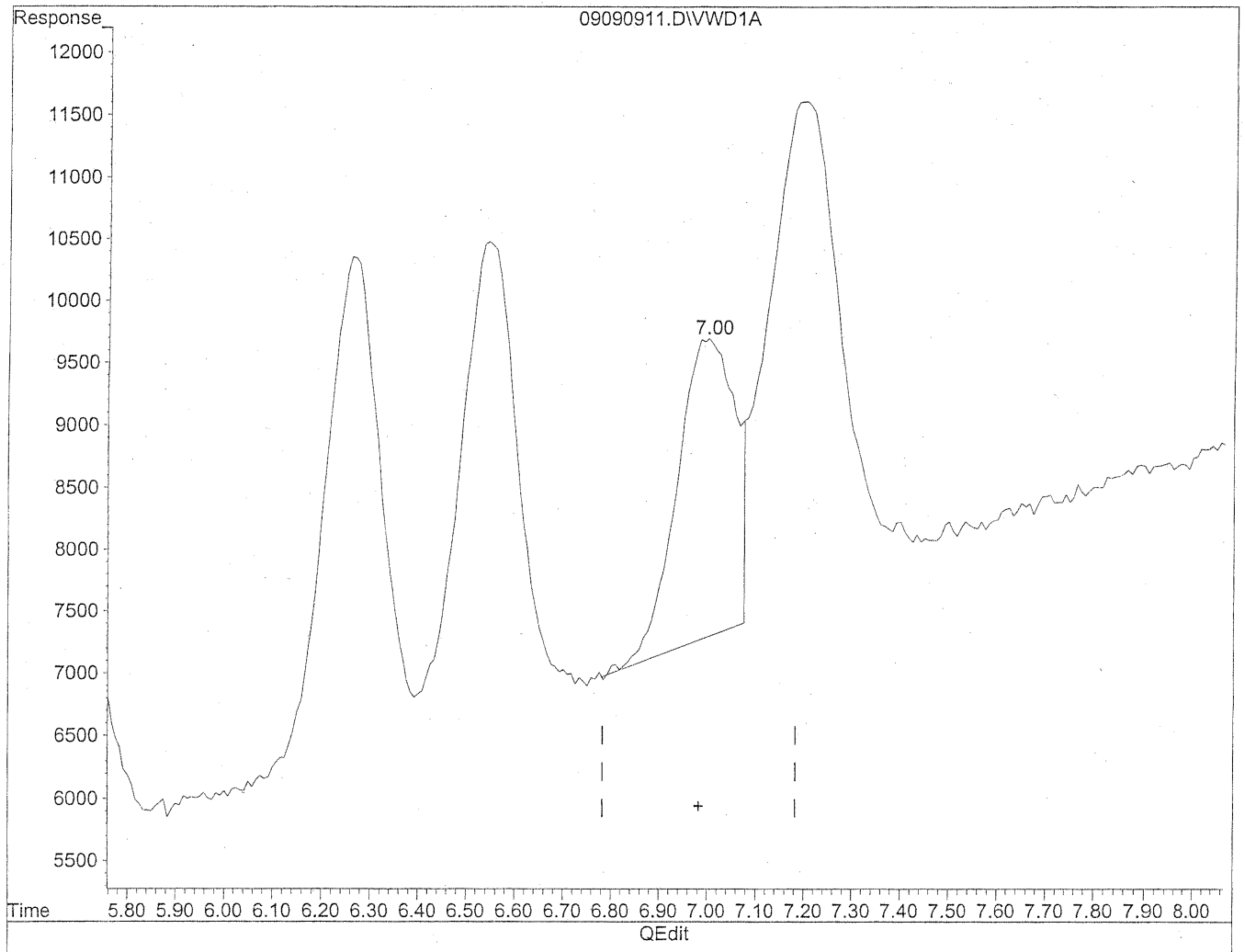
(+) = Expected Retention Time

09090911.D TO110909.M Thu Sep 10 09:01:59 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090911.D Vial: 8
Acq On : 09-Sep-2009, 15:54 Operator: MD
Sample : 100ng/ml TO-11A S21-09080904 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

7.00min 91.087ng/ml m

response 207105

9/10/09

9/10/09

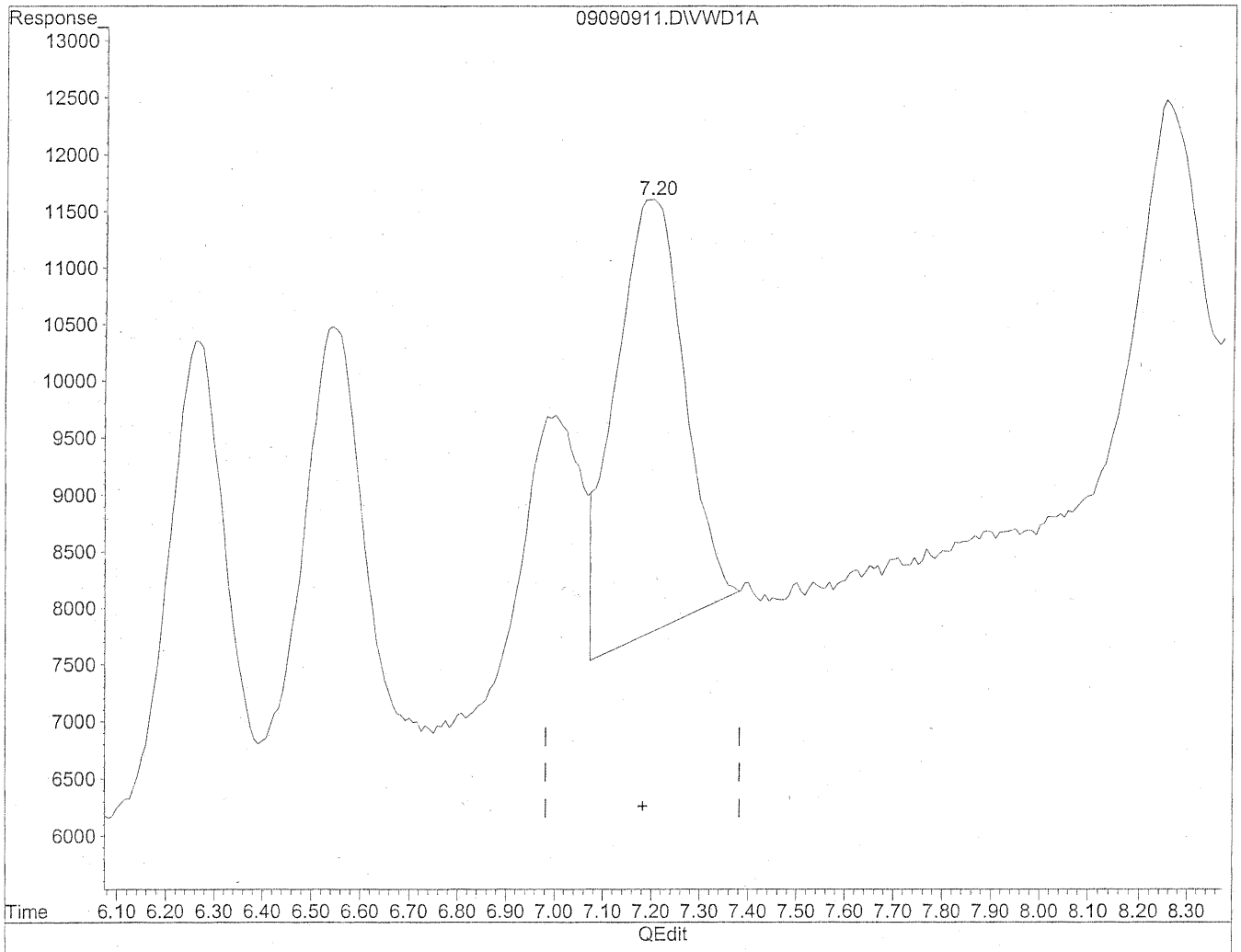
(+) = Expected Retention Time

09090911.D TO110909.M Thu Sep 10 09:02:10 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090911.D Vial: 8
Acq On : 09-Sep-2009, 15:54 Operator: MD
Sample : 100ng/ml TO-11A S21-09080904 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

7.20min 165.581ng/ml

response 384316

(+) = Expected Retention Time

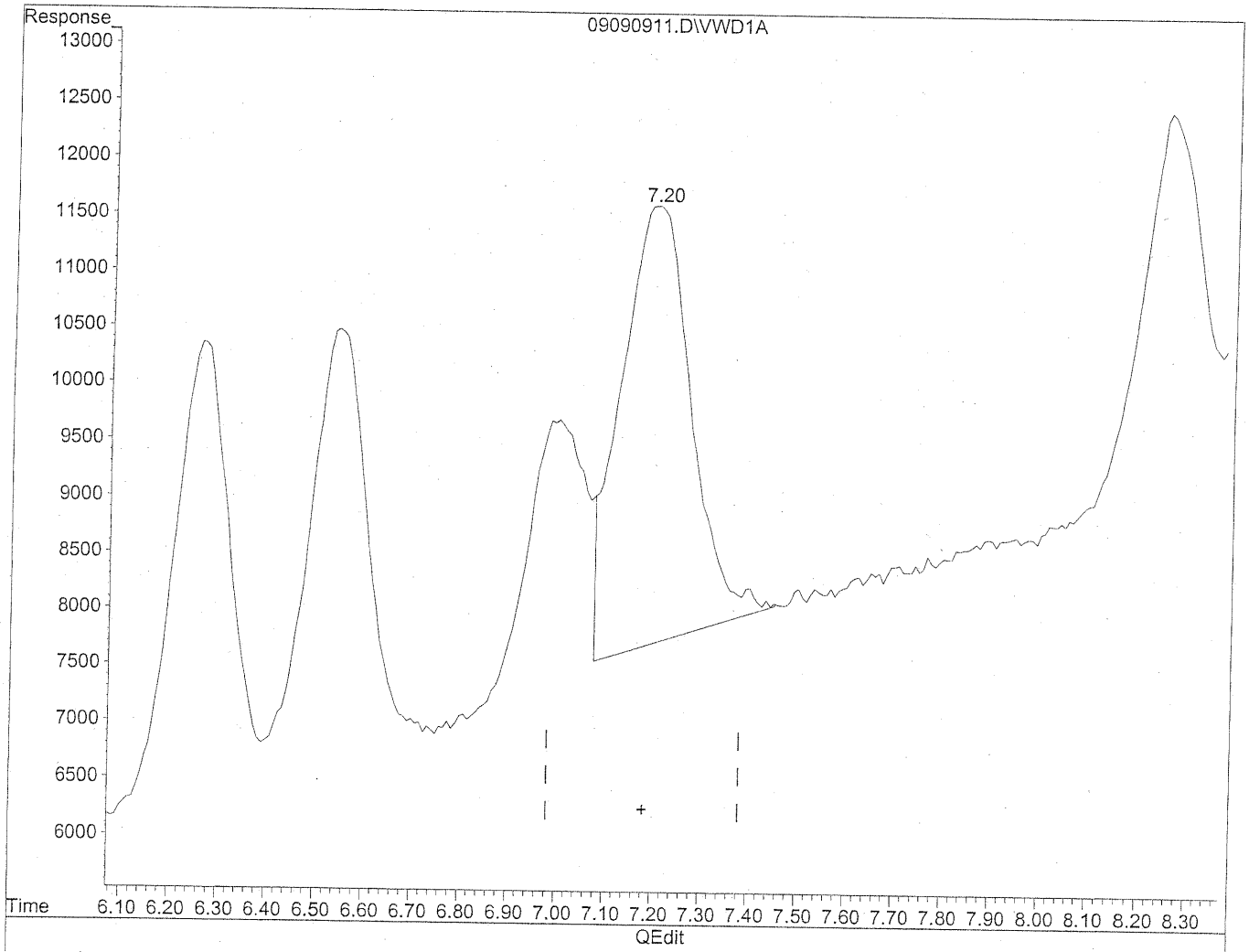
09090911.D TO110909.M Thu Sep 10 08:50:13 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090911.D
Acq On : 09-Sep-2009, 15:54
Sample : 100ng/ml TO-11A S21-09080904
Misc :
IntFile : events.e
Quant Time: Sep 10 8:50 19109 Quant Results File: TO110909.RES

Vial: 8
Operator: MD
Inst : VWD
Multiplr: 1.00

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

7.20min 171.466ng/ml m

response 397976

MR 9/10/09 TL

KR 9/10/09

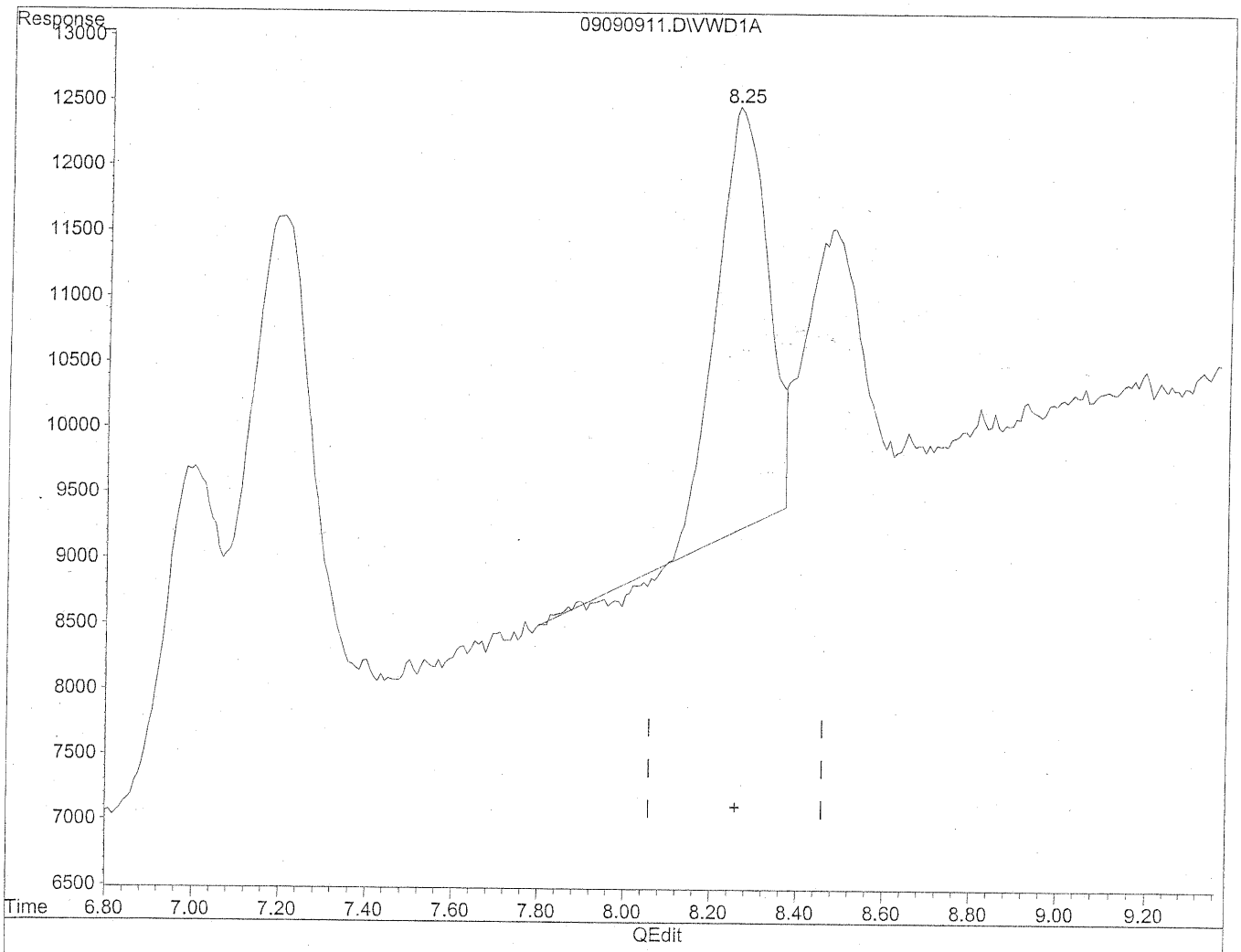
(+) = Expected Retention Time

09090911.D TO110909.M Thu Sep 10 08:50:21 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090911.D Vial: 8
Acq On : 09-Sep-2009, 15:54 Operator: MD
Sample : 100ng/ml TO-11A S21-09080904 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.25min 88.073ng/ml

response 257900

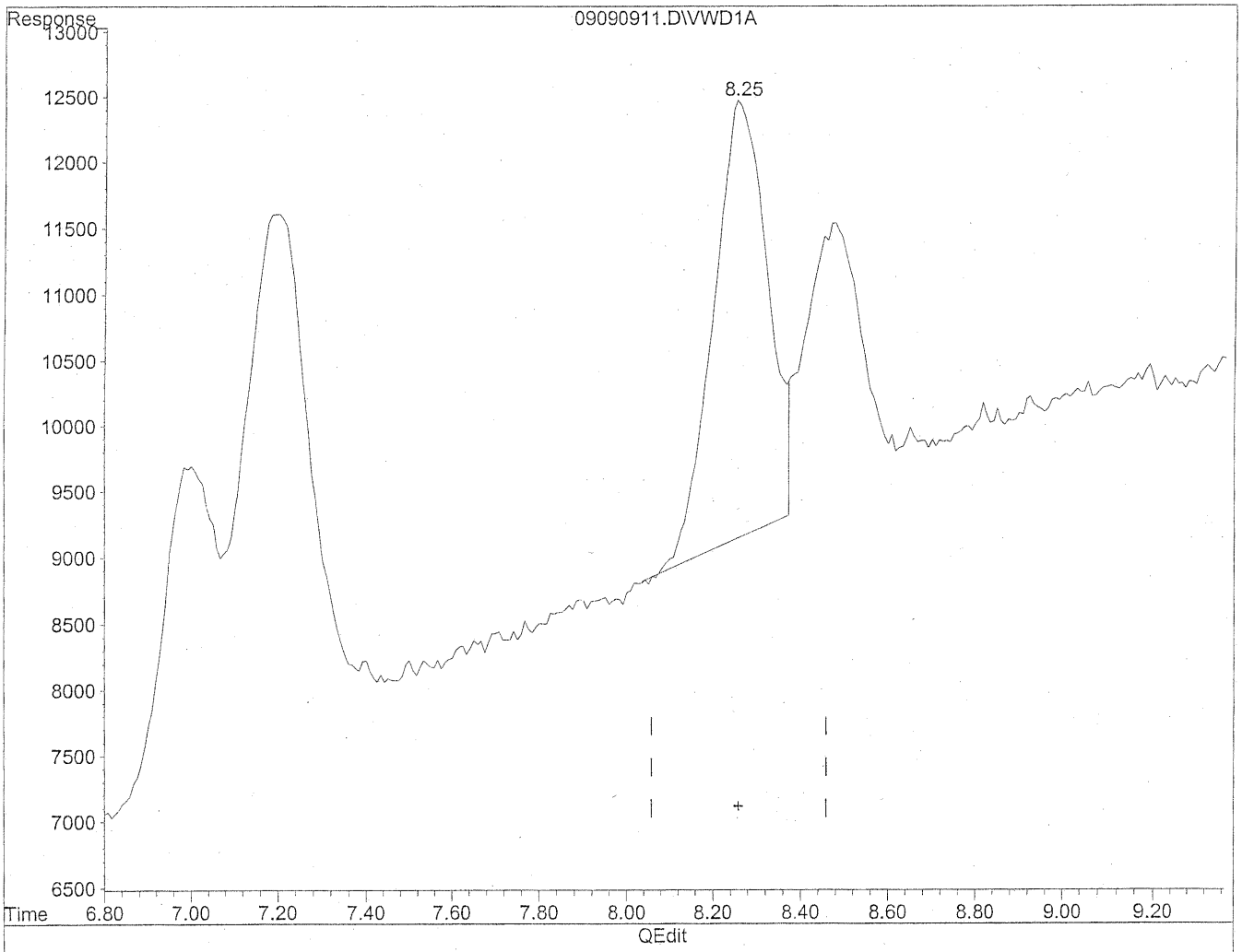
(+) = Expected Retention Time

09090911.D TO110909.M Thu Sep 10 08:50:25 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090911.D Vial: 8
Acq On : 09-Sep-2009, 15:54 Operator: MD
Sample : 100ng/ml TO-11A S21-09080904 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.25min 96.453ng/ml m

response 282439

MW 9/10/09

9/10/09

(+) = Expected Retention Time

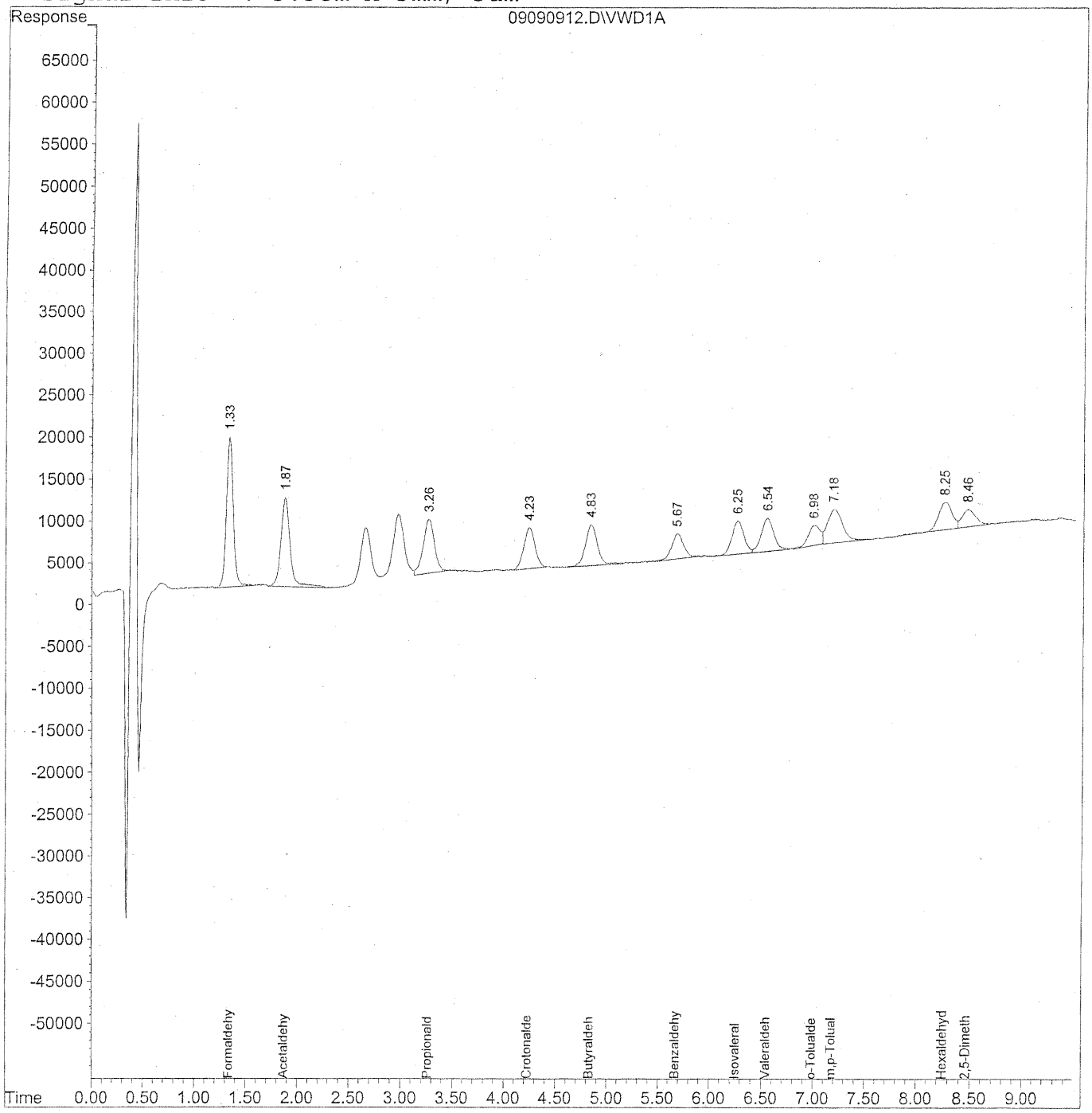
09090911.D TO110909.M Thu Sep 10 08:50:31 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090912.D Vial: 8
Acq On : 09-Sep-2009, 16:06 Operator: MD
Sample : 100ng/ml TO-11A S21-09080904 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:51 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



174

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090912.D Vial: 8
Acq On : 09-Sep-2009, 16:06 Operator: MD
Sample : 100ng/ml TO-11A S21-09080904 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:51 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

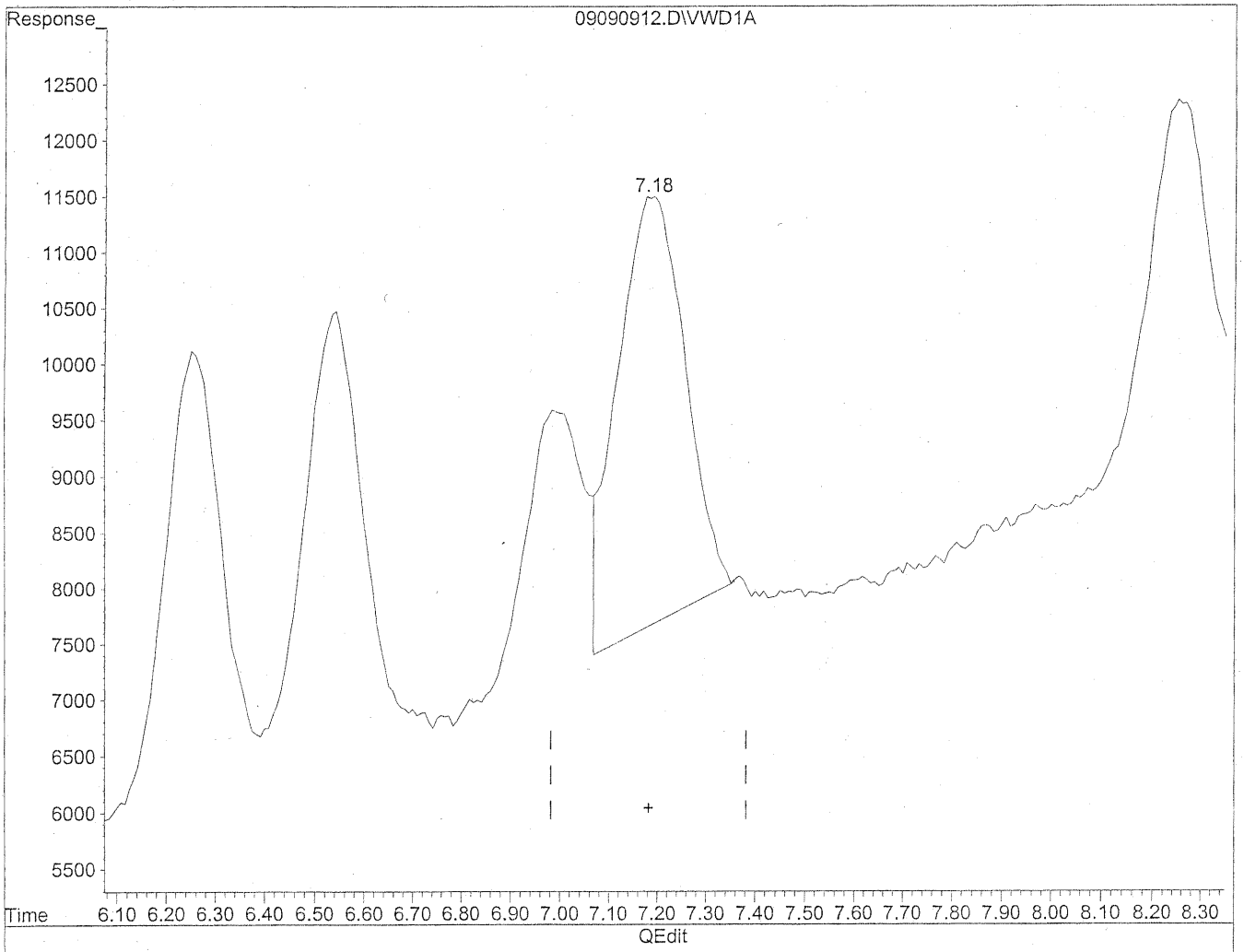
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.33	856527	95.214	ng/ml
2)	Acetaldehyde	1.87	664731	103.021	ng/ml
3)	Propionaldehyde	3.26	489979	96.720	ng/ml
4)	Crotonaldehyde	4.23	375407	93.706	ng/ml
5)	Butyraldehyde	4.83	399611	98.840	ng/ml
6)	Benzaldehyde	5.67	241433	91.160	ng/ml
7)	Isovaleraldehyde	6.26	313564	91.728	ng/ml
8)	Valeraldehyde	6.54	335005	102.594	ng/ml
9)	o-Tolualdehyde	6.99	188768	88.367	ng/ml
10)	m,p-Tolualdehyde	7.18	416110	187.485	ng/mlm
11)	Hexaldehyde	8.26	285615	98.813	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.47	182724	97.357	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.
09090912.D TO110909.M Thu Sep 10 10:44:24 2009 Page 1

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090912.D Vial: 8
Acq On : 09-Sep-2009, 16:06 Operator: MD
Sample : 100ng/ml TO-11A S21-09080904 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

7.19min 169.858ng/ml

response 376988

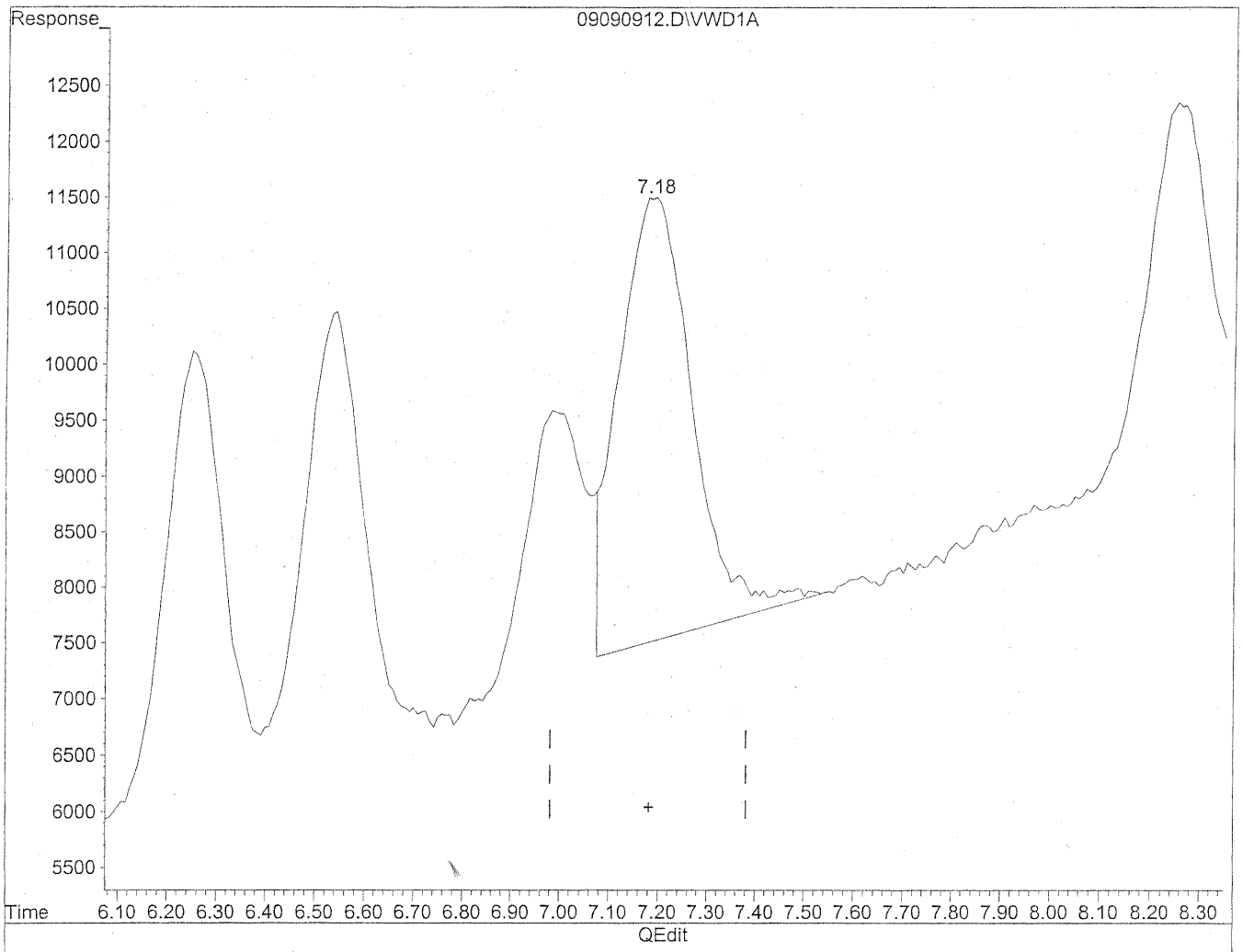
(+) = Expected Retention Time

09090912.D TO110909.M Thu Sep 10 08:51:11 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090912.D Vial: 8
Acq On : 09-Sep-2009, 16:06 Operator: MD
Sample : 100ng/ml TO-11A S21-09080904 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(10) m,p-Tolualdehyde

7.18min 187.485ng/ml m

response 416110

9/10/09

9/10/09

(+) = Expected Retention Time

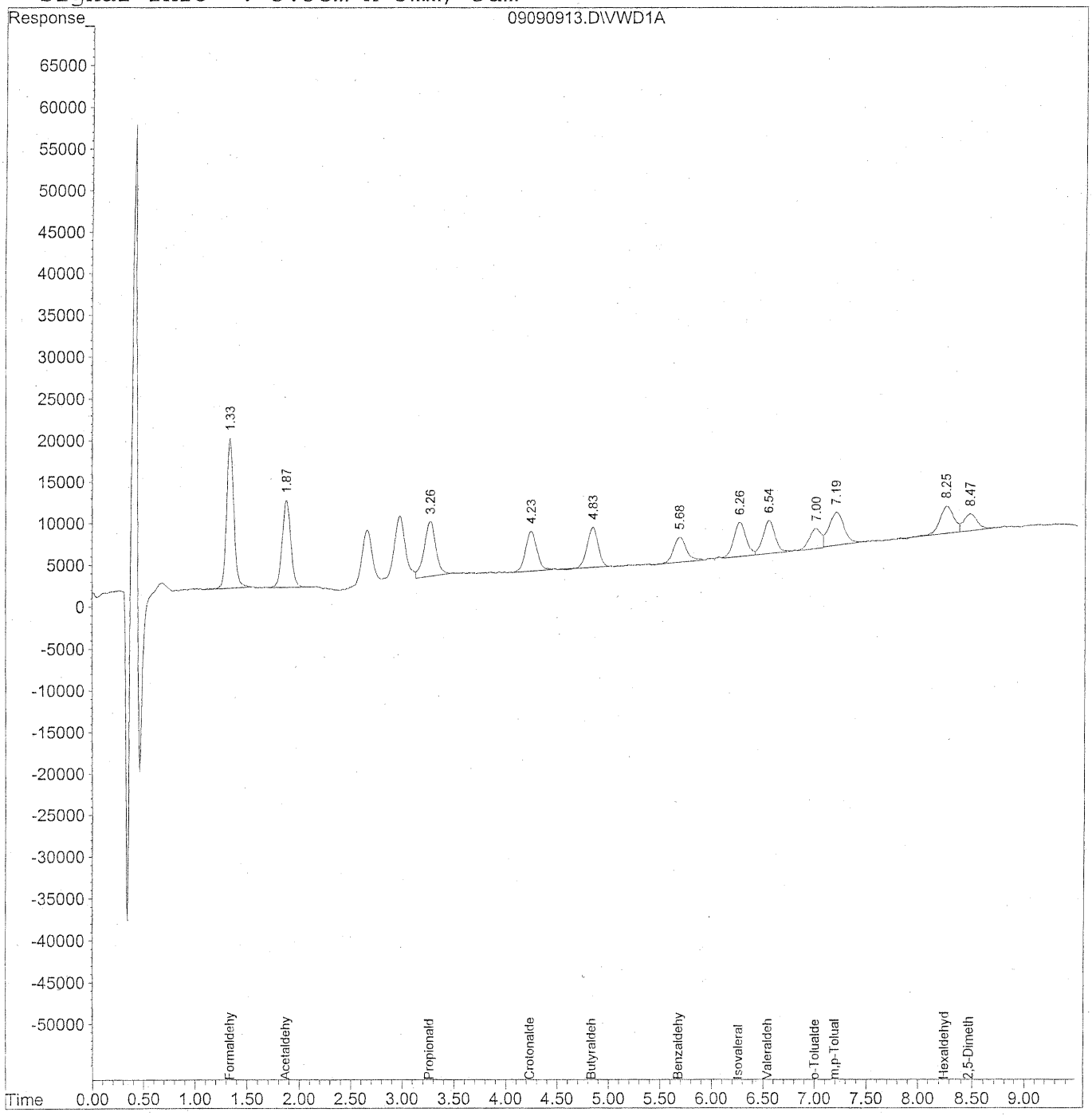
09090912.D TO110909.M Thu Sep 10 08:51:16 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090913.D Vial: 8
Acq On : 09-Sep-2009, 16:17 Operator: MD
Sample : 100ng/ml TO-11A S21-09080904 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 9:02 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



178

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090913.D Vial: 8
Acq On : 09-Sep-2009, 16:17 Operator: MD
Sample : 100ng/ml TO-11A S21-09080904 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 9:02 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

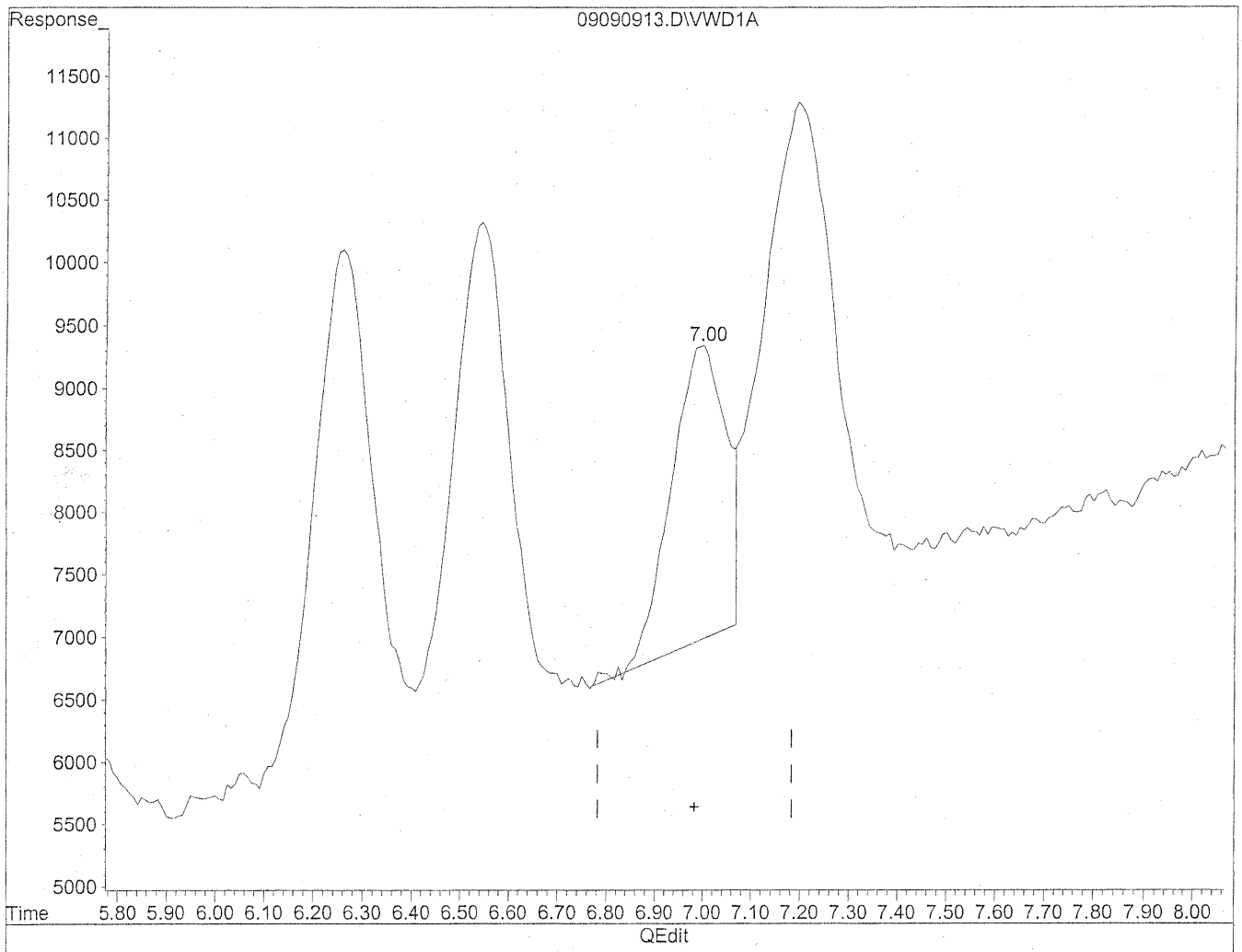
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	864000	96.057	ng/ml
2)	Acetaldehyde	1.87	602096	92.574	ng/ml
3)	Propionaldehyde	3.26	512978	101.355	ng/ml
4)	Crotonaldehyde	4.24	373596	93.529	ng/ml
5)	Butyraldehyde	4.84	358623	88.529	ng/ml
6)	Benzaldehyde	5.68	261486	98.995	ng/ml
7)	Isovaleraldehyde	6.26	340775	99.934	ng/ml
8)	Valeraldehyde	6.54	327561	99.943	ng/ml
9)	o-Tolualdehyde	7.00	198353	92.606	ng/mlm
10)	m,p-Tolualdehyde	7.20	403186	181.045	ng/ml
11)	Hexaldehyde	8.26	288074	99.573	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.47	174836	92.662	ng/ml

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

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090913.D Vial: 8
Acq On : 09-Sep-2009, 16:17 Operator: MD
Sample : 100ng/ml TO-11A S21-09080904 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:51 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 10 09:02:40 2009
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

7.00min 84.692ng/ml

response 181403

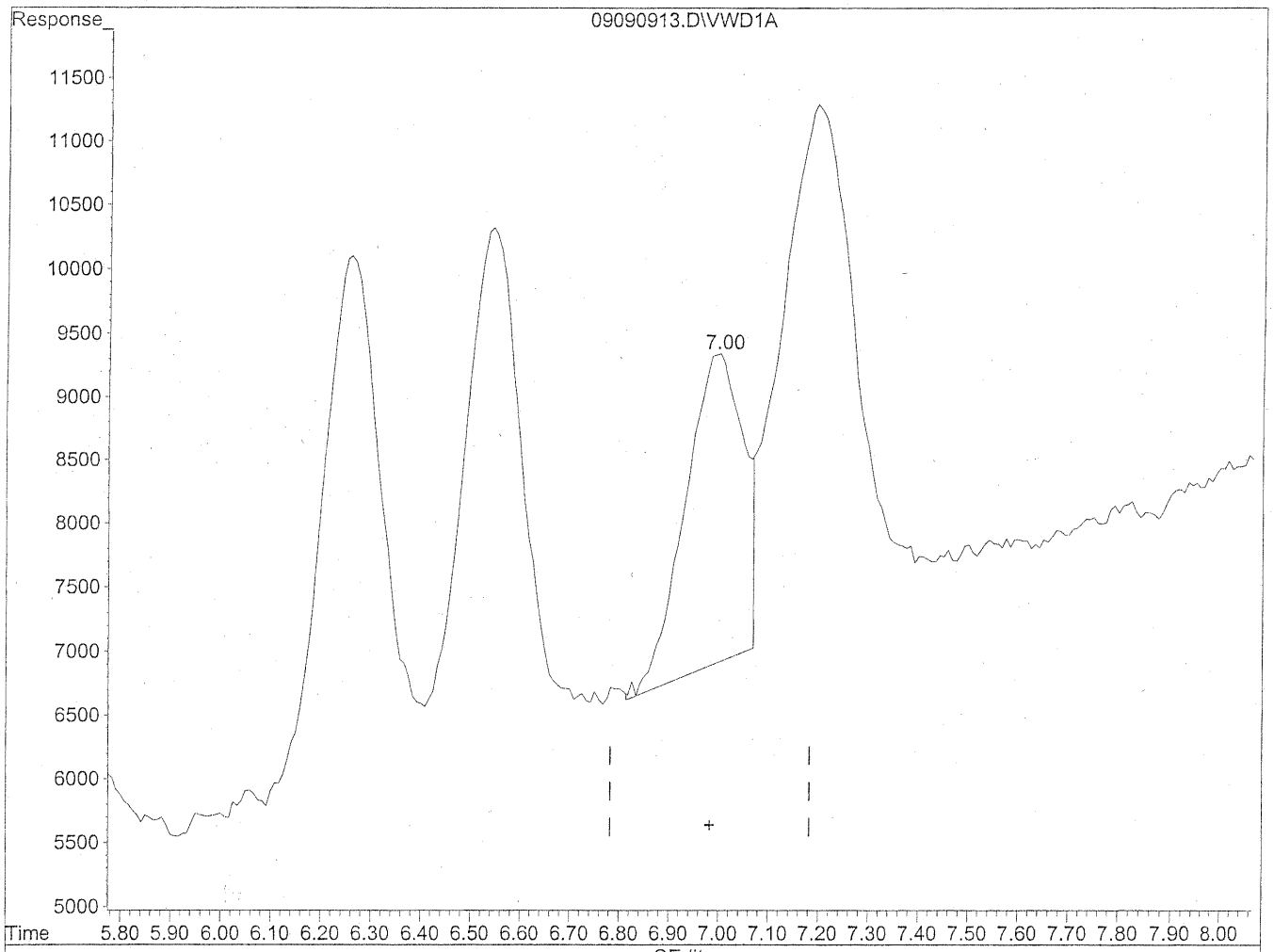
(+) = Expected Retention Time

09090913.D TO110909.M Thu Sep 10 09:02:50 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090913.D Vial: 8
Acq On : 09-Sep-2009, 16:17 Operator: MD
Sample : 100ng/ml TO-11A S21-09080904 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:51 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 10 09:02:40 2009
Response via : Multiple Level Calibration



(9) o-Tolualdehyde

7.00min 92.606ng/ml m

response 198353

9/10/09

KR 9/10/09

181

(+) = Expected Retention Time

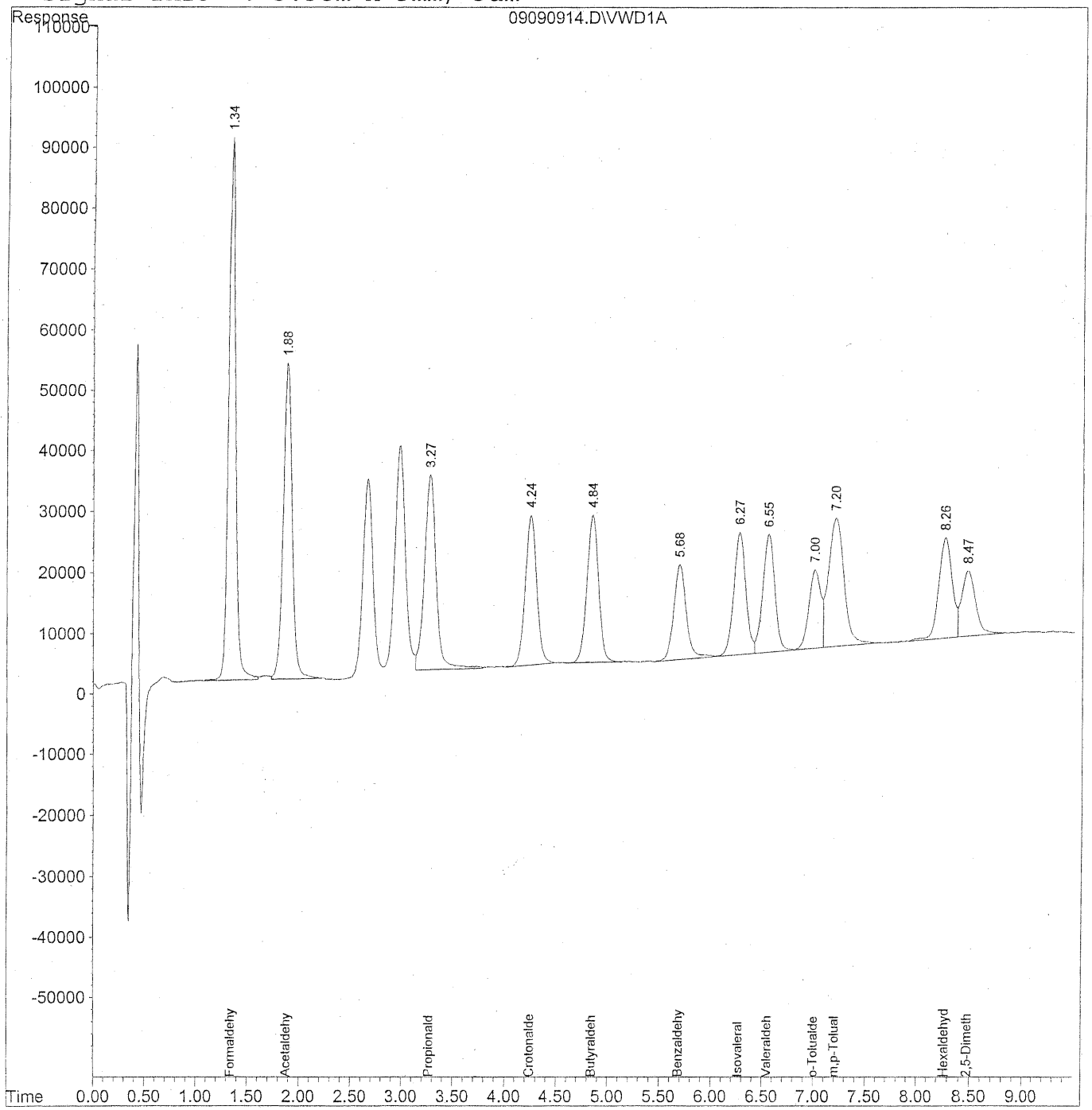
09090913.D TO110909.M Thu Sep 10 09:02:56 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090914.D Vial: 7
Acq On : 09-Sep-2009, 16:29 Operator: MD
Sample : 500ng/ml TO-11A S21-09080903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:52 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



182

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090914.D Vial: 7
Acq On : 09-Sep-2009, 16:29 Operator: MD
Sample : 500ng/ml TO-11A S21-09080903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:52 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

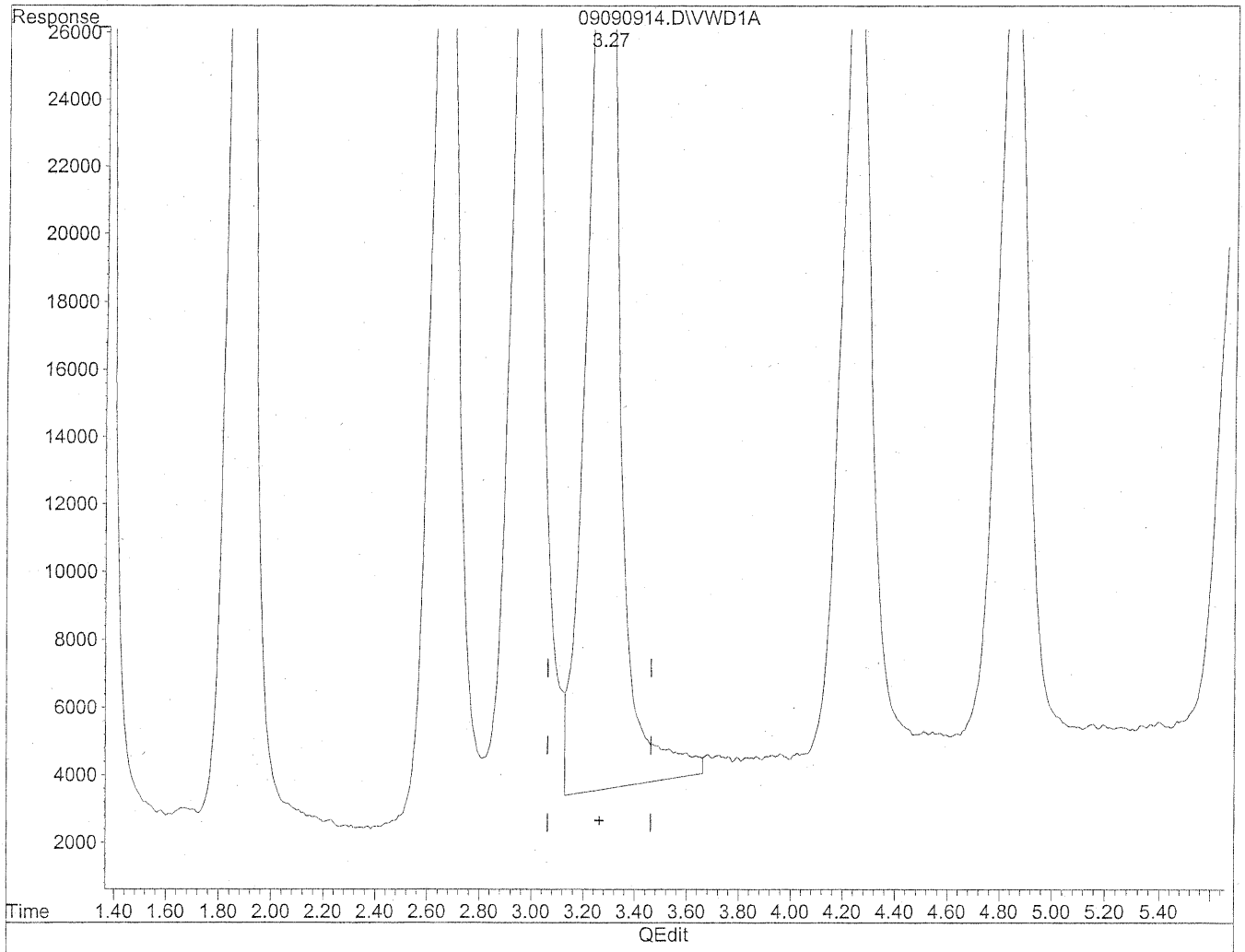
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	4290125	476.763	ng/ml
2)	Acetaldehyde	1.88	3109621	479.414	ng/ml
3)	Propionaldehyde	3.27	2494796	491.839	ng/mlm
4)	Crotonaldehyde	4.24	1900371	476.346	ng/ml
5)	Butyraldehyde	4.84	1886701	468.075	ng/ml
6)	Benzaldehyde	5.69	1323186	499.277	ng/ml
7)	Isovaleraldehyde	6.27	1631123	476.614	ng/ml
8)	Valeraldehyde	6.55	1598180	487.637	ng/ml
9)	o-Tolualdehyde	7.00	1023918	478.529	ng/ml
10)	m,p-Tolualdehyde	7.20	2205841	990.981	ng/ml
11)	Hexaldehyde	8.27	1425262	492.260	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.48	964881	511.672	ng/ml

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

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090914.D Vial: 7
Acq On : 09-Sep-2009, 16:29 Operator: MD
Sample : 500ng/ml TO-11A S21-09080903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:52 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde

3.27min 515.231ng/ml

response 2613453

184

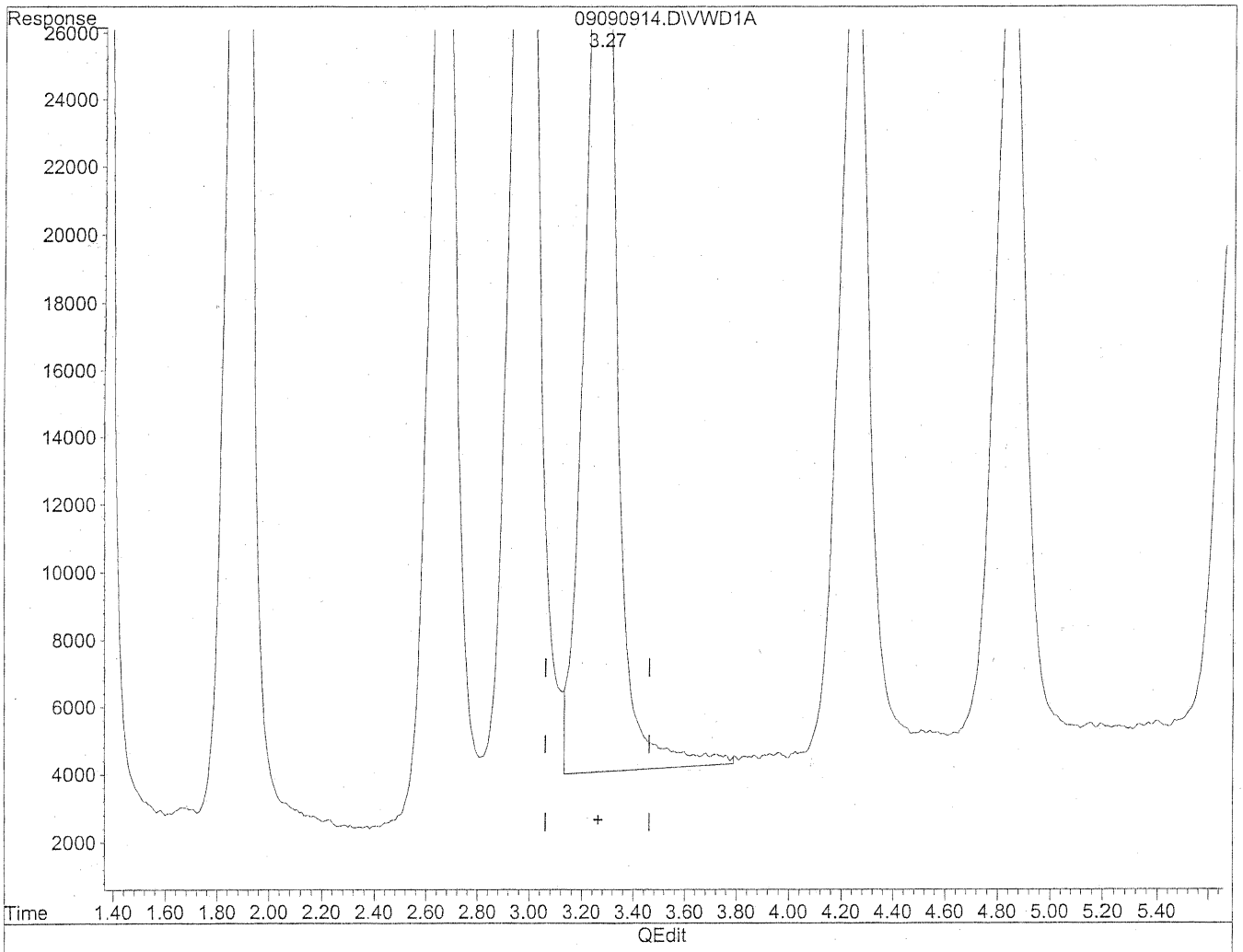
(+) = Expected Retention Time

09090914.D TO110909.M Thu Sep 10 08:52:51 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090914.D Vial: 7
Acq On : 09-Sep-2009, 16:29 Operator: MD
Sample : 500ng/ml TO-11A S21-09080903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:52 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde

3.27min 491.839ng/ml m

response 2494796

9/10/09

9/10/09

(+) = Expected Retention Time

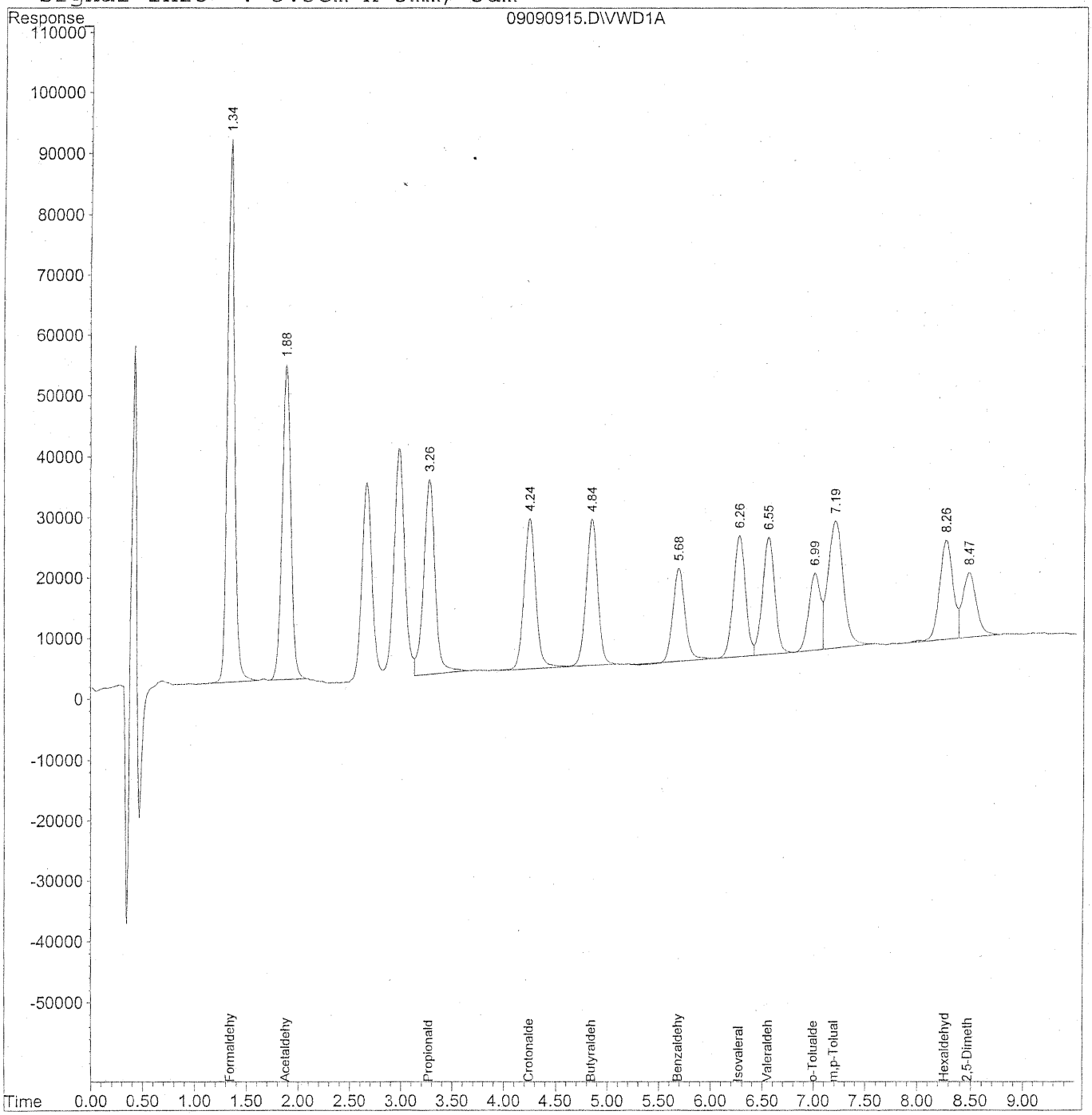
09090914.D TO110909.M Thu Sep 10 08:52:57 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090915.D Vial: 7
Acq On : 09-Sep-2009, 16:40 Operator: MD
Sample : 500ng/ml TO-11A S21-09080903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:53 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



186

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090915.D Vial: 7
Acq On : 09-Sep-2009, 16:40 Operator: MD
Sample : 500ng/ml TO-11A S21-09080903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:53 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	4242920	476.675	ng/ml
2)	Acetaldehyde	1.88	2996333	465.530	ng/ml
3)	Propionaldehyde	3.27	2520033	495.333	ng/ml
4)	Crotonaldehyde	4.24	1968873	499.829	ng/ml
5)	Butyraldehyde	4.84	1894865	474.705	ng/ml
6)	Benzaldehyde	5.68	1238947	466.007	ng/ml
7)	Isovaleraldehyde	6.27	1614213	474.093	ng/ml
8)	Valeraldehyde	6.55	1593172	485.301	ng/ml
9)	o-Tolualdehyde	7.00	1018615	479.067	ng/ml
10)	m,p-Tolualdehyde	7.20	2181093	980.898	ng/ml
11)	Hexaldehyde	8.26	1423115	491.568	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.47	956005	504.834	ng/ml

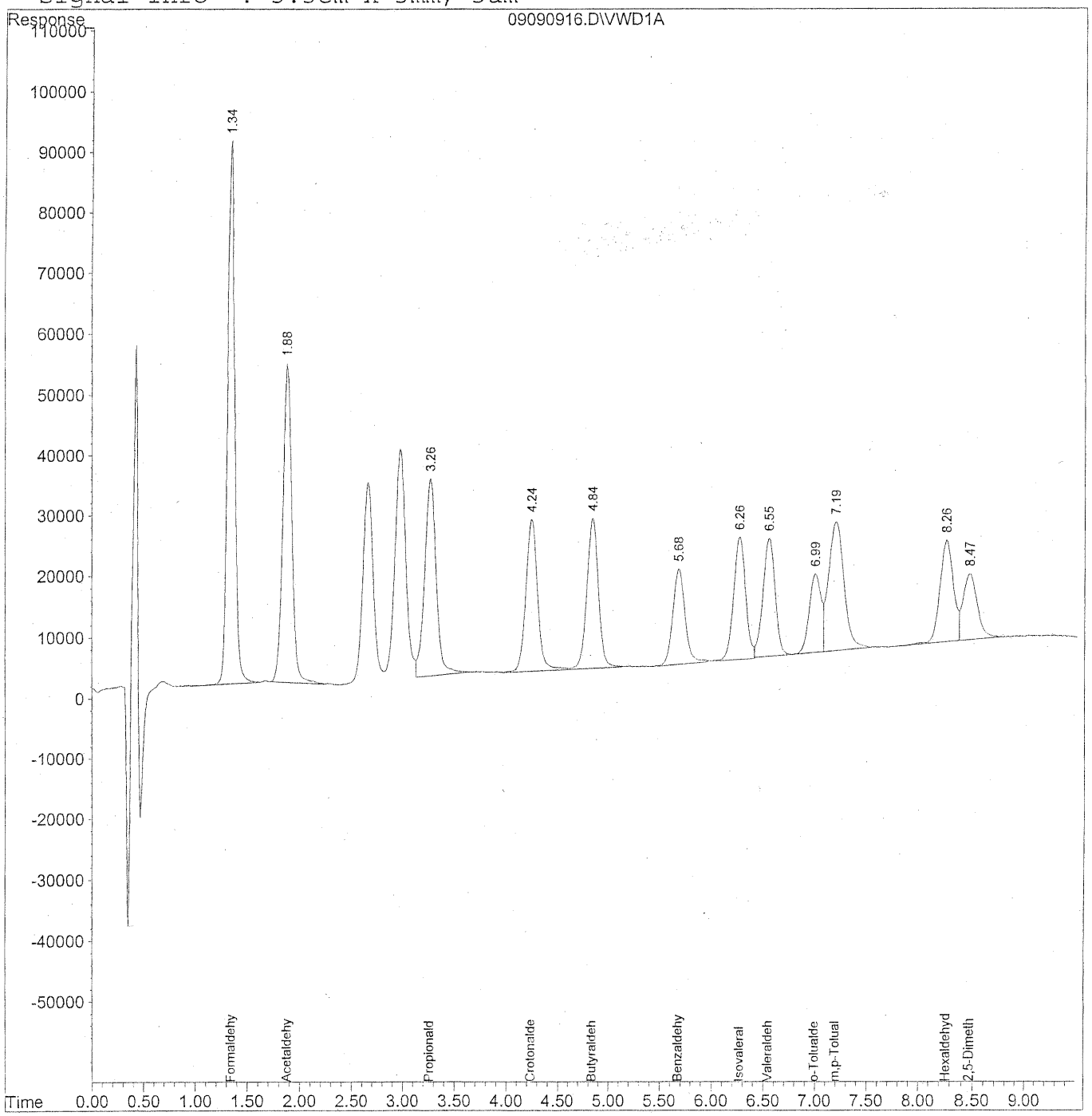
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090916.D Vial: 7
Acq On : 09-Sep-2009, 16:51 Operator: MD
Sample : 500ng/ml TO-11A S21-09080903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:54 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



188

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090916.D Vial: 7
Acq On : 09-Sep-2009, 16:51 Operator: MD
Sample : 500ng/ml TO-11A S21-09080903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:54 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

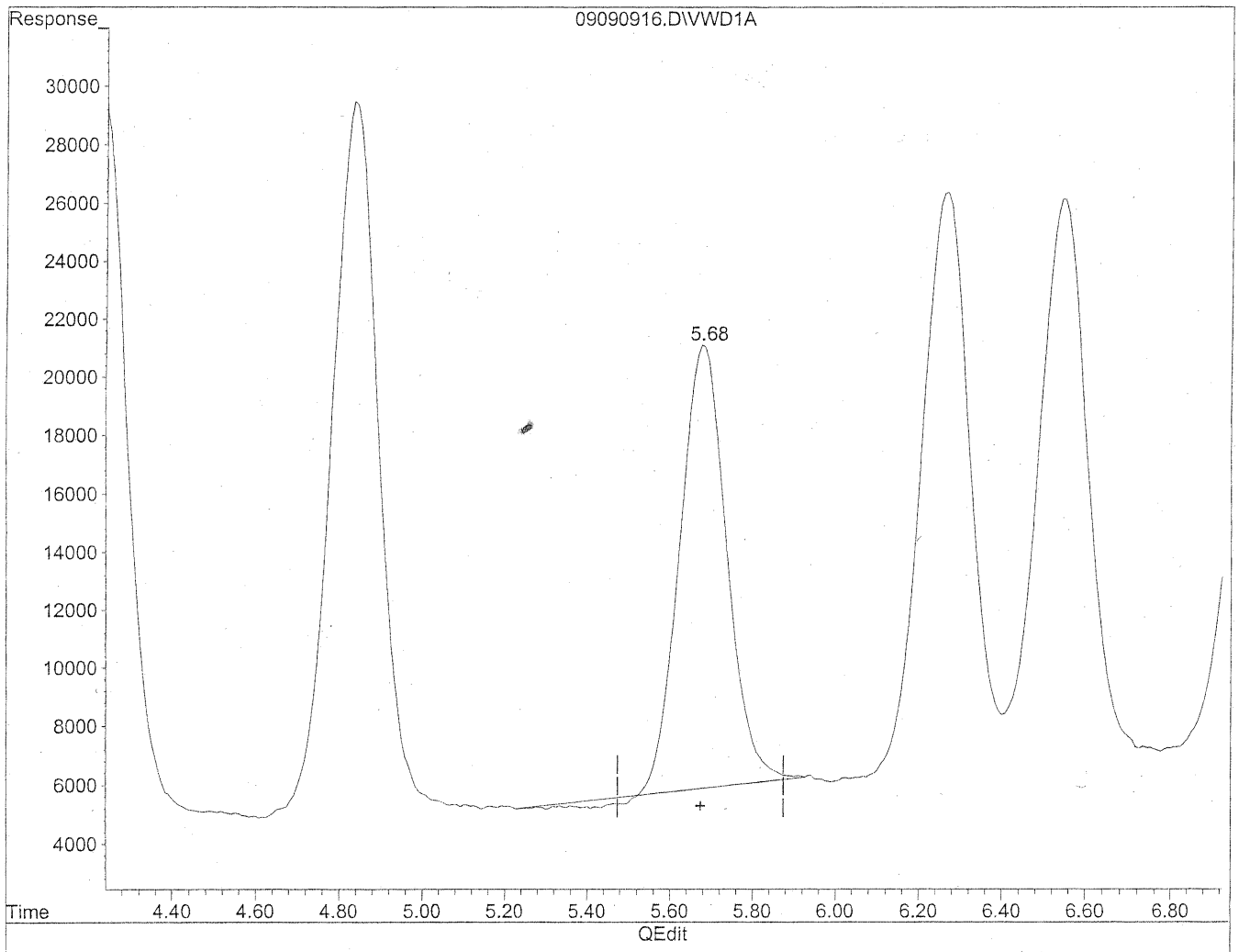
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	4239441	476.706	ng/ml
2)	Acetaldehyde	1.88	3088021	481.187	ng/ml
3)	Propionaldehyde	3.27	2504937	491.959	ng/ml
4)	Crotonaldehyde	4.24	1993623	504.650	ng/ml
5)	Butyraldehyde	4.84	1946571	487.492	ng/ml
6)	Benzaldehyde	5.68	1291253	488.260	ng/mlm
7)	Isovaleraldehyde	6.26	1639714	481.982	ng/mlm
8)	Valeraldehyde	6.55	1572954	479.264	ng/ml
9)	o-Tolualdehyde	7.00	1012283	476.287	ng/ml
10)	m,p-Tolualdehyde	7.20	2206747	993.357	ng/ml
11)	Hexaldehyde	8.26	1418487	490.030	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.47	962409	508.613	ng/ml

(f)=RT Delta > 1/2 Window (m)=manual int.
09090916.D TO110909.M Thu Sep 10 10:44:31 2009 Page 1

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090916.D Vial: 7
Acq On : 09-Sep-2009, 16:51 Operator: MD
Sample : 500ng/ml TO-11A S21-09080903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:53 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

5.68min 446.383ng/ml

response 1180507

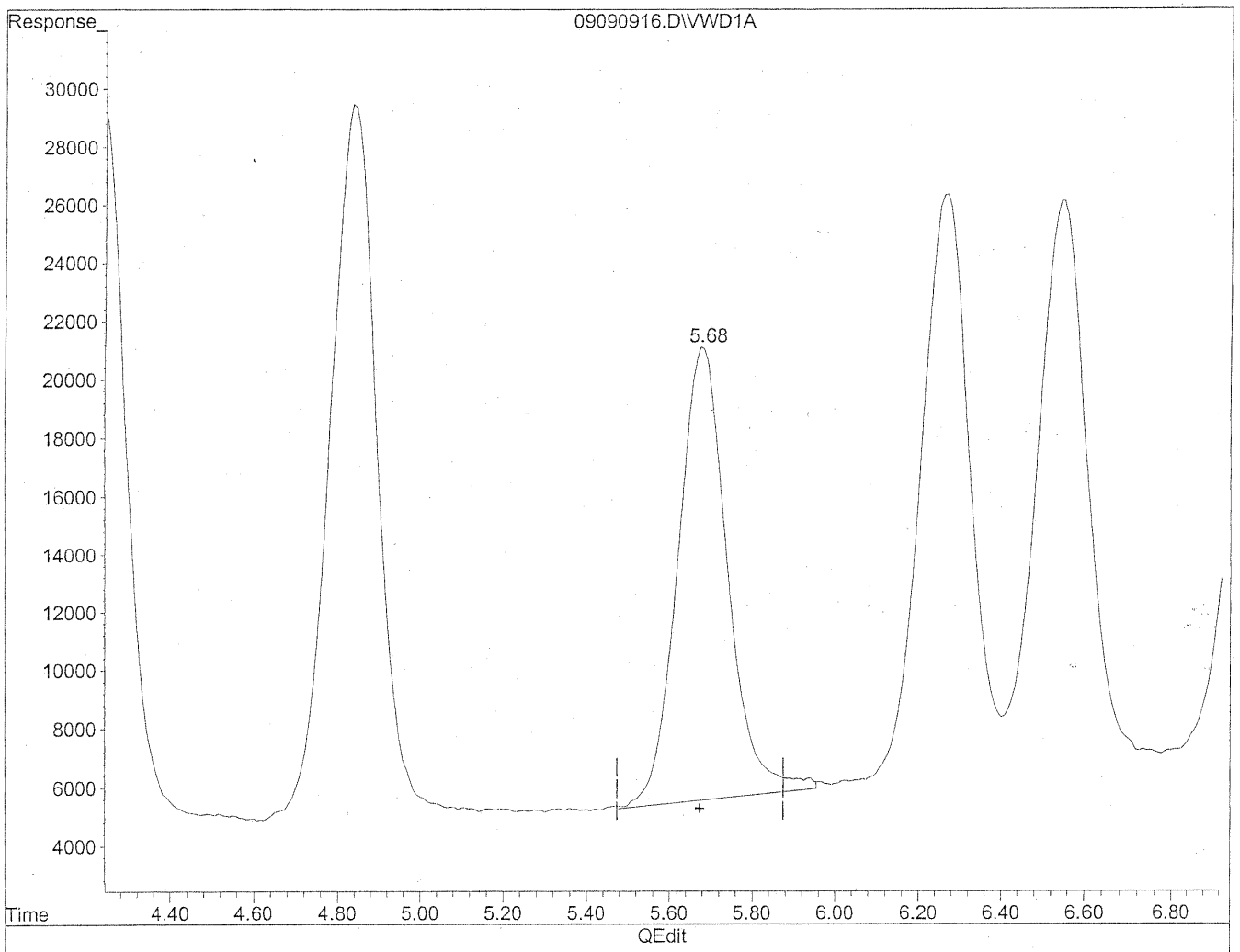
(+) = Expected Retention Time

09090916.D TO110909.M Thu Sep 10 08:54:13 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090916.D Vial: 7
Acq On : 09-Sep-2009, 16:51 Operator: MD
Sample : 500ng/ml TO-11A S21-09080903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:53 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

5.68min 488.260ng/ml m

response 1291253

9/10/09

KR 9/10/09

191

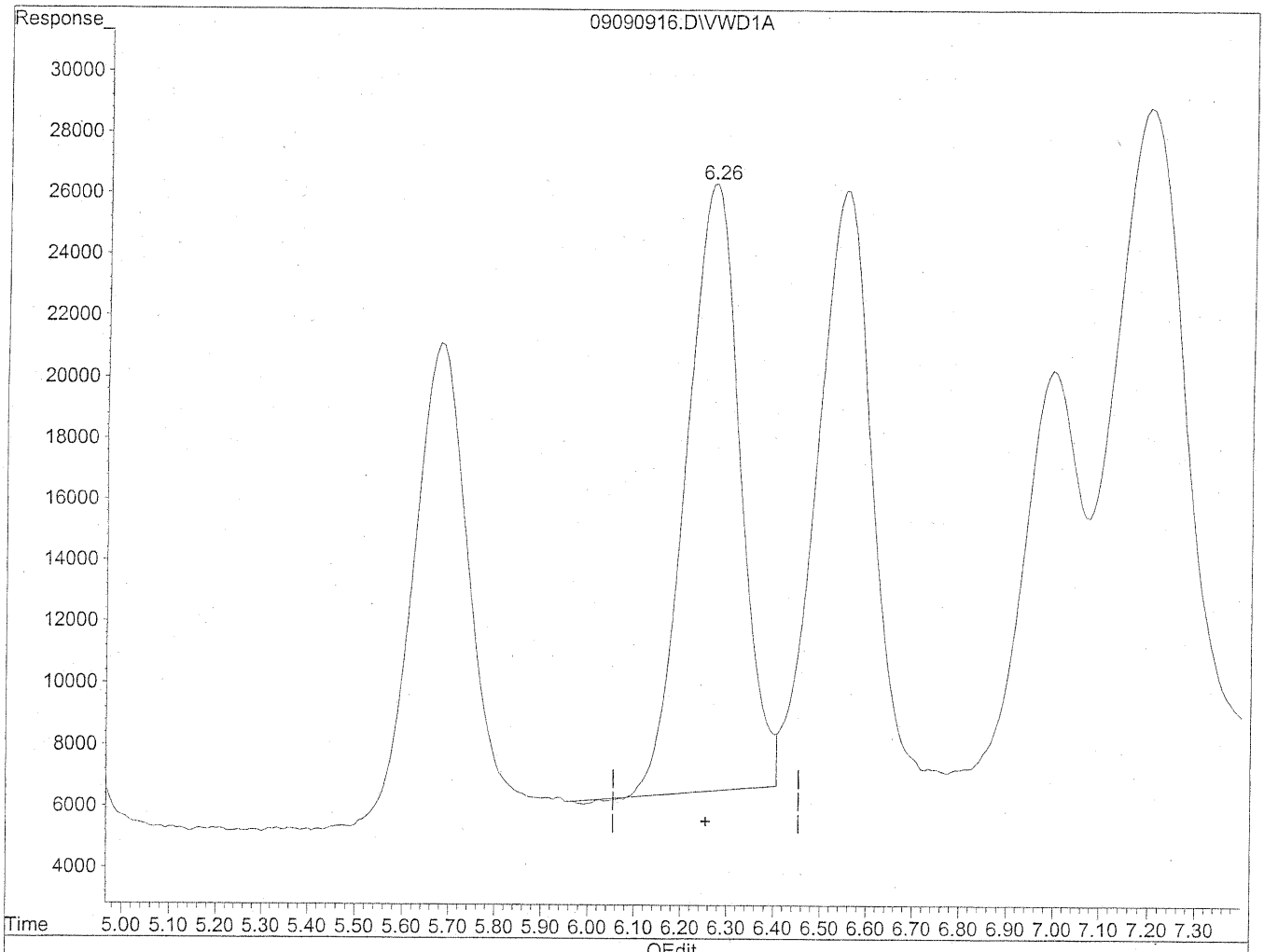
(+) = Expected Retention Time

09090916.D TO110909.M Thu Sep 10 08:54:17 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090916.D Vial: 7
Acq On : 09-Sep-2009, 16:51 Operator: MD
Sample : 500ng/ml TO-11A S21-09080903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:53 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

6.27min 466.813ng/ml

response 1588109

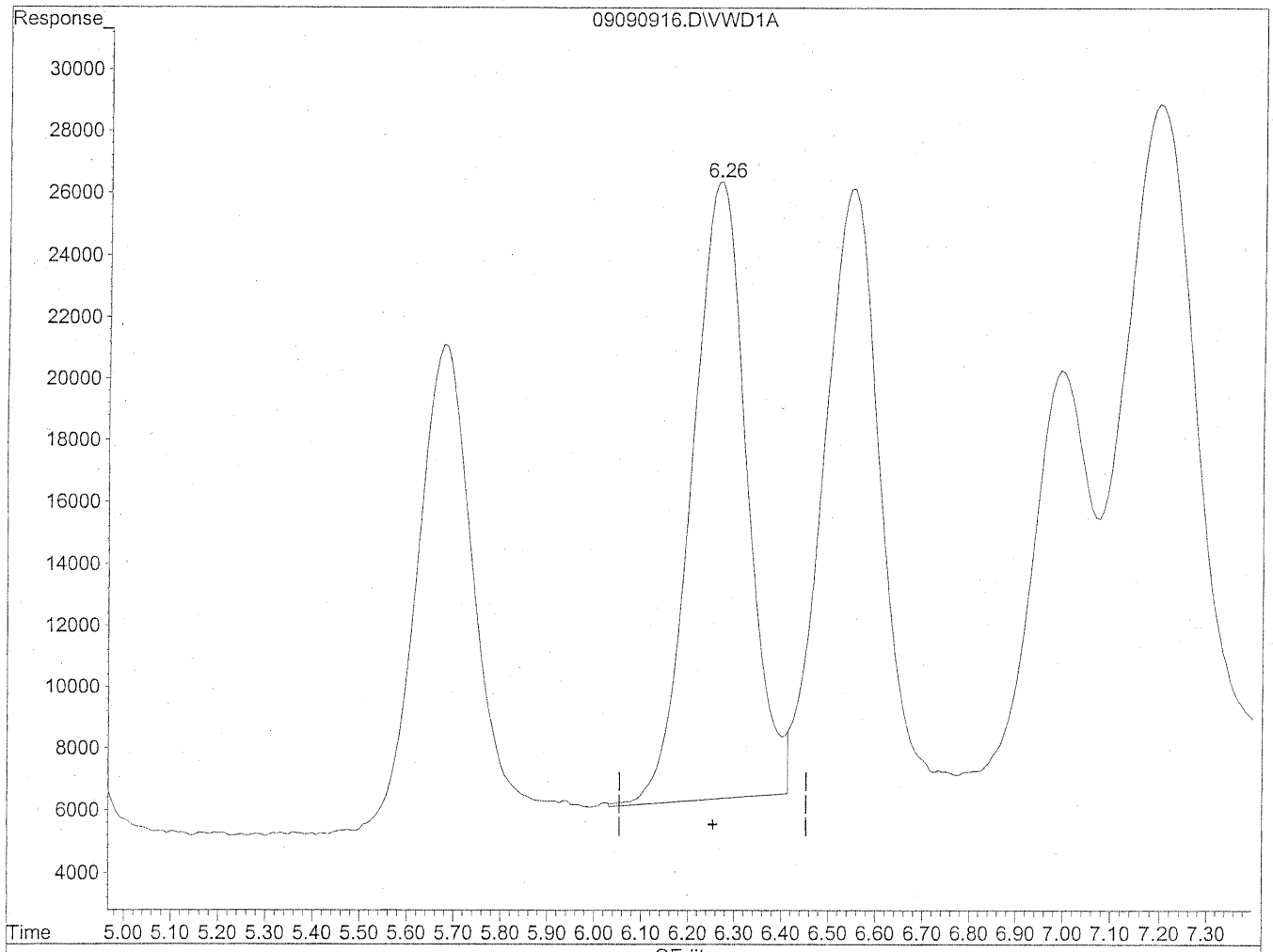
(+) = Expected Retention Time

09090916.D TO110909.M Thu Sep 10 08:54:21 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090916.D Vial: 7
Acq On : 09-Sep-2009, 16:51 Operator: MD
Sample : 500ng/ml TO-11A S21-09080903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:53 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

6.26min 481.982ng/ml m

response 1639714

9/10/09

KR 9/10/09

193

(+) = Expected Retention Time

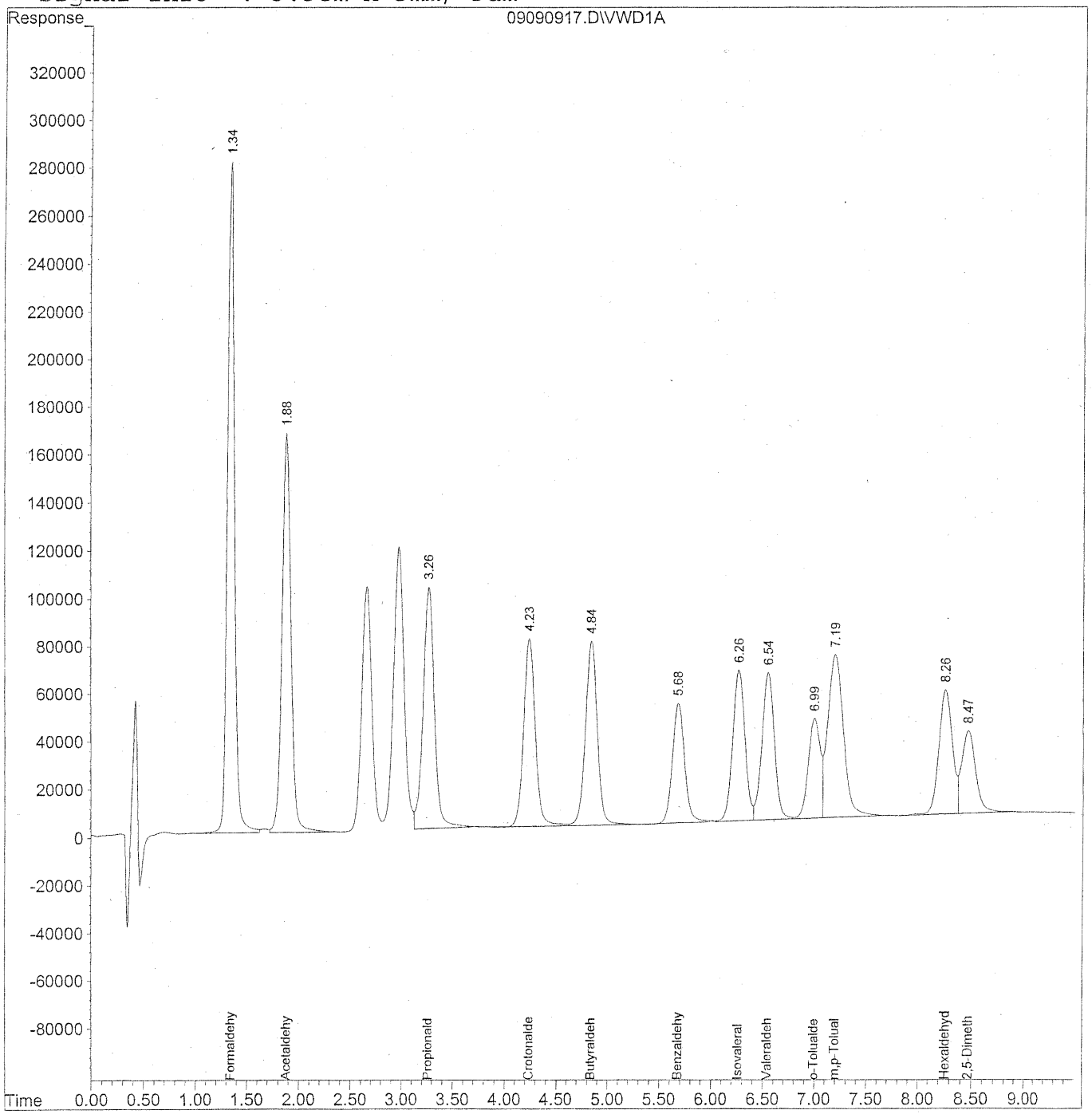
09090916.D TO110909.M Thu Sep 10 08:54:27 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090917.D Vial: 6
Acq On : 09-Sep-2009, 17:03 Operator: MD
Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:54 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



194

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090917.D Vial: 6
Acq On : 09-Sep-2009, 17:03 Operator: MD
Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:54 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	13461963	1514.248	ng/ml
2)	Acetaldehyde	1.88	9836721	1531.865	ng/ml
3)	Propionaldehyde	3.26	7740242	1520.232	ng/ml
4)	Crotonaldehyde	4.24	6180043	1561.774	ng/ml
5)	Butyraldehyde	4.84	6161274	1540.616	ng/ml
6)	Benzaldehyde	5.68	4059200	1534.243	ng/ml
7)	Isovaleraldehyde	6.27	5115478	1502.821	ng/ml
8)	Valeraldehyde	6.55	5104937	1556.624	ng/ml
9)	o-Tolualdehyde	7.00	3347391	1575.714	ng/ml
10)	m,p-Tolualdehyde	7.20	7133126	3209.878	ng/ml
11)	Hexaldehyde	8.26	4465907	1543.128	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.47	3088612	1632.078	ng/ml

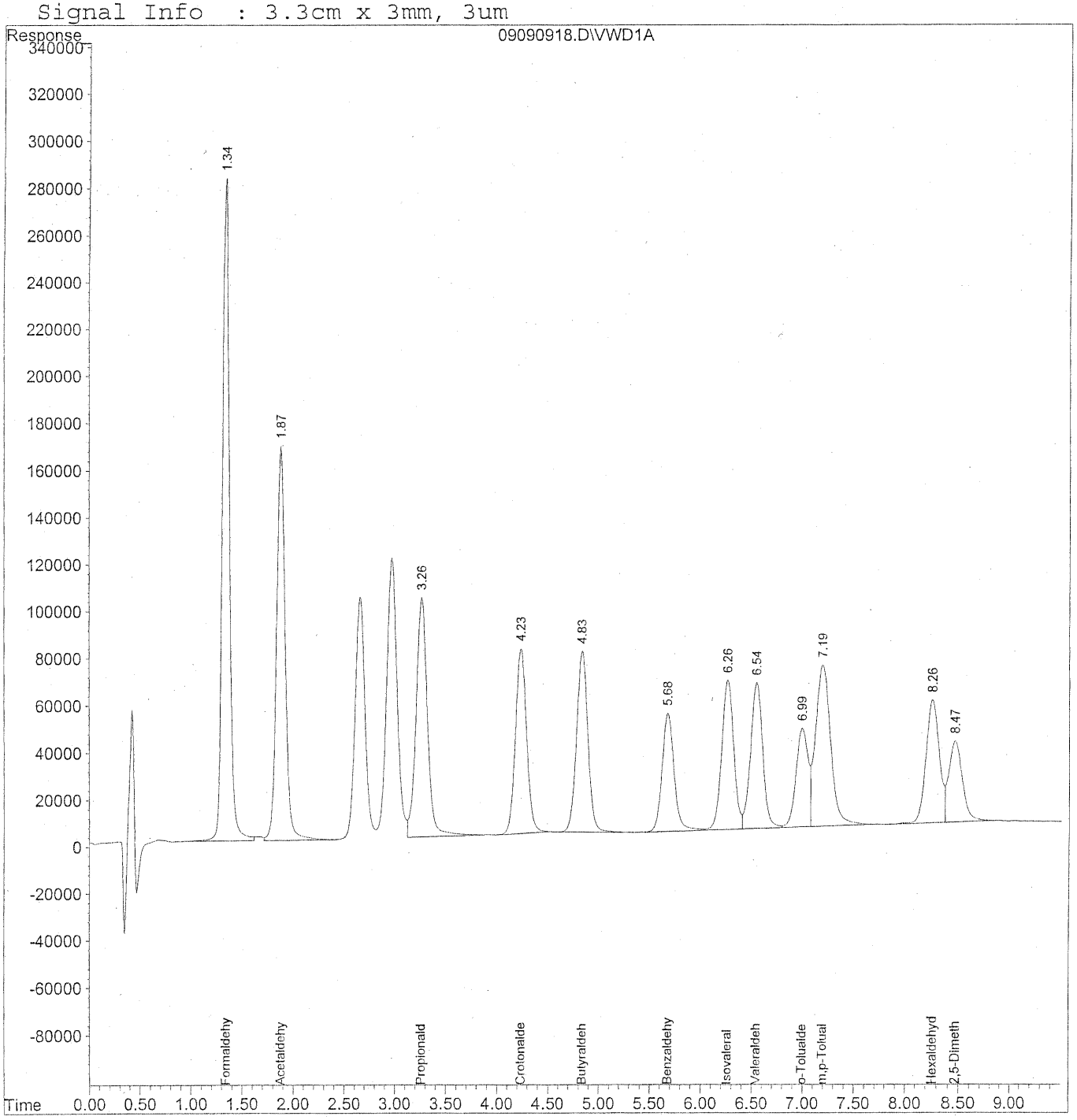
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090918.D Vial: 6
Acq On : 09-Sep-2009, 17:14 Operator: MD
Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:55 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009 .
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



196

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090918.D Vial: 6
Acq On : 09-Sep-2009, 17:14 Operator: MD
Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:55 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	13578339	1534.981	ng/ml
2)	Acetaldehyde	1.88	9942887	1551.020	ng/ml
3)	Propionaldehyde	3.26	7876607	1547.881	ng/ml
4)	Crotonaldehyde	4.24	6053894	1529.058	ng/ml
5)	Butyraldehyde	4.84	6038847	1511.965	ng/ml
6)	Benzaldehyde	5.68	4163474	1571.850	ng/ml
7)	Isovaleraldehyde	6.27	5182178	1528.173	ng/ml
8)	Valeraldehyde	6.55	5176264	1571.132	ng/ml
9)	o-Tolualdehyde	7.00	3396097	1598.500	ng/ml
10)	m,p-Tolualdehyde	7.20	7179077	3215.253	ng/ml
11)	Hexaldehyde	8.26	4448983	1533.800	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.47	3056583	1602.761	ng/ml

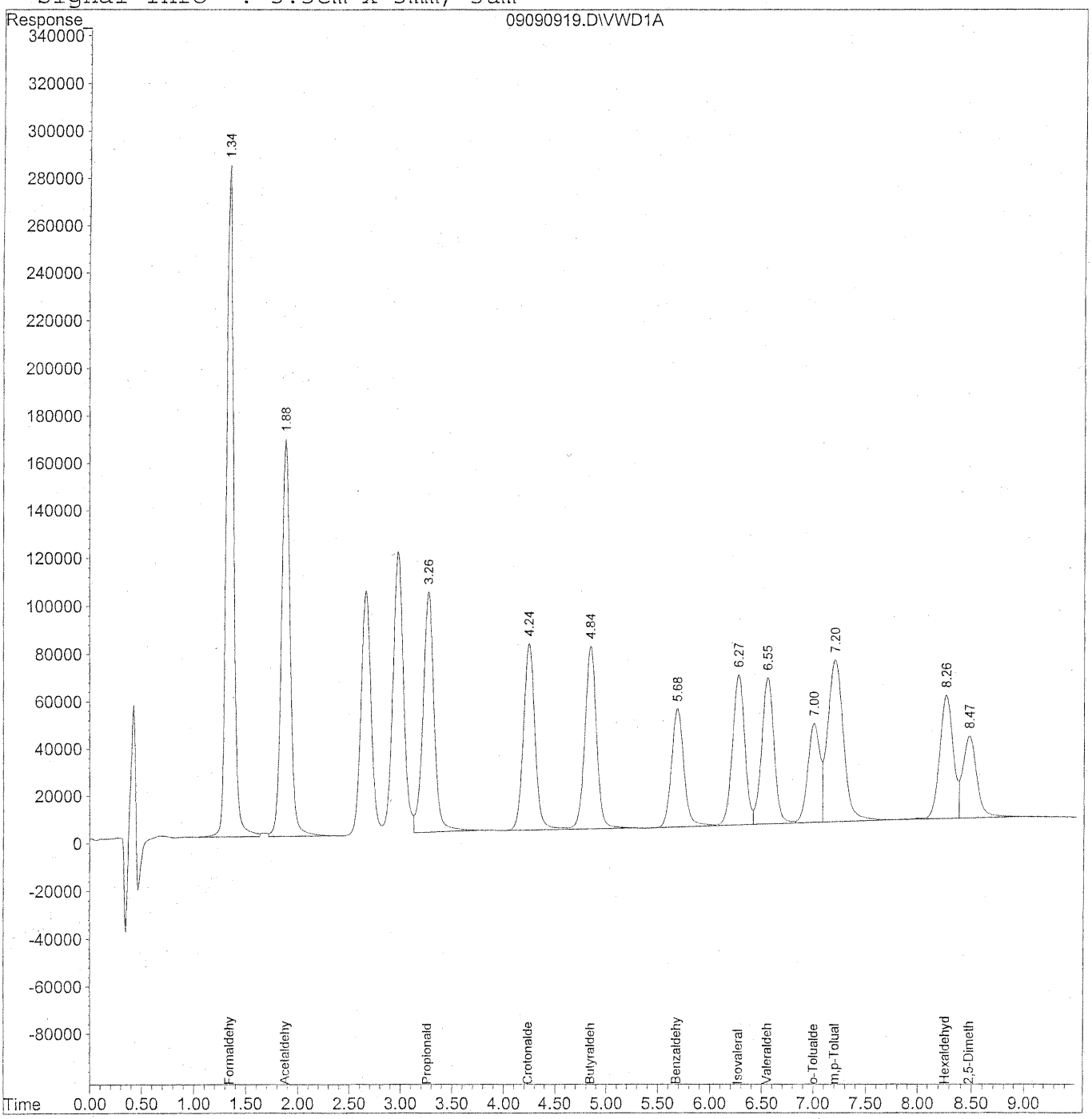
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090919.D Vial: 6
Acq On : 09-Sep-2009, 17:26 Operator: MD
Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:56 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



198

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090919.D Vial: 6
Acq On : 09-Sep-2009, 17:26 Operator: MD
Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:56 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	13548320	1530.469	ng/ml
2)	Acetaldehyde	1.88	9888425	1541.106	ng/ml
3)	Propionaldehyde	3.27	7759817	1522.663	ng/ml
4)	Crotonaldehyde	4.24	6211709	1571.700	ng/ml
5)	Butyraldehyde	4.84	6160753	1545.118	ng/ml
6)	Benzaldehyde	5.68	4131112	1556.228	ng/ml
7)	Isovaleraldehyde	6.27	5170579	1523.089	ng/ml
8)	Valeraldehyde	6.55	5170597	1567.526	ng/ml
9)	o-Tolualdehyde	7.00	3376687	1587.343	ng/ml
10)	m,p-Tolualdehyde	7.20	7206393	3225.643	ng/ml
11)	Hexaldehyde	8.27	4462344	1538.905	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.47	3155386	1656.115	ng/ml

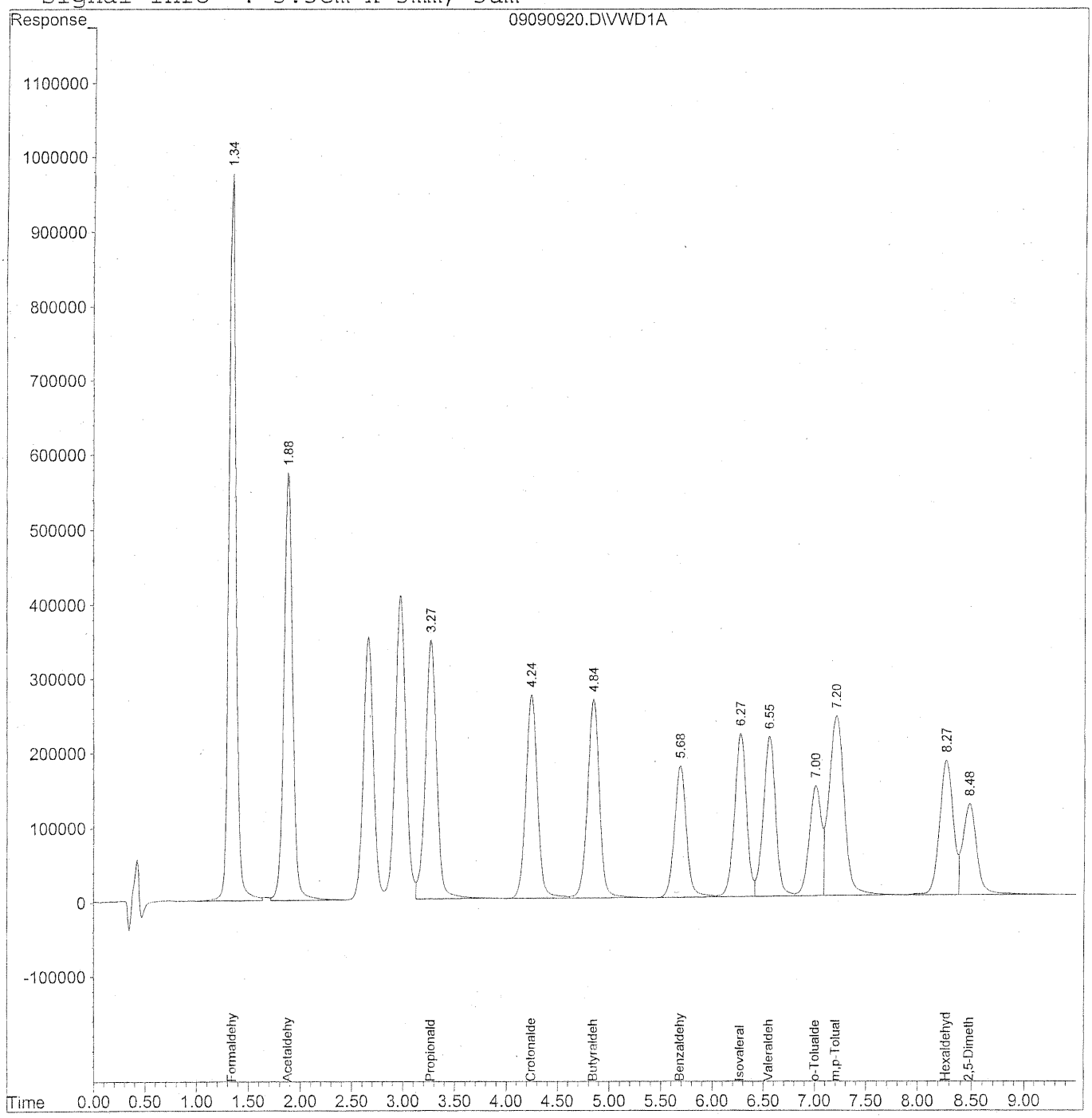
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090920.D Vial: 5
Acq On : 09-Sep-2009, 17:37 Operator: MD
Sample : 5000ng/ml TO-11A S21-09080902 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:56 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



200

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090920.D Vial: 5
Acq On : 09-Sep-2009, 17:37 Operator: MD
Sample : 5000ng/ml TO-11A S21-09080902 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:56 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	46422998	5243.497	ng/ml
2)	Acetaldehyde	1.88	33949113	5290.994	ng/ml
3)	Propionaldehyde	3.27	26460164	5193.957	ng/ml
4)	Crotonaldehyde	4.24	21469148	5427.351	ng/ml
5)	Butyraldehyde	4.84	21371531	5356.965	ng/ml
6)	Benzaldehyde	5.69	14455457	5444.003	ng/ml
7)	Isovaleraldehyde	6.27	17854488	5258.118	ng/ml
8)	Valeraldehyde	6.55	17905508	5426.435	ng/ml
9)	o-Tolualdehyde	7.00	11990582	5636.154	ng/ml
10)	m,p-Tolualdehyde	7.20	25039167	11203.076	ng/ml
11)	Hexaldehyde	8.27	15466841	5333.634	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.48	11107870	5820.635	ng/ml

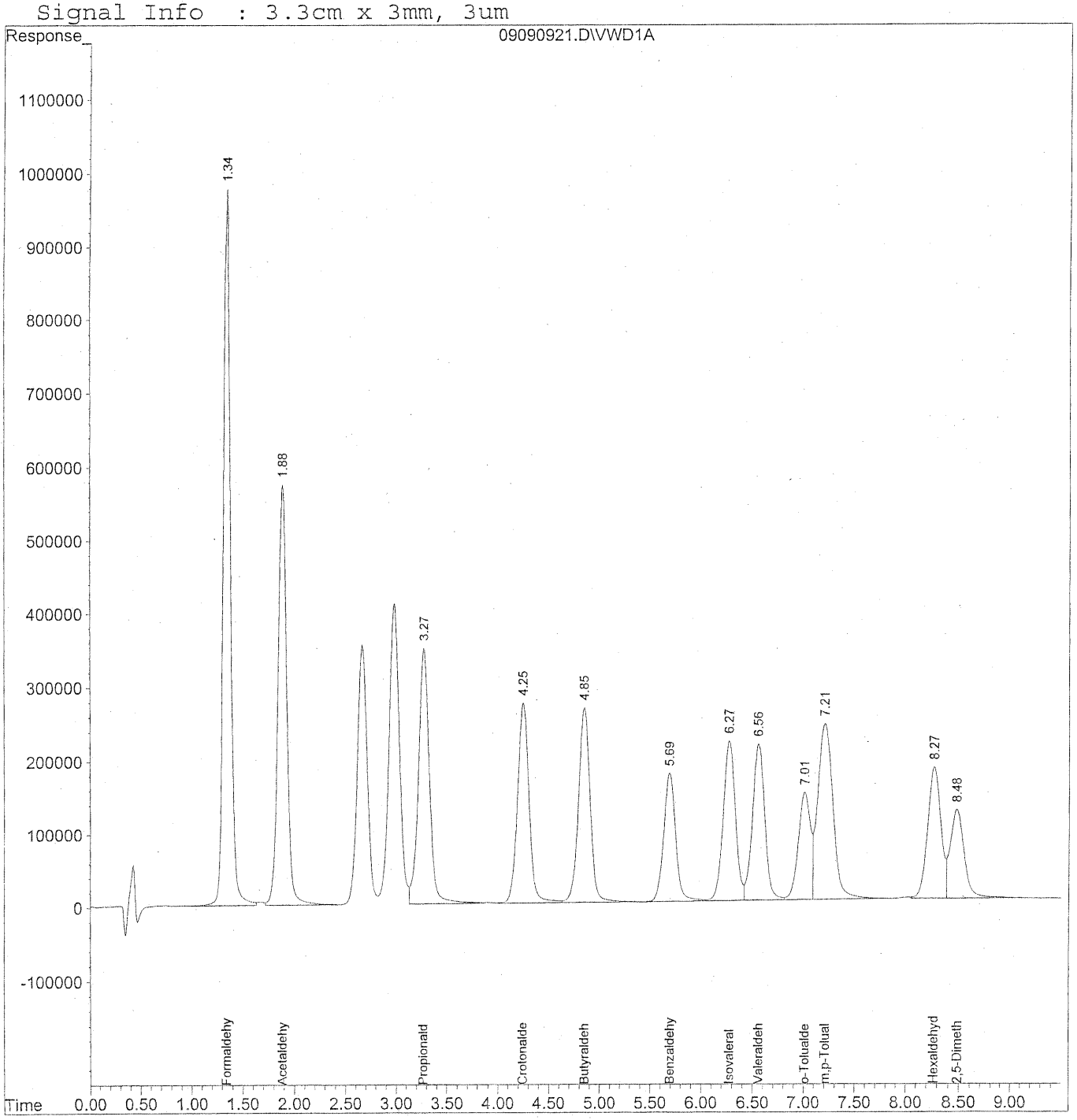
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090921.D Vial: 5
Acq On : 09-Sep-2009, 17:49 Operator: MD
Sample : 5000ng/ml TO-11A S21-09080902 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:57 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



202

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090921.D Vial: 5
Acq On : 09-Sep-2009, 17:49 Operator: MD
Sample : 5000ng/ml TO-11A S21-09080902 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:57 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.35	46464064	5198.646	ng/ml
2)	Acetaldehyde	1.88	33977292	5236.353	ng/ml
3)	Propionaldehyde	3.27	26758092	5177.051	ng/ml
4)	Crotonaldehyde	4.25	21604348	5366.312	ng/ml
5)	Butyraldehyde	4.85	21444271	5303.711	ng/ml
6)	Benzaldehyde	5.69	14435192	5328.040	ng/ml
7)	Isovaleraldehyde	6.28	17875029	5200.288	ng/ml
8)	Valeraldehyde	6.56	17921465	5321.025	ng/ml
9)	o-Tolualdehyde	7.01	11986554	5544.716	ng/ml
10)	m,p-Tolualdehyde	7.21	25032033	10984.299	ng/ml
11)	Hexaldehyde	8.27	15380456	5215.387	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.48	11113181	5654.303	ng/ml

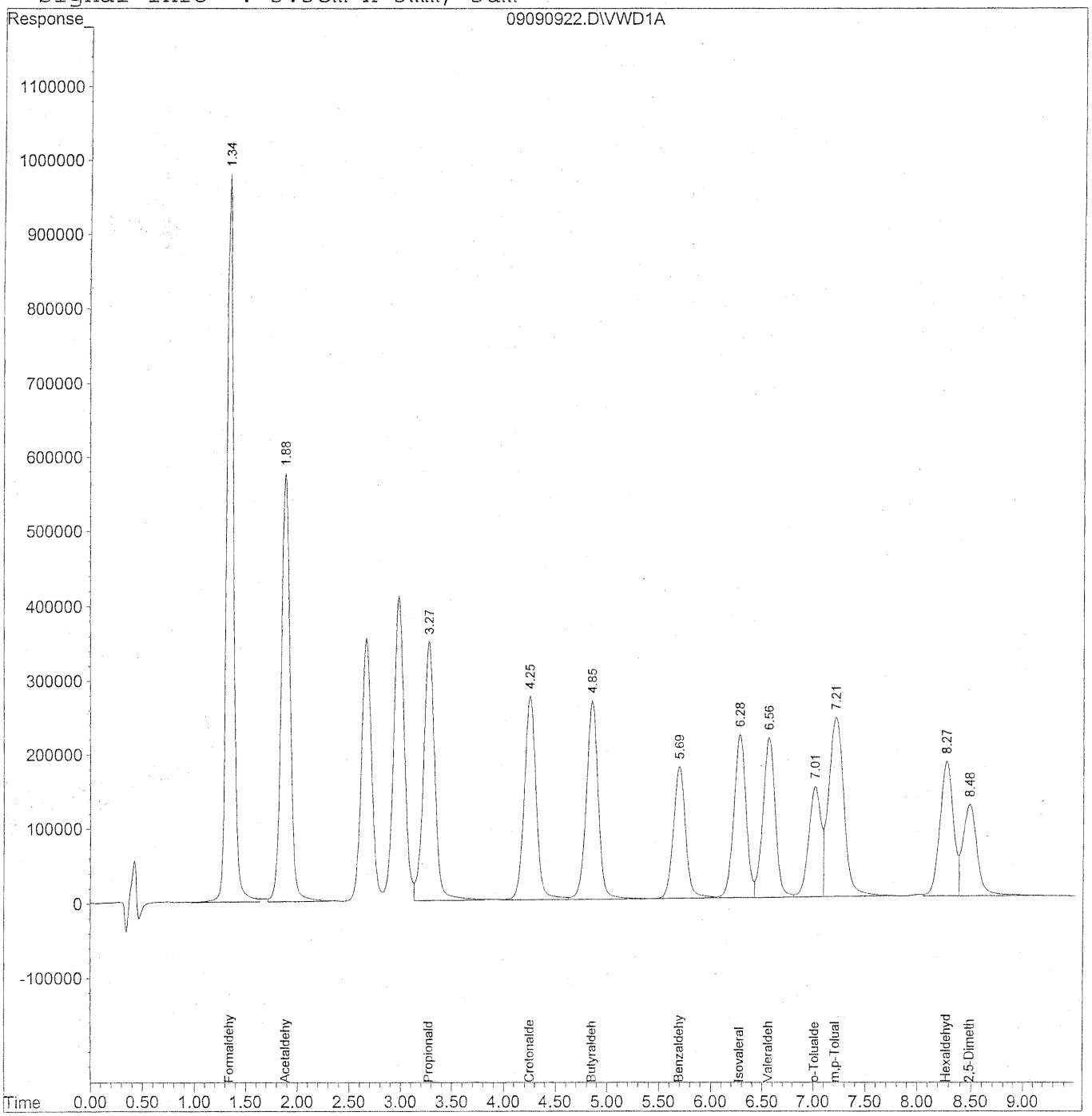
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090922.D Vial: 5
Acq On : 09-Sep-2009, 18:00 Operator: MD
Sample : 5000ng/ml TO-11A S21-09080902 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:58 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



204

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090922.D Vial: 5
Acq On : 09-Sep-2009, 18:00 Operator: MD
Sample : 5000ng/ml TO-11A S21-09080902 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:58 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.35	46648983	5218.936	ng/ml
2)	Acetaldehyde	1.88	34054104	5247.811	ng/ml
3)	Propionaldehyde	3.27	26843474	5188.585	ng/ml
4)	Crotonaldehyde	4.25	21717189	5391.323	ng/ml
5)	Butyraldehyde	4.85	21538832	5325.502	ng/ml
6)	Benzaldehyde	5.69	14515721	5358.432	ng/ml
7)	Isovaleraldehyde	6.28	17932725	5216.554	ng/ml
8)	Valeraldehyde	6.56	17988106	5340.390	ng/ml
9)	o-Tolualdehyde	7.01	12035186	5567.385	ng/ml
10)	m,p-Tolualdehyde	7.21	25134428	11029.519	ng/ml
11)	Hexaldehyde	8.28	15437631	5237.332	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.49	11198210	5697.308	ng/ml

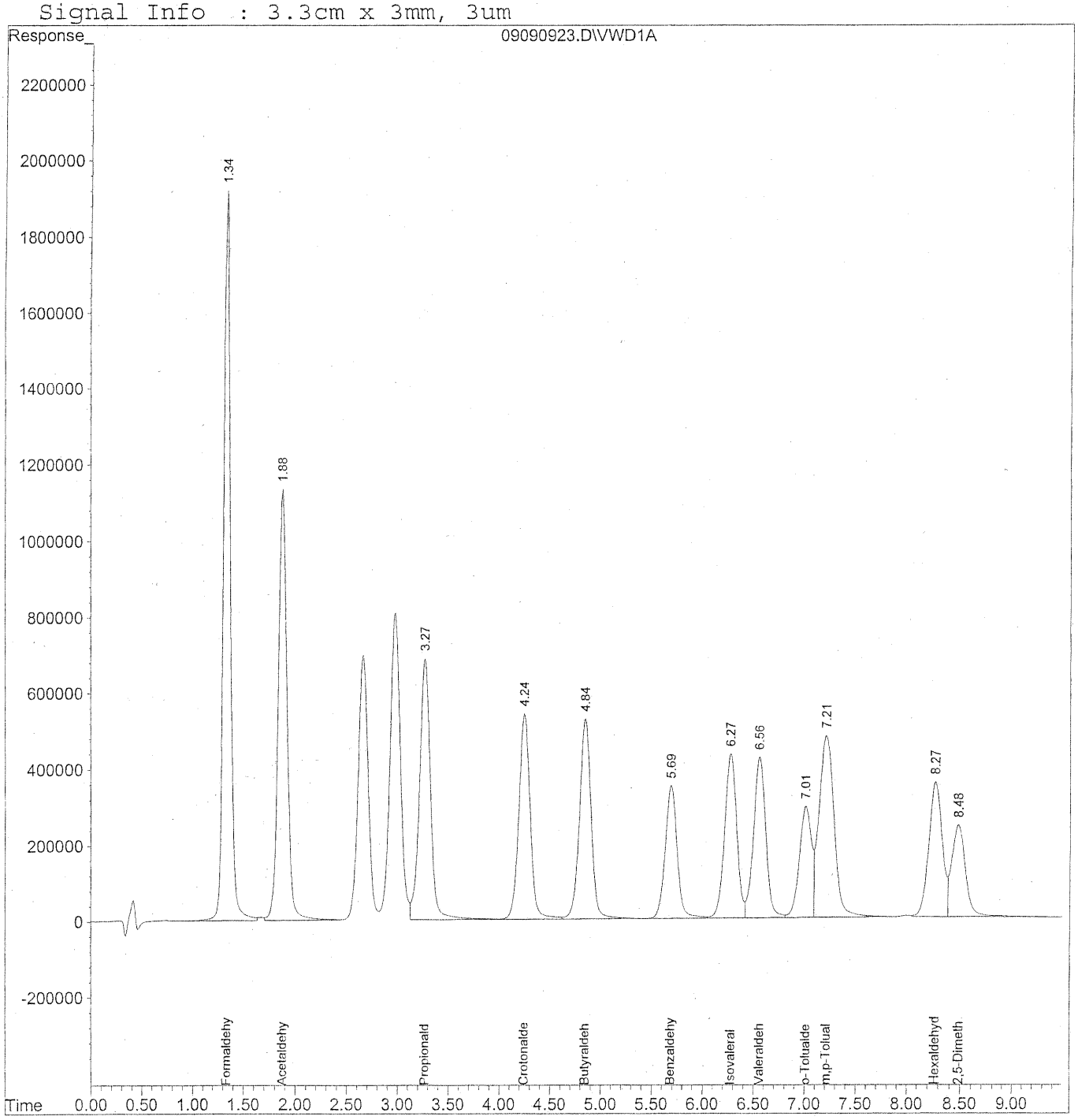
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090923.D Vial: 4
Acq On : 09-Sep-2009, 18:11 Operator: MD
Sample : 10000ng/ml TO-11A S21-09080901 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:58 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



206

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090923.D Vial: 4
Acq On : 09-Sep-2009, 18:11 Operator: MD
Sample : 10000ng/ml TO-11A S21-09080901 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:58 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	91542792	10238.895	ng/ml
2)	Acetaldehyde	1.88	67198566	10353.832	ng/ml
3)	Propionaldehyde	3.27	52731710	10187.405	ng/ml
4)	Crotonaldehyde	4.25	42623472	10576.073	ng/ml
5)	Butyraldehyde	4.85	42304249	10456.015	ng/ml
6)	Benzaldehyde	5.69	28602353	10555.419	ng/ml
7)	Isovaleraldehyde	6.28	35277028	10259.685	ng/ml
8)	Valeraldehyde	6.56	35412579	10510.859	ng/ml
9)	o-Tolualdehyde	7.01	23892692	11049.929	ng/ml
10)	m,p-Tolualdehyde	7.21	49431359	21686.301	ng/ml
11)	Hexaldehyde	8.27	30345892	10294.528	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.48	21989696	11182.144	ng/ml

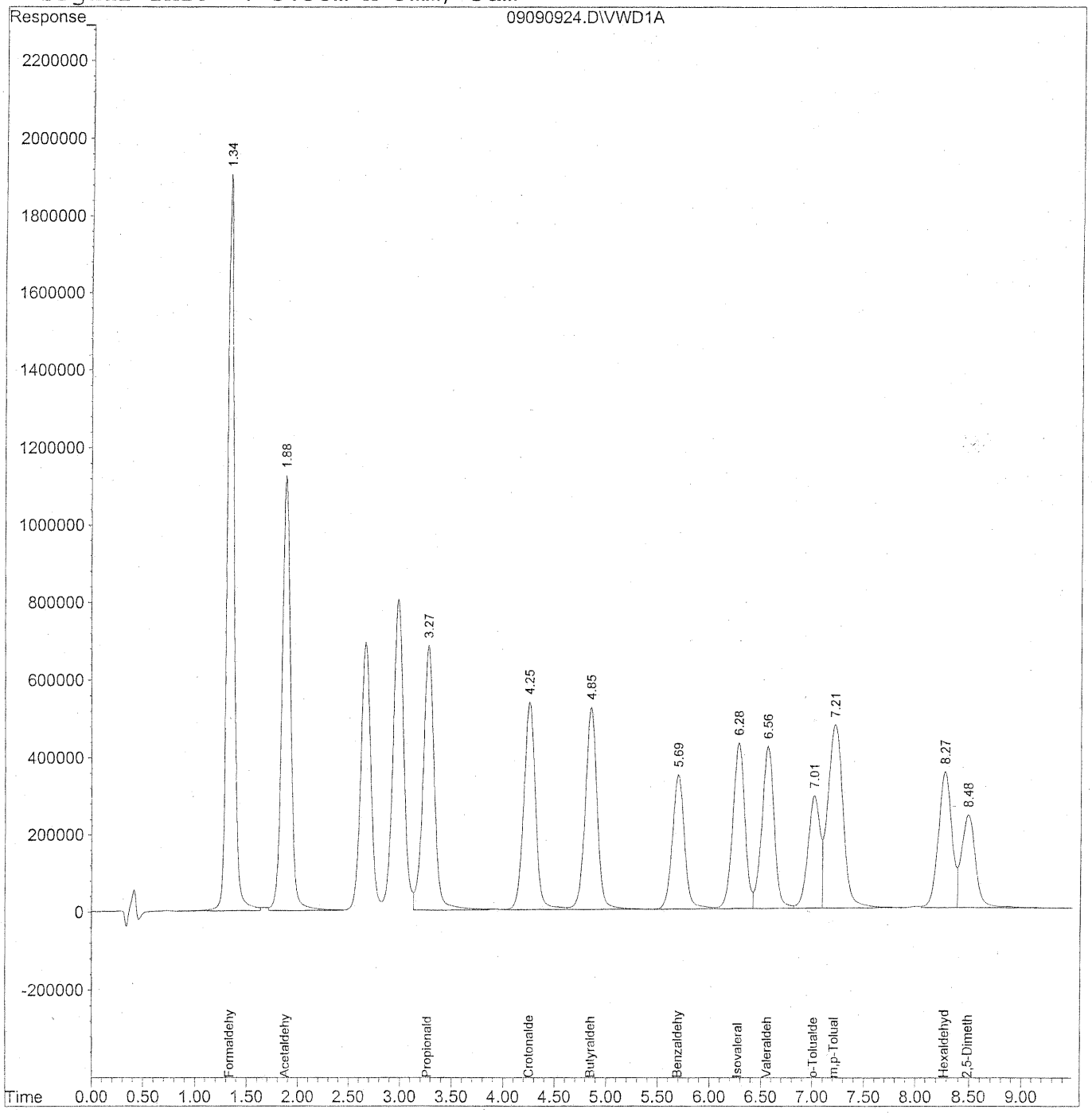
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090924.D Vial: 4
Acq On : 09-Sep-2009, 18:23 Operator: MD
Sample : 10000ng/ml TO-11A S21-09080902 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:59 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



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Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090924.D Vial: 4
Acq On : 09-Sep-2009, 18:23 Operator: MD
Sample : 10000ng/ml TO-11A S21-09080902 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:59 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	91301664	10216.742	ng/ml
2)	Acetaldehyde	1.88	67004053	10305.740	ng/ml
3)	Propionaldehyde	3.27	52551284	10108.517	ng/ml
4)	Crotonaldehyde	4.25	42531897	10476.390	ng/ml
5)	Butyraldehyde	4.85	42207282	10413.662	ng/ml
6)	Benzaldehyde	5.69	28552063	10464.403	ng/ml
7)	Isovaleraldehyde	6.28	35194712	10224.544	ng/ml
8)	Valeraldehyde	6.56	35338059	10393.485	ng/ml
9)	o-Tolualdehyde	7.01	23813504	10965.300	ng/ml
10)	m,p-Tolualdehyde	7.21	49315533	21467.660	ng/ml
11)	Hexaldehyde	8.28	30246038	10213.789	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.49	21823086	10931.999	ng/ml

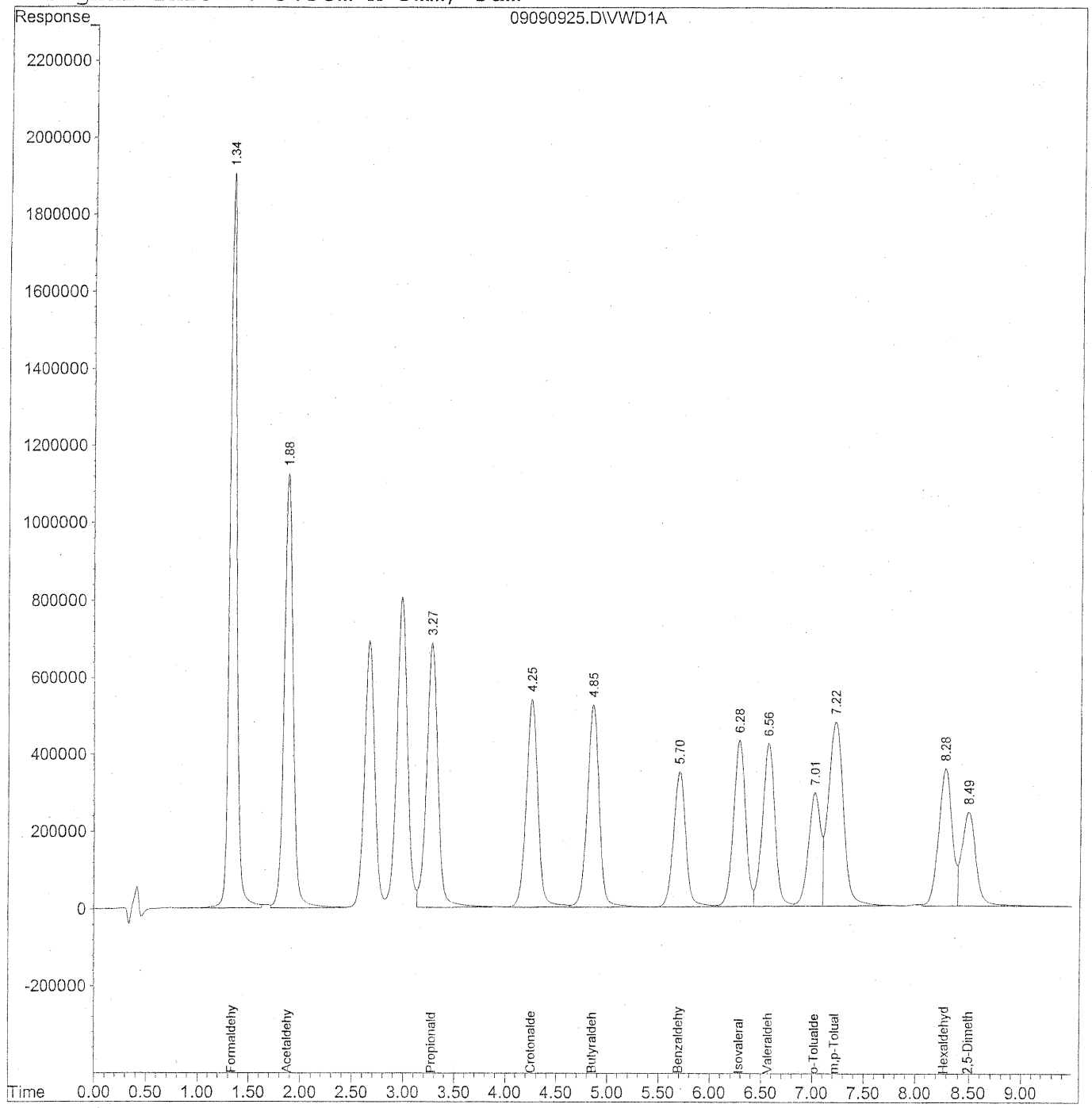
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090925.D Vial: 4
Acq On : 09-Sep-2009, 18:34 Operator: MD
Sample : 10000ng/ml TO-11A S21-09080902 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:59 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



210

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090925.D Vial: 4
Acq On : 09-Sep-2009, 18:34 Operator: MD
Sample : 10000ng/ml TO-11A S21-09080902 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 8:59 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	91595894	10251.972	ng/ml
2)	Acetaldehyde	1.88	67244158	10345.249	ng/ml
3)	Propionaldehyde	3.28	52752024	10150.066	ng/ml
4)	Crotonaldehyde	4.25	42676337	10513.945	ng/ml
5)	Butyraldehyde	4.86	42347195	10450.266	ng/ml
6)	Benzaldehyde	5.70	28631645	10495.182	ng/ml
7)	Isovaleraldehyde	6.28	35288997	10253.979	ng/ml
8)	Valeraldehyde	6.57	35418570	10419.068	ng/ml
9)	o-Tolualdehyde	7.02	23869930	10994.623	ng/ml
10)	m,p-Tolualdehyde	7.22	49446486	21529.189	ng/ml
11)	Hexaldehyde	8.28	30343150	10249.463	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.49	22018475	11037.553	ng/ml

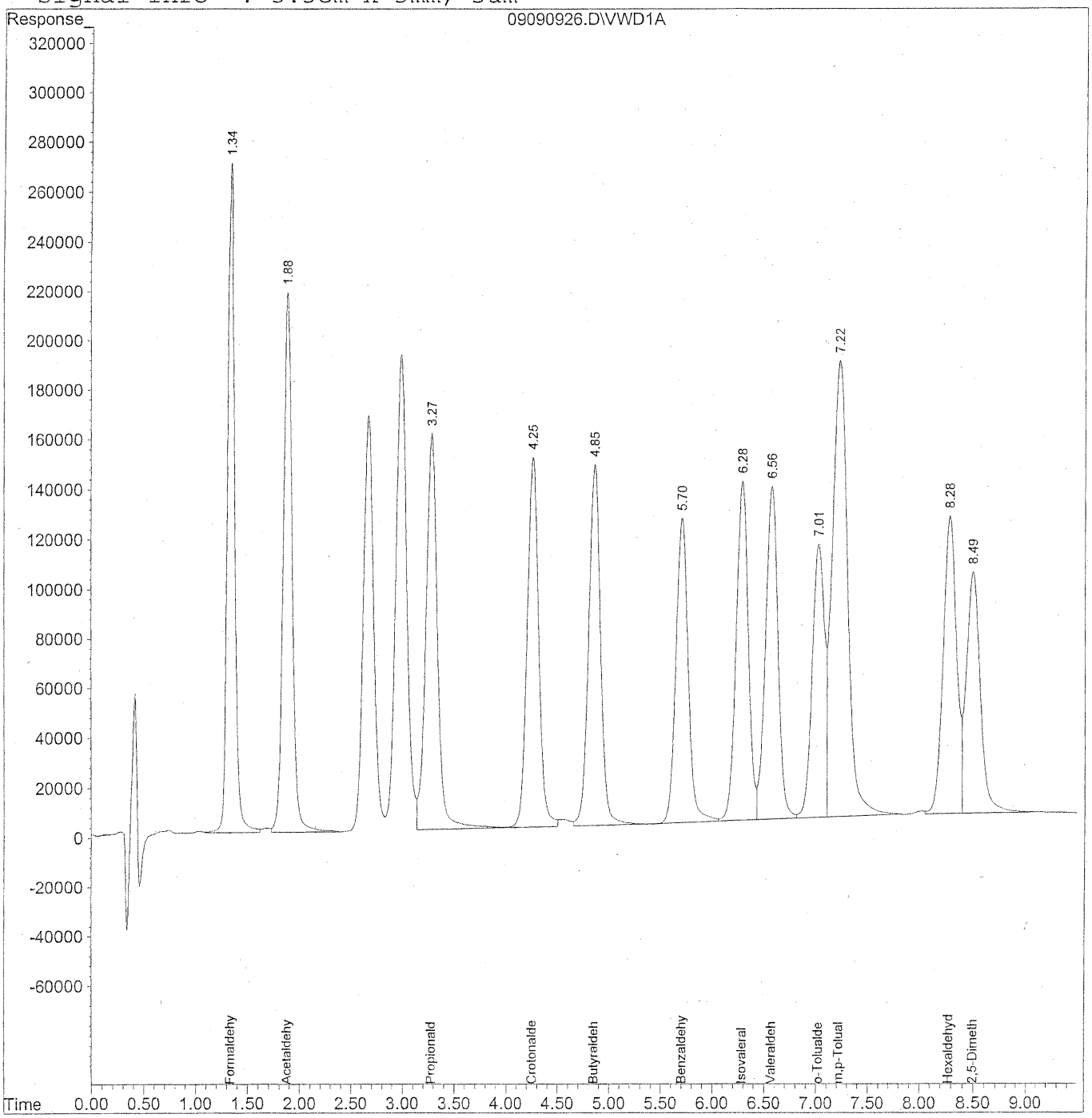
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090926.D Vial: 3
Acq On : 09-Sep-2009, 18:46 Operator: MD
Sample : ~1500ng/ml TO-11A ICV S21-07270907 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 9:30 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



212

Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\09\09090926.D Vial: 3
Acq On : 09-Sep-2009, 18:46 Operator: MD
Sample : ~1500ng/ml TO-11A ICV S21-07270907 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 10 9:30 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Wed Sep 09 16:02:22 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.34	12986438	1453.521	ng/ml
2)	Acetaldehyde	1.88	13048264	2007.424	ng/ml
3)	Propionaldehyde	3.28	12411611	2388.130	ng/ml
4)	Crotonaldehyde	4.26	11686650	2879.178	ng/ml
5)	Butyraldehyde	4.86	11660734	2877.588	ng/ml
6)	Benzaldehyde	5.70	10075461	3693.249	ng/ml
7)	Isovaleraldehyde	6.28	11105935	3227.069	ng/ml
8)	Valeraldehyde	6.57	11151355	3280.390	ng/ml
9)	o-Tolualdehyde	7.02	8894551	4053.169	ng/ml
10)	m,p-Tolualdehyde	7.22	19279847	8394.519	ng/ml
11)	Hexaldehyde	8.28	10194419	3443.522	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.49	8824280	4423.488	ng/ml

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

CONTINUING CALIBRATION STANDARDS

COLUMBIA ANALYTICAL SERVICES

TO11A Aldehyde & Ketone DNPH Analysis by HPLC

MD 9/22/09

Printed : 09/22/09
Instrument : LC#02 — Date Acquired : 09/16/09
Detector : UV-VIS 360 — Sample Amount : 3ul
Analyst : MD — Client & PAI Job# : EH & E P0903146

HC 9/22/09

SAMPLE RESULT SUMMARY

Sample Information	MDL	1500ng/ml TO 11A S21-09090903	% Diff	ACN blank lot CY331	MB-1 front 1.0ml lot 5855/5994	MB-1 back 1.0ml lot 5855/5994	P0903146-001 back 1.0ml	P0903146-002 back 1.0ml	P0903146-003 back 1.0ml
Dilution	1.0			1.0	1.0	1.0	1.0	1.0	1.0
Sample Volume (L)	NA			NA	NA	NA	103.40	100.90	101.80
Final Vol.(ml)	1.0			1.0	1.0	1.0	1.0	1.0	1.0
	ng/sample	ng/sample		ng/sample	ng/sample	ng/sample	ng/sample	ng/sample	ng/sample
Formaldehyde	100.00	1595.1	6.3%	ND	ND	ND	2343.245 BH	1764.838 BH	ND
Acetaldehyde	100.00	1581.0	5.4%	ND	ND	ND	1073.921	819.864 BT	244.005 BT
Propionaldehyde	100.00	1542.3	2.8%	ND	ND	ND	154.477	105.023 BT	ND
Crotonaldehyde	100.00	1578.5	5.2%	ND	ND	ND	ND	ND	ND
Butyraldehyde	100.00	1622.1	8.1%	ND	ND	ND	218.488 BH	166.376 BT	ND
Benzaldehyde	100.00	1555.3	3.7%	ND	ND	ND	292.286	236.807 BH	ND
Isovaleraldehyde	100.00	1560.2	4.0%	ND	ND	ND	ND	ND	ND
Valeraldehyde	100.00	1512.7	0.8%	ND	ND	ND	669.895 BH	461.291 BT	ND
o-Tolualdehyde	100.00	1556.6	3.8%	ND	ND	ND	ND	ND	ND
m,p-Tolualdehyde	200.00	3188.7	6.3%	ND	ND	ND	ND	ND	ND
Hexaldehyde	100.00	1617.1	7.8%	ND	ND	ND	2726.928 BH	2063.017 BT	138.879
2,5-Dimethylbenzaldehyde	100.00	1695.7	13.0%	ND	ND	ND	ND	ND	ND
	ug/m3			ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
Formaldehyde				NA	NA	NA	22.662	17.491	ND
Acetaldehyde				NA	NA	NA	10.386	8.126	2.397
Propionaldehyde				NA	NA	NA	1.494	1.041	ND
Crotonaldehyde				NA	NA	NA	ND	ND	ND
Butyraldehyde				NA	NA	NA	2.113	1.649	ND
Benzaldehyde				NA	NA	NA	2.827	2.347	ND
Isovaleraldehyde				NA	NA	NA	ND	ND	ND
Valeraldehyde				NA	NA	NA	6.479	4.572	ND
o-Tolualdehyde				NA	NA	NA	ND	ND	ND
m,p-Tolualdehyde				NA	NA	NA	ND	ND	ND
Hexaldehyde				NA	NA	NA	26.373	20.446	1.364
2,5-Dimethylbenzaldehyde				NA	NA	NA	ND	ND	ND
	ppb			ppb	ppb	ppb	ppb	ppb	ppb
Formaldehyde				NA	NA	NA	18.459	14.247	ND
Acetaldehyde				NA	NA	NA	5.767	4.512	1.331
Propionaldehyde				NA	NA	NA	0.629	0.438	ND
Crotonaldehyde				NA	NA	NA	ND	ND	ND
Butyraldehyde				NA	NA	NA	0.717	0.559	ND
Benzaldehyde				NA	NA	NA	0.652	0.541	ND
Isovaleraldehyde				NA	NA	NA	ND	ND	ND
Valeraldehyde				NA	NA	NA	1.840	1.298	ND
o-Tolualdehyde				NA	NA	NA	ND	ND	ND
m,p-Tolualdehyde				NA	NA	NA	ND	ND	ND
Hexaldehyde				NA	NA	NA	6.440	4.993	0.333
2,5-Dimethylbenzaldehyde				NA	NA	NA	ND	ND	ND

COLUMBIA ANALYTICAL SERVICES

TO11A Aldehyde & Ketone DNPH Analysis by HPLC

Printed : 09/22/09
Instrument : LC#02 — Date Acquired : 09/16/09
Detector : UV-VIS 360 — Sample Amount : 3ul
Analyst : MD — Client & PAI Job# : EH & E P0903146

Sample Information	MDL	P0903146-004 back 1.0ml	P0903146-005 back 1.0ml	P0903146-006 back 1.0ml	P0903146-001 front 1.0ml	P0903146-002 front 1.0ml	MID CCV 1500ng/ml	% Diff
Dilution	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Sample Volume (L)	NA	109.70	94.30	NA	103.40	100.90	NA	
Final Vol.(ml)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
	ng/sample	ng/sample	ng/sample	ng/sample	ng/sample	ng/sample	ng/sample	
Formaldehyde	100.00	ND	ND	ND	105.985	1258.704	1610.180	7.3%
Acetaldehyde	100.00	351.967 BT	ND	ND	682.870	1344.412	1600.031	6.7%
Propionaldehyde	100.00	ND	ND	ND	ND	125.906	1587.227	5.8%
Crotonaldehyde	100.00	ND	ND	ND	ND	ND	1609.706	7.3%
Butyraldehyde	100.00	ND	ND	ND	ND	221.649	1621.623	8.1%
Benzaldehyde	100.00	ND	ND	ND	ND	ND	1575.155	5.0%
Isovaleraldehyde	100.00	ND	ND	ND	ND	ND	1596.733	6.4%
Valeraldehyde	100.00	ND	ND	ND	184.446	585.231	1538.356	2.6%
o-Tolualdehyde	100.00	ND	ND	ND	ND	ND	1639.043	9.3%
m,p-Tolualdehyde	200.00	ND	ND	ND	ND	ND	3323.952	10.8%
Hexaldehyde	100.00	290.645	ND	ND	583.506	2136.972 m,↑	1564.873	4.3%
2,5-Dimethylbenzaldehyde	100.00	ND	ND	ND	ND	ND	1490.722	0.6%
	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3		
Formaldehyde		ND	ND	ND	1.025	12.475		
Acetaldehyde		3.208	ND	ND	6.604	13.324		
Propionaldehyde		ND	ND	ND	ND	1.248		
Crotonaldehyde		ND	ND	ND	ND	ND		
Butyraldehyde		ND	ND	ND	ND	2.197		
Benzaldehyde		ND	ND	ND	ND	ND		
Isovaleraldehyde		ND	ND	ND	ND	ND		
Valeraldehyde		ND	ND	ND	1.784	5.800		
o-Tolualdehyde		ND	ND	ND	ND	ND		
m,p-Tolualdehyde		ND	ND	ND	ND	ND		
Hexaldehyde		2.649	ND	ND	5.643	21.179		
2,5-Dimethylbenzaldehyde		ND	ND	ND	ND	ND		
	ppb	ppb	ppb	ppb	ppb	ppb		
Formaldehyde		ND	ND	ND	0.835	10.161		
Acetaldehyde		1.782	ND	ND	3.667	7.399		
Propionaldehyde		ND	ND	ND	ND	0.526		
Crotonaldehyde		ND	ND	ND	ND	ND		
Butyraldehyde		ND	ND	ND	ND	0.745		
Benzaldehyde		ND	ND	ND	ND	ND		
Isovaleraldehyde		ND	ND	ND	ND	ND		
Valeraldehyde		ND	ND	ND	0.507	1.647		
o-Tolualdehyde		ND	ND	ND	ND	ND		
m,p-Tolualdehyde		ND	ND	ND	ND	ND		
Hexaldehyde		0.647	ND	ND	1.378	5.172		
2,5-Dimethylbenzaldehyde		ND	ND	ND	ND	ND		

COLUMBIA ANALYTICAL SERVICES

TO11A Aldehyde & Ketone DNPH Analysis by HPLC

Printed : 09/22/09
Instrument : LC#02 — Date Acquired : 09/16/09
Detector : UV-VIS 360 — Sample Amount : 3ul
Analyst : MD — Client & PAI Job# : EH & E P0903146

SAMPLE RESULT SUMMARY

Sample Information	MDL	P0903146-003 front 1.0ml	P0903146-004 front 1.0ml	P0903146-005 front 1.0ml	P0903146-006 front 1.0ml	1500ng/ml TO-11A S21-09090903	% Diff
Dilution	1.0	1.0	1.0	1.0	1.0	1.0	
Sample Volume (L)	NA	101.80	109.70	94.30	NA	NA	
Final Vol.(ml)	1.0	1.0	1.0	1.0	1.0	1.0	
	ng/sample	ng/sample	ng/sample	ng/sample	ng/sample	ng/sample	
Formaldehyde	100.00	2731.621	3191.942	ND	ND	1590.968	6.1%
Acetaldehyde	100.00	1354.028	1509.751	ND	ND	1586.010	5.7%
Propionaldehyde	100.00	174.416	206.810	ND	ND	1624.727	8.3%
Crotonaldehyde	100.00	ND	ND	ND	ND	1624.390	8.3%
Butyraldehyde	100.00	268.822	311.545	ND	ND	1621.092	8.1%
Benzaldehyde	100.00	652.620 m,↑	444.264	ND	ND	1528.698	1.9%
Isovaleraldehyde	100.00	113.494	111.995	ND	ND	1572.112	4.8%
Valeraldehyde	100.00	760.969	934.934	ND	ND	1494.403	0.4%
o-Tolualdehyde	100.00	ND	ND	ND	ND	1532.163	2.1%
m,p-Tolualdehyde	200.00	ND	ND	ND	ND	3247.206	8.2%
Hexaldehyde	100.00	3051.547	3992.909	ND	ND	1601.517	6.8%
2,5-Dimethylbenzaldehyde	100.00	ND	ND	ND	ND	1711.367	14.1%

	ug/m3	ug/m3	ug/m3	ug/m3
Formaldehyde	26.833	29.097	ND	ND
Acetaldehyde	13.301	13.763	ND	ND
Propionaldehyde	1.713	1.885	ND	ND
Crotonaldehyde	ND	ND	ND	ND
Butyraldehyde	2.641	2.840	ND	ND
Benzaldehyde	6.411	4.050	ND	ND
Isovaleraldehyde	1.115	1.021	ND	ND
Valeraldehyde	7.475	8.523	ND	ND
o-Tolualdehyde	ND	ND	ND	ND
m,p-Tolualdehyde	ND	ND	ND	ND
Hexaldehyde	29.976	36.398	ND	ND
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND

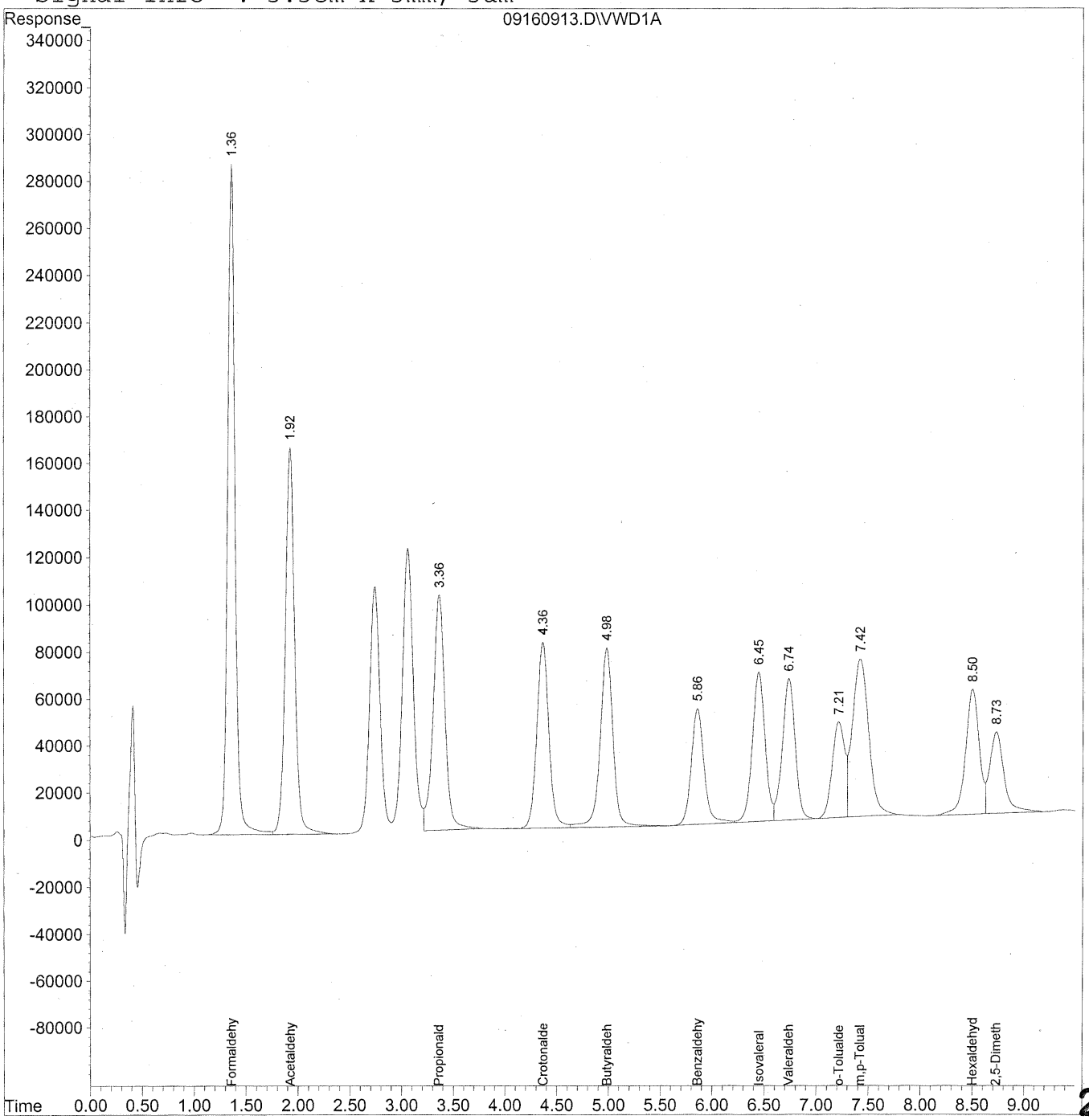
	ppb	ppb	ppb	ppb
Formaldehyde	21.856	23.700	ND	ND
Acetaldehyde	7.386	7.642	ND	ND
Propionaldehyde	0.722	0.794	ND	ND
Crotonaldehyde	ND	ND	ND	ND
Butyraldehyde	0.896	0.963	ND	ND
Benzaldehyde	1.478	0.933	ND	ND
Isovaleraldehyde	0.317	0.290	ND	ND
Valeraldehyde	2.123	2.420	ND	ND
o-Tolualdehyde	ND	ND	ND	ND
m,p-Tolualdehyde	ND	ND	ND	ND
Hexaldehyde	7.320	8.889	ND	ND
2,5-Dimethylbenzaldehyde	ND	ND	ND	ND

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160913.D Vial: 10
Acq On : 16-Sep-2009, 13:14 Operator: MD
Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 14:05 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 10 12:03:26 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



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Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160913.D Vial: 10
Acq On : 16-Sep-2009, 13:14 Operator: MD
Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 14:05 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 10 12:03:26 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

MD 9/22/09

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.36	14252679	1595.075	ng/ml
2)	Acetaldehyde	1.93	10277749	1580.998	ng/ml
3)	Propionaldehyde	3.37	8016470	1542.274	ng/ml
4)	Crotonaldehyde	4.37	6408166	1578.533	ng/ml
5)	Butyraldehyde	4.99	6573986	1622.098	ng/ml
6)	Benzaldehyde	5.86	4243343	1555.263	ng/ml
7)	Isovaleraldehyde	6.45	5369934	1560.216	ng/ml
8)	Valeraldehyde	6.74	5142606	1512.692	ng/ml
9)	o-Tolualdehyde	7.22	3416096	1556.619	ng/ml
10)	m,p-Tolualdehyde	7.42	7324144	3188.679	ng/ml
11)	Hexaldehyde	8.50	4787720	1617.077	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.73	3383788	1695.716	ng/ml

HC 9/22/09

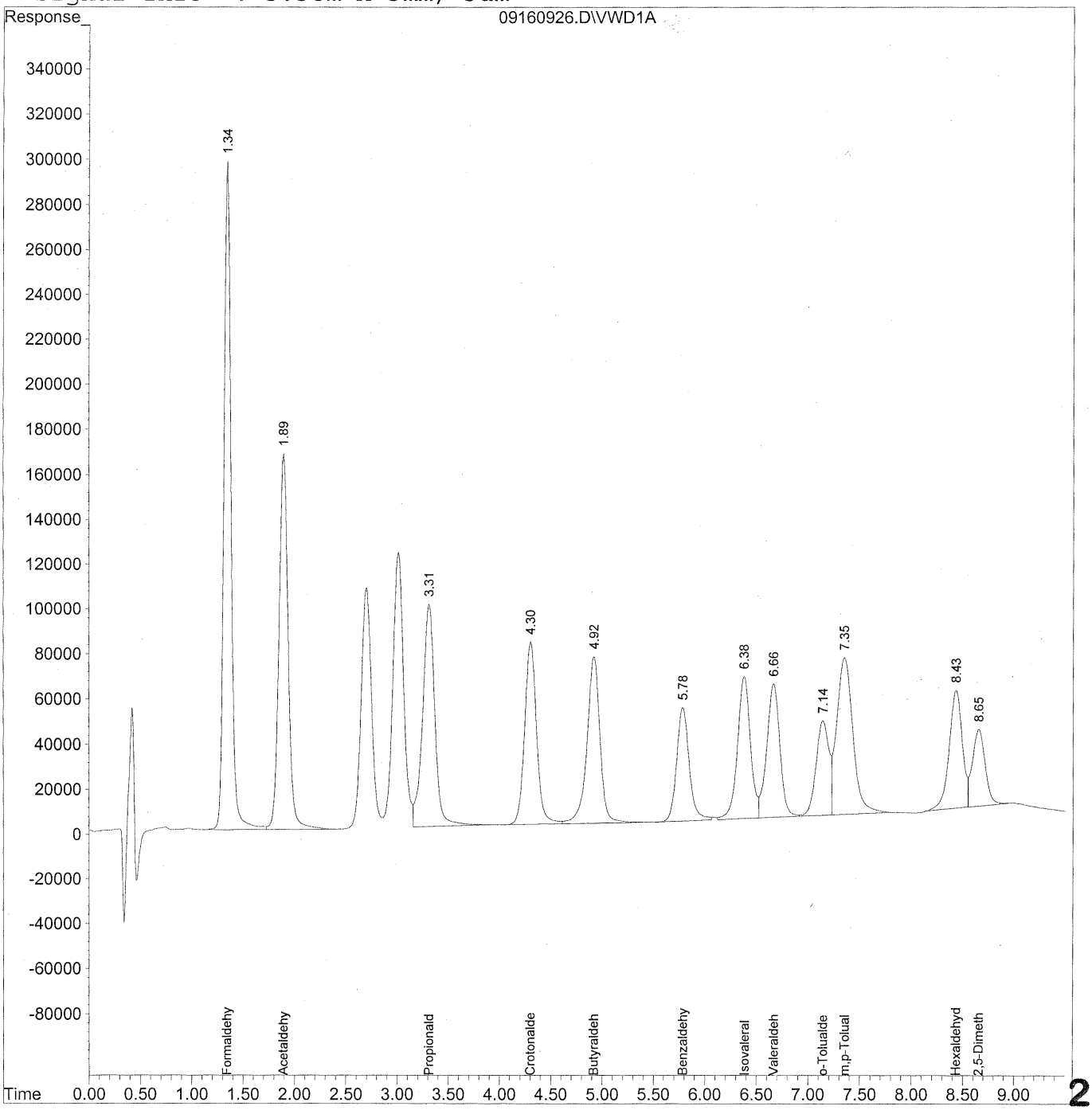
(f)=RT Delta > 1/2 Window (m)=manual int.
09160913.D TO110909.M Mon Sep 21 16:04:03 2009 Page 1

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160926.D Vial: 10
Acq On : 16-Sep-2009, 15:49 Operator: MD
Sample : MID CCV 1500ng/ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:18 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



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Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160926.D Vial: 10
Acq On : 16-Sep-2009, 15:49 Operator: MD
Sample : MID CCV 1500ng/ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:18 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

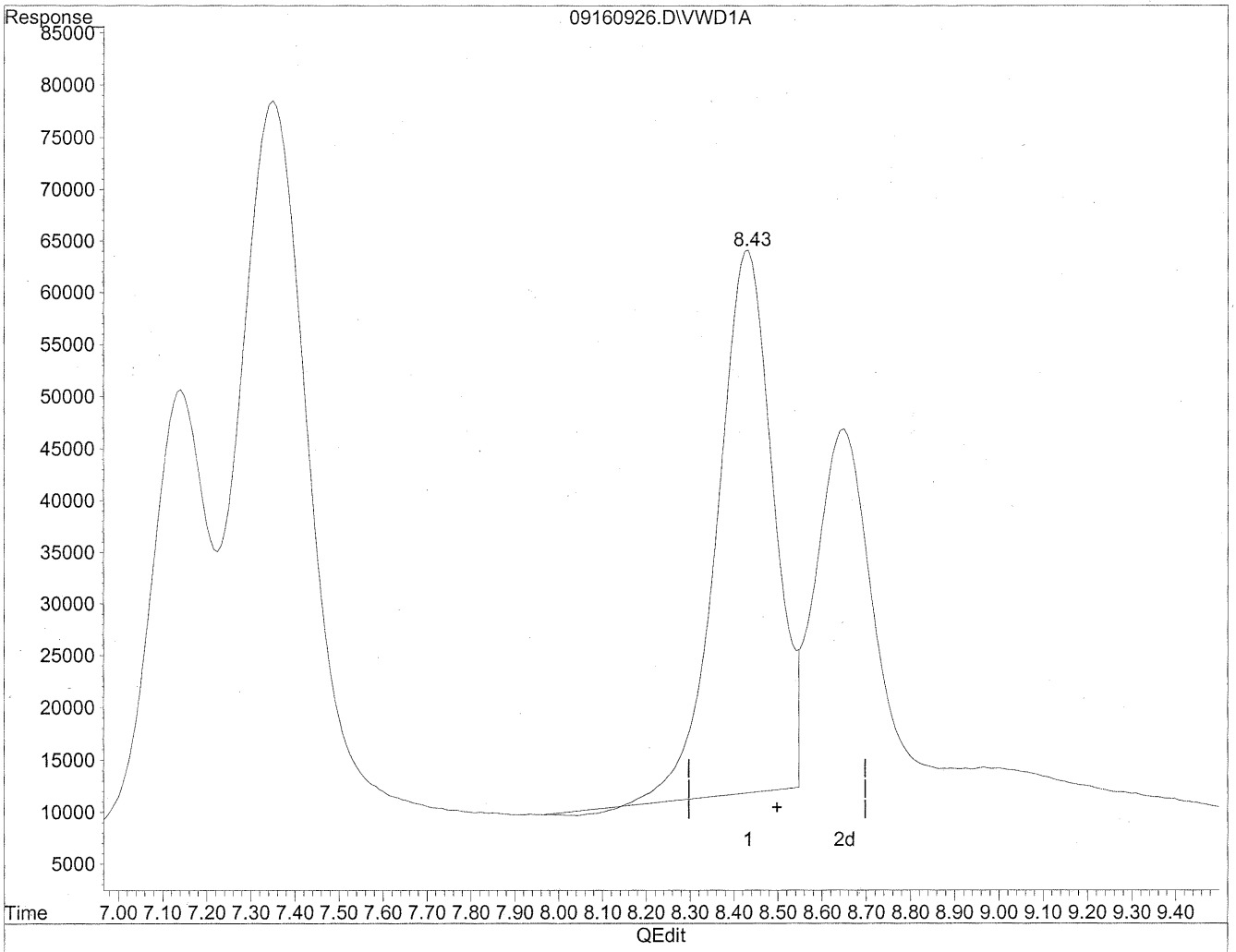
	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.35	14387649	1610.180	ng/ml
2)	Acetaldehyde	1.89	10401476	1600.031	ng/ml
3)	Propionaldehyde	3.31	8250128	1587.227	ng/ml
4)	Crotonaldehyde	4.30	6534716	1609.706	ng/ml
5)	Butyraldehyde	4.92	6572062	1621.623	ng/ml
6)	Benzaldehyde	5.79	4297616	1575.155	ng/ml
7)	Isovaleraldehyde	6.38	5495616	1596.733	ng/ml
8)	Valeraldehyde	6.67	5229857	1538.356	ng/ml
9)	o-Tolualdehyde	7.14	3596981	1639.043	ng/ml
10)	m,p-Tolualdehyde	7.35	7634856	3323.952	ng/ml
11)	Hexaldehyde	8.43	4633159	1564.873	ng/mlm
12)	2,5-Dimethylbenzaldehyde	8.65	2974724	1490.722	ng/ml

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

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160926.D Vial: 10
Acq On : 16-Sep-2009, 15:49 Operator: MD
Sample : MID CCV 1500ng/ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.43min 1552.590ng/ml

response 4596790

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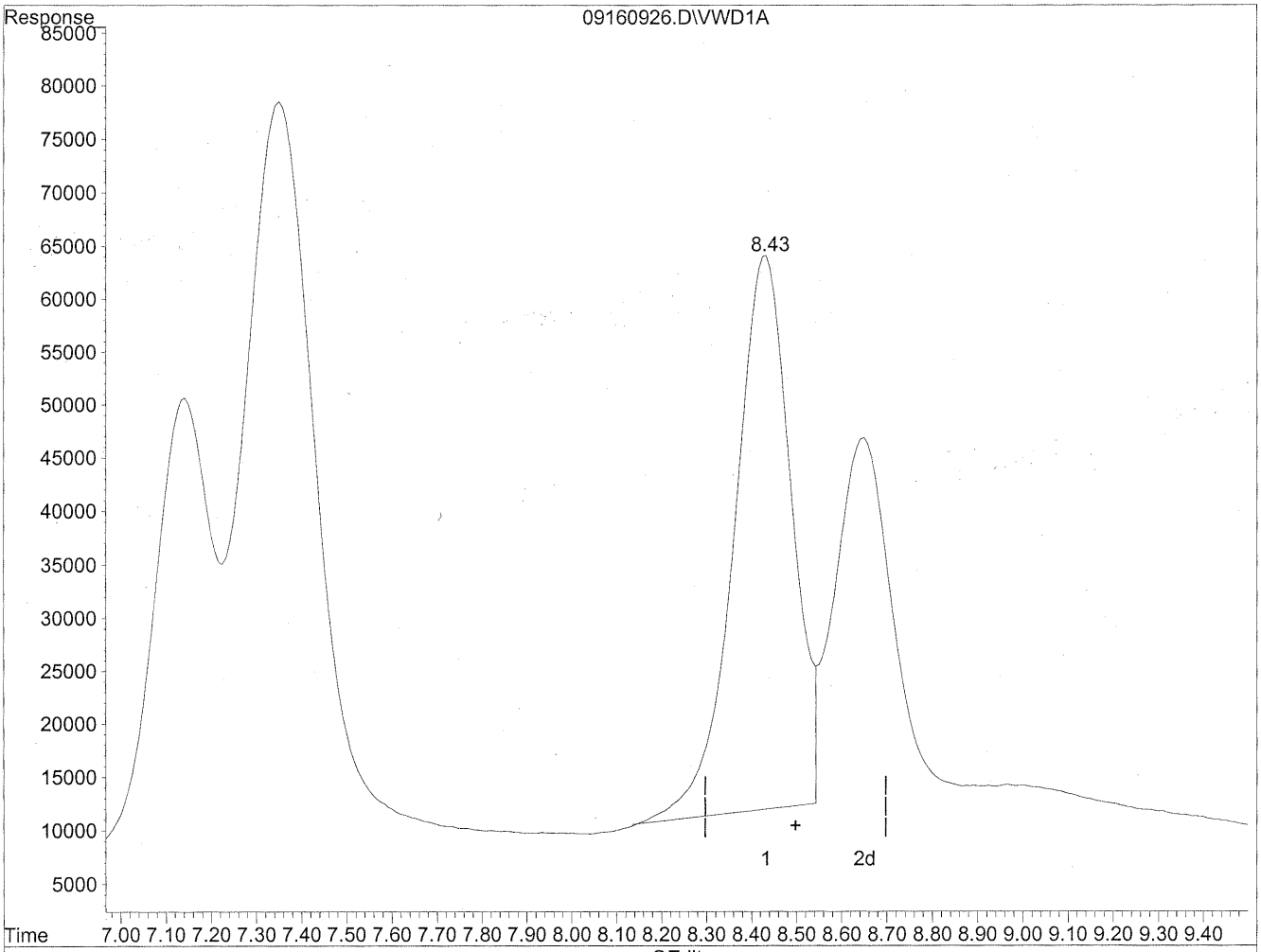
(+) = Expected Retention Time

09160926.D TO110909.M Mon Sep 21 16:18:29 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160926.D Vial: 10
Acq On : 16-Sep-2009, 15:49 Operator: MD
Sample : MID CCV 1500ng/ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.43min 1564.873ng/ml m

response 4633159

HC 9/22/09 MN 9/21/09 TC

(+) = Expected Retention Time

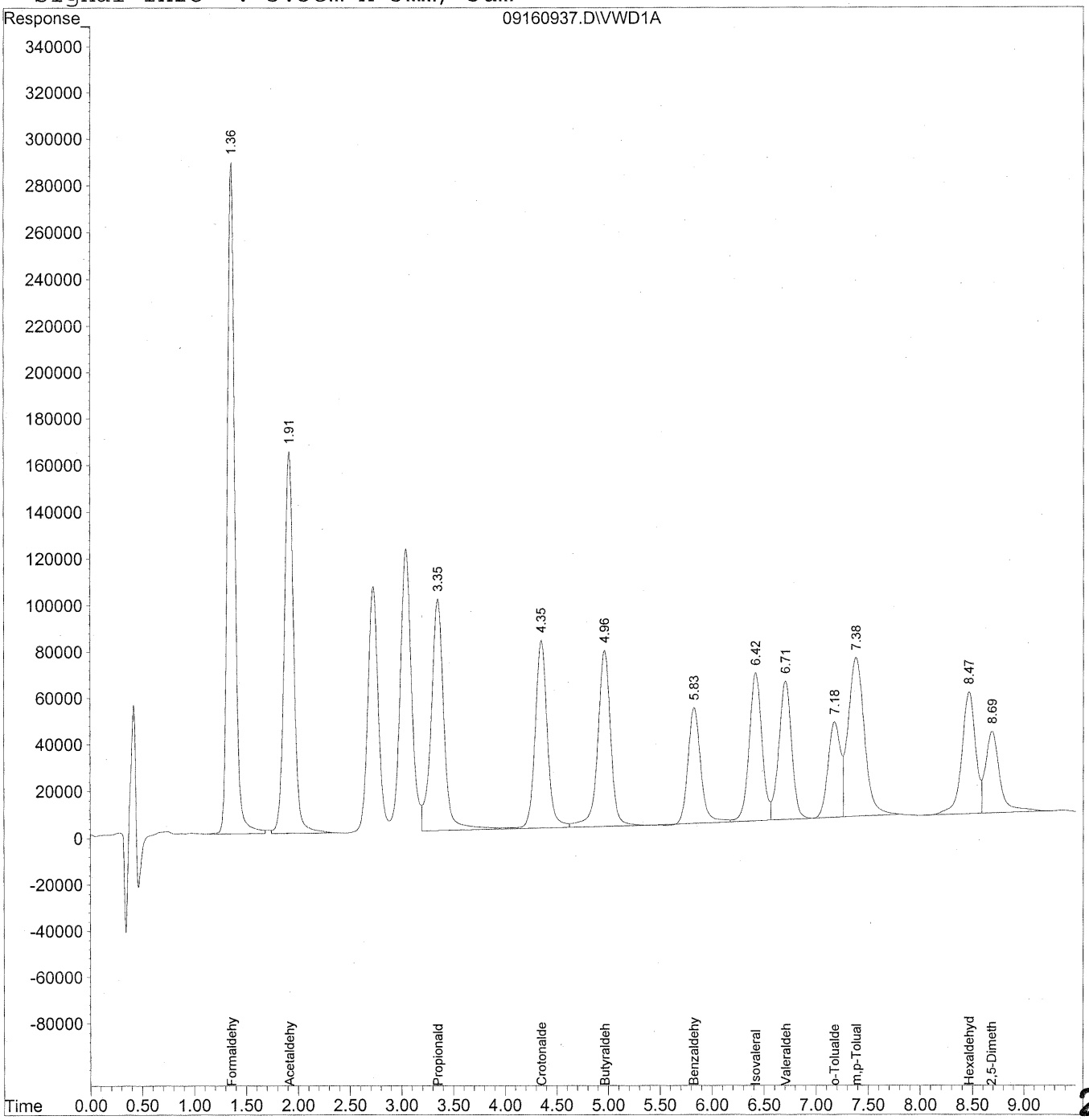
09160926.D TO110909.M Mon Sep 21 16:18:36 2009

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160937.D Vial: 10
Acq On : 16-Sep-2009, 18:01 Operator: MD
Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:31 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Multiple Level Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um



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Quantitation Report (QT Reviewed)

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160937.D Vial: 10
Acq On : 16-Sep-2009, 18:01 Operator: MD
Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 16:31 19109 Quant Results File: TO110909.RES

Quant Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Mon Sep 21 12:16:55 2009
Response via : Initial Calibration
DataAcq Meth : TO-11A.M

Volume Inj. : 3uL
Signal Phase : Supelcosil LC-18
Signal Info : 3.3cm x 3mm, 3um

	Compound	R.T.	Response	Conc	Units
	Target Compounds				
1)	Formaldehyde	1.36	14215985	1590.968	ng/ml
2)	Acetaldehyde	1.92	10310329	1586.010	ng/ml
3)	Propionaldehyde	3.35	8445043	1624.727	ng/ml
4)	Crotonaldehyde	4.35	6594324	1624.390	ng/ml
5)	Butyraldehyde	4.97	6569909	1621.092	ng/ml
6)	Benzaldehyde	5.83	4170866	1528.698	ng/ml
7)	Isovaleraldehyde	6.42	5410876	1572.112	ng/ml
8)	Valeraldehyde	6.71	5080430	1494.403	ng/ml
9)	o-Tolualdehyde	7.18	3362425	1532.163	ng/ml
10)	m,p-Tolualdehyde	7.39	7458577	3247.206	ng/ml
11)	Hexaldehyde	8.47	4741651	1601.517	ng/ml
12)	2,5-Dimethylbenzaldehyde	8.69	3415019	1711.367	ng/ml

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

RUN LOGS

Injection Log

Directory: j:\lc02\data\to11a\2009_09\09

ine	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
		09090901.d	1.			
		09090902.d	1.			
	102	09090903.d	1.	TO11 STD TEST		09-Sep-09, 12:4
	102	09090904.d	1.	TO11 STD TEST		09-Sep-09, 12:5
	10	09090905.d	1.	TO11 STD TEST		09-Sep-09, 26:1
	10	09090906.d	1.	TO11 STD TEST		09-Sep-09, 26:3
	10	09090907.d	1.	ACN BLANK Lot CY331		09-Sep-09, 27:0
	9	09090908.d	1.	50ng/ml TO-11A S21-09080905		09-Sep-09, 27:2
	9	09090909.d	1.	50ng/ml TO-11A S21-09080905		09-Sep-09, 27:3
0	9	09090910.d	1.	50ng/ml TO-11A S21-09080905		09-Sep-09, 27:4
1	8	09090911.d	1.	100ng/ml TO-11A S21-09080904		09-Sep-09, 27:5
2	8	09090912.d	1.	100ng/ml TO-11A S21-09080904		09-Sep-09, 28:0
3	8	09090913.d	1.	100ng/ml TO-11A S21-09080904		09-Sep-09, 28:1
4	7	09090914.d	1.	500ng/ml TO-11A S21-09080903		09-Sep-09, 28:2
5	7	09090915.d	1.	500ng/ml TO-11A S21-09080903		09-Sep-09, 28:4
6	7	09090916.d	1.	500ng/ml TO-11A S21-09080903		09-Sep-09, 28:5
7	6	09090917.d	1.	1500ng/ml TO-11A S21-09090903		09-Sep-09, 29:0
8	6	09090918.d	1.	1500ng/ml TO-11A S21-09090903		09-Sep-09, 29:1
9	6	09090919.d	1.	1500ng/ml TO-11A S21-09090903		09-Sep-09, 29:2
0	5	09090920.d	1.	5000ng/ml TO-11A S21-09080902		09-Sep-09, 29:3
1	5	09090921.d	1.	5000ng/ml TO-11A S21-09080902		09-Sep-09, 29:4
2	5	09090922.d	1.	5000ng/ml TO-11A S21-09080902		09-Sep-09, 30:0
3	4	09090923.d	1.	10000ng/ml TO-11A S21-09080901		09-Sep-09, 30:1
4	4	09090924.d	1.	10000ng/ml TO-11A S21-09080902		09-Sep-09, 30:2
5	4	09090925.d	1.	10000ng/ml TO-11A S21-09080902		09-Sep-09, 30:3
6	3	09090926.d	1.	~1500ng/ml TO-11A ICV S21-07270907		09-Sep-09, 30:4
7	3	09090927.d	1.	~1500ng/ml TO-11A ICV S21-07270907	> injected ICV 3x	09-Sep-09, 30:5
8	3	09090928.d	1.	~1500ng/ml TO-11A ICV S21-07270907	by mistake MK 9/10/09	09-Sep-09, 31:0

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Injection Log

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Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	10	09160901.d	1.	prime		16-Sep-09, 22:5
2	10	09160902.d	1.	1500ng/ml TO-11A S21-09090903		16-Sep-09, 23:0
3	9	09160903.d	1.	ACN blank Lot CY331		16-Sep-09, 23:1
4	8	09160904.d	1.	P0903144-003 front 10x dil	EH & E P0903144B	16-Sep-09, 23:3
5	7	09160905.d	1.	P0903144-004 front 10x dil		16-Sep-09, 23:4
6	6	09160906.d	1.	P0903195-003 front 10x dil	EH & E P0903195B	16-Sep-09, 23:5
7	5	09160907.d	1.	P0903195-013 front 10x dil		16-Sep-09, 12:0
8	4	09160908.d	1.	P0903195-014 front 10x dil		16-Sep-09, 12:1
9	3	09160909.d	1.	P0903195-015 front 10x dil		16-Sep-09, 12:2
10	2	09160910.d	1.	P0903195-016 front 10x dil		16-Sep-09, 12:3
11	11	09160911.d	1.	P0903195-005 front Rerun		16-Sep-09, 12:5
12	12	09160912.d	1.	P0903195-024 front Rerun		16-Sep-09, 25:0
13	10	09160913.d	1.	1500ng/ml TO-11A S21-09090903		16-Sep-09, 25:1
14	9	09160914.d	1.	ACN blank lot CY331		16-Sep-09, 25:2
15	101	09160915.d	1.	MB-1 front 1.0ml lot 5855/5994	9/15	16-Sep-09, 25:3
16	102	09160916.d	1.	MB-1 back 1.0ml lot 5855/5994	9/15	16-Sep-09, 25:5
17	103	09160917.d	1.	P0903146-001 back 1.0ml		16-Sep-09, 26:0
18	104	09160918.d	1.	P0903146-002 back 1.0ml		16-Sep-09, 26:1
19	105	09160919.d	1.	P0903146-003 back 1.0ml		16-Sep-09, 26:2
20	106	09160920.d	1.	P0903146-004 back 1.0ml		16-Sep-09, 26:3
21	107	09160921.d	1.	P0903146-005 back 1.0ml		16-Sep-09, 26:5
22	108	09160922.d	1.	P0903146-006 back 1.0ml		16-Sep-09, 27:0
23	109	09160923.d	1.	P0903146-001 front 1.0ml		16-Sep-09, 27:1
24	110	09160924.d	1.	P0903146-002 front 1.0ml		16-Sep-09, 27:2
25	9	09160925.d	1.	acn blank		16-Sep-09, 27:3
26	10	09160926.d	1.	MID CCV 1500ng/ml		16-Sep-09, 27:4
27	111	09160927.d	1.	P0903146-003 front 1.0ml		16-Sep-09, 28:0
28	112	09160928.d	1.	P0903146-004 front 1.0ml		16-Sep-09, 28:1
29	113	09160929.d	1.	P0903146-005 front 1.0ml		16-Sep-09, 28:2
30	114	09160930.d	1.	P0903146-006 front 1.0ml		16-Sep-09, 28:3
31	115	09160931.d	1.	P0903147-001 back 1.0ml		16-Sep-09, 28:5
32	116	09160932.d	1.	P0903147-002 back 1.0ml		16-Sep-09, 29:0
33	117	09160933.d	1.	P0903147-003 back 1.0ml		16-Sep-09, 29:1
34	118	09160934.d	1.	P0903147-004 back 1.0ml		16-Sep-09, 29:2
35	119	09160935.d	1.	P0903147-005 back 1.0ml		16-Sep-09, 29:3
36	120	09160936.d	1.	P0903147-006 back 1.0ml		16-Sep-09, 29:5
37	10	09160937.d	1.	1500ng/ml TO-11A S21-09090903		16-Sep-09, 30:0
38	9	09160938.d	1.	ACN blank lot CY331		16-Sep-09, 30:1
39	121	09160939.d	1.	MB-2 front 1.0ml lot 5855/5994	9/15	16-Sep-09, 30:2
40	122	09160940.d	1.	MB-2 back 1.0ml lot 5855/5994	9/15	16-Sep-09, 30:3
41	123	09160941.d	1.	P0903147-001 front 1.0ml		16-Sep-09, 30:4
42	124	09160942.d	1.	P0903147-002 front 1.0ml		16-Sep-09, 31:0
43	125	09160943.d	1.	P0903147-003 front 1.0ml		16-Sep-09, 31:1
44	126	09160944.d	1.	P0903147-004 front 1.0ml		16-Sep-09, 31:2
45	127	09160945.d	1.	P0903147-005 front 1.0ml		16-Sep-09, 31:3
46	128	09160946.d	1.	P0903147-006 front 1.0ml		16-Sep-09, 31:4
47	129	09160947.d	1.	P0903140-003 back 1.0ml		16-Sep-09, 32:0
48	130	09160948.d	1.	P0903140-004 back 1.0ml		16-Sep-09, 32:1
49	131	09160949.d	1.	P0903140-005 back 1.0ml		16-Sep-09, 32:2
50	10	09160950.d	1.	MID CCV 1500ng/ml		16-Sep-09, 32:3
51	132	09160951.d	1.	P0903176-003 back 1.0ml		16-Sep-09, 32:4
52	133	09160952.d	1.	P0903176-004 back 1.0ml		16-Sep-09, 33:0
53	134	09160953.d	1.	P0903176-005 back 1.0ml		16-Sep-09, 33:1
54	135	09160954.d	1.	P0903140-003 front 1.0ml		16-Sep-09, 33:2
55	136	09160955.d	1.	P0903140-004 front 1.0ml		16-Sep-09, 33:3
56	137	09160956.d	1.	P0903140-005 front 1.0ml		16-Sep-09, 33:4
57	138	09160957.d	1.	P0903176-003 front 1.0ml		16-Sep-09, 34:0

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Injection Log

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Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
58	139	09160958.d	1.	P0903176-004 front 1.0ml		16-Sep-09, 34:1
59	140	09160959.d	1.	P0903176-005 front 1.0ml		16-Sep-09, 34:2
60	10	09160960.d	1.	1500ng/ml end std		16-Sep-09, 34:3
61	10	09160961.d	1.	1500ng/ml end std		17-Sep-09, 20:3