

LABORATORY REPORT

October 7, 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 10, 2009. For your reference, these analyses have been assigned our service request number P0903195.

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 561 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 T104704413-09-TX; Minnesota Department of Health, Certificate No. 11495AA. 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
Project Manager

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1 of 561

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

CAS Project No: P0903195

CASE NARRATIVE

The samples were received intact under chain of custody on September 10, 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 samples identified as "104992" and "104742" were received wet.

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.

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

Service Request: P0903195

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
P0903195-001	104988	9/3/09	00:00
P0903195-002	104989	9/3/09	00:00
P0903195-003	104990	9/3/09	00:00
P0903195-004	104991	9/3/09	00:00
P0903195-005	104992	9/3/09	00:00
P0903195-006	104993	9/3/09	00:00
P0903195-007	104869	9/2/09	00:00
P0903195-008	104870	9/2/09	00:00
P0903195-009	104871	9/2/09	00:00
P0903195-010	104872	9/2/09	00:00
P0903195-011	104873	9/2/09	00:00
P0903195-012	104874	9/2/09	00:00
P0903195-013	104808	9/1/09	00:00
P0903195-014	104809	9/1/09	00:00
P0903195-015	104810	9/1/09	00:00
P0903195-016	104811	9/1/09	00:00
P0903195-017	104812	9/1/09	00:00
P0903195-018	104813	9/1/09	00:00
P0903195-019	104737	8/31/09	00:00
P0903195-020	104738	8/31/09	00:00
P0903195-021	104739	8/31/09	00:00
P0903195-022	104740	8/31/09	00:00
P0903195-023	104741	8/31/09	00:00
P0903195-024	104742	8/31/09	00:00

DATE: 9/3/09

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

PO 903195

TO: Columbia Analytical

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	104988	Tube	Aldehyde 70-11 - Full List	108 L
②	104989			111
③	104990			106
④	104991			104
⑤	104992			106
⑥	104993			0
⑦	104869			0
⑧	104870			102
⑨	104871			101
⑩	104872			105
⑪	104873			102
⑫	104874			100

Special instructions:
 Standard turn around time Rush by _____ date/time Other _____
 Fax results 781-247-4305
 RETURN SAMPLES Electronic transfer - datacoordinator@ehinc.com
 Additional report recipient M. Frayalata@ehinc.com

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

Relinquished by: [Signature] of Environmental Health & Engineering, Inc. Date: 9/19/09
 Received by: [Signature] of (company name) CHS Date: 9/10/09 0940
 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: _____

DATE: 9/3/09

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

PO903195

TO: Columbia Analytical

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 # 16572
The cost of this analysis will be covered by EH&E Purchase Order # 16572
For EH & E Data Coordinator - URGENT DATA

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
3) ✓ 104808	Tube	Aldehyde TO-11-Full List	102 L
4) ✓ 104809			101
5) ✓ 104810			99
16) ✓ 104811			106
17) ✓ 104812			101
18) ✓ 104813			0
19) ✓ 104737			0
20) ✓ 104738			101 L
21) ✓ 104739			100
22) ✓ 104740			101
23) ✓ 104741			100
24) ✓ 104742			103

Special instructions:

- Standard turn around time
- Rush by _____ date/time
- Other _____
- Fax results 781-247-4305
- RETURN SAMPLES
- Electronic transfer - datacoordinator@ehinc.com
- Additional report recipient M Fragala@ehinc.com

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

Relinquished by: Pat Fink of Environmental Health & Engineering, Inc. Date: 9/19/09
 Received by: W. Williams of (company name) CHS Date: 9/10/09 0845
 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: _____

Columbia Analytical Services, Inc.
Sample Acceptance Check Form

Client: Environmental Health & Engineering, Inc.

Work order: P0903195

Project: 16512

Sample(s) received on: 09/10/09

Date opened: 09/10/09

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.

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

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P0903195-001.01	Silica Gel DNPH Tube					
P0903195-002.01	Silica Gel DNPH Tube					
P0903195-003.01	Silica Gel DNPH Tube					
P0903195-004.01	Silica Gel DNPH Tube					
P0903195-005.01	Silica Gel DNPH Tube					
P0903195-006.01	Silica Gel DNPH Tube					

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

Chain of Custody is missing time collected

Sample dates were taken from the bag that held each sample group.

*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);

RESULTS OF ANALYSIS

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.

Client Sample ID: 104988

Client Project ID: 16512

CAS Project ID: P0903195

CAS Sample ID: P0903195-001

Test Code: EPA Method TO-11A

Instrument ID: HP1050/LC2

Analyst: Madeleine Dangazyan

Sampling Media: Silica Gel DNPH Tube

Test Notes: BC

Date Collected: 9/3/09

Date Received: 9/10/09

Date Analyzed: 9/15/09

Desorption Volume: 1.0 ml

Volume Sampled: 108 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	8,300	77	0.93	63	0.75	
75-07-0	Acetaldehyde	3,600	33	0.93	18	0.51	BT
123-38-6	Propionaldehyde	520	4.8	0.93	2.0	0.39	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.93	ND	0.32	
123-72-8	Butyraldehyde	560	5.2	0.93	1.8	0.31	
100-52-7	Benzaldehyde	1,100	10	0.93	2.3	0.21	
590-86-3	Isovaleraldehyde	280	2.6	0.93	0.73	0.26	
110-62-3	Valeraldehyde	2,000	19	0.93	5.4	0.26	
529-20-4	o-Tolualdehyde	< 100	ND	0.93	ND	0.19	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.9	ND	0.38	
66-25-1	n-Hexaldehyde	9,000	83	0.93	20	0.23	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.93	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.

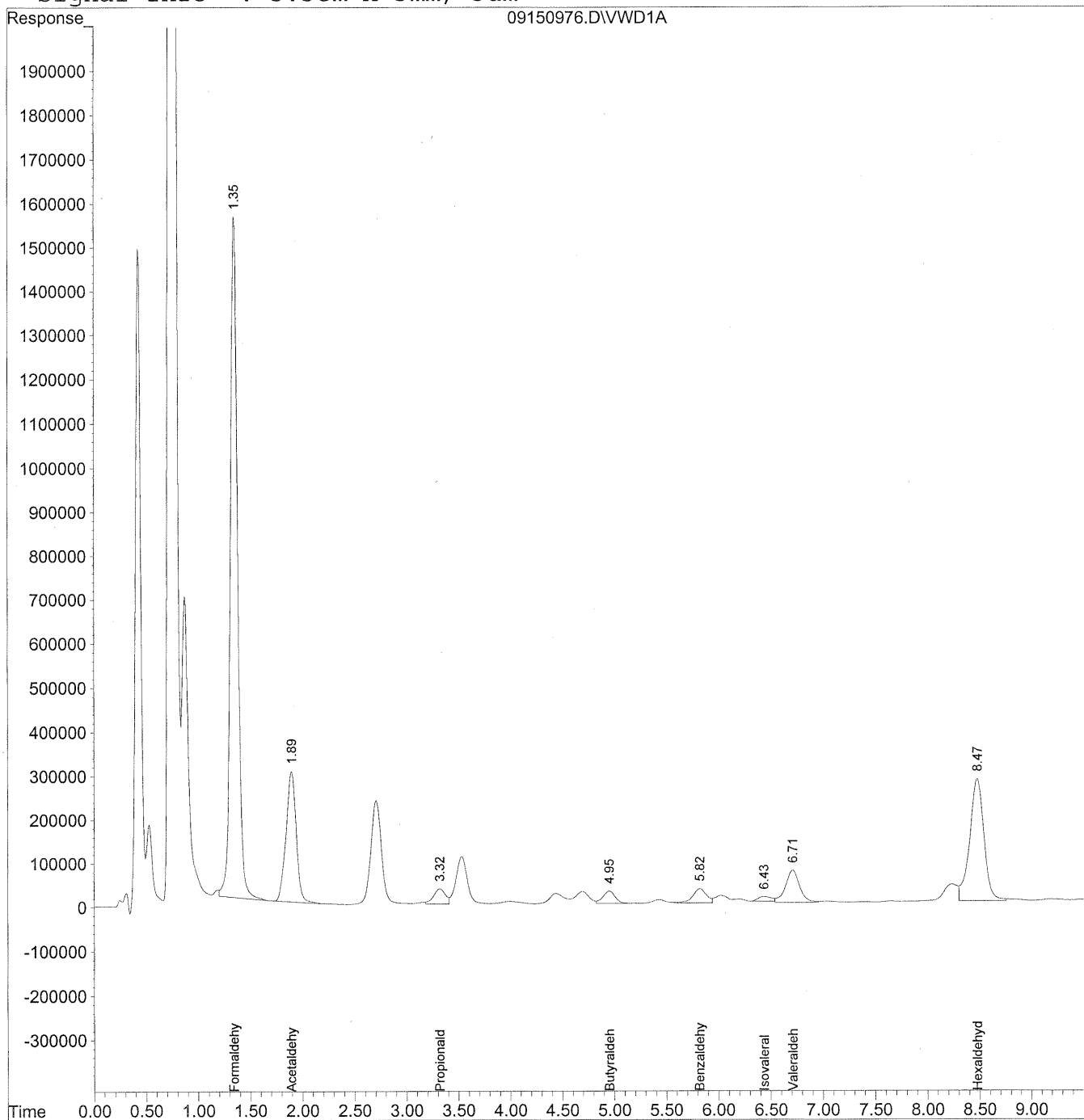
Verified By: Re Date: 9/15/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150976.D Vial: 164
Acq On : 15-Sep-2009, 23:20 Operator: MD
Sample : P0903195-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 9:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150976.D Vial: 164
 Acq On : 15-Sep-2009, 23:20 Operator: MD
 Sample : P0903195-001 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 9:59 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

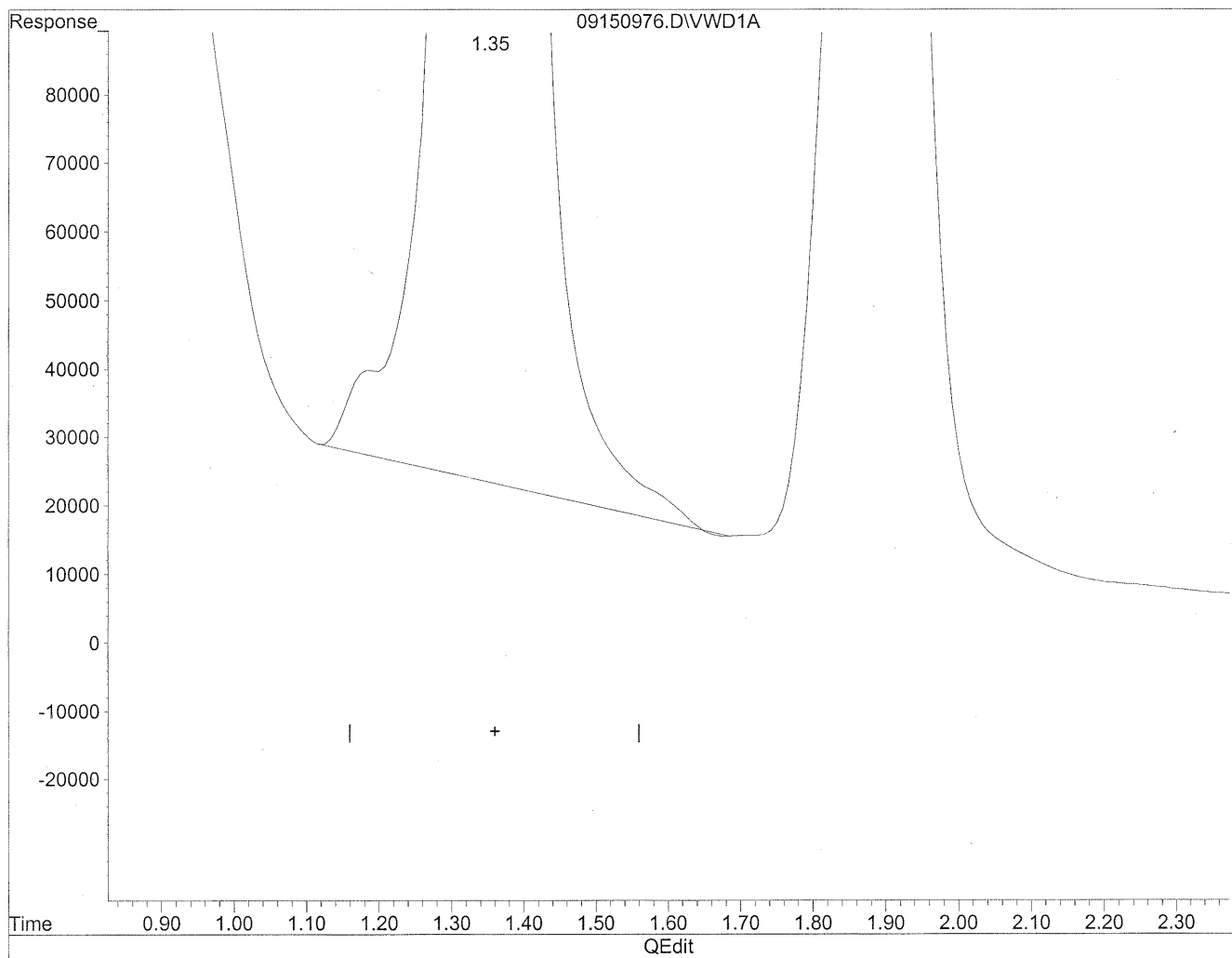
Compound	R.T.	Response	Conc	Units

Target Compounds				
1) Formaldehyde	1.35	74409208	8327.434	ng/mlm
2) Acetaldehyde	1.89	20261371	3116.752	ng/mlm
3) Propionaldehyde	3.32	2698380	519.136	ng/mlm
4) Crotonaldehyde	0.00	0	N.D.	ng/ml
5) Butyraldehyde	4.95	2277747	562.022	ng/ml
6) Benzaldehyde	5.82	2947886	1080.454	ng/ml
7) Isovaleraldehyde	6.43	961837	279.458	ng/mlm
8) Valeraldehyde	6.71	6957140	2046.435	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	8.47	26584495	8979.050	ng/mlm
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150976.D Vial: 164
Acq On : 15-Sep-2009, 23:20 Operator: MD
Sample : P0903195-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:09 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

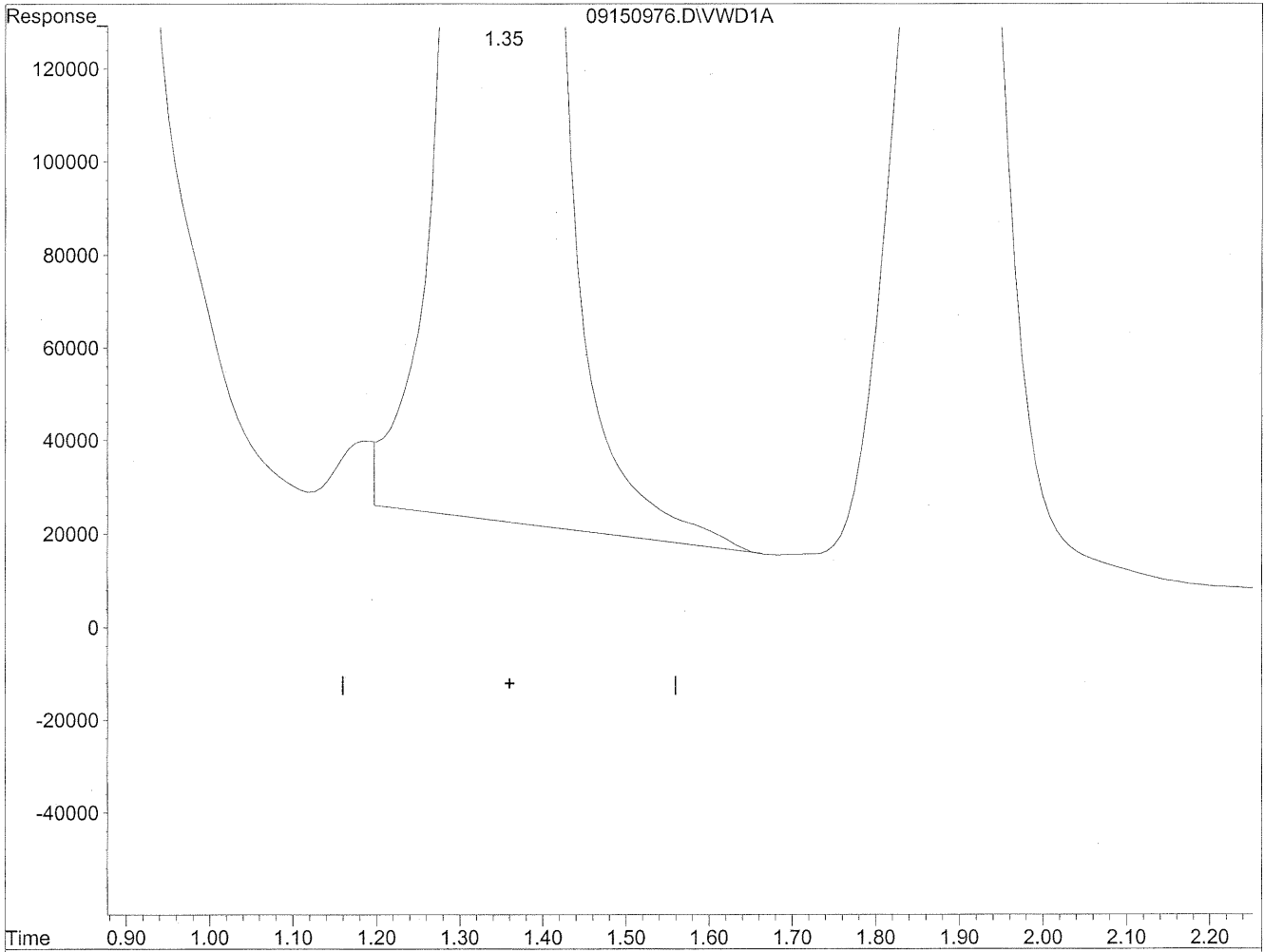


(1) Formaldehyde
1.35min 8347.559ng/ml
response 74589040

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150976.D Vial: 164
Acq On : 15-Sep-2009, 23:20 Operator: MD
Sample : P0903195-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:09 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



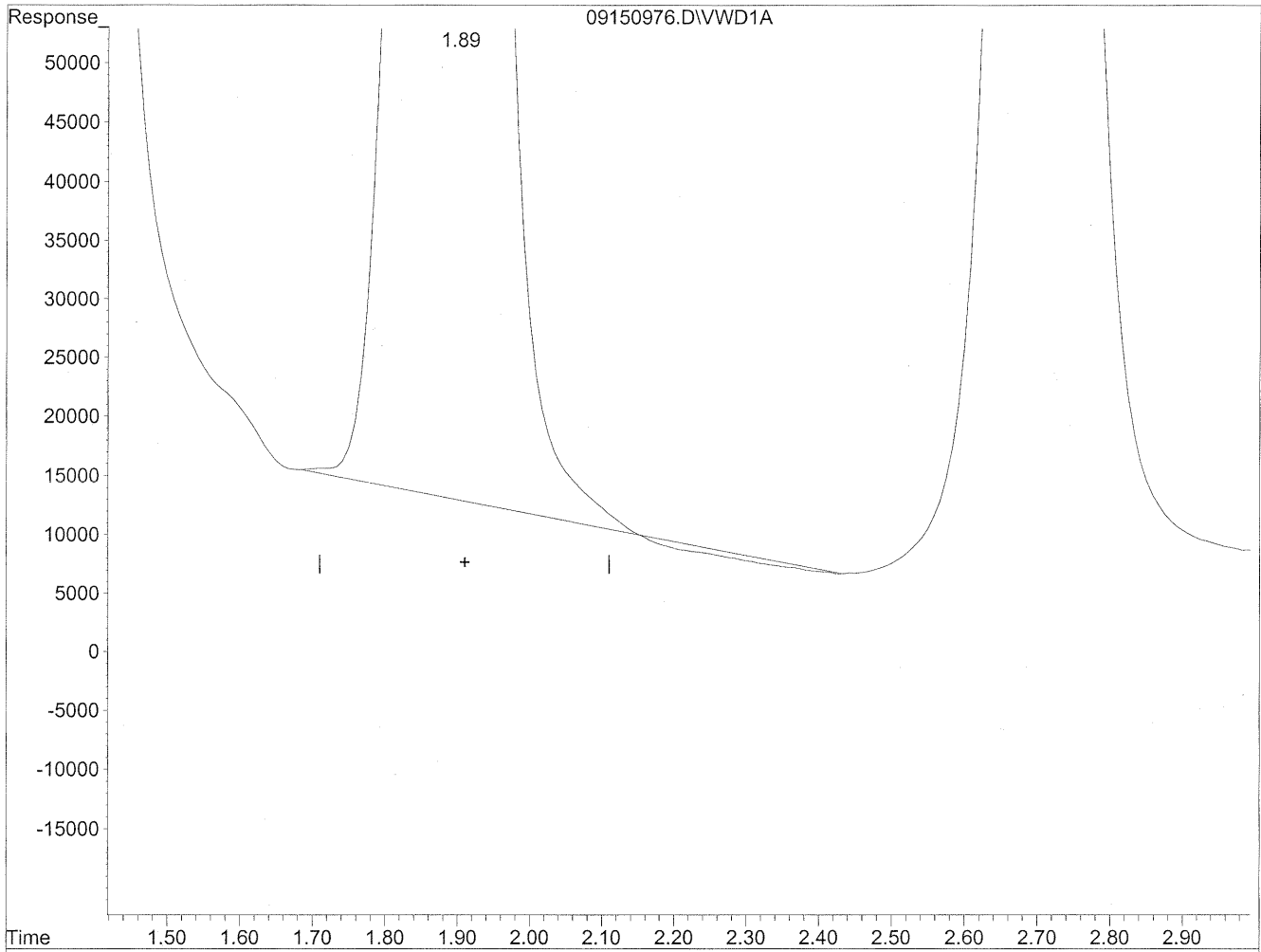
(1) Formaldehyde
1.35min 8327.434ng/ml m
response 74409208

M
yu
9/21/09 9/21/09
SL1

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150976.D Vial: 164
Acq On : 15-Sep-2009, 23:20 Operator: MD
Sample : P0903195-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:09 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
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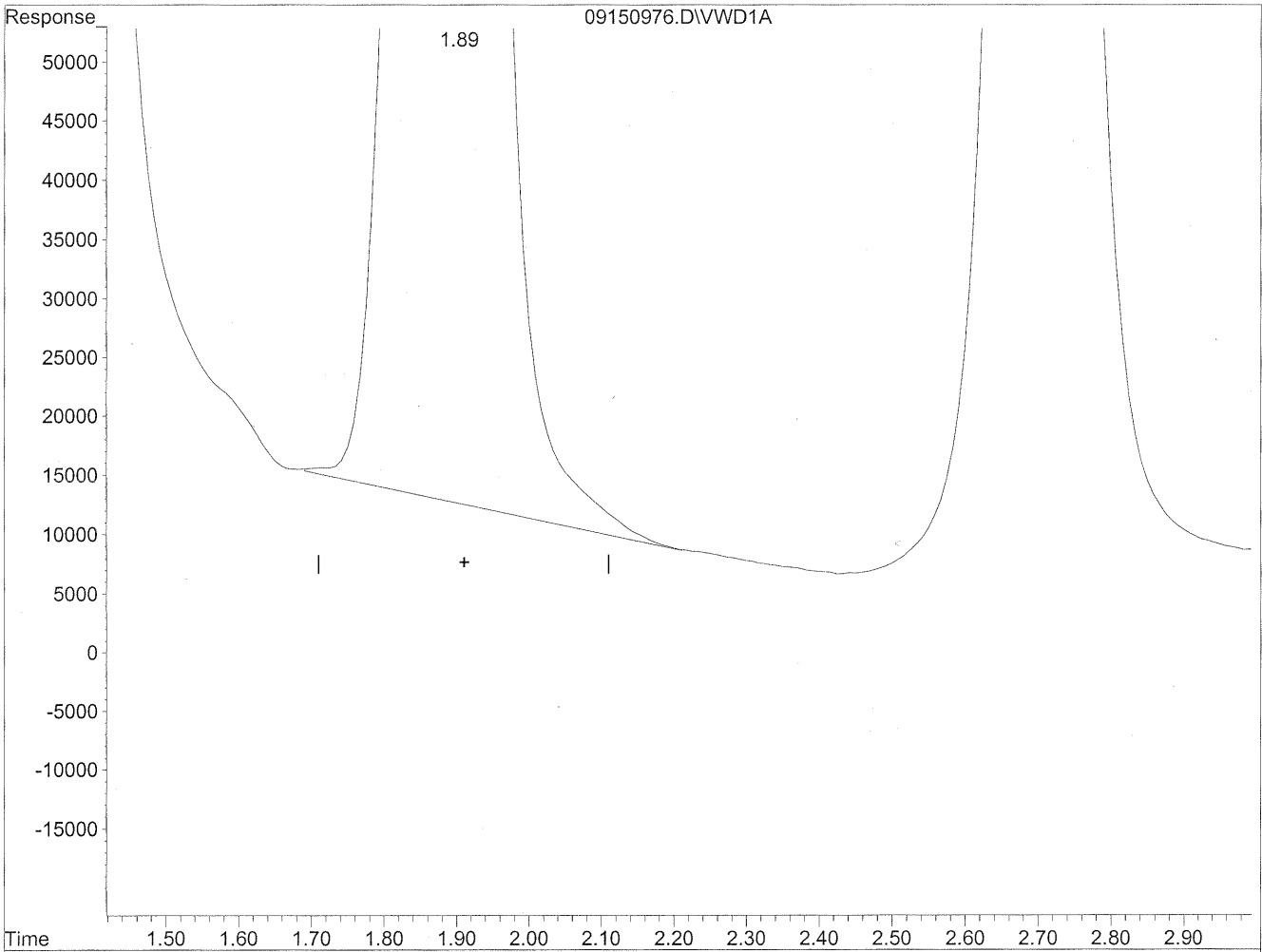


(2) Acetaldehyde
1.90min 3095.908ng/ml
response 20125870

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150976.D Vial: 164
Acq On : 15-Sep-2009, 23:20 Operator: MD
Sample : P0903195-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:09 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



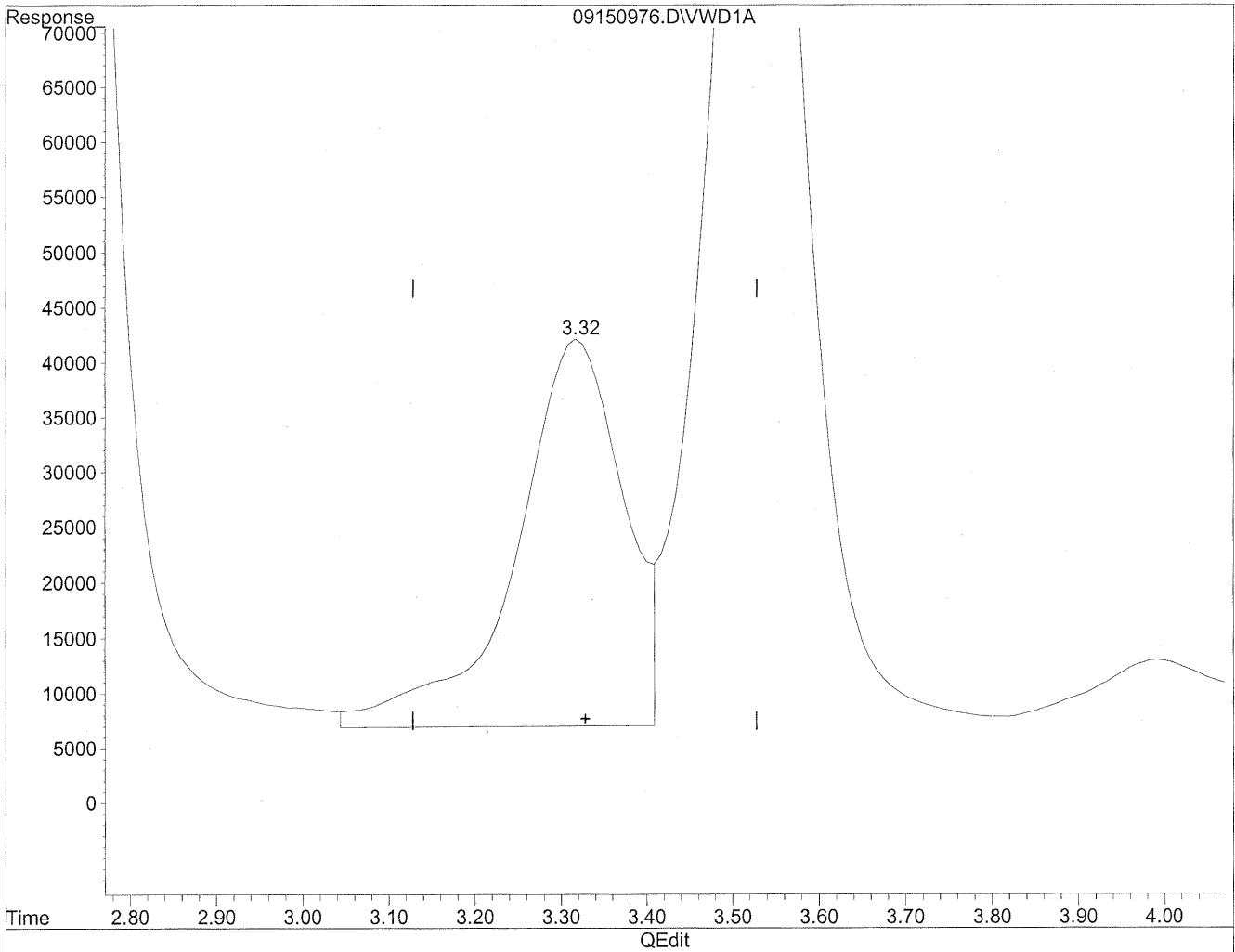
(2) Acetaldehyde
1.89min 3116.752ng/ml m
response 20261371

W
9/21/09
2
HC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150976.D Vial: 164
Acq On : 15-Sep-2009, 23:20 Operator: MD
Sample : P0903195-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:09 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

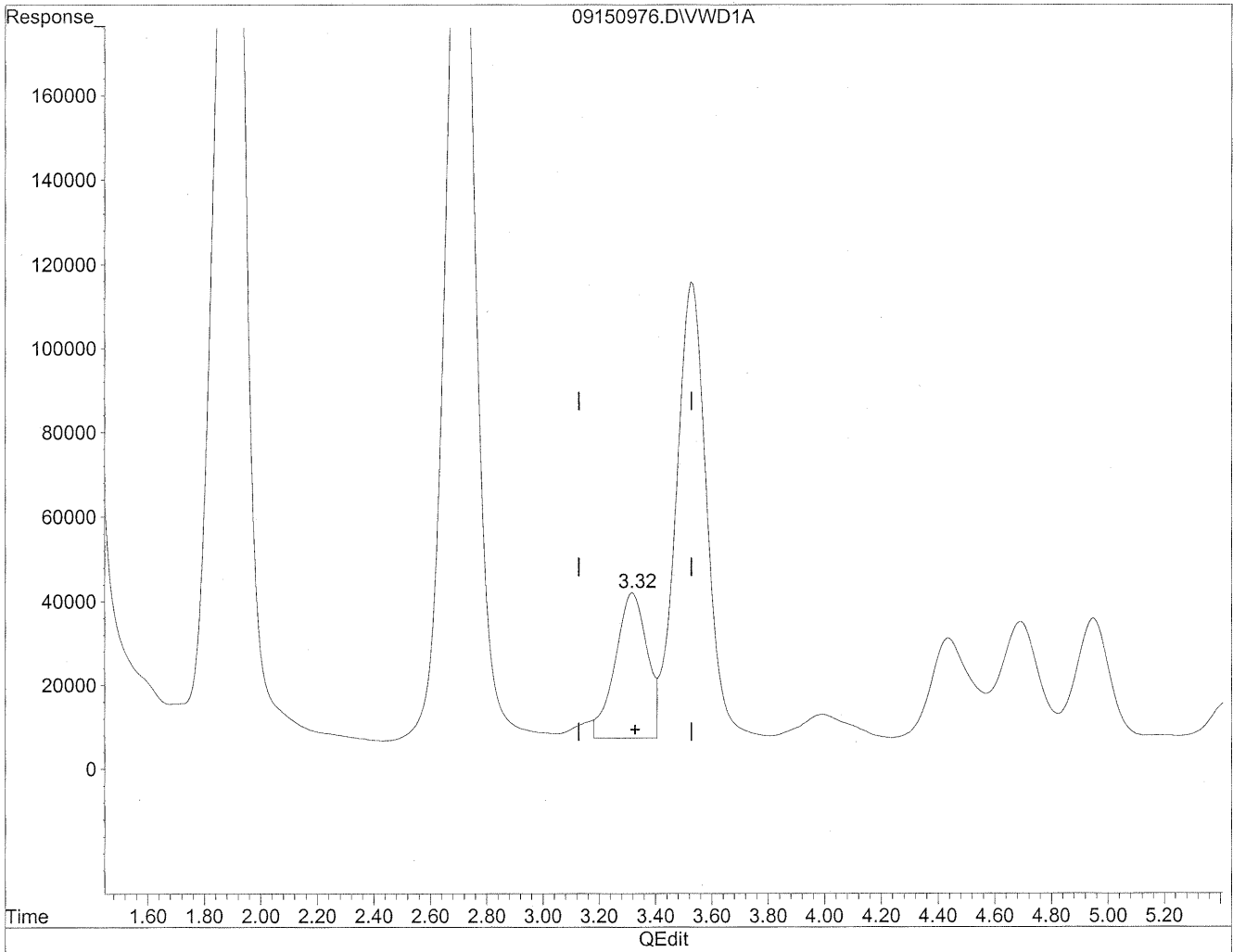


(3) Propionaldehyde
3.32min 581.576ng/ml
response 3022930

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150976.D Vial: 164
Acq On : 15-Sep-2009, 23:20 Operator: MD
Sample : P0903195-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:09 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
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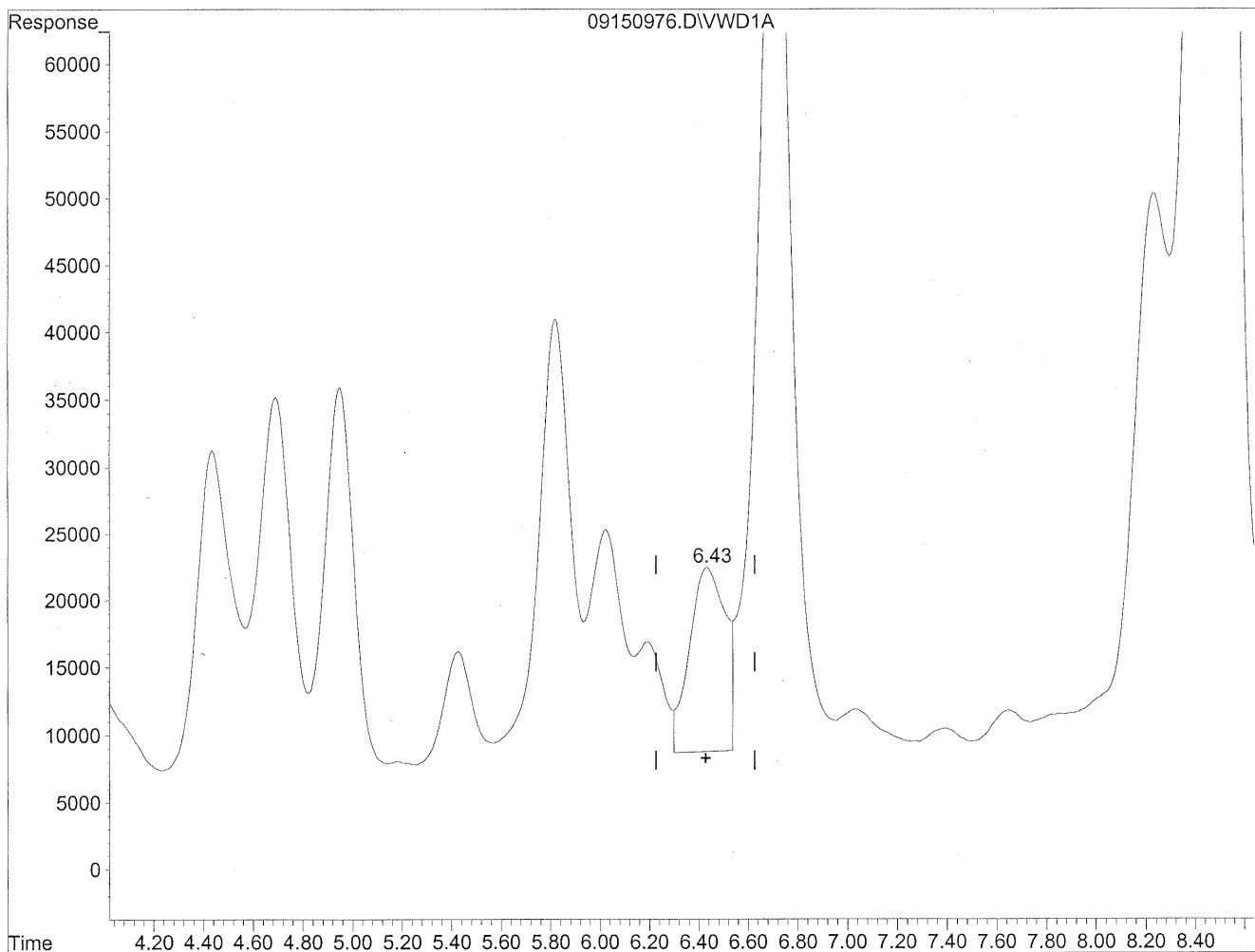
(3) Propionaldehyde
3.32min 519.136ng/ml m
response 2698380

Handwritten notes:
m
9/21/09
sh
KC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150976.D Vial: 164
Acq On : 15-Sep-2009, 23:20 Operator: MD
Sample : P0903195-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:09 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

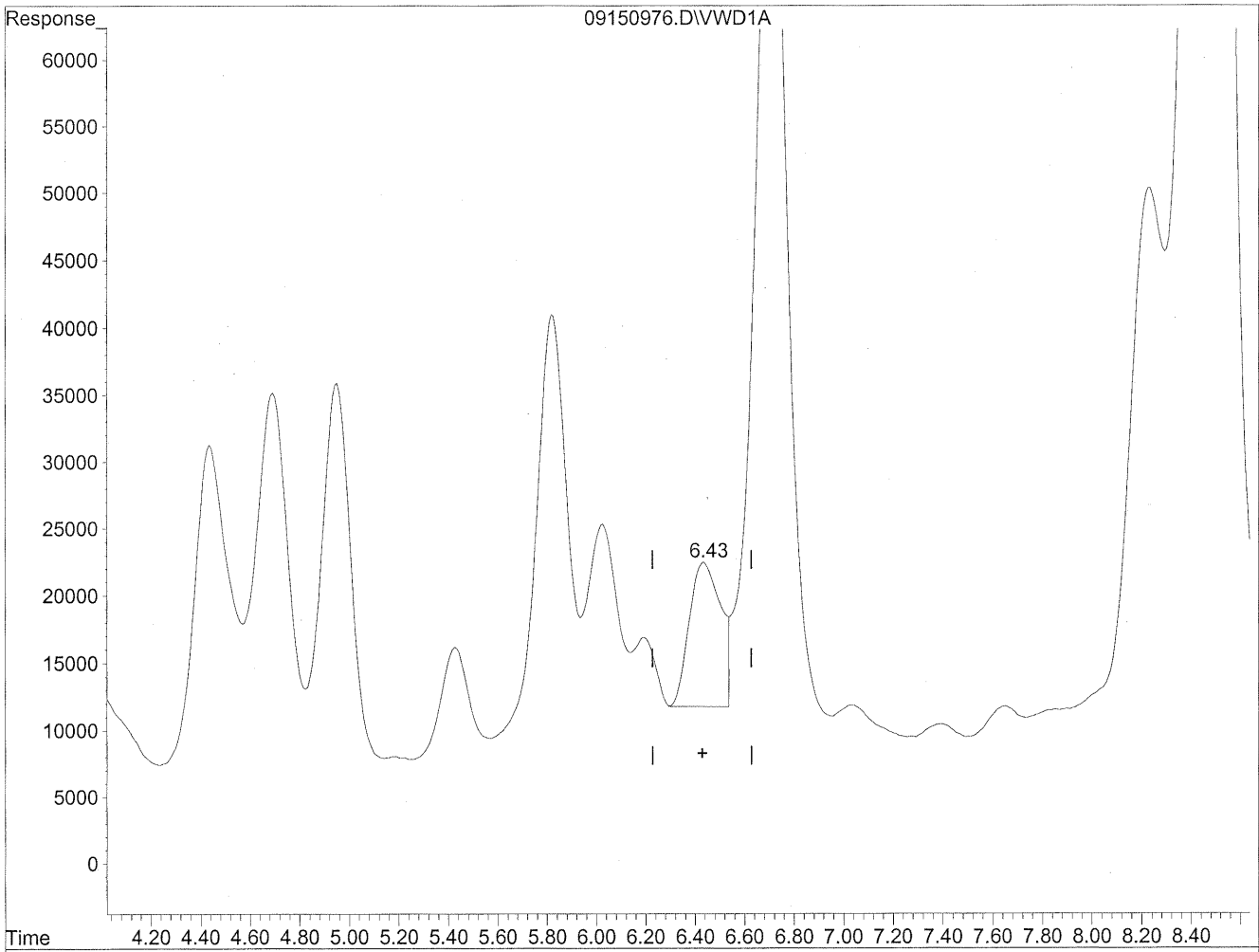


(7) Isovaleraldehyde
6.44min 400.479ng/ml
response 1378365

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150976.D Vial: 164
Acq On : 15-Sep-2009, 23:20 Operator: MD
Sample : P0903195-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
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Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



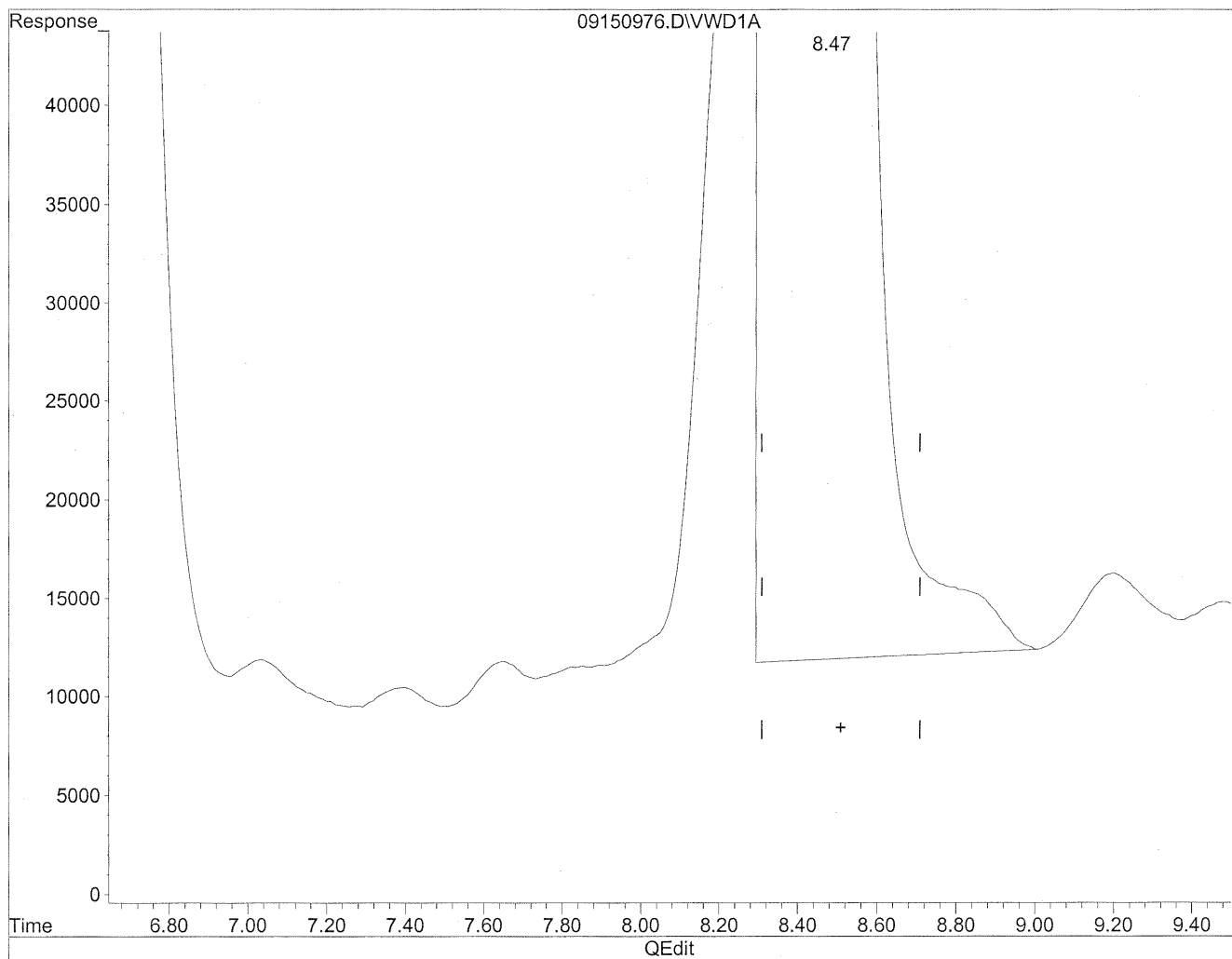
(7) Isovaleraldehyde
6.43min 279.458ng/ml m
response 961837

(m)
7/21/09
Be
HC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150976.D Vial: 164
Acq On : 15-Sep-2009, 23:20 Operator: MD
Sample : P0903195-001 front 1.0ml Inst : VWD
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Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
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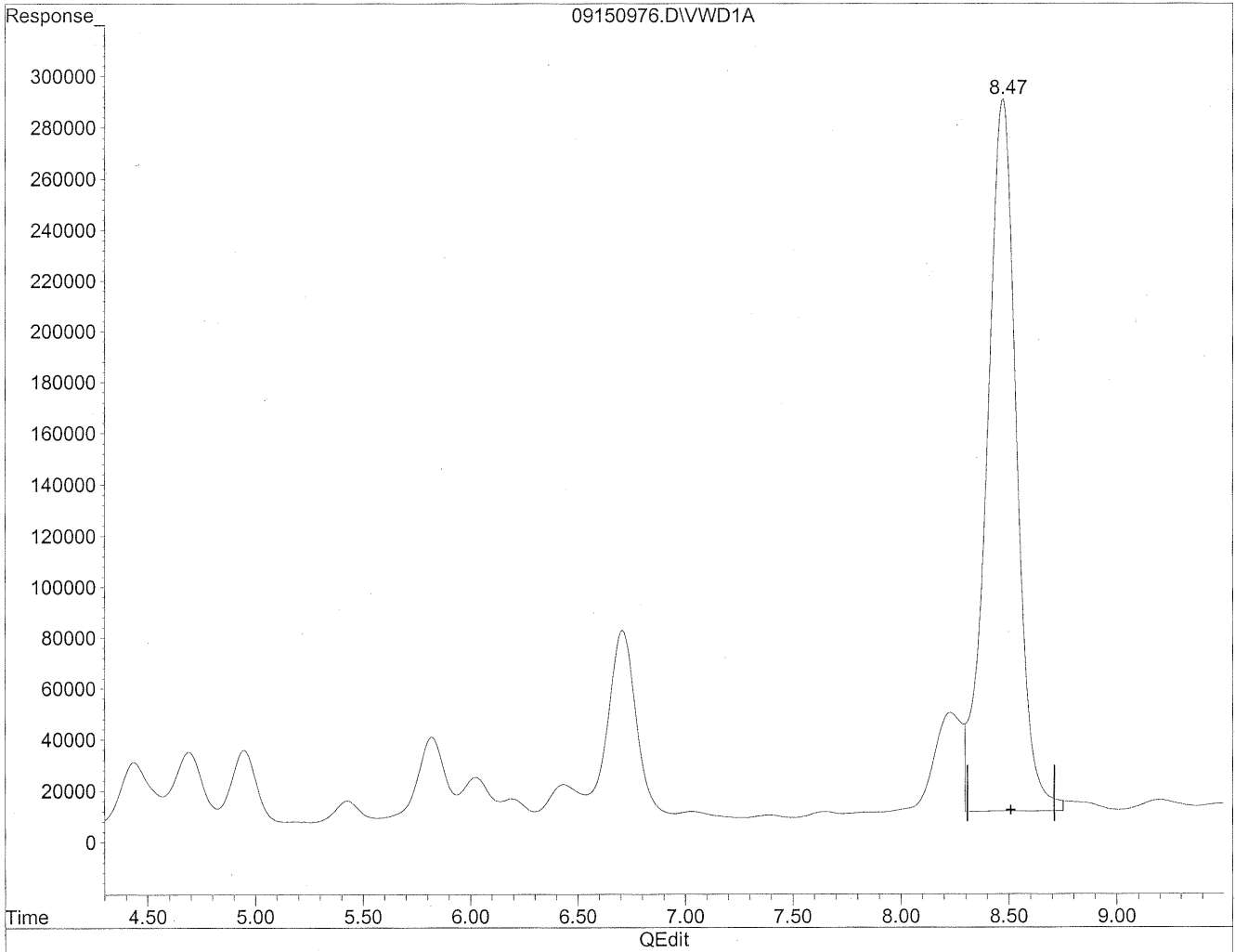


(11) Hexaldehyde
8.48min 9112.526ng/ml
response 26979680

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150976.D Vial: 164
Acq On : 15-Sep-2009, 23:20 Operator: MD
Sample : P0903195-001 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:09 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde
8.47min 8979.050ng/ml m
response 26584495

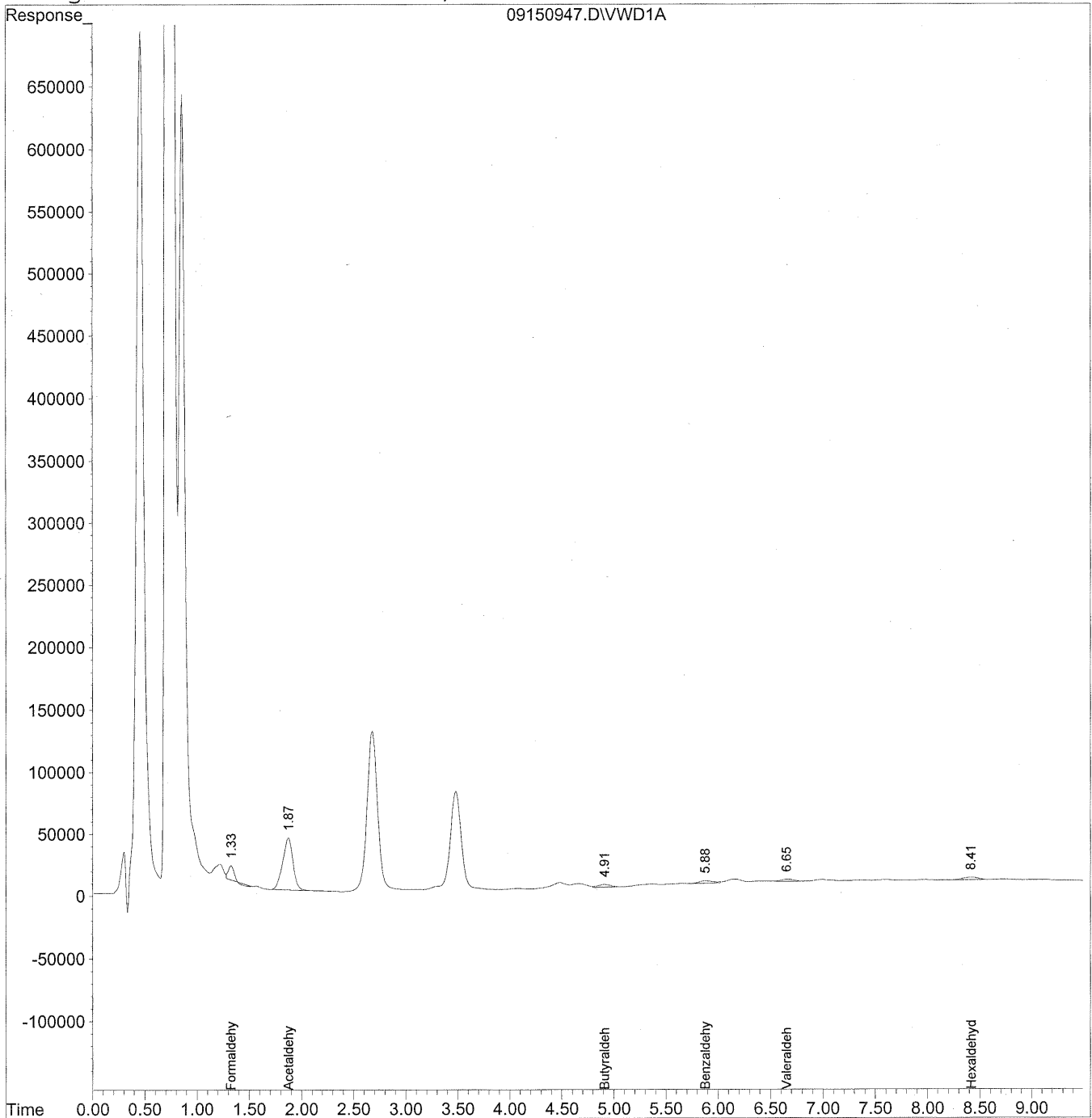
Handwritten notes:
m
9/21/09
sh
+hc
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150947.D Vial: 140
Acq On : 15-Sep-2009, 17:32 Operator: MD
Sample : P0903195-001 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150947.D Vial: 140
 Acq On : 15-Sep-2009, 17:32 Operator: MD
 Sample : P0903195-001 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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

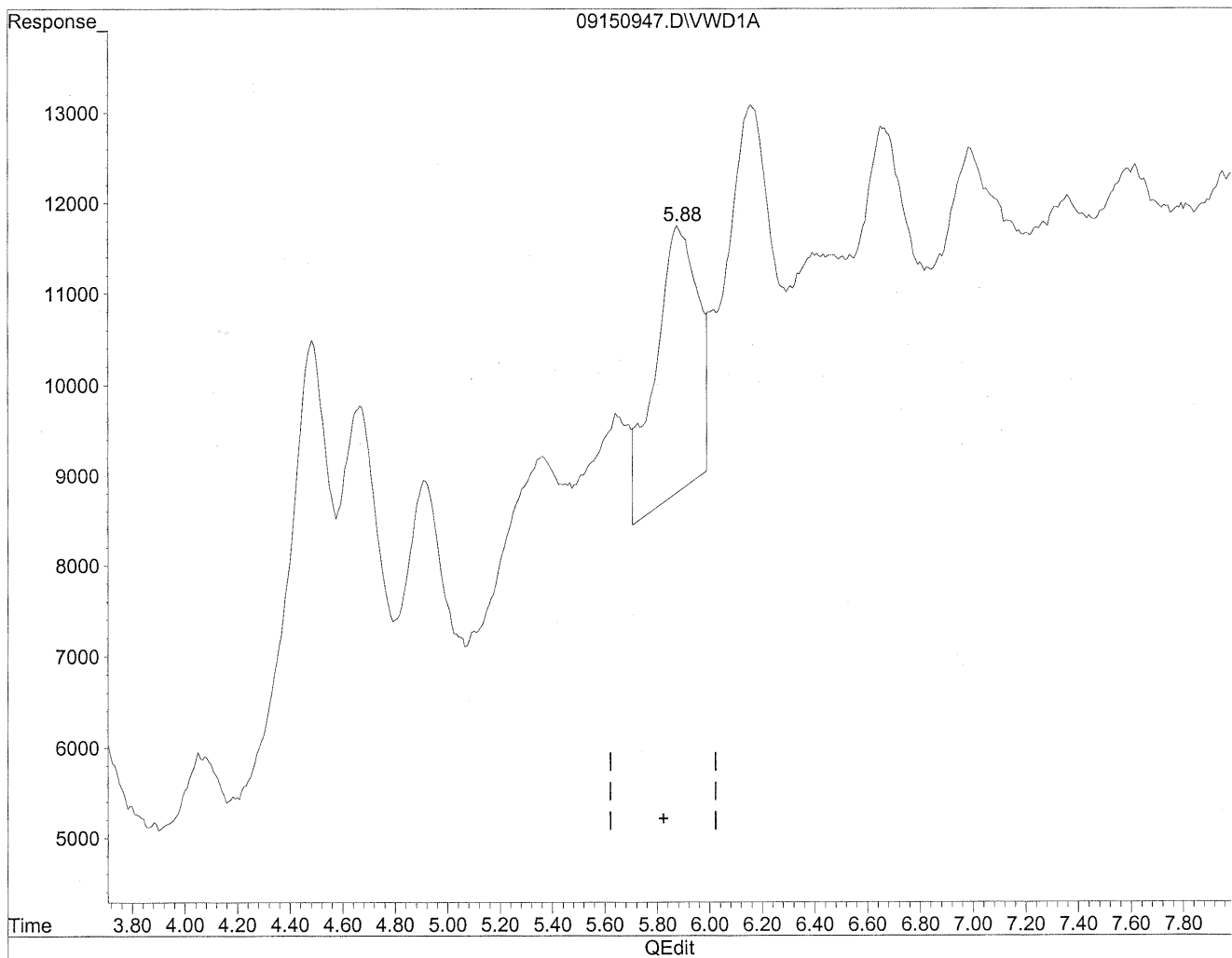
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.33	392118	43.884 ng/ml
2) Acetaldehyde	1.88	2861518	440.180 ng/ml
3) Propionaldehyde	0.00	0	N.D. ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	4.92	183015	45.158 ng/ml
6) Benzaldehyde	5.88	188837	69.212 ng/mlm
7) Isovaleraldehyde	0.00	0	N.D. ng/ml
8) Valeraldehyde	6.65	144470	42.496 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	8.42	217225	73.369 ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150947.D Vial: 140
Acq On : 15-Sep-2009, 17:32 Operator: MD
Sample : P0903195-001 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

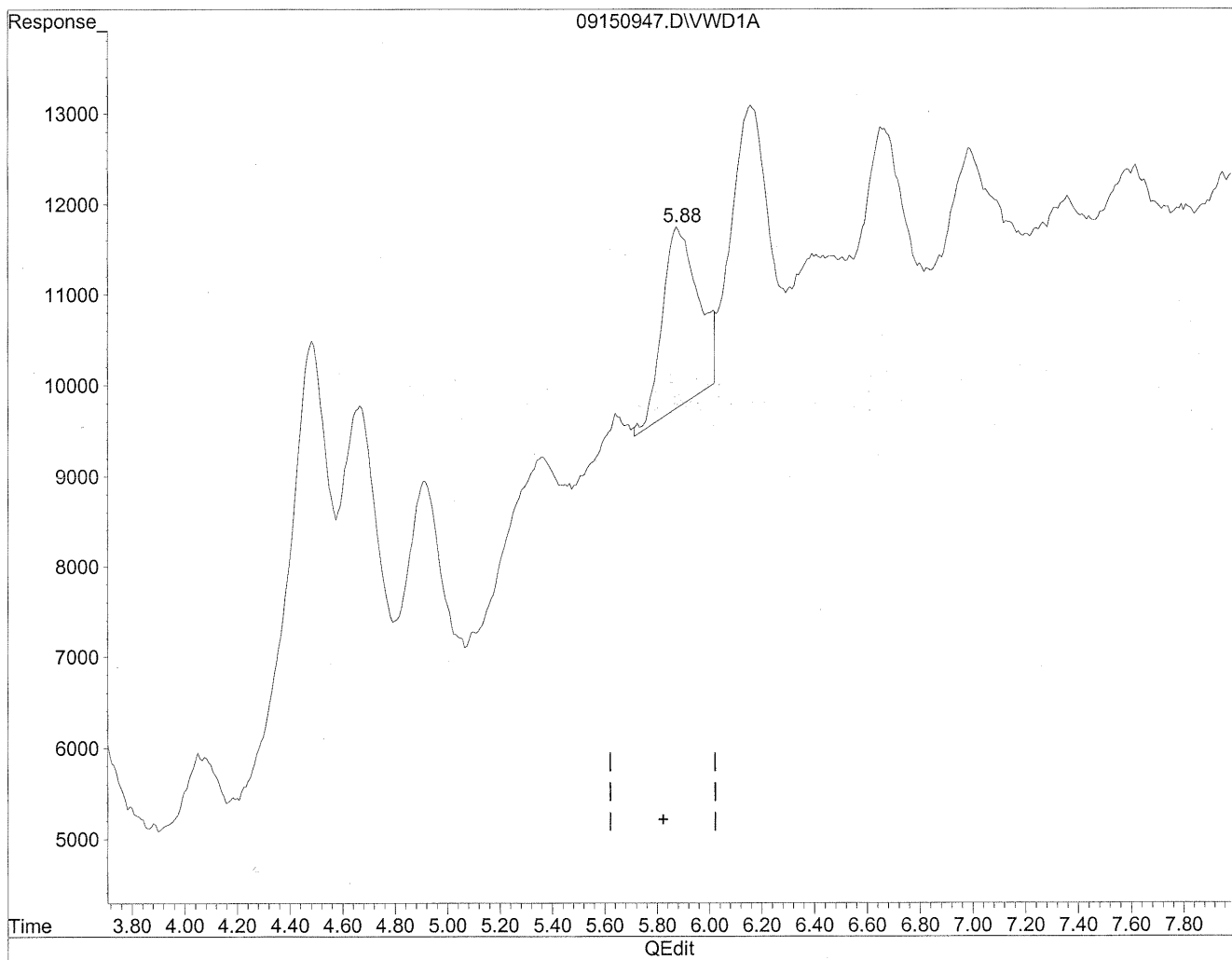


(6) Benzaldehyde
5.88min 121.584ng/ml
response 331727

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150947.D Vial: 140
Acq On : 15-Sep-2009, 17:32 Operator: MD
Sample : P0903195-001 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



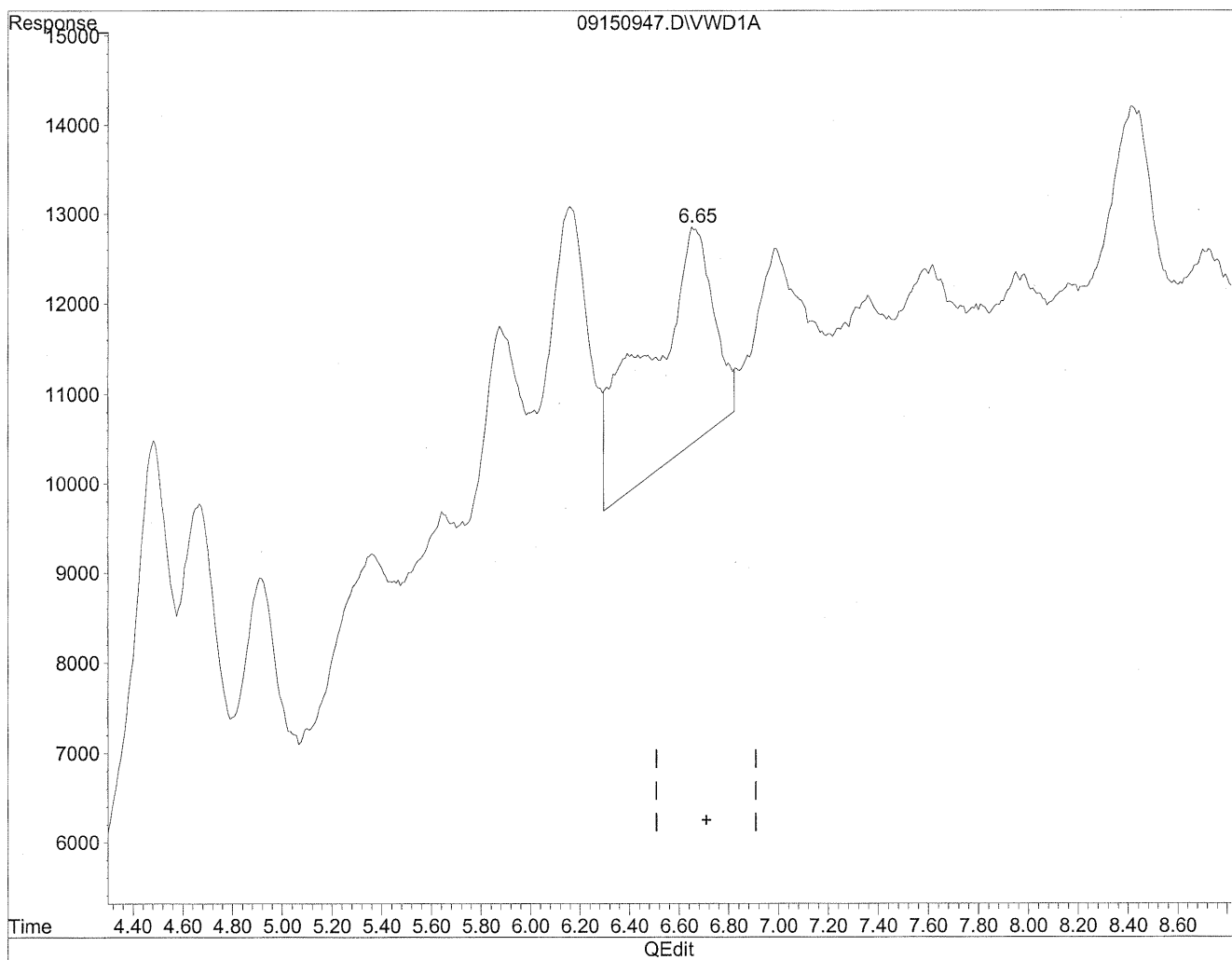
(6) Benzaldehyde
5.88min 69.212ng/ml m
response 188837

MD
9/21/09
epc

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150947.D Vial: 140
Acq On : 15-Sep-2009, 17:32 Operator: MD
Sample : P0903195-001 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

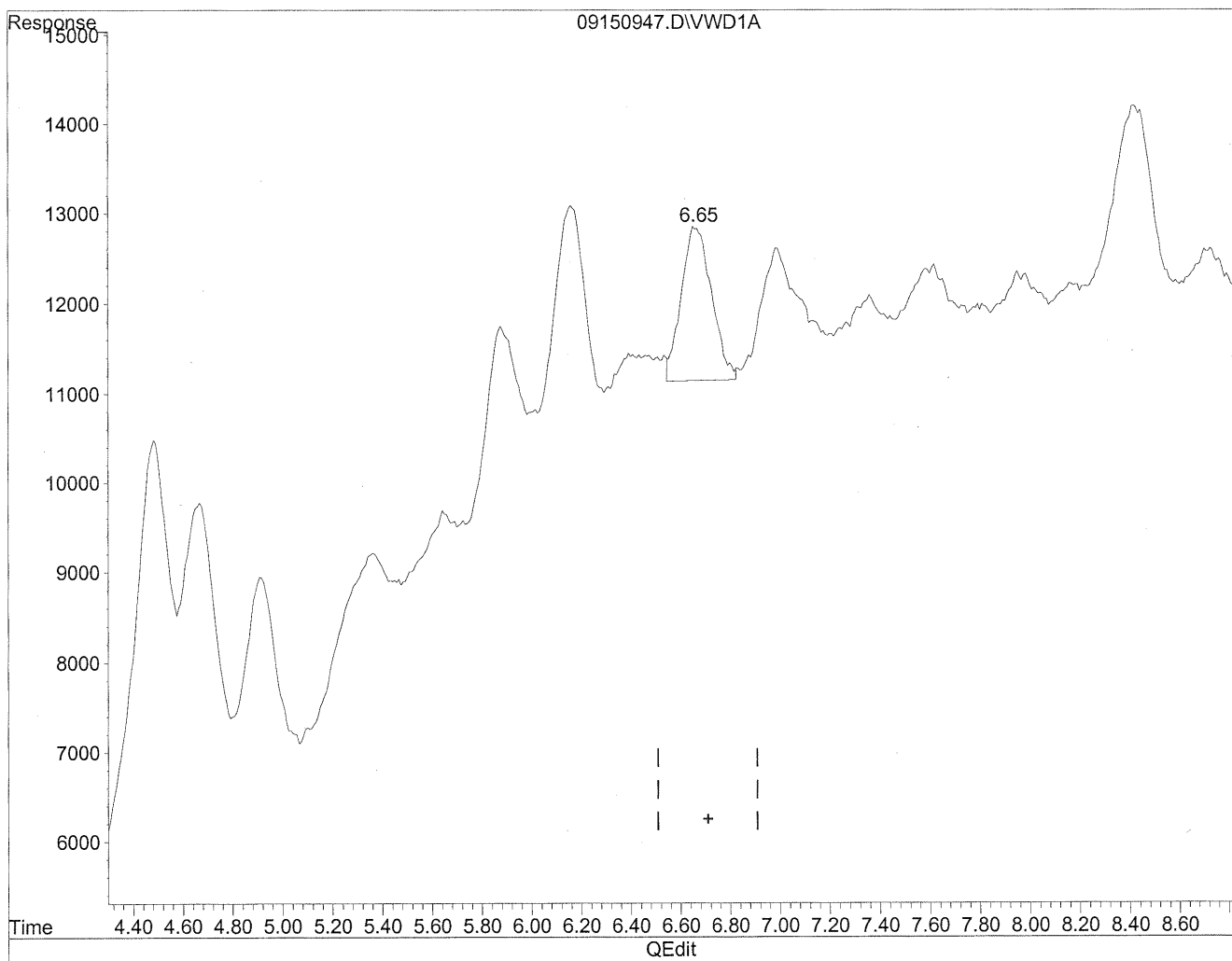


(8) Valeraldehyde
6.66min 134.038ng/ml
response 455682

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150947.D Vial: 140
Acq On : 15-Sep-2009, 17:32 Operator: MD
Sample : P0903195-001 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(8) Valeraldehyde

6.65min 42.496ng/ml m

response 144470

HC
9/12/09
(M)
9/21/09
ie

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.

Client Sample ID: 104989

Client Project ID: 16512

CAS Project ID: P0903195

CAS Sample ID: P0903195-002

Test Code: EPA Method TO-11A

Instrument ID: HP1050/LC2

Analyst: Madeleine Dangazyan

Sampling Media: Silica Gel DNPH Tube

Test Notes: BC

Date Collected: 9/3/09

Date Received: 9/10/09

Date Analyzed: 9/15/09

Desorption Volume: 1.0 ml

Volume Sampled: 111 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	8,600	78	0.90	63	0.73	
75-07-0	Acetaldehyde	3,700	33	0.90	18	0.50	BT
123-38-6	Propionaldehyde	590	5.3	0.90	2.2	0.38	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.90	ND	0.31	
123-72-8	Butyraldehyde	580	5.2	0.90	1.8	0.31	
100-52-7	Benzaldehyde	1,100	10	0.90	2.3	0.21	
590-86-3	Isovaleraldehyde	240	2.1	0.90	0.60	0.26	
110-62-3	Valeraldehyde	2,200	20	0.90	5.6	0.26	
529-20-4	o-Tolualdehyde	< 100	ND	0.90	ND	0.18	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.8	ND	0.37	
66-25-1	n-Hexaldehyde	9,700	87	0.90	21	0.22	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.90	ND	0.16	

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: RC

Date: 9/24/09

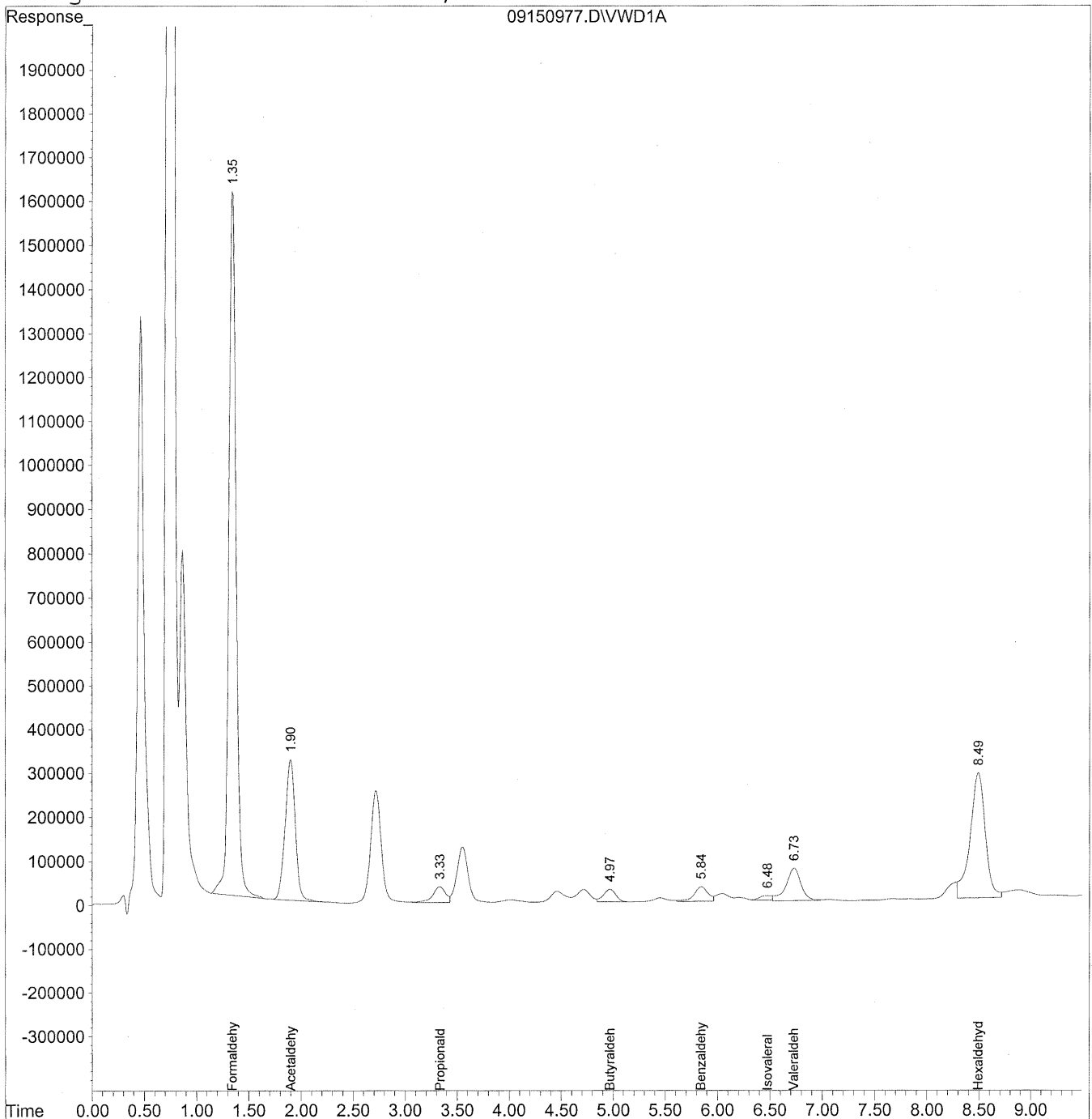
28

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150977.D Vial: 165
Acq On : 15-Sep-2009, 23:32 Operator: MD
Sample : P0903195-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:04 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150977.D Vial: 165
 Acq On : 15-Sep-2009, 23:32 Operator: MD
 Sample : P0903195-002 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:04 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 17 16:12:59 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

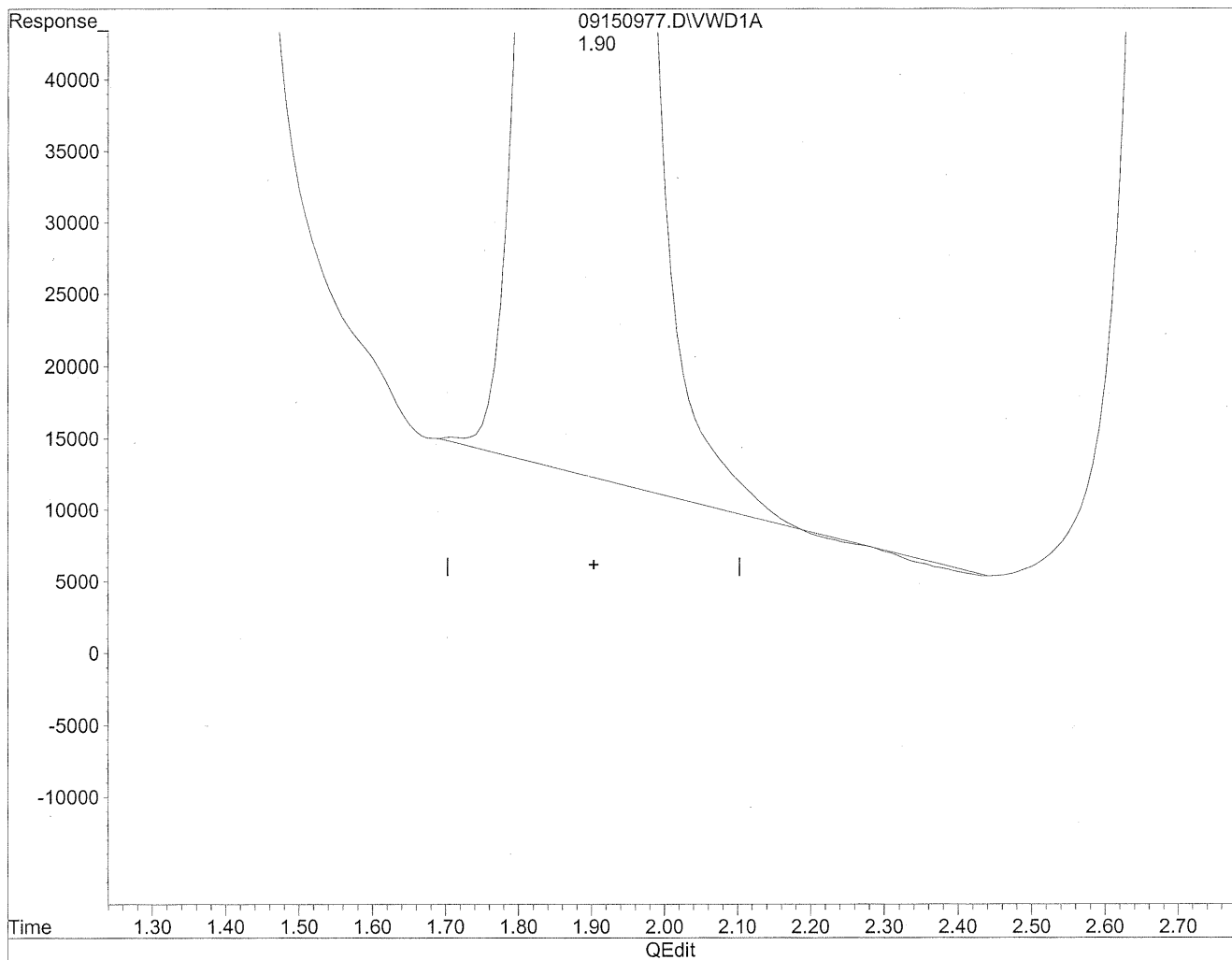
Compound	R.T.	Response	Conc	Units

Target Compounds				
1) Formaldehyde	1.35	77048122	8622.765	ng/ml
2) Acetaldehyde	1.90	21424439	3295.663	ng/mlm
3) Propionaldehyde	3.33	3062369	589.164	ng/mlm
4) Crotonaldehyde	0.00	0	N.D.	ng/ml
5) Butyraldehyde	4.97	2360096	582.342	ng/ml
6) Benzaldehyde	5.85	3075328	1127.164	ng/ml
7) Isovaleraldehyde	6.48	813376	236.324	ng/mlm
8) Valeraldehyde	6.73	7454401	2192.703	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	28696447	9692.373	ng/mlm
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150977.D Vial: 165
Acq On : 15-Sep-2009, 23:32 Operator: MD
Sample : P0903195-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 9:59 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(2) Acetaldehyde

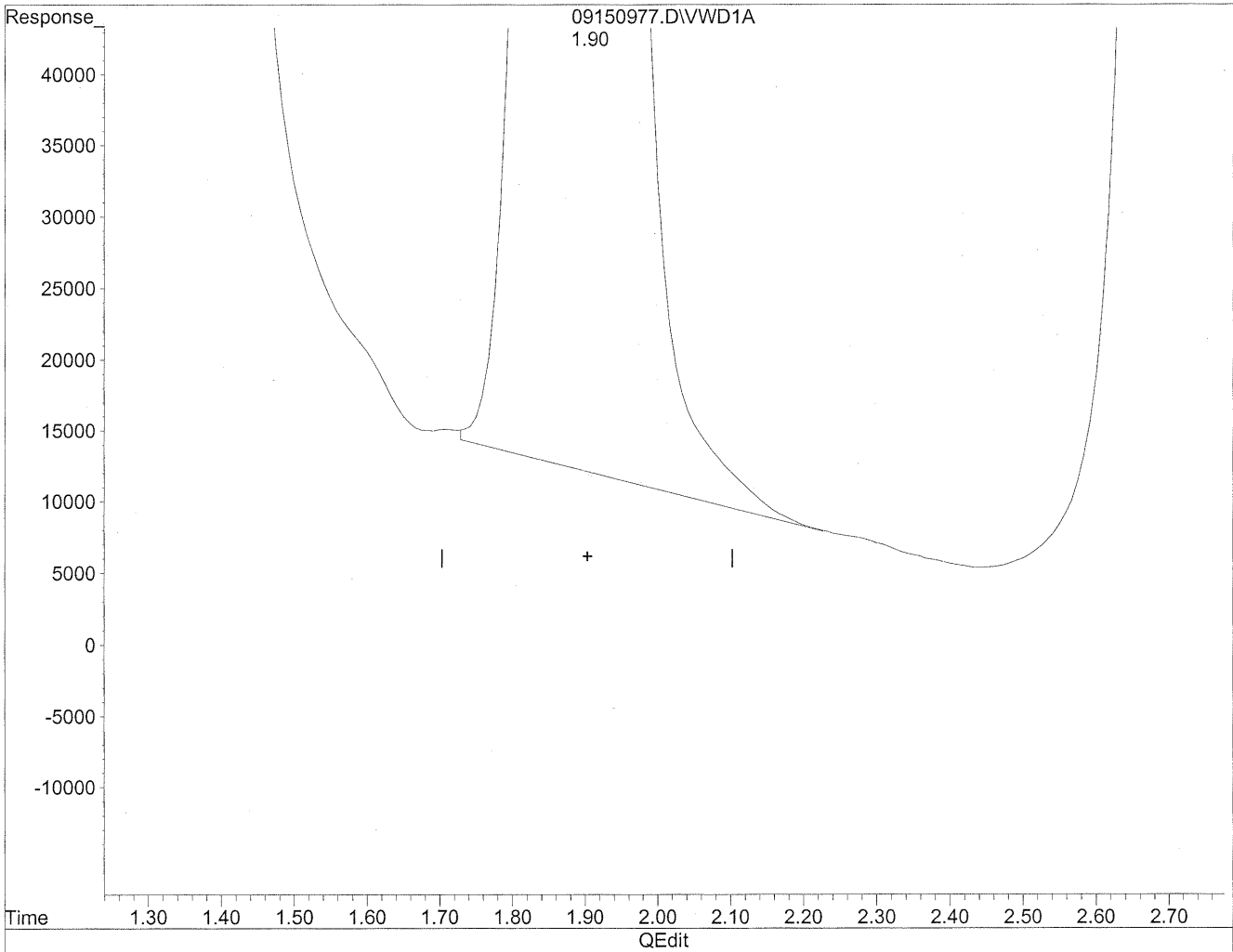
1.90min 3288.532ng/ml

response 21378078

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150977.D Vial: 165
Acq On : 15-Sep-2009, 23:32 Operator: MD
Sample : P0903195-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 9:59 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



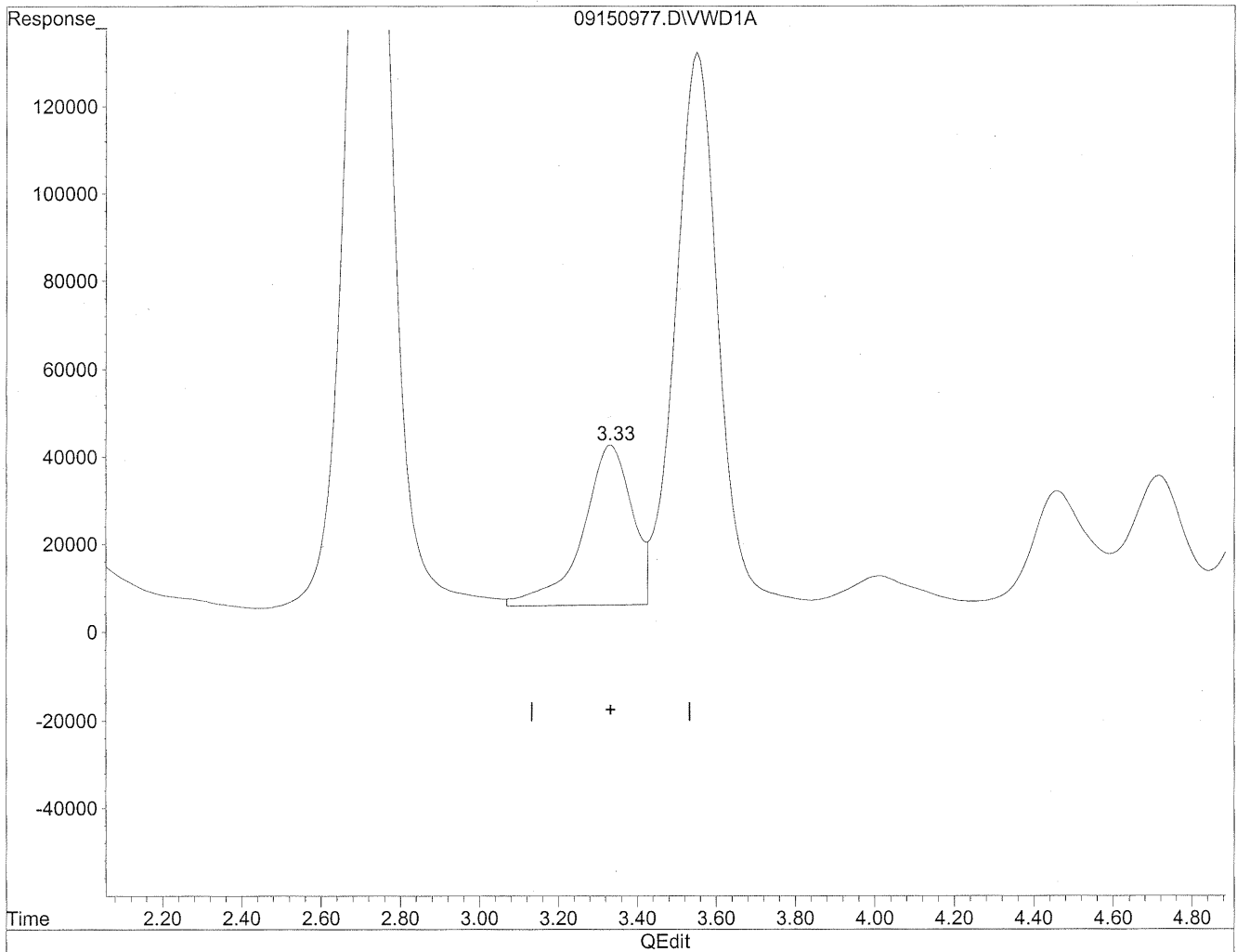
(2) Acetaldehyde
1.90min 3295.663ng/ml m
response 21424439

Handwritten notes:
+ LC
9/21/09
9/21/09
12
(M)

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150977.D Vial: 165
Acq On : 15-Sep-2009, 23:32 Operator: MD
Sample : P0903195-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 9:59 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

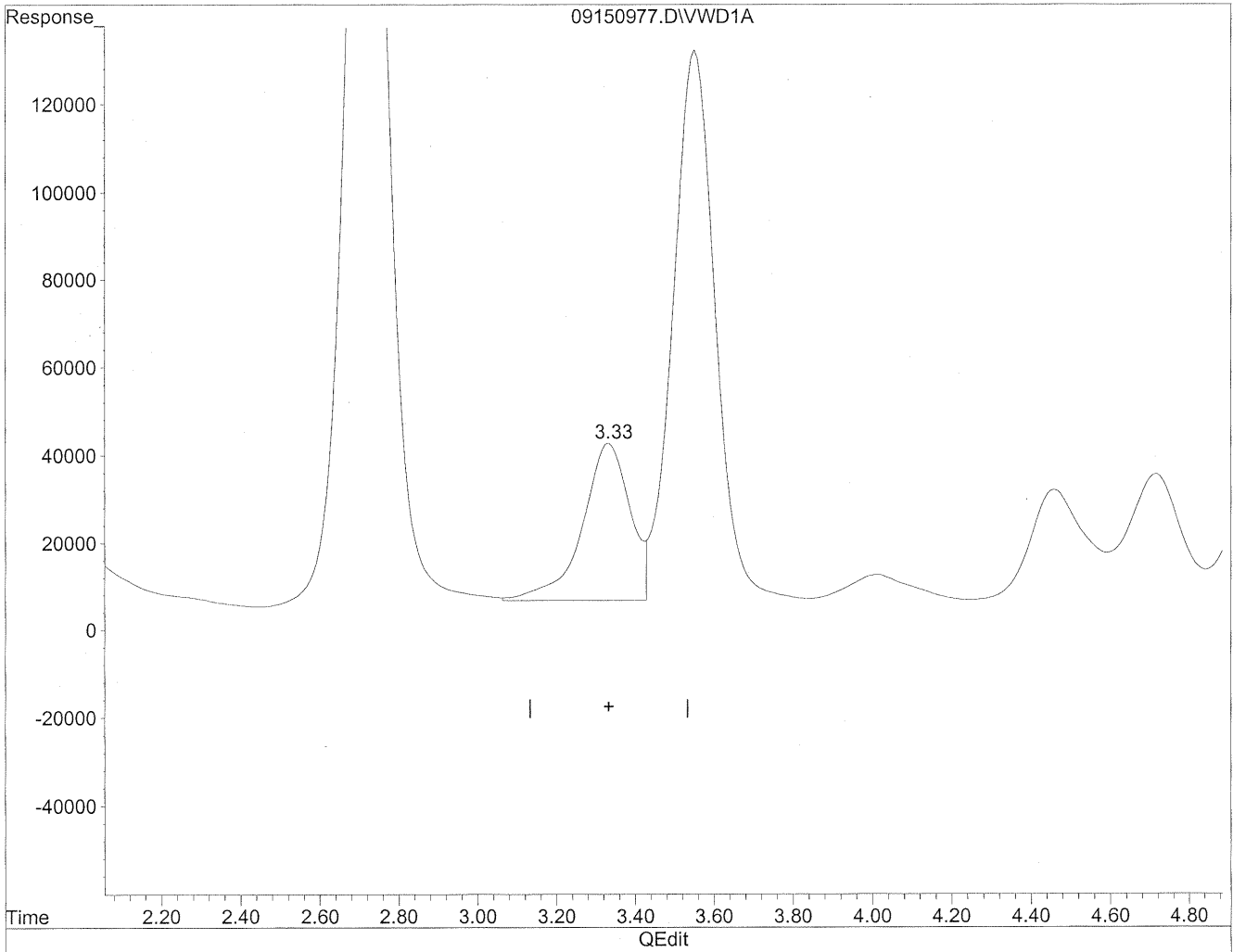


(3) Propionaldehyde
3.33min 611.546ng/ml
response 3178706

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150977.D Vial: 165
Acq On : 15-Sep-2009, 23:32 Operator: MD
Sample : P0903195-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 9:59 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



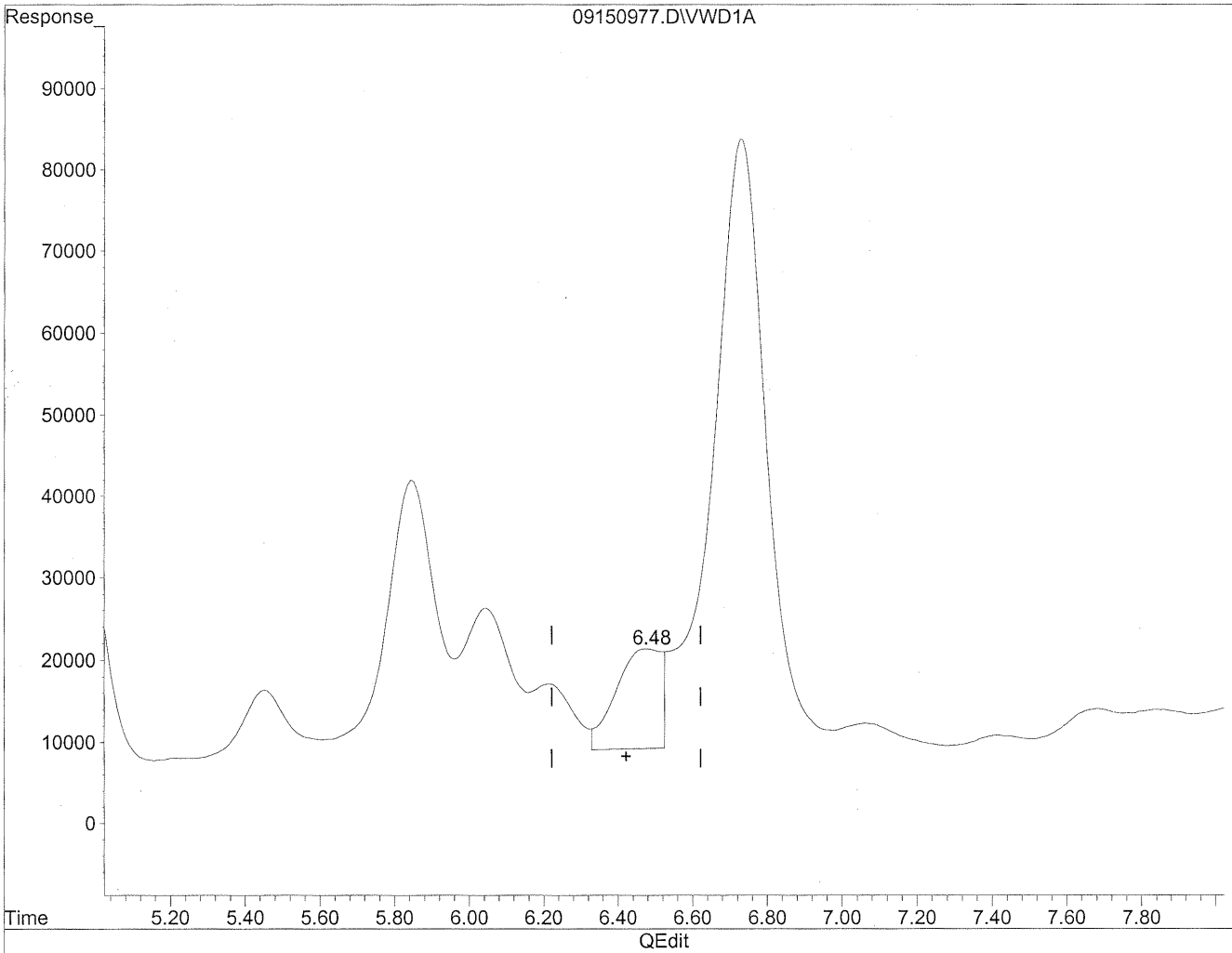
(3) Propionaldehyde
3.33min 589.164ng/ml m
response 3062369

HL
9/21/09
9/21/09
PC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150977.D Vial: 165
Acq On : 15-Sep-2009, 23:32 Operator: MD
Sample : P0903195-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 9:59 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

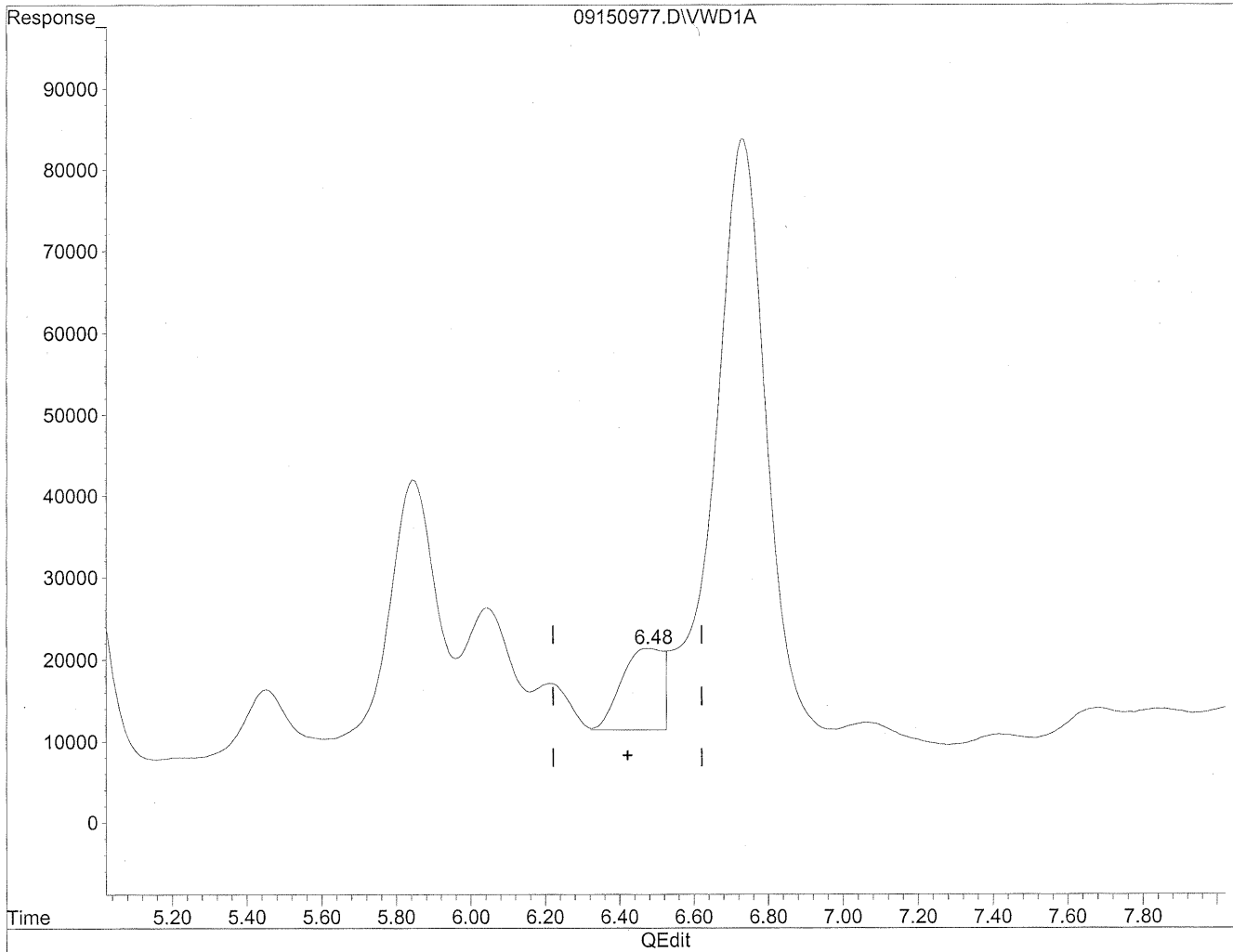


(7) Isovaleraldehyde
6.48min 292.845ng/ml
response 1007910

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150977.D Vial: 165
Acq On : 15-Sep-2009, 23:32 Operator: MD
Sample : P0903195-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 9:59 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



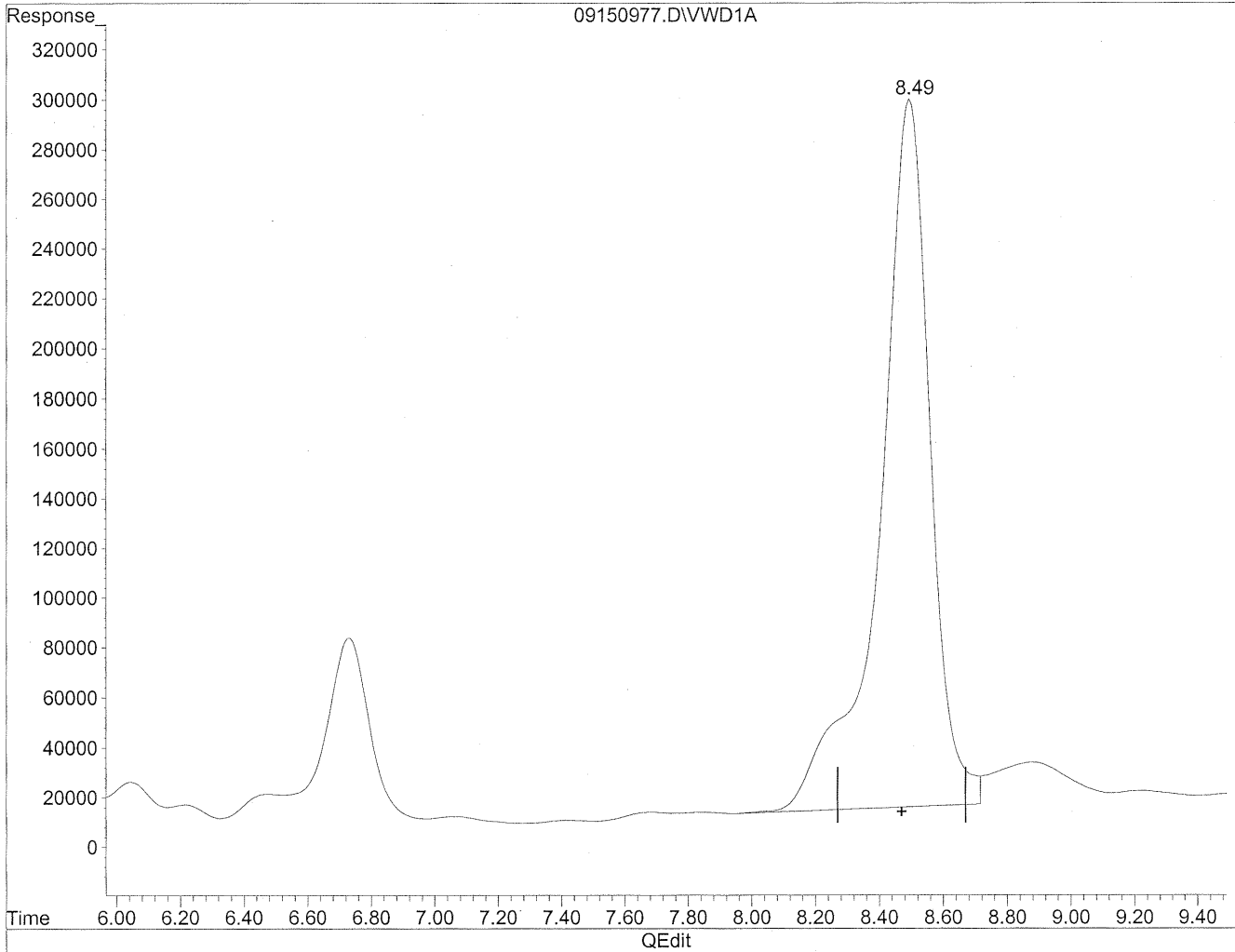
(7) Isovaleraldehyde
6.48min 236.324ng/ml m
response 813376

(Handwritten notes: circled 'm', 9/21/09, PA, HC, 9/21/09)

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150977.D Vial: 165
Acq On : 15-Sep-2009, 23:32 Operator: MD
Sample : P0903195-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 9:59 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

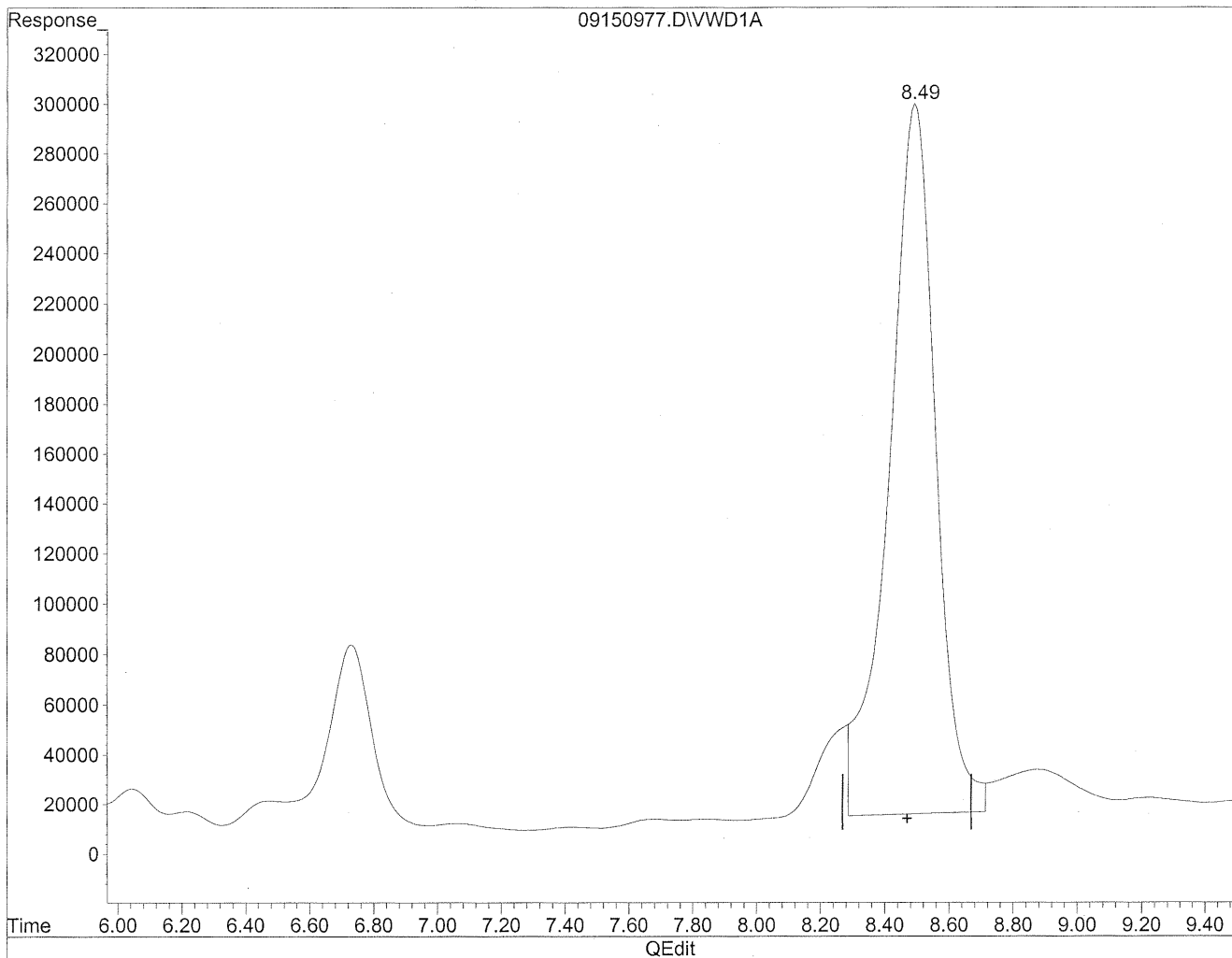


(11) Hexaldehyde
8.50min 10469.731ng/ml
response 30997990

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150977.D Vial: 165
Acq On : 15-Sep-2009, 23:32 Operator: MD
Sample : P0903195-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 9:59 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



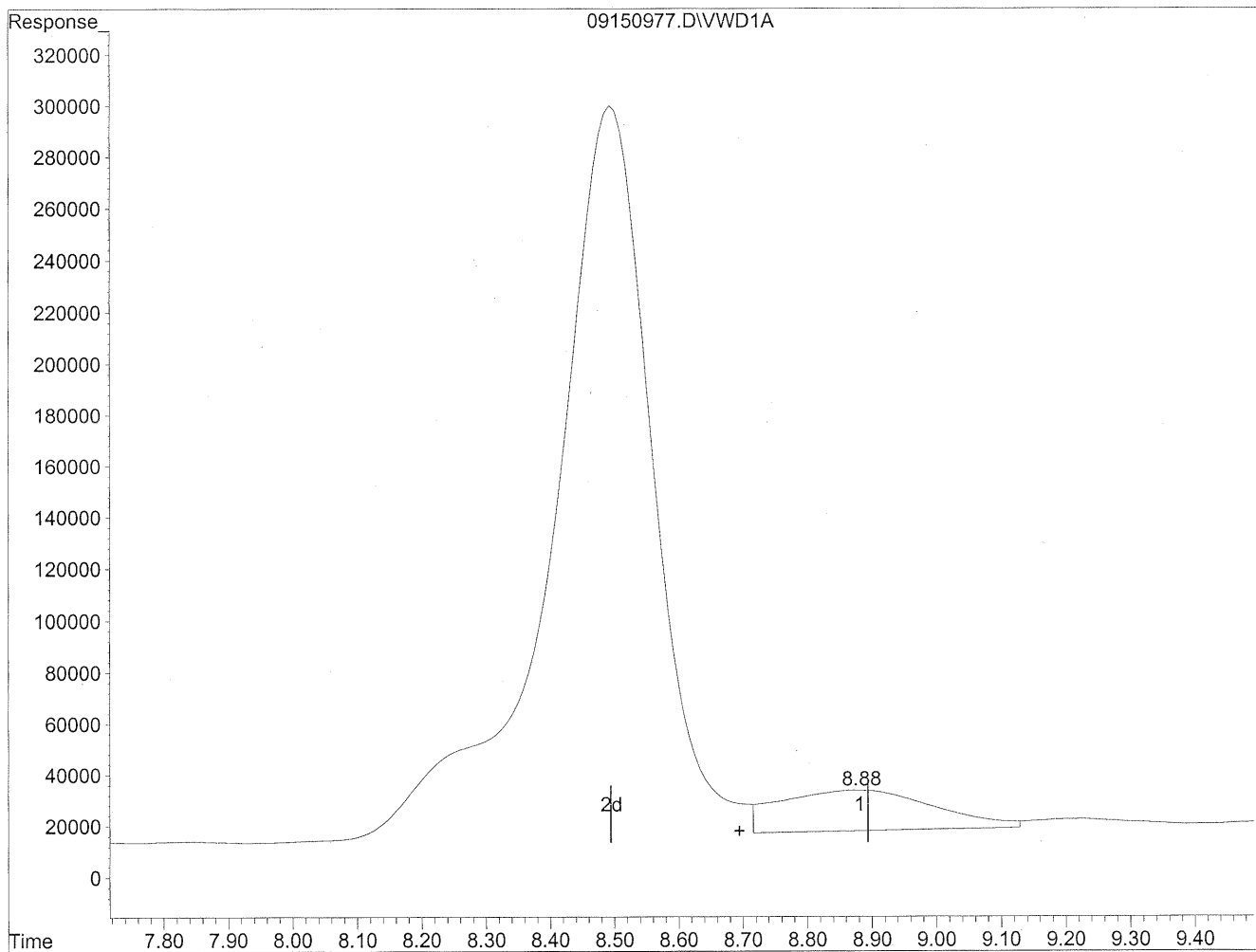
(11) Hexaldehyde
8.49min 9692.373ng/ml m
response 28696447

MD
9/21/09
SH
HC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150977.D Vial: 165
Acq On : 15-Sep-2009, 23:32 Operator: MD
Sample : P0903195-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 9:59 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

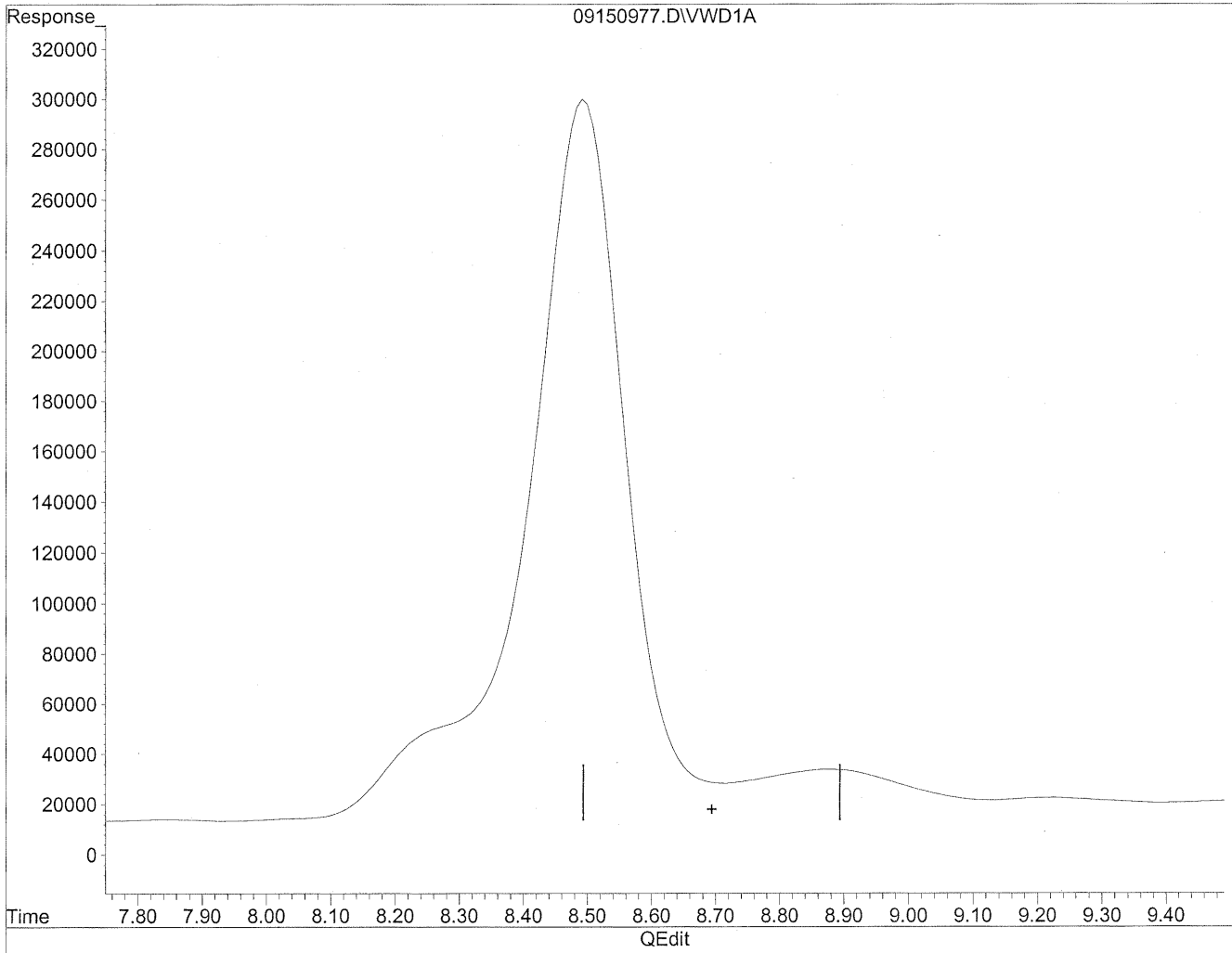
8.88min 1334.663ng/ml

response 2663310

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150977.D Vial: 165
Acq On : 15-Sep-2009, 23:32 Operator: MD
Sample : P0903195-002 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 9:59 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

0.00min 0.000ng/ml d

response 0

MD
9/21/09
mp

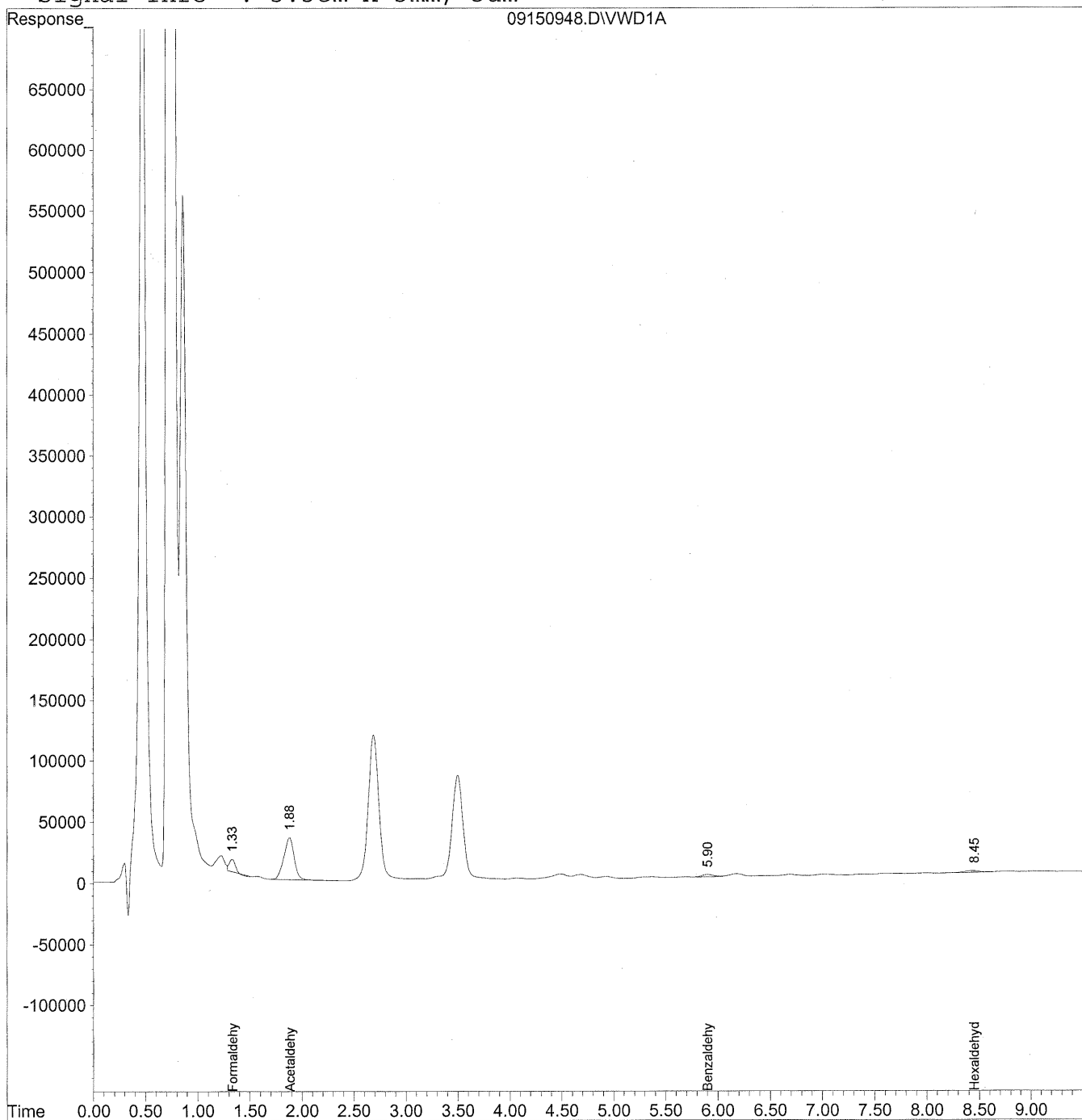
HC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150948.D Vial: 141
Acq On : 15-Sep-2009, 17:45 Operator: MD
Sample : P0903195-002 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150948.D Vial: 141
 Acq On : 15-Sep-2009, 17:45 Operator: MD
 Sample : P0903195-002 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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	381517	42.697 ng/ml
2) Acetaldehyde	1.88	2340344	360.009 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	5.90	158653	58.149 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	8.46	147249	49.734 ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.

Client Sample ID: 104990

Client Project ID: 16512

CAS Project ID: P0903195

CAS Sample ID: P0903195-003

Test Code: EPA Method TO-11A

Instrument ID: HP1050/LC2

Analyst: Madeleine Dangazyan

Sampling Media: Silica Gel DNPH Tube

Test Notes: BC

Date Collected: 9/3/09

Date Received: 9/10/09

Date Analyzed: 9/15 - 9/16/09

Desorption Volume: 1.0 ml

Volume Sampled: 106 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	11,000	100	0.94	83	0.77	
75-07-0	Acetaldehyde	3,500	33	0.94	18	0.52	BT
123-38-6	Propionaldehyde	650	6.2	0.94	2.6	0.40	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.94	ND	0.33	
123-72-8	Butyraldehyde	620	5.8	0.94	2.0	0.32	
100-52-7	Benzaldehyde	1,300	12	0.94	2.8	0.22	
590-86-3	Isovaleraldehyde	< 100	ND	0.94	ND	0.27	
110-62-3	Valeraldehyde	2,200	21	0.94	6.0	0.27	
529-20-4	o-Tolualdehyde	< 100	ND	0.94	ND	0.19	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.9	ND	0.38	
66-25-1	n-Hexaldehyde	10,000	95	0.94	23	0.23	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.94	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: fer Date: 9/24/09

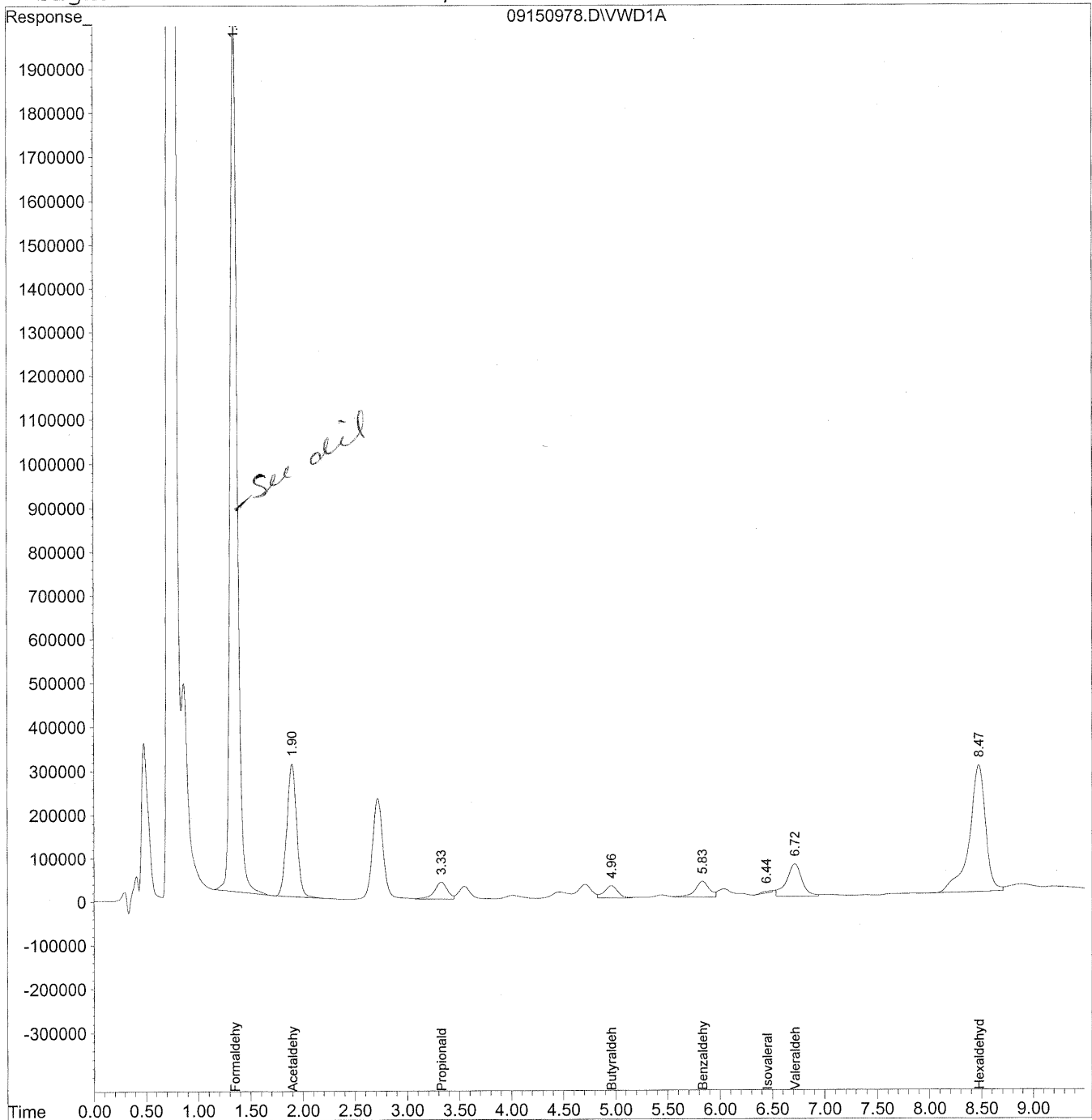
43

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150978.D Vial: 166
Acq On : 15-Sep-2009, 23:44 Operator: MD
Sample : P0903195-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:08 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150978.D Vial: 166
 Acq On : 15-Sep-2009, 23:44 Operator: MD
 Sample : P0903195-003 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:08 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 17 16:12:59 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

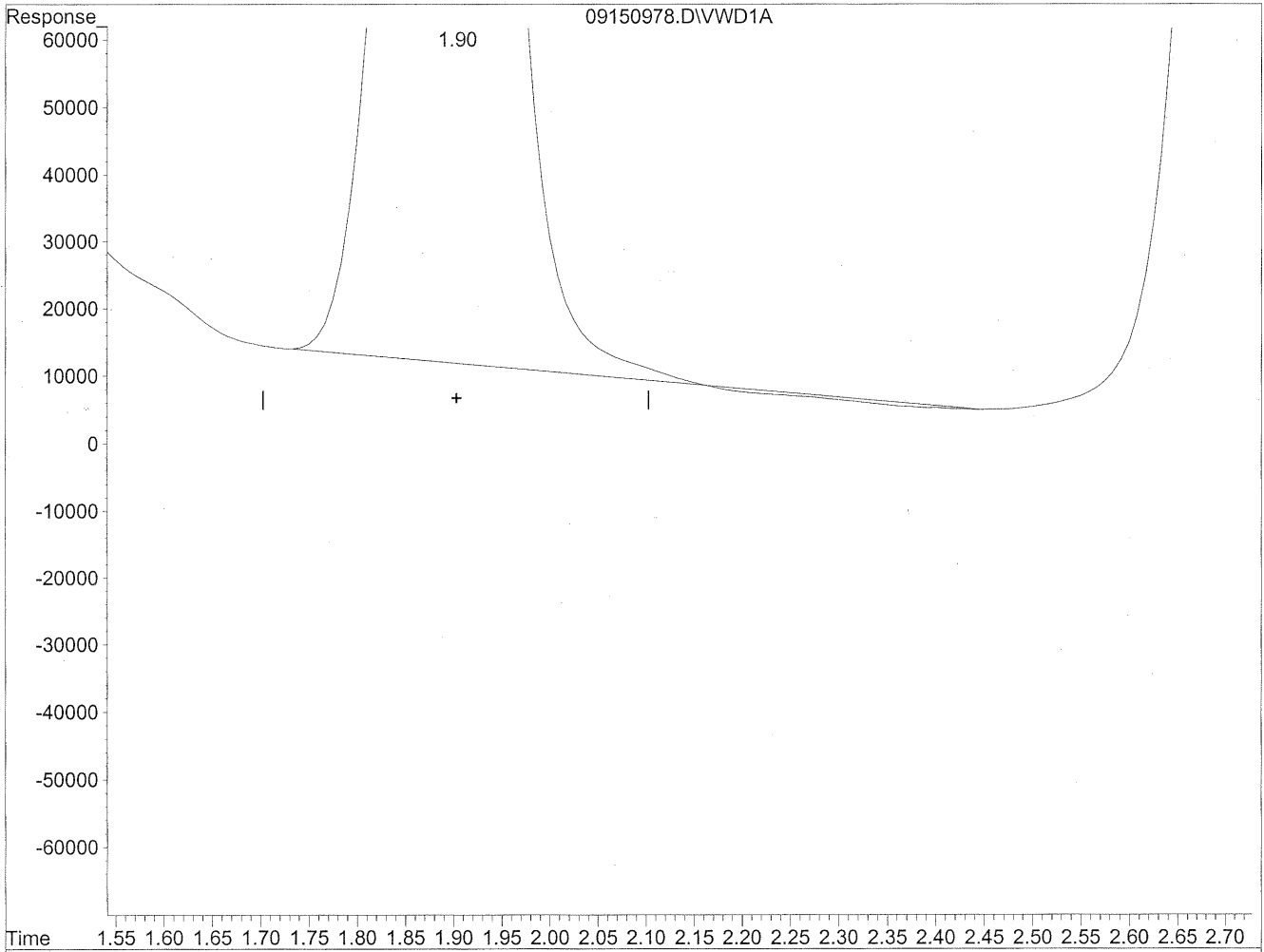
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.35	94791165	10608.460 ng/ml <i>D/L</i>
2) Acetaldehyde	1.90	20090441	3090.458 ng/mlm
3) Propionaldehyde	3.33	3391005	652.389 ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	4.96	2497889	616.341 ng/mlm
6) Benzaldehyde	5.83	3508640	1285.980 ng/mlm
7) Isovaleraldehyde	6.44	263554	76.575 ng/mlm
8) Valeraldehyde	6.72	7626793	2243.412 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	8.47	31480305	10632.635 ng/ml <i>D/L</i>
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150978.D Vial: 166
Acq On : 15-Sep-2009, 23:44 Operator: MD
Sample : P0903195-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:04 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

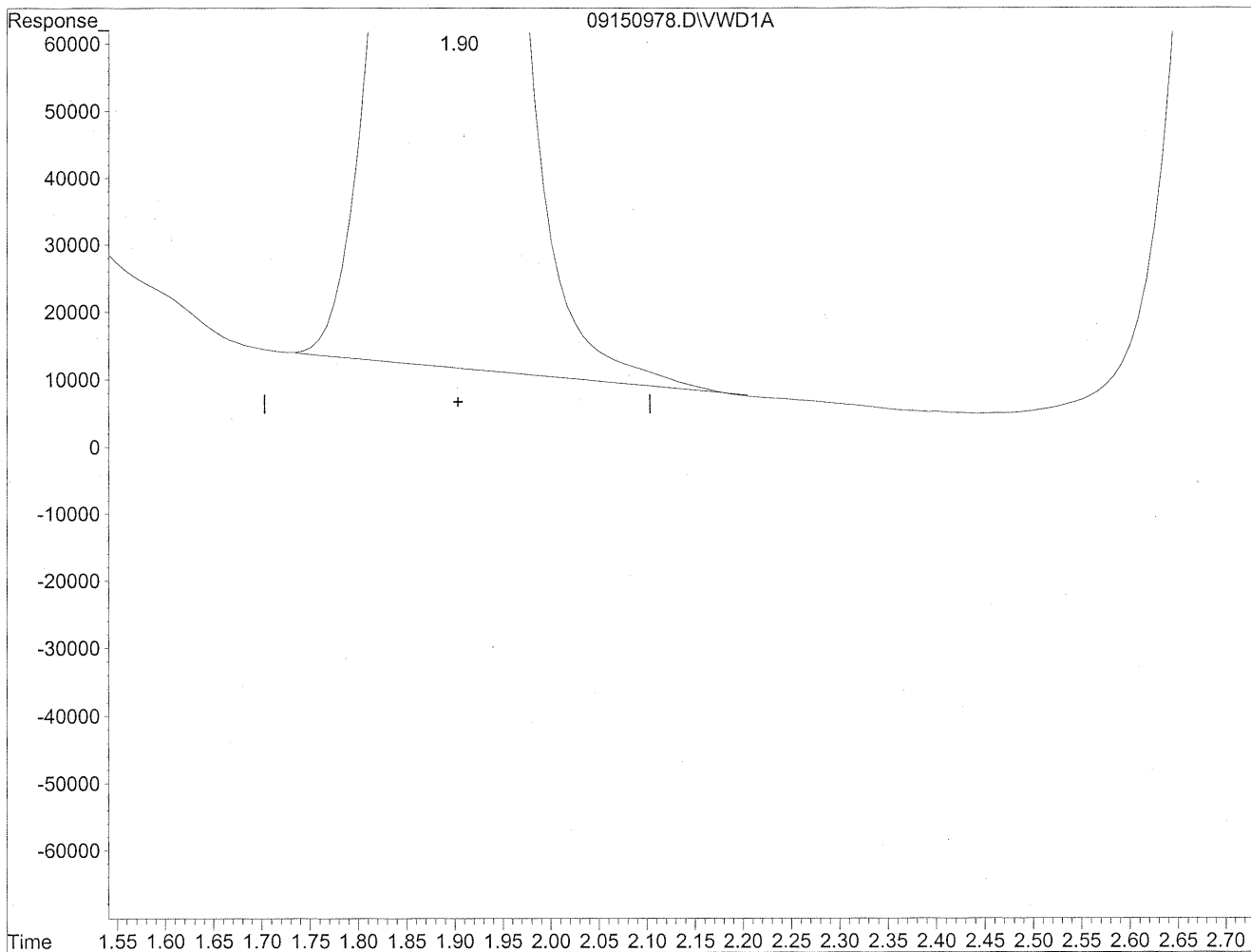


(2) Acetaldehyde
1.90min 3074.253ng/ml
response 19985097

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150978.D Vial: 166
Acq On : 15-Sep-2009, 23:44 Operator: MD
Sample : P0903195-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:04 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



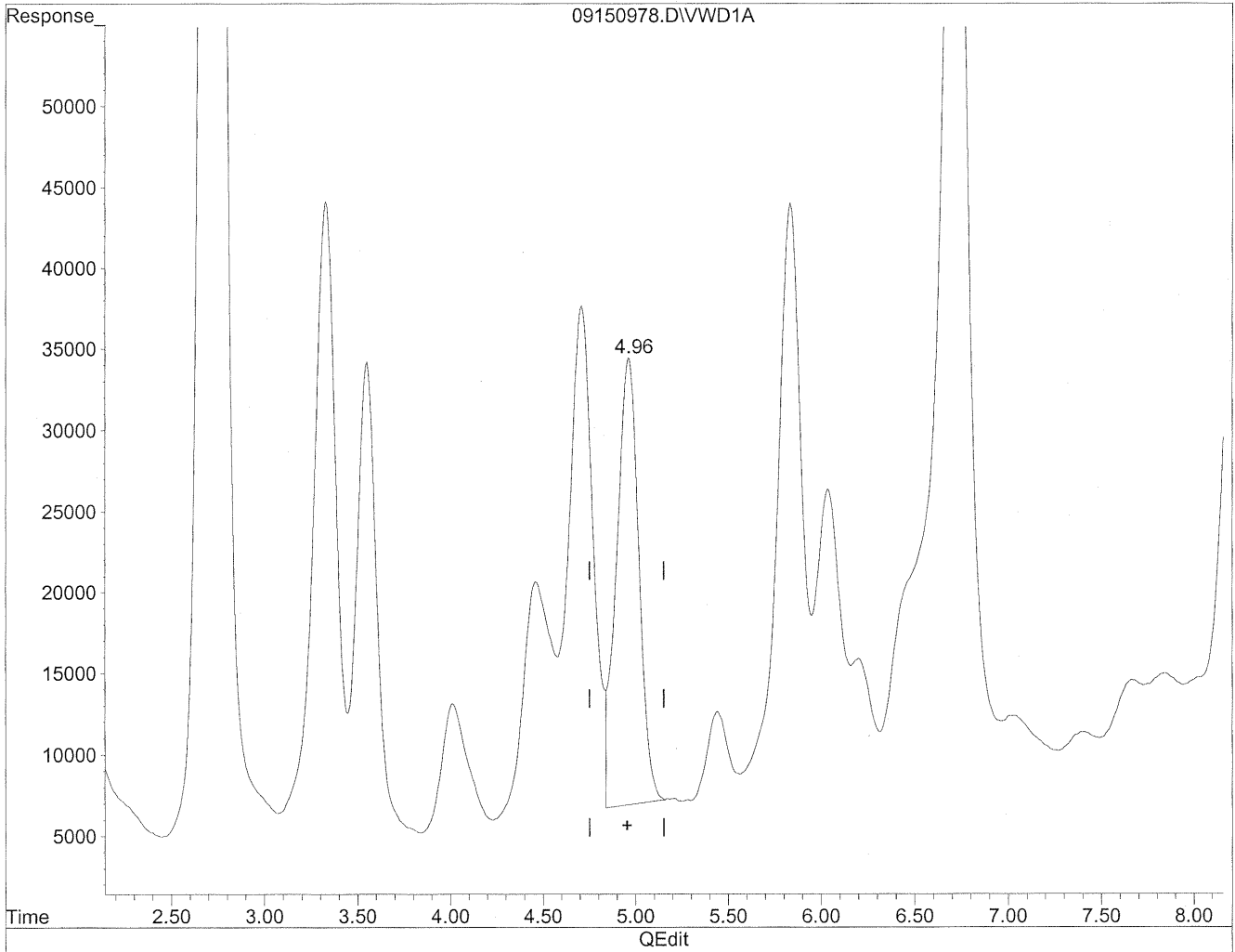
(2) Acetaldehyde
1.90min 3090.458ng/ml m
response 20090441

Handwritten notes:
HC
9/21/09
9/21/09
12

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150978.D Vial: 166
Acq On : 15-Sep-2009, 23:44 Operator: MD
Sample : P0903195-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:04 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

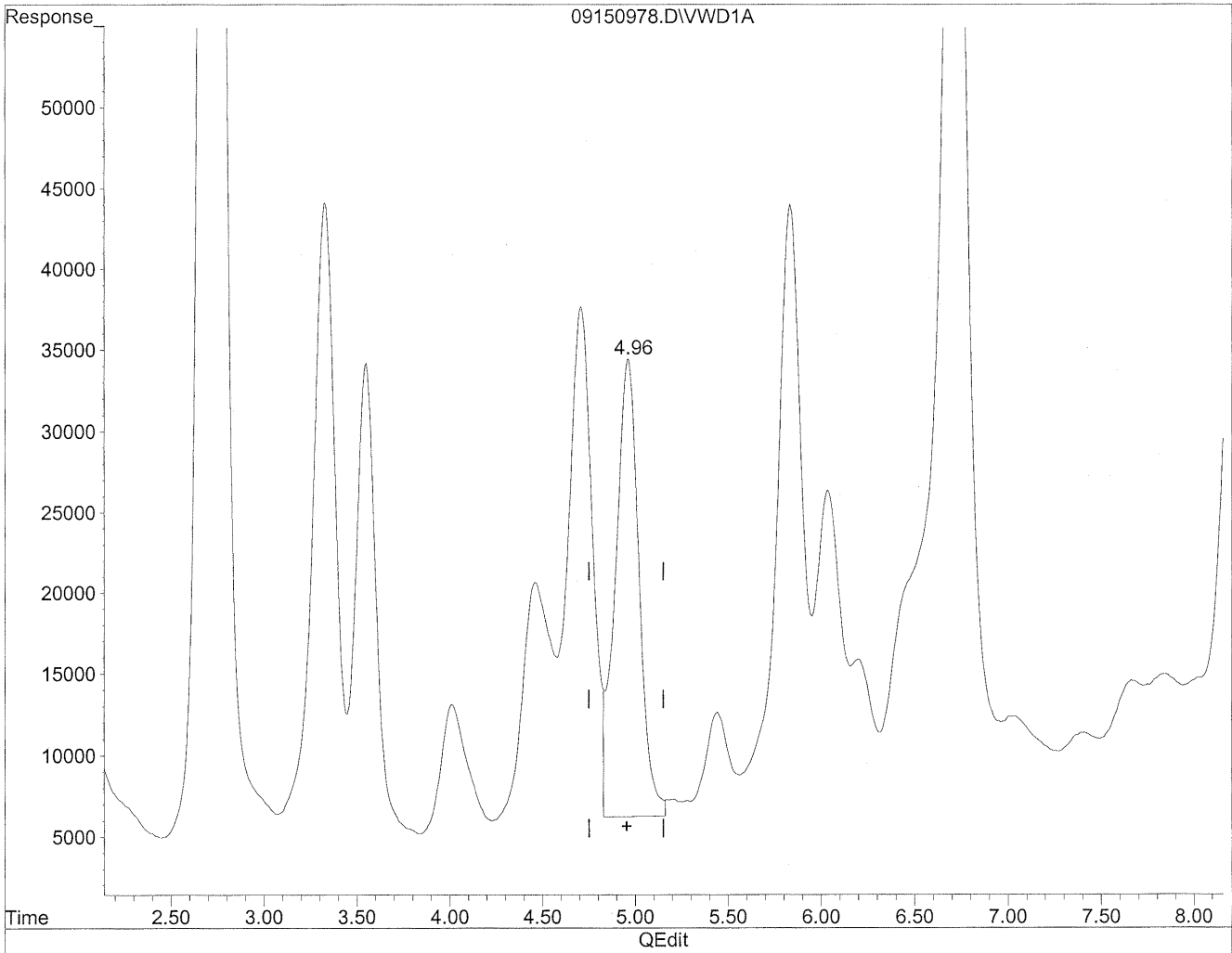


(5) Butyraldehyde
4.96min 572.146ng/ml
response 2318774

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150978.D Vial: 166
Acq On : 15-Sep-2009, 23:44 Operator: MD
Sample : P0903195-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:04 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



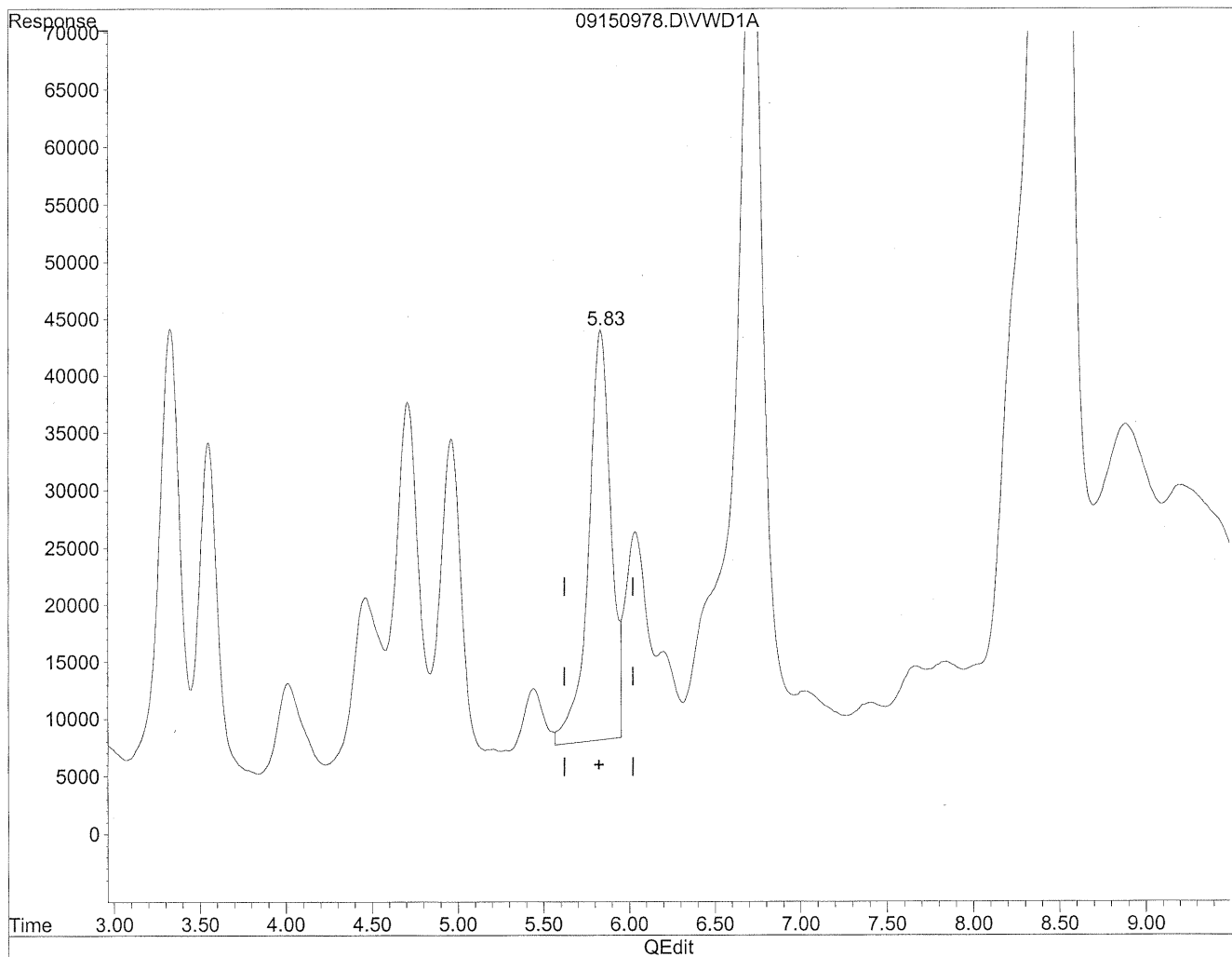
(5) Butyraldehyde
4.96min 616.341ng/ml m
response 2497889

YLC
9/21/09
mm
9/21/09
IC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150978.D Vial: 166
Acq On : 15-Sep-2009, 23:44 Operator: MD
Sample : P0903195-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:04 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

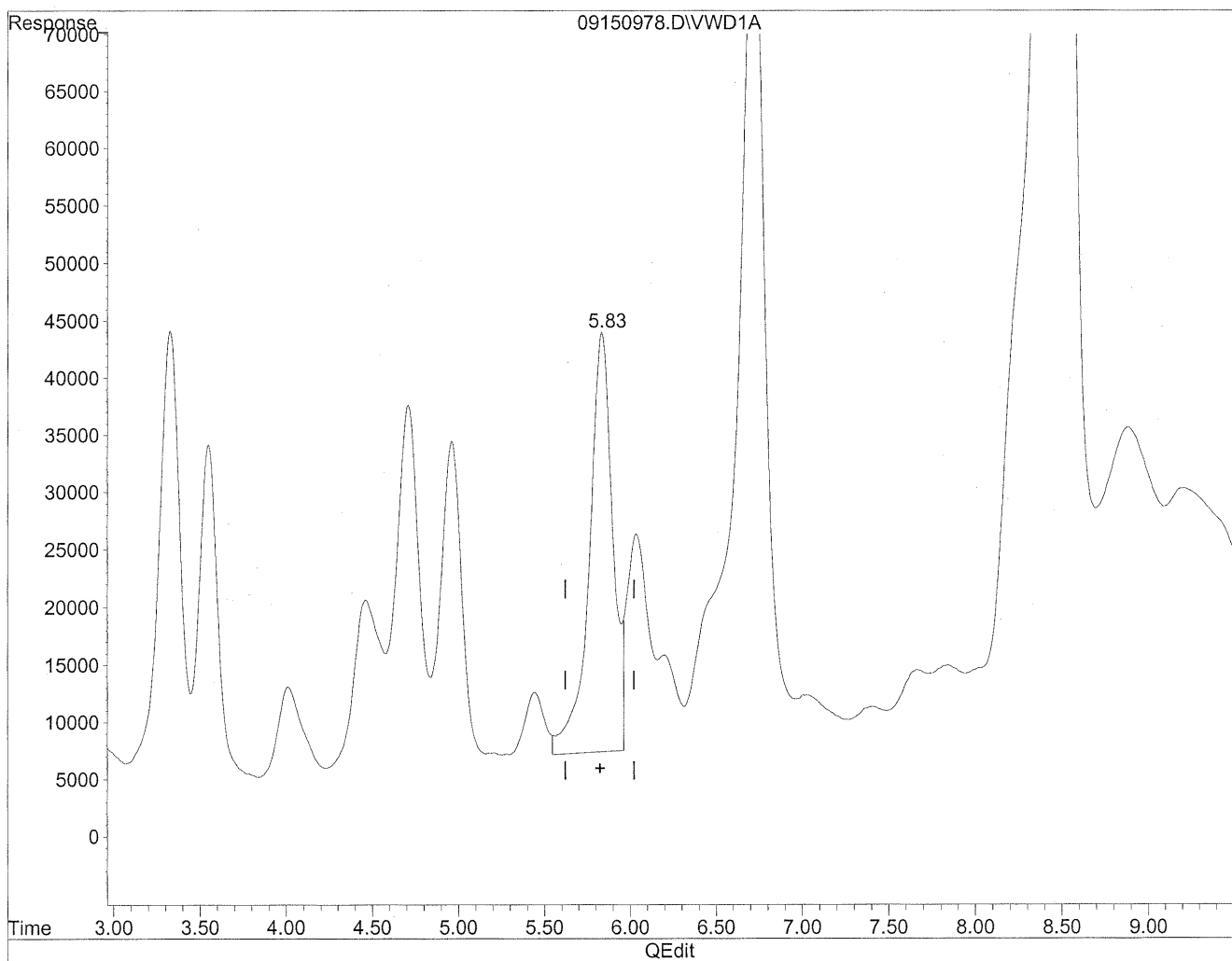


(6) Benzaldehyde
5.84min 1191.826ng/ml
response 3251750

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150978.D Vial: 166
Acq On : 15-Sep-2009, 23:44 Operator: MD
Sample : P0903195-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:04 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

5.83min 1285.980ng/ml m

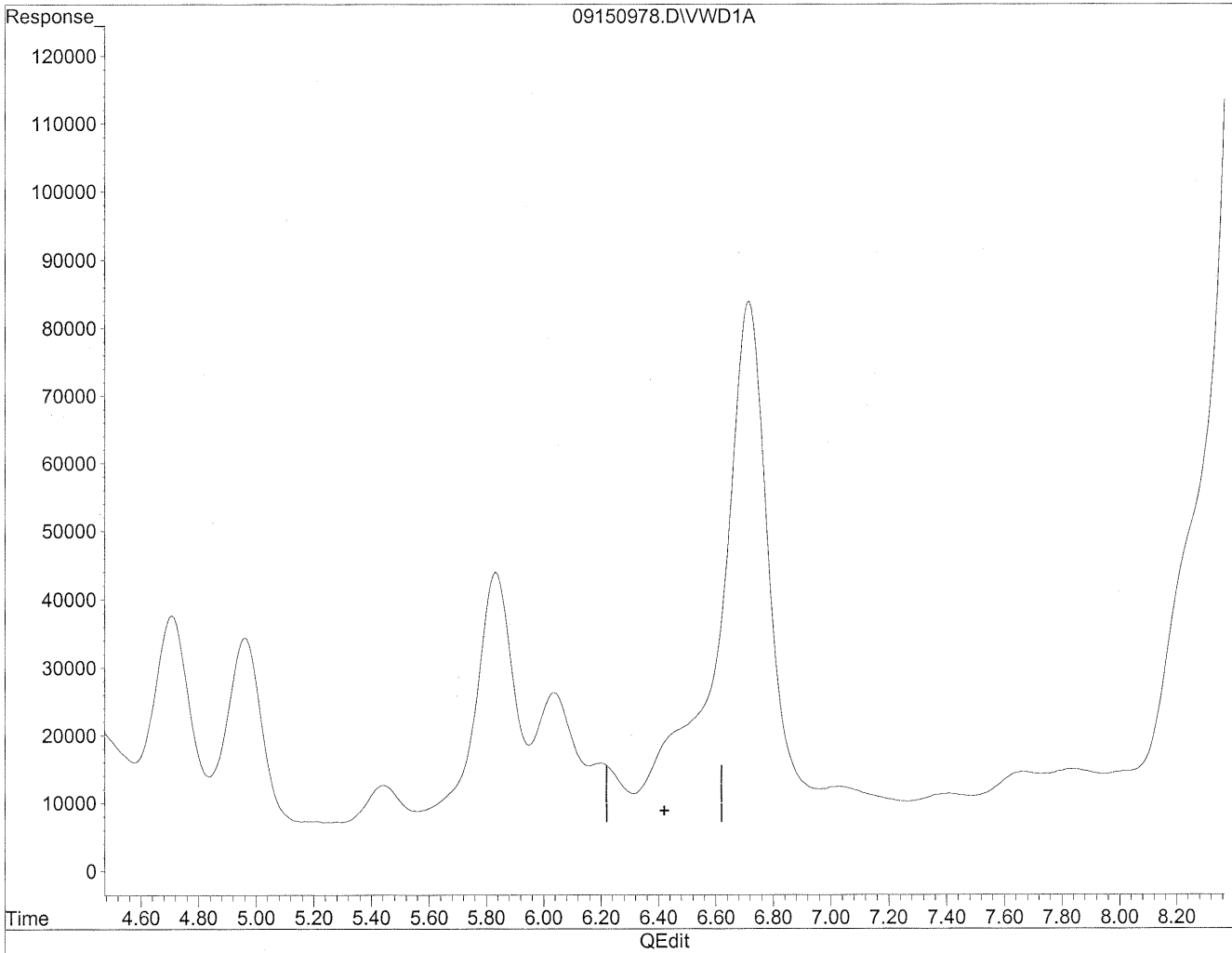
response 3508640

Handwritten notes:
HU
9/21/09
MD
9/21/09
BC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150978.D Vial: 166
Acq On : 15-Sep-2009, 23:44 Operator: MD
Sample : P0903195-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:04 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

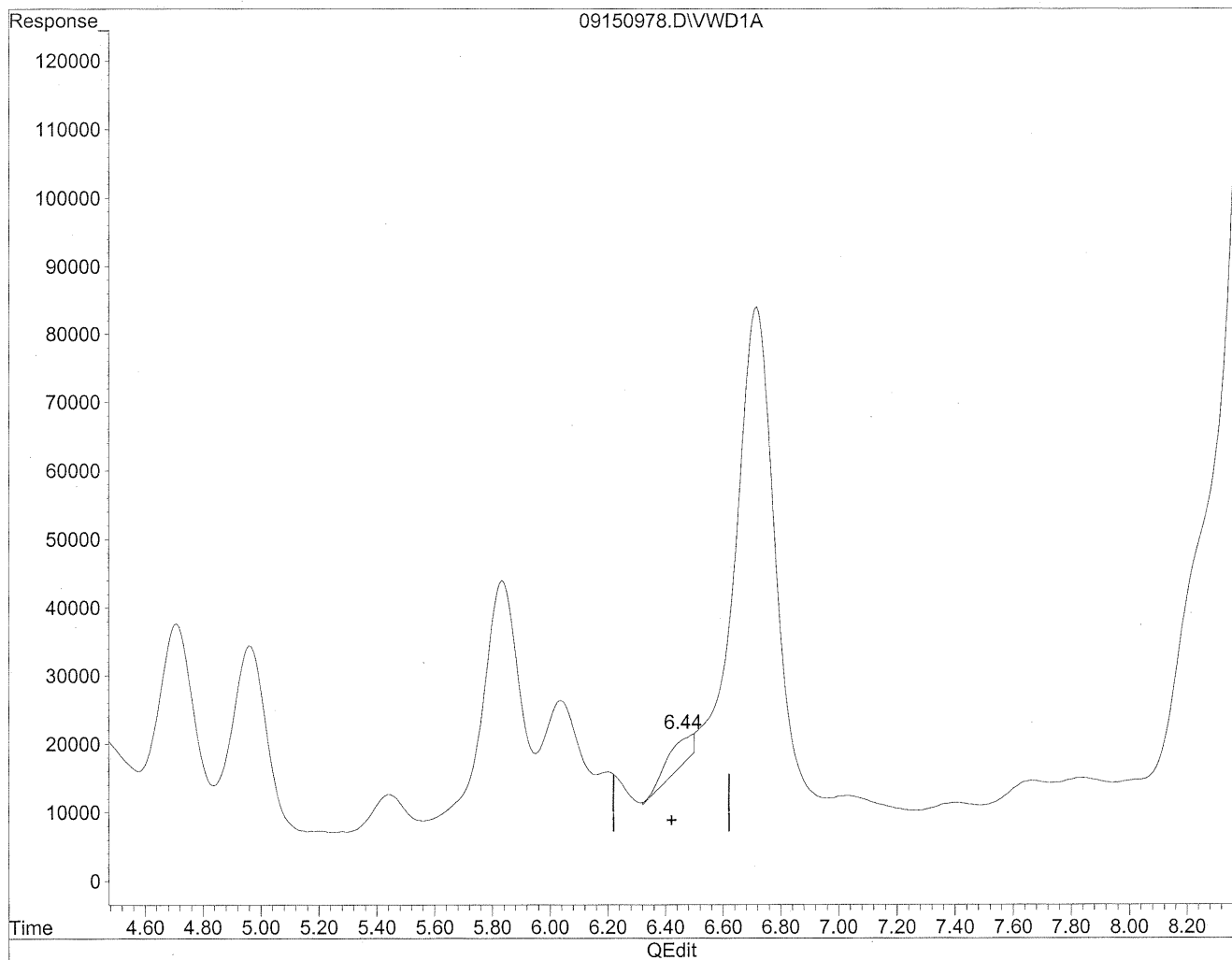


(7) Isovaleraldehyde
6.42min 0.000ng/ml
response 0

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150978.D Vial: 166
Acq On : 15-Sep-2009, 23:44 Operator: MD
Sample : P0903195-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:04 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



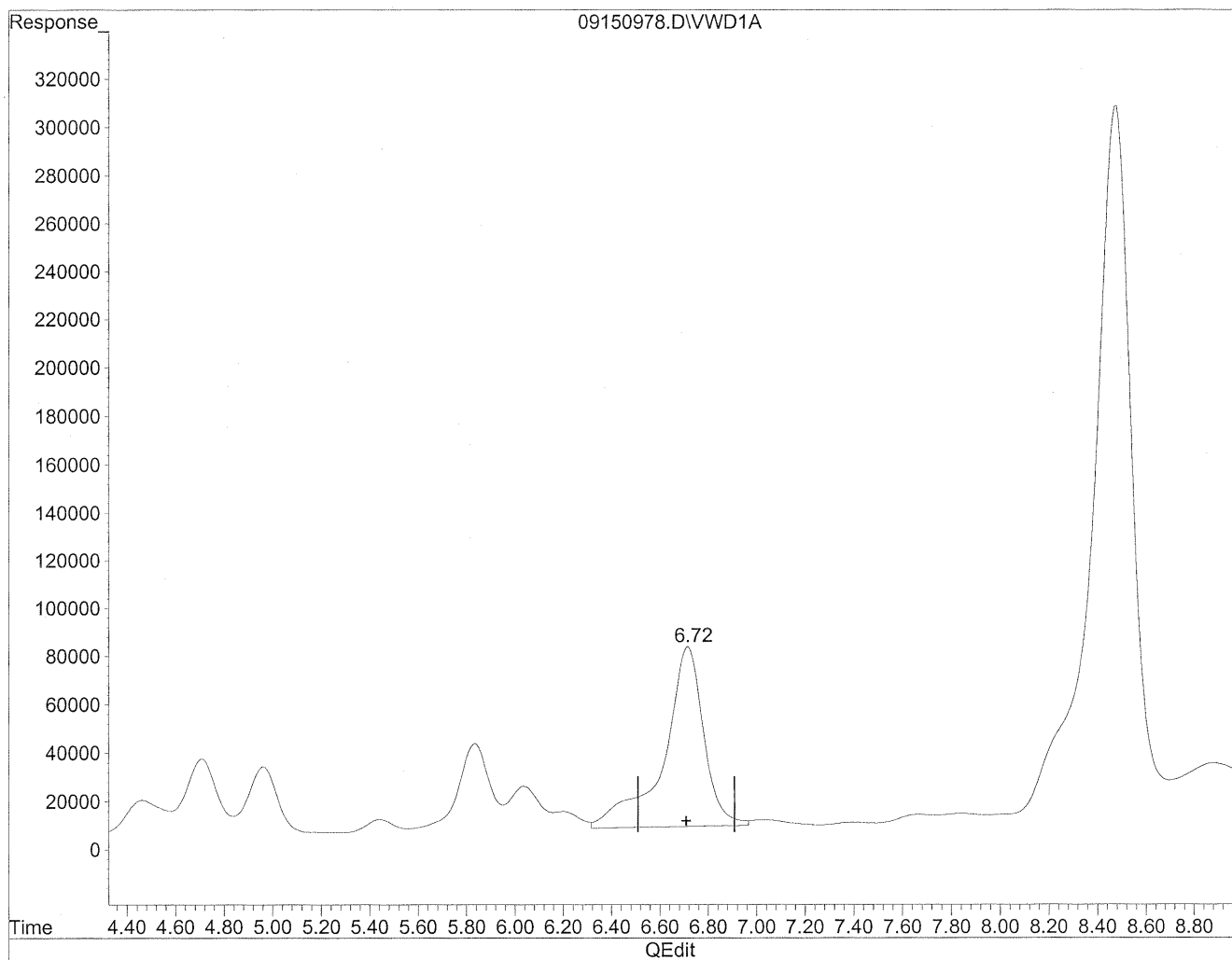
(7) Isovaleraldehyde
6.44min 76.575ng/ml m
response 263554

(m)
9/21/09
MD
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150978.D Vial: 166
Acq On : 15-Sep-2009, 23:44 Operator: MD
Sample : P0903195-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:04 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(8) Valeraldehyde

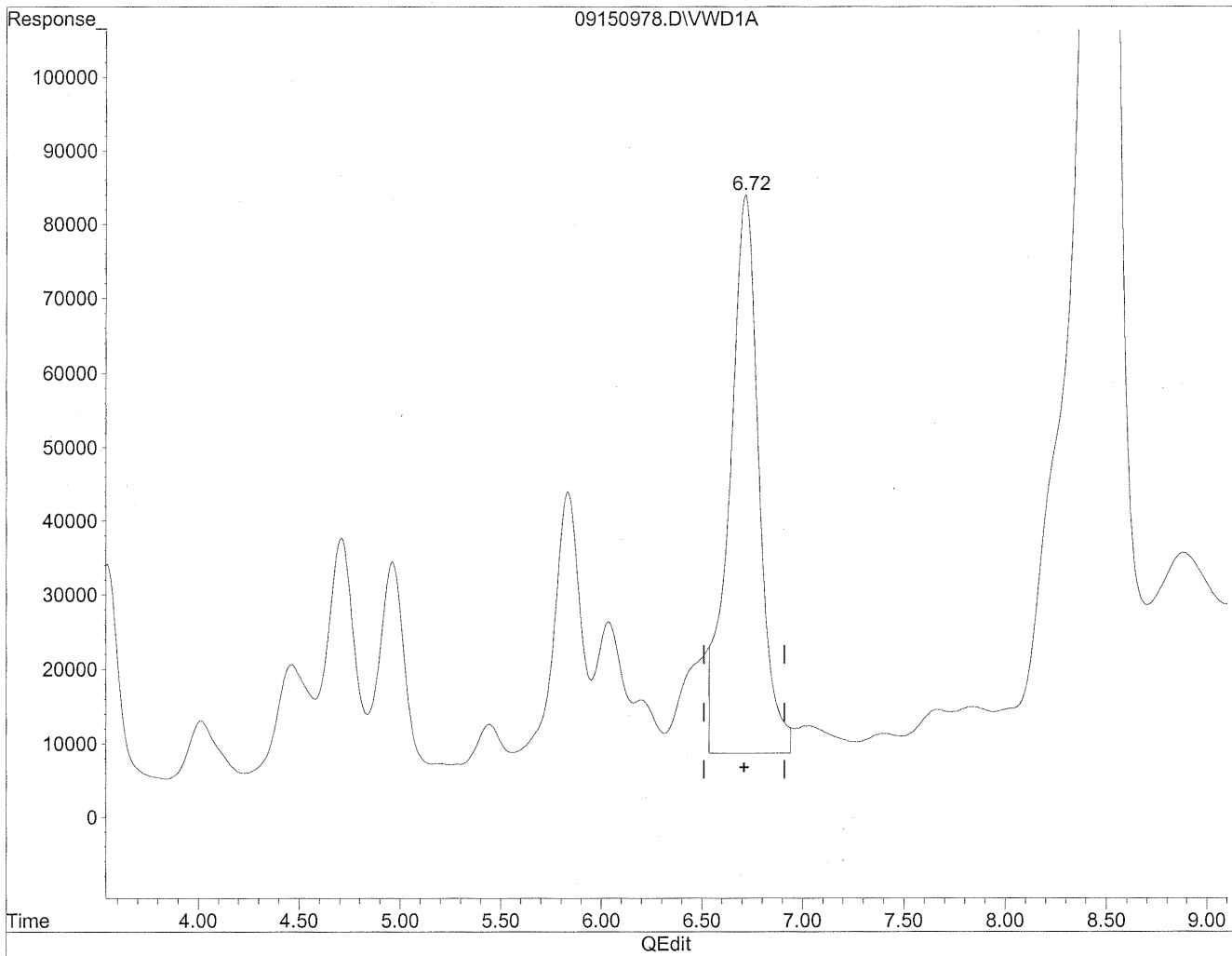
6.72min 2524.713ng/ml

response 8583113

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150978.D Vial: 166
Acq On : 15-Sep-2009, 23:44 Operator: MD
Sample : P0903195-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:04 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



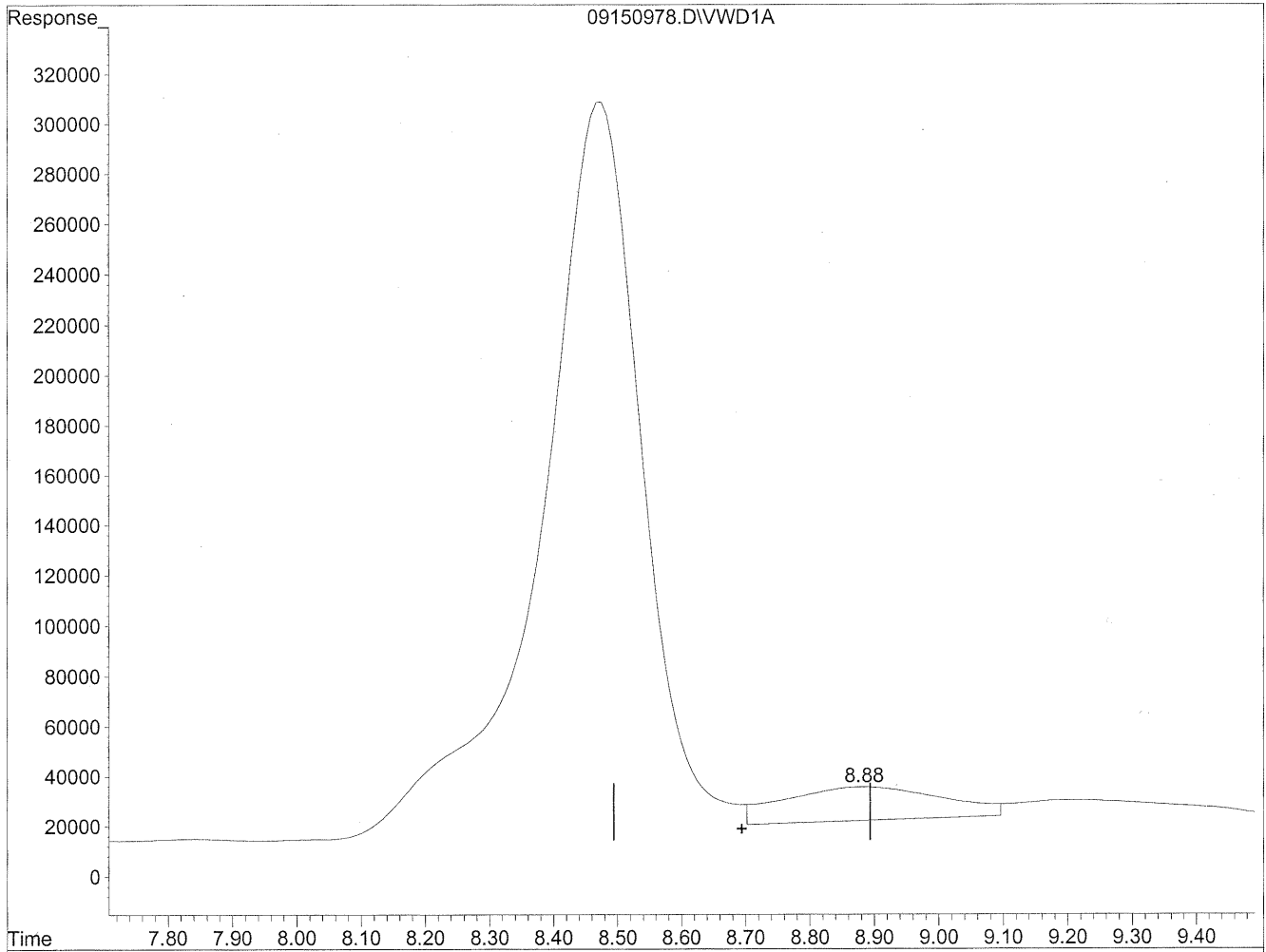
(8) Valeraldehyde
6.72min 2243.412ng/ml m
response 7626793

Handwritten notes:
ML
9/21/09
MD
9/21/09
SH

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150978.D Vial: 166
Acq On : 15-Sep-2009, 23:44 Operator: MD
Sample : P0903195-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:04 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

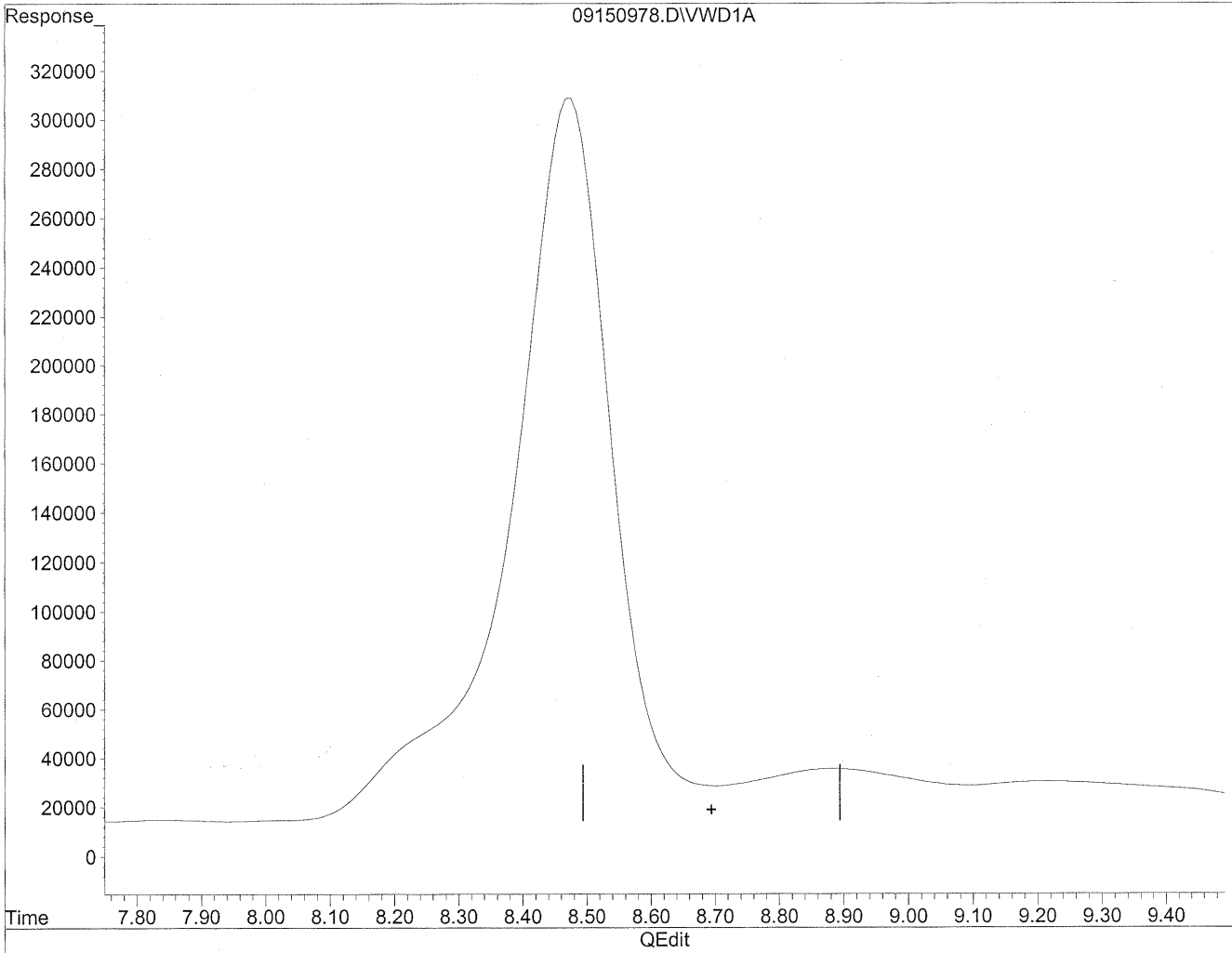
8.89min 1166.885ng/ml

response 2328510

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150978.D Vial: 166
Acq On : 15-Sep-2009, 23:44 Operator: MD
Sample : P0903195-003 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:04 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

0.00min 0.000ng/ml d

response 0

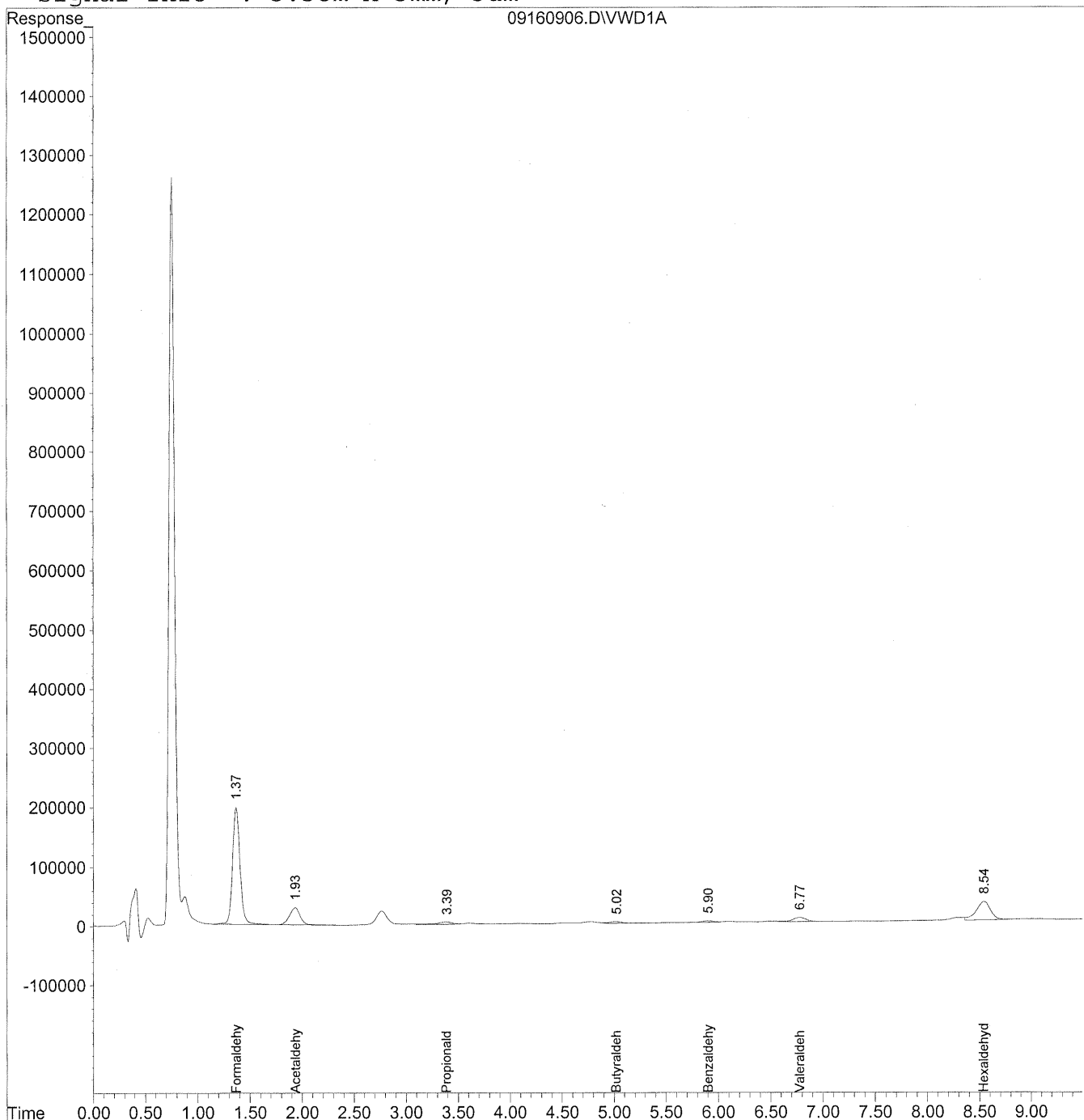
Handwritten notes:
M
H.C. 9/21/09
abullos MP

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160906.D Vial: 6
Acq On : 16-Sep-2009, 11:54 Operator: MD
Sample : P0903195-003 front 10x dil Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 12:14 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\16\09160906.D Vial: 6
 Acq On : 16-Sep-2009, 11:54 Operator: MD
 Sample : P0903195-003 front 10x dil Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 12:14 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 17 16:12:59 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

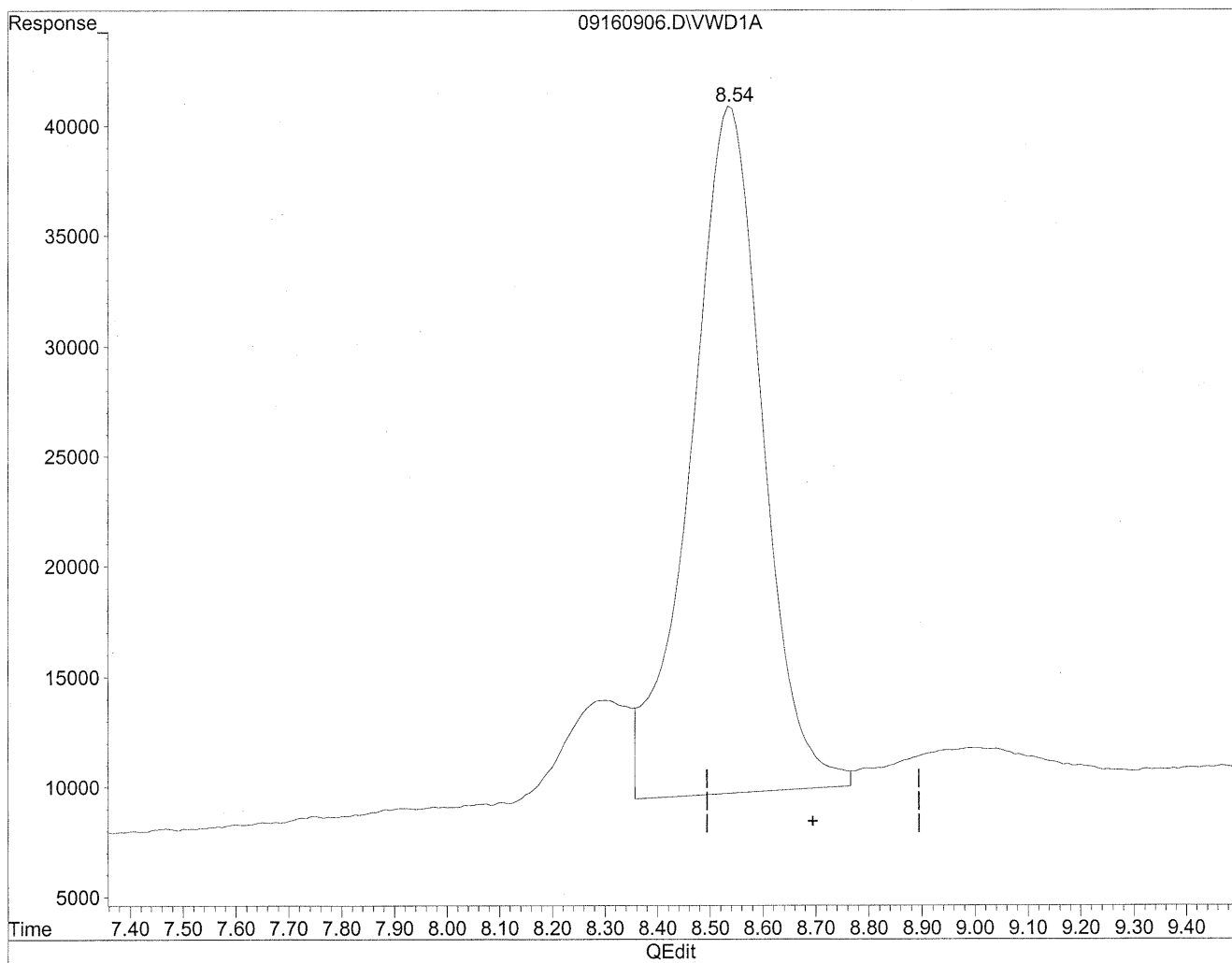
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.37	9679224	1083.241 ng/ml
2) Acetaldehyde	1.93	2084045	320.583 ng/ml
3) Propionaldehyde	3.39	444188	85.457 ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	5.02	226353	55.852 ng/ml
6) Benzaldehyde	5.90	223653	81.973 ng/ml
7) Isovaleraldehyde	0.00	0	N.D. ng/ml
8) Valeraldehyde	6.78	649460	191.038 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	8.54	2969335	1002.908 ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160906.D Vial: 6
Acq On : 16-Sep-2009, 11:54 Operator: MD
Sample : P0903195-003 front 10x dil Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 12:14 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

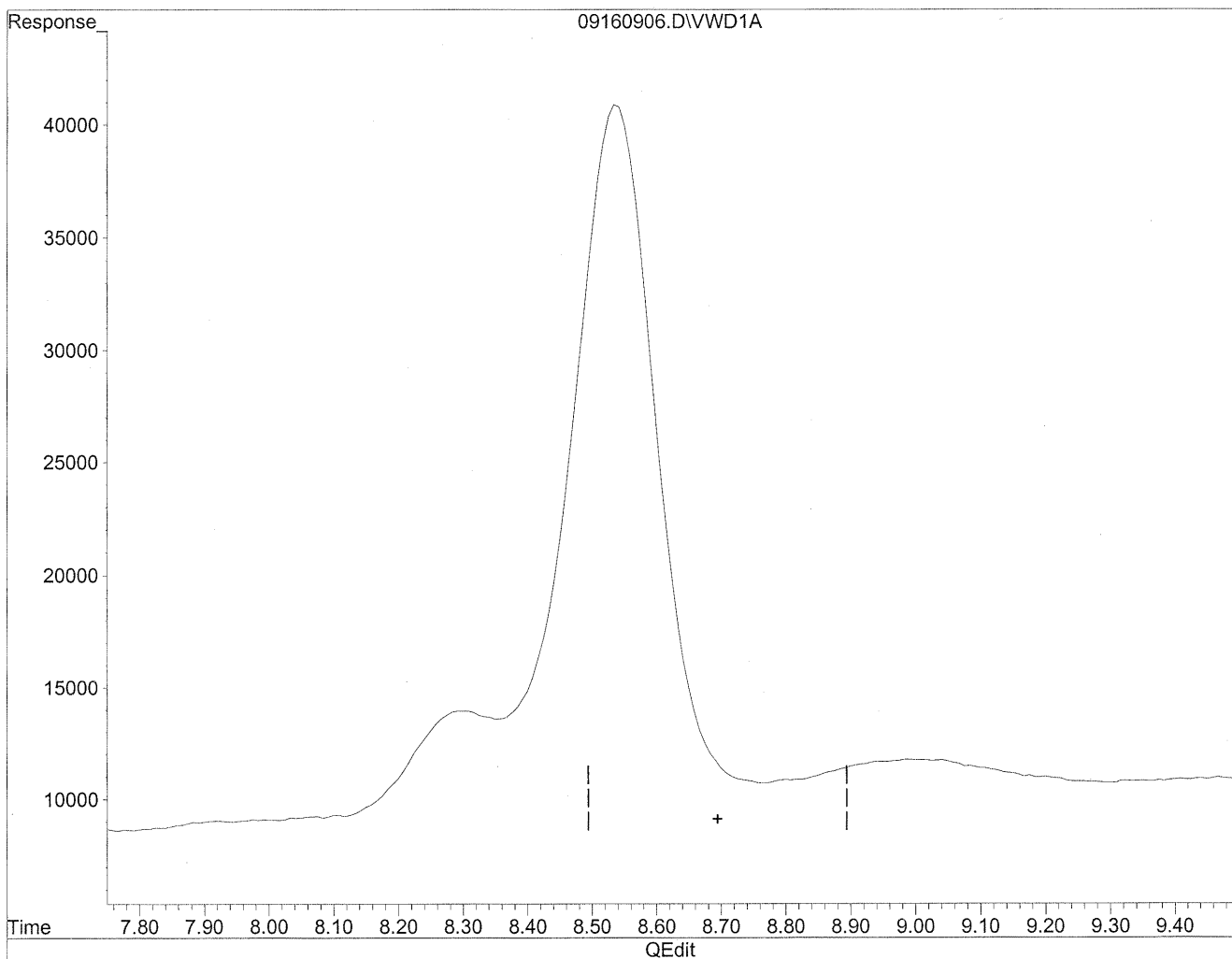
8.54min 1488.021ng/ml

response 2969335

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160906.D Vial: 6
Acq On : 16-Sep-2009, 11:54 Operator: MD
Sample : P0903195-003 front 10x dil Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 12:14 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

0.00min 0.000ng/ml d

response 0

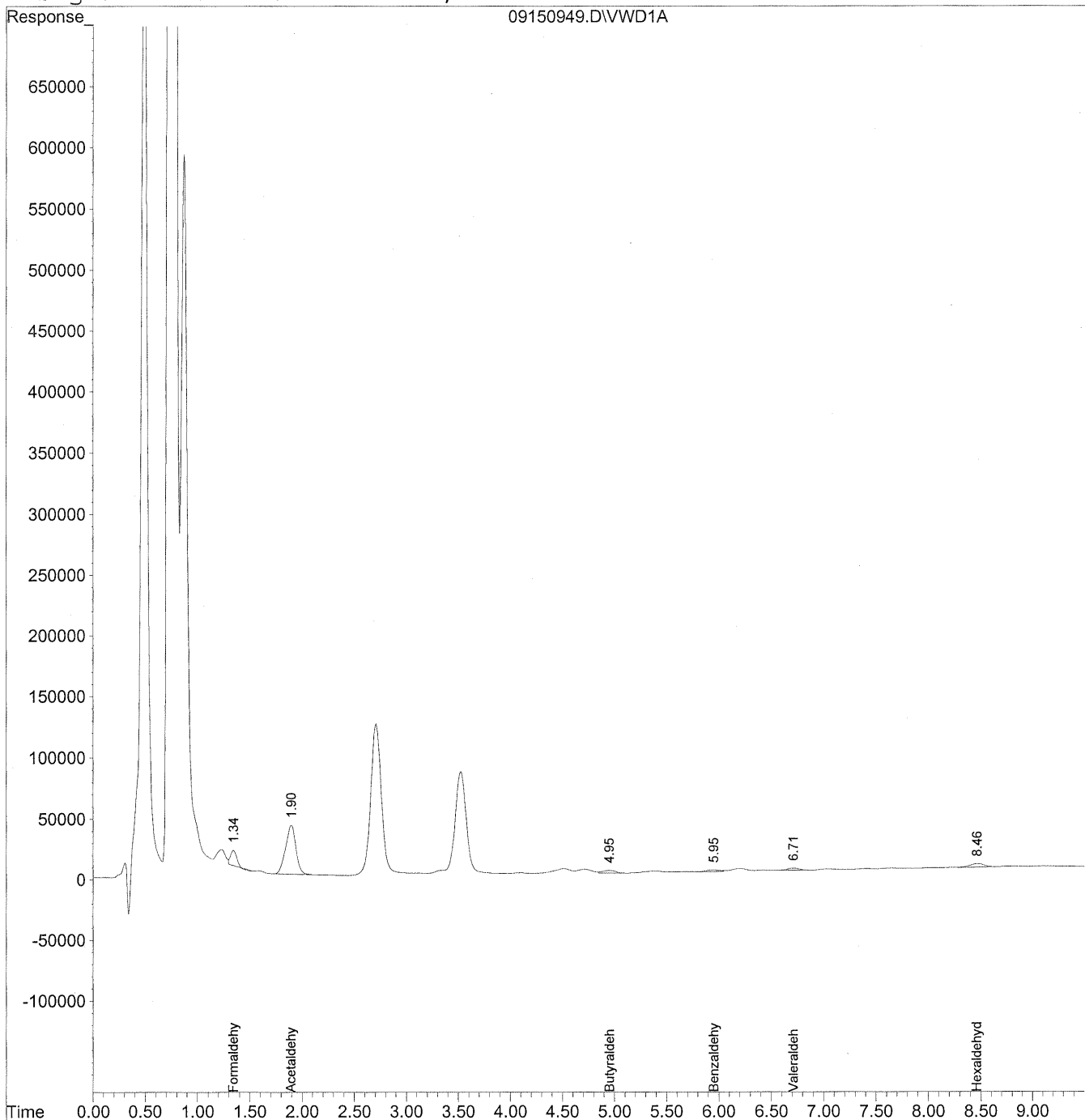
MW
9/21/09
mp
see
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150949.D Vial: 142
Acq On : 15-Sep-2009, 17:57 Operator: MD
Sample : P0903195-003 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150949.D Vial: 142
 Acq On : 15-Sep-2009, 17:57 Operator: MD
 Sample : P0903195-003 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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	490724	54.919 ng/ml
2) Acetaldehyde	1.90	2743676	422.052 ng/ml
3) Propionaldehyde	0.00	0	N.D. ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	4.95	184756	45.588 ng/ml
6) Benzaldehyde	5.96f	112784	41.337 ng/ml
7) Isovaleraldehyde	0.00	0	N.D. ng/ml
8) Valeraldehyde	6.71	138881	40.852 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	8.47	270266	91.284 ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.
Client Sample ID: 104991
Client Project ID: 16512

CAS Project ID: P0903195
 CAS Sample ID: P0903195-004

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

Date Collected: 9/3/09
Date Received: 9/10/09
Date Analyzed: 9/15/09
Desorption Volume: 1.0 ml
Volume Sampled: 104 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	8,400	81	0.96	66	0.78	
75-07-0	Acetaldehyde	3,300	32	0.96	17	0.53	BT
123-38-6	Propionaldehyde	590	5.7	0.96	2.4	0.40	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.96	ND	0.34	
123-72-8	Butyraldehyde	560	5.4	0.96	1.8	0.33	
100-52-7	Benzaldehyde	1,100	10	0.96	2.3	0.22	
590-86-3	Isovaleraldehyde	< 100	ND	0.96	ND	0.27	
110-62-3	Valeraldehyde	2,000	19	0.96	5.4	0.27	
529-20-4	o-Tolualdehyde	< 100	ND	0.96	ND	0.20	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.9	ND	0.39	
66-25-1	n-Hexaldehyde	9,800	94	0.96	23	0.23	M
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.96	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: Re

Date: 9/24/09

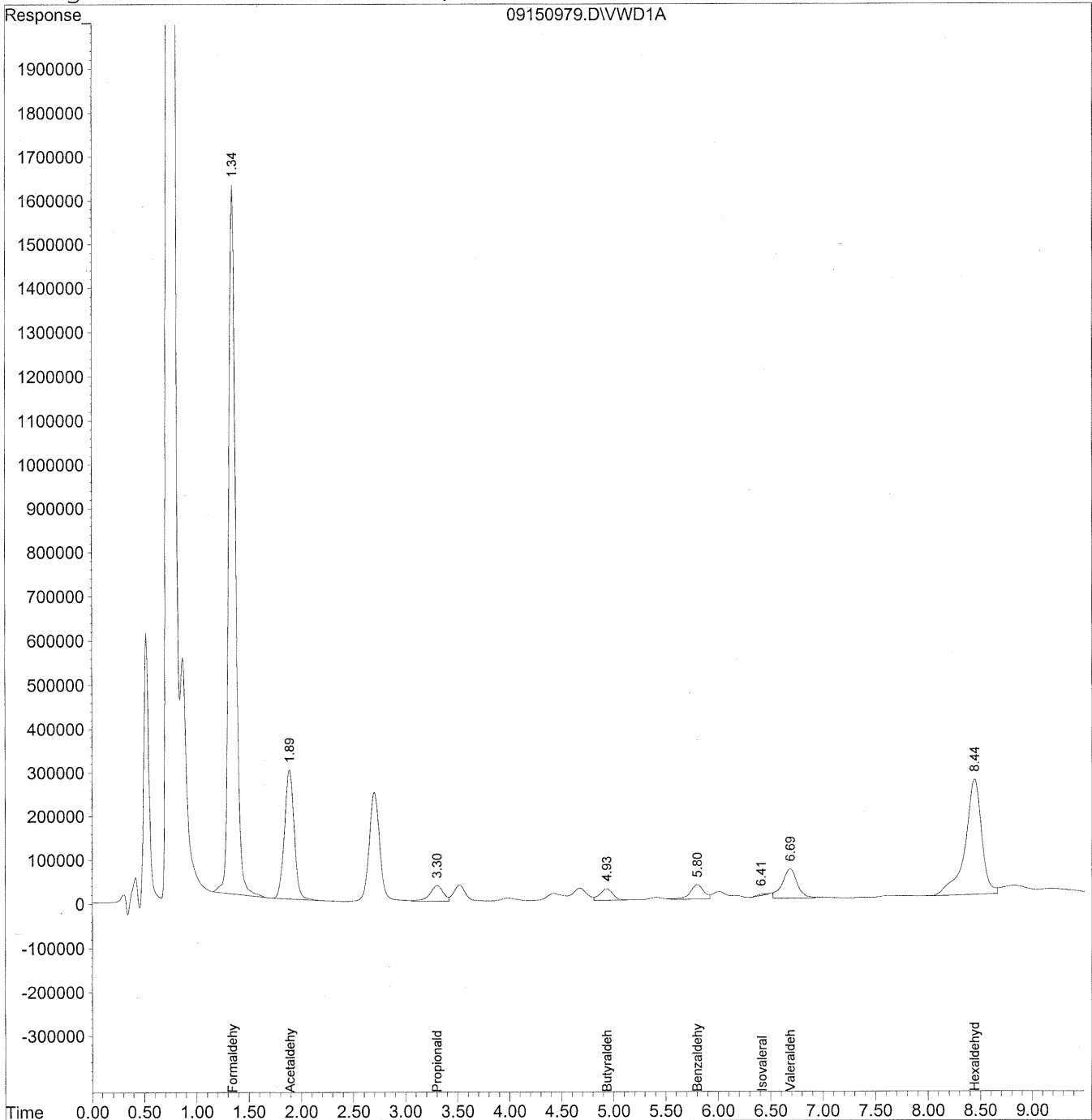
64

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150979.D Vial: 167
Acq On : 15-Sep-2009, 23:56 Operator: MD
Sample : P0903195-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:10 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150979.D Vial: 167
 Acq On : 15-Sep-2009, 23:56 Operator: MD
 Sample : P0903195-004 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:10 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 17 16:12:59 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

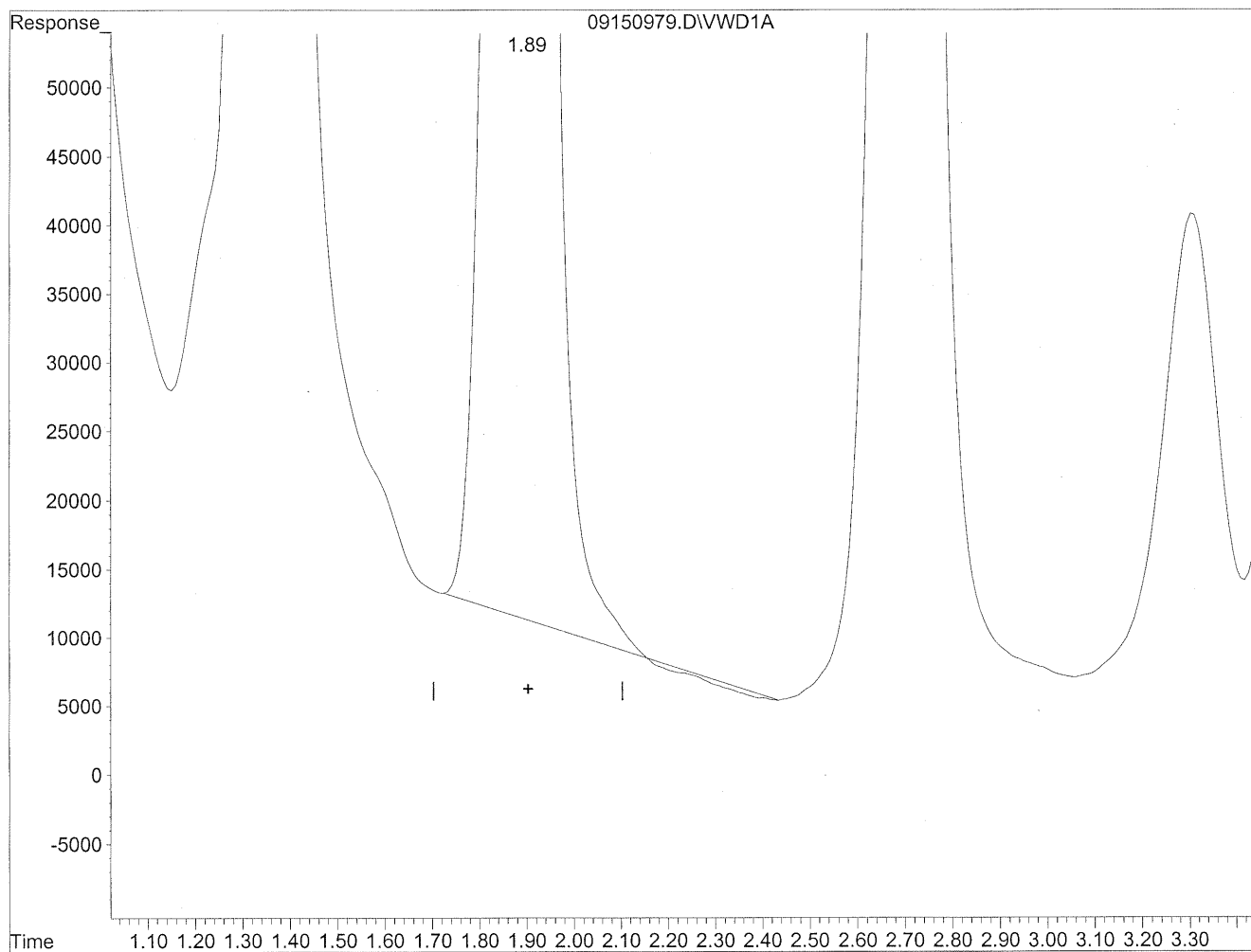
Target Compounds				
1) Formaldehyde	1.35	75239316	8420.334	ng/ml
2) Acetaldehyde	1.89	19161901	2947.623	ng/mlm
3) Propionaldehyde	3.31	3092351	594.932	ng/ml
4) Crotonaldehyde	0.00	0	N.D.	ng/ml
5) Butyraldehyde	4.93	2256120	556.686	ng/mlm
6) Benzaldehyde	5.80	2889599	1059.090	ng/ml
7) Isovaleraldehyde	6.41	206676	60.049	ng/mlm
8) Valeraldehyde	6.69	6766586	1990.383	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	8.44	29025273	9803.436	ng/mlm *
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

* m flag

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150979.D Vial: 167
Acq On : 15-Sep-2009, 23:56 Operator: MD
Sample : P0903195-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(2) Acetaldehyde

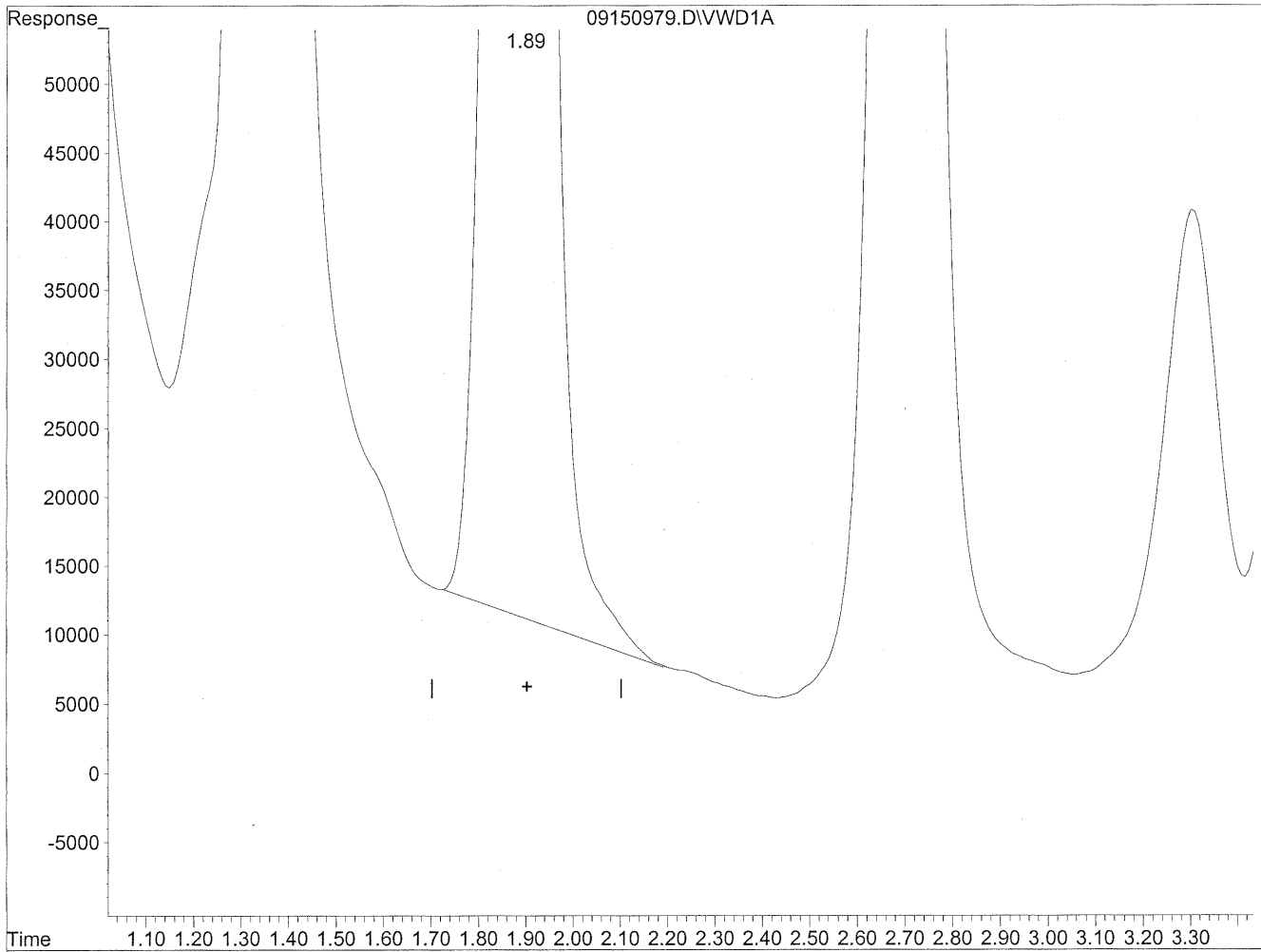
1.89min 2934.404ng/ml

response 19075964

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150979.D Vial: 167
Acq On : 15-Sep-2009, 23:56 Operator: MD
Sample : P0903195-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



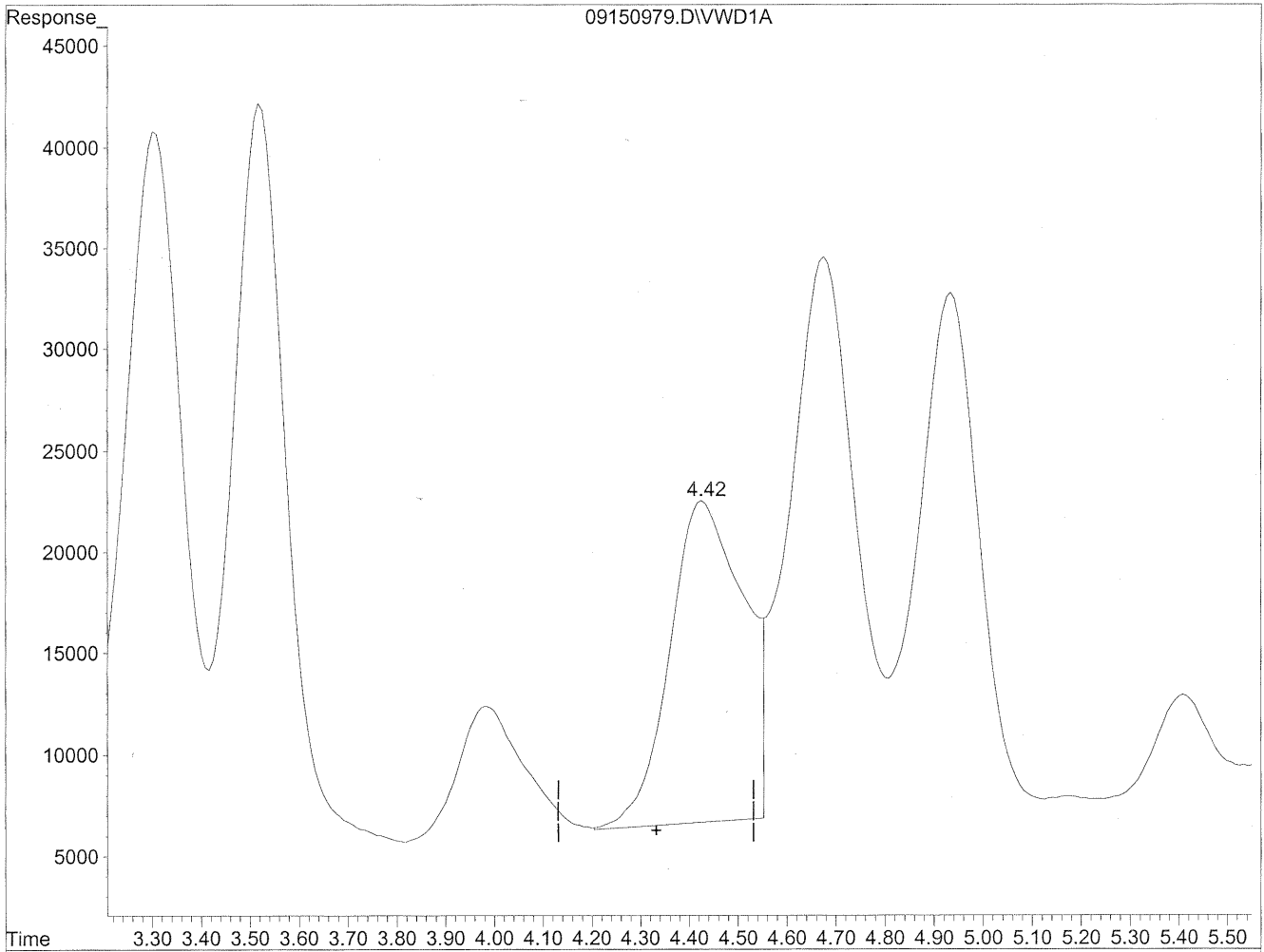
(2) Acetaldehyde
1.89min 2947.623ng/ml m
response 19161901

Handwritten notes:
Ac
aldehy
9/21/09
IC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150979.D Vial: 167
Acq On : 15-Sep-2009, 23:56 Operator: MD
Sample : P0903195-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

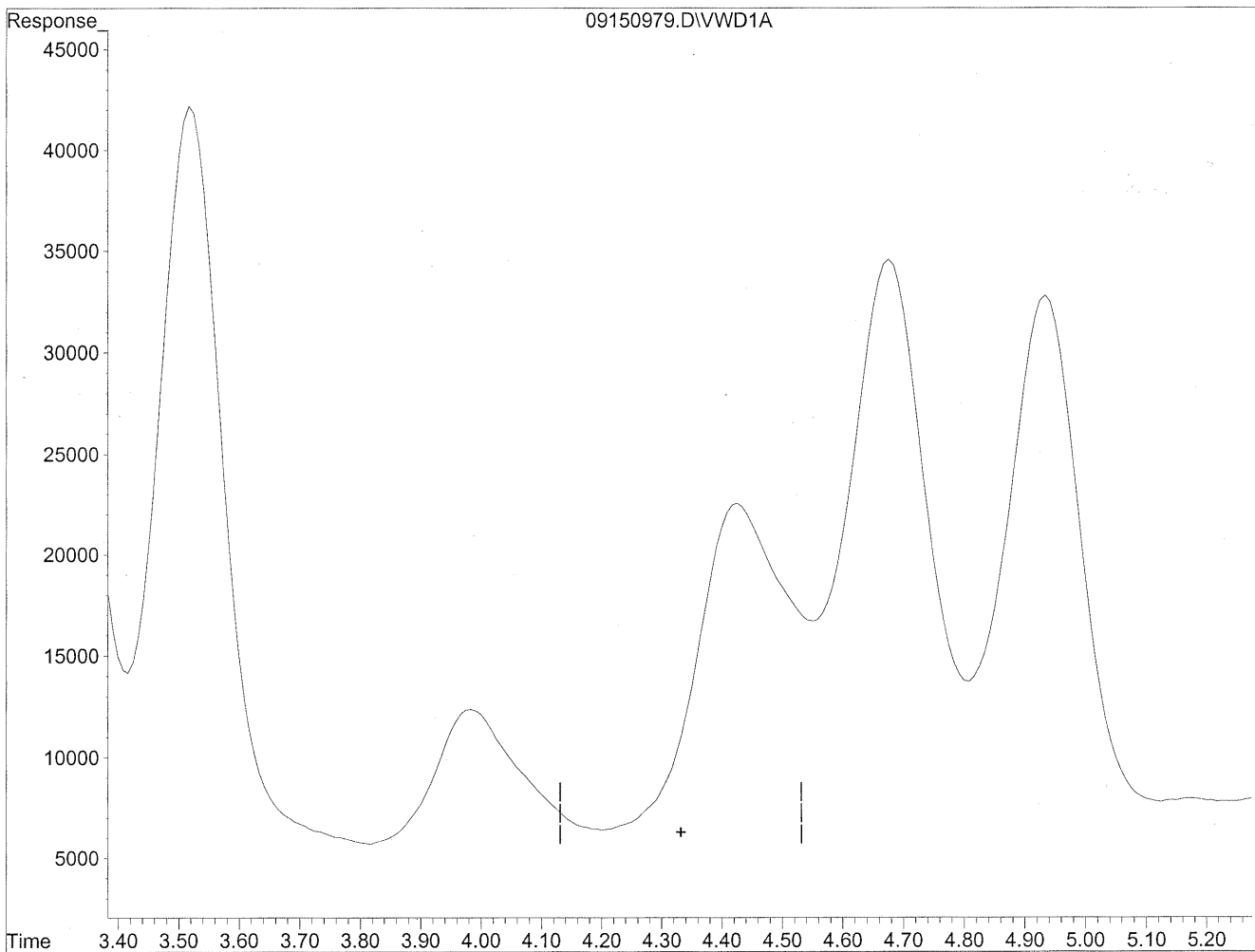


(4) Crotonaldehyde
4.43min 407.199ng/ml
response 1653054

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150979.D Vial: 167
Acq On : 15-Sep-2009, 23:56 Operator: MD
Sample : P0903195-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(4) Crotonaldehyde
0.00min 0.000ng/ml d
response 0

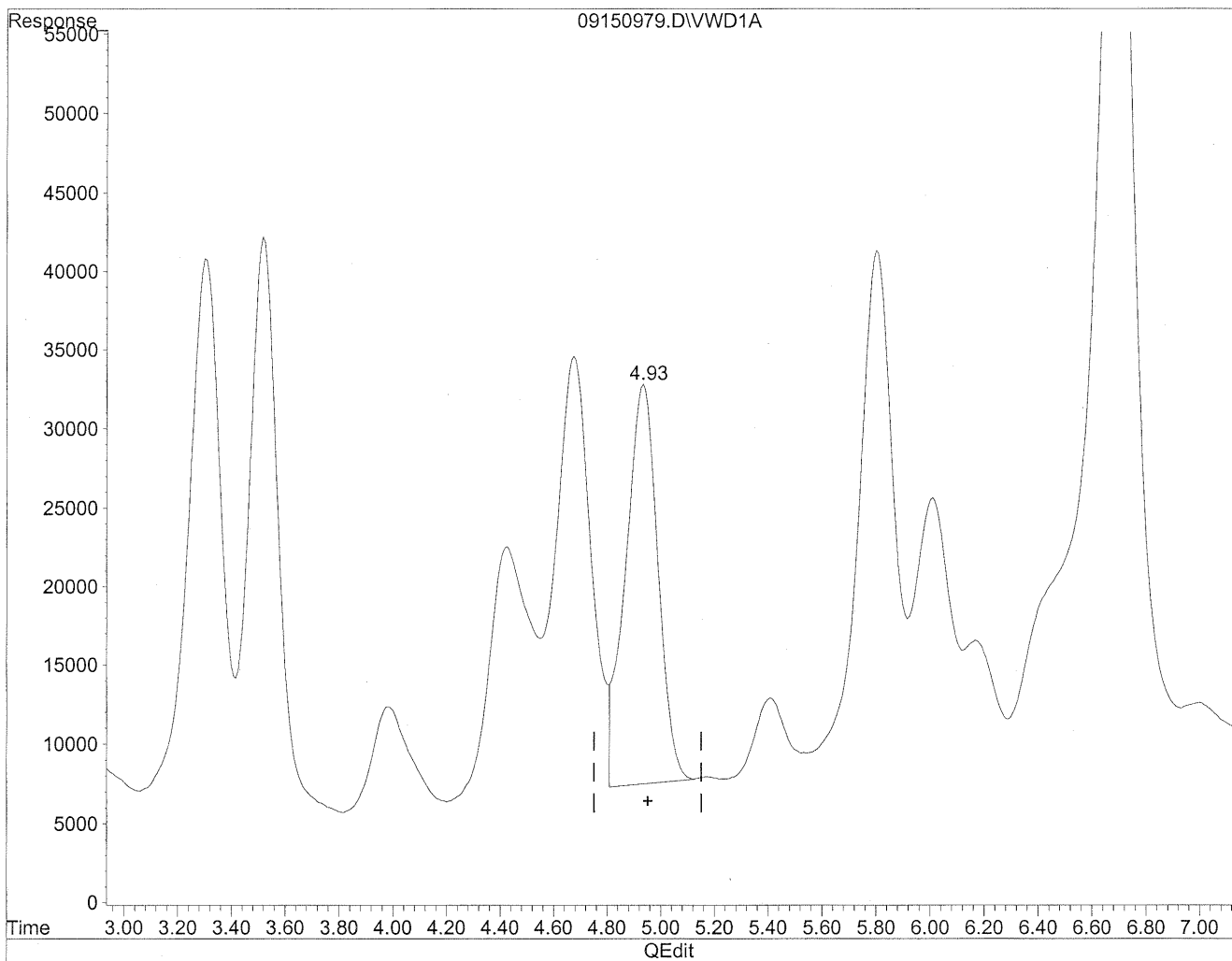
(M)
9/21/09
MP

HL
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150979.D Vial: 167
Acq On : 15-Sep-2009, 23:56 Operator: MD
Sample : P0903195-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

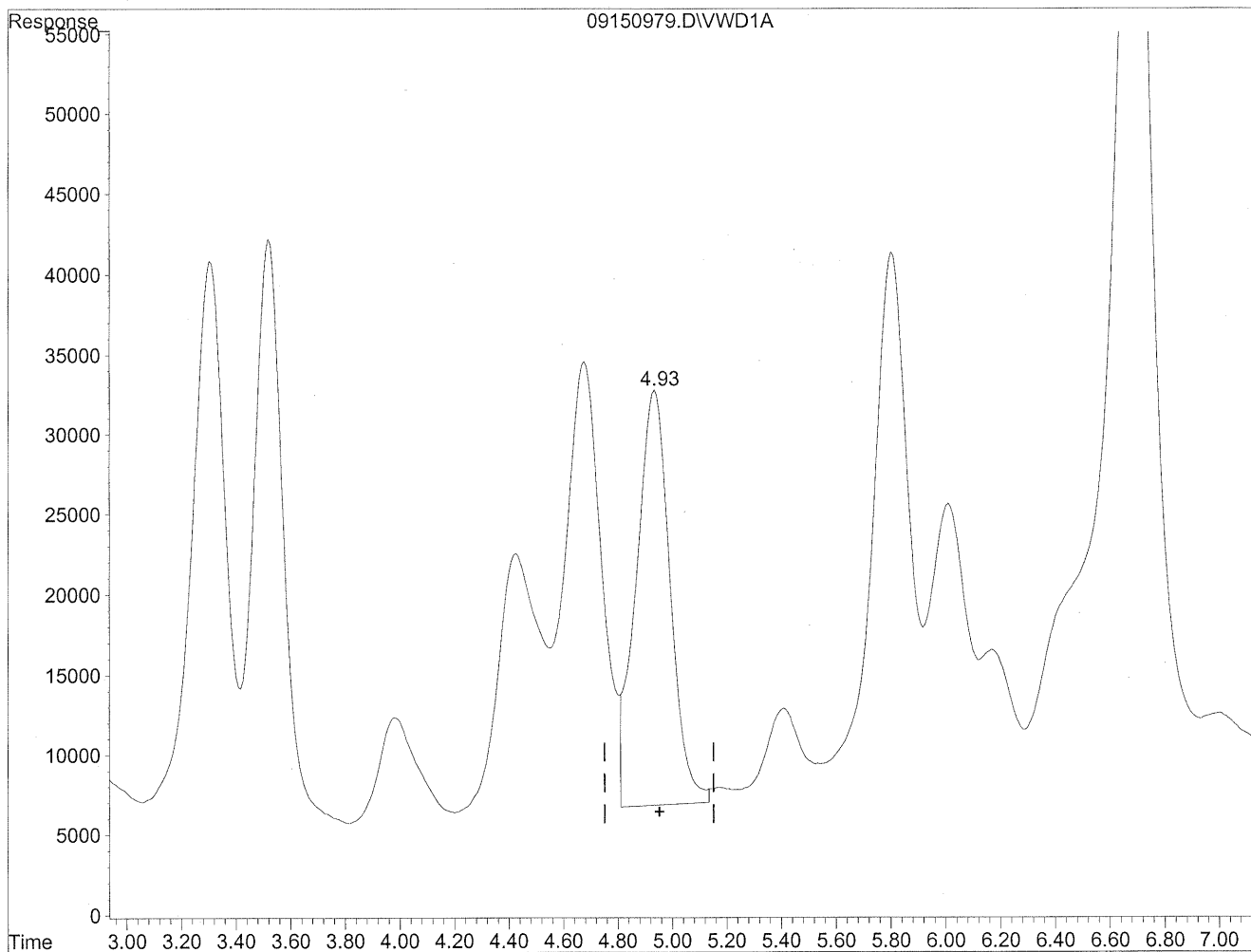


(5) Butyraldehyde
4.94min 527.290ng/ml
response 2136983

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150979.D Vial: 167
Acq On : 15-Sep-2009, 23:56 Operator: MD
Sample : P0903195-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



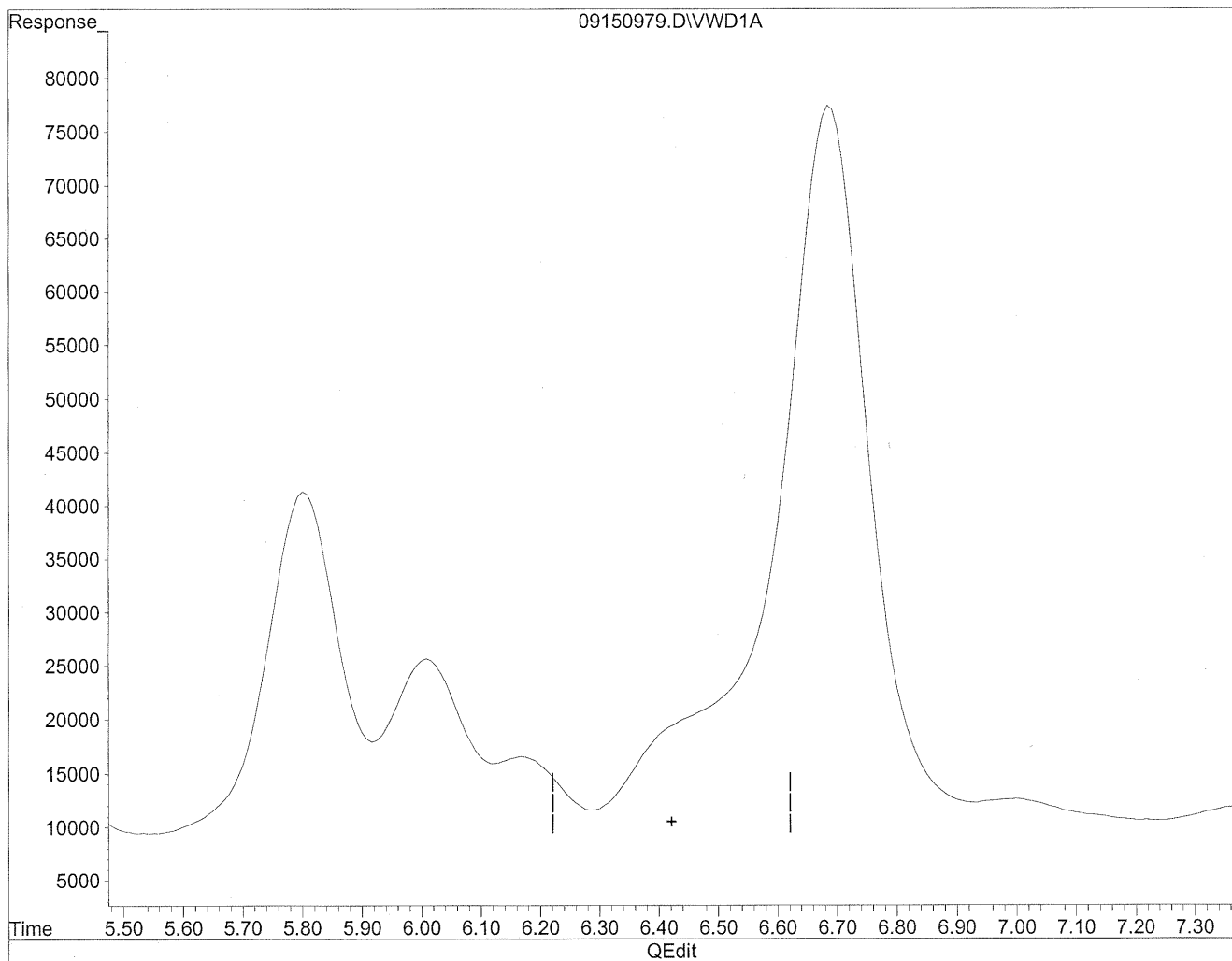
(5) Butyraldehyde
4.93min 556.686ng/ml m
response 2256120

(M)
9/21/09
Bz
MLC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150979.D Vial: 167
Acq On : 15-Sep-2009, 23:56 Operator: MD
Sample : P0903195-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

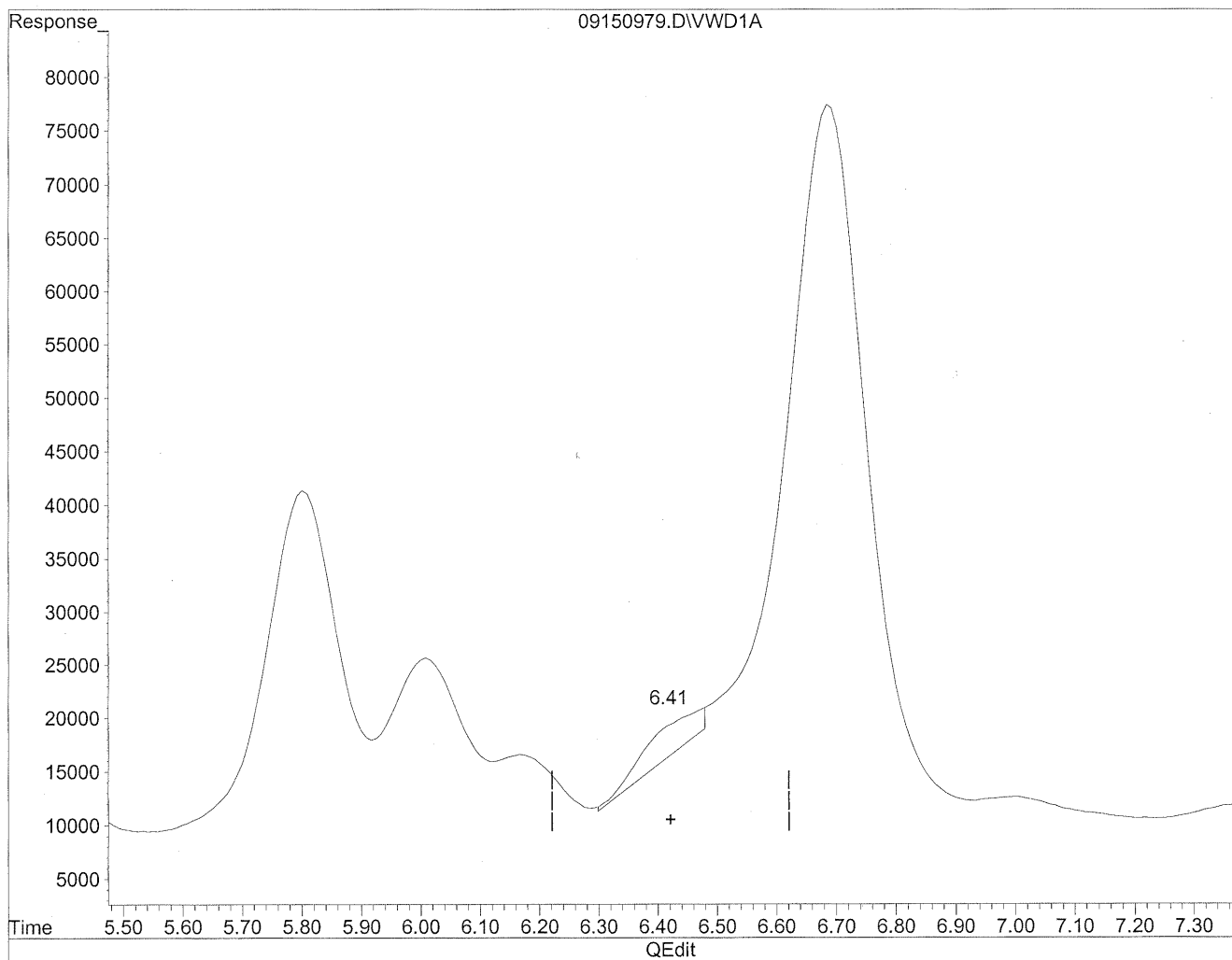


(7) Isovaleraldehyde
6.42min 0.000ng/ml
response 0

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150979.D Vial: 167
Acq On : 15-Sep-2009, 23:56 Operator: MD
Sample : P0903195-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



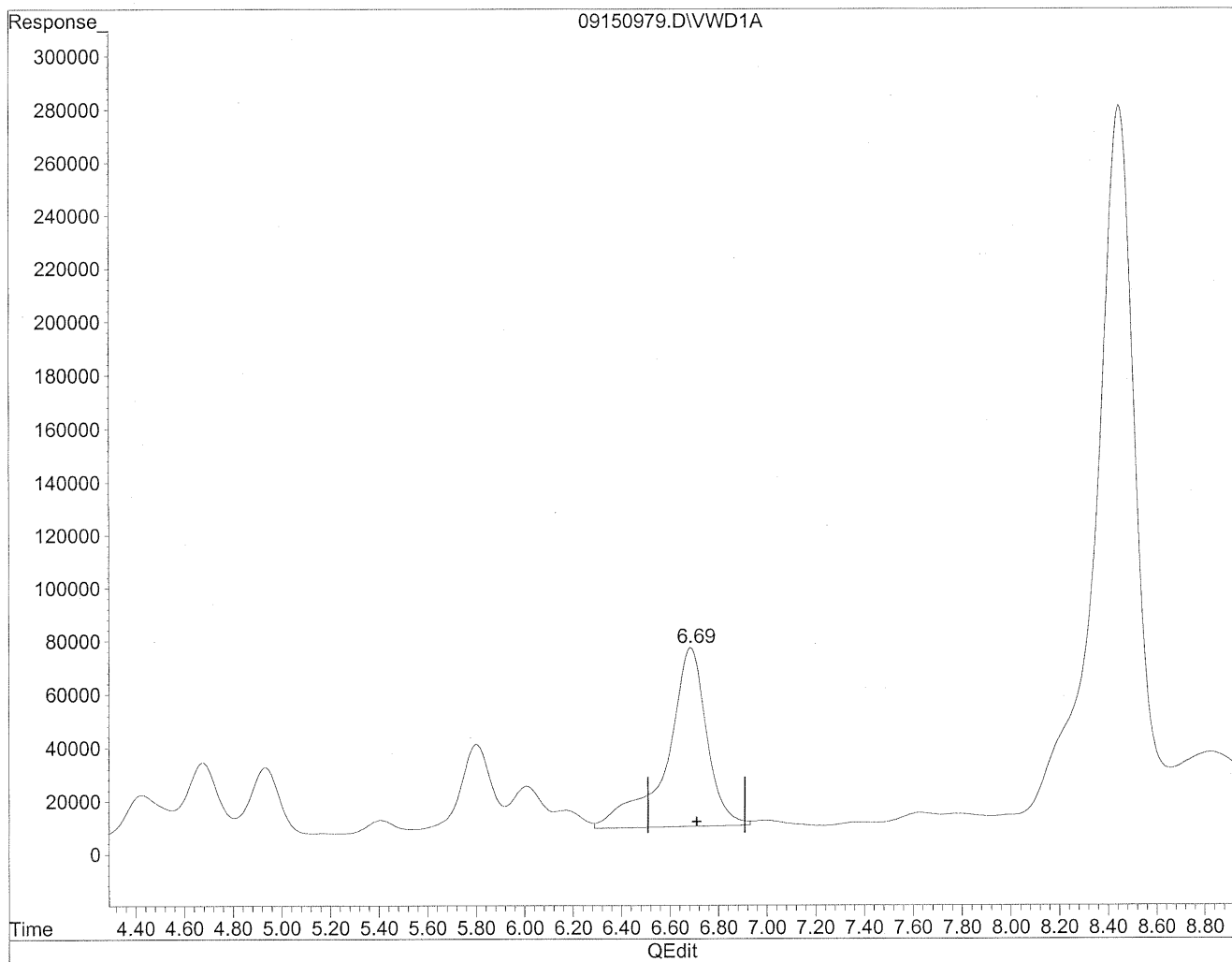
(7) Isovaleraldehyde
6.41min 60.049ng/ml m
response 206676

(m)
9/21/09
ccc
the
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150979.D Vial: 167
Acq On : 15-Sep-2009, 23:56 Operator: MD
Sample : P0903195-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

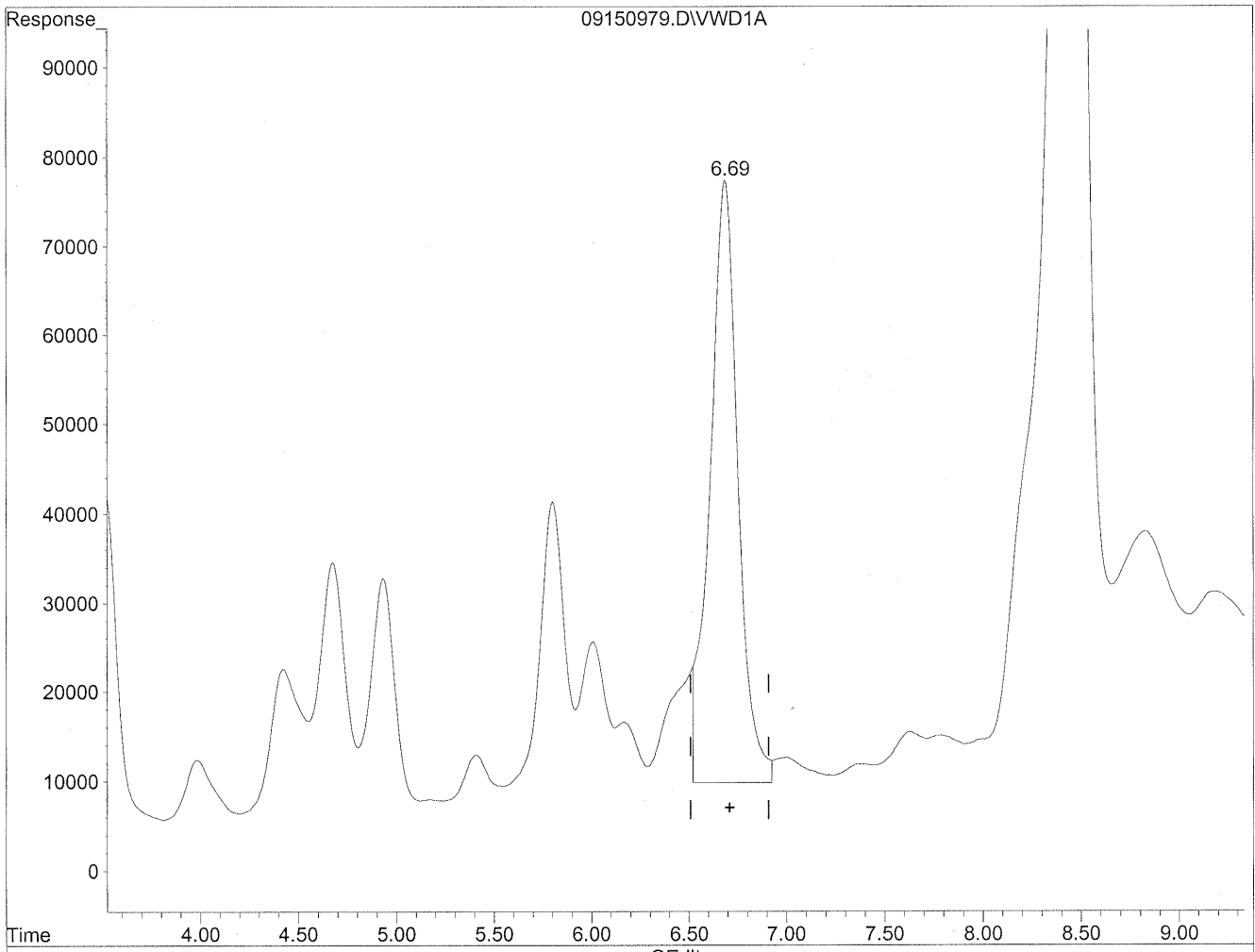


(8) Valeraldehyde
6.69min 2261.962ng/ml
response 7689857

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150979.D Vial: 167
Acq On : 15-Sep-2009, 23:56 Operator: MD
Sample : P0903195-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



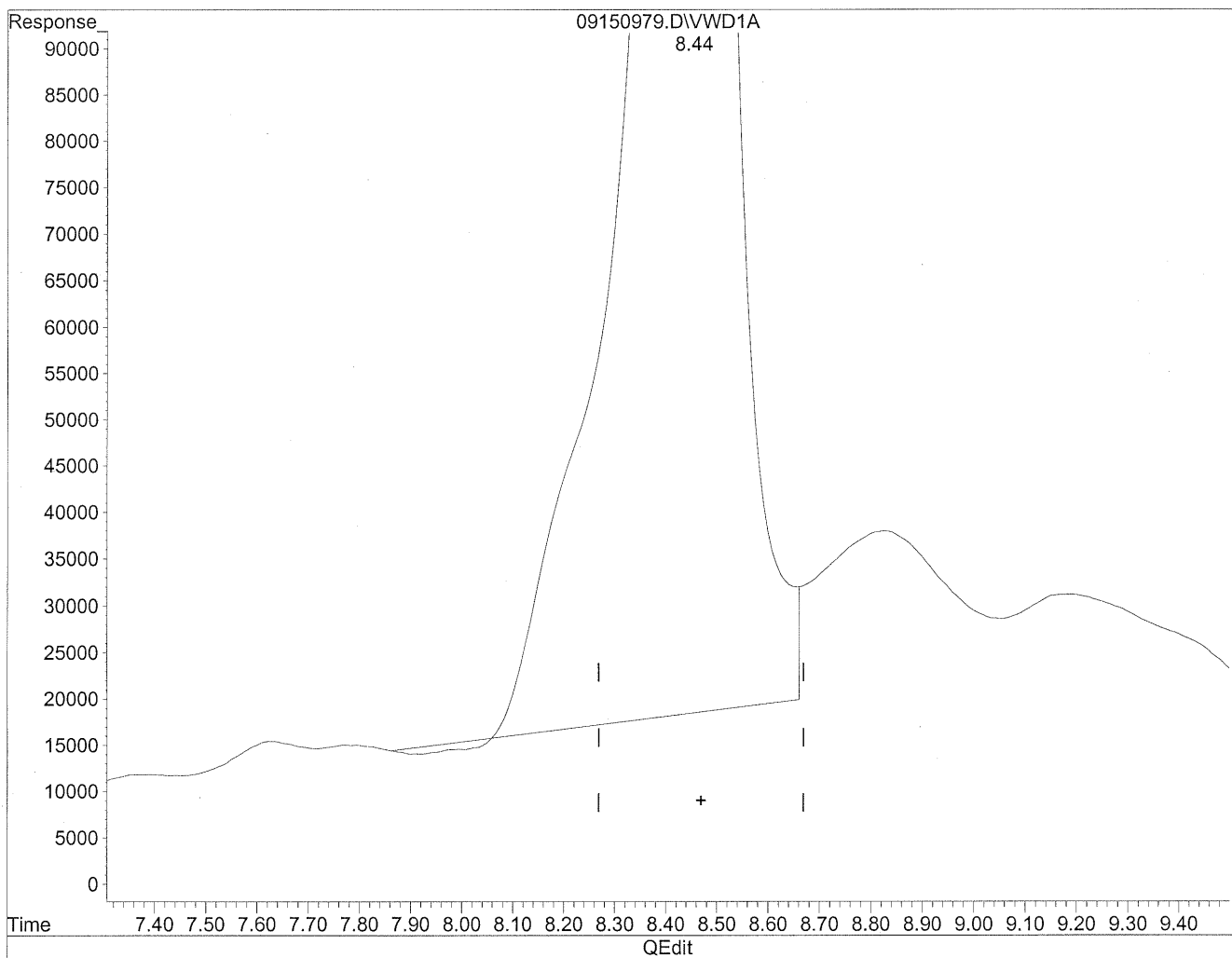
(8) Valeraldehyde
6.69min 1990.383ng/ml m
response 6766586

(M)
9/21/09
SH
HC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150979.D Vial: 167
Acq On : 15-Sep-2009, 23:56 Operator: MD
Sample : P0903195-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

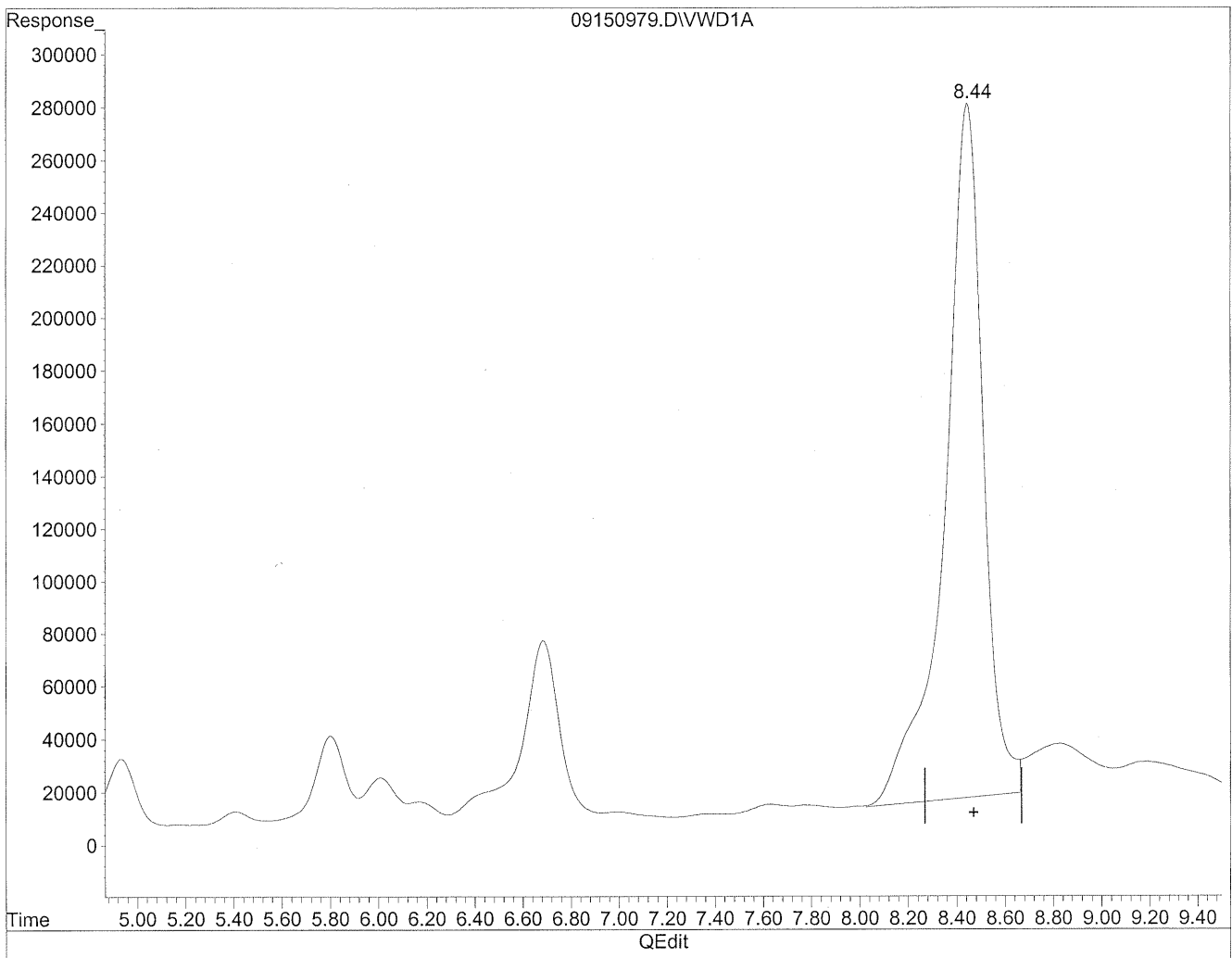


(11) Hexaldehyde
8.45min 9660.511ng/ml
response 28602112

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150979.D Vial: 167
Acq On : 15-Sep-2009, 23:56 Operator: MD
Sample : P0903195-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.44min 9803.436ng/ml m

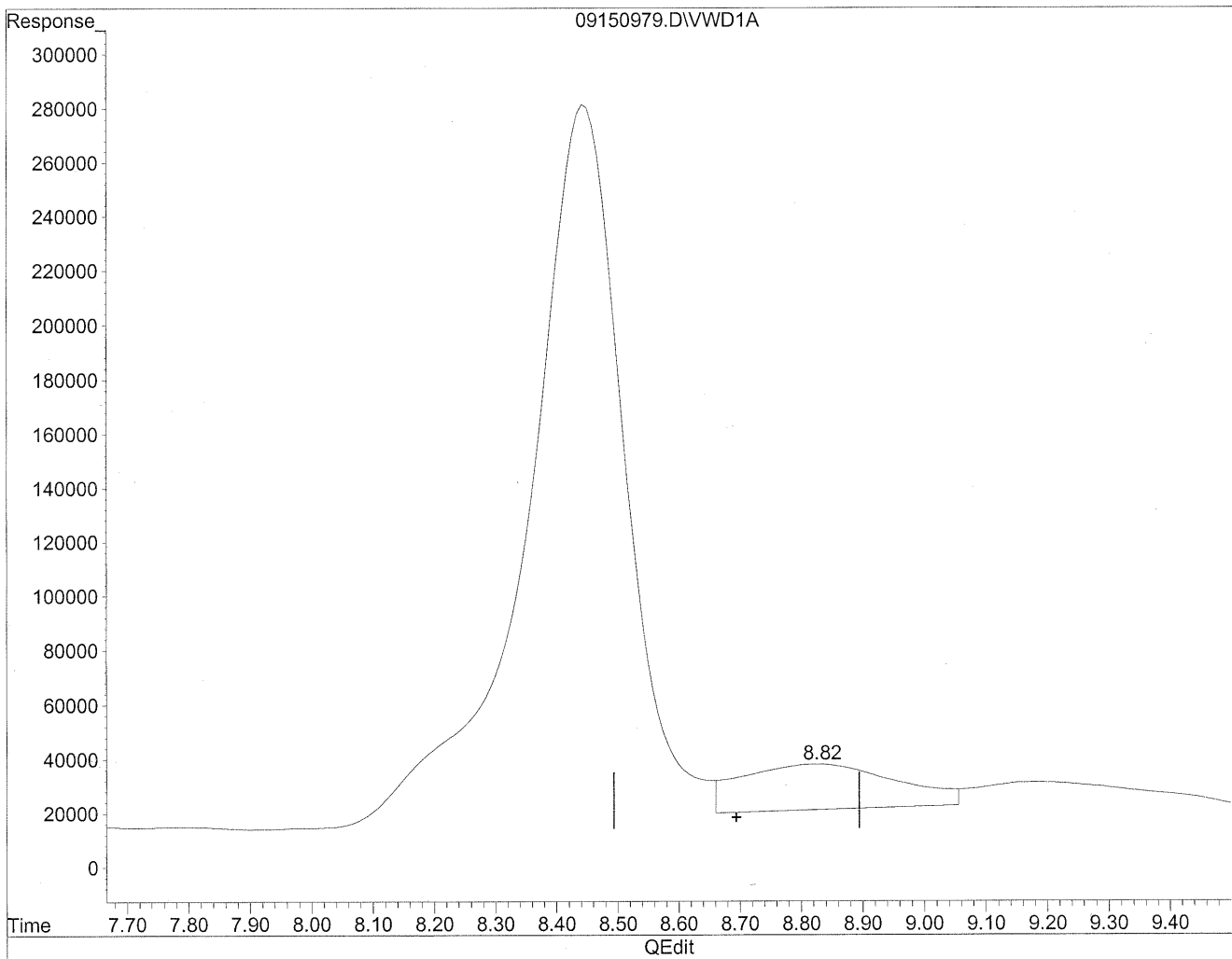
response 29025273

(M)
9/21/09
12
(m flag)
see 9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150979.D Vial: 167
Acq On : 15-Sep-2009, 23:56 Operator: MD
Sample : P0903195-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

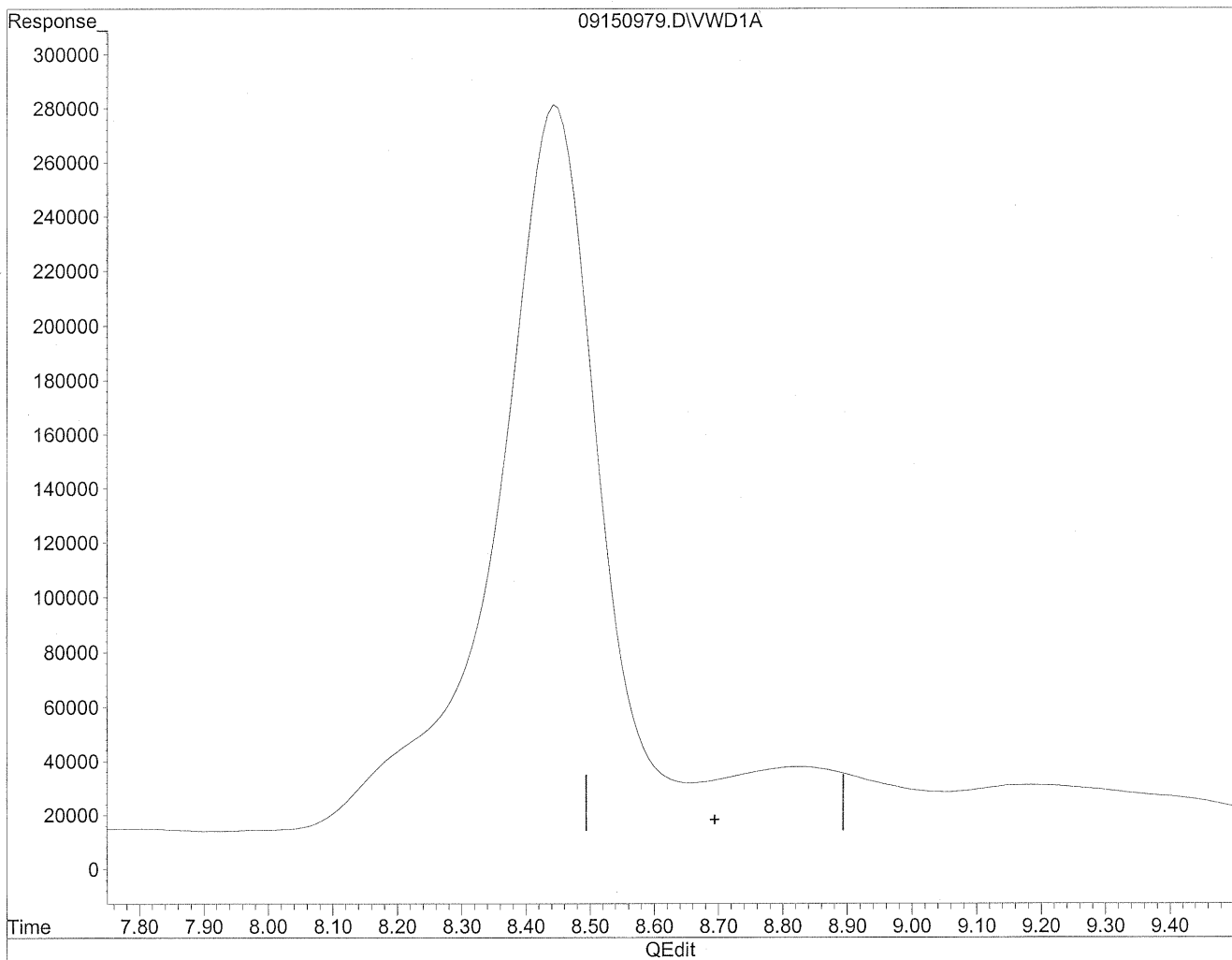
8.83min 1496.109ng/ml

response 2985473

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150979.D Vial: 167
Acq On : 15-Sep-2009, 23:56 Operator: MD
Sample : P0903195-004 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:08 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

0.00min 0.000ng/ml d

response 0

MP
9/21/09
MP

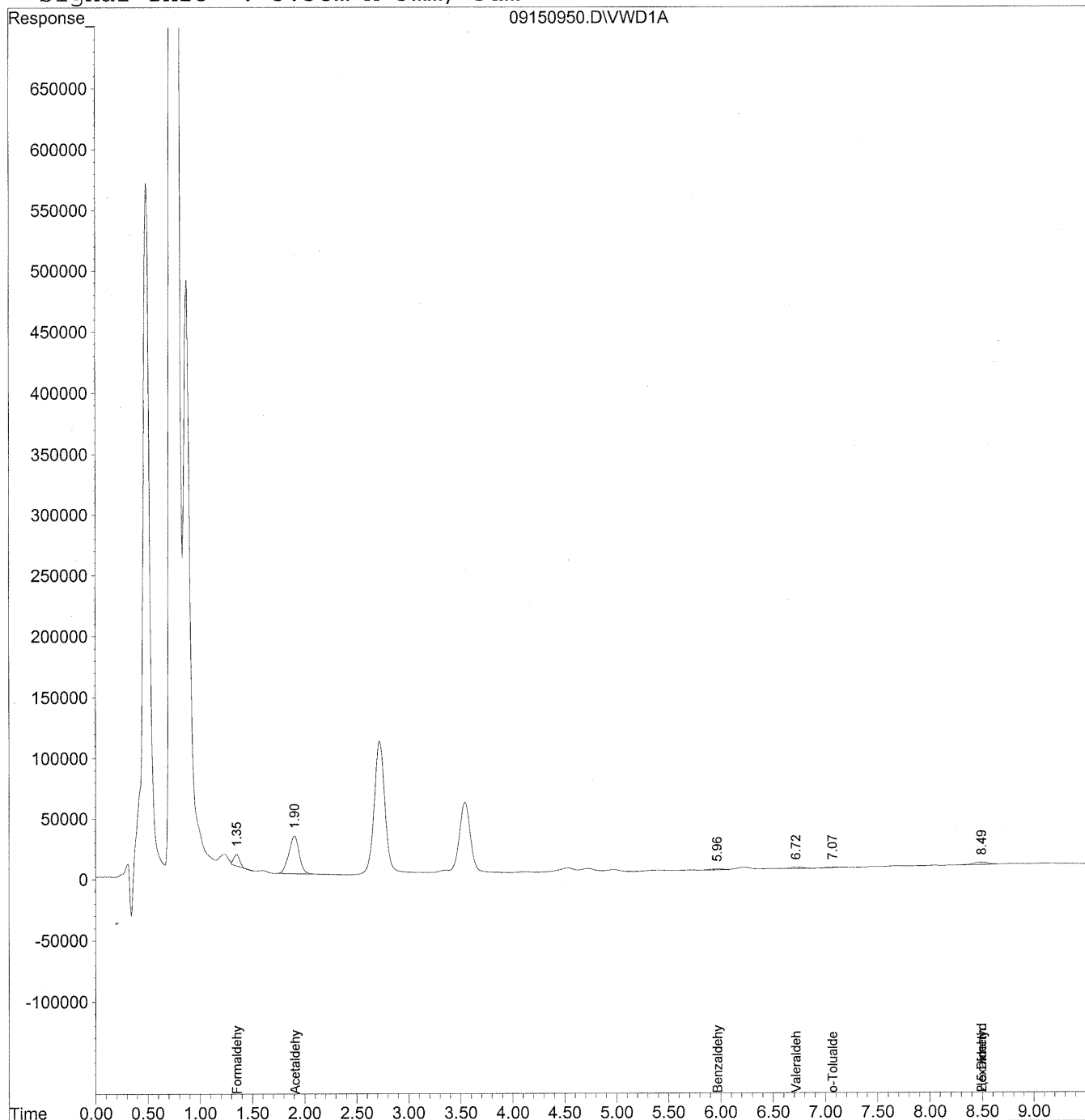
HC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150950.D Vial: 143
Acq On : 15-Sep-2009, 18:09 Operator: MD
Sample : P0903195-004 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150950.D Vial: 143
 Acq On : 15-Sep-2009, 18:09 Operator: MD
 Sample : P0903195-004 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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	357201	39.976 ng/ml
2) Acetaldehyde	1.91	2135714	328.531 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	5.97f	78099	28.625 ng/ml
7) Isovaleraldehyde	0.00	0	N.D. ng/ml
8) Valeraldehyde	6.72	100115	29.449 ng/ml
9) o-Tolualdehyde	7.07f	46350	21.121 ng/ml
10) m,p-Tolualdehyde	0.00	0	N.D. ng/ml
11) Hexaldehyde	8.50	170402	57.554 ng/ml
12) 2,5-Dimethylbenzaldehyde	8.50f	170402	85.394 ng/ml

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.

Client Sample ID: 104992

Client Project ID: 16512

CAS Project ID: P0903195

CAS Sample ID: P0903195-005

Test Code: EPA Method TO-11A

Instrument ID: HP1050/LC2

Analyst: Madeleine Dangazyan

Sampling Media: Silica Gel DNPH Tube

Test Notes: BC

Date Collected: 9/3/09

Date Received: 9/10/09

Date Analyzed: 9/15 - 9/16/09

Desorption Volume: 1.0 ml

Volume Sampled: 106 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 100	ND	0.94	ND	0.77	
75-07-0	Acetaldehyde	< 100	ND	0.94	ND	0.52	
123-38-6	Propionaldehyde	< 100	ND	0.94	ND	0.40	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.94	ND	0.33	
123-72-8	Butyraldehyde	< 100	ND	0.94	ND	0.32	
100-52-7	Benzaldehyde	< 100	ND	0.94	ND	0.22	
590-86-3	Isovaleraldehyde	< 100	ND	0.94	ND	0.27	
110-62-3	Valeraldehyde	< 100	ND	0.94	ND	0.27	
529-20-4	o-Tolualdehyde	< 100	ND	0.94	ND	0.19	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.9	ND	0.38	
66-25-1	n-Hexaldehyde	< 100	ND	0.94	ND	0.23	
5779-94-2	2,5-Dimethylbenzaldehyde	480	4.6	0.94	0.83	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.

Verified By: fer

Date: 9/24/09

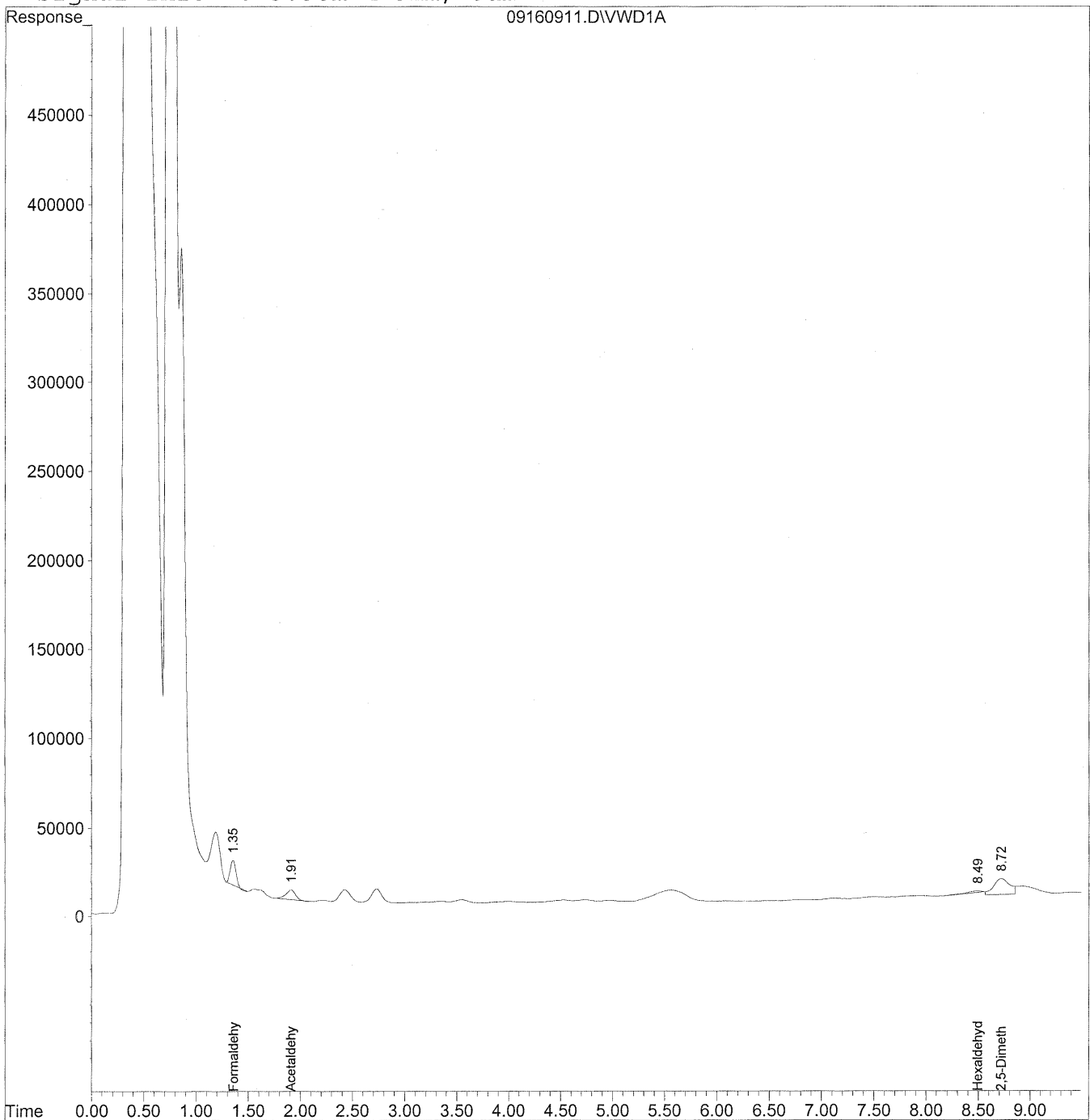
83

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160911.D Vial: 11
Acq On : 16-Sep-2009, 12:51 Operator: MD
Sample : P0903195-005 front Rerun Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 12:19 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



Data File : J:\LC02\DATA\TO11A\2009_09\16\09160911.D Vial: 11
 Acq On : 16-Sep-2009, 12:51 Operator: MD
 Sample : P0903195-005 front Rerun Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 12:19 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

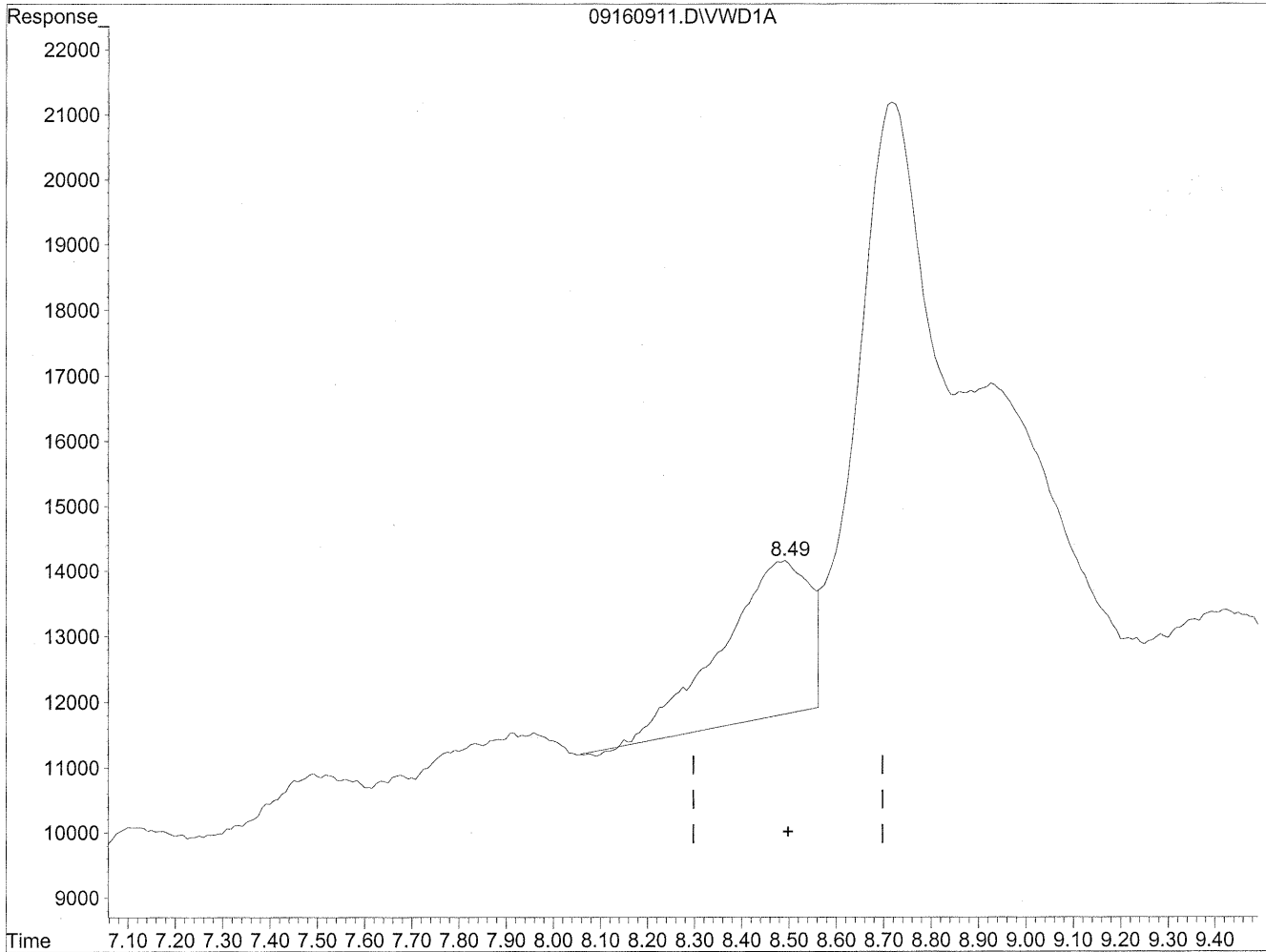
*Report
 re-run
 data (m) 9/21/09*

Compound	R.T.	Response	Conc Units
Target Compounds			
1) Formaldehyde	1.36	530432	59.363 ng/ml
2) Acetaldehyde	1.91	351079	54.006 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	92364	31.196 ng/mlm
12) 2,5-Dimethylbenzaldehyde	8.72	964571	483.375 ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160911.D Vial: 11
Acq On : 16-Sep-2009, 12:51 Operator: MD
Sample : P0903195-005 front Rerun Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 12:18 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

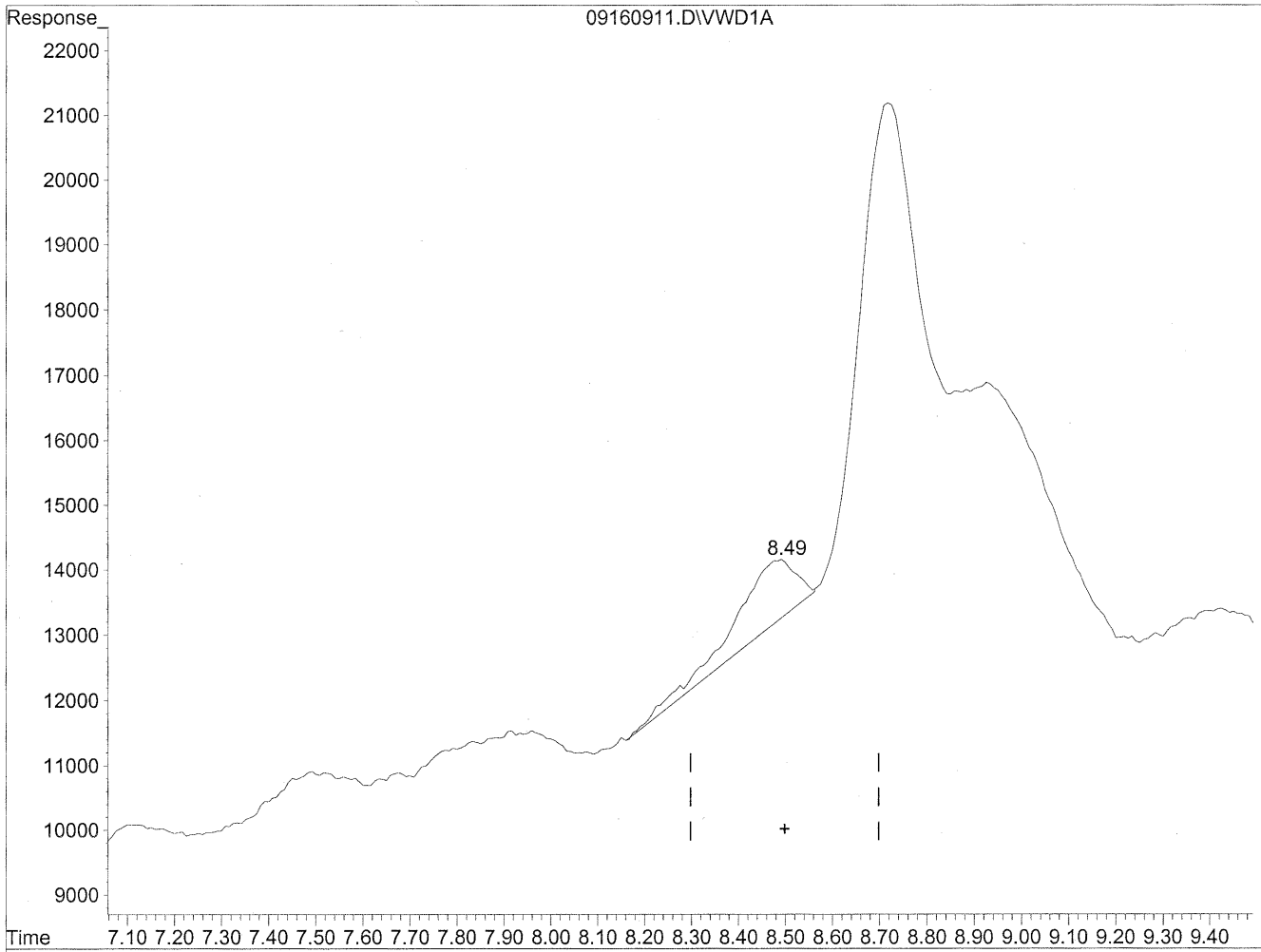


(11) Hexaldehyde
8.49min 101.371ng/ml
response 300131

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160911.D Vial: 11
Acq On : 16-Sep-2009, 12:51 Operator: MD
Sample : P0903195-005 front Rerun Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 12:18 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



QEdit

(11) Hexaldehyde

8.49min 31.196ng/ml m

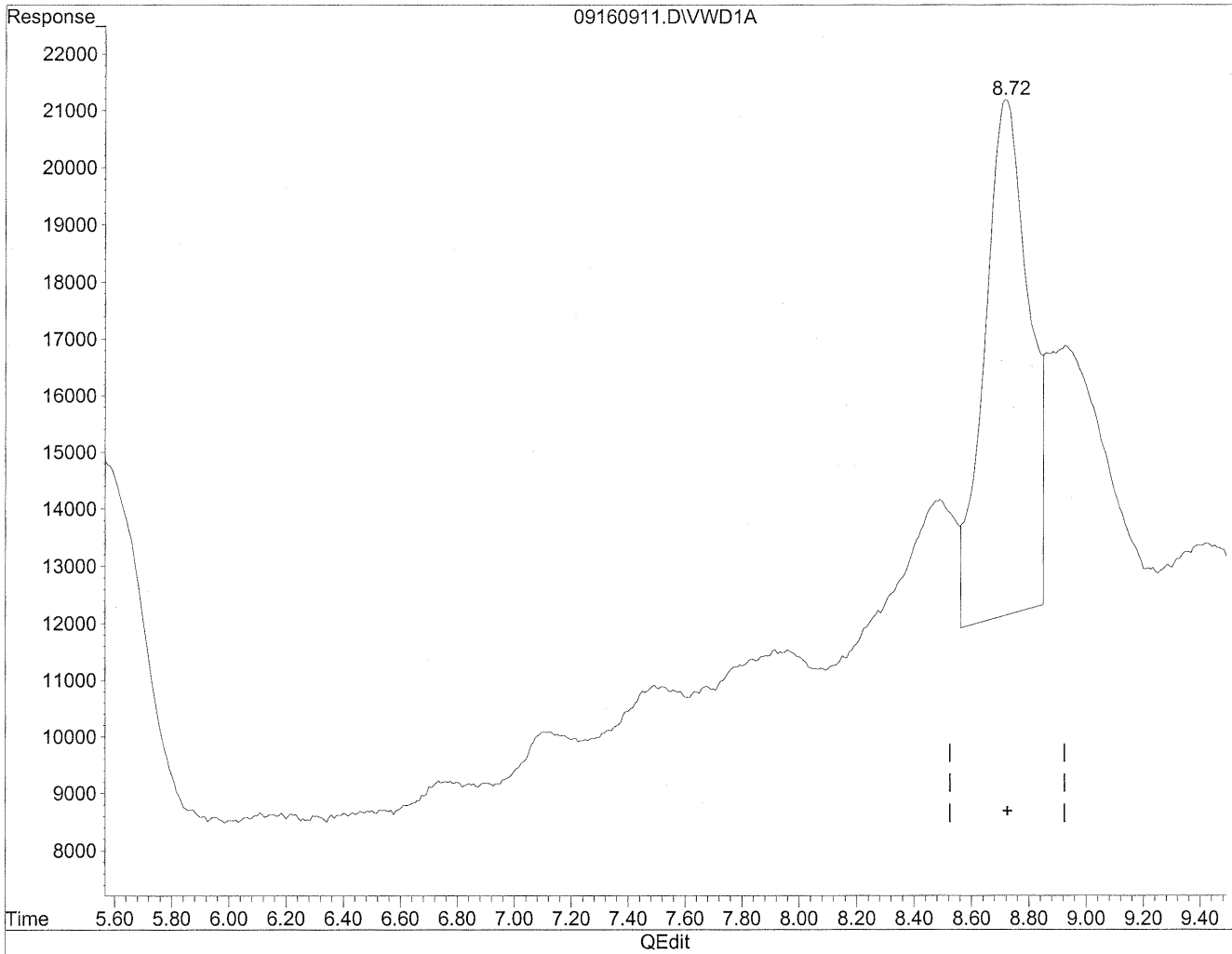
response 92364

HL
9/21/09
MW
9/21/09
12

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160911.D Vial: 11
Acq On : 16-Sep-2009, 12:51 Operator: MD
Sample : P0903195-005 front Rerun Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 12:18 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



(12) 2,5-Dimethylbenzaldehyde

8.72min 483.375ng/ml

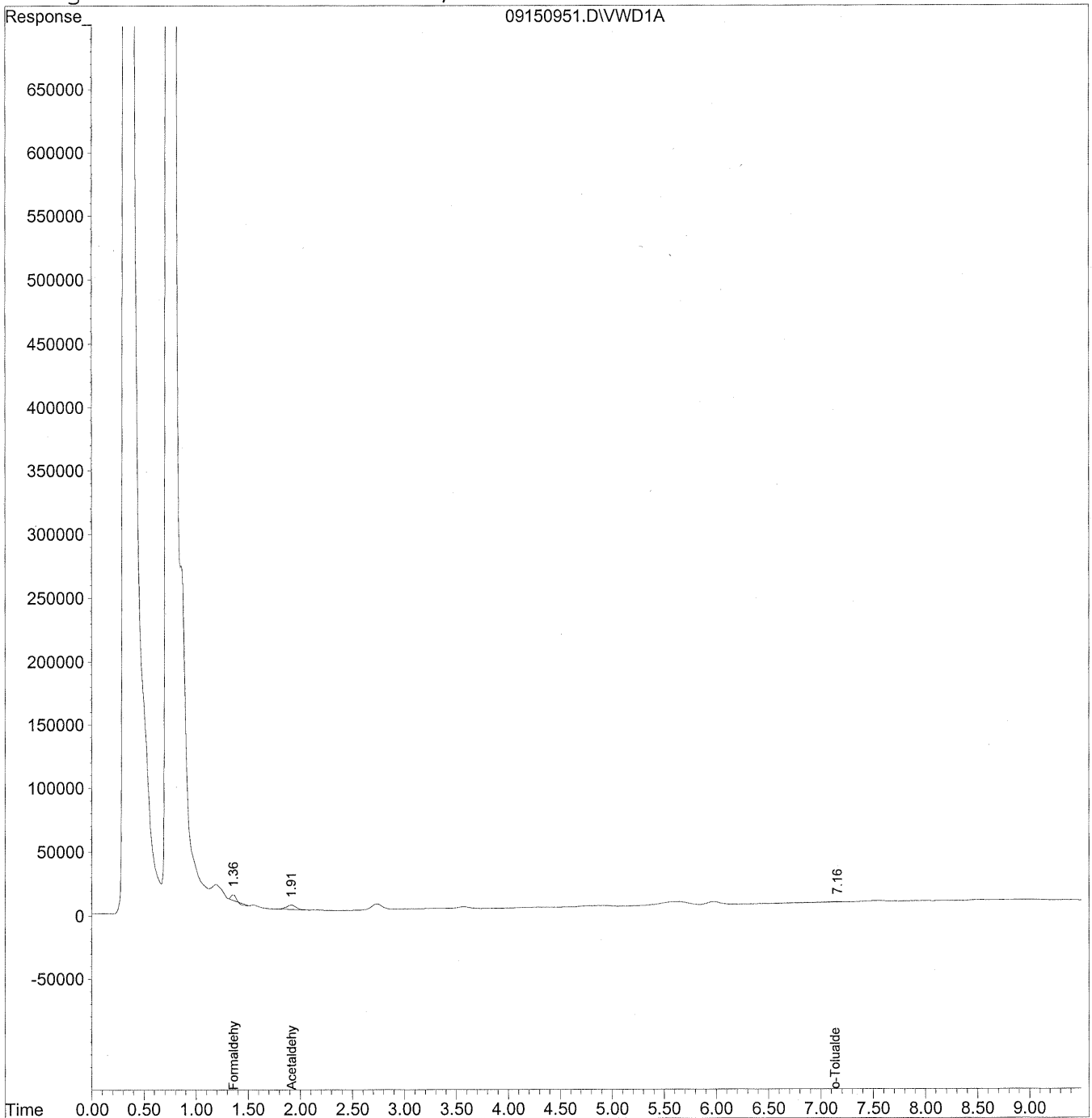
response 964571

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150951.D Vial: 144
Acq On : 15-Sep-2009, 18:21 Operator: MD
Sample : P0903195-005 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:10 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150951.D Vial: 144
 Acq On : 15-Sep-2009, 18:21 Operator: MD
 Sample : P0903195-005 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 16:10 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 17 16:12:59 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	107211	11.998 ng/ml
2) Acetaldehyde	1.92	223203	34.335 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	7.14	71303	32.491 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/ml

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.

Client Sample ID: 104993

Client Project ID: 16512

CAS Project ID: P0903195

CAS Sample ID: P0903195-006

Test Code: EPA Method TO-11A

Instrument ID: HP1050/LC2

Analyst: Madeleine Dangazyan

Sampling Media: Silica Gel DNPH Tube

Test Notes: BC

Date Collected: 9/3/09

Date Received: 9/10/09

Date Analyzed: 9/15 - 9/16/09

Desorption Volume: 1.0 ml

Volume Sampled: NA Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	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.

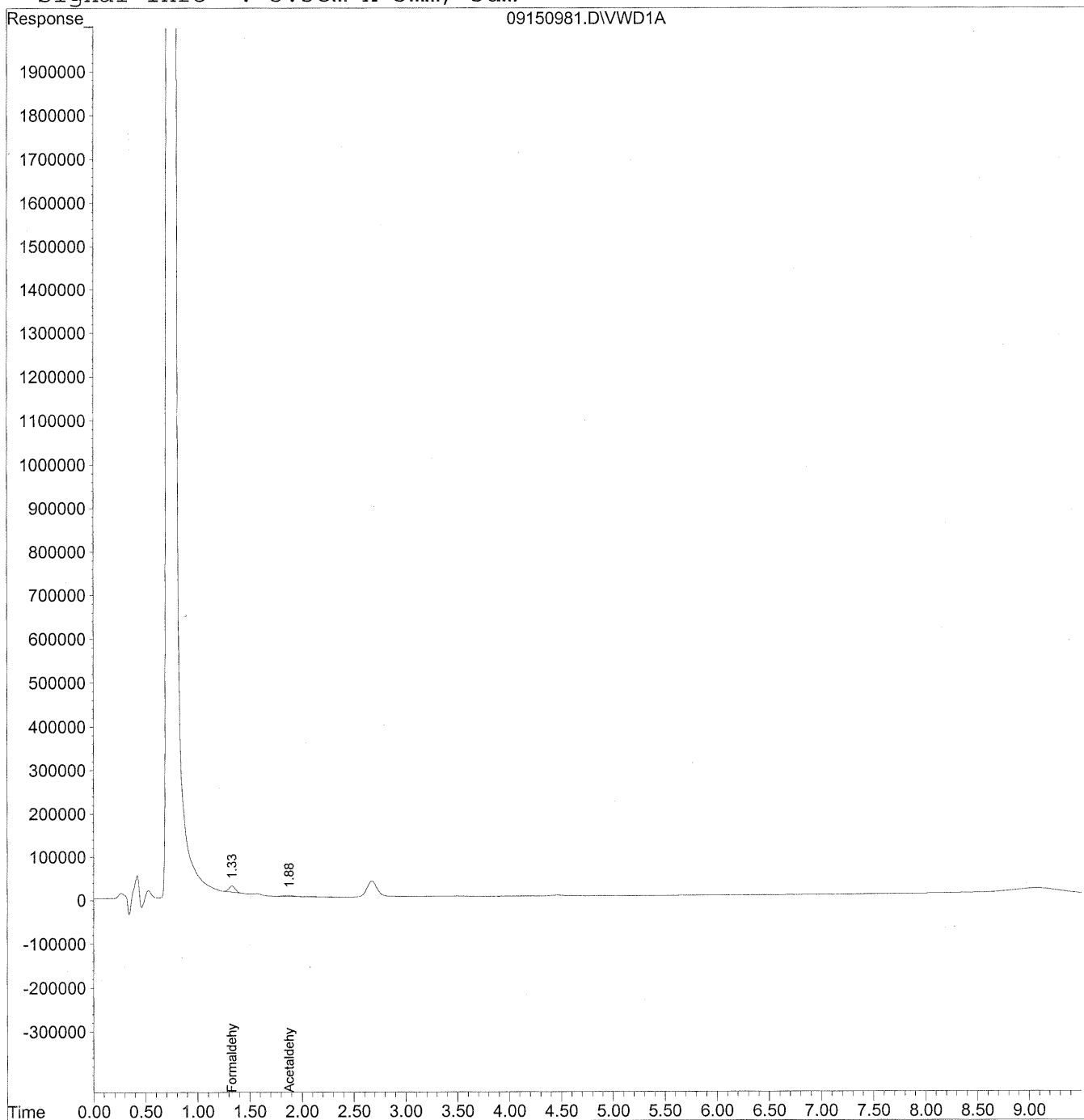
Verified By: kg Date: 9/24/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150981.D Vial: 169
Acq On : 16-Sep-2009, 00:21 Operator: MD
Sample : P0903195-006 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:11 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150981.D Vial: 169
 Acq On : 16-Sep-2009, 00:21 Operator: MD
 Sample : P0903195-006 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:11 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 17 16:12:59 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

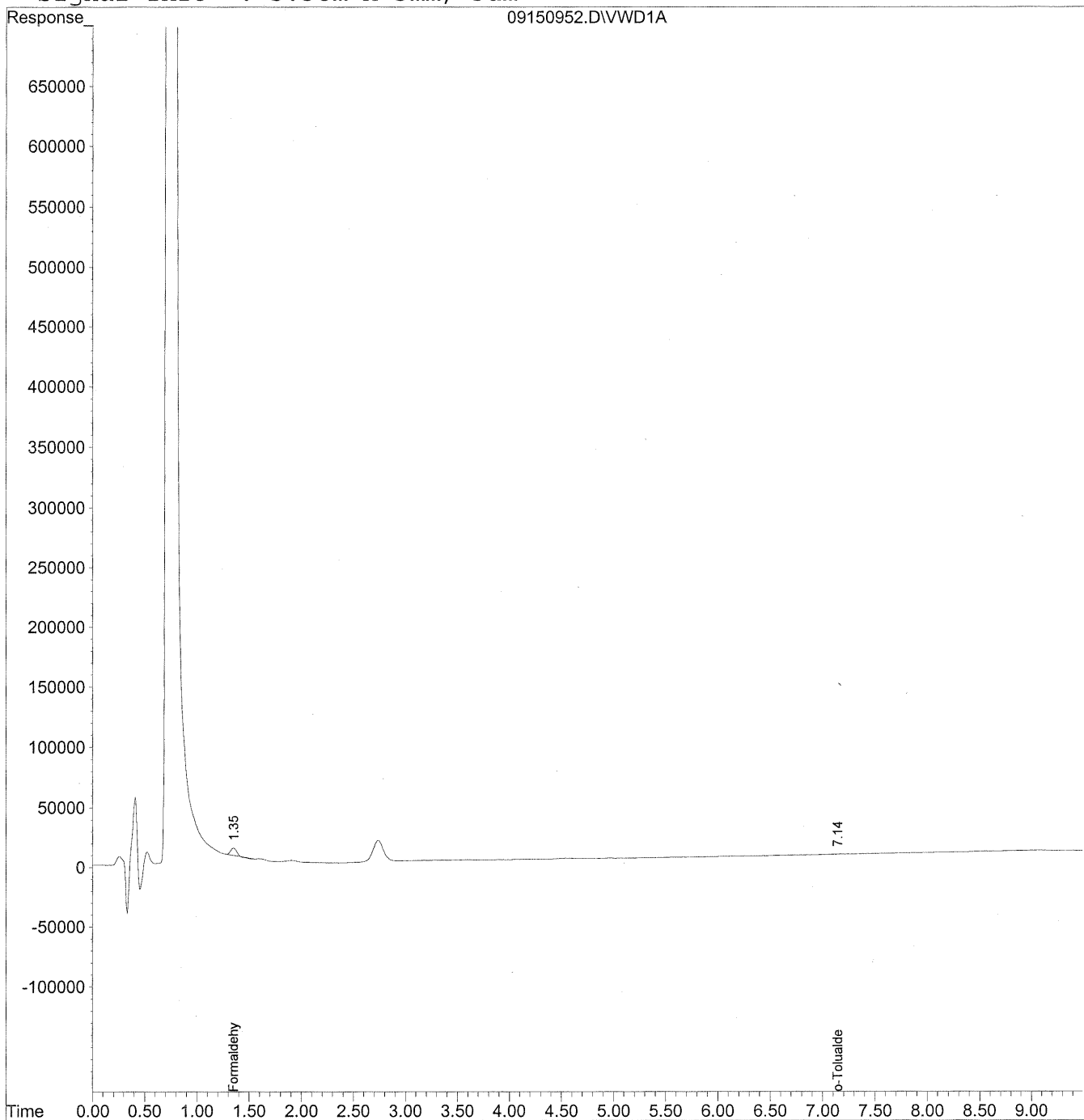
Target Compounds			
1) Formaldehyde	1.33	568089	63.577 ng/ml
2) Acetaldehyde	1.87	135277	20.809 ng/ml
3) Propionaldehyde	0.00	0	N.D. ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	0.00	0	N.D. ng/ml
6) Benzaldehyde	0.00	0	N.D. ng/ml
7) Isovaleraldehyde	0.00	0	N.D. ng/ml
8) Valeraldehyde	0.00	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	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\15\09150952.D Vial: 145
Acq On : 15-Sep-2009, 18:33 Operator: MD
Sample : P0903195-006 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:10 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150952.D Vial: 145
 Acq On : 15-Sep-2009, 18:33 Operator: MD
 Sample : P0903195-006 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 16:10 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 17 16:12:59 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	231643	25.924 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	7.15	33888	15.442 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/ml

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.

Client Sample ID: 104869

Client Project ID: 16512

CAS Project ID: P0903195

CAS Sample ID: P0903195-007

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: 9/10/09

Date Analyzed: 9/15 - 9/16/09

Desorption Volume: 1.0 ml

Volume Sampled: NA Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	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: Res Date: 9/24/09

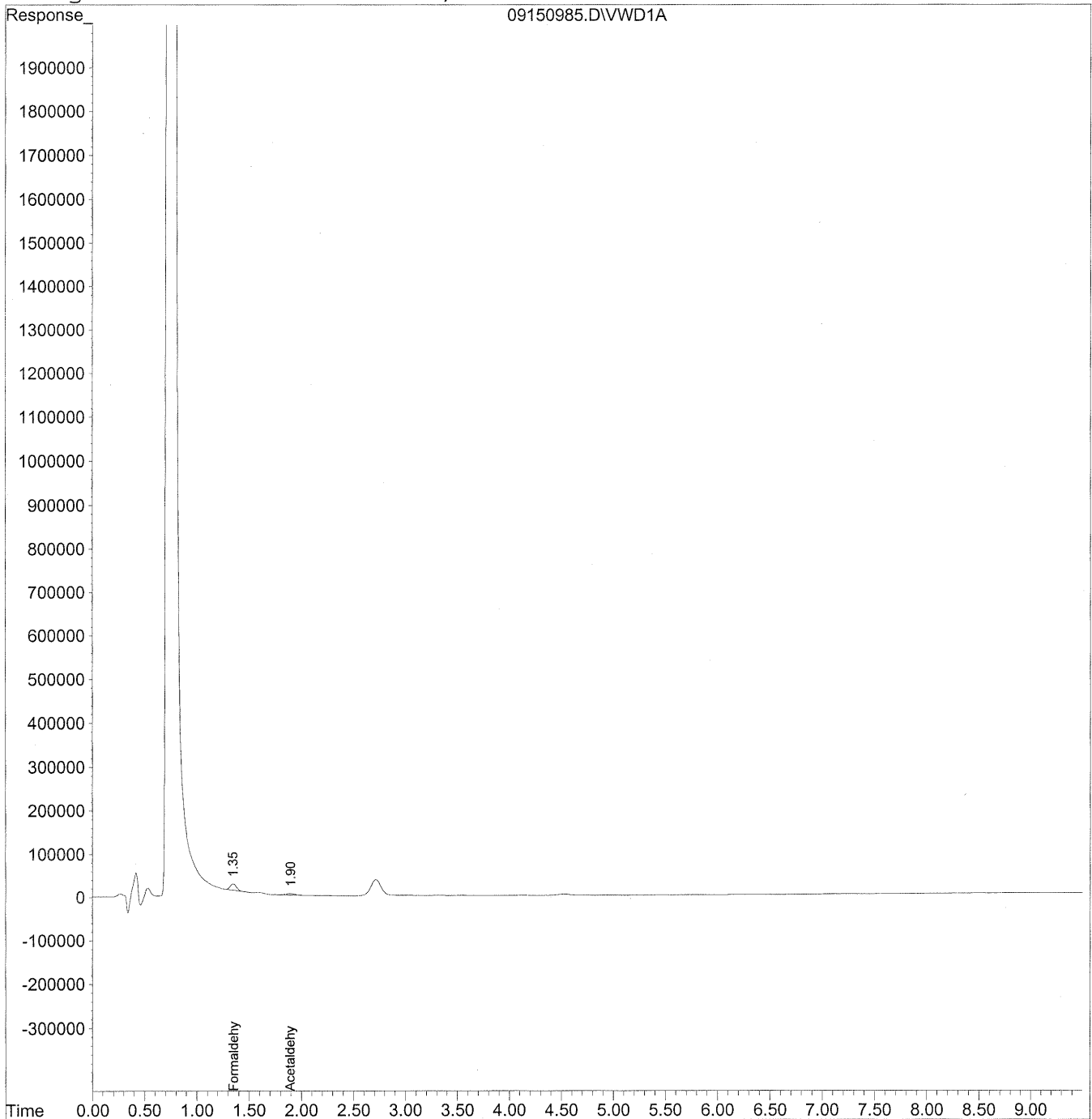
96

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150985.D Vial: 170
Acq On : 16-Sep-2009, 01:07 Operator: MD
Sample : P0903195-007 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:12 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150985.D Vial: 170
 Acq On : 16-Sep-2009, 01:07 Operator: MD
 Sample : P0903195-007 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:12 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 17 16:12:59 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

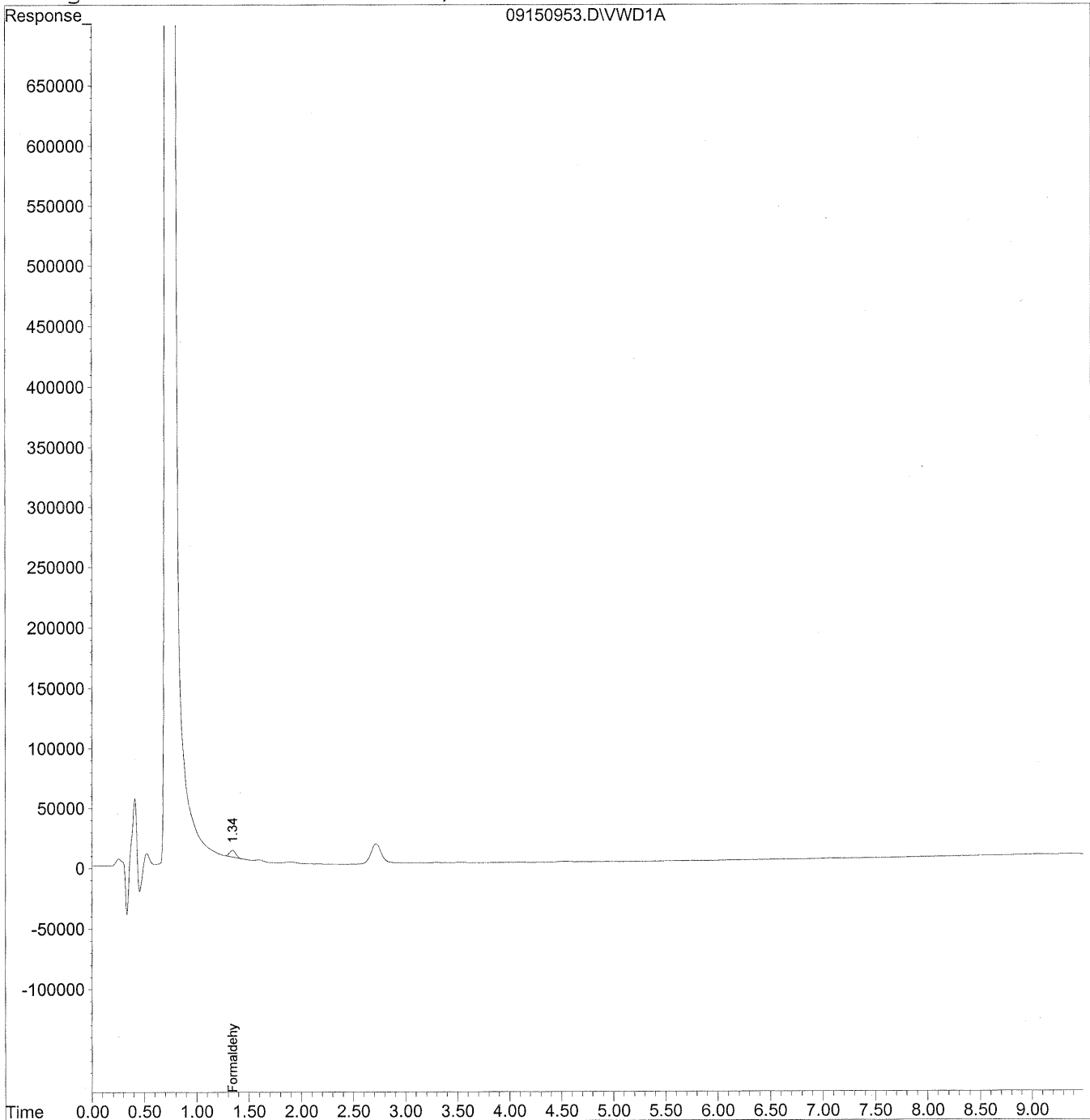
Target Compounds			
1) Formaldehyde	1.35	586769	65.668 ng/ml
2) Acetaldehyde	1.90	172162	26.483 ng/ml
3) Propionaldehyde	0.00	0	N.D. ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	0.00	0	N.D. ng/ml
6) Benzaldehyde	0.00	0	N.D. ng/ml
7) Isovaleraldehyde	0.00	0	N.D. ng/ml
8) Valeraldehyde	0.00	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	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\15\09150953.D Vial: 146
Acq On : 15-Sep-2009, 18:45 Operator: MD
Sample : P0903195-007 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:10 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150953.D Vial: 146
 Acq On : 15-Sep-2009, 18:45 Operator: MD
 Sample : P0903195-007 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 16:10 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 17 16:12:59 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	232463	26.016 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	0.00	0	N.D. ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.

Client Sample ID: 104870

Client Project ID: 16512

CAS Project ID: P0903195

CAS Sample ID: P0903195-008

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: 9/10/09

Date Analyzed: 9/15 - 9/16/09

Desorption Volume: 1.0 ml

Volume Sampled: 102 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	9,200	90	0.98	73	0.80	
75-07-0	Acetaldehyde	2,400	24	0.98	13	0.54	BT
123-38-6	Propionaldehyde	320	3.1	0.98	1.3	0.41	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.98	ND	0.34	
123-72-8	Butyraldehyde	380	3.7	0.98	1.3	0.33	
100-52-7	Benzaldehyde	1,000	10	0.98	2.3	0.23	
590-86-3	Isovaleraldehyde	130	1.2	0.98	0.35	0.28	
110-62-3	Valeraldehyde	1,100	11	0.98	3.0	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	4,000	39	0.98	9.6	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.

Verified By: Per

Date: 9/24/09

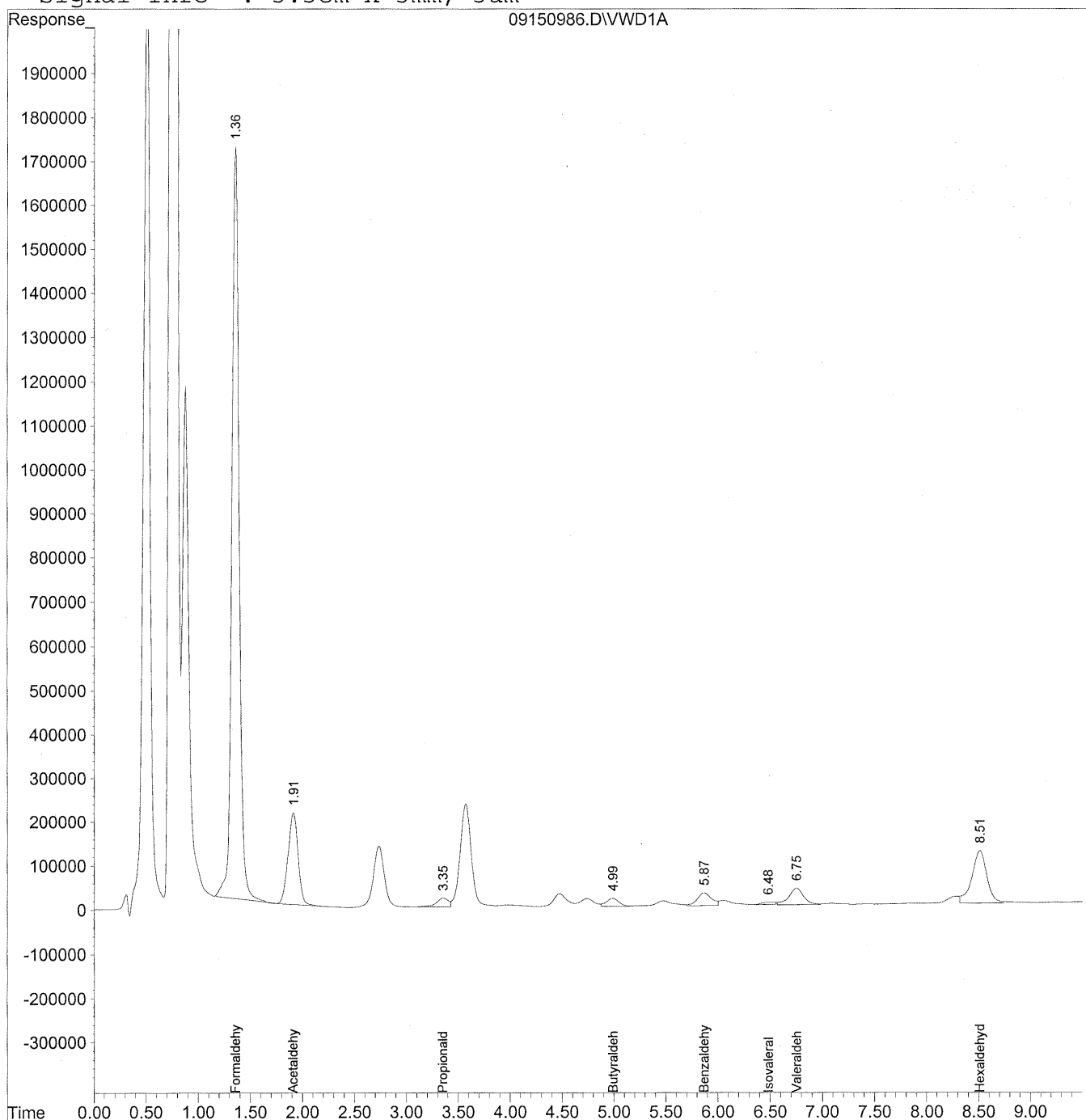
101

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150986.D Vial: 171
Acq On : 16-Sep-2009, 01:19 Operator: MD
Sample : P0903195-008 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:16 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150986.D Vial: 171
 Acq On : 16-Sep-2009, 01:19 Operator: MD
 Sample : P0903195-008 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:16 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 17 16:12:59 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

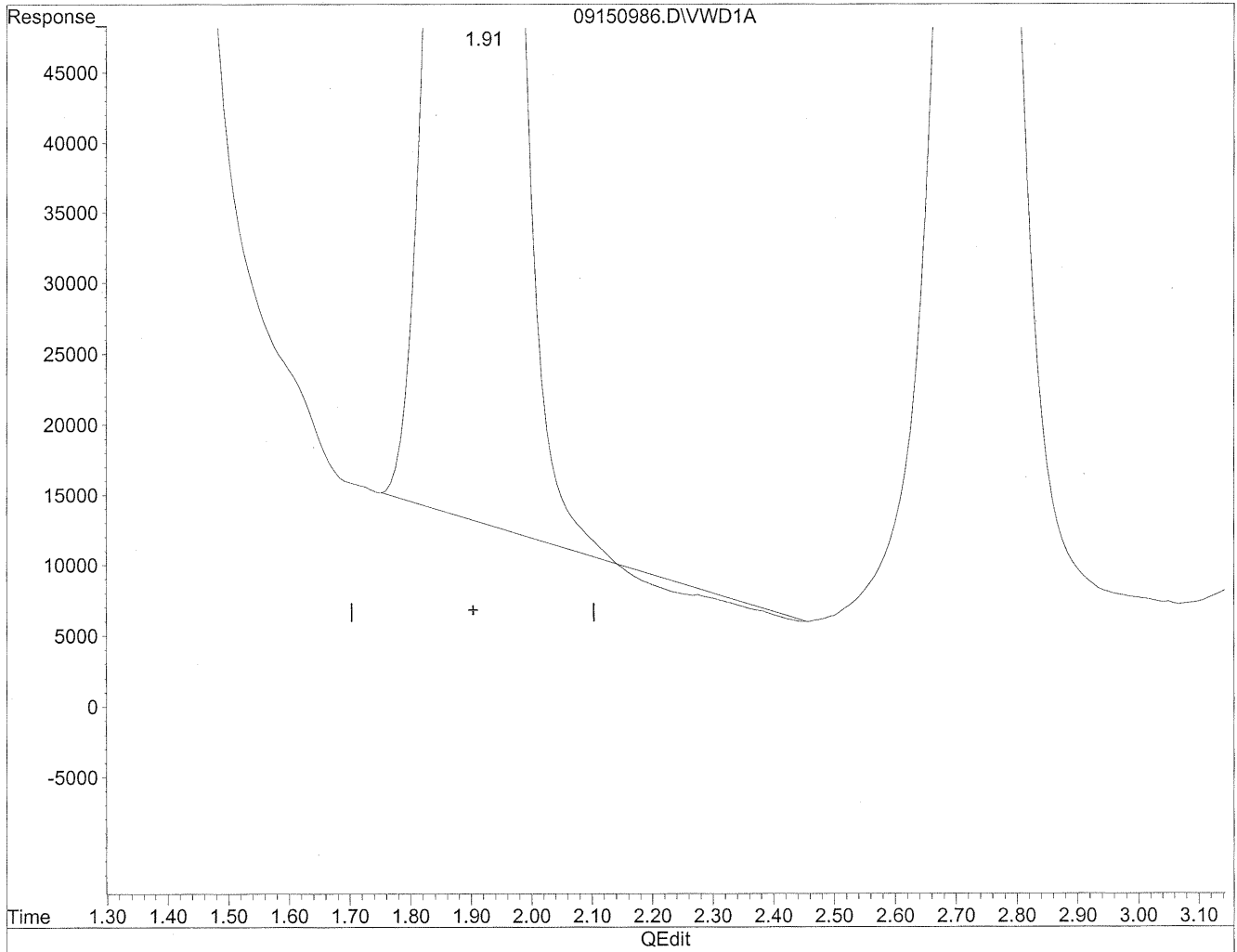
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.36	81954854	9171.897 ng/ml
2) Acetaldehyde	1.91	13975097	2149.751 ng/mlm
3) Propionaldehyde	3.35	1649800	317.402 ng/mlm
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	4.99	1546323	381.547 ng/mlm
6) Benzaldehyde	5.87	2774943	1017.067 ng/mlm
7) Isovaleraldehyde	6.49	432204	125.575 ng/ml
8) Valeraldehyde	6.75	3697560	1087.633 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	8.51	11850076	4002.424 ng/mlm
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150986.D Vial: 171
Acq On : 16-Sep-2009, 01:19 Operator: MD
Sample : P0903195-008 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:12 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

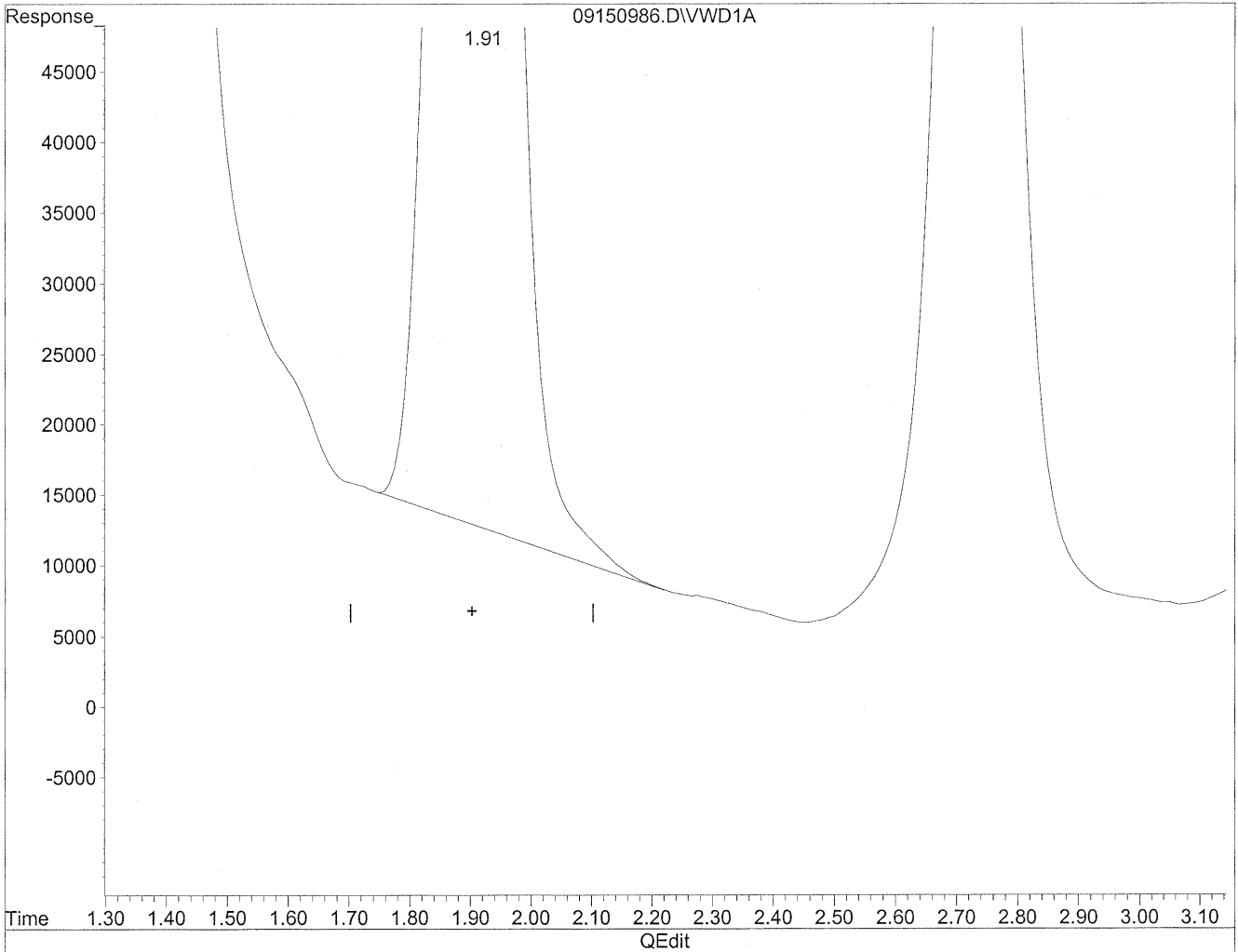


(2) Acetaldehyde
1.92min 2125.515ng/ml
response 13817540

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150986.D Vial: 171
Acq On : 16-Sep-2009, 01:19 Operator: MD
Sample : P0903195-008 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:12 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



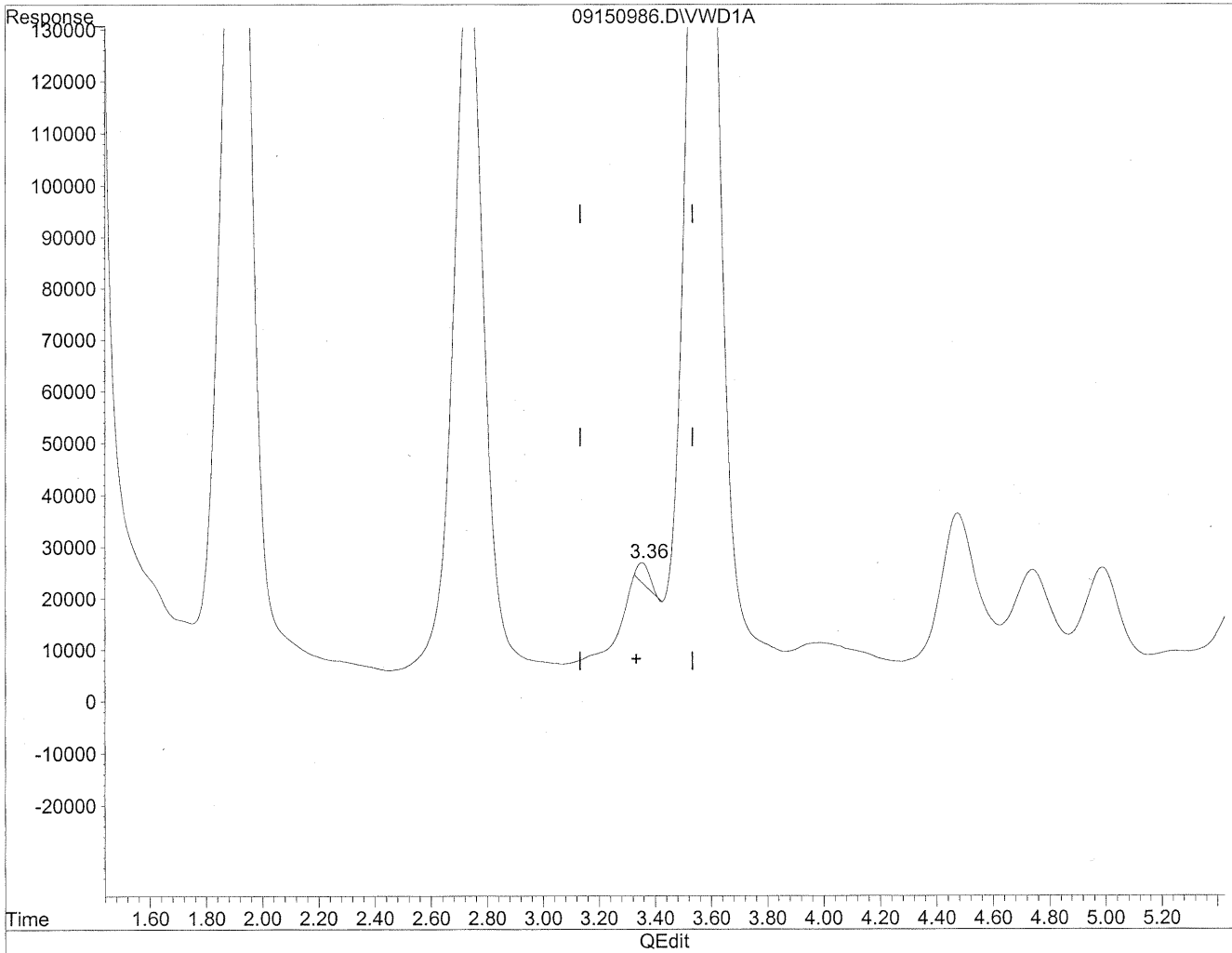
(2) Acetaldehyde
1.91min 2149.751ng/ml m
response 13975097

Handwritten notes:
+LC
7/21/09
MD
9/21/09
R

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150986.D Vial: 171
Acq On : 16-Sep-2009, 01:19 Operator: MD
Sample : P0903195-008 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:12 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

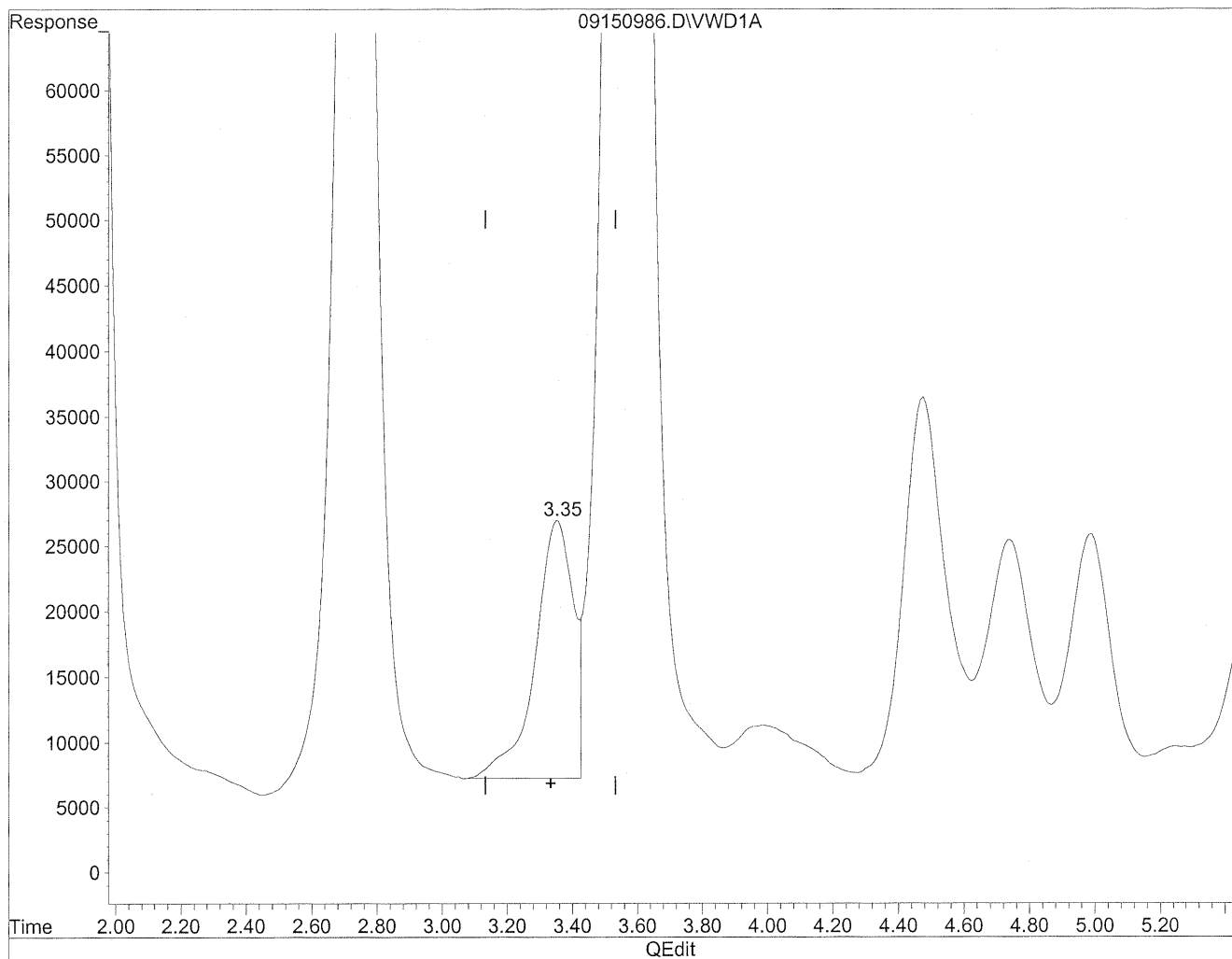


(3) Propionaldehyde
3.36min 24.671ng/ml
response 128236

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150986.D Vial: 171
Acq On : 16-Sep-2009, 01:19 Operator: MD
Sample : P0903195-008 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:12 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



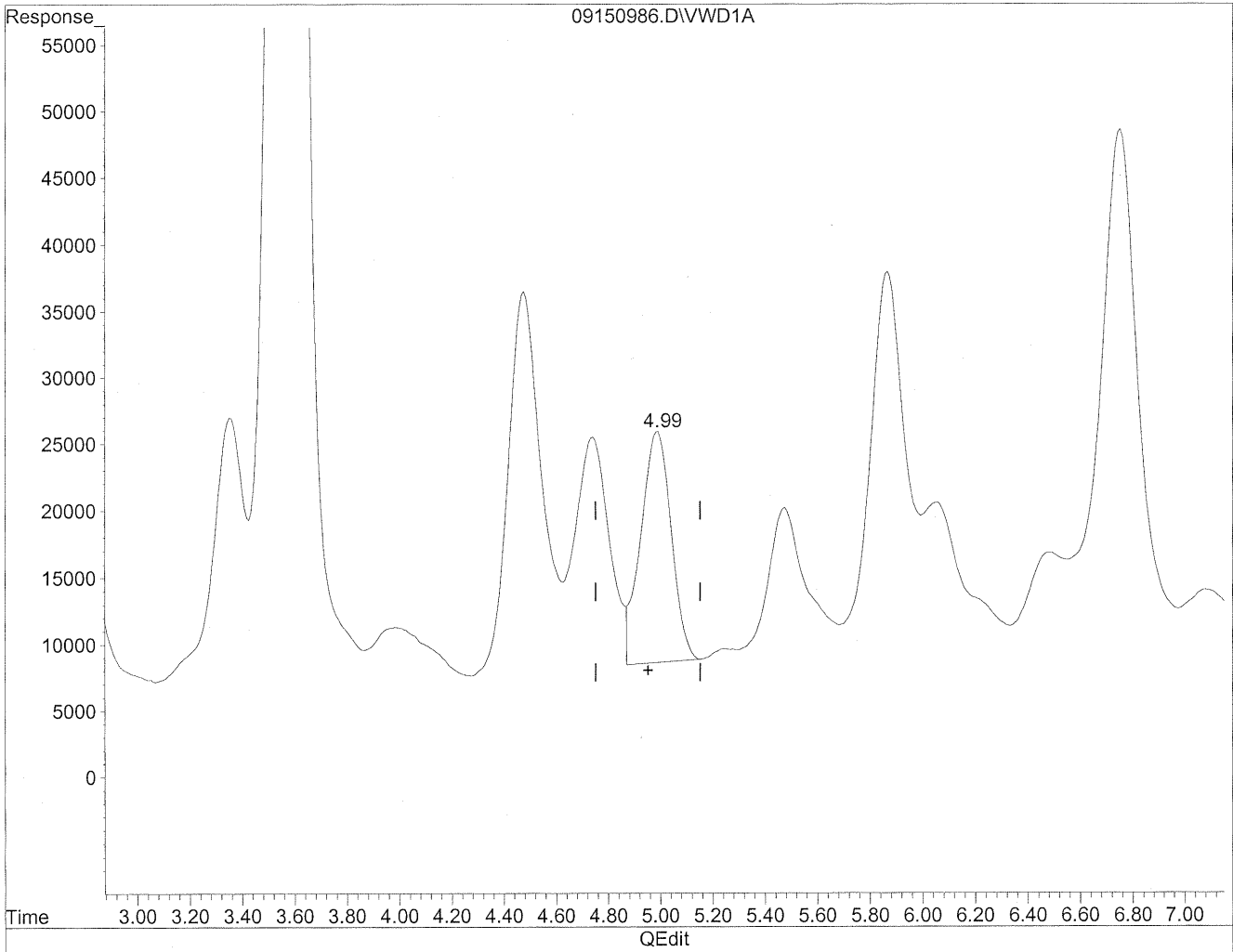
(3) Propionaldehyde
3.35min 317.402ng/ml m
response 1649800

Handwritten notes:
m (circled)
9/21/09
12
HC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150986.D Vial: 171
Acq On : 16-Sep-2009, 01:19 Operator: MD
Sample : P0903195-008 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:12 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

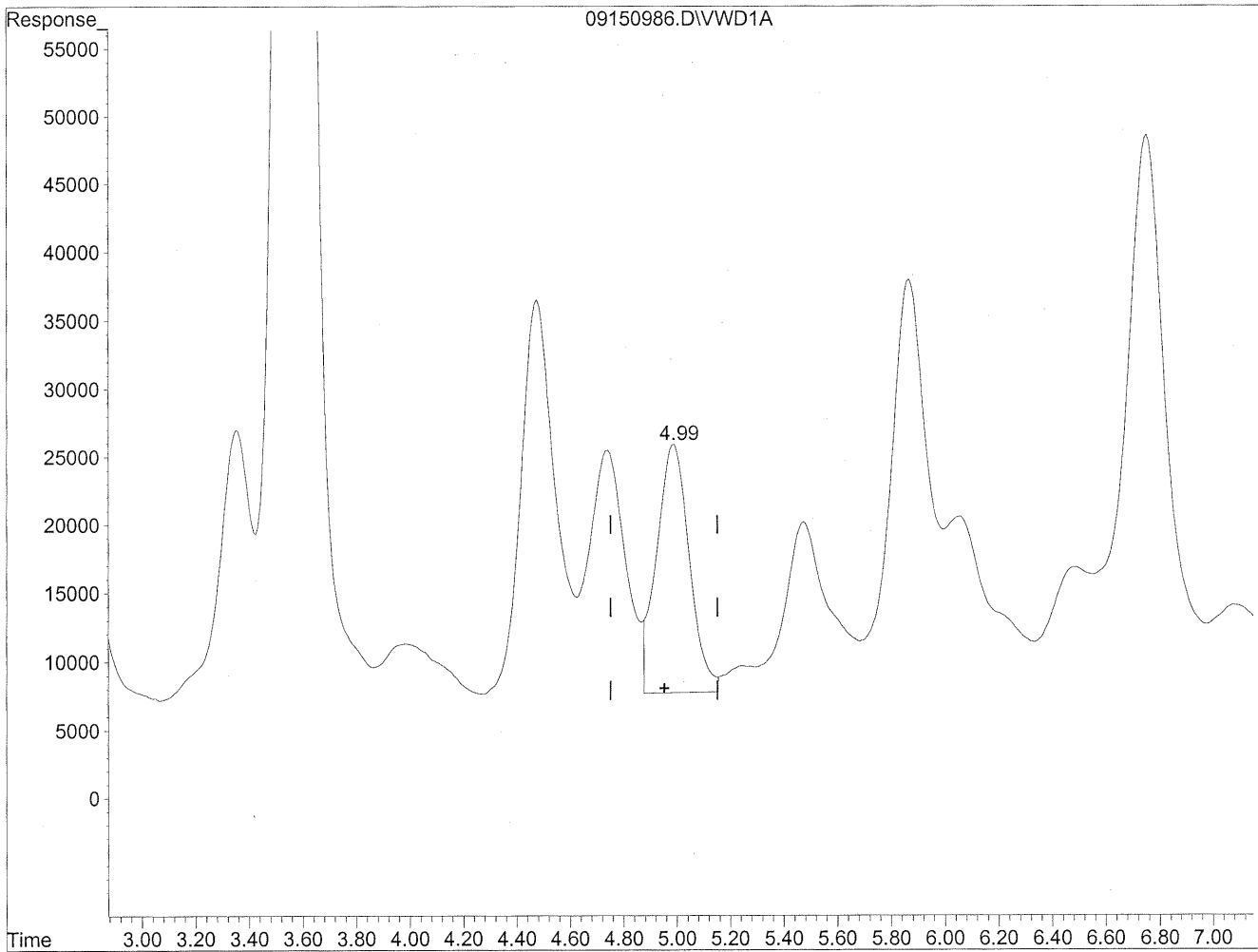


(5) Butyraldehyde
4.99min 348.652ng/ml
response 1413007

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150986.D Vial: 171
Acq On : 16-Sep-2009, 01:19 Operator: MD
Sample : P0903195-008 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:12 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



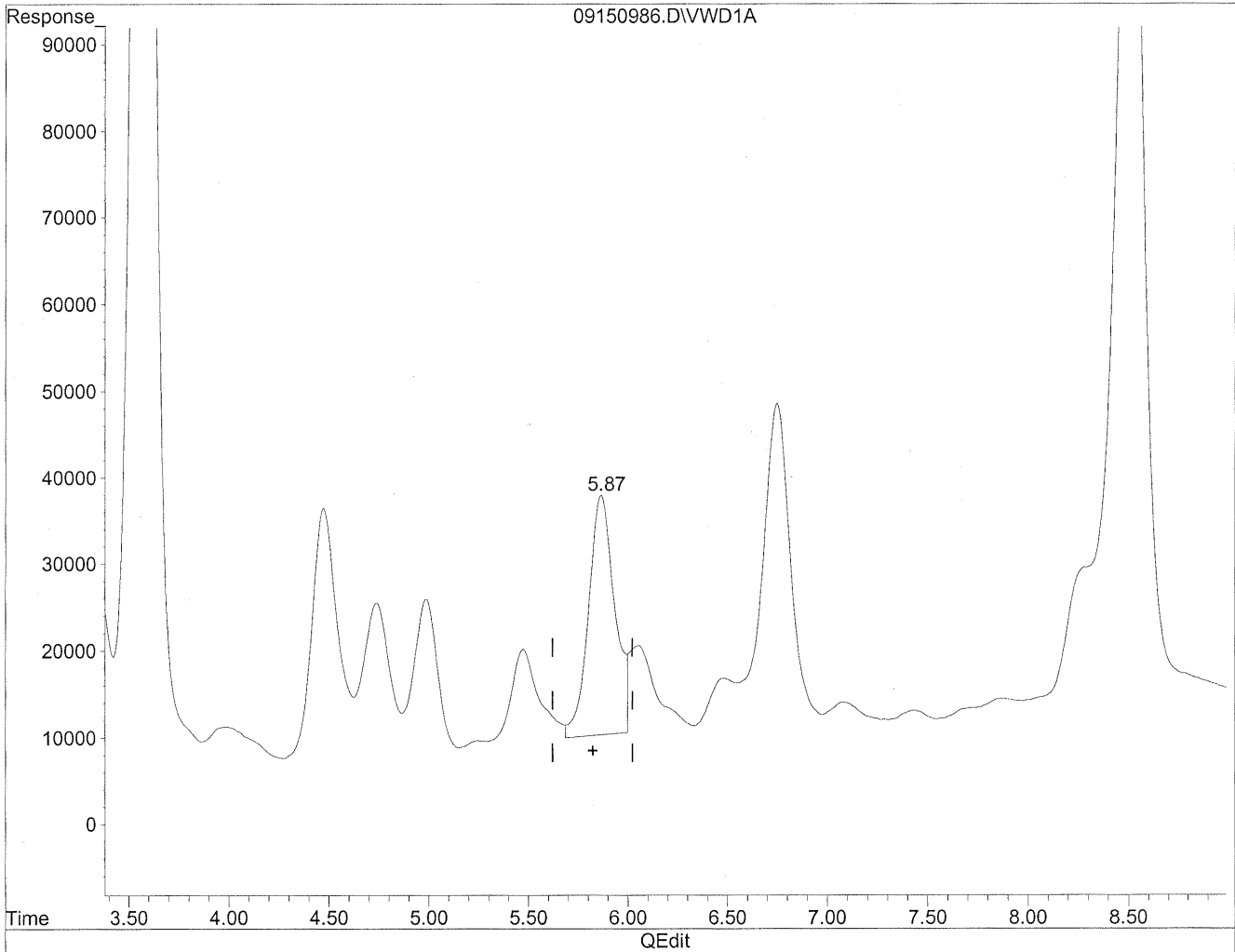
(5) Butyraldehyde
4.99min 381.547ng/ml m
response 1546323

HC
11/21/09
m
9/21/09
BC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150986.D Vial: 171
Acq On : 16-Sep-2009, 01:19 Operator: MD
Sample : P0903195-008 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:12 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

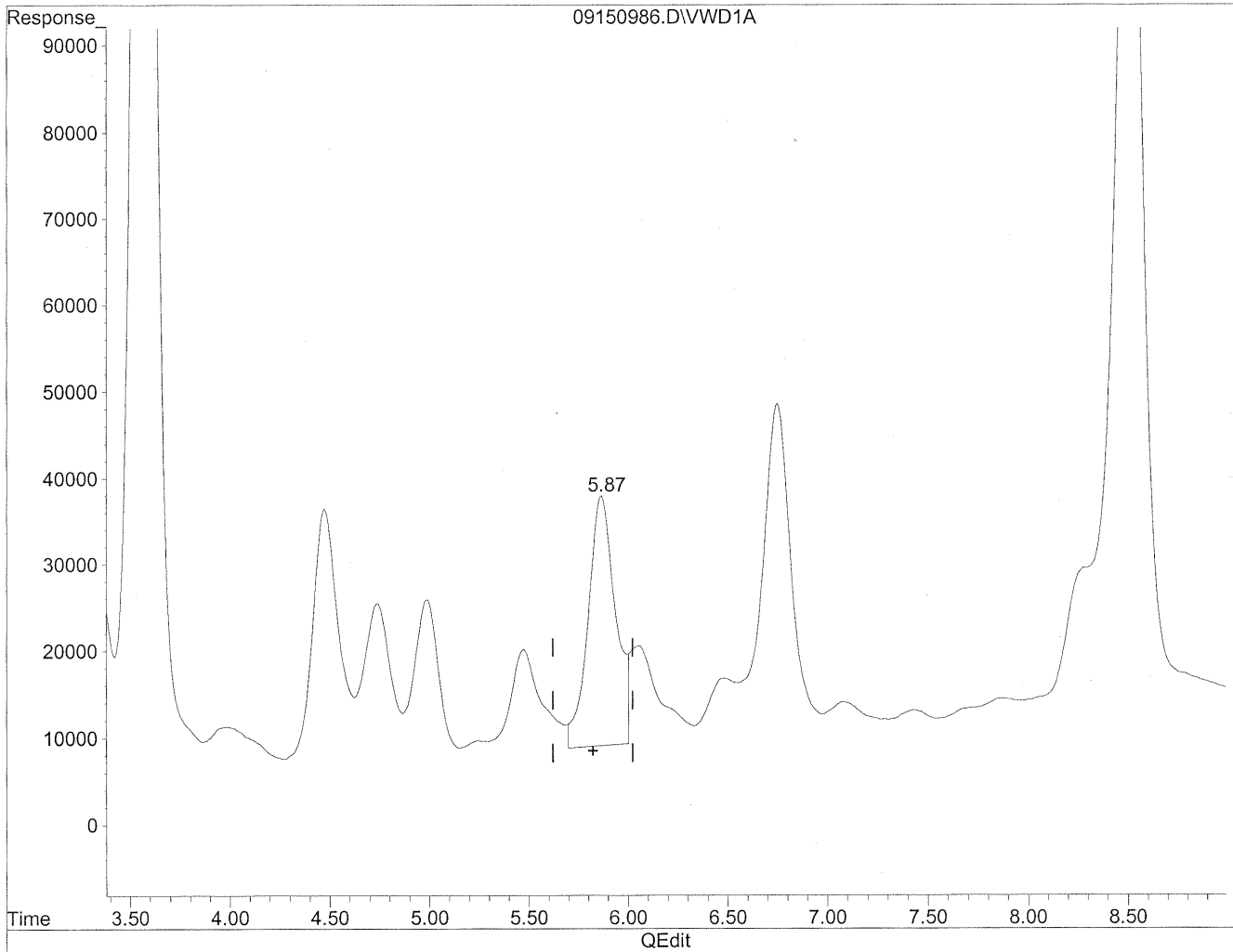


(6) Benzaldehyde
5.87min 915.596ng/ml
response 2498090

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150986.D Vial: 171
Acq On : 16-Sep-2009, 01:19 Operator: MD
Sample : P0903195-008 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:12 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



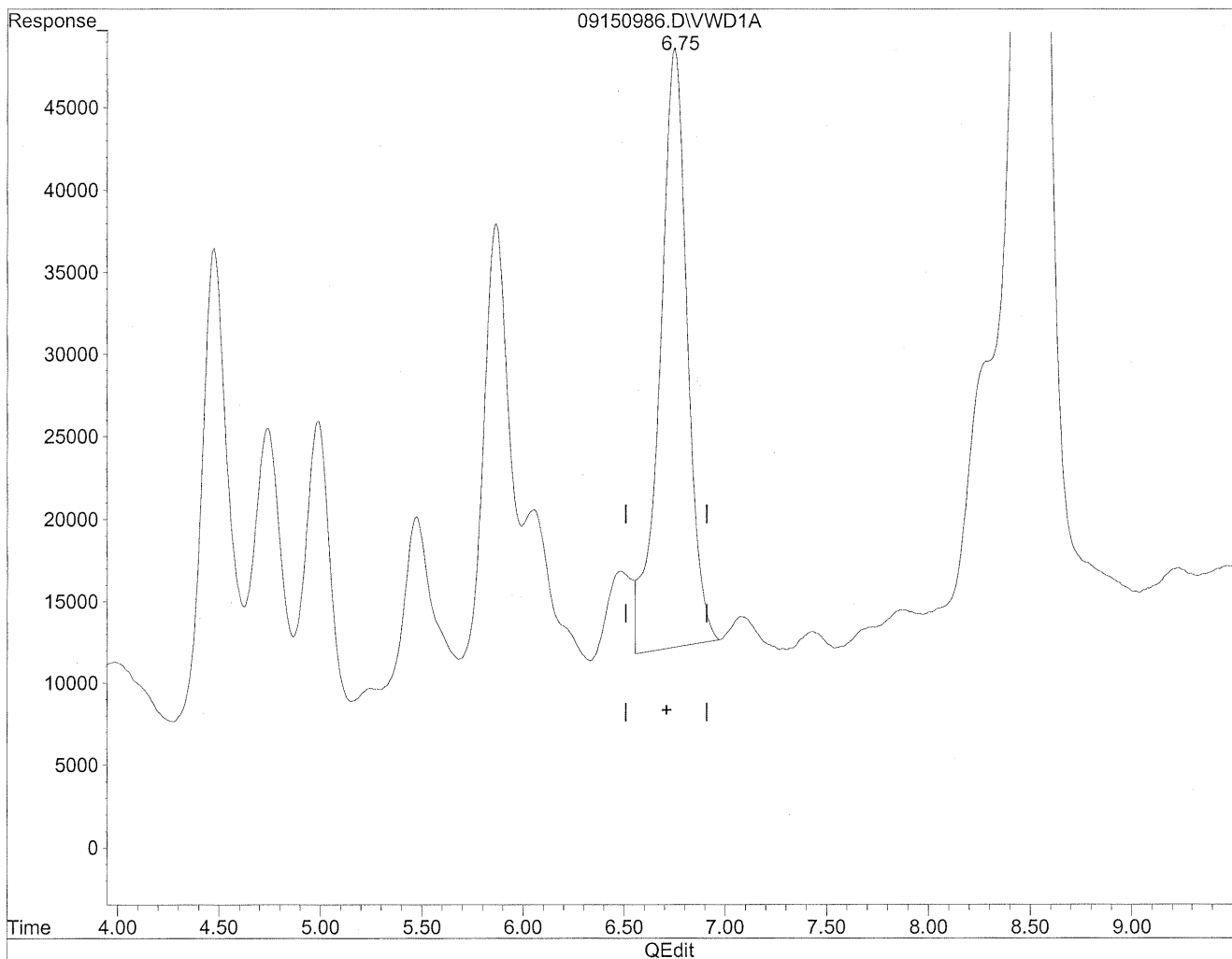
(6) Benzaldehyde
5.87min 1017.067ng/ml m
response 2774943

HC
9/21/09
MD
aldehyde
Be

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150986.D Vial: 171
Acq On : 16-Sep-2009, 01:19 Operator: MD
Sample : P0903195-008 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:12 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(8) Valeraldehyde

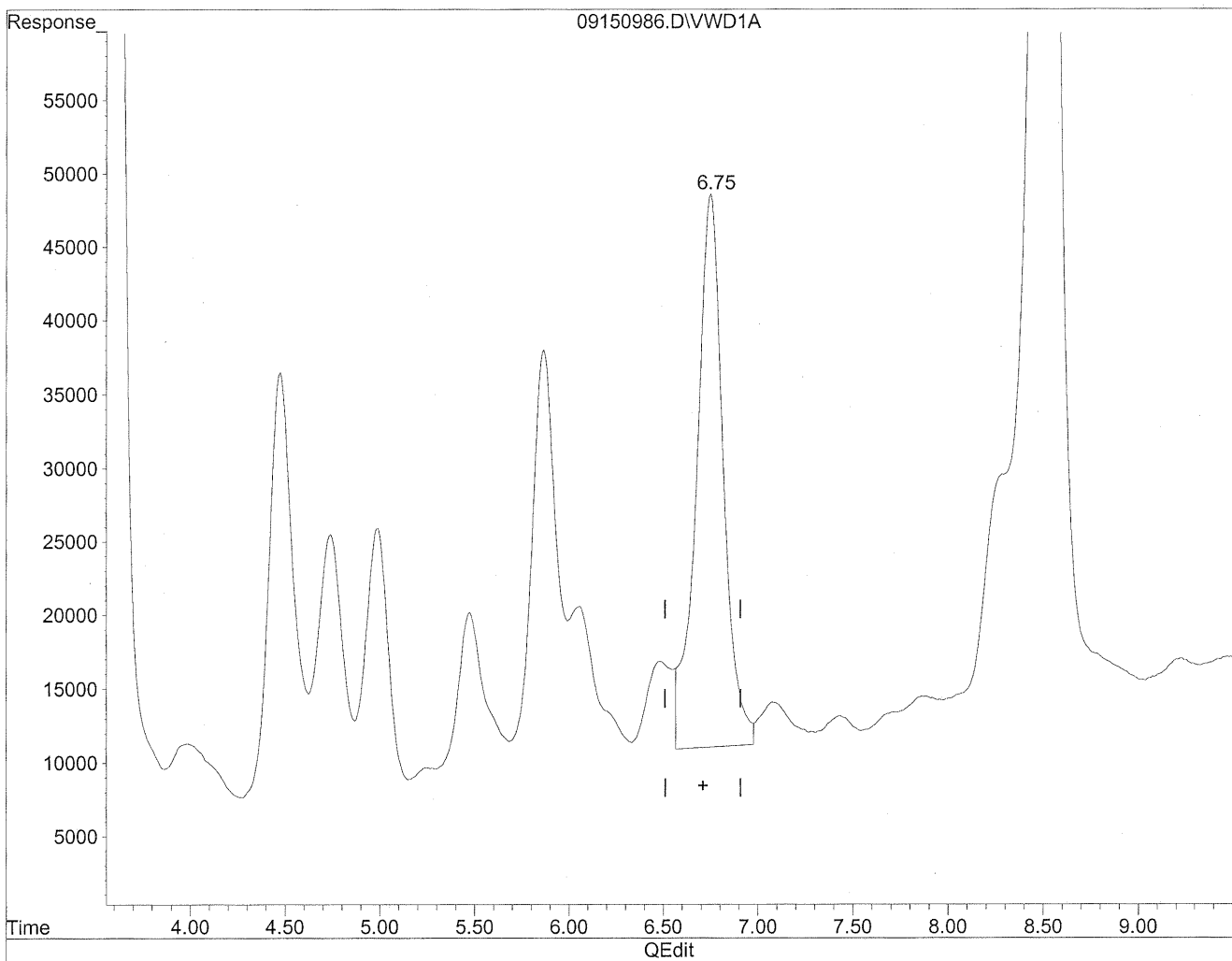
6.75min 1014.939ng/ml

response 3450425

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150986.D Vial: 171
Acq On : 16-Sep-2009, 01:19 Operator: MD
Sample : P0903195-008 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:12 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



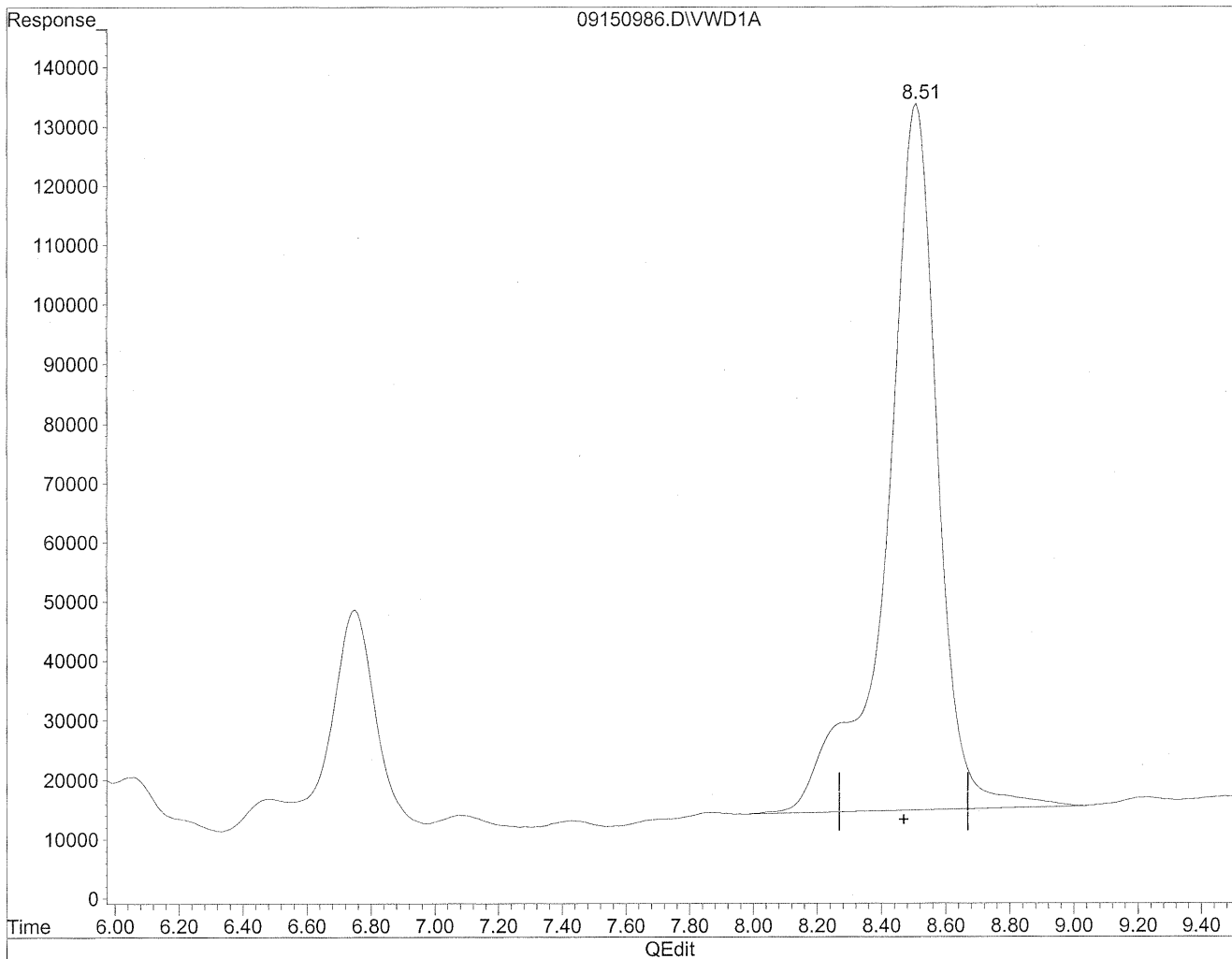
(8) Valeraldehyde
6.75min 1087.633ng/ml m
response 3697560

HC
9/21/09
(M)
9/21/09
PC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150986.D Vial: 171
Acq On : 16-Sep-2009, 01:19 Operator: MD
Sample : P0903195-008 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:12 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

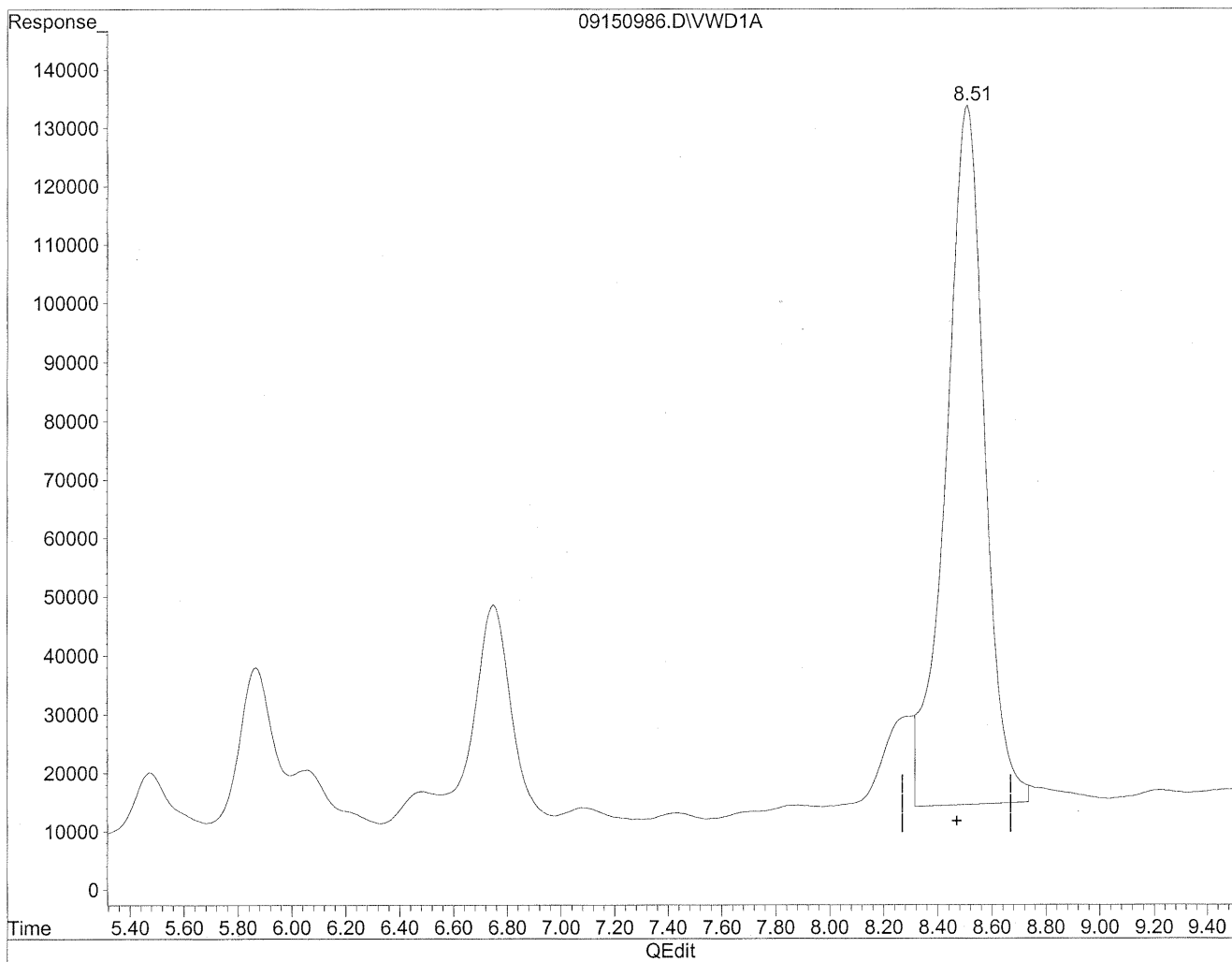
8.51min 4436.696ng/ml

response 13135834

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150986.D Vial: 171
Acq On : 16-Sep-2009, 01:19 Operator: MD
Sample : P0903195-008 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:12 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



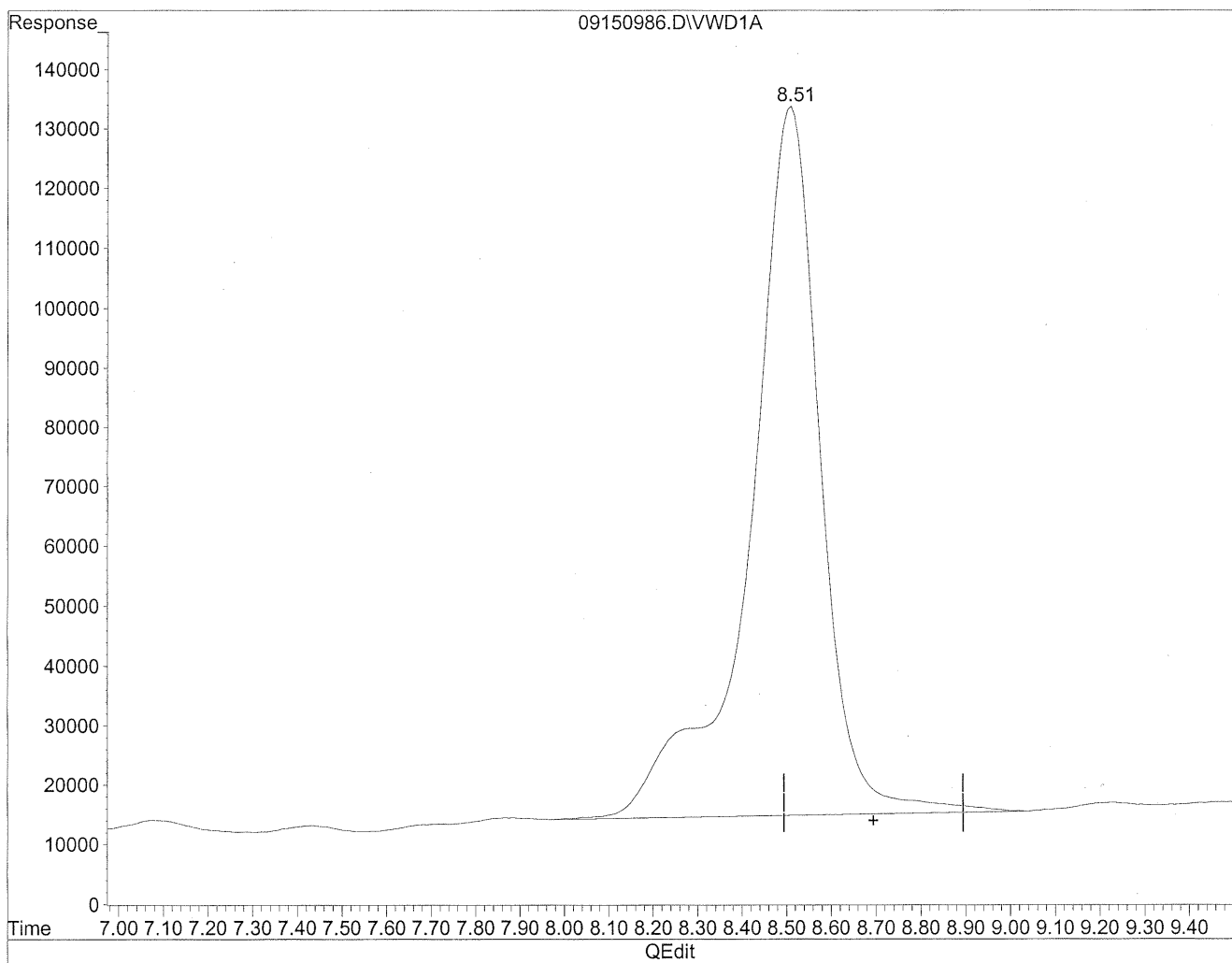
(11) Hexaldehyde
8.51min 4002.424ng/ml m
response 11850076

Handwritten notes:
m
9/21/09
sh
xu
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150986.D Vial: 171
Acq On : 16-Sep-2009, 01:19 Operator: MD
Sample : P0903195-008 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:12 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

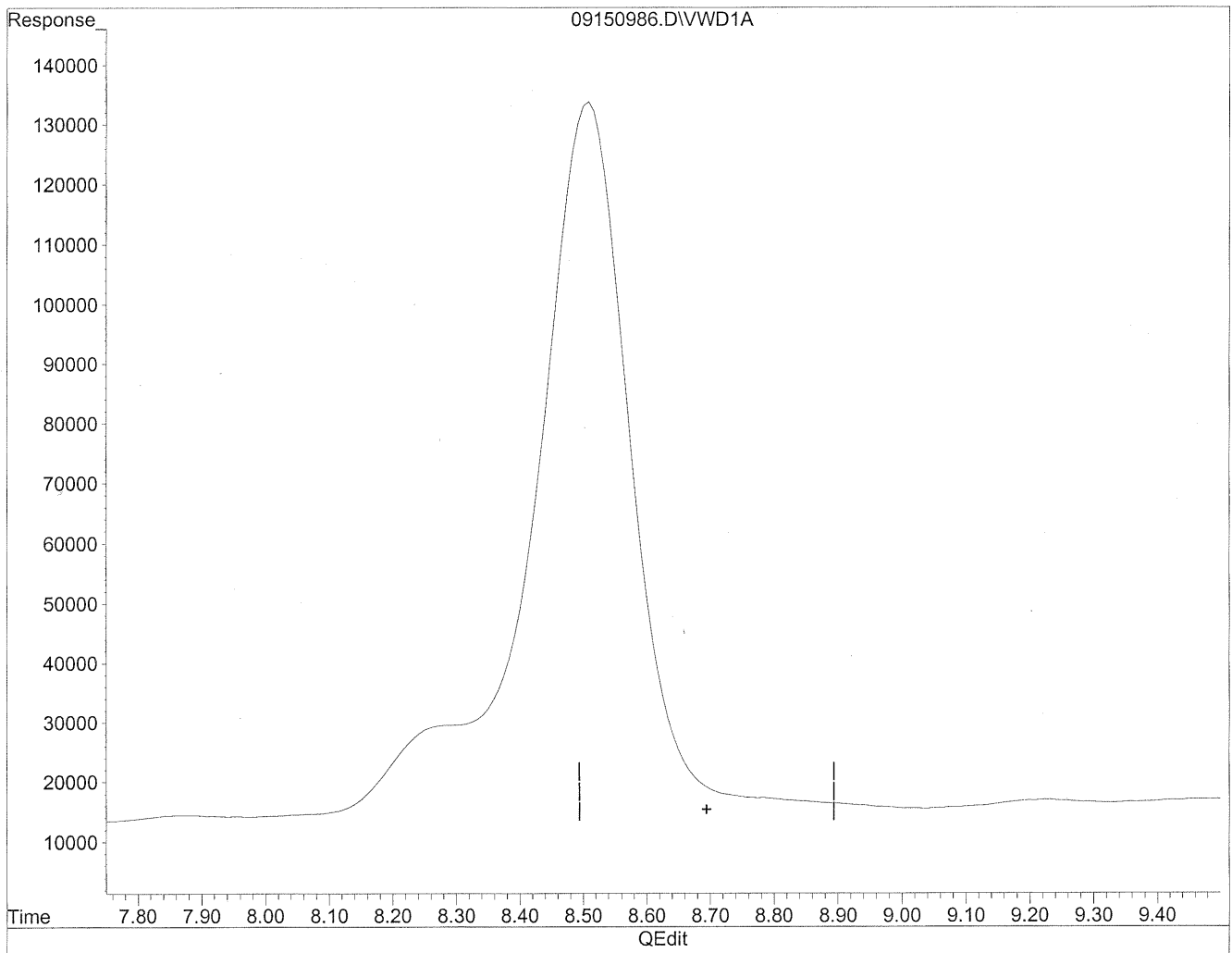
8.51min 6582.755ng/ml

response 13135834

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150986.D Vial: 171
Acq On : 16-Sep-2009, 01:19 Operator: MD
Sample : P0903195-008 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:12 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde
0.00min 0.000ng/ml d
response 0

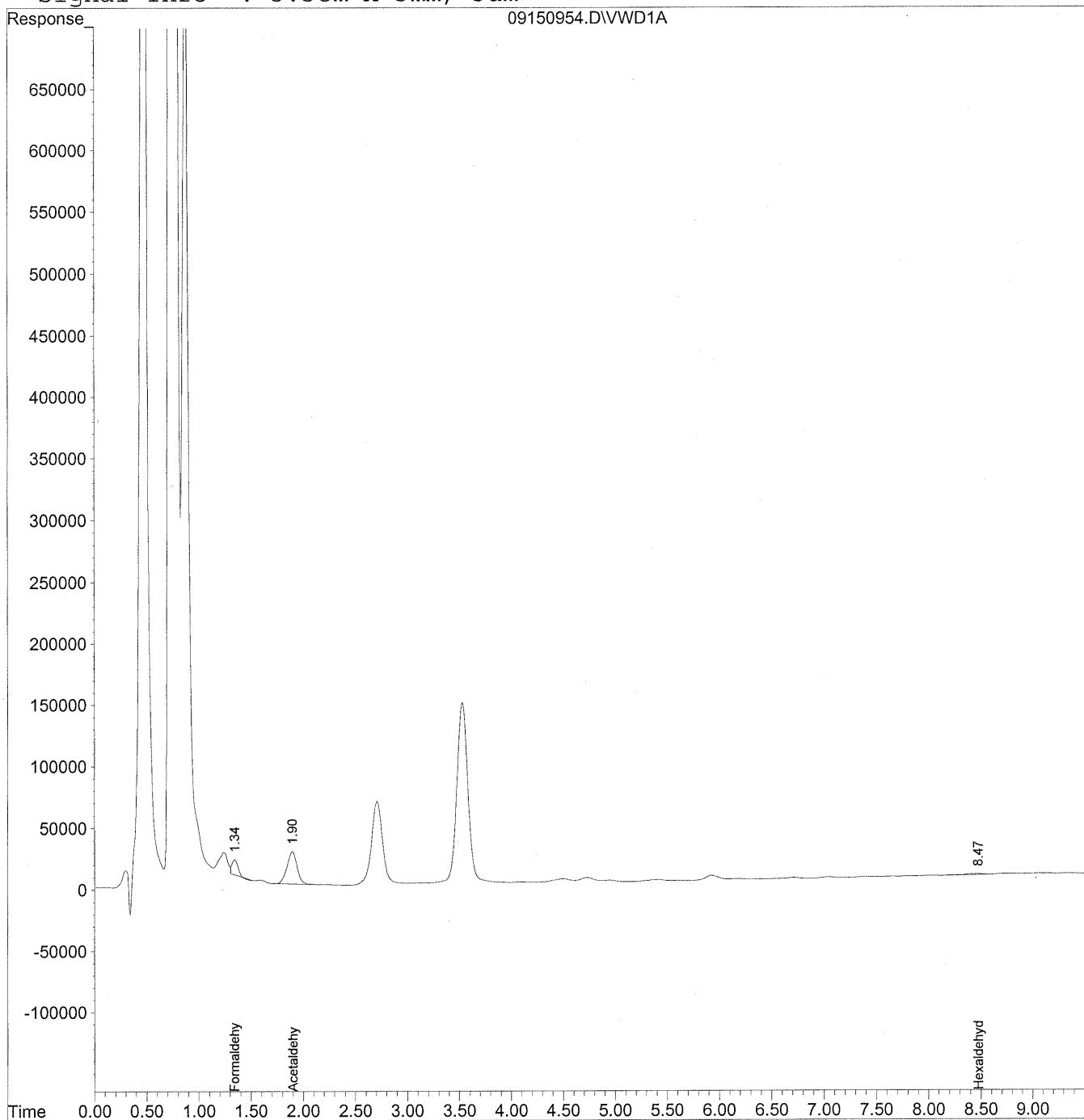
Handwritten notes:
MC
9/21/09
mp

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150954.D Vial: 147
Acq On : 15-Sep-2009, 18:57 Operator: MD
Sample : P0903195-008 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150954.D Vial: 147
 Acq On : 15-Sep-2009, 18:57 Operator: MD
 Sample : P0903195-008 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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

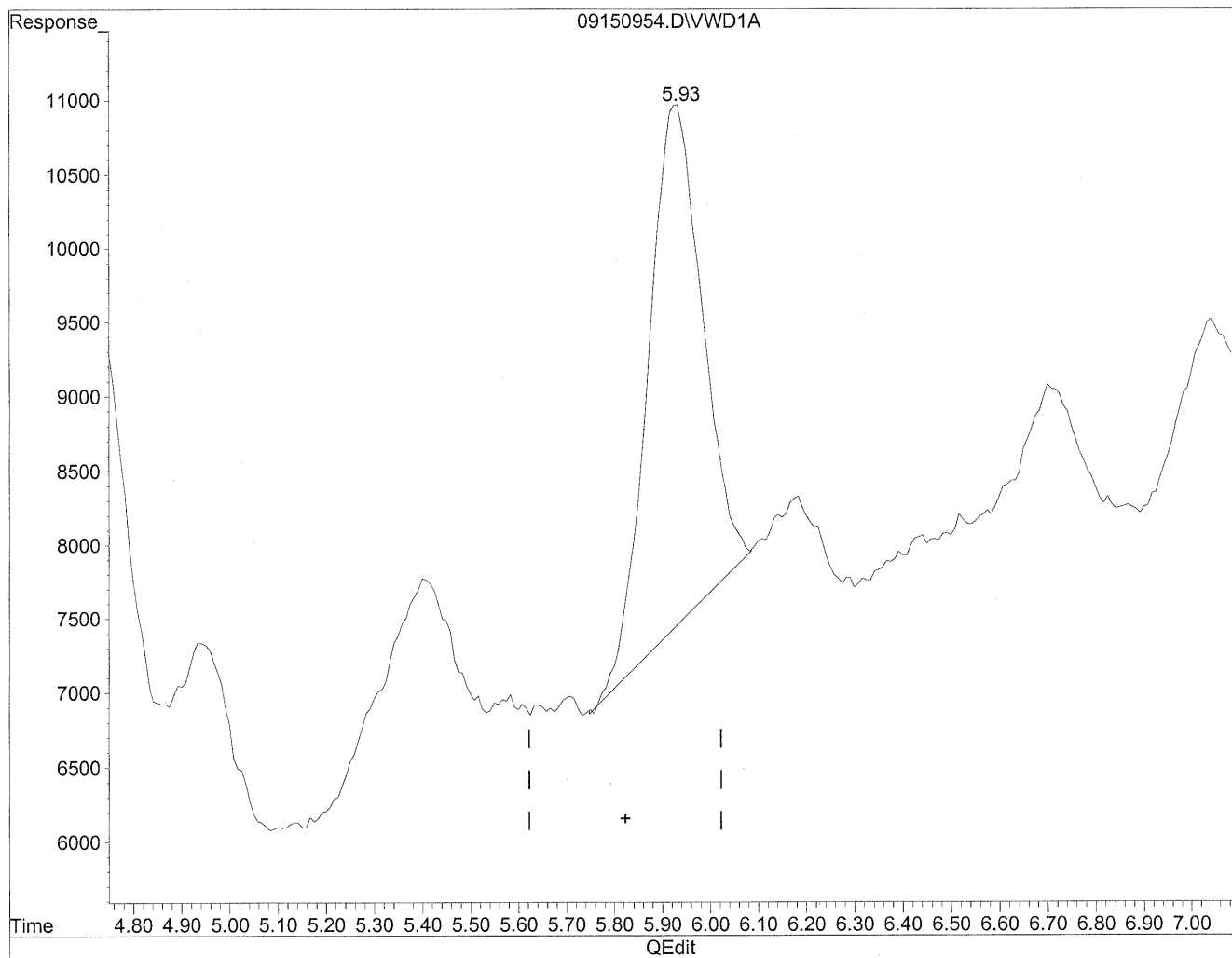
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.35	477693	53.461 ng/ml
2) Acetaldehyde	1.90	1769517	272.200 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	8.47	88939	30.040 ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150954.D Vial: 147
Acq On : 15-Sep-2009, 18:57 Operator: MD
Sample : P0903195-008 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:11 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

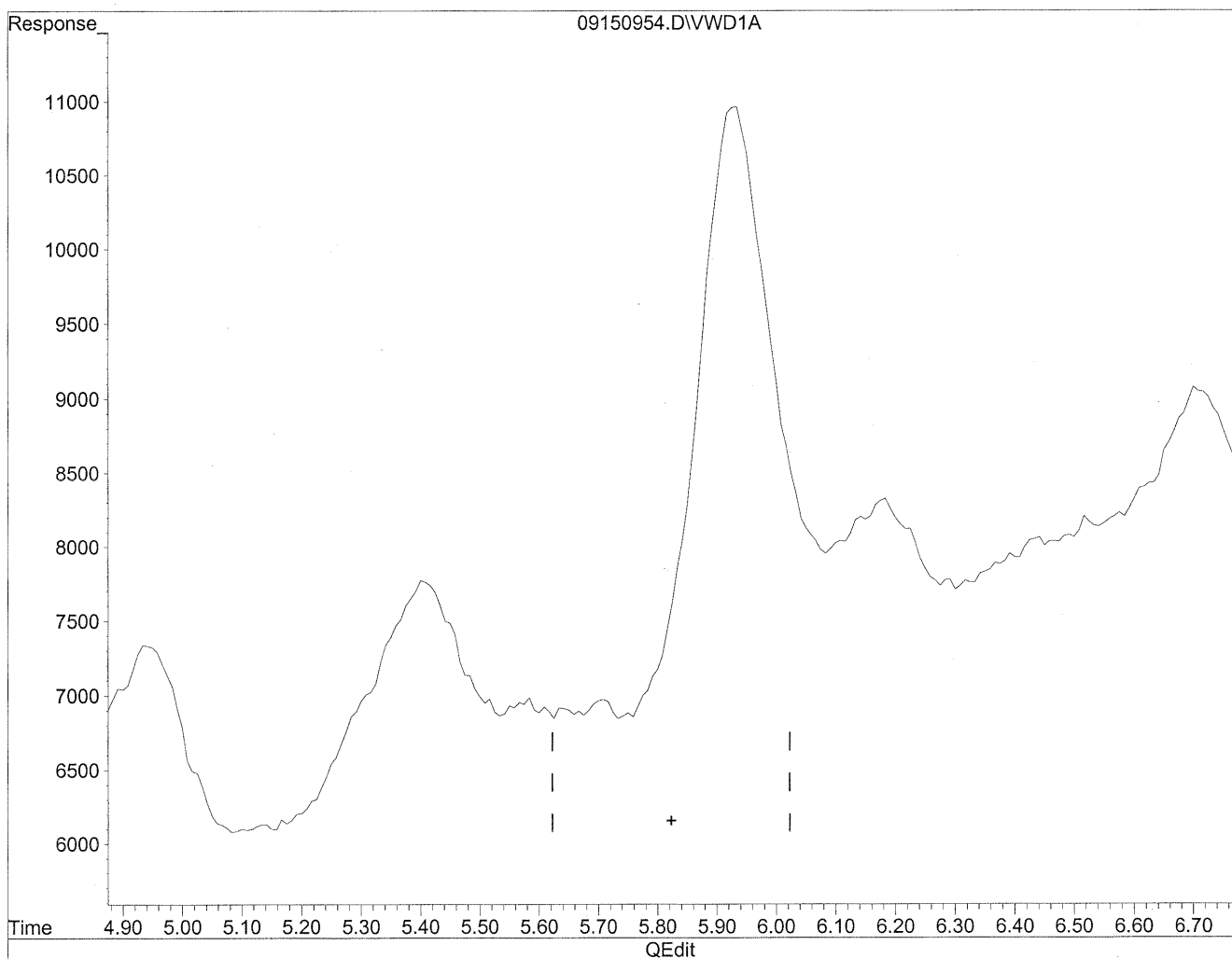


(6) Benzaldehyde
5.93min 100.960ng/ml
response 275458

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150954.D Vial: 147
Acq On : 15-Sep-2009, 18:57 Operator: MD
Sample : P0903195-008 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:11 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde
0.00min 0.000ng/ml d
response 0

*the
9/22/09*

*(N)
9/22/09
mp*

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.
Client Sample ID: 104871
Client Project ID: 16512

CAS Project ID: P0903195
 CAS Sample ID: P0903195-009

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: 9/10/09
Date Analyzed: 9/15 - 9/16/09
Desorption Volume: 1.0 ml
Volume Sampled: 101 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	8,800	87	0.99	71	0.81	
75-07-0	Acetaldehyde	2,300	22	0.99	12	0.55	BT
123-38-6	Propionaldehyde	270	2.6	0.99	1.1	0.42	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.99	ND	0.35	
123-72-8	Butyraldehyde	330	3.3	0.99	1.1	0.34	
100-52-7	Benzaldehyde	930	9.2	0.99	2.1	0.23	
590-86-3	Isovaleraldehyde	< 100	ND	0.99	ND	0.28	
110-62-3	Valeraldehyde	1,100	11	0.99	3.1	0.28	
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	4,500	44	0.99	11	0.24	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.

BT = Results indicated possible breakthrough; back section > 10% front section.

M = Matrix interference; results may be biased high.

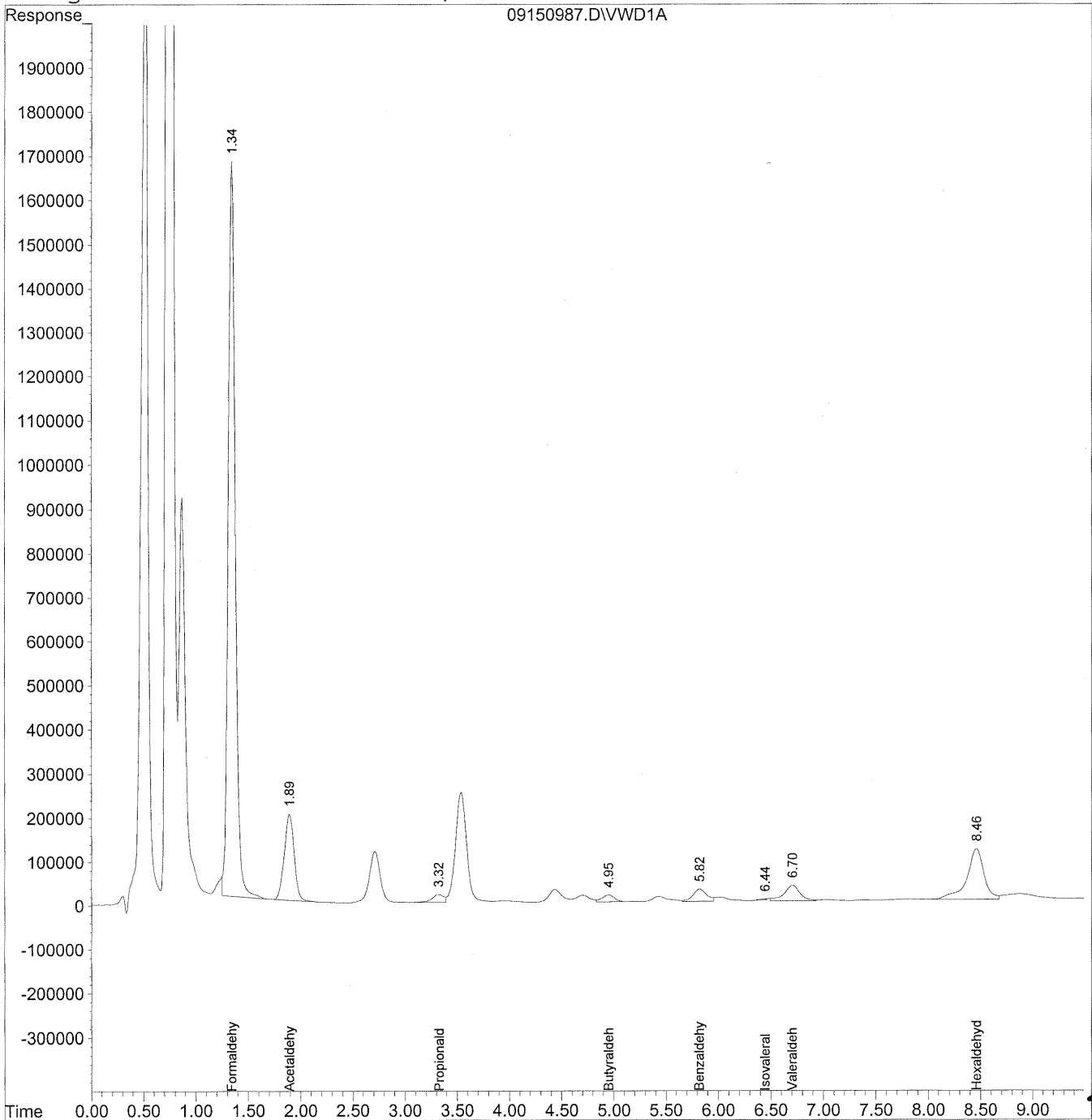
Verified By: Rev Date: 9/24/09 **122**

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:22 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
 Acq On : 16-Sep-2009, 01:31 Operator: MD
 Sample : P0903195-009 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:22 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 17 16:12:59 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

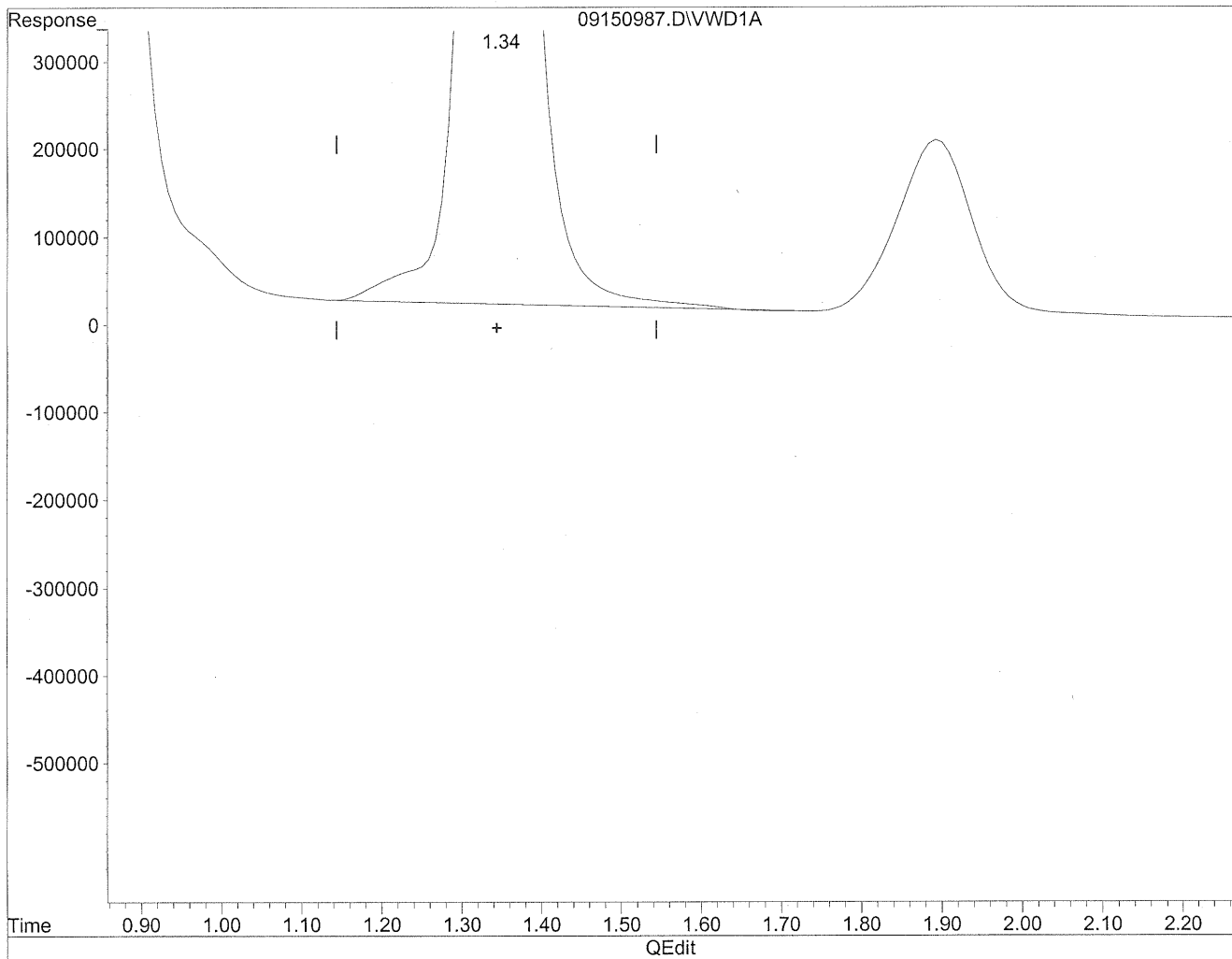
Target Compounds				
1) Formaldehyde	1.34	78248554	8757.110	ng/mlm
2) Acetaldehyde	1.89	12884127	1981.930	ng/mlm
3) Propionaldehyde	3.32	1388190	267.071	ng/mlm
4) Crotonaldehyde	0.00	0	N.D.	ng/ml
5) Butyraldehyde	4.95	1342888	331.351	ng/ml
6) Benzaldehyde	5.82	2535991	929.487	ng/ml
7) Isovaleraldehyde	6.44	144285	41.921	ng/mlm
8) Valeraldehyde	6.70	3797711	1117.092	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	8.46	13271344	4482.465	ng/mlm *
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(* m flag)

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

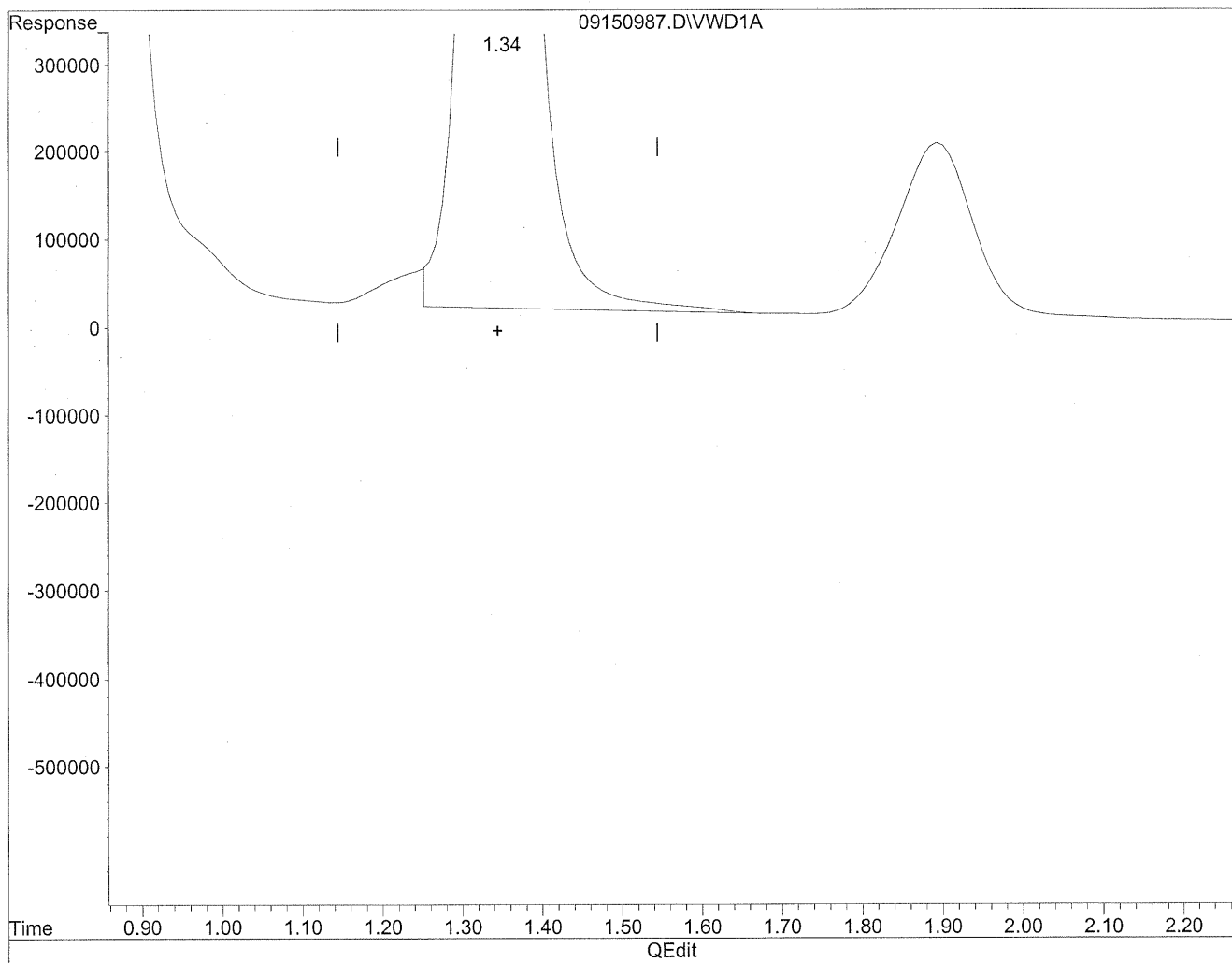


(1) Formaldehyde
1.35min 8863.745ng/ml
response 79201377

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(1) Formaldehyde
1.34min 8757.110ng/ml m
response 78248554

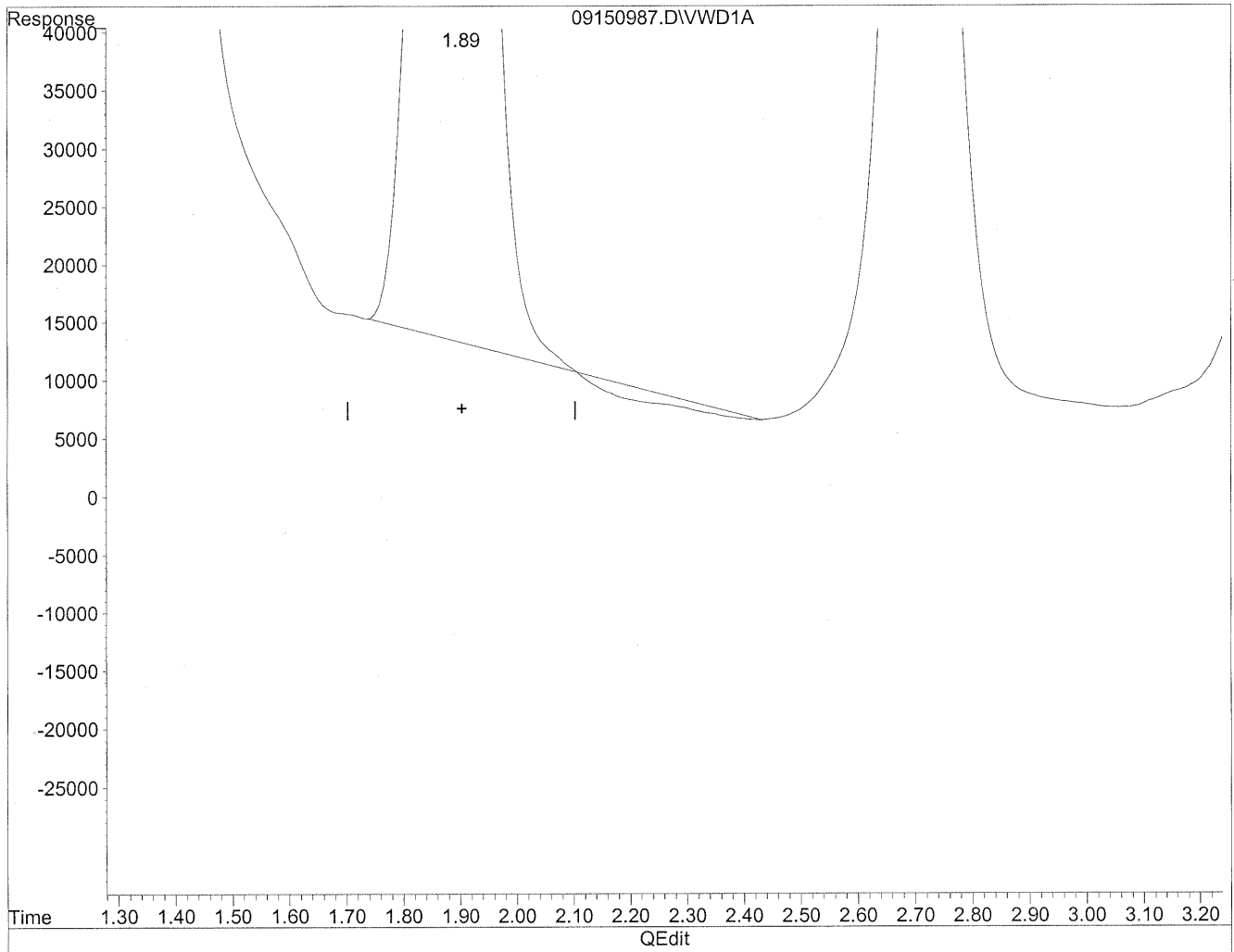
(M)
9/21/09
SH

HL
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:19 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

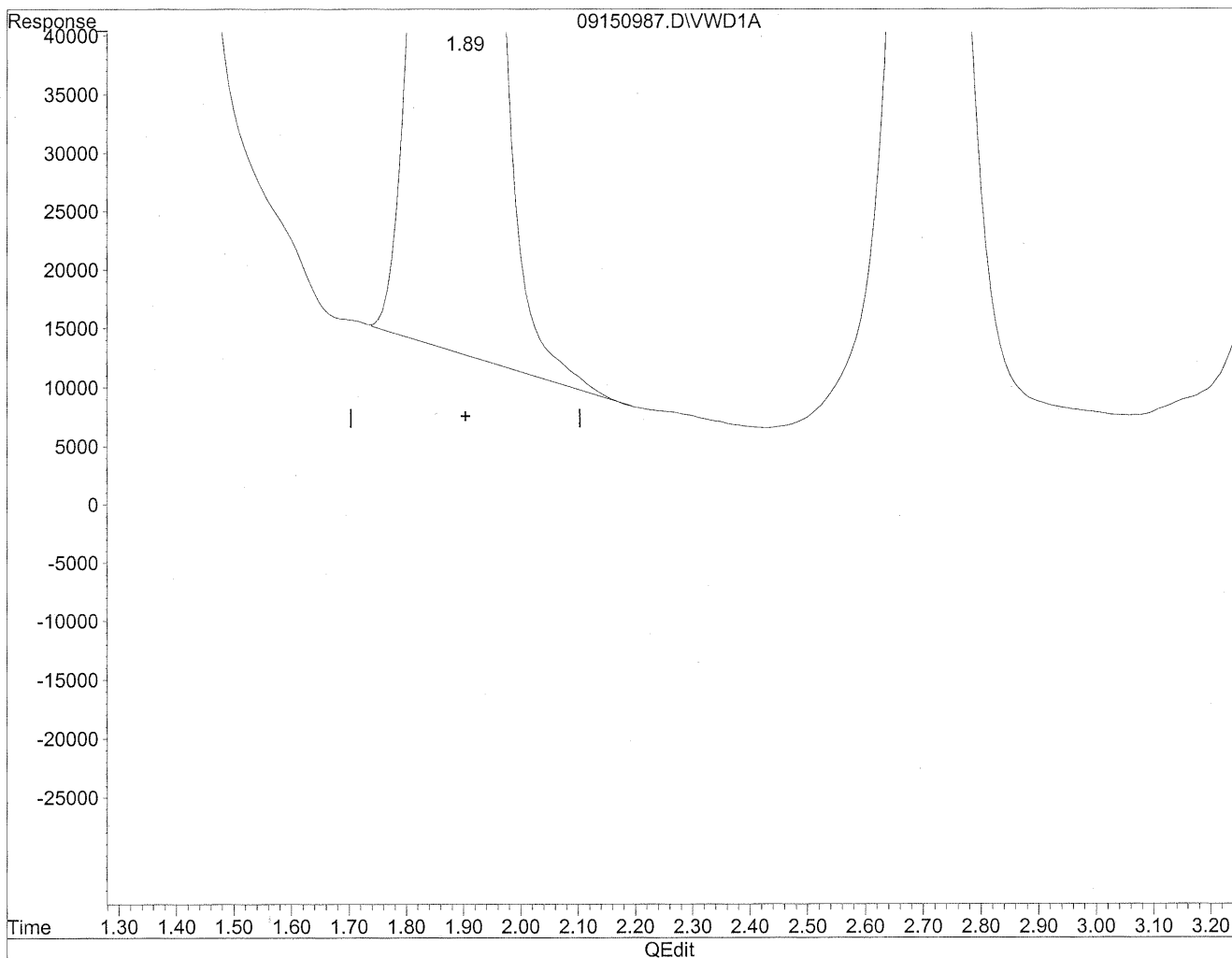


(2) Acetaldehyde
1.90min 1942.421ng/ml
response 12627286

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:19 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(2) Acetaldehyde

1.89min 1981.930ng/ml m

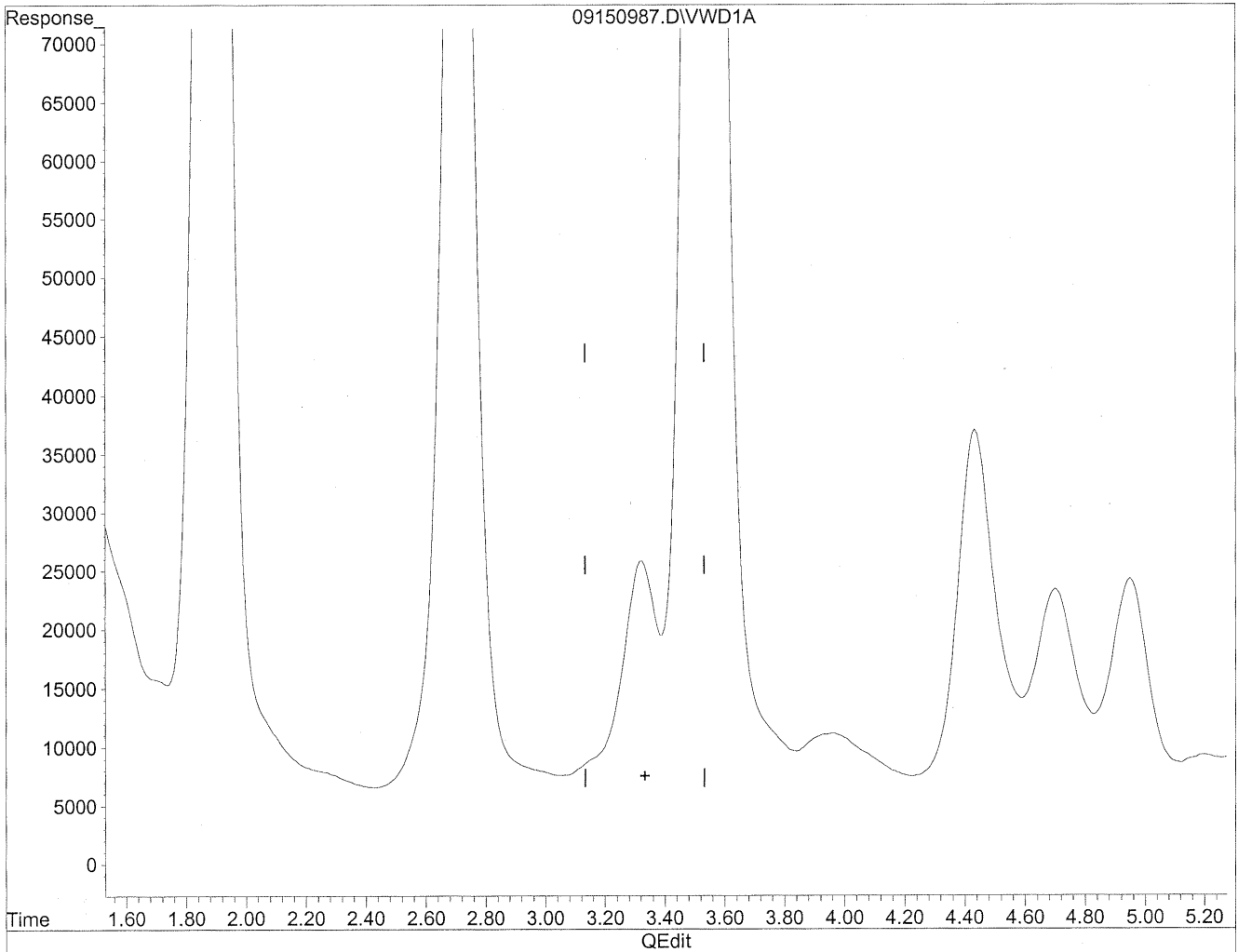
response 12884127

HC
9/21/09
(M)
9/21/09
12

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:19 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

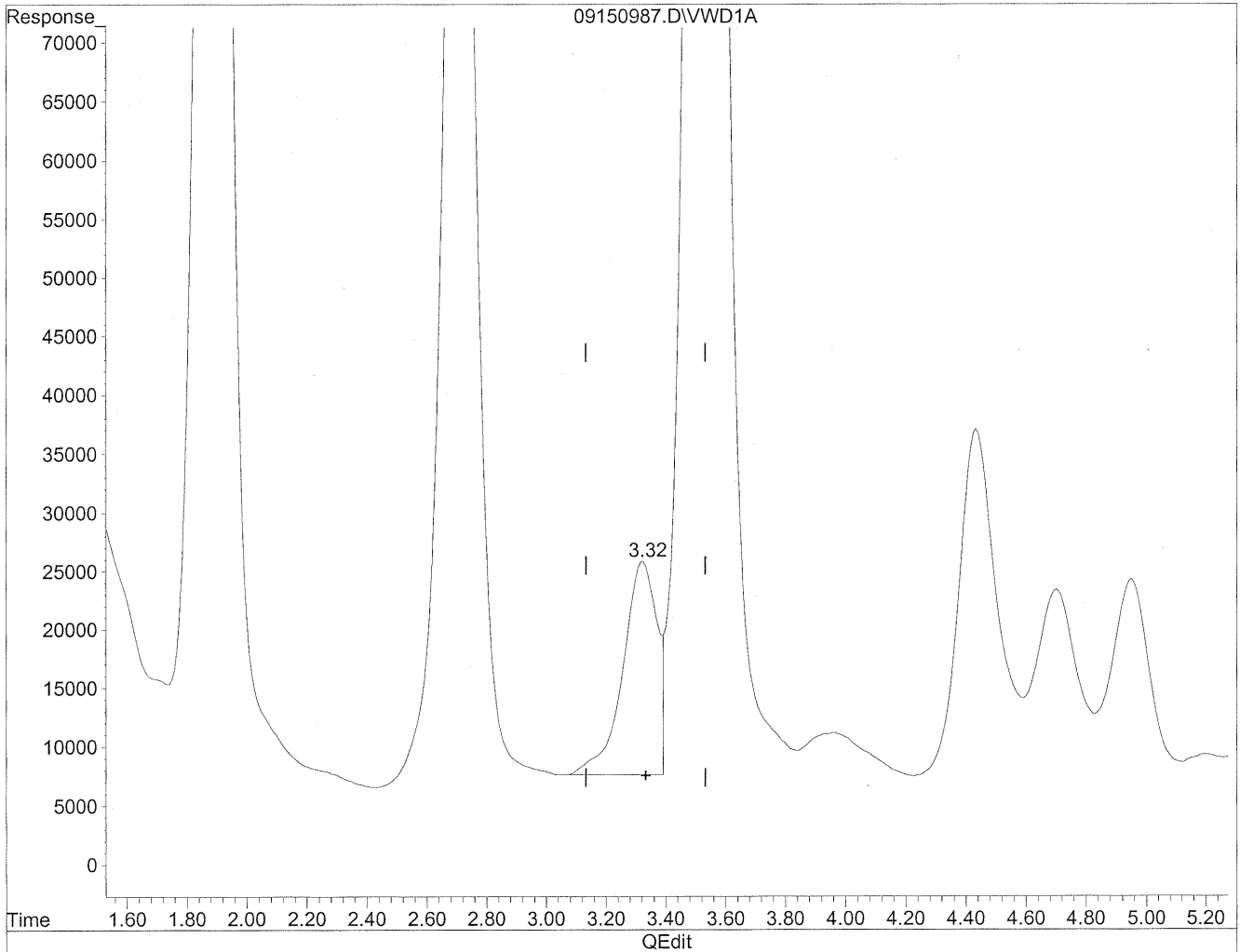


(3) Propionaldehyde
3.33min 0.000ng/ml
response 0

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:19 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



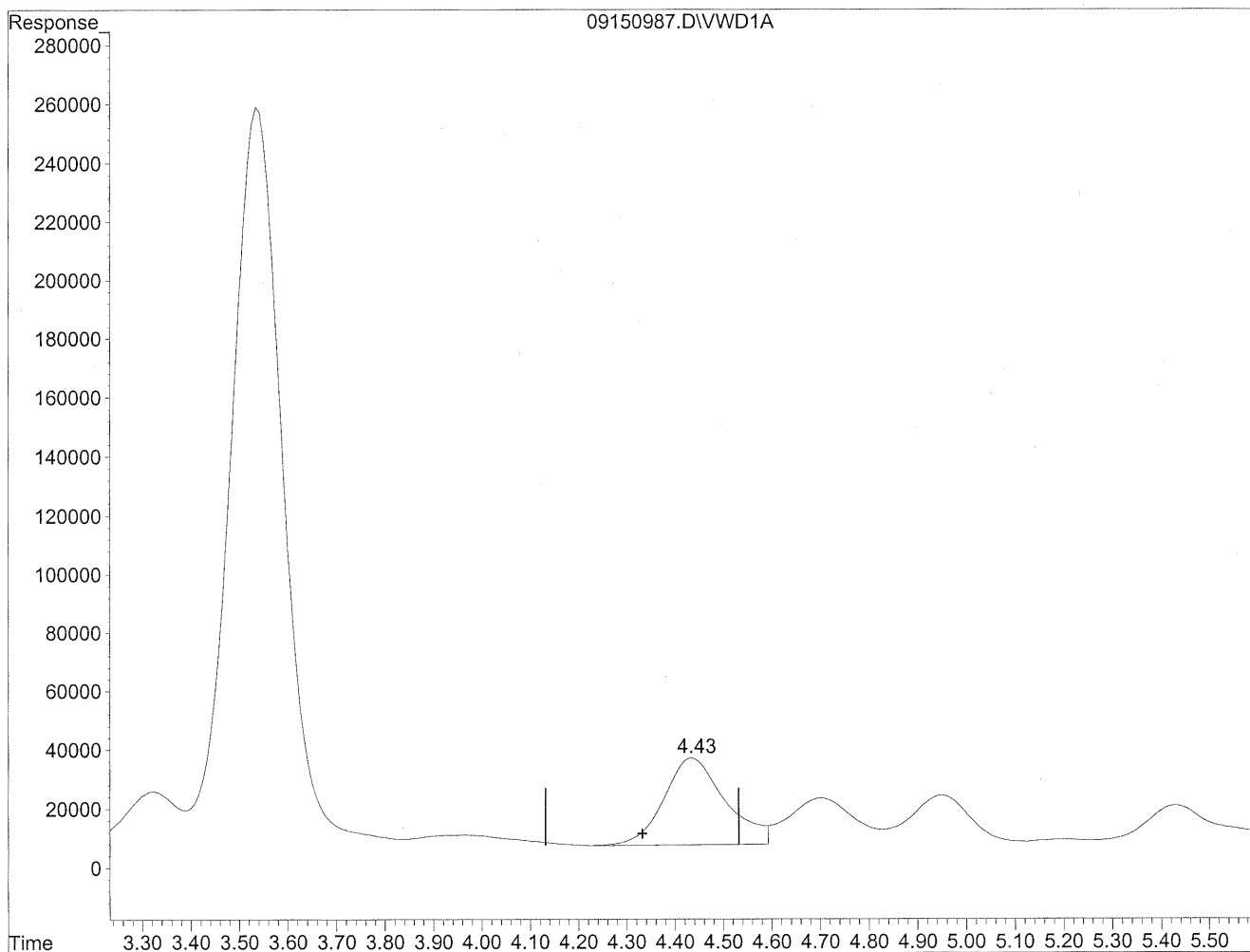
(3) Propionaldehyde
3.32min 267.071ng/ml m
response 1388190

Handwritten notes:
⑤ min
9/21/09
Bui
rec
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:19 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

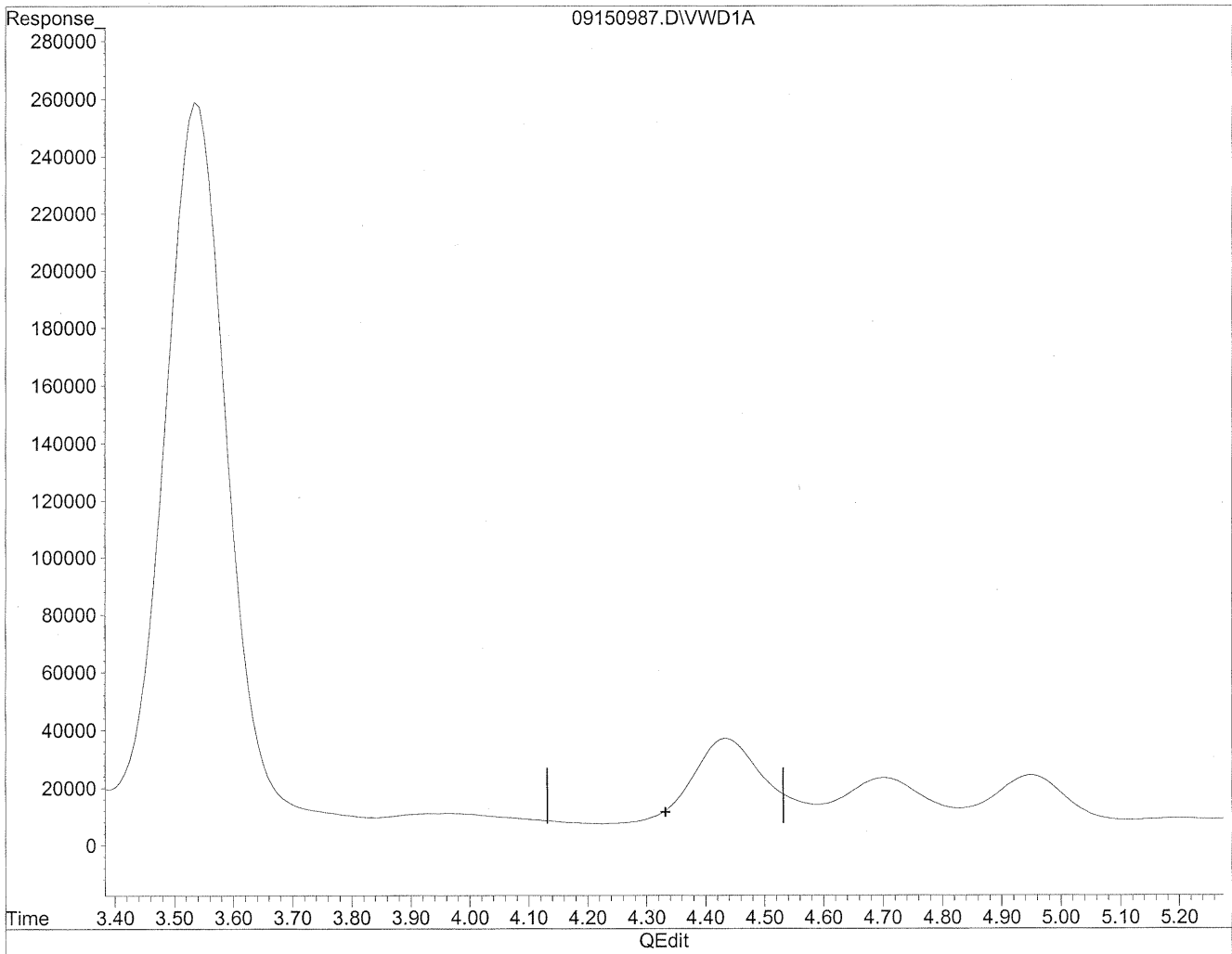


(4) Crotonaldehyde
4.44min 635.473ng/ml
response 2579746

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:19 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(4) Crotonaldehyde
0.00min 0.000ng/ml d
response 0

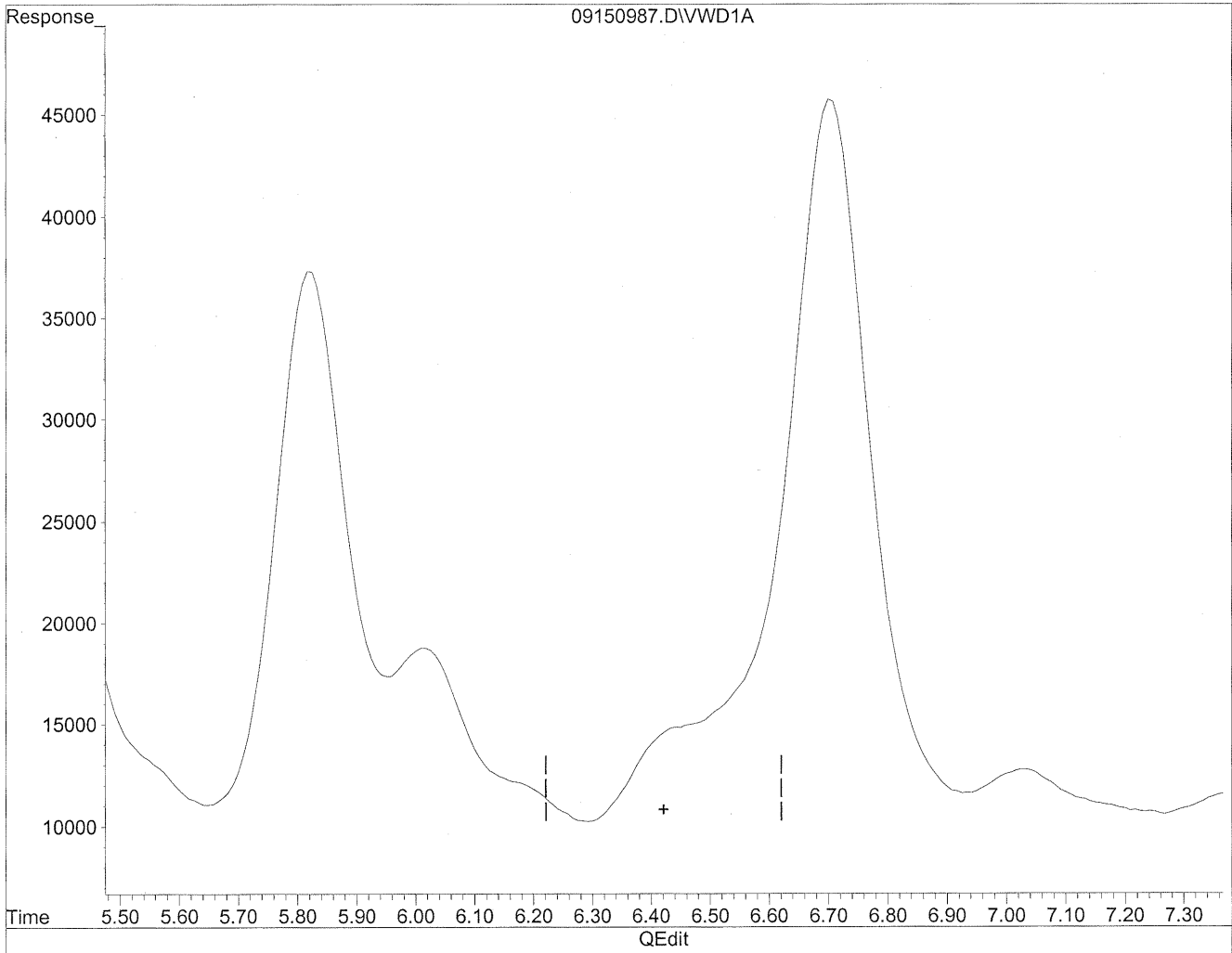
MD
9/21/09
mp

HC
2/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:19 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

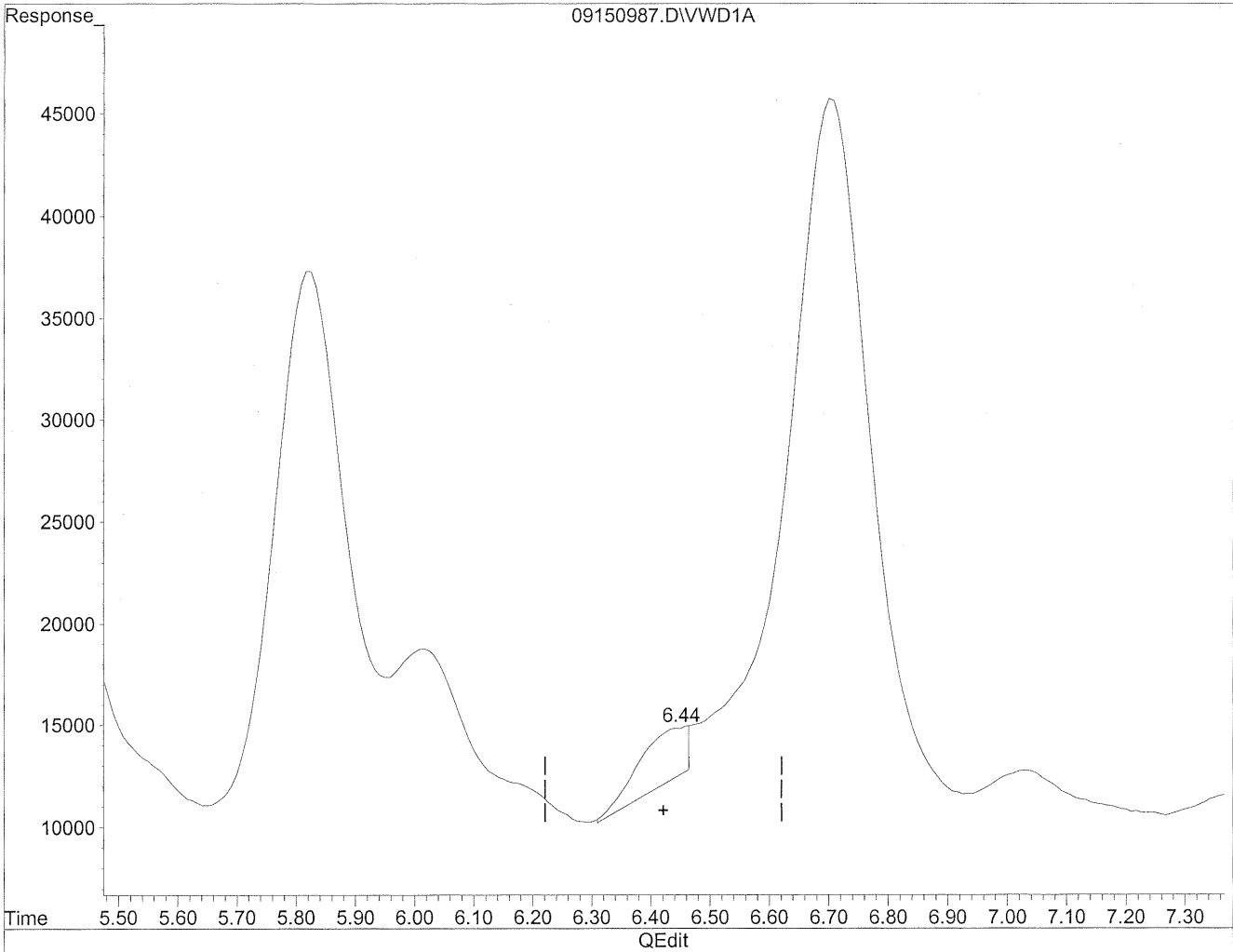
6.42min 0.000ng/ml

response 0

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:19 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



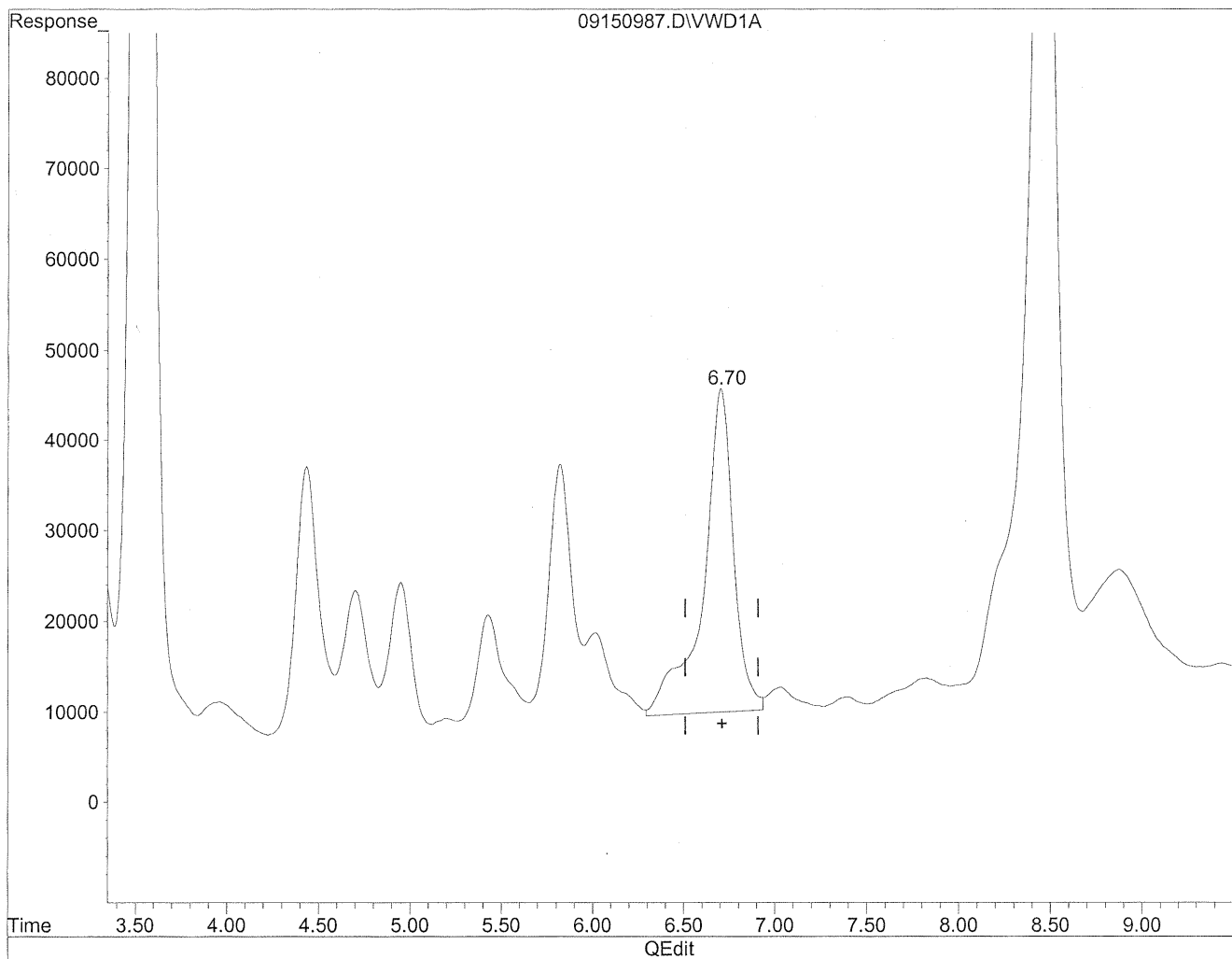
(7) Isovaleraldehyde
6.44min 41.921ng/ml m
response 144285

m
9/21/09
cpc
HC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:19 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

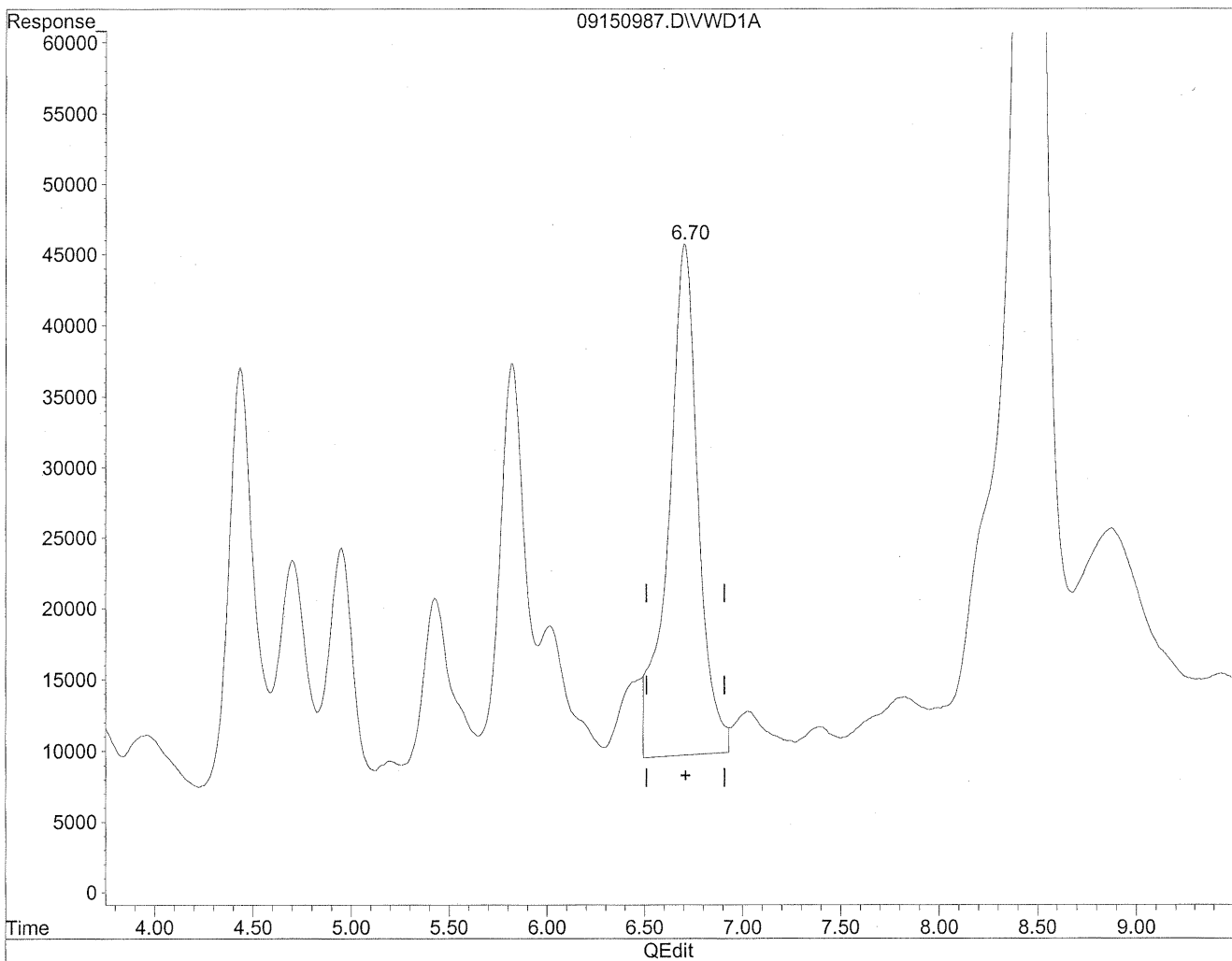


(8) Valeraldehyde
6.71min 1217.831ng/ml
response 4140187

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:19 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



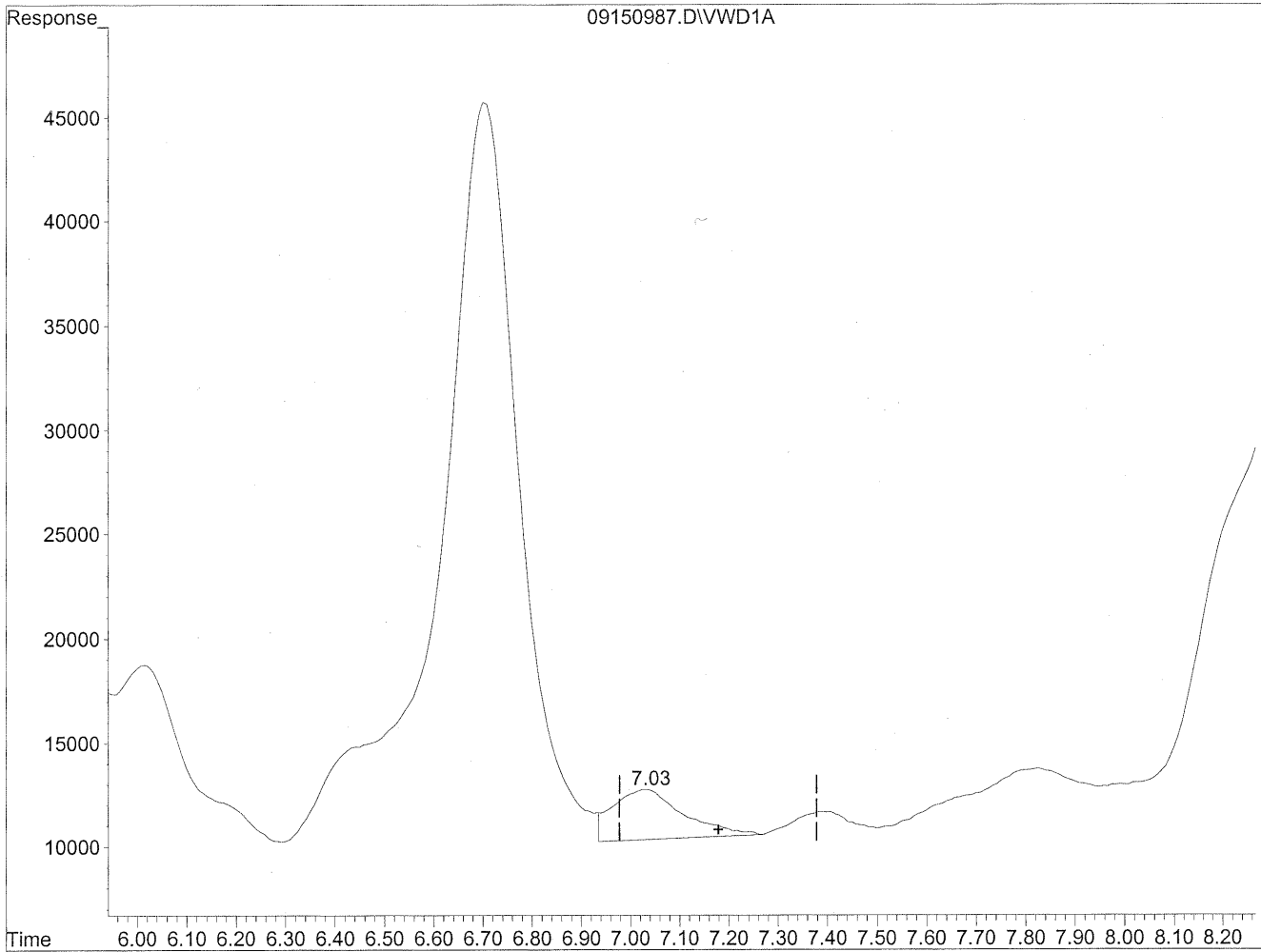
(8) Valeraldehyde
6.70min 1117.092ng/ml m
response 3797711

HL
9/21/09
(M)
9/21/09
SH

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:19 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

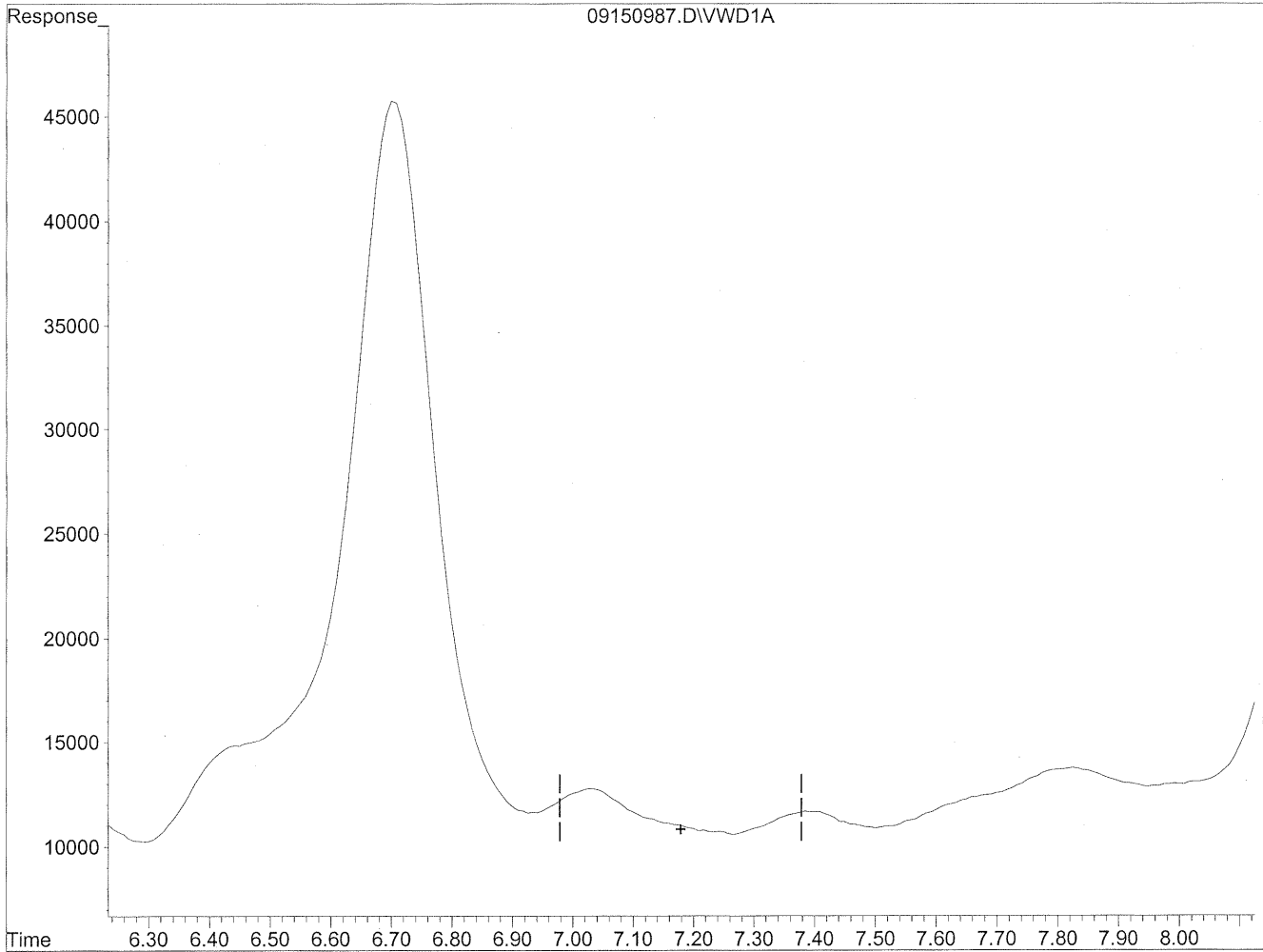


(9) o-Tolualdehyde
7.03min 110.203ng/ml
response 241847

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:19 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



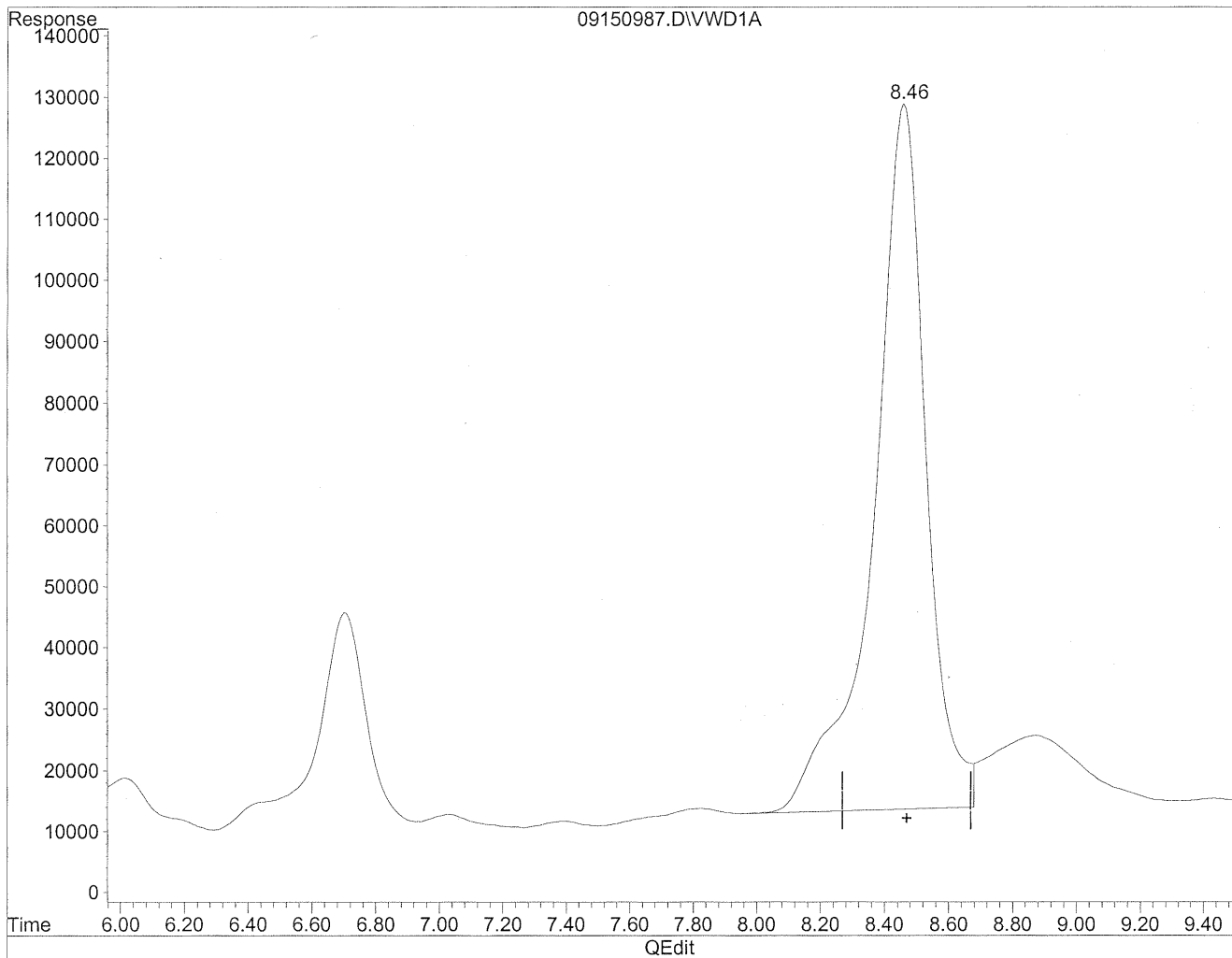
(9) o-Tolualdehyde
0.00min 0.000ng/ml d
response 0

Handwritten notes:
KLC
9/21/09
MP
MP
9/21/09
MP

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:19 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

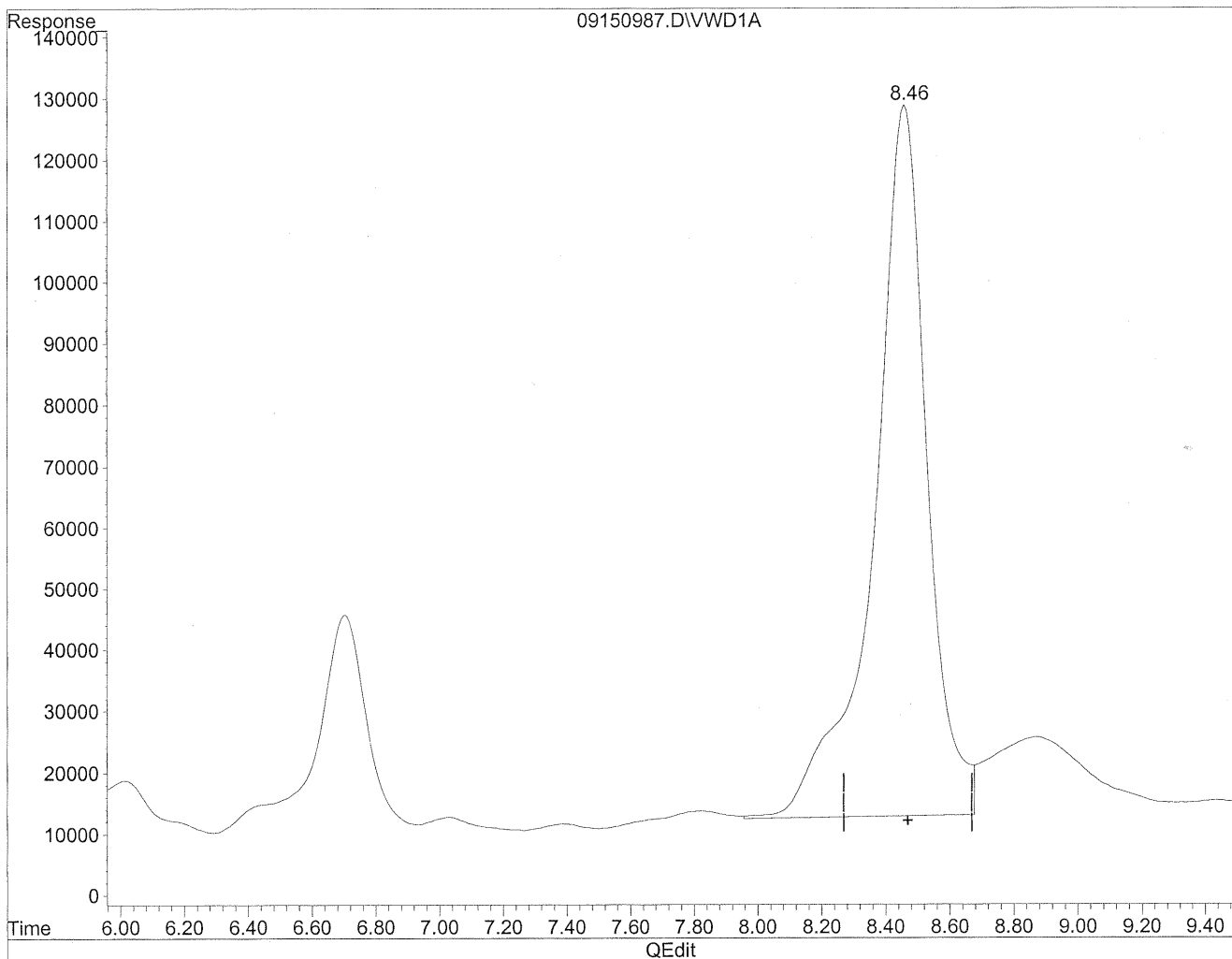
8.46min 4377.743ng/ml

response 12961291

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:19 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



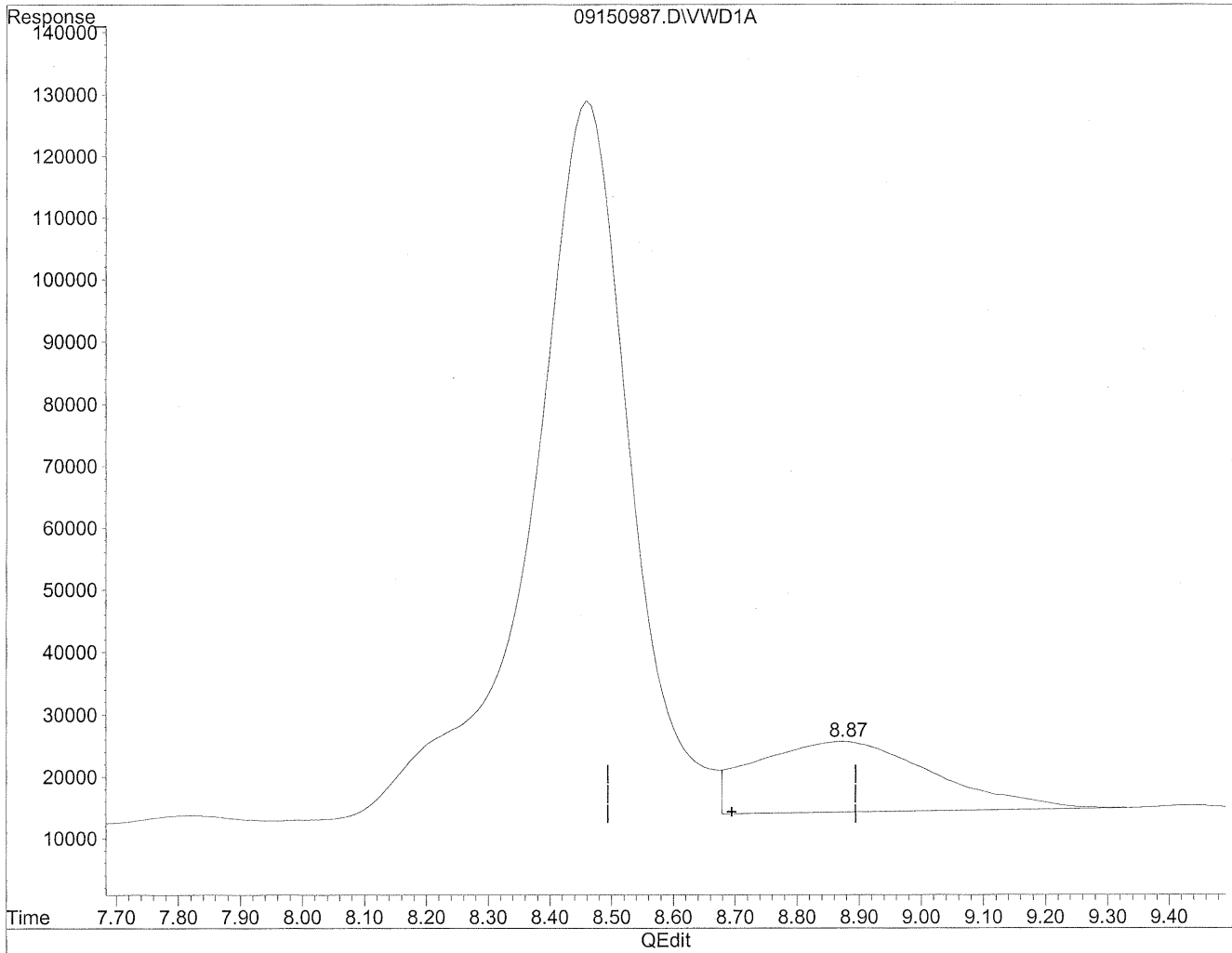
(11) Hexaldehyde
8.46min 4482.465ng/ml m
response 13271344

(Handwritten notes)
①
9/21/09
PAC
HL
9/21/09
(m flag)

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:19 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

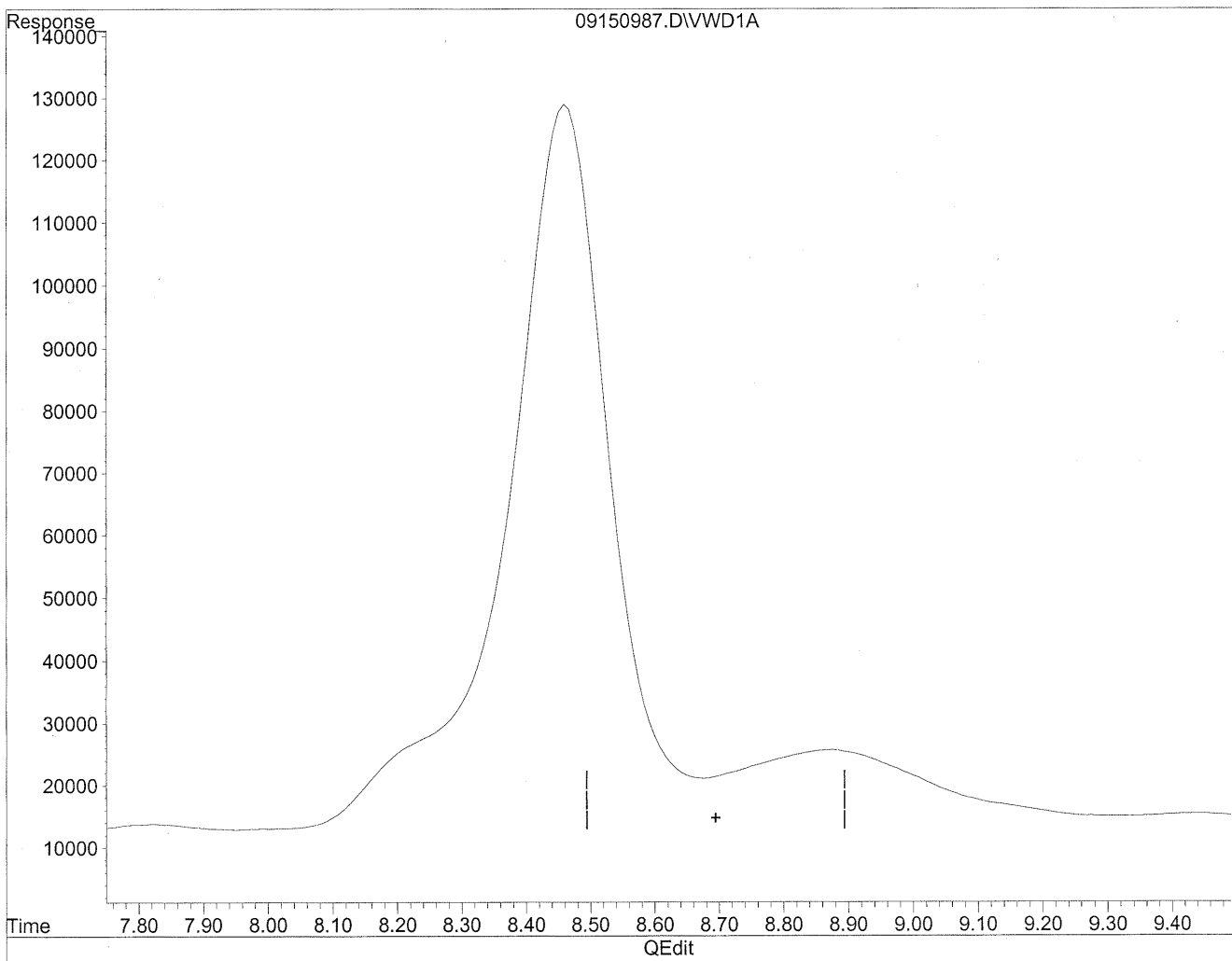
8.88min 1147.873ng/ml

response 2290572

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150987.D Vial: 172
Acq On : 16-Sep-2009, 01:31 Operator: MD
Sample : P0903195-009 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:19 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

0.00min 0.000ng/ml d

response 0

MD
9/21/09

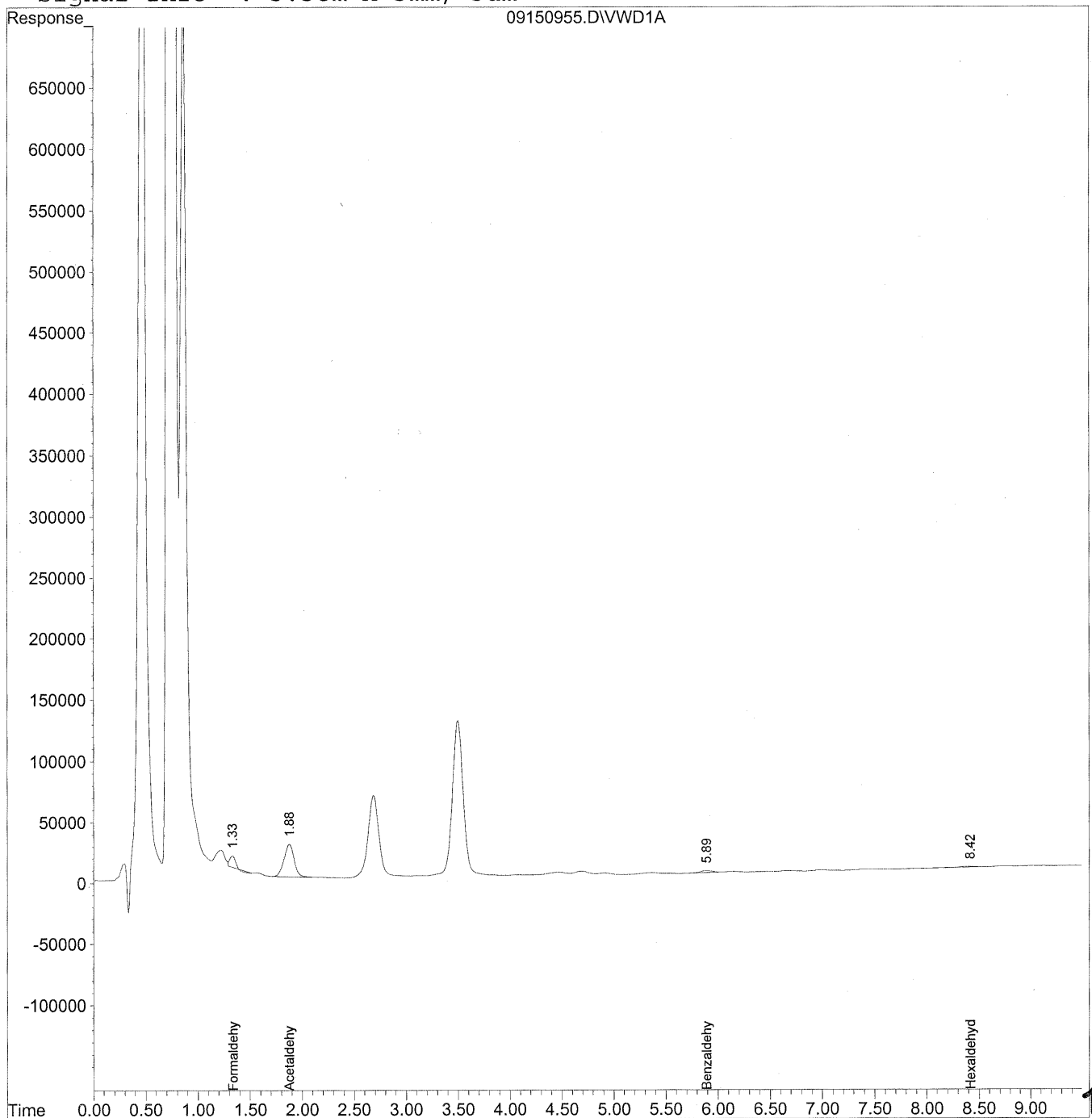
(MD)
9/21/09
MP

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150955.D Vial: 148
Acq On : 15-Sep-2009, 19:09 Operator: MD
Sample : P0903195-009 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150955.D Vial: 148
 Acq On : 15-Sep-2009, 19:09 Operator: MD
 Sample : P0903195-009 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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	317387	35.520 ng/ml
2) Acetaldehyde	1.88	1801105	277.059 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	5.90	127919	46.885 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	8.42	48448	16.364 ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.
Client Sample ID: 104872
Client Project ID: 16512

CAS Project ID: P0903195
 CAS Sample ID: P0903195-010

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: 9/10/09
Date Analyzed: 9/15 - 9/16/09
Desorption Volume: 1.0 ml
Volume Sampled: 105 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	9,000	85	0.95	69	0.78	
75-07-0	Acetaldehyde	2,500	23	0.95	13	0.53	
123-38-6	Propionaldehyde	360	3.4	0.95	1.4	0.40	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.95	ND	0.33	
123-72-8	Butyraldehyde	390	3.7	0.95	1.3	0.32	
100-52-7	Benzaldehyde	1,200	11	0.95	2.5	0.22	
590-86-3	Isovaleraldehyde	< 100	ND	0.95	ND	0.27	
110-62-3	Valeraldehyde	1,300	12	0.95	3.4	0.27	
529-20-4	o-Tolualdehyde	< 100	ND	0.95	ND	0.19	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.9	ND	0.39	
66-25-1	n-Hexaldehyde	5,300	51	0.95	12	0.23	M
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.95	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.

M = Matrix interference; results may be biased high.

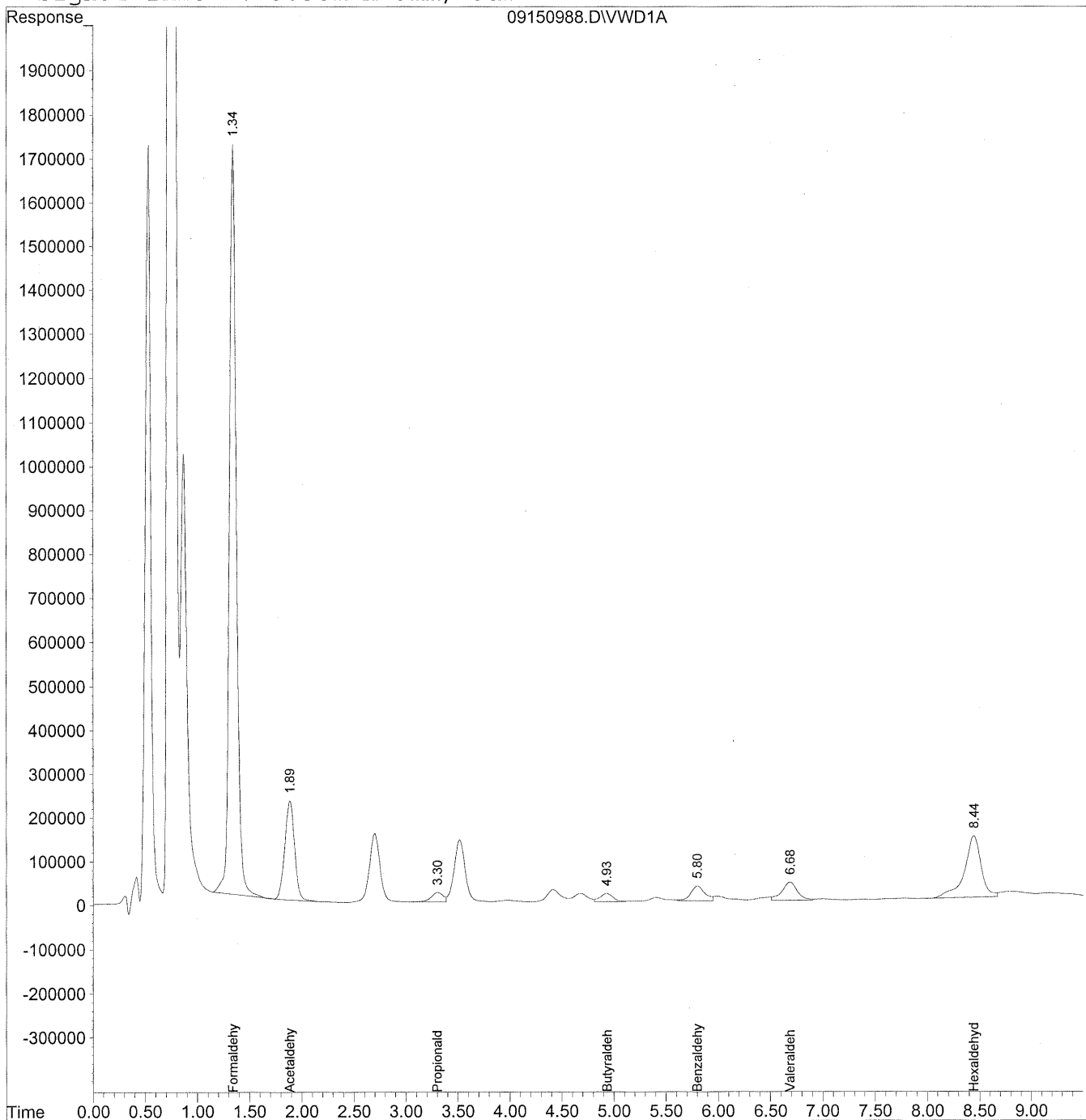
Verified By: Re Date: 9/21/09 **145**

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150988.D Vial: 173
Acq On : 16-Sep-2009, 01:43 Operator: MD
Sample : P0903195-010 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:24 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150988.D Vial: 173
 Acq On : 16-Sep-2009, 01:43 Operator: MD
 Sample : P0903195-010 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:24 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 17 16:12:59 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

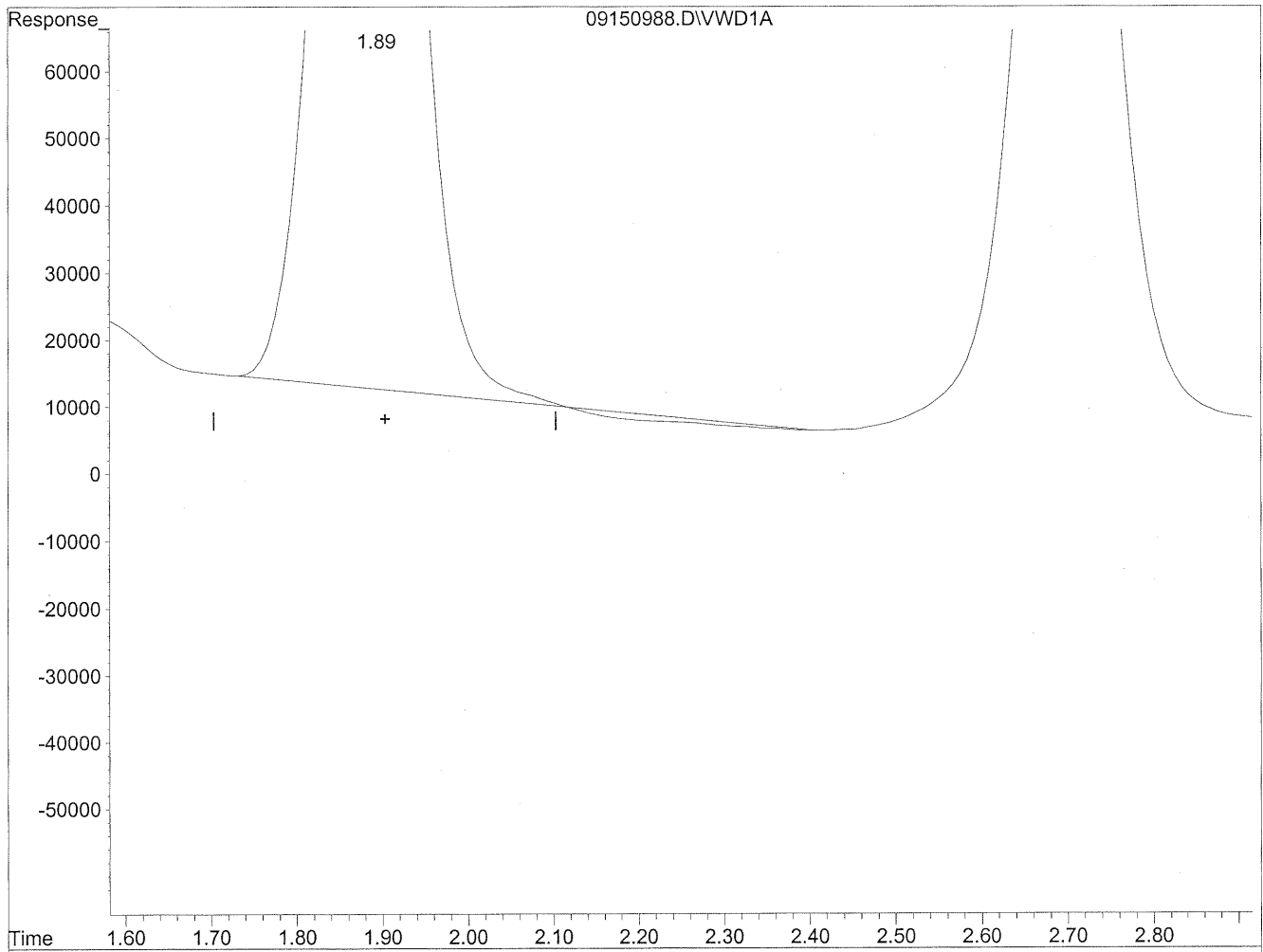
Target Compounds				
1) Formaldehyde	1.35	80039946	8957.592	ng/ml
2) Acetaldehyde	1.89	14677797	2257.846	ng/mlm
3) Propionaldehyde	3.30	1859409	357.728	ng/mlm
4) Crotonaldehyde	0.00	0	N.D.	ng/ml
5) Butyraldehyde	4.93	1583055	390.611	ng/mlm
6) Benzaldehyde	5.80	3160457	1158.365	ng/ml
7) Isovaleraldehyde	0.00	0	N.D.	ng/ml
8) Valeraldehyde	6.68	4257689	1252.394	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	8.44	15706290	5304.880	ng/mlm *
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

(* mflag)

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150988.D Vial: 173
Acq On : 16-Sep-2009, 01:43 Operator: MD
Sample : P0903195-010 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

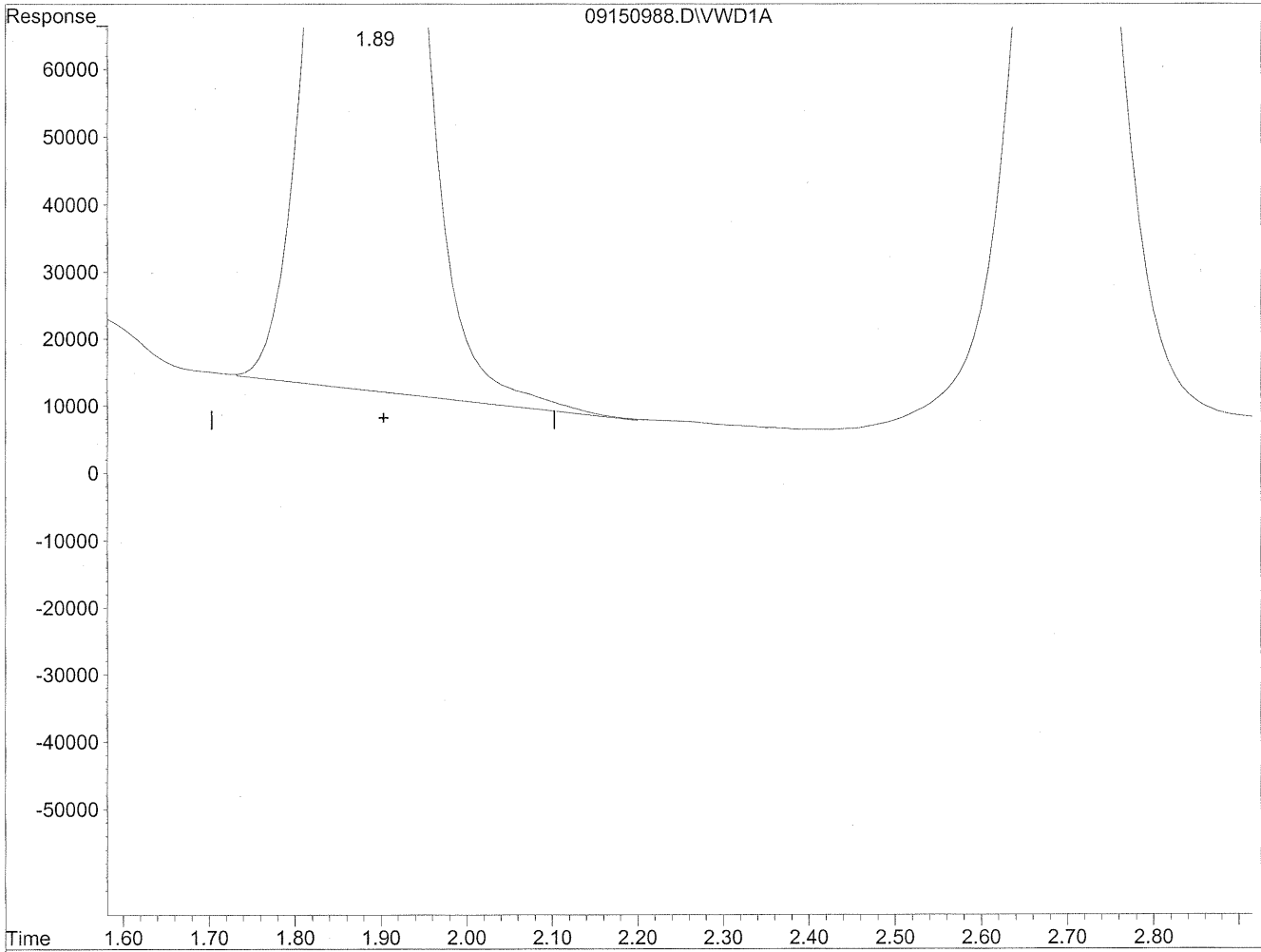


(2) Acetaldehyde
1.89min 2221.747ng/ml
response 14443124

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150988.D Vial: 173
Acq On : 16-Sep-2009, 01:43 Operator: MD
Sample : P0903195-010 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



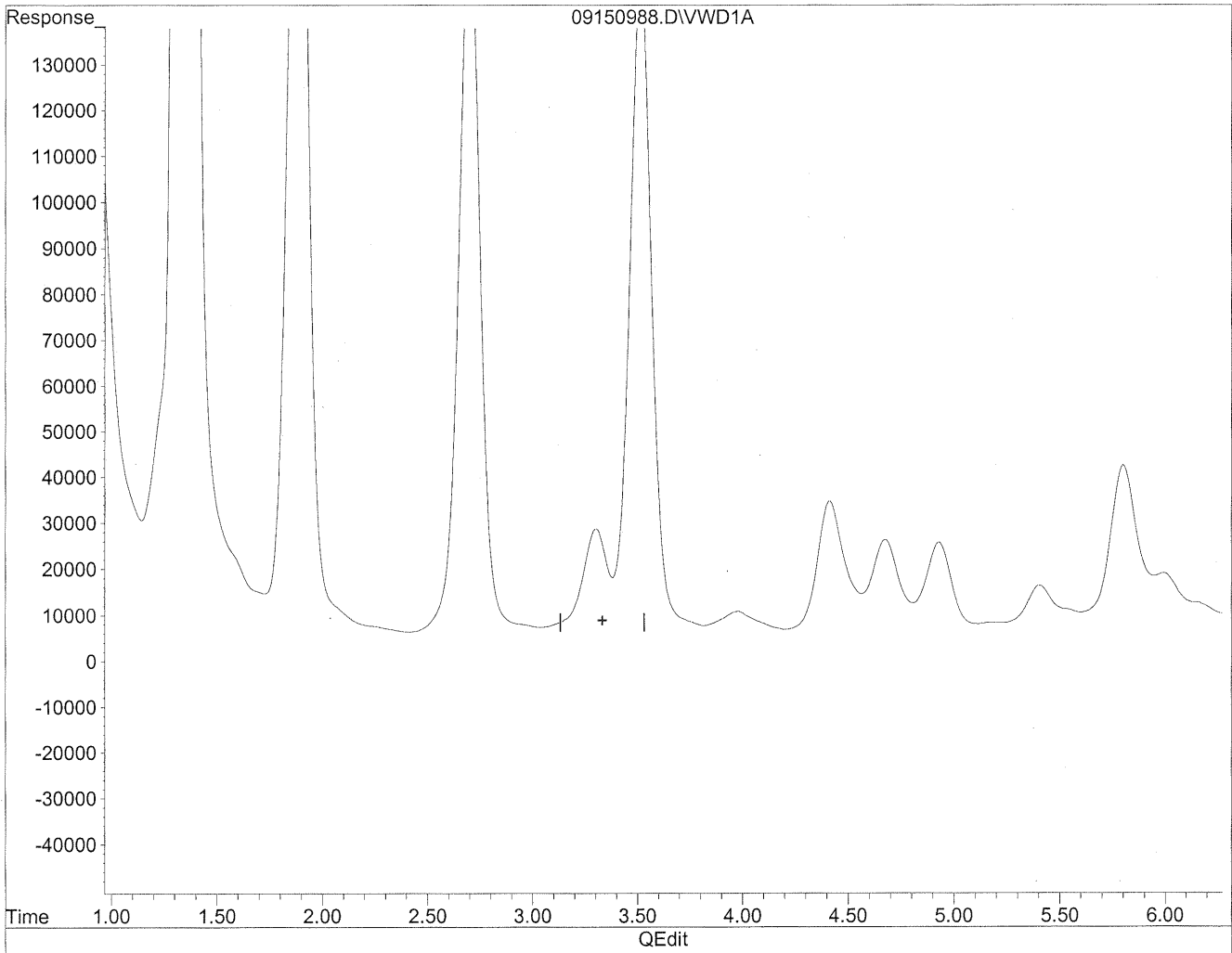
(2) Acetaldehyde
1.89min 2257.846ng/ml m
response 14677797

me
9/21/09
ic
xc
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150988.D Vial: 173
Acq On : 16-Sep-2009, 01:43 Operator: MD
Sample : P0903195-010 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde

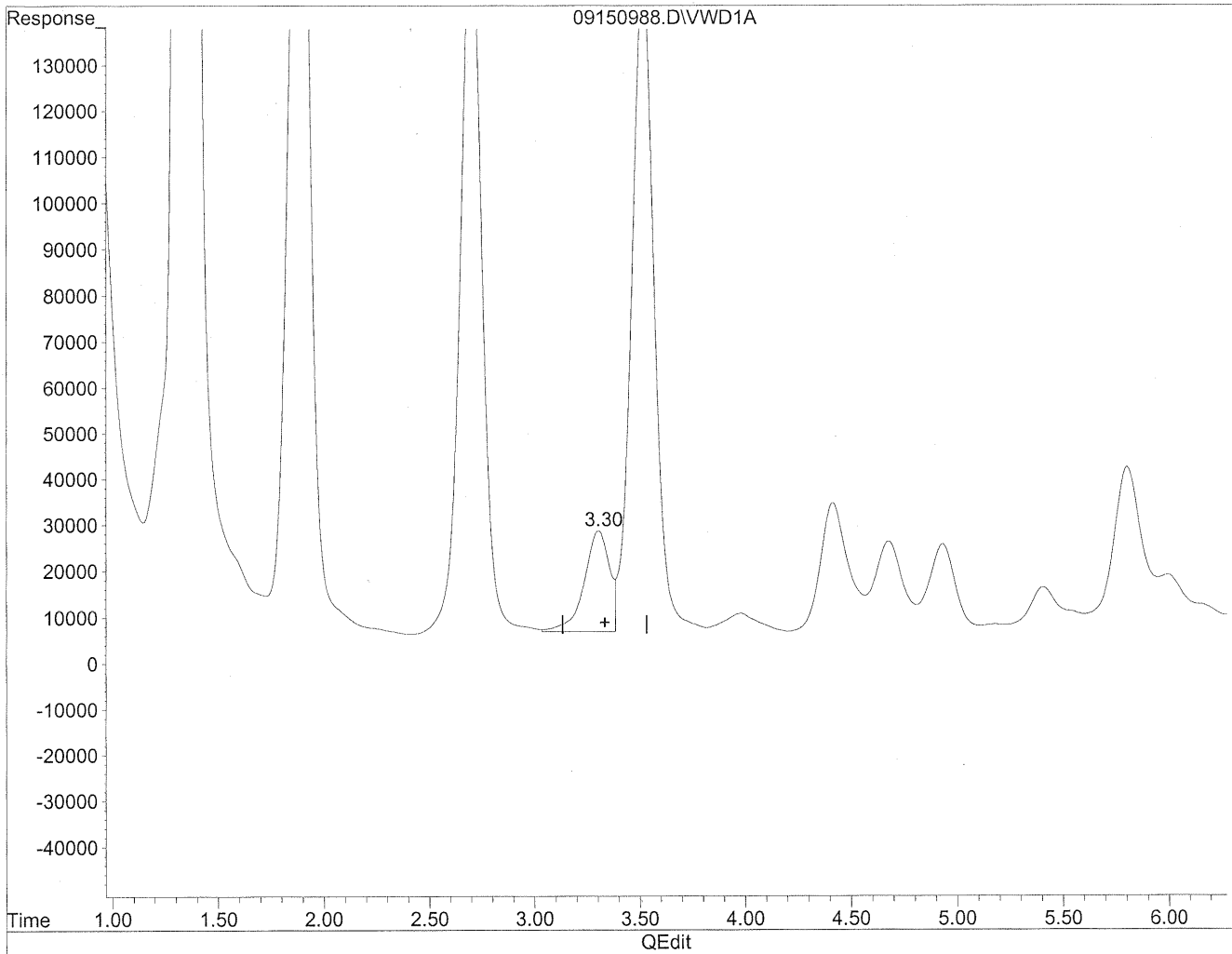
3.33min 0.000ng/ml

response 0

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150988.D Vial: 173
Acq On : 16-Sep-2009, 01:43 Operator: MD
Sample : P0903195-010 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde
3.30min 357.728ng/ml m
response 1859409

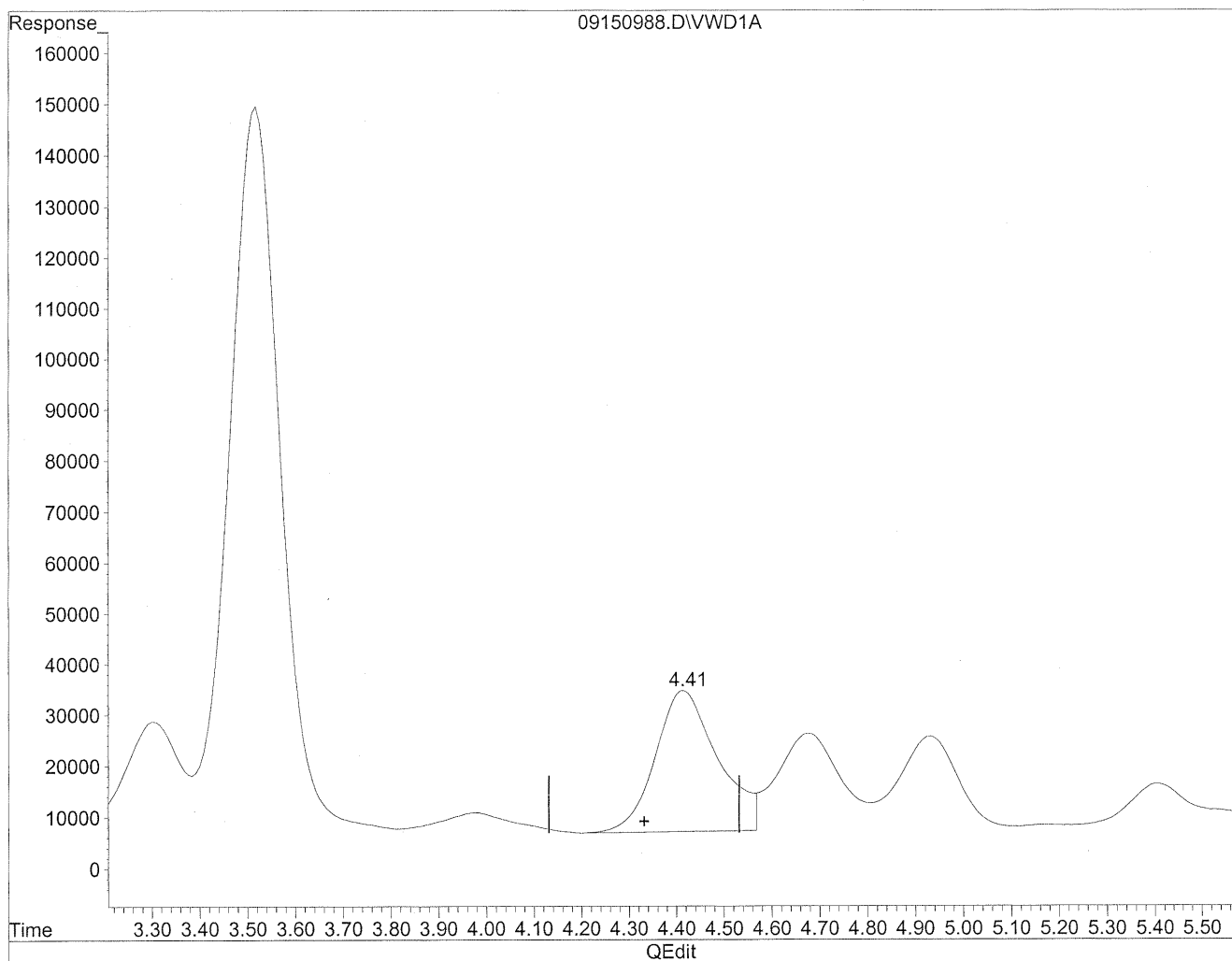
MD
9/21/09
BHU

HL
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150988.D Vial: 173
Acq On : 16-Sep-2009, 01:43 Operator: MD
Sample : P0903195-010 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

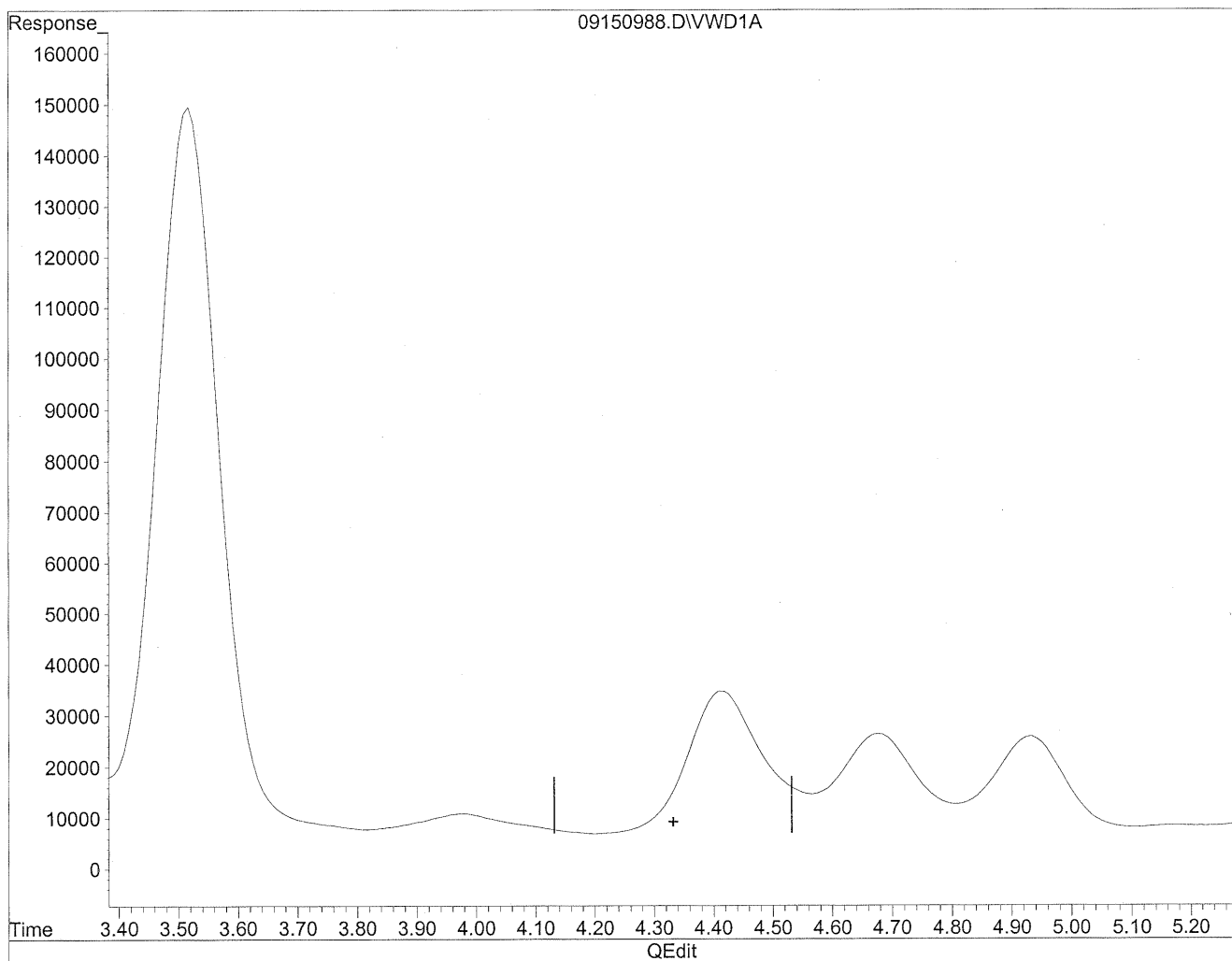


(4) Crotonaldehyde
4.42min 617.411ng/ml
response 2506424

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150988.D Vial: 173
Acq On : 16-Sep-2009, 01:43 Operator: MD
Sample : P0903195-010 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



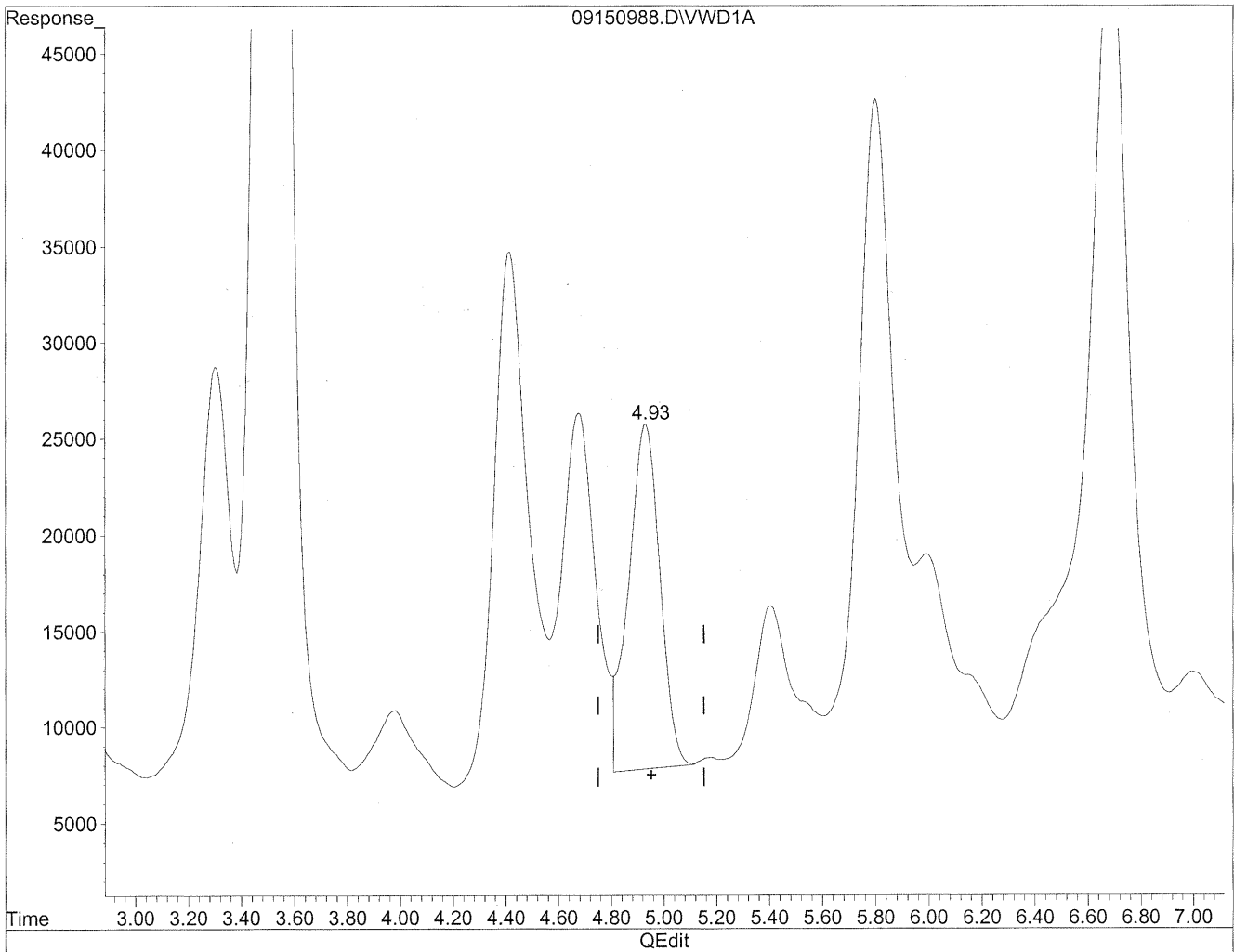
(4) Crotonaldehyde
0.00min 0.000ng/ml d
response 0

Handwritten notes:
VWD
9/21/09
mp
mu
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150988.D Vial: 173
Acq On : 16-Sep-2009, 01:43 Operator: MD
Sample : P0903195-010 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

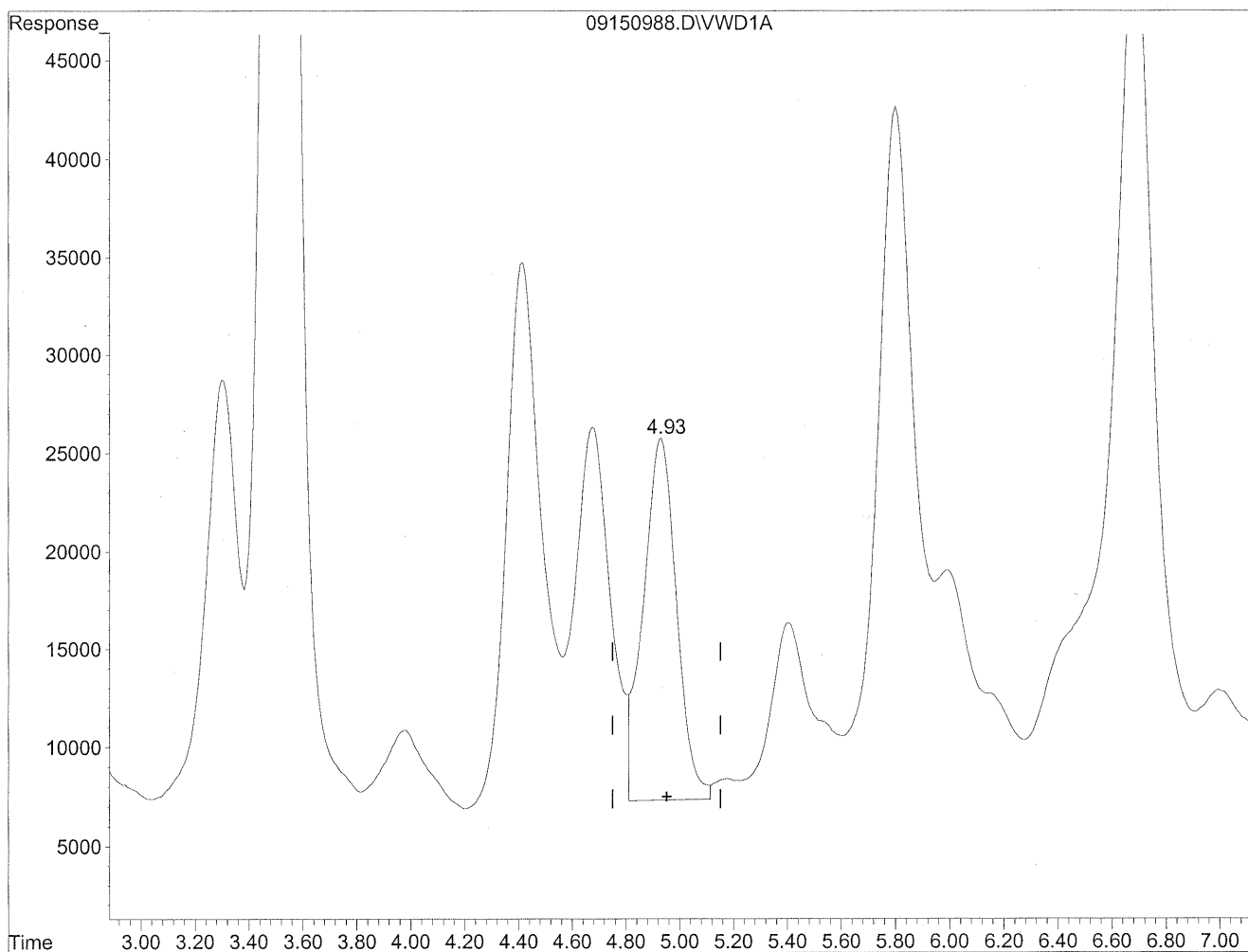


(5) Butyraldehyde
4.93min 372.421ng/ml
response 1509337

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150988.D Vial: 173
Acq On : 16-Sep-2009, 01:43 Operator: MD
Sample : P0903195-010 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



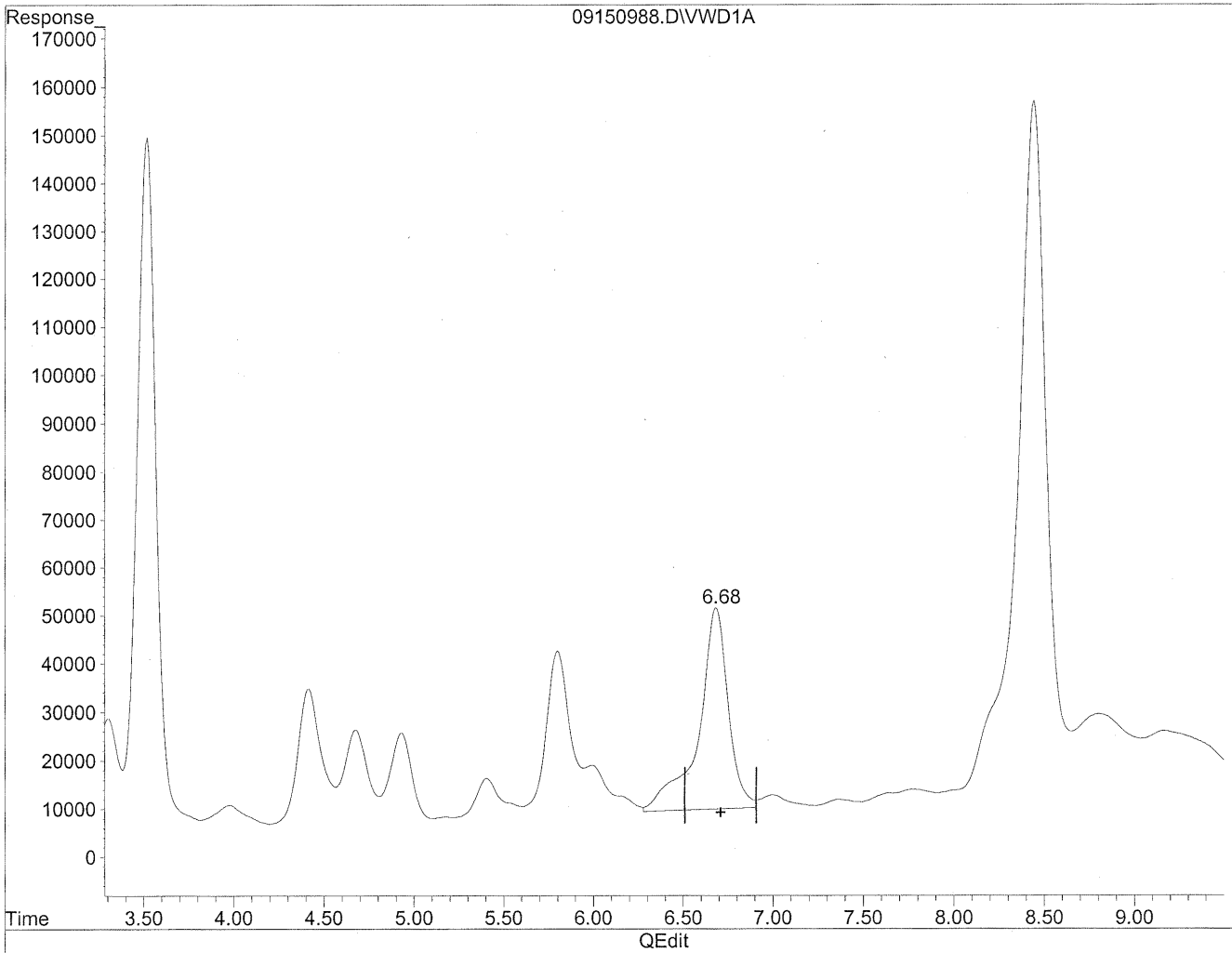
(5) Butyraldehyde
4.93min 390.611ng/ml m
response 1583055

MD
9/21/09
PC
HC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150988.D Vial: 173
Acq On : 16-Sep-2009, 01:43 Operator: MD
Sample : P0903195-010 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(8) Valeraldehyde

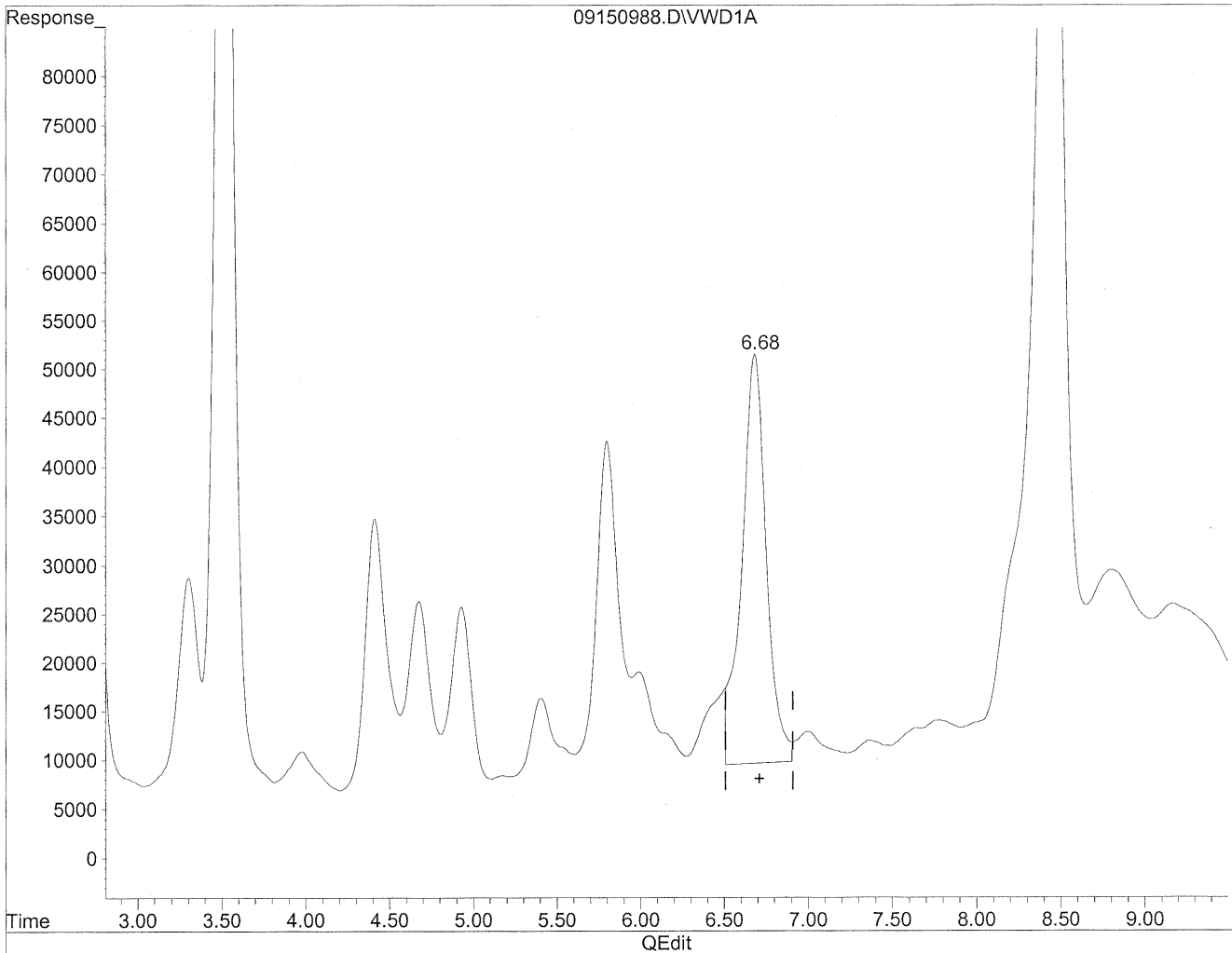
6.69min 1410.806ng/ml

response 4796232

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150988.D Vial: 173
Acq On : 16-Sep-2009, 01:43 Operator: MD
Sample : P0903195-010 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



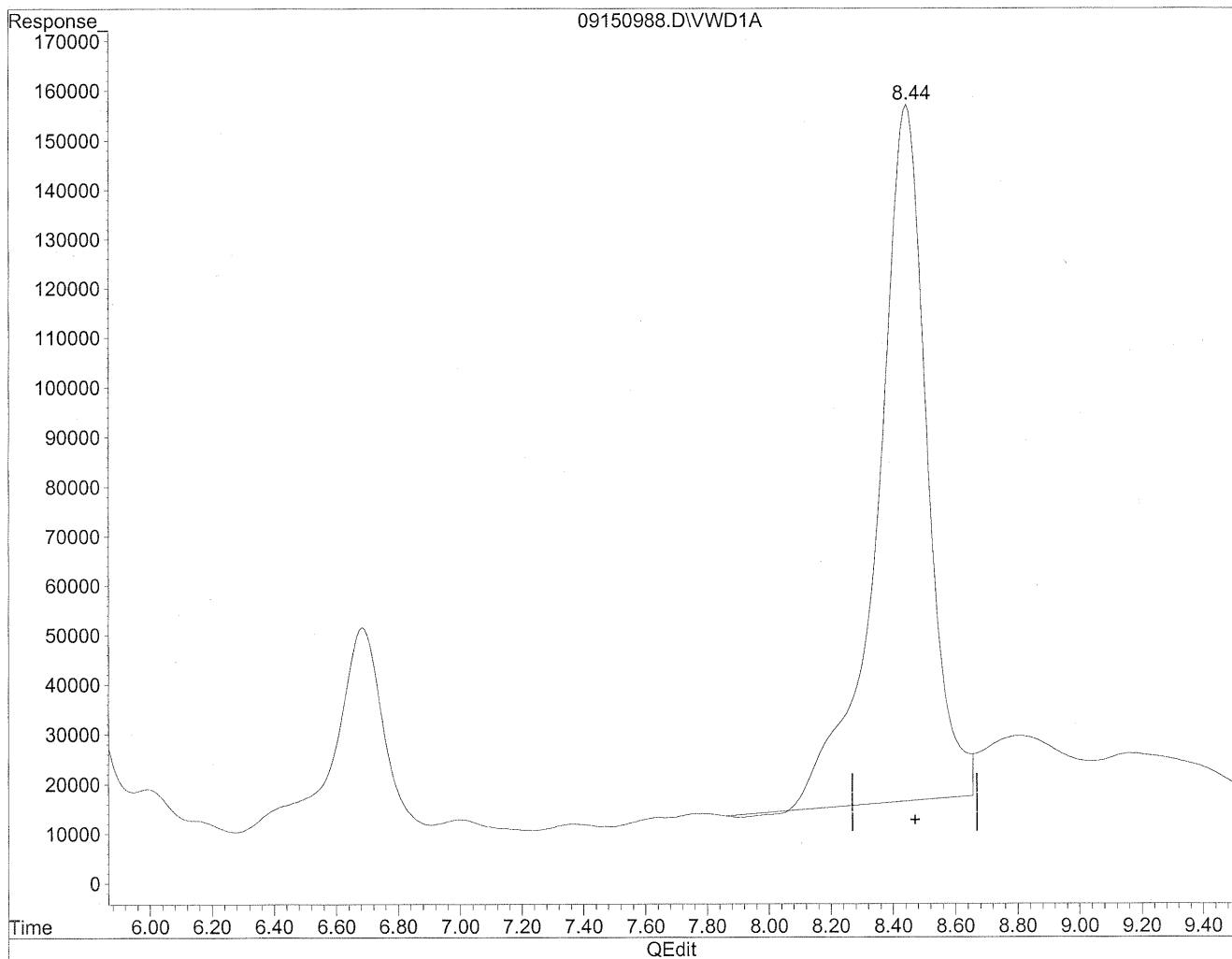
(8) Valeraldehyde
6.68min 1252.394ng/ml m
response 4257689

M
9/21/09
SA
HC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150988.D Vial: 173
Acq On : 16-Sep-2009, 01:43 Operator: MD
Sample : P0903195-010 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

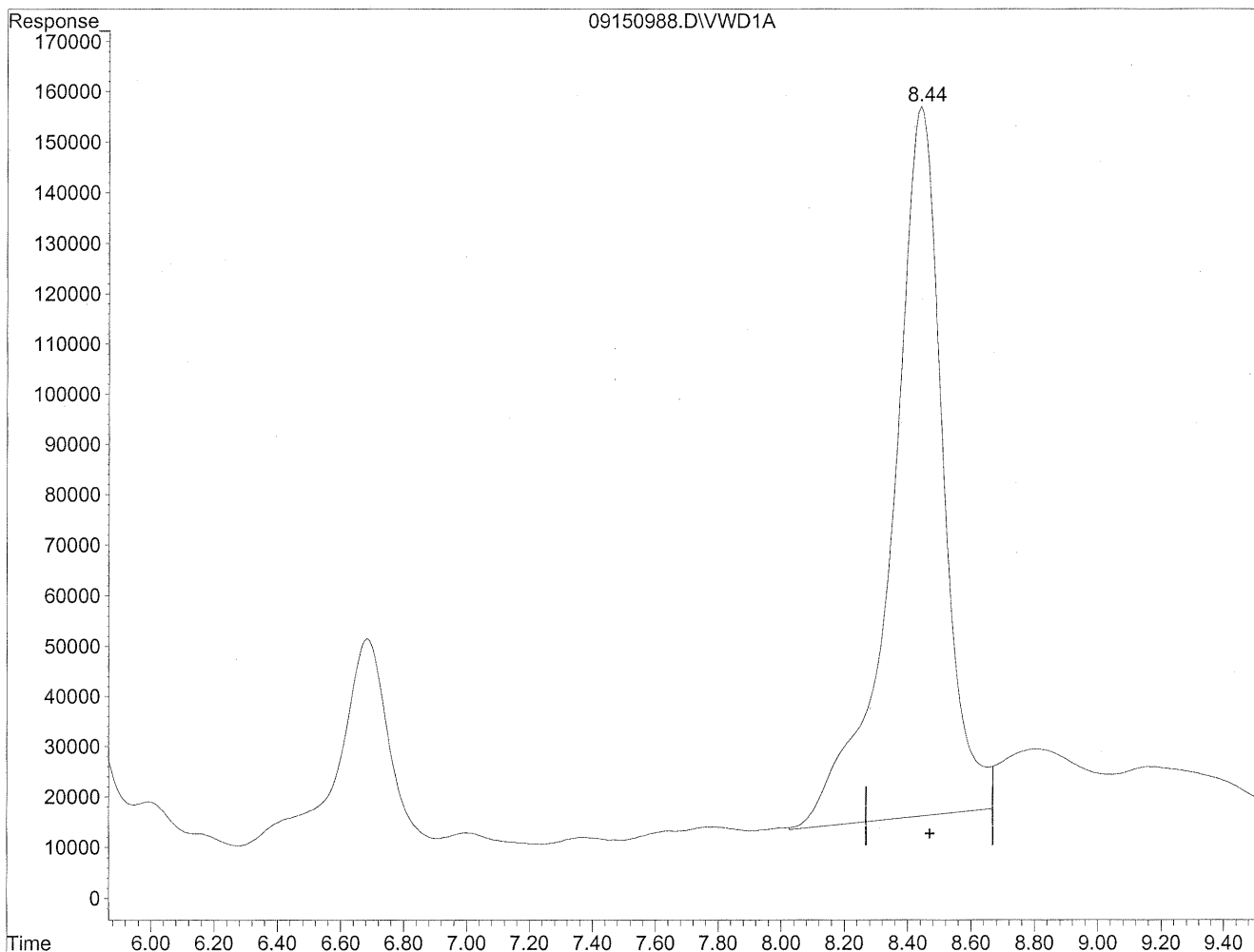


(11) Hexaldehyde
8.44min 5201.586ng/ml
response 15400463

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150988.D Vial: 173
Acq On : 16-Sep-2009, 01:43 Operator: MD
Sample : P0903195-010 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.44min 5304.880ng/ml m

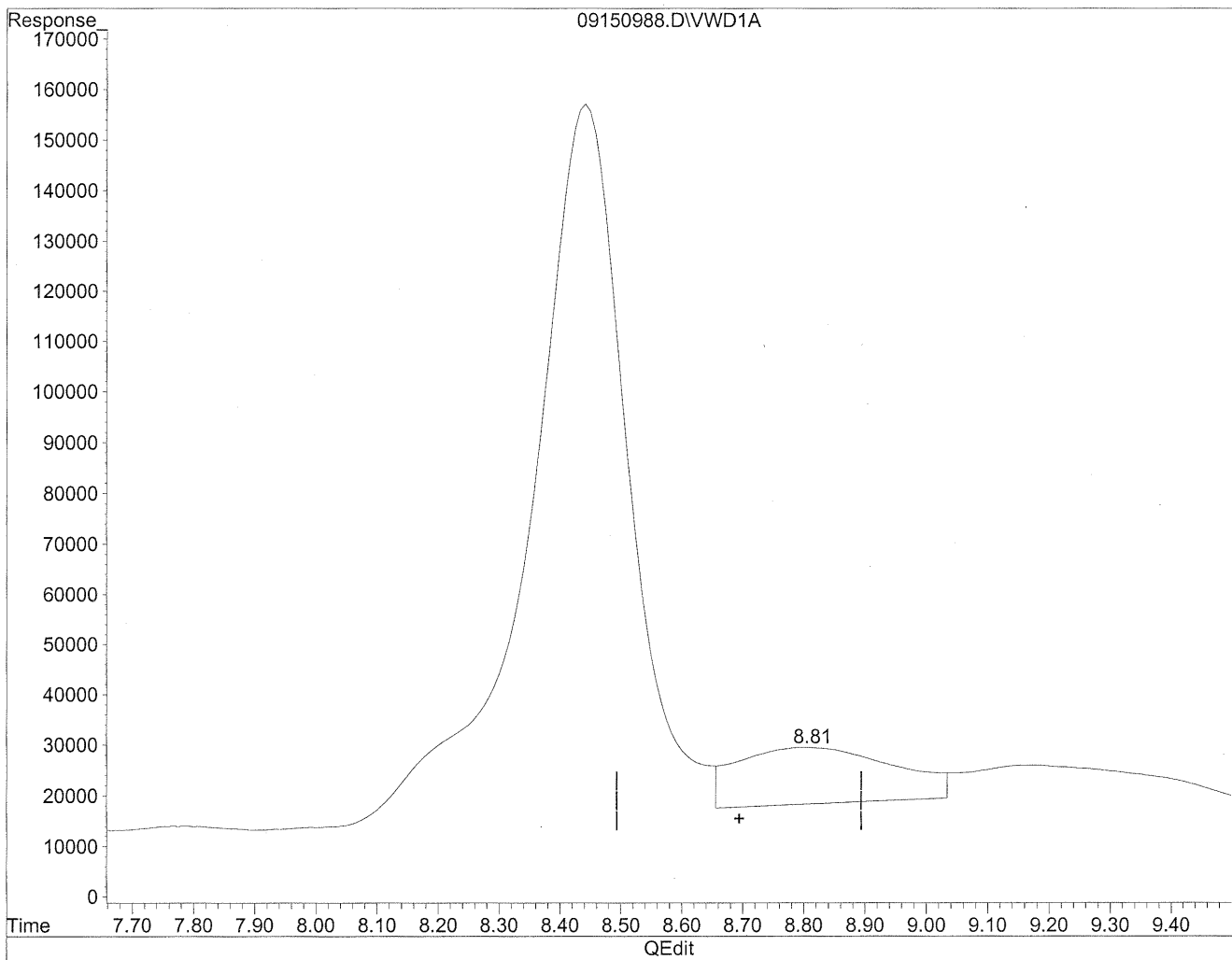
response 15706290

M
9/21/09
IC
(m flag)
HC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150988.D Vial: 173
Acq On : 16-Sep-2009, 01:43 Operator: MD
Sample : P0903195-010 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

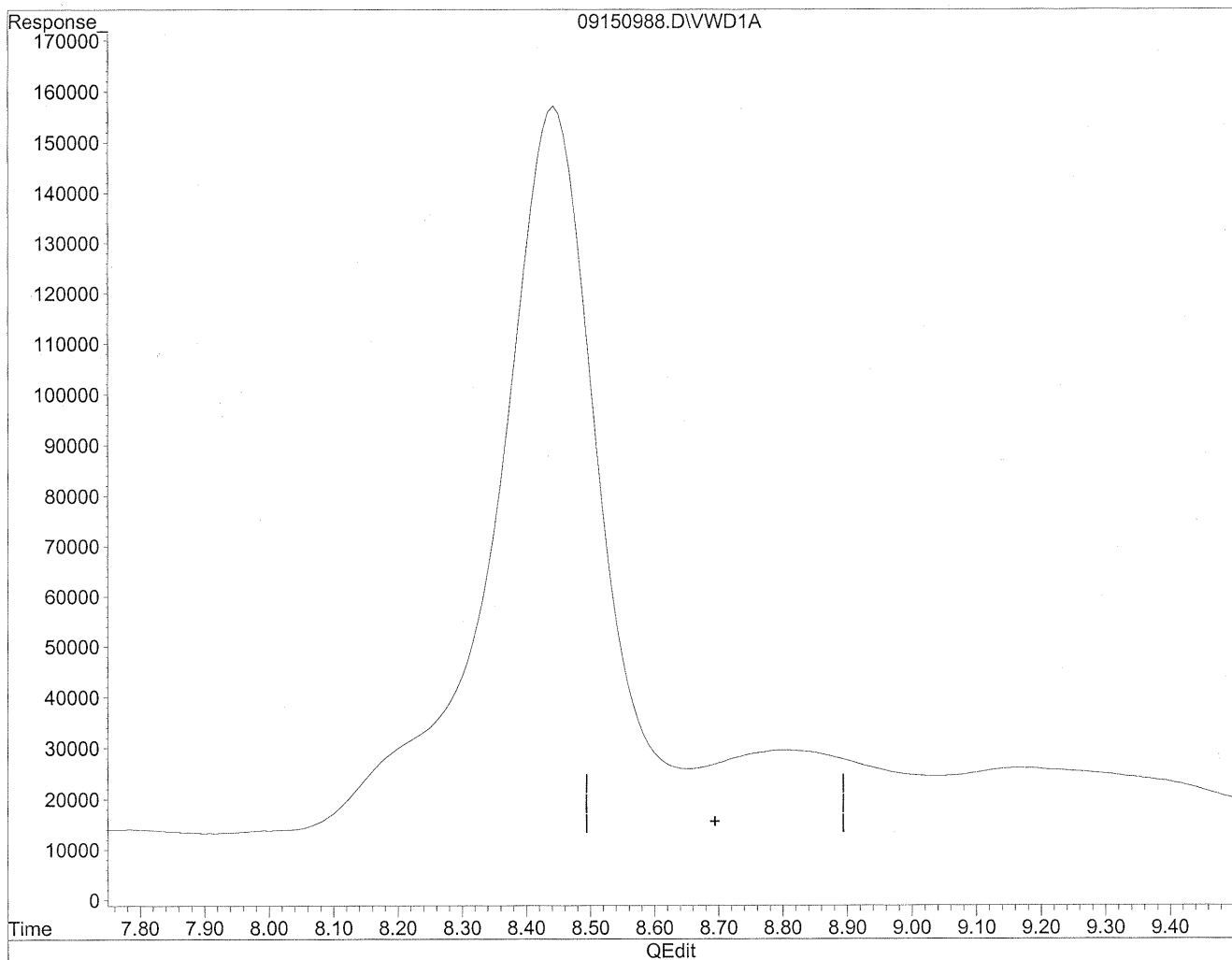
8.81min 998.663ng/ml

response 1992824

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150988.D Vial: 173
Acq On : 16-Sep-2009, 01:43 Operator: MD
Sample : P0903195-010 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

0.00min 0.000ng/ml d

response 0

0 min
9/21/09
mp

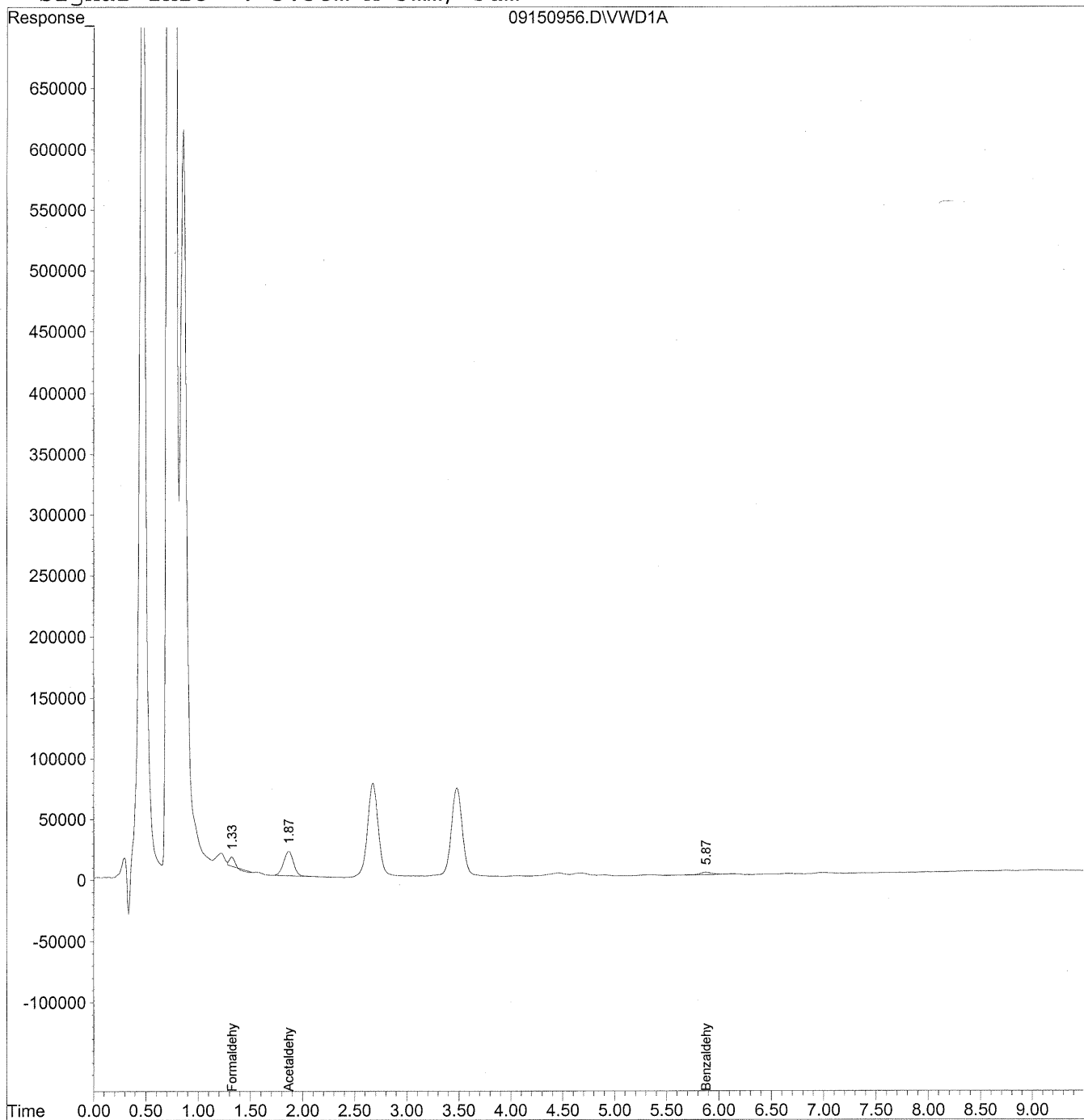
HL
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150956.D Vial: 149
Acq On : 15-Sep-2009, 19:21 Operator: MD
Sample : P0903195-010 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150956.D Vial: 149
 Acq On : 15-Sep-2009, 19:21 Operator: MD
 Sample : P0903195-010 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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	213071	23.846 ng/ml
2) Acetaldehyde	1.87	1334769	205.324 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	5.88	127607	46.770 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	0.00	0	N.D. ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.
Client Sample ID: 104873
Client Project ID: 16512

CAS Project ID: P0903195
 CAS Sample ID: P0903195-011

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: 9/10/09
Date Analyzed: 9/15 - 9/16/09
Desorption Volume: 1.0 ml
Volume Sampled: 102 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	5,500	54	0.98	44	0.80	
75-07-0	Acetaldehyde	1,100	11	0.98	6.2	0.54	BT
123-38-6	Propionaldehyde	130	1.3	0.98	0.55	0.41	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.98	ND	0.34	
123-72-8	Butyraldehyde	150	1.5	0.98	0.50	0.33	
100-52-7	Benzaldehyde	580	5.7	0.98	1.3	0.23	
590-86-3	Isovaleraldehyde	< 100	ND	0.98	ND	0.28	
110-62-3	Valeraldehyde	460	4.5	0.98	1.3	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	1,600	16	0.98	3.9	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.

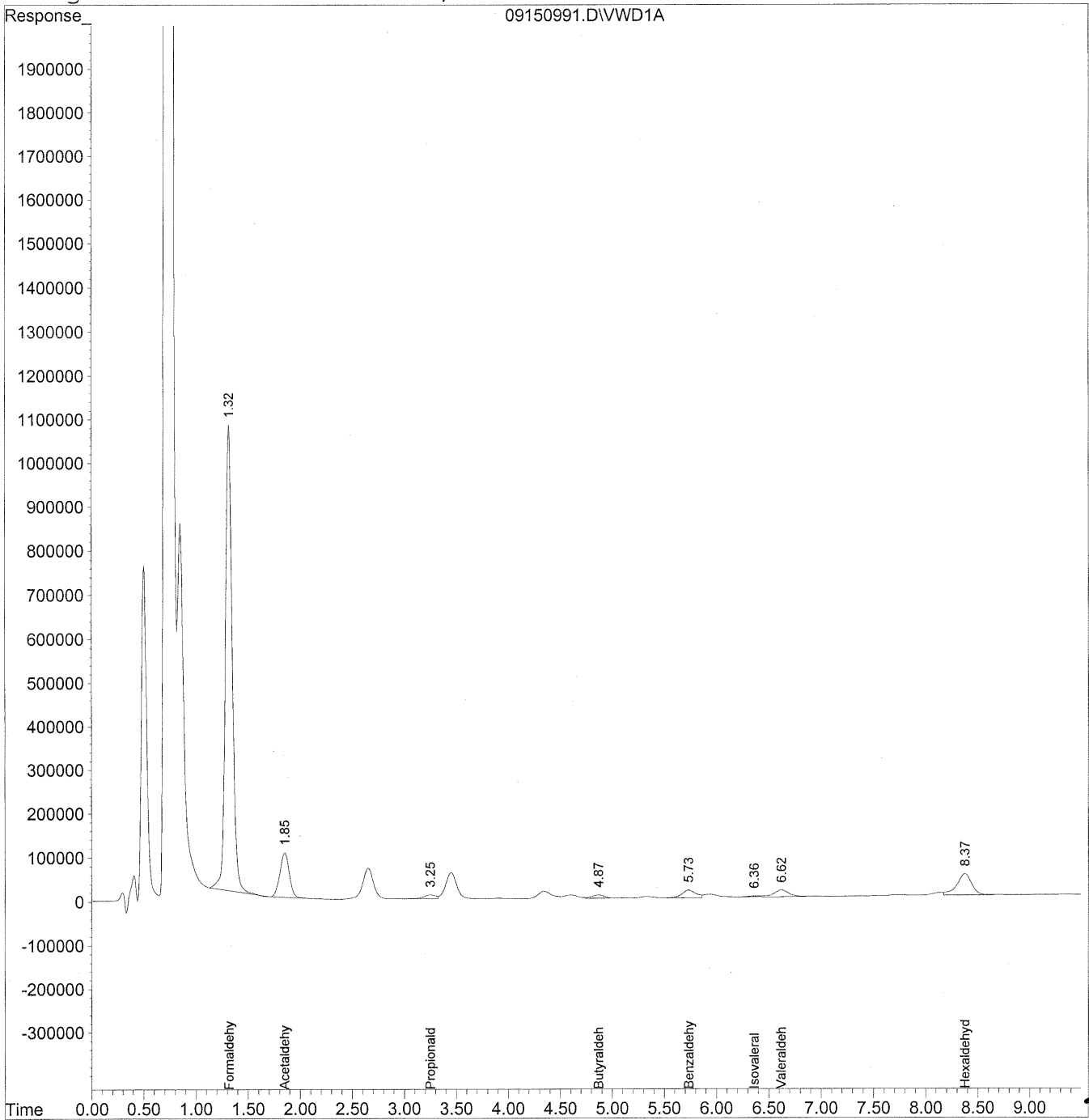
Verified By: Rer Date: 9/24/09 **164**

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150991.D Vial: 176
Acq On : 16-Sep-2009, 02:20 Operator: MD
Sample : P0903195-011 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:29 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150991.D Vial: 176
 Acq On : 16-Sep-2009, 02:20 Operator: MD
 Sample : P0903195-011 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:29 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 17 16:12:59 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

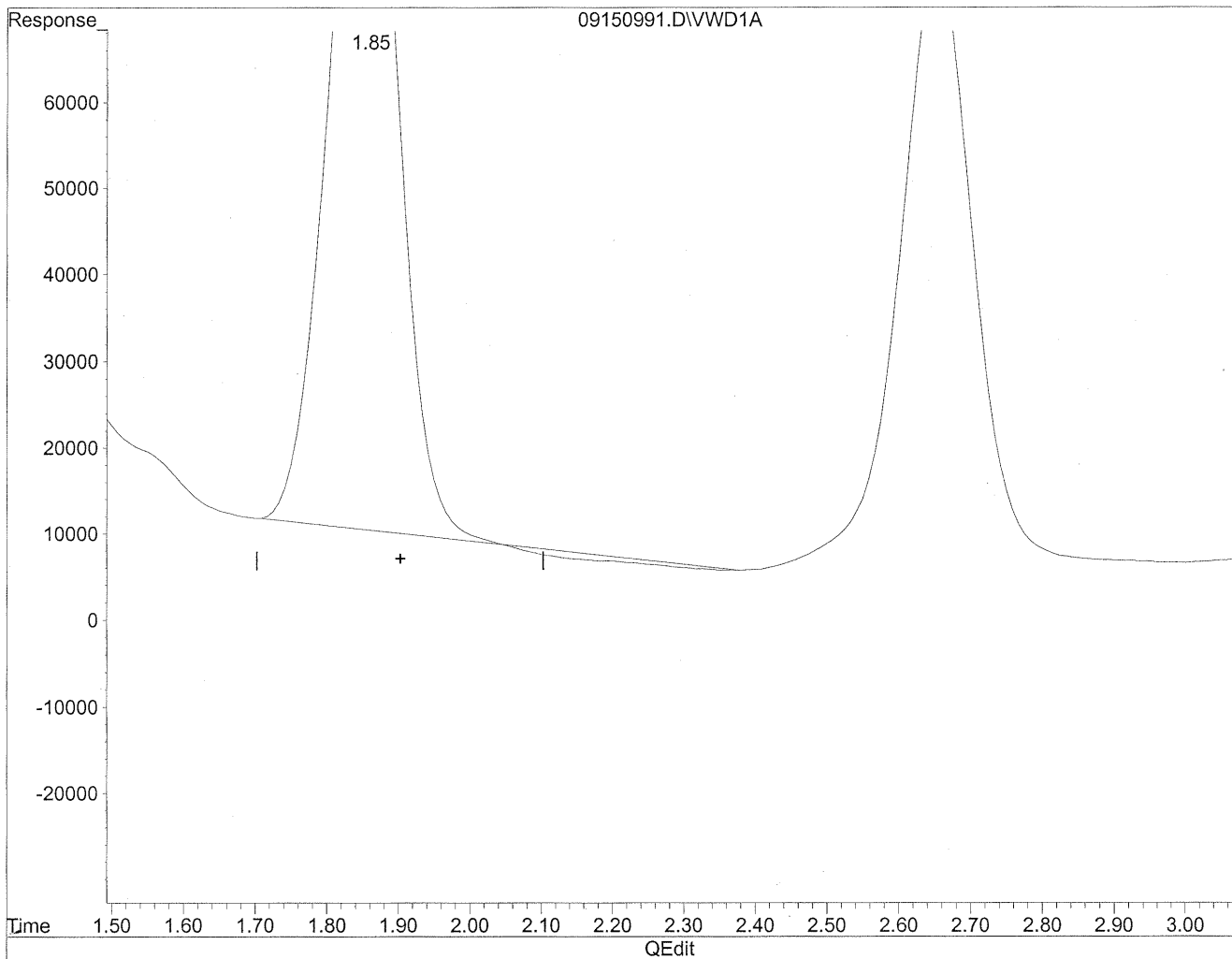
Compound	R.T.	Response	Conc	Units

Target Compounds				
1) Formaldehyde	1.32	49176918	5503.587	ng/ml
2) Acetaldehyde	1.85	6459974	993.720	ng/mlm
3) Propionaldehyde	3.25	696311	133.962	ng/mlm
4) Crotonaldehyde	0.00	0	N.D.	ng/ml
5) Butyraldehyde	4.87	607876	149.990	ng/ml
6) Benzaldehyde	5.73	1591551	583.333	ng/mlm
7) Isovaleraldehyde	6.36	162942	47.342	ng/mlm
8) Valeraldehyde	6.62	1568879	461.484	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	8.37	4858206	1640.884	ng/mlm
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150991.D Vial: 176
Acq On : 16-Sep-2009, 02:20 Operator: MD
Sample : P0903195-011 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

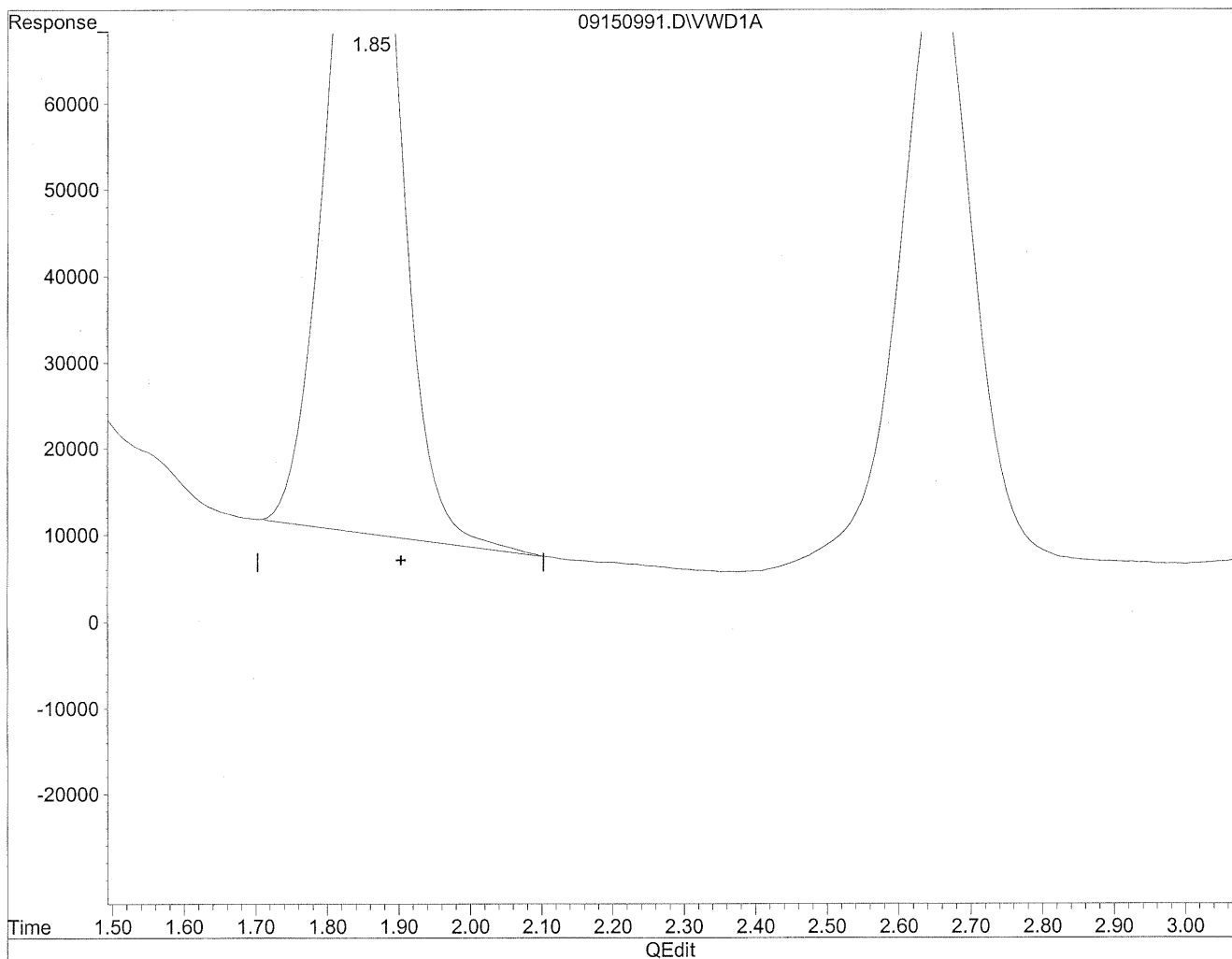


(2) Acetaldehyde
1.86min 968.543ng/ml
response 6296302

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150991.D Vial: 176
Acq On : 16-Sep-2009, 02:20 Operator: MD
Sample : P0903195-011 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



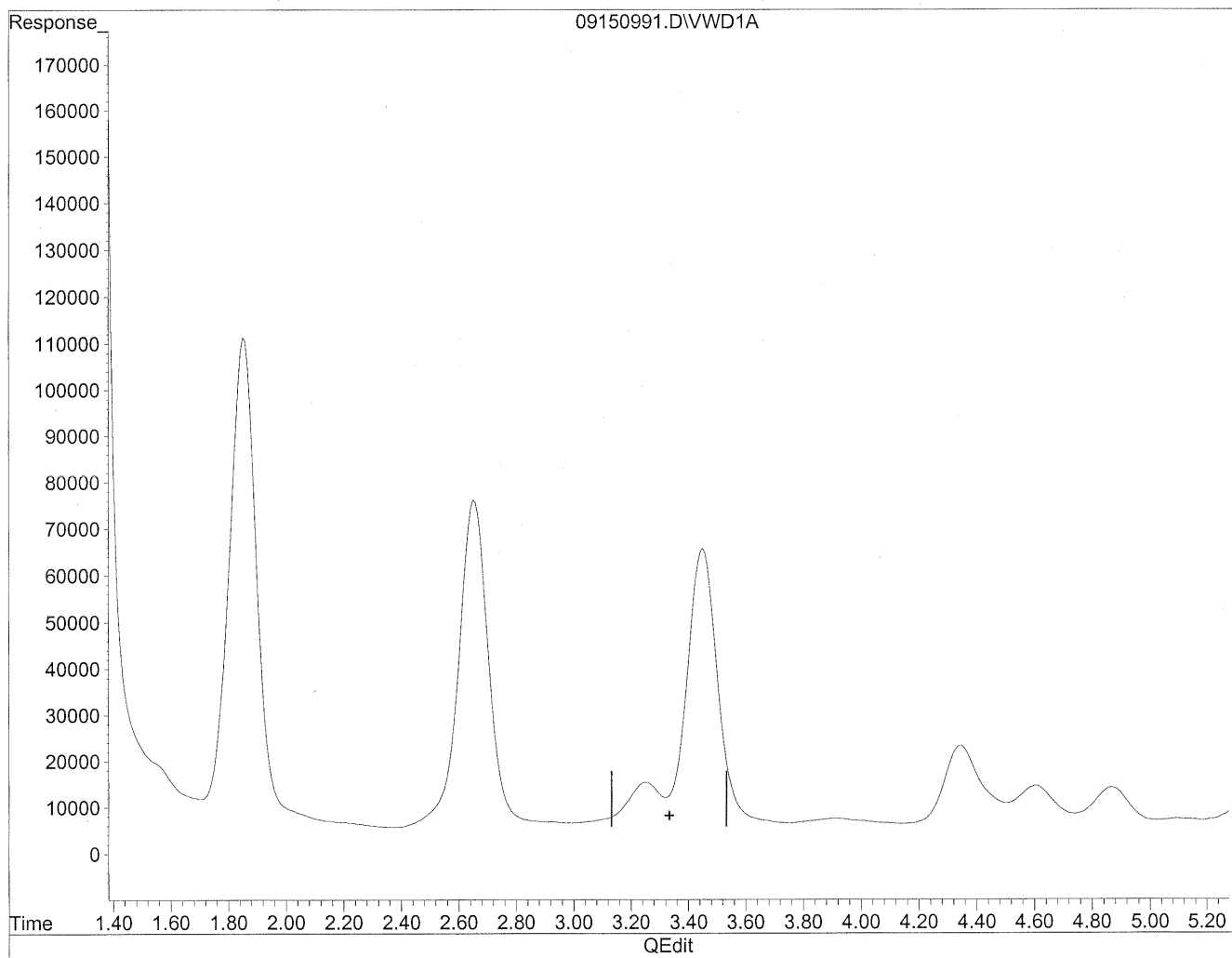
(2) Acetaldehyde
1.85min 993.720ng/ml m
response 6459974

Handwritten notes:
-ma
9/21/09
12
je
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150991.D Vial: 176
Acq On : 16-Sep-2009, 02:20 Operator: MD
Sample : P0903195-011 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

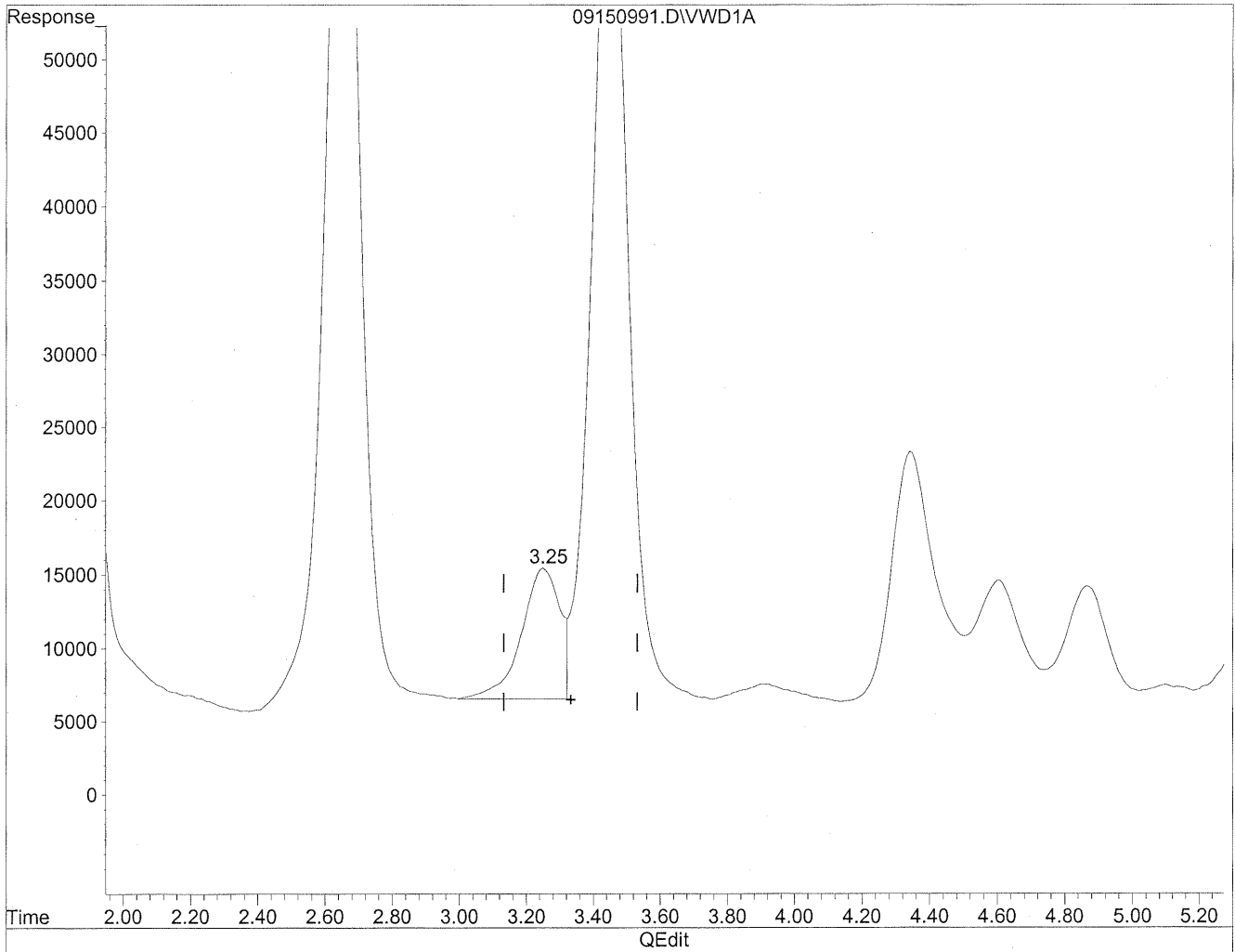


(3) Propionaldehyde
3.33min 0.000ng/ml
response 0

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150991.D Vial: 176
Acq On : 16-Sep-2009, 02:20 Operator: MD
Sample : P0903195-011 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



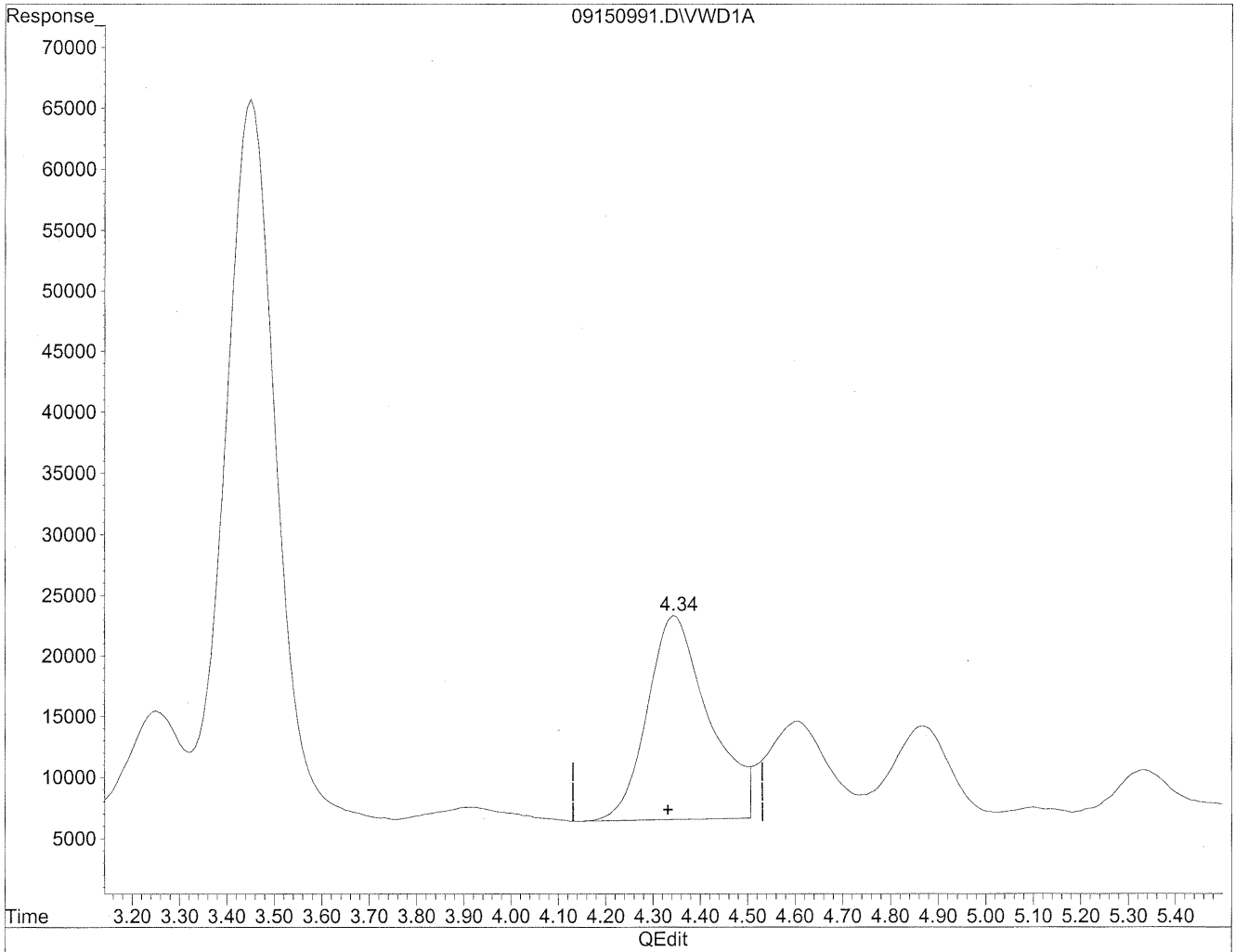
(3) Propionaldehyde
3.25min 133.962ng/ml m
response 696311

Handwritten notes:
HL
9/21/09
9/21/09
Bxi

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150991.D Vial: 176
Acq On : 16-Sep-2009, 02:20 Operator: MD
Sample : P0903195-011 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

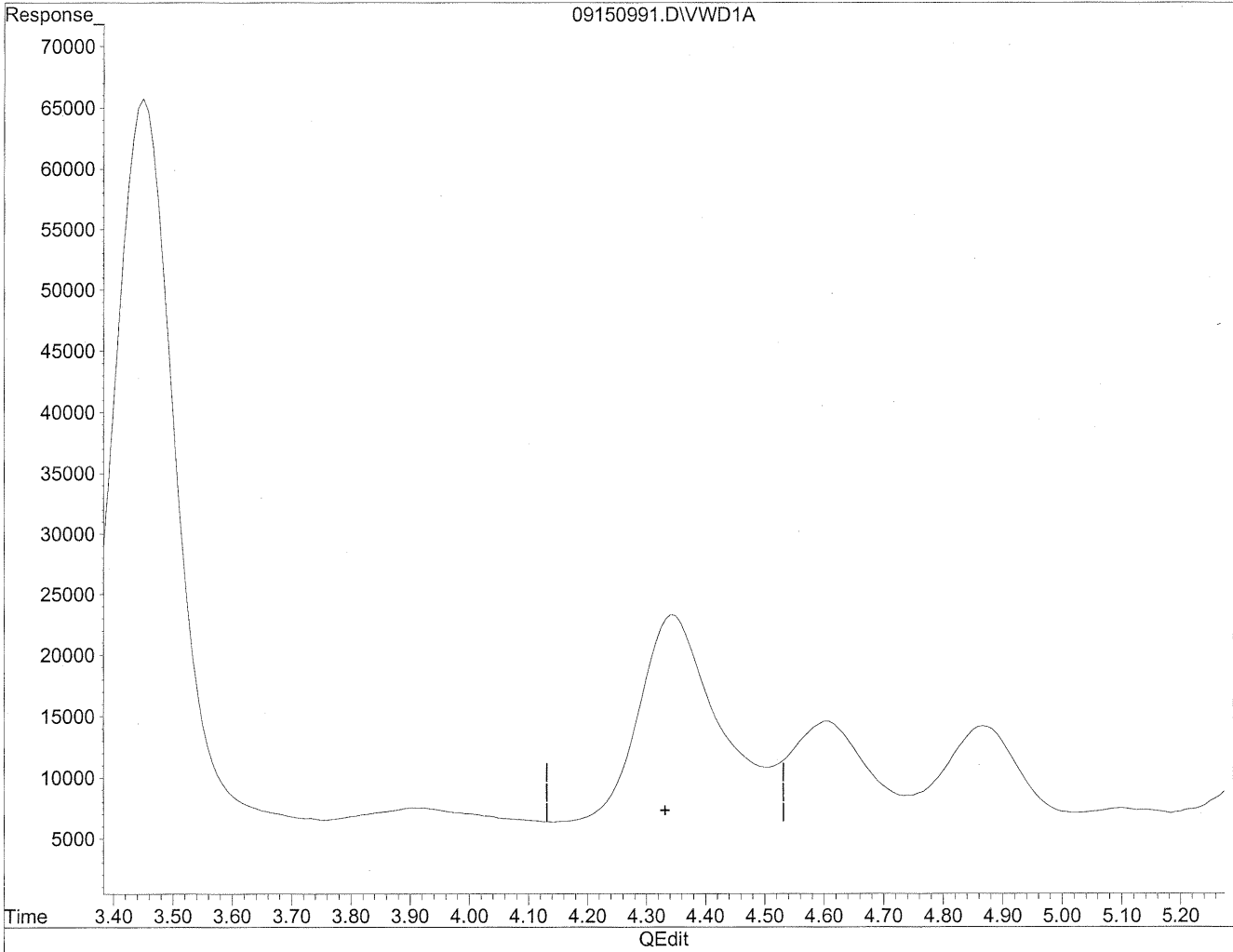


(4) Crotonaldehyde
4.35min 371.550ng/ml
response 1508334

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150991.D Vial: 176
Acq On : 16-Sep-2009, 02:20 Operator: MD
Sample : P0903195-011 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(4) Crotonaldehyde
0.00min 0.000ng/ml d
response 0

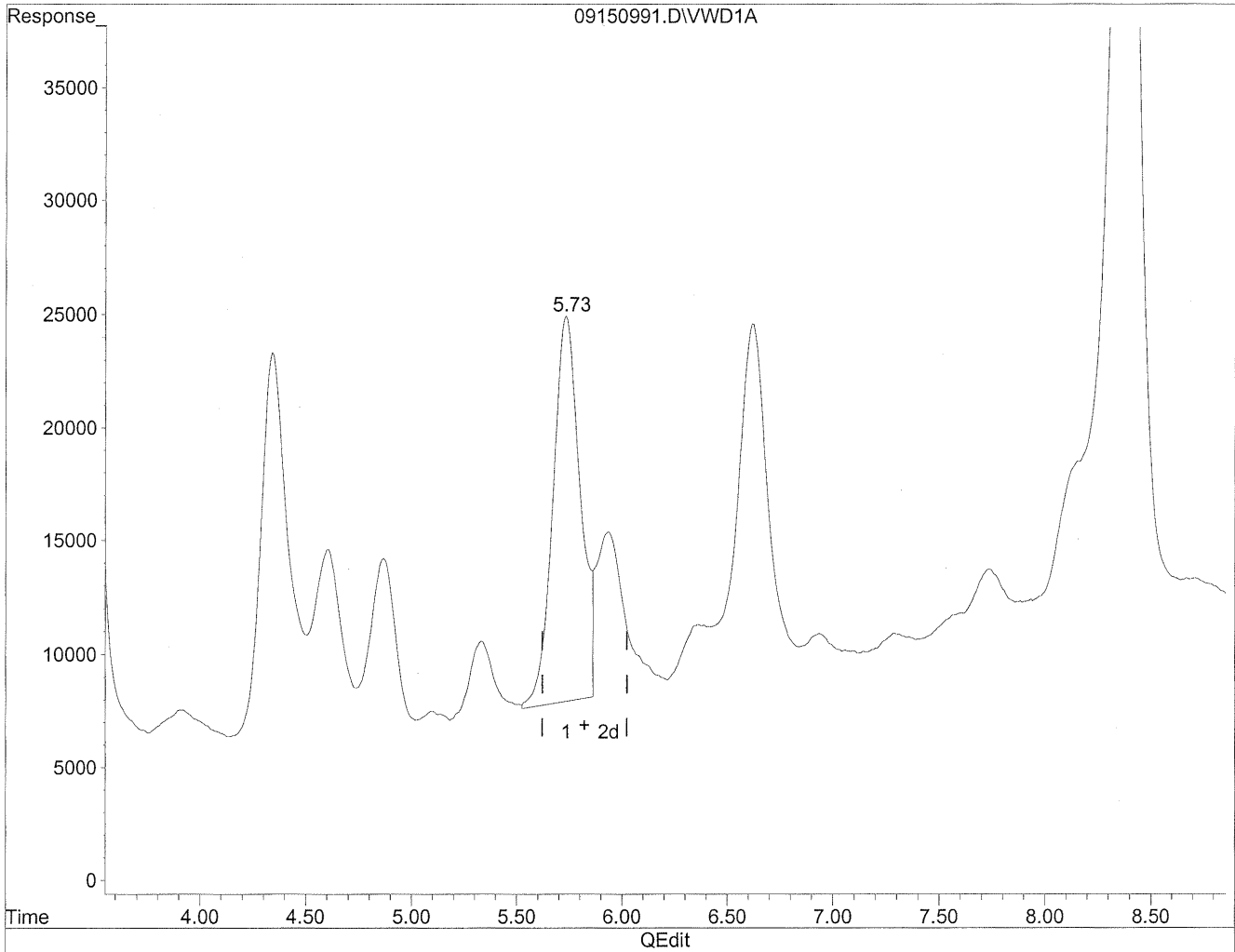
the
9/21/09

MP
9/21/09
MP

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150991.D Vial: 176
Acq On : 16-Sep-2009, 02:20 Operator: MD
Sample : P0903195-011 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

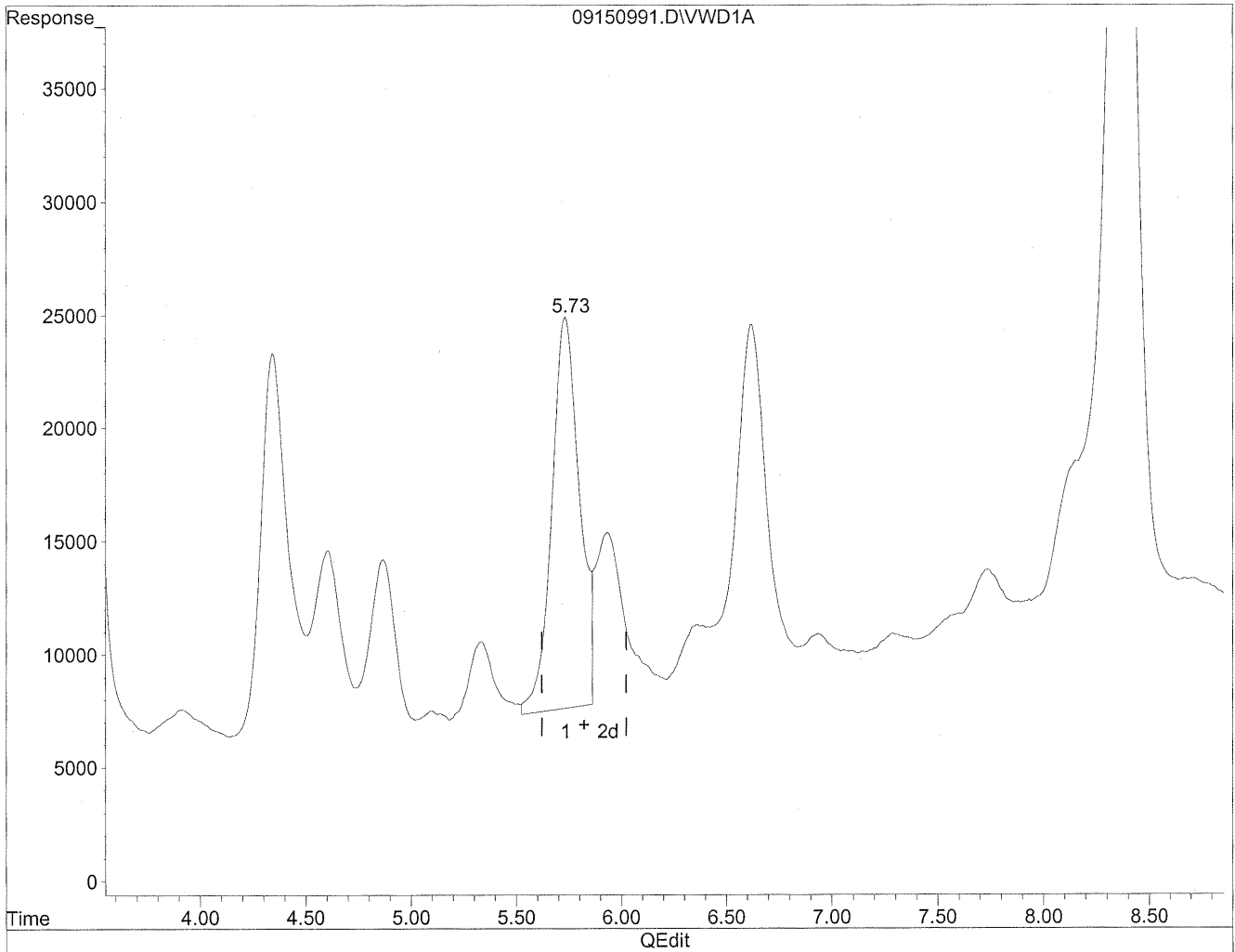


(6) Benzaldehyde
5.74min 555.712ng/ml
response 1516191

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150991.D Vial: 176
Acq On : 16-Sep-2009, 02:20 Operator: MD
Sample : P0903195-011 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



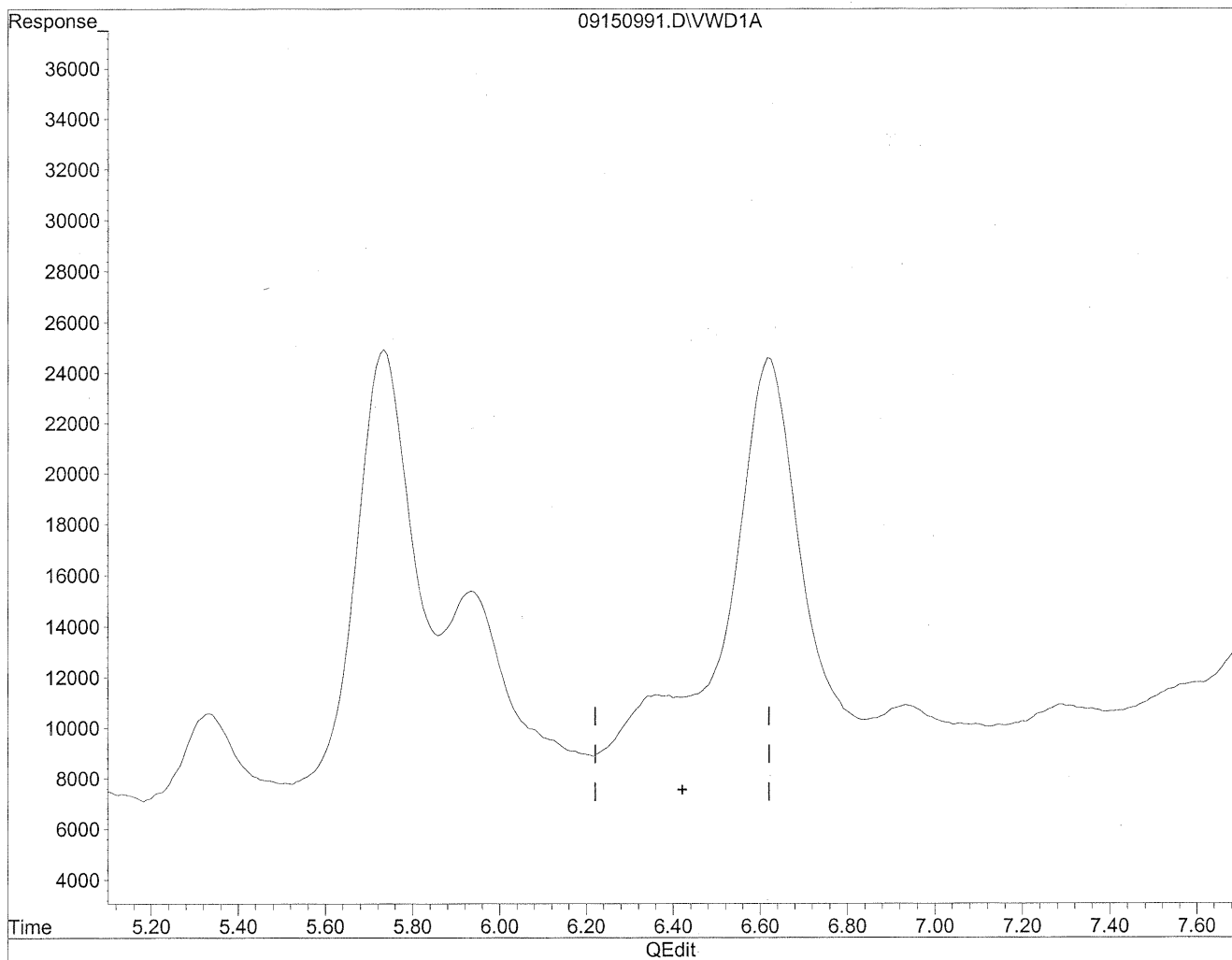
(6) Benzaldehyde
5.73min 583.333ng/ml m
response 1591551

MD
9/21/09
see
9/21/09
PC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150991.D Vial: 176
Acq On : 16-Sep-2009, 02:20 Operator: MD
Sample : P0903195-011 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

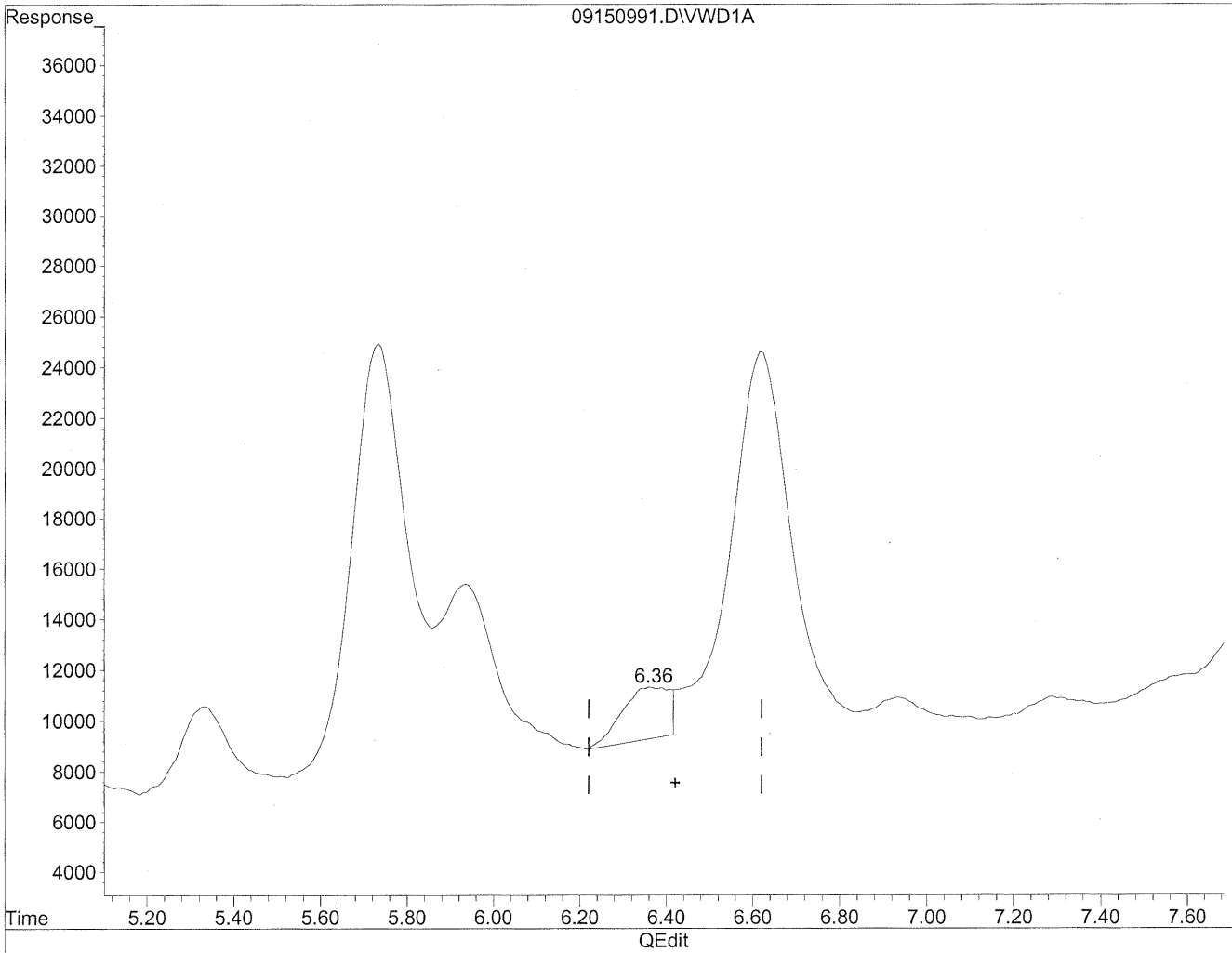
6.42min 0.000ng/ml

response 0

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150991.D Vial: 176
Acq On : 16-Sep-2009, 02:20 Operator: MD
Sample : P0903195-011 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



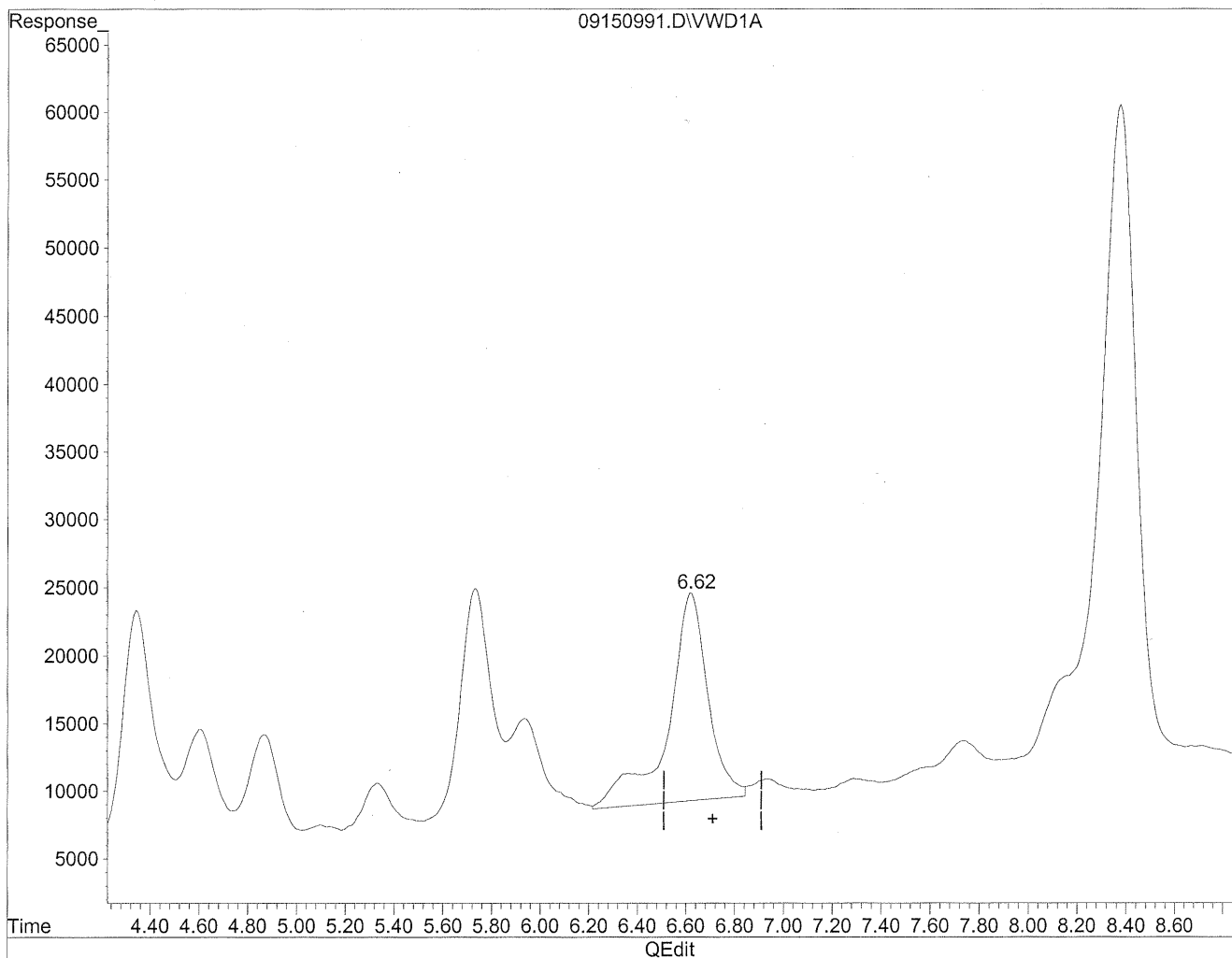
(7) Isovaleraldehyde
6.36min 47.342ng/ml m
response 162942

Handwritten notes:
m
9/21/09
ccc
47.342ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150991.D Vial: 176
Acq On : 16-Sep-2009, 02:20 Operator: MD
Sample : P0903195-011 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

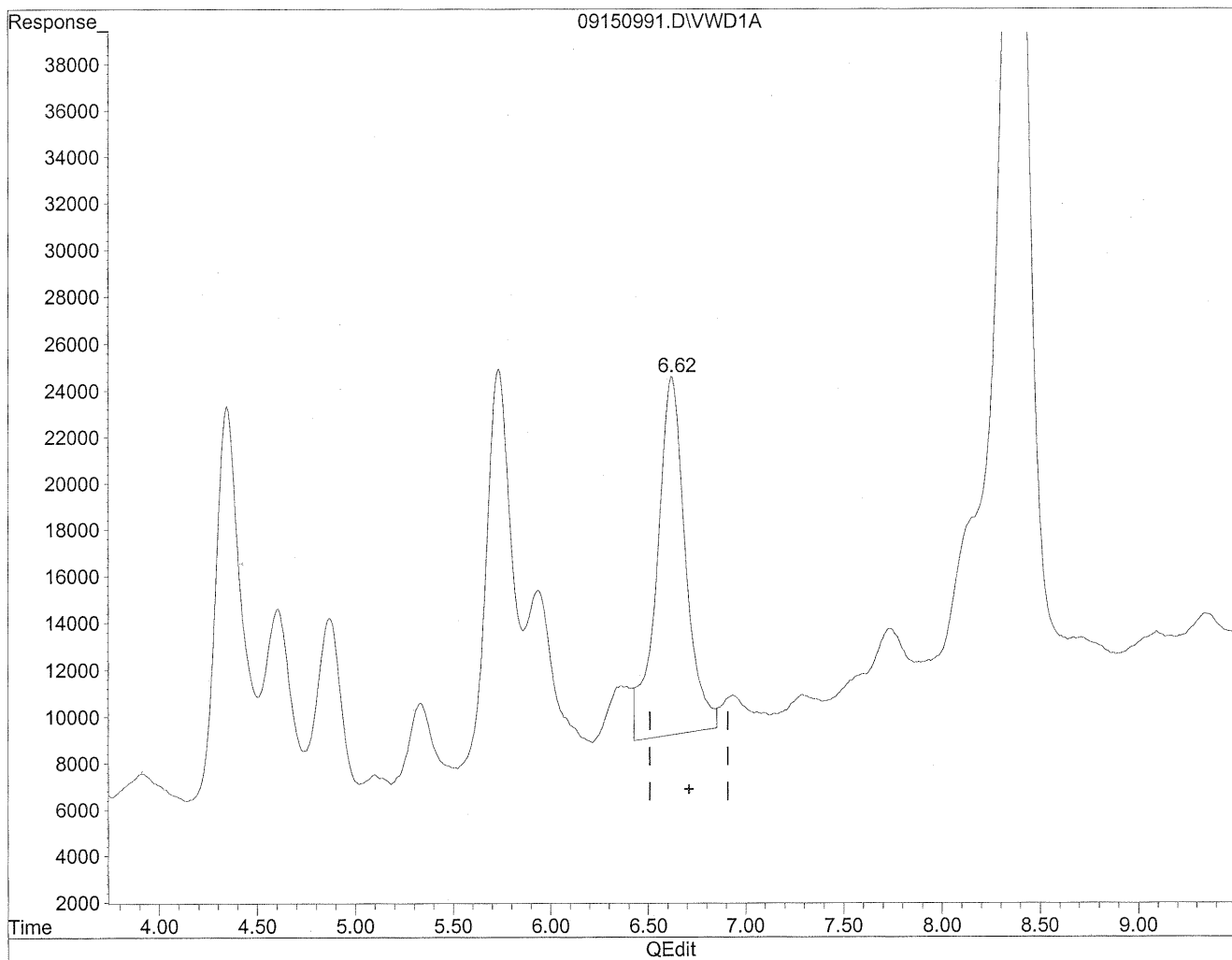


(8) Valeraldehyde
6.62min 514.118ng/ml
response 1747814

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150991.D Vial: 176
Acq On : 16-Sep-2009, 02:20 Operator: MD
Sample : P0903195-011 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



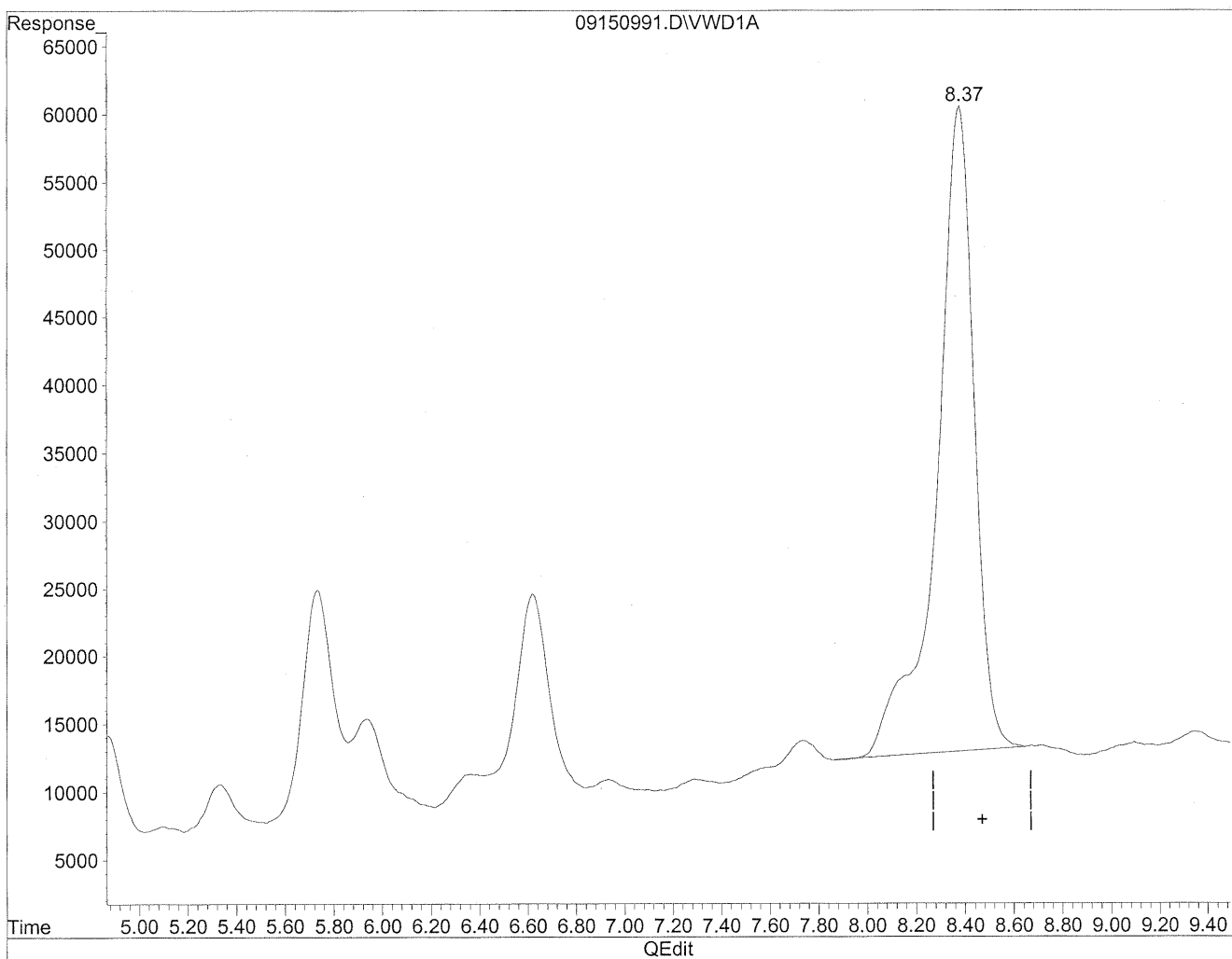
(8) Valeraldehyde
6.62min 461.484ng/ml m
response 1568879

MD
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HLL
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150991.D Vial: 176
Acq On : 16-Sep-2009, 02:20 Operator: MD
Sample : P0903195-011 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

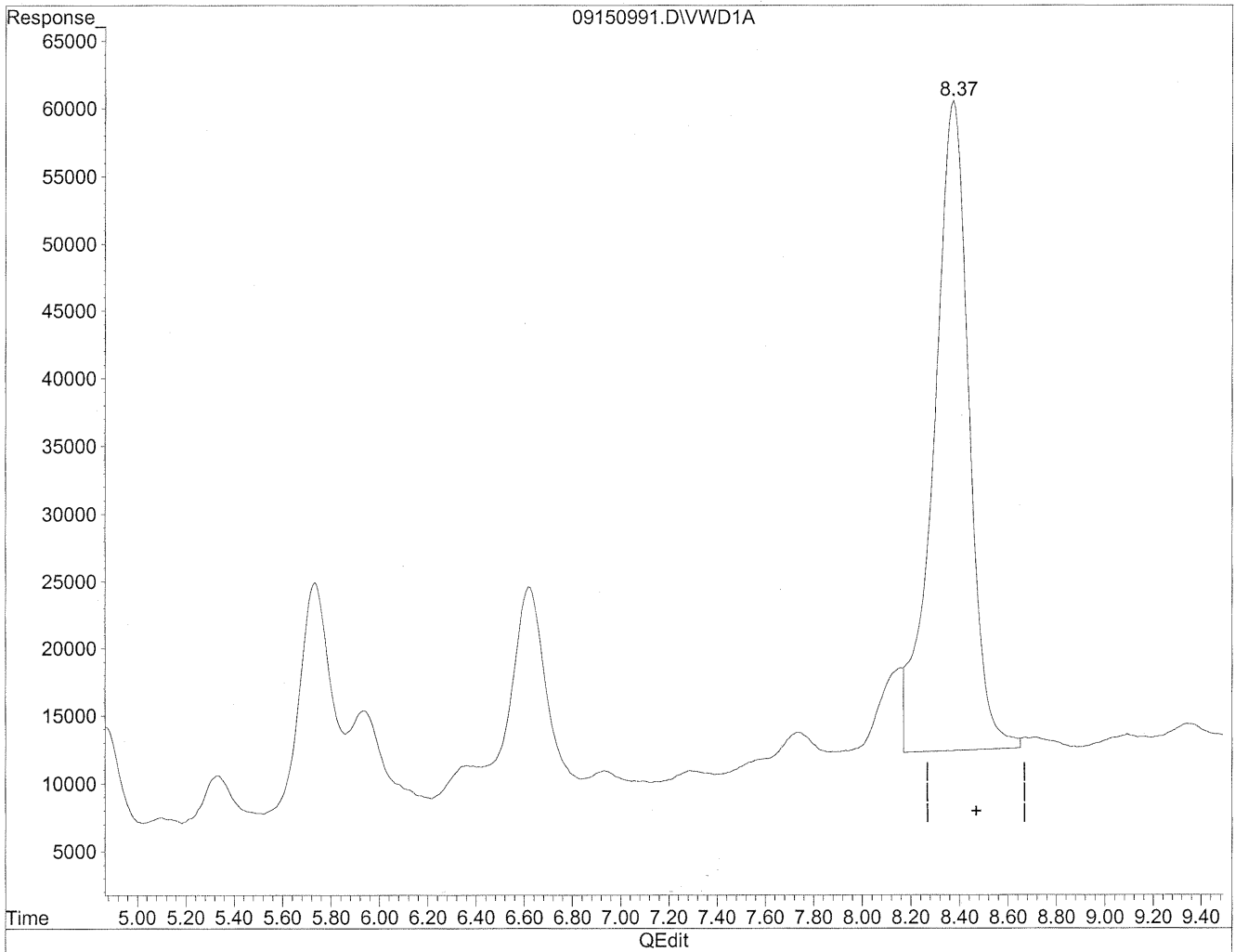


(11) Hexaldehyde
8.38min 1708.049ng/ml
response 5057062

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150991.D Vial: 176
Acq On : 16-Sep-2009, 02:20 Operator: MD
Sample : P0903195-011 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde
8.37min 1640.884ng/ml m
response 4858206

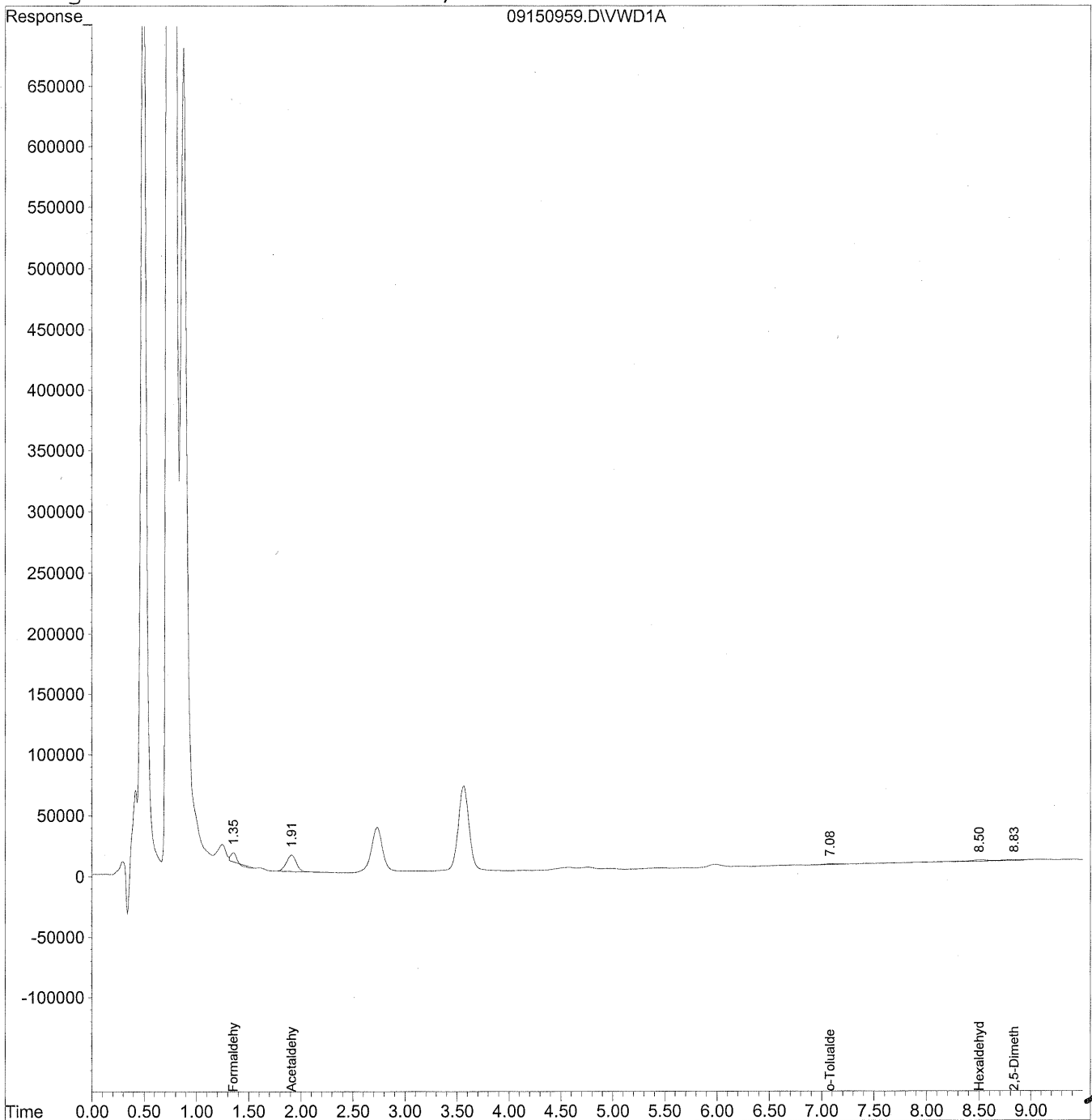
MD
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SS
fac
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150959.D Vial: 150
Acq On : 15-Sep-2009, 19:56 Operator: MD
Sample : P0903195-011 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150959.D Vial: 150
 Acq On : 15-Sep-2009, 19:56 Operator: MD
 Sample : P0903195-011 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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	219720	24.590 ng/ml
2) Acetaldehyde	1.91	891100	137.075 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	7.08	56945	25.948 ng/ml
10) m,p-Tolualdehyde	0.00	0	N.D. ng/ml
11) Hexaldehyde	8.51	191676	64.740 ng/ml
12) 2,5-Dimethylbenzaldehyde	8.84f	96220	48.219 ng/ml

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.
Client Sample ID: 104874
Client Project ID: 16512

CAS Project ID: P0903195
 CAS Sample ID: P0903195-012

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: 9/10/09
Date Analyzed: 9/15 - 9/16/09
Desorption Volume: 1.0 ml
Volume Sampled: 100 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	190	1.9	1.0	1.5	0.81	
75-07-0	Acetaldehyde	< 100	ND	1.0	ND	0.56	
123-38-6	Propionaldehyde	< 100	ND	1.0	ND	0.42	
4170-30-3	Crotonaldehyde, Total	< 100	ND	1.0	ND	0.35	
123-72-8	Butyraldehyde	< 100	ND	1.0	ND	0.34	
100-52-7	Benzaldehyde	< 100	ND	1.0	ND	0.23	
590-86-3	Isovaleraldehyde	< 100	ND	1.0	ND	0.28	
110-62-3	Valeraldehyde	< 100	ND	1.0	ND	0.28	
529-20-4	o-Tolualdehyde	< 100	ND	1.0	ND	0.20	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	2.0	ND	0.41	
66-25-1	n-Hexaldehyde	< 100	ND	1.0	ND	0.24	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	1.0	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.

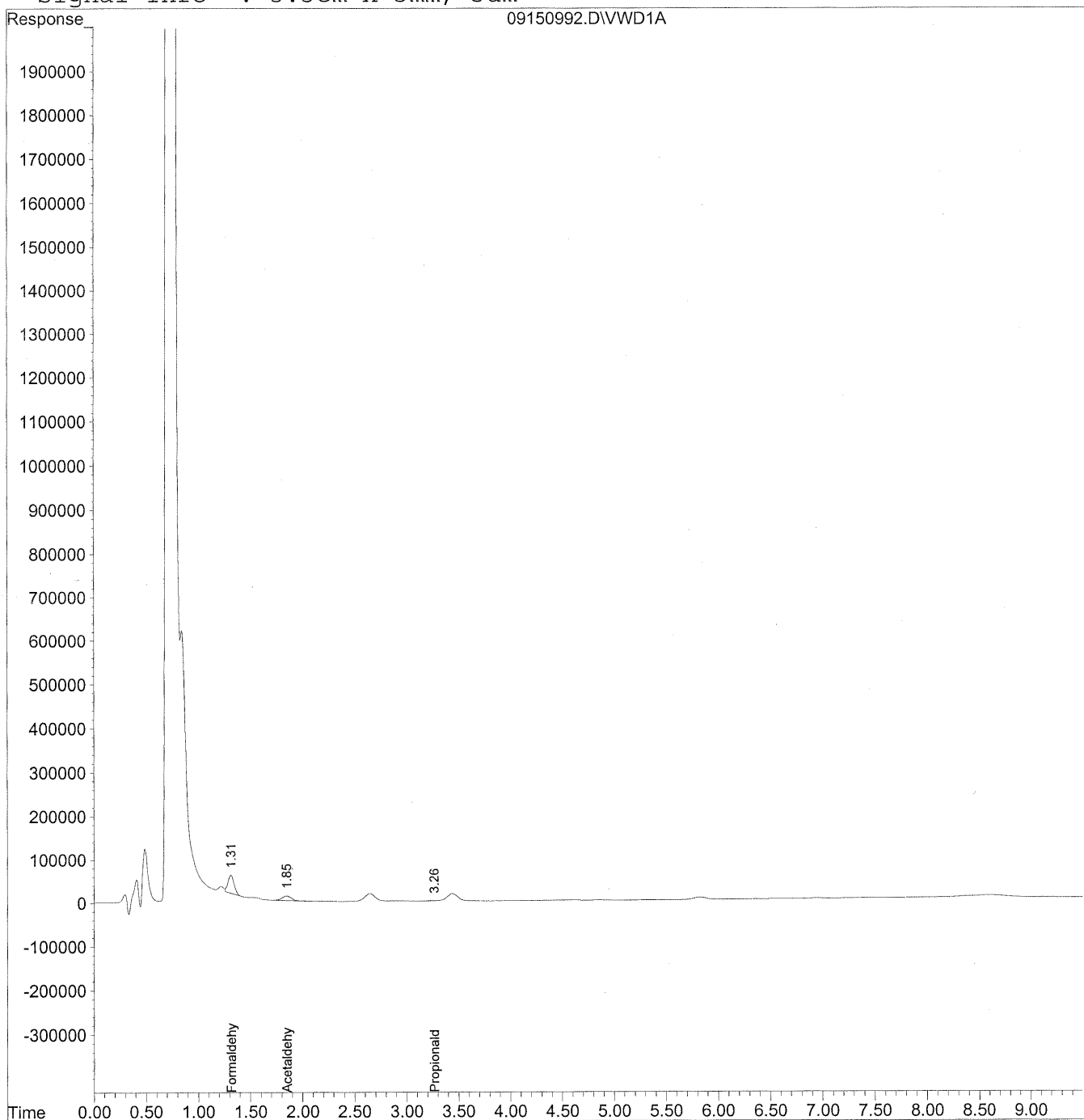
Verified By: Res Date: 9/14/09 **183**

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150992.D Vial: 177
Acq On : 16-Sep-2009, 02:32 Operator: MD
Sample : P0903195-012 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:31 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150992.D Vial: 177
 Acq On : 16-Sep-2009, 02:32 Operator: MD
 Sample : P0903195-012 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:31 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 17 16:12:59 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

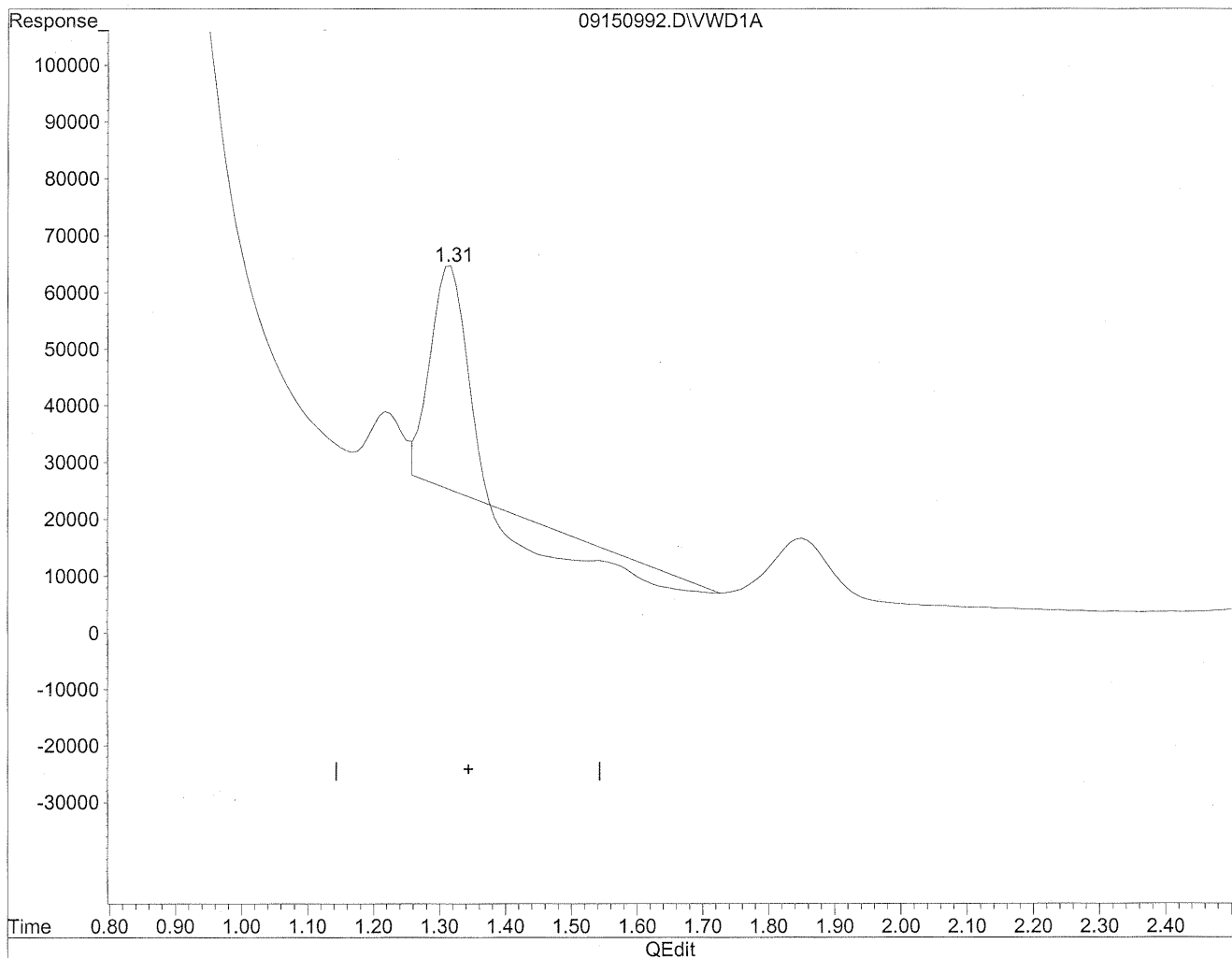
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.31	1678273	187.822 ng/mlm
2) Acetaldehyde	1.85	642808	98.881 ng/mlm
3) Propionaldehyde	3.26	42989	8.271 ng/mlm
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	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\15\09150992.D Vial: 177
Acq On : 16-Sep-2009, 02:32 Operator: MD
Sample : P0903195-012 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:29 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

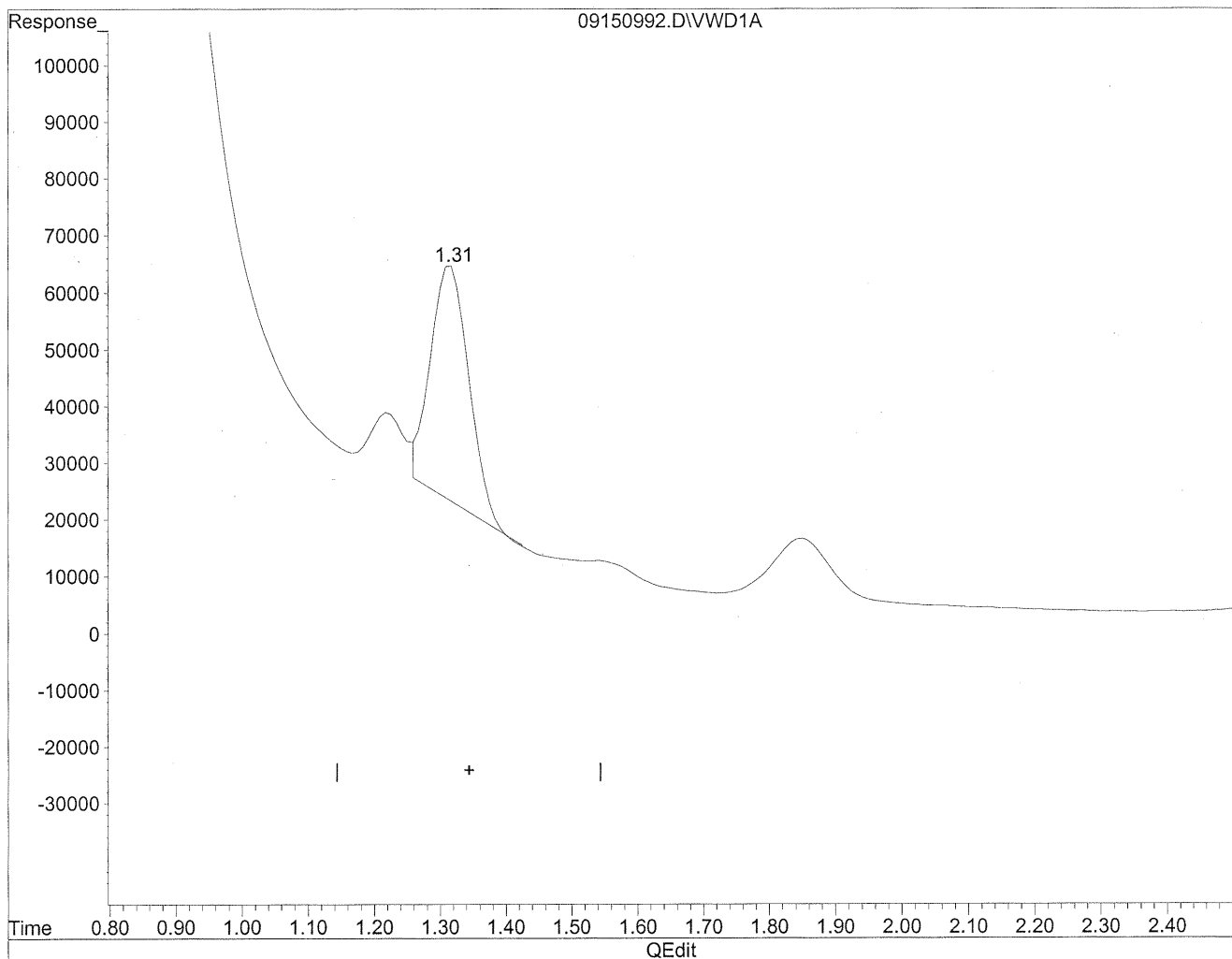


(1) Formaldehyde
1.32min 106.372ng/ml
response 950484

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150992.D Vial: 177
Acq On : 16-Sep-2009, 02:32 Operator: MD
Sample : P0903195-012 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:29 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(1) Formaldehyde
1.31min 187.822ng/ml m
response 1678273

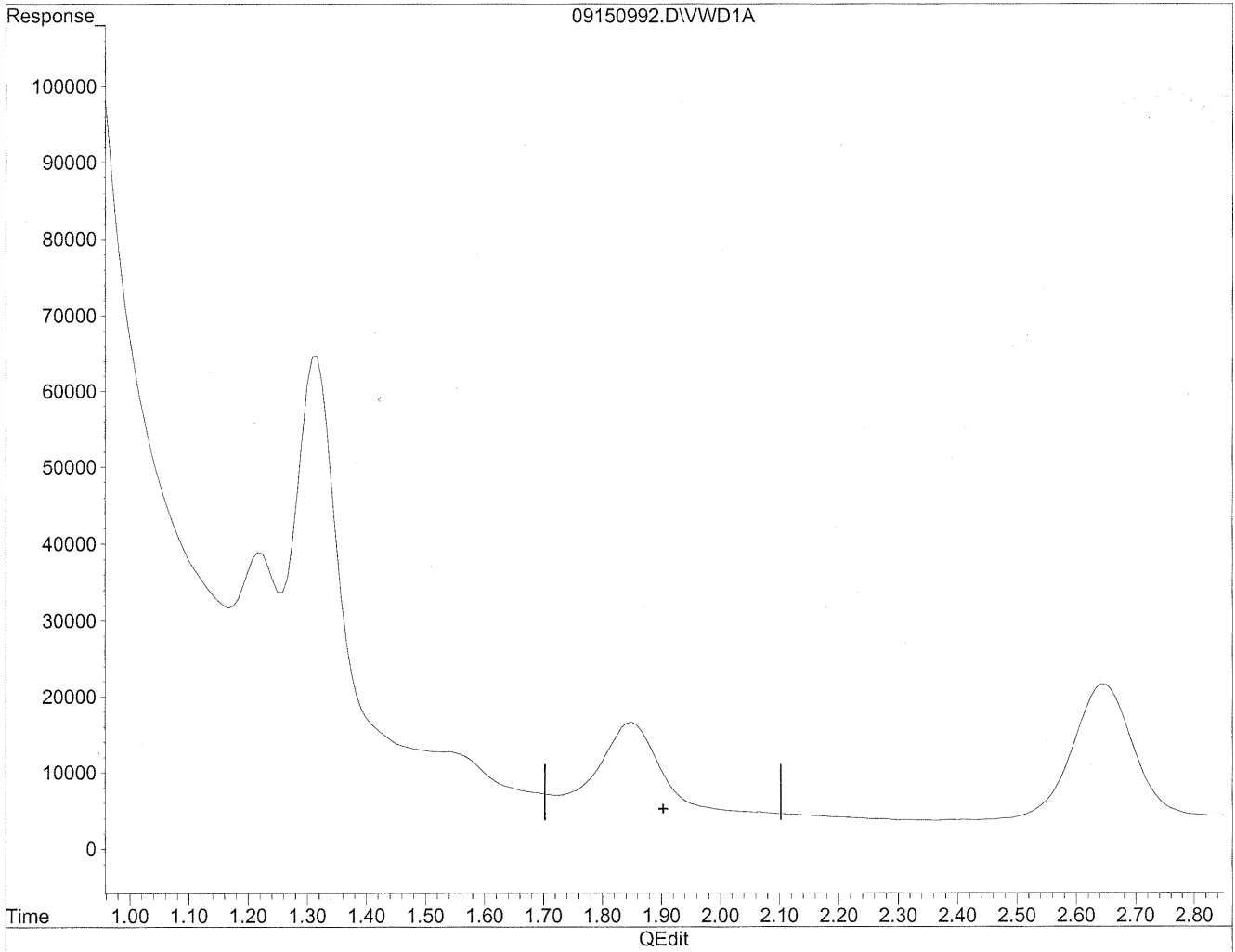
MD
9/21/09
12

MC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150992.D Vial: 177
Acq On : 16-Sep-2009, 02:32 Operator: MD
Sample : P0903195-012 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:29 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

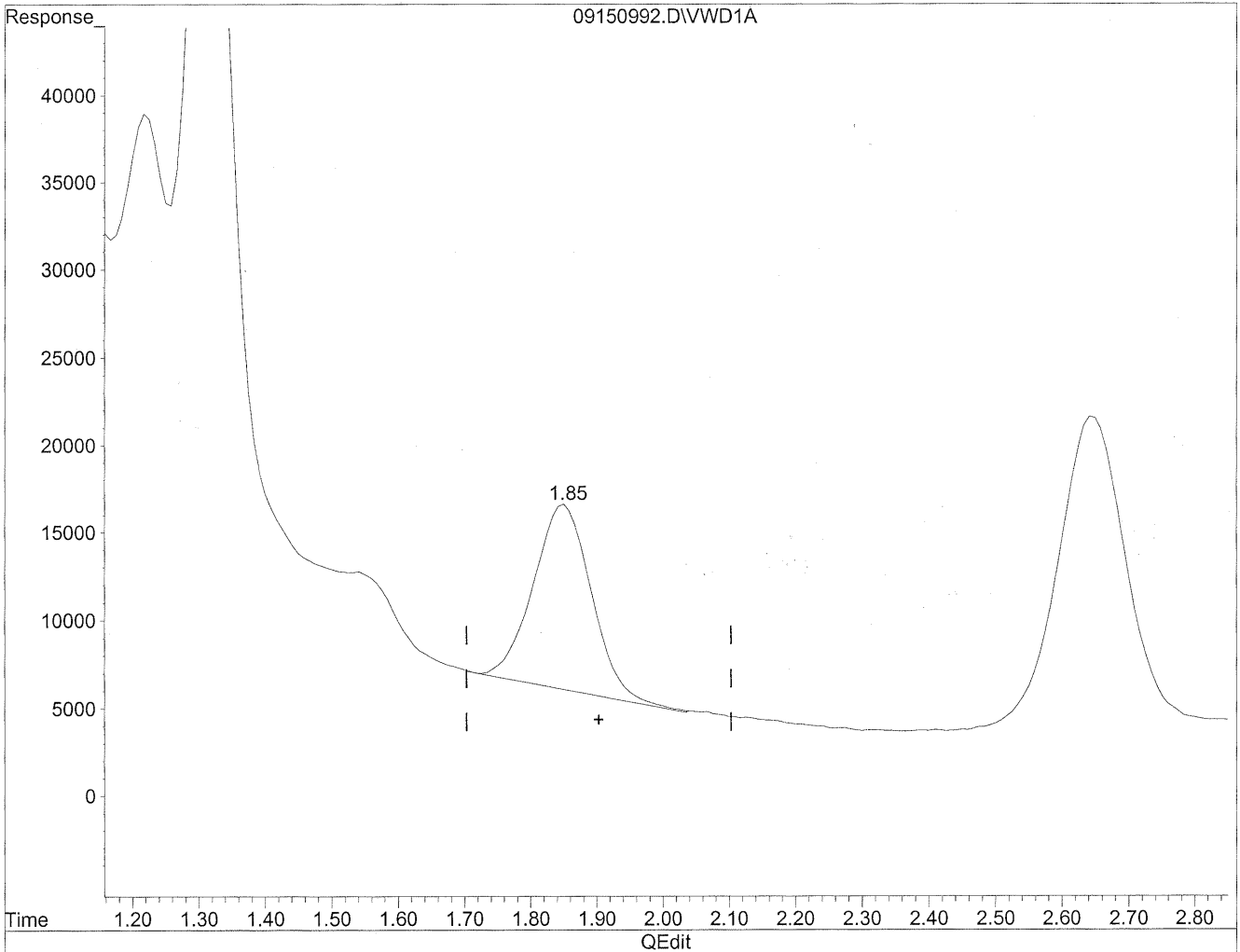


(2) Acetaldehyde
1.90min 0.000ng/ml
response 0

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150992.D Vial: 177
Acq On : 16-Sep-2009, 02:32 Operator: MD
Sample : P0903195-012 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:29 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



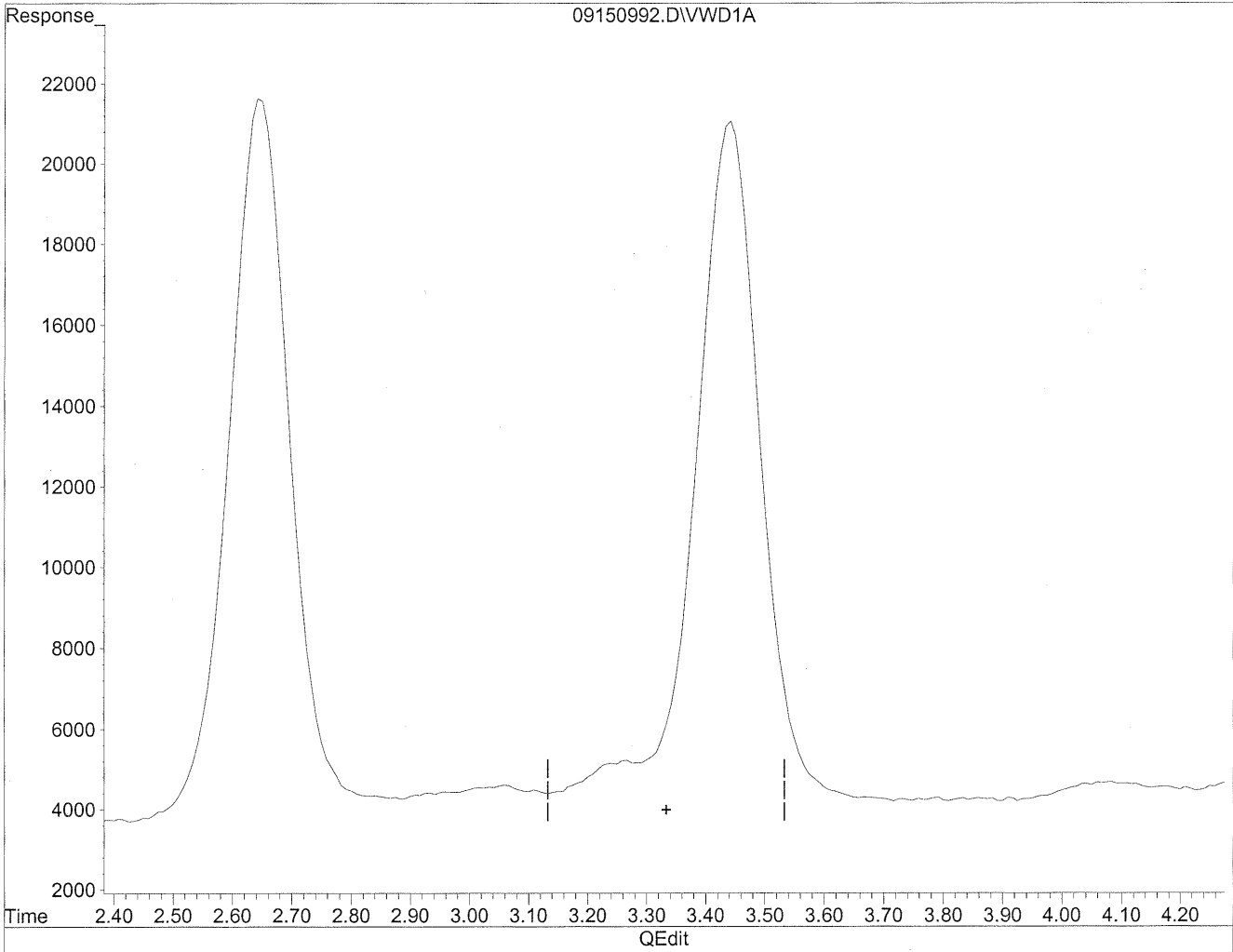
(2) Acetaldehyde
1.85min 98.881ng/ml m
response 642808

MD
9/21/09
BMI
xc
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150992.D Vial: 177
Acq On : 16-Sep-2009, 02:32 Operator: MD
Sample : P0903195-012 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:29 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

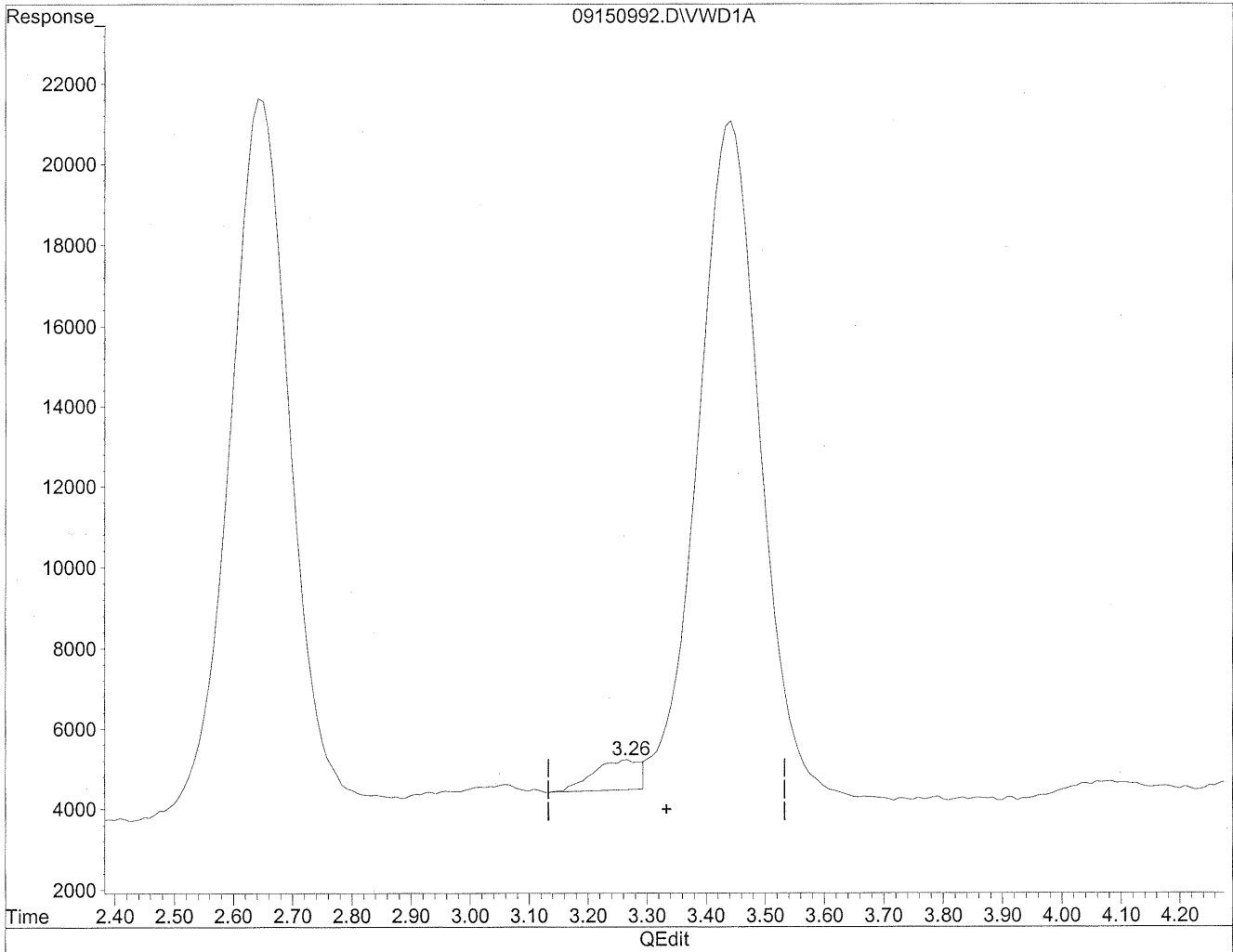


(3) Propionaldehyde
3.33min 0.000ng/ml
response 0

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150992.D Vial: 177
Acq On : 16-Sep-2009, 02:32 Operator: MD
Sample : P0903195-012 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:29 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



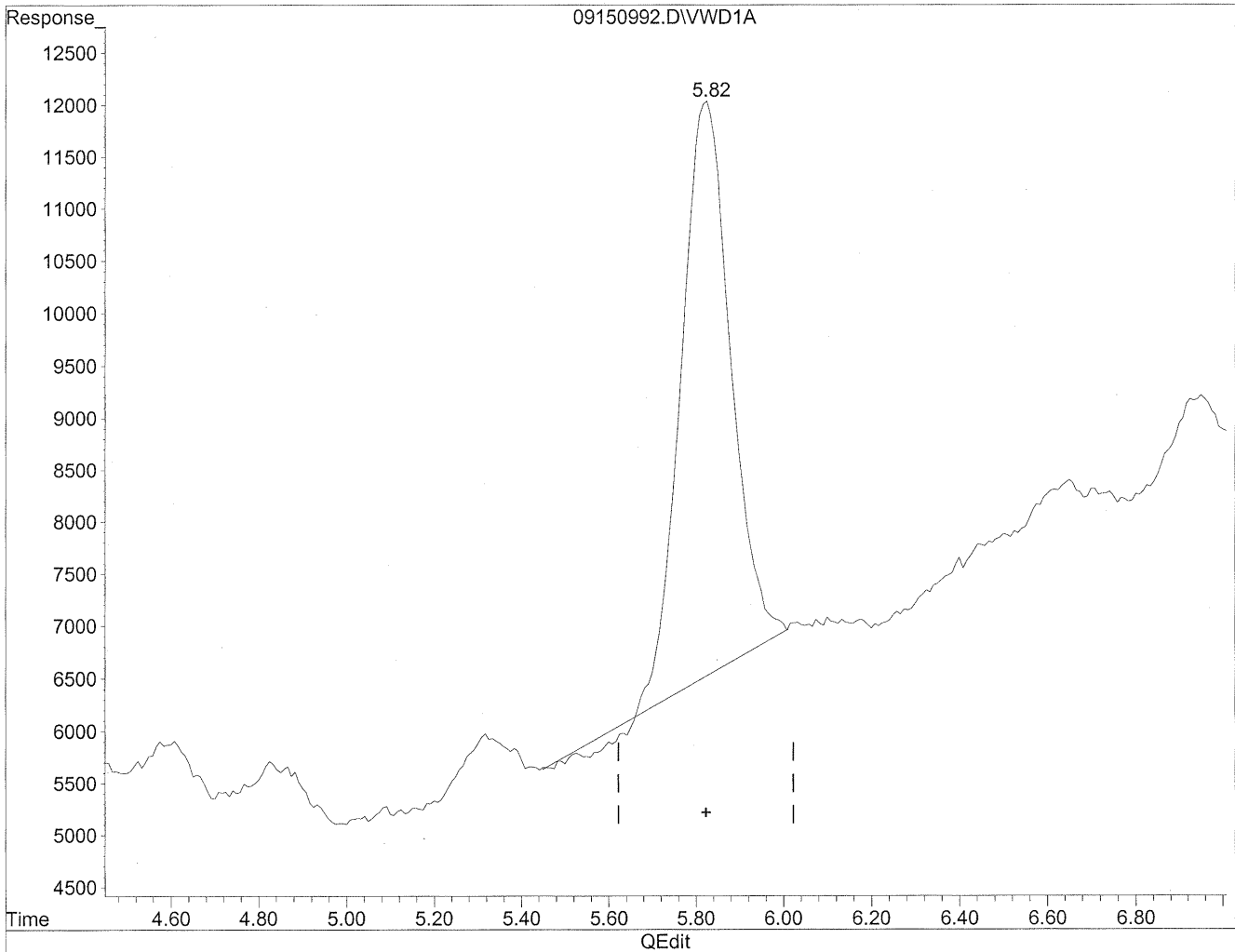
(3) Propionaldehyde
3.26min 8.271ng/ml m
response 42989

Handwritten notes:
m
9/21/09
9/21/09
cc

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150992.D Vial: 177
Acq On : 16-Sep-2009, 02:32 Operator: MD
Sample : P0903195-012 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:29 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

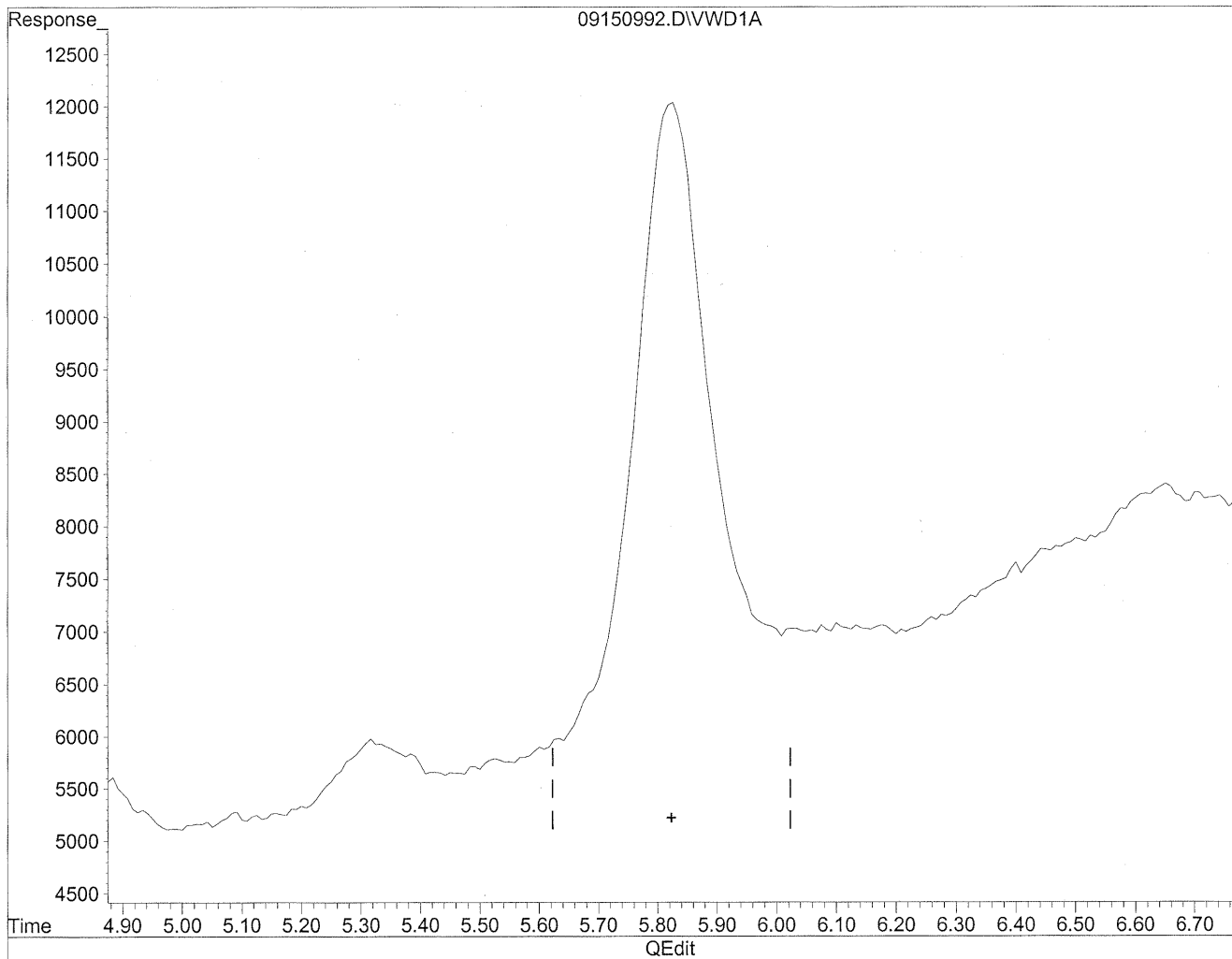


(6) Benzaldehyde
5.83min 156.846ng/ml
response 427936

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150992.D Vial: 177
Acq On : 16-Sep-2009, 02:32 Operator: MD
Sample : P0903195-012 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:29 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



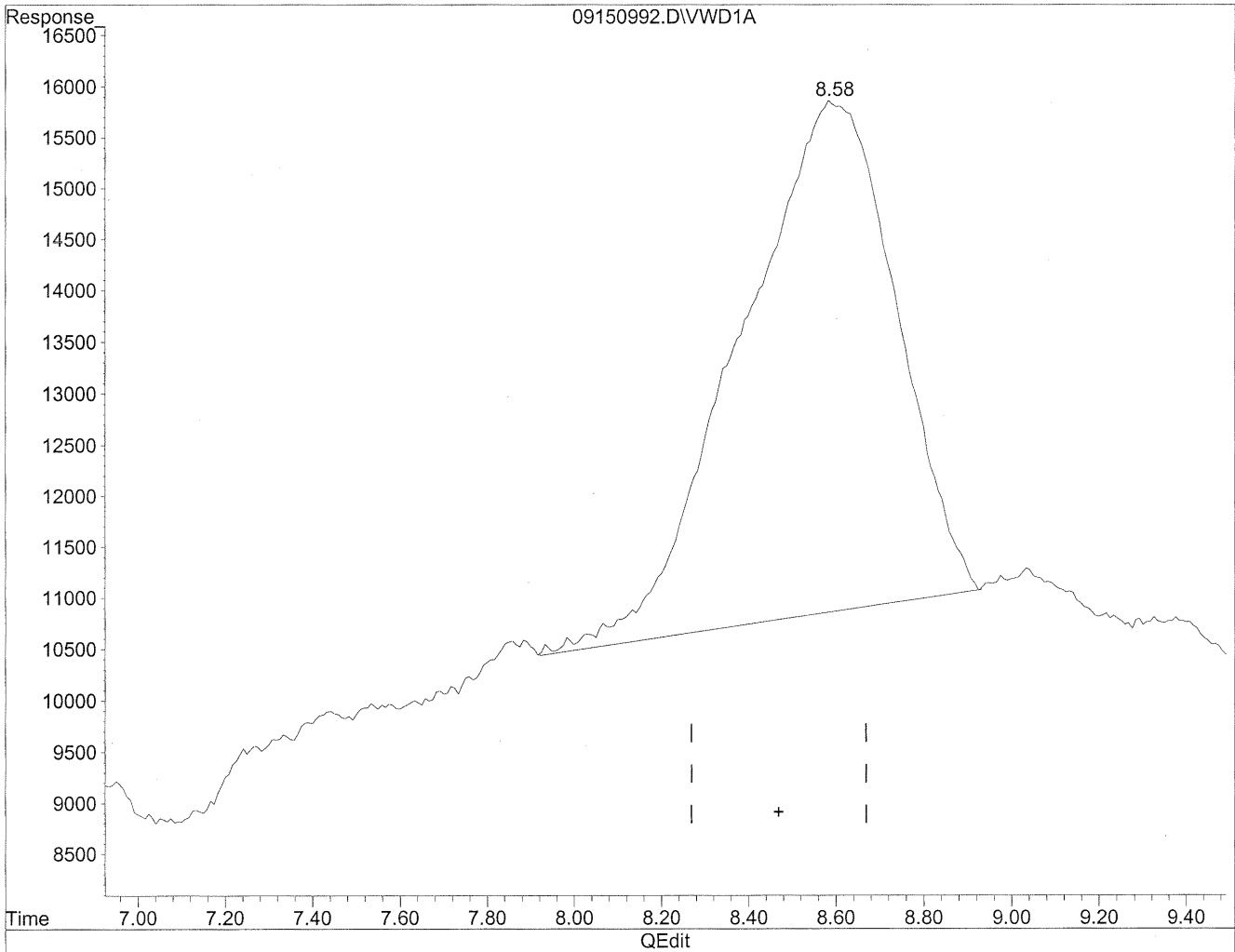
(6) Benzaldehyde
0.00min 0.000ng/ml d
response 0

Handwritten notes:
+1C
9/21/09
MP
9/21/09
MP

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150992.D Vial: 177
Acq On : 16-Sep-2009, 02:32 Operator: MD
Sample : P0903195-012 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:29 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

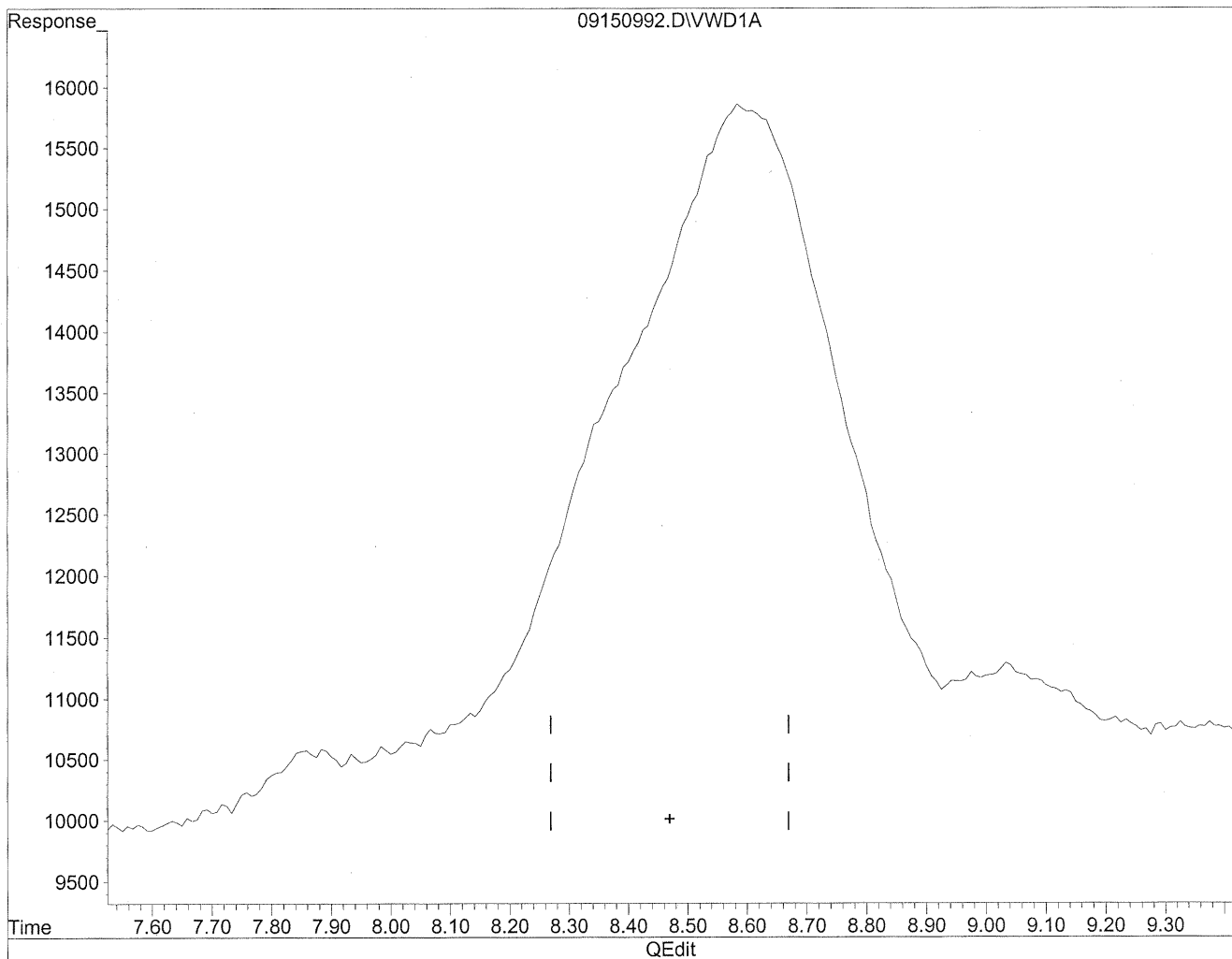


(11) Hexaldehyde
8.59min 416.310ng/ml
response 1232578

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150992.D Vial: 177
Acq On : 16-Sep-2009, 02:32 Operator: MD
Sample : P0903195-012 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:29 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



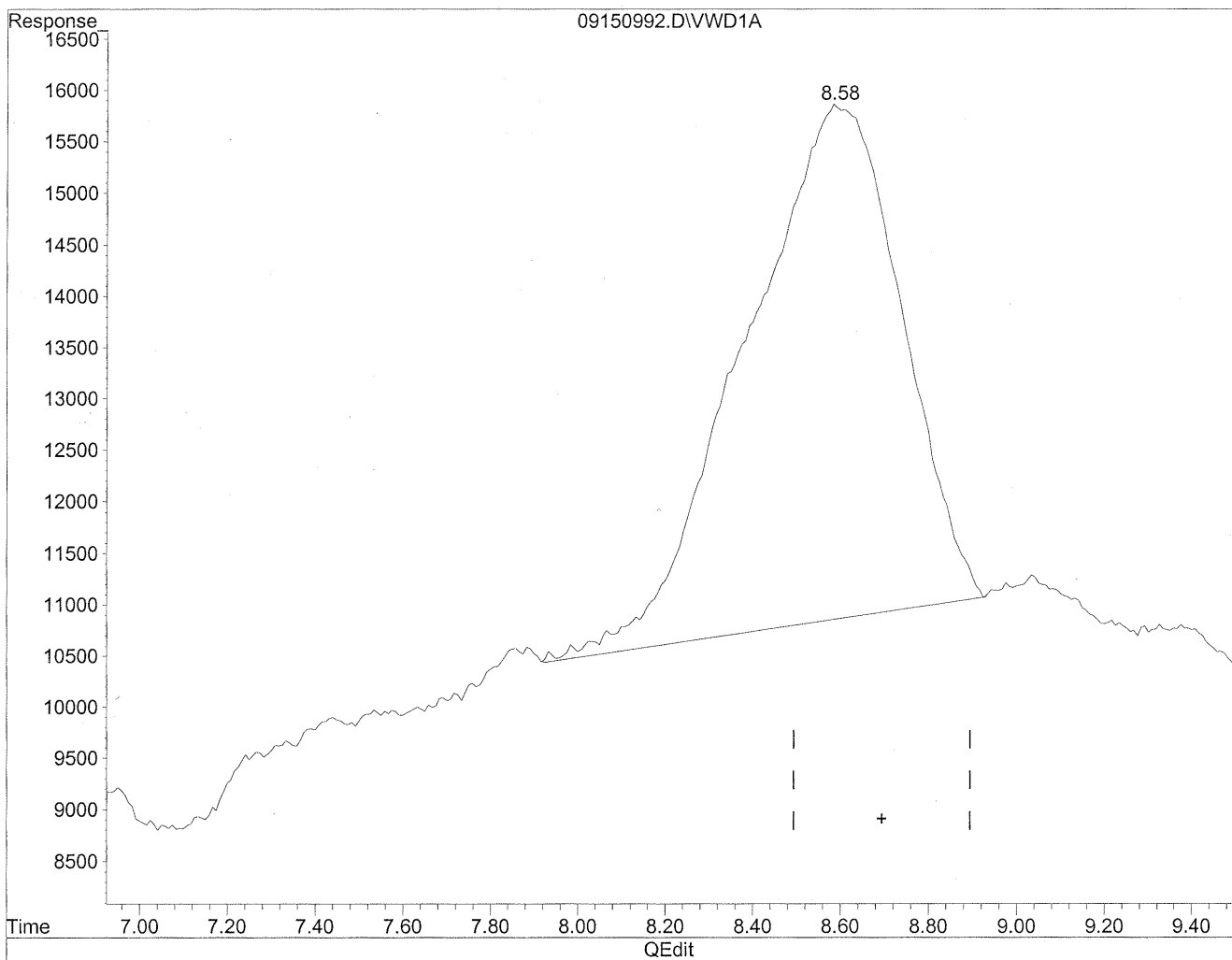
(11) Hexaldehyde
0.00min 0.000ng/ml d
response 0

Handwritten notes:
HLG
9/21/09
MD
9/21/09
not real

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150992.D Vial: 177
Acq On : 16-Sep-2009, 02:32 Operator: MD
Sample : P0903195-012 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:29 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

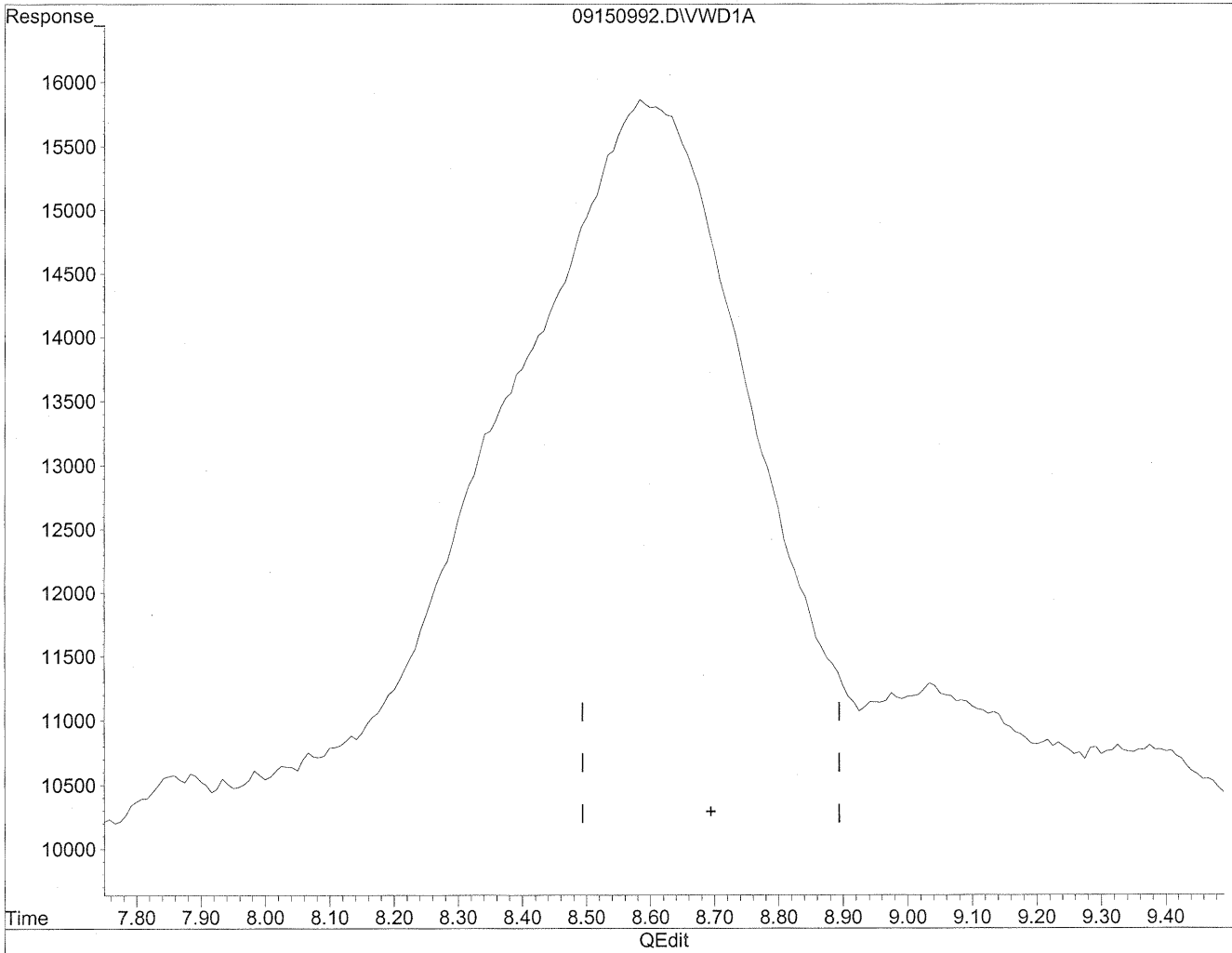
8.59min 617.681ng/ml

response 1232578

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150992.D Vial: 177
Acq On : 16-Sep-2009, 02:32 Operator: MD
Sample : P0903195-012 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:29 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

0.00min 0.000ng/ml d

response 0

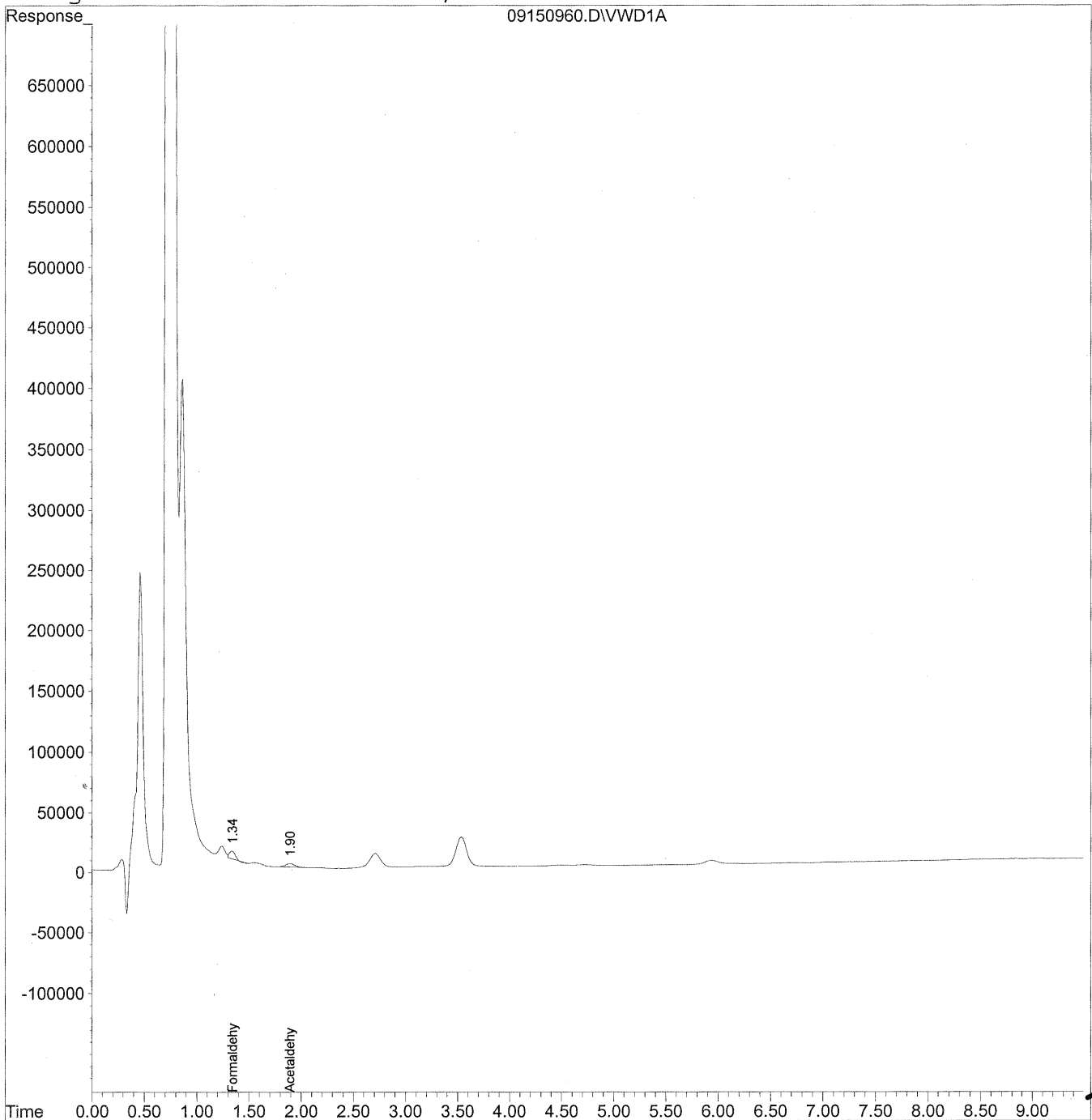
Handwritten notes:
the
a/b/m
SM
not real
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150960.D Vial: 151
Acq On : 15-Sep-2009, 20:08 Operator: MD
Sample : P0903195-012 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:14 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150960.D Vial: 151
 Acq On : 15-Sep-2009, 20:08 Operator: MD
 Sample : P0903195-012 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 16:14 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 17 16:12:59 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

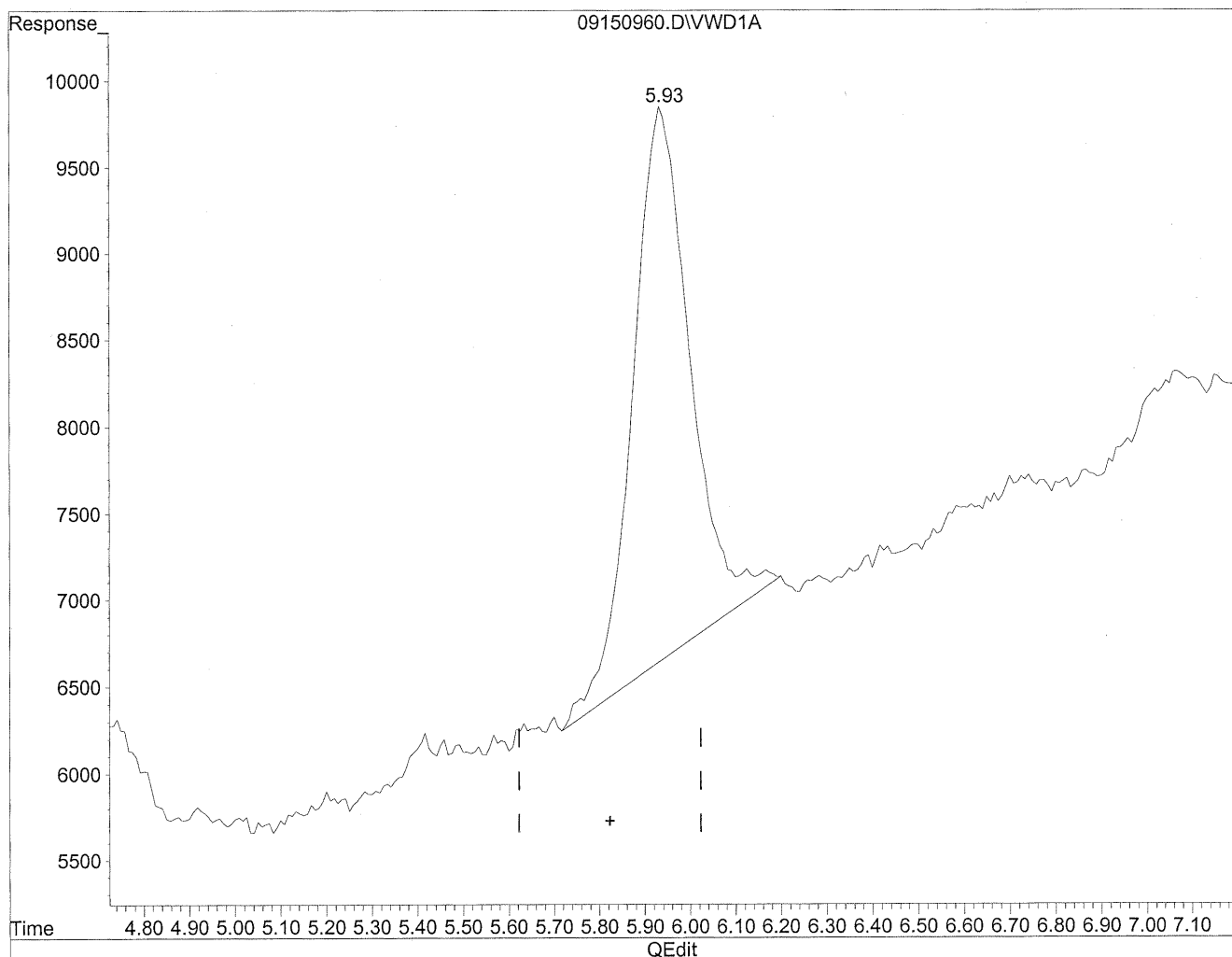
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.34	238374	26.677 ng/ml
2) Acetaldehyde	1.90	179475	27.608 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	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\15\09150960.D Vial: 151
Acq On : 15-Sep-2009, 20:08 Operator: MD
Sample : P0903195-012 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

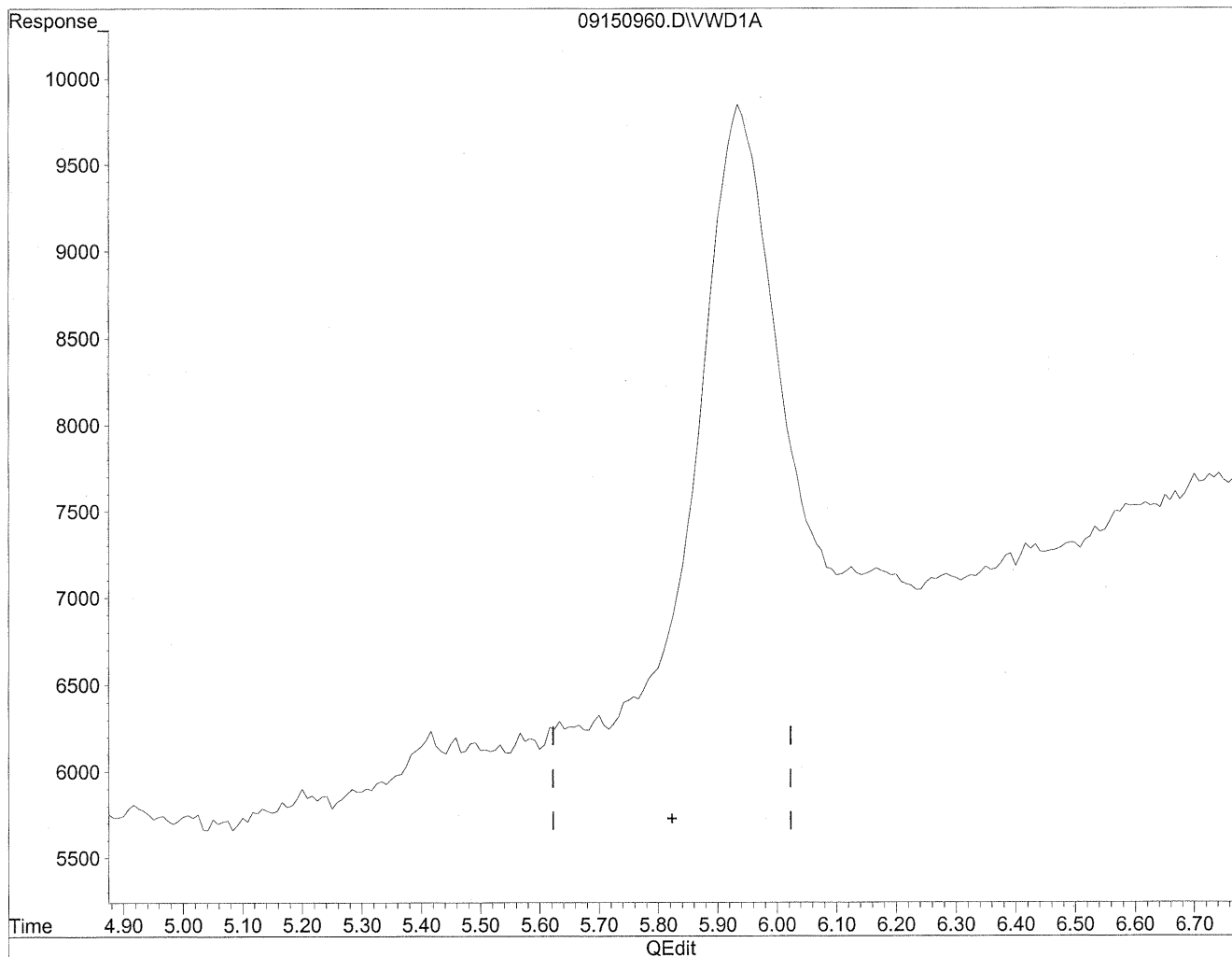


(6) Benzaldehyde
5.94min 102.710ng/ml
response 280232

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150960.D Vial: 151
Acq On : 15-Sep-2009, 20:08 Operator: MD
Sample : P0903195-012 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde
0.00min 0.000ng/ml d
response 0

YLC
9/21/09

(M)
9/21/09
mp

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.

Client Sample ID: 104808

Client Project ID: 16512

CAS Project ID: P0903195

CAS Sample ID: P0903195-013

Test Code: EPA Method TO-11A

Instrument ID: HP1050/LC2

Analyst: Madeleine Dangazyan

Sampling Media: Silica Gel DNPH Tube

Test Notes: BC

Date Collected: 9/1/09

Date Received: 9/10/09

Date Analyzed: 9/15 - 9/16/09

Desorption Volume: 1.0 ml

Volume Sampled: 102 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	13,000	130	0.98	100	0.80	
75-07-0	Acetaldehyde	3,200	31	0.98	17	0.54	BT
123-38-6	Propionaldehyde	600	5.9	0.98	2.5	0.41	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.98	ND	0.34	
123-72-8	Butyraldehyde	590	5.8	0.98	2.0	0.33	
100-52-7	Benzaldehyde	1,800	17	0.98	4.0	0.23	
590-86-3	Isovaleraldehyde	290	2.8	0.98	0.80	0.28	
110-62-3	Valeraldehyde	2,600	26	0.98	7.4	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	13,000	130	0.98	31	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.

Verified By: Re

Date: 9/24/09

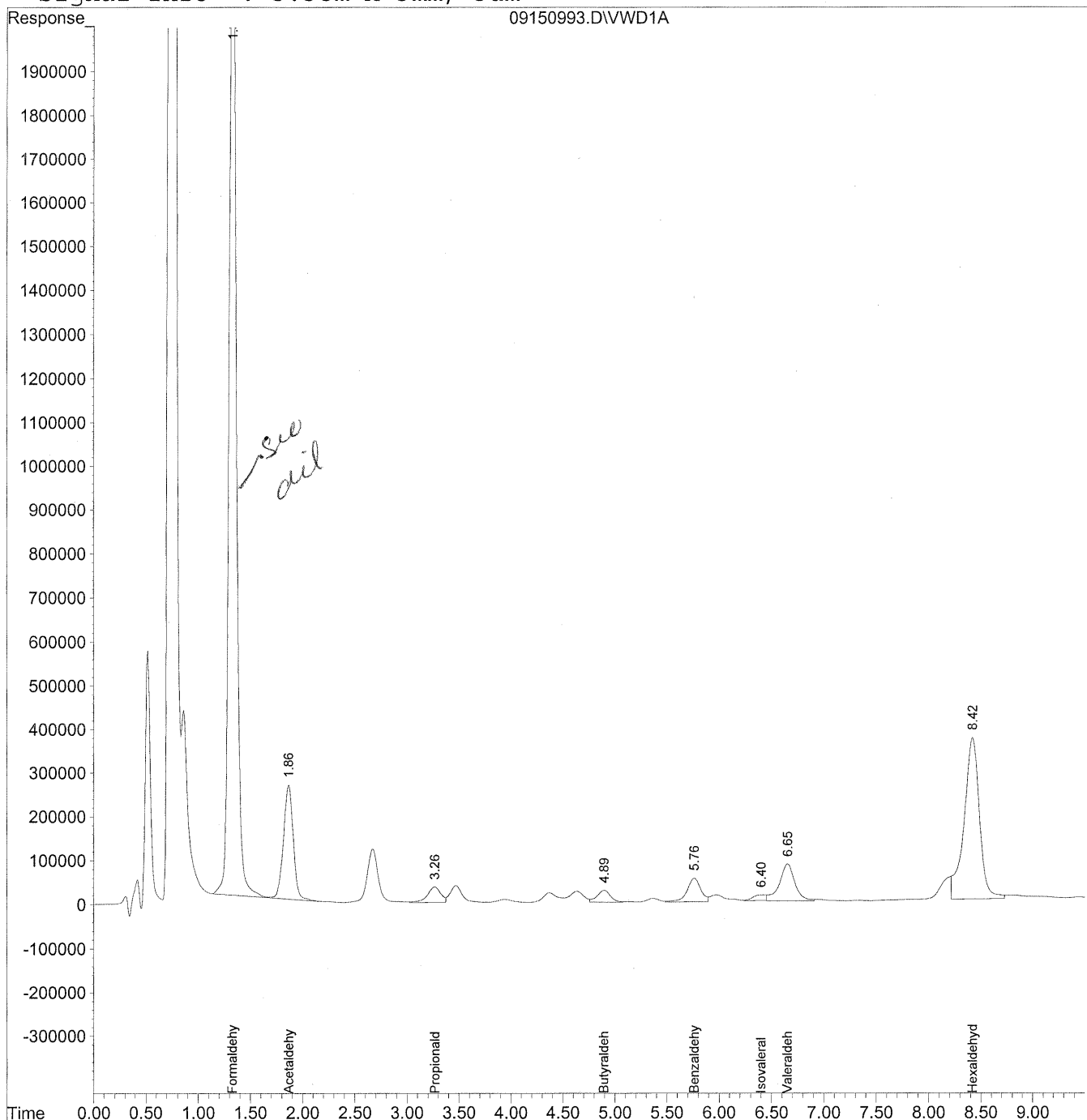
202

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150993.D Vial: 178
Acq On : 16-Sep-2009, 02:44 Operator: MD
Sample : P0903195-013 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:33 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150993.D Vial: 178
 Acq On : 16-Sep-2009, 02:44 Operator: MD
 Sample : P0903195-013 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:33 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 17 16:12:59 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

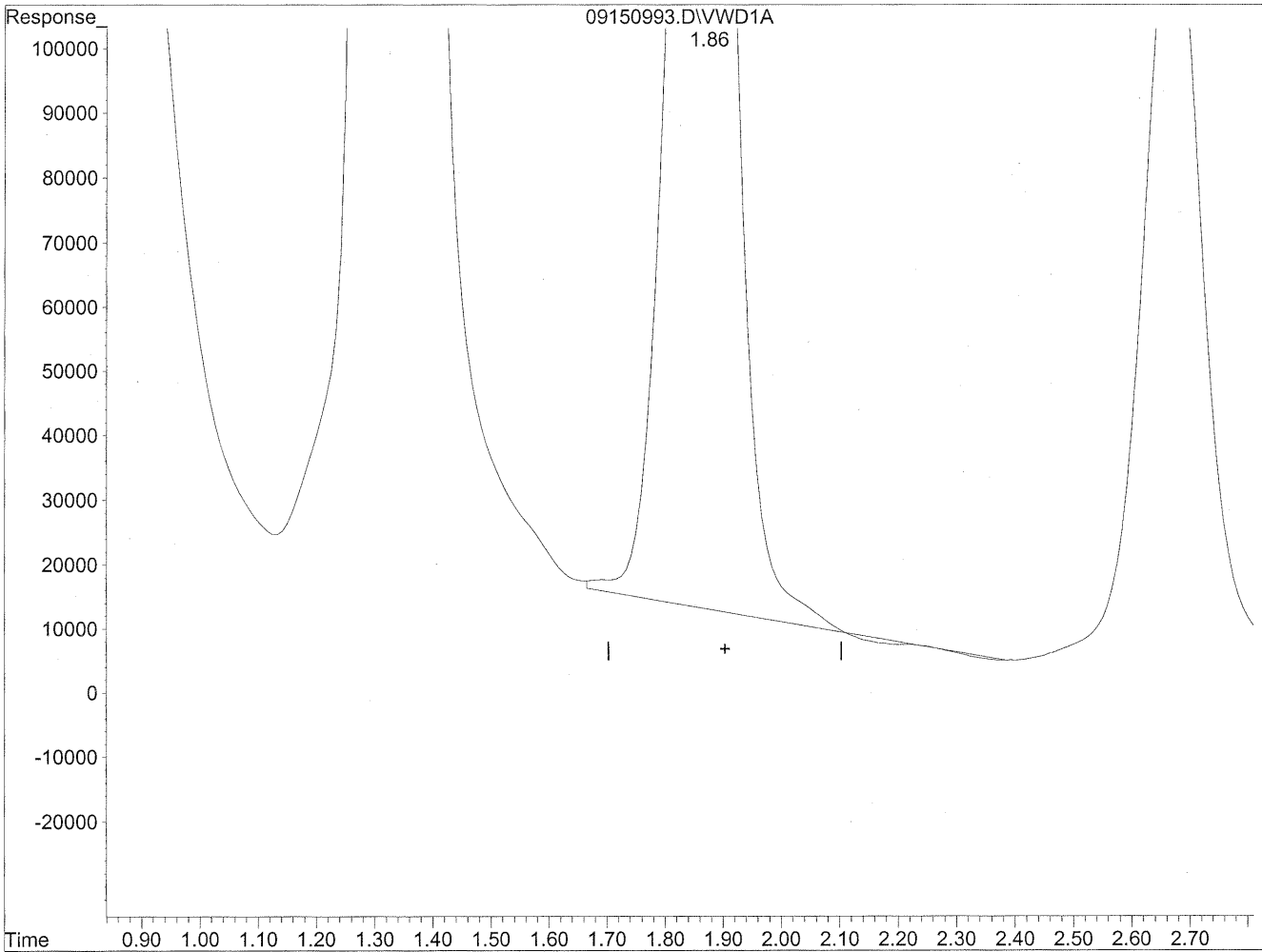
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.33	112599913	12601.509 ng/ml <i>DIC</i>
2) Acetaldehyde	1.86	16983139	2612.470 ng/mlm
3) Propionaldehyde	3.27	3113650	599.029 ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/mld
5) Butyraldehyde	4.89	2386788	588.928 ng/mlm
6) Benzaldehyde	5.76	4859067	1780.937 ng/mlm
7) Isovaleraldehyde	6.41	987053	286.785 ng/ml
8) Valeraldehyde	6.65	8447314	2484.768 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	8.42	37599477	12699.417 ng/mlm <i>DIC</i>
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150993.D Vial: 178
Acq On : 16-Sep-2009, 02:44 Operator: MD
Sample : P0903195-013 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:31 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

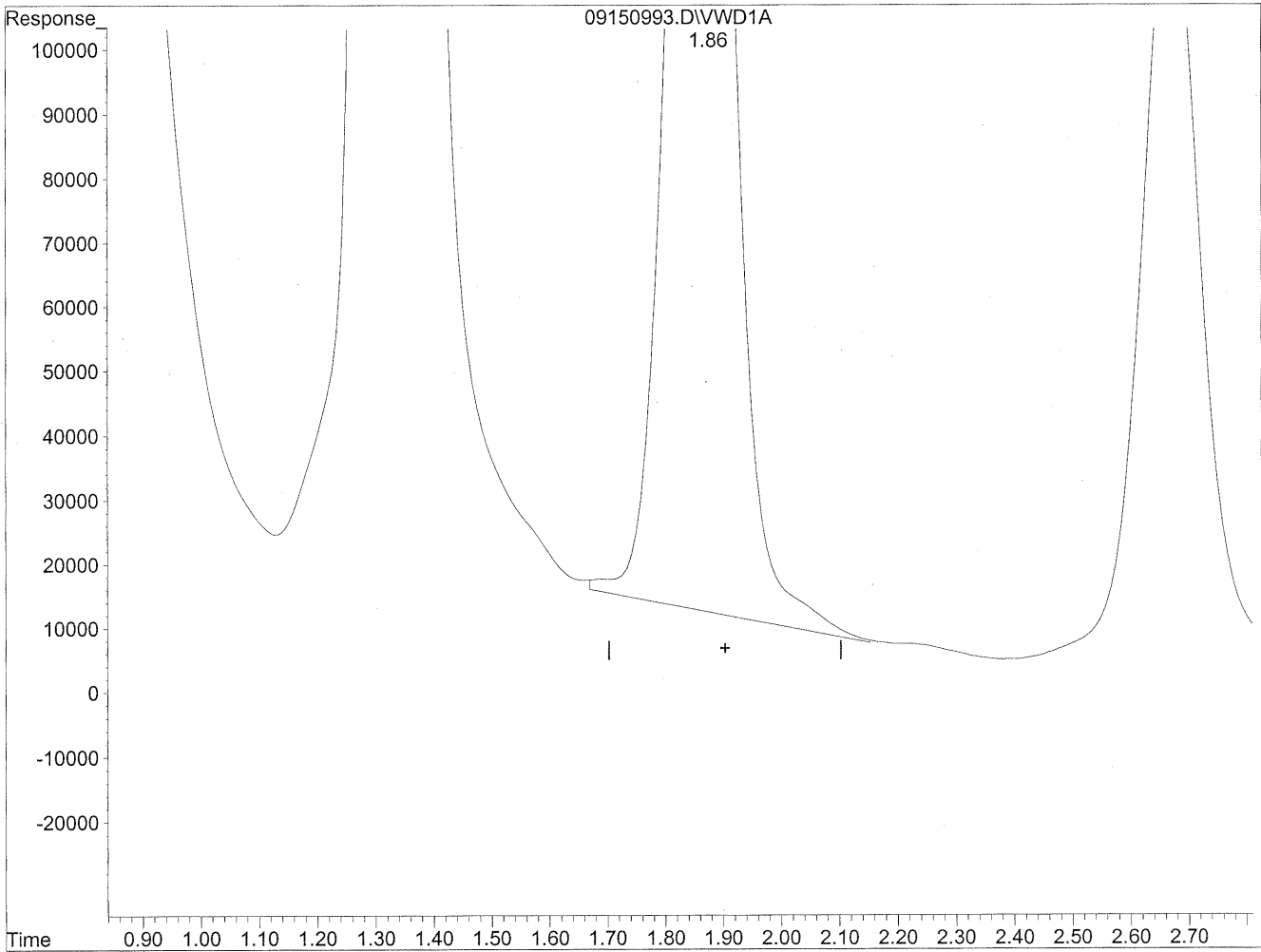


(2) Acetaldehyde
1.87min 2584.314ng/ml
response 16800101

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150993.D Vial: 178
Acq On : 16-Sep-2009, 02:44 Operator: MD
Sample : P0903195-013 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:31 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



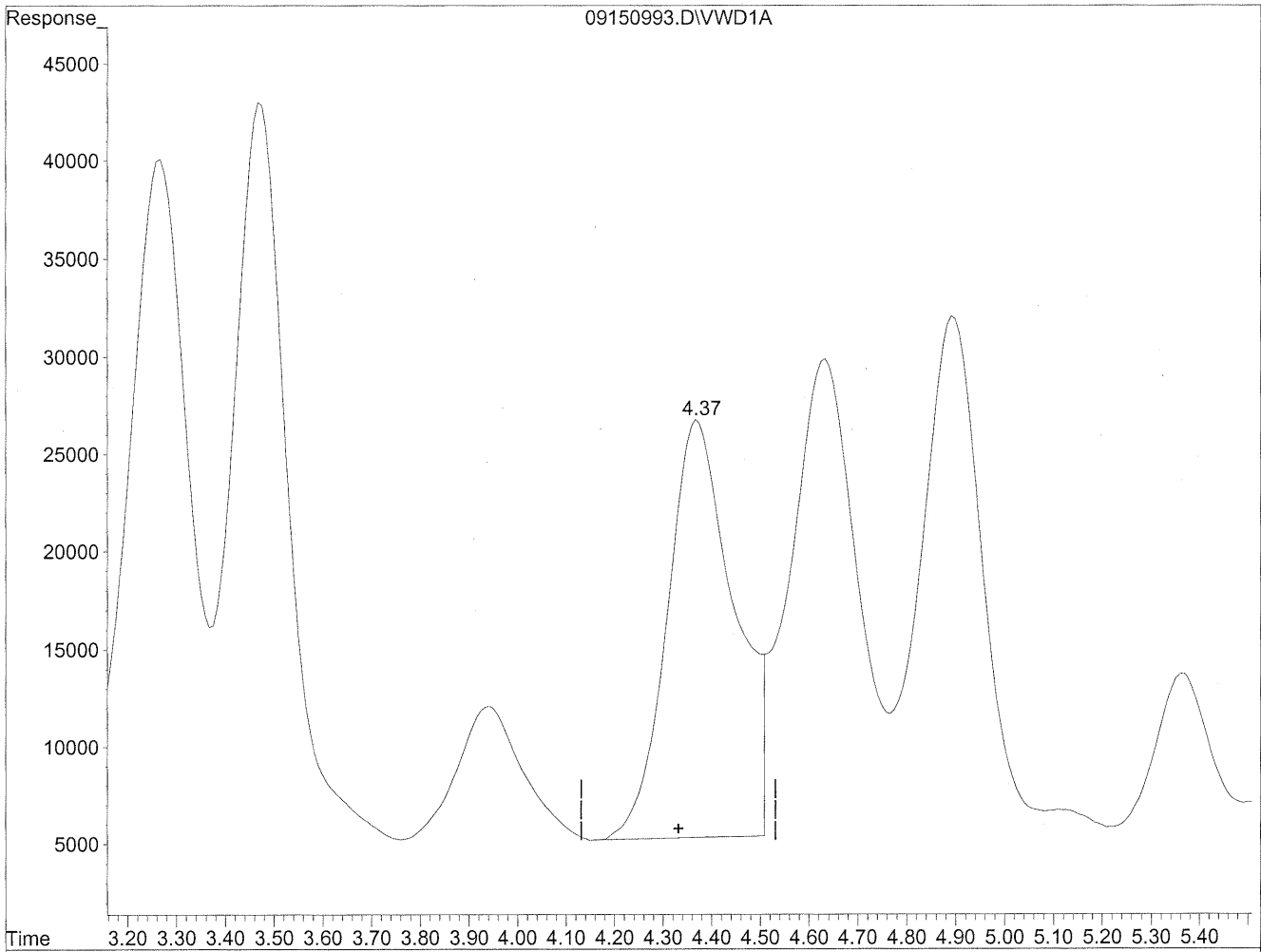
(2) Acetaldehyde
1.86min 2612.470ng/ml m
response 16983139

MD
9/21/09
2
HC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150993.D Vial: 178
Acq On : 16-Sep-2009, 02:44 Operator: MD
Sample : P0903195-013 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:31 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

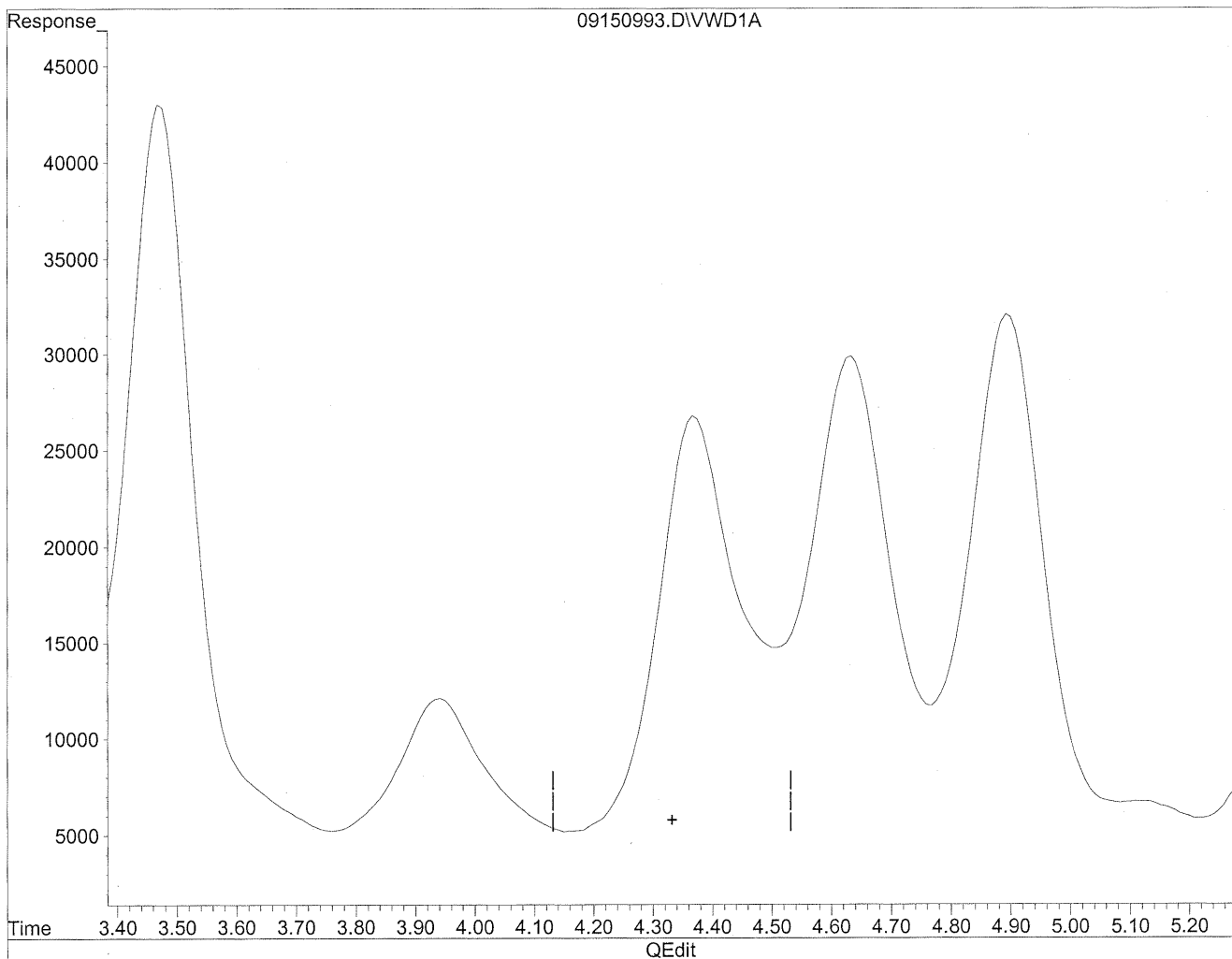


(4) Crotonaldehyde
4.37min 501.591ng/ml
response 2036243

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150993.D Vial: 178
Acq On : 16-Sep-2009, 02:44 Operator: MD
Sample : P0903195-013 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:31 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



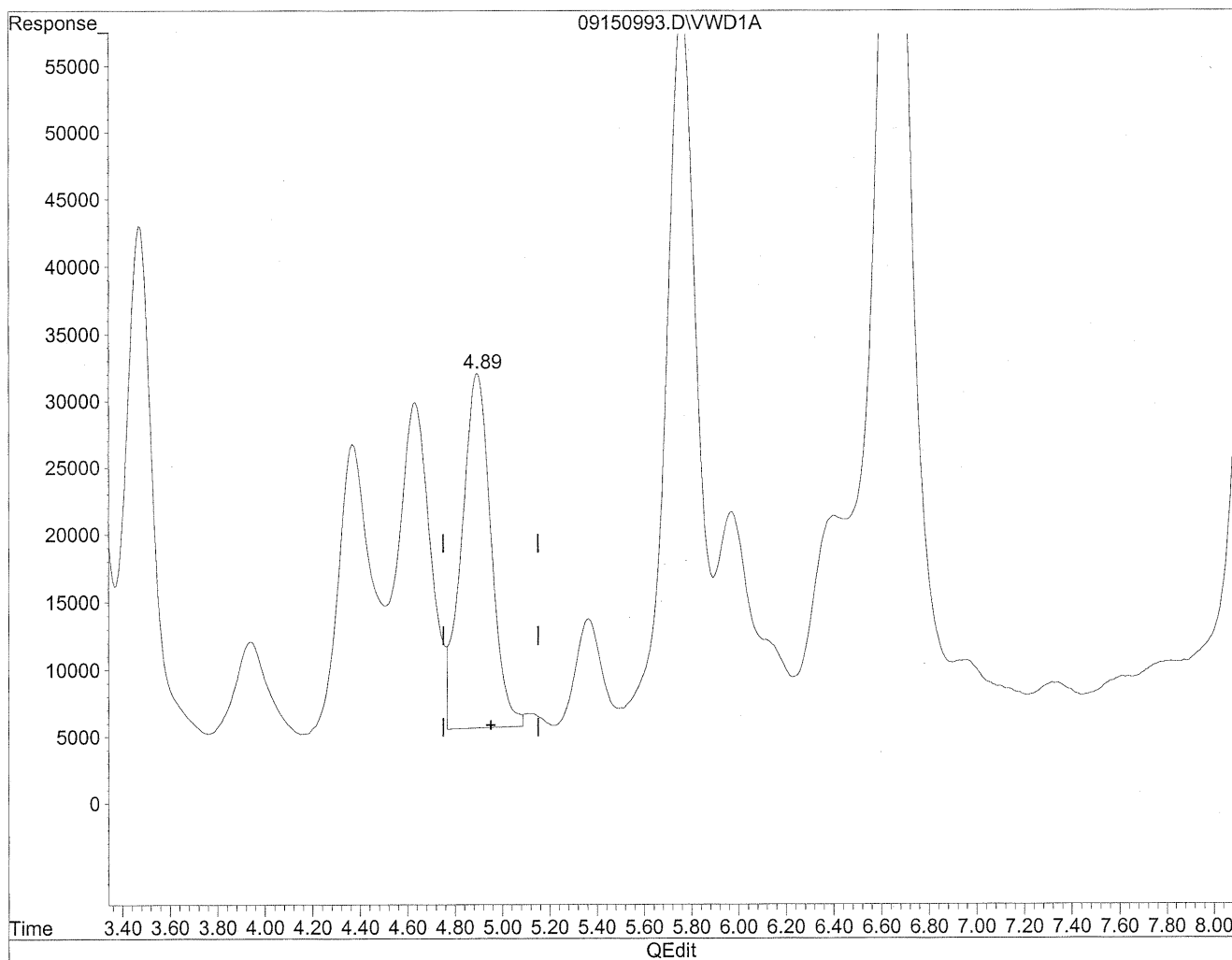
(4) Crotonaldehyde
0.00min 0.000ng/ml d
response 0

Handwritten notes:
MC
9/21/09
MP
9/21/09
MP

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150993.D Vial: 178
Acq On : 16-Sep-2009, 02:44 Operator: MD
Sample : P0903195-013 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:31 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

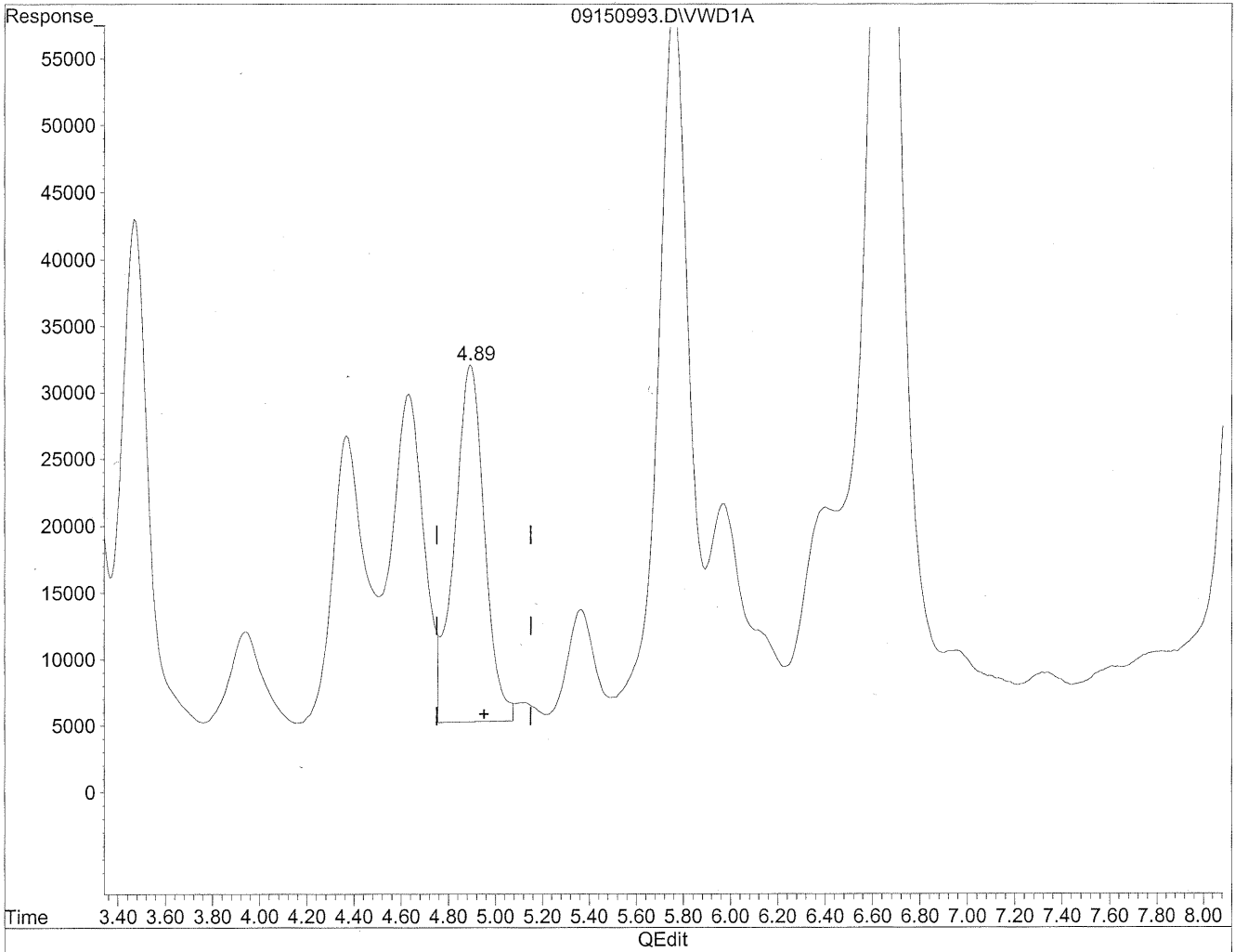


(5) Butyraldehyde
4.90min 563.610ng/ml
response 2284182

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150993.D Vial: 178
Acq On : 16-Sep-2009, 02:44 Operator: MD
Sample : P0903195-013 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:31 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



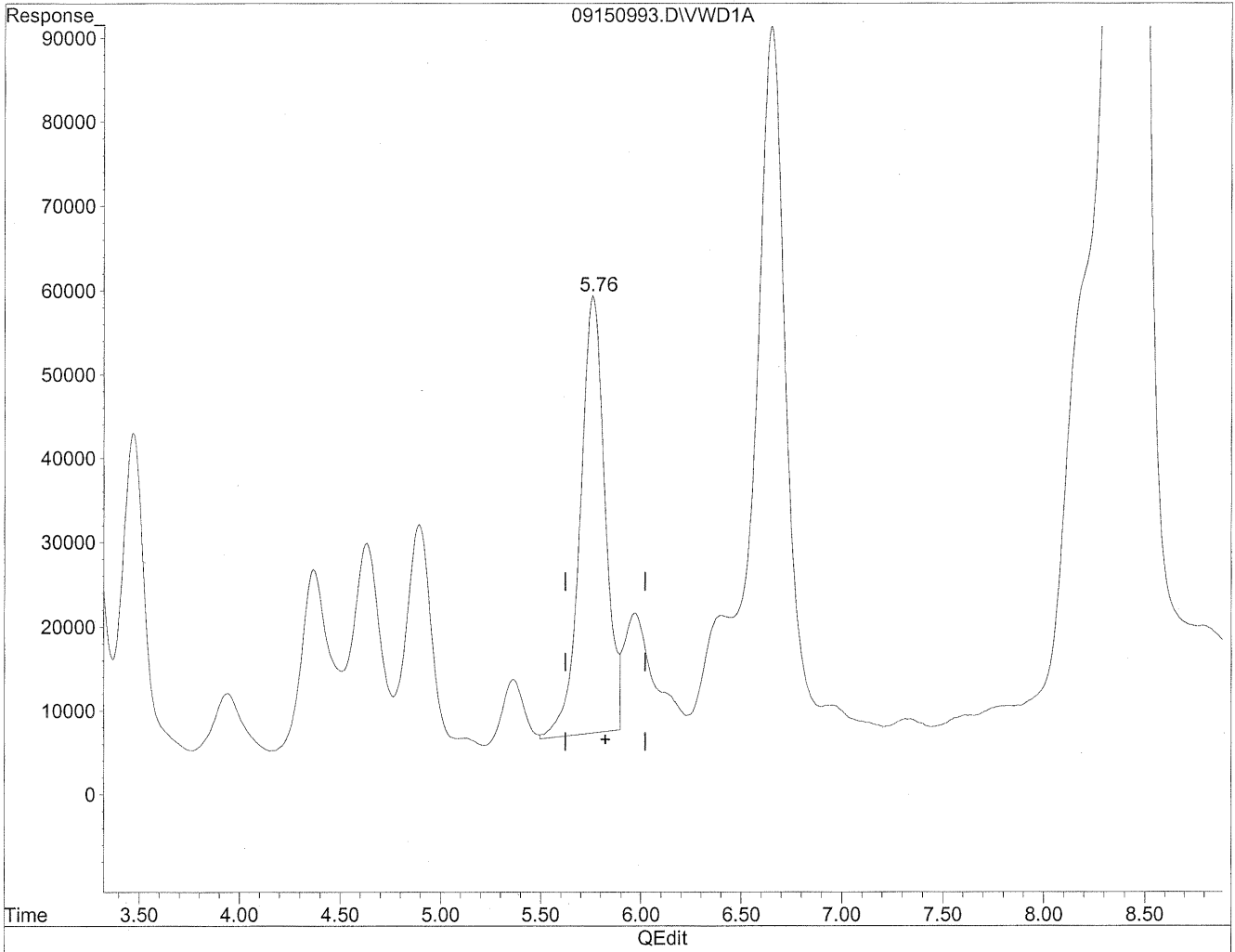
(5) Butyraldehyde
4.89min 588.928ng/ml m
response 2386788

Handwritten notes:
HIC
9/21/09
MM
9/21/09
BC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150993.D Vial: 178
Acq On : 16-Sep-2009, 02:44 Operator: MD
Sample : P0903195-013 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:31 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

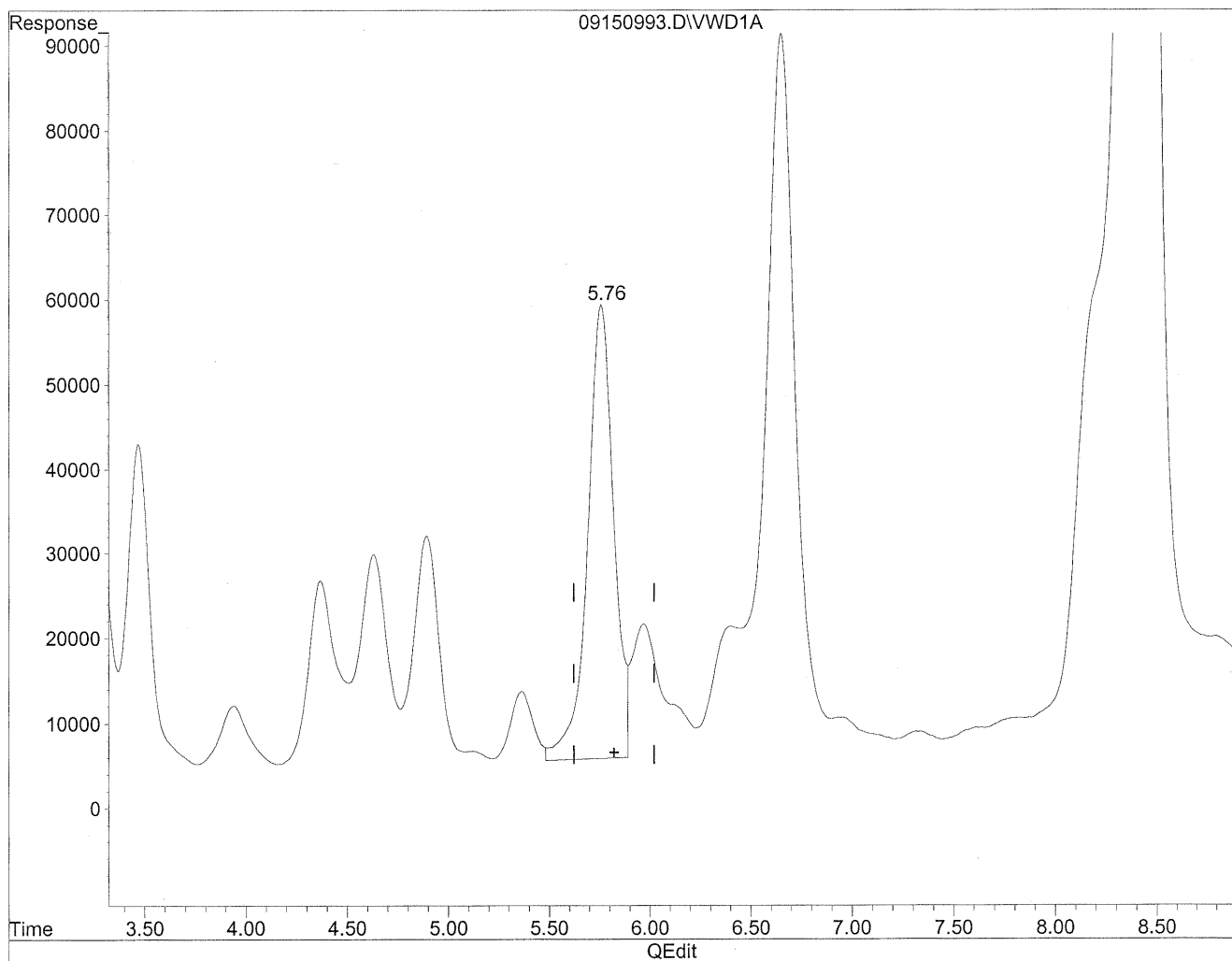
5.76min 1640.392ng/ml

response 4475608

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150993.D Vial: 178
Acq On : 16-Sep-2009, 02:44 Operator: MD
Sample : P0903195-013 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:31 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde

5.76min 1780.937ng/ml m

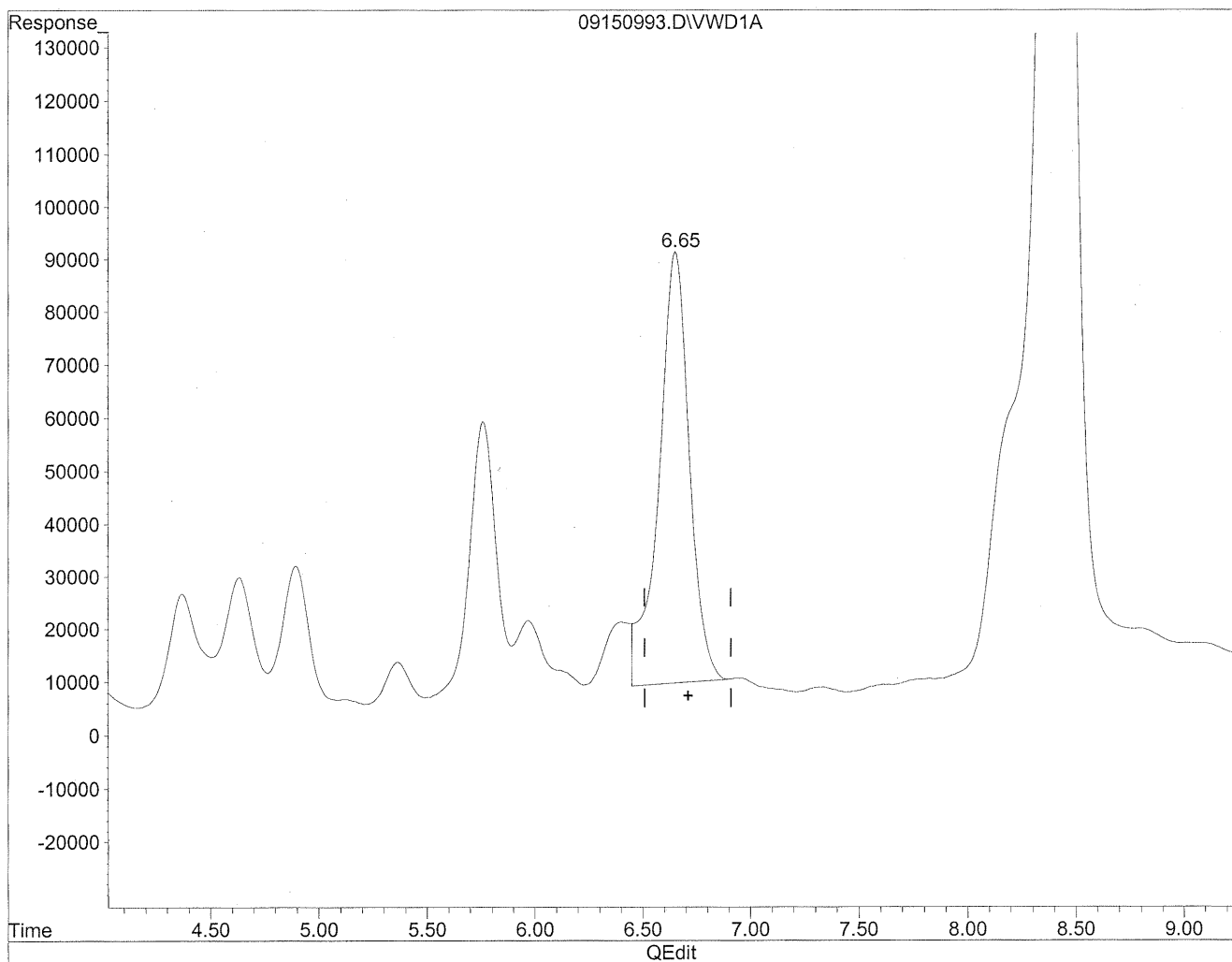
response 4859067

the
9/21/09
(5.76)
9/21/09
Be

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150993.D Vial: 178
Acq On : 16-Sep-2009, 02:44 Operator: MD
Sample : P0903195-013 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:31 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

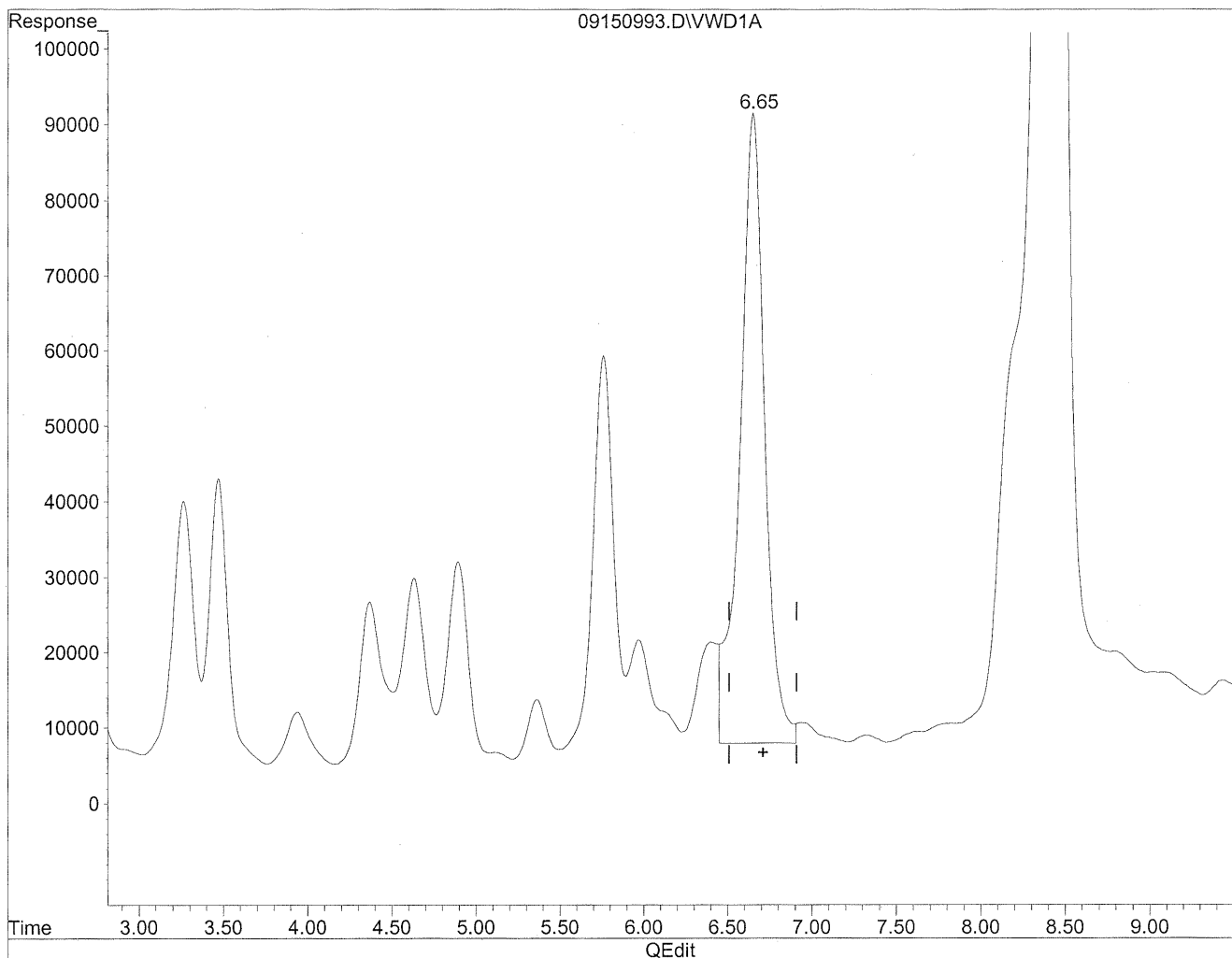


(8) Valeraldehyde
6.65min 2369.870ng/ml
response 8056705

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150993.D Vial: 178
Acq On : 16-Sep-2009, 02:44 Operator: MD
Sample : P0903195-013 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:31 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



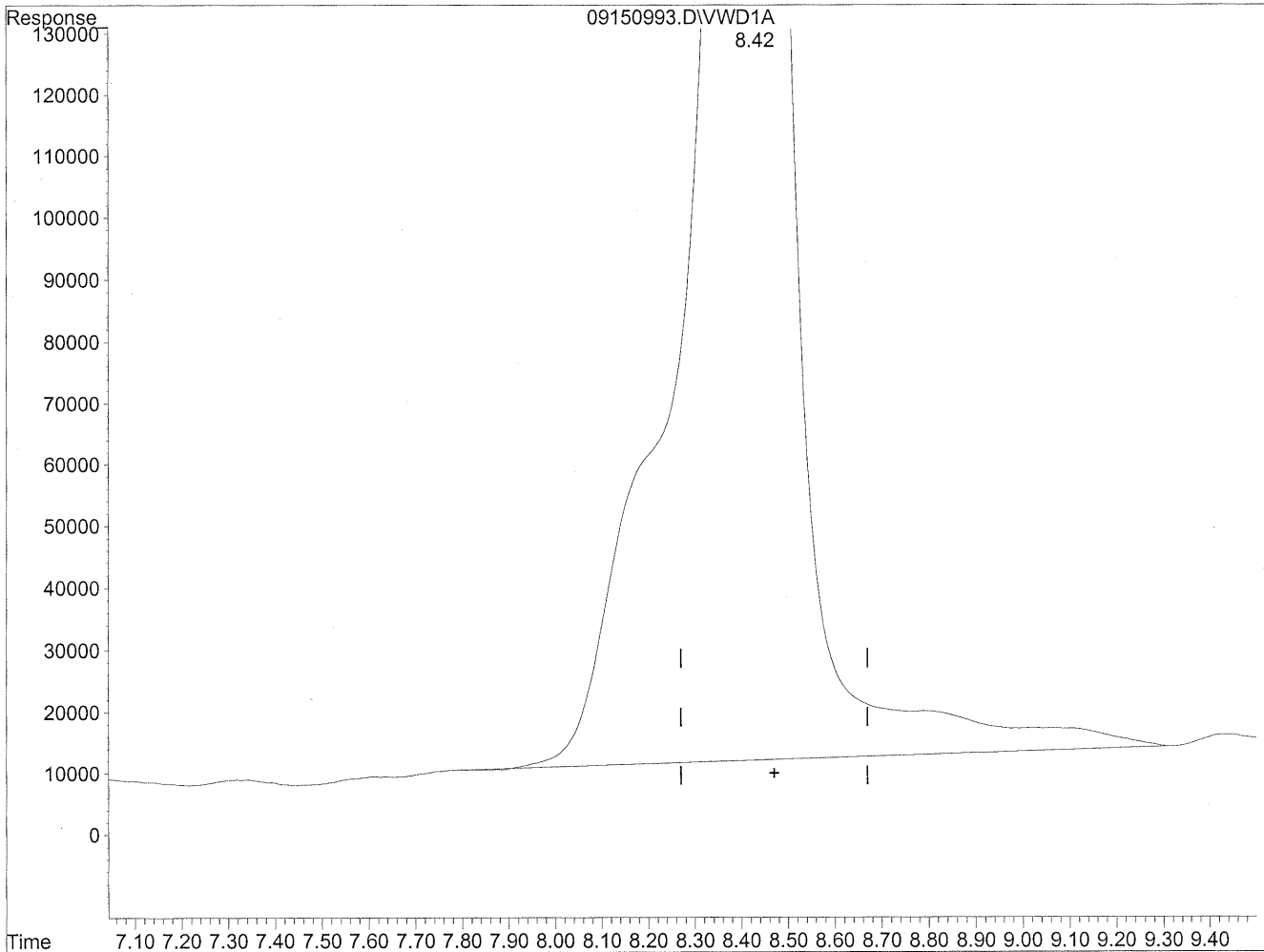
(8) Valeraldehyde
6.65min 2484.768ng/ml m
response 8447314

Handwritten notes:
xlc
9/21/09
MD
9/21/09
pe

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150993.D Vial: 178
Acq On : 16-Sep-2009, 02:44 Operator: MD
Sample : P0903195-013 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:31 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

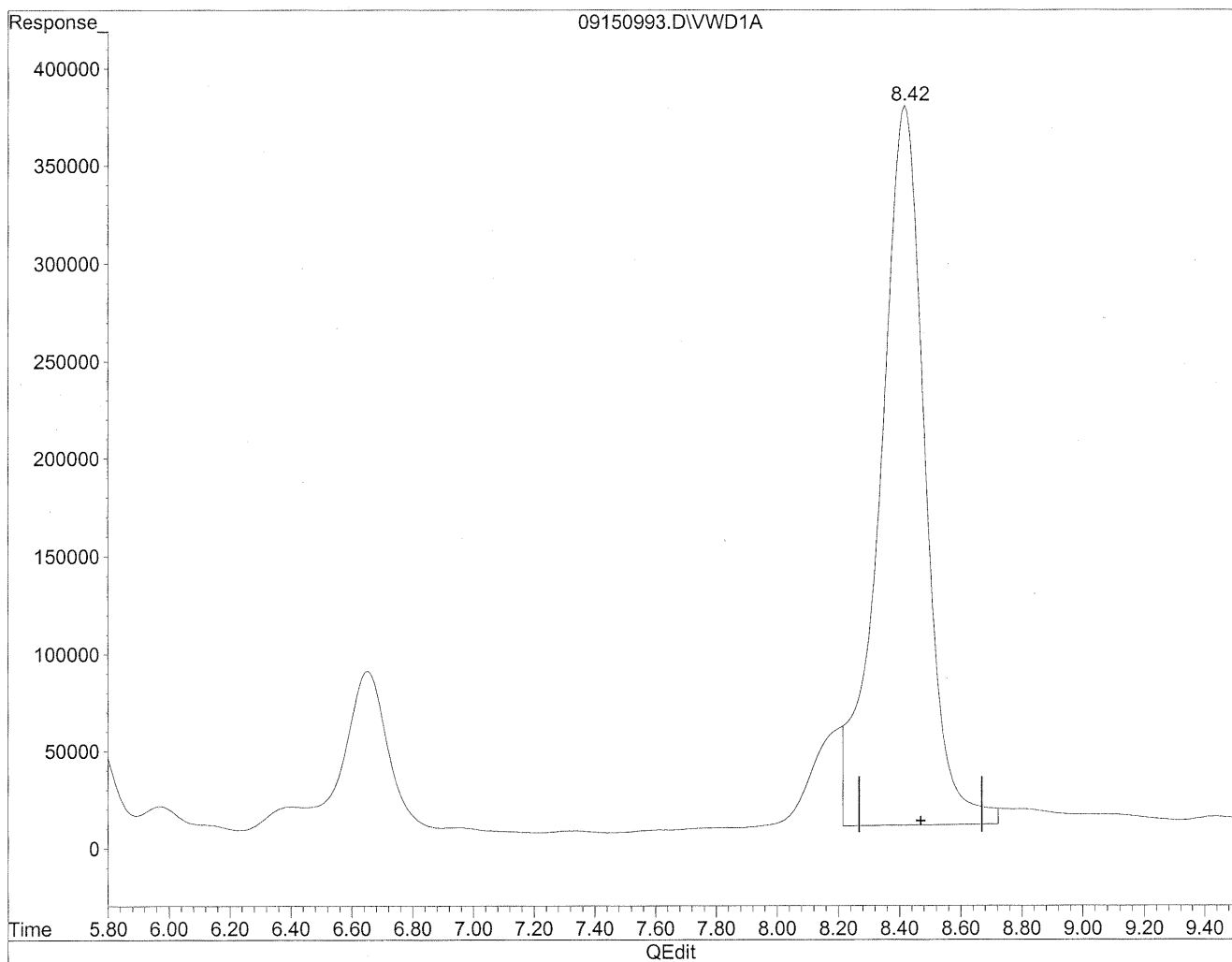


(11) Hexaldehyde
8.42min 14291.178ng/ml
response 42312243

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150993.D Vial: 178
Acq On : 16-Sep-2009, 02:44 Operator: MD
Sample : P0903195-013 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:31 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde
8.42min 12699.417ng/ml m
response 37599477

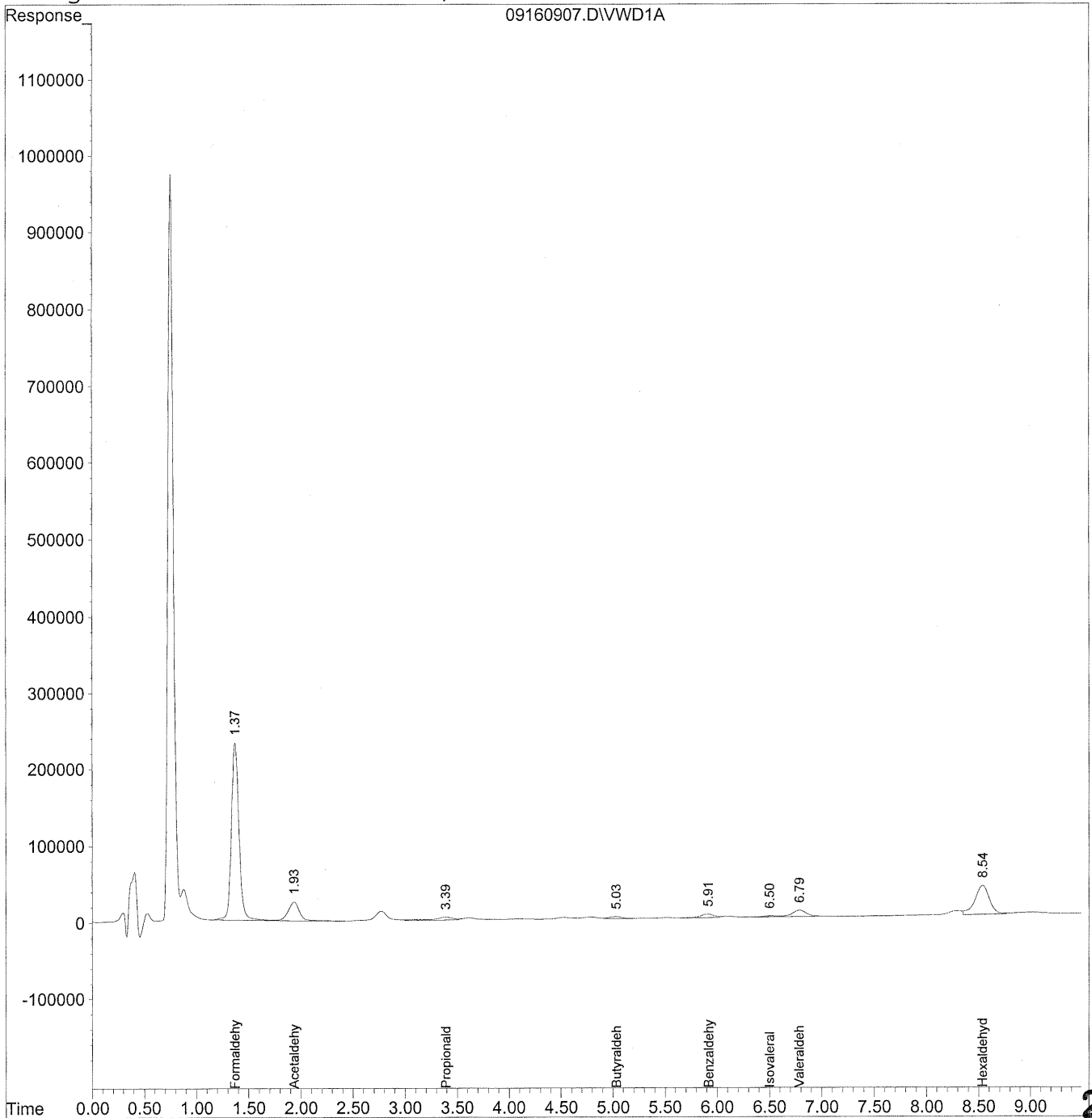
*the
1/21/09* *(mw)
9/21/09
sh.
see dilution*

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160907.D Vial: 5
Acq On : 16-Sep-2009, 12:05 Operator: MD
Sample : P0903195-013 front 10x dil Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 12:15 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09_16\09160907.D Vial: 5
 Acq On : 16-Sep-2009, 12:05 Operator: MD
 Sample : P0903195-013 front 10x dil Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 12:15 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 17 16:12:59 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

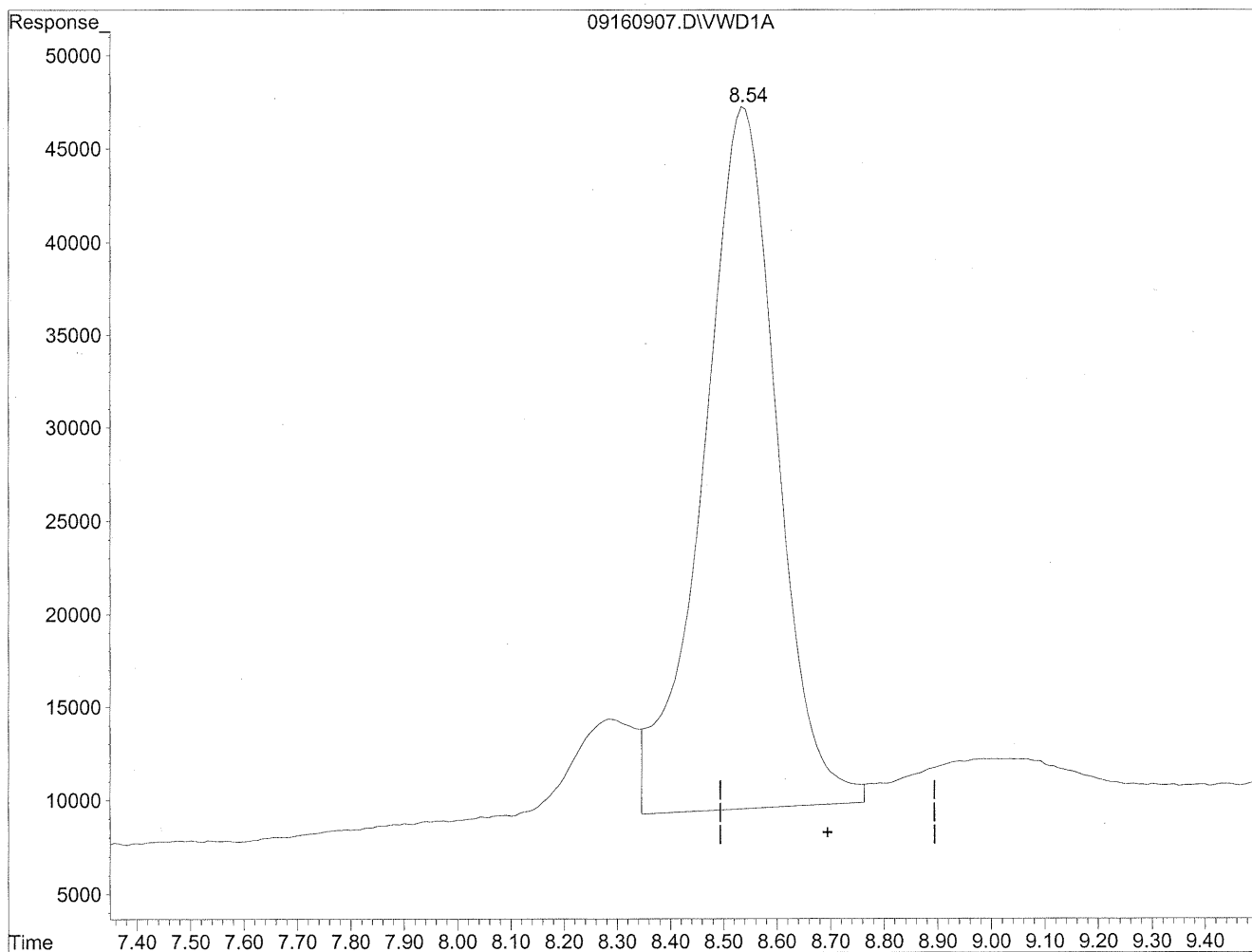
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.37	11574273	1295.323 ng/ml
2) Acetaldehyde	1.94	1827560	281.129 ng/ml
3) Propionaldehyde	3.39	485706	93.444 ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	5.03	215145	53.086 ng/ml
6) Benzaldehyde	5.91	428542	157.068 ng/ml
7) Isovaleraldehyde	6.50	139028	40.394 ng/ml
8) Valeraldehyde	6.79	782120	230.060 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	8.54	3641767	1230.026 ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160907.D Vial: 5
Acq On : 16-Sep-2009, 12:05 Operator: MD
Sample : P0903195-013 front 10x dil Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 12:14 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

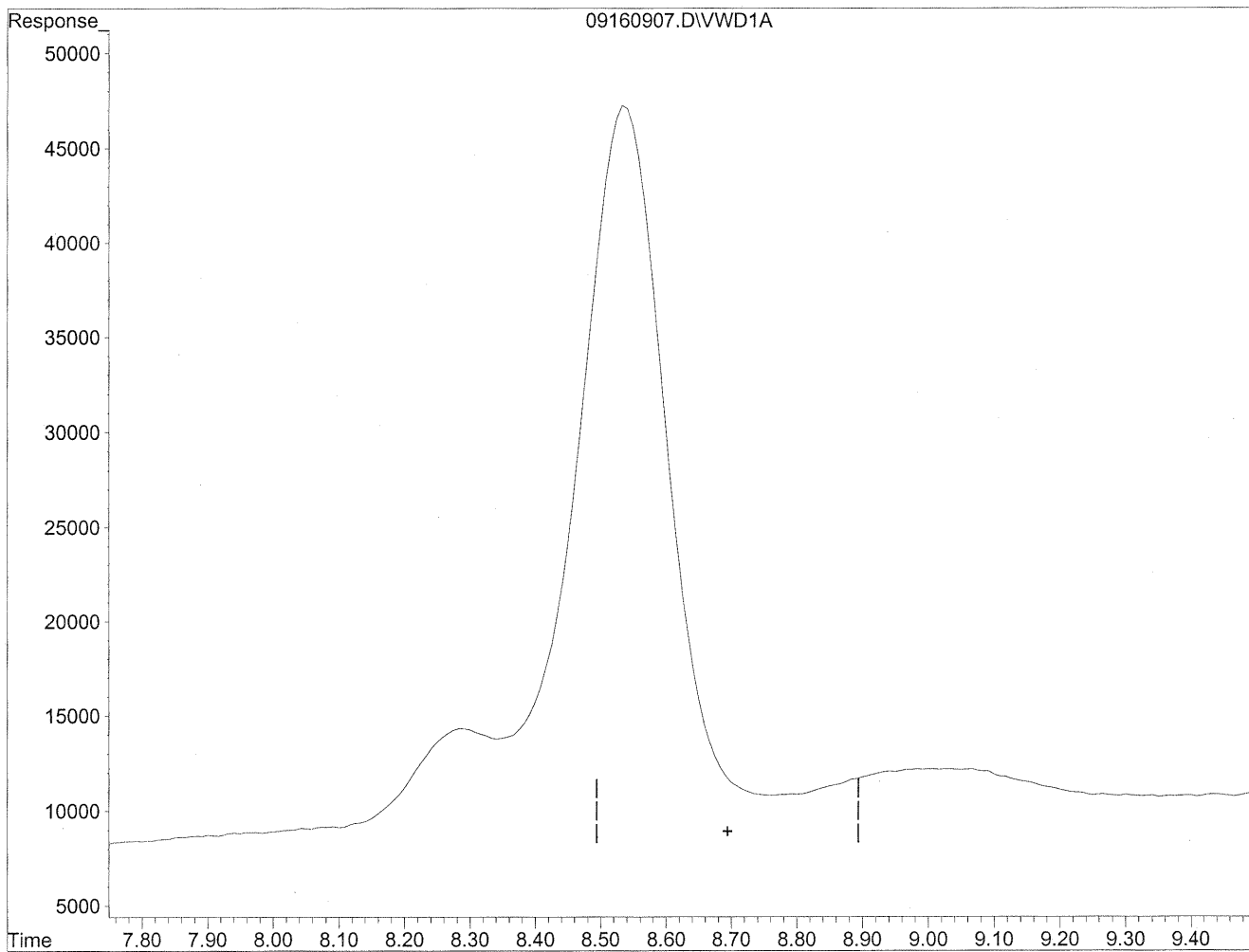
8.54min 1824.997ng/ml

response 3641767

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160907.D Vial: 5
Acq On : 16-Sep-2009, 12:05 Operator: MD
Sample : P0903195-013 front 10x dil Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 12:14 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

0.00min 0.000ng/ml d

response 0

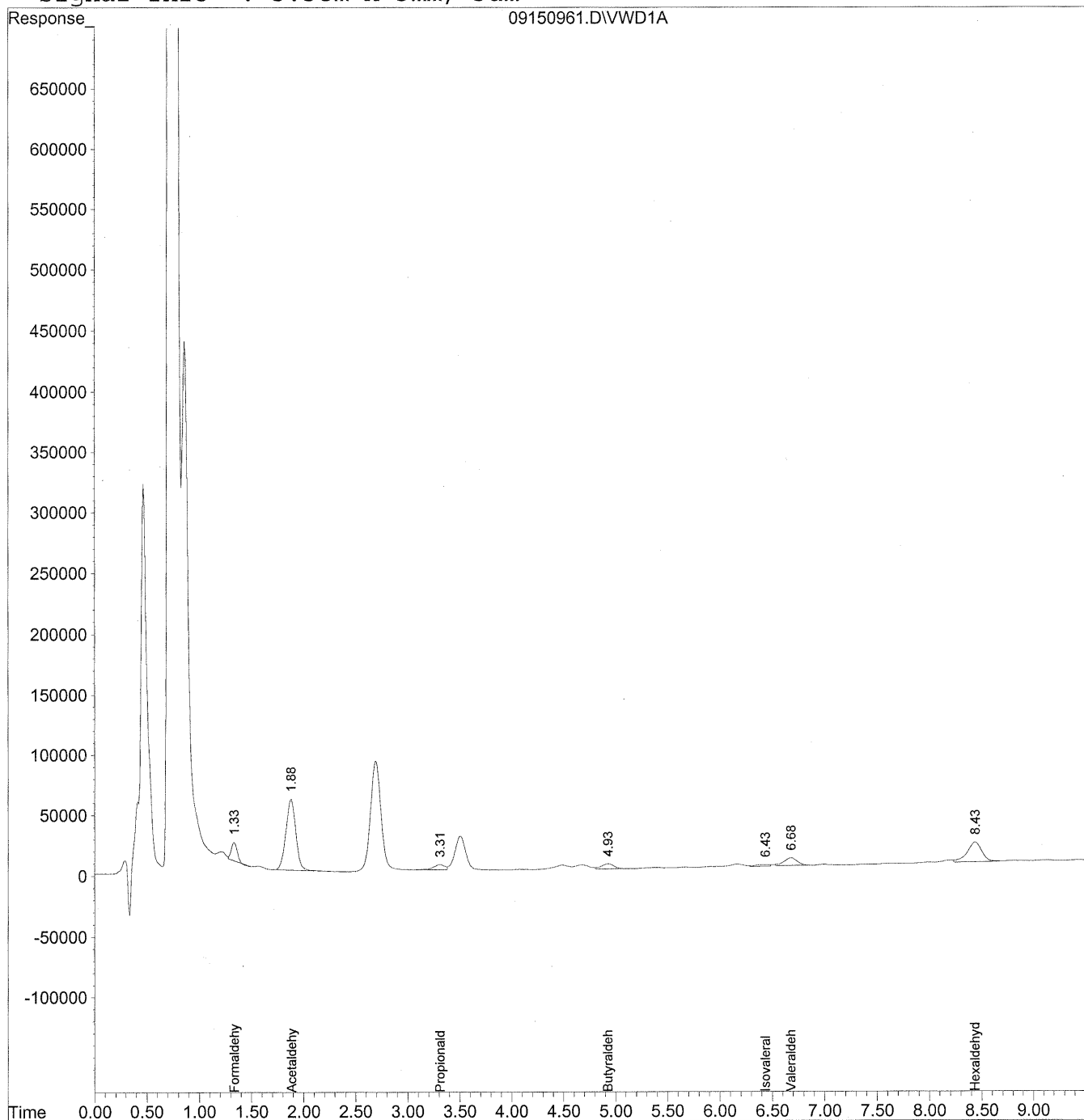
MD
9/21/09
MP
HC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150961.D Vial: 152
Acq On : 15-Sep-2009, 20:20 Operator: MD
Sample : P0903195-013 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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



221

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150961.D Vial: 152
 Acq On : 15-Sep-2009, 20:20 Operator: MD
 Sample : P0903195-013 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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

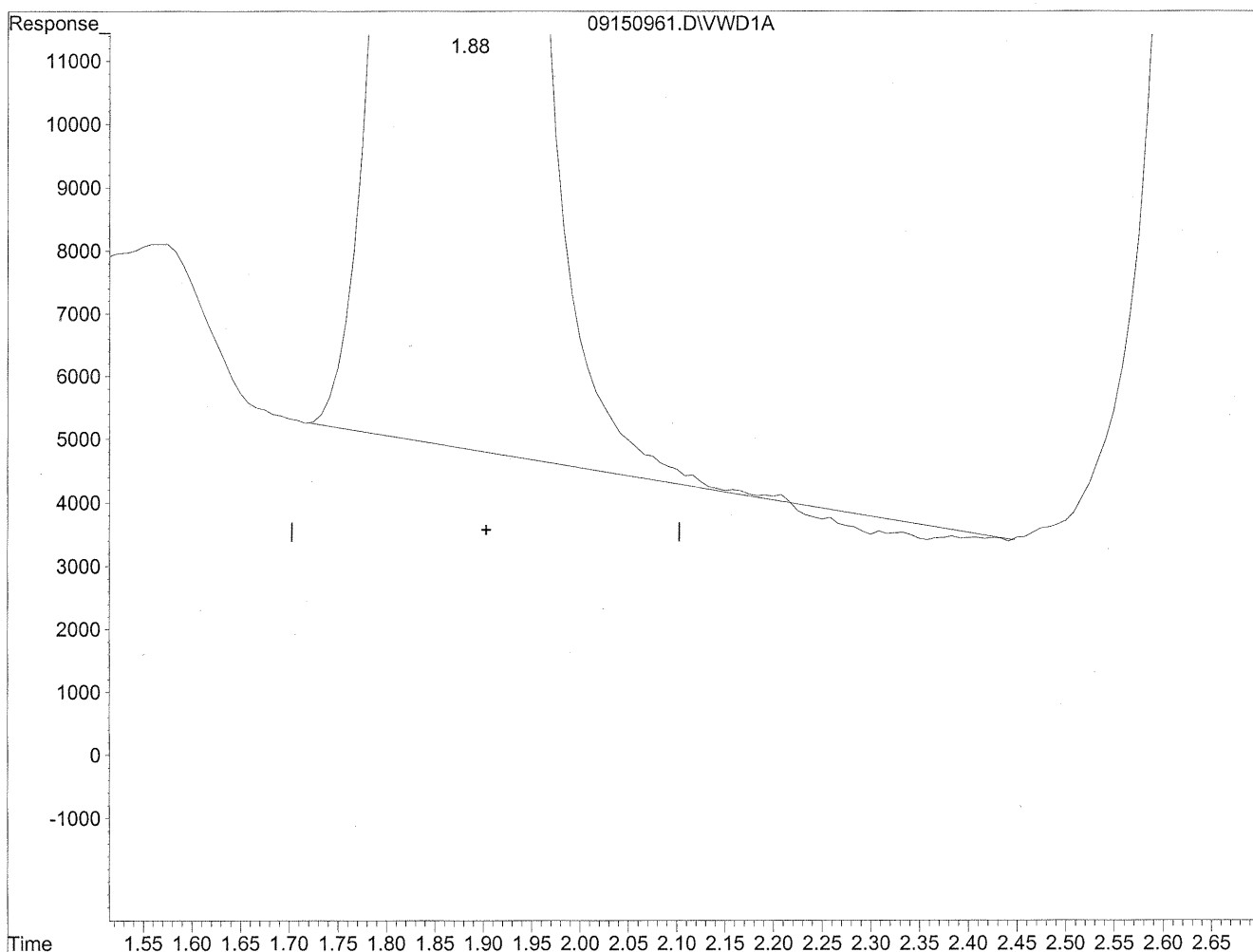
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.34	580624	64.980 ng/ml
2) Acetaldehyde	1.88	3882467	597.229 ng/mlm
3) Propionaldehyde	3.31	329580	63.407 ng/mlm
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	4.93	357849	88.297 ng/ml
6) Benzaldehyde	0.00	0	N.D. ng/ml
7) Isovaleraldehyde	6.44	126001	36.609 ng/ml
8) Valeraldehyde	6.68	554128	162.996 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	1582100	534.362 ng/mlm
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150961.D Vial: 152
Acq On : 15-Sep-2009, 20:20 Operator: MD
Sample : P0903195-013 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:14 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

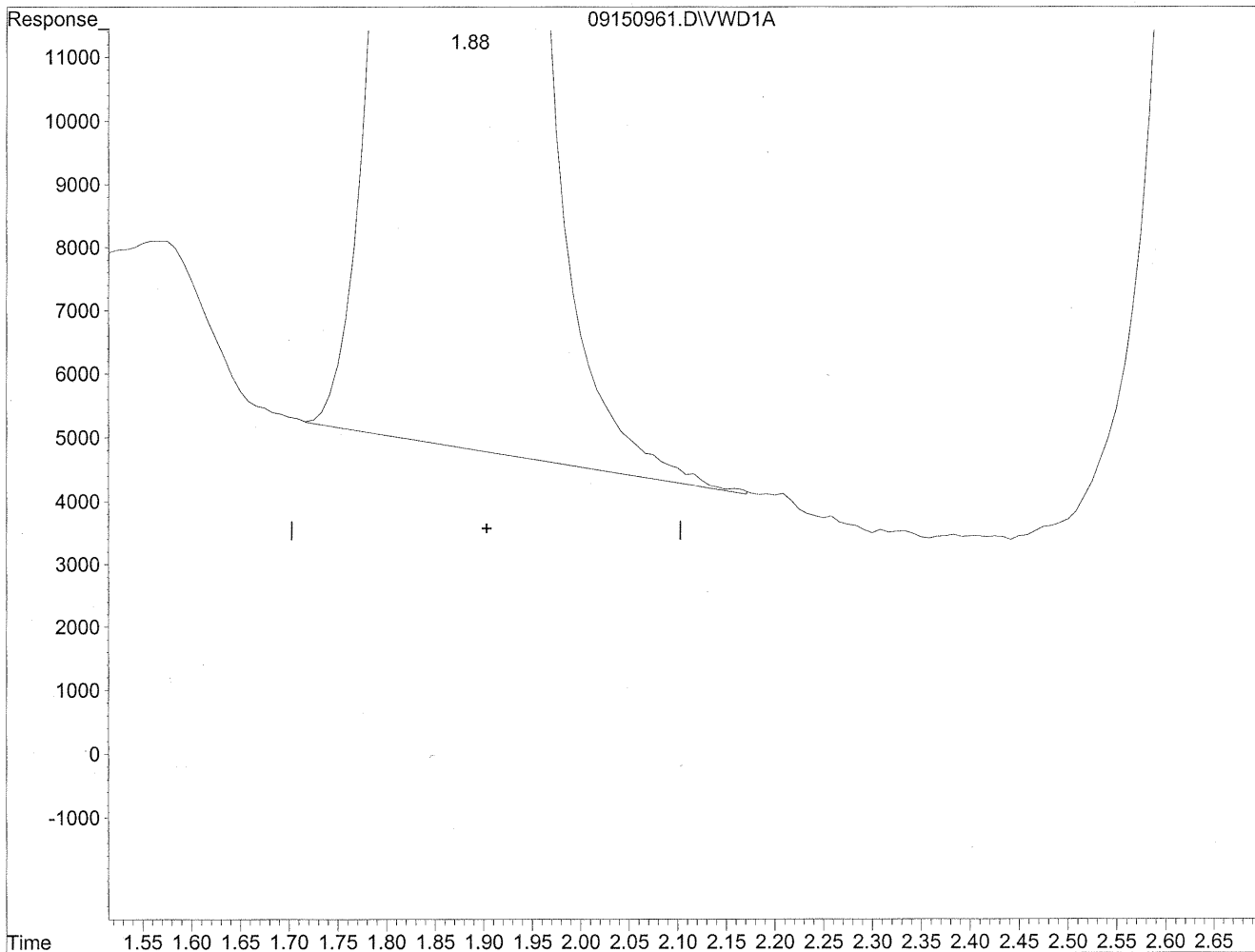


(2) Acetaldehyde
1.88min 594.403ng/ml
response 3864096

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150961.D Vial: 152
Acq On : 15-Sep-2009, 20:20 Operator: MD
Sample : P0903195-013 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:14 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



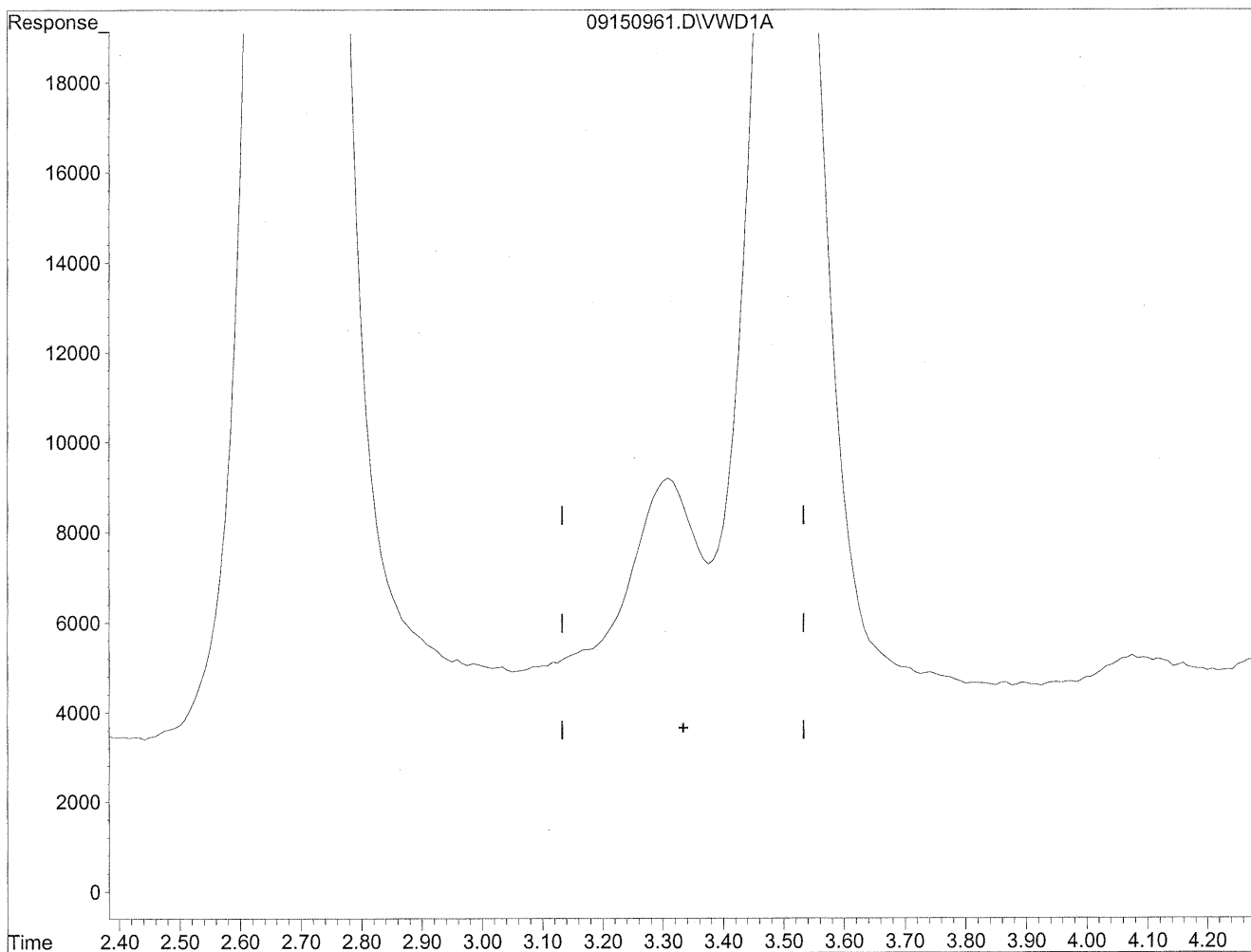
(2) Acetaldehyde
1.88min 597.229ng/ml m
response 3882467

YLC
9/21/09
(MD)
9/21/09
12

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150961.D Vial: 152
Acq On : 15-Sep-2009, 20:20 Operator: MD
Sample : P0903195-013 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:14 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

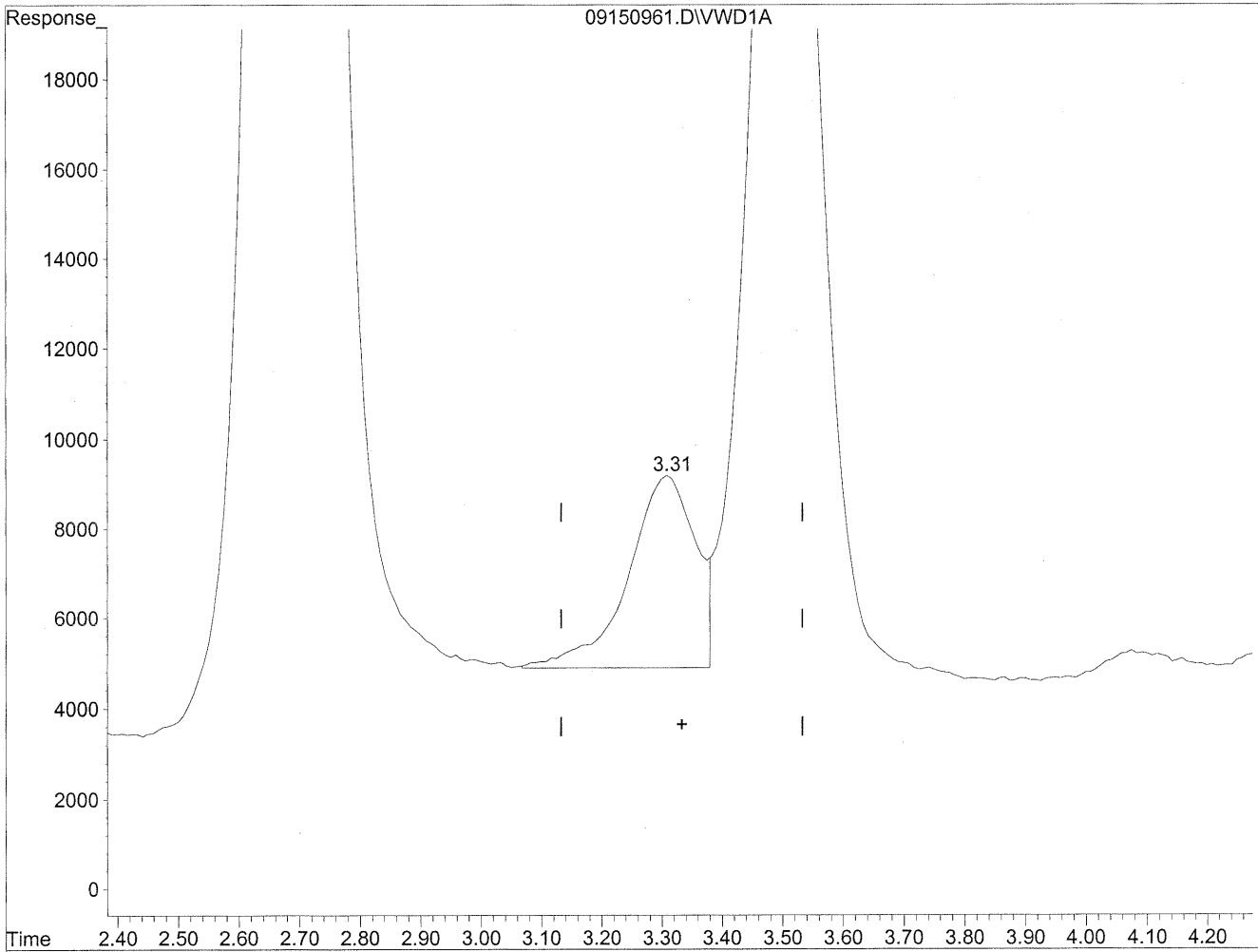


(3) Propionaldehyde
3.33min 0.000ng/ml
response 0

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150961.D Vial: 152
Acq On : 15-Sep-2009, 20:20 Operator: MD
Sample : P0903195-013 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:14 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde
3.31min 63.407ng/ml m
response 329580

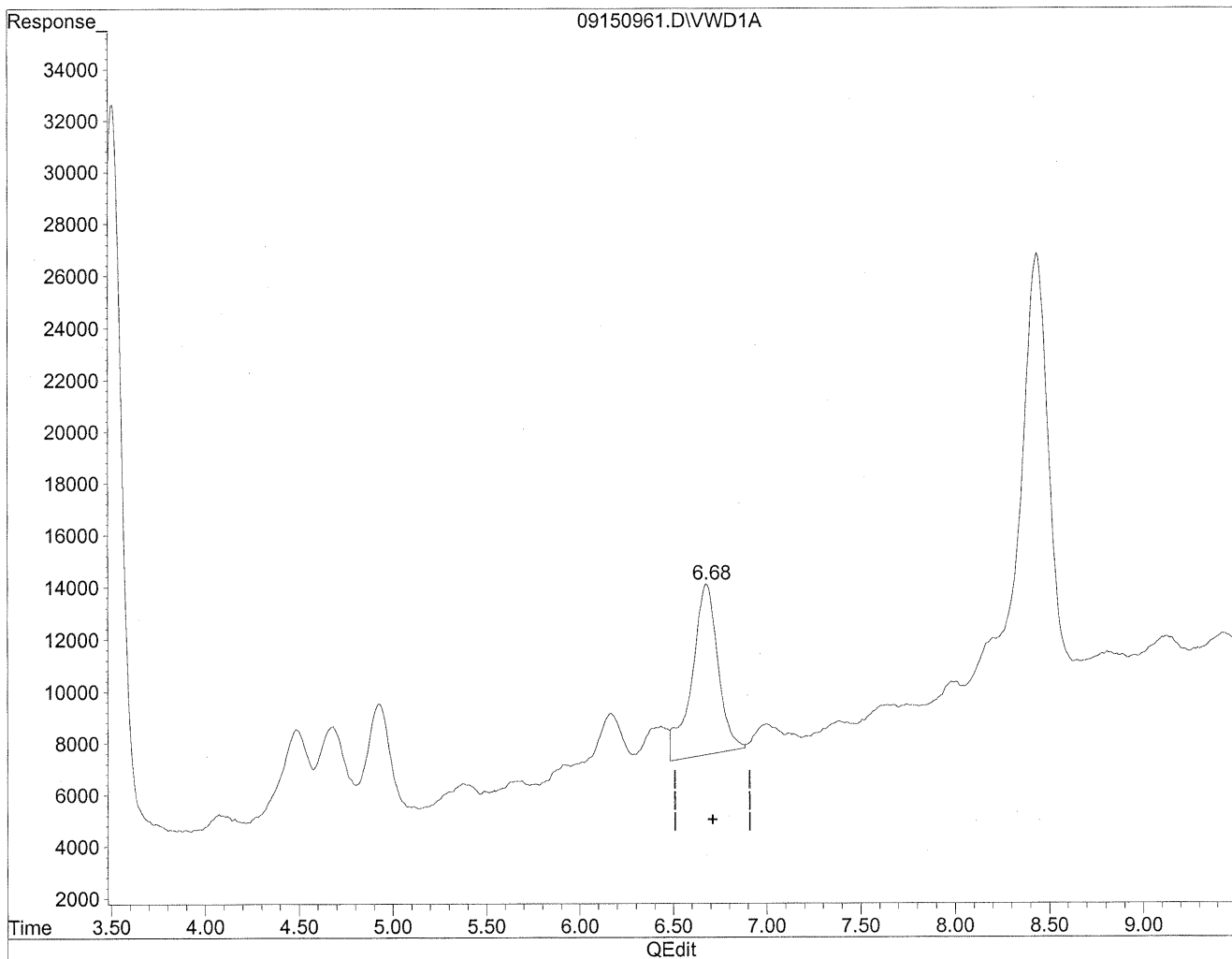
MLC
9/21/09

(M)
9/21/09
BMI/MLC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150961.D Vial: 152
Acq On : 15-Sep-2009, 20:20 Operator: MD
Sample : P0903195-013 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:14 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

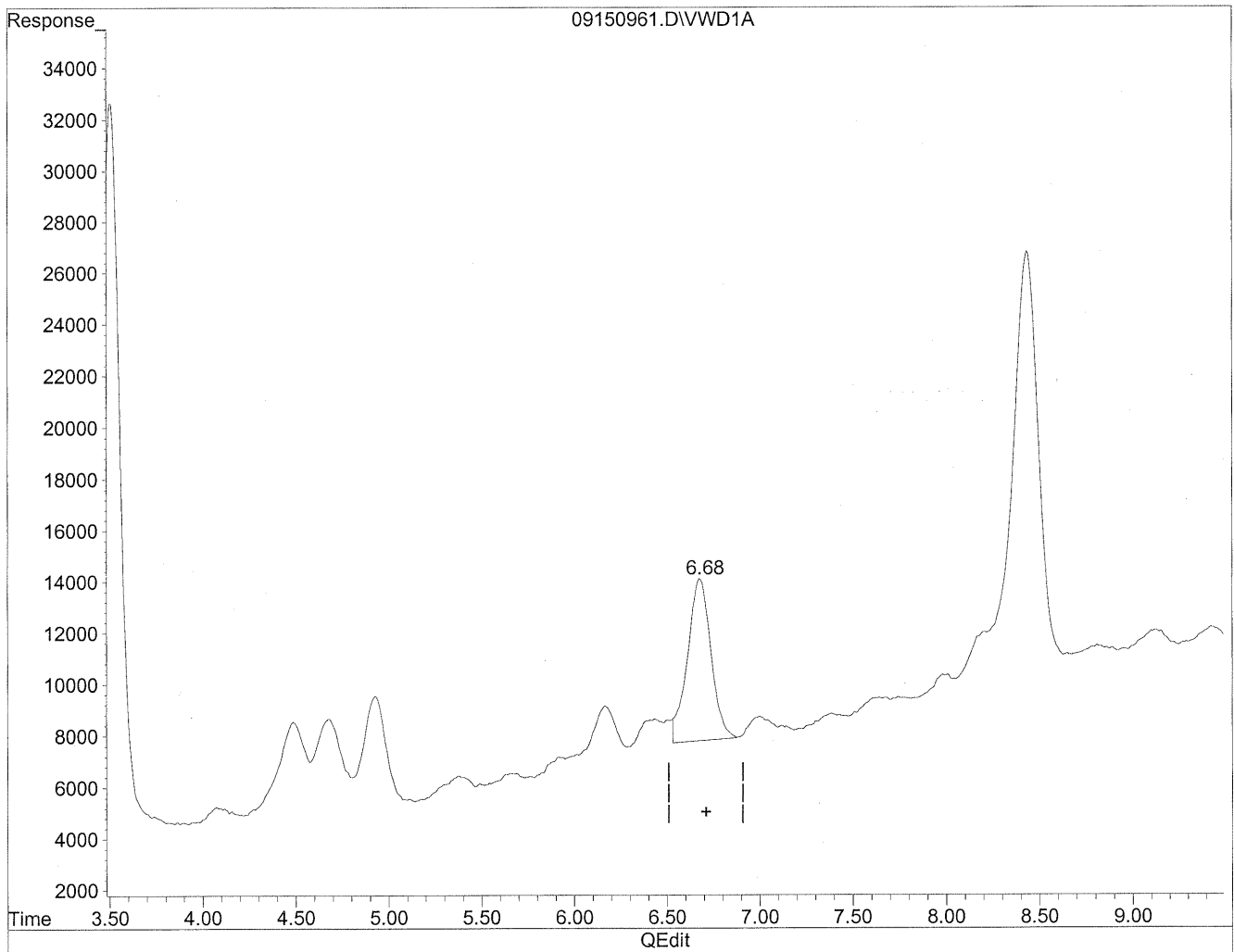


(8) Valeraldehyde
6.68min 187.963ng/ml
response 639007

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150961.D Vial: 152
Acq On : 15-Sep-2009, 20:20 Operator: MD
Sample : P0903195-013 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:14 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



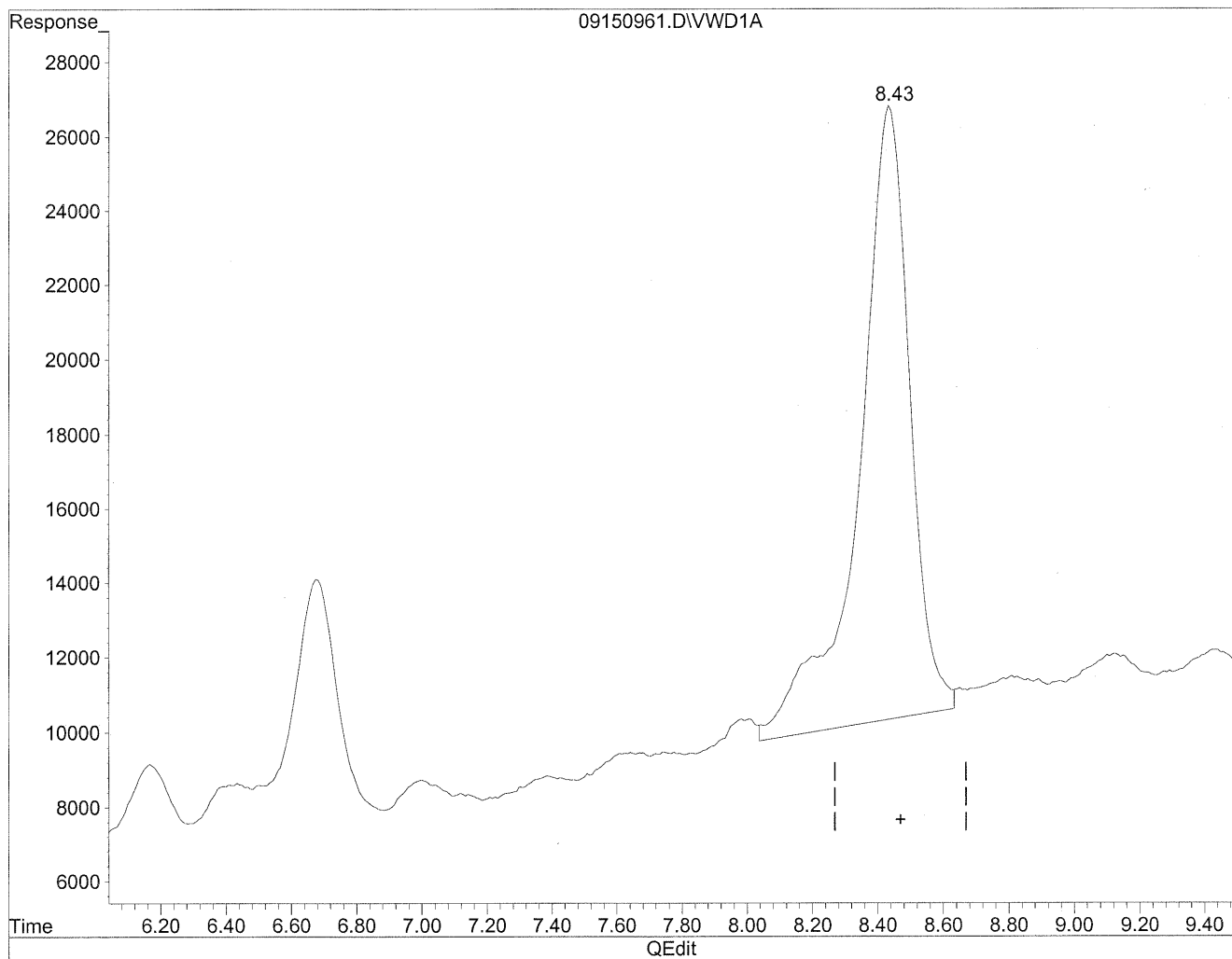
(8) Valeraldehyde
6.68min 162.996ng/ml m
response 554128

MD
9/21/09
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9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150961.D Vial: 152
Acq On : 15-Sep-2009, 20:20 Operator: MD
Sample : P0903195-013 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:14 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

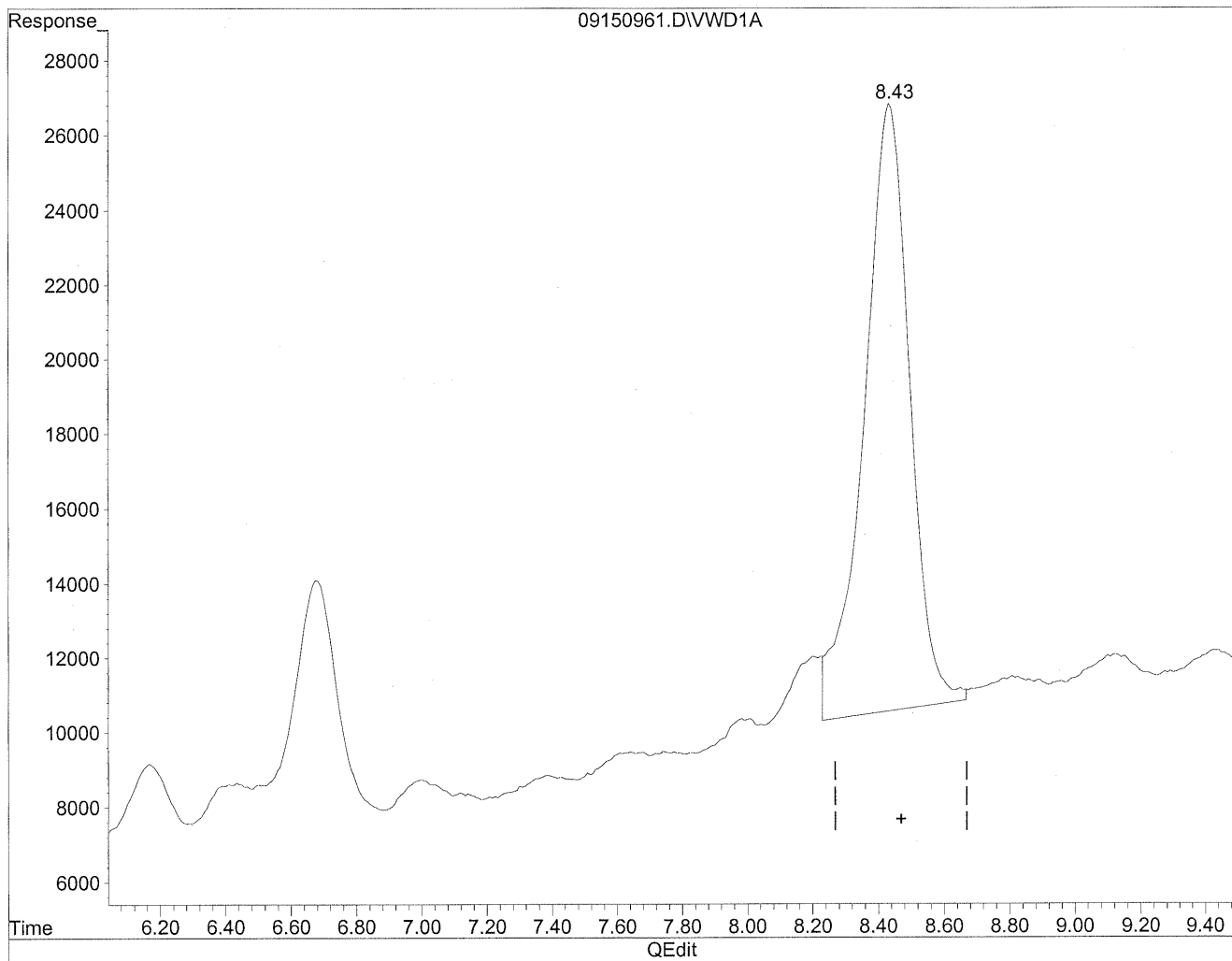


(11) Hexaldehyde
8.44min 597.616ng/ml
response 1769378

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150961.D Vial: 152
Acq On : 15-Sep-2009, 20:20 Operator: MD
Sample : P0903195-013 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:14 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde
8.43min 534.362ng/ml m
response 1582100

MLC
9/18/09
(m)
9/18/09
sh

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.
Client Sample ID: 104809
Client Project ID: 16512

CAS Project ID: P0903195
 CAS Sample ID: P0903195-014

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

Date Collected: 9/1/09
Date Received: 9/10/09
Date Analyzed: 9/15 - 9/16/09
Desorption Volume: 1.0 ml
Volume Sampled: 101 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	13,000	120	0.99	100	0.81	
75-07-0	Acetaldehyde	3,400	34	0.99	19	0.55	BT
123-38-6	Propionaldehyde	650	6.5	0.99	2.7	0.42	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.99	ND	0.35	
123-72-8	Butyraldehyde	630	6.2	0.99	2.1	0.34	
100-52-7	Benzaldehyde	1,800	18	0.99	4.0	0.23	
590-86-3	Isovaleraldehyde	360	3.5	0.99	1.0	0.28	
110-62-3	Valeraldehyde	2,700	27	0.99	7.7	0.28	
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	13,000	130	0.99	31	0.24	
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.

BT = Results indicated possible breakthrough; back section > 10% front section.

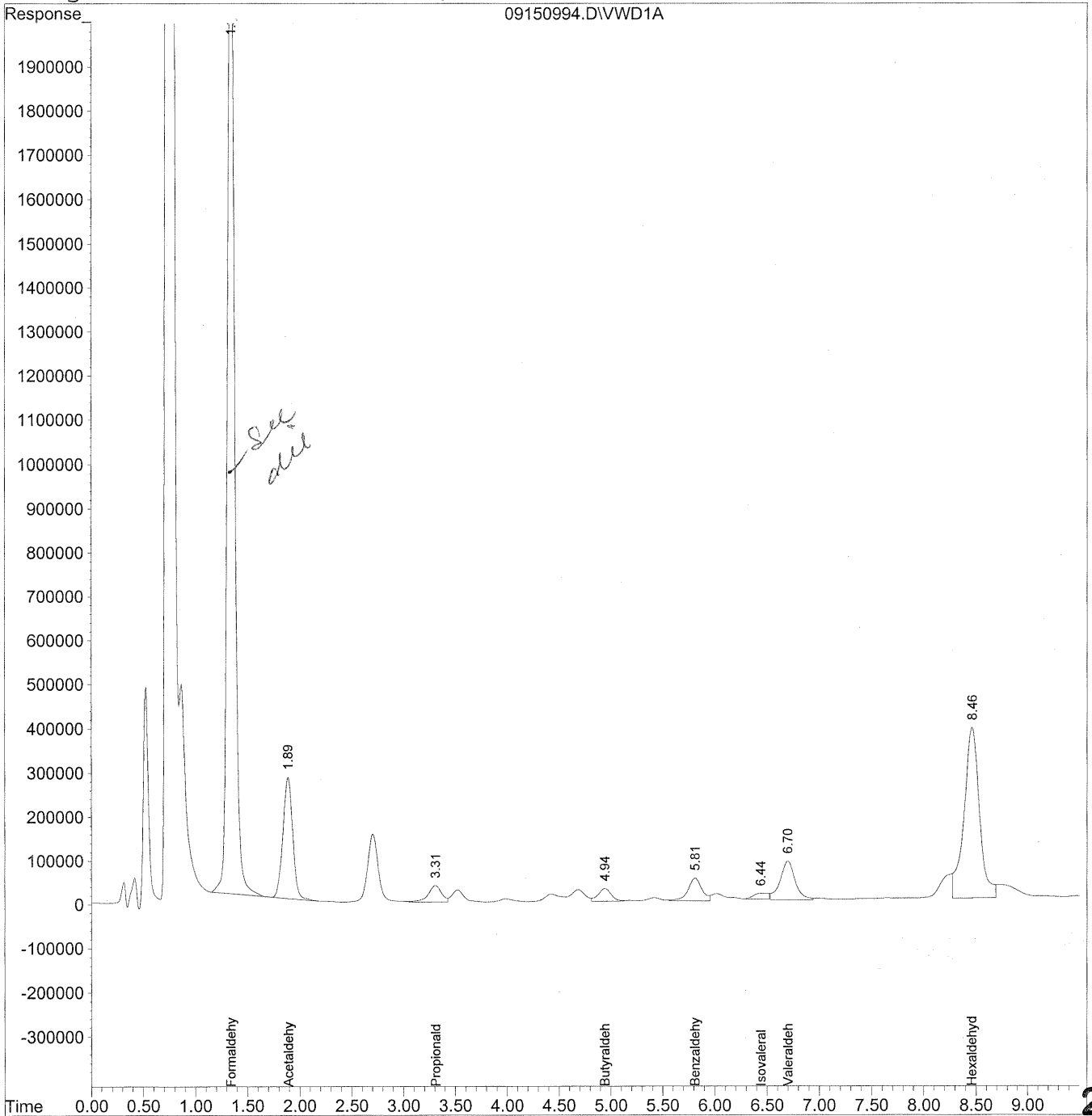
Verified By: PC Date: 9/24/09 **231**

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150994.D Vial: 179
Acq On : 16-Sep-2009, 02:56 Operator: MD
Sample : P0903195-014 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:37 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150994.D Vial: 179
 Acq On : 16-Sep-2009, 02:56 Operator: MD
 Sample : P0903195-014 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:37 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 17 16:12:59 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

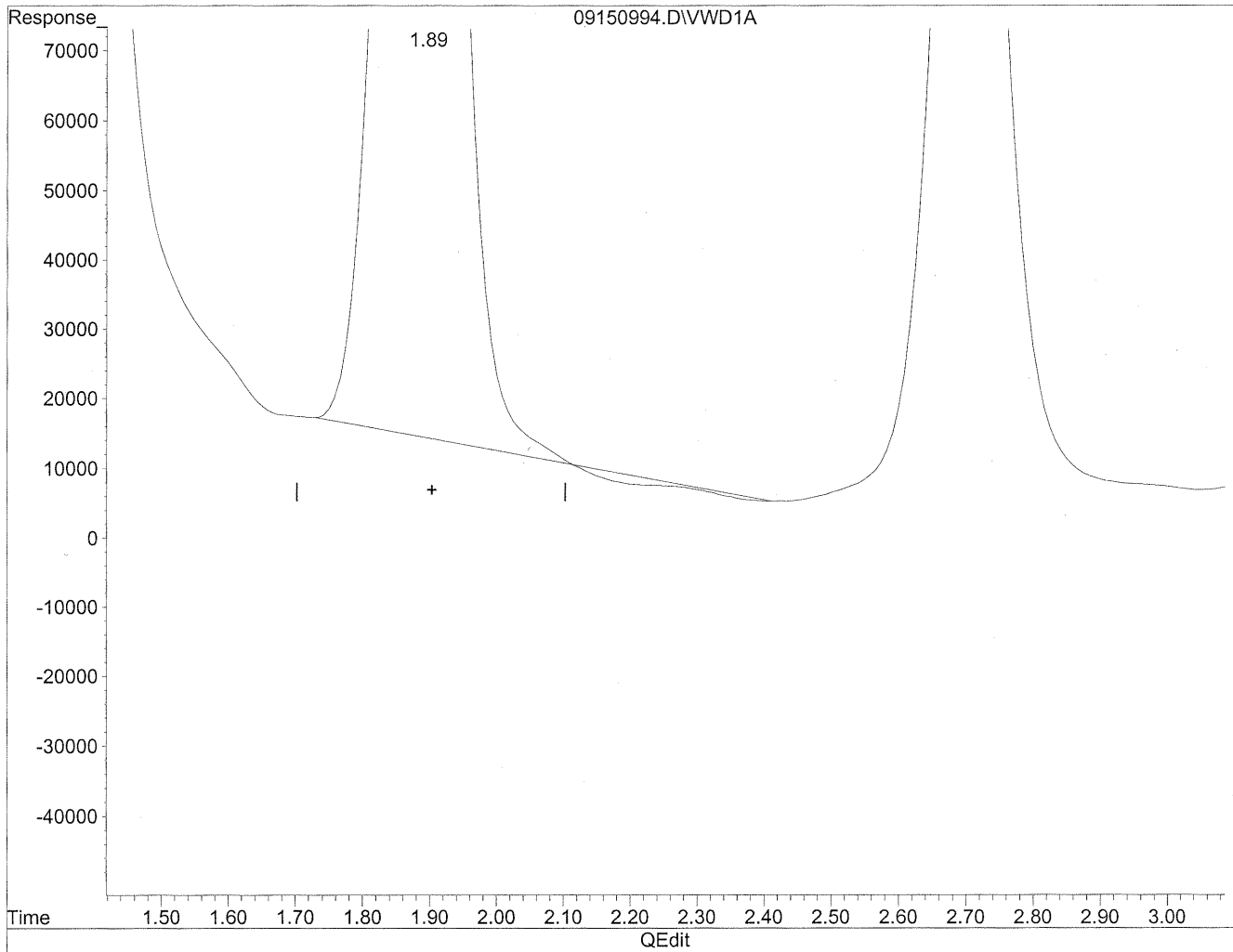
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.35	111024762	12425.227 ng/ml <i>see old</i>
2) Acetaldehyde	1.89	18050412	2776.646 ng/mlm
3) Propionaldehyde	3.31	3386474	651.518 ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/mld
5) Butyraldehyde	4.94	2555466	630.548 ng/mlm
6) Benzaldehyde	5.81	4833960	1771.734 ng/mlm
7) Isovaleraldehyde	6.44	1233938	358.516 ng/mlm
8) Valeraldehyde	6.70	8769367	2579.499 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	8.46	39801784	13443.258 ng/mlm <i>see</i>
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/mld <i>old</i>

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150994.D Vial: 179
Acq On : 16-Sep-2009, 02:56 Operator: MD
Sample : P0903195-014 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:33 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

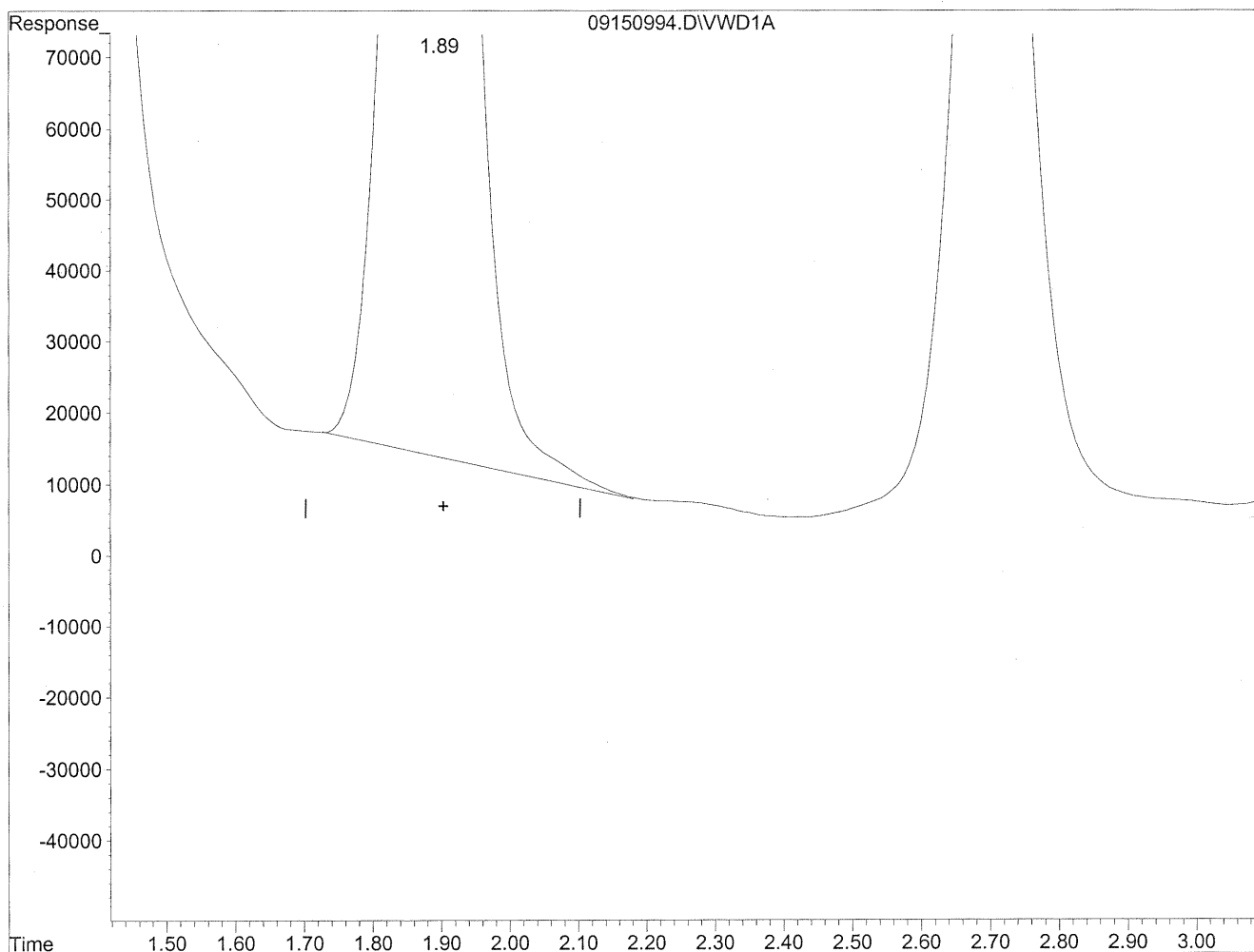


(2) Acetaldehyde
1.89min 2738.004ng/ml
response 17799208

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150994.D Vial: 179
Acq On : 16-Sep-2009, 02:56 Operator: MD
Sample : P0903195-014 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:33 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



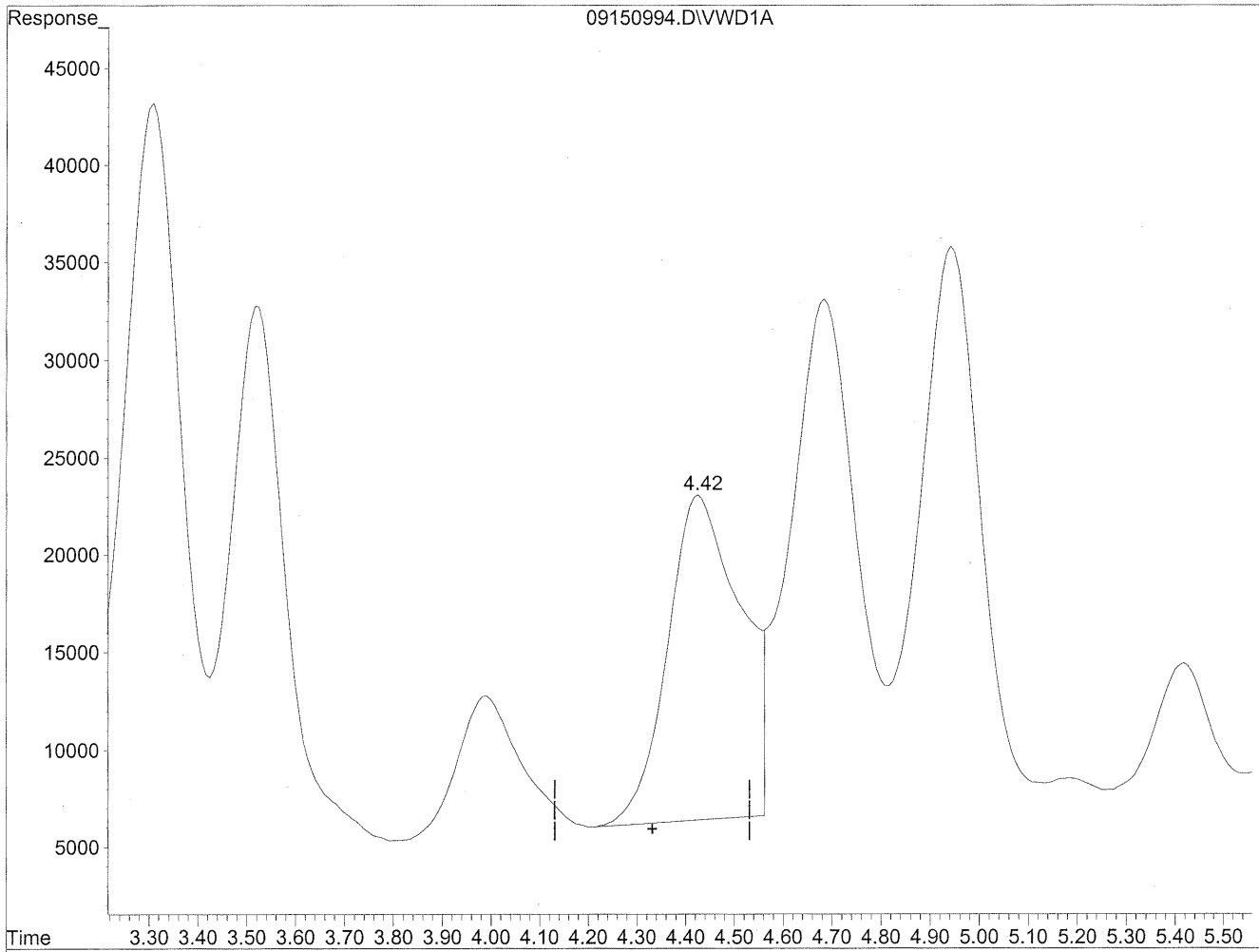
(2) Acetaldehyde
1.89min 2776.646ng/ml m
response 18050412

Handwritten notes:
mm
HC 9/21/09
9/21/09 12

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150994.D Vial: 179
Acq On : 16-Sep-2009, 02:56 Operator: MD
Sample : P0903195-014 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:33 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

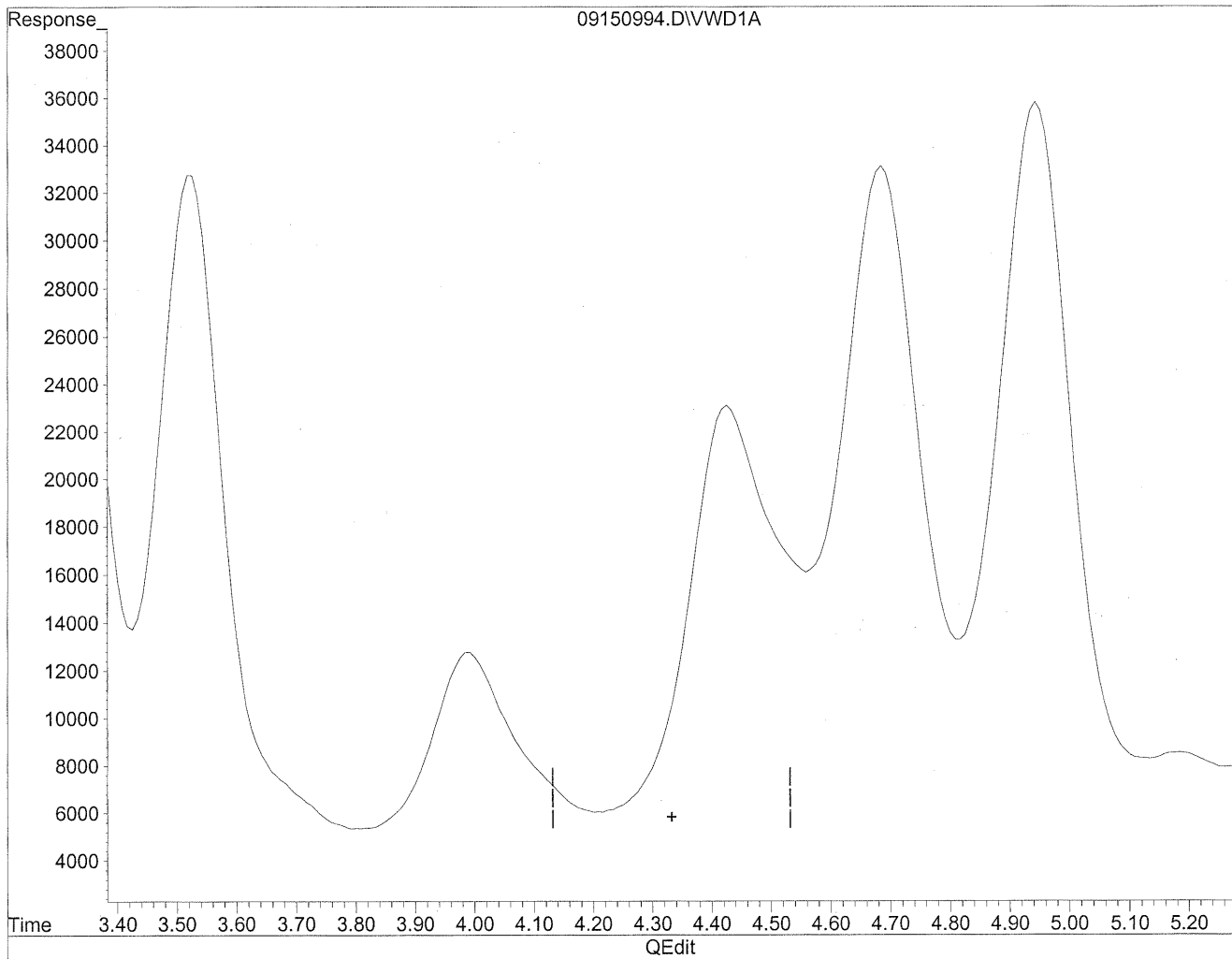


(4) Crotonaldehyde
4.43min 423.023ng/ml
response 1717291

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150994.D Vial: 179
Acq On : 16-Sep-2009, 02:56 Operator: MD
Sample : P0903195-014 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:33 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(4) Crotonaldehyde
0.00min 0.000ng/ml d
response 0

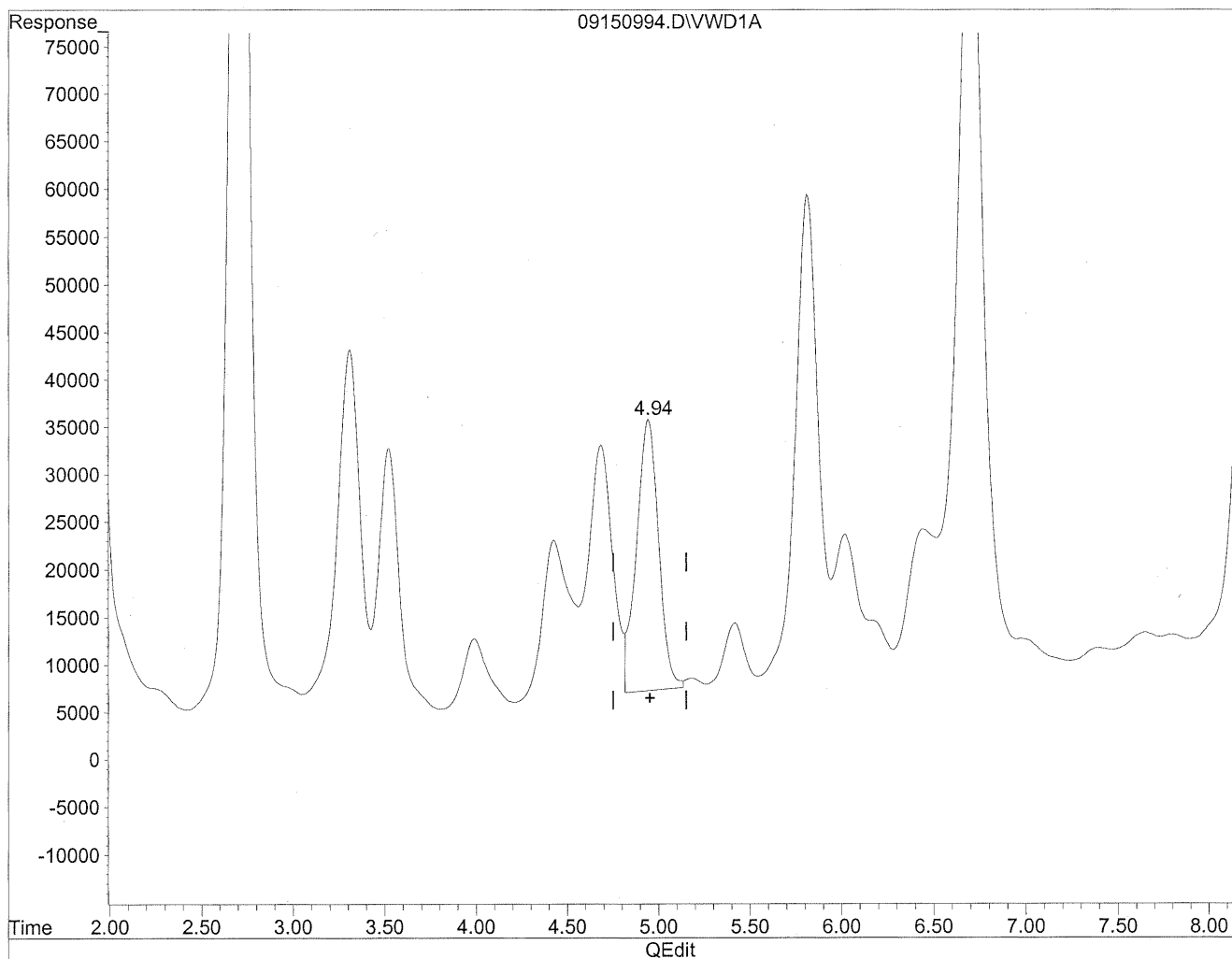
hlc
9/21/09

(MK)
9/21/09
mp

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150994.D Vial: 179
Acq On : 16-Sep-2009, 02:56 Operator: MD
Sample : P0903195-014 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:33 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

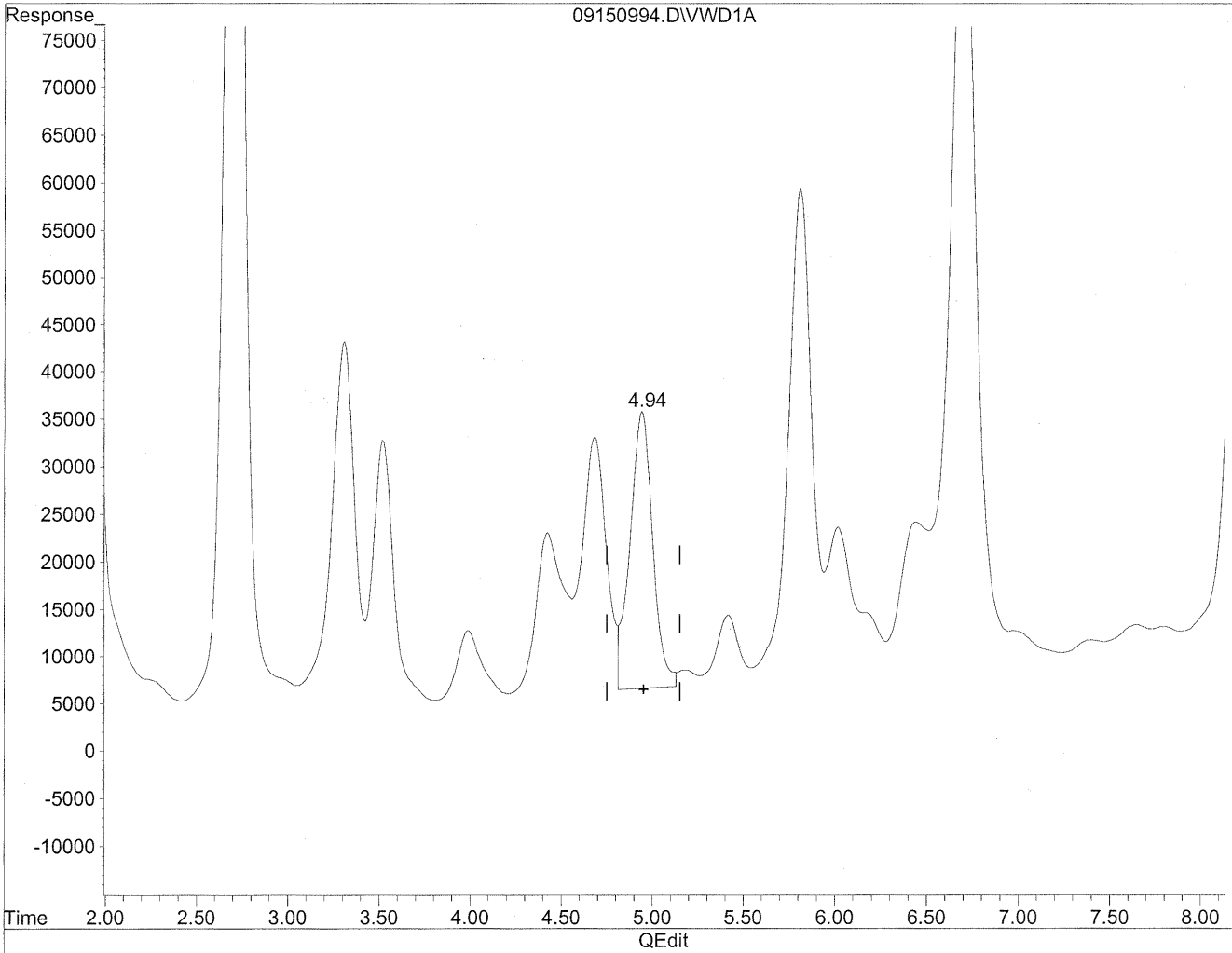


(5) Butyraldehyde
4.95min 598.650ng/ml
response 2426188

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150994.D Vial: 179
Acq On : 16-Sep-2009, 02:56 Operator: MD
Sample : P0903195-014 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:33 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



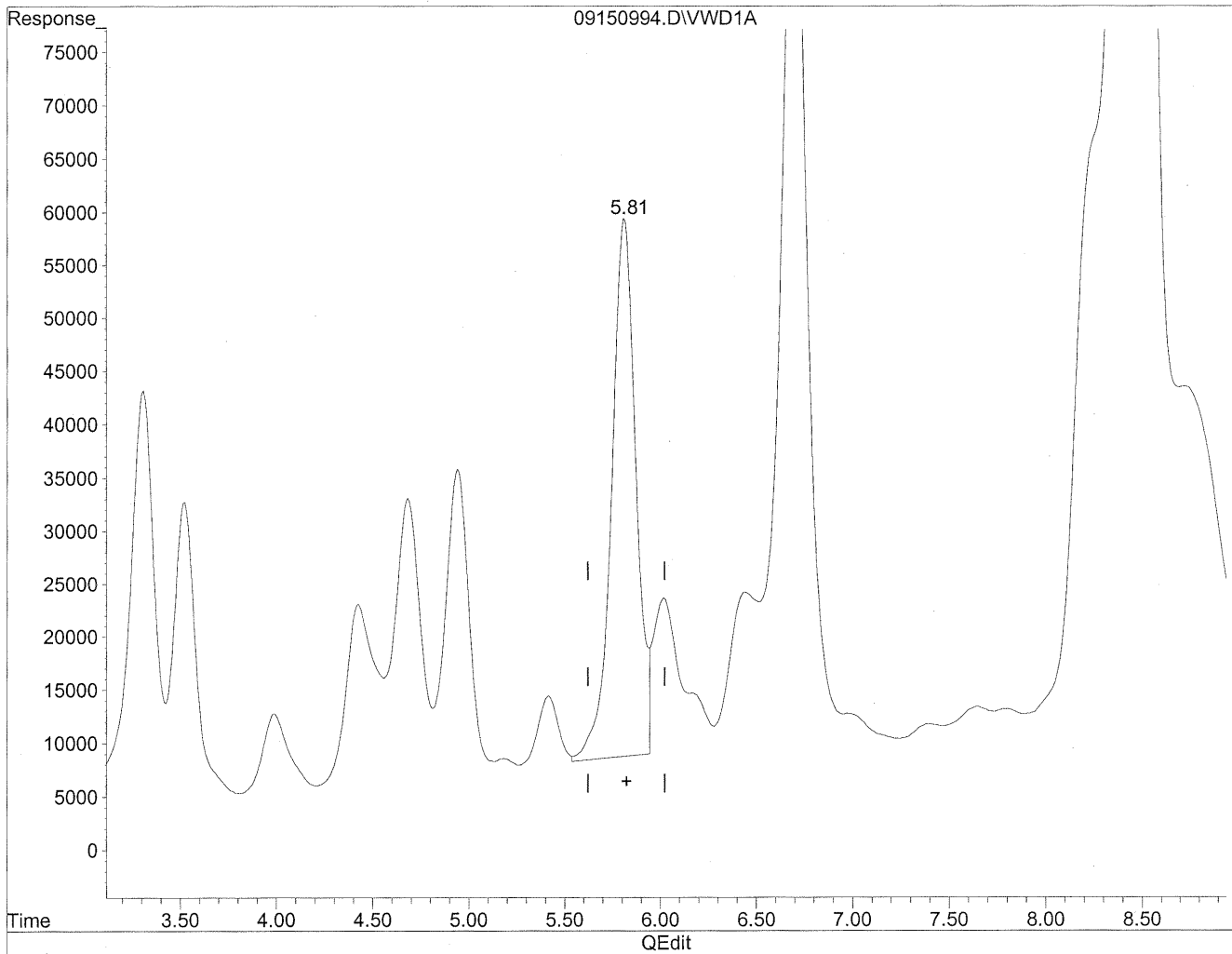
(5) Butyraldehyde
4.94min 630.548ng/ml m
response 2555466

HC
9/21/09
MD
9/21/09
BC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150994.D Vial: 179
Acq On : 16-Sep-2009, 02:56 Operator: MD
Sample : P0903195-014 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:33 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

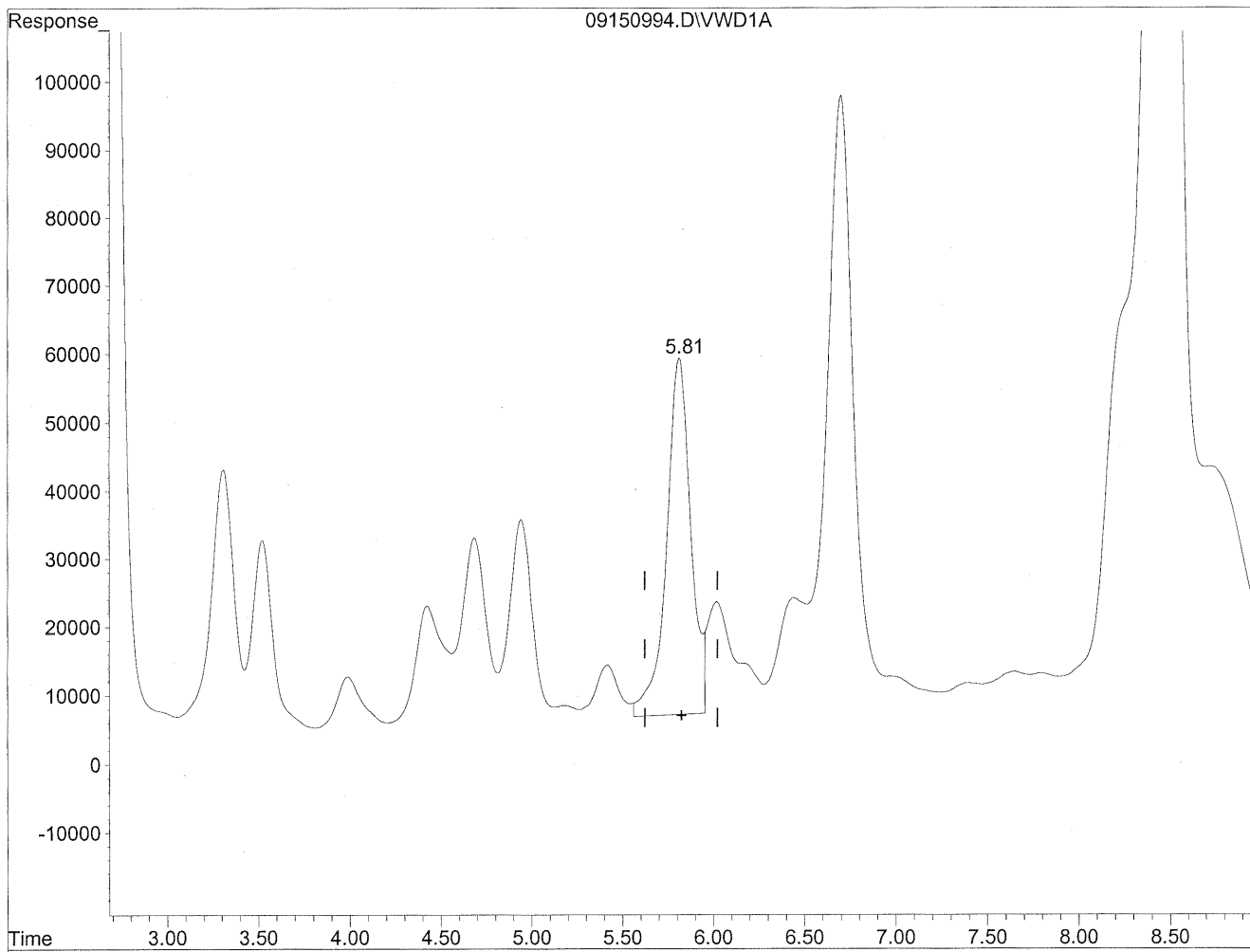


(6) Benzaldehyde
5.81min 1615.913ng/ml
response 4408820

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150994.D Vial: 179
Acq On : 16-Sep-2009, 02:56 Operator: MD
Sample : P0903195-014 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:33 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde
5.81min 1771.734ng/ml m
response 4833960

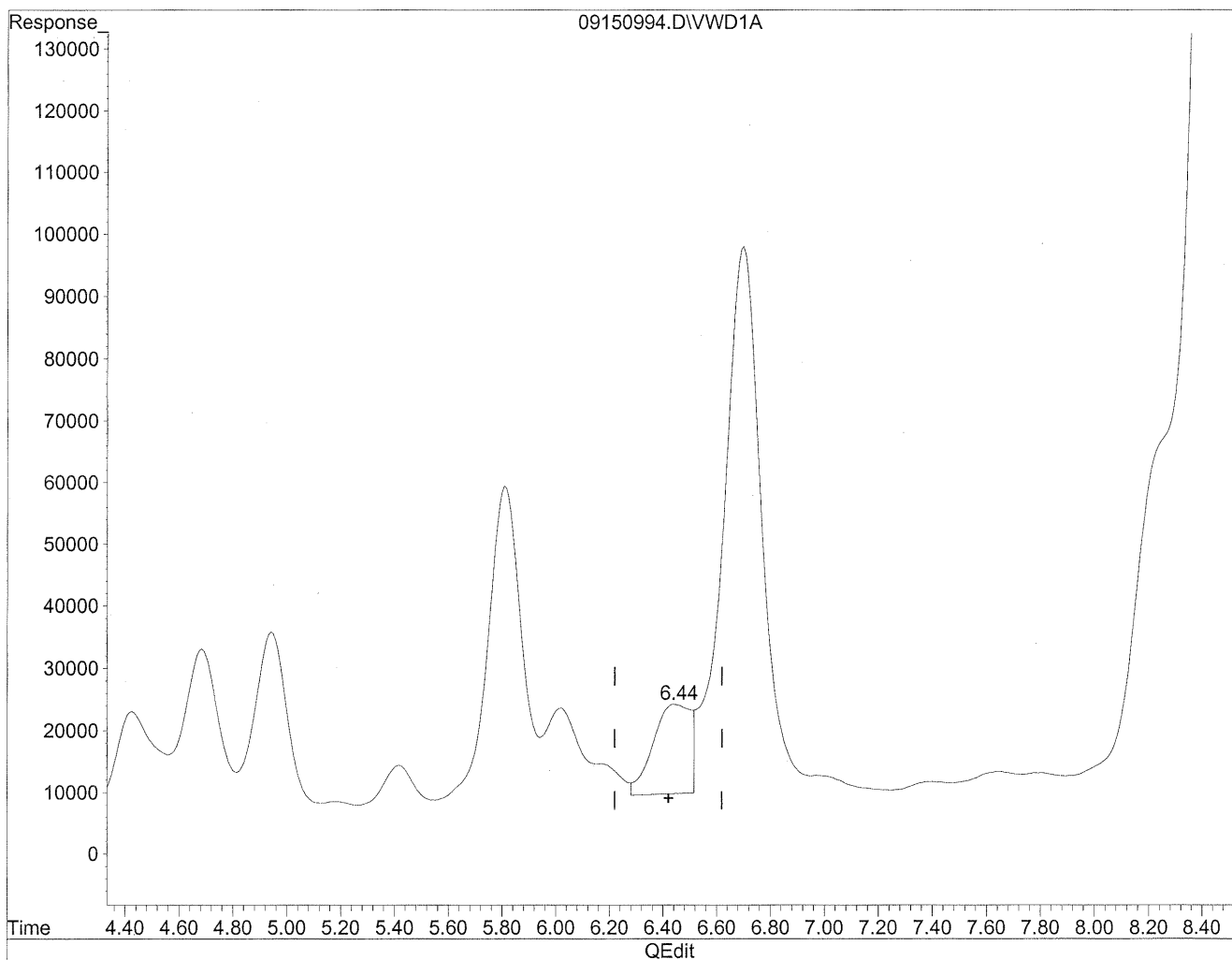
hc
9/21/09

MD
9/21/09
pe

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150994.D Vial: 179
Acq On : 16-Sep-2009, 02:56 Operator: MD
Sample : P0903195-014 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:33 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

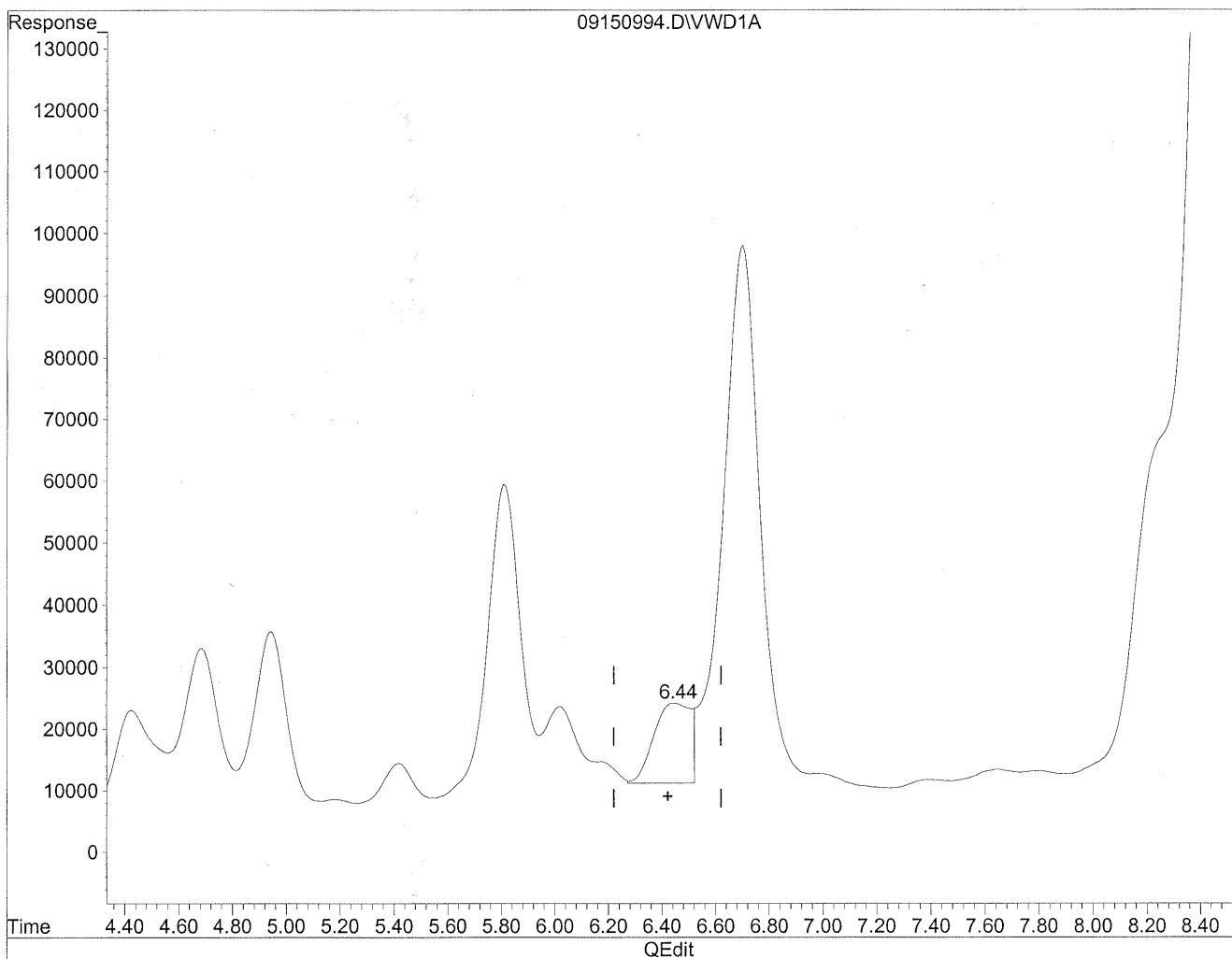


(7) Isovaleraldehyde
6.44min 402.501ng/ml
response 1385323

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150994.D Vial: 179
Acq On : 16-Sep-2009, 02:56 Operator: MD
Sample : P0903195-014 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:33 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



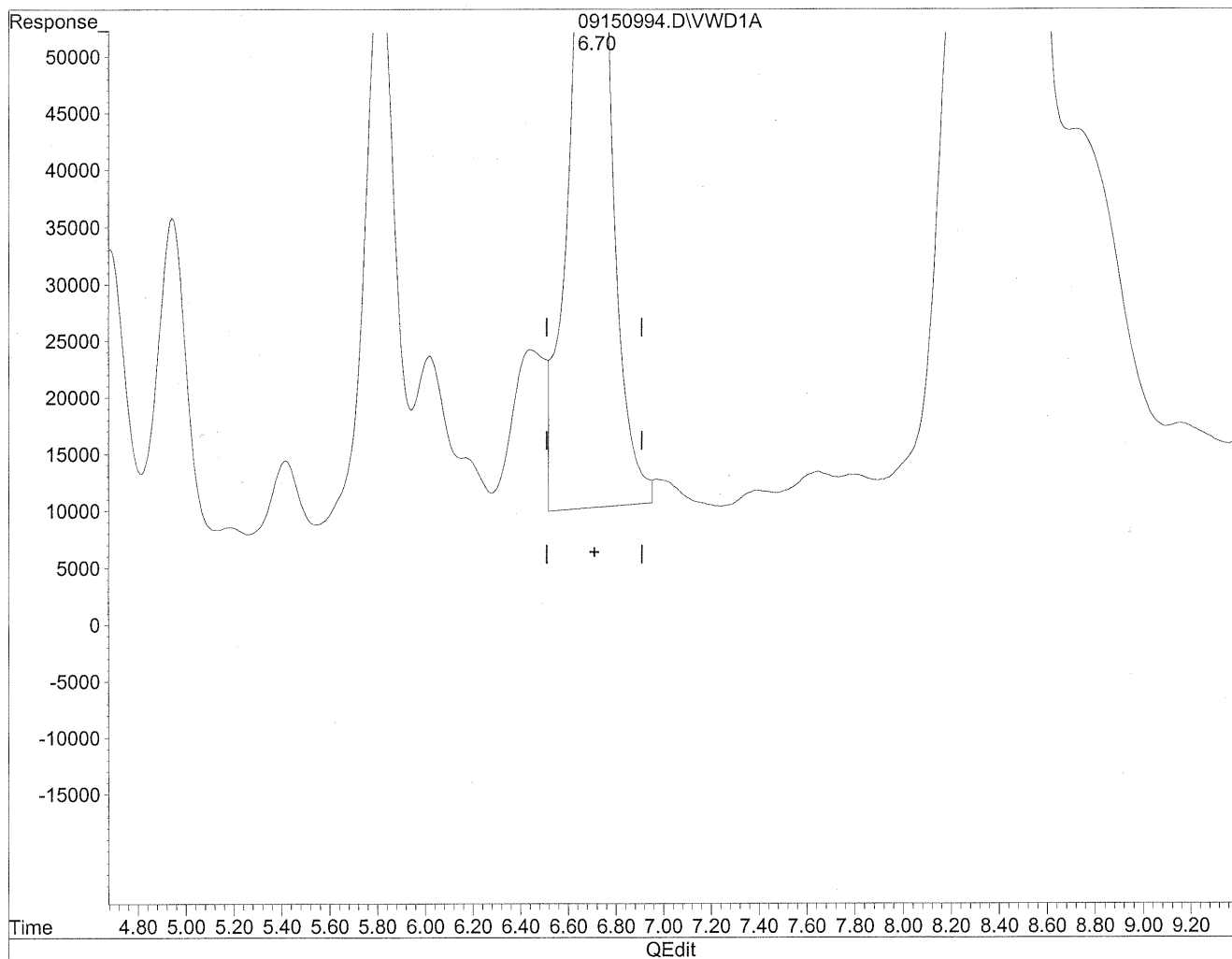
(7) Isovaleraldehyde
6.44min 358.516ng/ml m
response 1233938

Handwritten notes:
HC
9/21/09
MD
9/21/09
PAC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150994.D Vial: 179
Acq On : 16-Sep-2009, 02:56 Operator: MD
Sample : P0903195-014 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:33 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

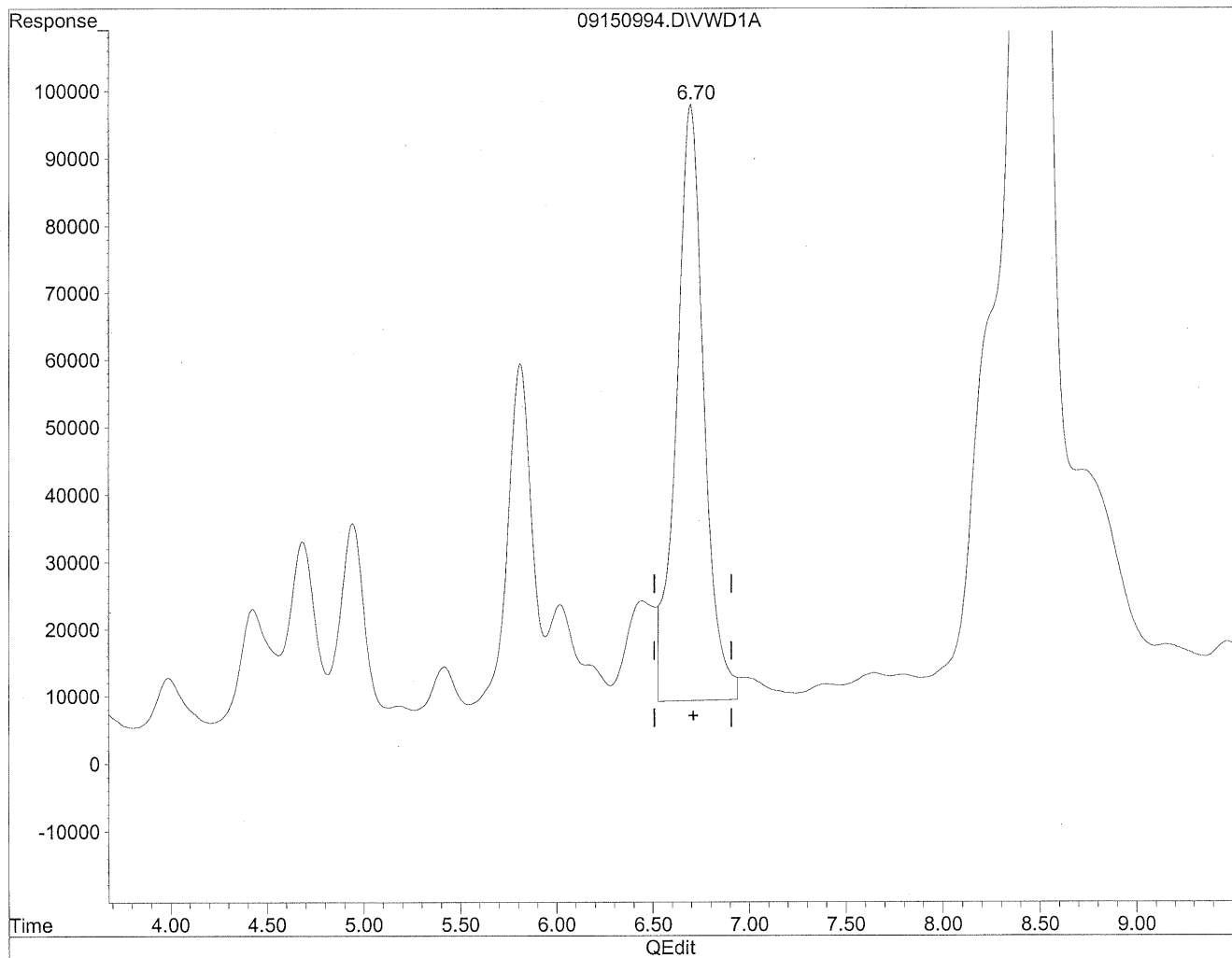


(8) Valeraldehyde
6.70min 2552.392ng/ml
response 8677212

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150994.D Vial: 179
Acq On : 16-Sep-2009, 02:56 Operator: MD
Sample : P0903195-014 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:33 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



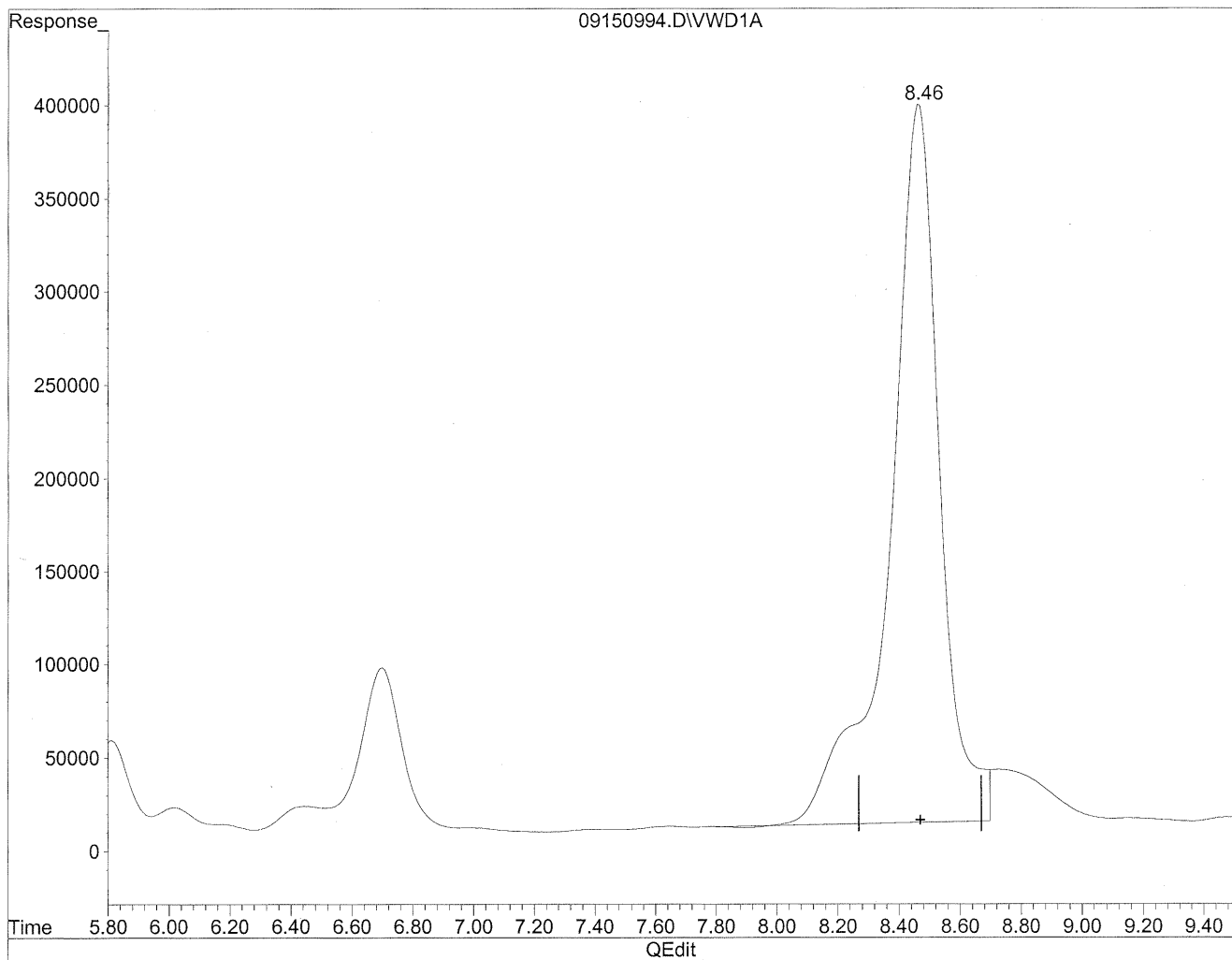
(8) Valeraldehyde
6.70min 2579.499ng/ml m
response 8769367

Handwritten notes:
tc
9/21/09
MP
9/21/09
PC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150994.D Vial: 179
Acq On : 16-Sep-2009, 02:56 Operator: MD
Sample : P0903195-014 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:33 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

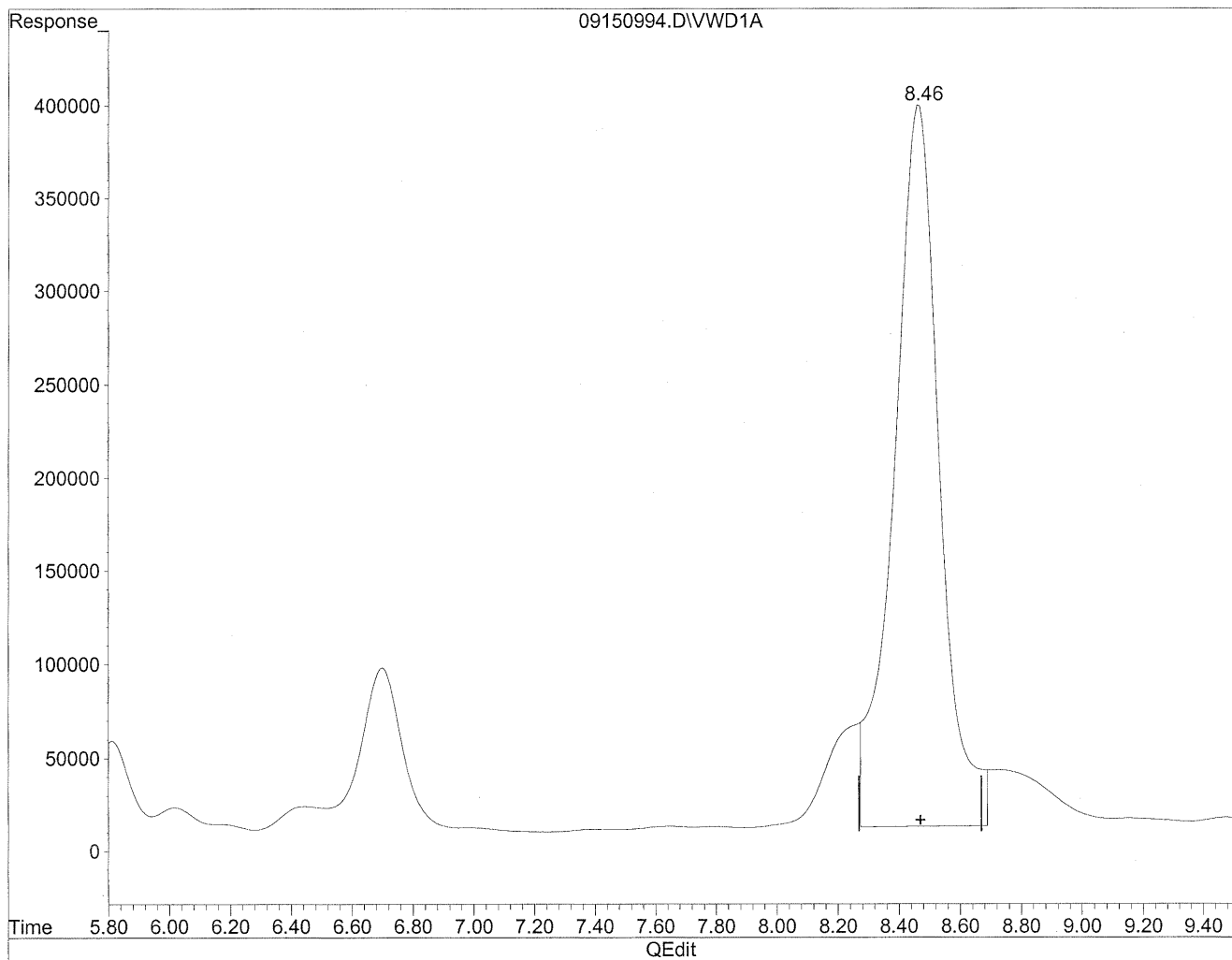


(11) Hexaldehyde
8.47min 14632.000ng/ml
response 43321322

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150994.D Vial: 179
Acq On : 16-Sep-2009, 02:56 Operator: MD
Sample : P0903195-014 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:33 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



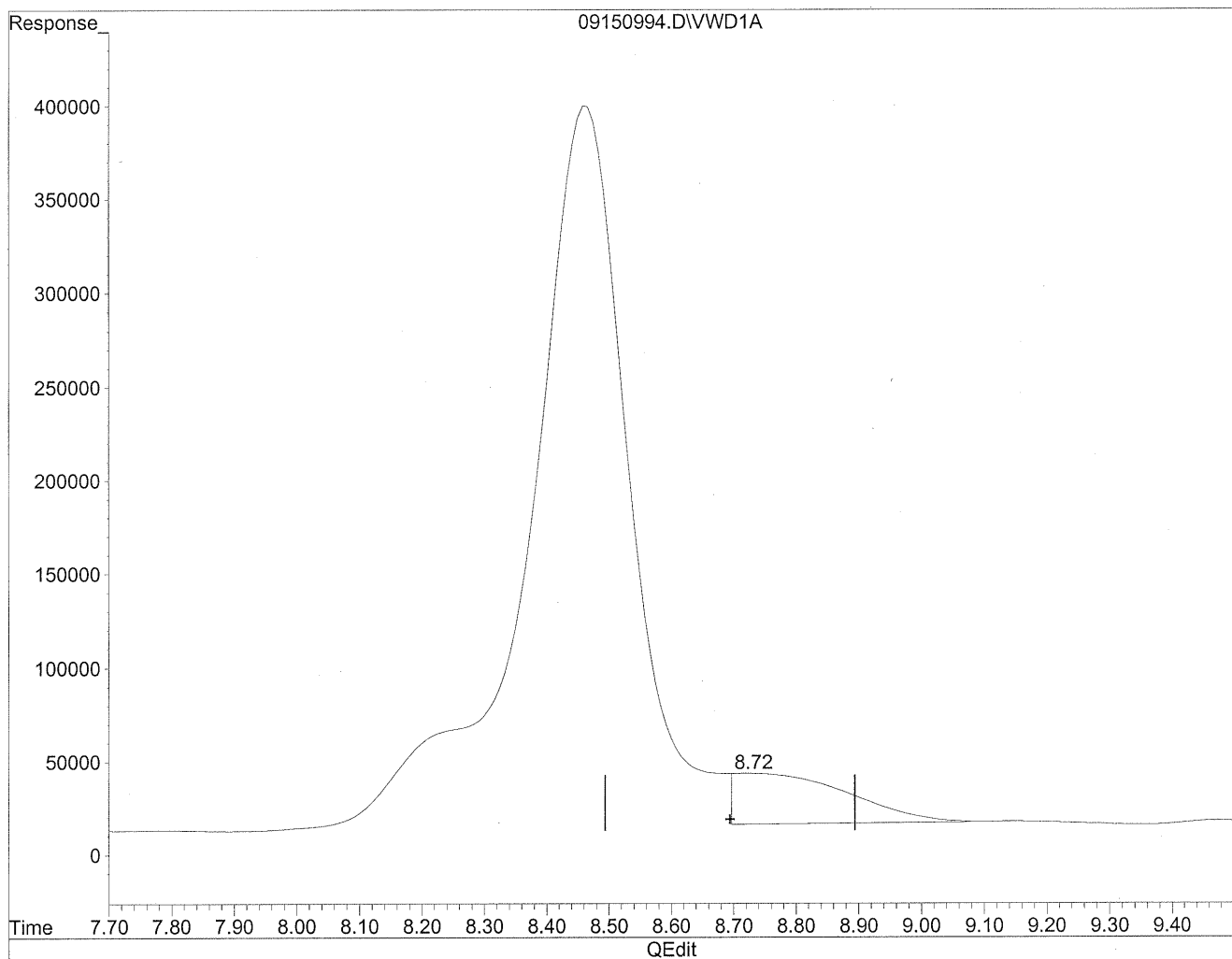
(11) Hexaldehyde
8.46min 13443.258ng/ml m
response 39801784

Handwritten notes:
MC
9/21/09
MD
9/21/09
gh
(see calibration)

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150994.D Vial: 179
Acq On : 16-Sep-2009, 02:56 Operator: MD
Sample : P0903195-014 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:36 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

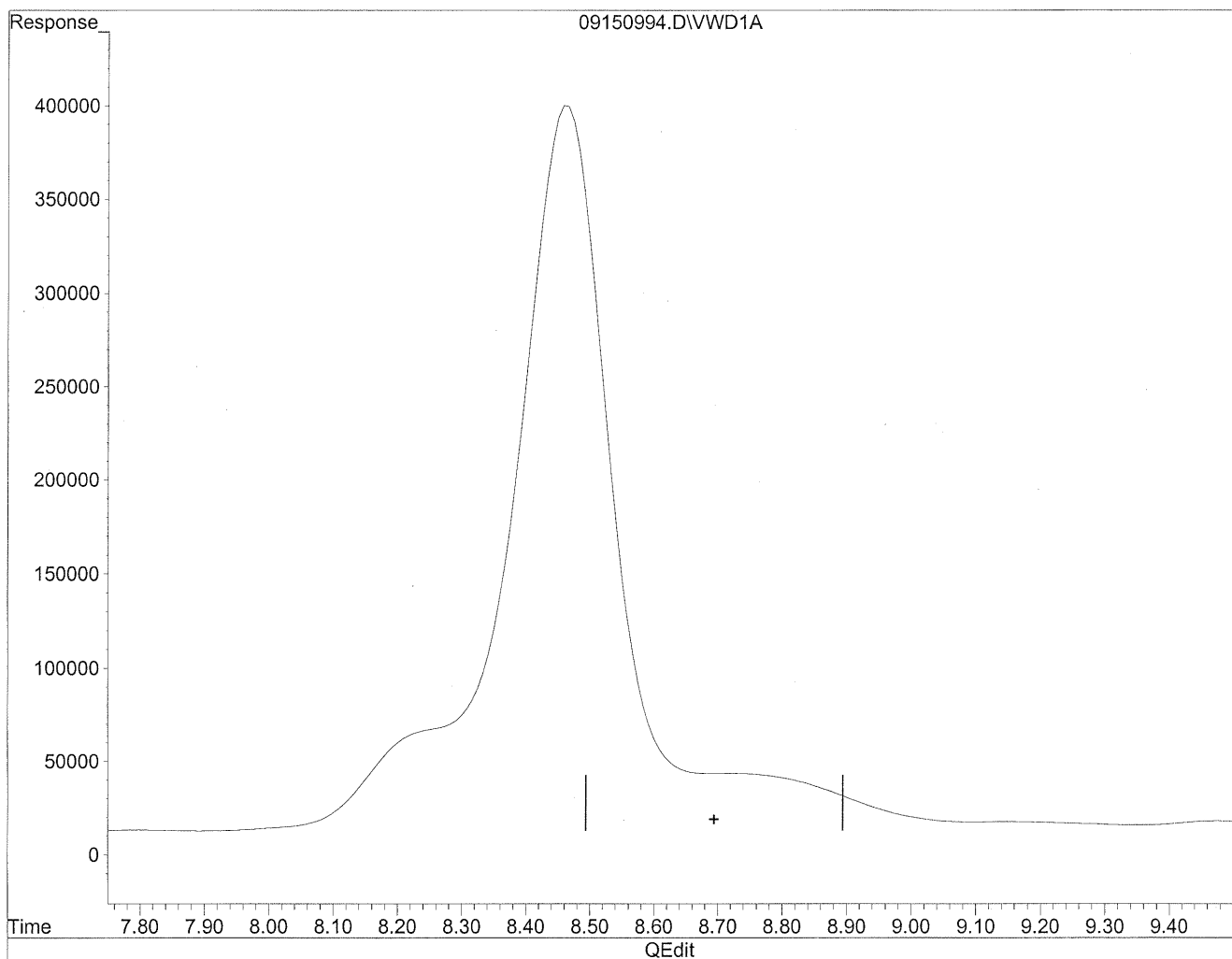


(12) 2,5-Dimethylbenzaldehyde
8.72min 1721.933ng/ml
response 3436103

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150994.D Vial: 179
Acq On : 16-Sep-2009, 02:56 Operator: MD
Sample : P0903195-014 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:36 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde
0.00min 0.000ng/ml d
response 0

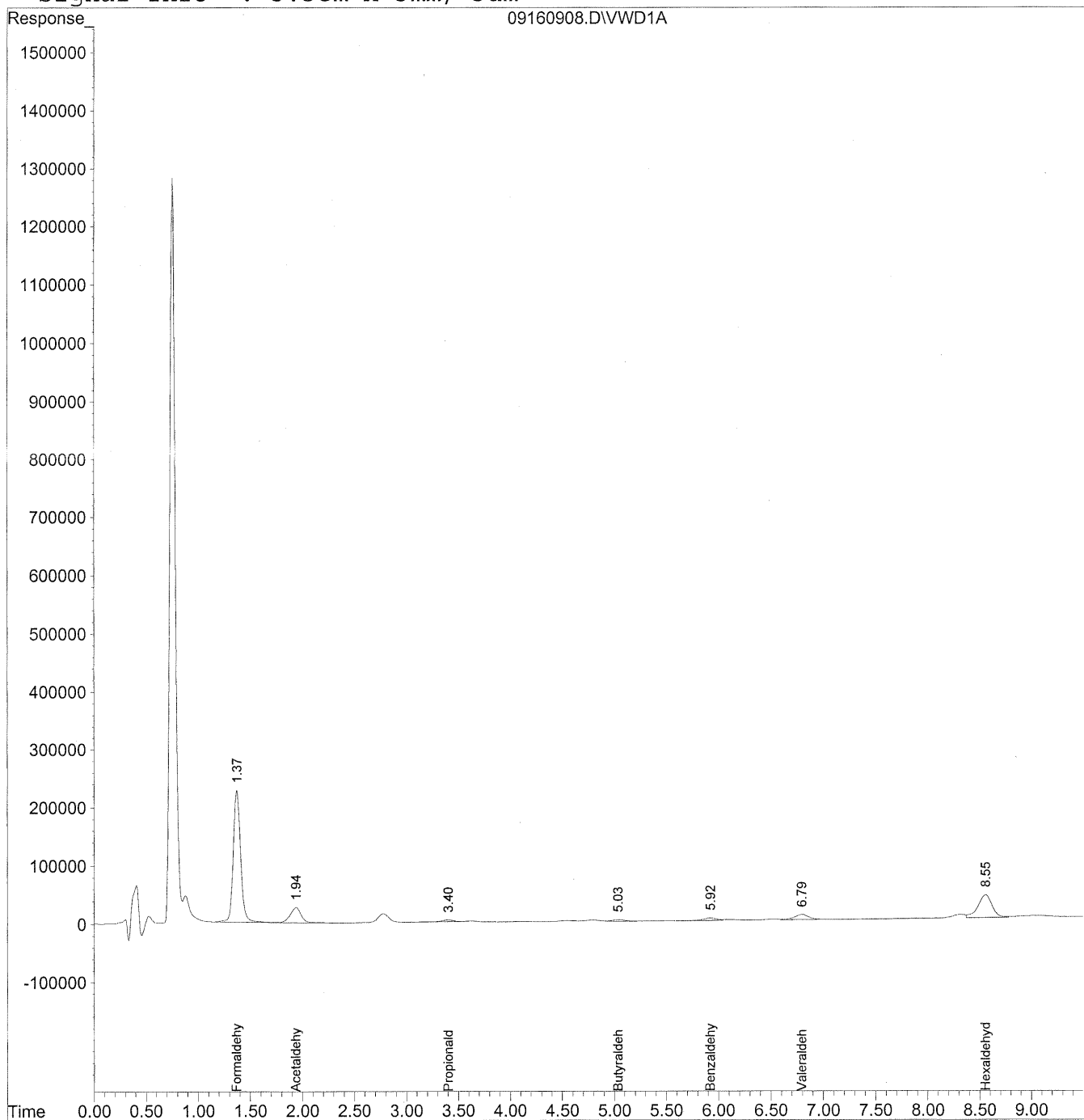
Handwritten notes:
yu
9/21/09
MD
9/21/09
emp

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160908.D Vial: 4
Acq On : 16-Sep-2009, 12:16 Operator: MD
Sample : P0903195-014 front 10x dil Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 12:16 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 17 16:12:59 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



250

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160908.D Vial: 4
 Acq On : 16-Sep-2009, 12:16 Operator: MD
 Sample : P0903195-014 front 10x dil Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 12:16 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 17 16:12:59 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

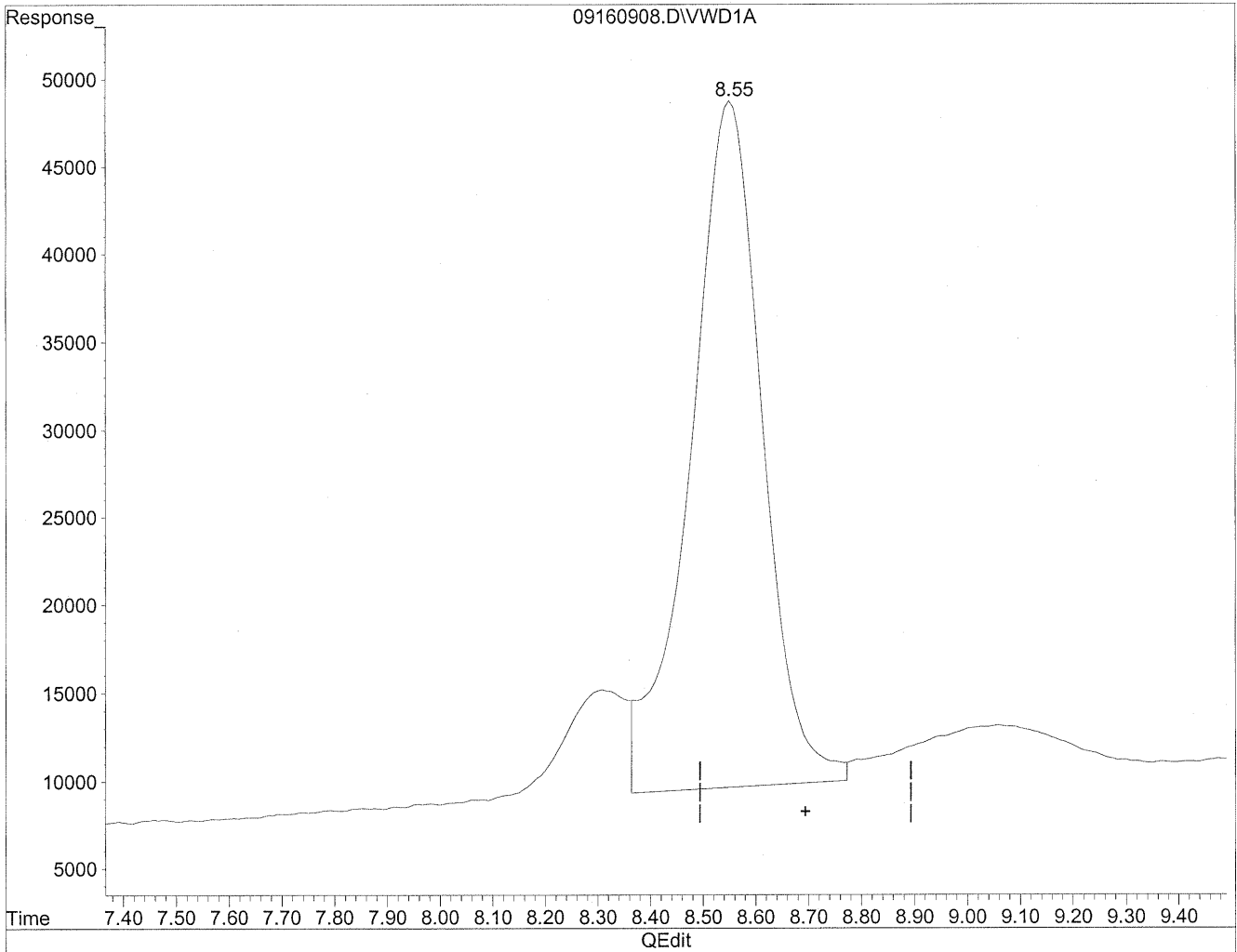
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.37	11170687	1250.156 ng/ml
2) Acetaldehyde	1.94	1908322	293.552 ng/ml
3) Propionaldehyde	3.40	220316	42.386 ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	5.04	231862	57.211 ng/ml
6) Benzaldehyde	5.92f	359420	131.734 ng/ml
7) Isovaleraldehyde	0.00	0	N.D. ng/ml
8) Valeraldehyde	6.80	786875	231.458 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	8.55	3710307	1253.175 ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160908.D Vial: 4
Acq On : 16-Sep-2009, 12:16 Operator: MD
Sample : P0903195-014 front 10x dil Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 12:15 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

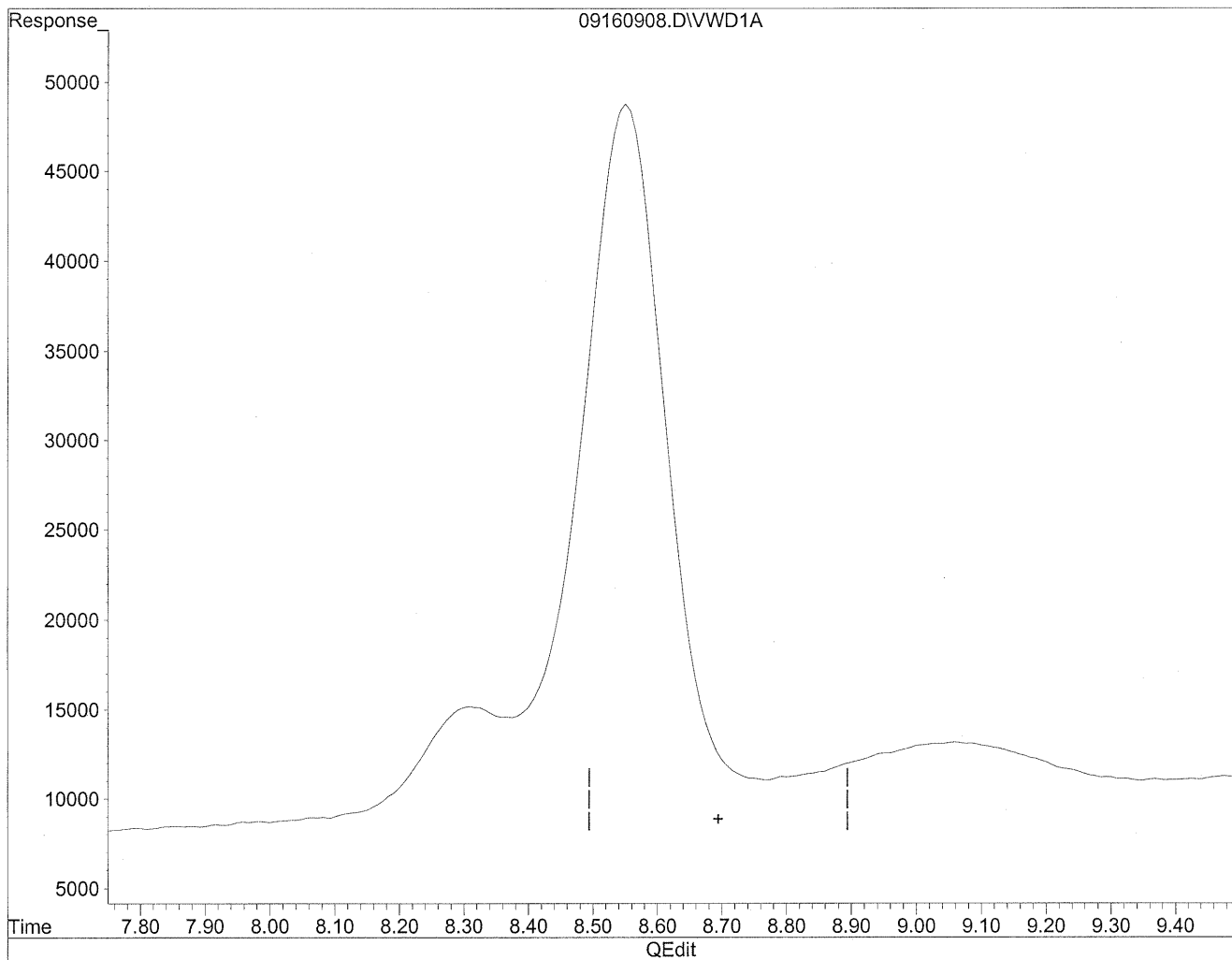


(12) 2,5-Dimethylbenzaldehyde
8.55min 1859.345ng/ml
response 3710307

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160908.D Vial: 4
Acq On : 16-Sep-2009, 12:16 Operator: MD
Sample : P0903195-014 front 10x dil Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 12:15 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde
0.00min 0.000ng/ml d
response 0

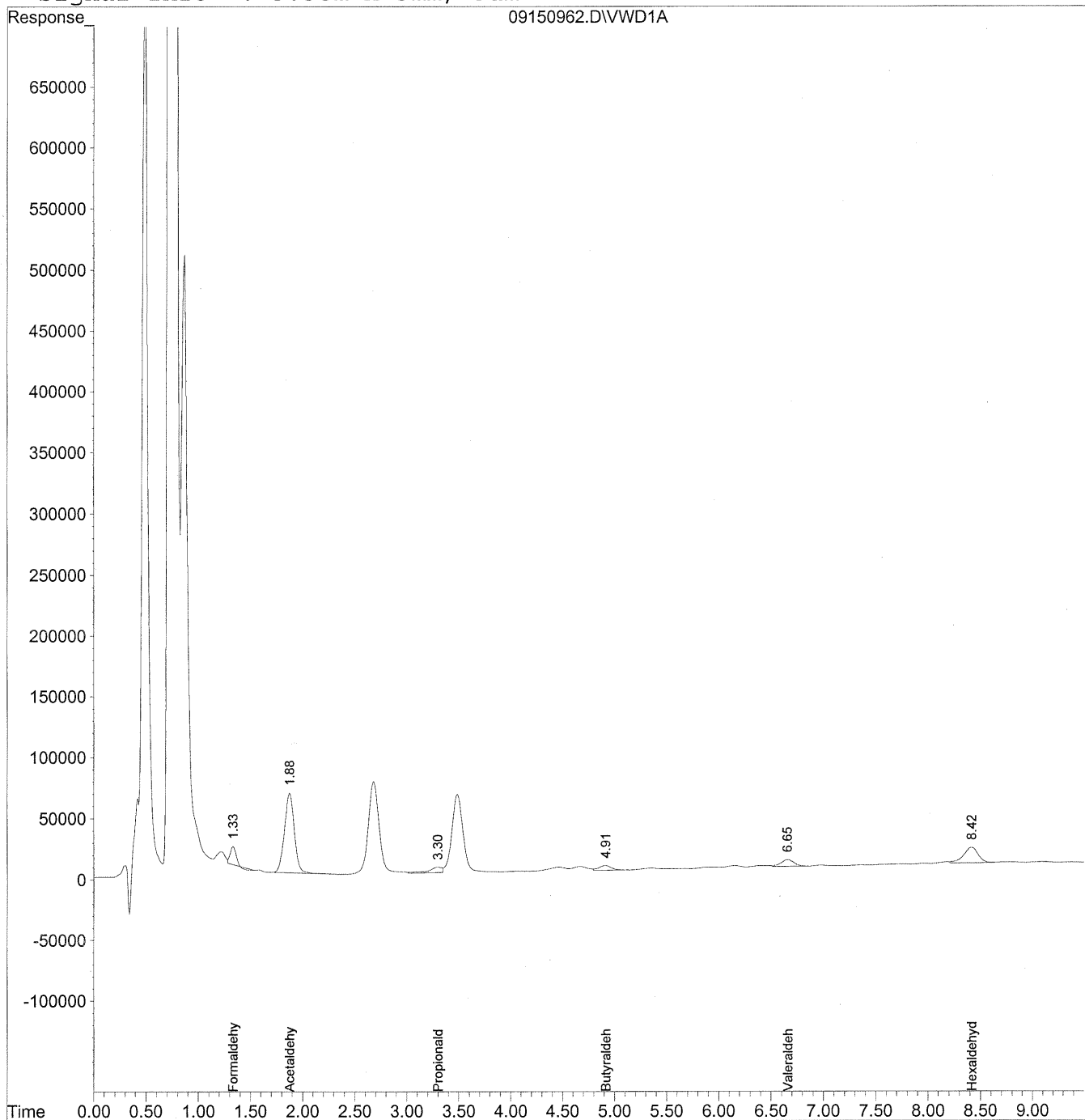
mn
9/21/09
mp
HC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150962.D Vial: 153
Acq On : 15-Sep-2009, 20:32 Operator: MD
Sample : P0903195-014 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:16 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150962.D Vial: 153
 Acq On : 15-Sep-2009, 20:32 Operator: MD
 Sample : P0903195-014 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 16:16 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 17 16:12:59 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

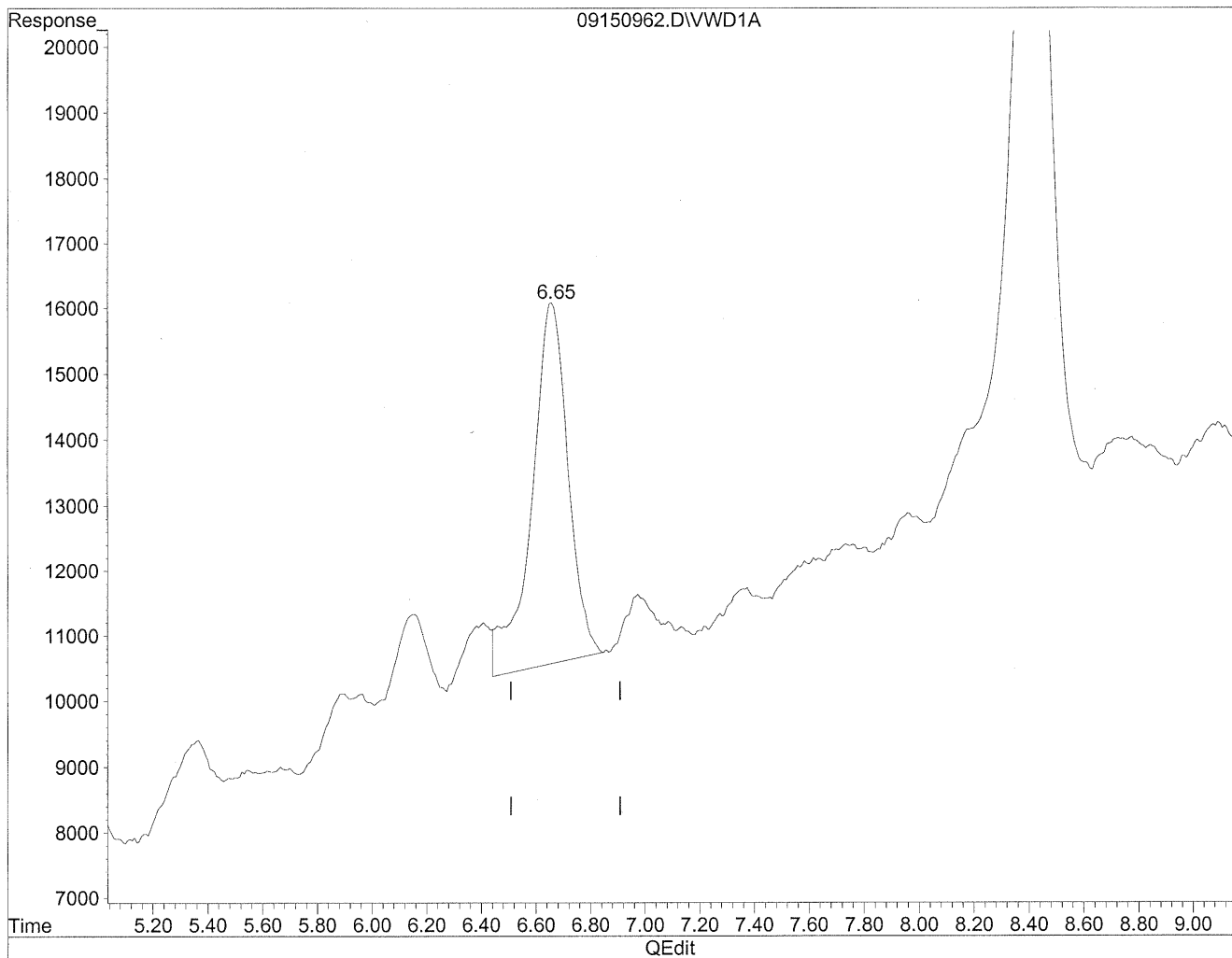
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.34	520002	58.196 ng/ml
2) Acetaldehyde	1.88	4318718	664.337 ng/ml
3) Propionaldehyde	3.30	387375	74.526 ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	4.92	323828	79.903 ng/ml
6) Benzaldehyde	0.00	0	N.D. ng/ml
7) Isovaleraldehyde	0.00	0	N.D. ng/ml
8) Valeraldehyde	6.65	480762	141.416 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	8.42	1229875	415.397 ng/mlm
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150962.D Vial: 153
Acq On : 15-Sep-2009, 20:32 Operator: MD
Sample : P0903195-014 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:15 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

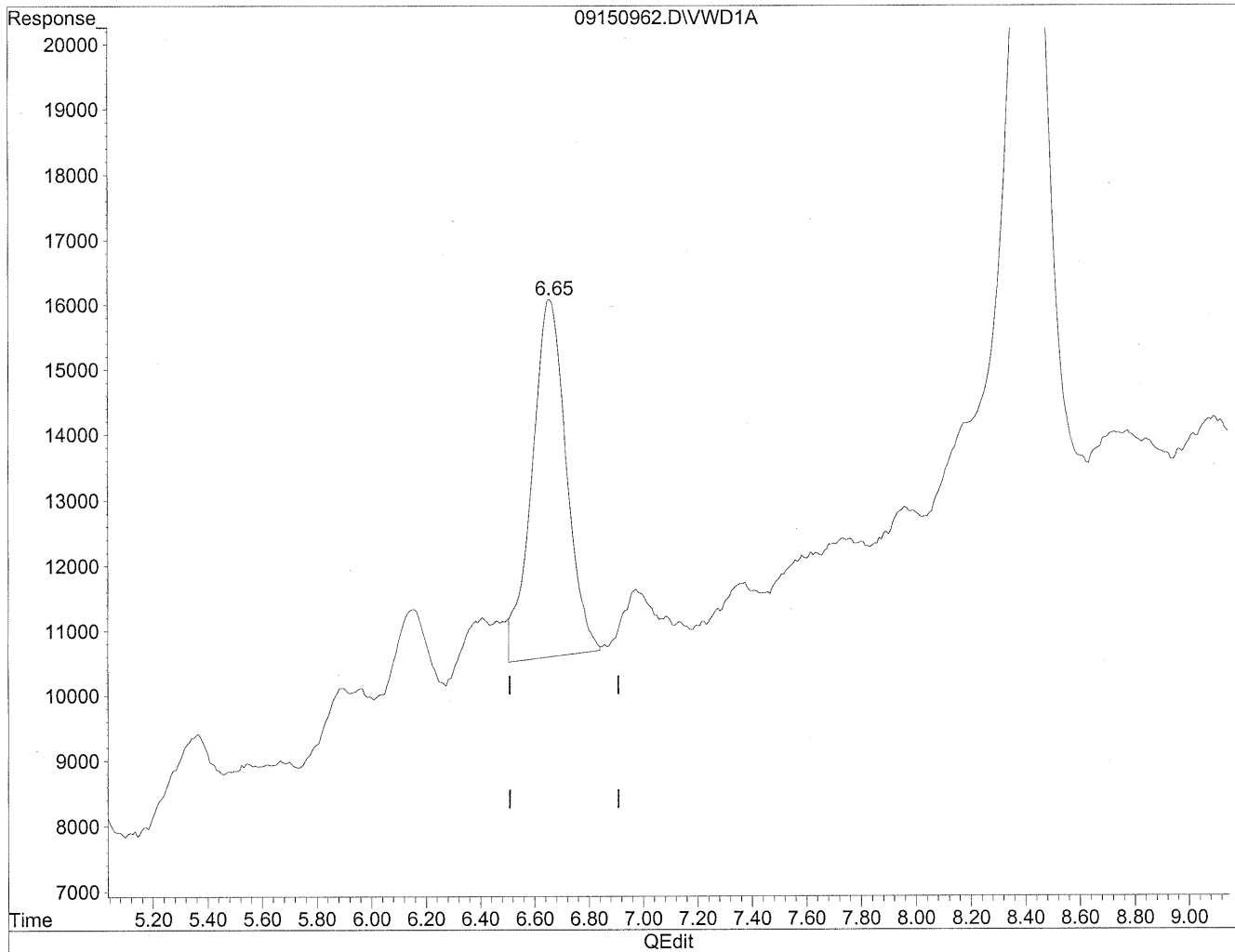


(8) Valeraldehyde
6.66min 150.963ng/ml
response 513221

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150962.D Vial: 153
Acq On : 15-Sep-2009, 20:32 Operator: MD
Sample : P0903195-014 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:15 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



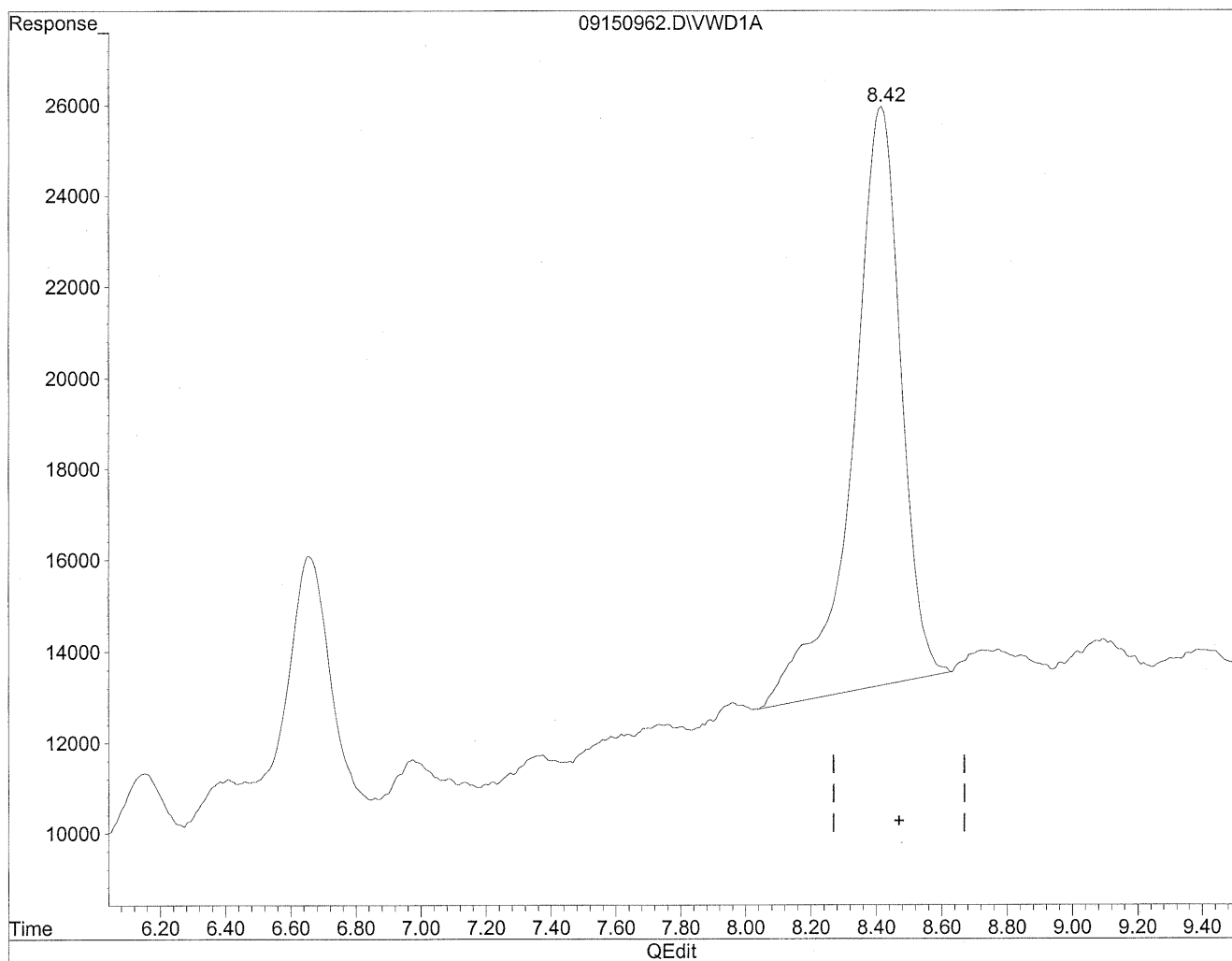
(8) Valeraldehyde
6.65min 141.416ng/ml m
response 480762

Handwritten notes:
xc
9/21/09
9/21/09
12
MD

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150962.D Vial: 153
Acq On : 15-Sep-2009, 20:32 Operator: MD
Sample : P0903195-014 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:15 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

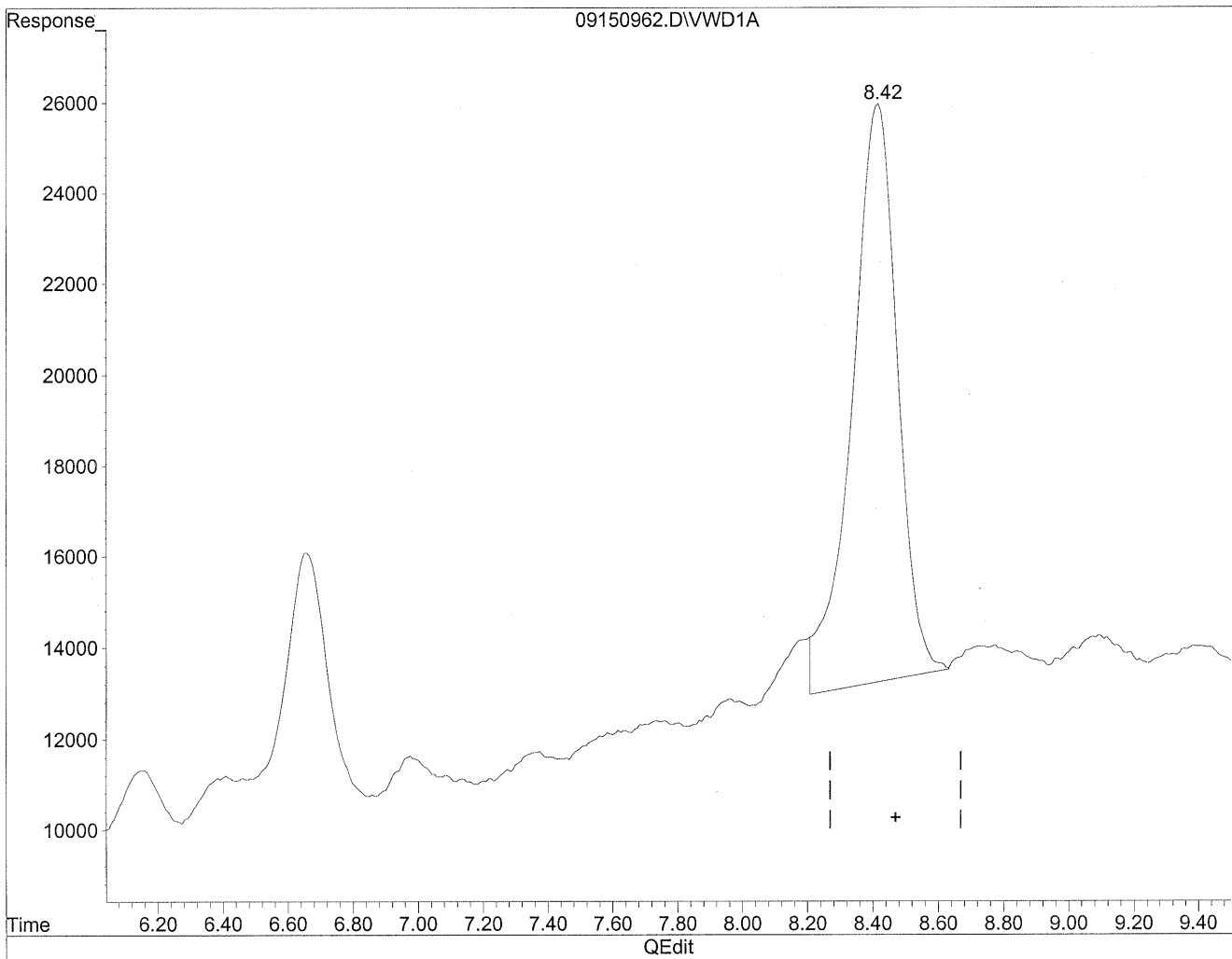


(11) Hexaldehyde
8.42min 437.802ng/ml
response 1296211

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150962.D Vial: 153
Acq On : 15-Sep-2009, 20:32 Operator: MD
Sample : P0903195-014 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:15 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde
8.42min 415.397ng/ml m
response 1229875

Handwritten notes:
+hc
9/21/09
9/21/09
SH

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.
Client Sample ID: 104810
Client Project ID: 16512

CAS Project ID: P0903195
 CAS Sample ID: P0903195-015

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

Date Collected: 9/1/09
Date Received: 9/10/09
Date Analyzed: 9/15 - 9/16/09
Desorption Volume: 1.0 ml
Volume Sampled: 99 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	13,000	130	1.0	110	0.82	
75-07-0	Acetaldehyde	3,400	34	1.0	19	0.56	BT
123-38-6	Propionaldehyde	590	5.9	1.0	2.5	0.43	
4170-30-3	Crotonaldehyde, Total	< 100	ND	1.0	ND	0.35	
123-72-8	Butyraldehyde	640	6.5	1.0	2.2	0.34	BT
100-52-7	Benzaldehyde	1,500	16	1.0	3.6	0.23	
590-86-3	Isovaleraldehyde	310	3.2	1.0	0.90	0.29	
110-62-3	Valeraldehyde	2,500	25	1.0	7.2	0.29	
529-20-4	o-Tolualdehyde	< 100	ND	1.0	ND	0.21	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	2.0	ND	0.41	
66-25-1	n-Hexaldehyde	12,000	120	1.0	30	0.25	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	1.0	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.

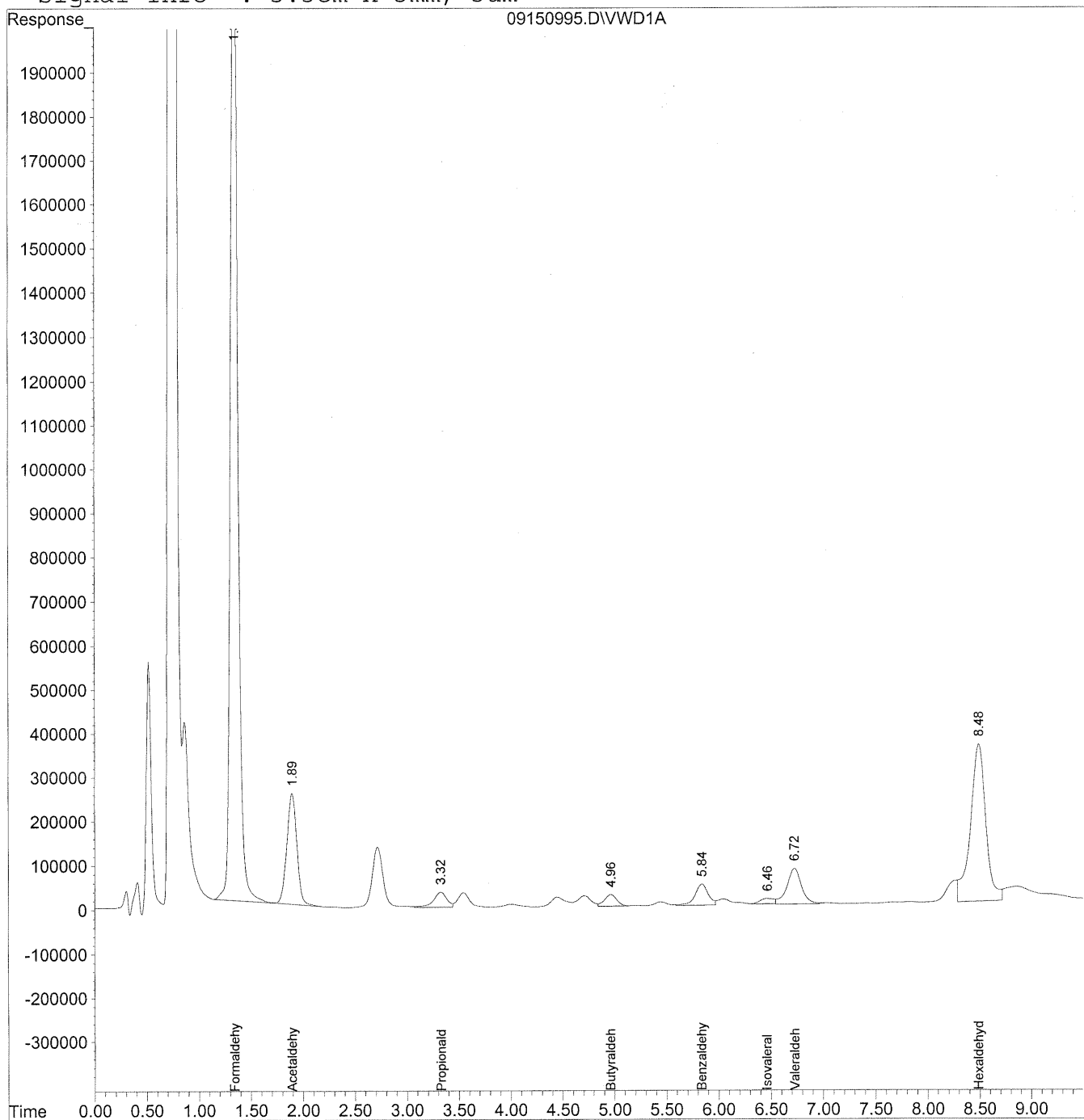
Verified By: Ru Date: 9/24/09 **260**

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150995.D Vial: 180
Acq On : 16-Sep-2009, 03:08 Operator: MD
Sample : P0903195-015 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:41 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



261

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150995.D Vial: 180
 Acq On : 16-Sep-2009, 03:08 Operator: MD
 Sample : P0903195-015 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:41 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

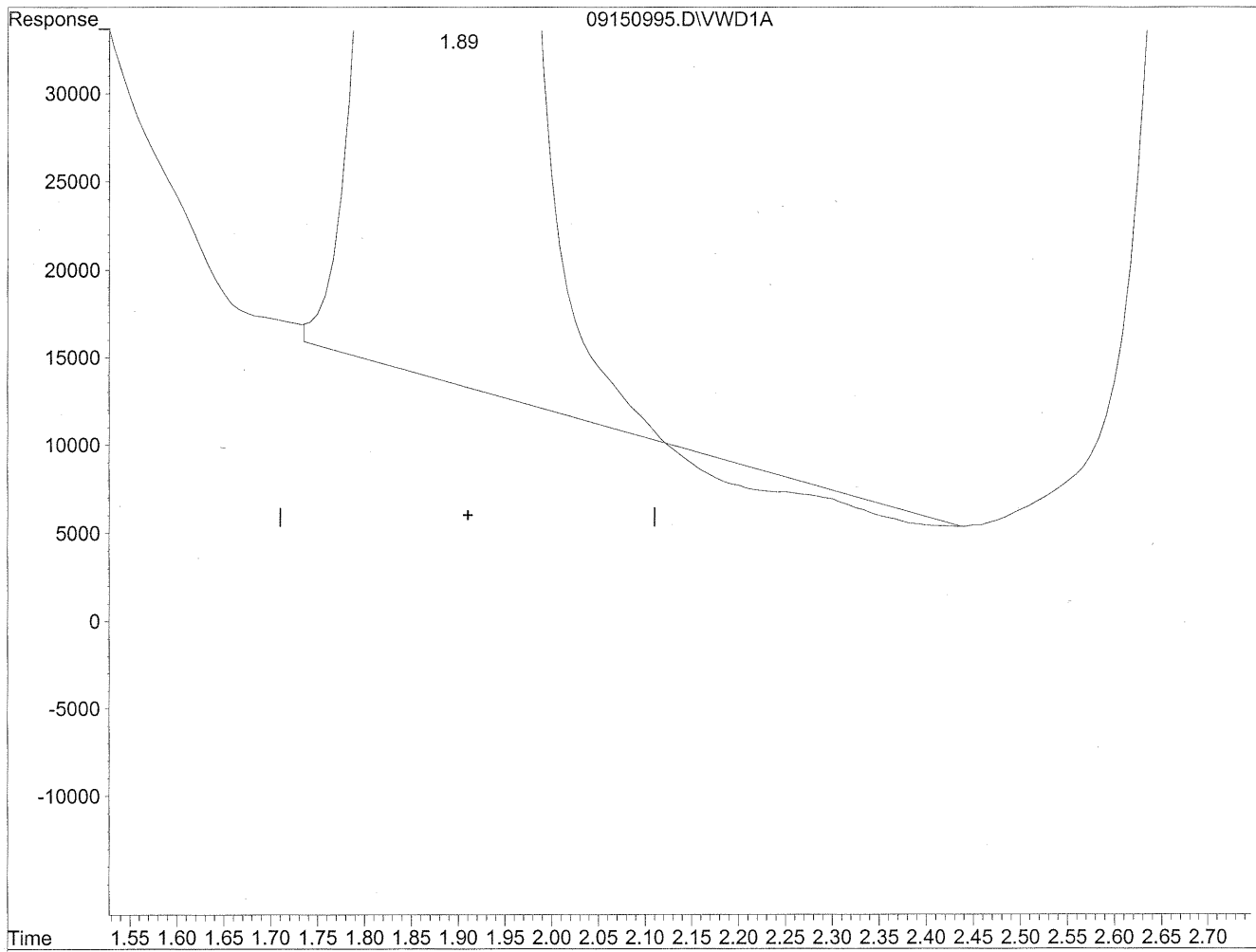
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.35	112778041	12621.444 ng/ml <i>See dil</i>
2) Acetaldehyde	1.89	16673964	2564.911 ng/mlm
3) Propionaldehyde	3.33	3060588	588.821 ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	4.97	2164177	534.000 ng/ml
6) Benzaldehyde	5.84	4226323	1549.024 ng/mlm
7) Isovaleraldehyde	6.46	1077604	313.094 ng/ml
8) Valeraldehyde	6.72	7875316	2316.515 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	8.48	36681521	12389.373 ng/mlm <i>See dil</i>
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150995.D Vial: 180
Acq On : 16-Sep-2009, 03:08 Operator: MD
Sample : P0903195-015 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

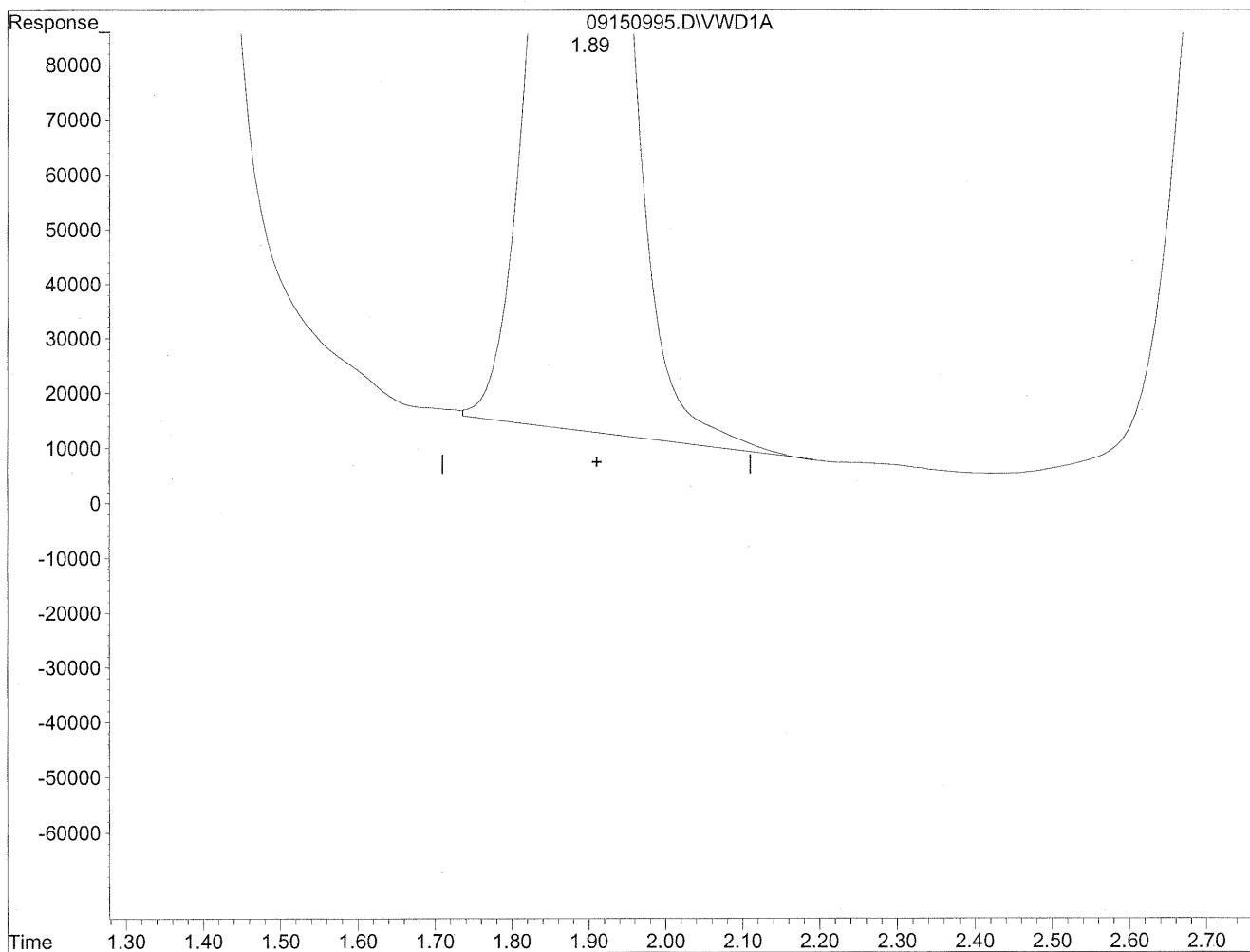


(2) Acetaldehyde
1.90min 2528.375ng/ml
response 16436452

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150995.D Vial: 180
Acq On : 16-Sep-2009, 03:08 Operator: MD
Sample : P0903195-015 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



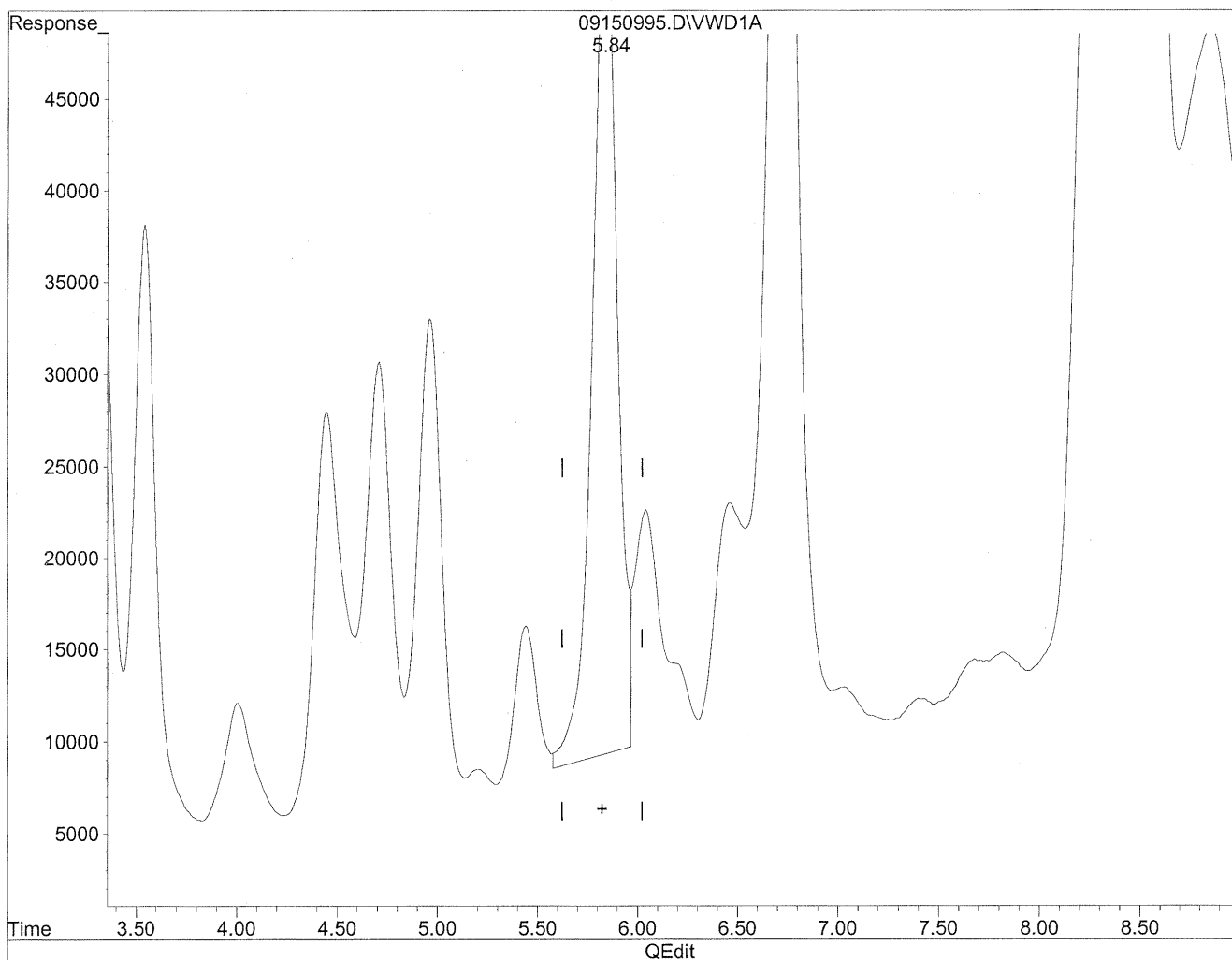
(2) Acetaldehyde
1.89min 2564.911ng/ml m
response 16673964

MD
9/21/09
12
MD
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150995.D Vial: 180
Acq On : 16-Sep-2009, 03:08 Operator: MD
Sample : P0903195-015 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

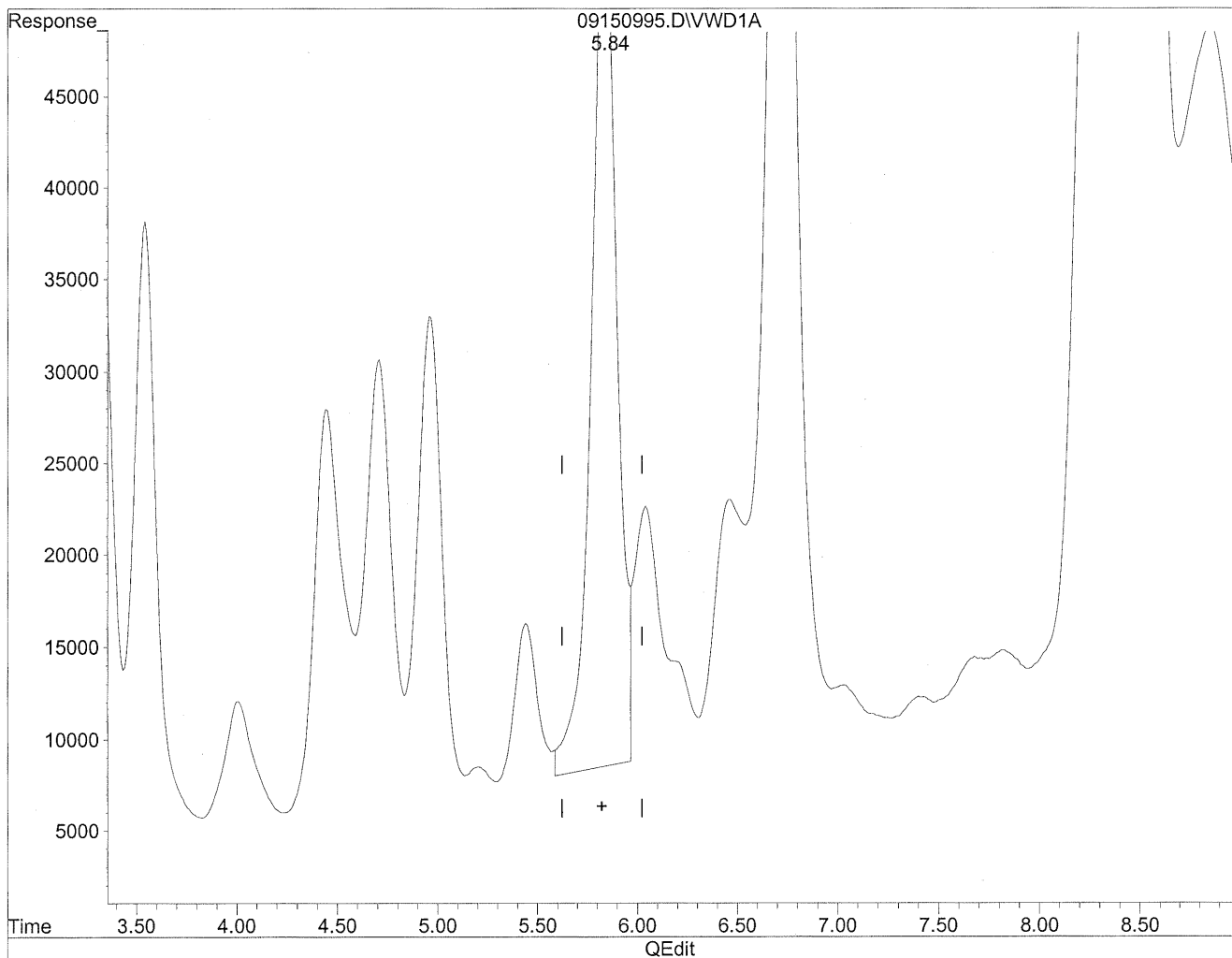


(6) Benzaldehyde
5.84min 1469.449ng/ml
response 4009211

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150995.D Vial: 180
Acq On : 16-Sep-2009, 03:08 Operator: MD
Sample : P0903195-015 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



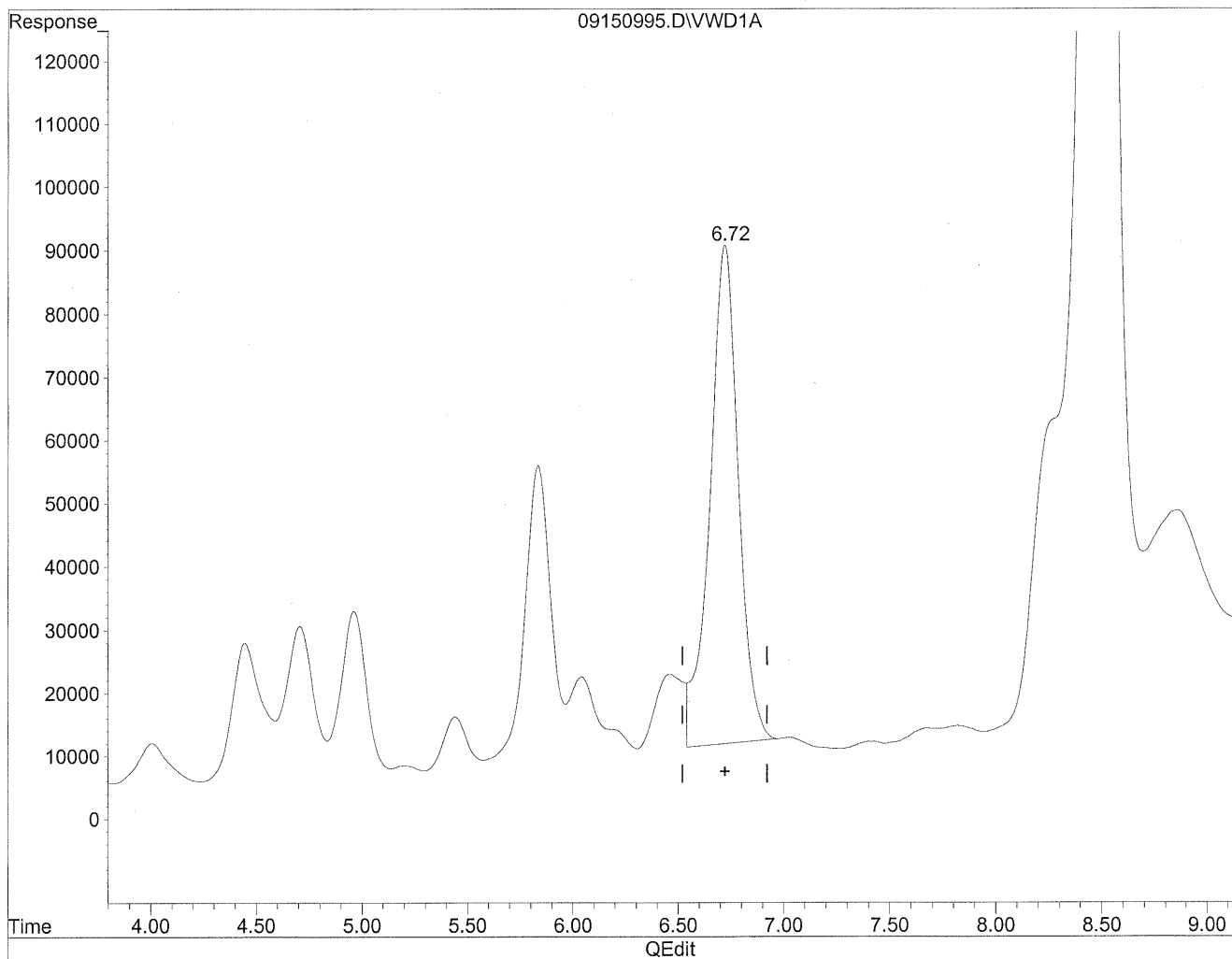
(6) Benzaldehyde
5.84min 1549.024ng/ml m
response 4226323

MD
9/21/09
BC
MD
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150995.D Vial: 180
Acq On : 16-Sep-2009, 03:08 Operator: MD
Sample : P0903195-015 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(8) Valeraldehyde

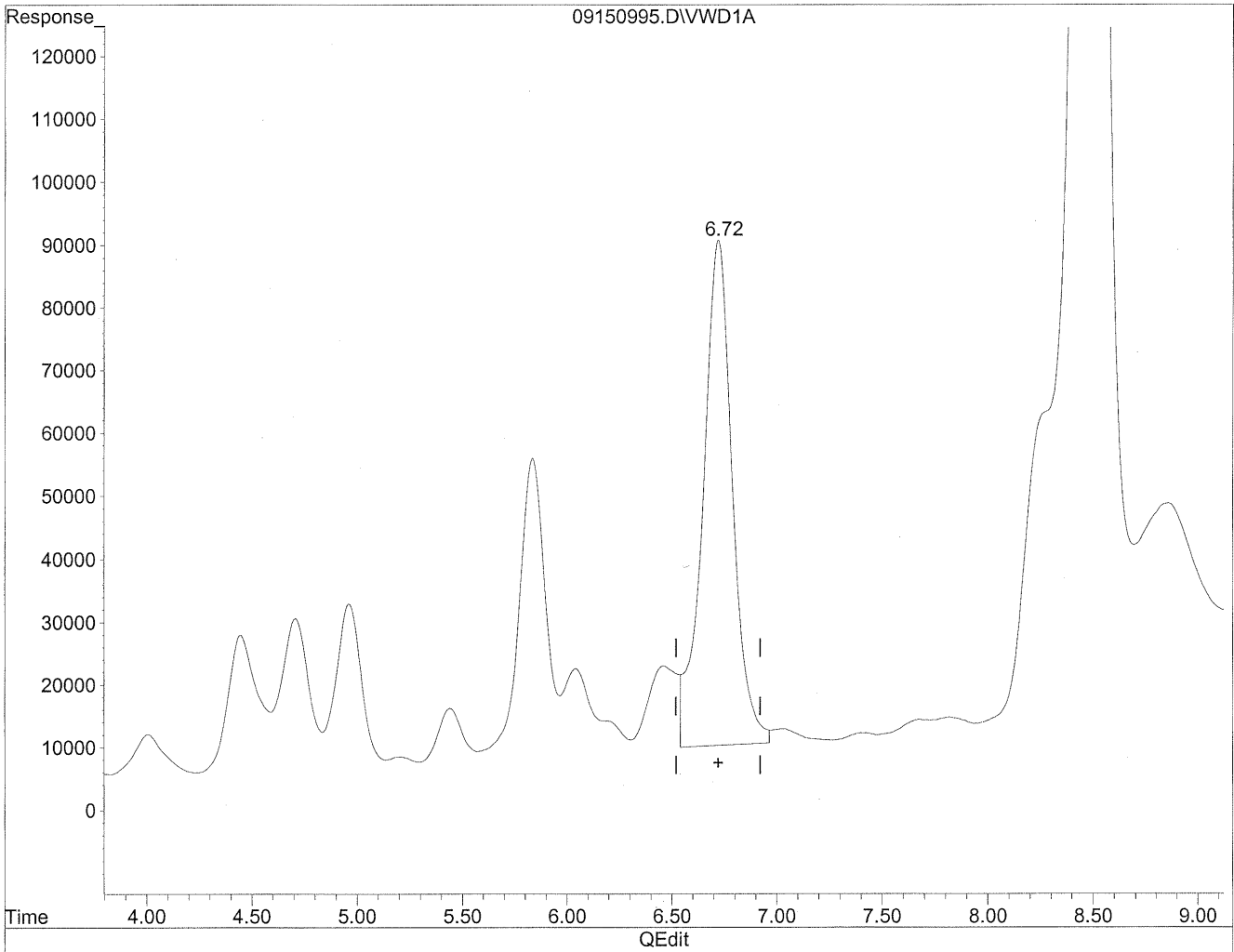
6.72min 2195.639ng/ml

response 7464380

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150995.D Vial: 180
Acq On : 16-Sep-2009, 03:08 Operator: MD
Sample : P0903195-015 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



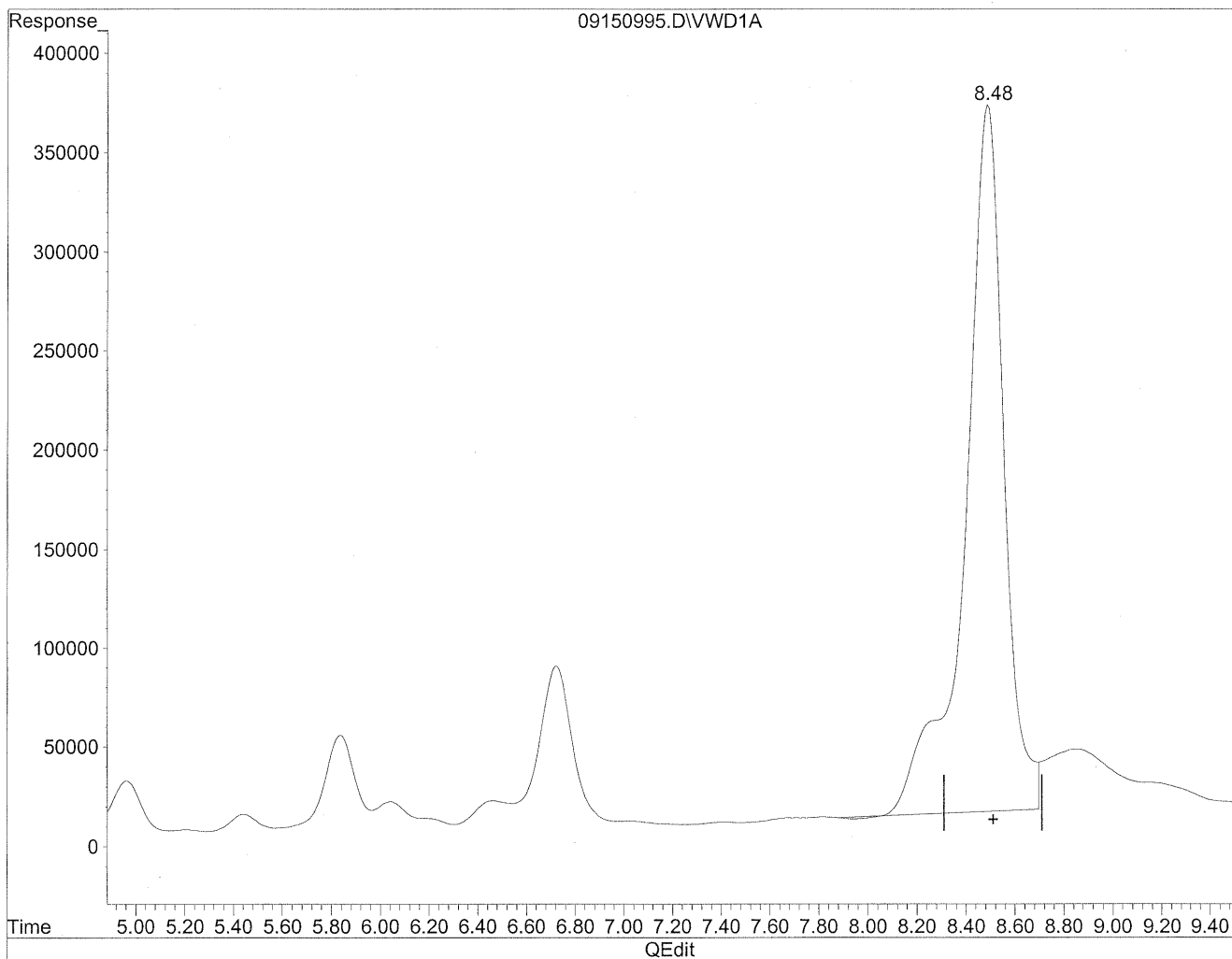
(8) Valeraldehyde
6.72min 2316.515ng/ml m
response 7875316

MD
9/21/09
BC
MC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150995.D Vial: 180
Acq On : 16-Sep-2009, 03:08 Operator: MD
Sample : P0903195-015 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

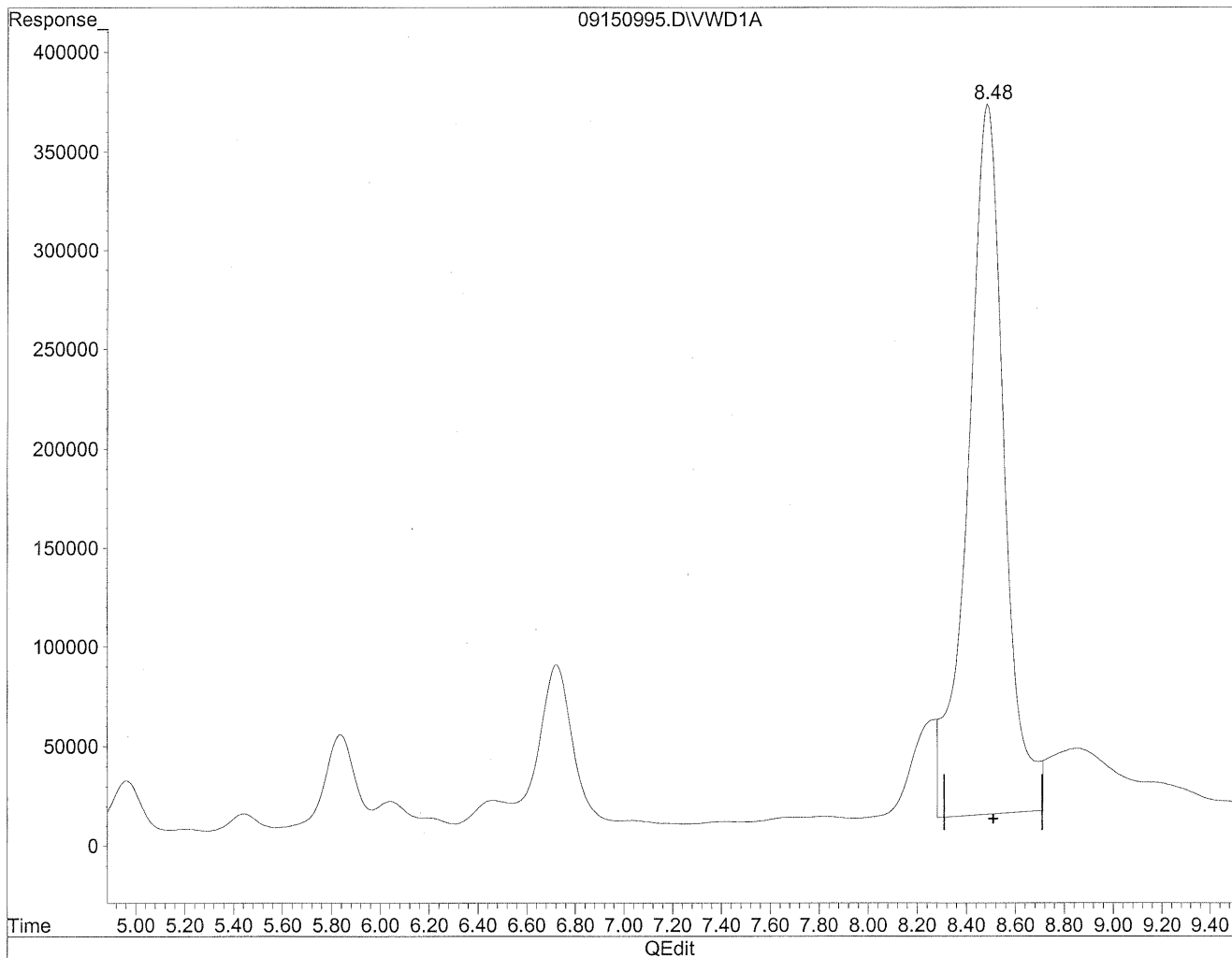


(11) Hexaldehyde
8.49min 13181.646ng/ml
response 39027223

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150995.D Vial: 180
Acq On : 16-Sep-2009, 03:08 Operator: MD
Sample : P0903195-015 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



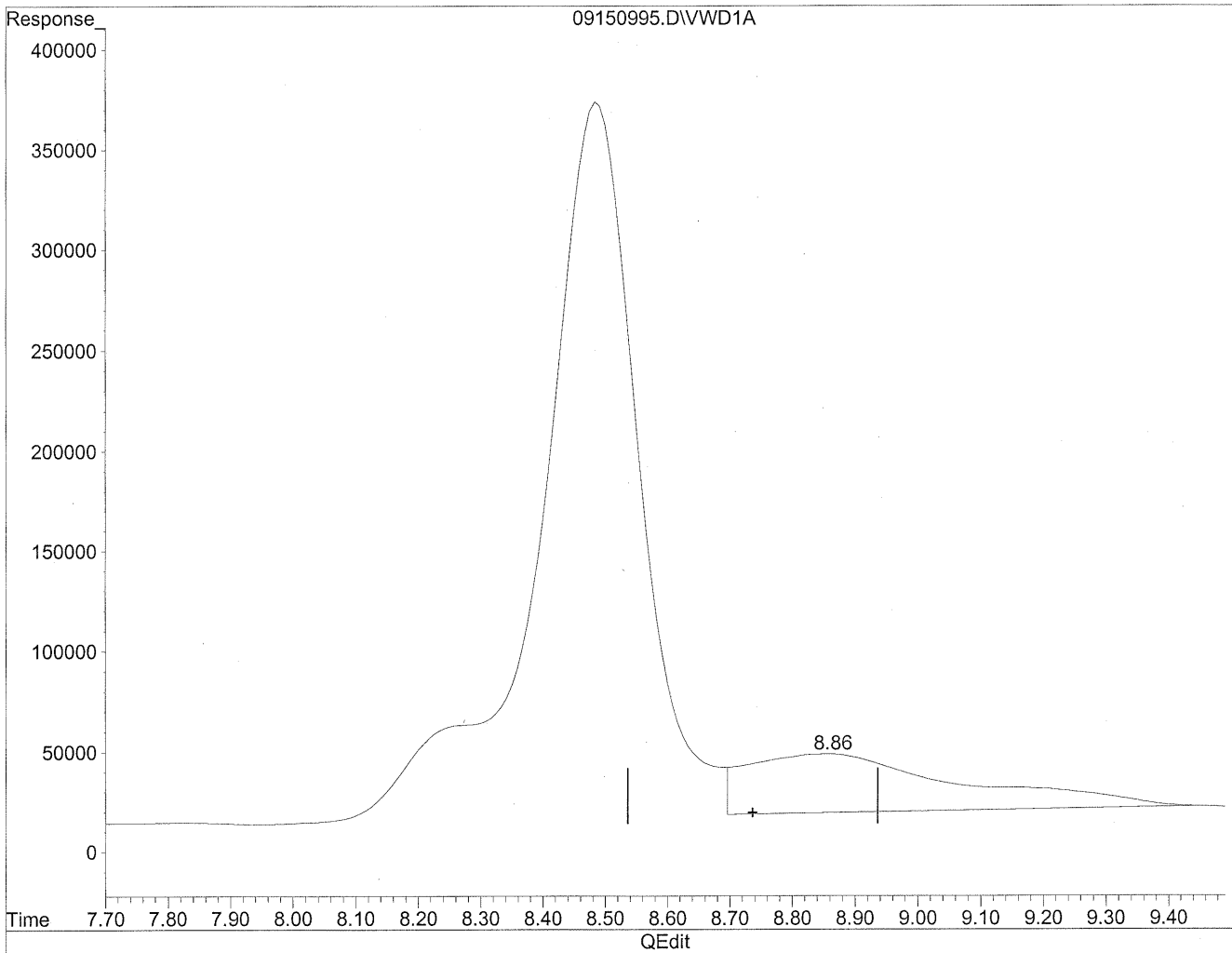
(11) Hexaldehyde
8.48min 12389.373ng/ml m
response 36681521

SM
9/21/09
sh
(see anal.)
mu
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150995.D Vial: 180
Acq On : 16-Sep-2009, 03:08 Operator: MD
Sample : P0903195-015 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

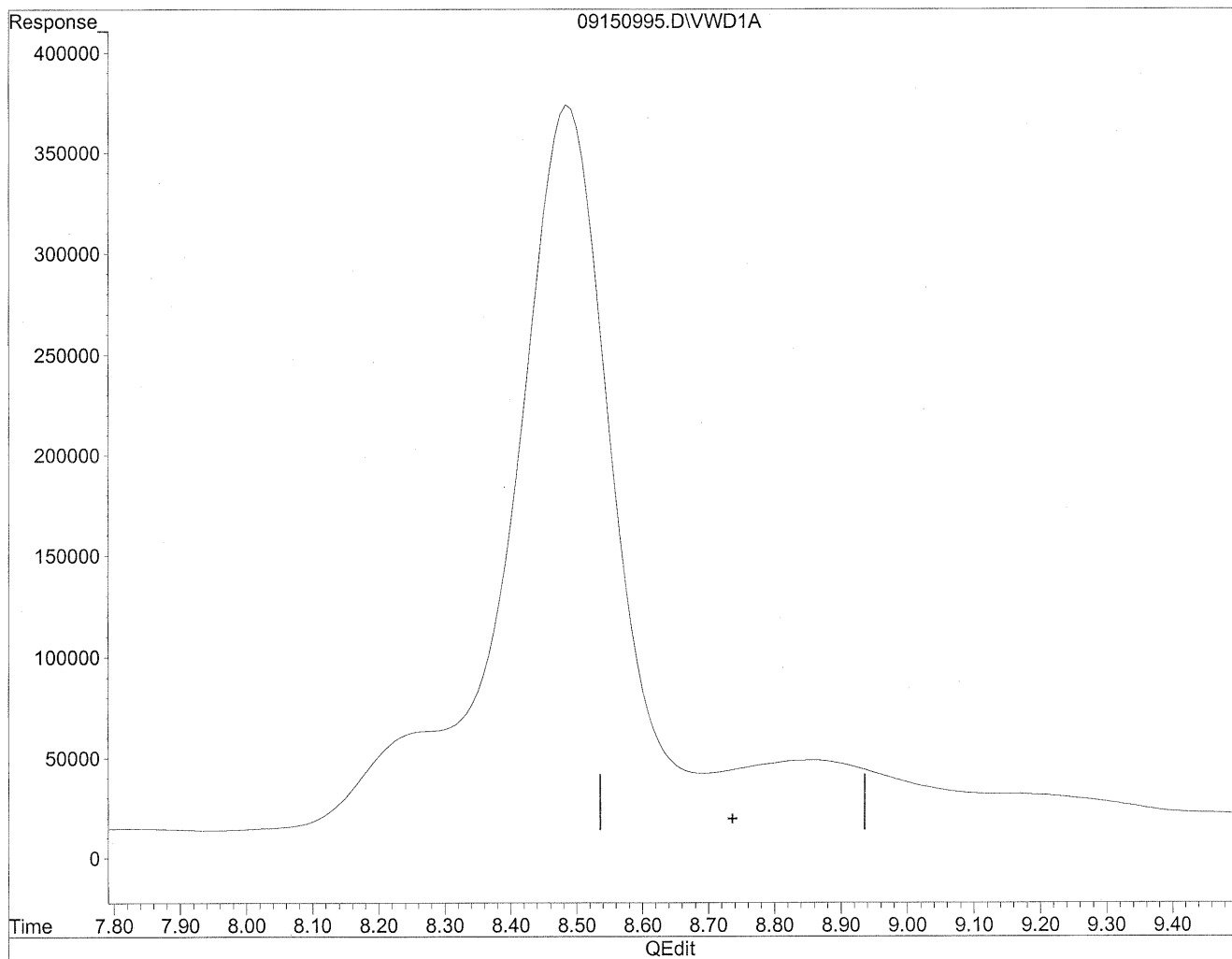
8.86min 3480.376ng/ml

response 6945062

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150995.D Vial: 180
Acq On : 16-Sep-2009, 03:08 Operator: MD
Sample : P0903195-015 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:13 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

0.00min 0.000ng/ml d

response 0

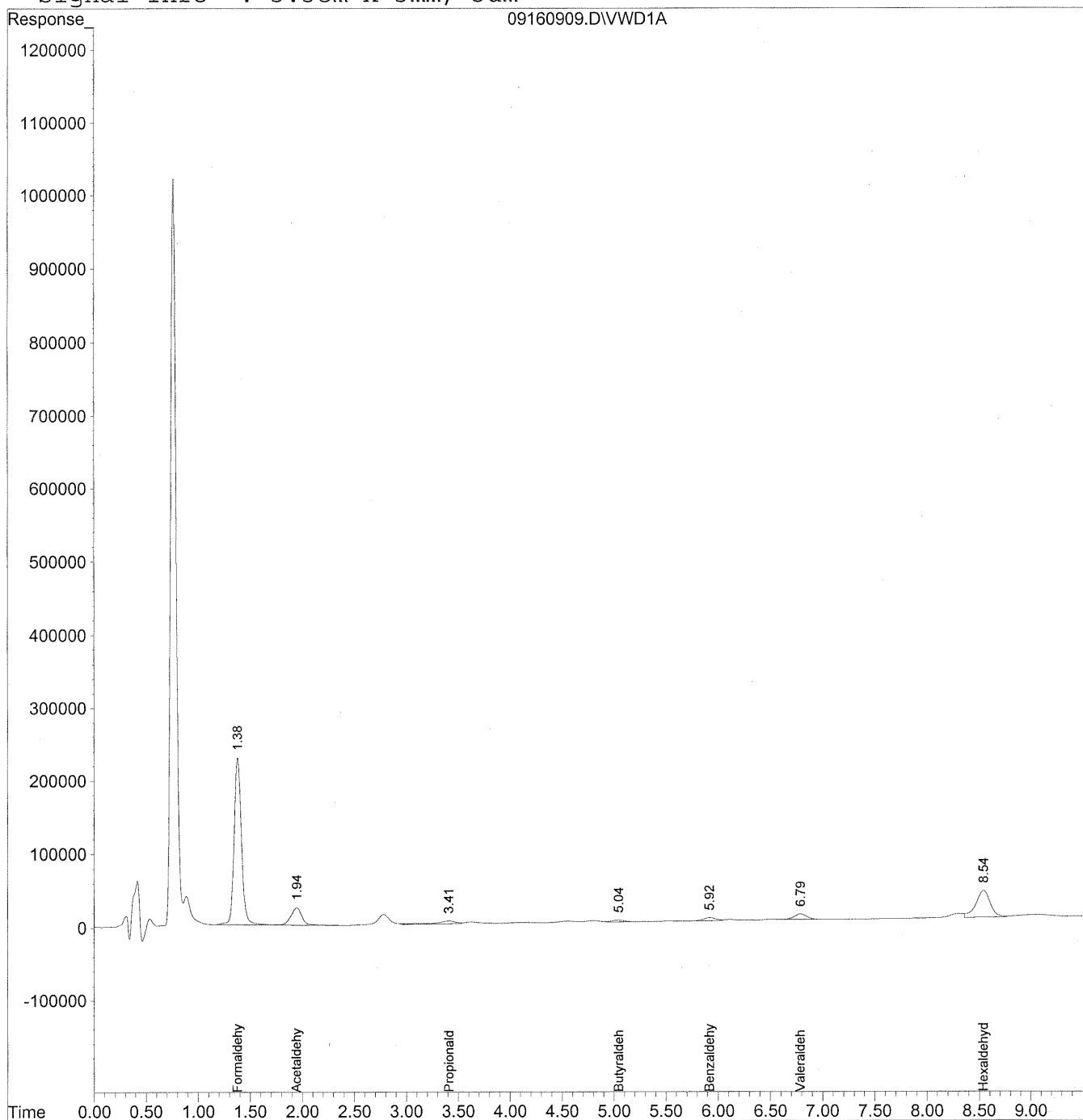
MD
9/21/09
MD
MD
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160909.D Vial: 3
Acq On : 16-Sep-2009, 12:28 Operator: MD
Sample : P0903195-015 front 10x dil Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 12:17 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



273

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160909.D Vial: 3
 Acq On : 16-Sep-2009, 12:28 Operator: MD
 Sample : P0903195-015 front 10x dil Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 12:17 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

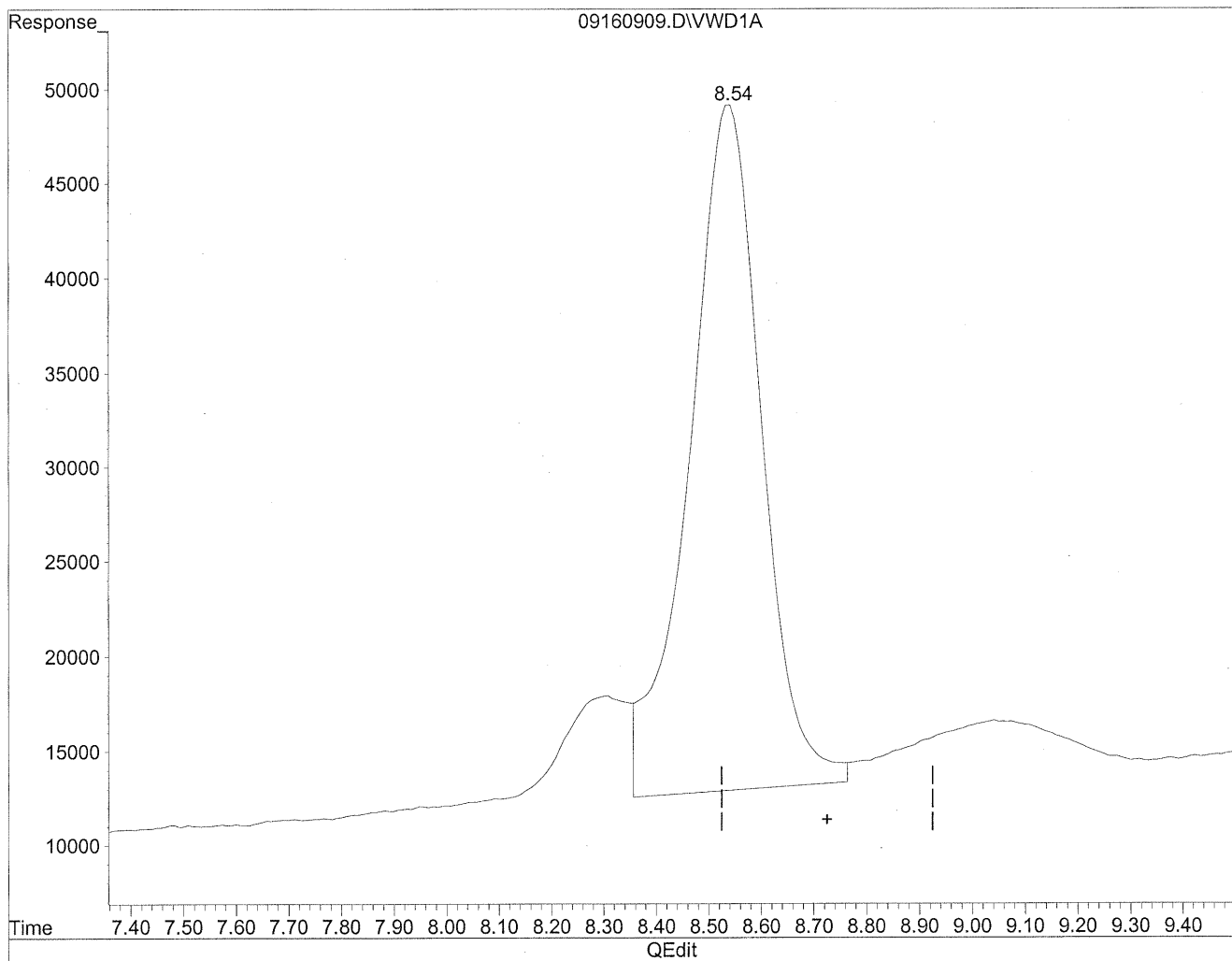
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.38	11298512	1264.462 ng/ml
2) Acetaldehyde	1.95	1790380	275.409 ng/ml
3) Propionaldehyde	3.41	603763	116.157 ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	5.05	206325	50.910 ng/ml
6) Benzaldehyde	5.92	335974	123.141 ng/ml
7) Isovaleraldehyde	0.00	0	N.D. ng/ml
8) Valeraldehyde	6.79	609207	179.198 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	8.54	3474954	1173.684 ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160909.D Vial: 3
Acq On : 16-Sep-2009, 12:28 Operator: MD
Sample : P0903195-015 front 10x dil Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 12:17 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

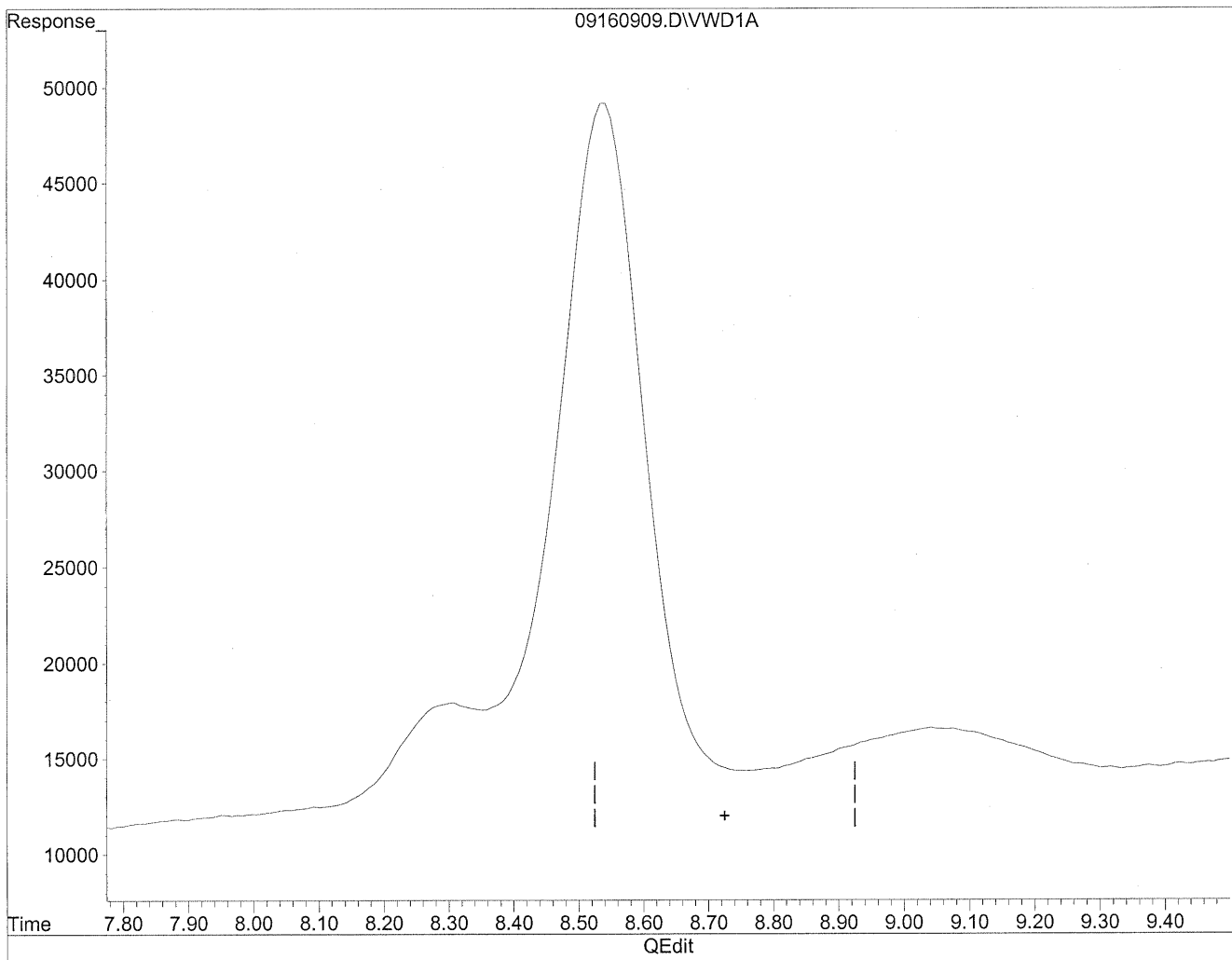
8.54min 1741.402ng/ml

response 3474954

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160909.D Vial: 3
Acq On : 16-Sep-2009, 12:28 Operator: MD
Sample : P0903195-015 front 10x dil Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 12:17 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

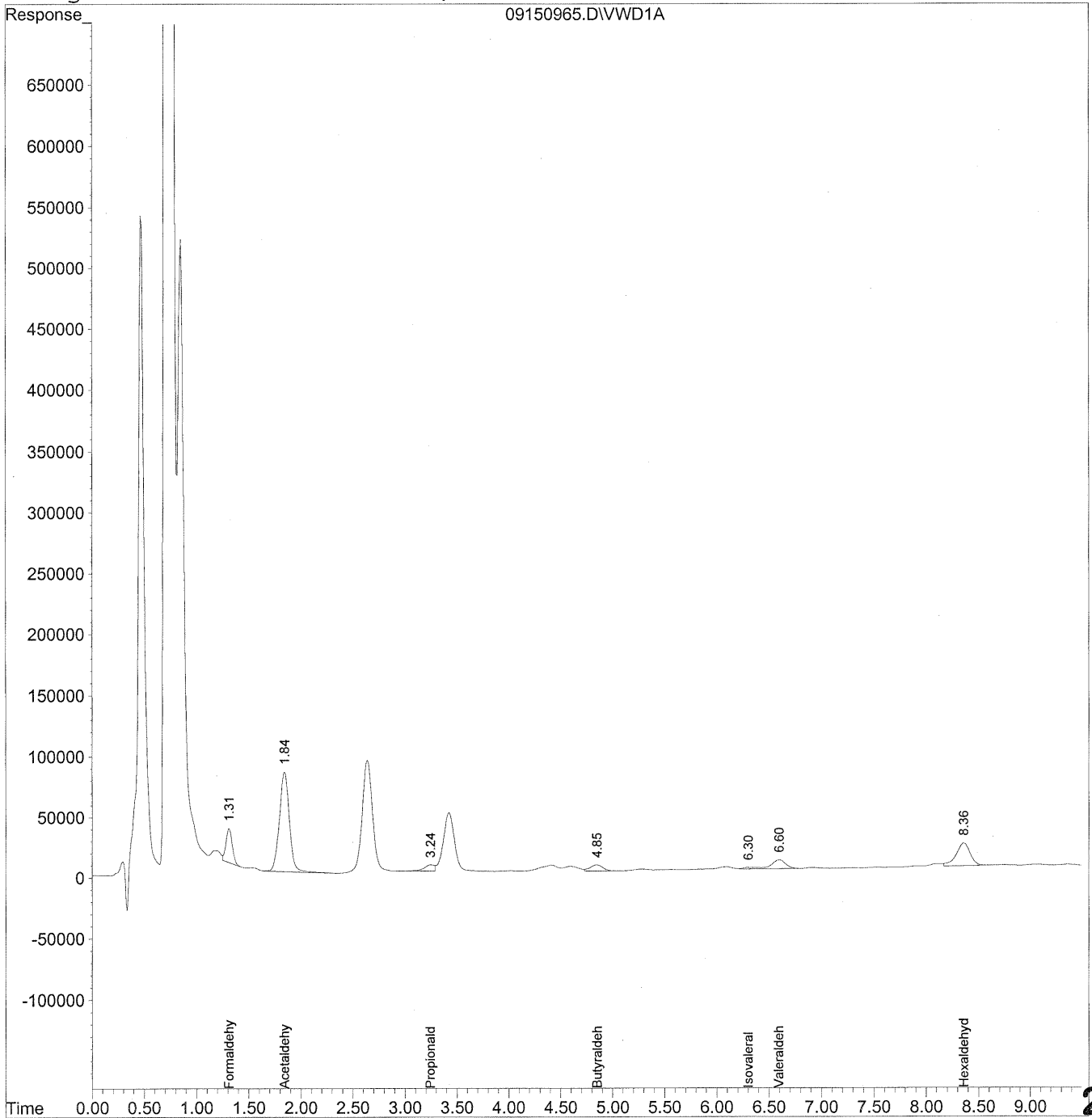
Handwritten notes:
MK
9/21/09
MP

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150965.D Vial: 154
Acq On : 15-Sep-2009, 21:08 Operator: MD
Sample : P0903195-015 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:19 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150965.D Vial: 154
 Acq On : 15-Sep-2009, 21:08 Operator: MD
 Sample : P0903195-015 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 16:19 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 17 16:12:59 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

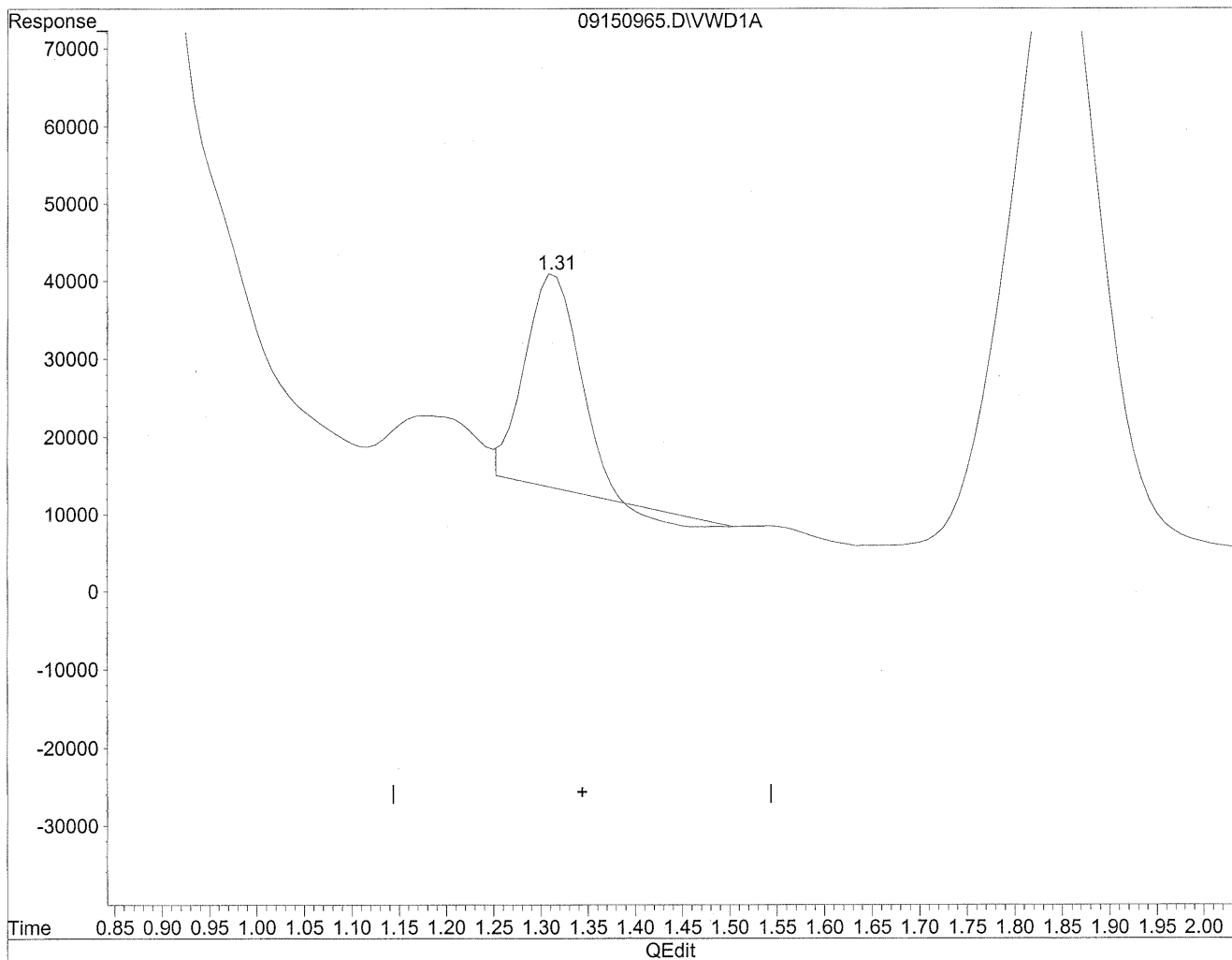
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.31	1191917	133.392 ng/mlm
2) Acetaldehyde	1.84	5488306	844.251 ng/mlm
3) Propionaldehyde	3.24	348655	67.077 ng/mlm
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	4.85	426426	105.219 ng/ml
6) Benzaldehyde	0.00	0	N.D. ng/ml
7) Isovaleraldehyde	6.30f	134363	39.039 ng/ml
8) Valeraldehyde	6.60f	666724	196.116 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	8.36f	1761869	595.080 ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150965.D Vial: 154
Acq On : 15-Sep-2009, 21:08 Operator: MD
Sample : P0903195-015 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

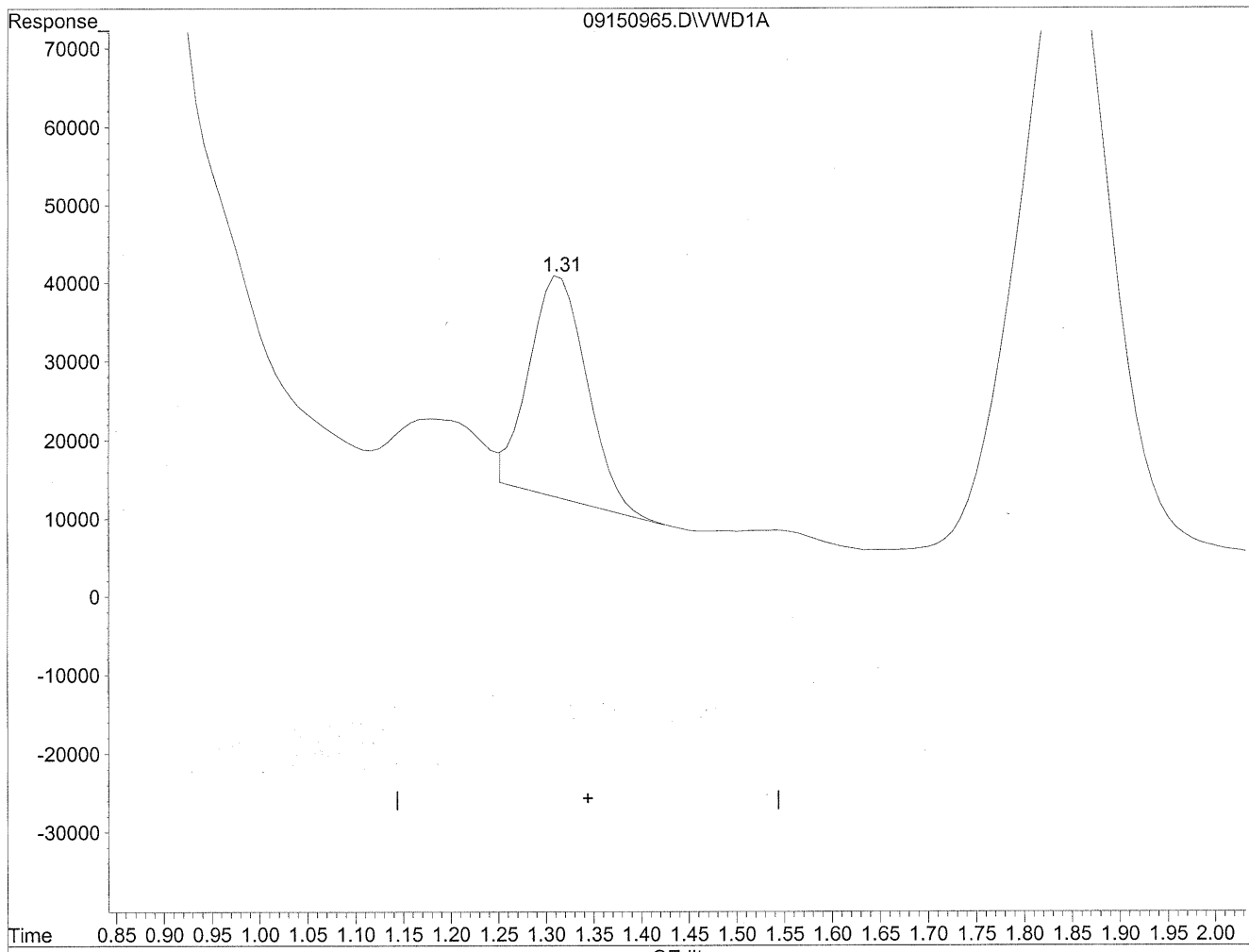


(1) Formaldehyde
1.31min 120.855ng/ml
response 1079893

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150965.D Vial: 154
Acq On : 15-Sep-2009, 21:08 Operator: MD
Sample : P0903195-015 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



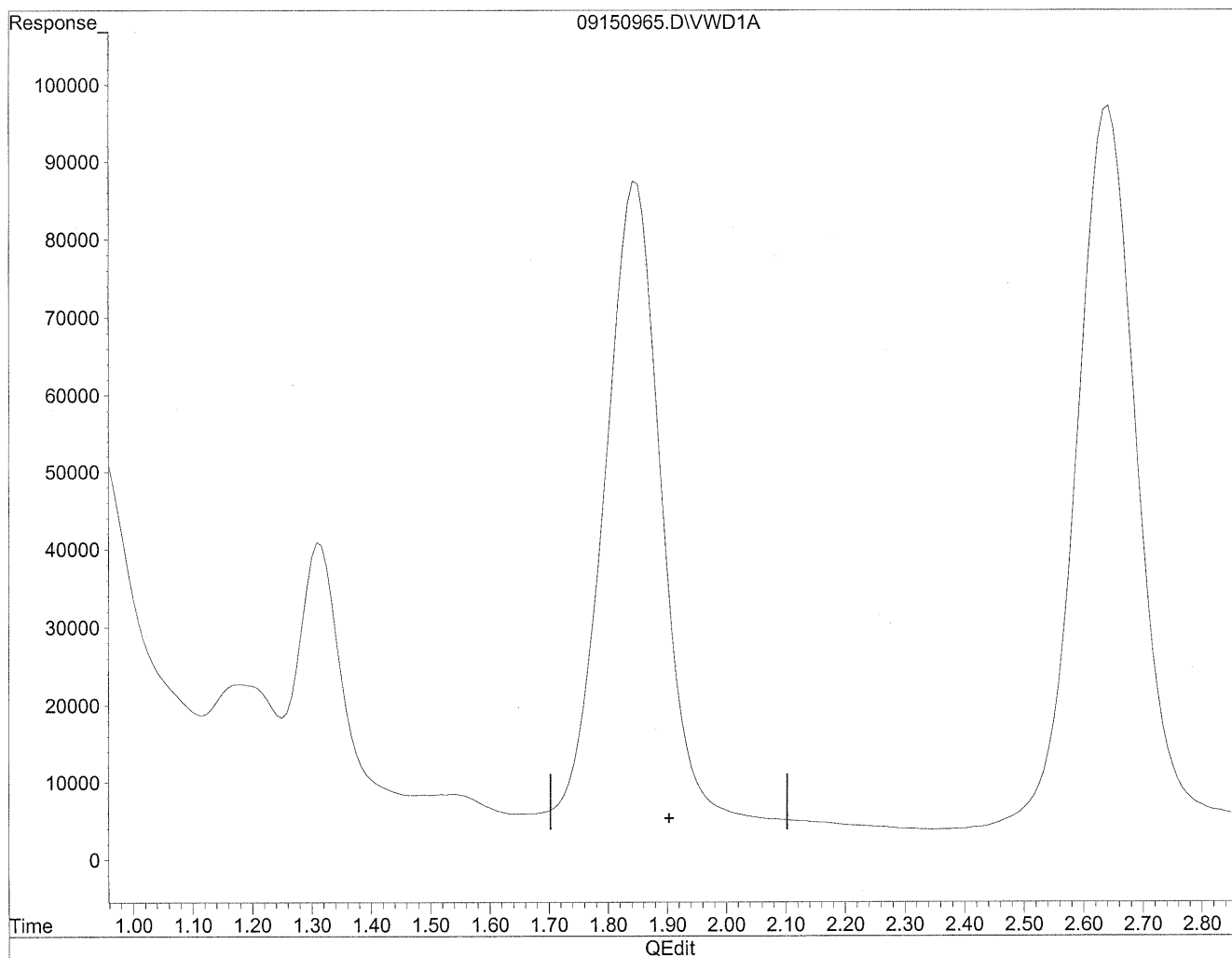
(1) Formaldehyde
1.31min 133.392ng/ml m
response 1191917

Handwritten notes:
9/21/09
R
HLC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150965.D Vial: 154
Acq On : 15-Sep-2009, 21:08 Operator: MD
Sample : P0903195-015 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

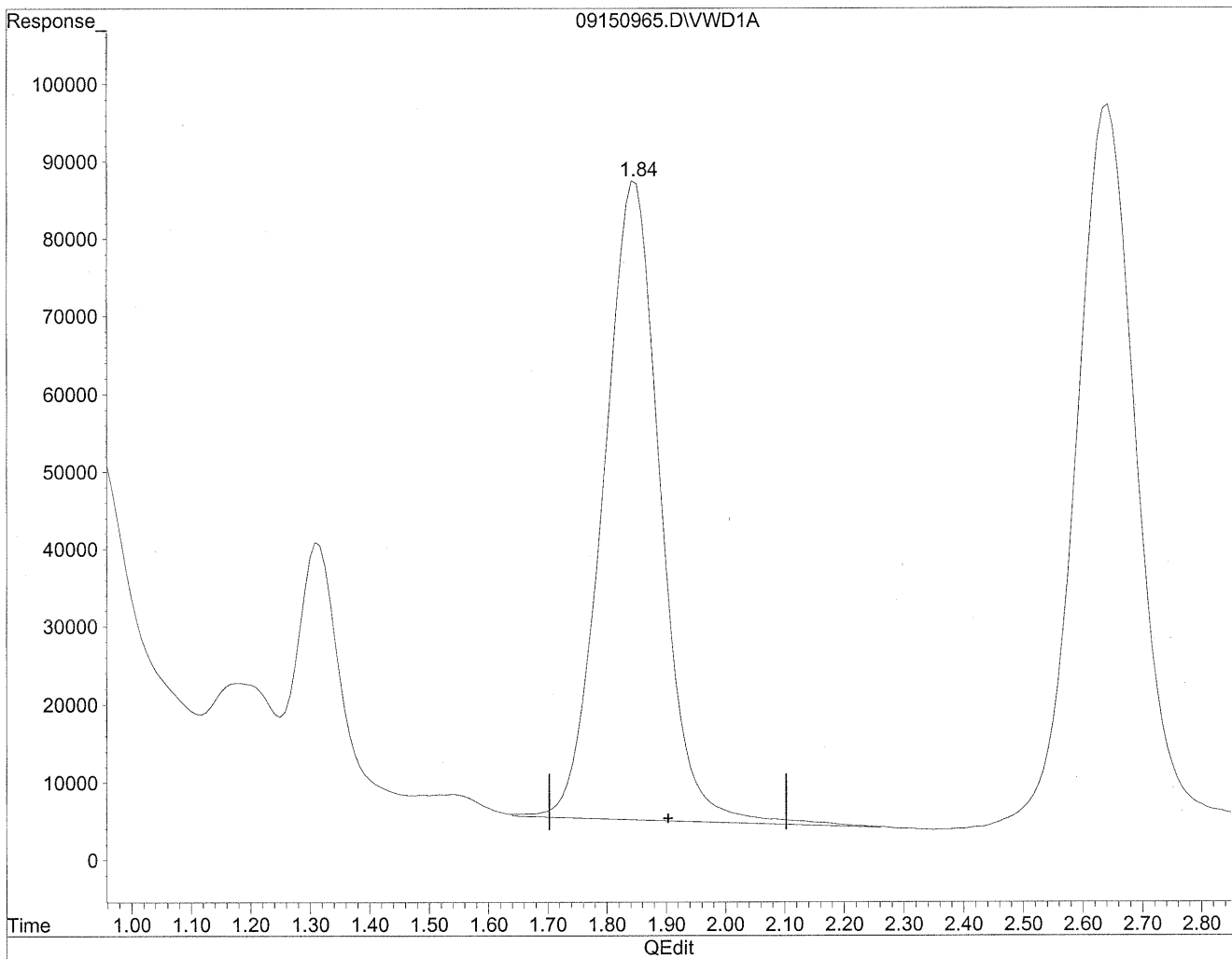


(2) Acetaldehyde
1.90min 0.000ng/ml
response 0

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150965.D Vial: 154
Acq On : 15-Sep-2009, 21:08 Operator: MD
Sample : P0903195-015 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(2) Acetaldehyde
1.84min 844.251ng/ml m
response 5488306

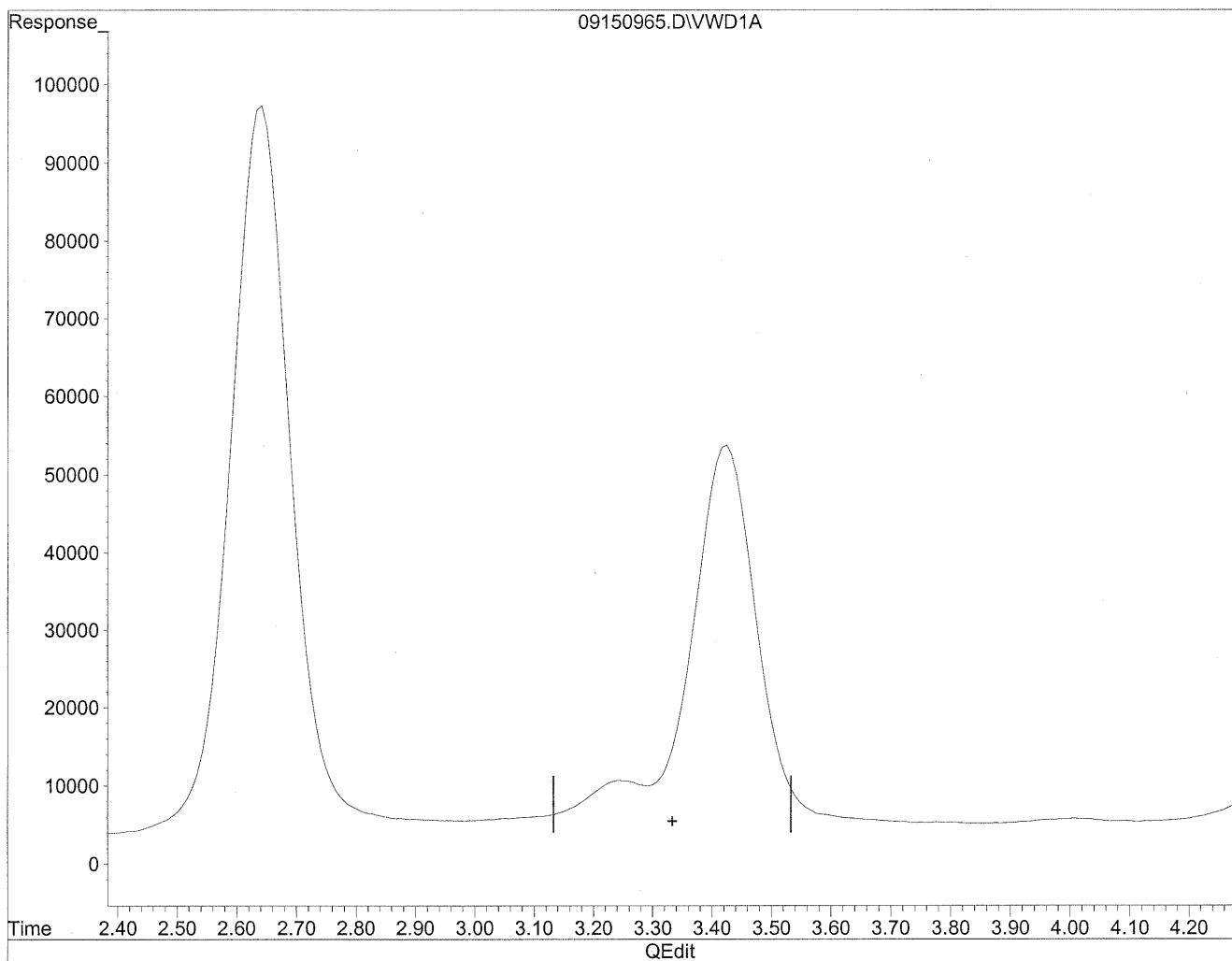
HL
9/21/09

(MD)
9/21/09
BHi

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150965.D Vial: 154
Acq On : 15-Sep-2009, 21:08 Operator: MD
Sample : P0903195-015 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

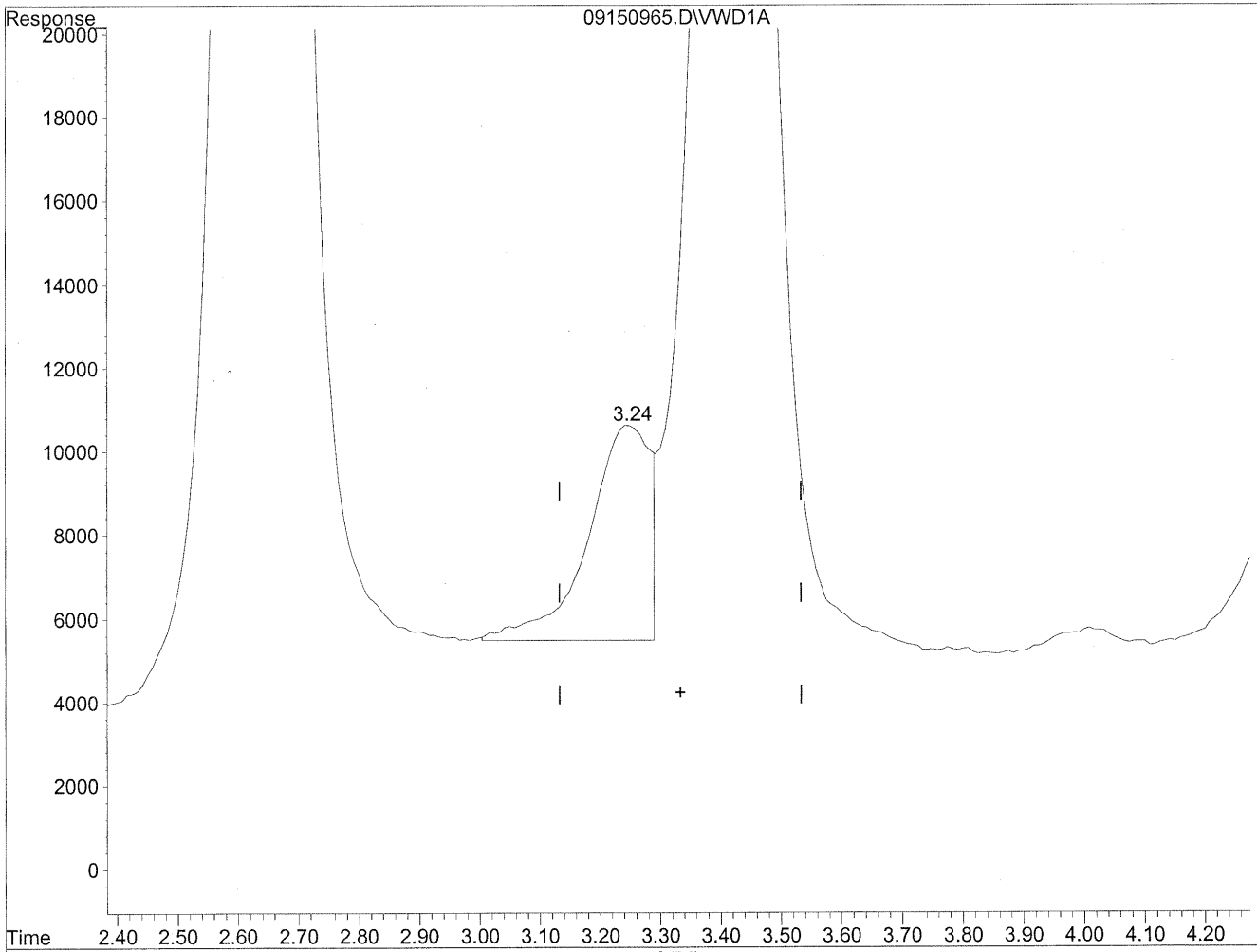


(3) Propionaldehyde
3.33min 0.000ng/ml
response 0

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150965.D Vial: 154
Acq On : 15-Sep-2009, 21:08 Operator: MD
Sample : P0903195-015 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



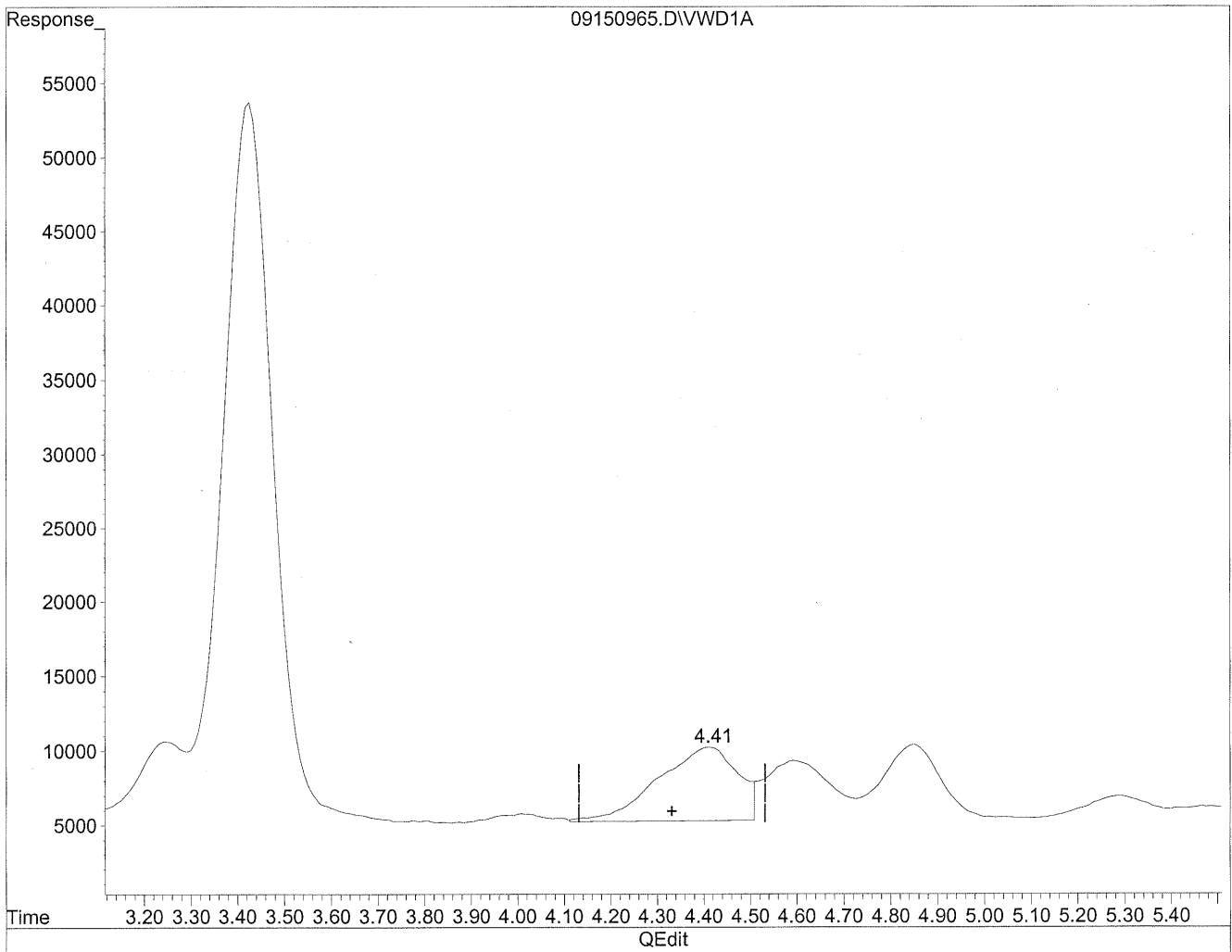
(3) Propionaldehyde
3.24min 67.077ng/ml m
response 348655

*HLc
9/21/09*
(m)
9/21/09
Bru, LRC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150965.D Vial: 154
Acq On : 15-Sep-2009, 21:08 Operator: MD
Sample : P0903195-015 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

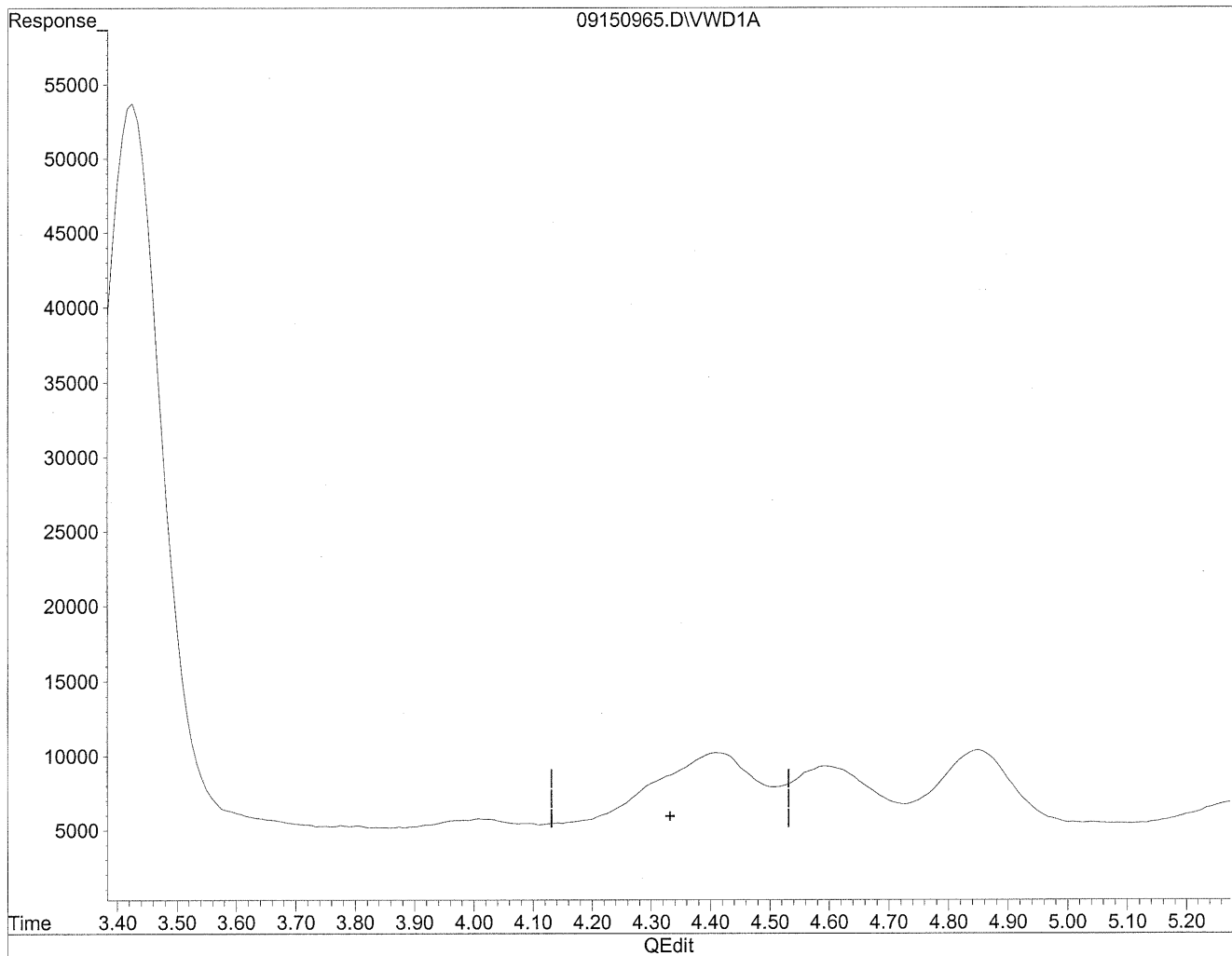


(4) Crotonaldehyde
4.41min 143.205ng/ml
response 581351

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150965.D Vial: 154
Acq On : 15-Sep-2009, 21:08 Operator: MD
Sample : P0903195-015 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



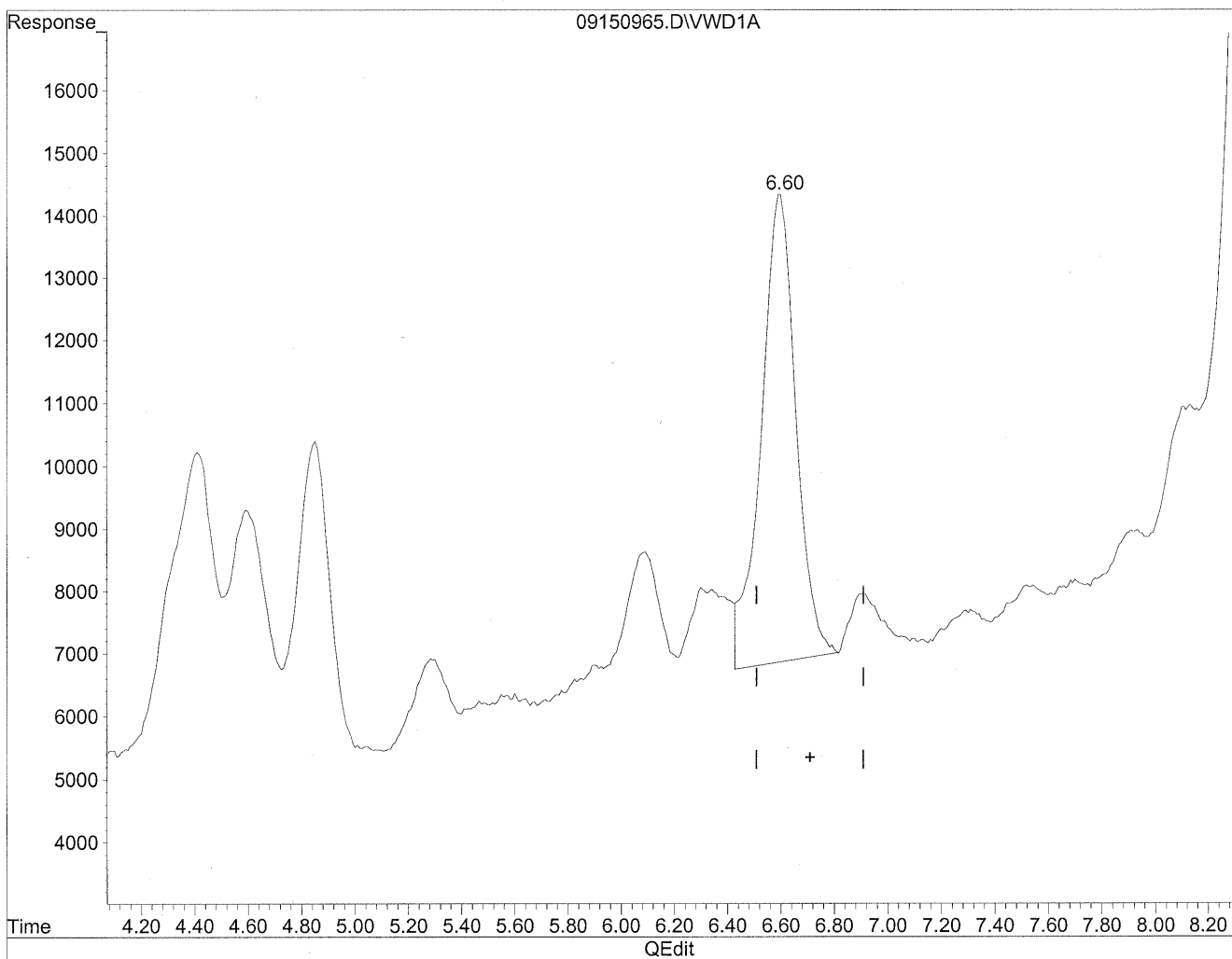
(4) Crotonaldehyde
0.00min 0.000ng/ml d
response 0

Handwritten notes:
+LC
9/18/09
M
9/18/09
MP, RT

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150965.D Vial: 154
Acq On : 15-Sep-2009, 21:08 Operator: MD
Sample : P0903195-015 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

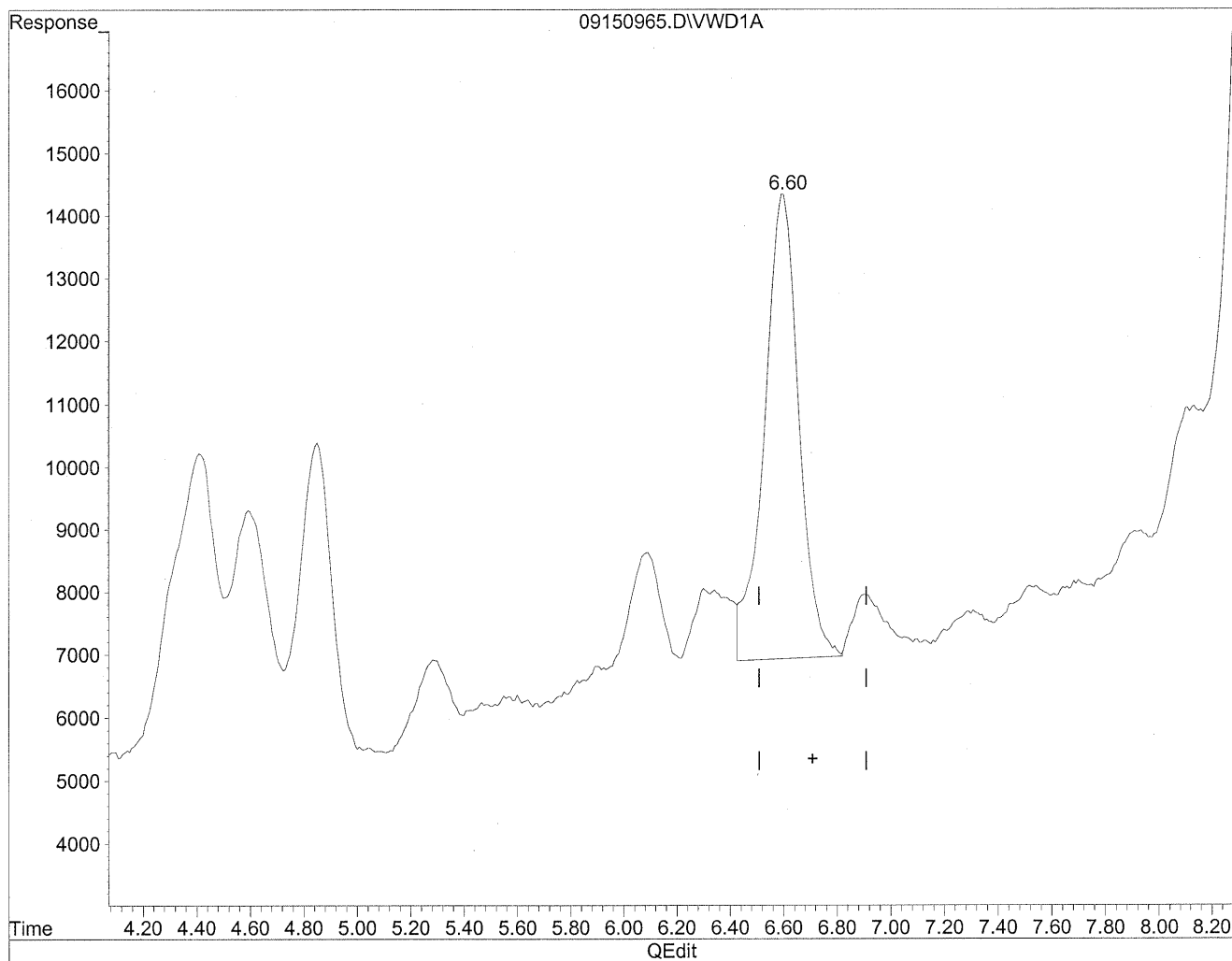


(8) Valeraldehyde
6.60min 200.301ng/ml
response 680952

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150965.D Vial: 154
Acq On : 15-Sep-2009, 21:08 Operator: MD
Sample : P0903195-015 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:18 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(8) Valeraldehyde
6.60min 196.116ng/ml m
response 666724

Handwritten notes:
7/11/09
9/18/09
PC

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.
Client Sample ID: 104811
Client Project ID: 16512

CAS Project ID: P0903195
 CAS Sample ID: P0903195-016

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

Date Collected: 9/1/09
Date Received: 9/10/09
Date Analyzed: 9/15 - 9/16/09
Desorption Volume: 1.0 ml
Volume Sampled: 106 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	13,000	120	0.94	99	0.77	
75-07-0	Acetaldehyde	3,600	34	0.94	19	0.52	BT
123-38-6	Propionaldehyde	750	7.0	0.94	3.0	0.40	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.94	ND	0.33	
123-72-8	Butyraldehyde	690	6.5	0.94	2.2	0.32	
100-52-7	Benzaldehyde	1,800	17	0.94	3.9	0.22	
590-86-3	Isovaleraldehyde	400	3.8	0.94	1.1	0.27	
110-62-3	Valeraldehyde	2,900	27	0.94	7.7	0.27	
529-20-4	o-Tolualdehyde	< 100	ND	0.94	ND	0.19	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	1.9	ND	0.38	
66-25-1	n-Hexaldehyde	15,000	140	0.94	35	0.23	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	0.94	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.

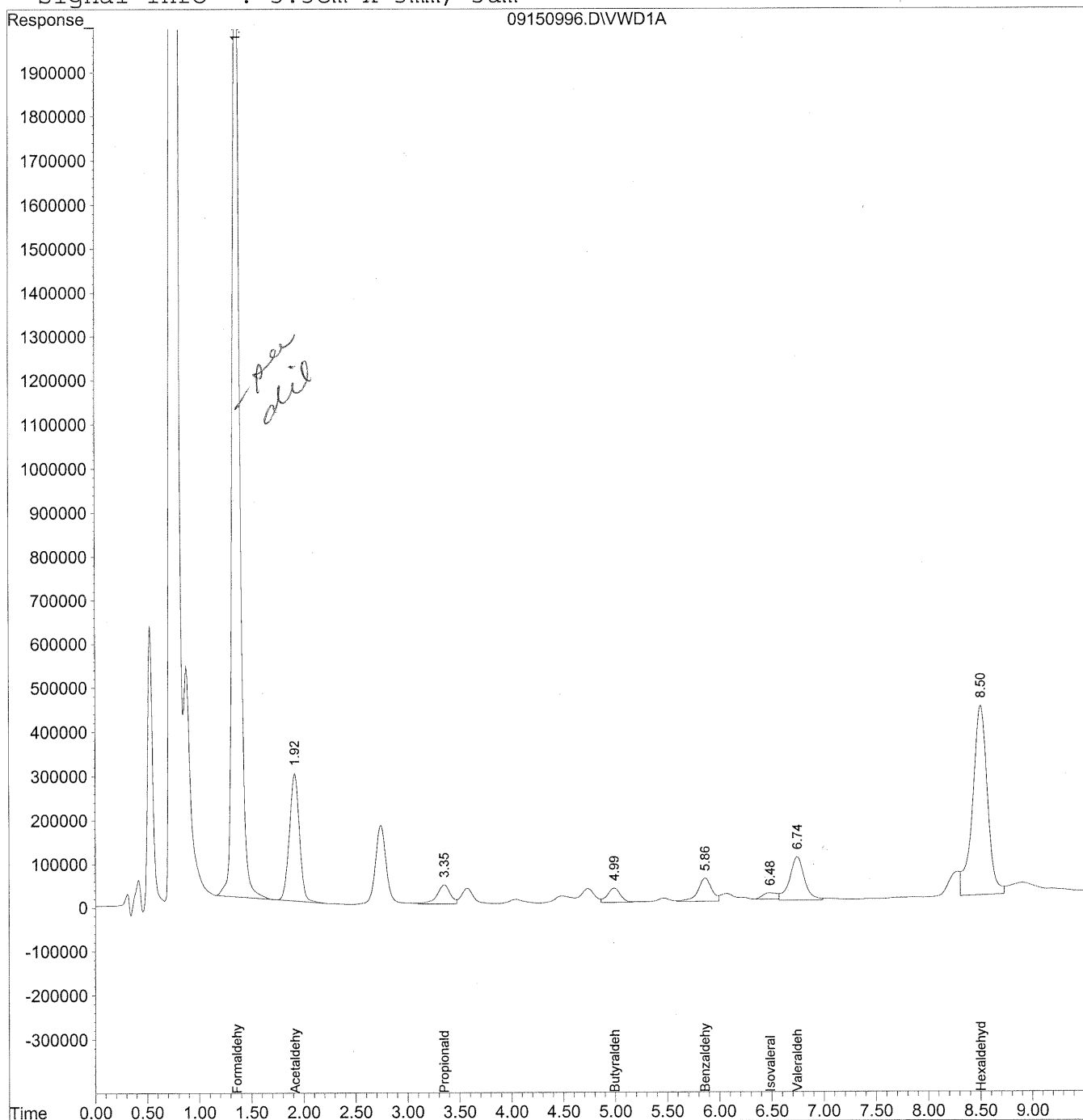
Verified By: Ru Date: 9/24/09 **289**

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150996.D Vial: 181
Acq On : 16-Sep-2009, 03:20 Operator: MD
Sample : P0903195-016 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:44 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 17 16:12:59 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



290

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150996.D Vial: 181
 Acq On : 16-Sep-2009, 03:20 Operator: MD
 Sample : P0903195-016 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:44 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 17 16:12:59 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

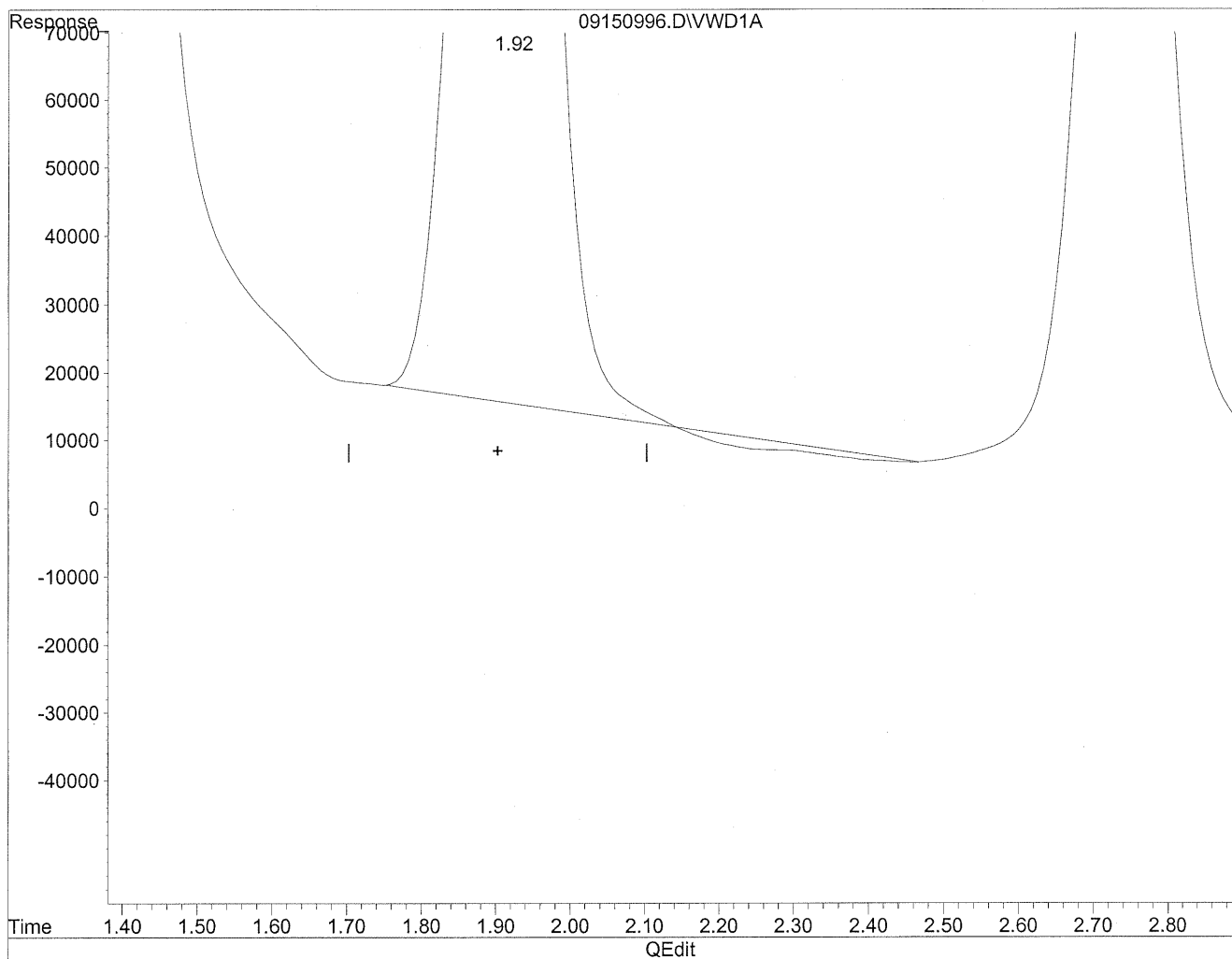
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.36	110406042	12355.984 ng/ml <i>See dil</i>
2) Acetaldehyde	1.92	19527704	3003.894 ng/mlm
3) Propionaldehyde	3.35	3882376	746.923 ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	4.99	2796032	689.907 ng/mlm
6) Benzaldehyde	5.86	4936130	1809.182 ng/mlm
7) Isovaleraldehyde	6.48	1392404	404.558 ng/mlm
8) Valeraldehyde	6.74	9798227	2882.137 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	42231159	14263.792 ng/ml <i>See dil</i>
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150996.D Vial: 181
Acq On : 16-Sep-2009, 03:20 Operator: MD
Sample : P0903195-016 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:42 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(2) Acetaldehyde

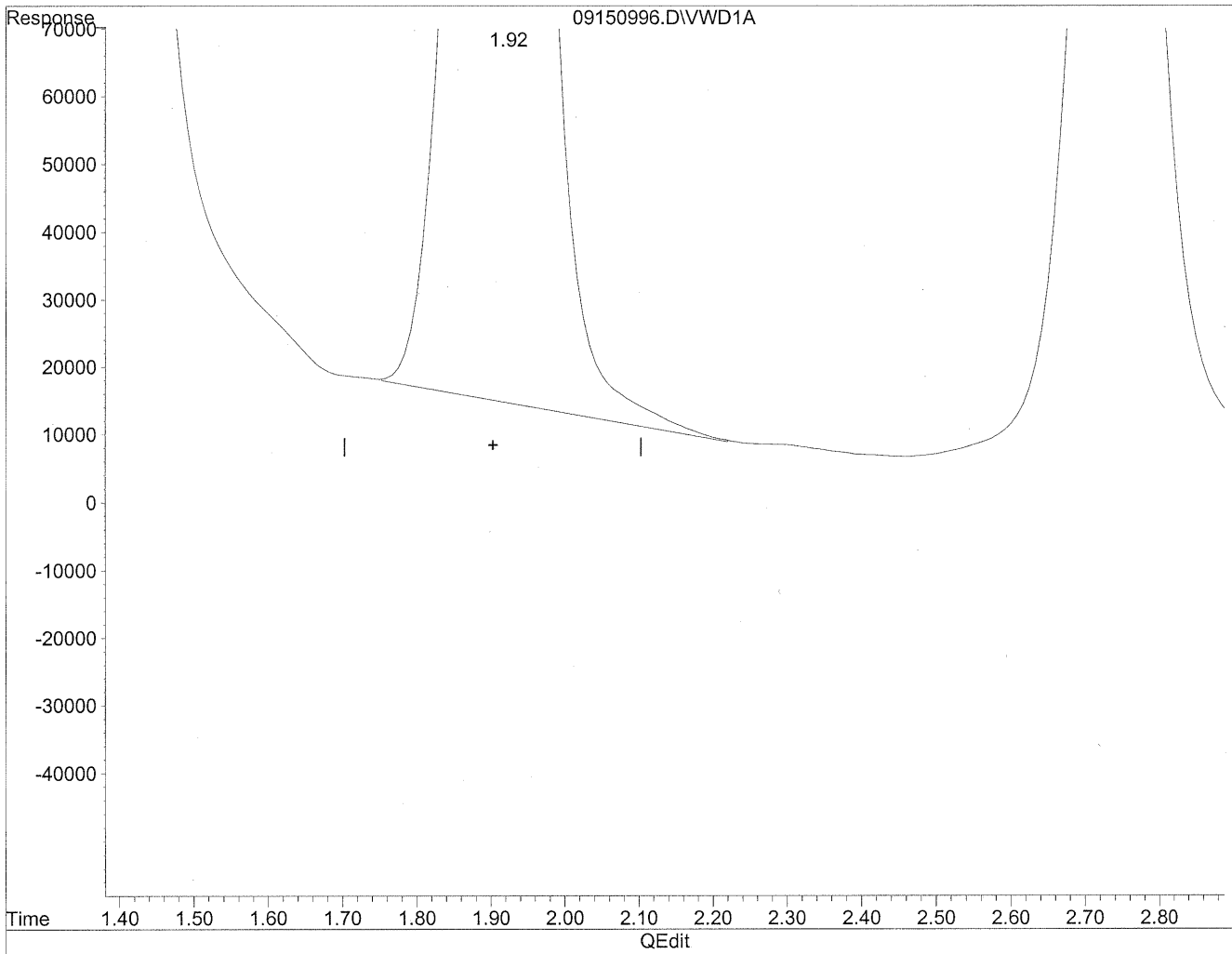
1.92min 2944.270ng/ml

response 19140105

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150996.D Vial: 181
Acq On : 16-Sep-2009, 03:20 Operator: MD
Sample : P0903195-016 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:42 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(2) Acetaldehyde
1.92min 3003.894ng/ml m
response 19527704

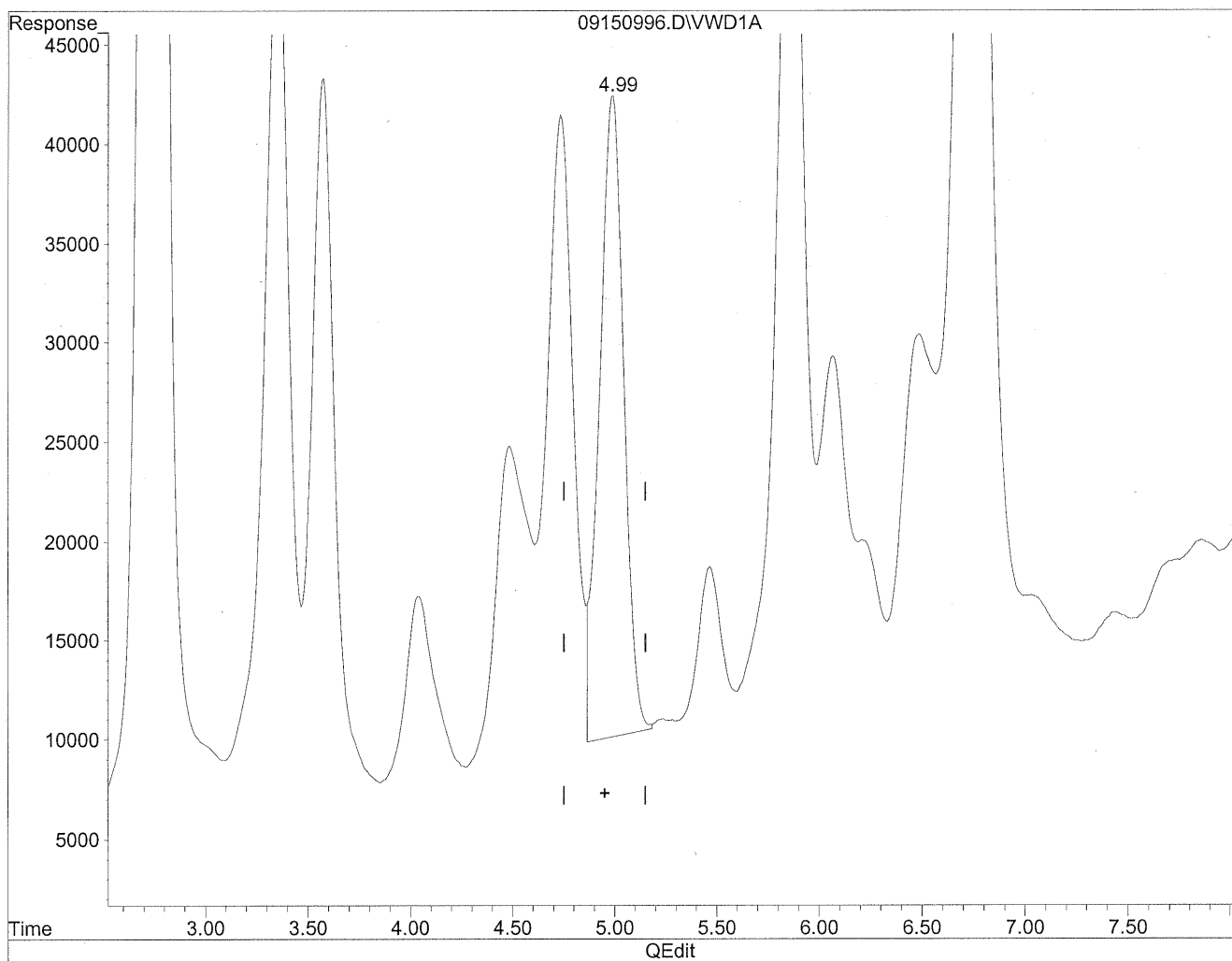
MD
9/21/09
12

MD
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150996.D Vial: 181
Acq On : 16-Sep-2009, 03:20 Operator: MD
Sample : P0903195-016 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:42 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

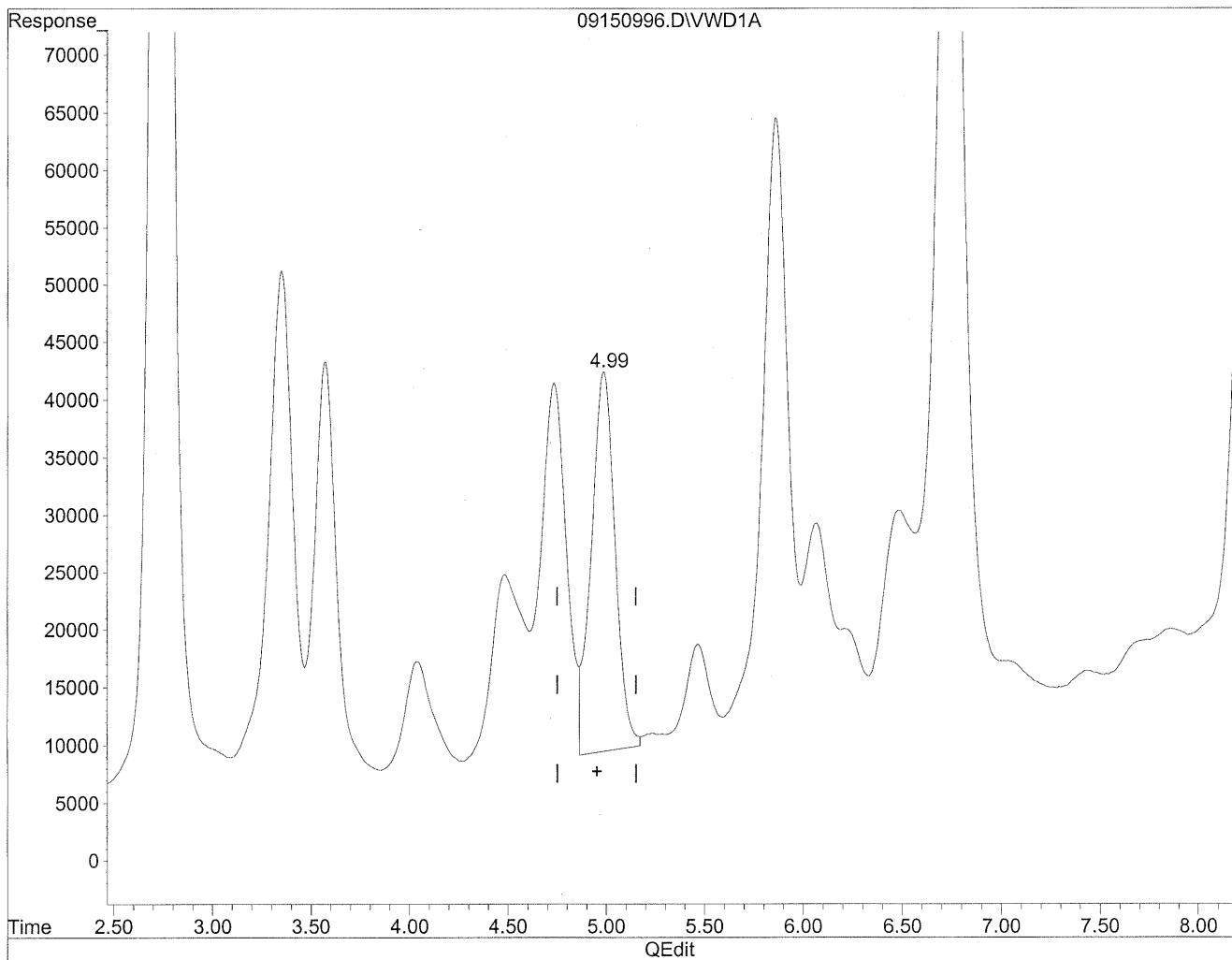


(5) Butyraldehyde
4.99min 663.763ng/ml
response 2690076

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150996.D Vial: 181
Acq On : 16-Sep-2009, 03:20 Operator: MD
Sample : P0903195-016 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:42 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



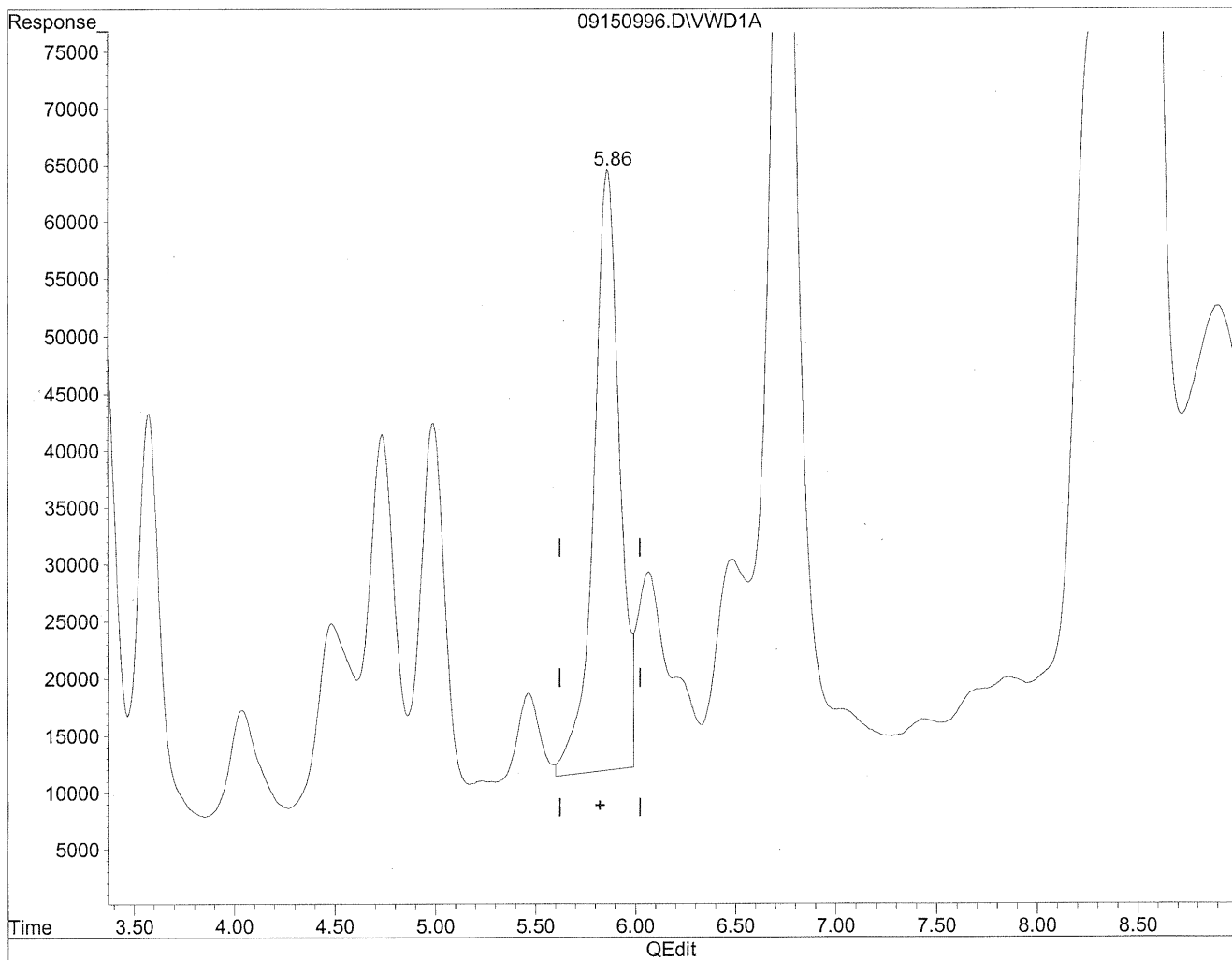
(5) Butyraldehyde
4.99min 689.907ng/ml m
response 2796032

*the
alcohol* *(MD)*
9/21/09
pc

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150996.D Vial: 181
Acq On : 16-Sep-2009, 03:20 Operator: MD
Sample : P0903195-016 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:42 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

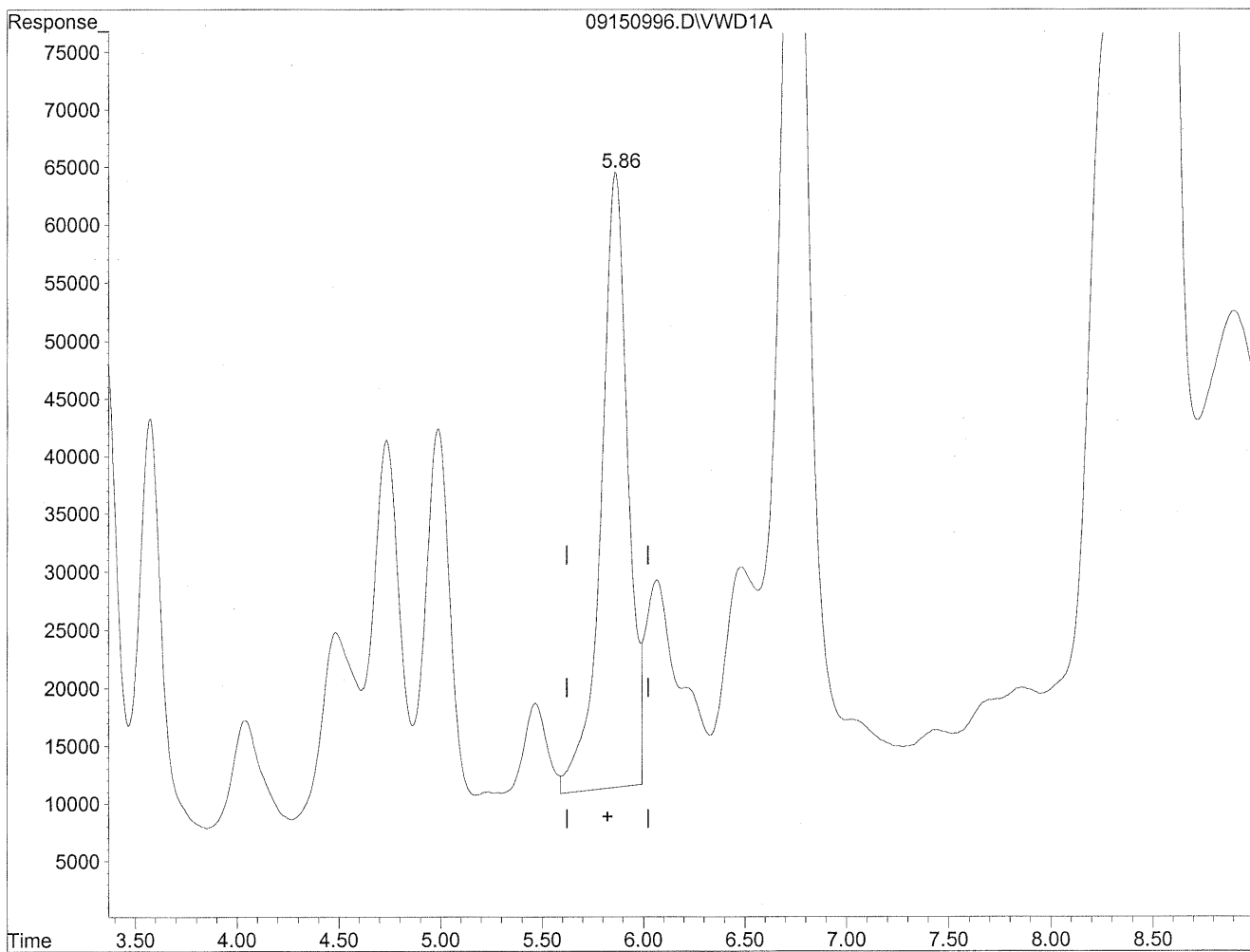


(6) Benzaldehyde
5.86min 1731.282ng/ml
response 4723591

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150996.D Vial: 181
Acq On : 16-Sep-2009, 03:20 Operator: MD
Sample : P0903195-016 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:42 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



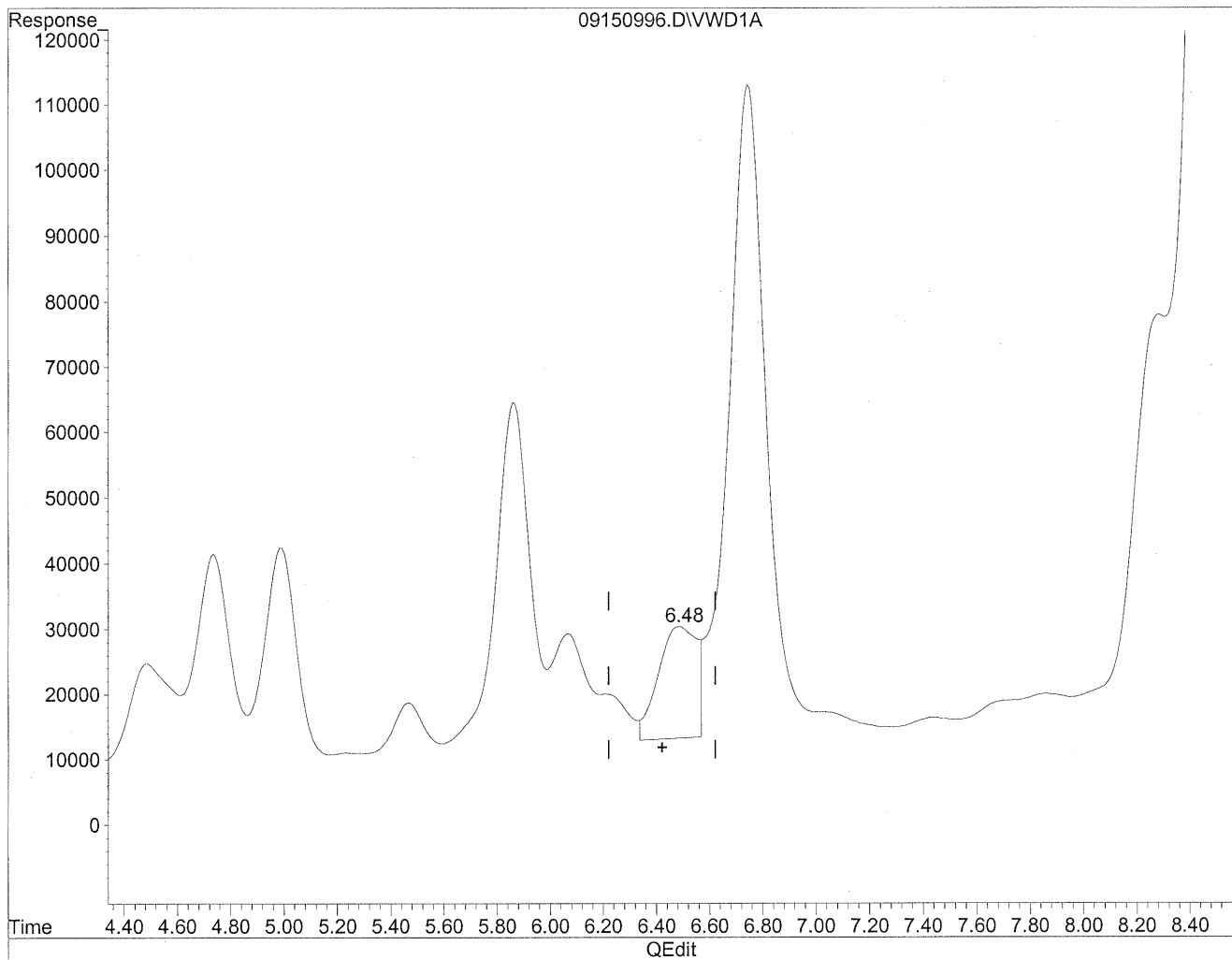
(6) Benzaldehyde
5.86min 1809.182ng/ml m
response 4936130

MD
9/21/09
BC
MC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150996.D Vial: 181
Acq On : 16-Sep-2009, 03:20 Operator: MD
Sample : P0903195-016 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:42 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

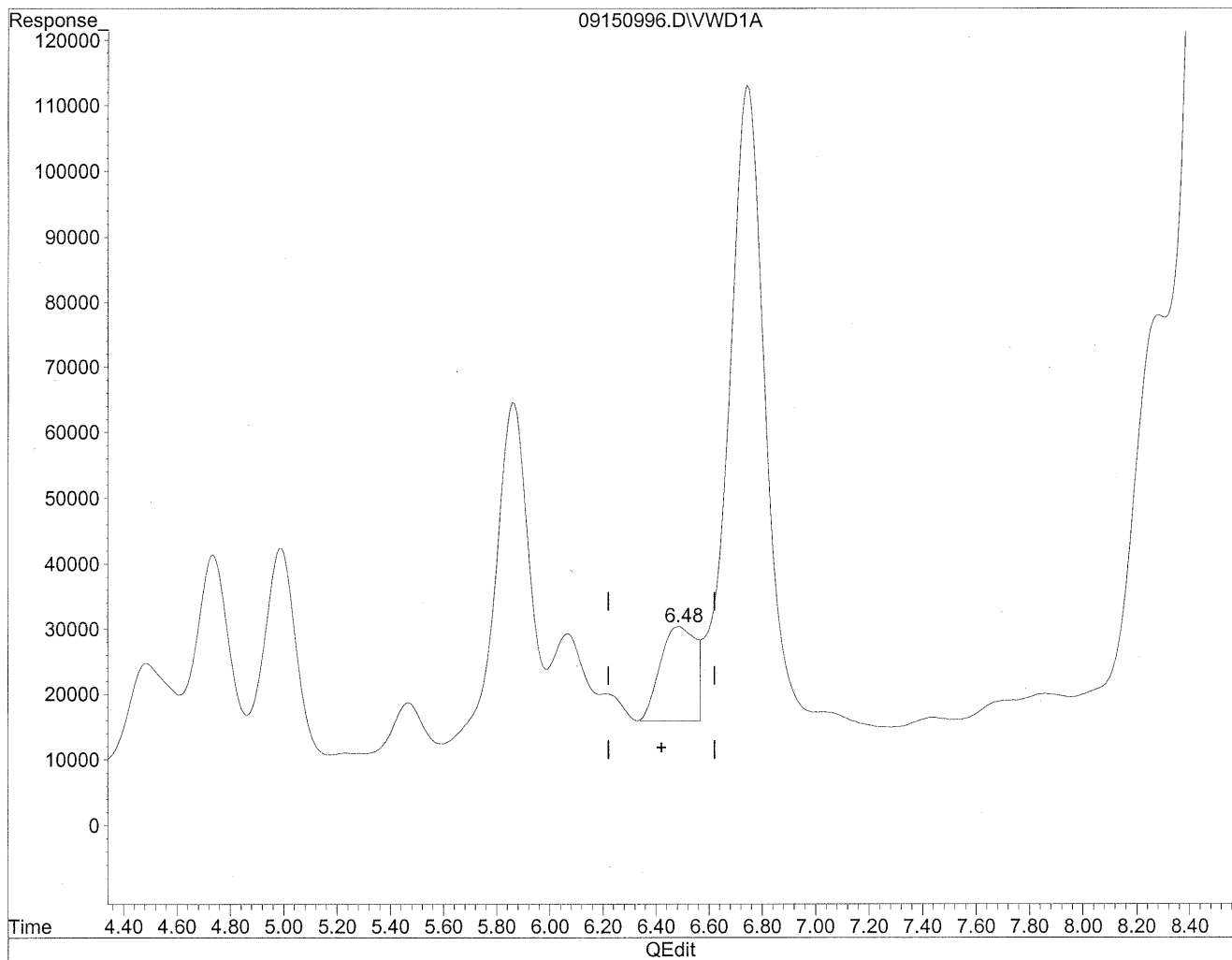


(7) Isovaleraldehyde
6.49min 495.669ng/ml
response 1705988

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150996.D Vial: 181
Acq On : 16-Sep-2009, 03:20 Operator: MD
Sample : P0903195-016 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:42 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



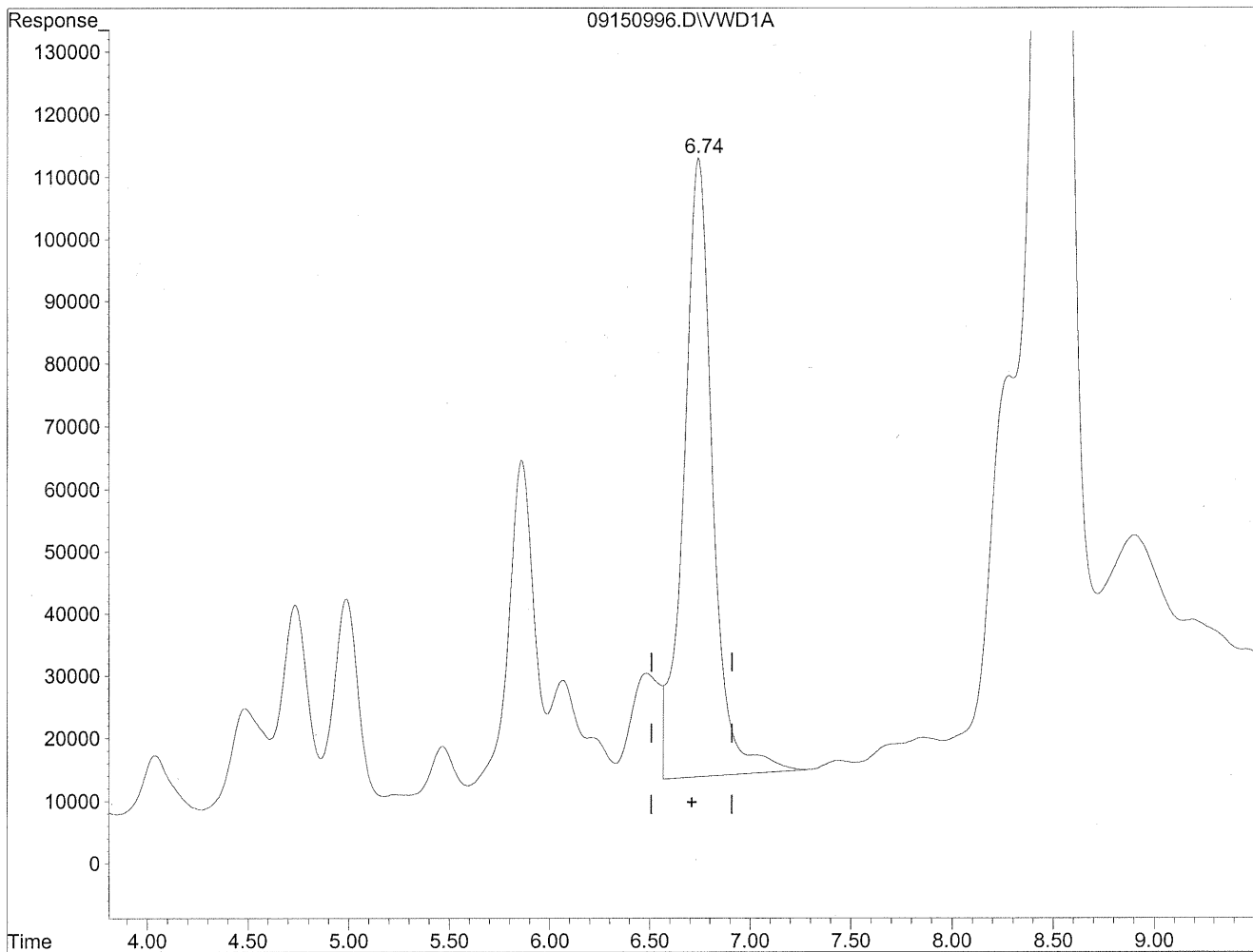
(7) Isovaleraldehyde
6.48min 404.558ng/ml m
response 1392404

MD
9/21/09
PC
MC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150996.D Vial: 181
Acq On : 16-Sep-2009, 03:20 Operator: MD
Sample : P0903195-016 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:42 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

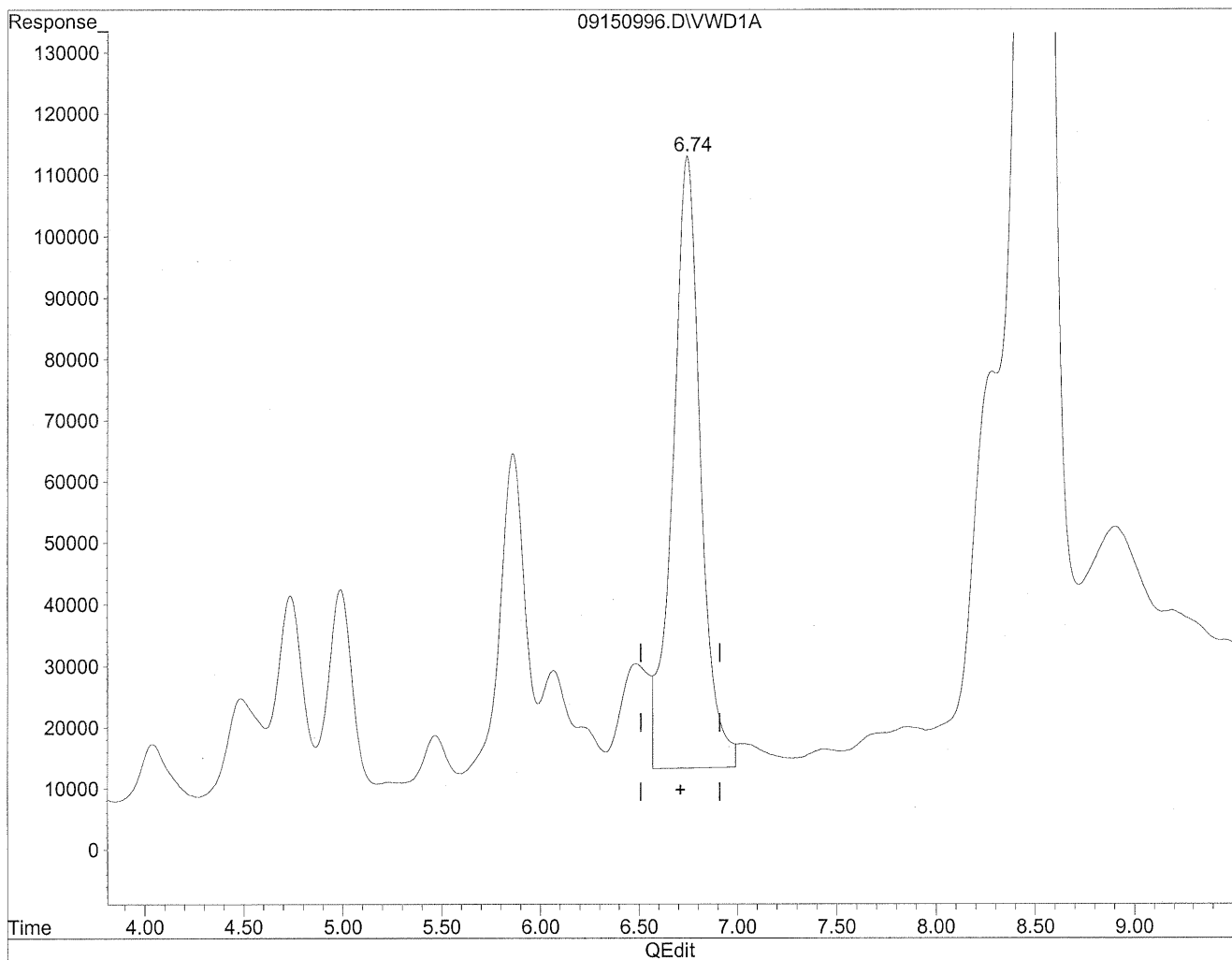


(8) Valeraldehyde
6.75min 2934.917ng/ml
response 9977658

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150996.D Vial: 181
Acq On : 16-Sep-2009, 03:20 Operator: MD
Sample : P0903195-016 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:42 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



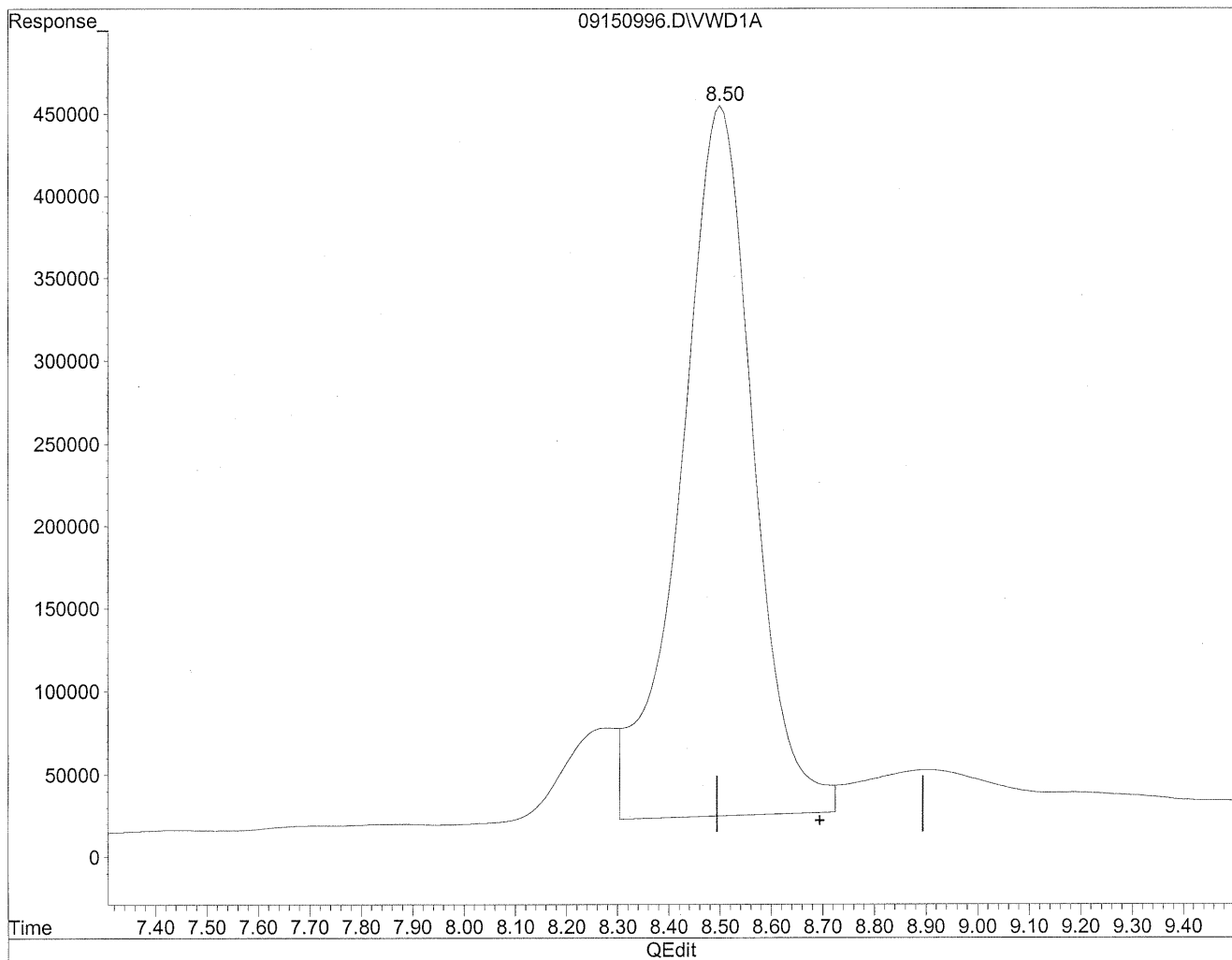
(8) Valeraldehyde
6.74min 2882.137ng/ml m
response 9798227

MD
9/21/09
SH
HE 9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150996.D Vial: 181
Acq On : 16-Sep-2009, 03:20 Operator: MD
Sample : P0903195-016 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:42 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

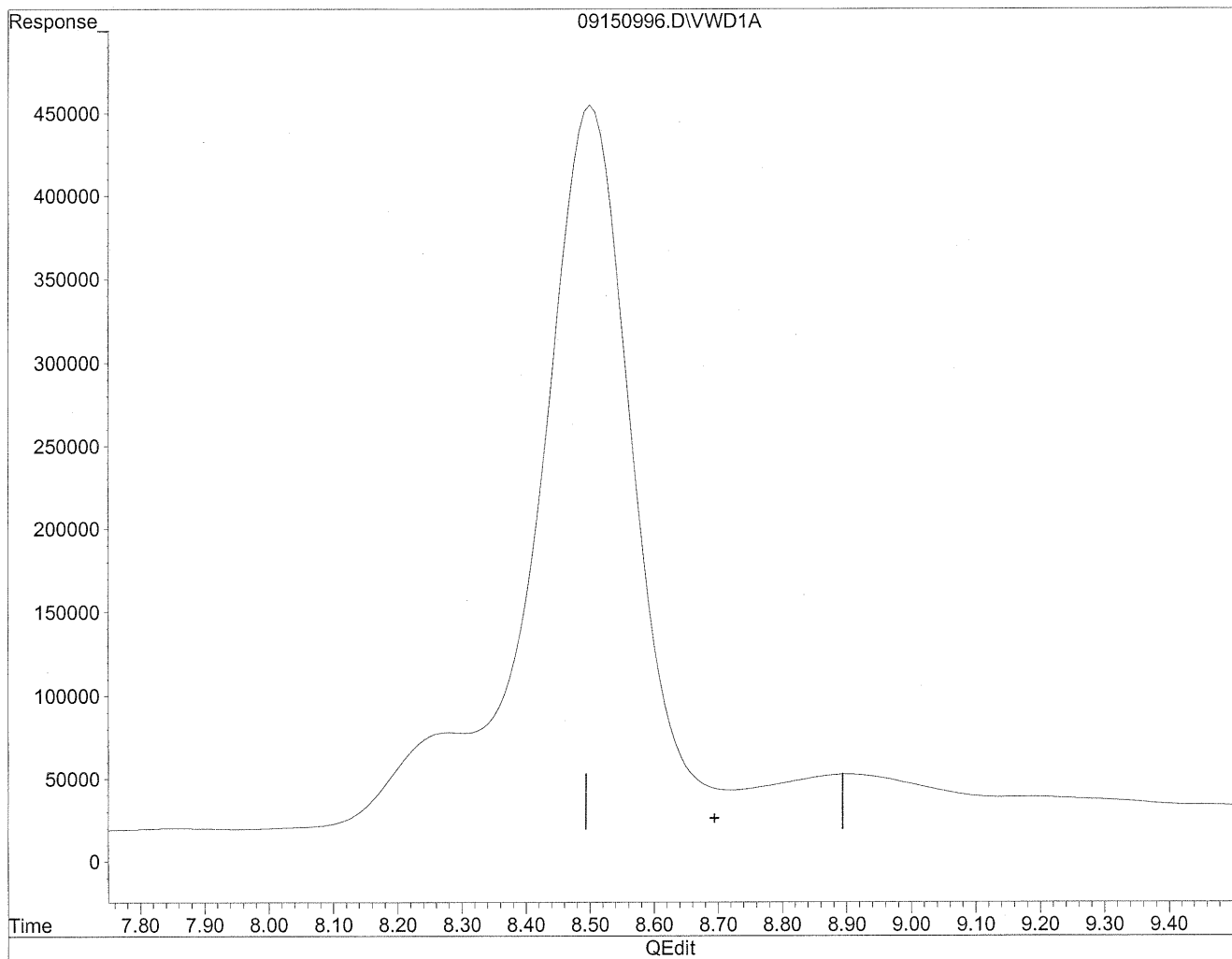


(12) 2,5-Dimethylbenzaldehyde
8.50min 21163.283ng/ml
response 42231159

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150996.D Vial: 181
Acq On : 16-Sep-2009, 03:20 Operator: MD
Sample : P0903195-016 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:42 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

0.00min 0.000ng/ml d

response 0

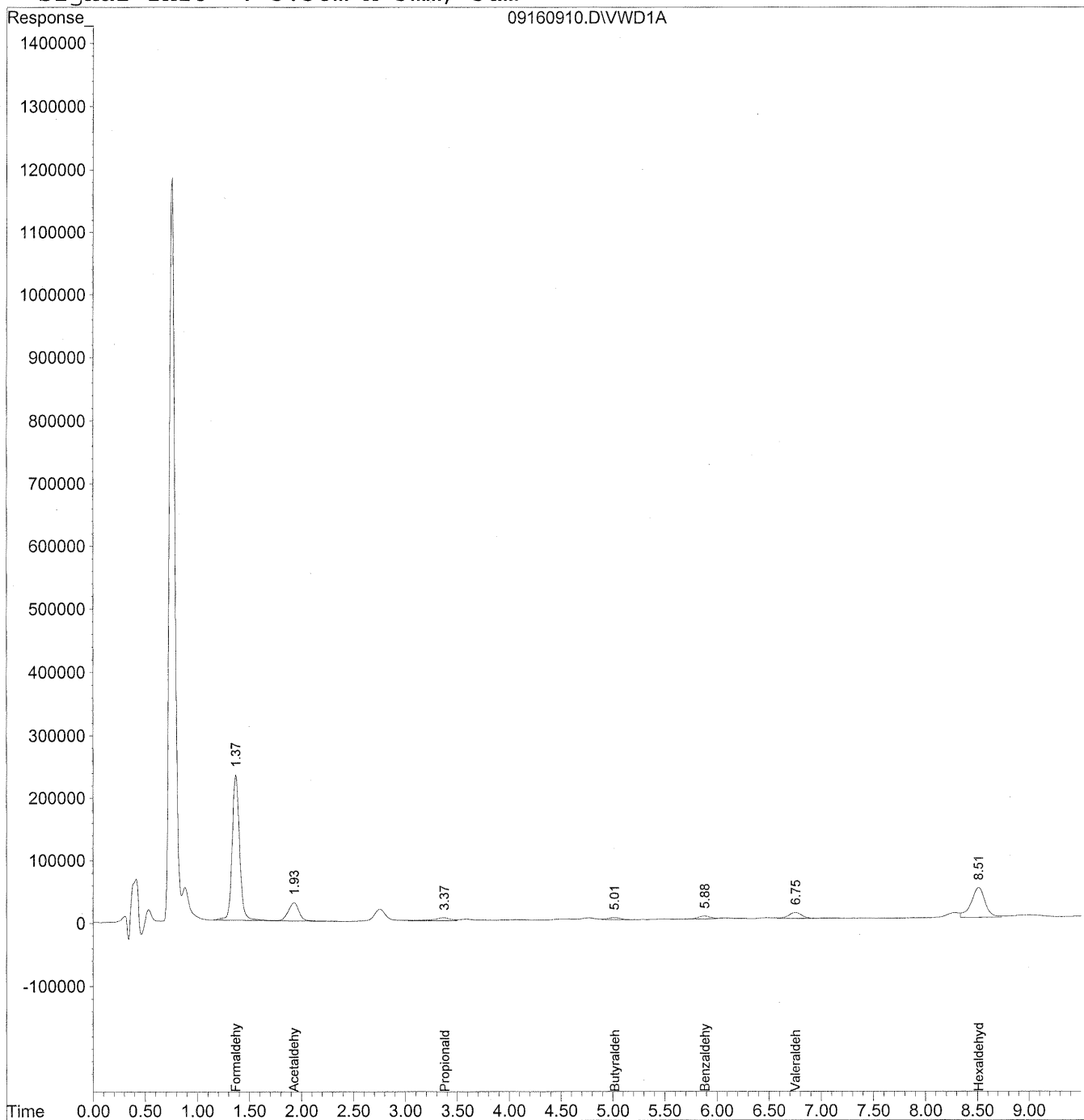
MP
9/21/09
MP
the
aldehyde

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160910.D Vial: 2
Acq On : 16-Sep-2009, 12:39 Operator: MD
Sample : P0903195-016 front 10x dil Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 12:17 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



304

Data File : J:\LC02\DATA\TO11A\2009-09-16\09160910.D Vial: 2
 Acq On : 16-Sep-2009, 12:39 Operator: MD
 Sample : P0903195-016 front, 10x dil Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 12:17 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

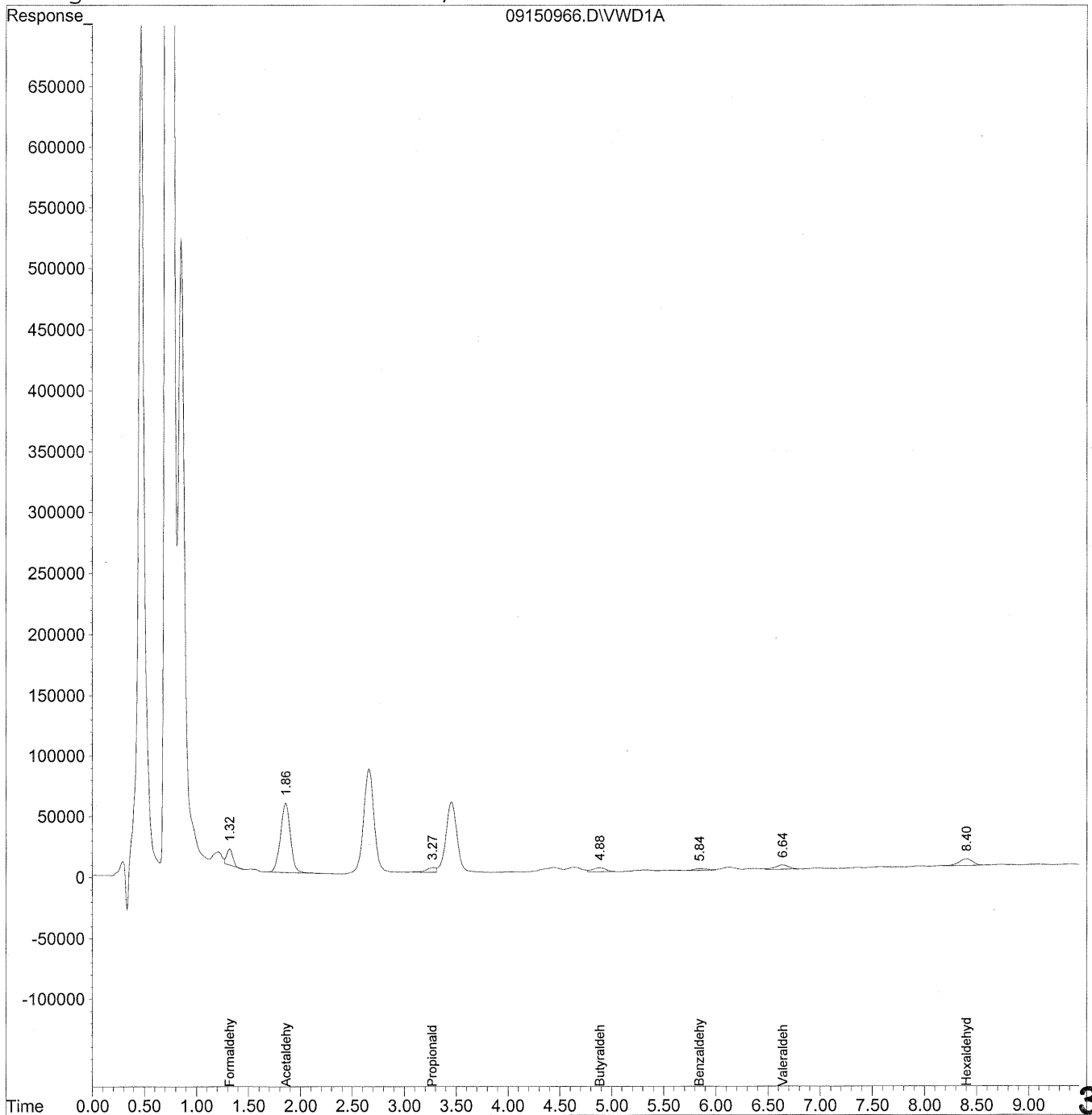
Target Compounds			
1) Formaldehyde	1.37	11531248	1290.508 ng/ml
2) Acetaldehyde	1.93	2113142	325.059 ng/ml
3) Propionaldehyde	3.37	536374	103.192 ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	5.02	276250	68.163 ng/ml
6) Benzaldehyde	5.88	396719	145.405 ng/ml
7) Isovaleraldehyde	0.00	0	N.D. ng/ml
8) Valeraldehyde	6.75	826782	243.197 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	8.51	4463848	1507.687 ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150966.D Vial: 155
Acq On : 15-Sep-2009, 21:20 Operator: MD
Sample : P0903195-016 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150966.D Vial: 155
 Acq On : 15-Sep-2009, 21:20 Operator: MD
 Sample : P0903195-016 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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

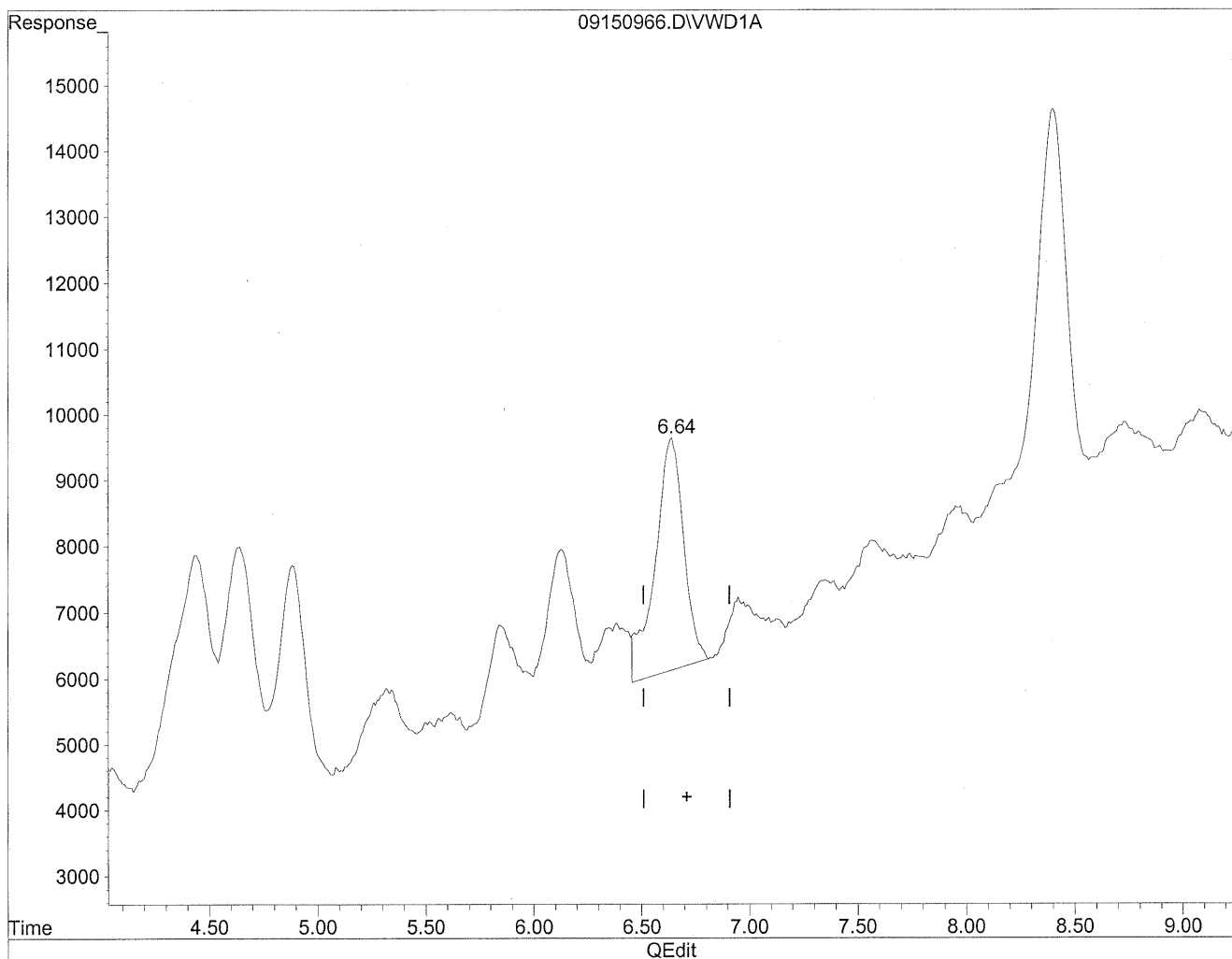
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.32	549161	61.459 ng/ml
2) Acetaldehyde	1.86	3805337	585.365 ng/ml
3) Propionaldehyde	3.27	231641	44.565 ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	4.89	279003	68.842 ng/ml
6) Benzaldehyde	5.85	139063	50.969 ng/ml
7) Isovaleraldehyde	0.00	0	N.D. ng/ml
8) Valeraldehyde	6.64	304203	89.481 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	8.40	505992	170.901 ng/mlm
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150966.D Vial: 155
Acq On : 15-Sep-2009, 21:20 Operator: MD
Sample : P0903195-016 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:20 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

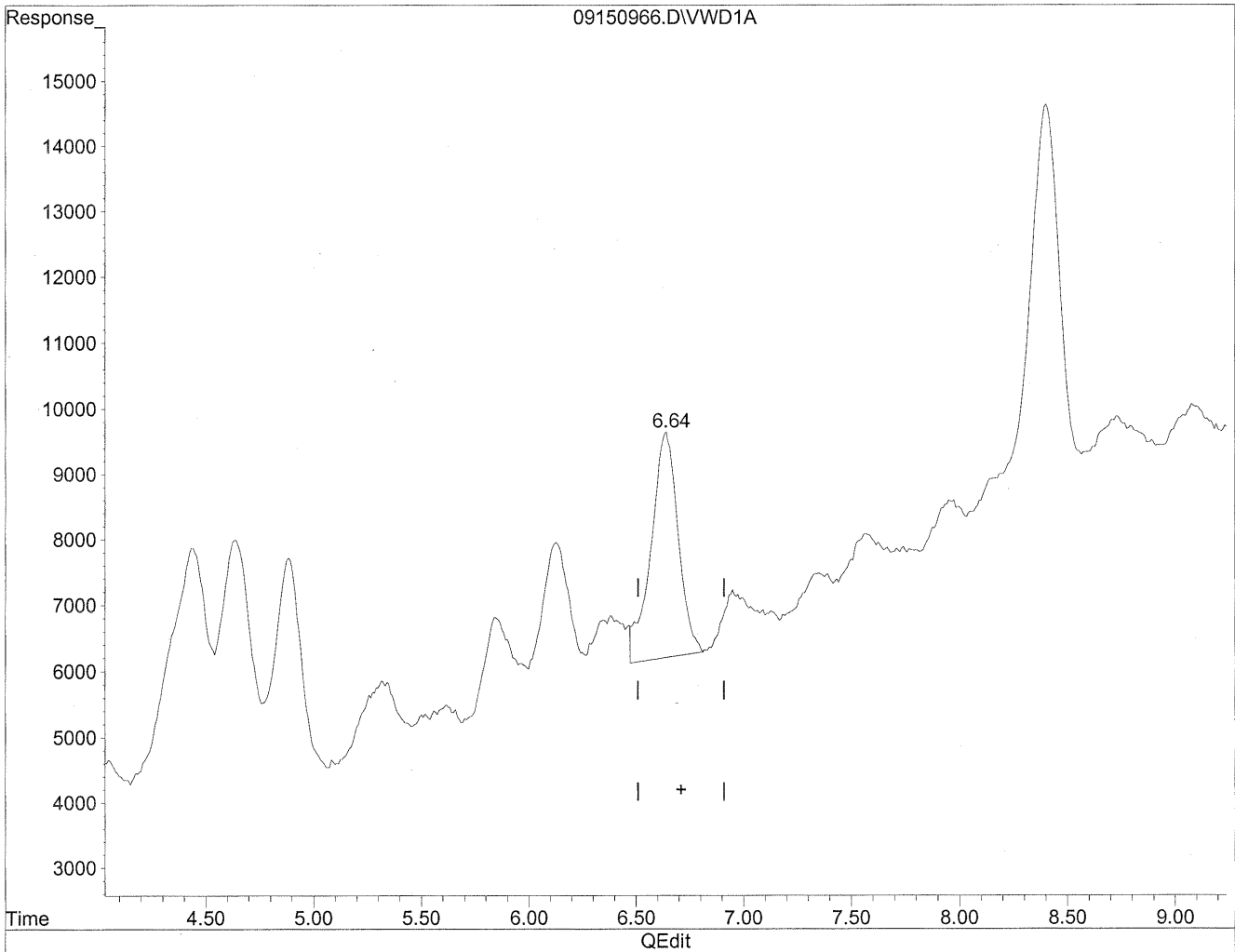


(8) Valeraldehyde
6.64min 96.310ng/ml
response 327419

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150966.D Vial: 155
Acq On : 15-Sep-2009, 21:20 Operator: MD
Sample : P0903195-016 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:20 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



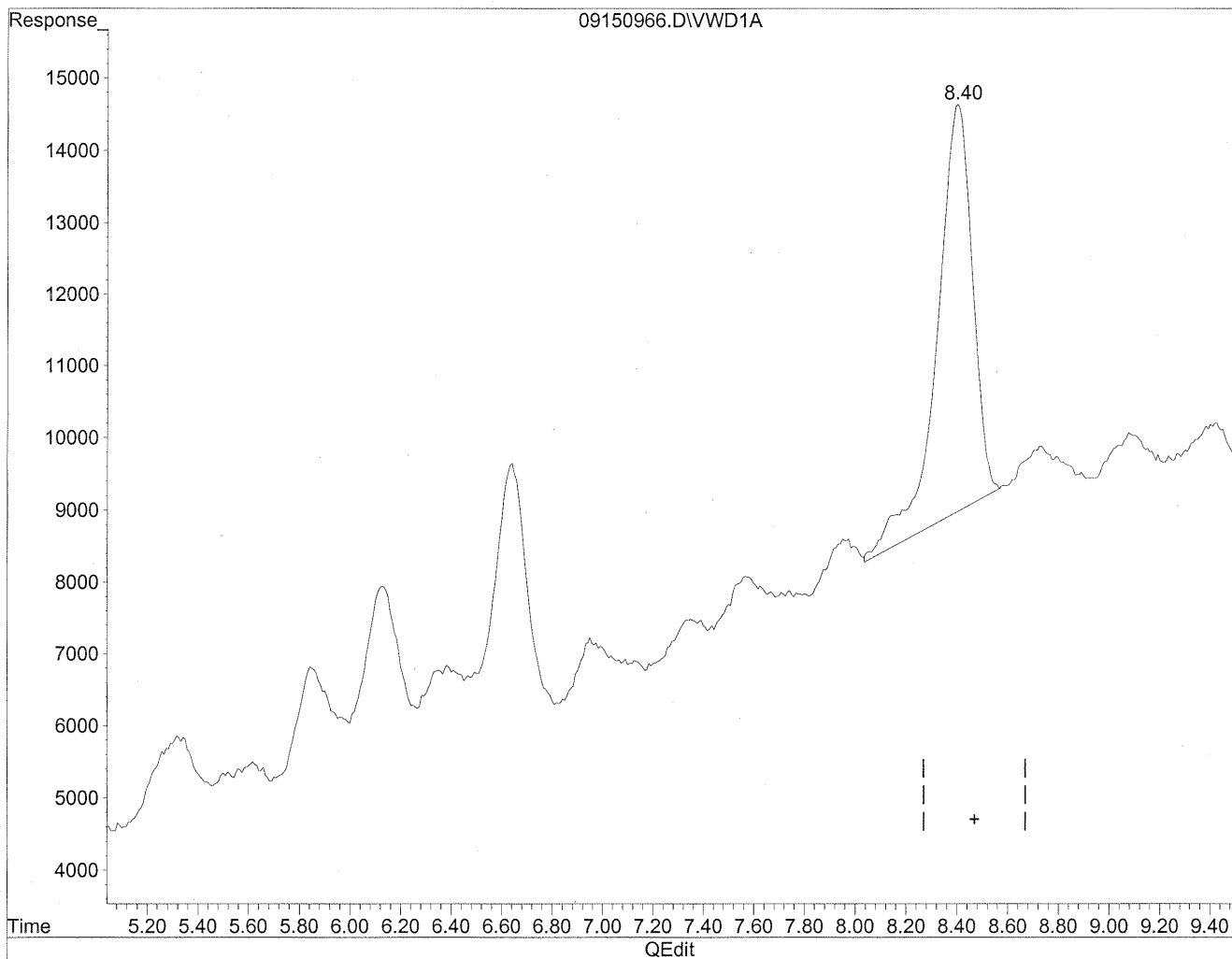
(8) Valeraldehyde
6.64min 89.481ng/ml m
response 304203

HIC
9/21/09
(M)
9/21/09
R

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150966.D Vial: 155
Acq On : 15-Sep-2009, 21:20 Operator: MD
Sample : P0903195-016 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:20 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

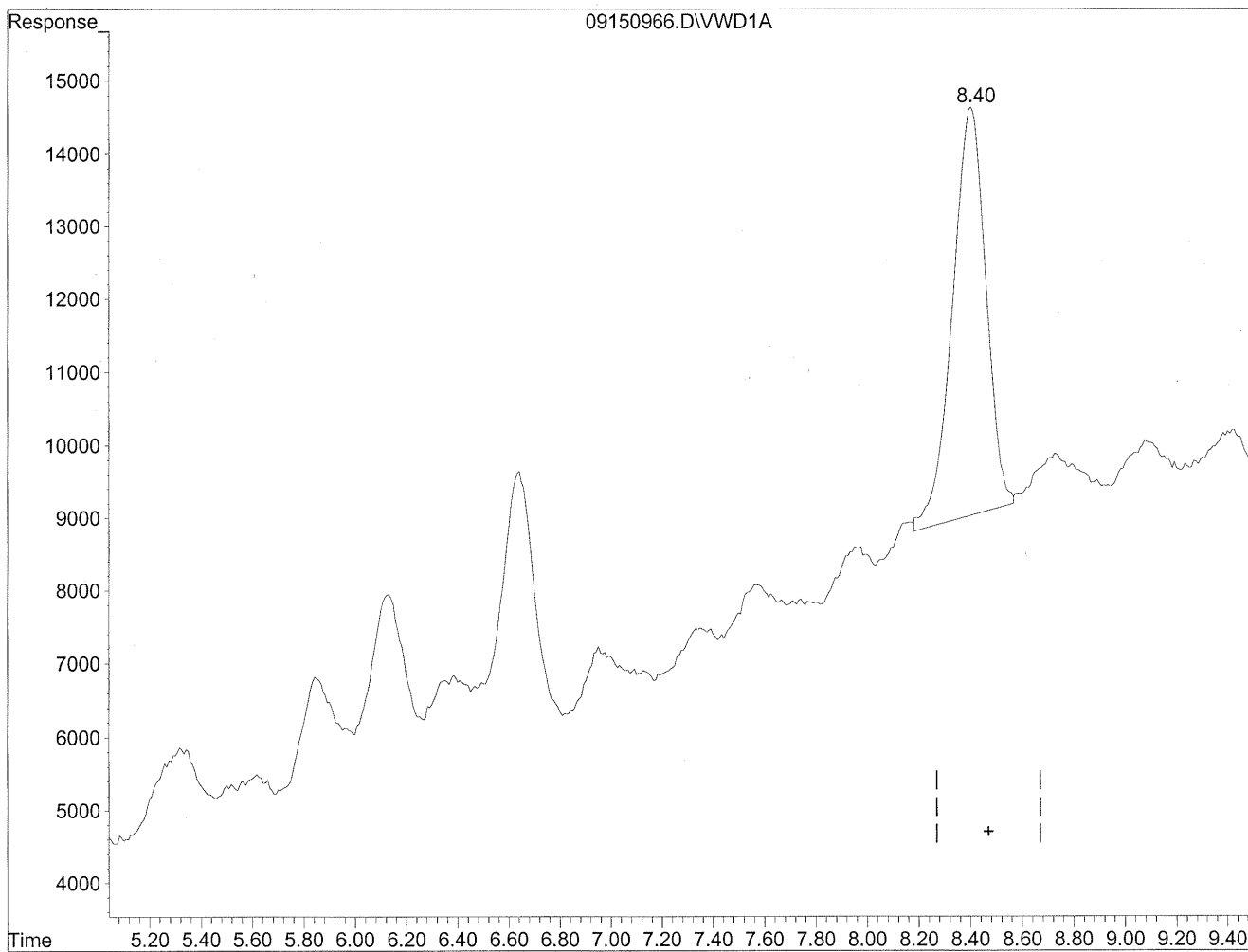


(11) Hexaldehyde
8.40min 184.162ng/ml
response 545252

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150966.D Vial: 155
Acq On : 15-Sep-2009, 21:20 Operator: MD
Sample : P0903195-016 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:20 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde
8.40min 170.901ng/ml m
response 505992

Handwritten notes:
HC
9/24/09
MD
9/24/09
sh

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.
Client Sample ID: 104812
Client Project ID: 16512

CAS Project ID: P0903195
 CAS Sample ID: P0903195-017

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

Date Collected: 9/1/09
Date Received: 9/10/09
Date Analyzed: 9/15 - 9/16/09
Desorption Volume: 1.0 ml
Volume Sampled: 101 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	280	2.8	0.99	2.3	0.81	
75-07-0	Acetaldehyde	130	1.3	0.99	0.70	0.55	
123-38-6	Propionaldehyde	< 100	ND	0.99	ND	0.42	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.99	ND	0.35	
123-72-8	Butyraldehyde	< 100	ND	0.99	ND	0.34	
100-52-7	Benzaldehyde	< 100	ND	0.99	ND	0.23	
590-86-3	Isovaleraldehyde	< 100	ND	0.99	ND	0.28	
110-62-3	Valeraldehyde	< 100	ND	0.99	ND	0.28	
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	< 100	ND	0.99	ND	0.24	
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.

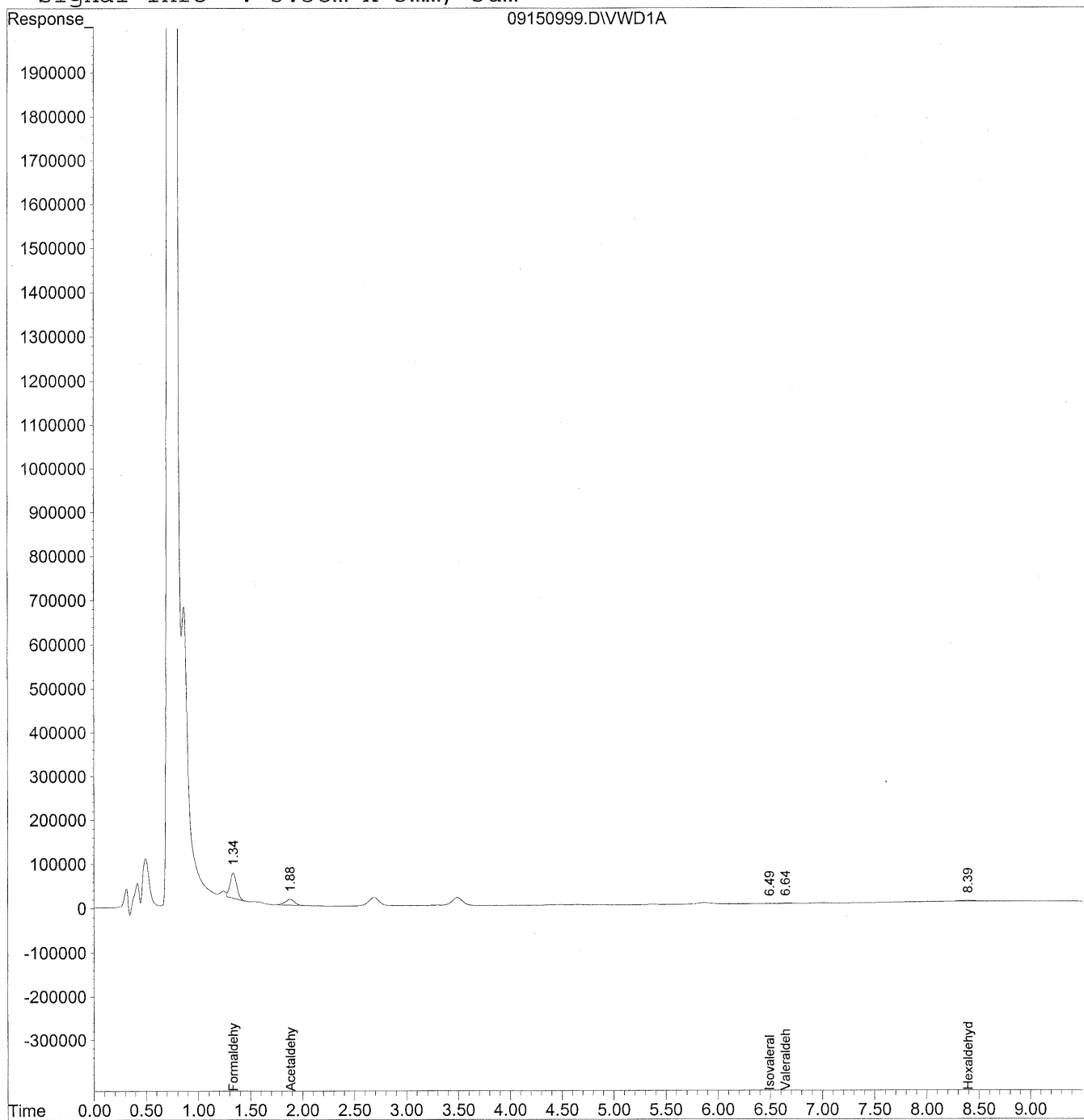
Verified By: fo Date: 9/16/09 **312**

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150999.D Vial: 182
Acq On : 16-Sep-2009, 03:55 Operator: MD
Sample : P0903195-017 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:46 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 17 16:12:59 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



313

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150999.D Vial: 182
 Acq On : 16-Sep-2009, 03:55 Operator: MD
 Sample : P0903195-017 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:46 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 17 16:12:59 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

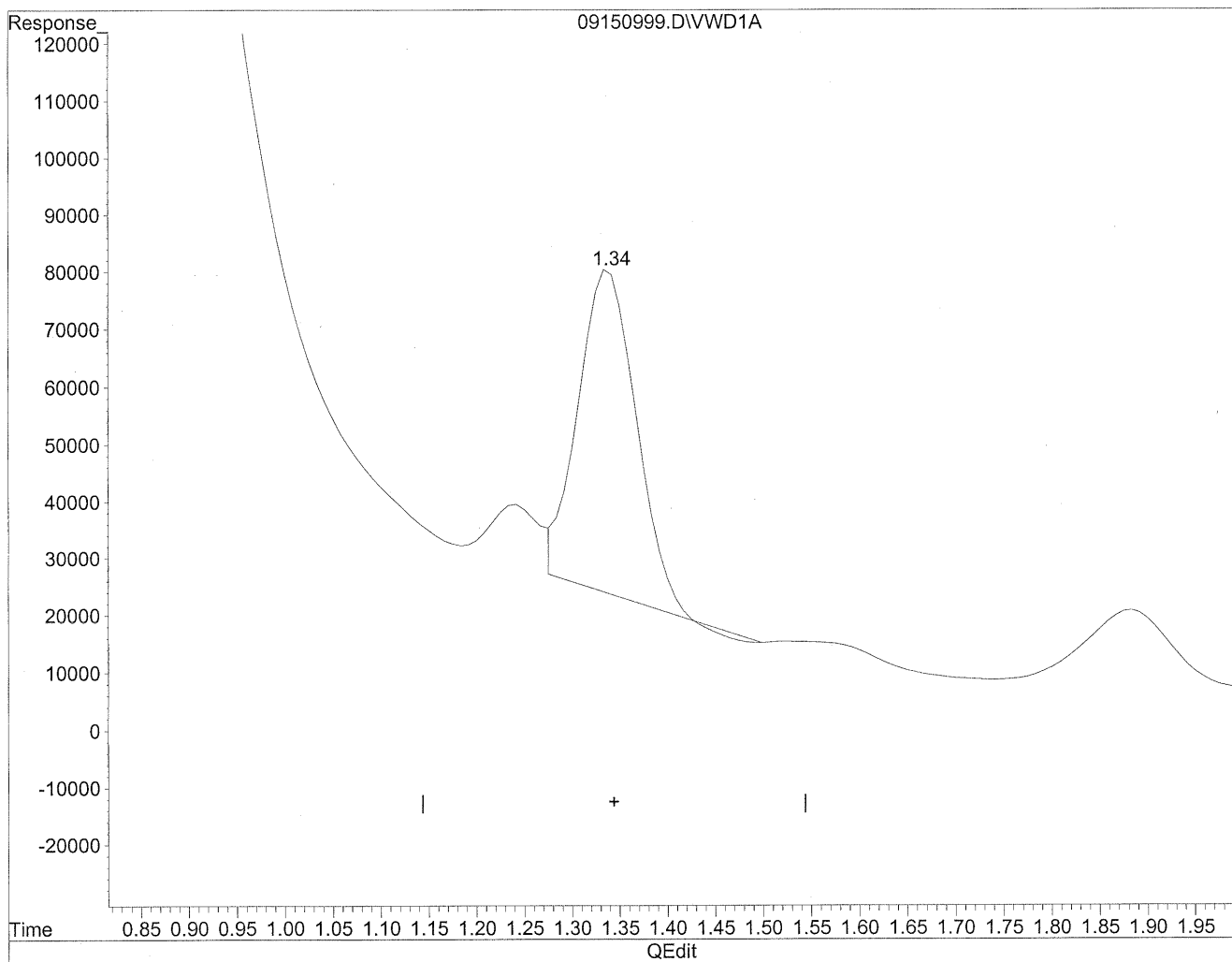
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.34	2514957	281.459 ng/mlm
2) Acetaldehyde	1.88	822466	126.518 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/ml
7) Isovaleraldehyde	6.50	6956	2.021 ng/ml
8) Valeraldehyde	6.64	14884	4.378 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	8.39	163241	55.136 ng/mlm
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150999.D Vial: 182
Acq On : 16-Sep-2009, 03:55 Operator: MD
Sample : P0903195-017 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:45 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

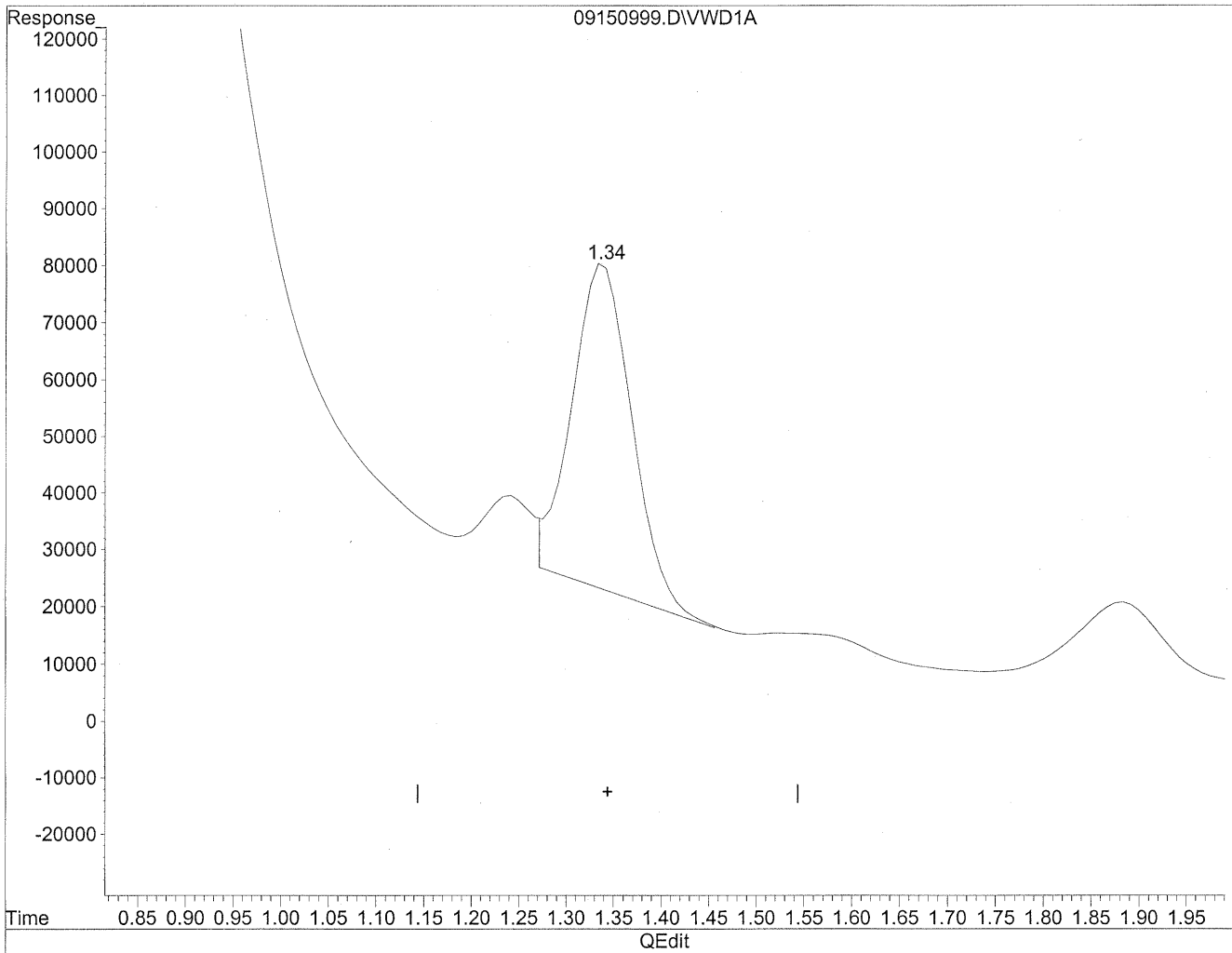


(1) Formaldehyde
1.34min 271.528ng/ml
response 2426217

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150999.D Vial: 182
Acq On : 16-Sep-2009, 03:55 Operator: MD
Sample : P0903195-017 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:45 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(1) Formaldehyde
1.34min 281.459ng/ml m
response 2514957

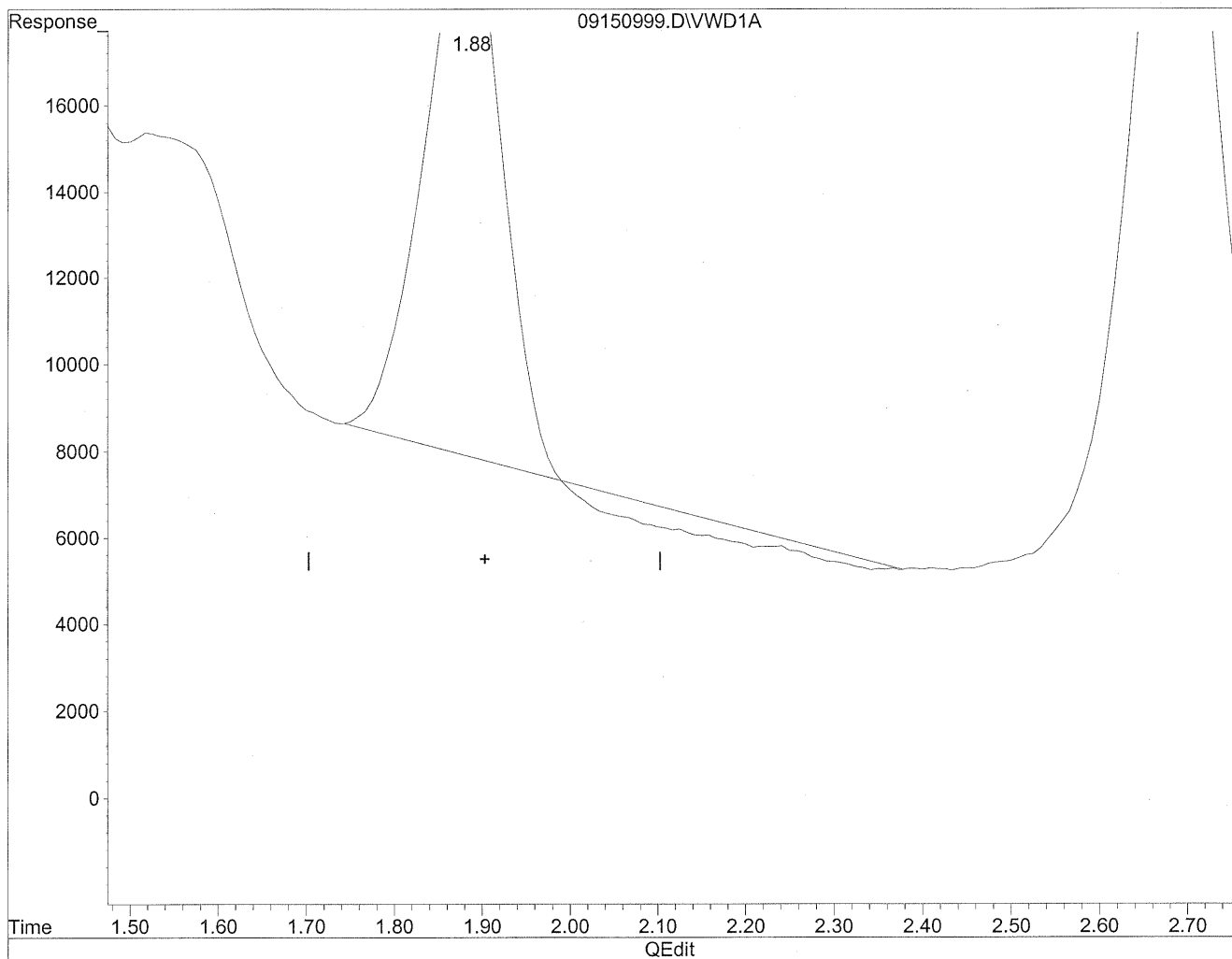
mm
9/21/09
TC

HL
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150999.D Vial: 182
Acq On : 16-Sep-2009, 03:55 Operator: MD
Sample : P0903195-017 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:45 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

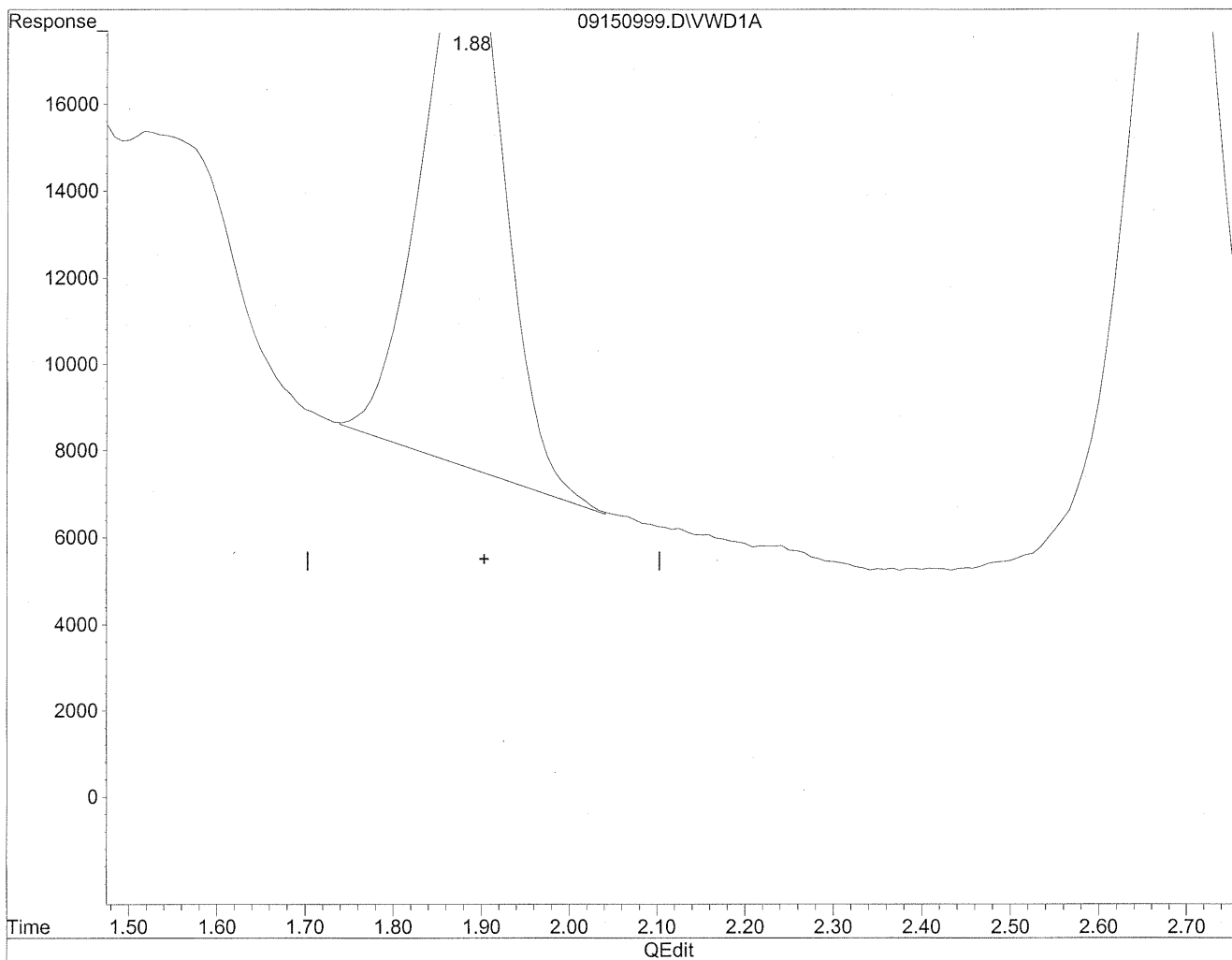


(2) Acetaldehyde
1.88min 109.692ng/ml
response 713086

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150999.D Vial: 182
Acq On : 16-Sep-2009, 03:55 Operator: MD
Sample : P0903195-017 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:45 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(2) Acetaldehyde
1.88min 126.518ng/ml m
response 822466

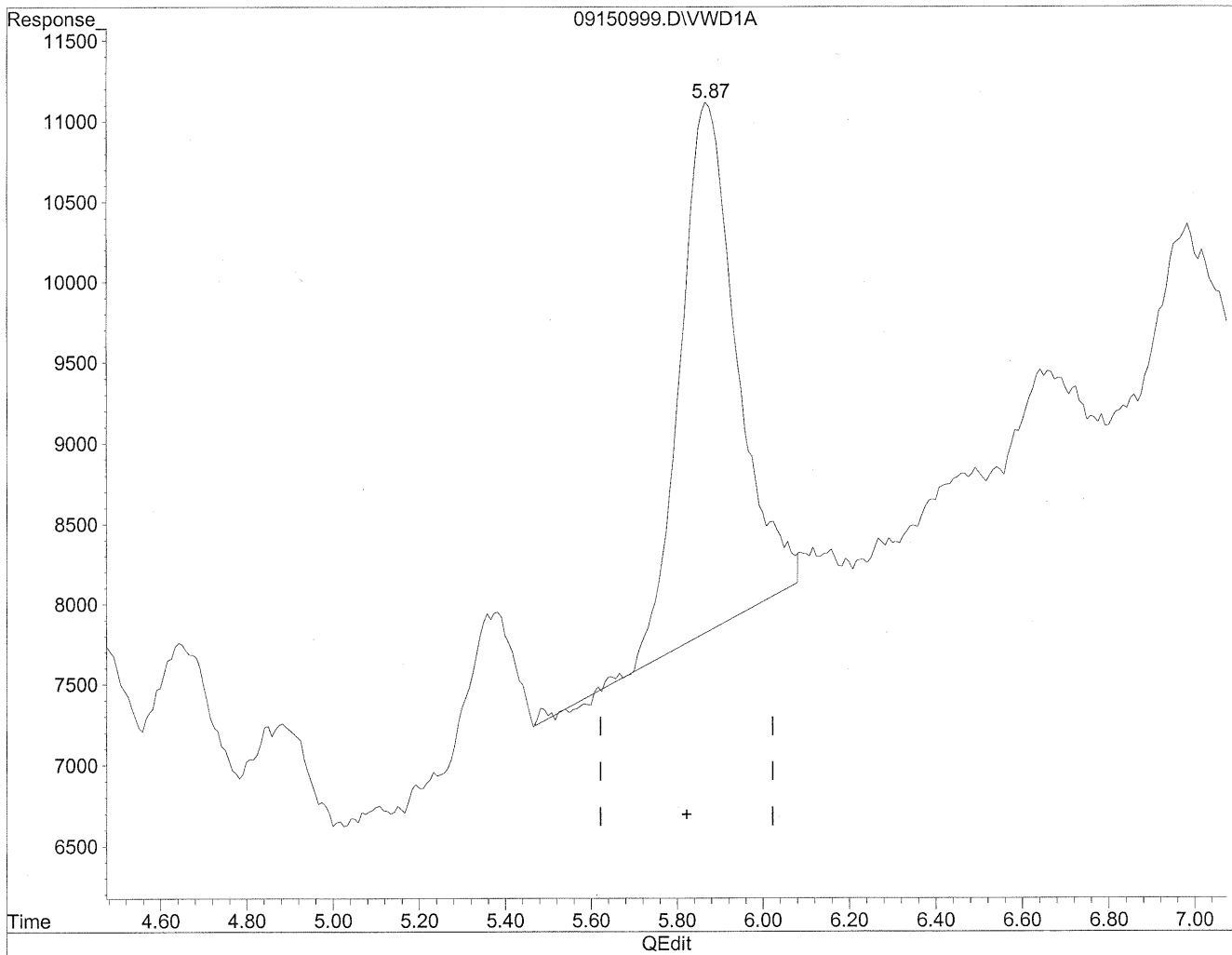
M
9/21/09
TC

HC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150999.D Vial: 182
Acq On : 16-Sep-2009, 03:55 Operator: MD
Sample : P0903195-017 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:45 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

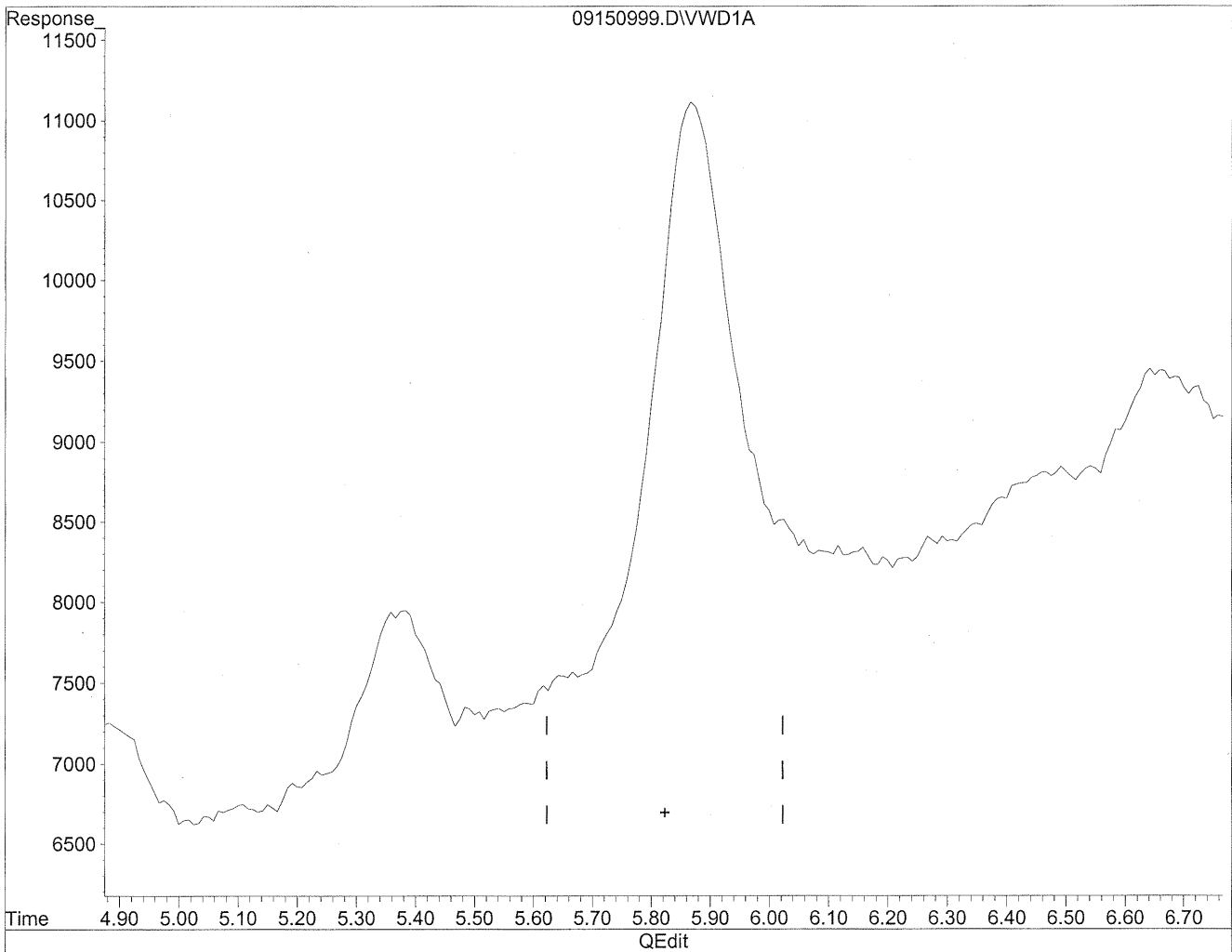


(6) Benzaldehyde
5.87min 109.982ng/ml
response 300072

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150999.D Vial: 182
Acq On : 16-Sep-2009, 03:55 Operator: MD
Sample : P0903195-017 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:45 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(6) Benzaldehyde
0.00min 0.000ng/ml d
response 0

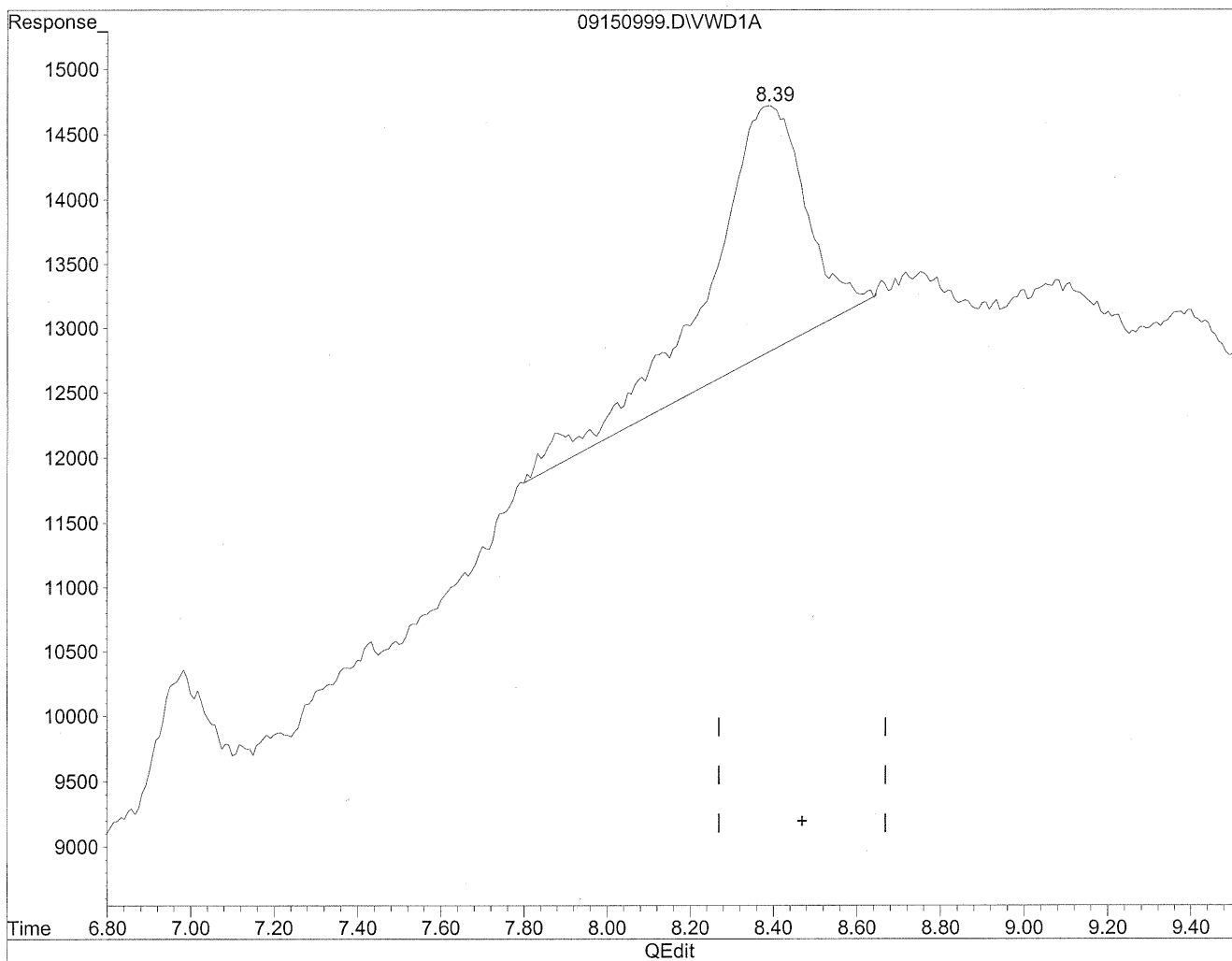
mw
9/21/09
mp

HL
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150999.D Vial: 182
Acq On : 16-Sep-2009, 03:55 Operator: MD
Sample : P0903195-017 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:45 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

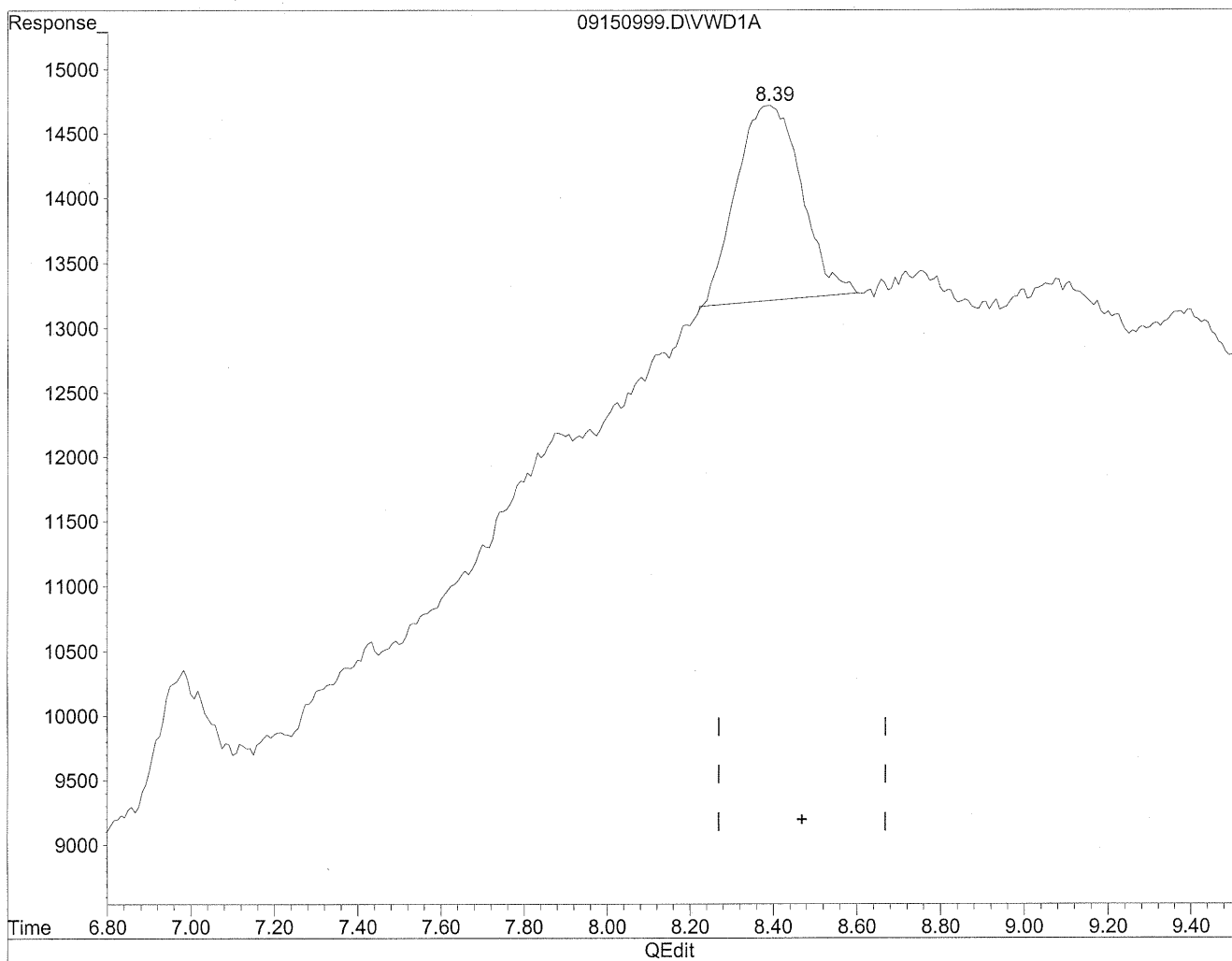


(11) Hexaldehyde
8.39min 104.588ng/ml
response 309655

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150999.D Vial: 182
Acq On : 16-Sep-2009, 03:55 Operator: MD
Sample : P0903195-017 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:45 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.39min 55.136ng/ml m

response 163241

MD
aldehyde
ic

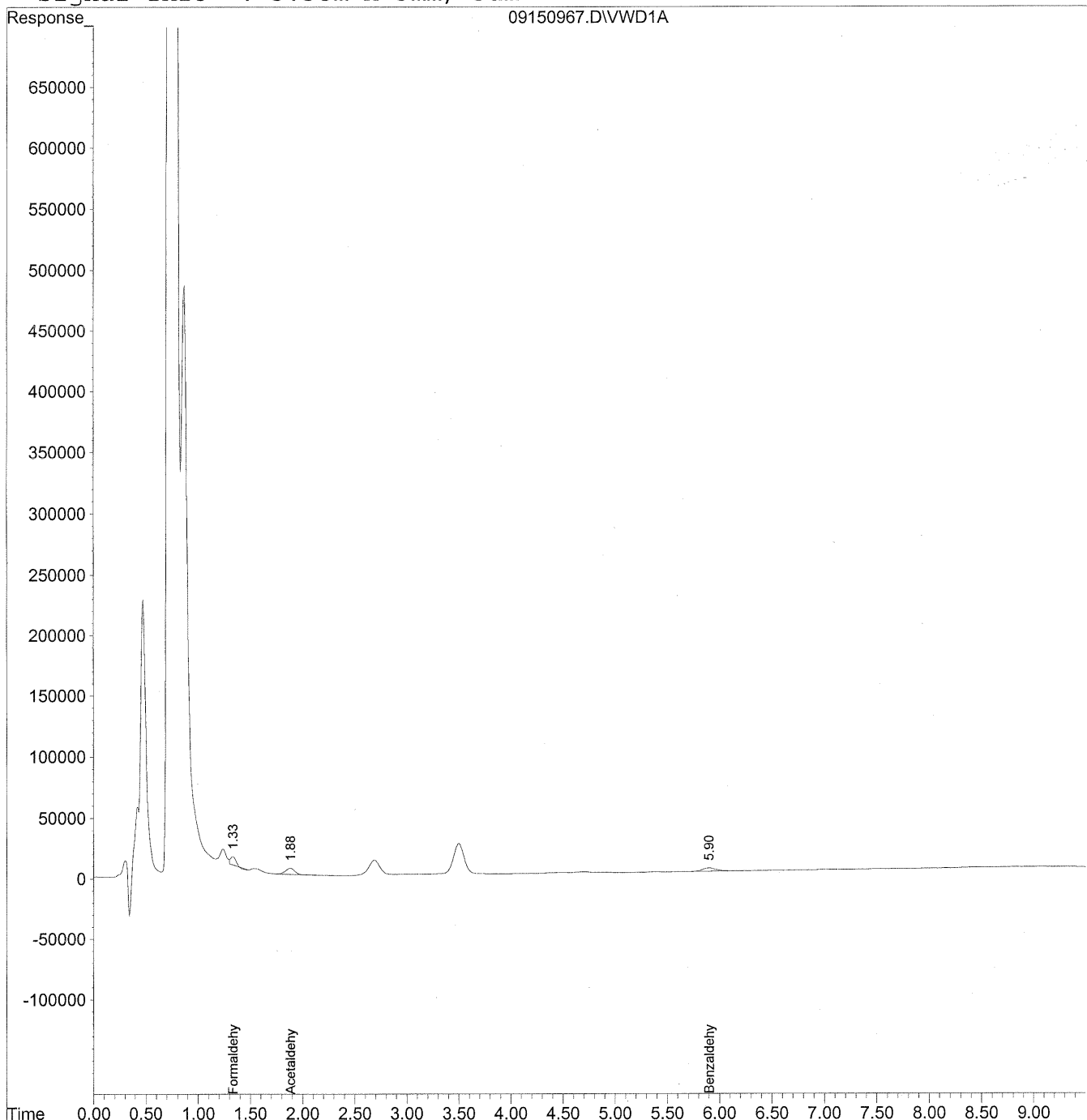
MD
aldehyde

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150967.D Vial: 156
Acq On : 15-Sep-2009, 21:32 Operator: MD
Sample : P0903195-017 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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



323

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150967.D Vial: 156
 Acq On : 15-Sep-2009, 21:32 Operator: MD
 Sample : P0903195-017 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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	236598	26.479 ng/ml
2) Acetaldehyde	1.88	302977	46.606 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	5.90	262232	96.113 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	0.00	0	N.D. ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.
Client Sample ID: 104813
Client Project ID: 16512

CAS Project ID: P0903195
 CAS Sample ID: P0903195-018

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

Date Collected: 9/1/09
Date Received: 9/10/09
Date Analyzed: 9/15 - 9/16/09
Desorption Volume: 1.0 ml
Volume Sampled: NA Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	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: *RG*

Date: 9/24/09

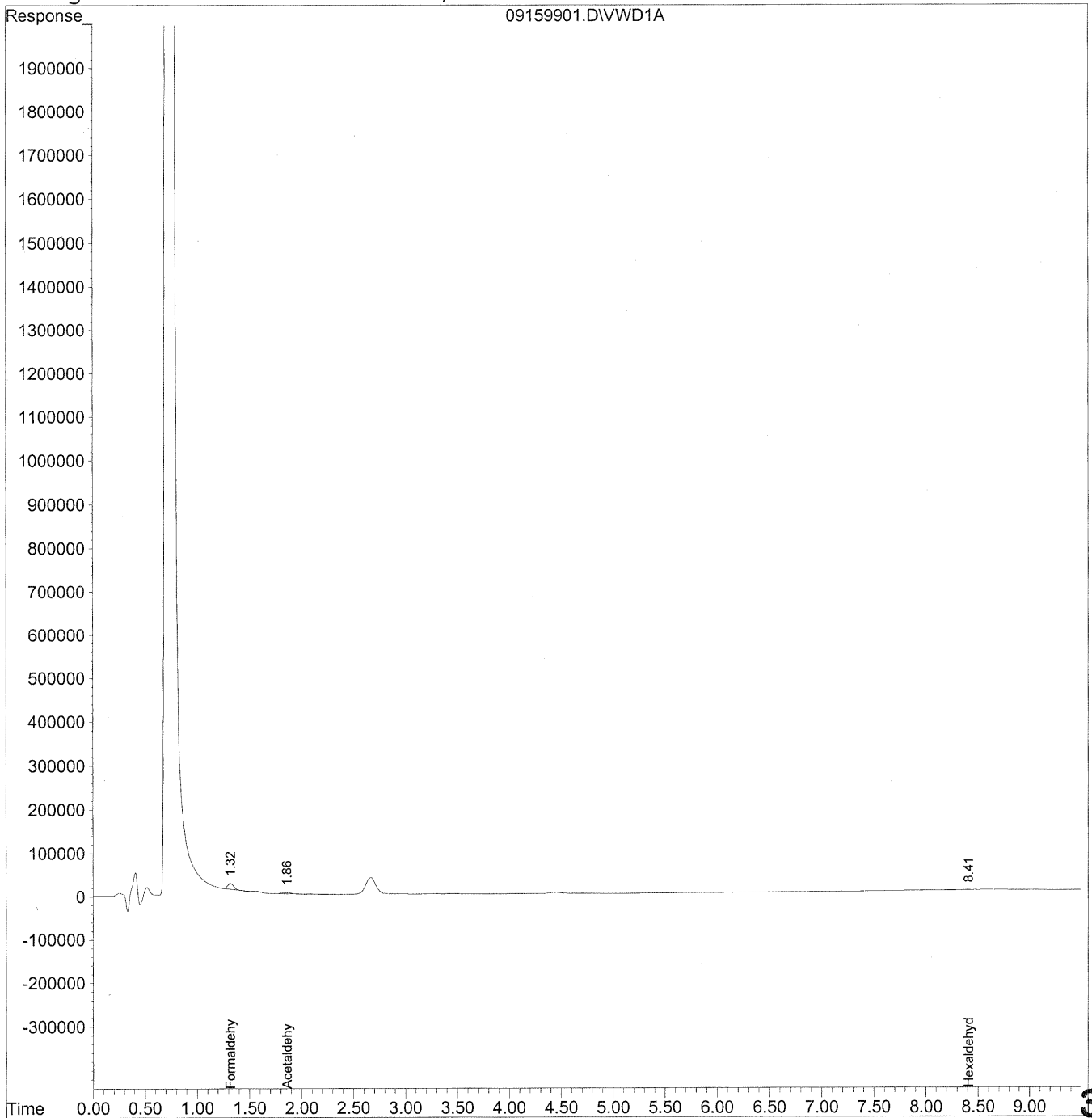
325

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159901.D Vial: 183
Acq On : 16-Sep-2009, 04:07 Operator: MD
Sample : P0903195-018 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:46 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09159901.D Vial: 183
 Acq On : 16-Sep-2009, 04:07 Operator: MD
 Sample : P0903195-018 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:46 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 17 16:12:59 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

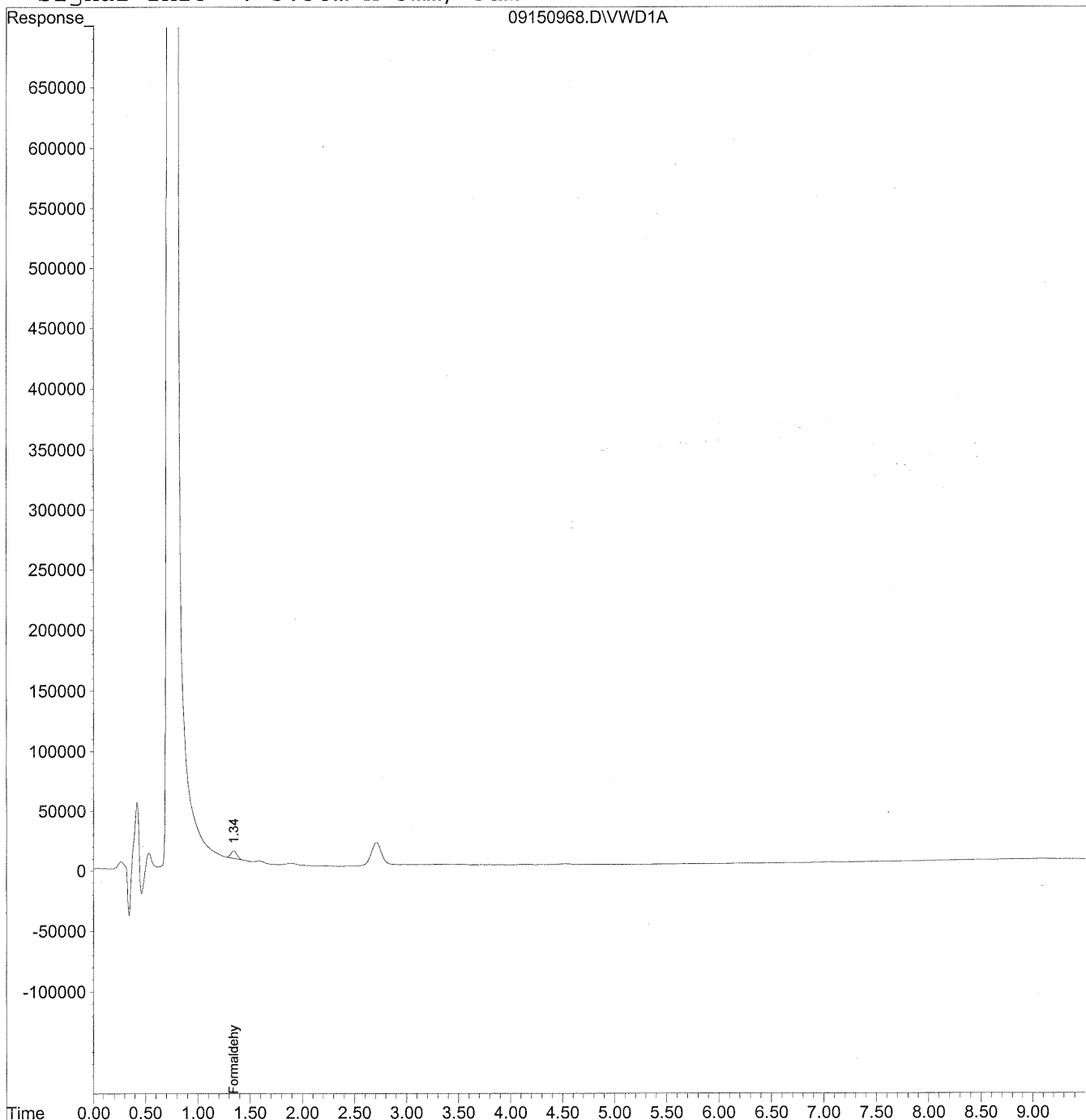
Target Compounds			
1) Formaldehyde	1.32	518975	58.081 ng/ml
2) Acetaldehyde	1.86	122572	18.855 ng/ml
3) Propionaldehyde	0.00	0	N.D. ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	0.00	0	N.D. ng/ml
6) Benzaldehyde	0.00	0	N.D. ng/ml
7) Isovaleraldehyde	0.00	0	N.D. ng/ml
8) Valeraldehyde	0.00	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	8.41	41468	14.006 ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150968.D Vial: 157
Acq On : 15-Sep-2009, 21:44 Operator: MD
Sample : P0903195-018 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:22 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 17 16:12:59 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



328

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150968.D Vial: 157
 Acq On : 15-Sep-2009, 21:44 Operator: MD
 Sample : P0903195-018 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 16:22 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 17 16:12:59 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	257059	28.769 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	0.00	0	N.D. ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.
Client Sample ID: 104737
Client Project ID: 16512

CAS Project ID: P0903195
 CAS Sample ID: P0903195-019

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

Date Collected: 8/31/09
Date Received: 9/10/09
Date Analyzed: 9/15 - 9/16/09
Desorption Volume: 1.0 ml
Volume Sampled: NA Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	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.

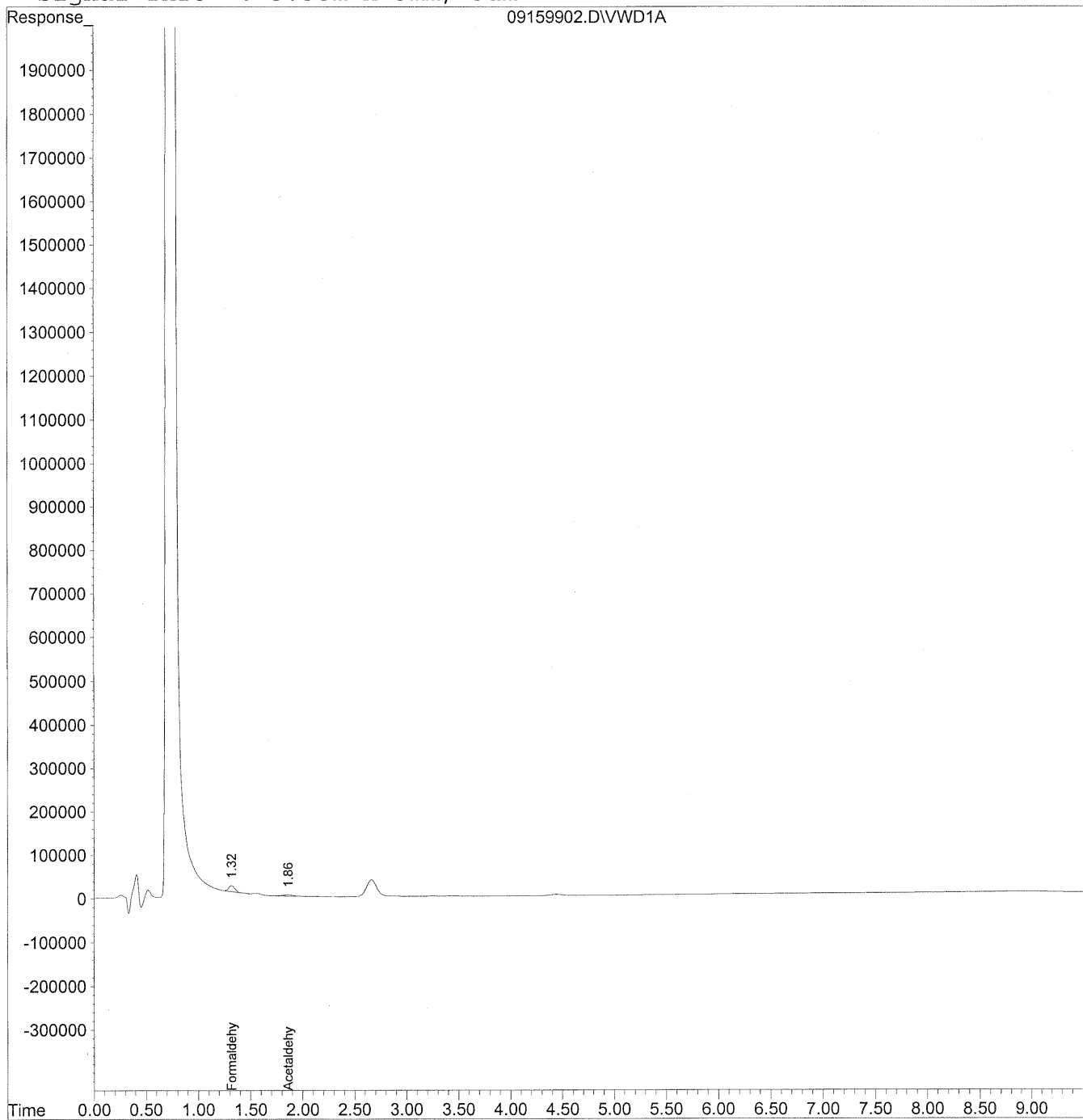
Verified By: *Re* Date: 9/24/09 **330**

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159902.D Vial: 184
Acq On : 16-Sep-2009, 04:20 Operator: MD
Sample : P0903195-019 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:47 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 17 16:12:59 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



331

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159902.D Vial: 184
 Acq On : 16-Sep-2009, 04:20 Operator: MD
 Sample : P0903195-019 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:47 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 17 16:12:59 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

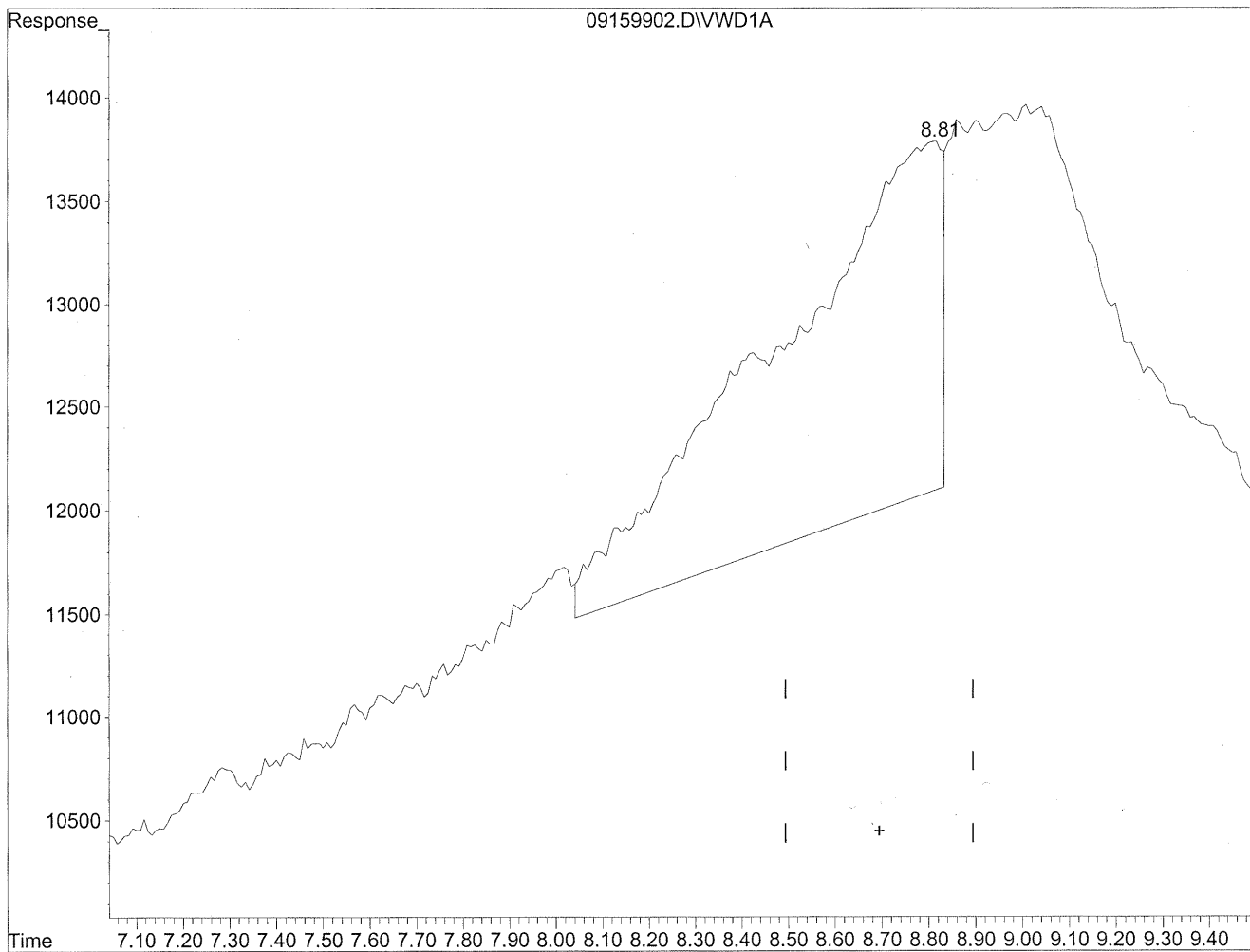
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.32	535394	59.918 ng/ml
2) Acetaldehyde	1.86	179248	27.573 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	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\15\09159902.D Vial: 184
Acq On : 16-Sep-2009, 04:20 Operator: MD
Sample : P0903195-019 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:46 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

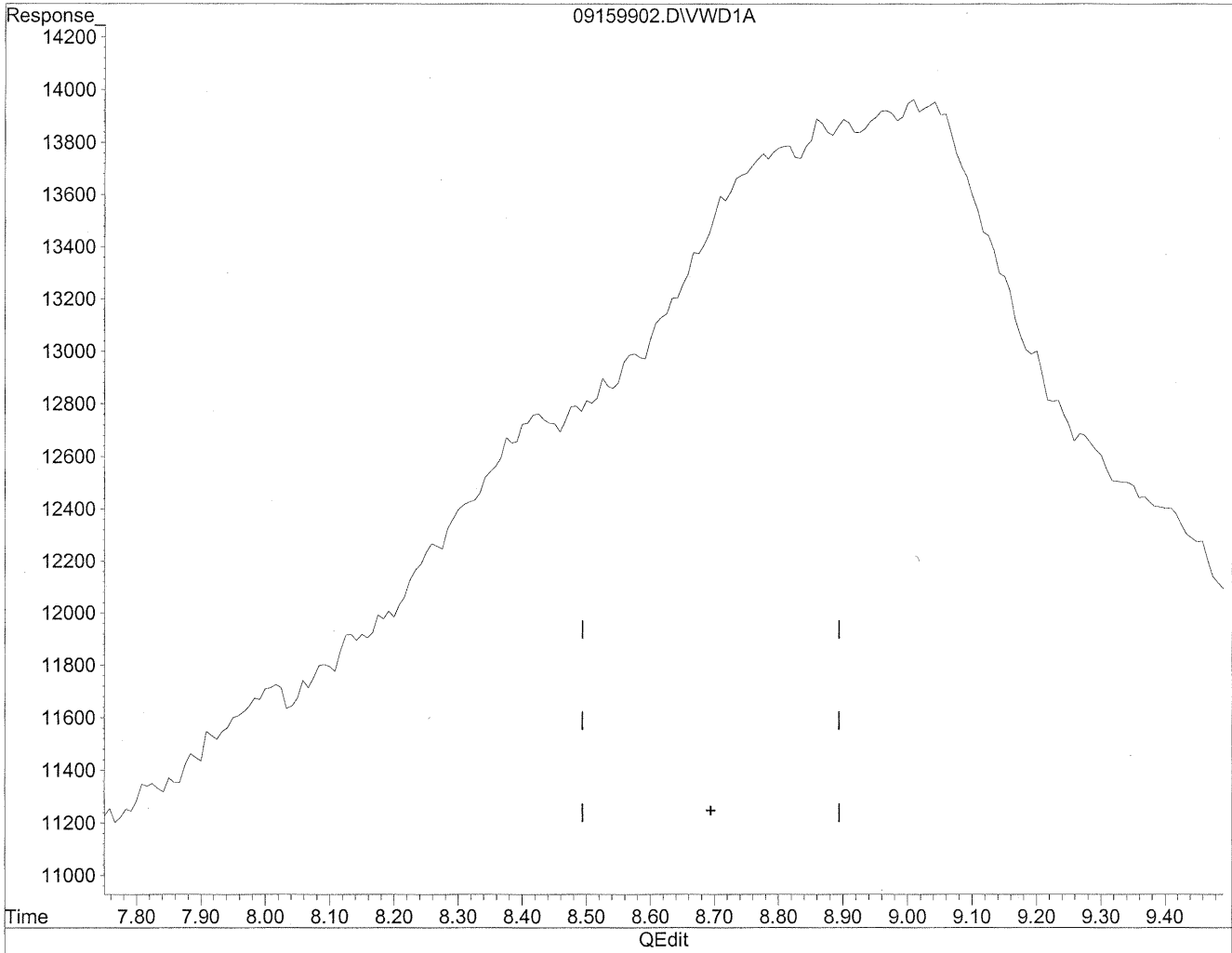
8.81min 218.222ng/ml

response 435461

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159902.D Vial: 184
Acq On : 16-Sep-2009, 04:20 Operator: MD
Sample : P0903195-019 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:46 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

0.00min 0.000ng/ml d

response 0

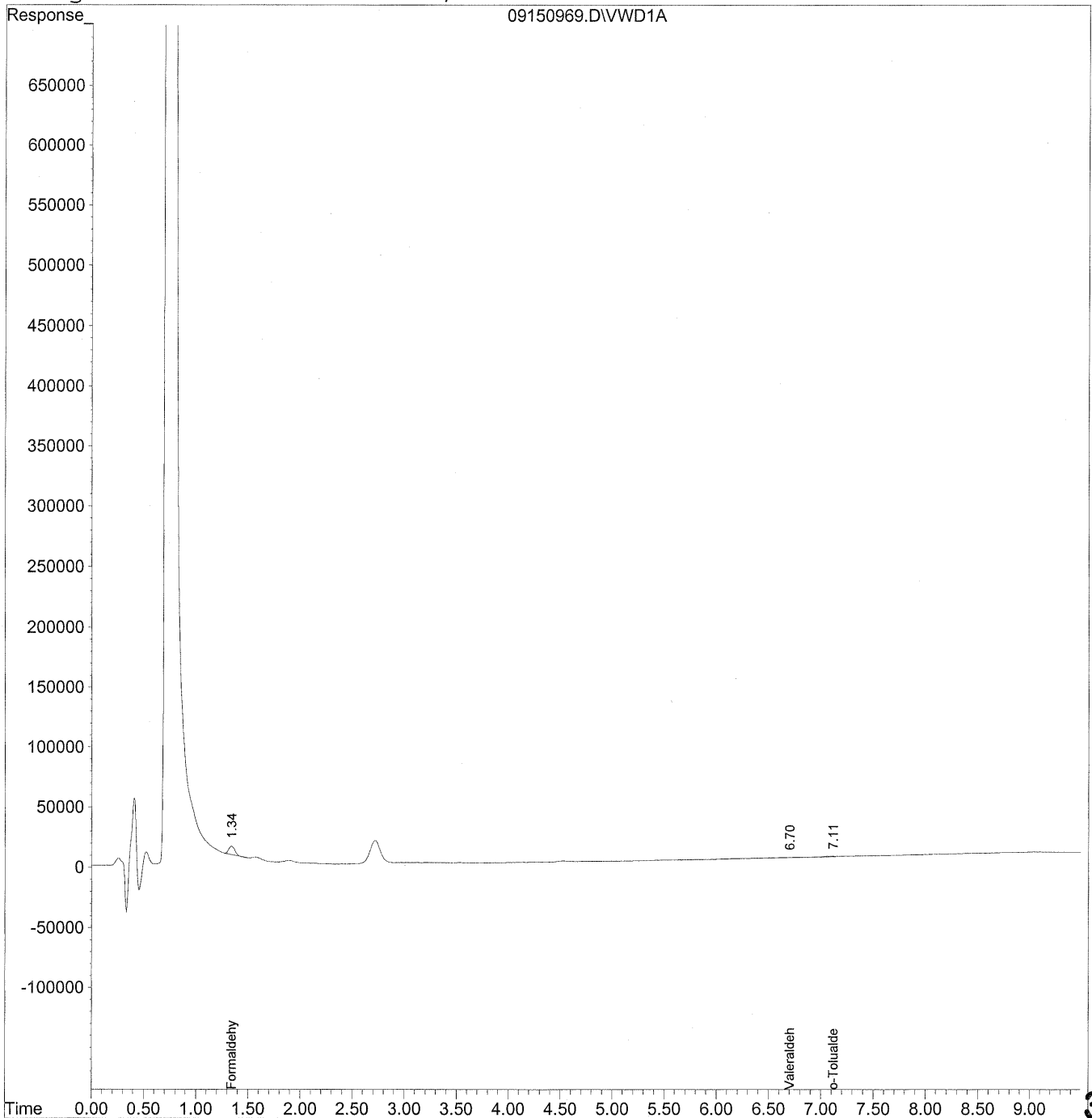
mk
9/21/09
not real
mk
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150969.D Vial: 158
Acq On : 15-Sep-2009, 21:56 Operator: MD
Sample : P0903195-019 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:22 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150969.D Vial: 158
 Acq On : 15-Sep-2009, 21:56 Operator: MD
 Sample : P0903195-019 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 16:22 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 17 16:12:59 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	285670	31.970 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	6.70	82237	24.190 ng/ml
9) o-Tolualdehyde	7.12	34790	15.853 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/ml

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.

Client Sample ID: 104738

Client Project ID: 16512

CAS Project ID: P0903195

CAS Sample ID: P0903195-020

Test Code: EPA Method TO-11A

Instrument ID: HP1050/LC2

Analyst: Madeleine Dangazyan

Sampling Media: Silica Gel DNPH Tube

Test Notes: BC

Date Collected: 8/31/09

Date Received: 9/10/09

Date Analyzed: 9/15 - 9/16/09

Desorption Volume: 1.0 ml

Volume Sampled: 101 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	3,800	38	0.99	31	0.81	
75-07-0	Acetaldehyde	1,000	10	0.99	5.7	0.55	BT
123-38-6	Propionaldehyde	130	1.2	0.99	0.53	0.42	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.99	ND	0.35	
123-72-8	Butyraldehyde	180	1.8	0.99	0.61	0.34	
100-52-7	Benzaldehyde	520	5.2	0.99	1.2	0.23	
590-86-3	Isovaleraldehyde	< 100	ND	0.99	ND	0.28	
110-62-3	Valeraldehyde	510	5.0	0.99	1.4	0.28	
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	1,700	17	0.99	4.1	0.24	
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.

BT = Results indicated possible breakthrough; back section > 10% front section.

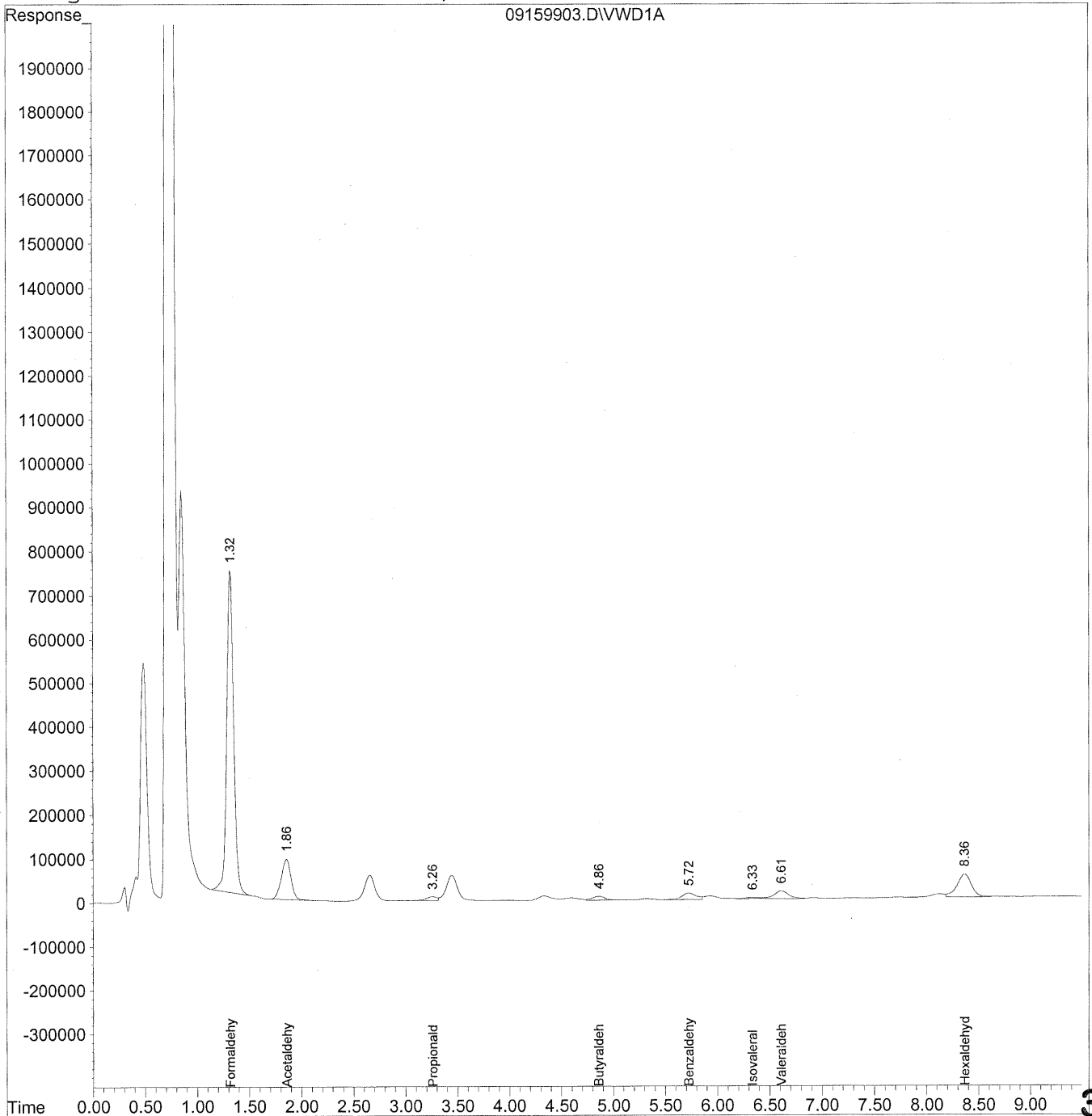
Verified By: *Re* Date: 9/24/09 **337**

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159903.D Vial: 185
Acq On : 16-Sep-2009, 04:32 Operator: MD
Sample : P0903195-020 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:49 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 17 16:12:59 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



338

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159903.D Vial: 185
 Acq On : 16-Sep-2009, 04:32 Operator: MD
 Sample : P0903195-020 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:49 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 17 16:12:59 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

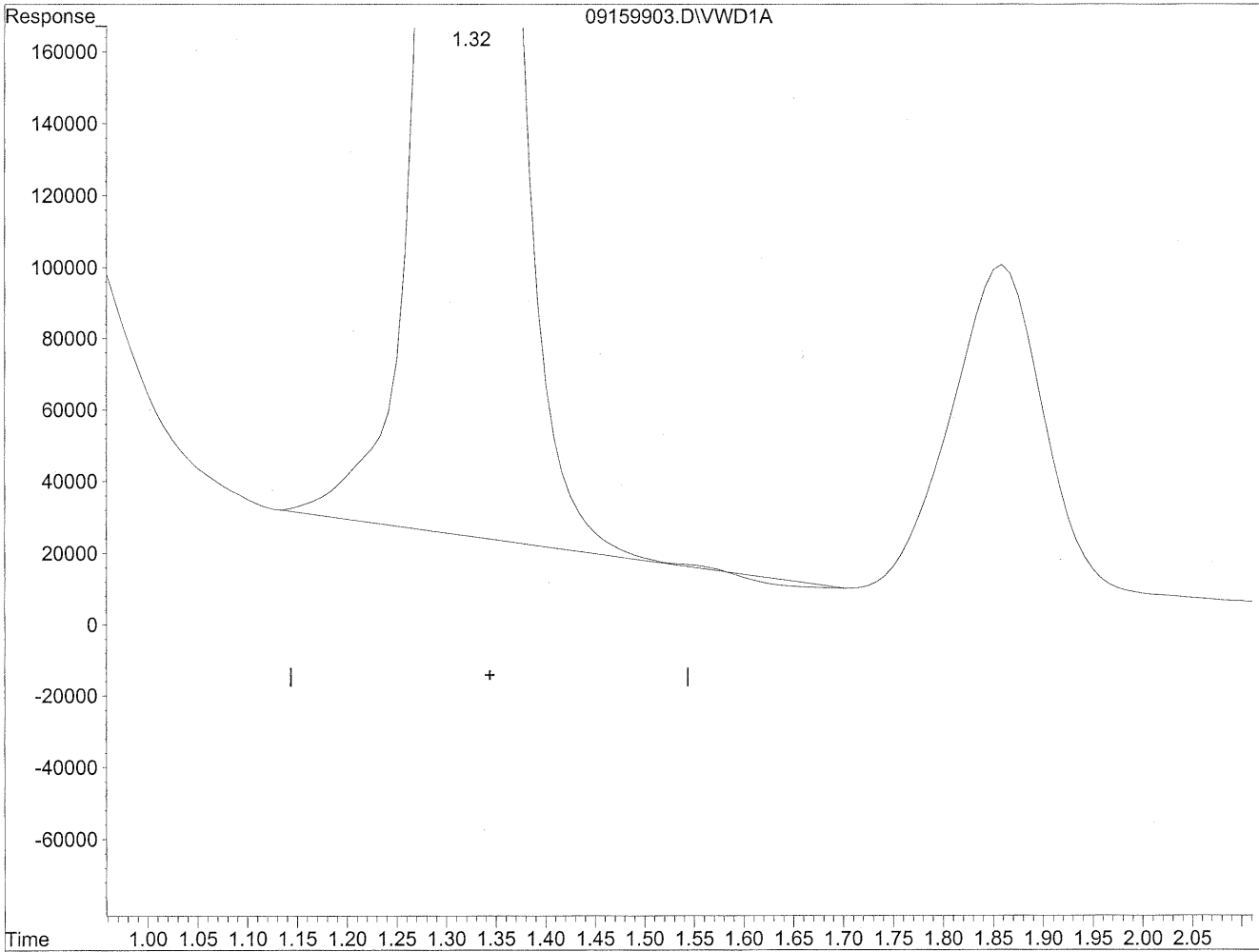
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.32	34135612	3820.254 ng/mlm
2) Acetaldehyde	1.86	6011872	924.790 ng/mlm
3) Propionaldehyde	3.26	655579	126.126 ng/mlm
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	4.86	737893	182.071 ng/mlm
6) Benzaldehyde	5.72	1424948	522.269 ng/mlm
7) Isovaleraldehyde	6.33	237487	69.001 ng/mlm
8) Valeraldehyde	6.61	1729515	508.735 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	8.36f	5007727	1691.386 ng/mlm
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159903.D Vial: 185
Acq On : 16-Sep-2009, 04:32 Operator: MD
Sample : P0903195-020 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:47 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

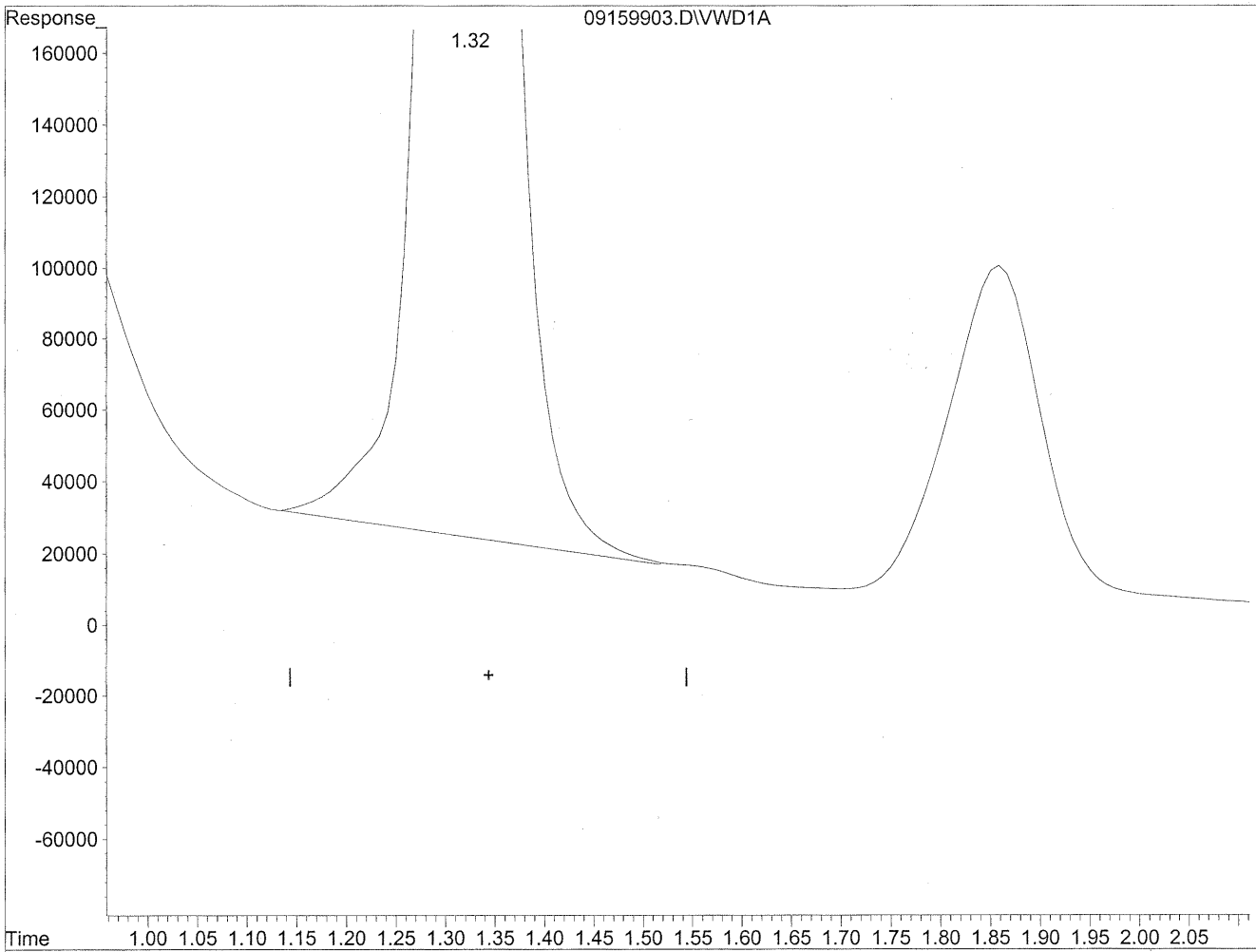


(1) Formaldehyde
1.32min 3815.791ng/ml
response 34095739

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159903.D Vial: 185
Acq On : 16-Sep-2009, 04:32 Operator: MD
Sample : P0903195-020 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:47 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



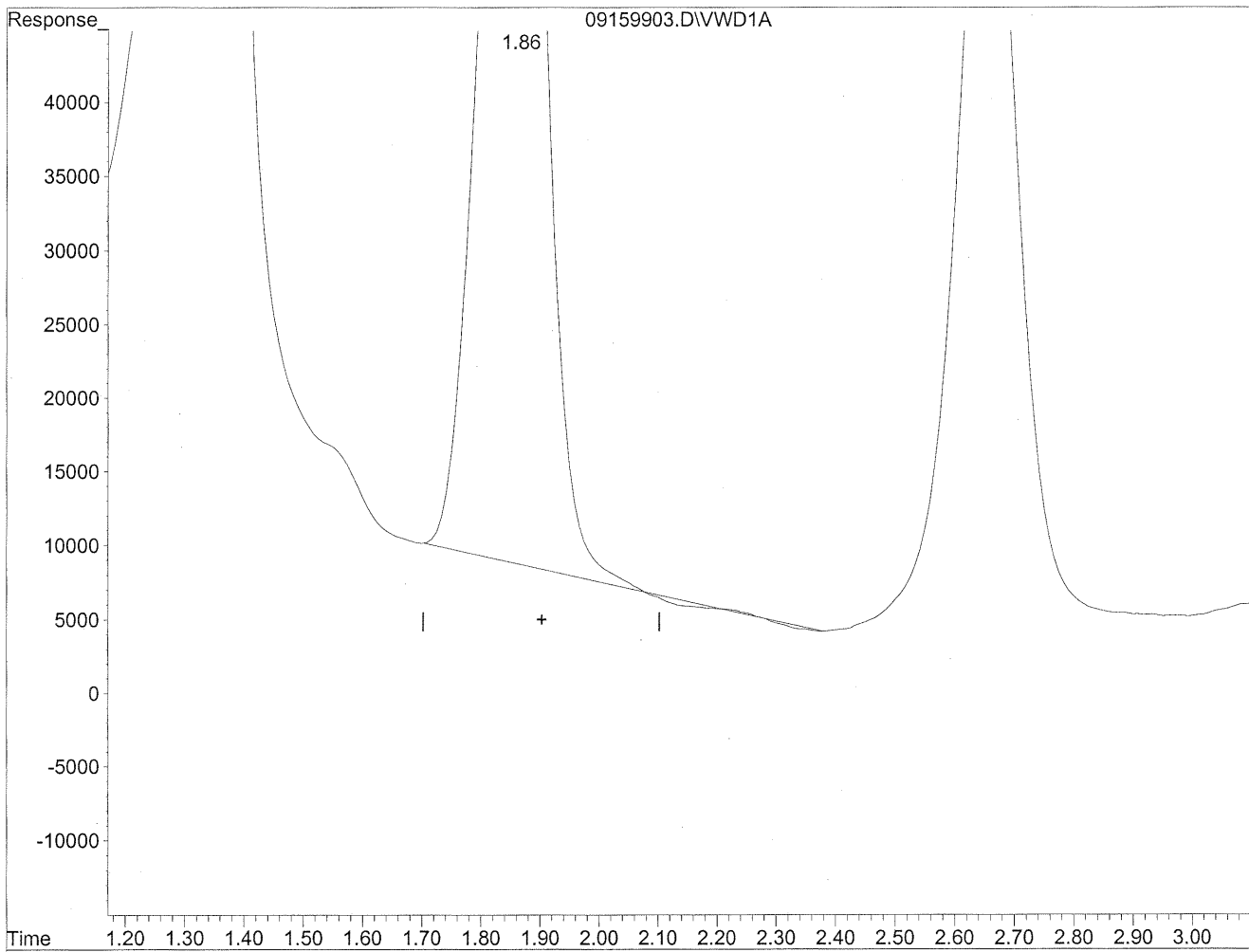
(1) Formaldehyde
1.32min 3820.254ng/ml m
response 34135612

Handwritten notes:
m
9/21/09
12
me
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159903.D Vial: 185
Acq On : 16-Sep-2009, 04:32 Operator: MD
Sample : P0903195-020 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:47 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

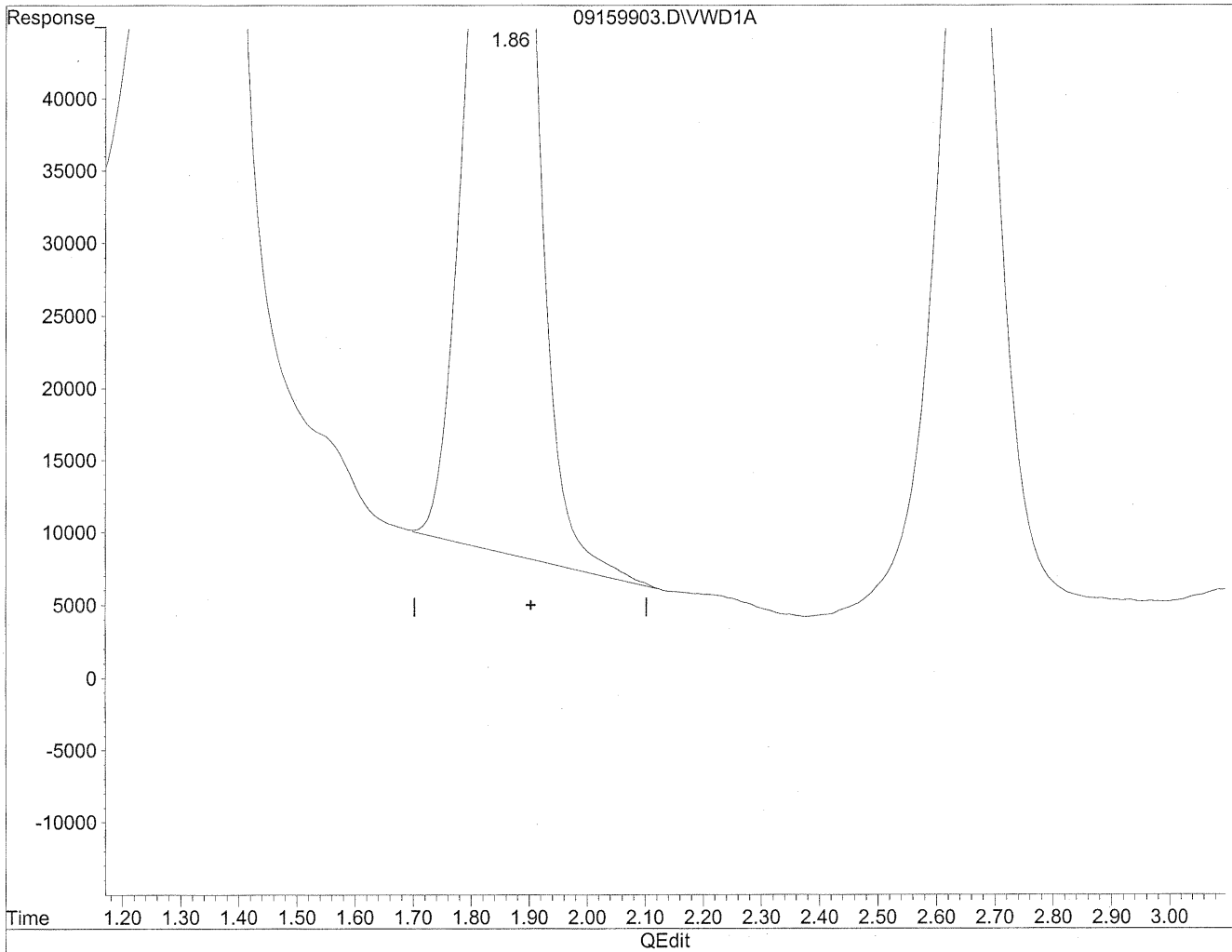


(2) Acetaldehyde
1.86min 914.107ng/ml
response 5942427

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159903.D Vial: 185
Acq On : 16-Sep-2009, 04:32 Operator: MD
Sample : P0903195-020 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:47 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



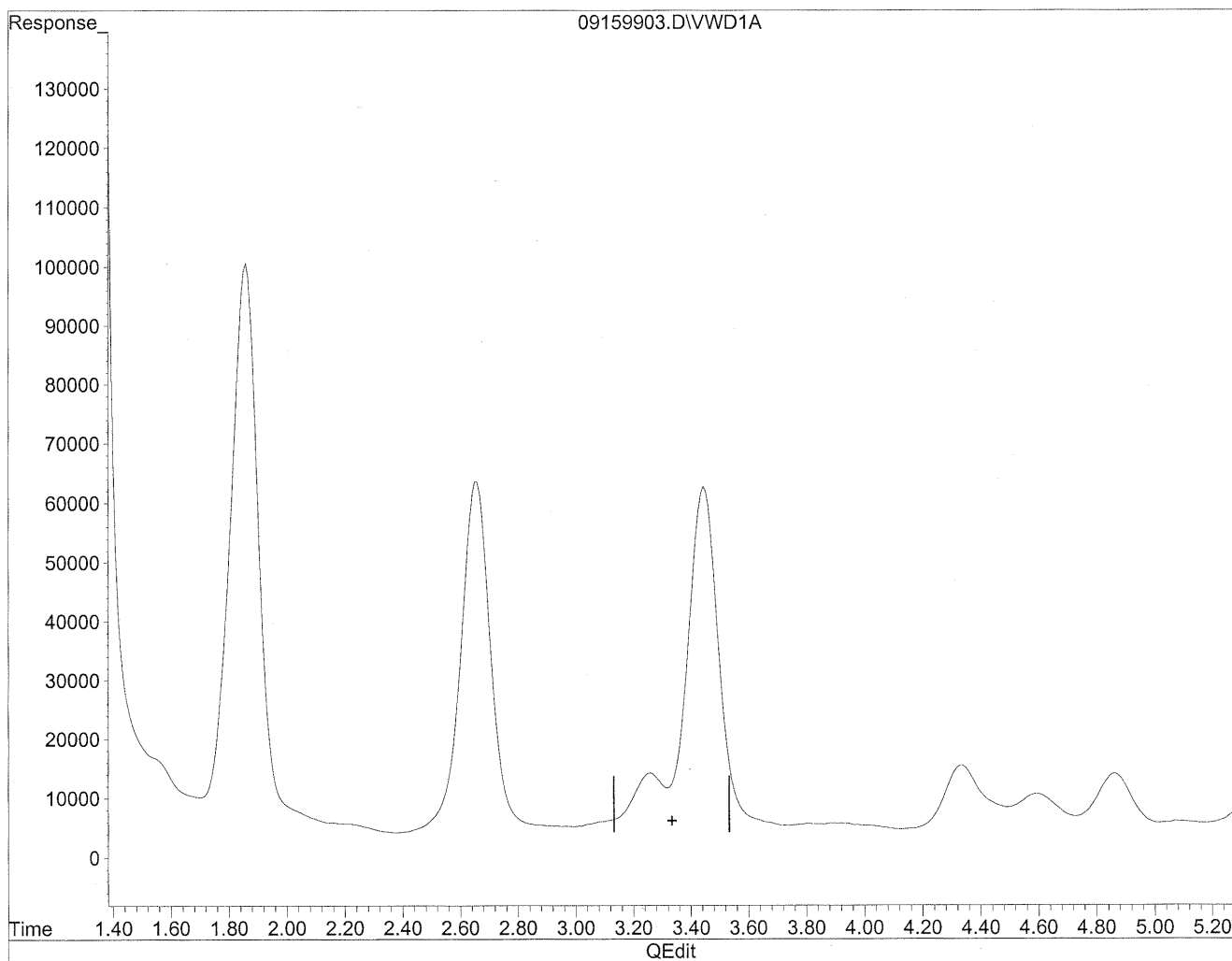
(2) Acetaldehyde
1.86min 924.790ng/ml m
response 6011872

MD
9/21/09
TC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159903.D Vial: 185
Acq On : 16-Sep-2009, 04:32 Operator: MD
Sample : P0903195-020 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:47 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

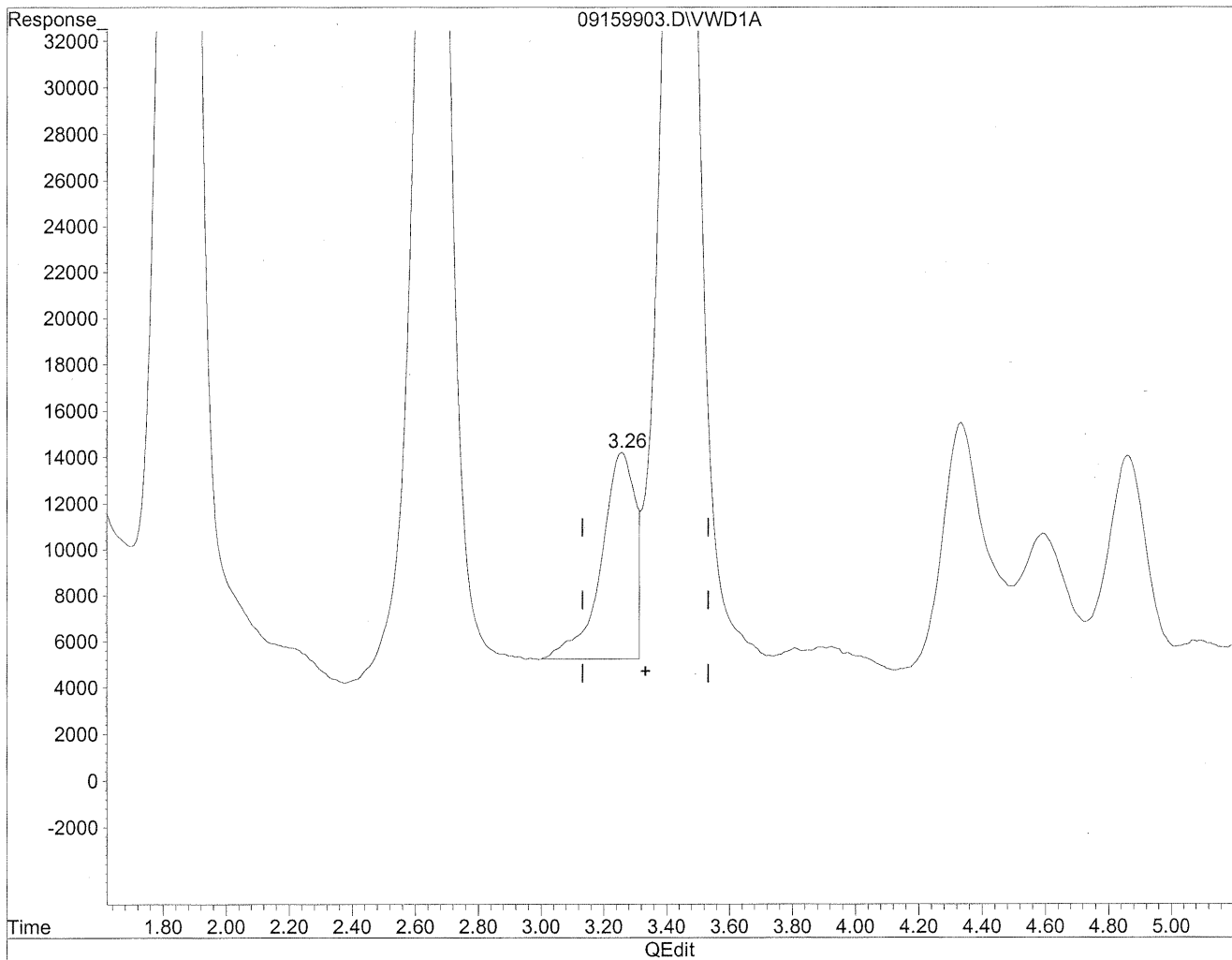


(3) Propionaldehyde
3.33min 0.000ng/ml
response 0

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159903.D Vial: 185
Acq On : 16-Sep-2009, 04:32 Operator: MD
Sample : P0903195-020 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:47 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



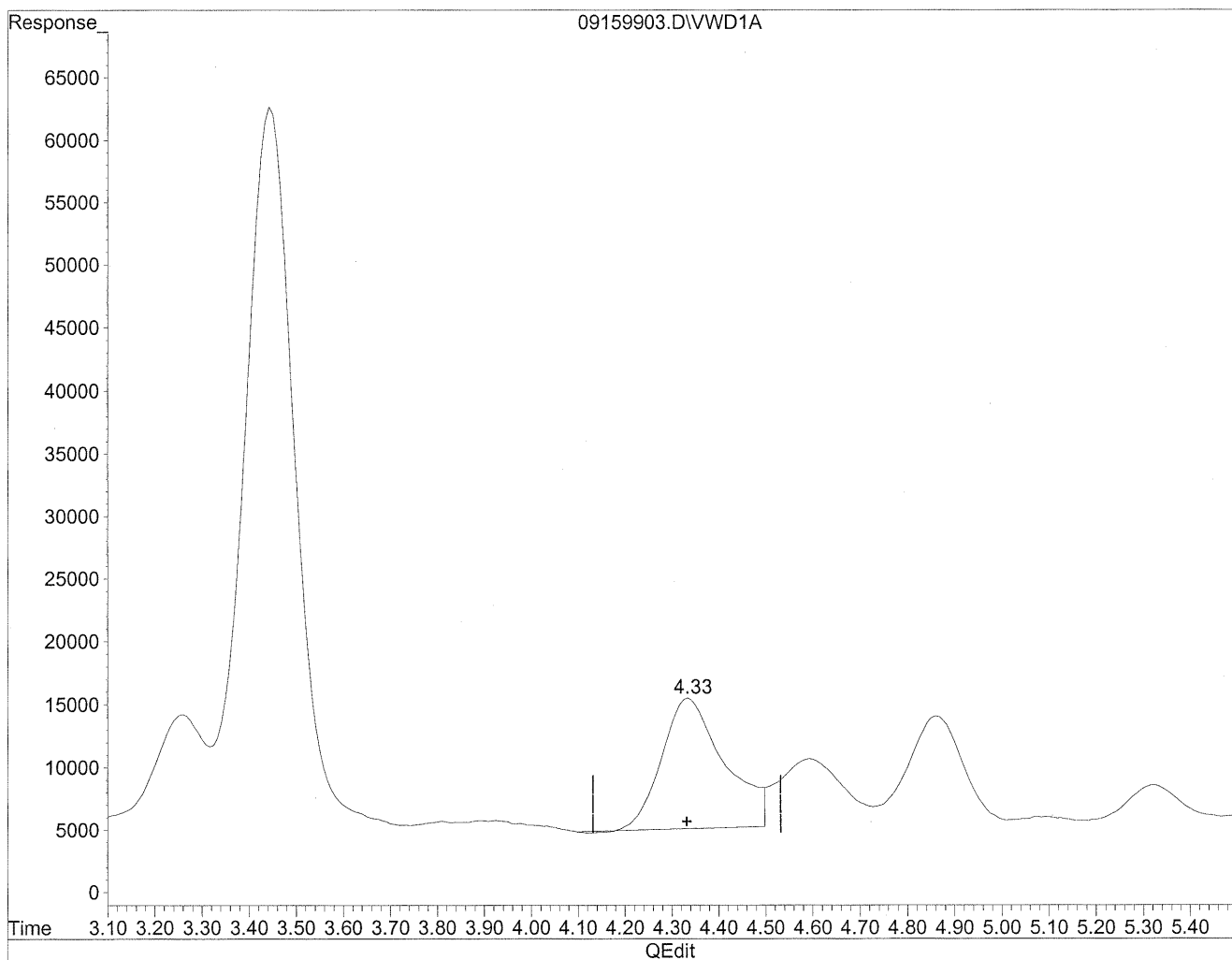
(3) Propionaldehyde
3.26min 126.126ng/ml m
response 655579

Handwritten notes:
MD
alcohol
Bri
ne
alcohol

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159903.D Vial: 185
Acq On : 16-Sep-2009, 04:32 Operator: MD
Sample : P0903195-020 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:47 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

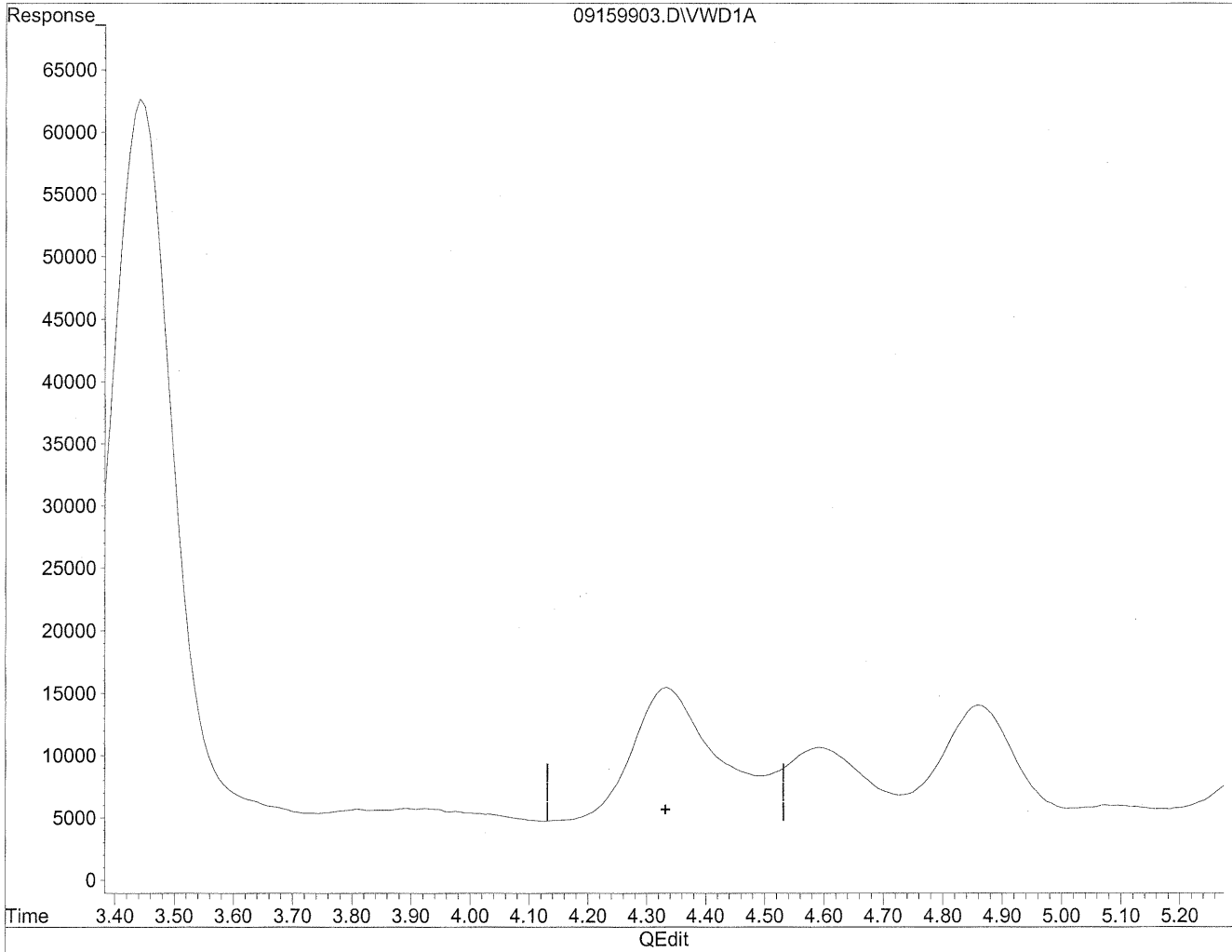


(4) Crotonaldehyde
4.34min 236.565ng/ml
response 960354

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159903.D Vial: 185
Acq On : 16-Sep-2009, 04:32 Operator: MD
Sample : P0903195-020 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:47 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



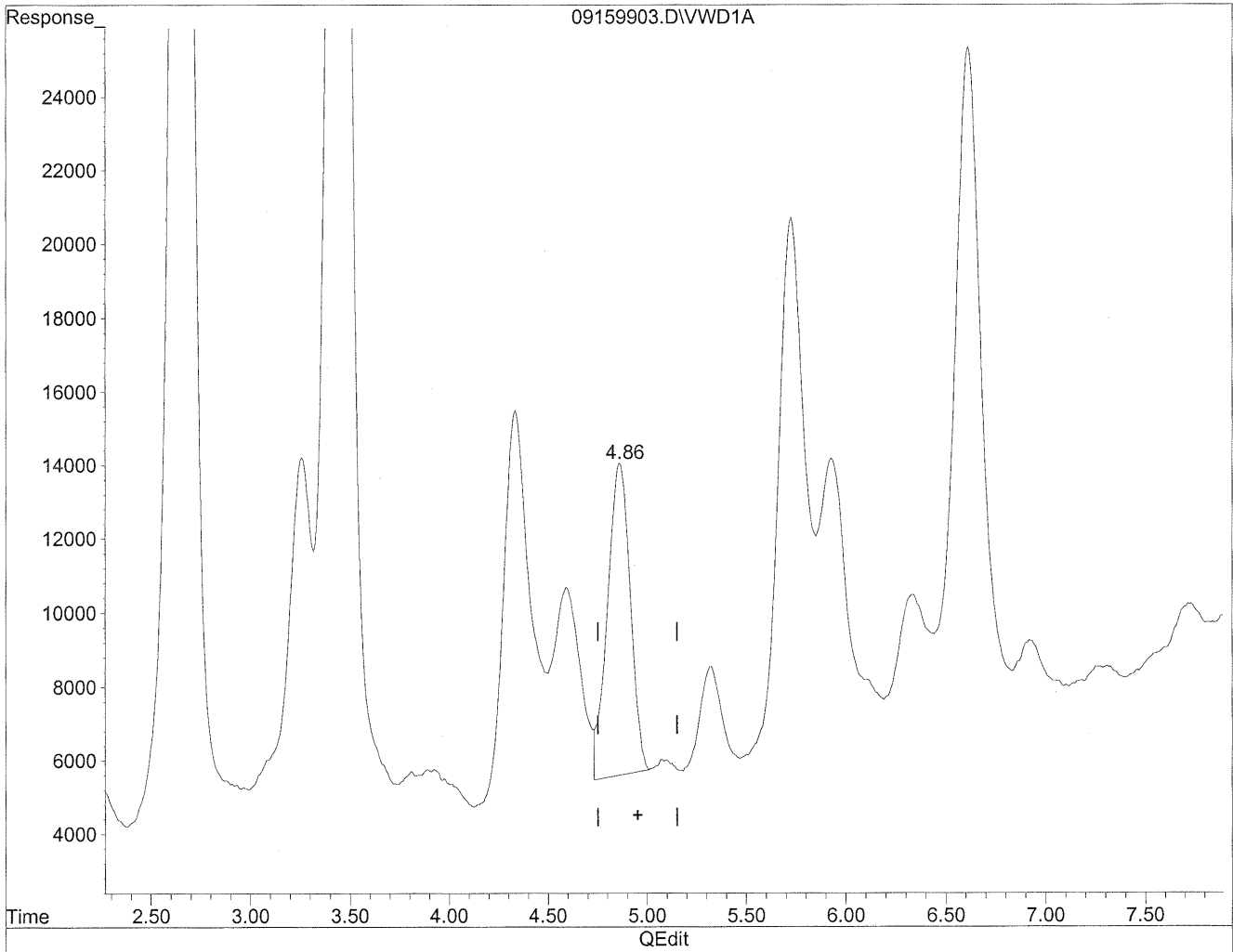
(4) Crotonaldehyde
0.00min 0.000ng/ml d
response 0

mm
9/21/09
mp
etc
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159903.D Vial: 185
Acq On : 16-Sep-2009, 04:32 Operator: MD
Sample : P0903195-020 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:47 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

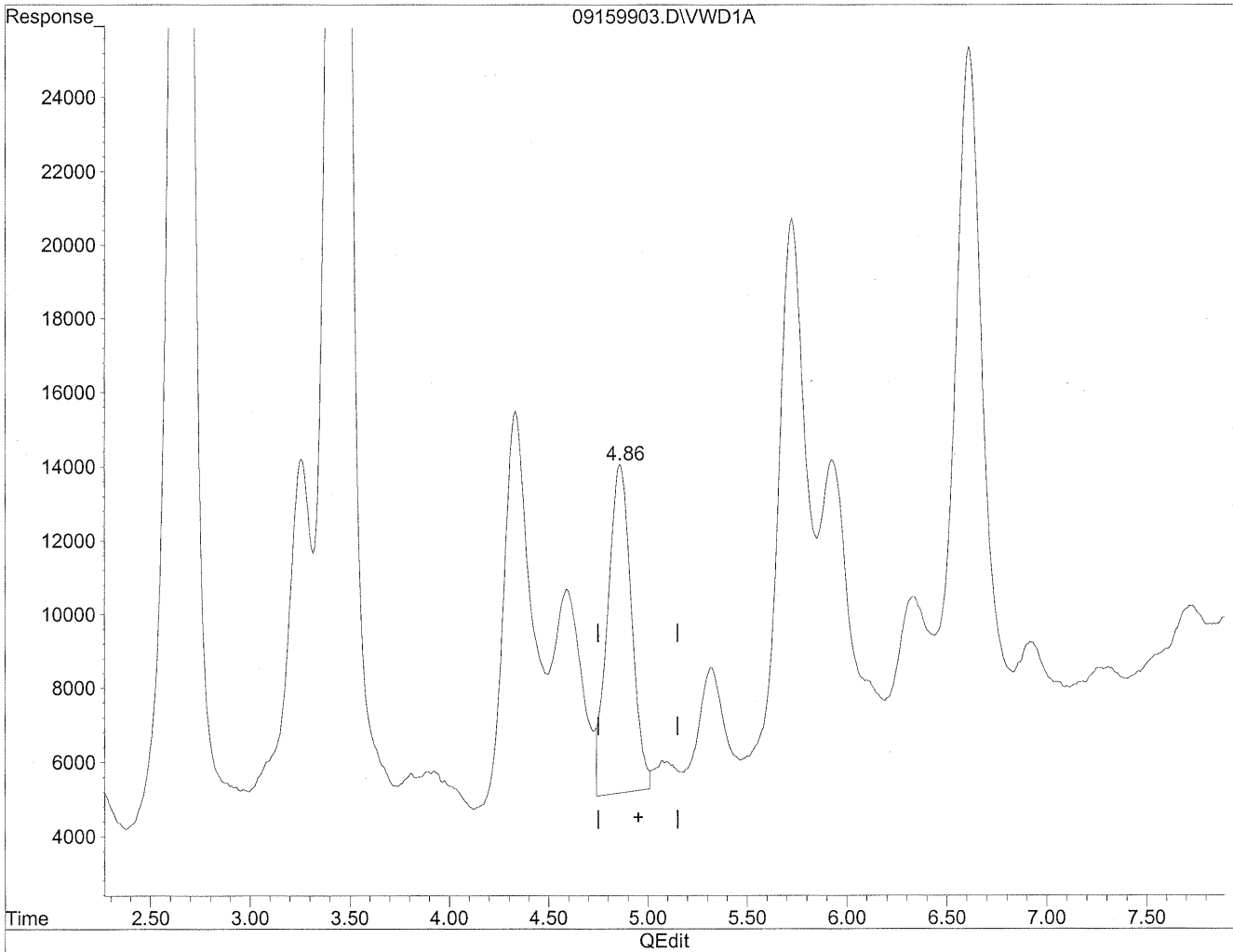


(5) Butyraldehyde
4.86min 167.249ng/ml
response 677820

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159903.D Vial: 185
Acq On : 16-Sep-2009, 04:32 Operator: MD
Sample : P0903195-020 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:47 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



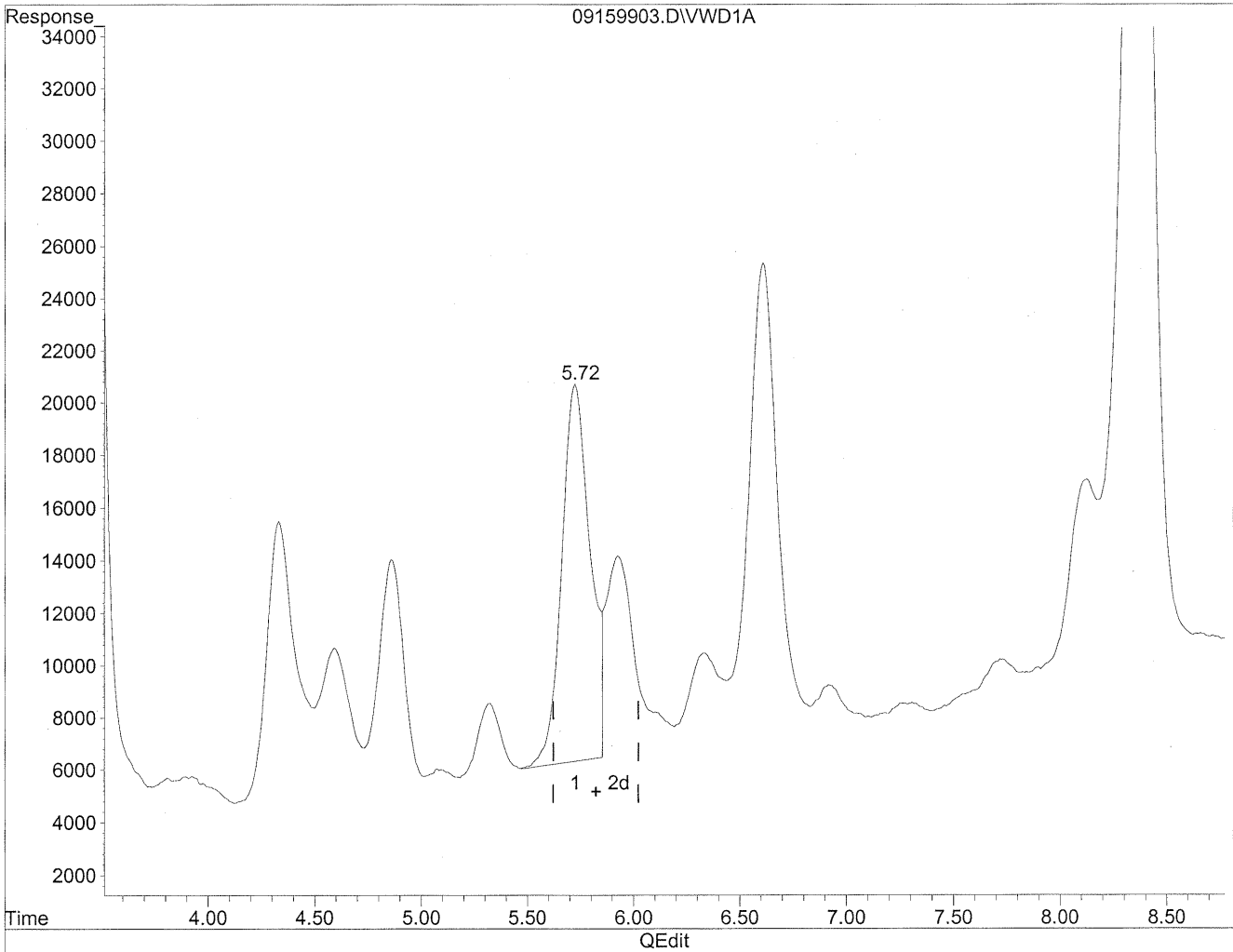
(5) Butyraldehyde
4.86min 182.071ng/ml m
response 737893

MD
9/21/09
BE
HC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159903.D Vial: 185
Acq On : 16-Sep-2009, 04:32 Operator: MD
Sample : P0903195-020 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:47 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

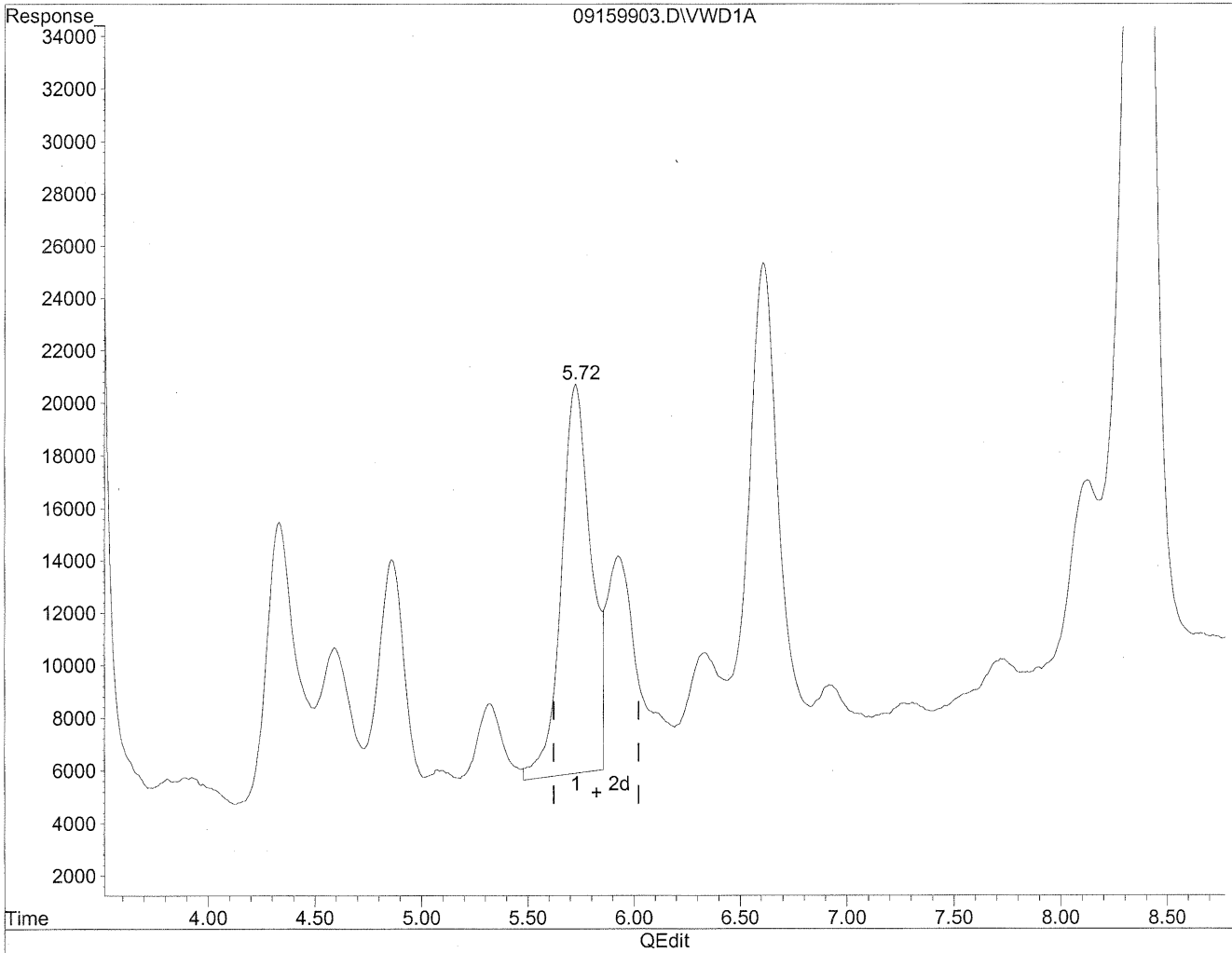


(6) Benzaldehyde
5.73min 484.839ng/ml
response 1322825

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159903.D Vial: 185
Acq On : 16-Sep-2009, 04:32 Operator: MD
Sample : P0903195-020 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:47 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



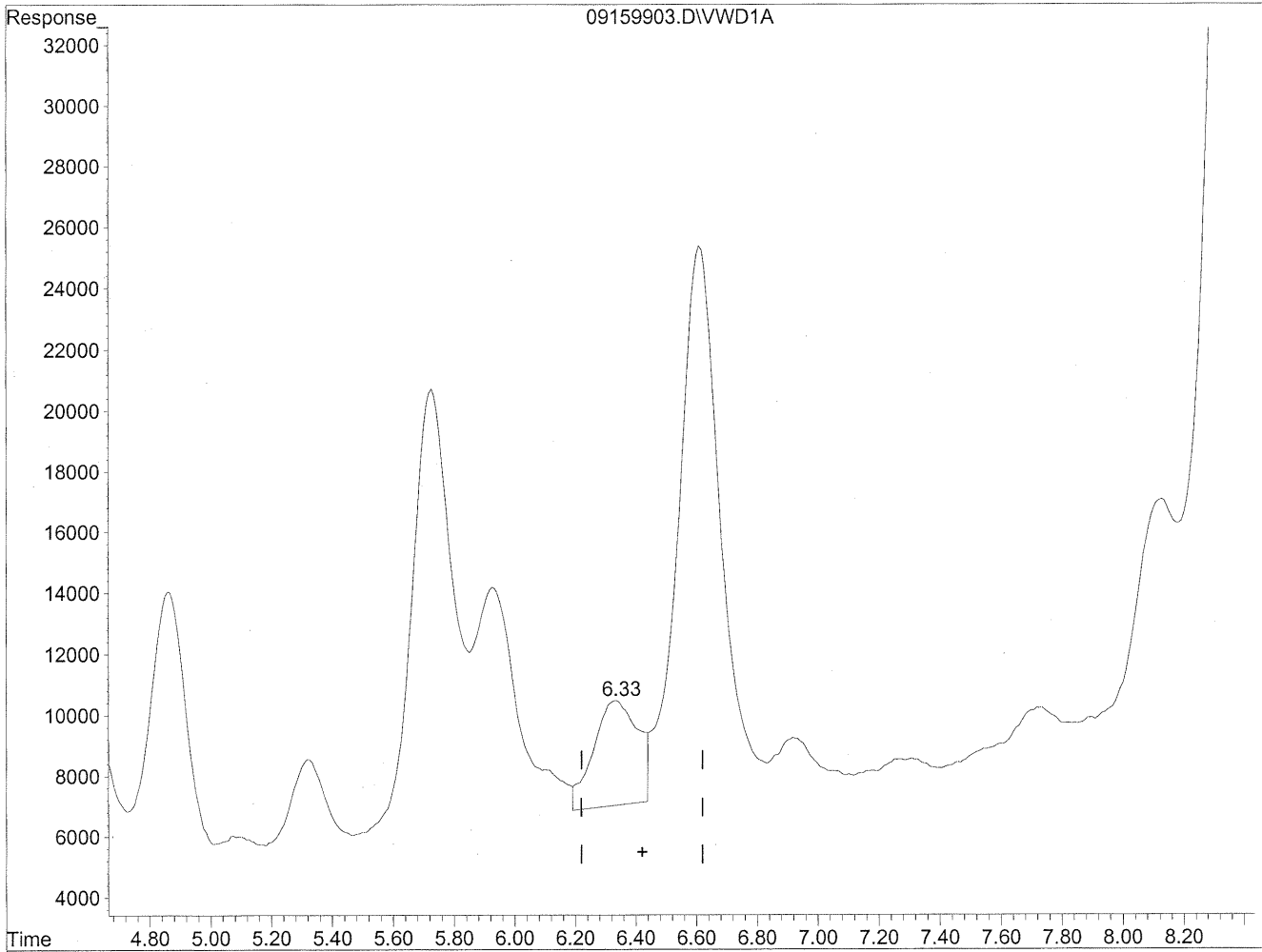
(6) Benzaldehyde
5.72min 522.269ng/ml m
response 1424948

Handwritten notes:
5.72min
9/21/09
Be
JLC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159903.D Vial: 185
Acq On : 16-Sep-2009, 04:32 Operator: MD
Sample : P0903195-020 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:47 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

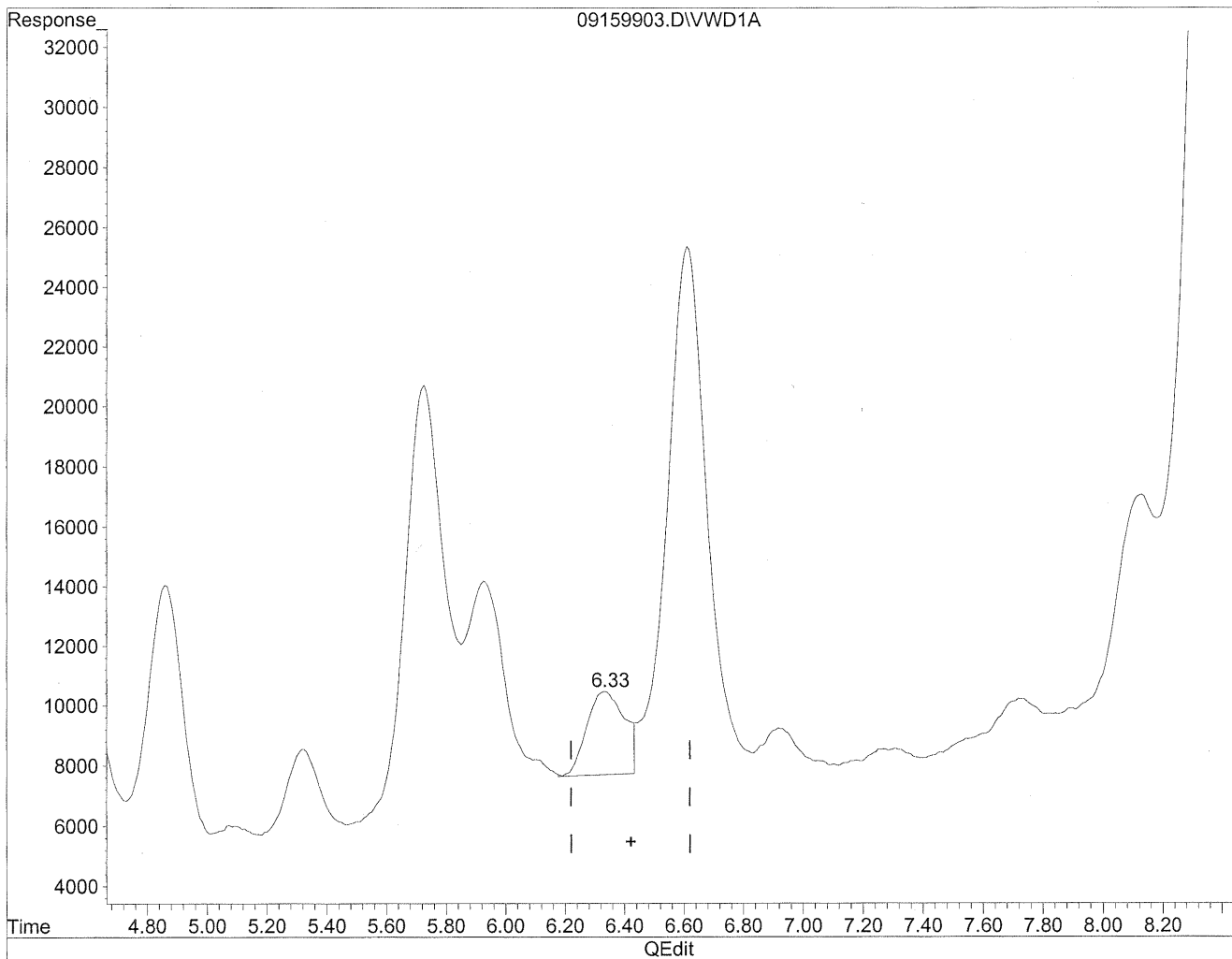


(7) Isovaleraldehyde
6.34min 101.601ng/ml
response 349689

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159903.D Vial: 185
Acq On : 16-Sep-2009, 04:32 Operator: MD
Sample : P0903195-020 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:47 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(7) Isovaleraldehyde

6.33min 69.001ng/ml m

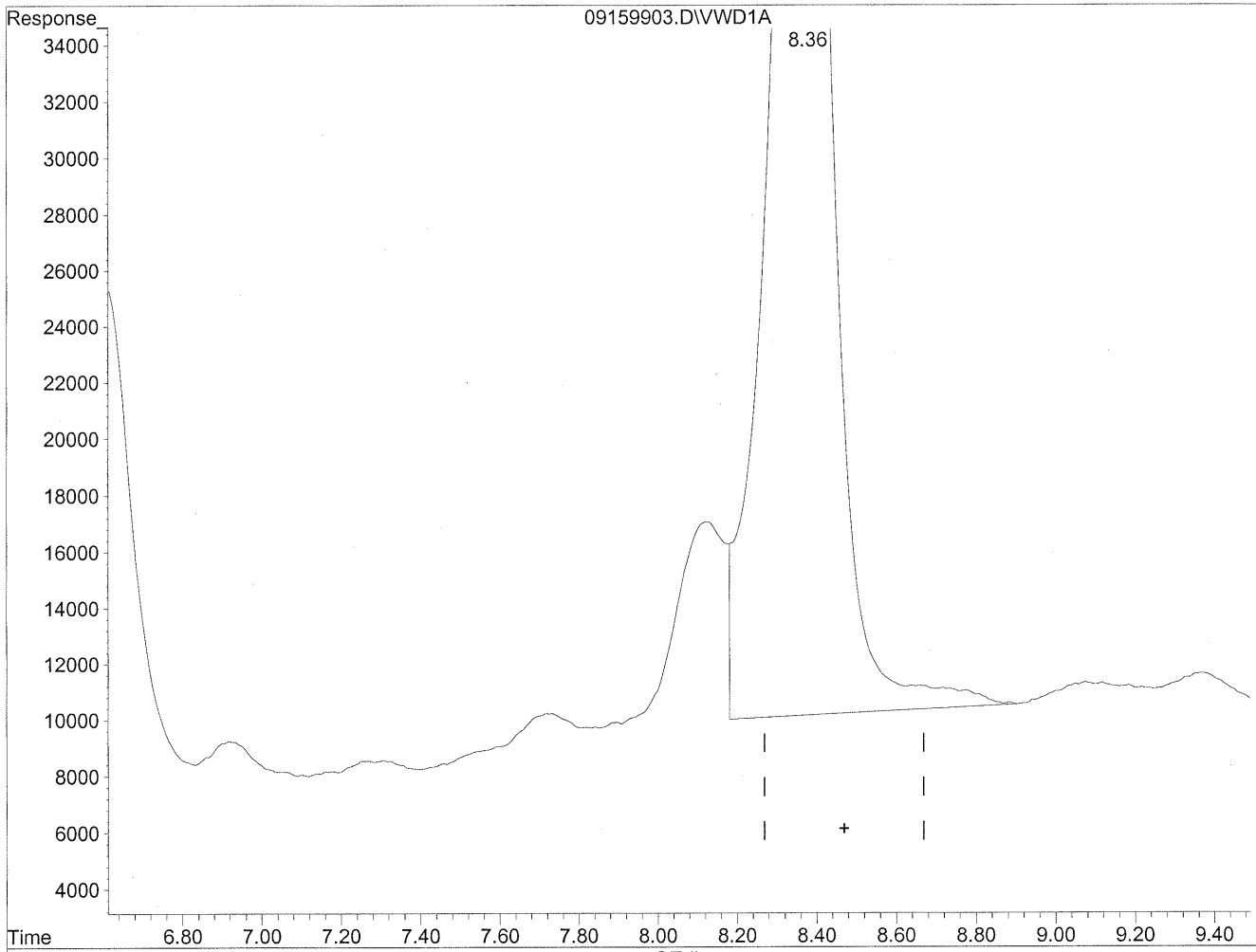
response 237487

MD
alcalog
BE
MC
11/17

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159903.D Vial: 185
Acq On : 16-Sep-2009, 04:32 Operator: MD
Sample : P0903195-020 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:47 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

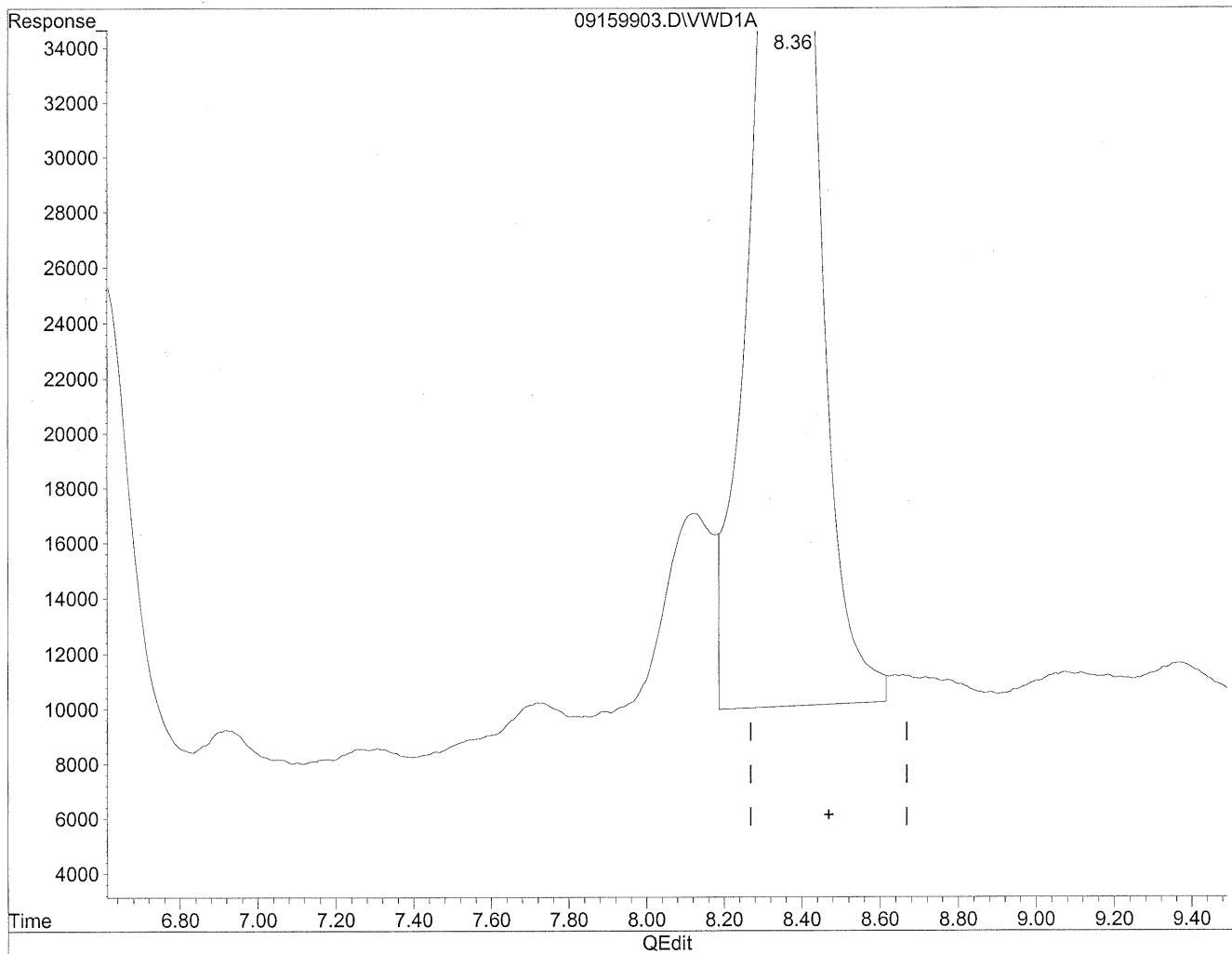


(11) Hexaldehyde
8.37min 1728.527ng/ml
response 5117691

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159903.D Vial: 185
Acq On : 16-Sep-2009, 04:32 Operator: MD
Sample : P0903195-020 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:47 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde
8.36min 1691.386ng/ml m
response 5007727

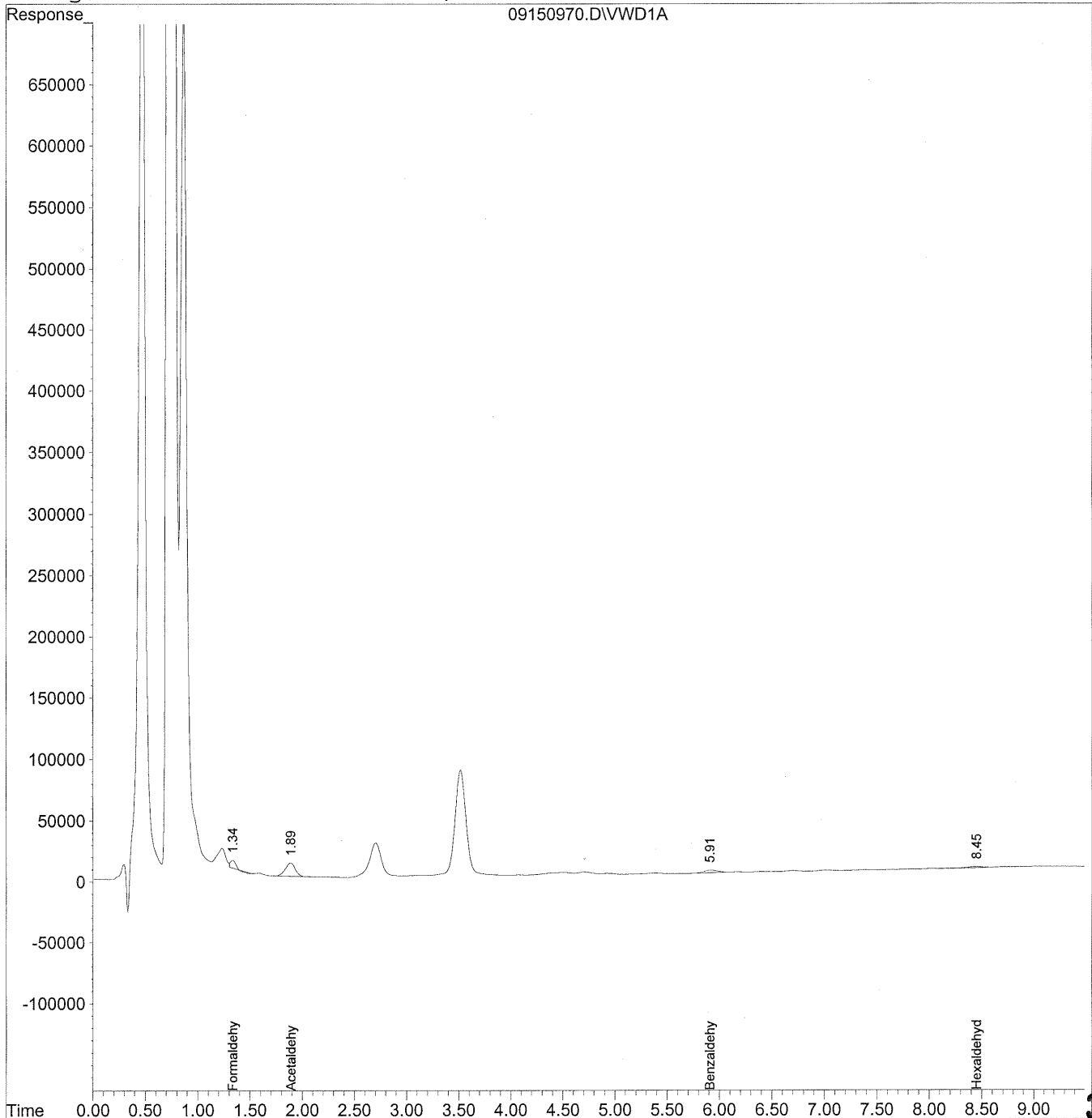
(Handwritten notes)
MD
alcohol
SH
the alcohol

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150970.D Vial: 159
Acq On : 15-Sep-2009, 22:08 Operator: MD
Sample : P0903195-020 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:22 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150970.D Vial: 159
 Acq On : 15-Sep-2009, 22:08 Operator: MD
 Sample : P0903195-020 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 16:22 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 17 16:12:59 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	201472	22.548 ng/ml
2) Acetaldehyde	1.89	732018	112.604 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	5.92	182187	66.775 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	8.46	99090	33.468 ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.
Client Sample ID: 104739
Client Project ID: 16512

CAS Project ID: P0903195
 CAS Sample ID: P0903195-021

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

Date Collected: 8/31/09
Date Received: 9/10/09
Date Analyzed: 9/15 - 9/16/09
Desorption Volume: 1.0 ml
Volume Sampled: 100 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	4,600	46	1.0	38	0.81	
75-07-0	Acetaldehyde	1,100	11	1.0	6.3	0.56	BT
123-38-6	Propionaldehyde	120	1.2	1.0	0.49	0.42	
4170-30-3	Crotonaldehyde, Total	< 100	ND	1.0	ND	0.35	
123-72-8	Butyraldehyde	210	2.1	1.0	0.71	0.34	
100-52-7	Benzaldehyde	600	6.0	1.0	1.4	0.23	
590-86-3	Isovaleraldehyde	< 100	ND	1.0	ND	0.28	
110-62-3	Valeraldehyde	570	5.7	1.0	1.6	0.28	
529-20-4	o-Tolualdehyde	< 100	ND	1.0	ND	0.20	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	2.0	ND	0.41	
66-25-1	n-Hexaldehyde	2,000	20	1.0	4.9	0.24	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	1.0	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.

Verified By: RW

Date: 9/24/09

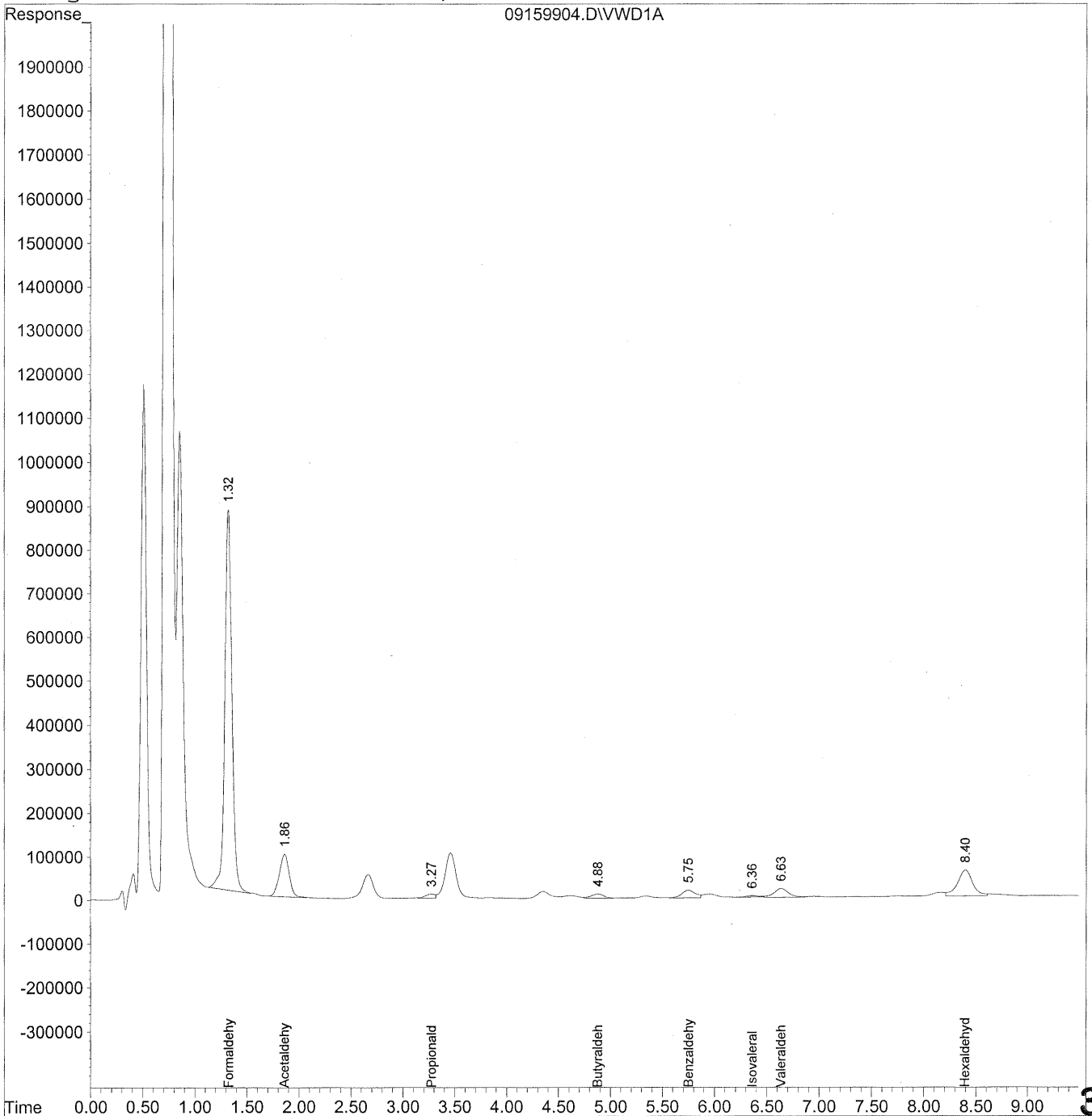
358

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159904.D Vial: 186
Acq On : 16-Sep-2009, 04:44 Operator: MD
Sample : P0903195-021 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:52 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 17 16:12:59 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



359

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159904.D Vial: 186
 Acq On : 16-Sep-2009, 04:44 Operator: MD
 Sample : P0903195-021 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:52 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 17 16:12:59 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

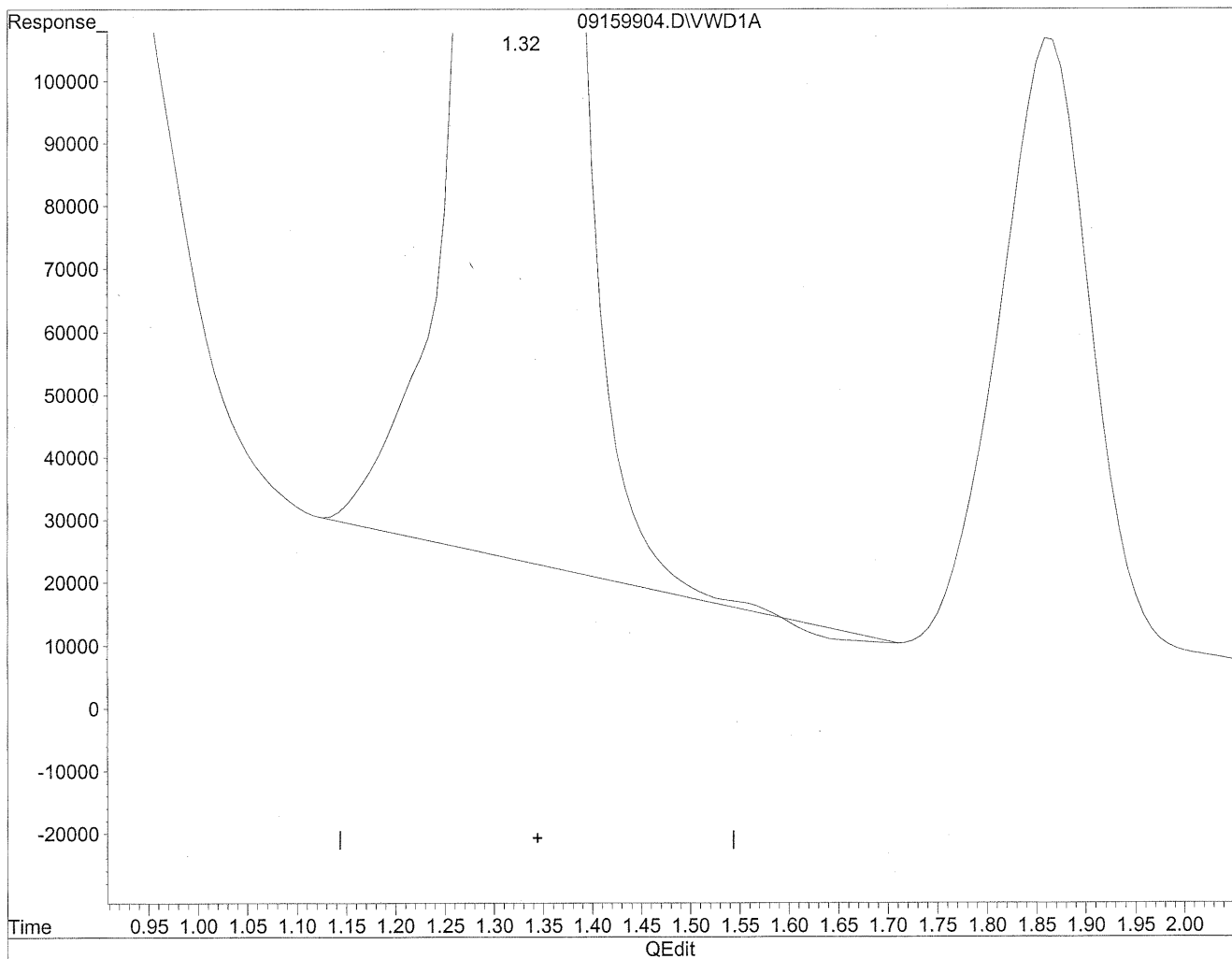
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.32	41231312	4614.362 ng/mlm
2) Acetaldehyde	1.86	6475118	996.050 ng/mlm
3) Propionaldehyde	3.27	599782	115.391 ng/mlm
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	4.88	852974	210.467 ng/mlm
6) Benzaldehyde	5.75	1646329	603.409 ng/mlm
7) Isovaleraldehyde	6.36	297722	86.502 ng/ml
8) Valeraldehyde	6.63	1923170	565.698 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	8.40	5984700	2021.363 ng/mlm
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159904.D Vial: 186
Acq On : 16-Sep-2009, 04:44 Operator: MD
Sample : P0903195-021 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

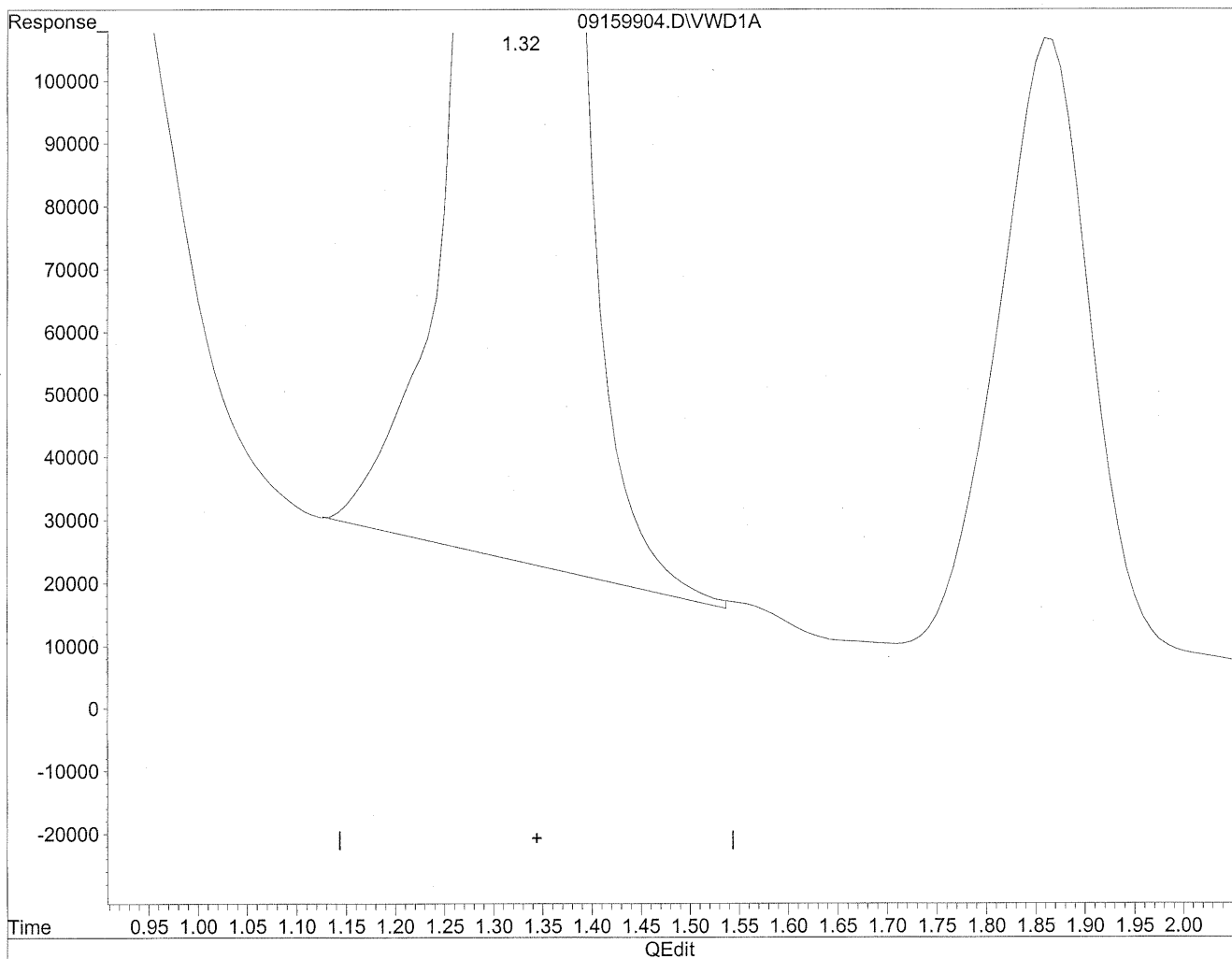


(1) Formaldehyde
1.33min 4611.086ng/ml
response 41202044

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159904.D Vial: 186
Acq On : 16-Sep-2009, 04:44 Operator: MD
Sample : P0903195-021 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



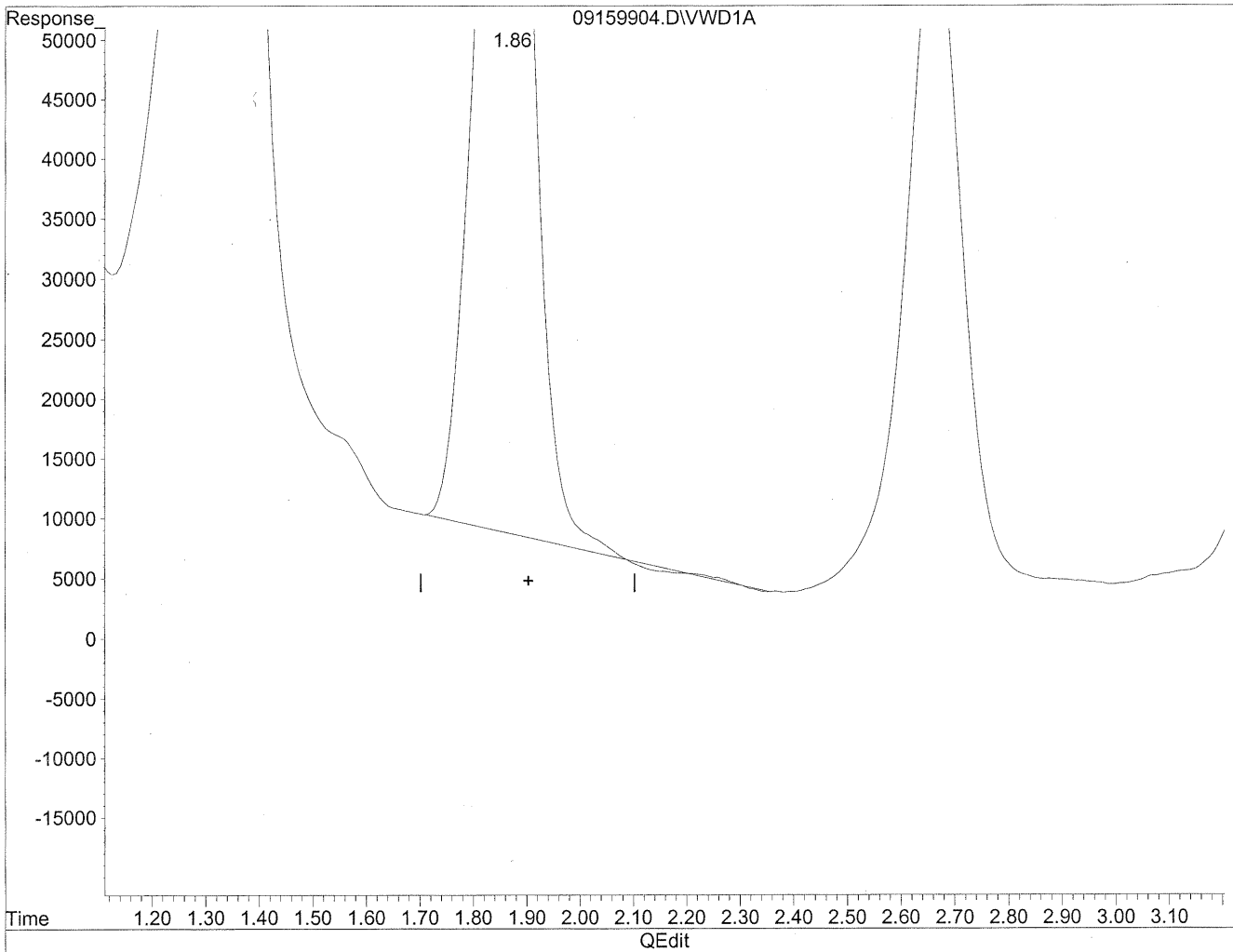
(1) Formaldehyde
1.32min 4614.362ng/ml m
response 41231312

Handwritten notes:
MD
9/21/09
TC
MC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159904.D Vial: 186
Acq On : 16-Sep-2009, 04:44 Operator: MD
Sample : P0903195-021 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

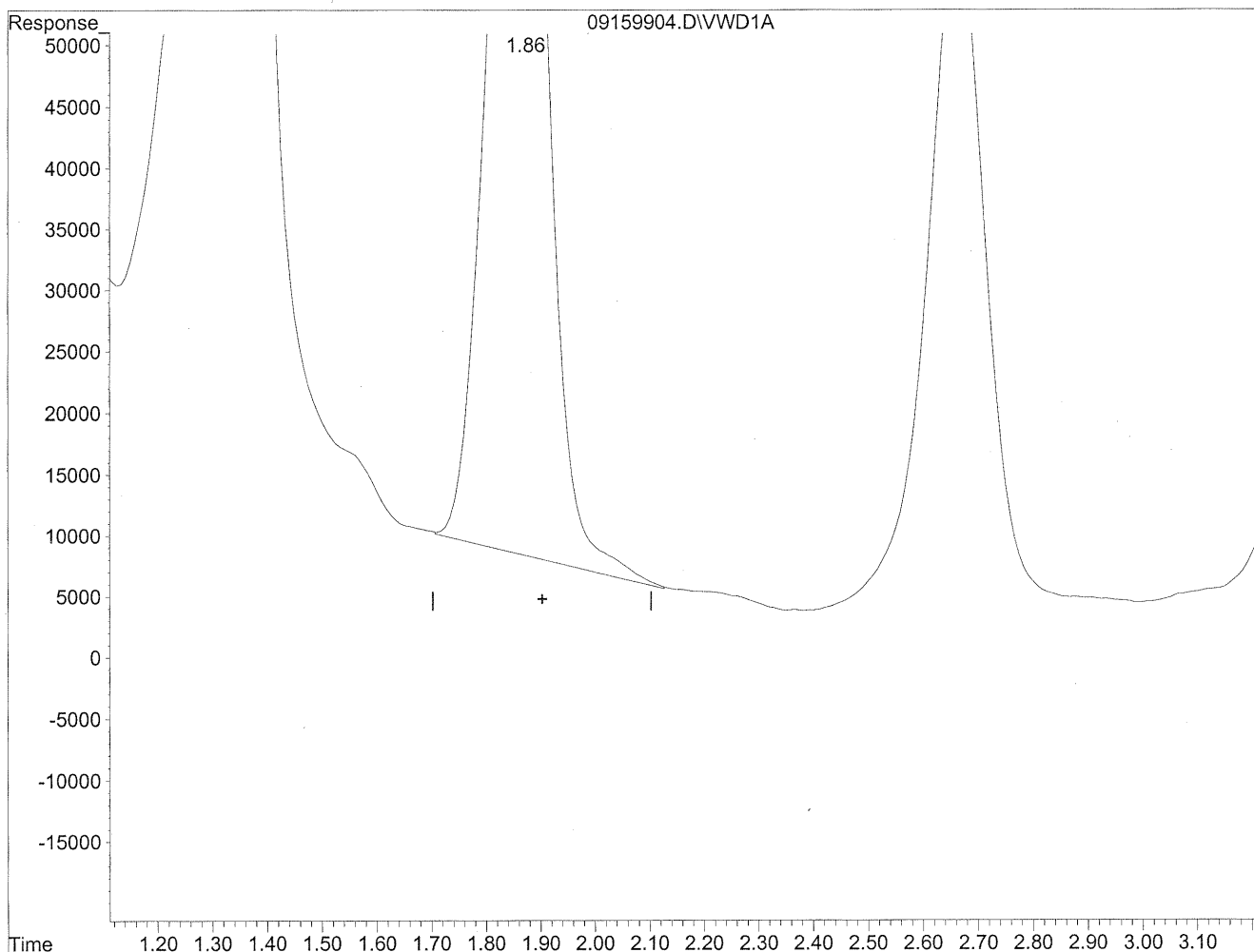


(2) Acetaldehyde
1.87min 983.106ng/ml
response 6390973

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159904.D Vial: 186
Acq On : 16-Sep-2009, 04:44 Operator: MD
Sample : P0903195-021 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



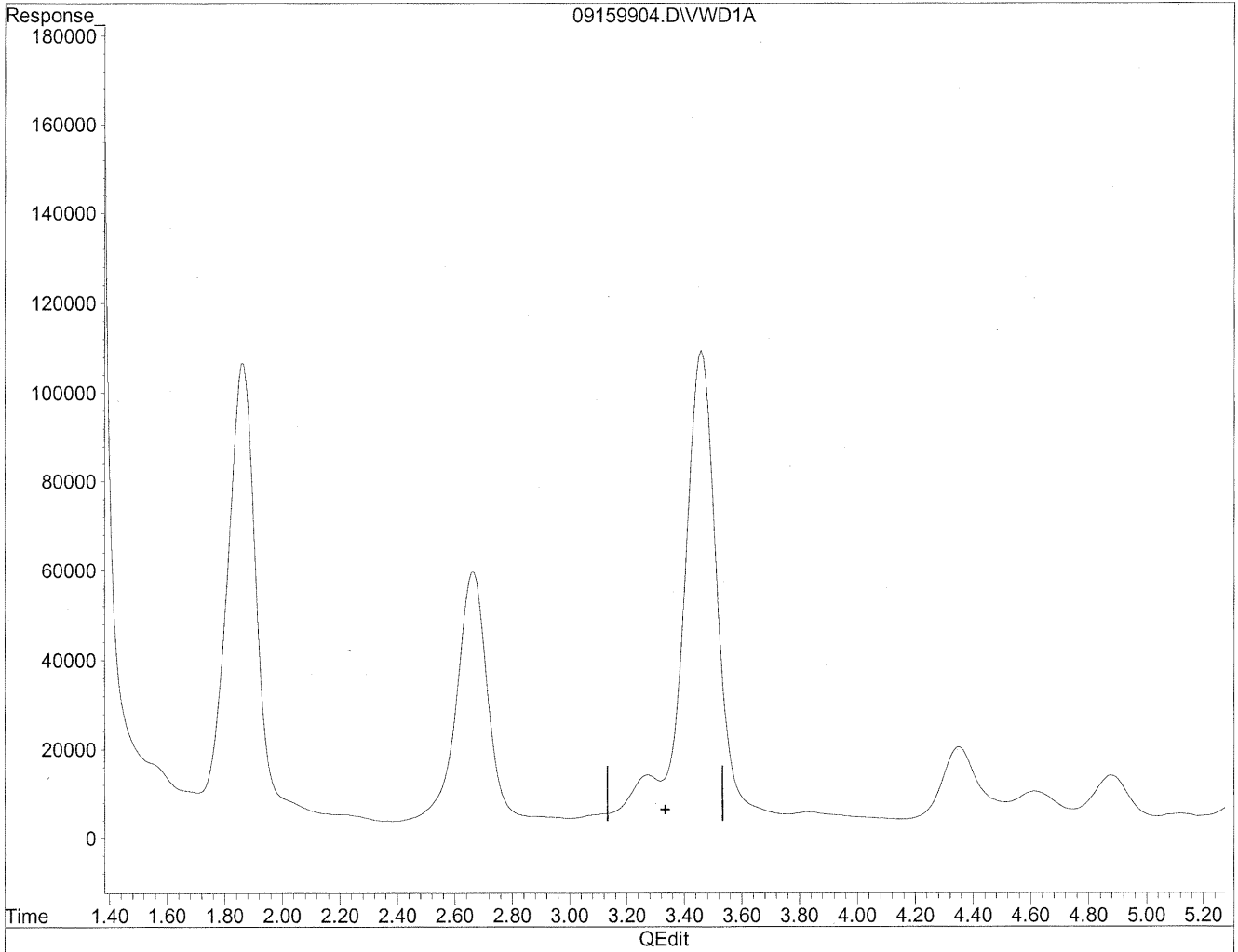
(2) Acetaldehyde
1.86min 996.050ng/ml m
response 6475118

(m)
9/21/09
12
MC
9/21/09

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159904.D Vial: 186
Acq On : 16-Sep-2009, 04:44 Operator: MD
Sample : P0903195-021 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

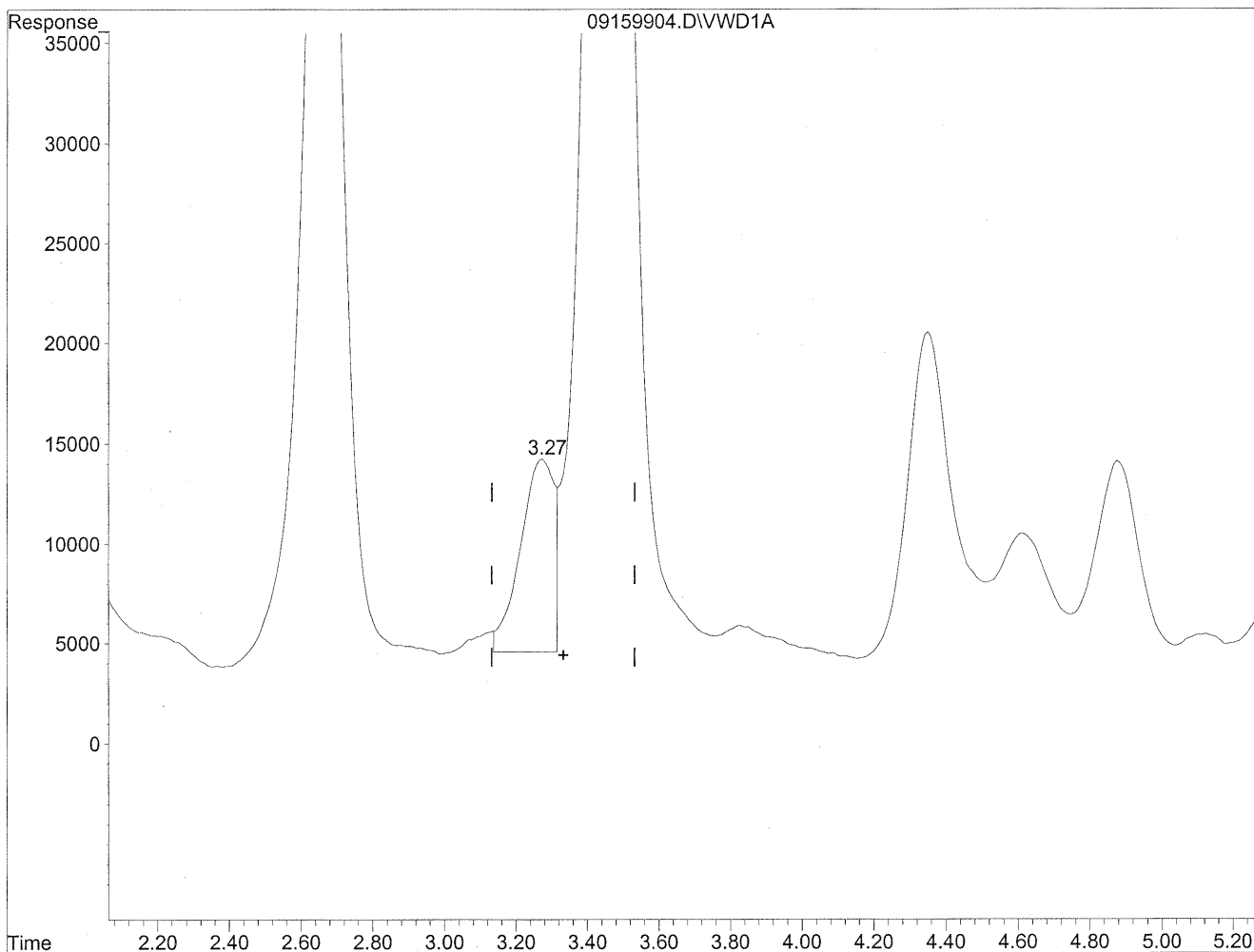


(3) Propionaldehyde
3.33min 0.000ng/ml
response 0

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159904.D Vial: 186
Acq On : 16-Sep-2009, 04:44 Operator: MD
Sample : P0903195-021 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



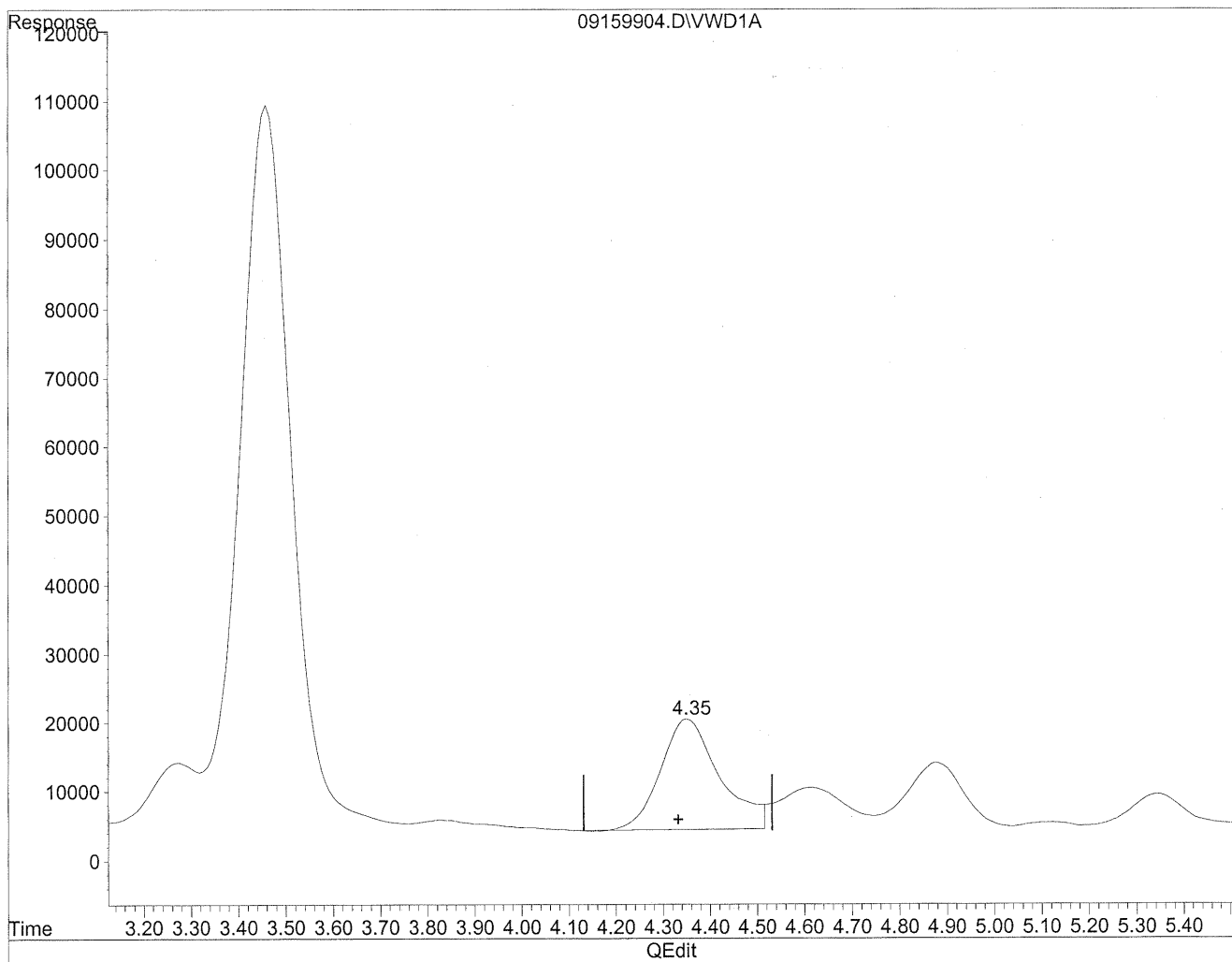
(3) Propionaldehyde
3.27min 115.391ng/ml m
response 599782

Handwritten notes:
4/11
9/15/09
(M)
9/15/09
SL

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159904.D Vial: 186
Acq On : 16-Sep-2009, 04:44 Operator: MD
Sample : P0903195-021 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

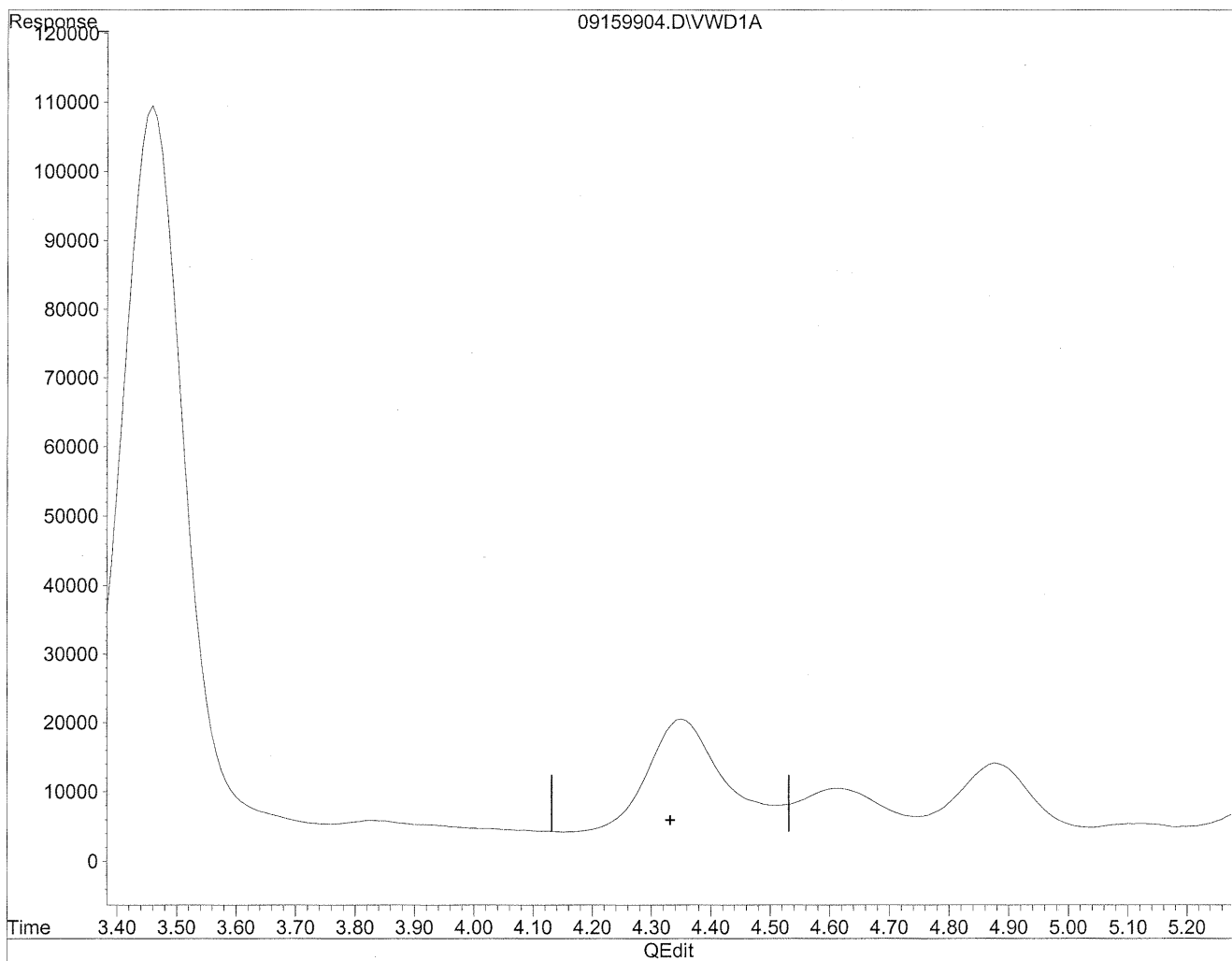


(4) Crotonaldehyde
4.35min 341.966ng/ml
response 1388234

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159904.D Vial: 186
Acq On : 16-Sep-2009, 04:44 Operator: MD
Sample : P0903195-021 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



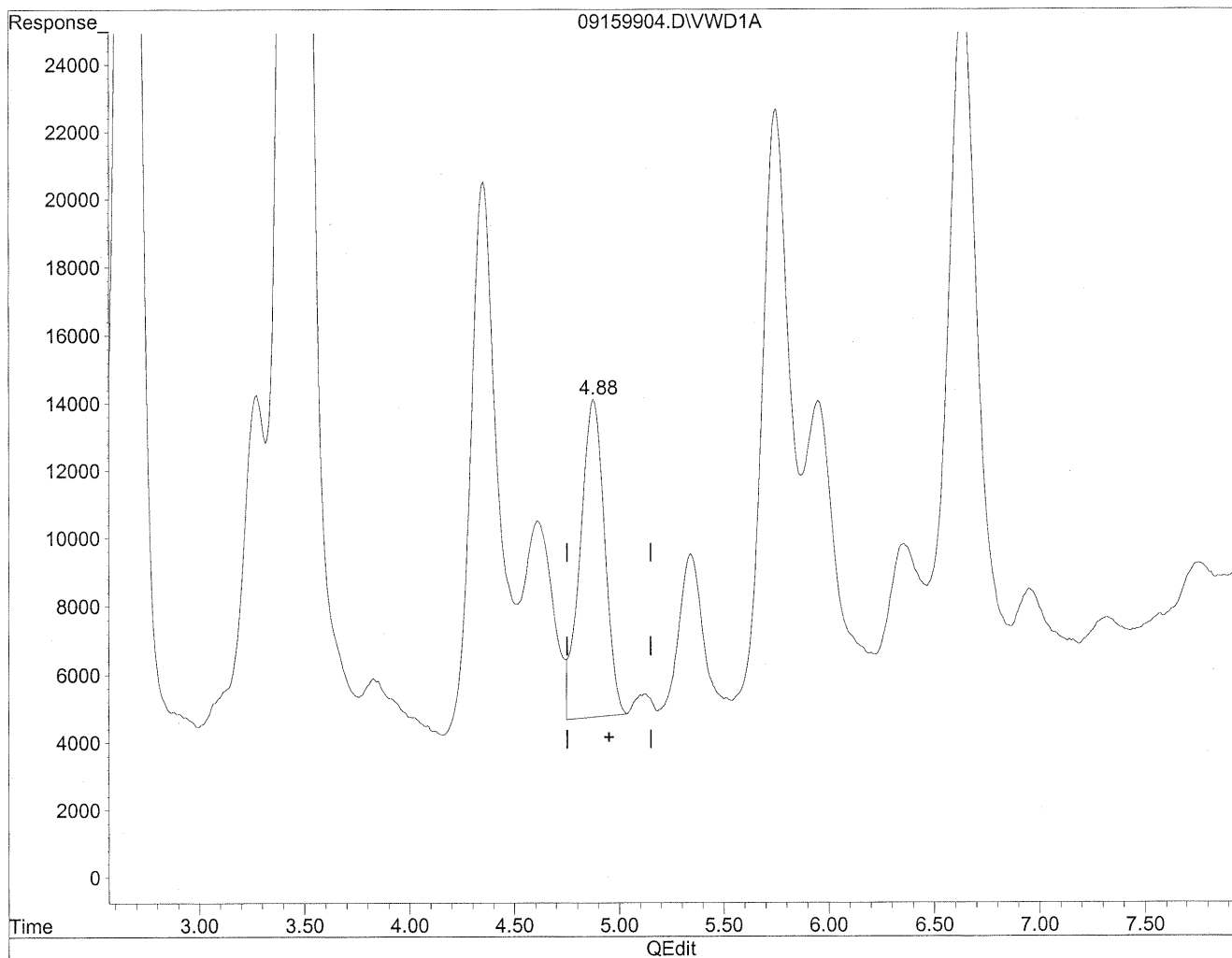
(4) Crotonaldehyde
0.00min 0.000ng/ml d
response 0

ku
9/21/09
me
9/21/09
mp

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159904.D Vial: 186
Acq On : 16-Sep-2009, 04:44 Operator: MD
Sample : P0903195-021 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

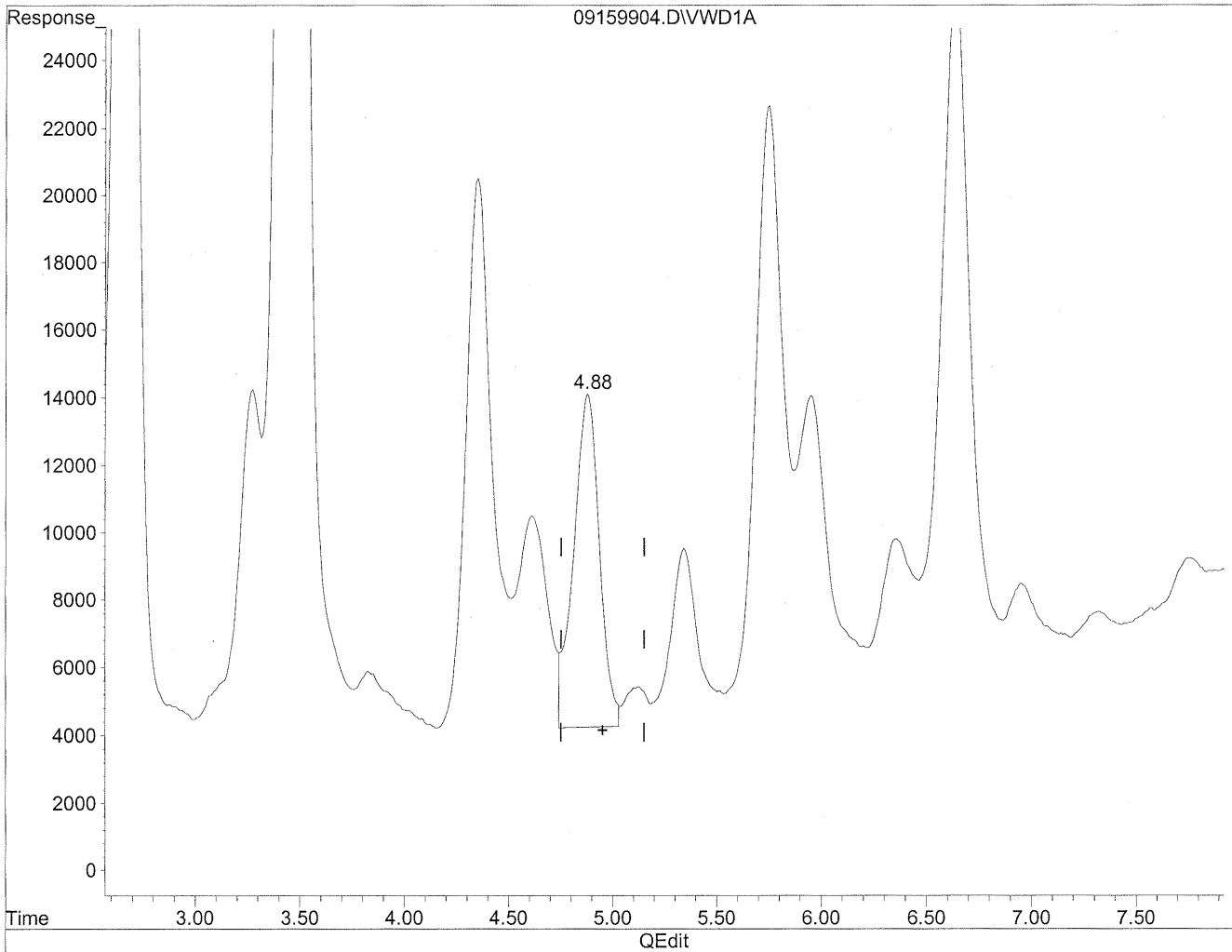


(5) Butyraldehyde
4.88min 187.679ng/ml
response 760619

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159904.D Vial: 186
Acq On : 16-Sep-2009, 04:44 Operator: MD
Sample : P0903195-021 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



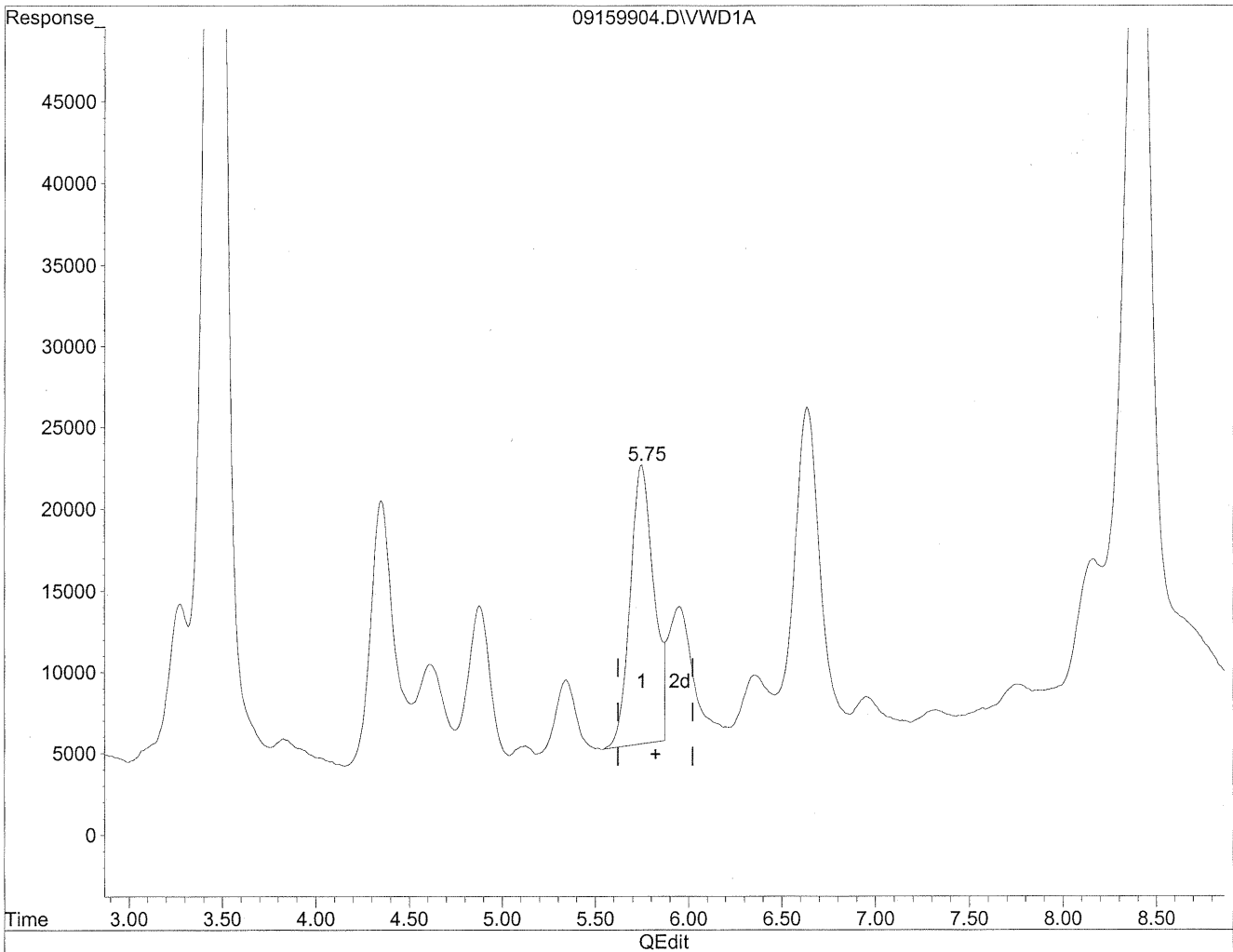
(5) Butyraldehyde
4.88min 210.467ng/ml m
response 852974

HC
9/21/09
(M)
9/21/09
pc

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159904.D Vial: 186
Acq On : 16-Sep-2009, 04:44 Operator: MD
Sample : P0903195-021 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

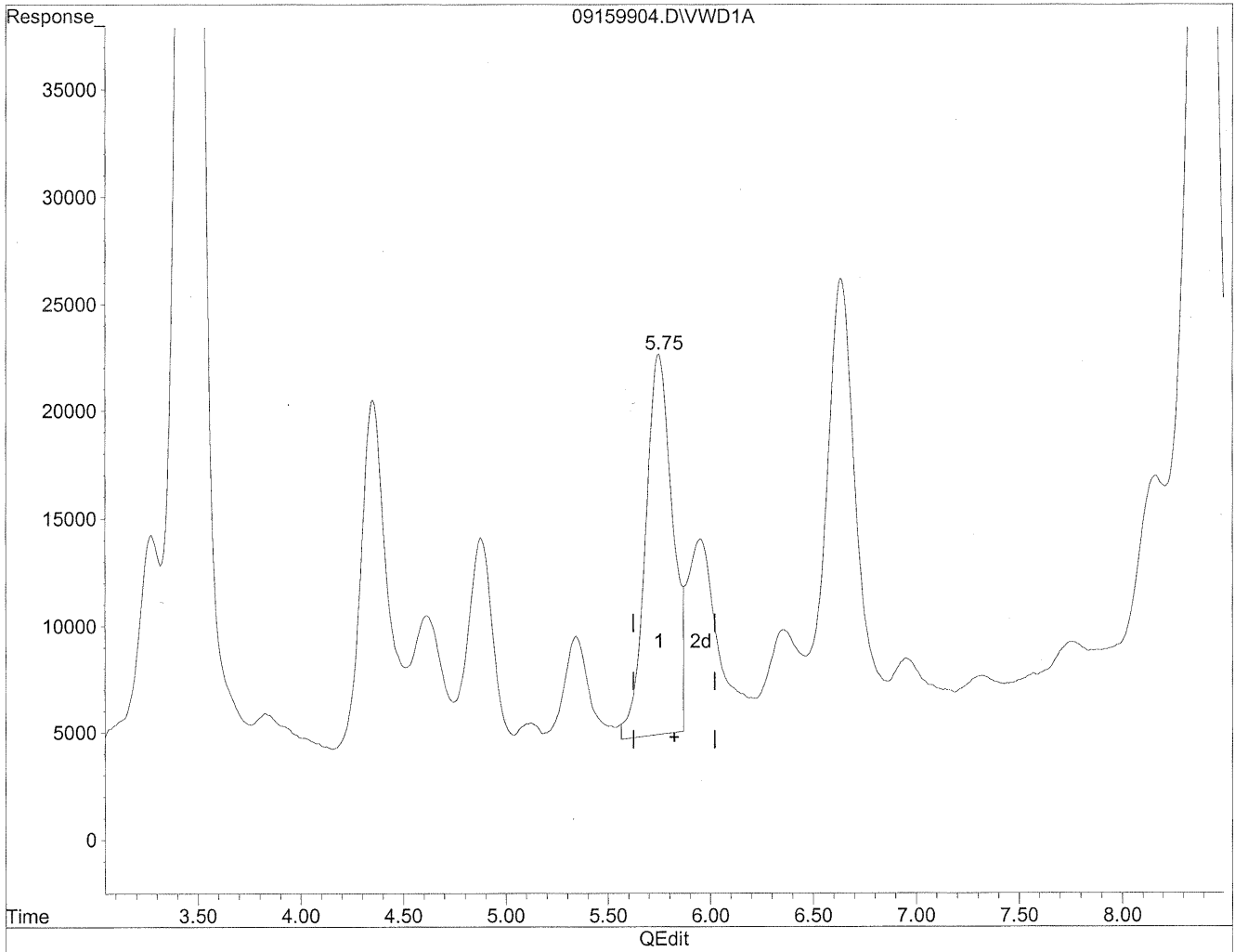


(6) Benzaldehyde
5.75min 551.970ng/ml
response 1505983

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159904.D Vial: 186
Acq On : 16-Sep-2009, 04:44 Operator: MD
Sample : P0903195-021 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



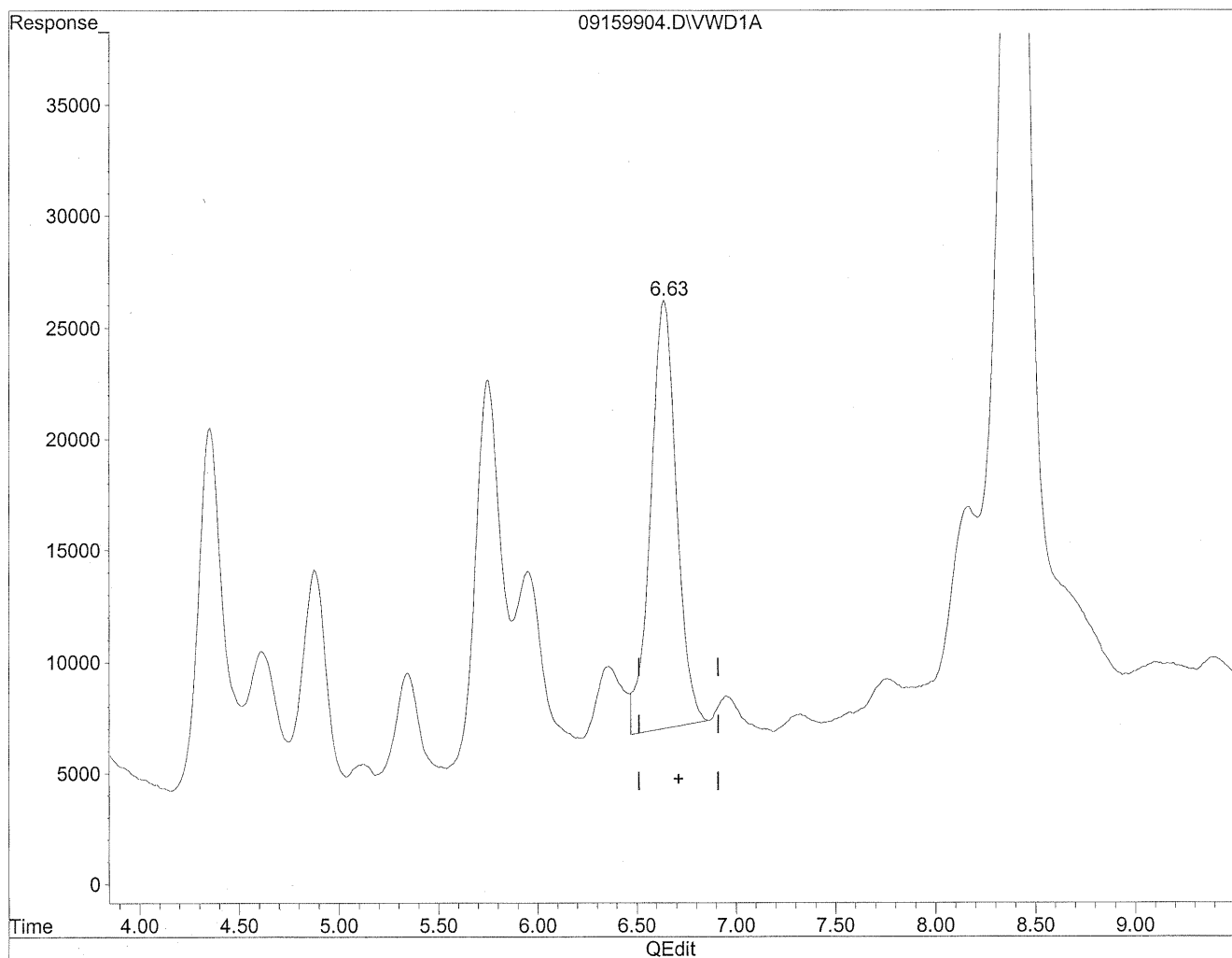
(6) Benzaldehyde
5.75min 603.409ng/ml m
response 1646329

MD
9/21/09
BC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159904.D Vial: 186
Acq On : 16-Sep-2009, 04:44 Operator: MD
Sample : P0903195-021 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

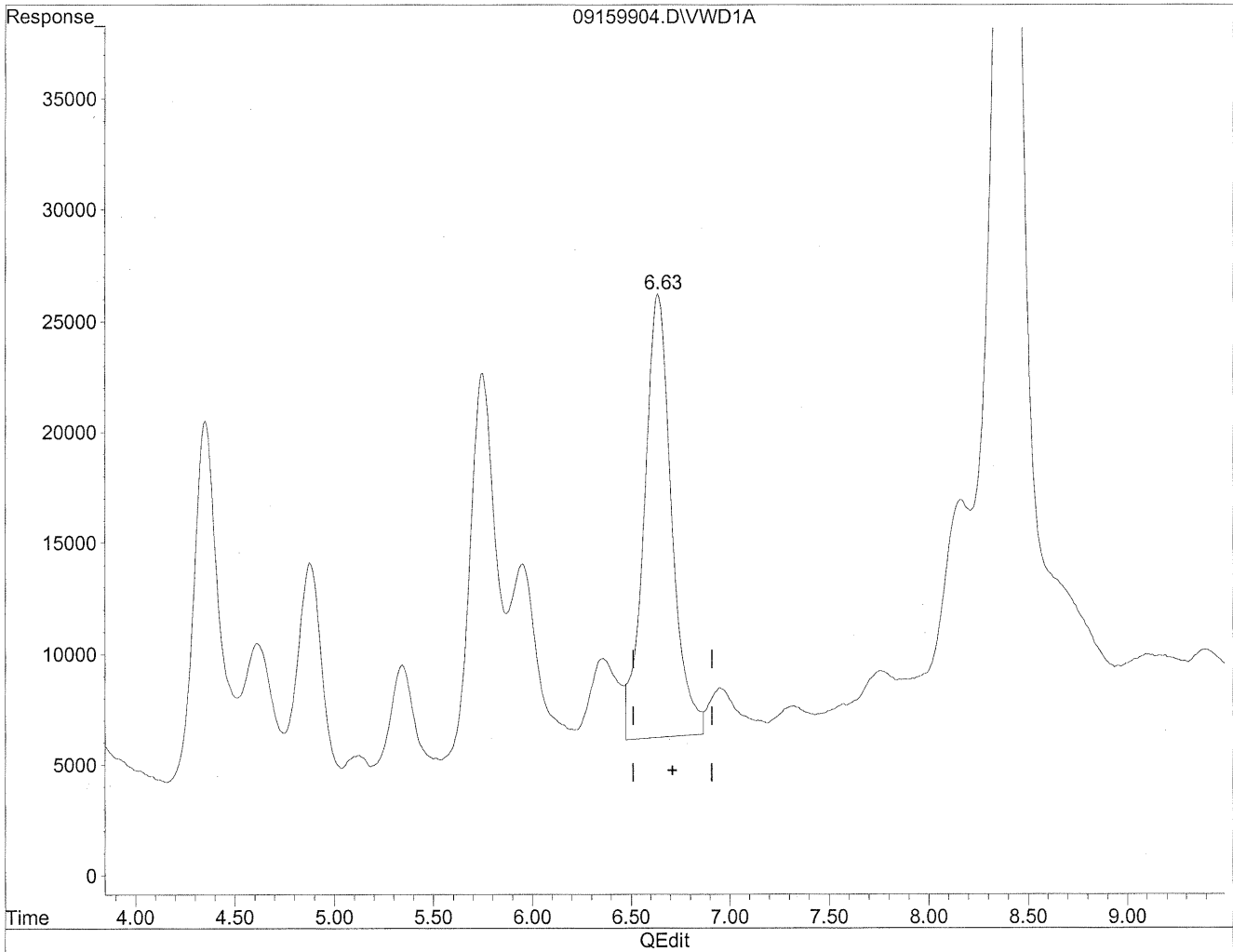


(8) Valeraldehyde
6.64min 512.571ng/ml
response 1742557

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159904.D Vial: 186
Acq On : 16-Sep-2009, 04:44 Operator: MD
Sample : P0903195-021 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



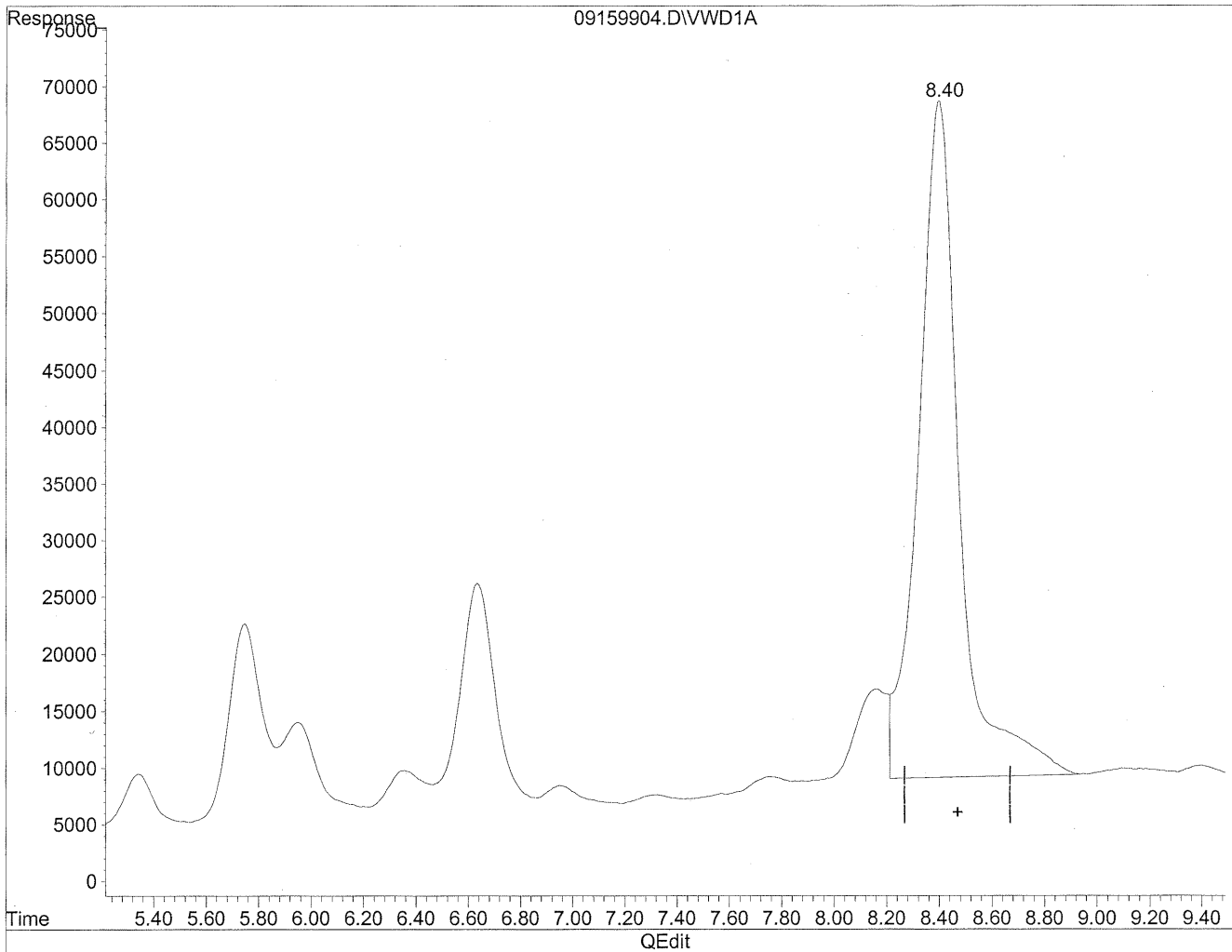
(8) Valeraldehyde
6.63min 565.698ng/ml m
response 1923170

Handwritten notes:
Kuc
9/21/09
MD
9/21/09
PC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159904.D Vial: 186
Acq On : 16-Sep-2009, 04:44 Operator: MD
Sample : P0903195-021 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

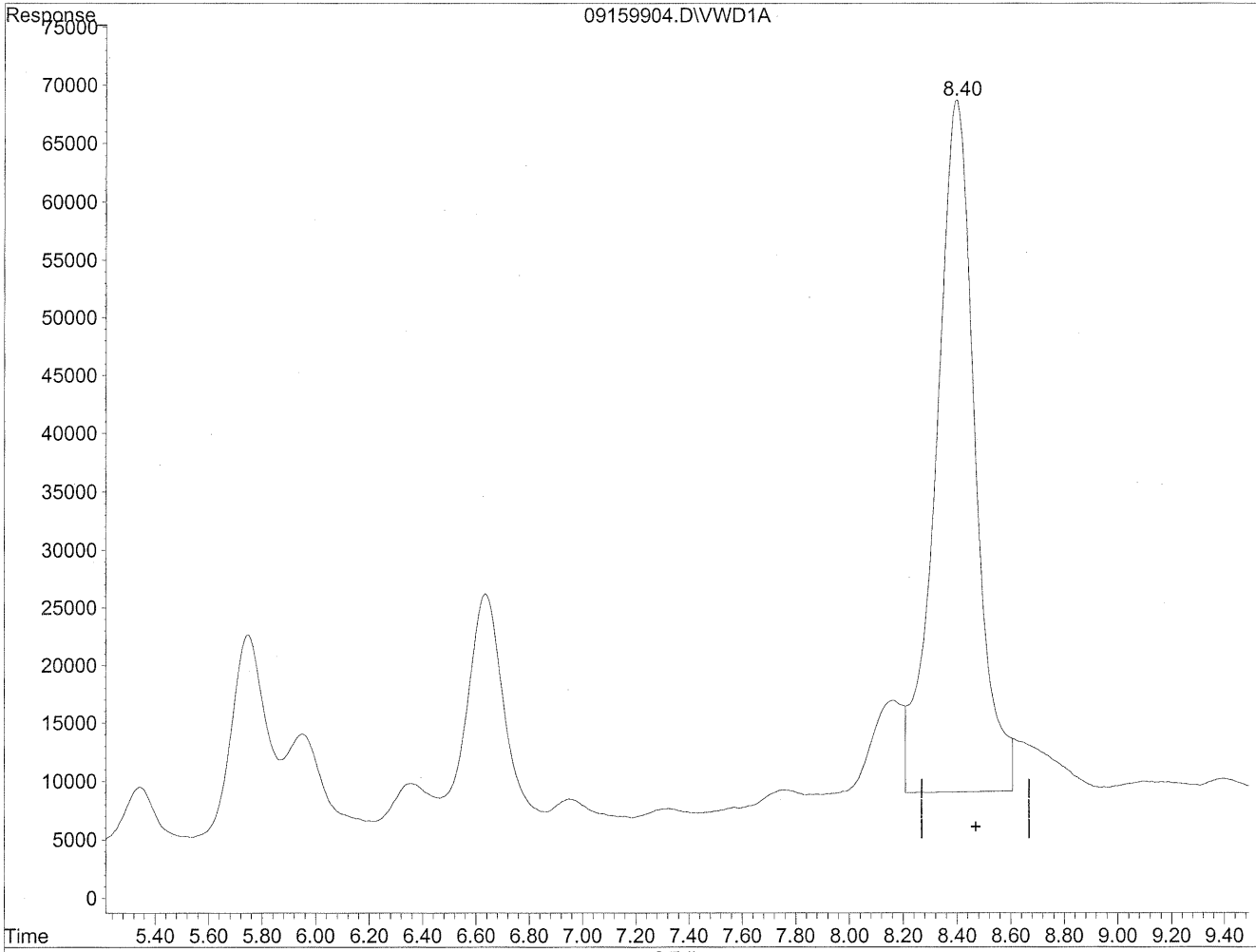


(11) Hexaldehyde
8.40min 2168.229ng/ml
response 6419528

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159904.D Vial: 186
Acq On : 16-Sep-2009, 04:44 Operator: MD
Sample : P0903195-021 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:50 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde

8.40min 2021.363ng/ml m

response 5984700

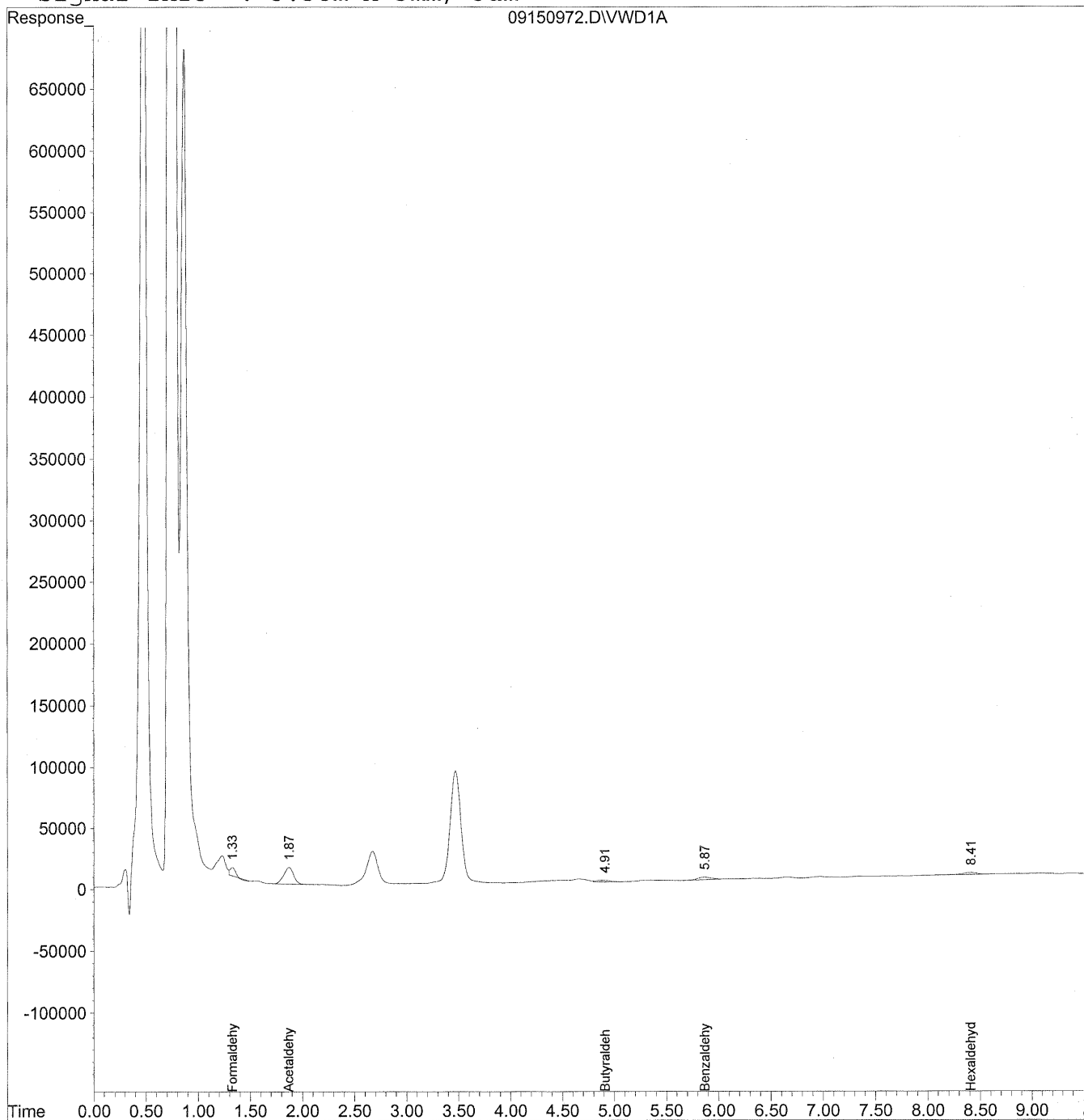
Handwritten notes:
yu
9/21/09
W
9/21/09
zy

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150972.D Vial: 160
Acq On : 15-Sep-2009, 22:32 Operator: MD
Sample : P0903195-021 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:23 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 17 16:12:59 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



377

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150972.D Vial: 160
 Acq On : 15-Sep-2009, 22:32 Operator: MD
 Sample : P0903195-021 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 16:23 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 17 16:12:59 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	231993	25.963 ng/ml
2) Acetaldehyde	1.87	891454	137.130 ng/ml
3) Propionaldehyde	0.00	0	N.D. ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	4.91	122912	30.328 ng/ml
6) Benzaldehyde	5.87	192500	70.555 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	8.41	153183	51.738 ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.

Client Sample ID: 104740

Client Project ID: 16512

CAS Project ID: P0903195

CAS Sample ID: P0903195-022

Test Code: EPA Method TO-11A

Instrument ID: HP1050/LC2

Analyst: Madeleine Dangazyan

Sampling Media: Silica Gel DNPH Tube

Test Notes: BC

Date Collected: 8/31/09

Date Received: 9/10/09

Date Analyzed: 9/15 - 9/16/09

Desorption Volume: 1.0 ml

Volume Sampled: 101 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	8,200	82	0.99	67	0.81	
75-07-0	Acetaldehyde	3,200	32	0.99	18	0.55	
123-38-6	Propionaldehyde	520	5.2	0.99	2.2	0.42	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.99	ND	0.35	
123-72-8	Butyraldehyde	580	5.8	0.99	2.0	0.34	
100-52-7	Benzaldehyde	1,200	12	0.99	2.7	0.23	
590-86-3	Isovaleraldehyde	240	2.4	0.99	0.68	0.28	
110-62-3	Valeraldehyde	1,700	17	0.99	4.9	0.28	
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	6,400	63	0.99	15	0.24	
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.

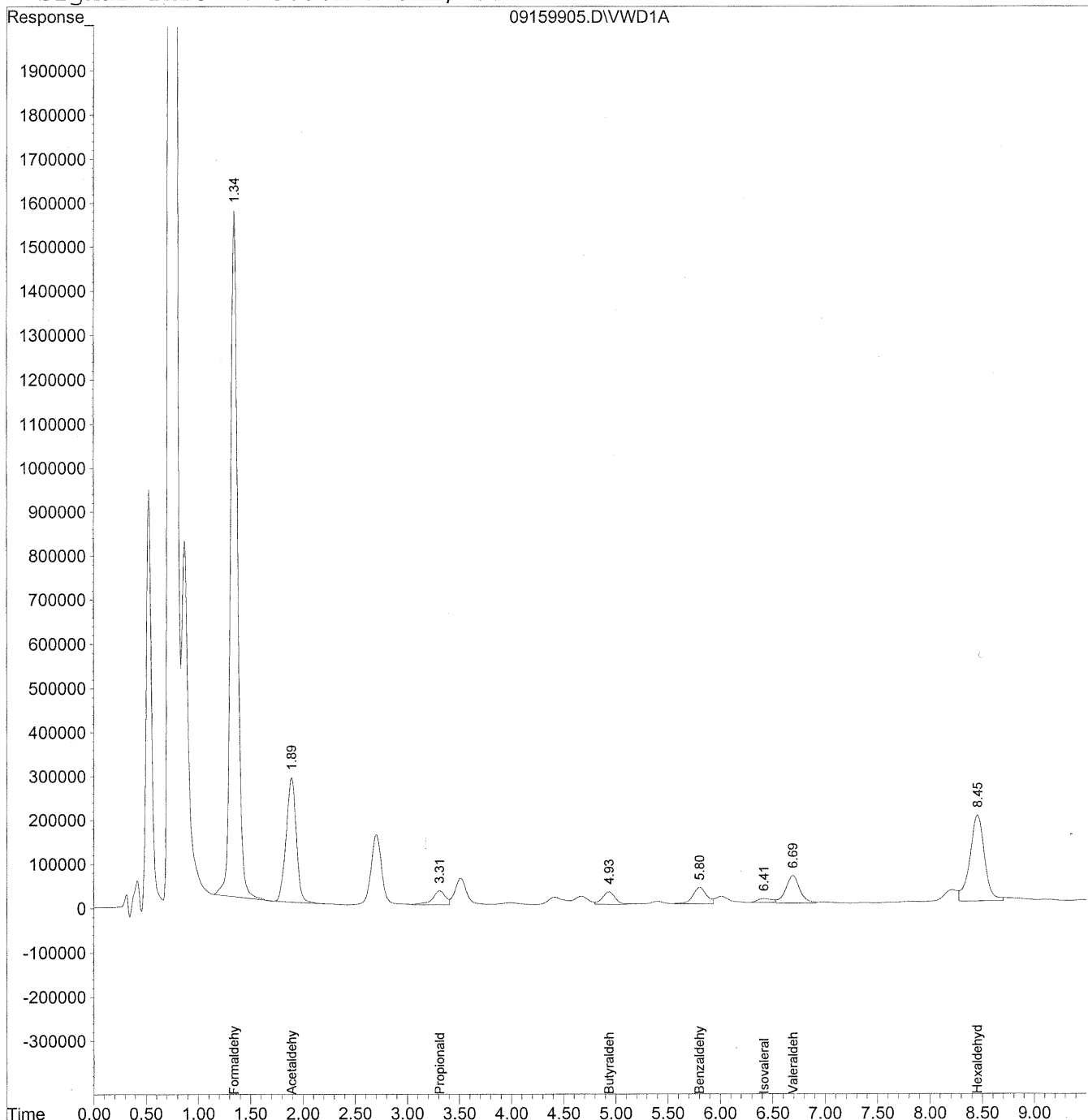
Verified By: fu Date: 9/14/09 **379**

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159905.D Vial: 187
Acq On : 16-Sep-2009, 04:56 Operator: MD
Sample : P0903195-022 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:55 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09159905.D Vial: 187
 Acq On : 16-Sep-2009, 04:56 Operator: MD
 Sample : P0903195-022 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:55 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 17 16:12:59 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

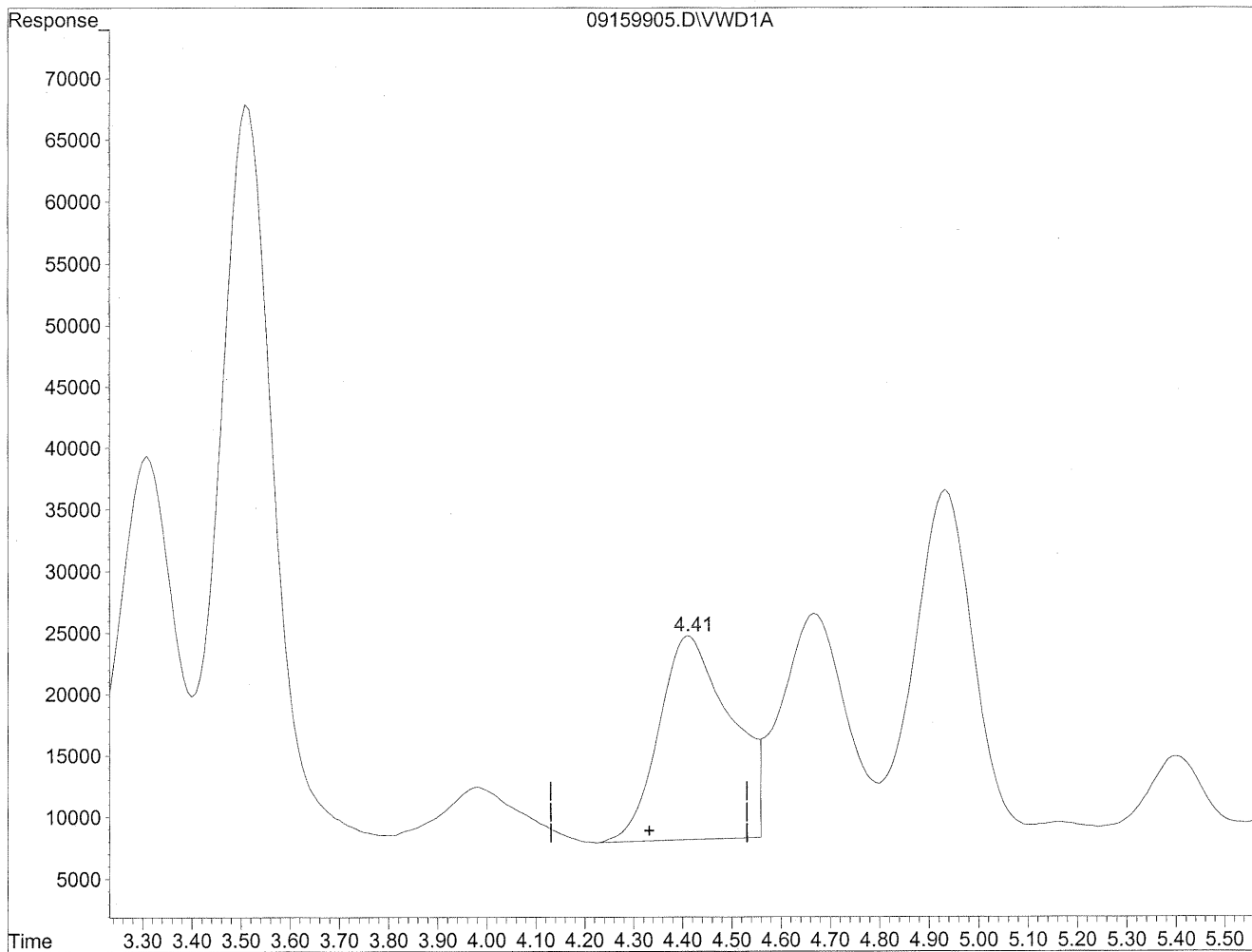
Compound	R.T.	Response	Conc	Units

Target Compounds				
1) Formaldehyde	1.35	73690994	8247.055	ng/ml
2) Acetaldehyde	1.89	18940987	2913.641	ng/ml
3) Propionaldehyde	3.31	2725443	524.343	ng/ml
4) Crotonaldehyde	0.00	0	N.D.	ng/ml
5) Butyraldehyde	4.93	2361244	582.625	ng/mlm
6) Benzaldehyde	5.80	3287700	1205.002	ng/mlm
7) Isovaleraldehyde	6.41	834246	242.387	ng/mlm
8) Valeraldehyde	6.69	5870928	1726.927	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	8.45	18911722	6387.532	ng/mlm
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D.	ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159905.D Vial: 187
Acq On : 16-Sep-2009, 04:56 Operator: MD
Sample : P0903195-022 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:53 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

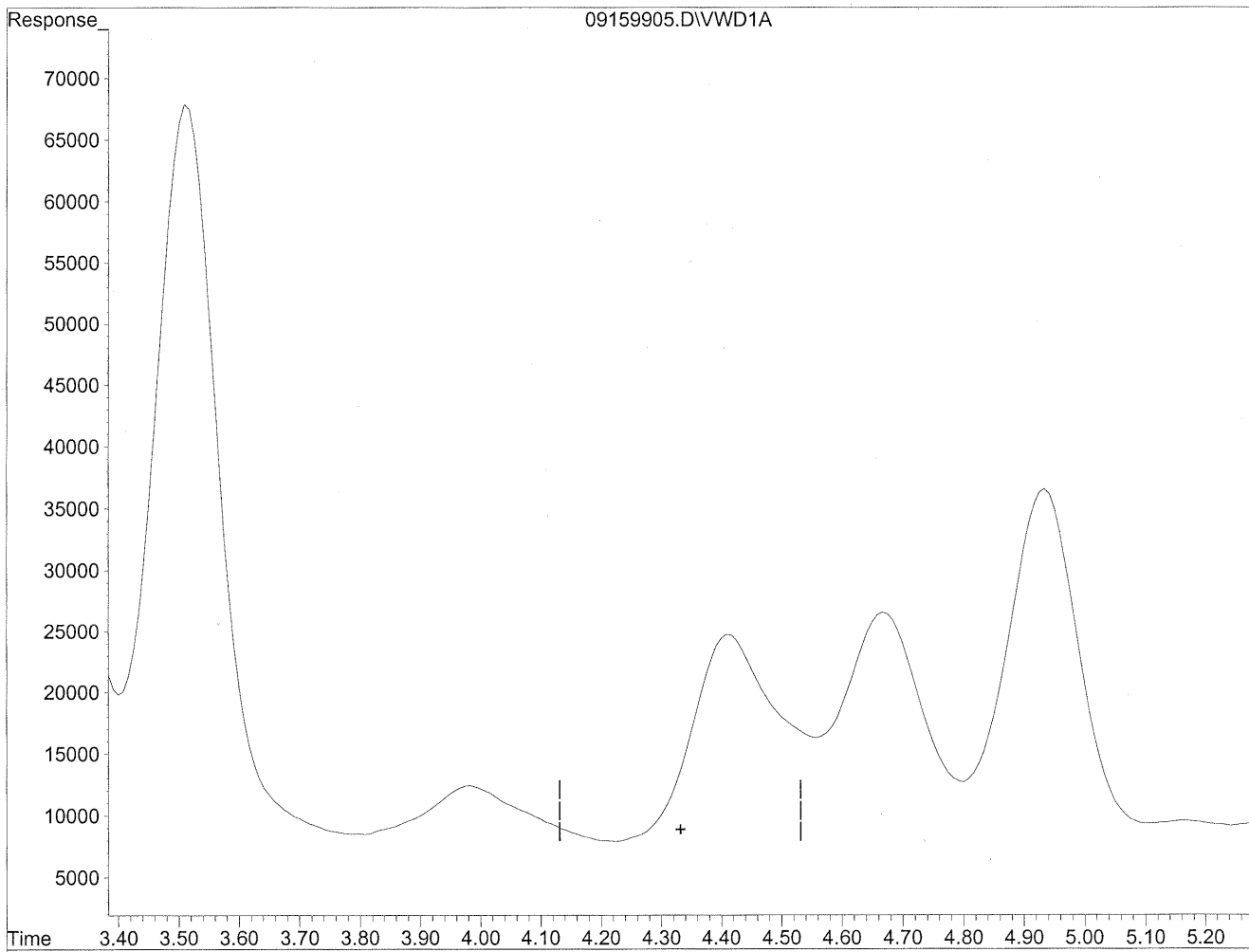


(4) Crotonaldehyde
4.41min 412.938ng/ml
response 1676353

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159905.D Vial: 187
Acq On : 16-Sep-2009, 04:56 Operator: MD
Sample : P0903195-022 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:53 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(4) Crotonaldehyde
0.00min 0.000ng/ml d
response 0

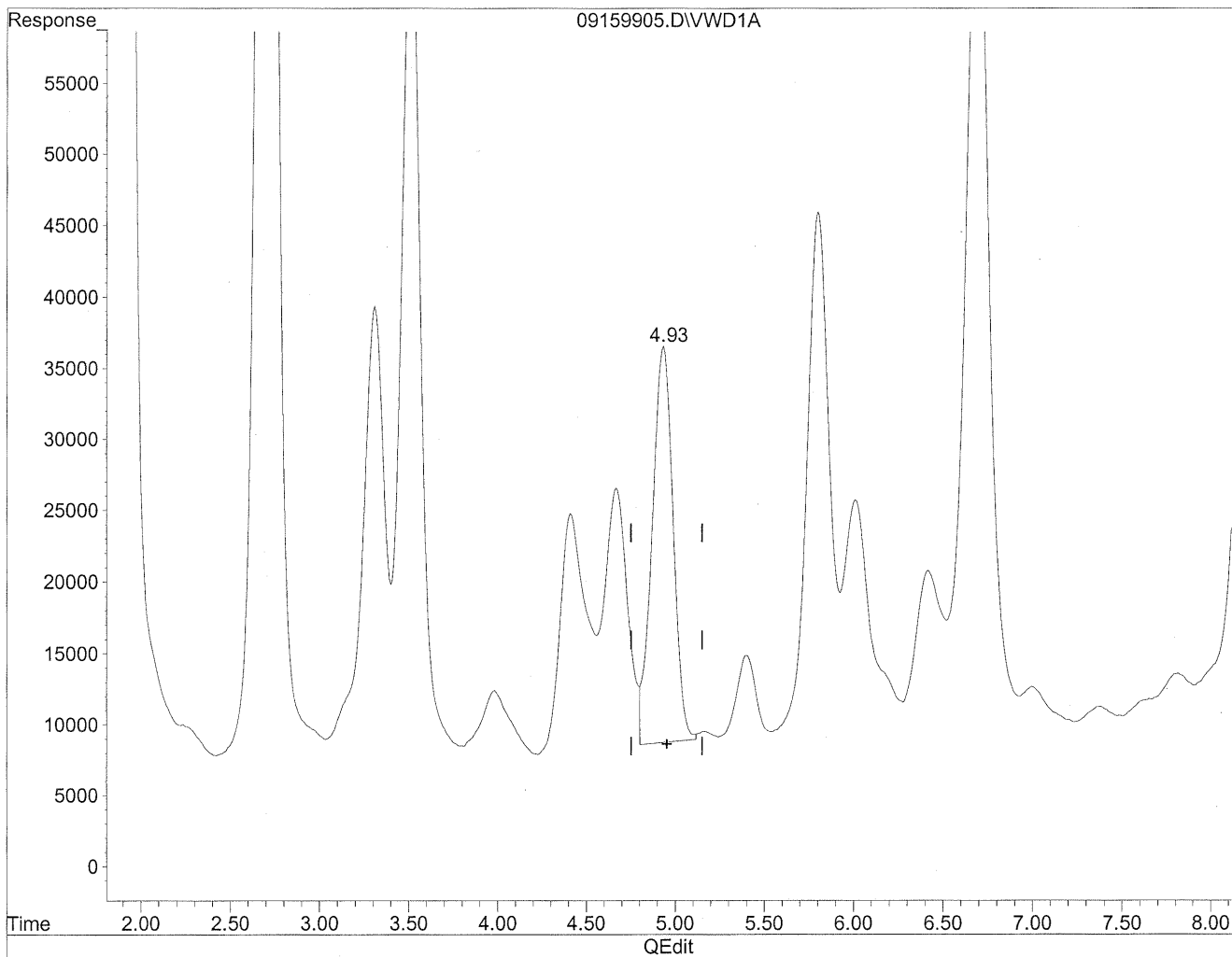
*MC
9/21/09*

*MD
9/21/09
mp*

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159905.D Vial: 187
Acq On : 16-Sep-2009, 04:56 Operator: MD
Sample : P0903195-022 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:53 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

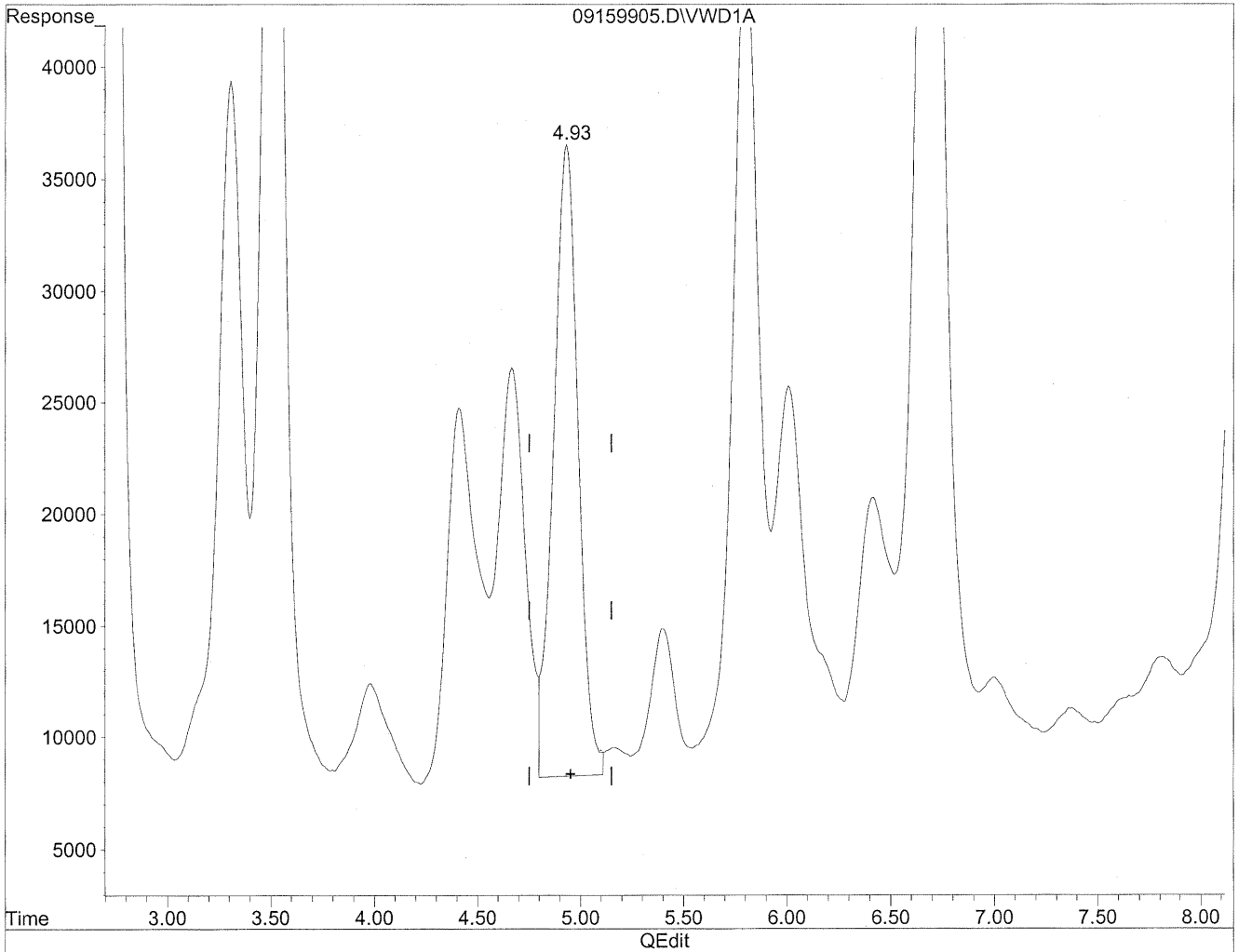


(5) Butyraldehyde
4.94min 558.167ng/ml
response 2262120

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159905.D Vial: 187
Acq On : 16-Sep-2009, 04:56 Operator: MD
Sample : P0903195-022 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:53 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



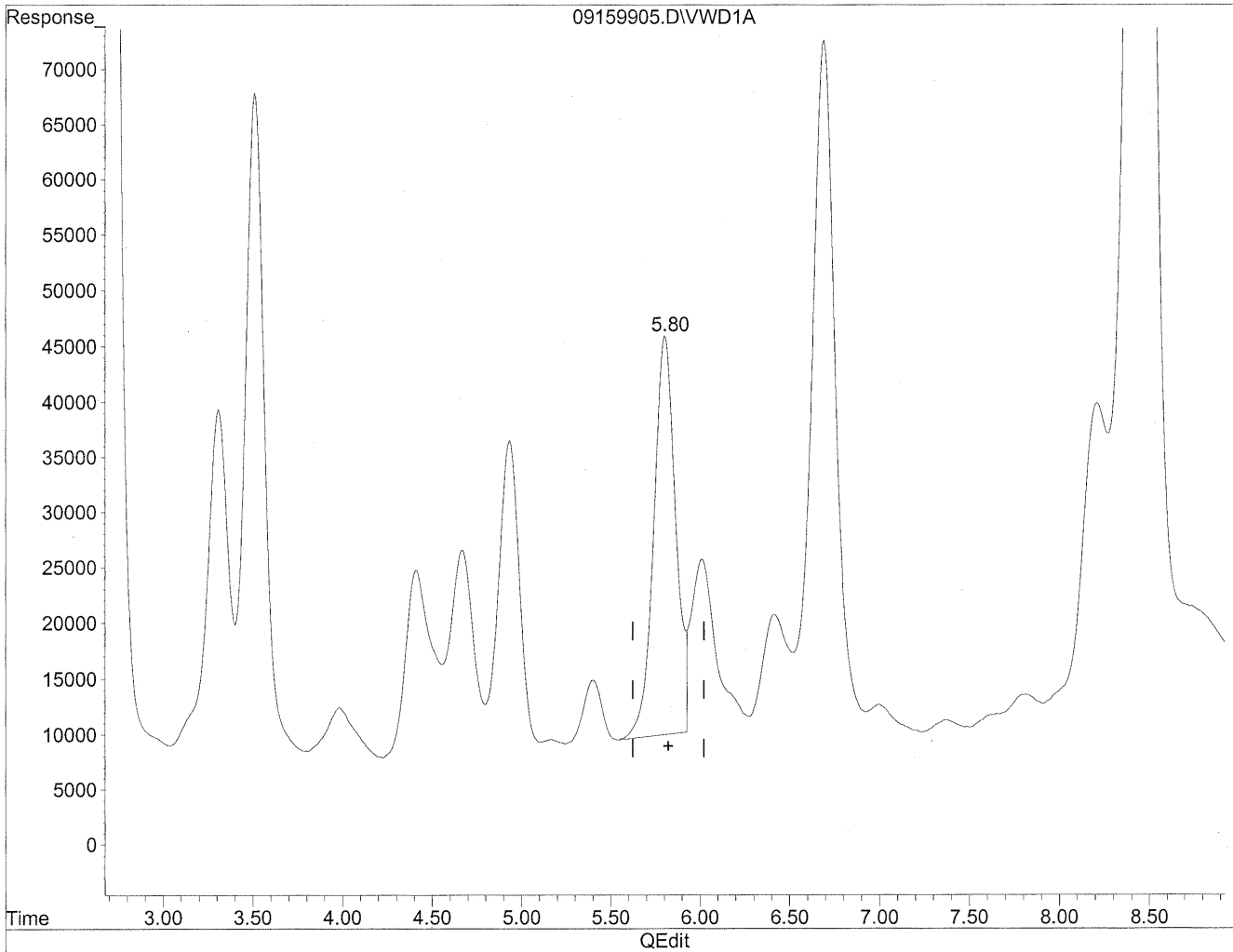
(5) Butyraldehyde
4.93min 582.625ng/ml m
response 2361244

Handwritten notes:
MC
9/21/09
9/21/09
PC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159905.D Vial: 187
Acq On : 16-Sep-2009, 04:56 Operator: MD
Sample : P0903195-022 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:53 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

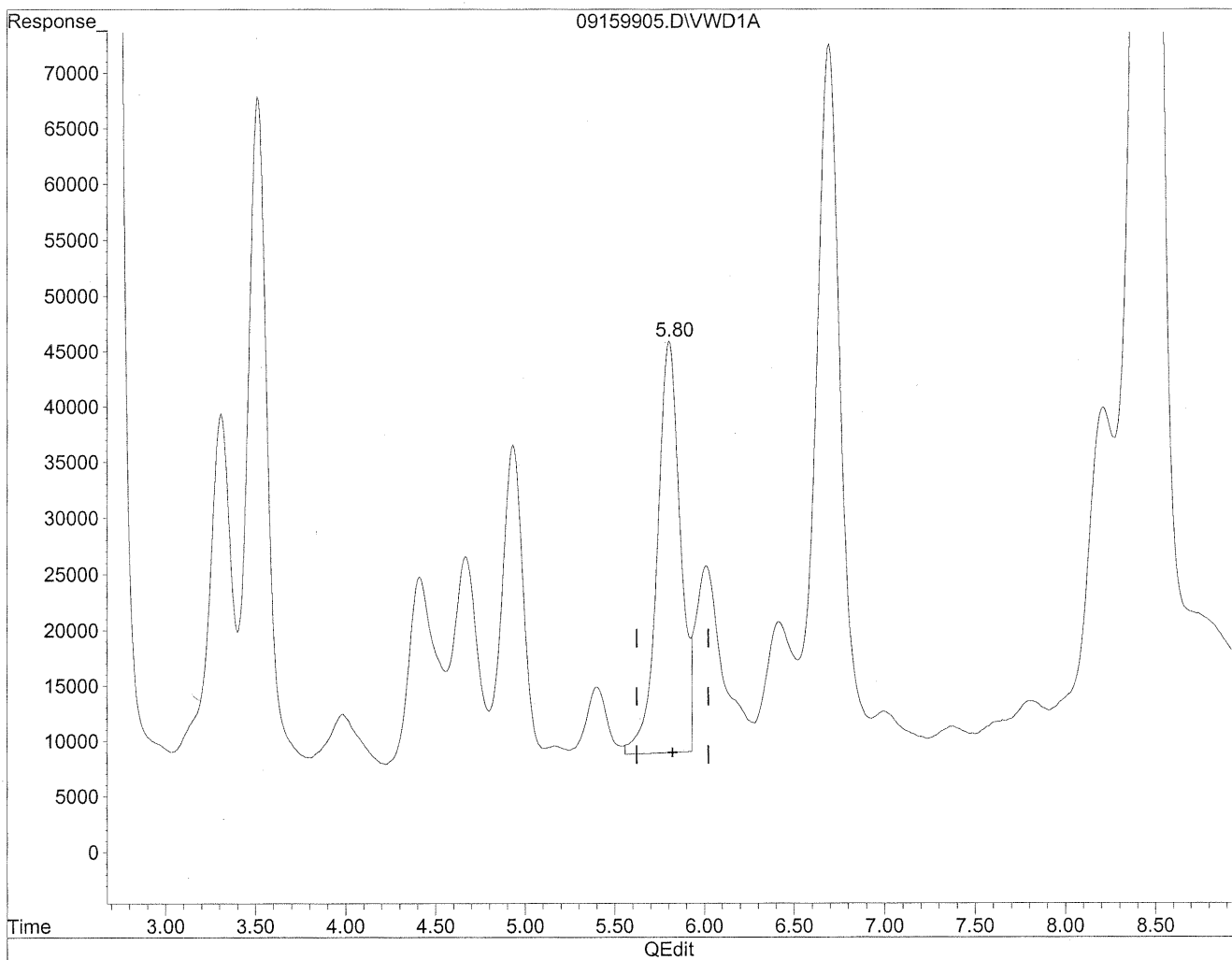


(6) Benzaldehyde
5.81min 1120.184ng/ml
response 3056284

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159905.D Vial: 187
Acq On : 16-Sep-2009, 04:56 Operator: MD
Sample : P0903195-022 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:53 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



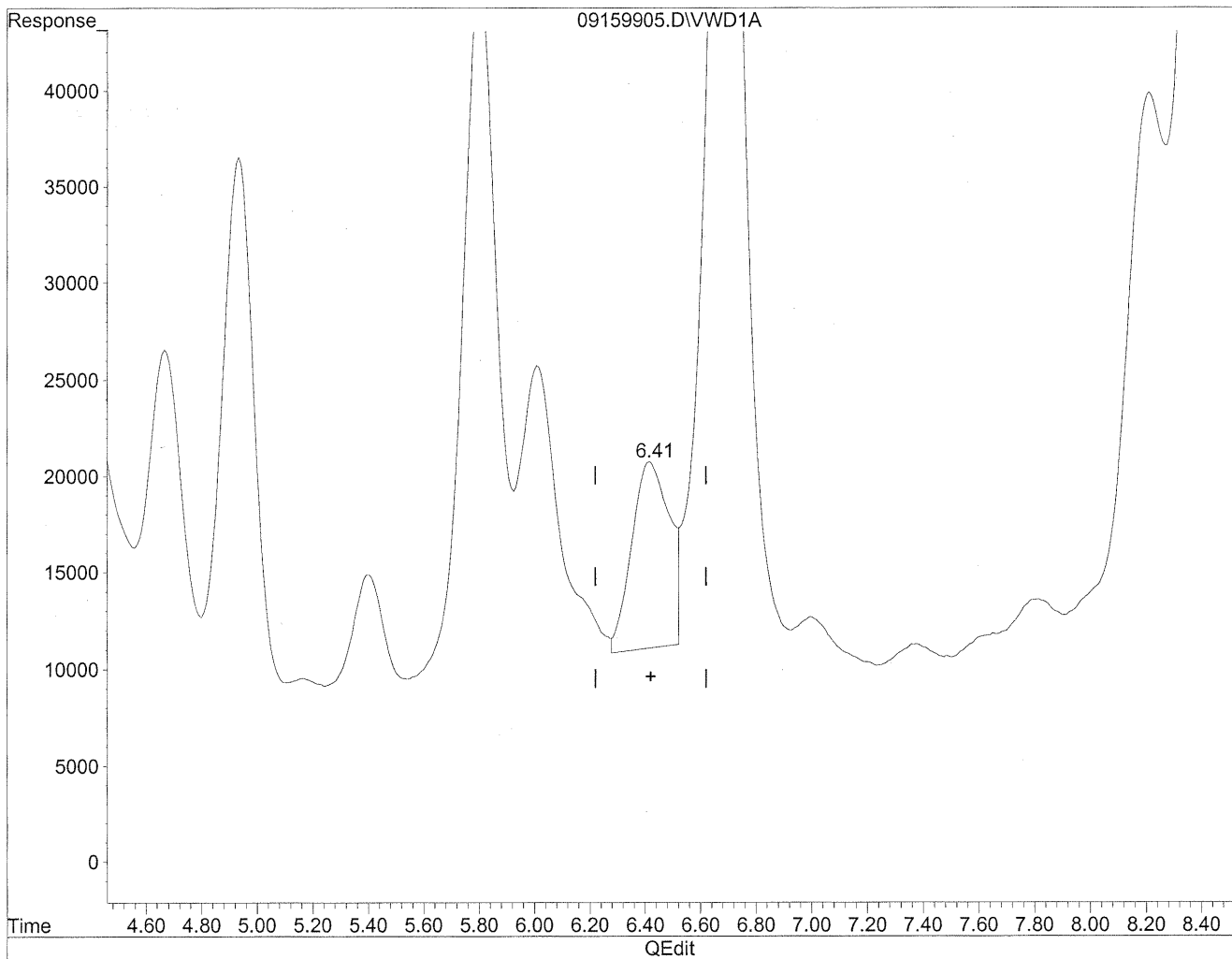
(6) Benzaldehyde
5.80min 1205.002ng/ml m
response 3287700

MD
9/21/09
PC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159905.D Vial: 187
Acq On : 16-Sep-2009, 04:56 Operator: MD
Sample : P0903195-022 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:53 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

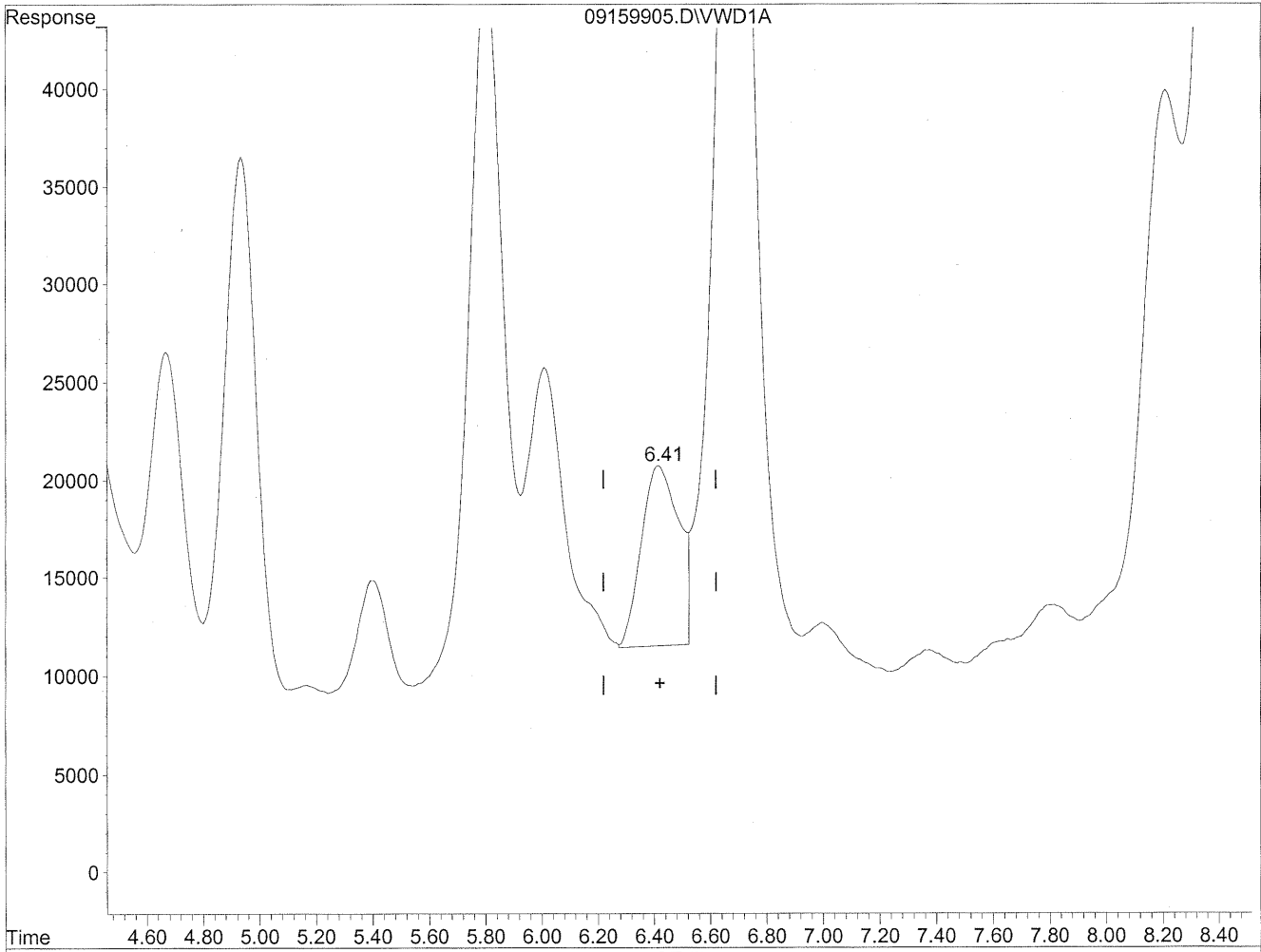


(7) Isovaleraldehyde
6.42min 263.790ng/ml
response 907909

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159905.D Vial: 187
Acq On : 16-Sep-2009, 04:56 Operator: MD
Sample : P0903195-022 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:53 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



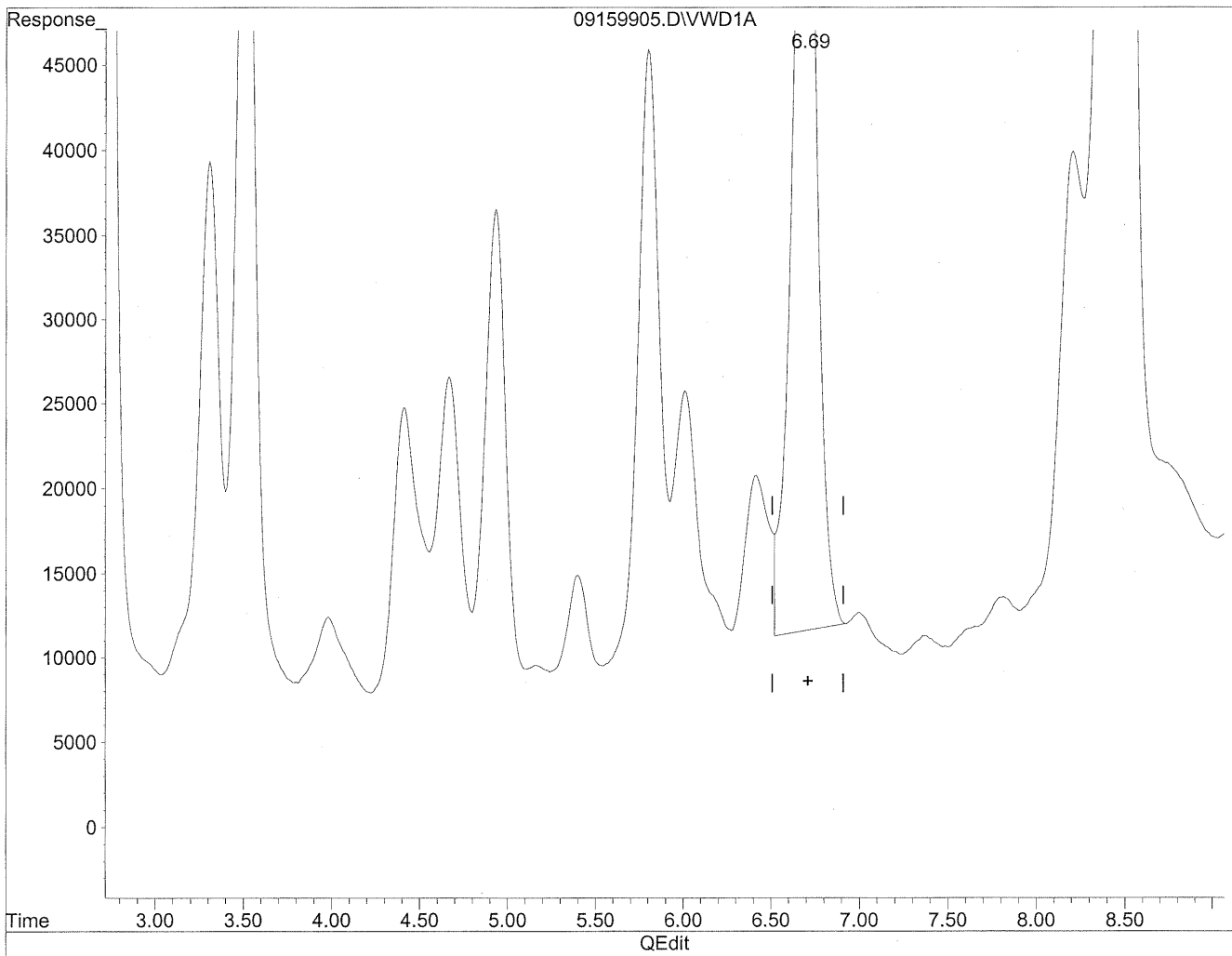
(7) Isovaleraldehyde
6.41min 242.387ng/ml m
response 834246

Handwritten notes:
the
9/21/09
MD
9/21/09
BC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159905.D Vial: 187
Acq On : 16-Sep-2009, 04:56 Operator: MD
Sample : P0903195-022 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:53 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

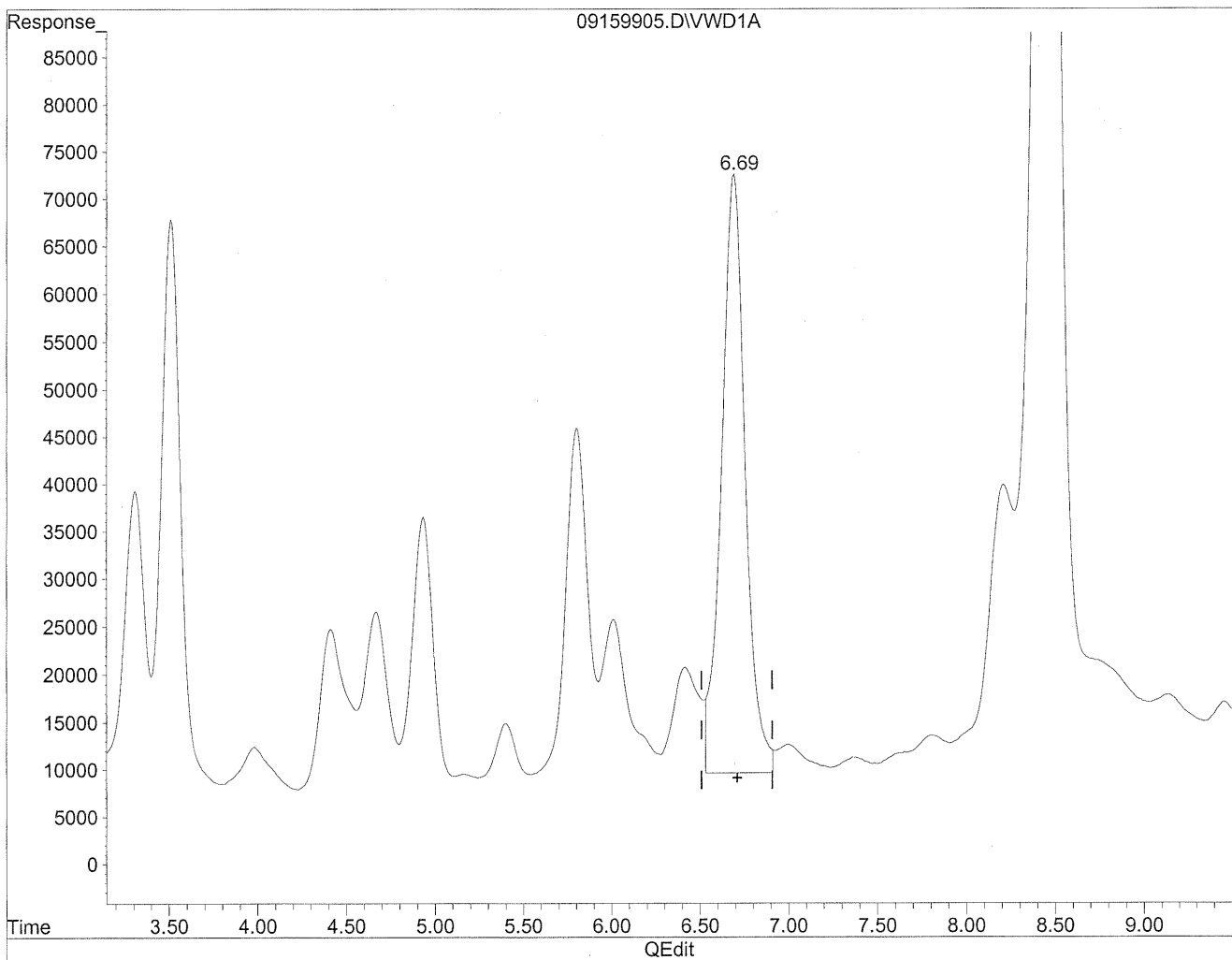


(8) Valeraldehyde
6.69min 1607.189ng/ml
response 5463863

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159905.D Vial: 187
Acq On : 16-Sep-2009, 04:56 Operator: MD
Sample : P0903195-022 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:53 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



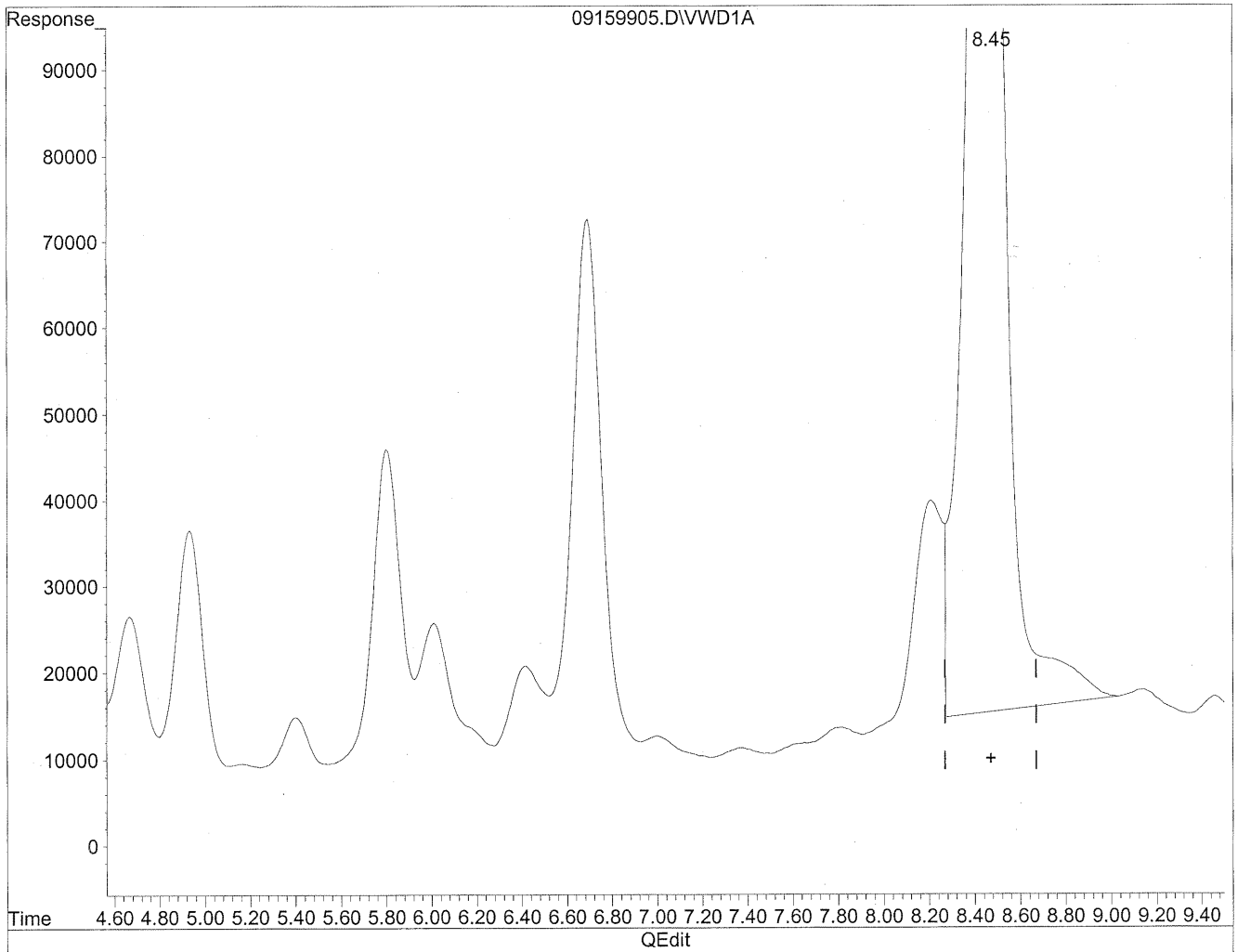
(8) Valeraldehyde
6.69min 1726.927ng/ml m
response 5870928

Handwritten notes:
m
9/21/09
PC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159905.D Vial: 187
Acq On : 16-Sep-2009, 04:56 Operator: MD
Sample : P0903195-022 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:53 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

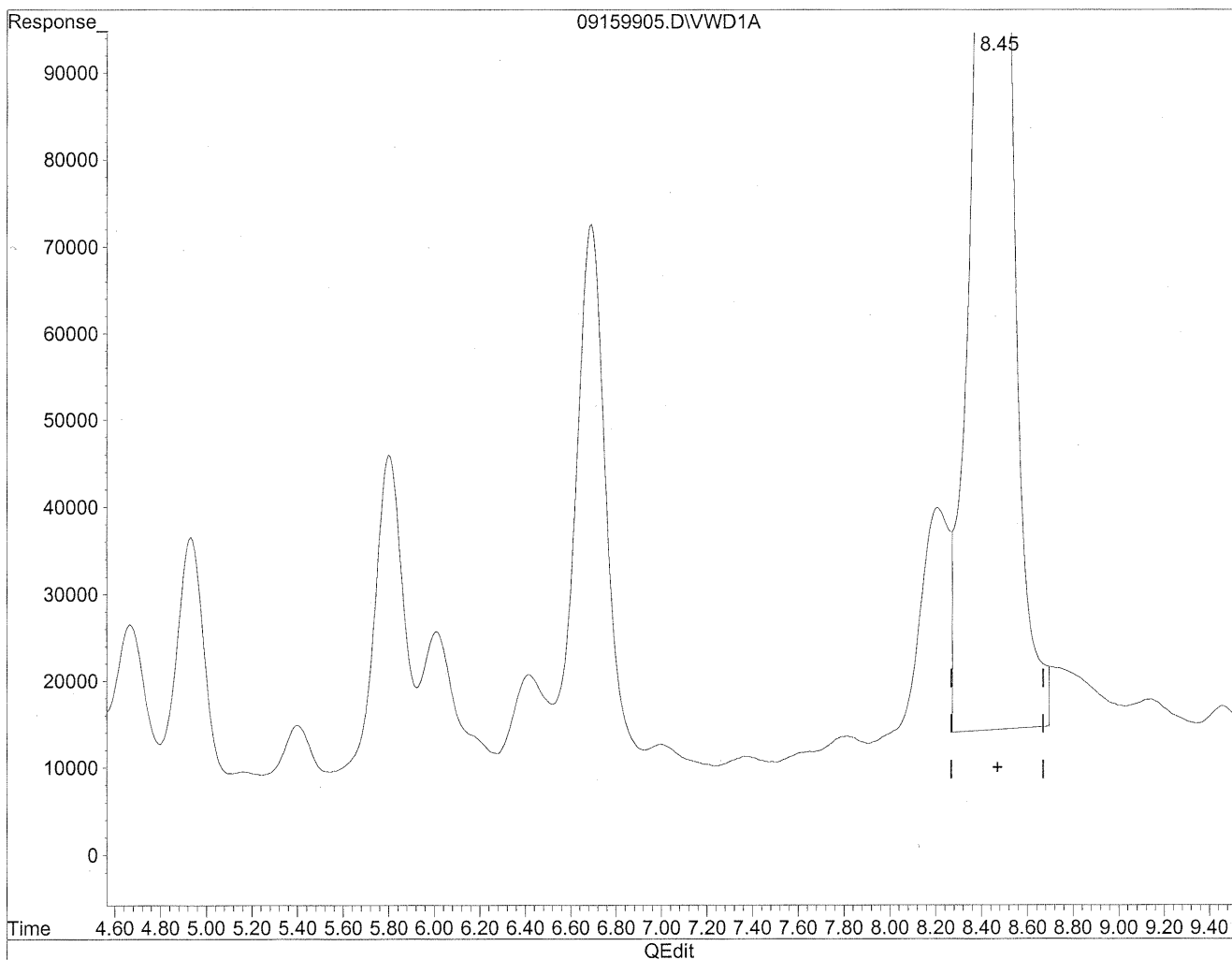


(11) Hexaldehyde
8.46min 6522.302ng/ml
response 19310741

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159905.D Vial: 187
Acq On : 16-Sep-2009, 04:56 Operator: MD
Sample : P0903195-022 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:53 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde
8.45min 6387.532ng/ml m
response 18911722

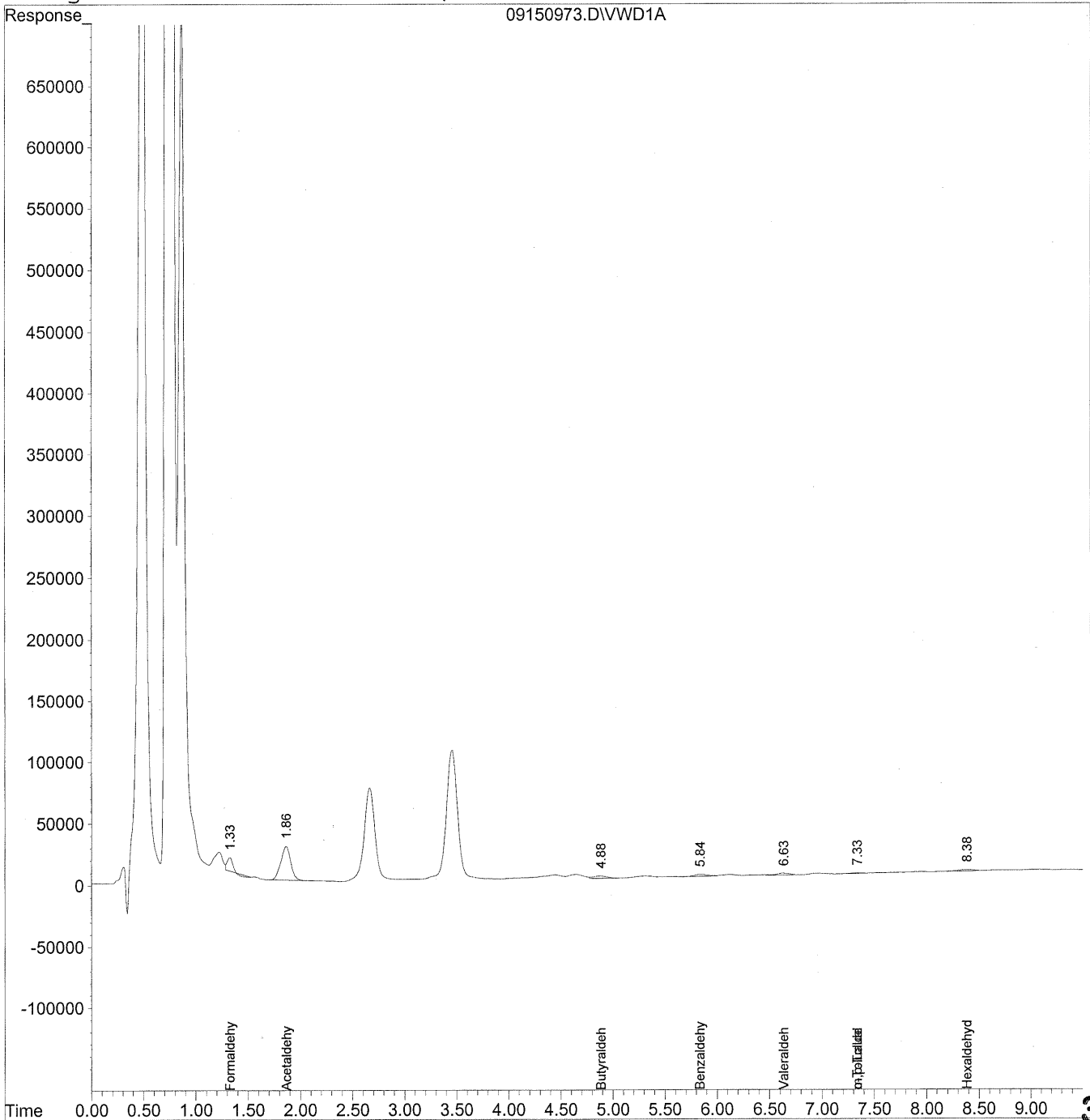
Handwritten notes:
HC
9/21/09
9/21/09
SH
(M)

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150973.D Vial: 161
Acq On : 15-Sep-2009, 22:44 Operator: MD
Sample : P0903195-022 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:24 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150973.D Vial: 161
 Acq On : 15-Sep-2009, 22:44 Operator: MD
 Sample : P0903195-022 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 16:24 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 17 16:12:59 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	355322	39.766 ng/ml
2) Acetaldehyde	1.87	1800802	277.012 ng/ml
3) Propionaldehyde	0.00	0	N.D. ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	4.89	168290	41.525 ng/ml
6) Benzaldehyde	5.84	148551	54.447 ng/ml
7) Isovaleraldehyde	0.00	0	N.D. ng/ml
8) Valeraldehyde	6.64	131727	38.747 ng/ml
9) o-Tolualdehyde	7.34f	42522	19.376 ng/ml
10) m,p-Tolualdehyde	7.34	42522	18.512 ng/ml
11) Hexaldehyde	8.39	112946	38.148 ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.

Client Sample ID: 104741

Client Project ID: 16512

CAS Project ID: P0903195

CAS Sample ID: P0903195-023

Test Code: EPA Method TO-11A

Instrument ID: HP1050/LC2

Analyst: Madeleine Dangazyan

Sampling Media: Silica Gel DNPH Tube

Test Notes: BC

Date Collected: 8/31/09

Date Received: 9/10/09

Date Analyzed: 9/15 - 9/16/09

Desorption Volume: 1.0 ml

Volume Sampled: 100 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	5,500	55	1.0	45	0.81	
75-07-0	Acetaldehyde	1,200	12	1.0	6.8	0.56	BT
123-38-6	Propionaldehyde	140	1.4	1.0	0.58	0.42	
4170-30-3	Crotonaldehyde, Total	< 100	ND	1.0	ND	0.35	
123-72-8	Butyraldehyde	230	2.3	1.0	0.77	0.34	
100-52-7	Benzaldehyde	760	7.6	1.0	1.8	0.23	
590-86-3	Isovaleraldehyde	< 100	ND	1.0	ND	0.28	
110-62-3	Valeraldehyde	660	6.6	1.0	1.9	0.28	
529-20-4	o-Tolualdehyde	< 100	ND	1.0	ND	0.20	
620-23-5							
104-87-0	m,p-Tolualdehyde	< 200	ND	2.0	ND	0.41	
66-25-1	n-Hexaldehyde	2,300	23	1.0	5.5	0.24	
5779-94-2	2,5-Dimethylbenzaldehyde	< 100	ND	1.0	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.

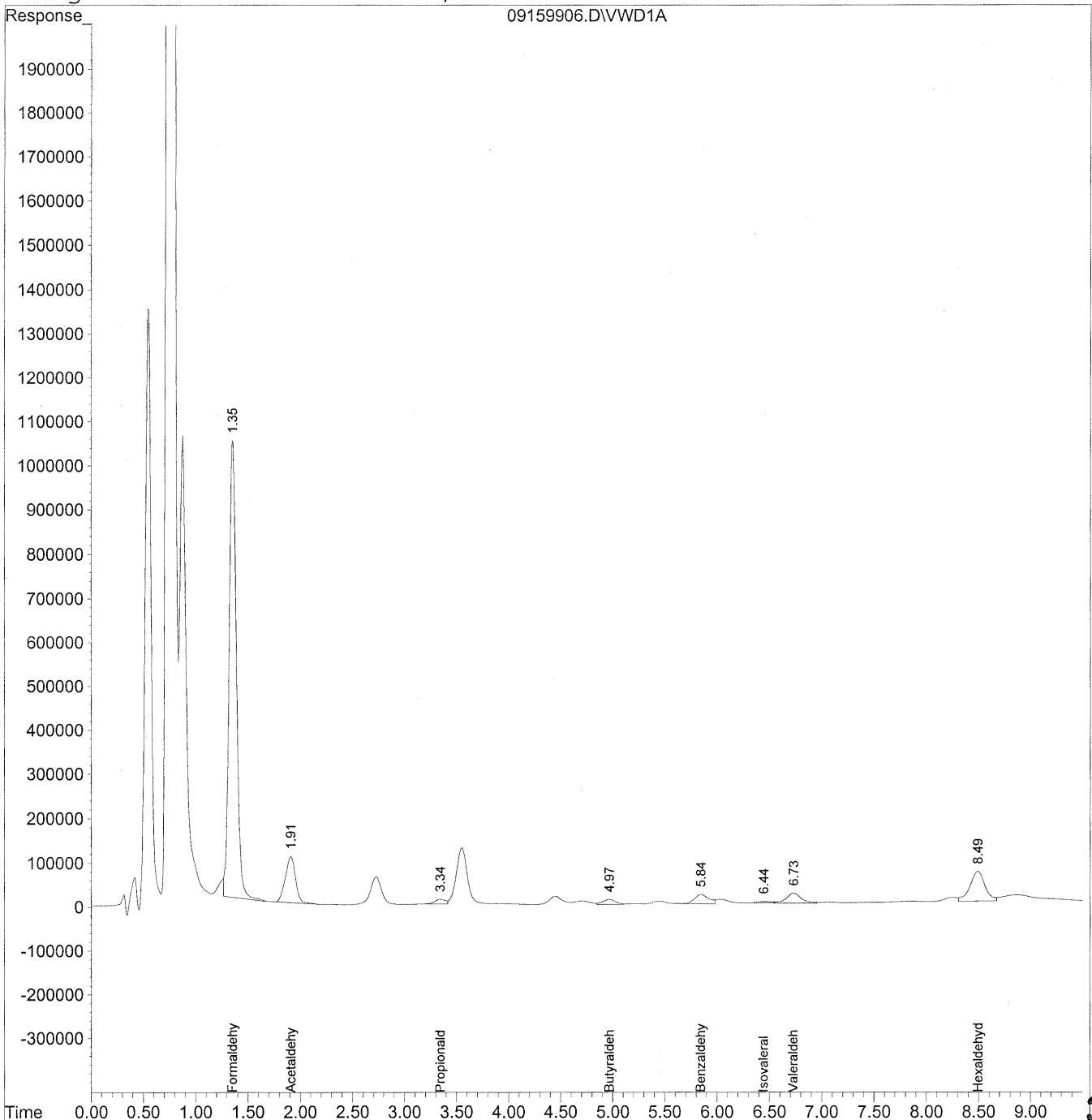
Verified By: Re Date: 9/24/09 **396**

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159906.D Vial: 188
Acq On : 16-Sep-2009, 05:08 Operator: MD
Sample : P0903195-023 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:58 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09159906.D Vial: 188
 Acq On : 16-Sep-2009, 05:08 Operator: MD
 Sample : P0903195-023 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:58 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 17 16:12:59 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

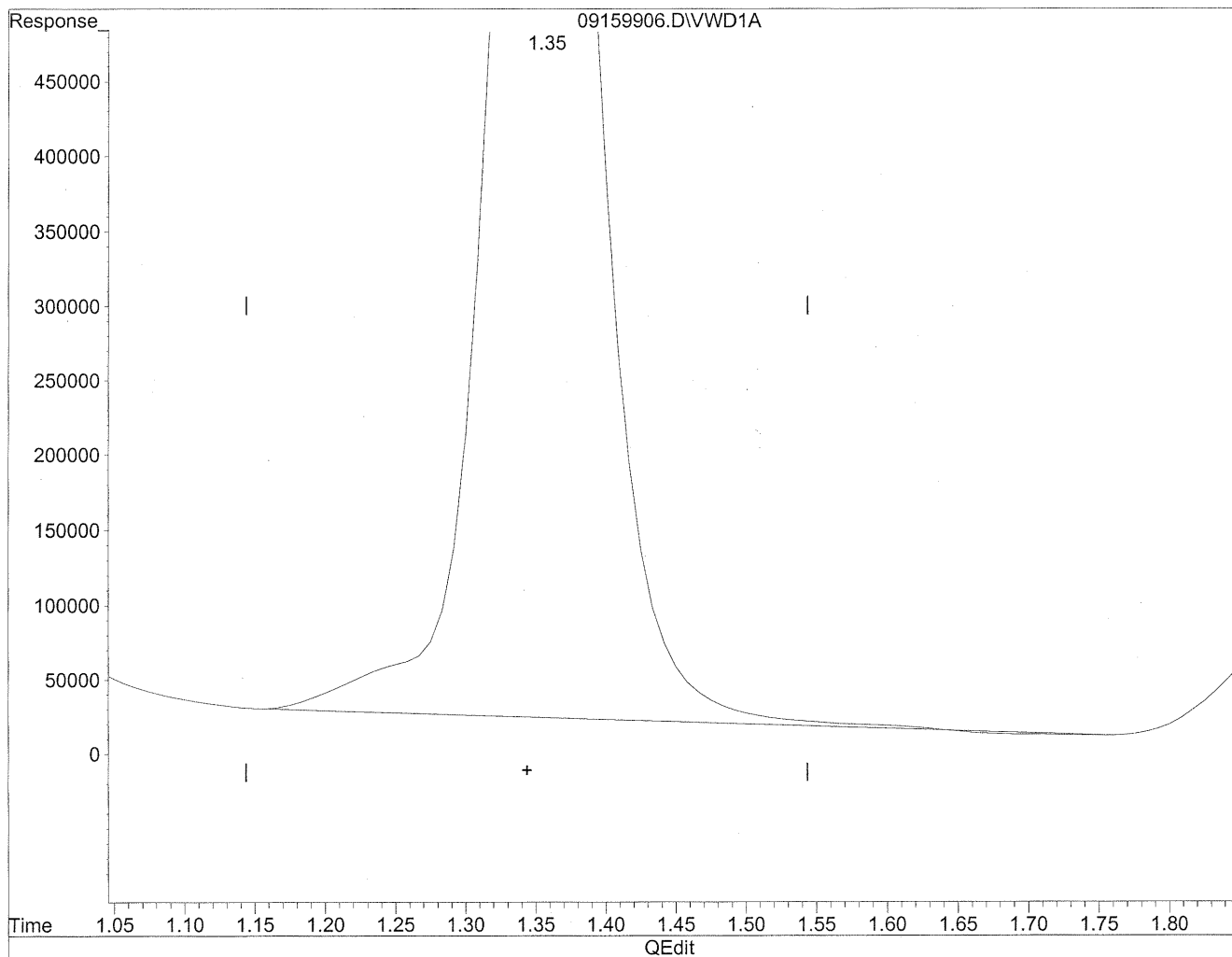
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.35	49305136	5517.936 ng/mlm
2) Acetaldehyde	1.91	7014055	1078.953 ng/mlm
3) Propionaldehyde	3.34	716621	137.869 ng/mlm
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	4.97	921213	227.305 ng/mlm
6) Benzaldehyde	5.84	2078397	761.770 ng/mlm
7) Isovaleraldehyde	6.45	296218	86.065 ng/ml
8) Valeraldehyde	6.73	2260687	664.978 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	8.49	6719772	2269.638 ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159906.D Vial: 188
Acq On : 16-Sep-2009, 05:08 Operator: MD
Sample : P0903195-023 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:55 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

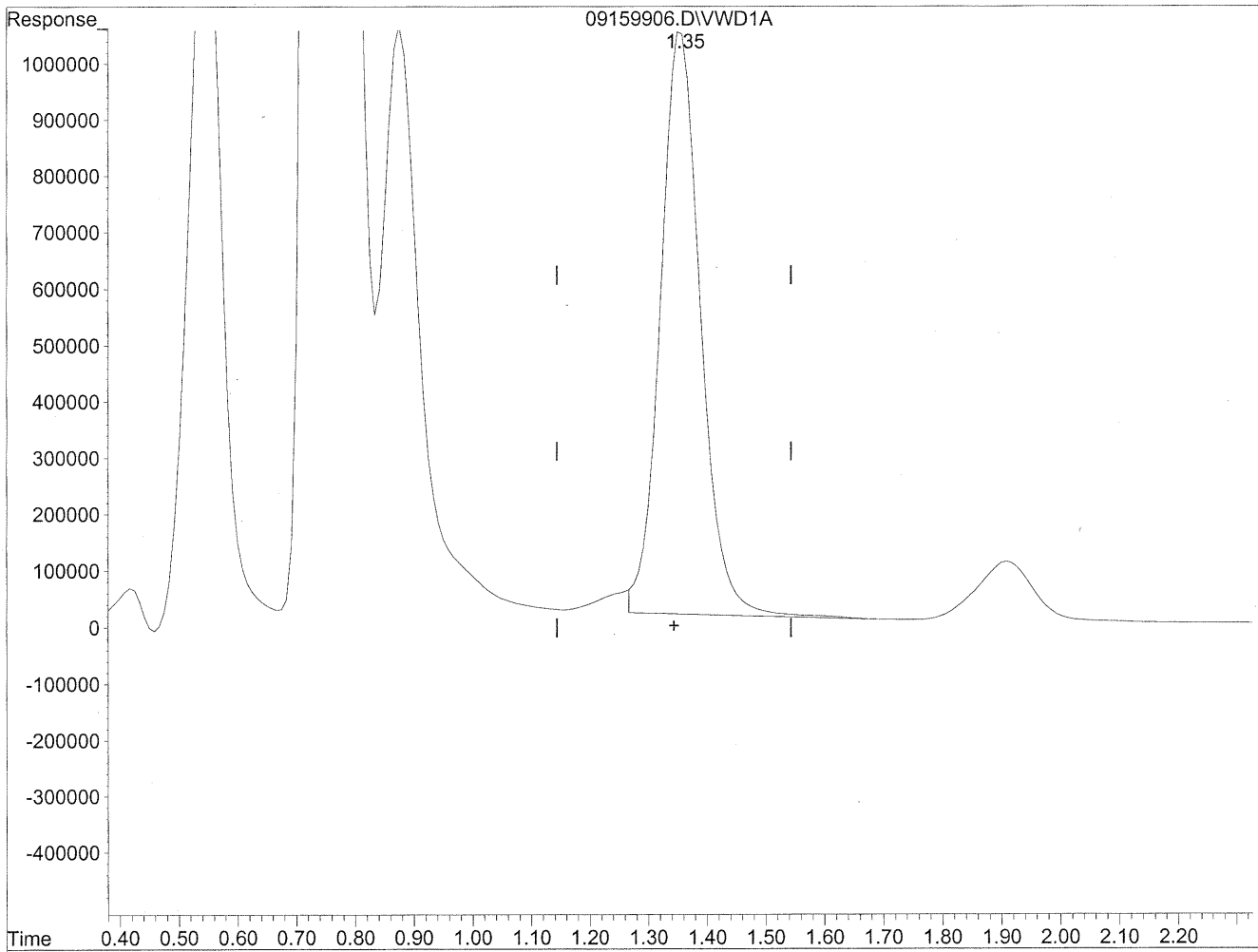


(1) Formaldehyde
1.36min 5605.153ng/ml
response 50084456

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159906.D Vial: 188
Acq On : 16-Sep-2009, 05:08 Operator: MD
Sample : P0903195-023 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:55 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



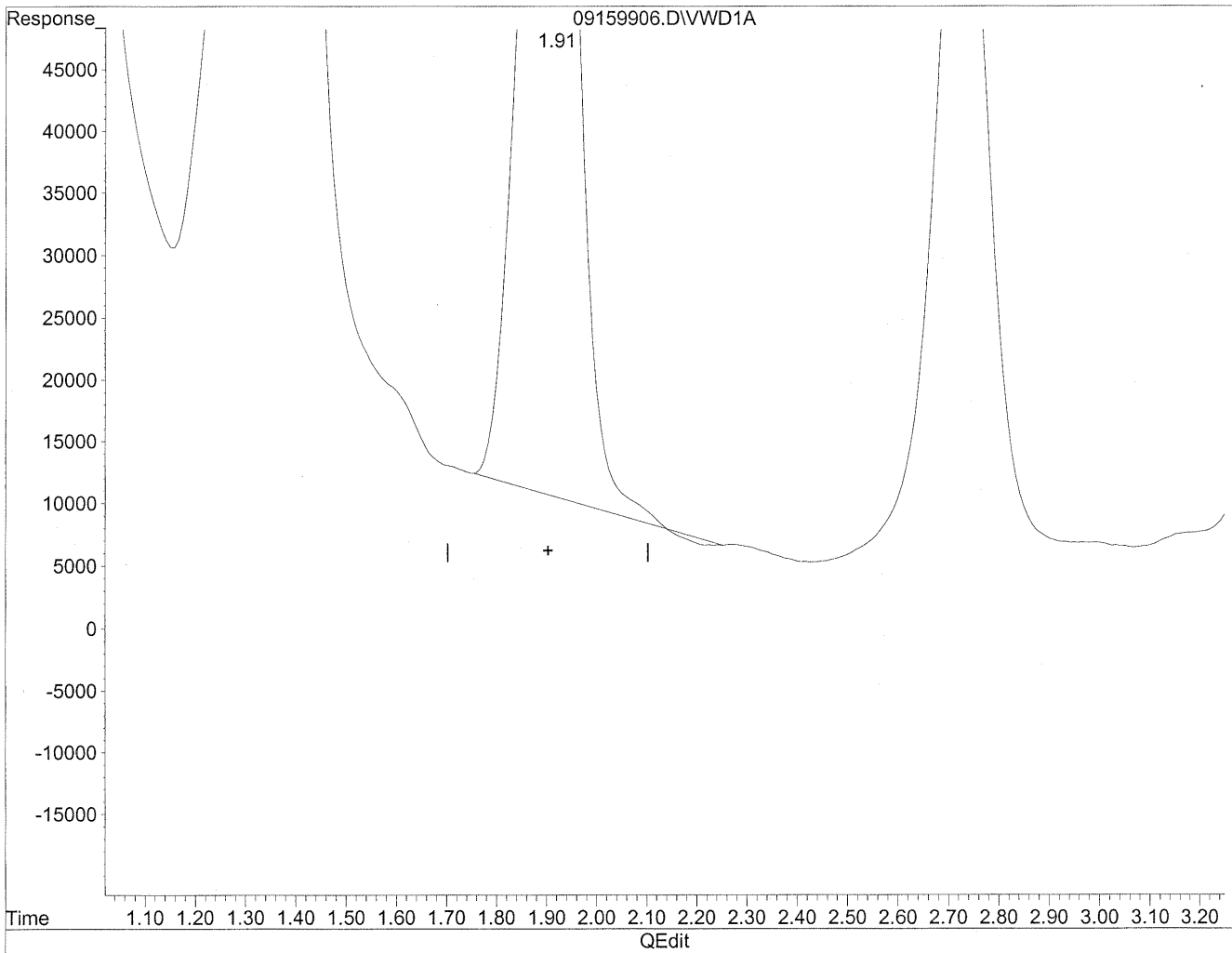
(1) Formaldehyde
1.35min 5517.936ng/ml m
response 49305136

Handwritten notes:
MC
9/21/09
MD
9/21/09
sh

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159906.D Vial: 188
Acq On : 16-Sep-2009, 05:08 Operator: MD
Sample : P0903195-023 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:55 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

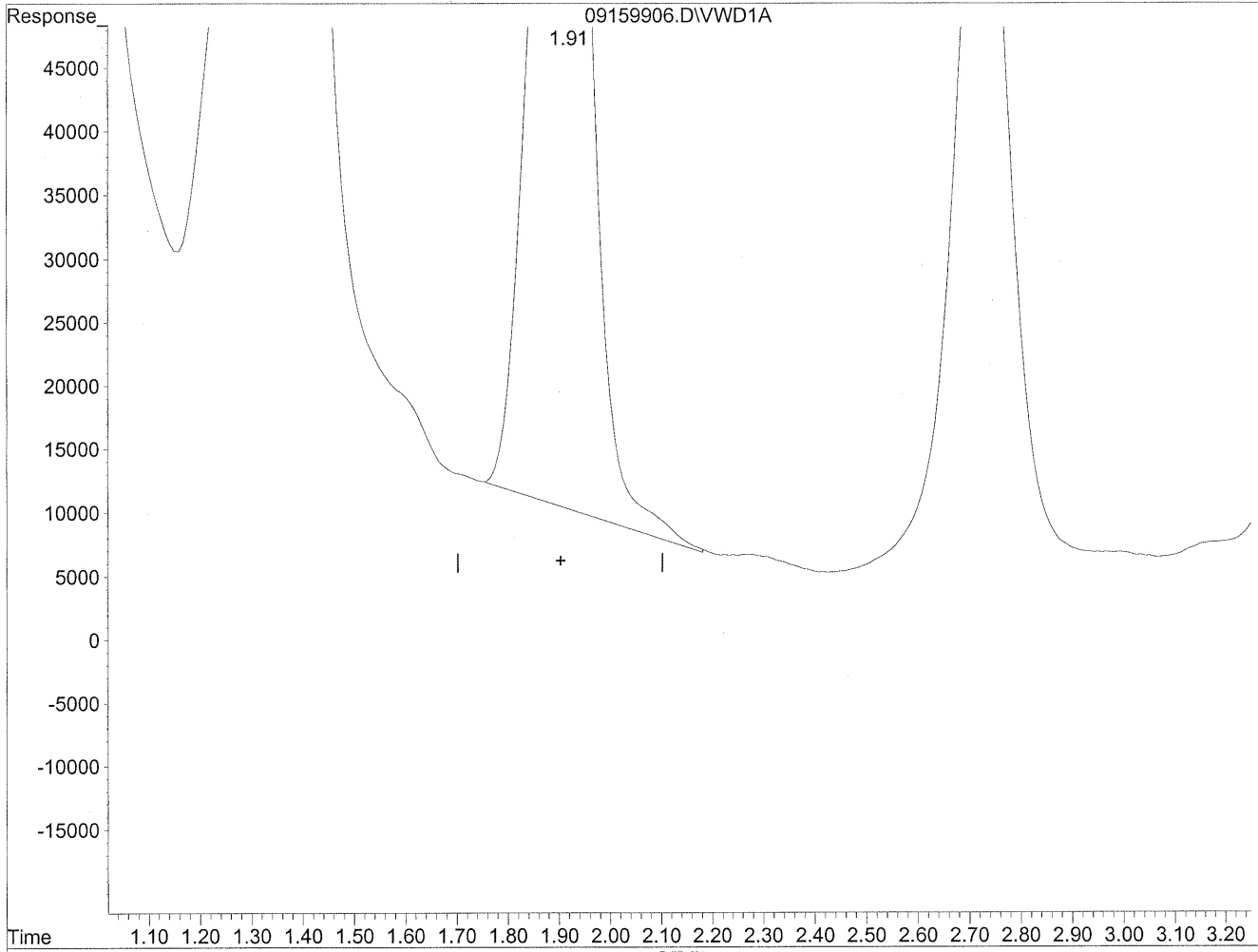


(2) Acetaldehyde
1.91min 1066.558ng/ml
response 6933474

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159906.D Vial: 188
Acq On : 16-Sep-2009, 05:08 Operator: MD
Sample : P0903195-023 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:55 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



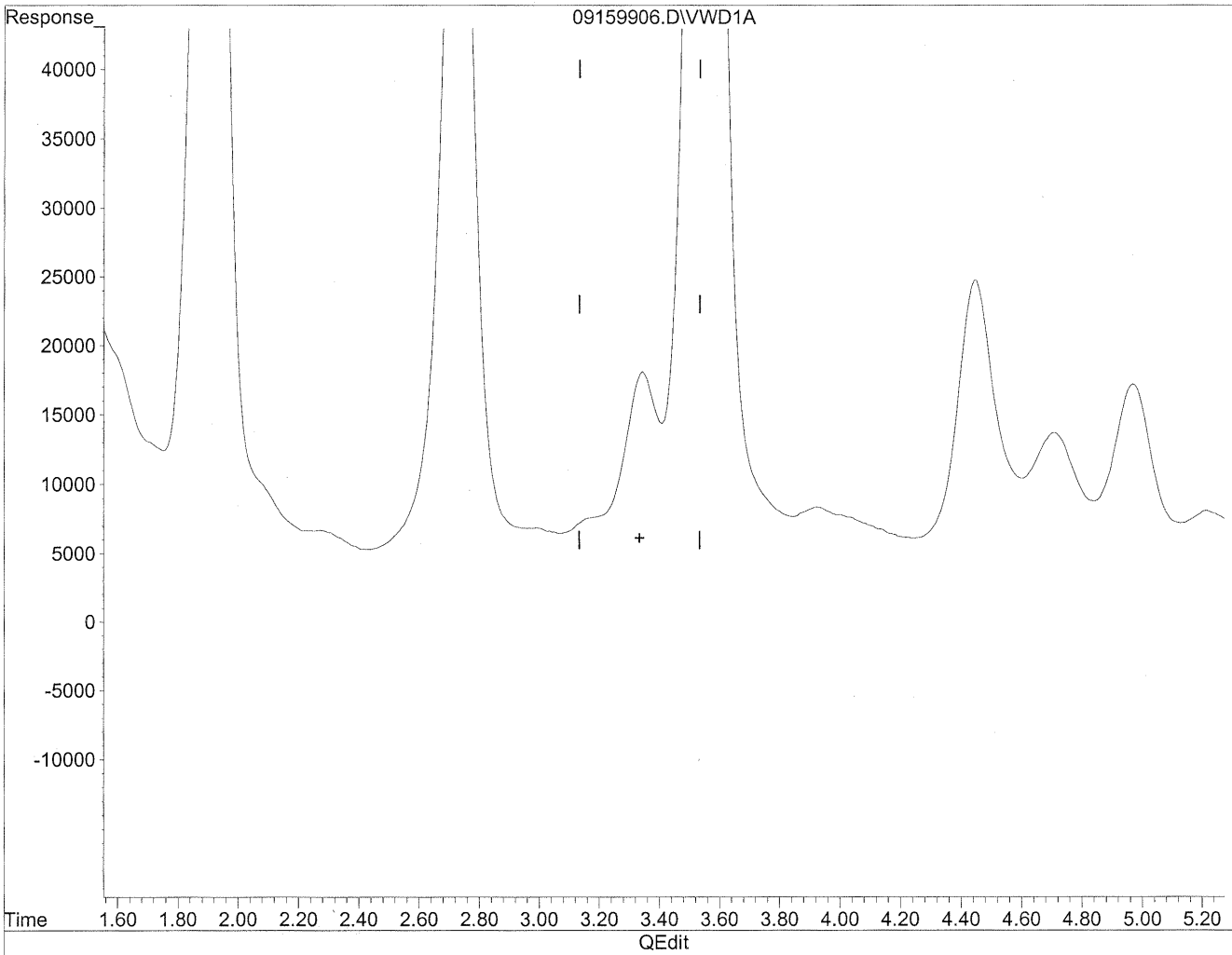
(2) Acetaldehyde
1.91min 1078.953ng/ml m
response 7014055

Handwritten notes:
He
9/21/09
MC
9/21/09
TC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159906.D Vial: 188
Acq On : 16-Sep-2009, 05:08 Operator: MD
Sample : P0903195-023 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:55 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(3) Propionaldehyde

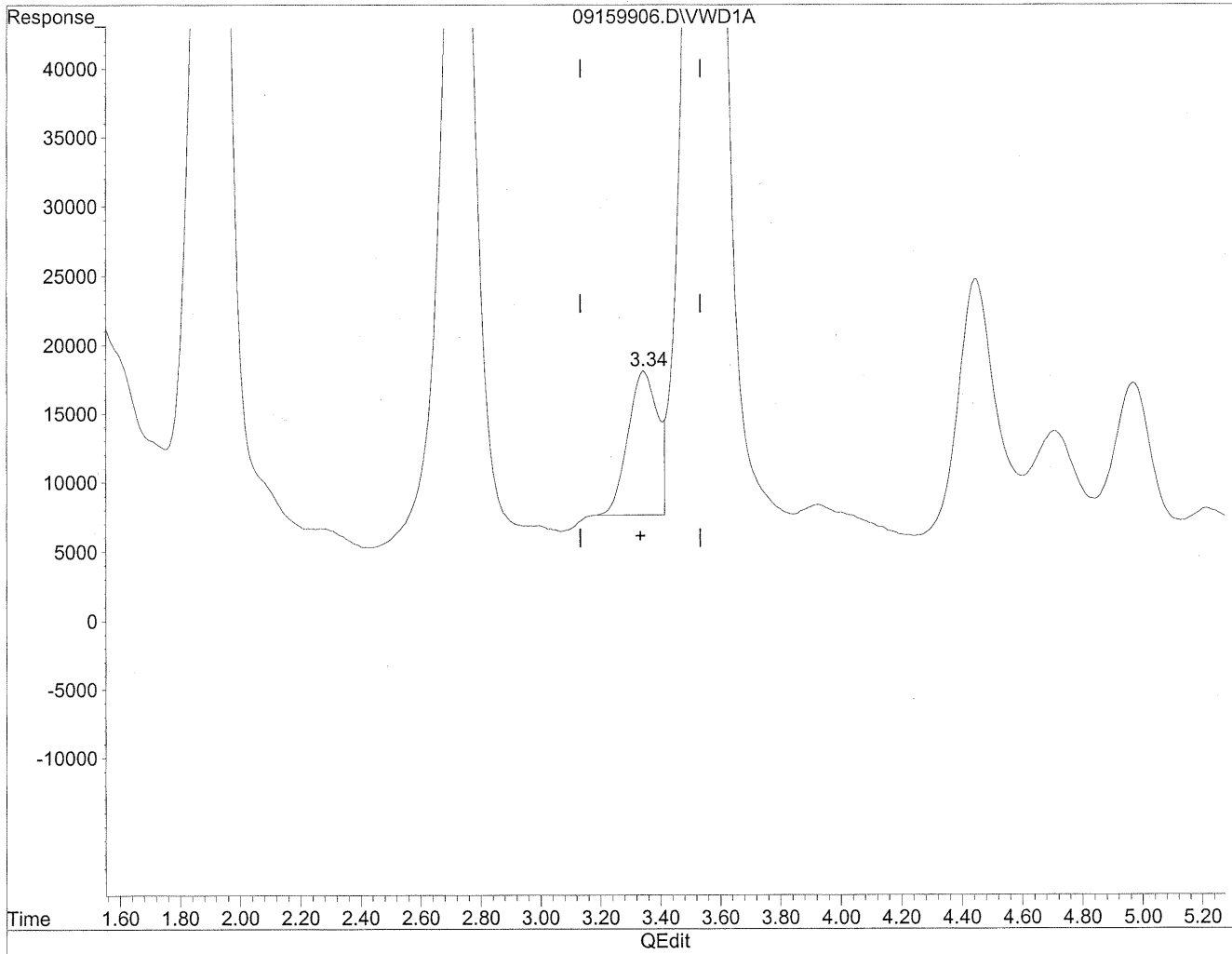
3.33min 0.000ng/ml

response 0

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159906.D Vial: 188
Acq On : 16-Sep-2009, 05:08 Operator: MD
Sample : P0903195-023 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:55 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



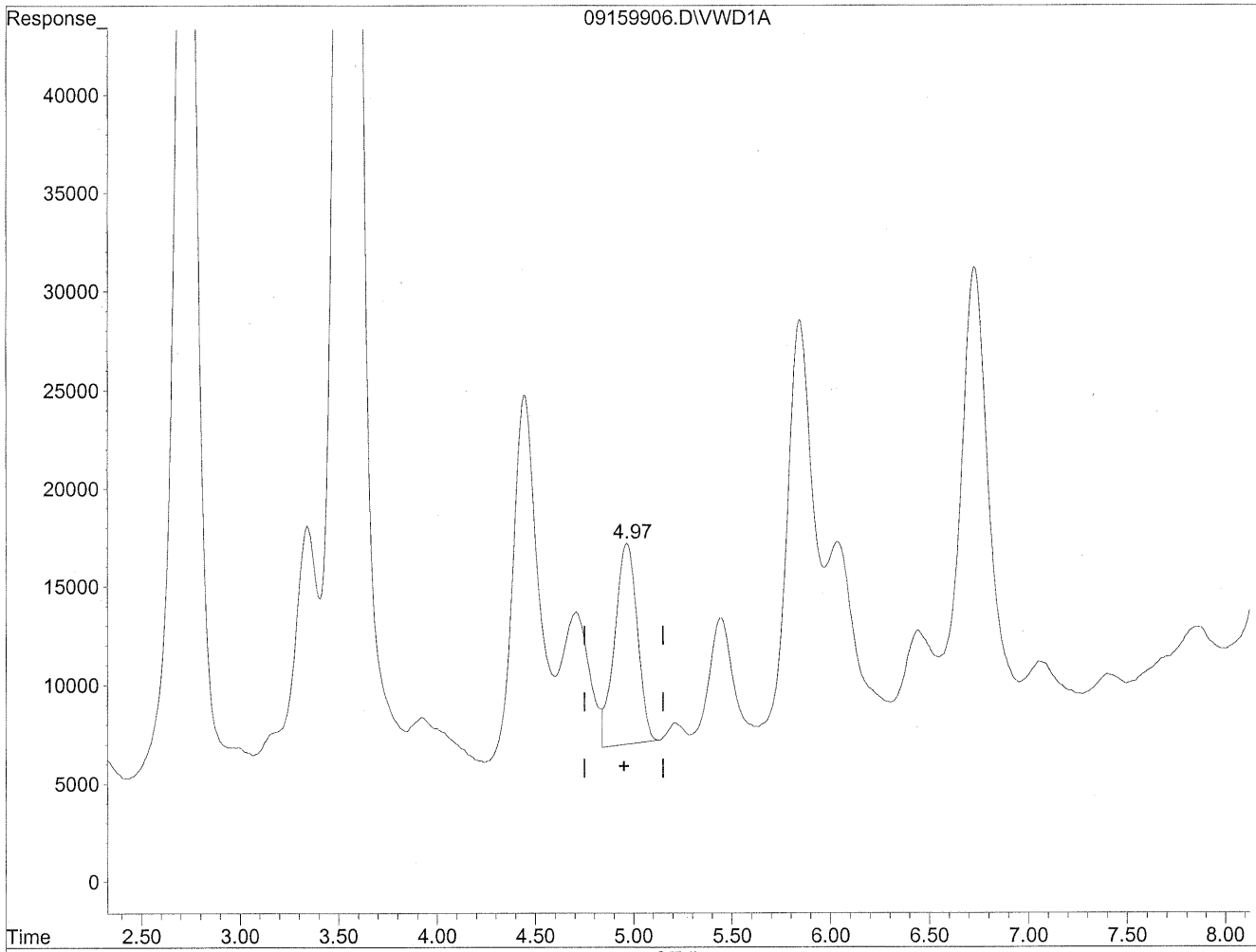
(3) Propionaldehyde
3.34min 137.869ng/ml m
response 716621

HC
9/21/09
M
Abulog
Bmi

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159906.D Vial: 188
Acq On : 16-Sep-2009, 05:08 Operator: MD
Sample : P0903195-023 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:55 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

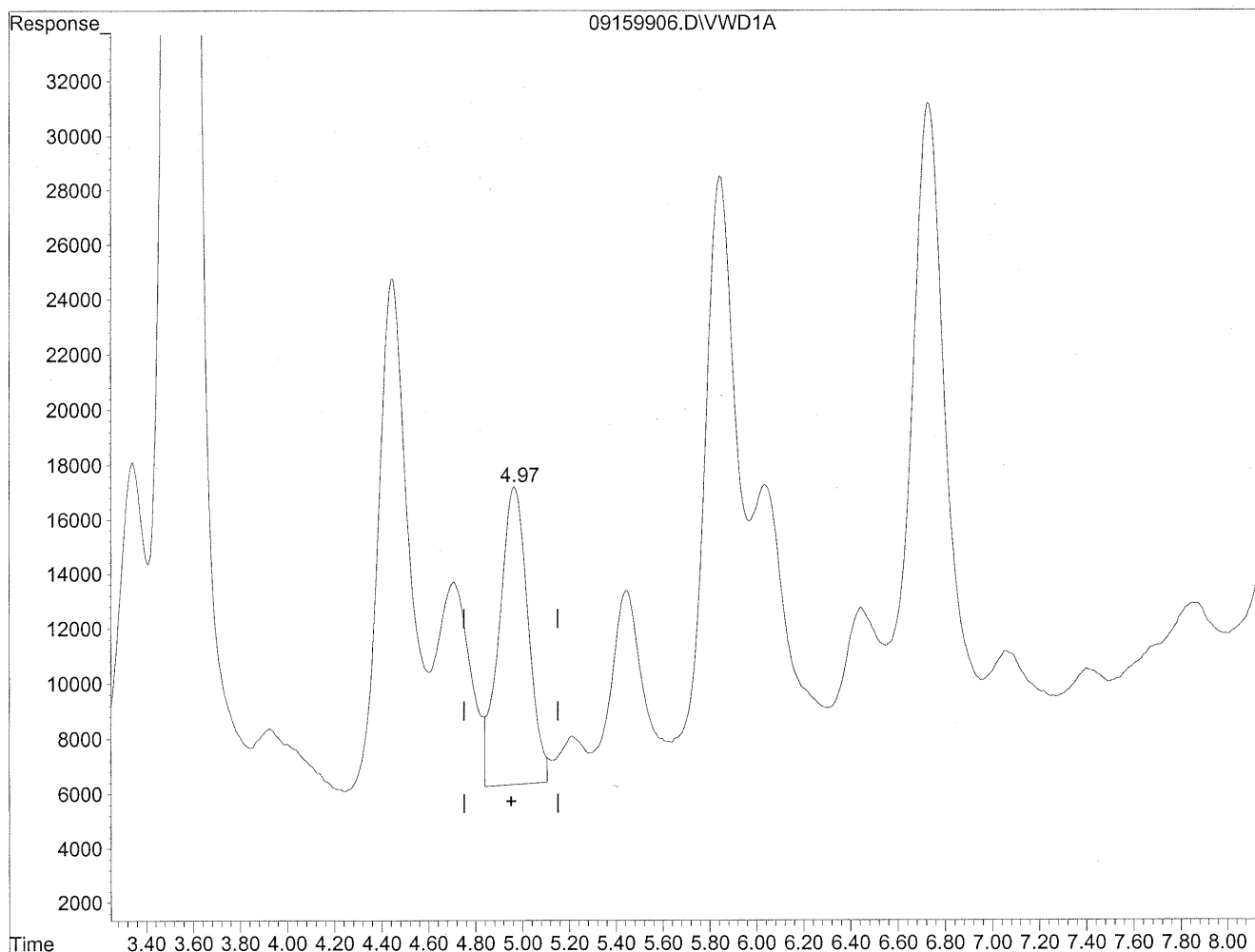


(5) Butyraldehyde
4.97min 202.214ng/ml
response 819528

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159906.D Vial: 188
Acq On : 16-Sep-2009, 05:08 Operator: MD
Sample : P0903195-023 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:55 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



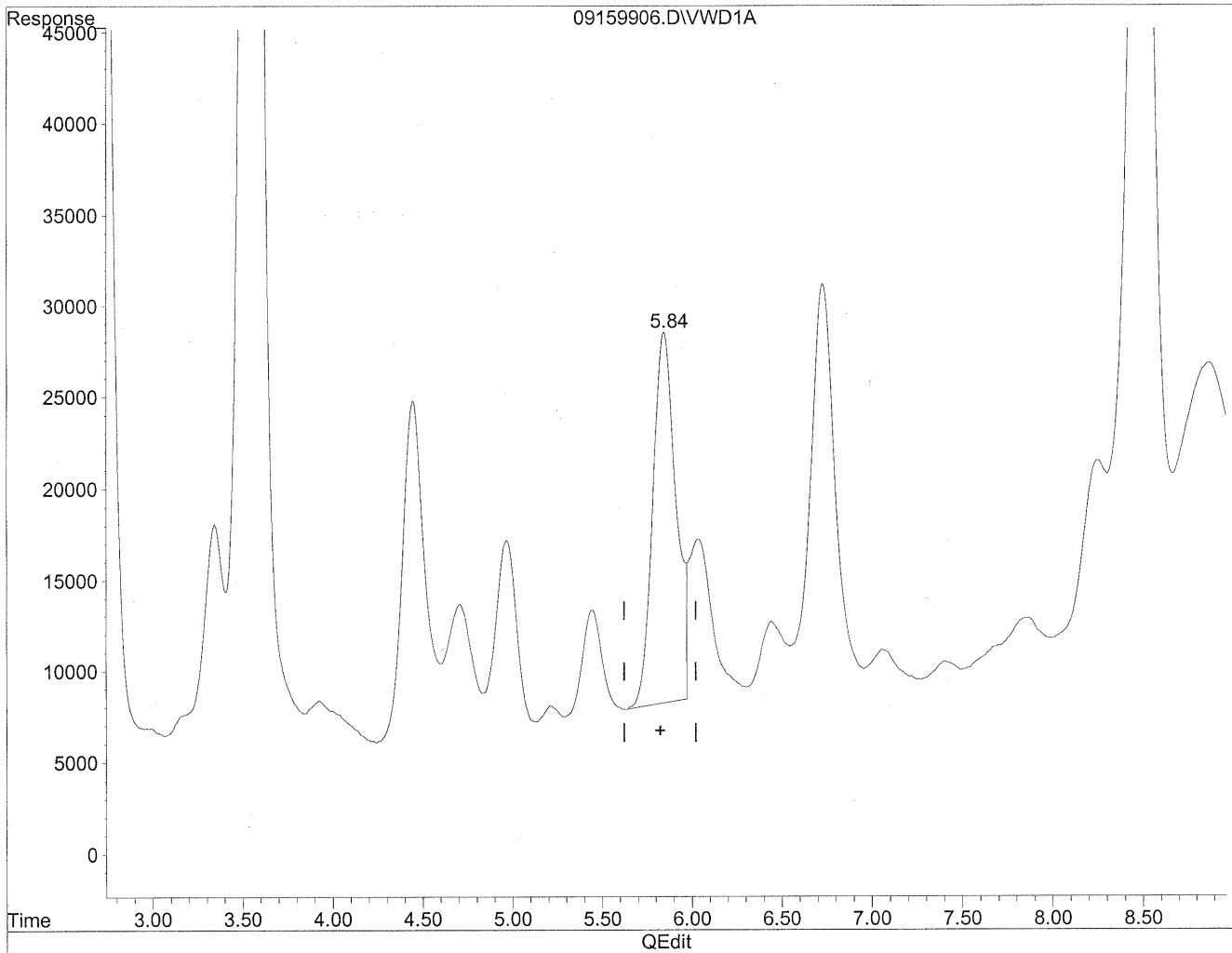
(5) Butyraldehyde
4.97min 227.305ng/ml m
response 921213

Handwritten notes:
MC
9/21/09
PC

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159906.D Vial: 188
Acq On : 16-Sep-2009, 05:08 Operator: MD
Sample : P0903195-023 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:55 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

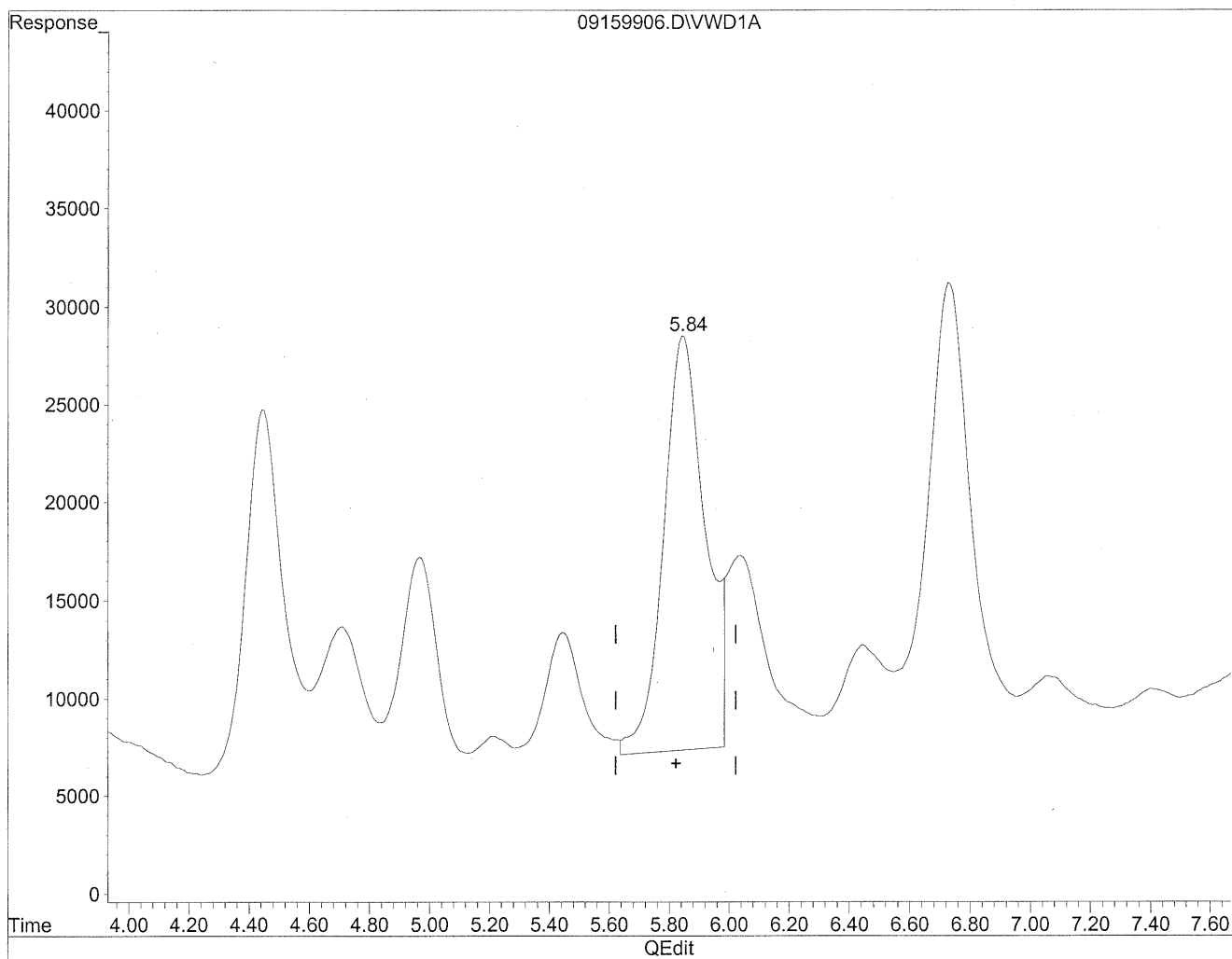


(6) Benzaldehyde
5.85min 658.490ng/ml
response 1796608

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159906.D Vial: 188
Acq On : 16-Sep-2009, 05:08 Operator: MD
Sample : P0903195-023 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:55 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



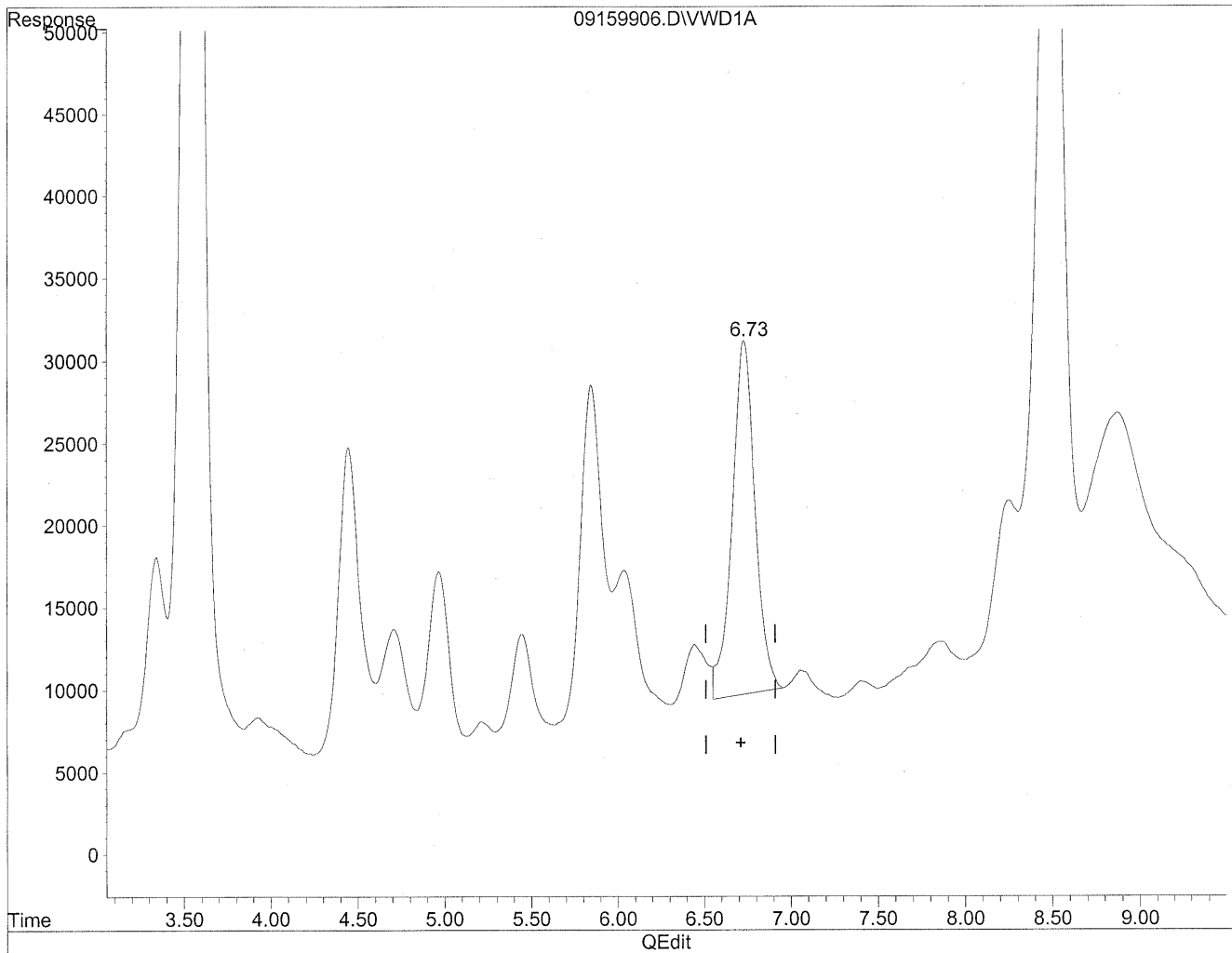
(6) Benzaldehyde
5.84min 761.770ng/ml m
response 2078397

HC
9/21/09
mm
9/21/09
Be

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159906.D Vial: 188
Acq On : 16-Sep-2009, 05:08 Operator: MD
Sample : P0903195-023 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:55 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

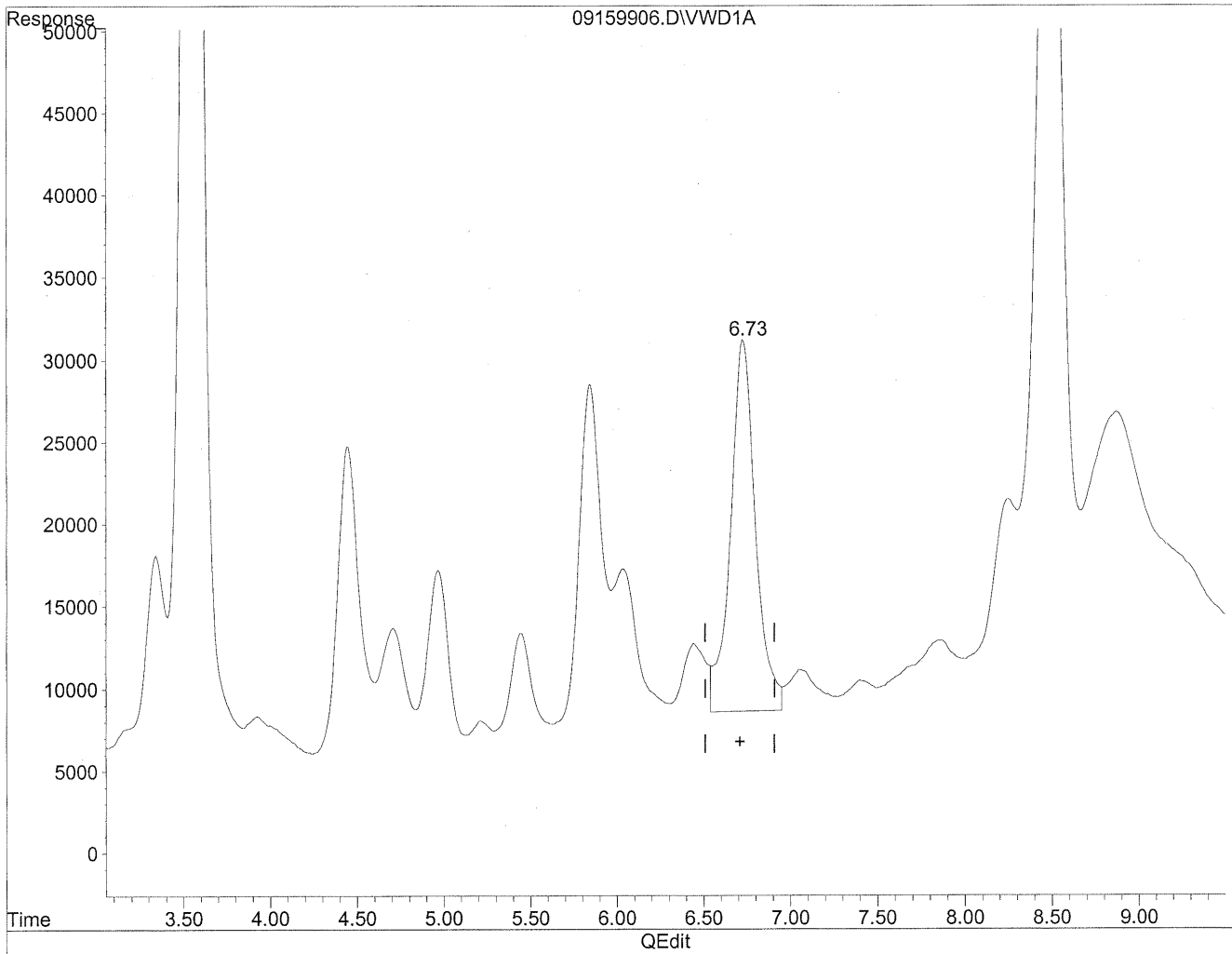


(8) Valeraldehyde
6.73min 581.025ng/ml
response 1975274

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159906.D Vial: 188
Acq On : 16-Sep-2009, 05:08 Operator: MD
Sample : P0903195-023 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:55 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



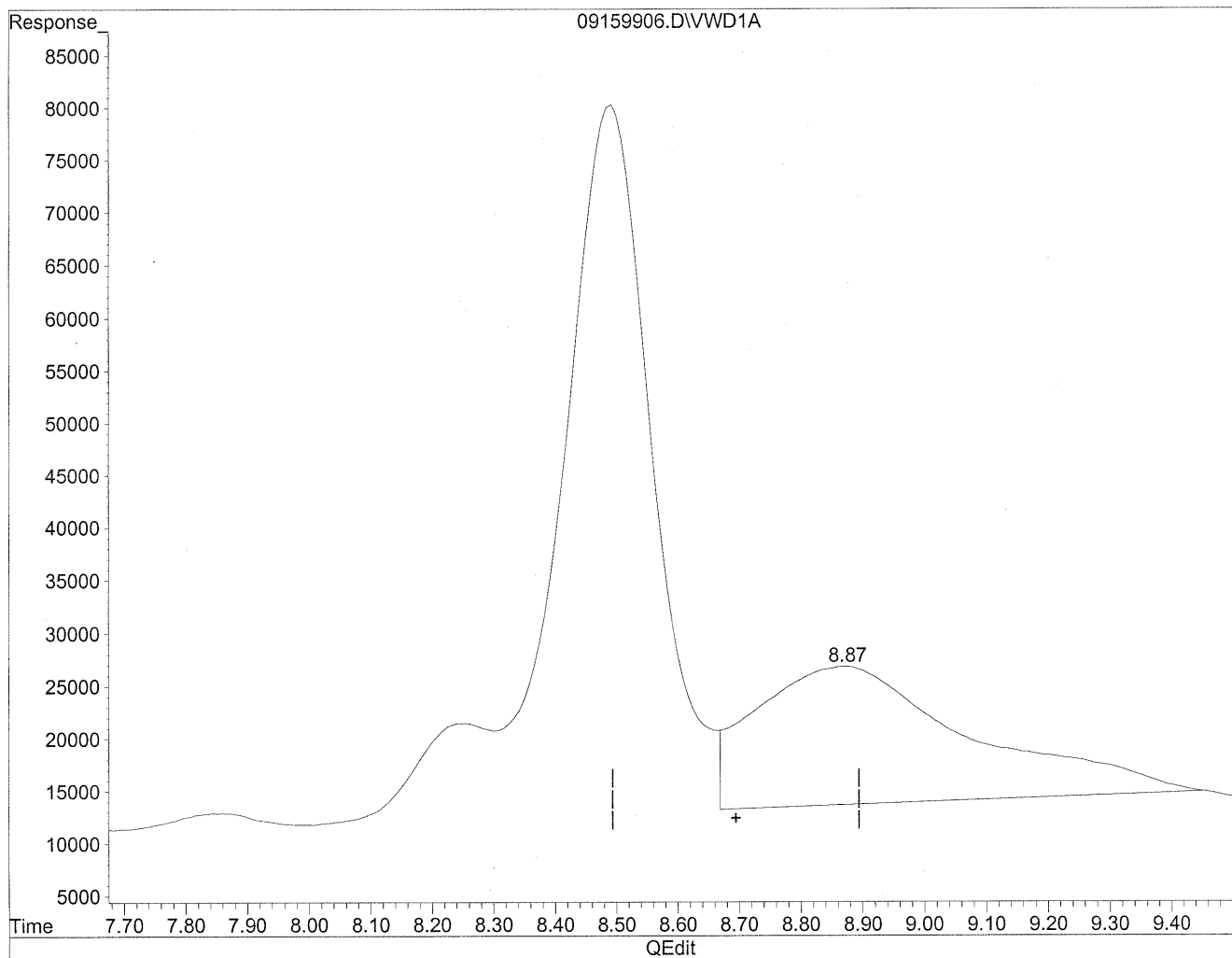
(8) Valeraldehyde
6.73min 664.978ng/ml m
response 2260687

HC
9/21/09
(MD)
alanog
pc

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159906.D Vial: 188
Acq On : 16-Sep-2009, 05:08 Operator: MD
Sample : P0903195-023 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:55 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

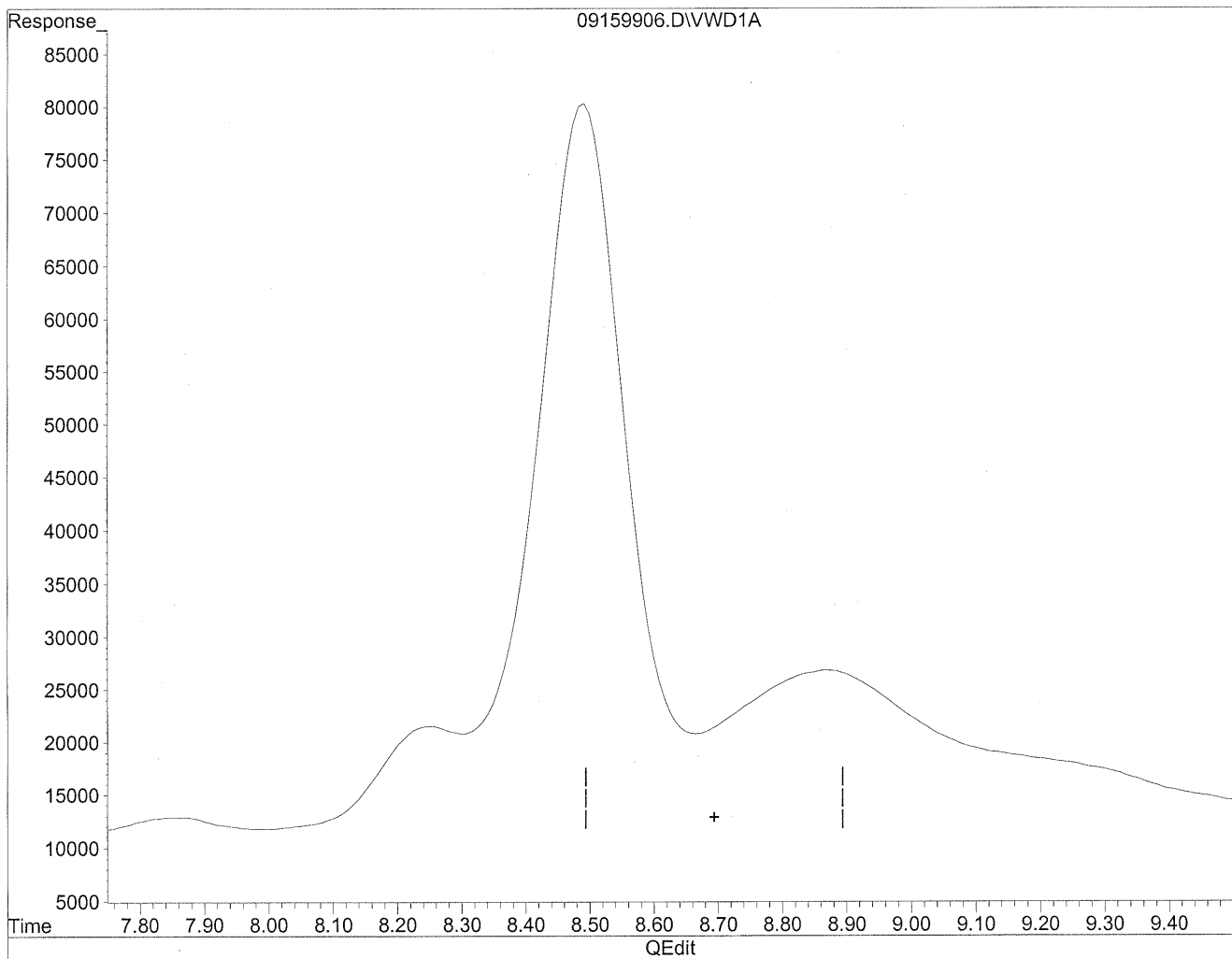
8.87min 1600.452ng/ml

response 3193688

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159906.D Vial: 188
Acq On : 16-Sep-2009, 05:08 Operator: MD
Sample : P0903195-023 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:55 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde
0.00min 0.000ng/ml d
response 0

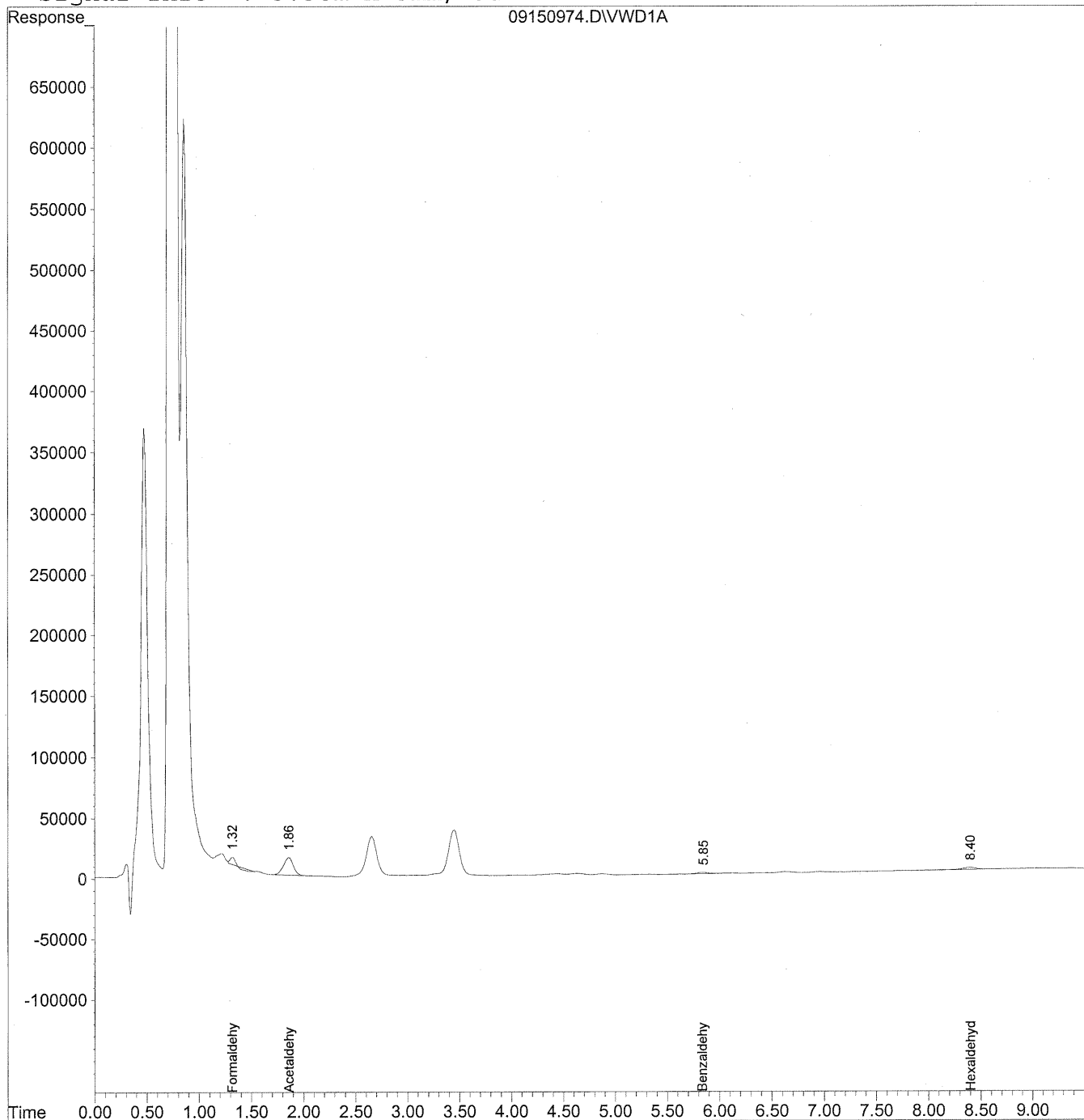
Handwritten notes:
+LC
9/21/09
MP
9/21/09
MP

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150974.D Vial: 162
Acq On : 15-Sep-2009, 22:56 Operator: MD
Sample : P0903195-023 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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



413

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150974.D Vial: 162
 Acq On : 15-Sep-2009, 22:56 Operator: MD
 Sample : P0903195-023 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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

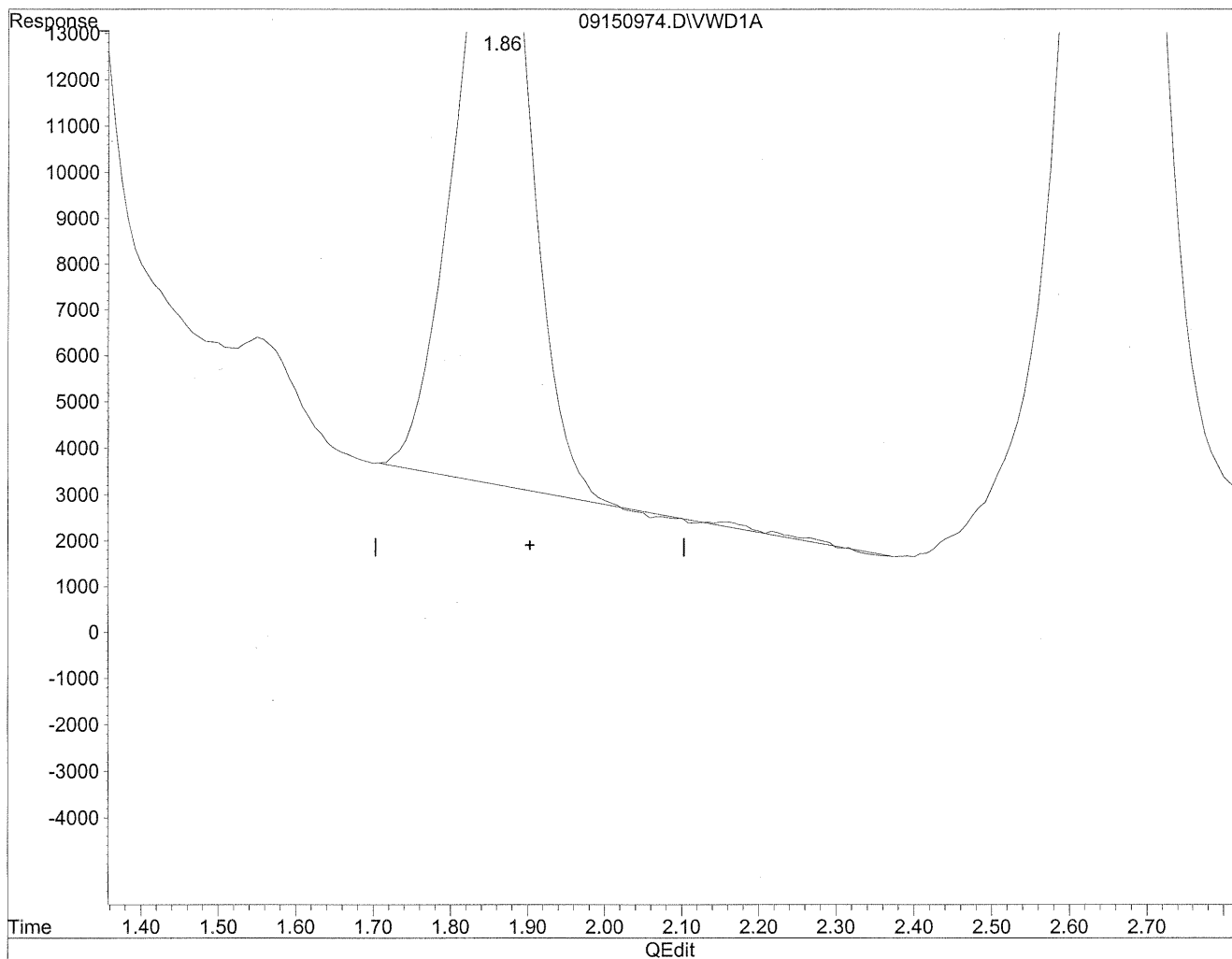
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.32	106053	11.869 ng/ml
2) Acetaldehyde	1.86	958220	147.400 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	5.84	72693	26.643 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	8.40	158027	53.374 ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150974.D Vial: 162
Acq On : 15-Sep-2009, 22:56 Operator: MD
Sample : P0903195-023 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

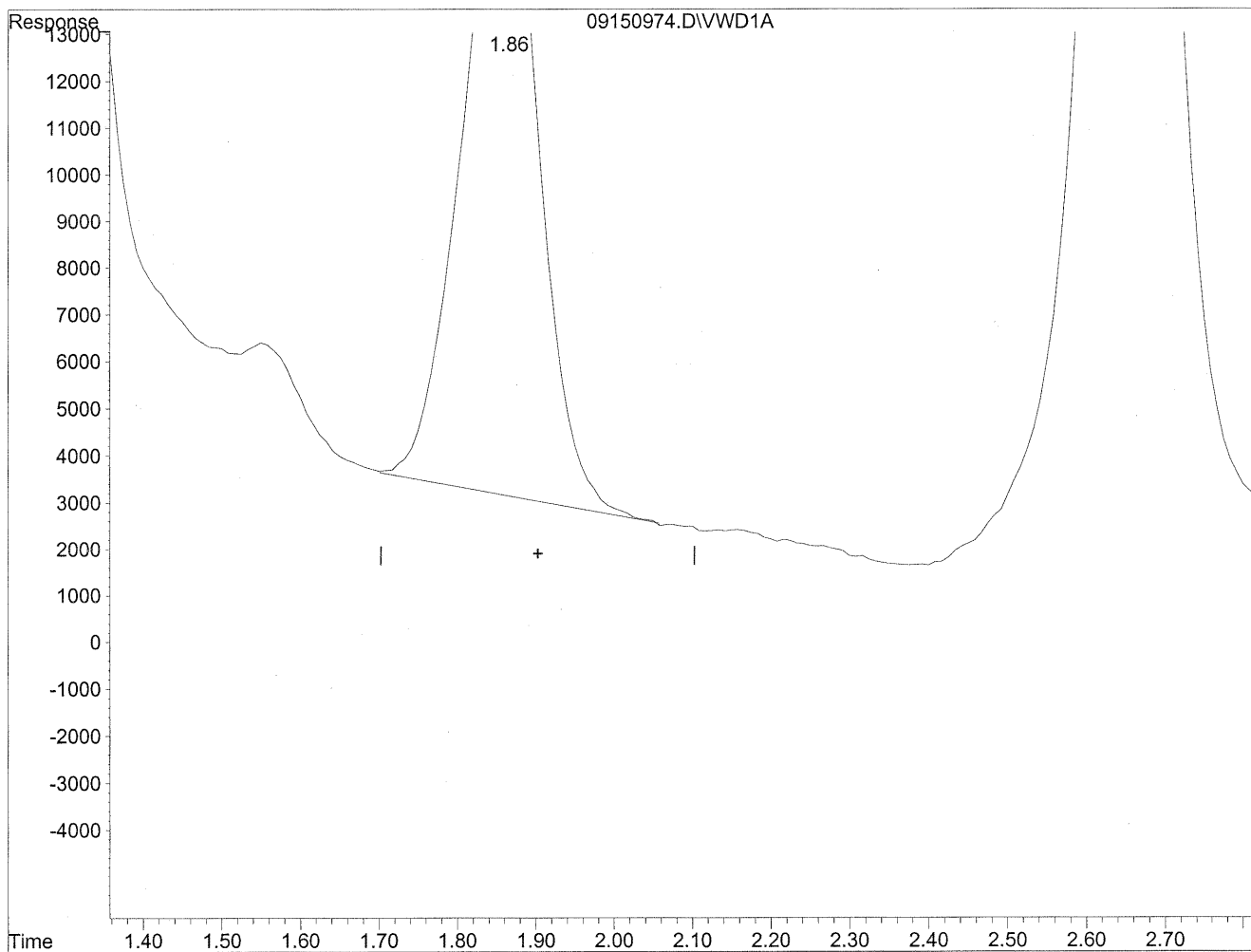


(2) Acetaldehyde
1.86min 146.781ng/ml
response 954197

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150974.D Vial: 162
Acq On : 15-Sep-2009, 22:56 Operator: MD
Sample : P0903195-023 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:25 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(2) Acetaldehyde
1.86min 147.400ng/ml m
response 958220

Handwritten notes:
①
147.400ng/ml
9/18/09
12

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.
Client Sample ID: 104742
Client Project ID: 16512

CAS Project ID: P0903195
CAS Sample ID: P0903195-024

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

Date Collected: 8/31/09
Date Received: 9/10/09
Date Analyzed: 9/15 - 9/16/09
Desorption Volume: 1.0 ml
Volume Sampled: 103 Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	Result ppbV	MRL ppbV	Data Qualifier
50-00-0	Formaldehyde	< 100	ND	0.97	ND	0.79	
75-07-0	Acetaldehyde	4,300	42	0.97	23	0.54	BT
123-38-6	Propionaldehyde	< 100	ND	0.97	ND	0.41	
4170-30-3	Crotonaldehyde, Total	< 100	ND	0.97	ND	0.34	
123-72-8	Butyraldehyde	< 100	ND	0.97	ND	0.33	
100-52-7	Benzaldehyde	< 100	ND	0.97	ND	0.22	
590-86-3	Isovaleraldehyde	< 100	ND	0.97	ND	0.28	
110-62-3	Valeraldehyde	< 100	ND	0.97	ND	0.28	
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	0.40	
66-25-1	n-Hexaldehyde	< 100	ND	0.97	ND	0.24	
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.

BT = Results indicated possible breakthrough; back section > 10% front section.

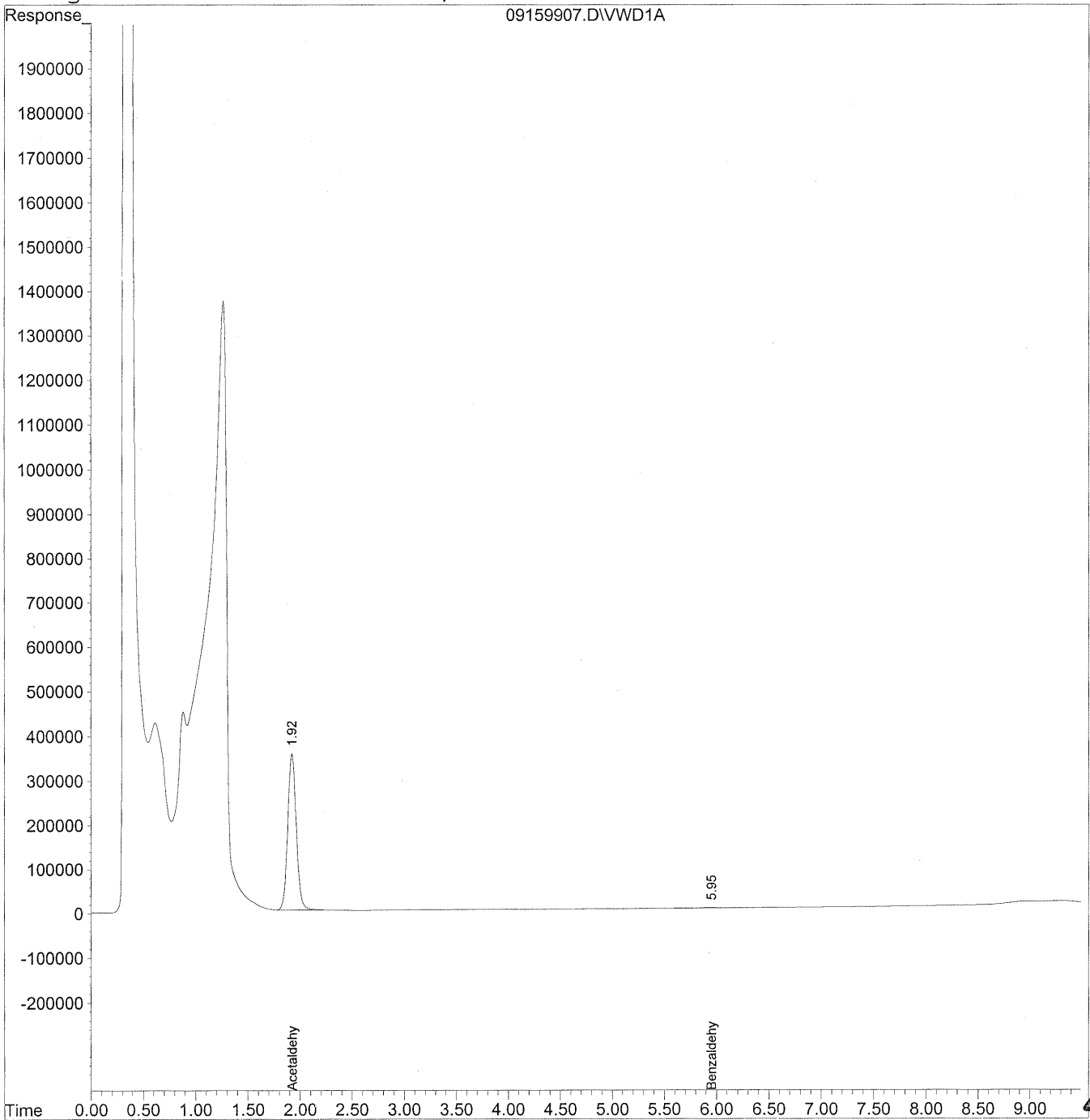
Verified By: Re Date: 9/24/09 **417**

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159907.D Vial: 189
Acq On : 16-Sep-2009, 05:20 Operator: MD
Sample : P0903195-024 front 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:58 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 17 16:12:59 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



418

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159907.D Vial: 189
 Acq On : 16-Sep-2009, 05:20 Operator: MD
 Sample : P0903195-024 front 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:58 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 17 16:12:59 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

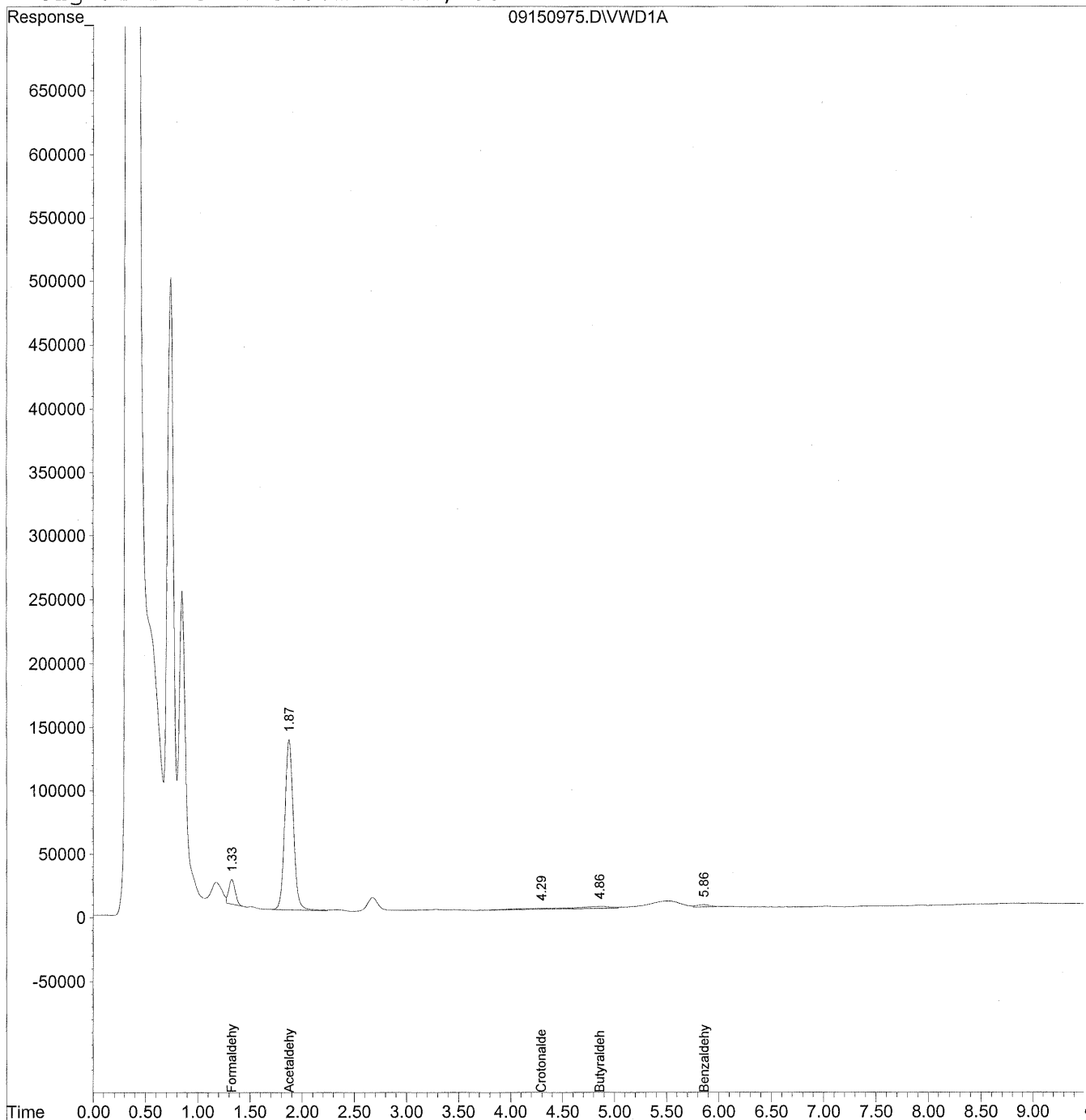
Target Compounds				
1) Formaldehyde	0.00	0	N.D.	ng/ml
2) Acetaldehyde	1.93	20153856	3100.213	ng/ml
3) Propionaldehyde	0.00	0	N.D.	ng/ml
4) Crotonaldehyde	0.00	0	N.D.	ng/ml
5) Butyraldehyde	0.00	0	N.D.	ng/ml
6) Benzaldehyde	5.95f	107072	39.244	ng/ml
7) Isovaleraldehyde	0.00	0	N.D.	ng/ml
8) Valeraldehyde	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	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\15\09150975.D Vial: 163
Acq On : 15-Sep-2009, 23:08 Operator: MD
Sample : P0903195-024 back 1.0ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150975.D Vial: 163
 Acq On : 15-Sep-2009, 23:08 Operator: MD
 Sample : P0903195-024 back 1.0ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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	835495	93.504 ng/ml
2) Acetaldehyde	1.88	7664403	1178.994 ng/ml
3) Propionaldehyde	0.00	0	N.D. ng/ml
4) Crotonaldehyde	4.30	193138	47.576 ng/ml
5) Butyraldehyde	4.86	380816	93.965 ng/ml
6) Benzaldehyde	5.86	160805	58.938 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	0.00	0	N.D. ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.
Client Sample ID: Method Blank (15:33)
Client Project ID: 16512

CAS Project ID: P0903195
 CAS Sample ID: P090915-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: 09/15/09
Desorption Volume: 1.0 ml
Volume Sampled: NA Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	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.

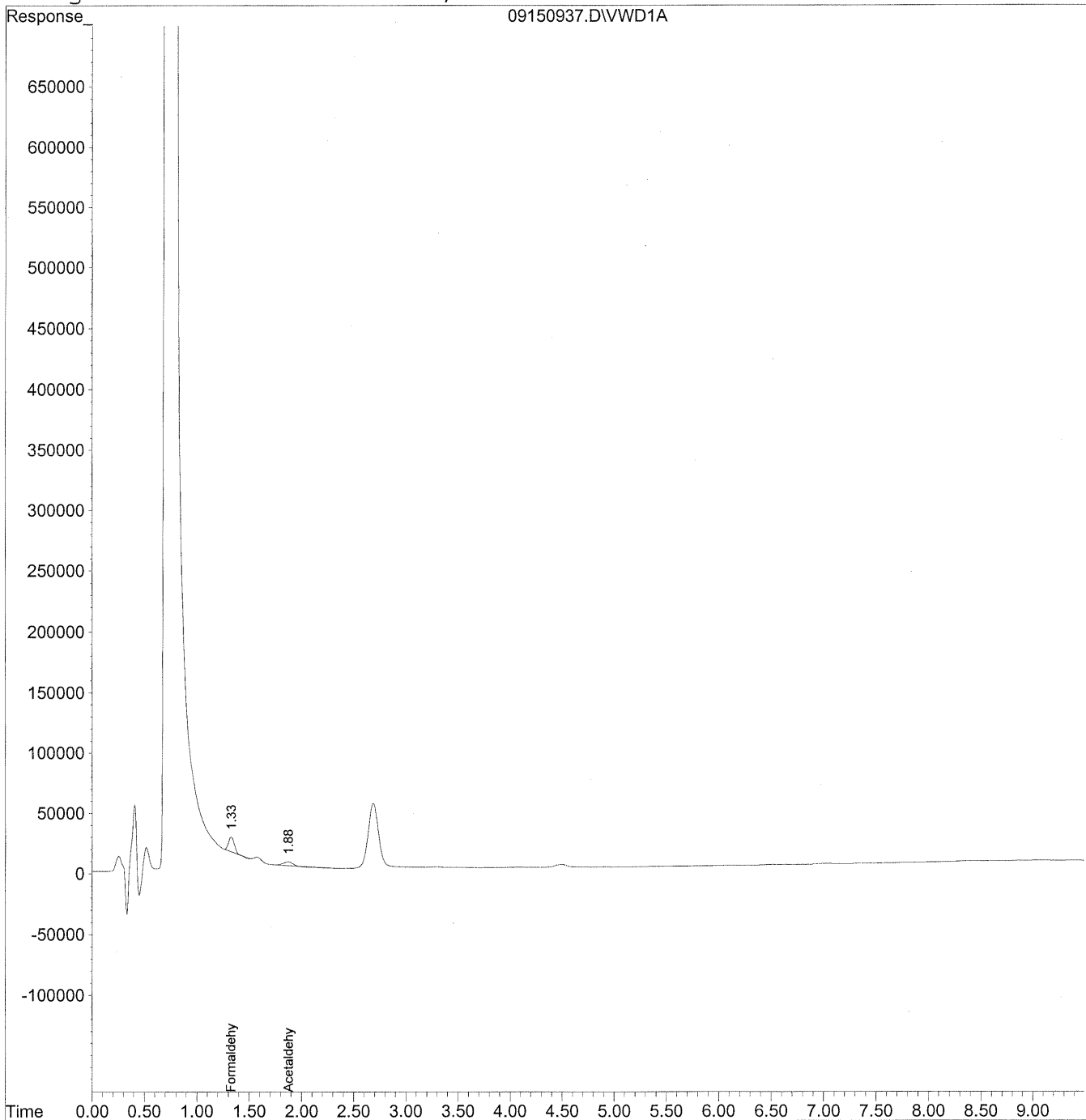
Verified By: *Per* Date: 9/24/09 **422**

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150937.D Vial: 130
Acq On : 15-Sep-2009, 15:33 Operator: MD
Sample : MB-1 front 1.0ml lot 5855/5994 Inst : VWD
Misc : 9/14 Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 13:05 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150937.D Vial: 130
 Acq On : 15-Sep-2009, 15:33 Operator: MD
 Sample : MB-1 front 1.0ml lot 5855/5994 Inst : VWD
 Misc : 9/14 Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 13:05 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 17 16:12:59 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

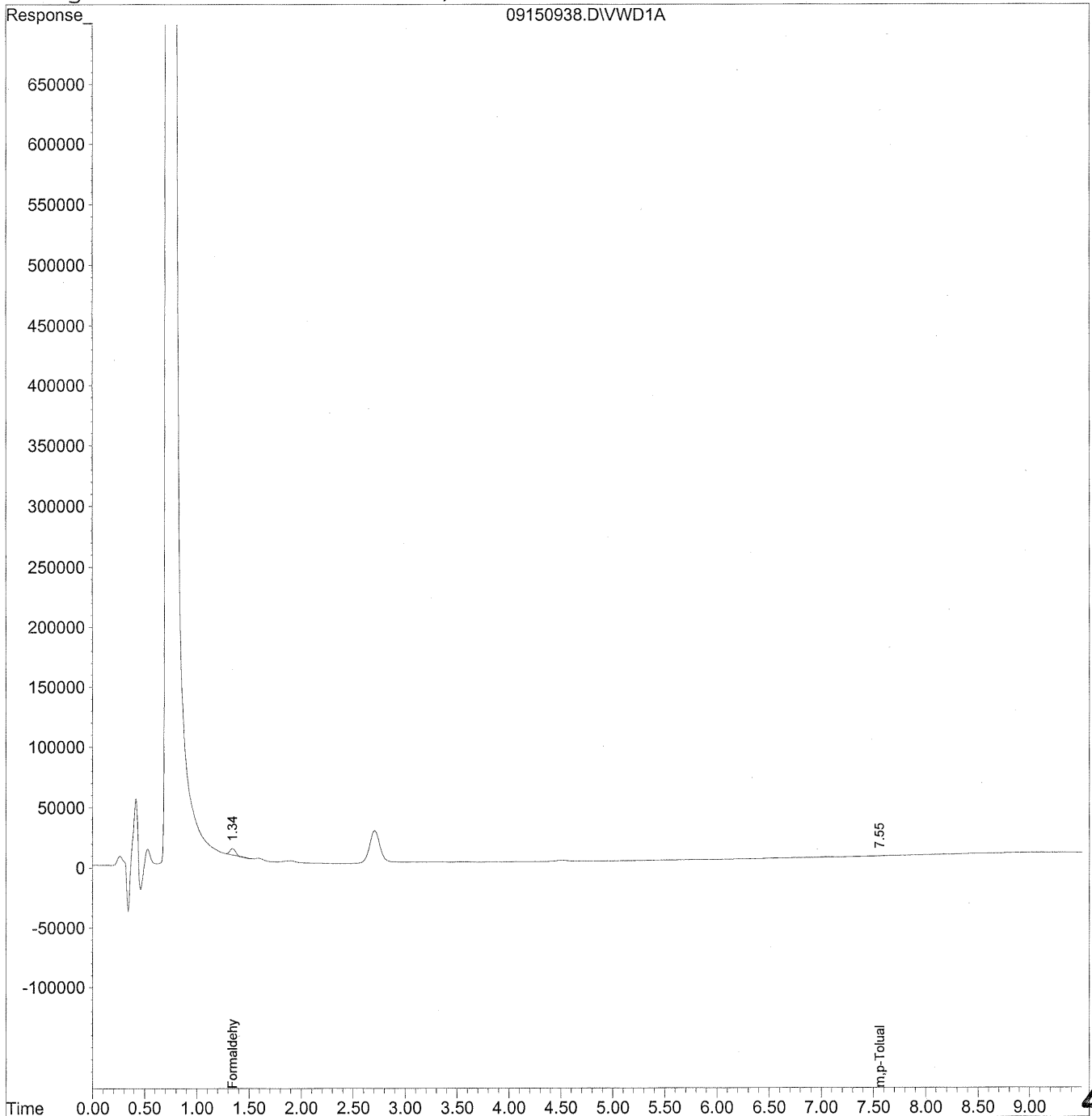
Target Compounds			
1) Formaldehyde	1.33	481647	53.903 ng/ml
2) Acetaldehyde	1.88	122083	18.780 ng/ml
3) Propionaldehyde	0.00	0	N.D. ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	0.00	0	N.D. ng/ml
6) Benzaldehyde	0.00	0	N.D. ng/ml
7) Isovaleraldehyde	0.00	0	N.D. ng/ml
8) Valeraldehyde	0.00	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	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\15\09150938.D Vial: 131
Acq On : 15-Sep-2009, 15:45 Operator: MD
Sample : MB-1 back 1.0ml lot 5855/5994 Inst : VWD
Misc : 9/14 Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 13:05 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150938.D Vial: 131
 Acq On : 15-Sep-2009, 15:45 Operator: MD
 Sample : MB-1 back 1.0ml lot 5855/5994 Inst : VWD
 Misc : 9/14 Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 13:05 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 17 16:12:59 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	190592	21.330 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	7.56f	27326	11.897 ng/ml
11) Hexaldehyde	0.00	0	N.D. ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

Client: Environmental Health & Engineering, Inc.
Client Sample ID: Method Blank (20:44)
Client Project ID: 16512

CAS Project ID: P0903195
 CAS Sample ID: P090915-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: 09/15/09
Desorption Volume: 1.0 ml
Volume Sampled: NA Liter(s)

CAS #	Compound	Result ng/Sample	Result µg/m ³	MRL µg/m ³	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.

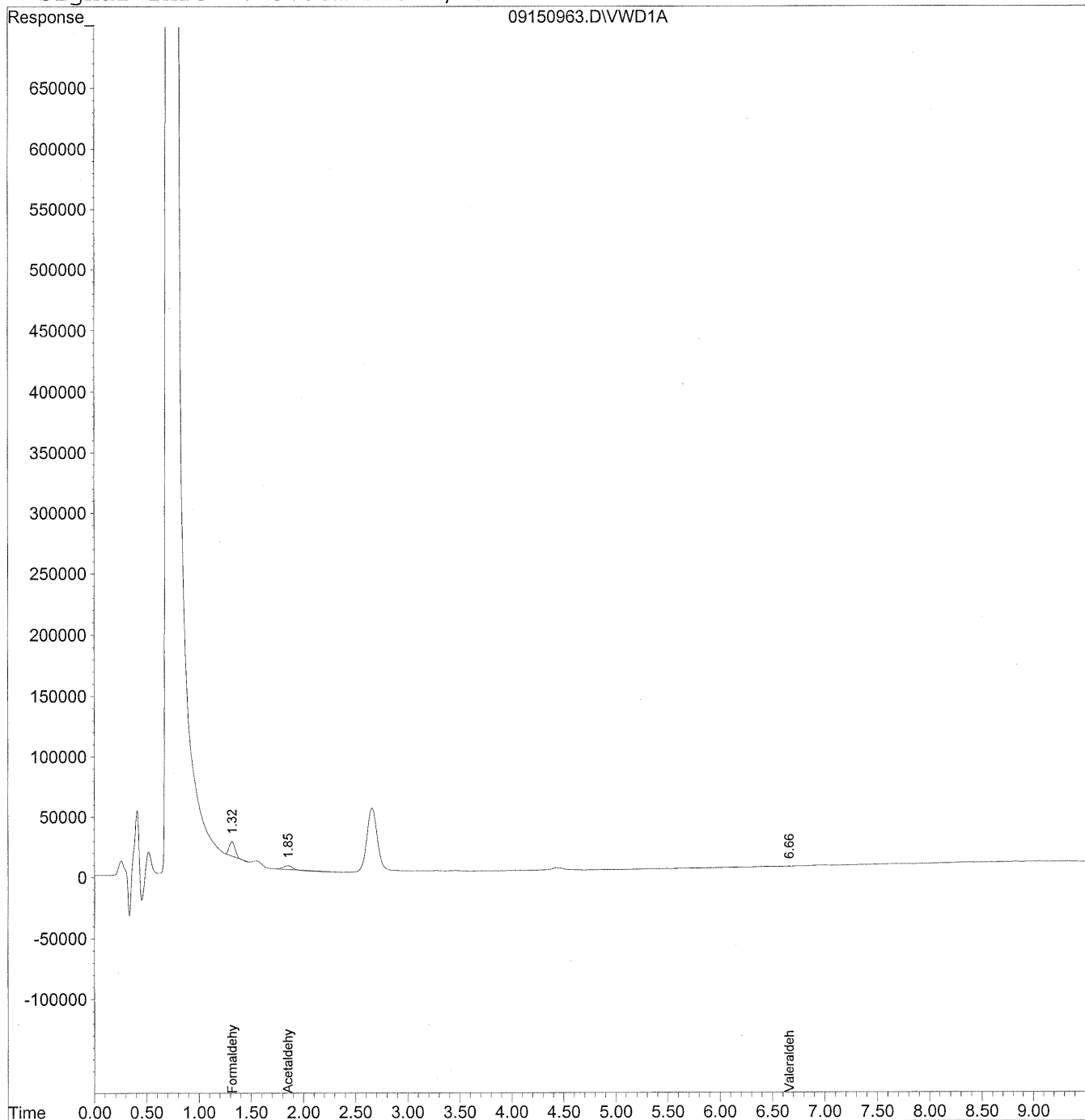
Verified By: Re Date: 9/24/09 **427**

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150963.D Vial: 138
Acq On : 15-Sep-2009, 20:44 Operator: MD
Sample : MB-2 front 1.0ml lot 5855/5994 Inst : VWD
Misc : 9/14 Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 16:16 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150963.D Vial: 138
 Acq On : 15-Sep-2009, 20:44 Operator: MD
 Sample : MB-2 front 1.0ml lot 5855/5994 Inst : VWD
 Misc : 9/14 Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 16:16 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 17 16:12:59 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

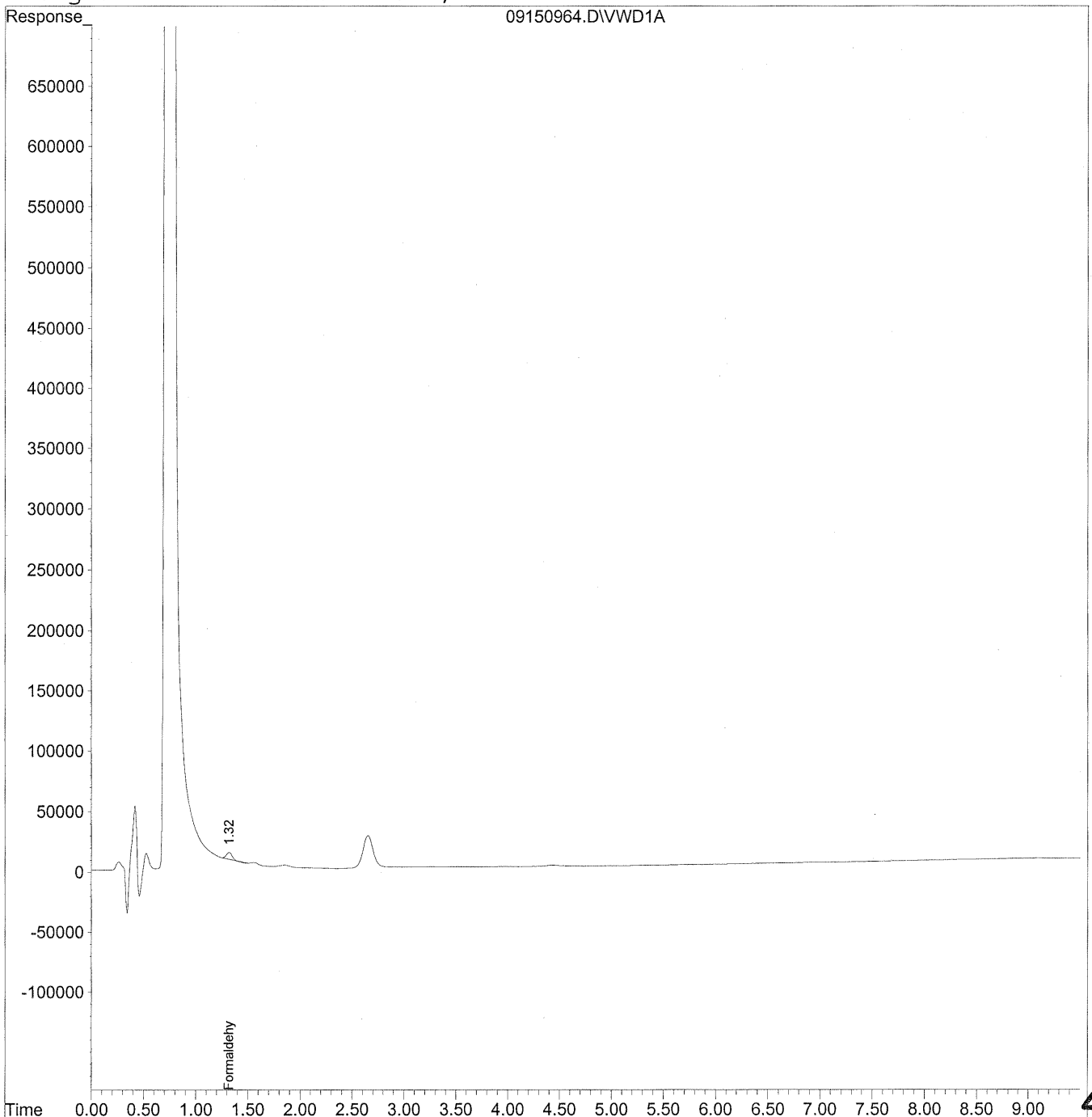
Target Compounds			
1) Formaldehyde	1.32	469313	52.523 ng/ml
2) Acetaldehyde	1.86	127460	19.607 ng/ml
3) Propionaldehyde	0.00	0	N.D. ng/ml
4) Crotonaldehyde	0.00	0	N.D. ng/ml
5) Butyraldehyde	0.00	0	N.D. ng/ml
6) Benzaldehyde	0.00	0	N.D. ng/ml
7) Isovaleraldehyde	0.00	0	N.D. ng/ml
8) Valeraldehyde	6.66	12291	3.615 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/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150964.D Vial: 139
Acq On : 15-Sep-2009, 20:56 Operator: MD
Sample : MB-2 back 1.0ml lot 5855/5994 Inst : VWD
Misc : 9/14 Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150964.D Vial: 139
 Acq On : 15-Sep-2009, 20:56 Operator: MD
 Sample : MB-2 back 1.0ml lot 5855/5994 Inst : VWD
 Misc : 9/14 Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 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 : Thu Sep 17 16:12:59 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	1.32	203390	22.762 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	0.00	0	N.D. ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

COLUMBIA ANALYTICAL SERVICES, INC.

RESULTS OF ANALYSIS

Page 1 of 1

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

CAS Project ID: P0903195
 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/m ³	MRL µg/m ³	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.

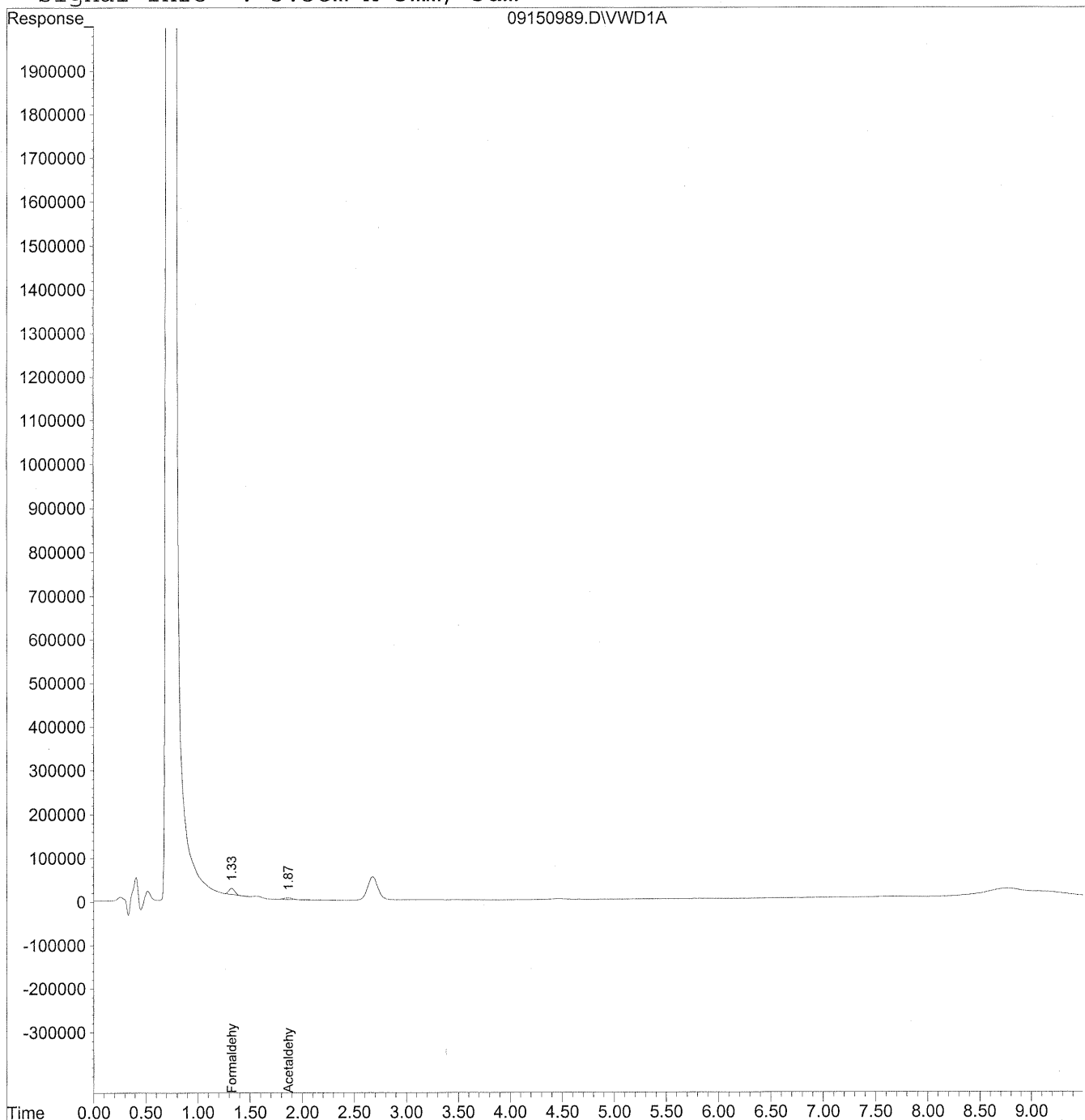
Verified By: Re Date: 9/24/09 **432**

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150989.D Vial: 174
Acq On : 16-Sep-2009, 01:55 Operator: MD
Sample : MB-3 front 1.0ml lot 5855/5997 Inst : VWD
Misc : 9/14 Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:25 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150989.D Vial: 174
 Acq On : 16-Sep-2009, 01:55 Operator: MD
 Sample : MB-3 front 1.0ml lot 5855/5997 Inst : VWD
 Misc : 9/14 Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:25 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 17 16:12:59 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

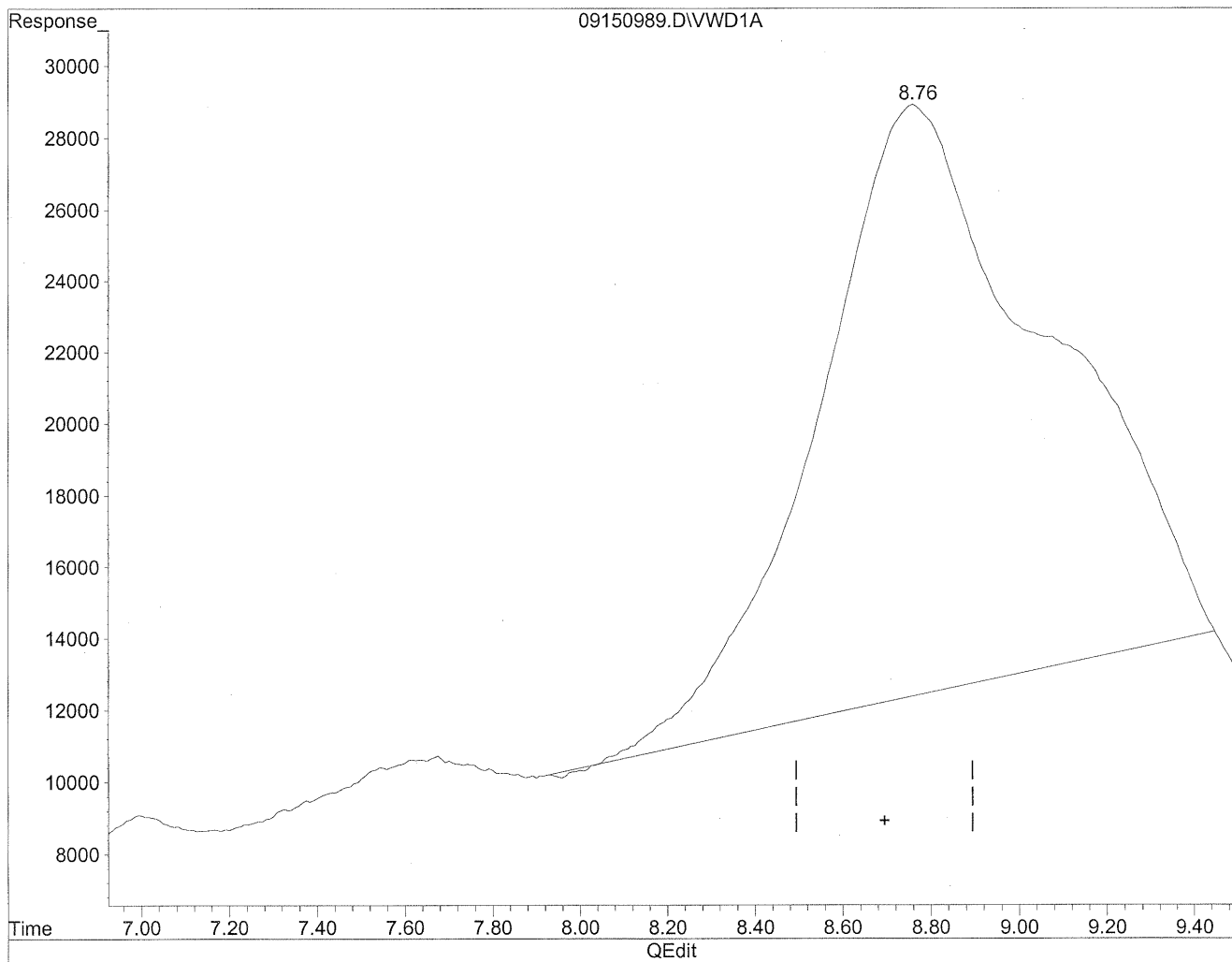
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.33	539982	60.432 ng/ml
2) Acetaldehyde	1.87	182874	28.131 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	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\15\09150989.D Vial: 174
Acq On : 16-Sep-2009, 01:55 Operator: MD
Sample : MB-3 front 1.0ml lot 5855/5997 Inst : VWD
Misc : 9/14 Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:24 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

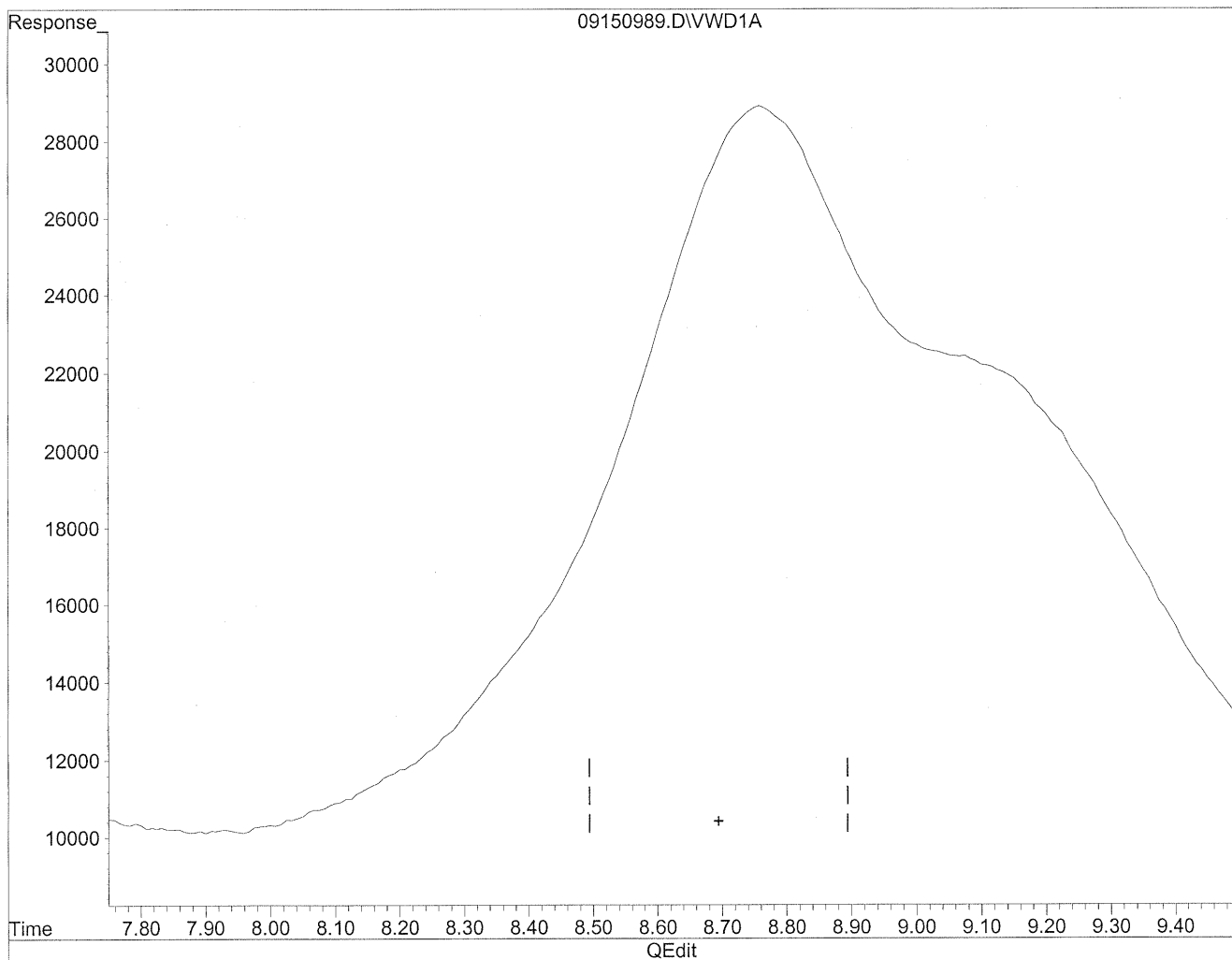


(12) 2,5-Dimethylbenzaldehyde
8.76min 3008.930ng/ml
response 6004296

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150989.D Vial: 174
Acq On : 16-Sep-2009, 01:55 Operator: MD
Sample : MB-3 front 1.0ml lot 5855/5997 Inst : VWD
Misc : 9/14 Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:24 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

0.00min 0.000ng/ml d

response 0

*the
alcohol*

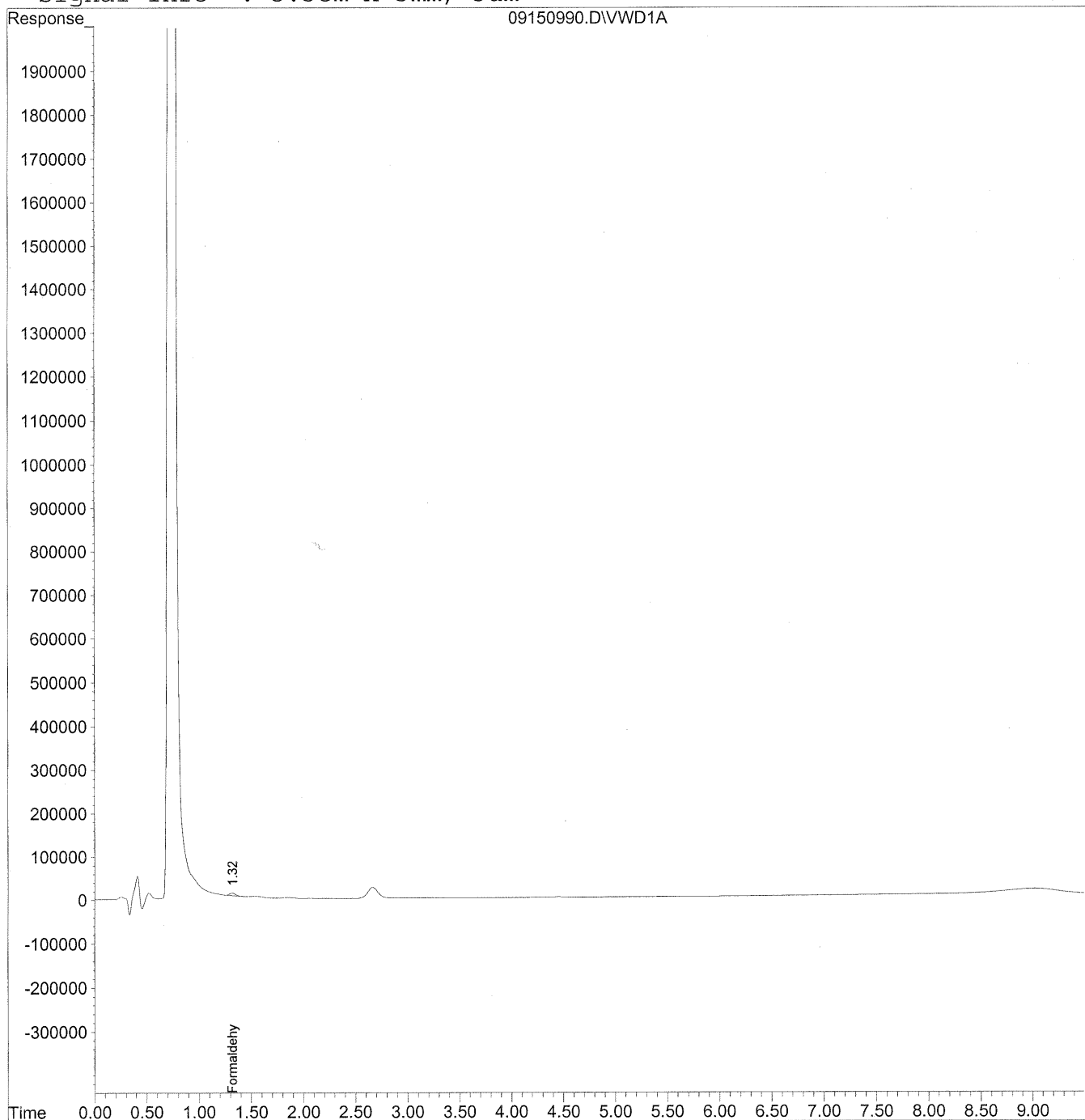
*7.70
alcohol
not real*

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150990.D Vial: 175
Acq On : 16-Sep-2009, 02:07 Operator: MD
Sample : MB-3 back 1.0ml lot 5855/5994 Inst : VWD
Misc : 9/14 Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:25 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 17 16:12:59 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150990.D Vial: 175
 Acq On : 16-Sep-2009, 02:07 Operator: MD
 Sample : MB-3 back 1.0ml lot 5855/5994 Inst : VWD
 Misc : 9/14 Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:25 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 17 16:12:59 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	1.32	225011	25.182 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	0.00	0	N.D. ng/ml
12) 2,5-Dimethylbenzaldehyde	0.00	0	N.D. ng/ml

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

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 [X]

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 ▼

Edit Integration Events [X]

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 ▼

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 H2O, 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%	1946371	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	0.09%	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	Valer- Aldehyde	o-Tolu- Aldehyde	m,p-Tolu- Aldehyde	Hex- Aldehyde	2,5-Dimethyl benz- Aldehyde	% rpd
50ng/ml TO-11A S2	186226	166401	109996	216426	145487	84766	5.84%
50ng/ml TO-11A S2	175760	171974	93386	227448	145697	96663	7.37%
50ng/ml TO-11A S2	177082	169317	113786	212270	155285	88645	1.53%
100ng/ml TO-11A S	323665	320426	207105	397976	282439	170783	3.03%
100ng/ml TO-11A S	313564	335005	188768	416110	285615	182724	3.75%
100ng/ml TO-11A S	340775	327561	198353	403186	288074	174836	0.73%
500ng/ml TO-11A S	1631123	1598180	1023918	2205841	1425262	964881	0.39%
500ng/ml TO-11A S	1614213	1593172	1018615	2181093	1423115	956005	0.53%
500ng/ml TO-11A S	1639714	1572954	1012283	2206747	1418487	962409	0.14%
1500ng/ml TO-11A	5115478	5104937	3347391	7133126	4465907	3088612	0.37%
1500ng/ml TO-11A	5182178	5176264	3396097	7179077	4448983	3056583	1.41%
1500ng/ml TO-11A	5170579	5170597	3376687	7206393	4462344	3155386	1.78%
5000ng/ml TO-11A	17854488	17905508	11990582	25039167	15466841	11107870	0.29%
5000ng/ml TO-11A	17875029	17921465	11986554	25032033	15380456	11113181	0.24%
5000ng/ml TO-11A	17932725	17988106	12035186	25134428	15437631	11198210	0.52%
10000ng/ml TO-11A	35277028	35412579	23892692	49431359	30345892	21989696	0.21%
10000ng/ml TO-11A	35194712	35338059	23813504	49315533	30246038	21823086	0.55%
10000ng/ml TO-11A	35288997	35418570	23869930	49446486	30343150	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-Dimethyl benz- Aldehyde
50ng/ml TO-11A S:	179689	162231	105723	218715	148823	90025
100ng/ml TO-11A S:	326001	327664	198075	405757	285376	176114
500ng/ml TO-11A S:	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-11A	35253579	35389736	23858709	49397793	30311693	21943752

%RSD

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%

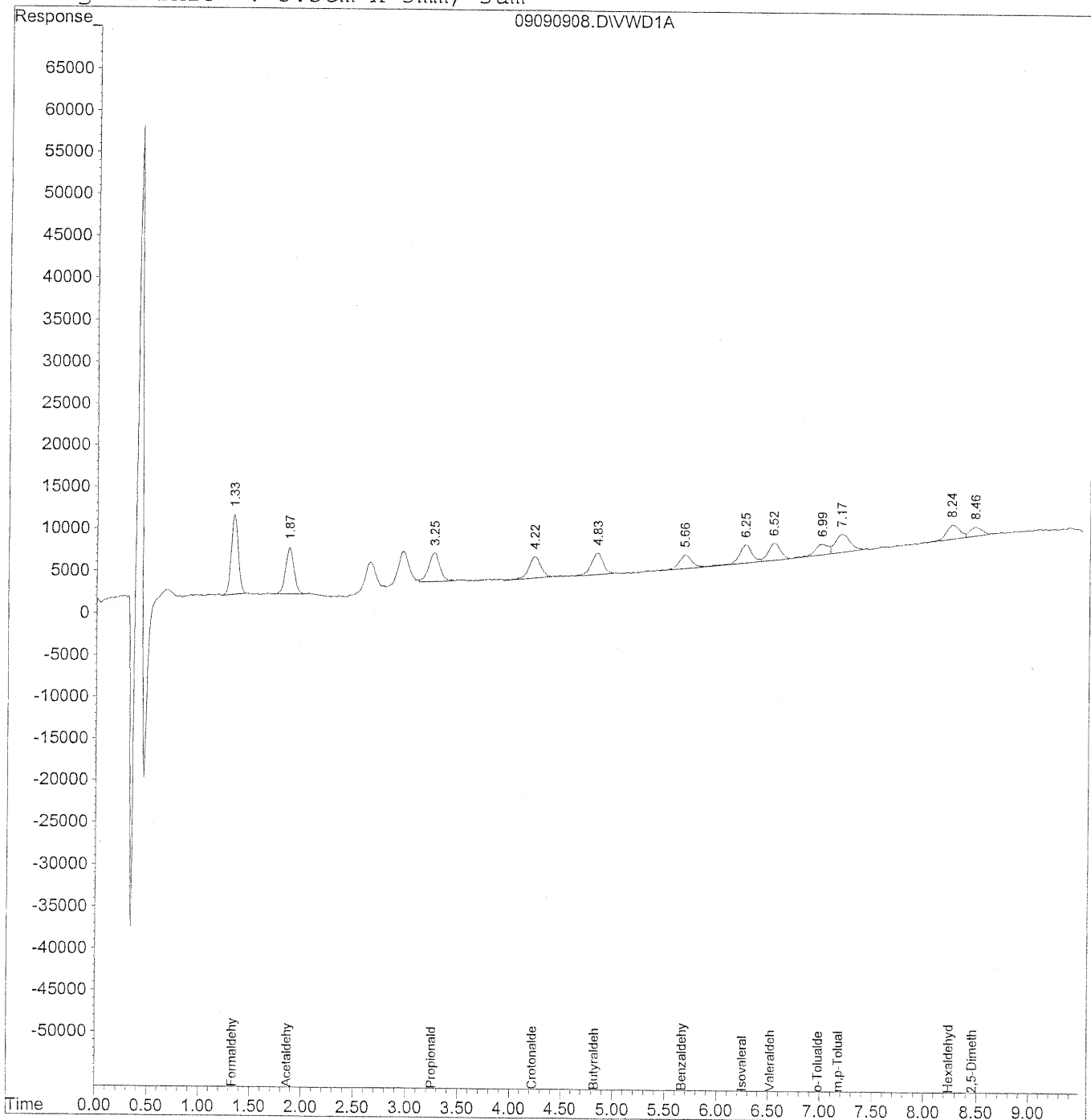
TO-11A CALIBRATION STANDARDS LIST						
50ng/ml TO-11A S21-09080905						
100ng/ml TO-11A S21-09080904						
500ng/ml TO-11A S21-09080903						
1500ng/ml TO-11A S21-09090903						
5000ng/ml TO-11A S21-09080902						
10000ng/ml TO-11A S21-09080901						

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



450

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

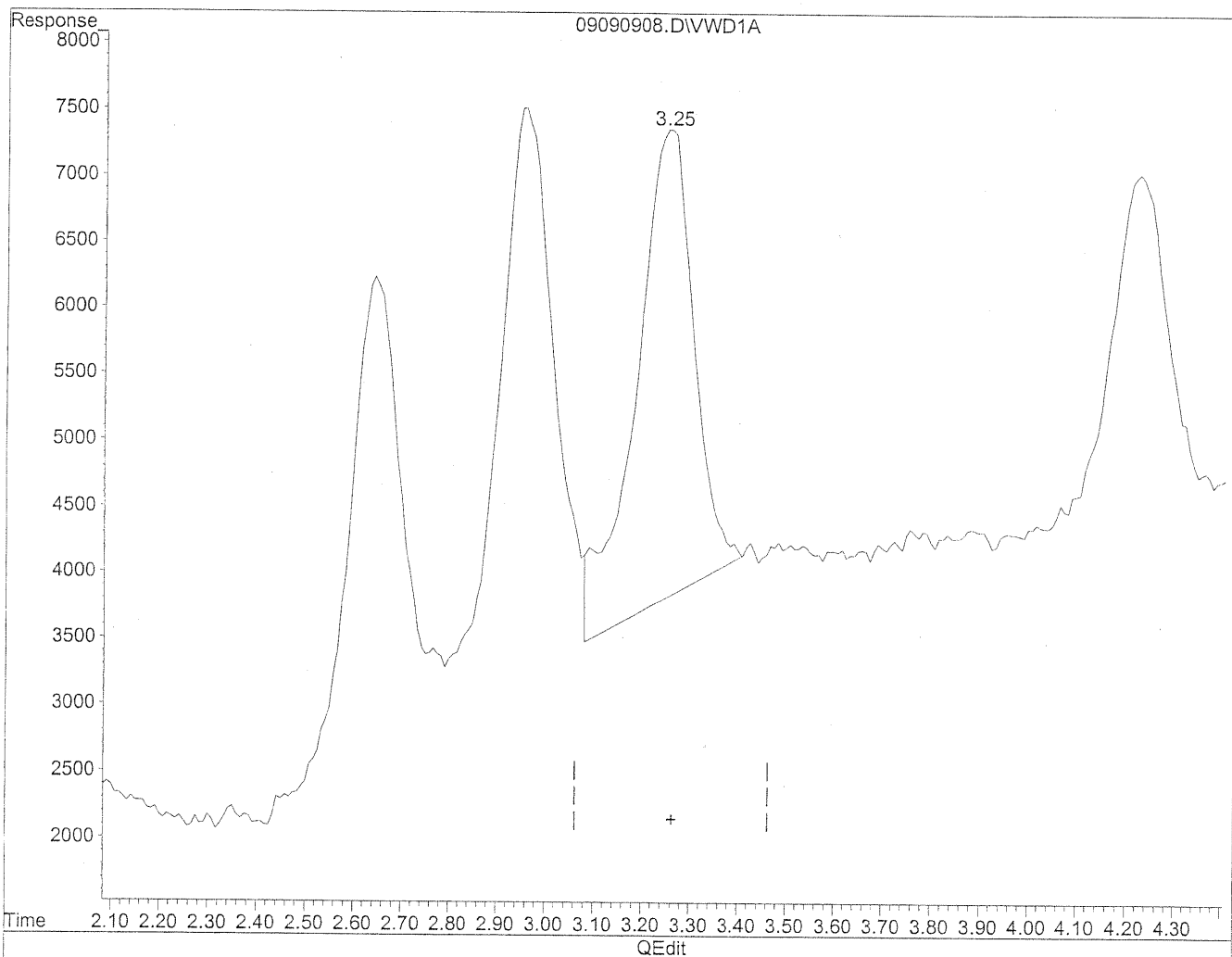
Compound	R.T.	Response	Conc Units

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

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

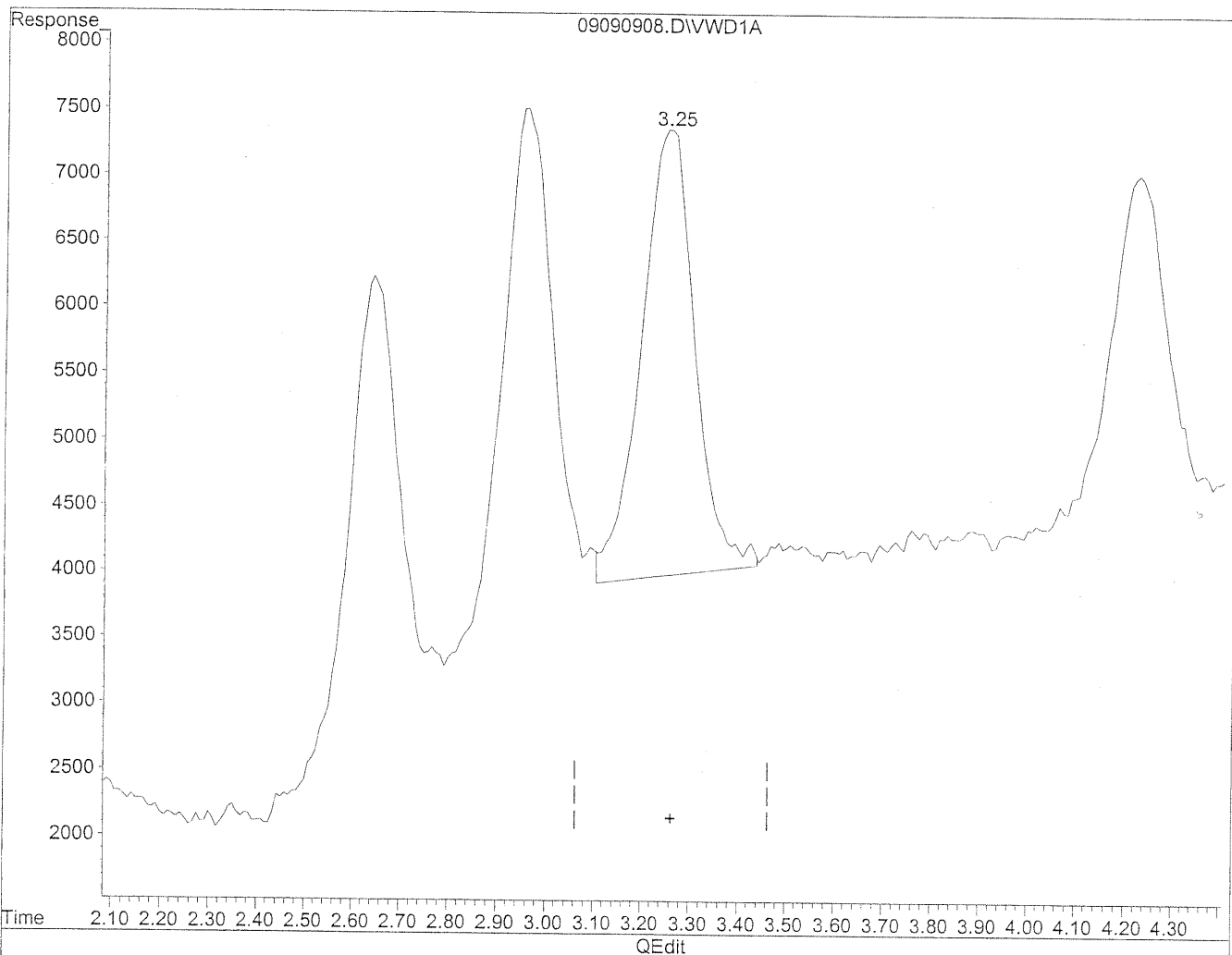


(3) Propionaldehyde
3.26min 56.431ng/ml
response 292995

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

MD
9/10/09
BC

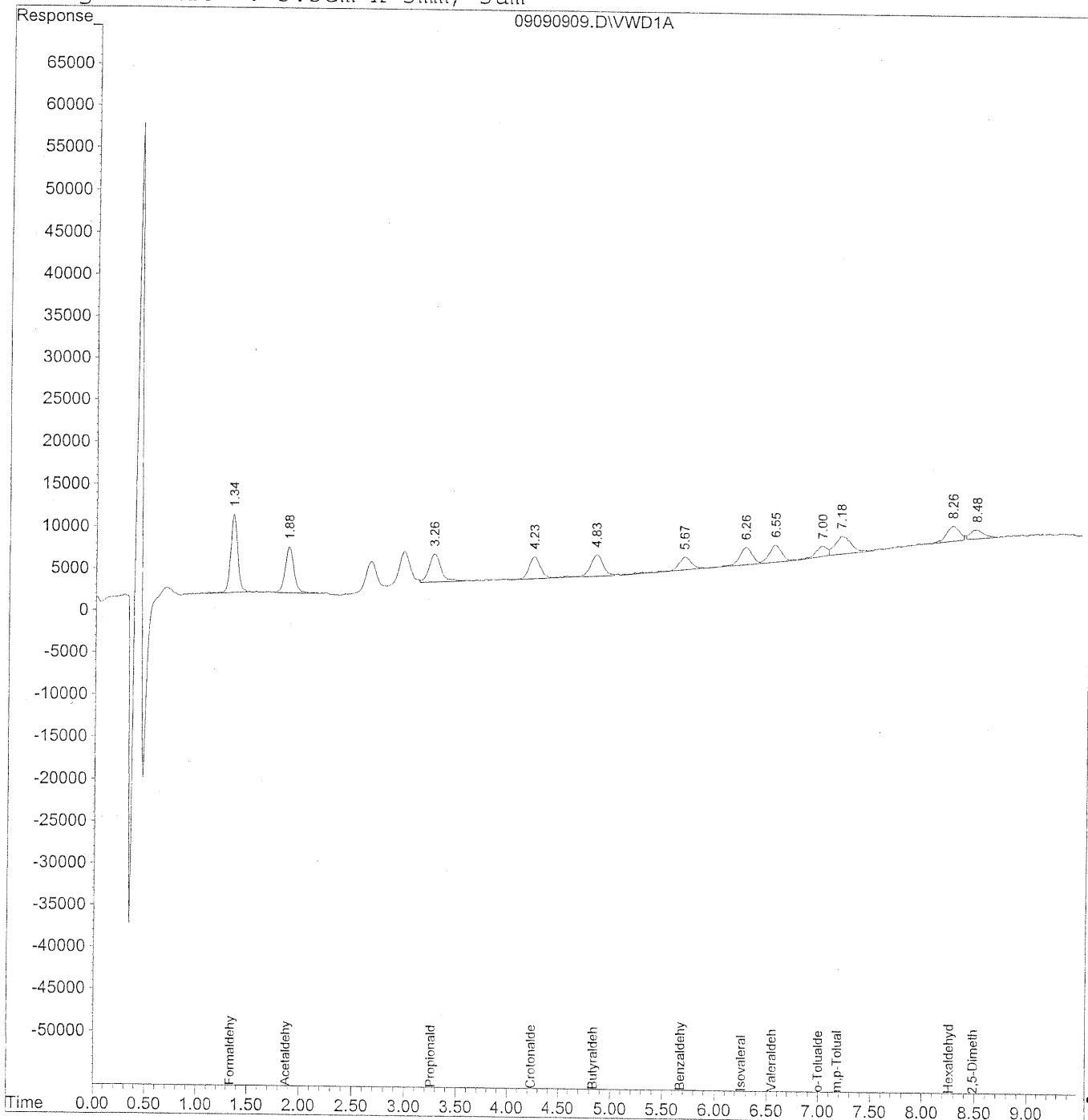
KE 9/10/09

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



454

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

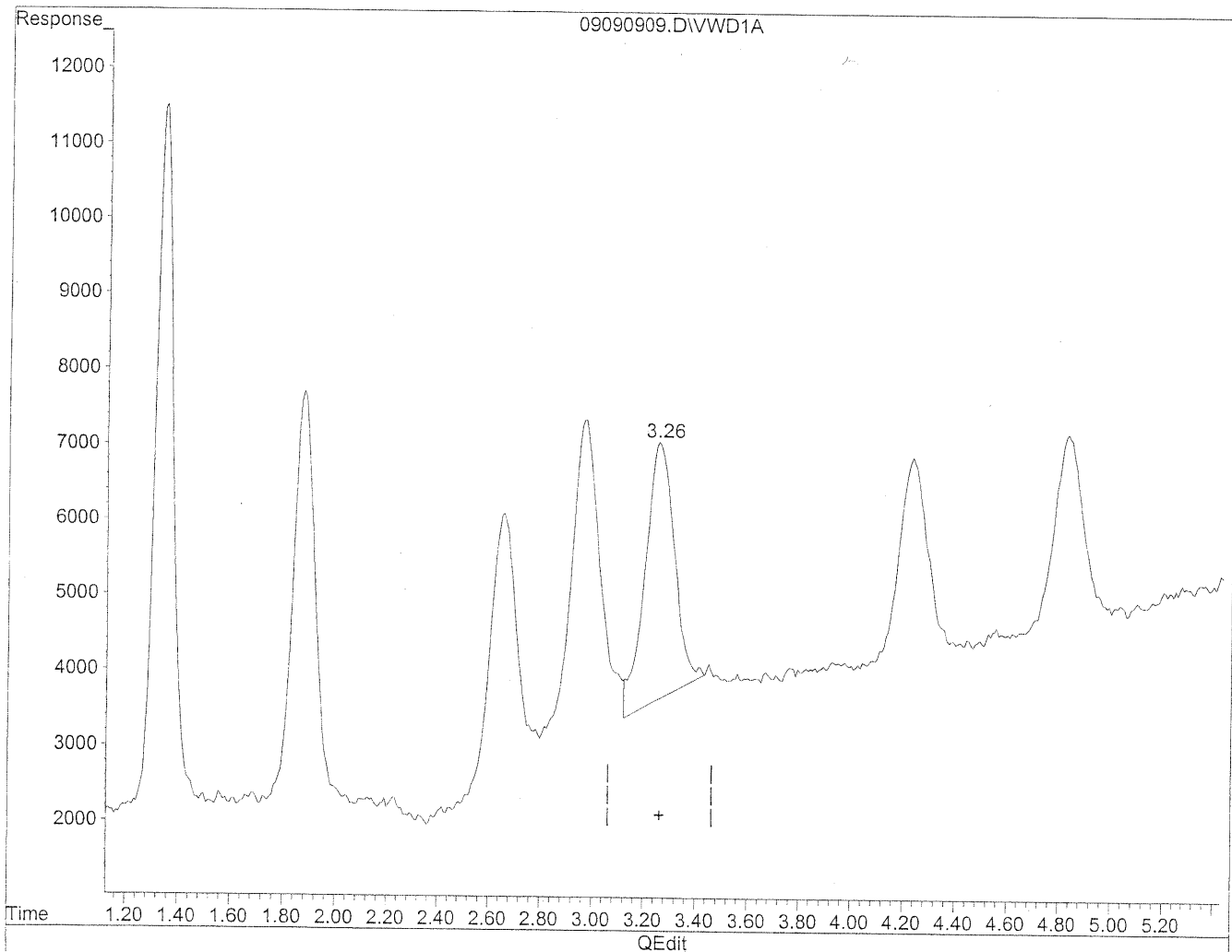
Compound	R.T.	Response	Conc Units

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

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

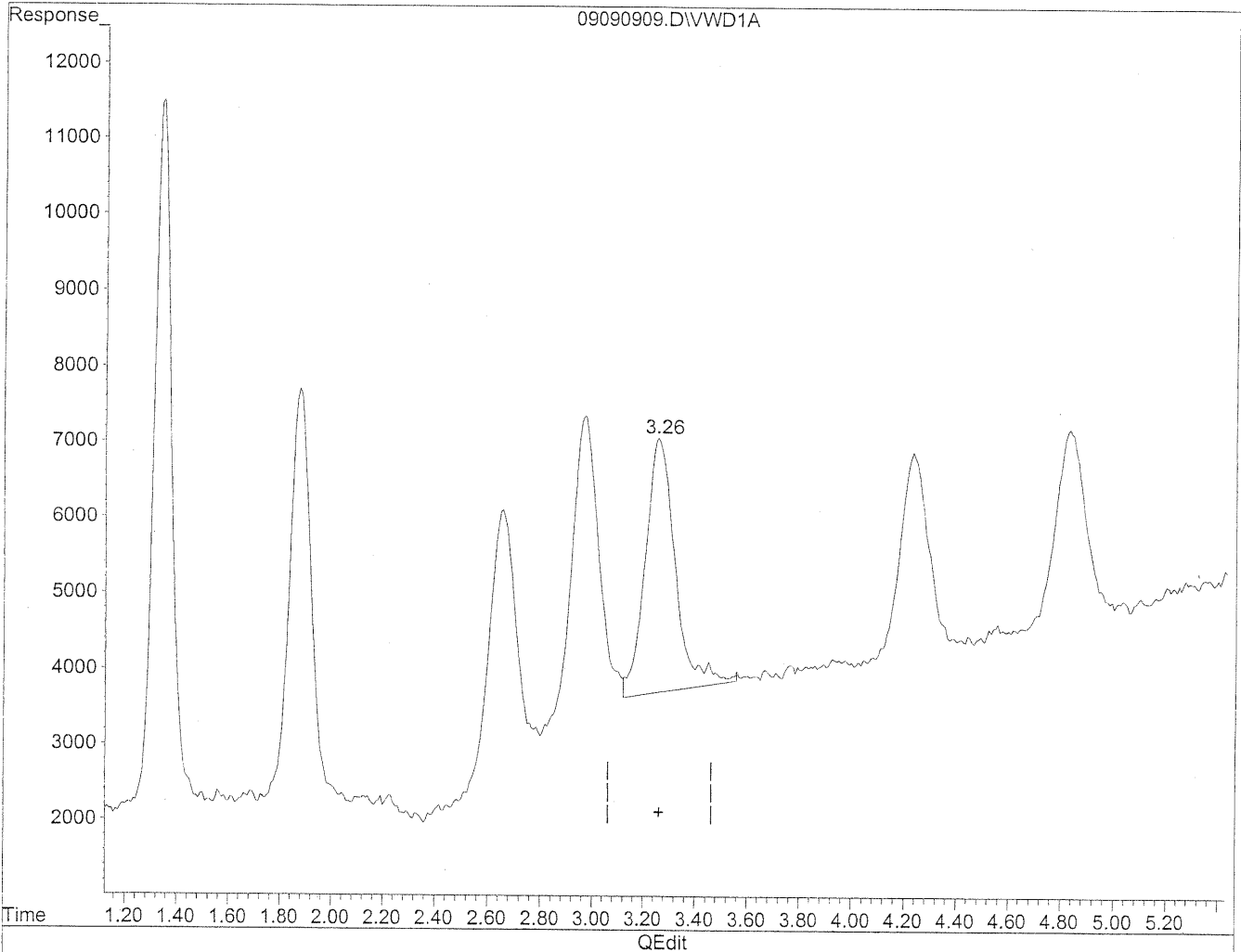


(3) Propionaldehyde
3.26min 51.274ng/ml
response 265532

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

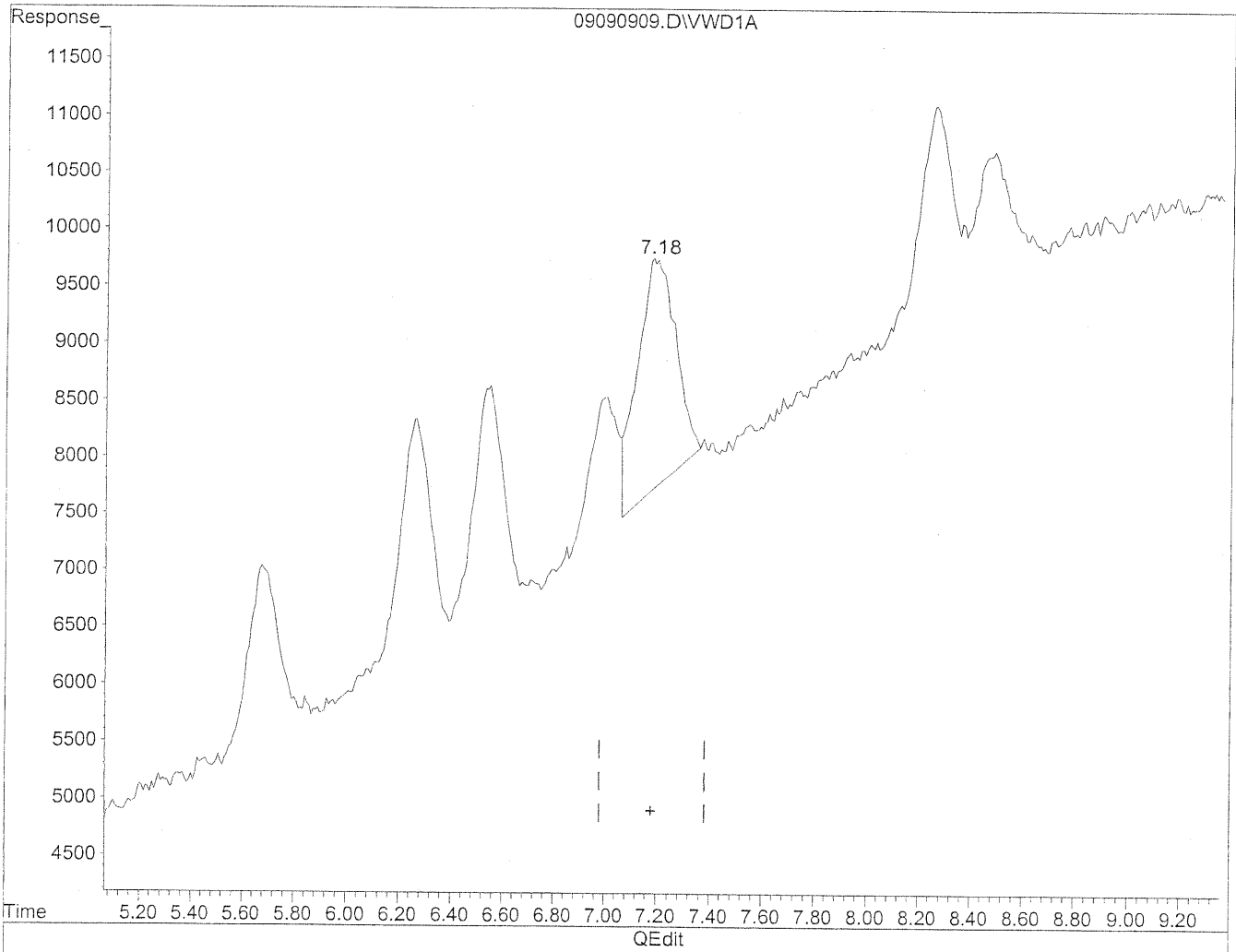
MD
9/10/09
pc

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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

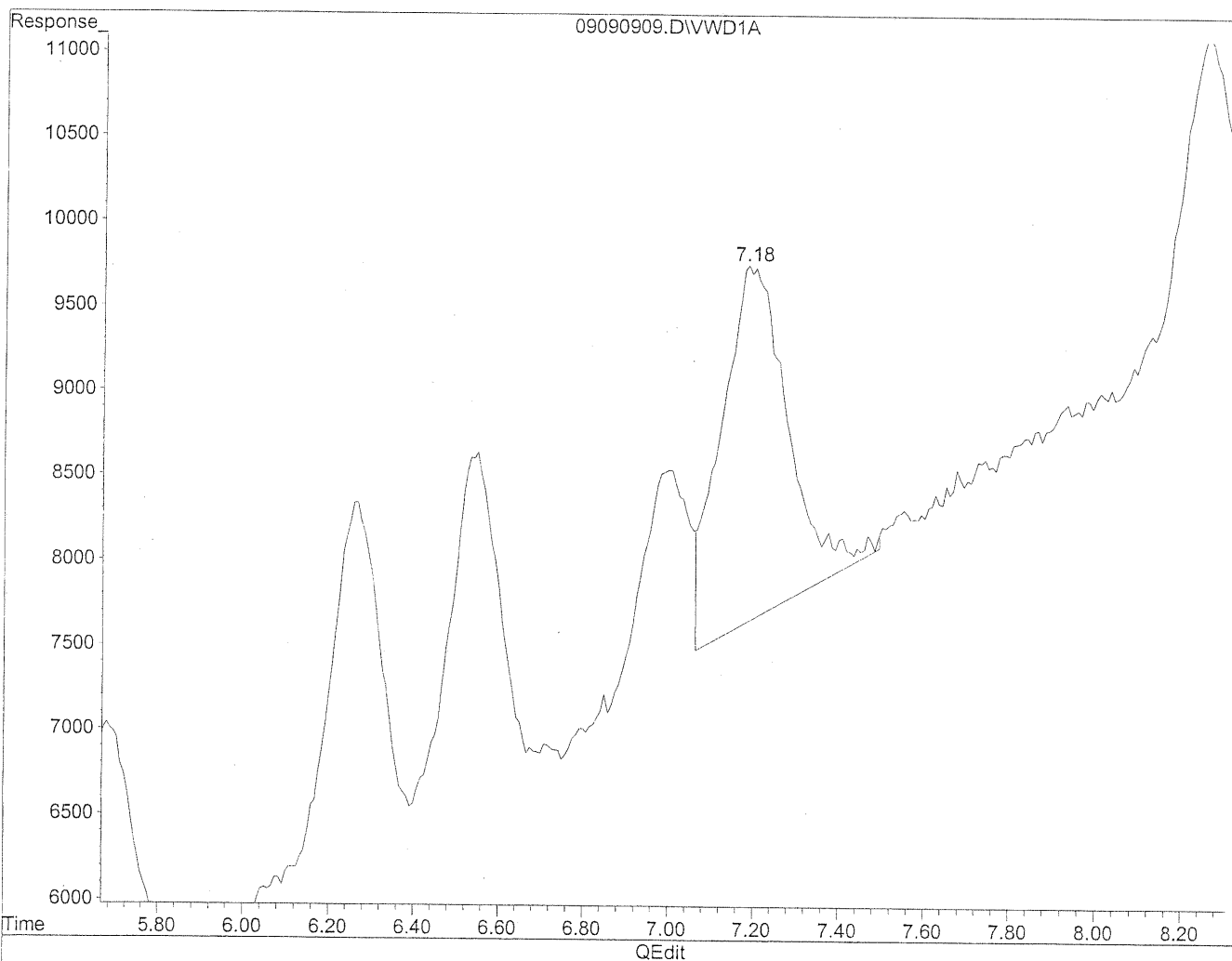


(10) m,p-Tolualdehyde
7.19min 86.656ng/ml
response 200799

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

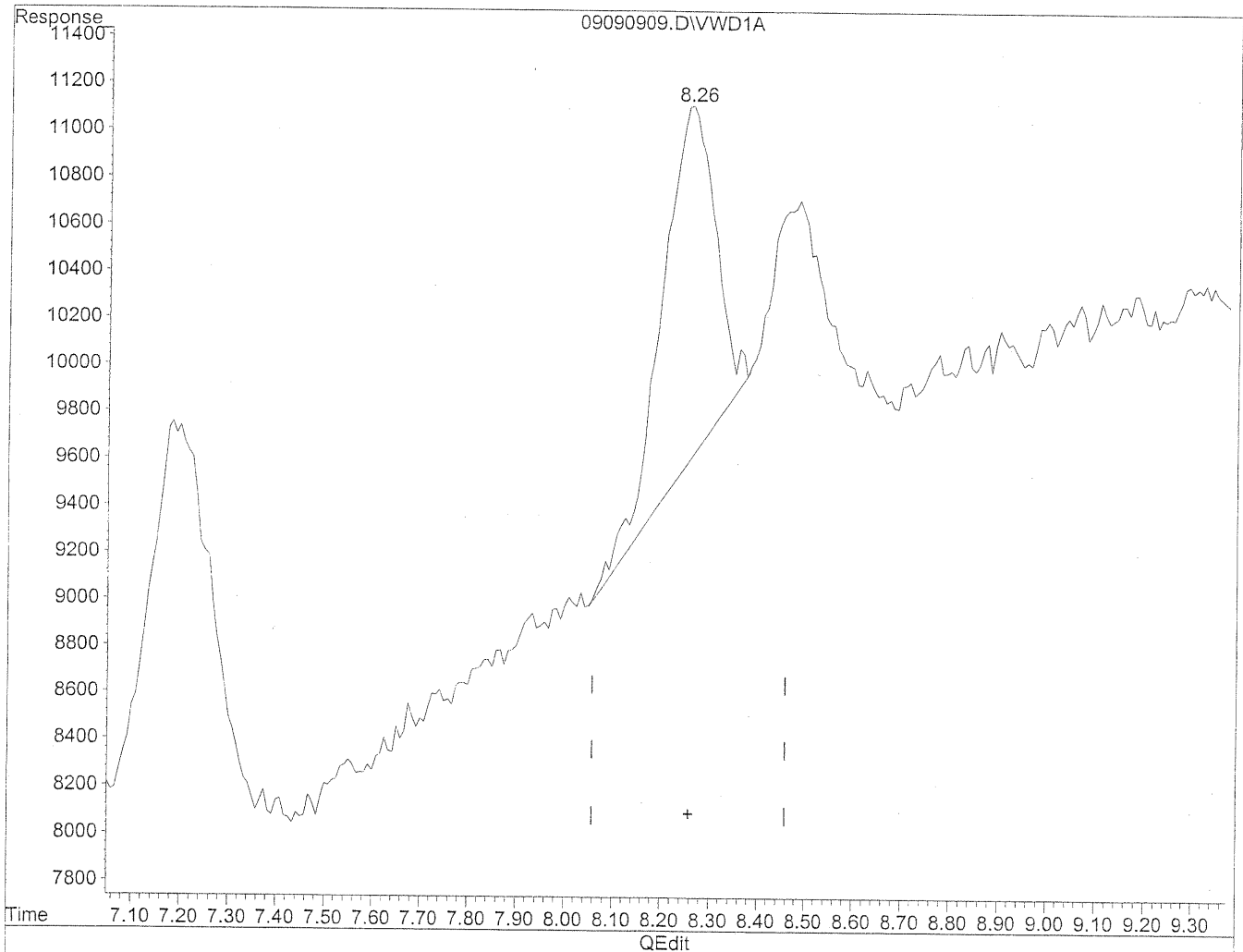
MD
9/10/09
pc

kg 9/10/09

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

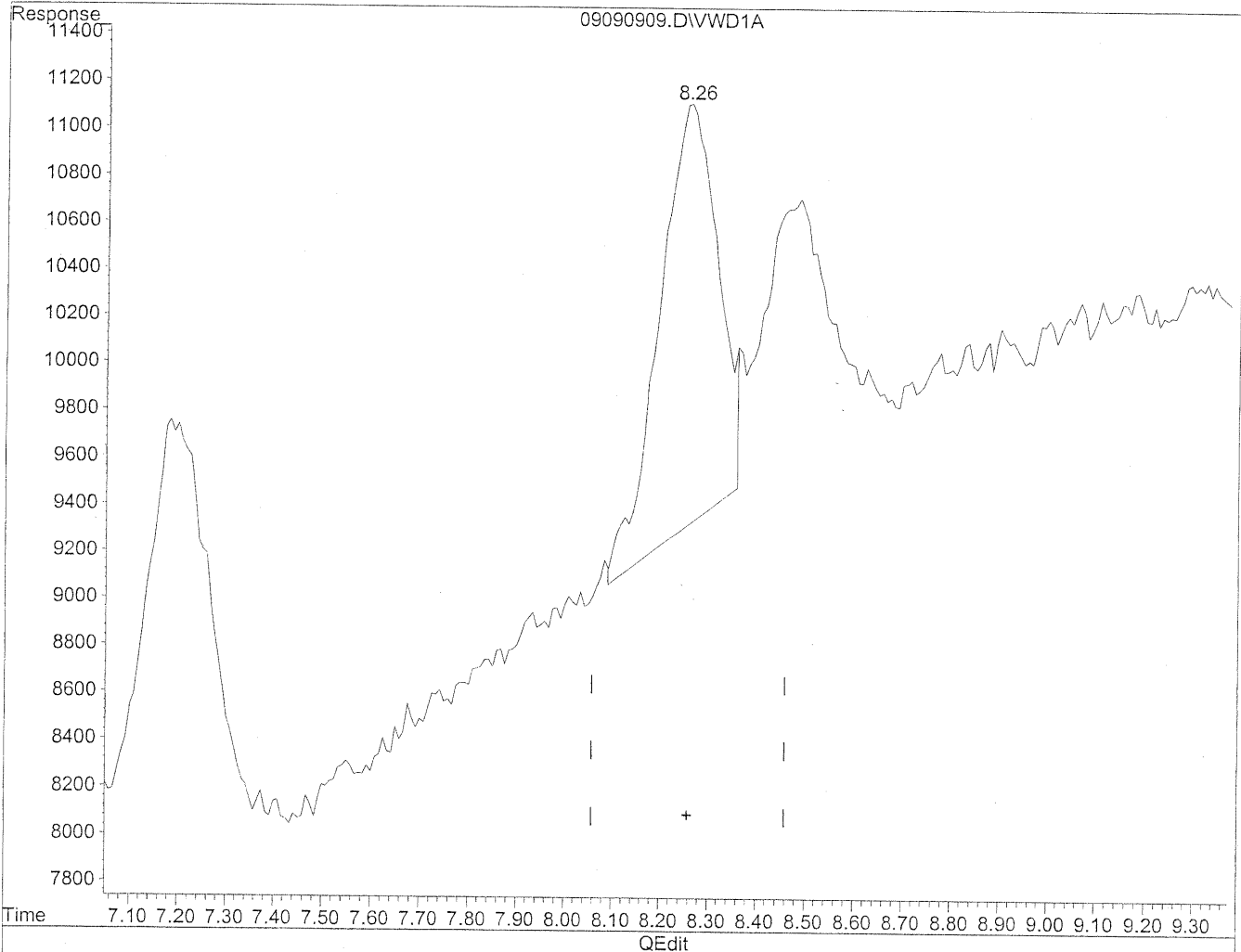


(11) Hexaldehyde
8.26min 38.176ng/ml
response 111365

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

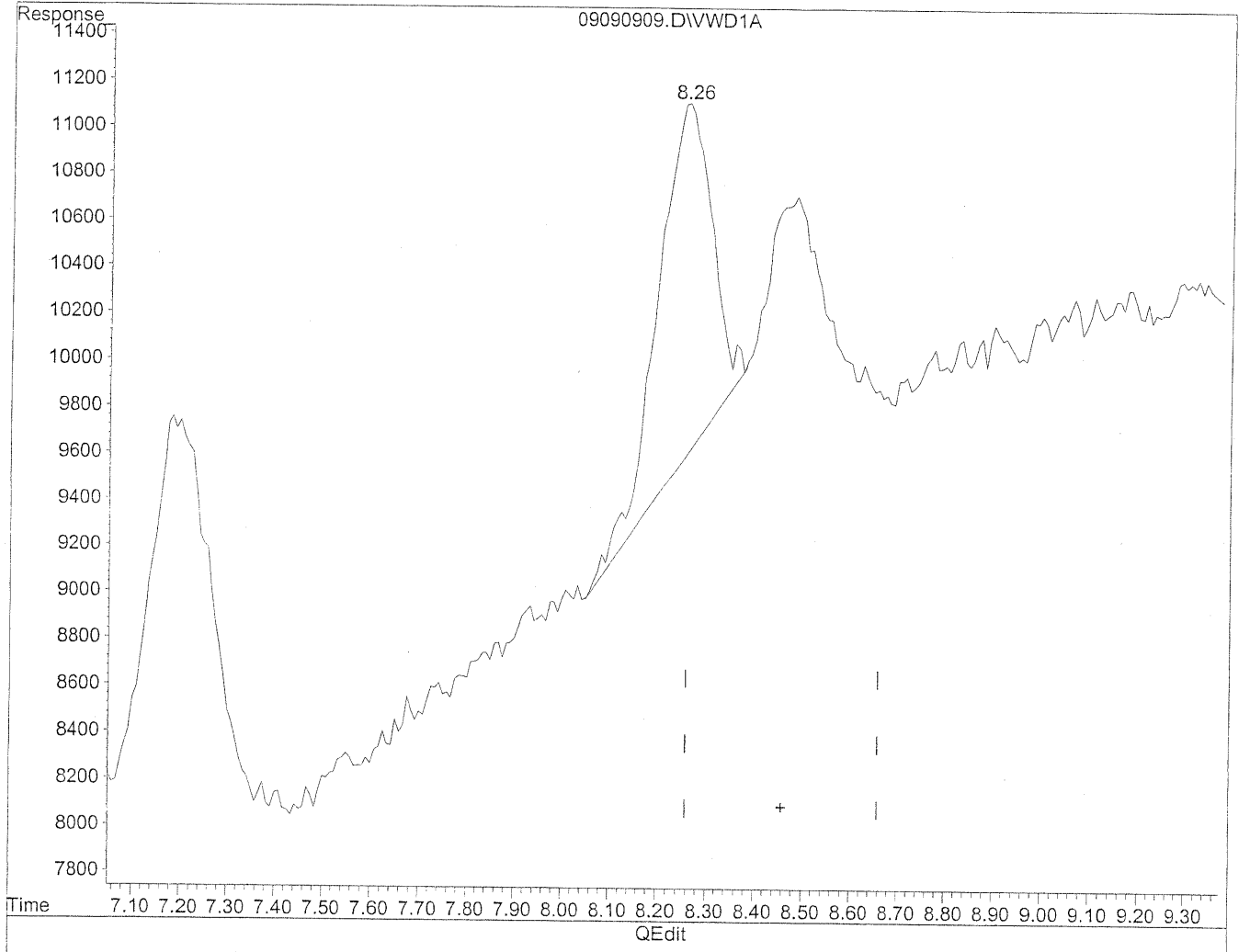
(MD)
9/10/09
pc

129/10/09

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

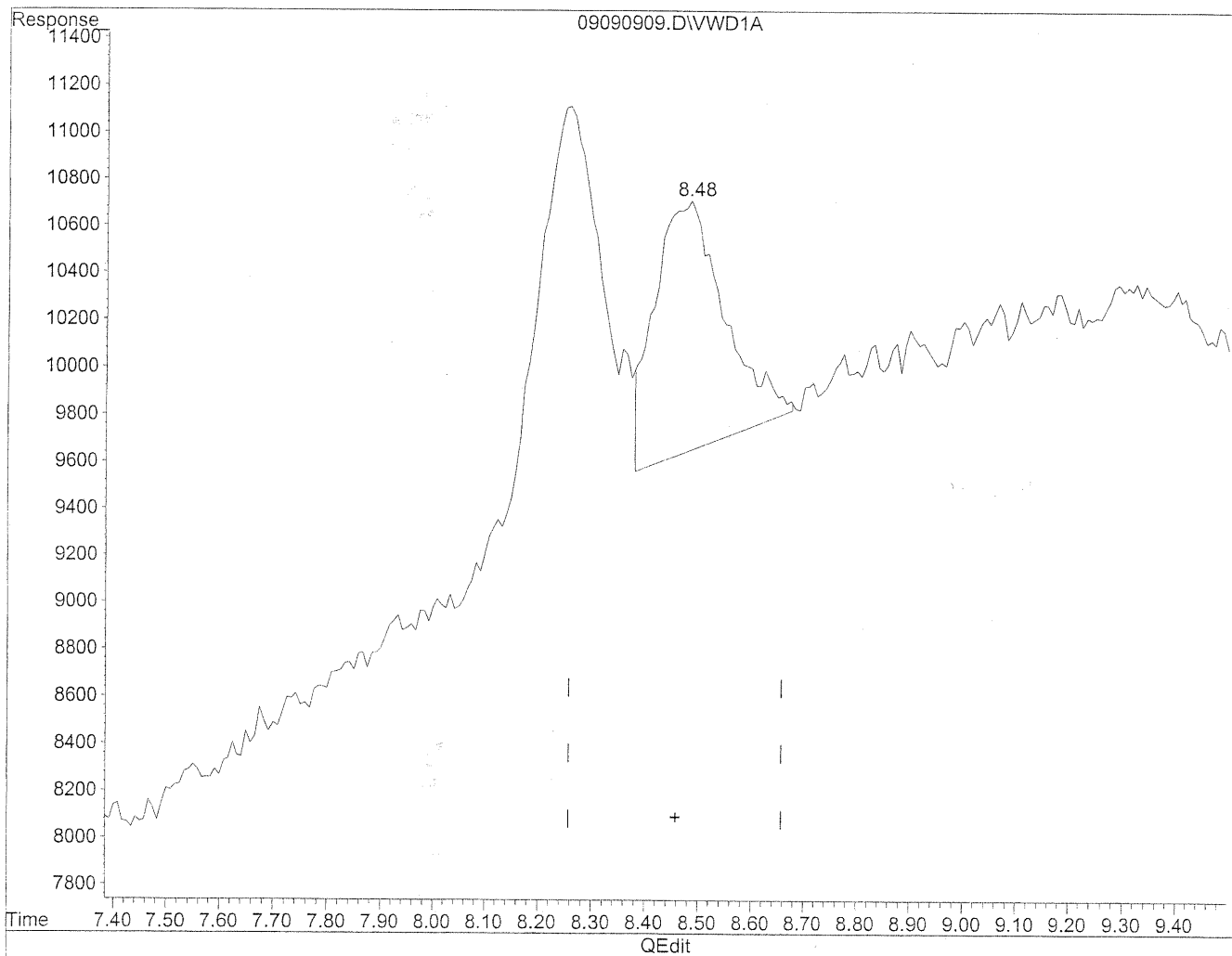


(12) 2,5-Dimethylbenzaldehyde
8.26min 57.160ng/ml
response 111365

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

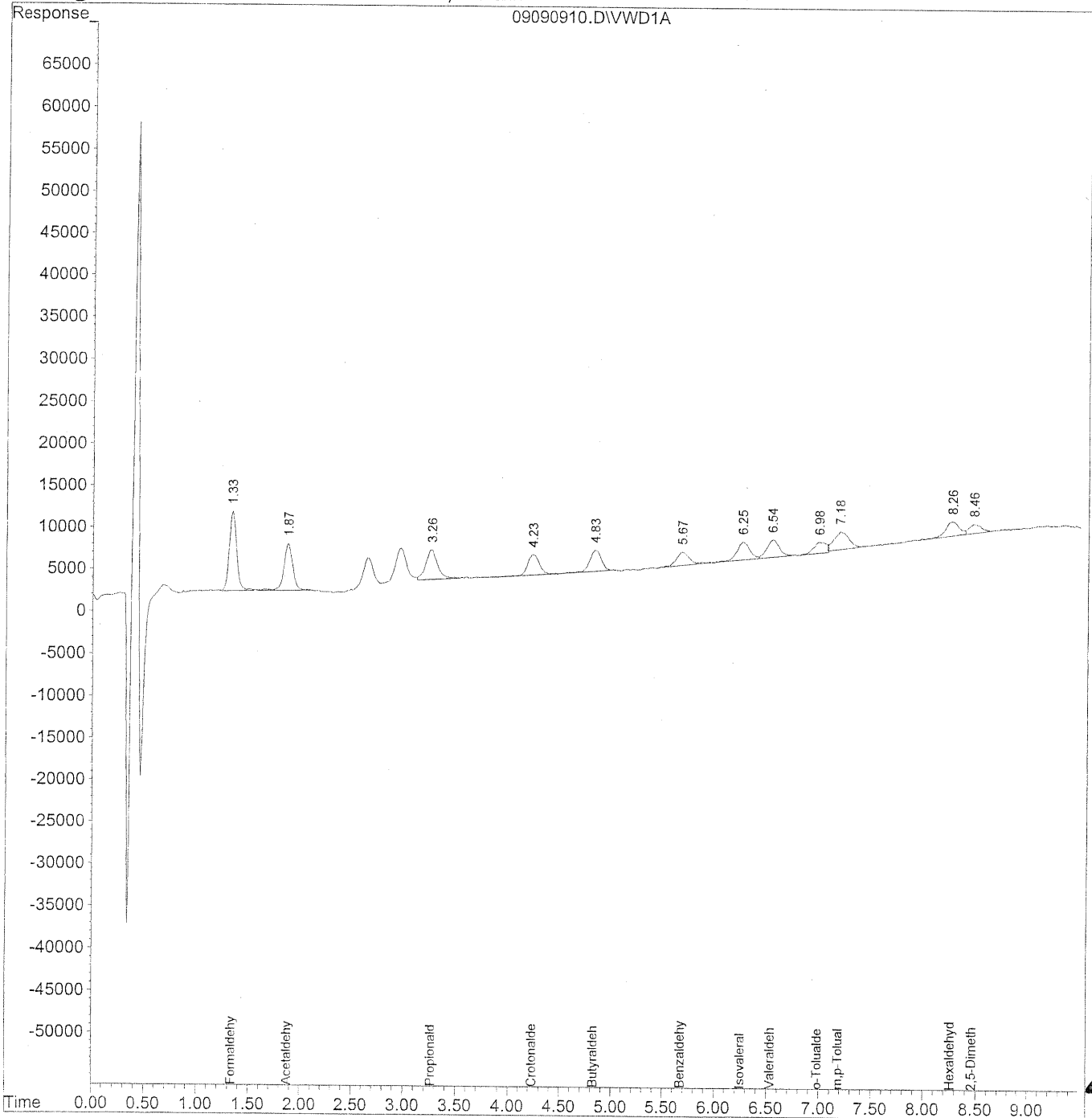
MD
9/10/09
JE mp
KAG/10/09

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



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

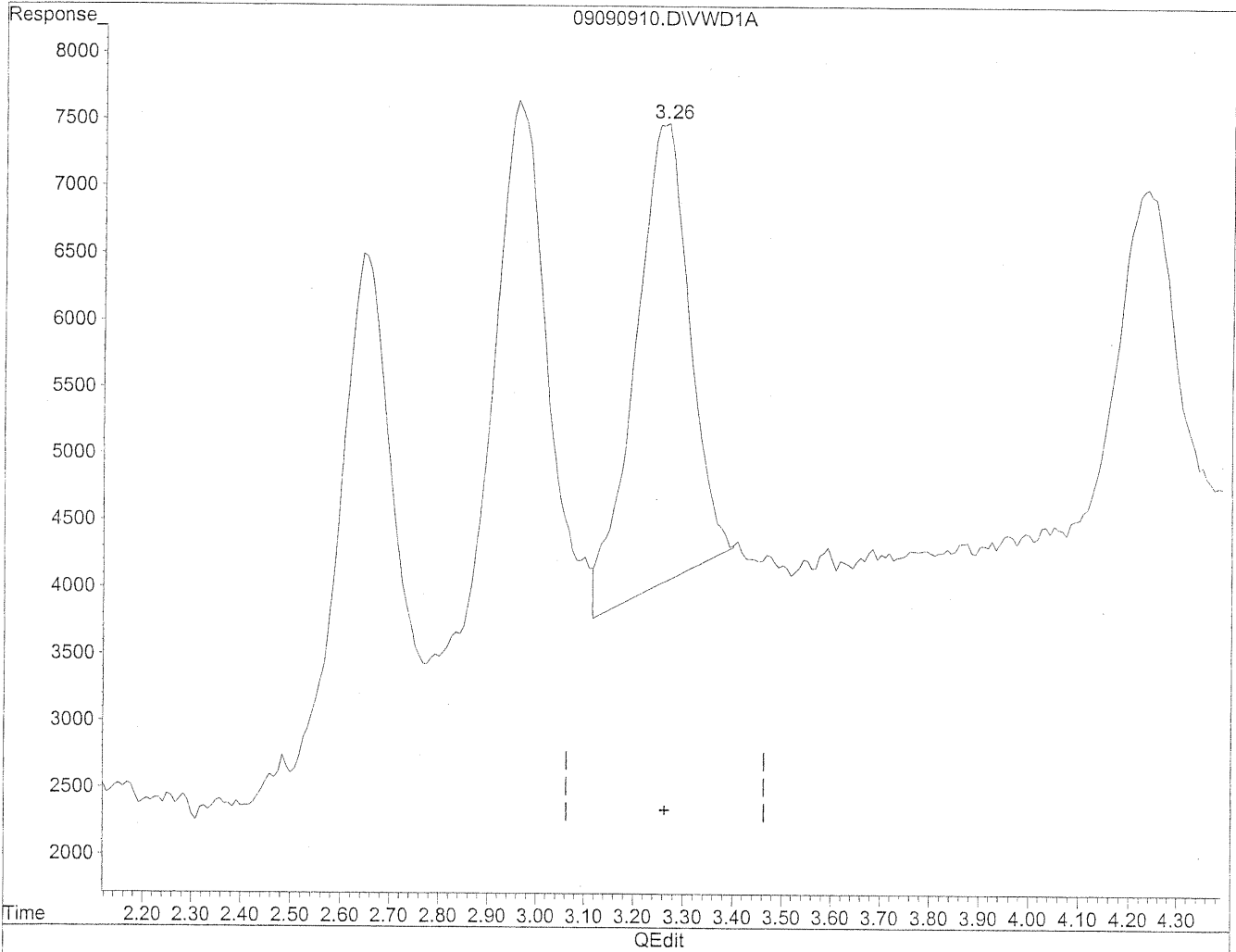
Compound	R.T.	Response	Conc Units

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

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



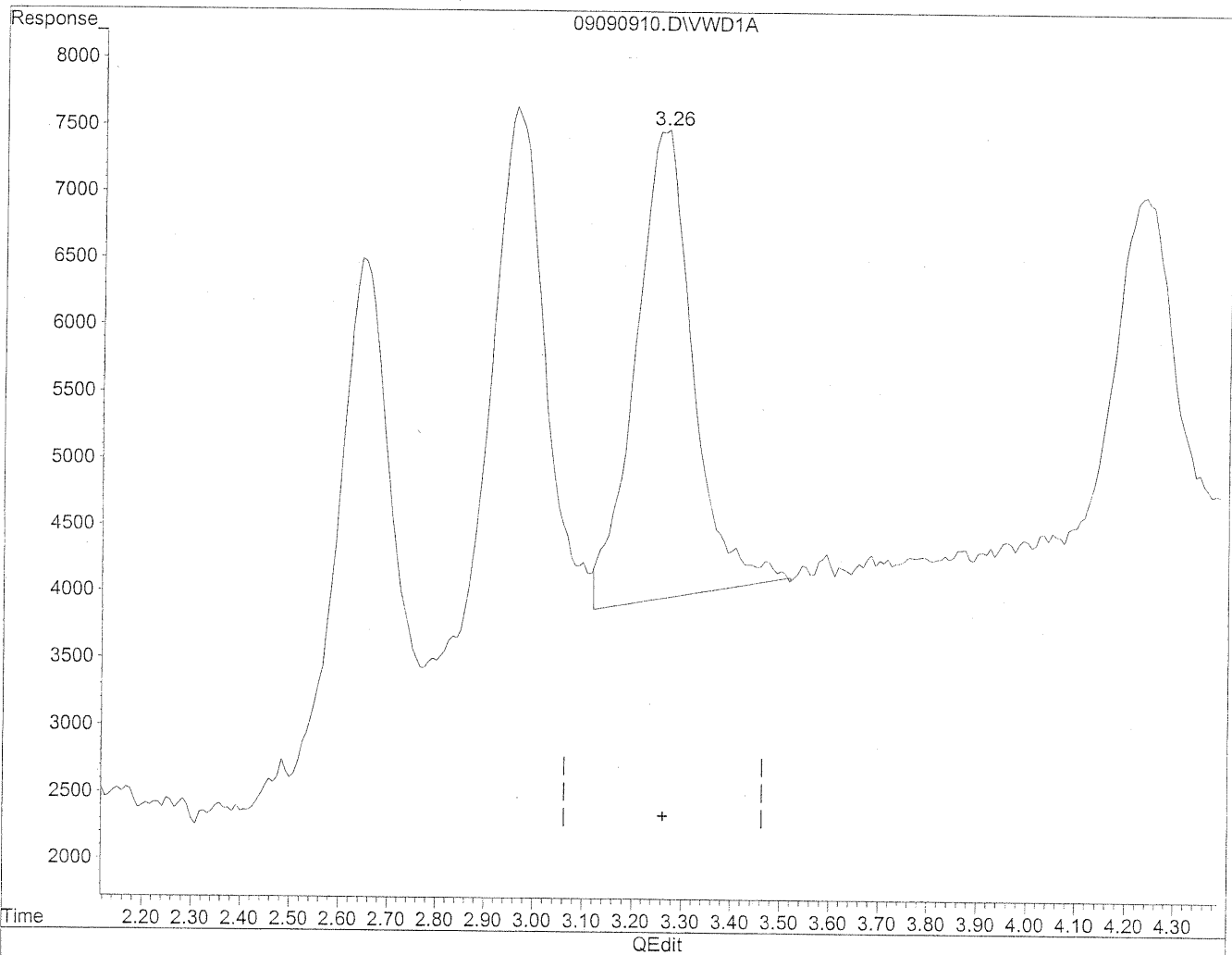
(3) Propionaldehyde
3.26min 49.837ng/ml
response 258964

A handwritten signature or set of initials, possibly 'MD', is written in black ink and enclosed in a hand-drawn oval.

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

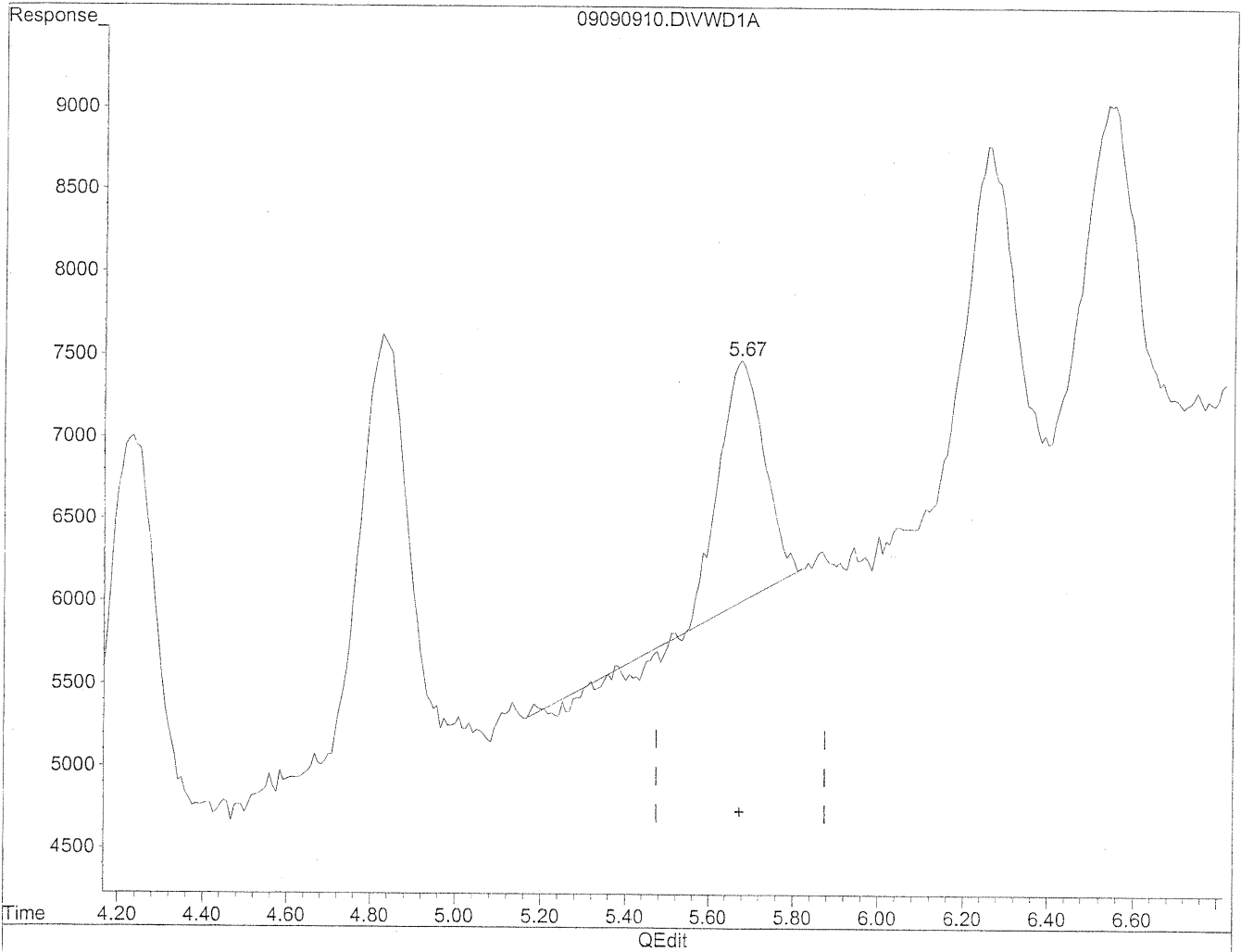
MD
9/10/09
pr

KE9/10/09

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

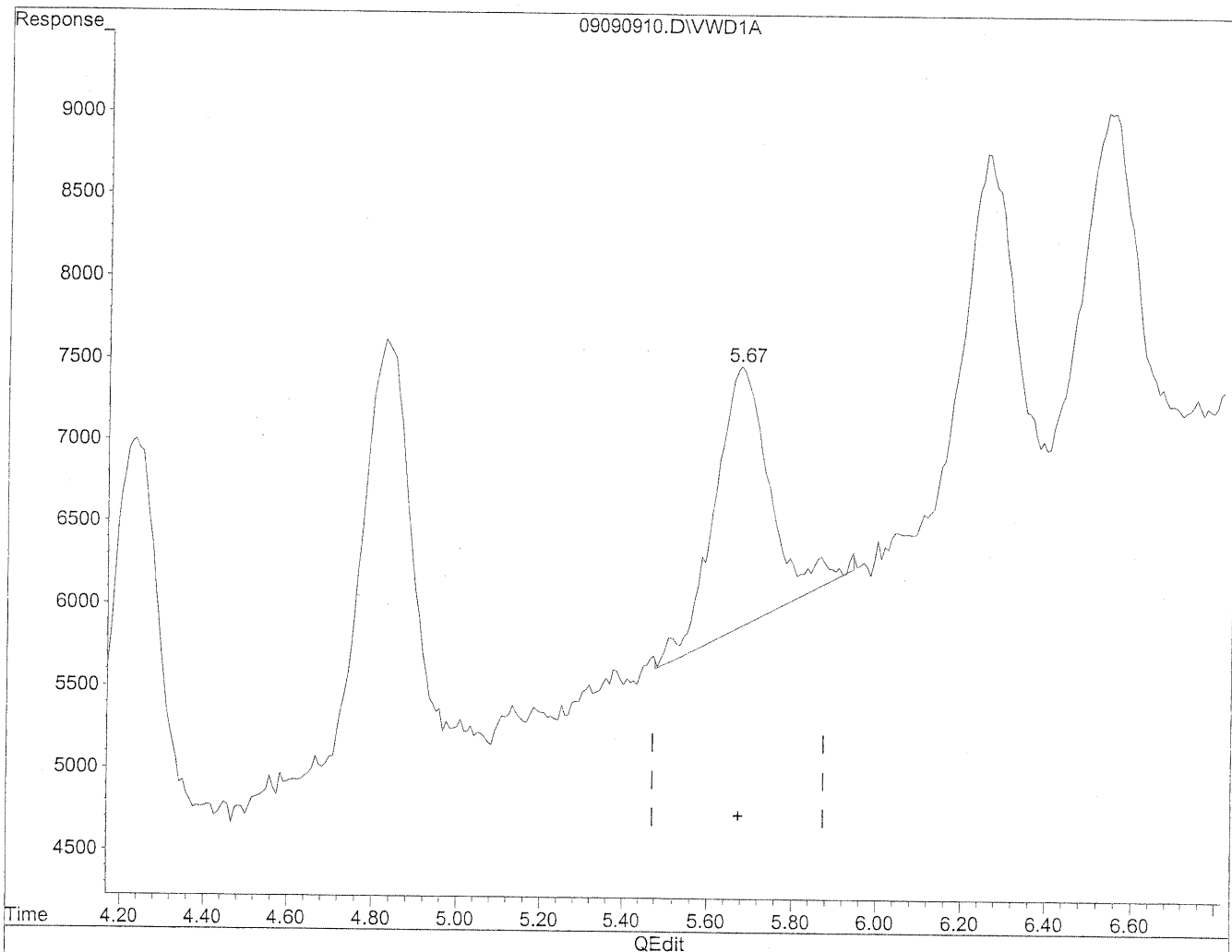


(6) Benzaldehyde
5.68min 37.890ng/ml
response 101557

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



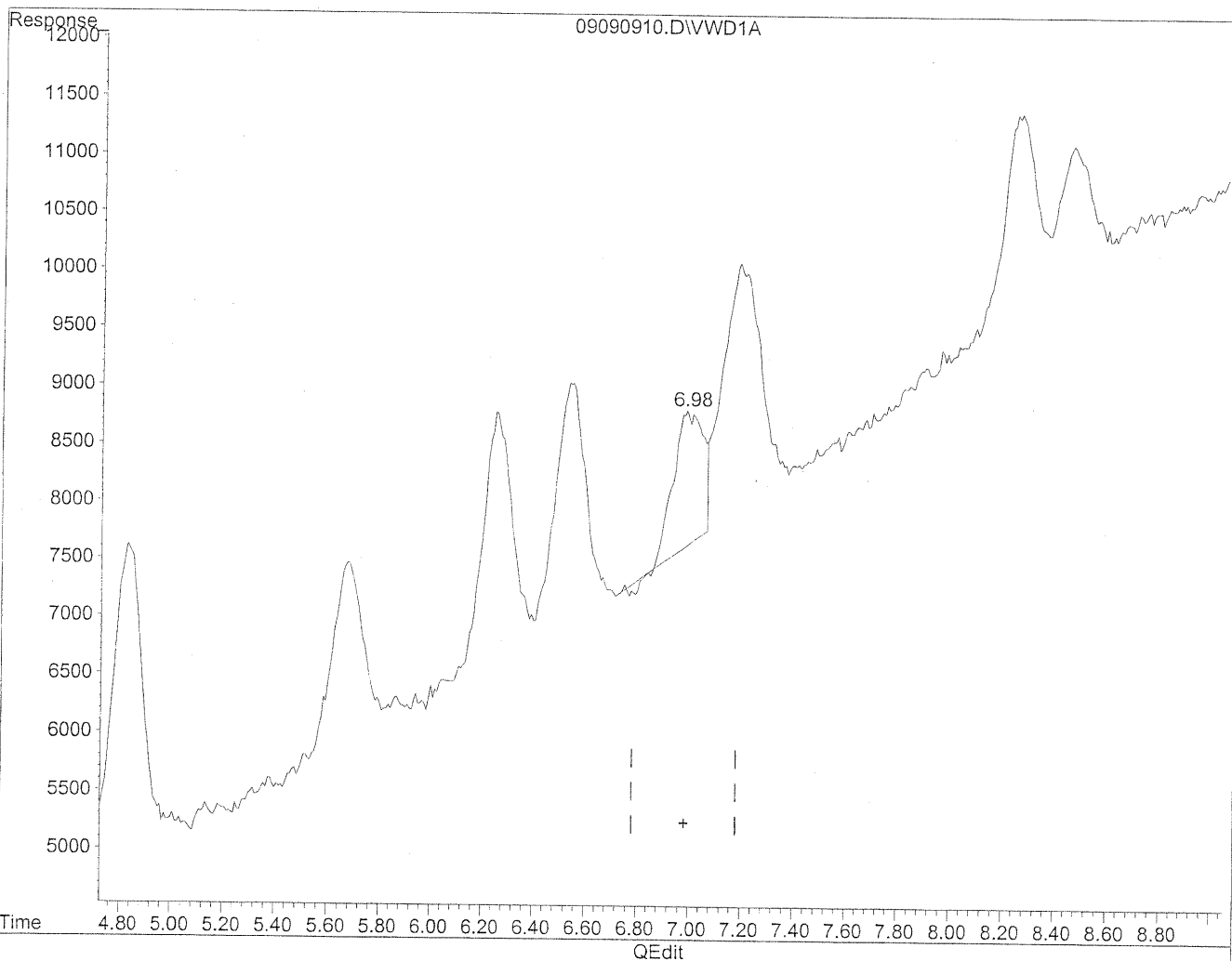
(6) Benzaldehyde
5.67min 53.093ng/ml m
response 142307

MD
9/10/09
RZ
10/10/09

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

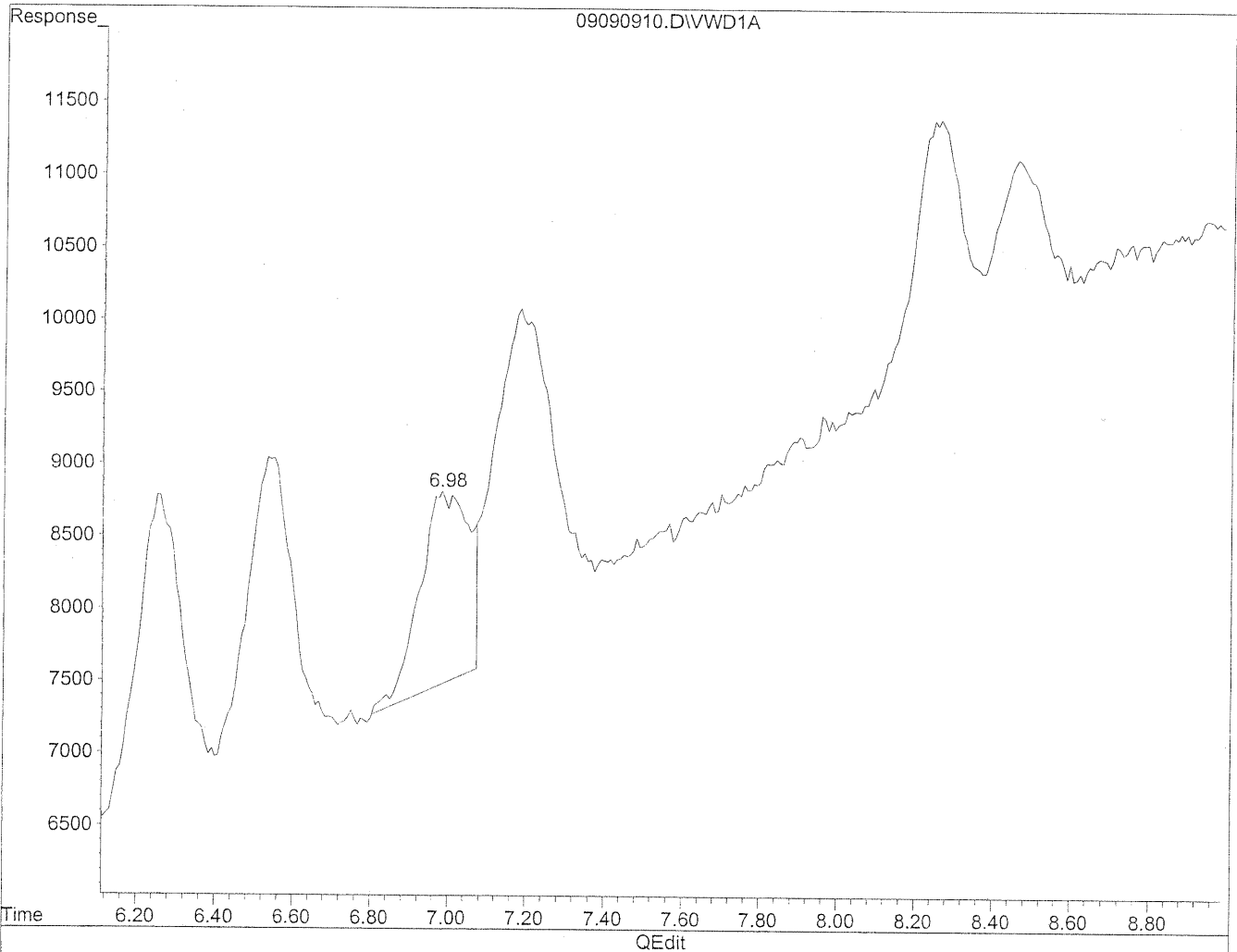


(9) o-Tolualdehyde
6.99min 38.054ng/ml
response 86012

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

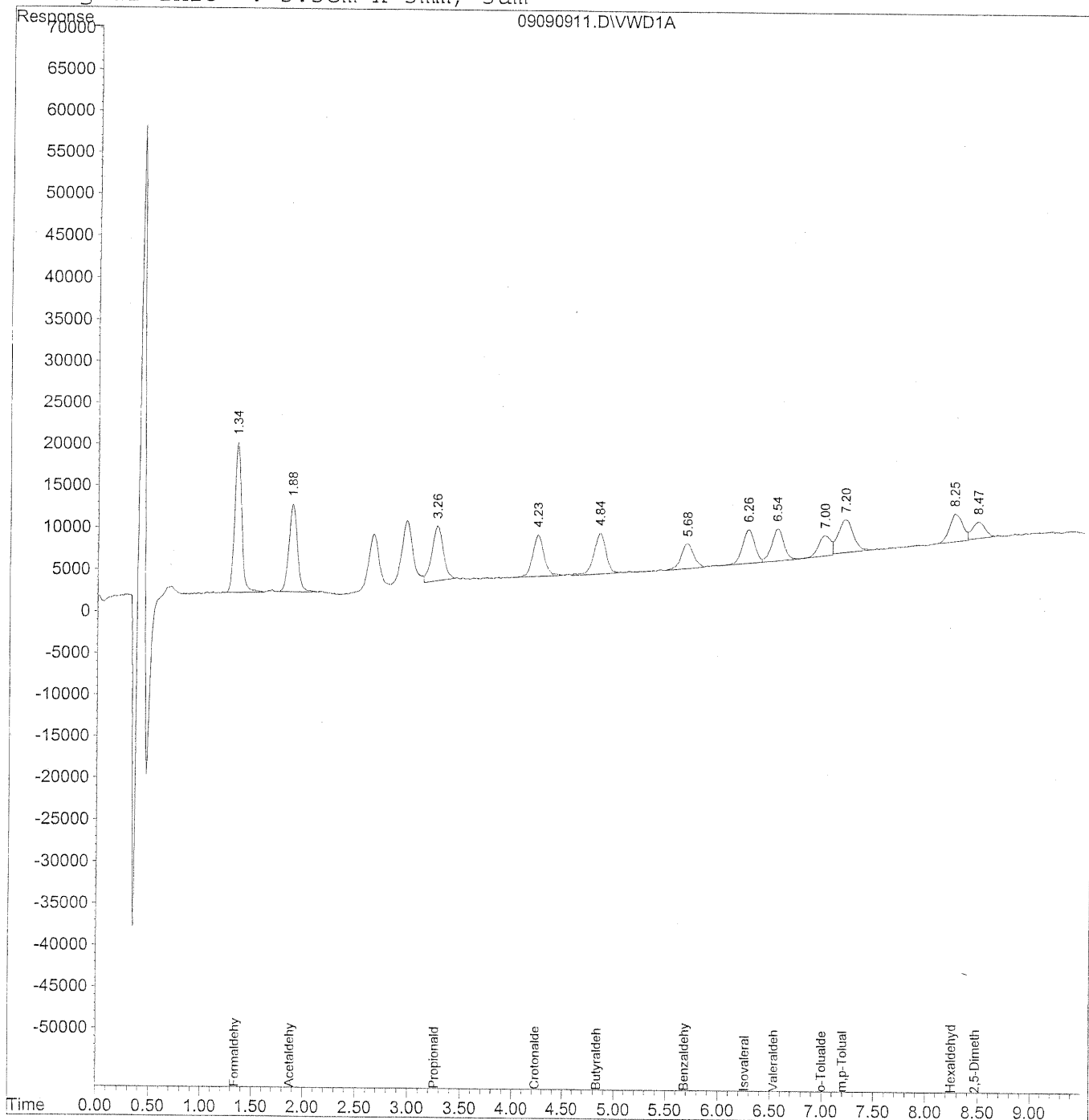
(Handwritten notes)
MD
9/10/09
12
K29/10/09

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



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

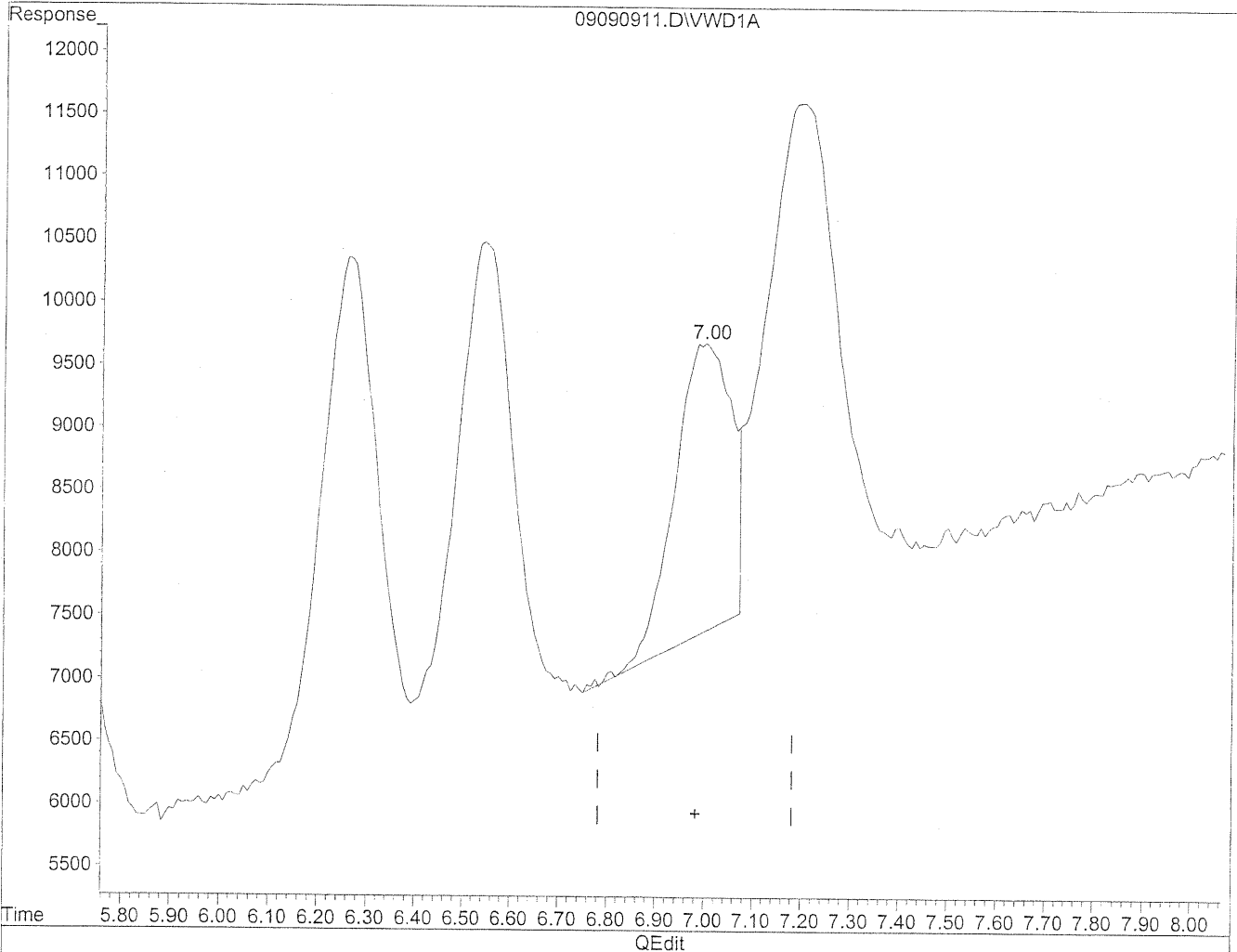
Compound	R.T.	Response	Conc Units

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

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

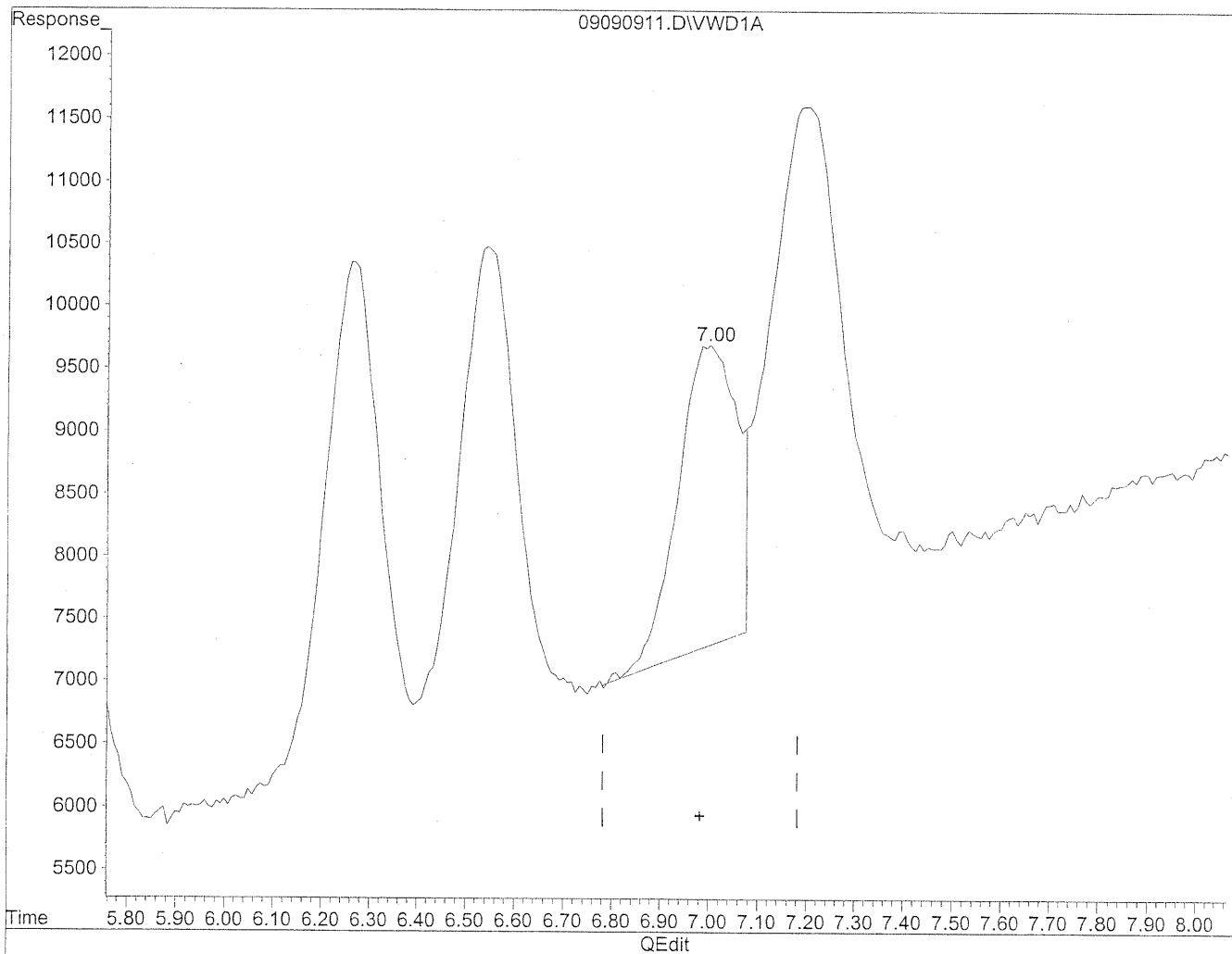


(9) o-Tolualdehyde
7.00min 80.006ng/ml
response 181910

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

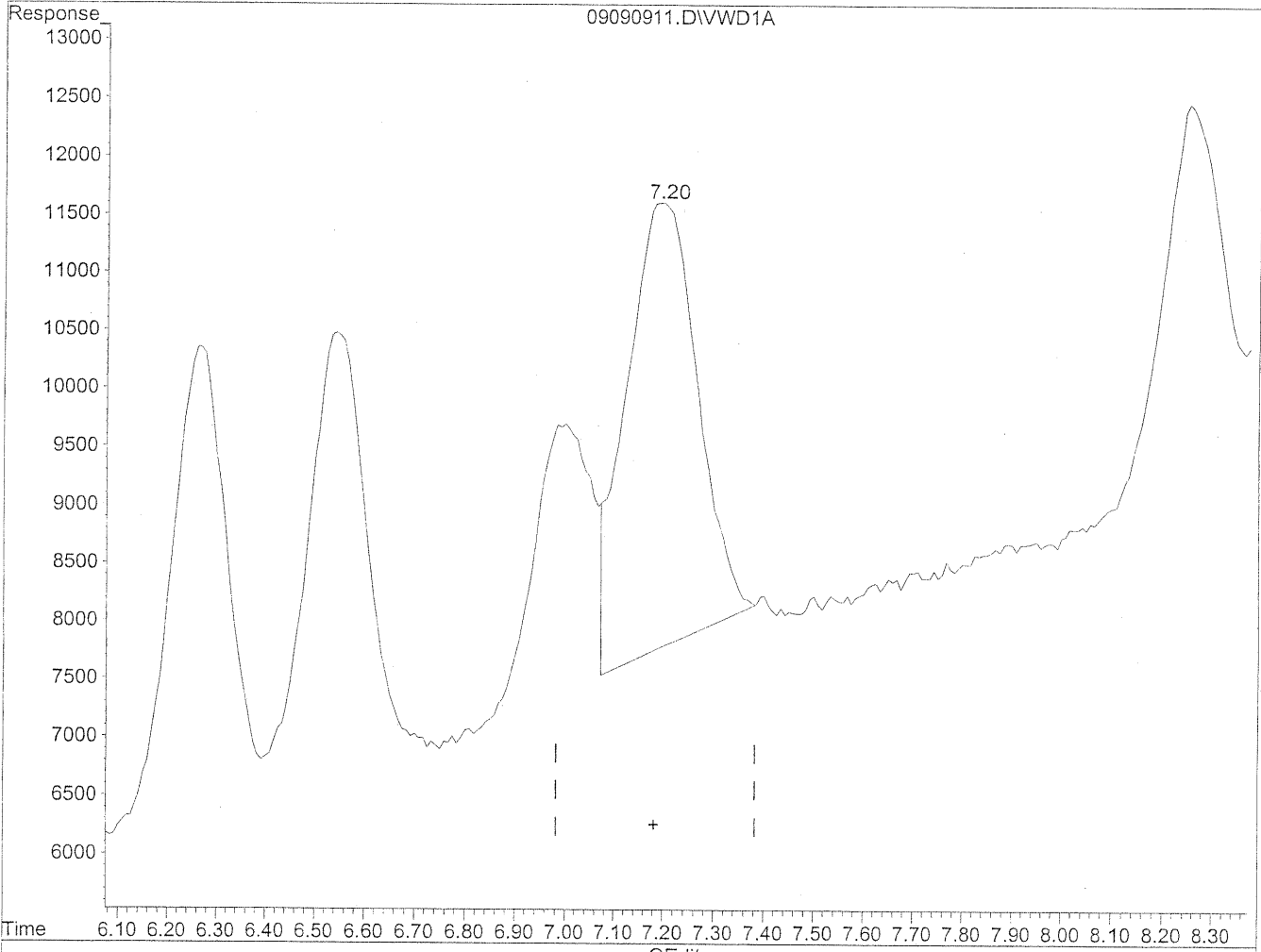
MD
9/10/09
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12/9/10/09

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

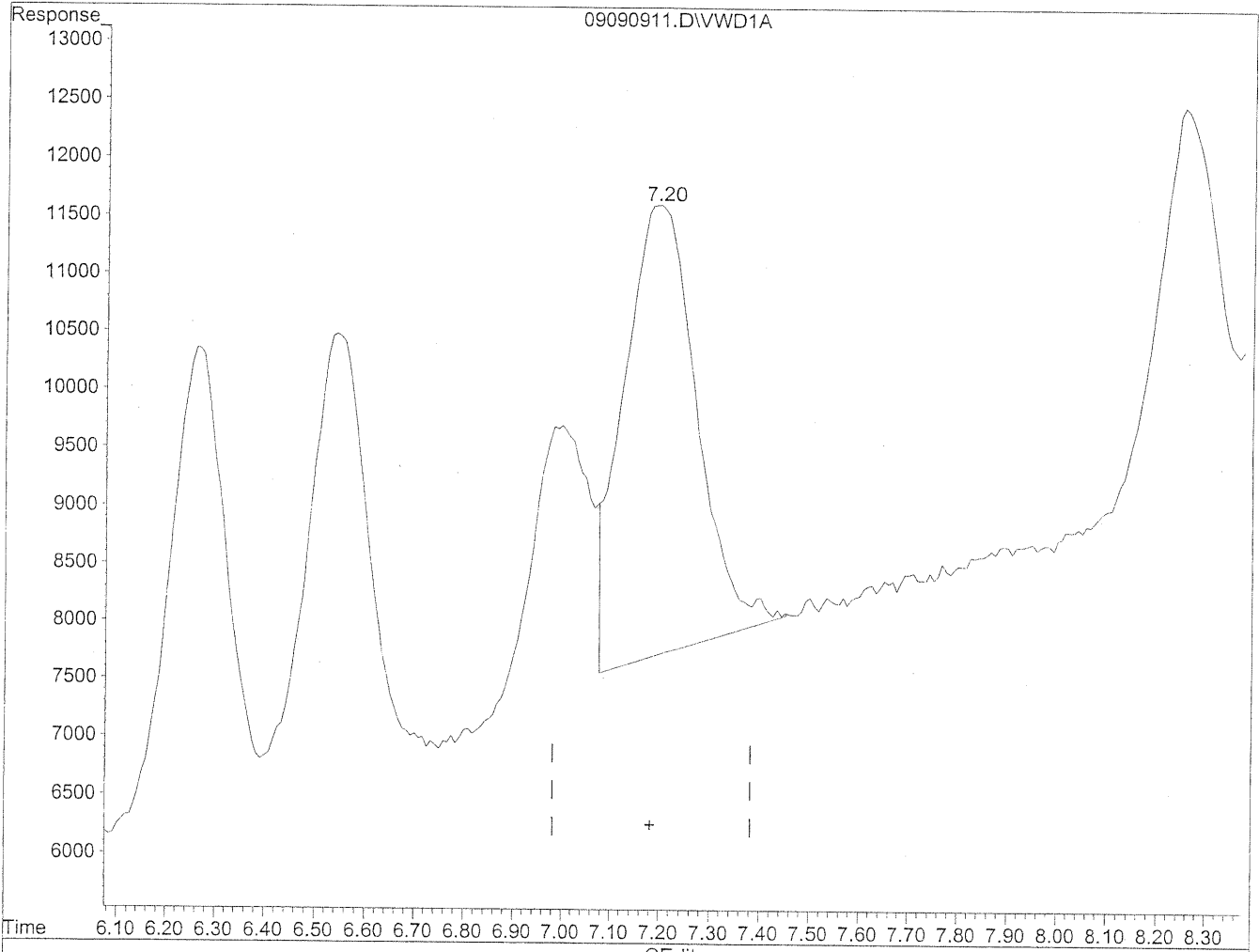


(10) m,p-Tolualdehyde
7.20min 165.581ng/ml
response 384316

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 171.466ng/ml m

response 397976

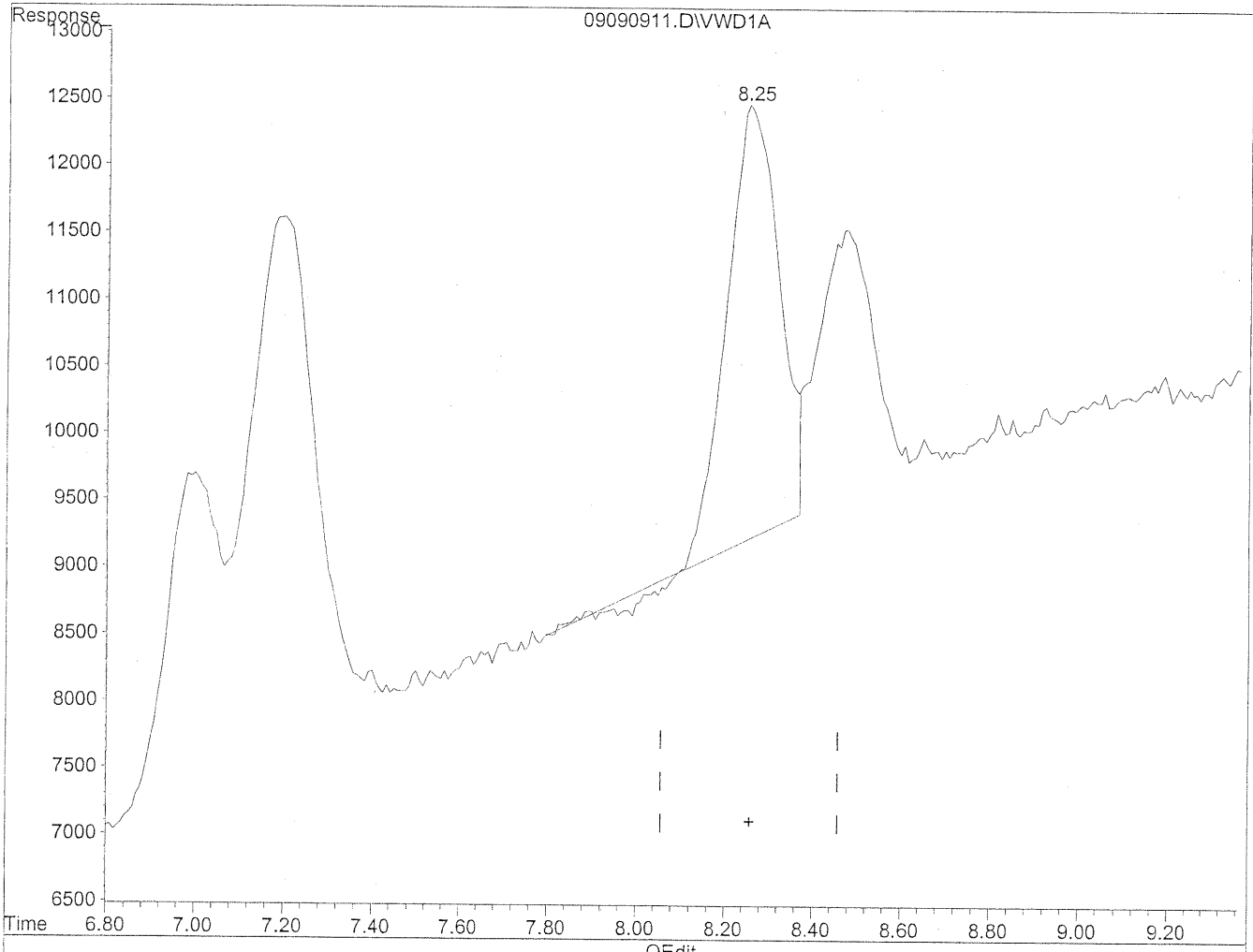
MD
9/10/09
RZ

KE 9/10/09

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

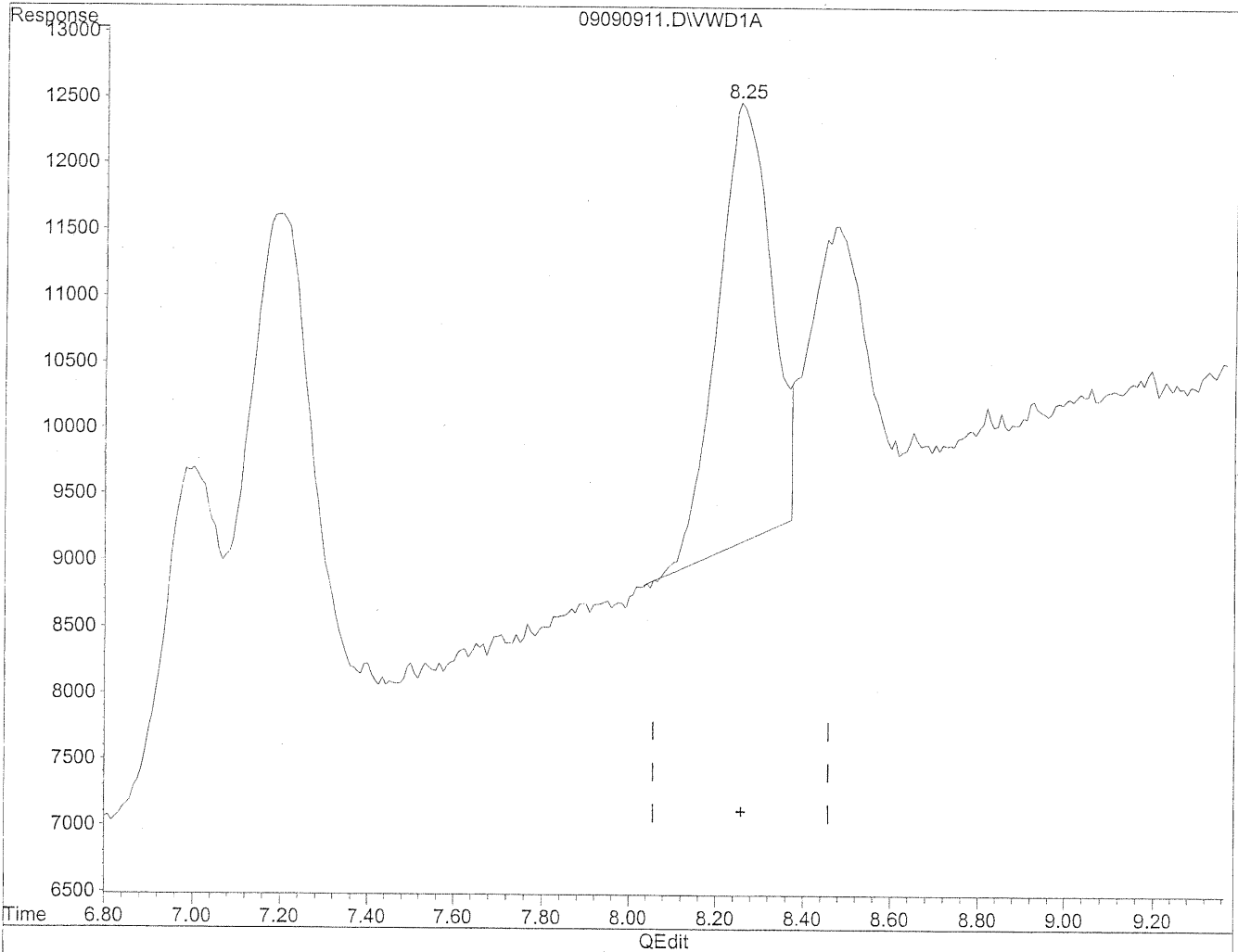


(11) Hexaldehyde
8.25min 88.073ng/ml
response 257900

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

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9/10/09
12

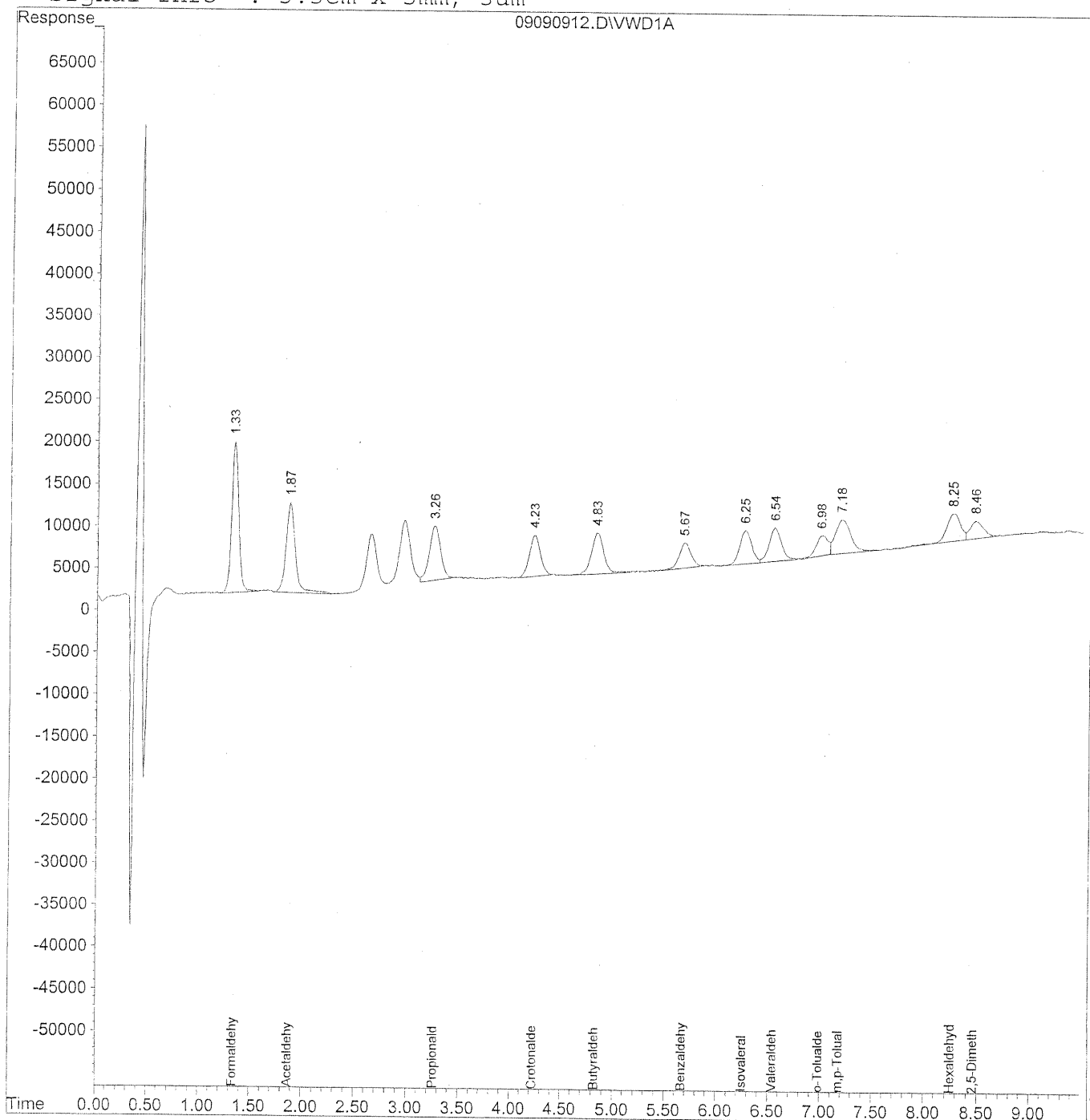
(Handwritten signature)
10/9/10/09

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



480

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

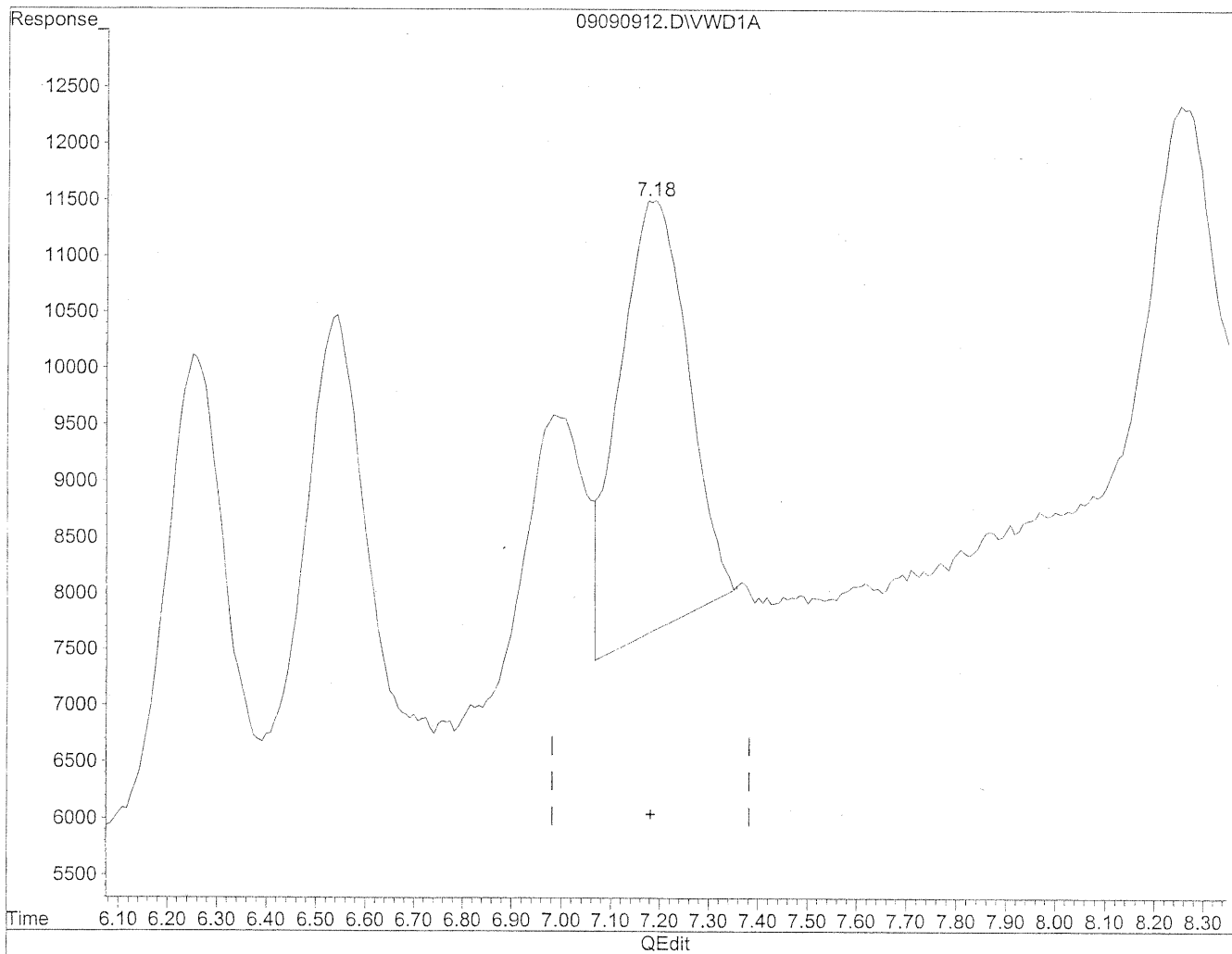
Compound	R.T.	Response	Conc	Units

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

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

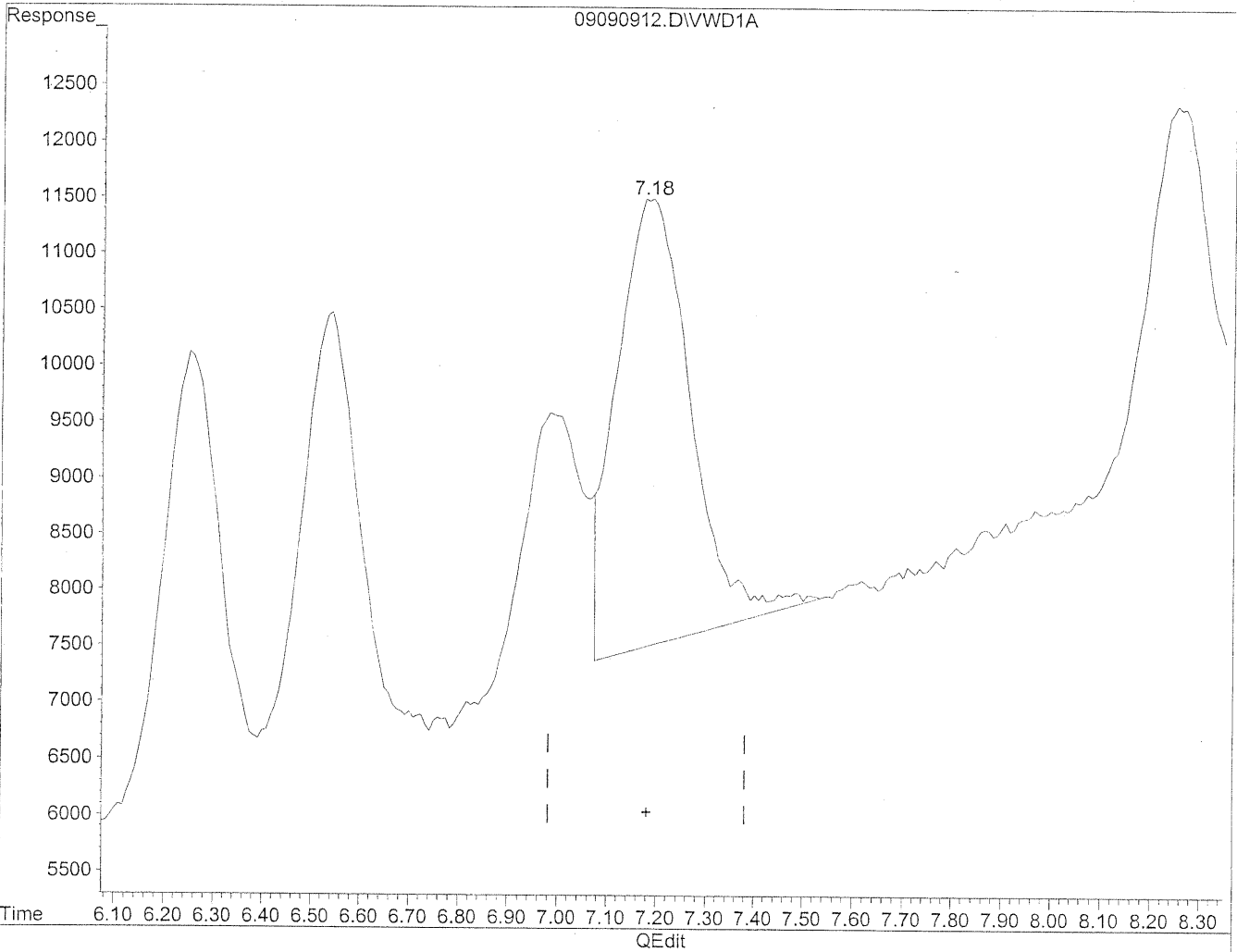


(10) m,p-Tolualdehyde
7.19min 169.858ng/ml
response 376988

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

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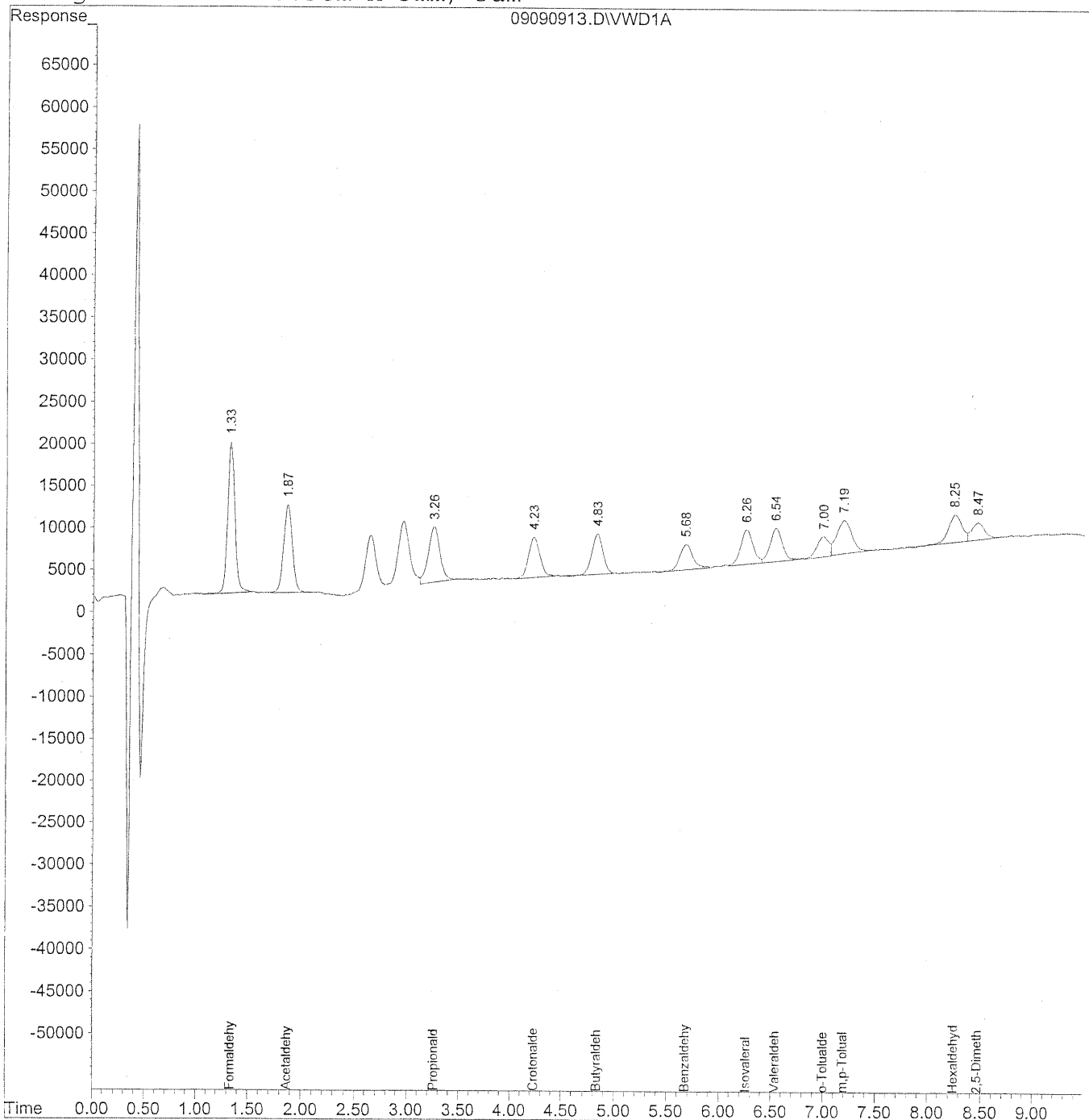
xx 9/10/09

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



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

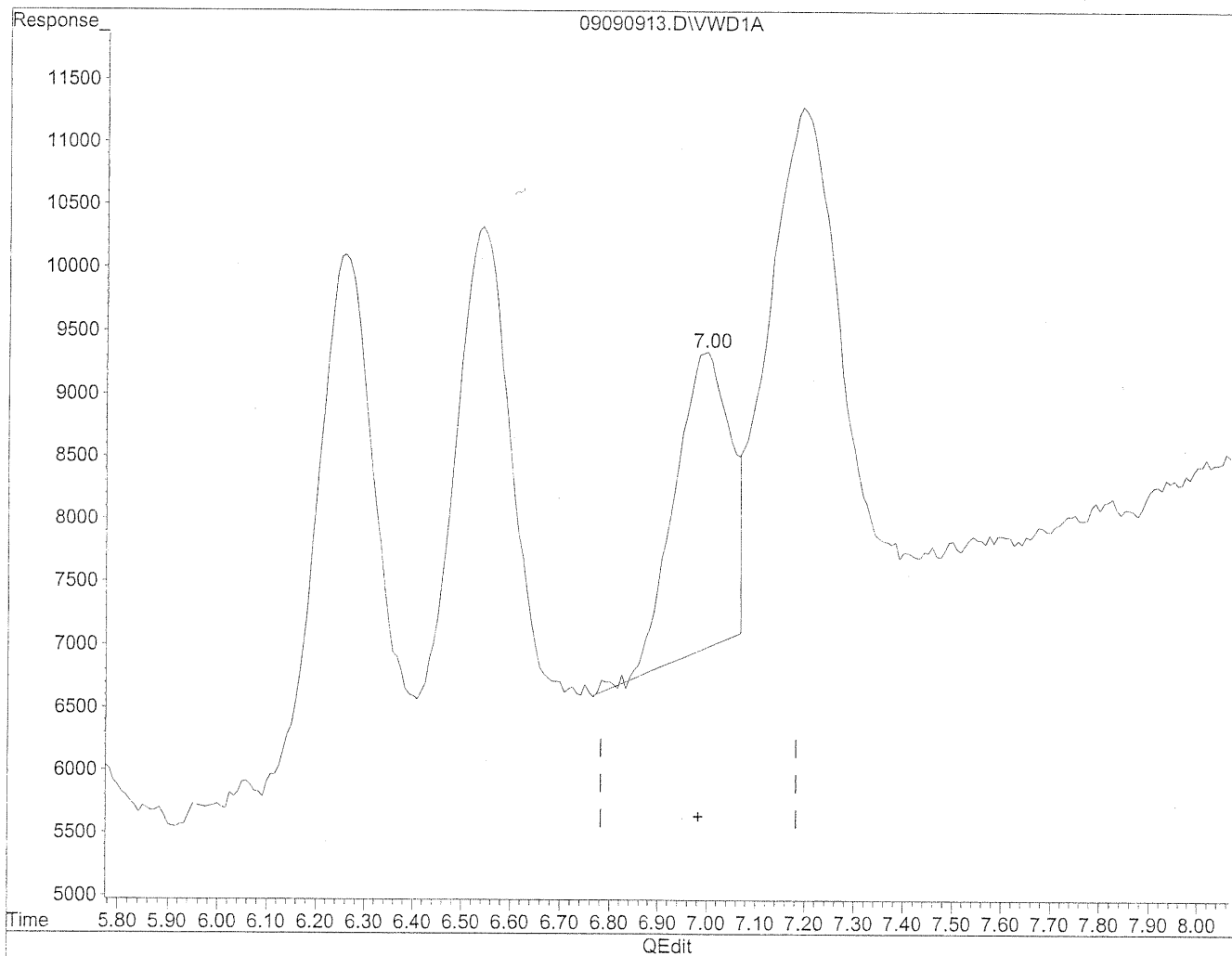
Compound	R.T.	Response	Conc Units

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

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

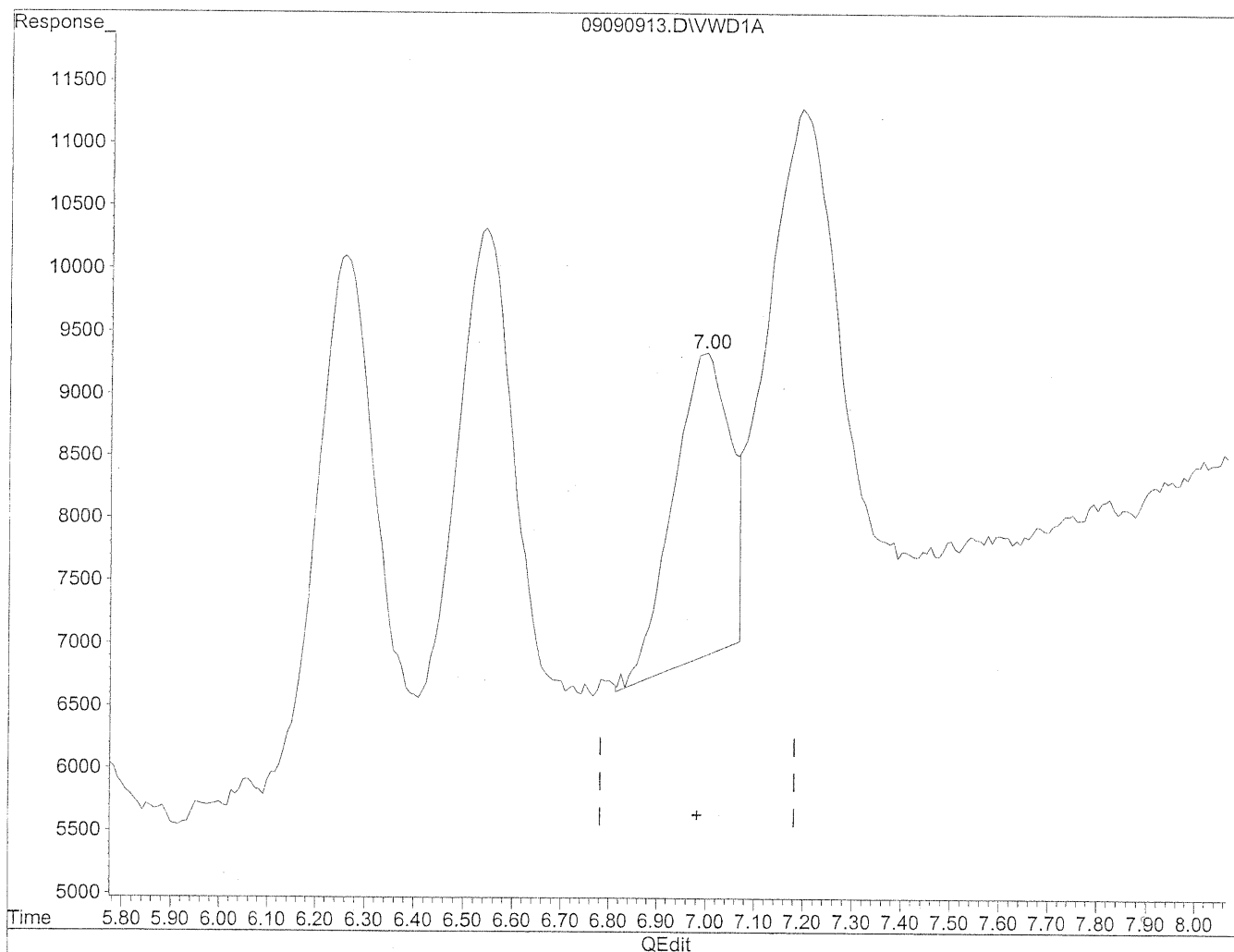


(9) o-Tolualdehyde
7.00min 84.692ng/ml
response 181403

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-Toluialdehyde
7.00min 92.606ng/ml m
response 198353

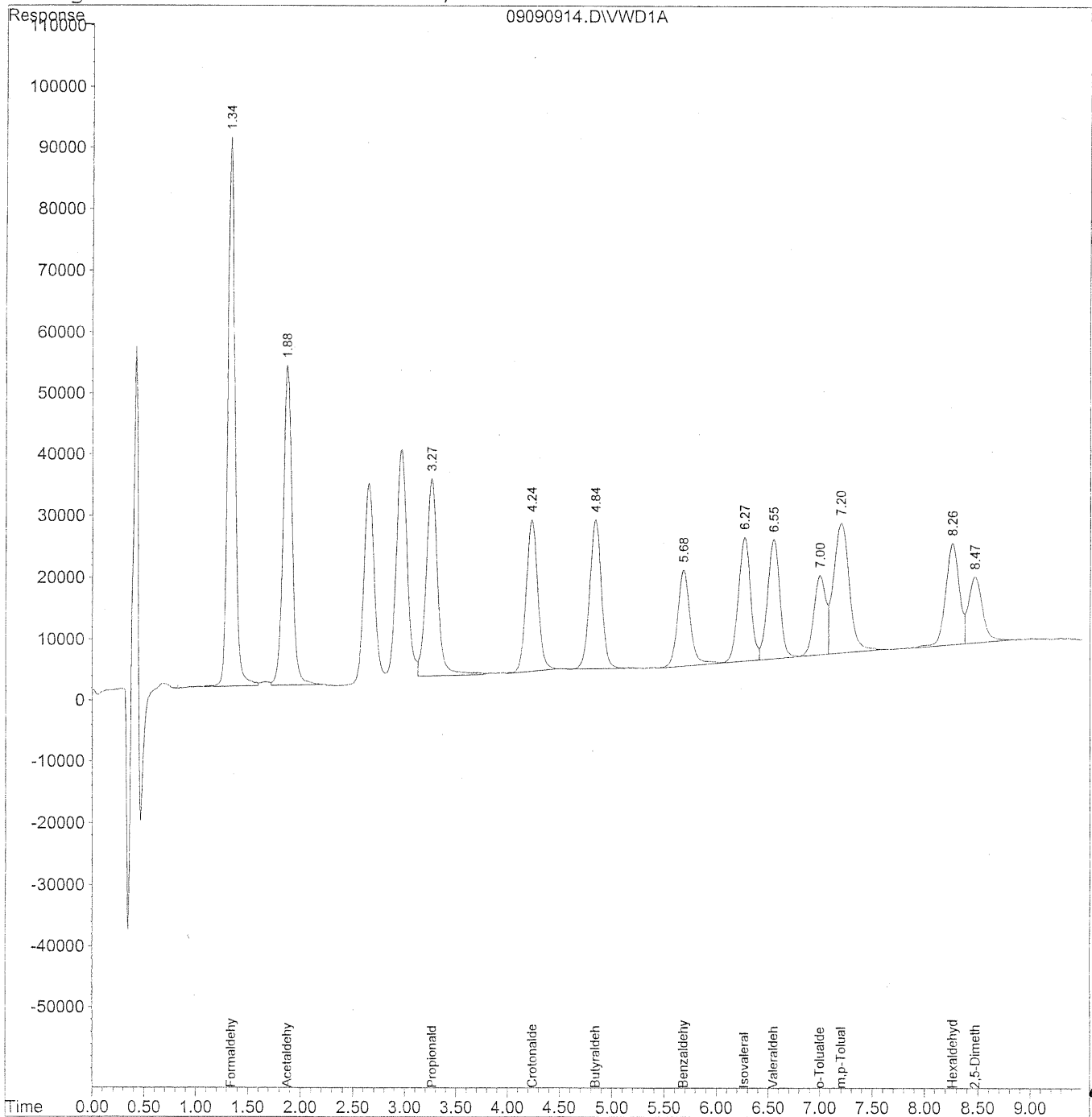
MD
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Quantitation Report

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



488

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

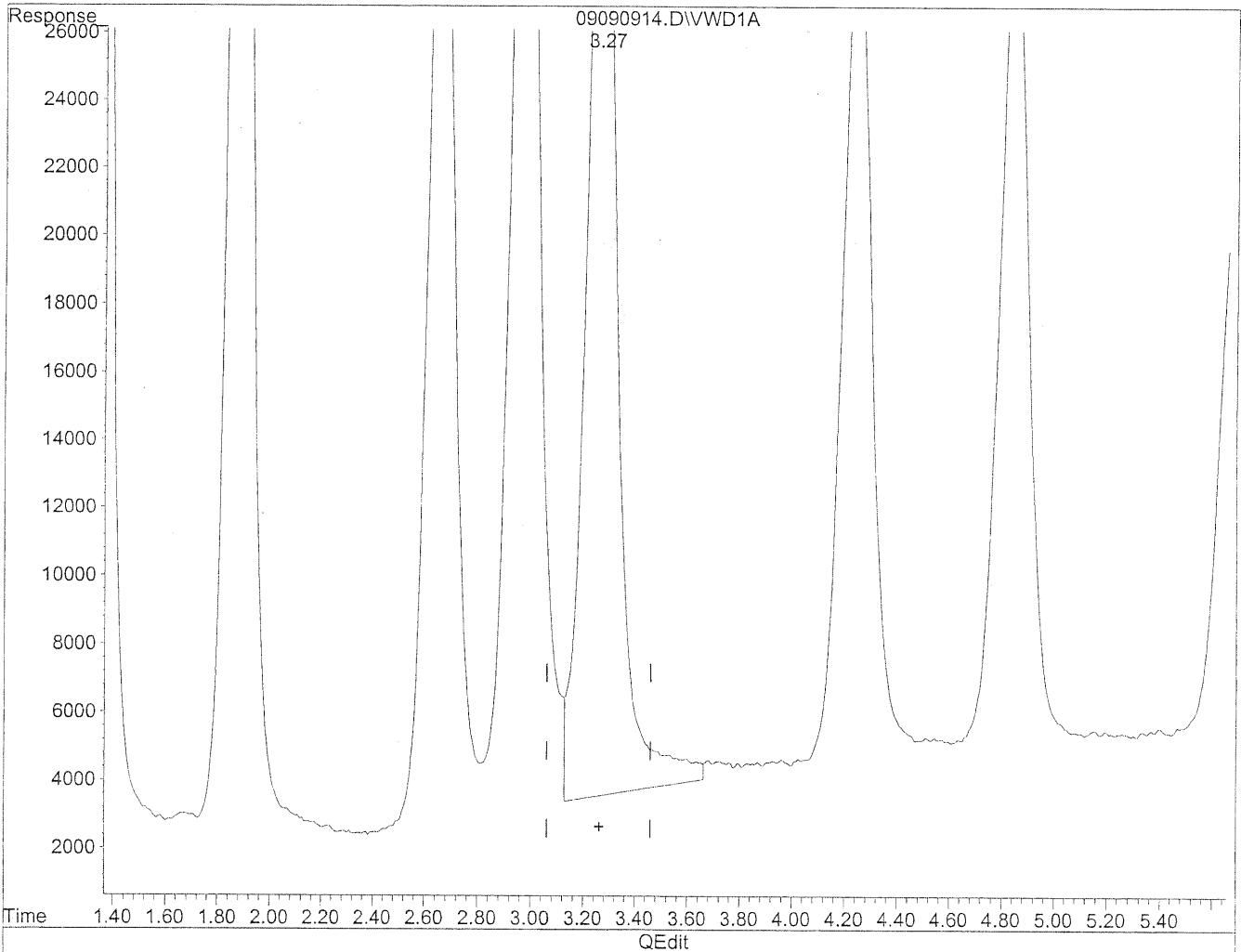
Compound	R.T.	Response	Conc	Units

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

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

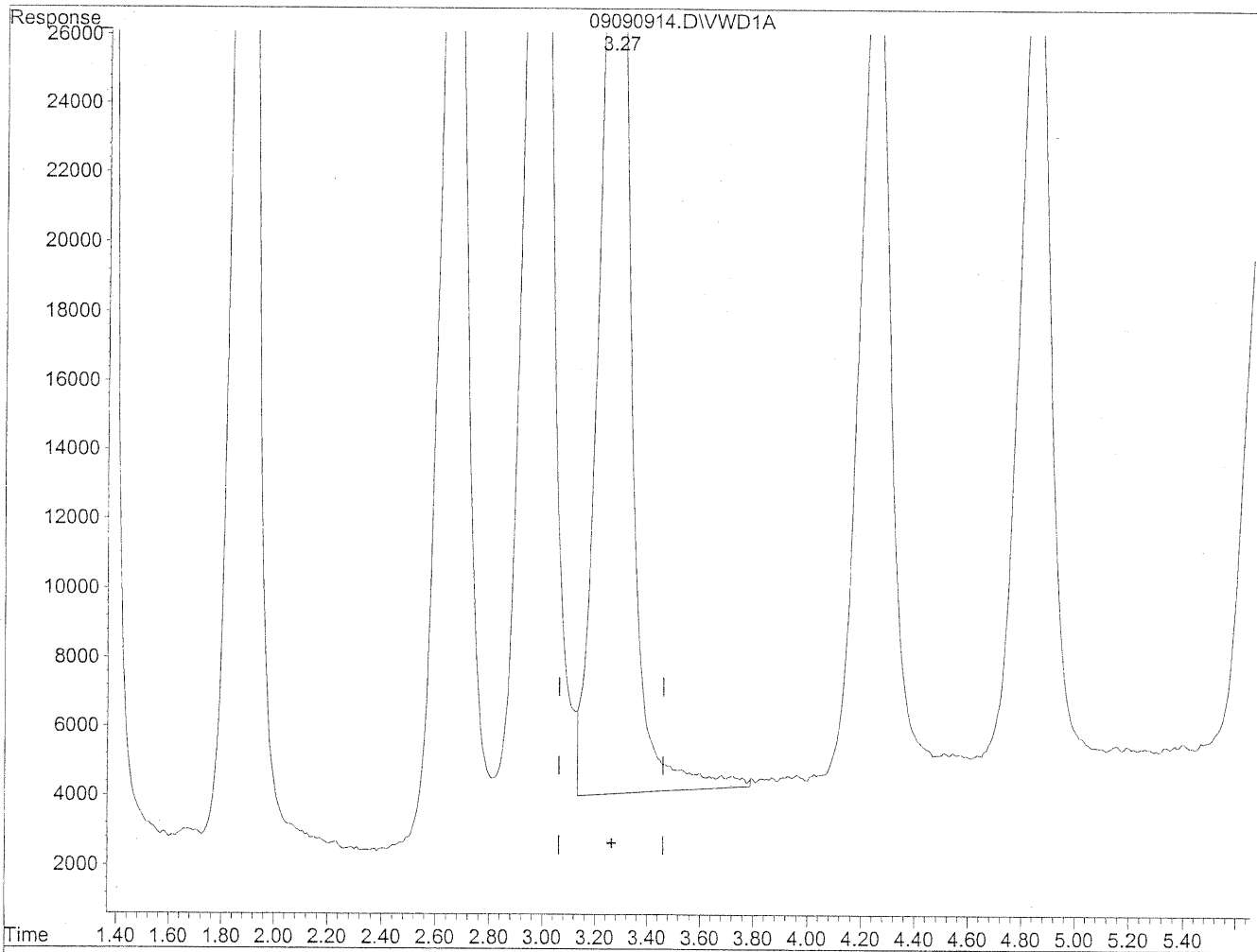


(3) Propionaldehyde
3.27min 515.231ng/ml
response 2613453

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

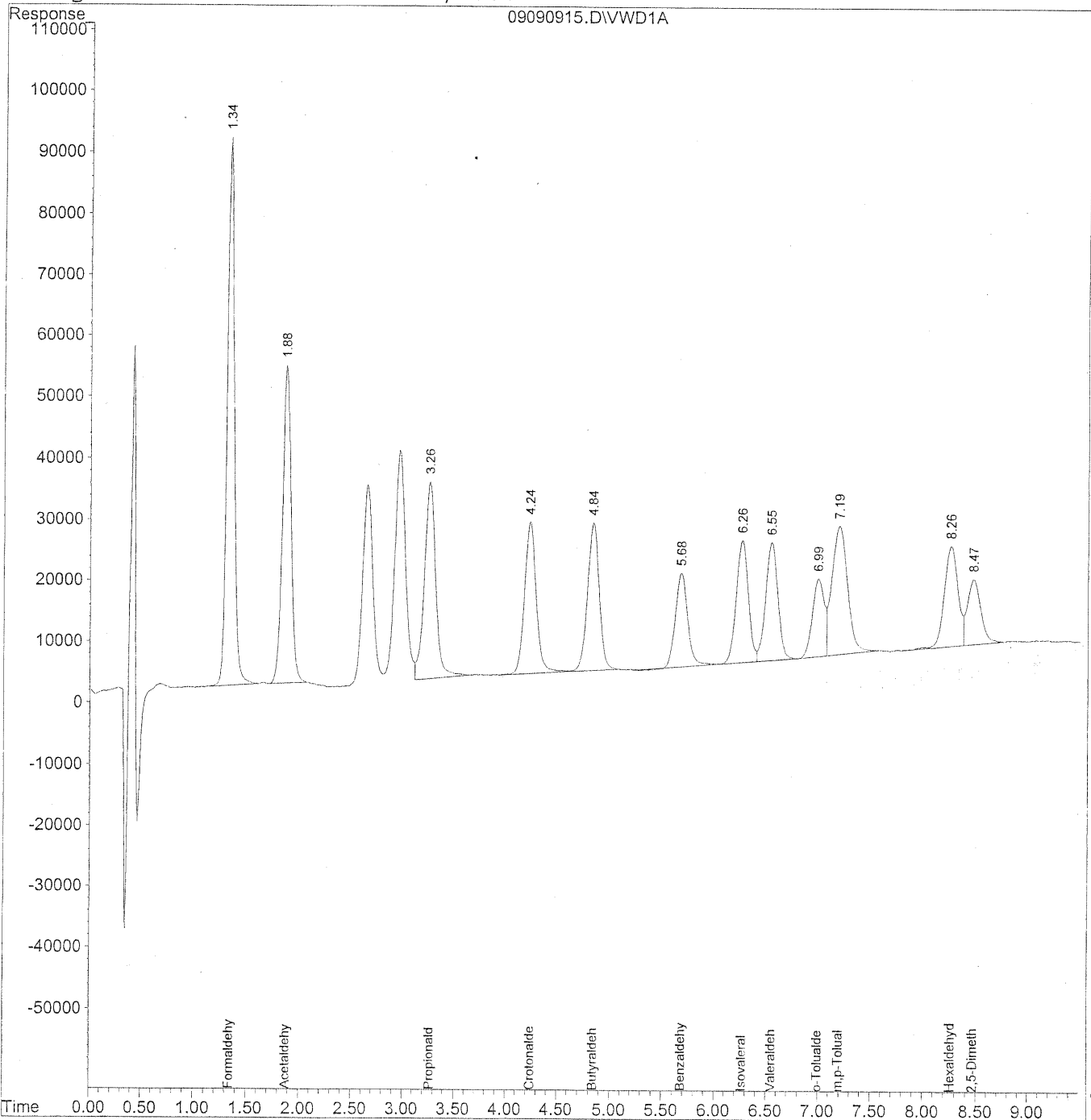
MD
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BZ
10/10/09

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



492

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

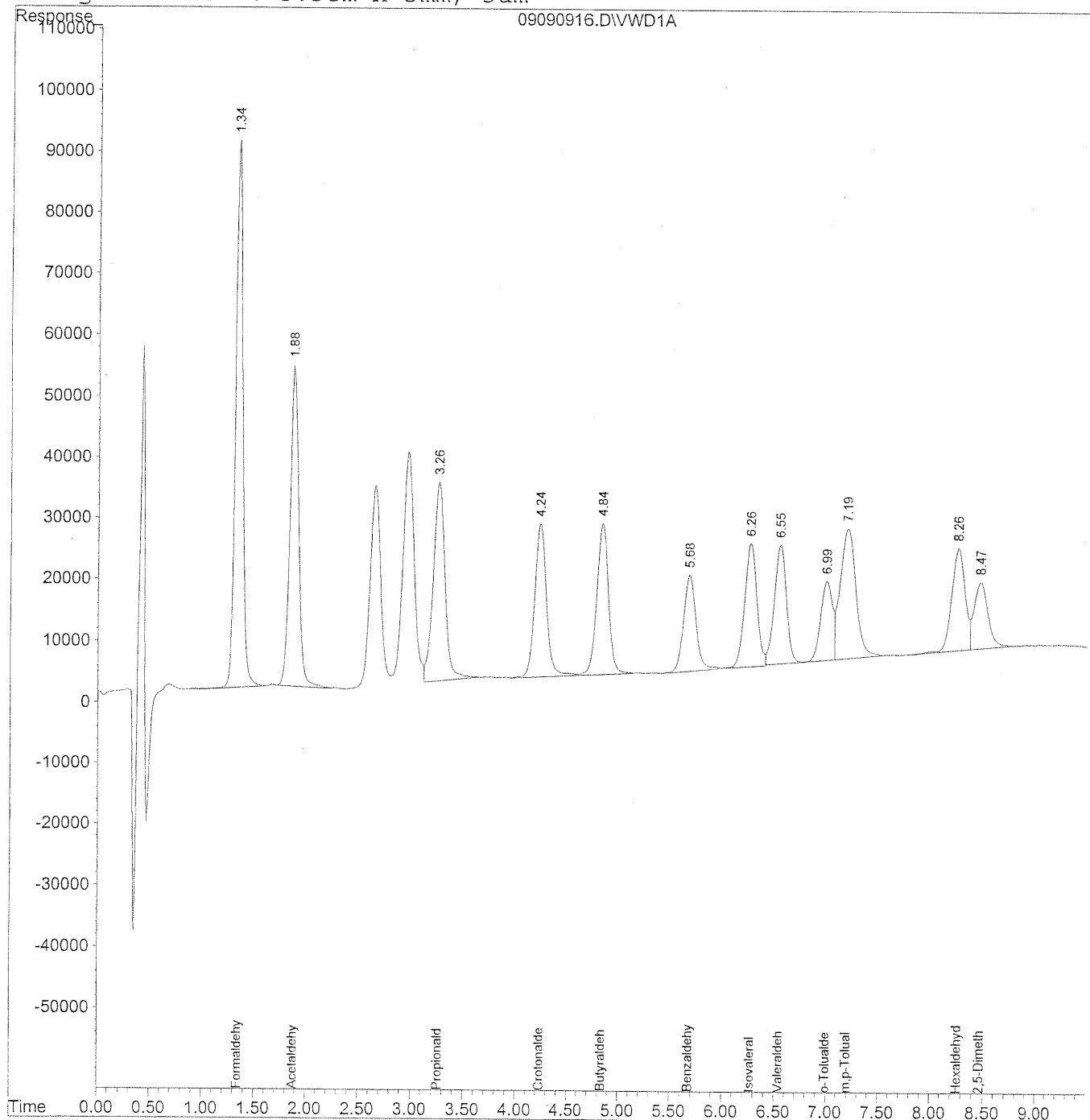
Target Compounds				
1) Formaldehyde	1.34	4242920	476.675	ng/ml
2) Acetaldehyde	1.88	2996333	465.530	ng/ml
3) Propionaldehyde	3.27	2520033	495.333	ng/ml
4) Crotonaldehyde	4.24	1968873	499.829	ng/ml
5) Butyraldehyde	4.84	1894865	474.705	ng/ml
6) Benzaldehyde	5.68	1238947	466.007	ng/ml
7) Isovaleraldehyde	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

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



494

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

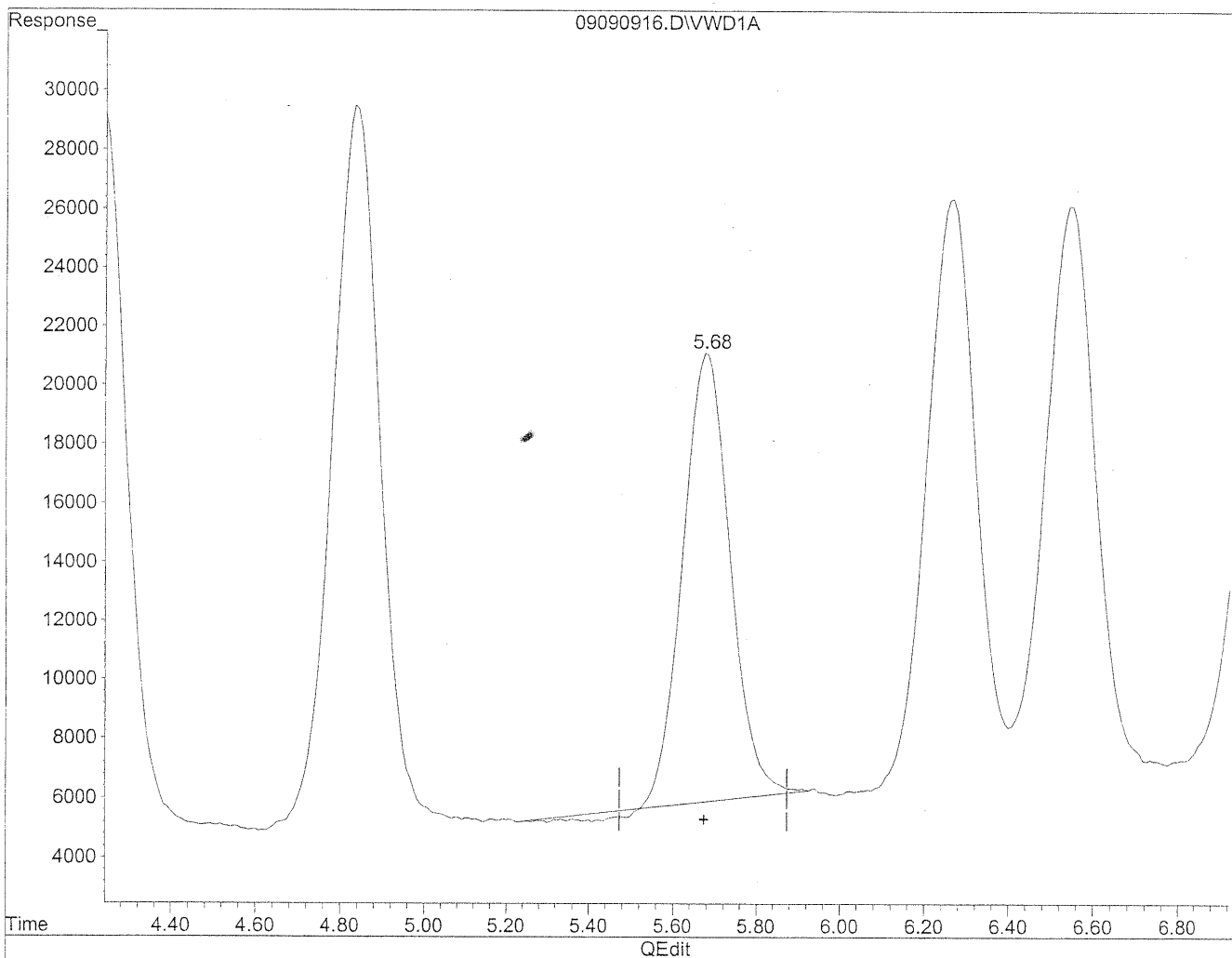
Compound	R.T.	Response	Conc Units

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

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

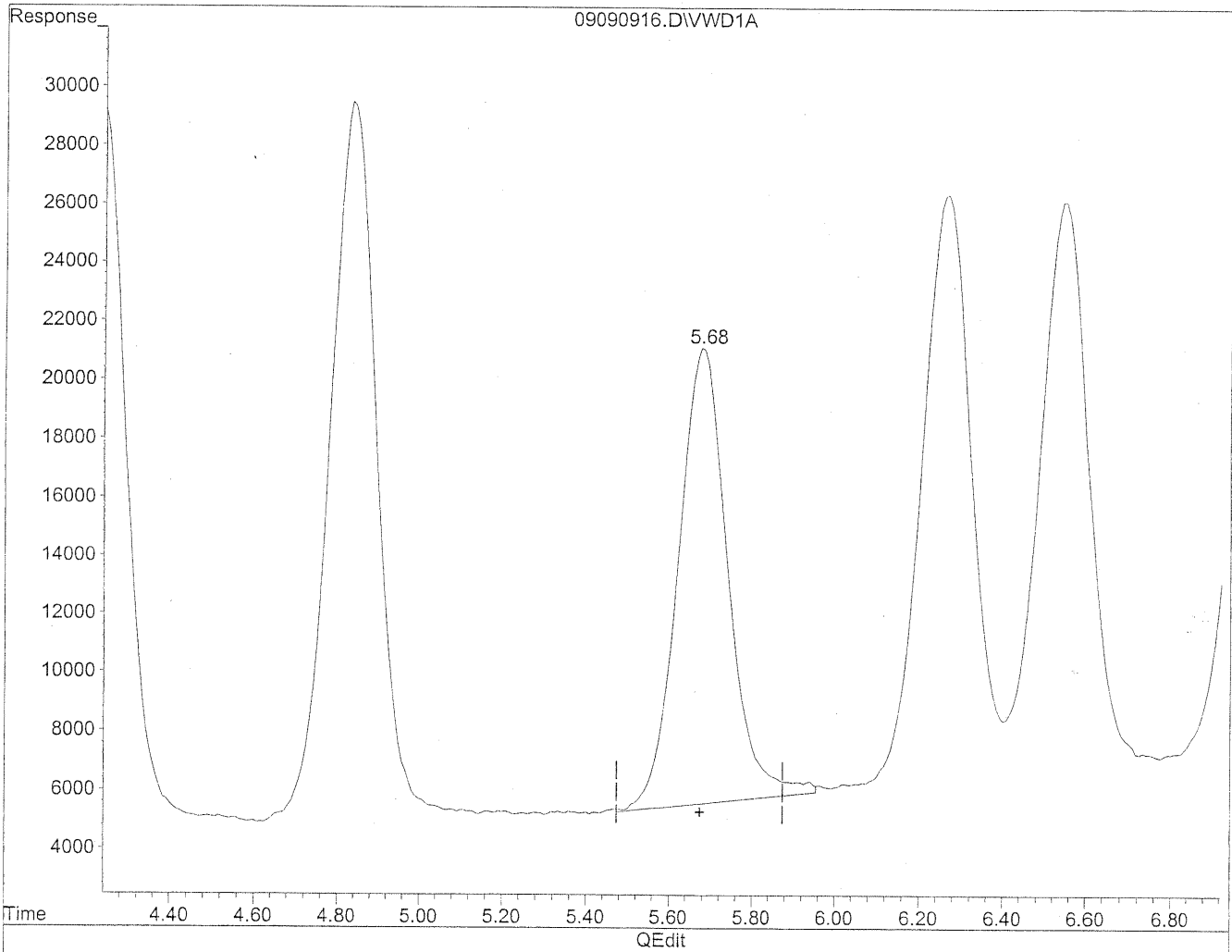


(6) Benzaldehyde
5.68min 446.383ng/ml
response 1180507

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

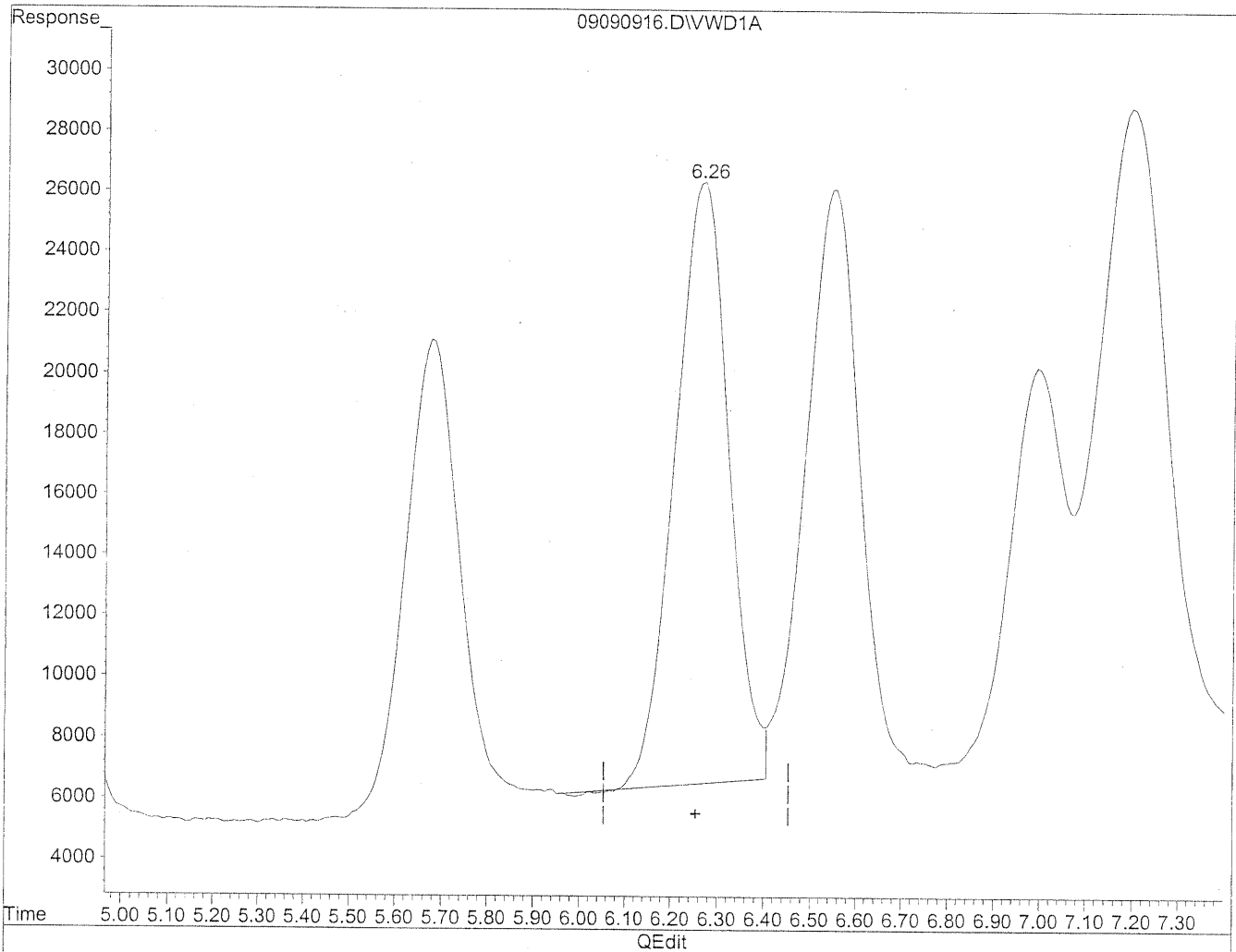
MD 9/10/09
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KE 9/10/09

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

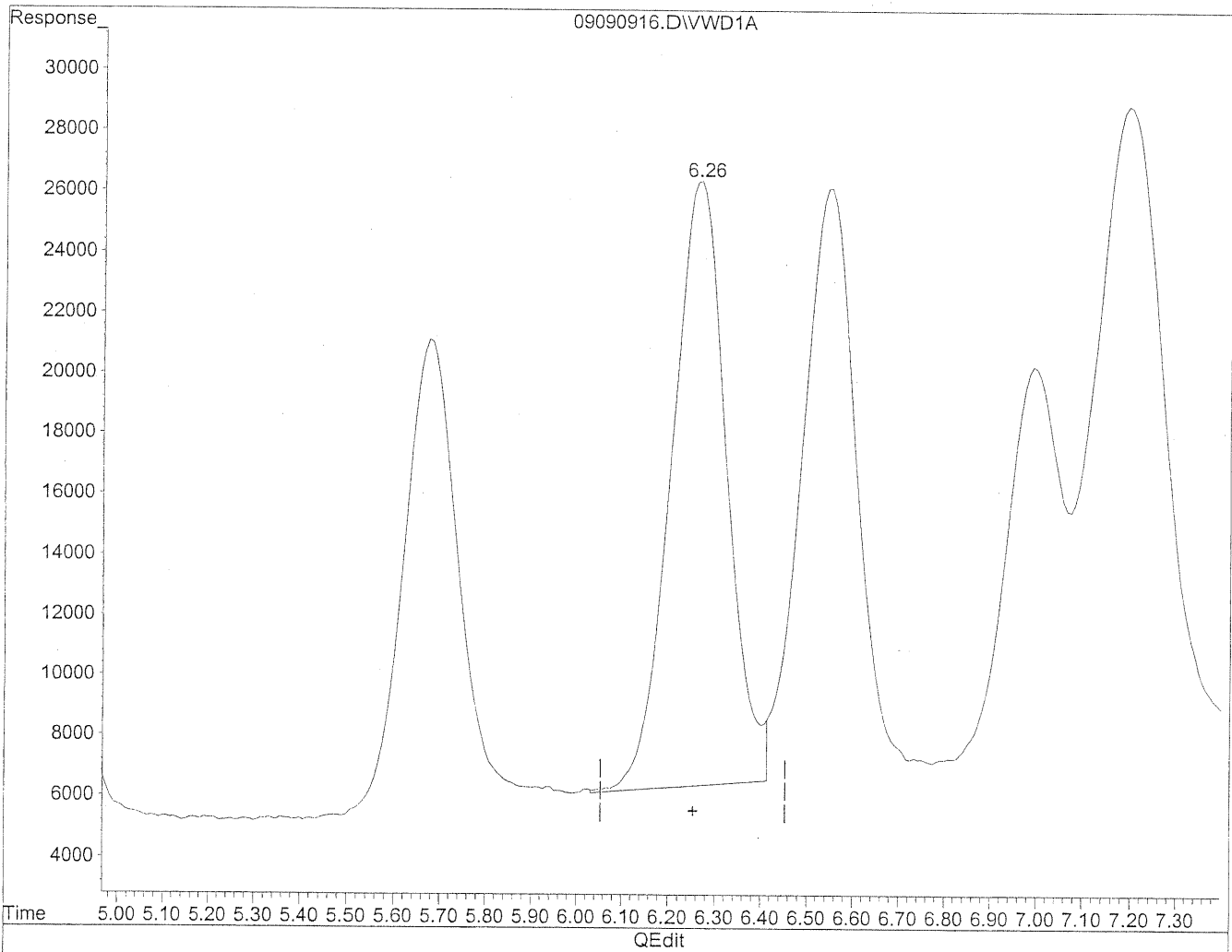


(7) Isovaleraldehyde
6.27min 466.813ng/ml
response 1588109

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

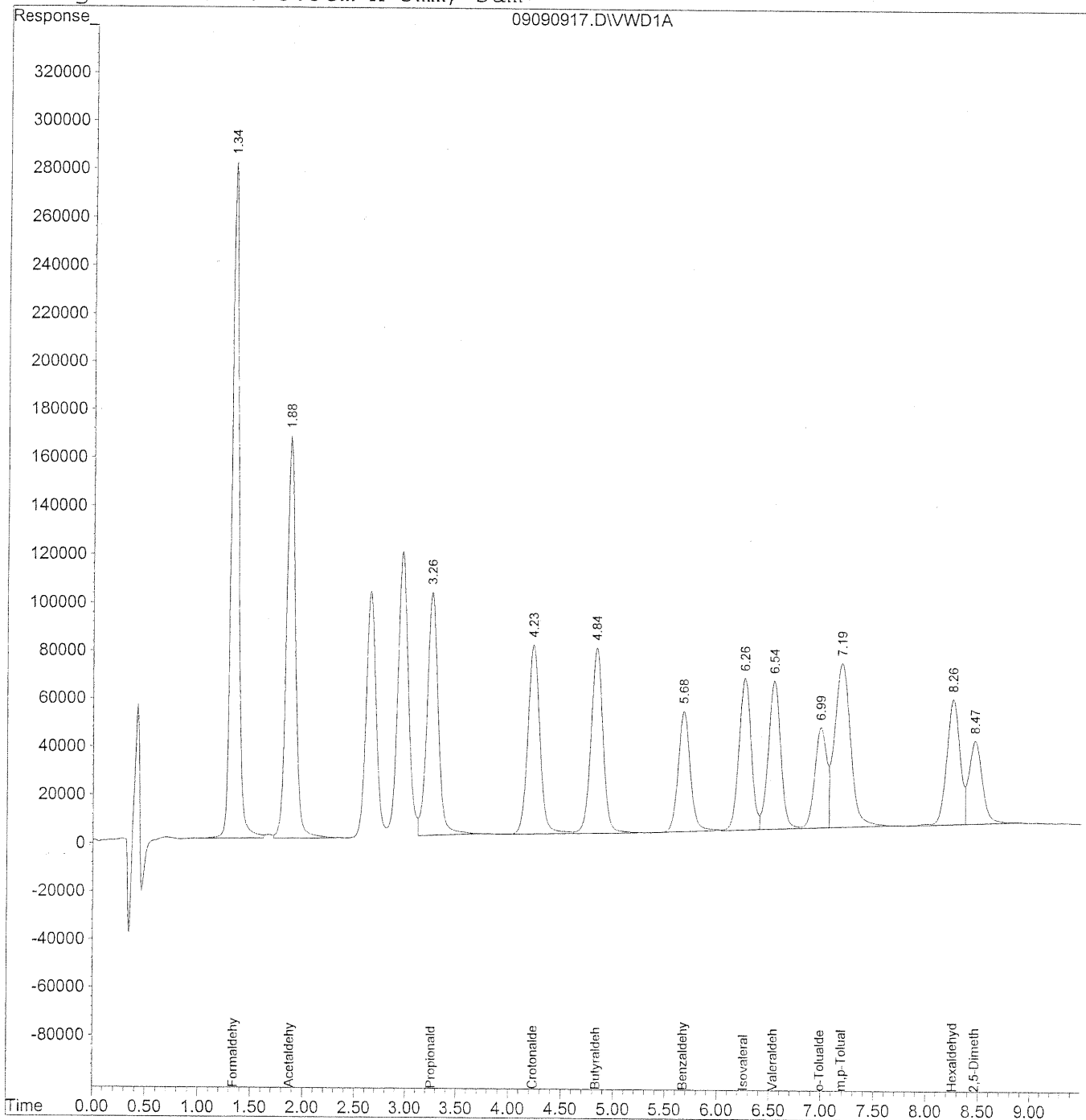
MD
9/10/09
12
12 9/10/09

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



500

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

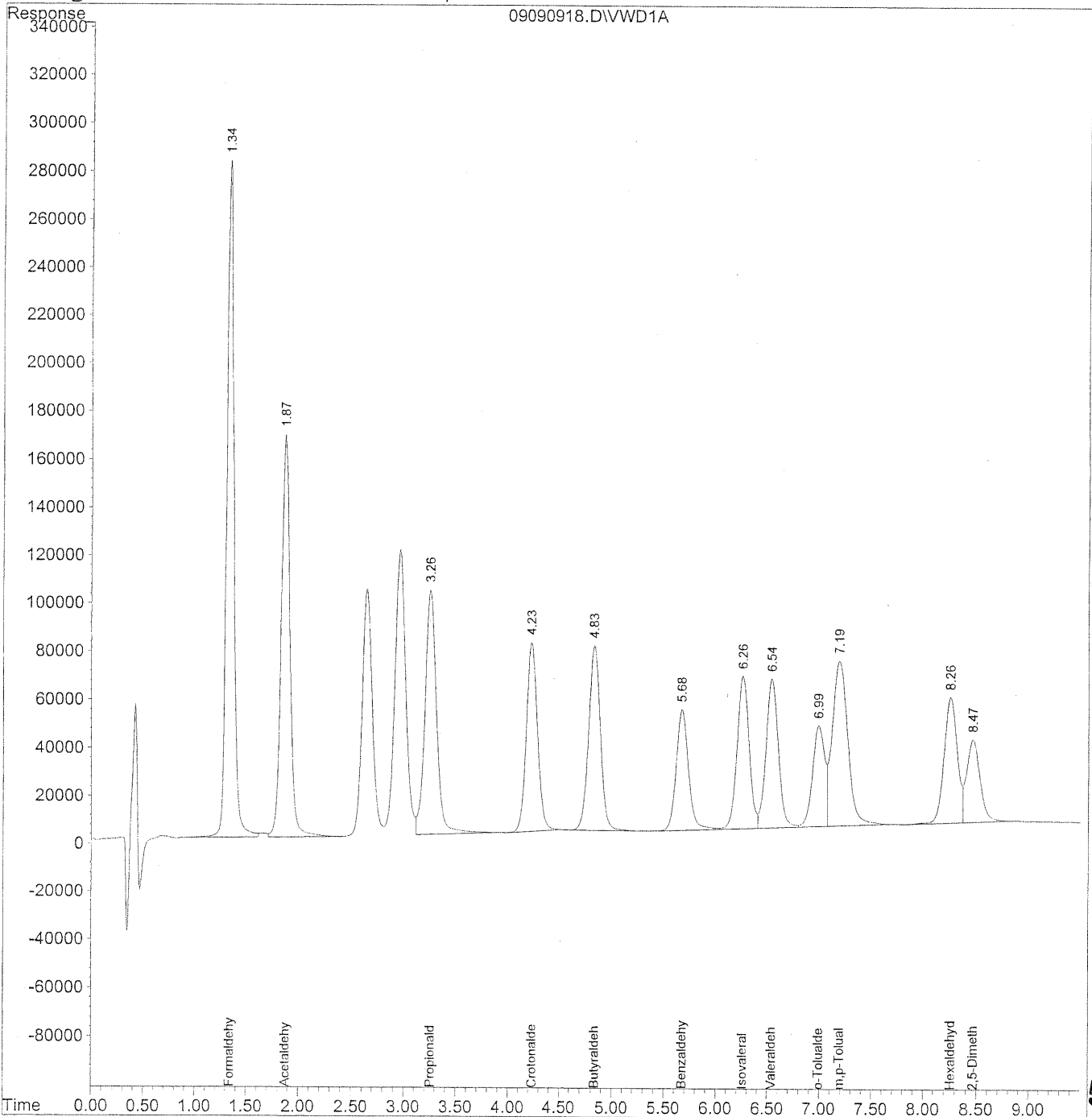
Target Compounds				
1) Formaldehyde	1.34	13461963	1514.248	ng/ml
2) Acetaldehyde	1.88	9836721	1531.865	ng/ml
3) Propionaldehyde	3.26	7740242	1520.232	ng/ml
4) Crotonaldehyde	4.24	6180043	1561.774	ng/ml
5) Butyraldehyde	4.84	6161274	1540.616	ng/ml
6) Benzaldehyde	5.68	4059200	1534.243	ng/ml
7) Isovaleraldehyde	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

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



502

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

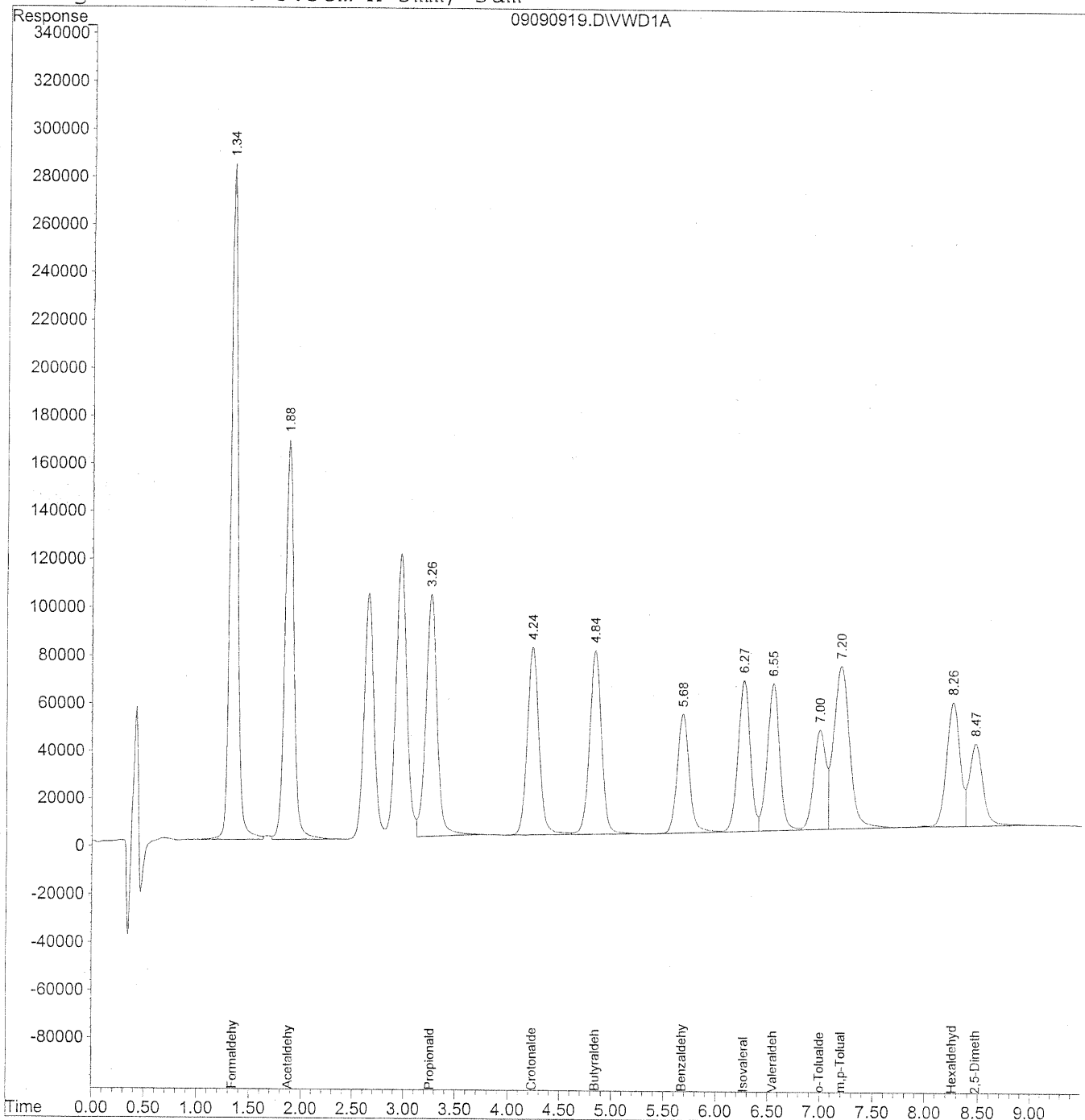
Target Compounds				
1) Formaldehyde	1.34	13578339	1534.981	ng/ml
2) Acetaldehyde	1.88	9942887	1551.020	ng/ml
3) Propionaldehyde	3.26	7876607	1547.881	ng/ml
4) Crotonaldehyde	4.24	6053894	1529.058	ng/ml
5) Butyraldehyde	4.84	6038847	1511.965	ng/ml
6) Benzaldehyde	5.68	4163474	1571.850	ng/ml
7) Isovaleraldehyde	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

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



504

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

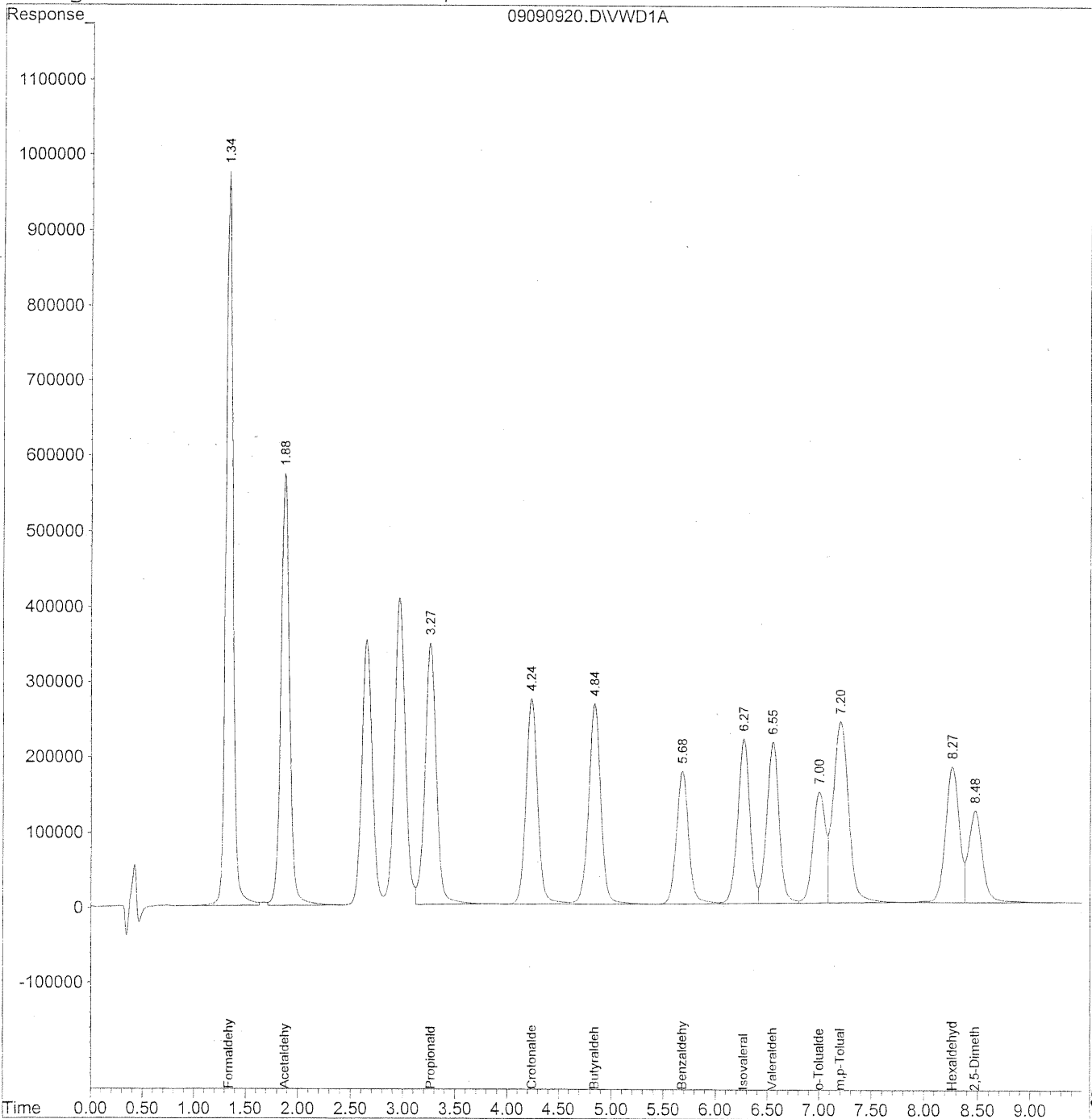
Target Compounds			
1) Formaldehyde	1.34	13548320	1530.469 ng/ml
2) Acetaldehyde	1.88	9888425	1541.106 ng/ml
3) Propionaldehyde	3.27	7759817	1522.663 ng/ml
4) Crotonaldehyde	4.24	6211709	1571.700 ng/ml
5) Butyraldehyde	4.84	6160753	1545.118 ng/ml
6) Benzaldehyde	5.68	4131112	1556.228 ng/ml
7) Isovaleraldehyde	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

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



506

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

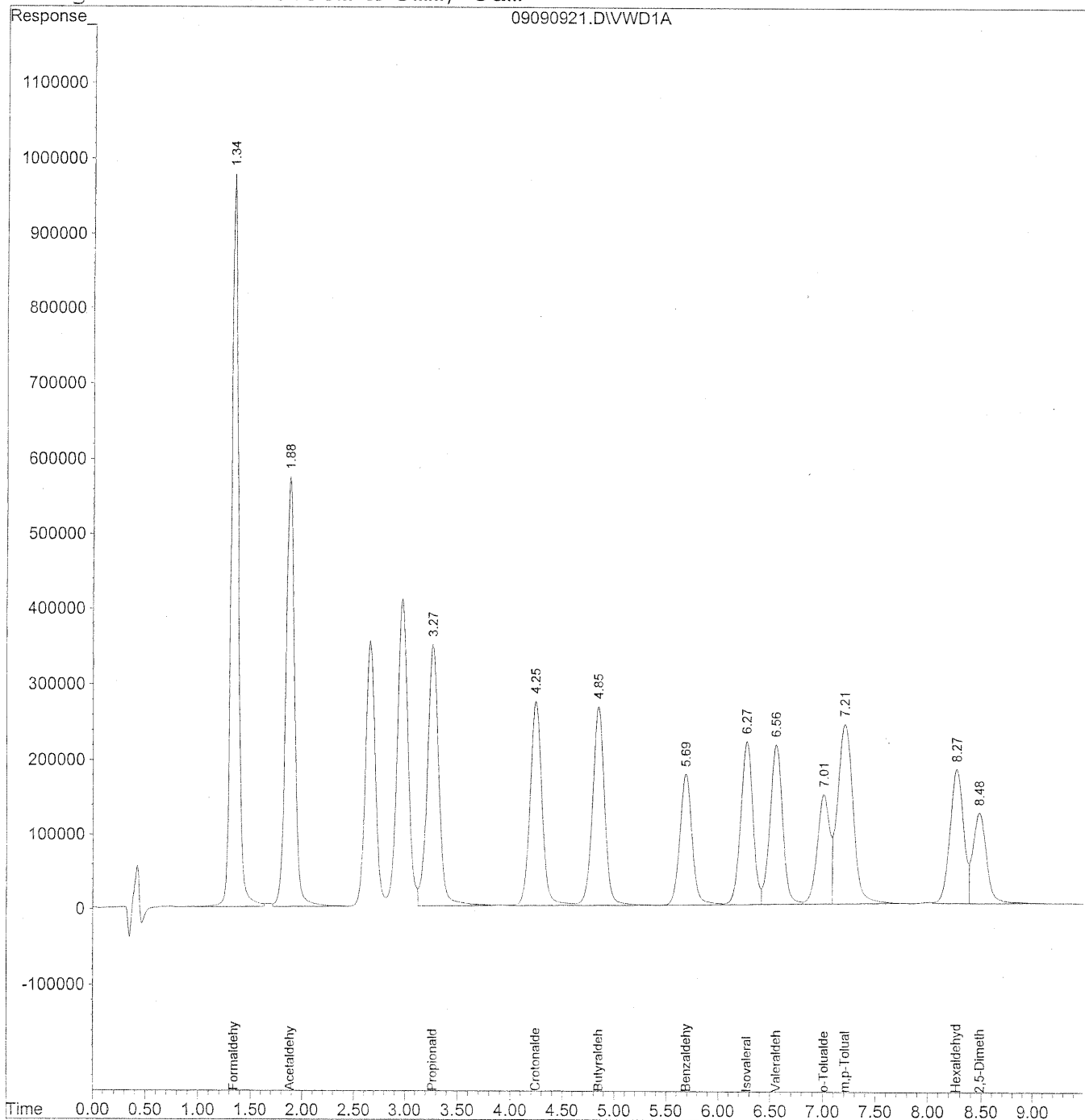
Target Compounds			
1) Formaldehyde	1.34	46422998	5243.497 ng/ml
2) Acetaldehyde	1.88	33949113	5290.994 ng/ml
3) Propionaldehyde	3.27	26460164	5193.957 ng/ml
4) Crotonaldehyde	4.24	21469148	5427.351 ng/ml
5) Butyraldehyde	4.84	21371531	5356.965 ng/ml
6) Benzaldehyde	5.69	14455457	5444.003 ng/ml
7) Isovaleraldehyde	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

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



508

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

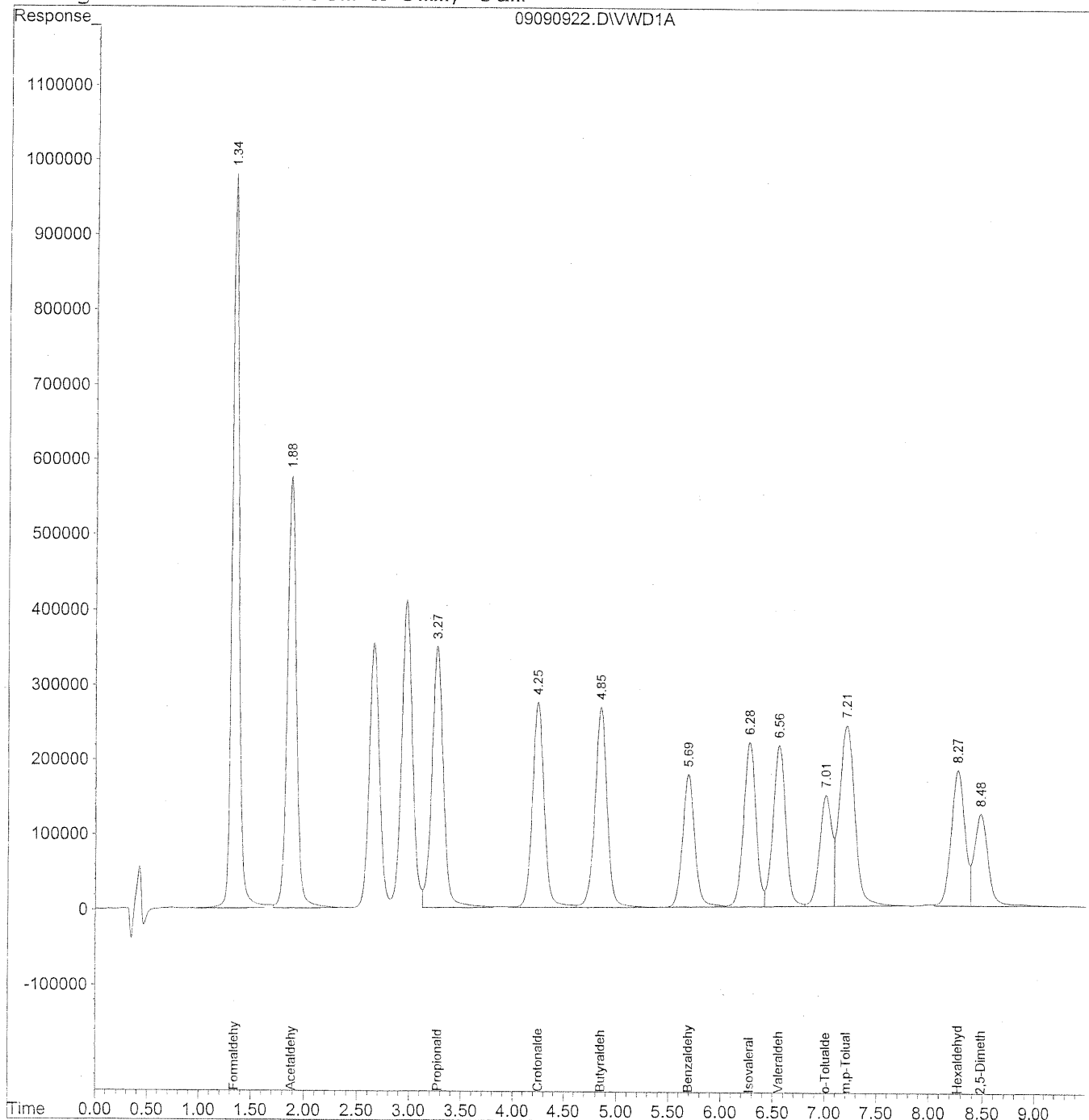
Target Compounds				
1) Formaldehyde	1.35	46464064	5198.646	ng/ml
2) Acetaldehyde	1.88	33977292	5236.353	ng/ml
3) Propionaldehyde	3.27	26758092	5177.051	ng/ml
4) Crotonaldehyde	4.25	21604348	5366.312	ng/ml
5) Butyraldehyde	4.85	21444271	5303.711	ng/ml
6) Benzaldehyde	5.69	14435192	5328.040	ng/ml
7) Isovaleraldehyde	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

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



510

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

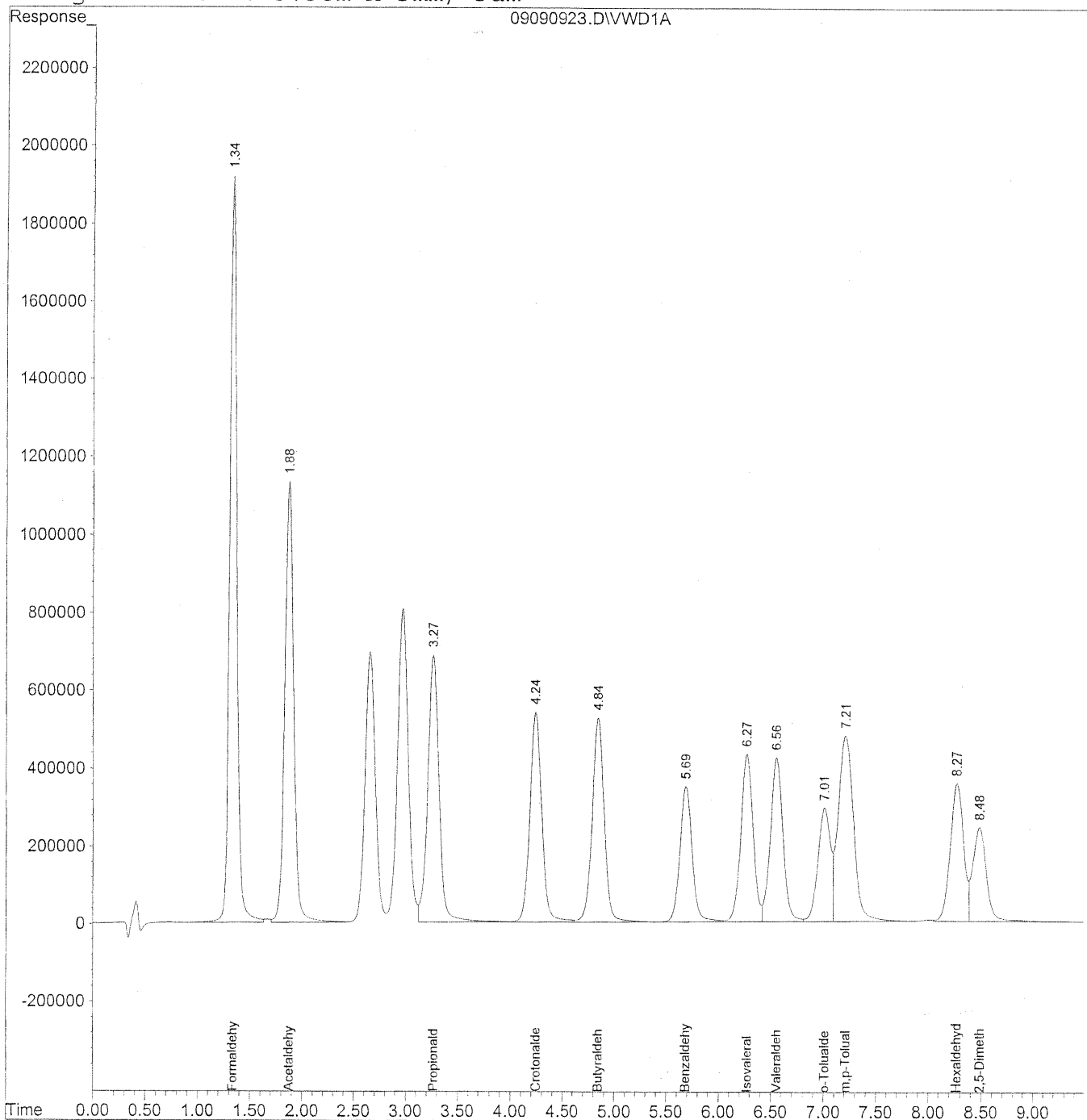
Target Compounds			
1) Formaldehyde	1.35	46648983	5218.936 ng/ml
2) Acetaldehyde	1.88	34054104	5247.811 ng/ml
3) Propionaldehyde	3.27	26843474	5188.585 ng/ml
4) Crotonaldehyde	4.25	21717189	5391.323 ng/ml
5) Butyraldehyde	4.85	21538832	5325.502 ng/ml
6) Benzaldehyde	5.69	14515721	5358.432 ng/ml
7) Isovaleraldehyde	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

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



512

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

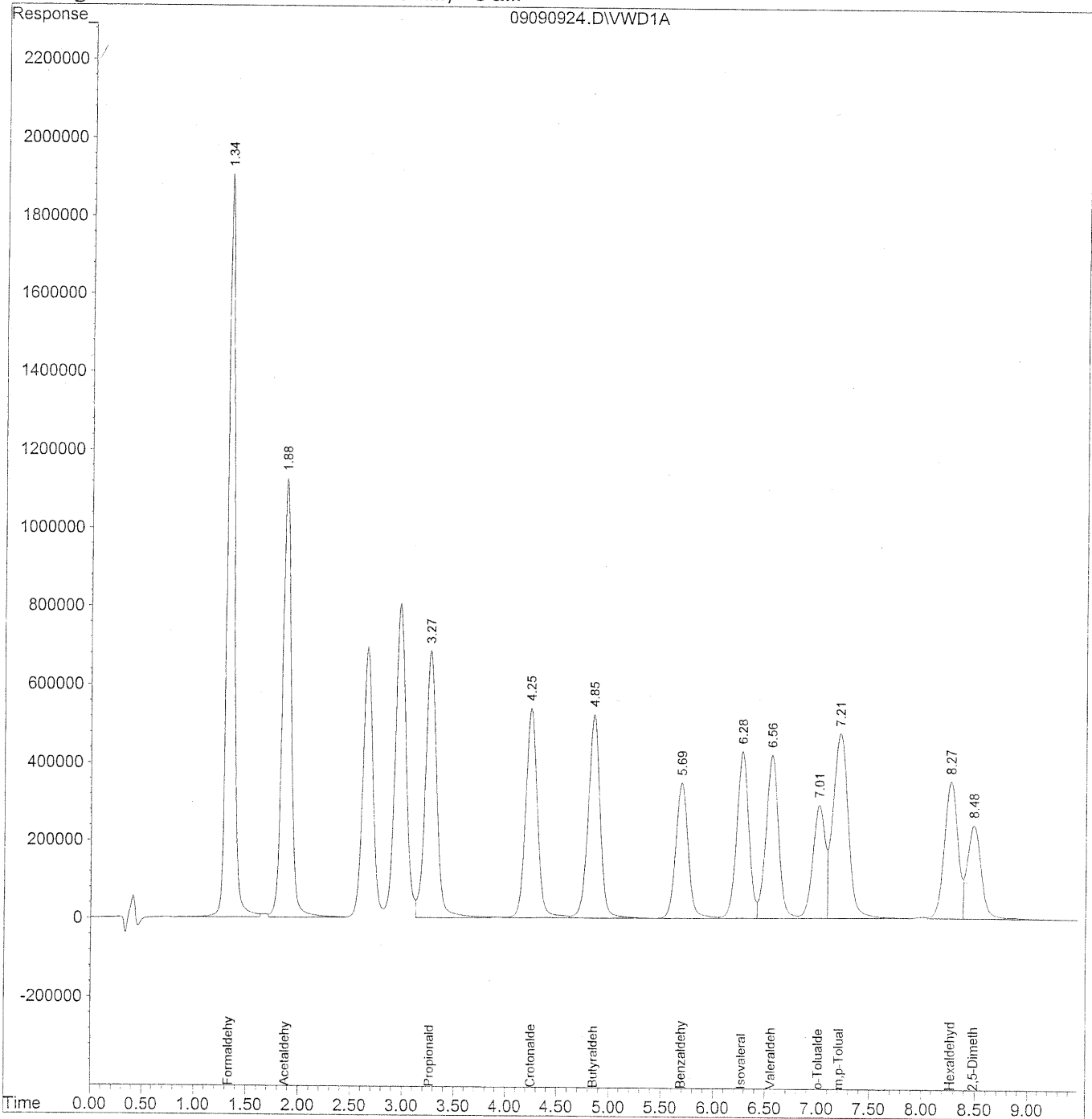
Target Compounds				
1) Formaldehyde	1.34	91542792	10238.895	ng/ml
2) Acetaldehyde	1.88	67198566	10353.832	ng/ml
3) Propionaldehyde	3.27	52731710	10187.405	ng/ml
4) Crotonaldehyde	4.25	42623472	10576.073	ng/ml
5) Butyraldehyde	4.85	42304249	10456.015	ng/ml
6) Benzaldehyde	5.69	28602353	10555.419	ng/ml
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

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



514

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

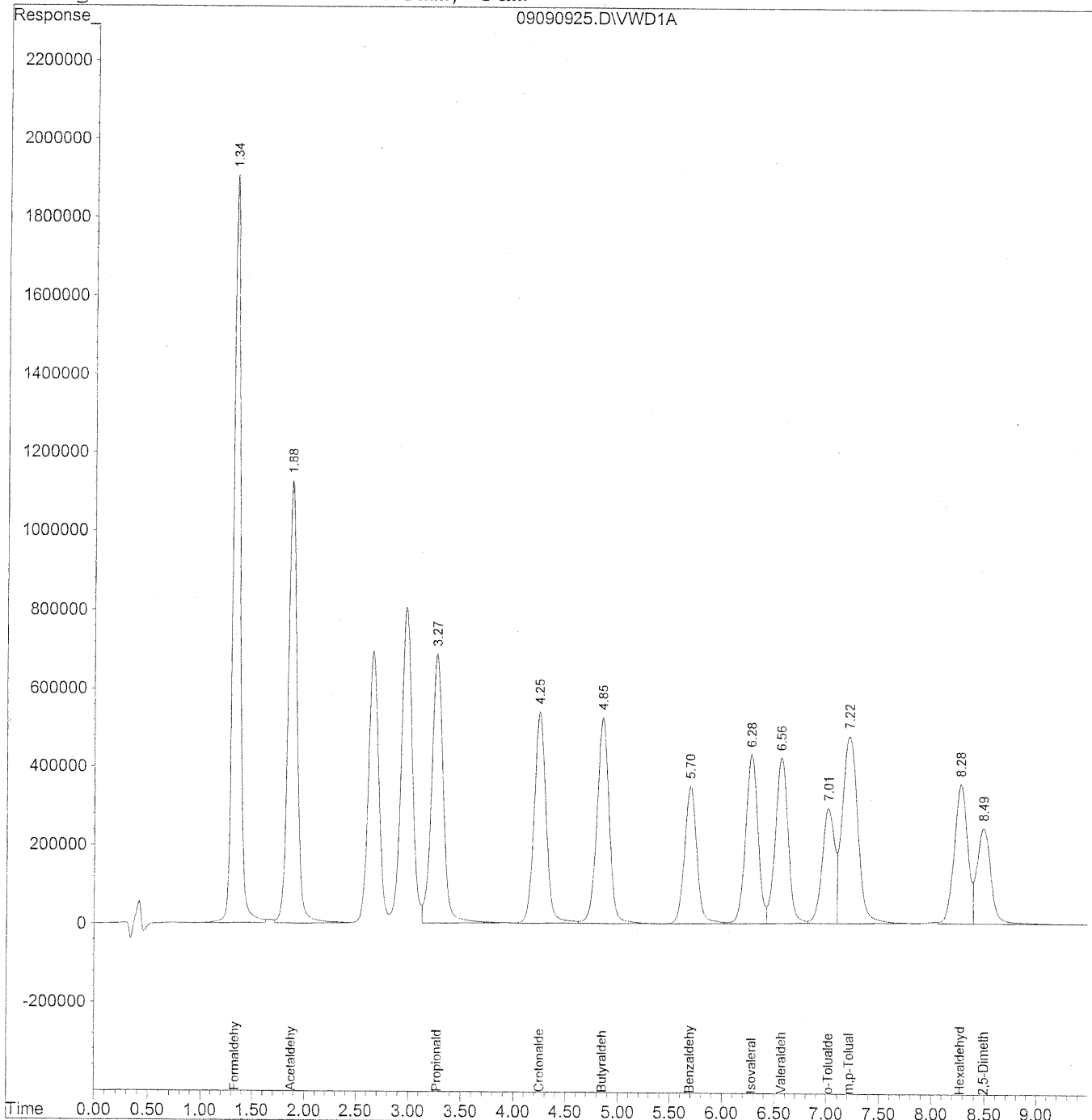
Target Compounds				
1) Formaldehyde	1.34	91301664	10216.742	ng/ml
2) Acetaldehyde	1.88	67004053	10305.740	ng/ml
3) Propionaldehyde	3.27	52551284	10108.517	ng/ml
4) Crotonaldehyde	4.25	42531897	10476.390	ng/ml
5) Butyraldehyde	4.85	42207282	10413.662	ng/ml
6) Benzaldehyde	5.69	28552063	10464.403	ng/ml
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

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



516

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

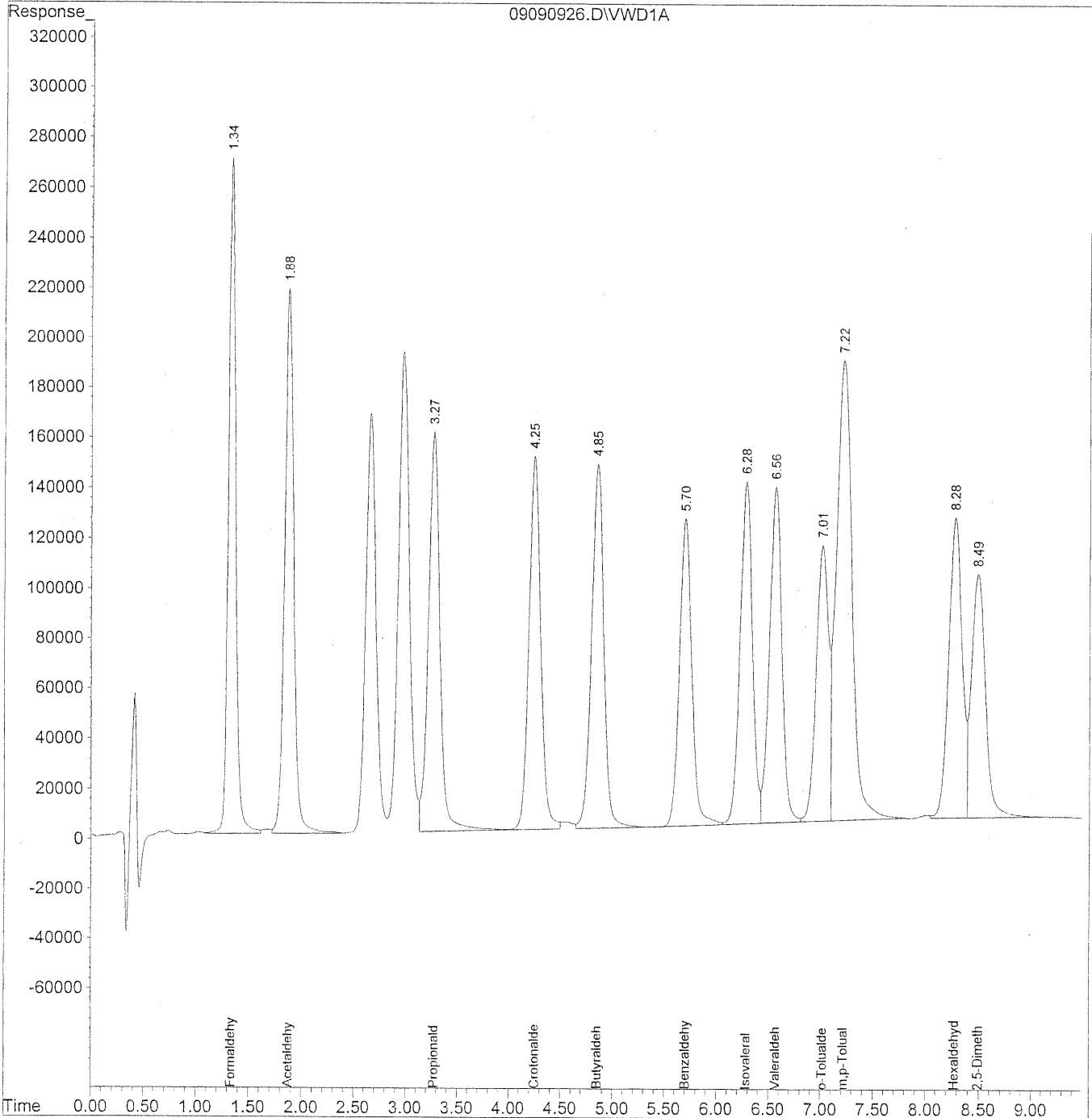
Target Compounds				
1) Formaldehyde	1.34	91595894	10251.972	ng/ml
2) Acetaldehyde	1.88	67244158	10345.249	ng/ml
3) Propionaldehyde	3.28	52752024	10150.066	ng/ml
4) Crotonaldehyde	4.25	42676337	10513.945	ng/ml
5) Butyraldehyde	4.86	42347195	10450.266	ng/ml
6) Benzaldehyde	5.70	28631645	10495.182	ng/ml
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

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



518

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

CONTINUING CALIBRATION STANDARDS

COLUMBIA ANALYTICAL SERVICES
TO11A Aldehyde & Ketone DNPH Analysis by HPLC

see 9/21/09
smn
9/21/09

Instrument : LC#02
Detector : UV-VIS 360
Analyst : MD

Printed : 09/21/09
Date Acquired : 09/15&16/2009
Sample Amount : 3ul
Client & PAI Job# : EH & E P0903195A

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	MID CCV 1500ng/ml	% Diff	P0903195-001 back 1.0ml
Dilution	1.0			1.0	1.0	1.0	1.0		1.0
Sample Volume (L)	NA			NA	NA	NA	NA		108.00
Final Vol.(ml)	1.0			1.0	1.0	1.0	1.0		1.0

	ng/sample	ng/sample	% Diff	ng/sample	ng/sample	ng/sample	ng/sample	% Diff	ng/sample
Formaldehyde	100.00	1616.4	7.8%	ND	ND	ND	1545.257	3.0%	ND
Acetaldehyde	100.00	1592.4	6.2%	ND	ND	ND	1548.432	3.2%	440.180 BT
Propionaldehyde	100.00	1559.0	3.9%	ND	ND	ND	1511.525	0.8%	ND
Crotonaldehyde	100.00	1581.1	5.4%	ND	ND	ND	1547.243	3.1%	ND
Butyraldehyde	100.00	1596.1	6.4%	ND	ND	ND	1555.598	3.7%	ND
Benzaldehyde	100.00	1566.0	4.4%	ND	ND	ND	1515.824	1.1%	ND
Isovaleraldehyde	100.00	1571.7	4.8%	ND	ND	ND	1545.192	1.0%	ND
Valeraldehyde	100.00	1500.6	0.0%	ND	ND	ND	1489.963	0.7%	ND
o-Tolualdehyde	100.00	1547.1	3.1%	ND	ND	ND	1508.271	0.6%	ND
m,p-Tolualdehyde	200.00	3157.2	5.2%	ND	ND	ND	3114.058	3.8%	ND
Hexaldehyde	100.00	1442.7	3.8%	ND	ND	ND	1484.812	1.0%	ND
2,5-Dimethylbenzaldehyde	100.00	1623.8	8.3%	ND	ND	ND	1561.340	4.1%	ND

	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
Formaldehyde			NA	NA	NA
Acetaldehyde			NA	NA	4.076
Propionaldehyde			NA	NA	NA
Crotonaldehyde			NA	NA	NA
Butyraldehyde			NA	NA	NA
Benzaldehyde			NA	NA	NA
Isovaleraldehyde			NA	NA	NA
Valeraldehyde			NA	NA	NA
o-Tolualdehyde			NA	NA	NA
m,p-Tolualdehyde			NA	NA	NA
Hexaldehyde			NA	NA	NA
2,5-Dimethylbenzaldehyde			NA	NA	NA

	ppb	ppb	ppb	ppb	ppb
Formaldehyde			NA	NA	NA
Acetaldehyde			NA	NA	2.263
Propionaldehyde			NA	NA	NA
Crotonaldehyde			NA	NA	NA
Butyraldehyde			NA	NA	NA
Benzaldehyde			NA	NA	NA
Isovaleraldehyde			NA	NA	NA
Valeraldehyde			NA	NA	NA
o-Tolualdehyde			NA	NA	NA
m,p-Tolualdehyde			NA	NA	NA
Hexaldehyde			NA	NA	NA
2,5-Dimethylbenzaldehyde			NA	NA	NA

COLUMBIA ANALYTICAL SERVICES

TO11A Aldehyde & Ketone DNPH Analysis by HPLC

Printed : 09/21/09

Instrument : LC#02
 Detector : UV-VIS 360
 Analyst : MD

Date Acquired : 09/15&16/2009
 Sample Amount : 3ul
 Client & PAI Job# : EH & E P0903195A

Sample Information	MDL	P0903195-002 back 1.0ml	P0903195-003 back 1.0ml	P0903195-004 back 1.0ml	P0903195-005 back 1.0ml	P0903195-006 back 1.0ml	P0903195-007 back 1.0ml	P0903195-008 back 1.0ml
Dilution	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Sample Volume (L)	NA	111.00	106.00	104.00	106.00	NA	NA	102.00
Final Vol.(ml)	1.0	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	ND	ND	ND	ND	ND	ND	ND
Acetaldehyde	100.00	360.009 BT	422.052 BT	328.531 BT	ND	ND	ND	272.200 BT
Propionaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Crotonaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Butyraldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Benzaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Isovaleraldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
o-Tolualdehyde	100.00	ND	ND	ND	ND	ND	ND	ND
m,p-Tolualdehyde	200.00	ND	ND	ND	ND	ND	ND	ND
Hexaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
2,5-Dimethylbenzaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND

	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
Formaldehyde		ND	ND	ND	ND	ND	ND	ND
Acetaldehyde		3.243	3.982	3.159	ND	ND	ND	2.669
Propionaldehyde		ND	ND	ND	ND	ND	ND	ND
Crotonaldehyde		ND	ND	ND	ND	ND	ND	ND
Butyraldehyde		ND	ND	ND	ND	ND	ND	ND
Benzaldehyde		ND	ND	ND	ND	ND	ND	ND
Isovaleraldehyde		ND	ND	ND	ND	ND	ND	ND
Valeraldehyde		ND	ND	ND	ND	ND	ND	ND
o-Tolualdehyde		ND	ND	ND	ND	ND	ND	ND
m,p-Tolualdehyde		ND	ND	ND	ND	ND	ND	ND
Hexaldehyde		ND	ND	ND	ND	ND	ND	ND
2,5-Dimethylbenzaldehyde		ND	ND	ND	ND	ND	ND	ND

	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Formaldehyde		ND	ND	ND	ND	ND	ND	ND
Acetaldehyde		1.801	2.211	1.754	ND	ND	ND	1.482
Propionaldehyde		ND	ND	ND	ND	ND	ND	ND
Crotonaldehyde		ND	ND	ND	ND	ND	ND	ND
Butyraldehyde		ND	ND	ND	ND	ND	ND	ND
Benzaldehyde		ND	ND	ND	ND	ND	ND	ND
Isovaleraldehyde		ND	ND	ND	ND	ND	ND	ND
Valeraldehyde		ND	ND	ND	ND	ND	ND	ND
o-Tolualdehyde		ND	ND	ND	ND	ND	ND	ND
m,p-Tolualdehyde		ND	ND	ND	ND	ND	ND	ND
Hexaldehyde		ND	ND	ND	ND	ND	ND	ND
2,5-Dimethylbenzaldehyde		ND	ND	ND	ND	ND	ND	ND

COLUMBIA ANALYTICAL SERVICES

TO11A Aldehyde & Ketone DNPH Analysis by HPLC

Printed : 09/21/09

Instrument : LC#02
 Detector : UV-VIS 360
 Analyst : MD

Date Acquired : 09/15&16/2009
 Sample Amount : 3ul
 Client & PAI Job# : EH & E P0903195A

SAMPLE RESULT SUMMARY

Sample Information	MDL	P0903195-009 back 1.0ml	P0903195-010 back 1.0ml	1500ng/ml TO- 11A S21- 09090903	% Diff	ACN blank lot CY331	P0903195-011 back 1.0ml	P0903195-012 back 1.0ml
Dilution	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Sample Volume (L)	NA	101.00	105.00	NA		NA	102.00	100.00
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	1540.965	2.7%	ND	ND
Acetaldehyde	100.00	277.059 BT	205.324	1531.867	2.1%	ND	137.075 BT
Propionaldehyde	100.00	ND	ND	1529.189	1.9%	ND	ND
Crotonaldehyde	100.00	ND	ND	1534.149	2.3%	ND	ND
Butyraldehyde	100.00	ND	ND	1558.368	3.9%	ND	ND
Benzaldehyde	100.00	ND	ND	1500.819	0.1%	ND	ND
Isovaleraldehyde	100.00	ND	ND	1561.772	4.1%	ND	ND
Valeraldehyde	100.00	ND	ND	1456.348	2.9%	ND	ND
o-Tolualdehyde	100.00	ND	ND	1503.410	0.2%	ND	ND
m,p-Tolualdehyde	200.00	ND	ND	3093.625	3.1%	ND	ND
Hexaldehyde	100.00	ND	ND	1530.966	2.1%	ND	ND
2,5-Dimethylbenzaldehyde	100.00	ND	ND	1640.439	9.4%	ND	ND

	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
Formaldehyde		ND	ND			ND	ND
Acetaldehyde		2.743	1.955			ND	1.344
Propionaldehyde		ND	ND			ND	ND
Crotonaldehyde		ND	ND			ND	ND
Butyraldehyde		ND	ND			ND	ND
Benzaldehyde		ND	ND			ND	ND
Isovaleraldehyde		ND	ND			ND	ND
Valeraldehyde		ND	ND			ND	ND
o-Tolualdehyde		ND	ND			ND	ND
m,p-Tolualdehyde		ND	ND			ND	ND
Hexaldehyde		ND	ND			ND	ND
2,5-Dimethylbenzaldehyde		ND	ND			ND	ND

	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Formaldehyde		ND	ND			ND	ND
Acetaldehyde		1.523	1.086			ND	0.746
Propionaldehyde		ND	ND			ND	ND
Crotonaldehyde		ND	ND			ND	ND
Butyraldehyde		ND	ND			ND	ND
Benzaldehyde		ND	ND			ND	ND
Isovaleraldehyde		ND	ND			ND	ND
Valeraldehyde		ND	ND			ND	ND
o-Tolualdehyde		ND	ND			ND	ND
m,p-Tolualdehyde		ND	ND			ND	ND
Hexaldehyde		ND	ND			ND	ND
2,5-Dimethylbenzaldehyde		ND	ND			ND	ND

COLUMBIA ANALYTICAL SERVICES

TO11A Aldehyde & Ketone DNP Analysis by HPLC

Printed : 09/21/09

Instrument : LC#02
 Detector : UV-VIS 360
 Analyst : MD

Date Acquired : 09/15&16/2009
 Sample Amount : 3ul
 Client & PAI Job# : EH & E P0903195A

SAMPLE RESULT SUMMARY

Sample Information	MDL	P0903195-013 back 1.0ml	P0903195-014 back 1.0ml	MB-2 front 1.0ml lot 5855/5994	MB-2 back 1.0ml lot 5855/5994	P0903195-015 back 1.0ml	P0903195-016 back 1.0ml	P0903195-017 back 1.0ml
Dilution	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Sample Volume (L)	NA	102.00	101.00	NA	NA	99.00	106.00	101.00
Final Vol.(ml)	1.0	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	ND	ND	ND	ND	133.392	ND	ND
Acetaldehyde	100.00	597.229 BT	664.337 BT	ND	ND	844.251 BT	585.365 BT	ND
Propionaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Crotonaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Butyraldehyde	100.00	ND	ND	ND	ND	105.219 BT	ND	ND
Benzaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Isovaleraldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	100.00	162.996	141.416	ND	ND	196.116	ND	ND
o-Tolualdehyde	100.00	ND	ND	ND	ND	ND	ND	ND
m,p-Tolualdehyde	200.00	ND	ND	ND	ND	ND	ND	ND
Hexaldehyde	100.00	534.362	415.397	ND	ND	595.080	170.901	ND
2,5-Dimethylbenzaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND

	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
Formaldehyde	100.00	ND	ND	ND	ND	1.347	ND	ND
Acetaldehyde	100.00	5.855	6.578	ND	ND	8.528	5.522	ND
Propionaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Crotonaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Butyraldehyde	100.00	ND	ND	ND	ND	1.063	ND	ND
Benzaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Isovaleraldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	100.00	1.598	1.400	ND	ND	1.981	ND	ND
o-Tolualdehyde	100.00	ND	ND	ND	ND	ND	ND	ND
m,p-Tolualdehyde	200.00	ND	ND	ND	ND	ND	ND	ND
Hexaldehyde	100.00	5.239	4.113	ND	ND	6.011	1.612	ND
2,5-Dimethylbenzaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND

	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Formaldehyde	100.00	ND	ND	ND	ND	1.097	ND	ND
Acetaldehyde	100.00	3.251	3.652	ND	ND	4.735	3.066	ND
Propionaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Crotonaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Butyraldehyde	100.00	ND	ND	ND	ND	0.361	ND	ND
Benzaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Isovaleraldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Valeraldehyde	100.00	0.454	0.398	ND	ND	0.563	ND	ND
o-Tolualdehyde	100.00	ND	ND	ND	ND	ND	ND	ND
m,p-Tolualdehyde	200.00	ND	ND	ND	ND	ND	ND	ND
Hexaldehyde	100.00	1.279	1.004	ND	ND	1.468	0.394	ND
2,5-Dimethylbenzaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND

COLUMBIA ANALYTICAL SERVICES

TO11A Aldehyde & Ketone DNP Analysis by HPLC

Printed : 09/21/09

Instrument : LC#02
 Detector : UV-VIS 360
 Analyst : MD

Date Acquired : 09/15&16/2009
 Sample Amount : 3ul
 Client & PAI Job# : EH & E P0903195A

SAMPLE RESULT SUMMARY

Sample Information	MDL	P0903195-018 back 1.0ml	P0903195-019 back 1.0ml	P0903195-020 back 1.0ml	MID CCV 1500ng/ml	% Diff	P0903195-021 back 1.0ml	P0903195-022 back 1.0ml
Dilution	1.0	1.0	1.0	1.0	1.0		1.0	1.0
Sample Volume (L)	NA	NA	NA	101.00	NA		100.00	101.00
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	1555.803	3.7%	ND	ND
Acetaldehyde	100.00	ND	ND	112.604 BT	1539.608	2.6%	137.130 BT	277.012
Propionaldehyde	100.00	ND	ND	ND	1506.824	0.5%	ND	ND
Crotonaldehyde	100.00	ND	ND	ND	1548.624	3.2%	ND	ND
Butyraldehyde	100.00	ND	ND	ND	1571.525	4.8%	ND	ND
Benzaldehyde	100.00	ND	ND	ND	1522.942	1.5%	ND	ND
Isovaleraldehyde	100.00	ND	ND	ND	1524.548	1.6%	ND	ND
Valeraldehyde	100.00	ND	ND	ND	1499.373	0.0%	ND	ND
o-Tolualdehyde	100.00	ND	ND	ND	1502.815	0.2%	ND	ND
m,p-Tolualdehyde	200.00	ND	ND	ND	3115.125	3.8%	ND	ND
Hexaldehyde	100.00	ND	ND	ND	1505.249	0.3%	ND	ND
2,5-Dimethylbenzaldehyde	100.00	ND	ND	ND	1526.330	1.8%	ND	ND

	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
Formaldehyde		ND	ND	ND		ND	ND
Acetaldehyde		ND	ND	1.115		1.371	2.743
Propionaldehyde		ND	ND	ND		ND	ND
Crotonaldehyde		ND	ND	ND		ND	ND
Butyraldehyde		ND	ND	ND		ND	ND
Benzaldehyde		ND	ND	ND		ND	ND
Isovaleraldehyde		ND	ND	ND		ND	ND
Valeraldehyde		ND	ND	ND		ND	ND
o-Tolualdehyde		ND	ND	ND		ND	ND
m,p-Tolualdehyde		ND	ND	ND		ND	ND
Hexaldehyde		ND	ND	ND		ND	ND
2,5-Dimethylbenzaldehyde		ND	ND	ND		ND	ND

	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Formaldehyde		ND	ND	ND		ND	ND
Acetaldehyde		ND	ND	0.619		0.761	1.523
Propionaldehyde		ND	ND	ND		ND	ND
Crotonaldehyde		ND	ND	ND		ND	ND
Butyraldehyde		ND	ND	ND		ND	ND
Benzaldehyde		ND	ND	ND		ND	ND
Isovaleraldehyde		ND	ND	ND		ND	ND
Valeraldehyde		ND	ND	ND		ND	ND
o-Tolualdehyde		ND	ND	ND		ND	ND
m,p-Tolualdehyde		ND	ND	ND		ND	ND
Hexaldehyde		ND	ND	ND		ND	ND
2,5-Dimethylbenzaldehyde		ND	ND	ND		ND	ND

COLUMBIA ANALYTICAL SERVICES

TO11A Aldehyde & Ketone DNPH Analysis by HPLC

Printed : 09/21/09

Instrument : LC#02
 Detector : UV-VIS 360
 Analyst : MD

Date Acquired : 09/15&16/2009
 Sample Amount : 3ul
 Client & PAI Job# : EH & E P0903195A

SAMPLE RESULT SUMMARY

Sample Information	MDL	P0903195-023 back 1.0ml	P0903195-024 back 1.0ml	P0903195-001 front 1.0ml	P0903195-002 front 1.0ml	P0903195-003 front 1.0ml	P0903195-004 front 1.0ml	P0903195-005 front 1.0ml
Dilution	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Sample Volume (L)	NA	100.00	103.00	108.00	111.00	106.00	104.00	106.00
Final Vol.(ml)	1.0	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	ND	ND	8327.434	8622.765	10608.460 ^{DIC}	8420.334	ND
Acetaldehyde	100.00	147.400 ^{BT}	1178.994 ^{BT}	3116.752	3295.663	3090.458	2947.623	ND
Propionaldehyde	100.00	ND	ND	519.136	589.164	652.389	594.932	ND
Crotonaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Butyraldehyde	100.00	ND	ND	562.022	582.342	616.341	556.686	ND
Benzaldehyde	100.00	ND	ND	1080.454	1127.164	1285.980	1059.090	ND
Isovaleraldehyde	100.00	ND	ND	279.458	236.324	ND	ND	ND
Valeraldehyde	100.00	ND	ND	2046.435	2192.703	2243.412	1990.383	ND
o-Tolualdehyde	100.00	ND	ND	ND	ND	ND	ND	ND
m,p-Tolualdehyde	200.00	ND	ND	ND	ND	ND	ND	ND
Hexaldehyde	100.00	ND	ND	8979.050	9692.373	10632.635 ^{DIC}	9803.436 ^{M,T}	ND
2,5-Dimethylbenzaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND

	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
Formaldehyde		ND	ND	77.106	77.683	100.080	80.965	ND
Acetaldehyde		1.474	11.447	28.859	29.691	29.155	28.343	ND
Propionaldehyde		ND	ND	4.807	5.308	6.155	5.721	ND
Crotonaldehyde		ND	ND	ND	ND	ND	ND	ND
Butyraldehyde		ND	ND	5.204	5.246	5.815	5.353	ND
Benzaldehyde		ND	ND	10.004	10.155	12.132	10.184	ND
Isovaleraldehyde		ND	ND	2.588	2.129	ND	ND	ND
Valeraldehyde		ND	ND	18.948	19.754	21.164	19.138	ND
o-Tolualdehyde		ND	ND	ND	ND	ND	ND	ND
m,p-Tolualdehyde		ND	ND	ND	ND	ND	ND	ND
Hexaldehyde		ND	ND	83.139	87.319	100.308	94.264	ND
2,5-Dimethylbenzaldehyde		ND	ND	ND	ND	ND	ND	ND

	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Formaldehyde		ND	ND	62.804	63.274	84.517	65.947	ND
Acetaldehyde		0.818	6.356	16.025	16.487	16.189	15.738	ND
Propionaldehyde		ND	ND	2.024	2.235	2.592	2.409	ND
Crotonaldehyde		ND	ND	ND	ND	ND	ND	ND
Butyraldehyde		ND	ND	1.765	1.780	1.972	1.816	ND
Benzaldehyde		ND	ND	2.306	2.341	2.796	2.347	ND
Isovaleraldehyde		ND	ND	0.735	0.605	ND	ND	ND
Valeraldehyde		ND	ND	5.381	5.610	6.010	5.435	ND
o-Tolualdehyde		ND	ND	ND	ND	ND	ND	ND
m,p-Tolualdehyde		ND	ND	ND	ND	ND	ND	ND
Hexaldehyde		ND	ND	20.303	21.324	24.496	23.020	ND
2,5-Dimethylbenzaldehyde		ND	ND	ND	ND	ND	ND	ND

Report from Re-run on 9/16/09 (mb)

COLUMBIA ANALYTICAL SERVICES

TO11A Aldehyde & Ketone DNPH Analysis by HPLC

Printed : 09/21/09

Instrument : LC#02
 Detector : UV-VIS 360
 Analyst : MD

Date Acquired : 09/15&16/2009
 Sample Amount : 3ul
 Client & PAI Job# : EH & E P0903195A

SAMPLE RESULT SUMMARY

Sample Information	MDL	P0903195-006 front 1.0ml	1500ng/ml TO- 11A S21- 09090903	% Diff	ACN blank lot CY331	P0903195-007 front 1.0ml	P0903195-008 front 1.0ml	P0903195-009 front 1.0ml
Dilution	1.0	1.0	1.0		1.0	1.0	1.0	1.0
Sample Volume (L)	NA	NA	NA		NA	NA	102.00	101.00
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	1536.897	2.5%	ND	ND	9171.897	8757.110
Acetaldehyde	100.00	ND	1539.421	2.6%	ND	ND	2149.751	1981.930
Propionaldehyde	100.00	ND	1499.997	0.0%	ND	ND	317.402	267.071
Crotonaldehyde	100.00	ND	1537.746	2.5%	ND	ND	ND	ND
Butyraldehyde	100.00	ND	1557.693	3.8%	ND	ND	381.547	331.351
Benzaldehyde	100.00	ND	1505.690	0.4%	ND	ND	1017.067	929.487
Isovaleraldehyde	100.00	ND	1515.760	1.1%	ND	ND	125.575	ND
Valeraldehyde	100.00	ND	1454.471	3.0%	ND	ND	1087.633	1117.092
o-Tolualdehyde	100.00	ND	1498.202	0.1%	ND	ND	ND	ND
m,p-Tolualdehyde	200.00	ND	3103.356	3.4%	ND	ND	ND	ND
Hexaldehyde	100.00	ND	1520.220	1.3%	ND	ND	4002.424	4482.465
2,5-Dimethylbenzaldehyde	100.00	ND	1548.386	3.2%	ND	ND	ND	ND

	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	
Formaldehyde		ND		ND	ND	89.921	86.704
Acetaldehyde		ND		ND	ND	21.076	19.623
Propionaldehyde		ND		ND	ND	3.112	2.644
Crotonaldehyde		ND		ND	ND	ND	ND
Butyraldehyde		ND		ND	ND	3.741	3.281
Benzaldehyde		ND		ND	ND	9.971	9.203
Isovaleraldehyde		ND		ND	ND	1.231	ND
Valeraldehyde		ND		ND	ND	10.663	11.060
o-Tolualdehyde		ND		ND	ND	ND	ND
m,p-Tolualdehyde		ND		ND	ND	ND	ND
Hexaldehyde		ND		ND	ND	39.239	44.381
2,5-Dimethylbenzaldehyde		ND		ND	ND	ND	ND

	ppb	ppb	ppb	ppb	ppb	ppb	
Formaldehyde		ND		ND	ND	73.242	70.622
Acetaldehyde		ND		ND	ND	11.703	10.896
Propionaldehyde		ND		ND	ND	1.311	1.114
Crotonaldehyde		ND		ND	ND	ND	ND
Butyraldehyde		ND		ND	ND	1.269	1.113
Benzaldehyde		ND		ND	ND	2.298	2.121
Isovaleraldehyde		ND		ND	ND	0.350	ND
Valeraldehyde		ND		ND	ND	3.028	3.141
o-Tolualdehyde		ND		ND	ND	ND	ND
m,p-Tolualdehyde		ND		ND	ND	ND	ND
Hexaldehyde		ND		ND	ND	9.583	10.838
2,5-Dimethylbenzaldehyde		ND		ND	ND	ND	ND

m, ↑

COLUMBIA ANALYTICAL SERVICES

TO11A Aldehyde & Ketone DNP Analysis by HPLC

Printed : 09/21/09

Instrument : LC#02
 Detector : UV-VIS 360
 Analyst : MD

Date Acquired : 09/15&16/2009
 Sample Amount : 3ul
 Client & PAI Job# : EH & E P0903195A

SAMPLE RESULT SUMMARY

Sample Information	MDL	P0903195-010 front 1.0ml	MB-3 front 1.0ml lot 5855/5997	MB-3 back 1.0ml lot 5855/5994	P0903195-011 front 1.0ml	P0903195-012 front 1.0ml	P0903195-013 front 1.0ml	P0903195-014 front 1.0ml
Dilution	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Sample Volume (L)	NA	105.00	NA	NA	102.00	100.00	102.00	101.00
Final Vol.(ml)	1.0	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	8957.592	ND	ND	5503.587	187.822	12604.509	12425.227
Acetaldehyde	100.00	2257.846	ND	ND	993.720	ND	2612.470	2776.646
Propionaldehyde	100.00	357.728	ND	ND	133.962	ND	599.029	651.518
Crotonaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND
Butyraldehyde	100.00	390.611	ND	ND	149.990	ND	588.928	630.548
Benzaldehyde	100.00	1158.365	ND	ND	583.333	ND	1780.937	1771.734
Isovaleraldehyde	100.00	ND	ND	ND	ND	ND	286.785	358.516
Valeraldehyde	100.00	1252.394	ND	ND	461.484	ND	2484.768	2579.499
o-Tolualdehyde	100.00	ND	ND	ND	ND	ND	ND	ND
m,p-Tolualdehyde	200.00	ND	ND	ND	ND	ND	ND	ND
Hexaldehyde	100.00	5304.880 ^{M1↑}	ND	ND	1640.884	ND	12699.417	13443.258
2,5-Dimethylbenzaldehyde	100.00	ND	ND	ND	ND	ND	ND	ND

	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
Formaldehyde		85.310	ND	ND	53.957	1.878	123.544	123.022
Acetaldehyde		21.503	ND	ND	9.742	ND	25.612	27.492
Propionaldehyde		3.407	ND	ND	1.313	ND	5.873	6.451
Crotonaldehyde		ND	ND	ND	ND	ND	ND	ND
Butyraldehyde		3.720	ND	ND	1.470	ND	5.774	6.243
Benzaldehyde		11.032	ND	ND	5.719	ND	17.460	17.542
Isovaleraldehyde		ND	ND	ND	ND	ND	2.812	3.550
Valeraldehyde		11.928	ND	ND	4.524	ND	24.360	25.540
o-Tolualdehyde		ND	ND	ND	ND	ND	ND	ND
m,p-Tolualdehyde		ND	ND	ND	ND	ND	ND	ND
Hexaldehyde		50.523	ND	ND	16.087	ND	124.504	133.102
2,5-Dimethylbenzaldehyde		ND	ND	ND	ND	ND	ND	ND

	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Formaldehyde		69.487	ND	ND	43.949	1.530	100.629	100.204
Acetaldehyde		11.940	ND	ND	5.410	ND	14.222	15.265
Propionaldehyde		1.435	ND	ND	0.553	ND	2.473	2.717
Crotonaldehyde		ND	ND	ND	ND	ND	ND	ND
Butyraldehyde		1.262	ND	ND	0.499	ND	1.958	2.118
Benzaldehyde		2.543	ND	ND	1.313	ND	4.024	4.043
Isovaleraldehyde		ND	ND	ND	ND	ND	0.798	1.008
Valeraldehyde		3.387	ND	ND	1.285	ND	6.918	7.253
o-Tolualdehyde		ND	ND	ND	ND	ND	ND	ND
m,p-Tolualdehyde		ND	ND	ND	ND	ND	ND	ND
Hexaldehyde		12.338	ND	ND	3.929	ND	30.405	32.505
2,5-Dimethylbenzaldehyde		ND	ND	ND	ND	ND	ND	ND

COLUMBIA ANALYTICAL SERVICES

TO11A Aldehyde & Ketone DNP Analysis by HPLC

Printed : 09/21/09

Instrument : LC#02
 Detector : UV-VIS 360
 Analyst : MD

Date Acquired : 09/15&16/2009
 Sample Amount : 3ul
 Client & PAI Job# : EH & E P0903195A

SAMPLE RESULT SUMMARY

Sample Information	MDL	P0903195-015 front 1.0ml	P0903195-016 front 1.0ml	MID CCV 1500ng/mL	% Diff	P0903195-017 front 1.0ml	P0903195-018 front 1.0ml	P0903195-019 front 1.0ml
Dilution	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Sample Volume (L)	NA	99.00	106.00	NA		101.00	NA	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	12621.444	12355.984 <i>DIL</i>	1561.636	4.1%	281.459	ND	ND
Acetaldehyde	100.00	2564.911	3003.894	1542.215	2.8%	126.518	ND	ND
Propionaldehyde	100.00	588.821	746.923	1536.745	2.4%	ND	ND	ND
Crotonaldehyde	100.00	ND	ND	1541.945	2.8%	ND	ND	ND
Butyraldehyde	100.00	534.000	689.907	1560.341	4.0%	ND	ND	ND
Benzaldehyde	100.00	1549.024	1809.182	1502.391	0.2%	ND	ND	ND
Isovaleraldehyde	100.00	313.094	404.558	1501.440	0.1%	ND	ND	ND
Valeraldehyde	100.00	2316.515	2882.137	1466.573	2.2%	ND	ND	ND
o-Tolualdehyde	100.00	ND	ND	1479.570	1.4%	ND	ND	ND
m,p-Tolualdehyde	200.00	ND	ND	3095.071	3.2%	ND	ND	ND
Hexaldehyde	100.00	12389.373	14263.792 <i>DIL</i>	1430.170	4.7%	ND	ND	ND
2,5-Dimethylbenzaldehyde	100.00	ND	ND	1363.005	9.1%	ND	ND	ND

	ug/m3	ug/m3	ug/m3	ug/m3	%	ug/m3	ug/m3	ug/m3
Formaldehyde		127.489	116.566			2.787	ND	ND
Acetaldehyde		25.908	28.339			1.253	ND	ND
Propionaldehyde		5.948	7.046			ND	ND	ND
Crotonaldehyde		ND	ND			ND	ND	ND
Butyraldehyde		5.394	6.509			ND	ND	ND
Benzaldehyde		15.647	17.088			ND	ND	ND
Isovaleraldehyde		3.163	3.817			ND	ND	ND
Valeraldehyde		23.399	27.190			ND	ND	ND
o-Tolualdehyde		ND	ND			ND	ND	ND
m,p-Tolualdehyde		ND	ND			ND	ND	ND
Hexaldehyde		125.145	134.564			ND	ND	ND
2,5-Dimethylbenzaldehyde		ND	ND			ND	ND	ND

	ppb	ppb	ppb	ppb	%	ppb	ppb	ppb
Formaldehyde		103.842	94.945			2.270	ND	ND
Acetaldehyde		14.386	15.736			0.696	ND	ND
Propionaldehyde		2.505	2.968			ND	ND	ND
Crotonaldehyde		ND	ND			ND	ND	ND
Butyraldehyde		1.830	2.208			ND	ND	ND
Benzaldehyde		3.606	3.934			ND	ND	ND
Isovaleraldehyde		0.898	1.084			ND	ND	ND
Valeraldehyde		6.645	7.722			ND	ND	ND
o-Tolualdehyde		ND	ND			ND	ND	ND
m,p-Tolualdehyde		ND	ND			ND	ND	ND
Hexaldehyde		30.562	32.862			ND	ND	ND
2,5-Dimethylbenzaldehyde		ND	ND			ND	ND	ND

COLUMBIA ANALYTICAL SERVICES

TO11A Aldehyde & Ketone DNP Analysis by HPLC

Printed : 09/21/09

Instrument : LC#02
 Detector : UV-VIS 360
 Analyst : MD

Date Acquired : 09/15&16/2009
 Sample Amount : 3ul
 Client & PAI Job# : EH & E P0903195A

SAMPLE RESULT SUMMARY

Sample Information	MDL	P0903195-020 front 1.0ml	P0903195-021 front 1.0ml	P0903195-022 front 1.0ml	P0903195-023 front 1.0ml	P0903195-024 front 1.0ml	1500ng/ml end std	% Diff
Dilution	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Sample Volume (L)	NA	101.00	100.00	101.00	100.00	103.00	NA	
Final Voi.(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	3820.254	4614.362	8247.055	5517.936	ND	1568.303	4.6%
Acetaldehyde	100.00	924.790	996.050	2913.641	1078.953	3100.213	1555.303	3.7%
Propionaldehyde	100.00	126.126	115.391	524.348	137.869	ND	1538.717	2.6%
Crotonaldehyde	100.00	ND	ND	ND	ND	ND	1552.934	3.5%
Butyraldehyde	100.00	182.071	210.467	582.625	227.305	ND	1547.611	3.2%
Benzaldehyde	100.00	522.269	603.409	1205.002	761.770	ND	1516.726	1.1%
Isovaleraldehyde	100.00	ND	ND	242.387	ND	ND	1539.378	2.6%
Valeraldehyde	100.00	508.735	565.698	1726.927	664.978	ND	1485.949	0.9%
o-Tolualdehyde	100.00	ND	ND	ND	ND	ND	1509.623	0.6%
m,p-Tolualdehyde	200.00	ND	ND	ND	ND	ND	3143.975	4.8%
Hexaldehyde	100.00	1691.386	2021.363	6387.532	2269.638	ND	1603.817	6.9%
2,5-Dimethylbenzaldehyde	100.00	ND	ND	ND	ND	ND	1667.552	11.2%

	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	%
Formaldehyde		37.824	46.144	81.654	55.179	ND	
Acetaldehyde		9.156	9.961	28.848	10.790	30.099	
Propionaldehyde		1.249	1.154	5.192	1.379	ND	
Crotonaldehyde		ND	ND	ND	ND	ND	
Butyraldehyde		1.803	2.105	5.769	2.273	ND	
Benzaldehyde		5.171	6.034	11.931	7.618	ND	
Isovaleraldehyde		ND	ND	2.400	ND	ND	
Valeraldehyde		5.037	5.657	17.098	6.650	ND	
o-Tolualdehyde		ND	ND	ND	ND	ND	
m,p-Tolualdehyde		ND	ND	ND	ND	ND	
Hexaldehyde		16.746	20.214	63.243	22.696	ND	
2,5-Dimethylbenzaldehyde		ND	ND	ND	ND	ND	

	ppb	ppb	ppb	ppb	ppb	ppb	%
Formaldehyde		30.809	37.585	66.509	44.945	ND	
Acetaldehyde		5.084	5.531	16.019	5.991	16.713	
Propionaldehyde		0.526	0.486	2.186	0.581	ND	
Crotonaldehyde		ND	ND	ND	ND	ND	
Butyraldehyde		0.611	0.714	1.957	0.771	ND	
Benzaldehyde		1.192	1.391	2.750	1.756	ND	
Isovaleraldehyde		ND	ND	0.682	ND	ND	
Valeraldehyde		1.430	1.607	4.856	1.888	ND	
o-Tolualdehyde		ND	ND	ND	ND	ND	
m,p-Tolualdehyde		ND	ND	ND	ND	ND	
Hexaldehyde		4.090	4.936	15.444	5.543	ND	
2,5-Dimethylbenzaldehyde		ND	ND	ND	ND	ND	

COLUMBIA ANALYTICAL SERVICES

TO11A Aldehyde & Ketone DNPH Analysis by HPLC

Instrument : LC#02
 Detector : UV-VIS 360
 Analyst : MD

Printed : 09/21/09
 Date Acquired : 09/16/09
 Sample Amount : 3ul
 Client & PAI Job# : EH & E P0903195B

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 9/21/09
 JC
 9/21/09

SAMPLE RESULT SUMMARY

Sample Information	MDL	1500ng/ml TO 11A S21- 09090903	% Diff	ACN blank Lot CY331	P0903195-003 front 10x dil	P0903195-013 front 10x dil	P0903195-014 front 10x dil
Dilution	1.0			1.0	10.0	10.0	10.0
Sample Volume (L)	NA			NA	106.00	102.00	101.00
Final Vol.(ml)	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	1594.4	6.3%	ND	10832.410 ✓	12953.230 ✓
Acetaldehyde	100.00	1583.3	5.6%	ND	3205.830	2841.290
Propionaldehyde	100.00	1546.4	3.1%	ND	ND	ND
Crotonaldehyde	100.00	1572.5	4.8%	ND	ND	ND
Butyraldehyde	100.00	1597.3	6.5%	ND	ND	ND
Benzaldehyde	100.00	1527.4	1.8%	ND	ND	1570.680
Isovaleraldehyde	100.00	1571.7	4.8%	ND	ND	ND
Valeraldehyde	100.00	1490.8	0.6%	ND	1940.380	2300.600
o-Tolualdehyde	100.00	1521.0	1.4%	ND	ND	ND
m,p-Tolualdehyde	200.00	3112.3	3.7%	ND	ND	ND
Hexaldehyde	100.00	1619.8	8.0%	ND	10029.080 ✓	12300.260 ✓
2,5-Dimethylbenzaldehyde	100.00	1686.2	12.4%	ND	ND	ND

	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
Formaldehyde			NA	102.193	126.992	123.778
Acetaldehyde			NA	30.244	27.562	29.065
Propionaldehyde			NA	ND	ND	ND
Crotonaldehyde			NA	ND	ND	ND
Butyraldehyde			NA	ND	ND	ND
Benzaldehyde			NA	ND	15.399	13.043
Isovaleraldehyde			NA	ND	ND	ND
Valeraldehyde			NA	18.022	22.555	22.947
o-Tolualdehyde			NA	ND	ND	ND
m,p-Tolualdehyde			NA	ND	ND	ND
Hexaldehyde			NA	94.614	120.591	124.077
2,5-Dimethylbenzaldehyde			NA	ND	ND	ND

	ppb	ppb	ppb	ppb	ppb	ppb
Formaldehyde			NA	83.238	103.438	100.819
Acetaldehyde			NA	16.794	15.304	16.139
Propionaldehyde			NA	ND	ND	ND
Crotonaldehyde			NA	ND	ND	ND
Butyraldehyde			NA	ND	ND	ND
Benzaldehyde			NA	ND	3.549	3.006
Isovaleraldehyde			NA	ND	ND	ND
Valeraldehyde			NA	5.118	6.405	6.508
o-Tolualdehyde			NA	ND	ND	ND
m,p-Tolualdehyde			NA	ND	ND	ND
Hexaldehyde			NA	23.106	29.449	30.301
2,5-Dimethylbenzaldehyde			NA	ND	ND	ND

COLUMBIA ANALYTICAL SERVICES

TO11A Aldehyde & Ketone DNP Analysis by HPLC

Printed : 09/21/09

Instrument : LC#02
 Detector : UV-VIS 360
 Analyst : MD

Date Acquired : 09/16/09
 Sample Amount : 3ul
 Client & PAI Job# : EH & E P0903195B

*Case file
 Report from original run on 9/15/09*

Sample Information	MDL	P0903195-015 front 10x dil	P0903195-016 front 10x dil	P0903195-005 front Rerun	P0903195-024 front Rerun	1500ng/ml TO- 11A S21- 09090903	% Diff	0
Dilution	1.0	10.0	10.0	1.0	1.0	1.0		1.0
Sample Volume (L)	NA	99.00	106.00	106.00	103.00	NA		100.00
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	12644.620	12905.080	ND	ND	1595.075	6.3%	ND
Acetaldehyde	100.00	2754.090	3250.590	ND	3147.345	1580.998	5.4%	ND
Propionaldehyde	100.00	1161.570	1031.920	ND	ND	1542.274	2.8%	ND
Crotonaldehyde	100.00	ND	ND	ND	ND	1578.533	5.2%	ND
Butyraldehyde	100.00	ND	ND	ND	ND	1622.098	8.1%	ND
Benzaldehyde	100.00	1231.410	1454.050	ND	ND	1555.263	3.7%	ND
Isovaleraldehyde	100.00	ND	ND	ND	ND	1560.216	4.0%	ND
Valeraldehyde	100.00	1791.980	2431.970	ND	ND	1512.692	0.8%	ND
o-Tolualdehyde	100.00	ND	ND	ND	ND	1556.619	3.8%	ND
m,p-Tolualdehyde	200.00	ND	ND	ND	ND	3188.679	6.3%	ND
Hexaldehyde	100.00	11736.840	15076.870	ND	ND	1617.077	7.8%	ND
2,5-Dimethylbenzaldehyde	100.00	ND	ND	483.375	ND	1695.716	13.0%	ND

	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
Formaldehyde		127.723	121.746	ND	ND	ND
Acetaldehyde		27.819	30.666	ND	30.557	ND
Propionaldehyde		11.733	9.735	ND	ND	ND
Crotonaldehyde		ND	ND	ND	ND	ND
Butyraldehyde		ND	ND	ND	ND	ND
Benzaldehyde		12.438	13.717	ND	ND	ND
Isovaleraldehyde		ND	ND	ND	ND	ND
Valeraldehyde		18.101	22.943	ND	ND	ND
o-Tolualdehyde		ND	ND	ND	ND	ND
m,p-Tolualdehyde		ND	ND	ND	ND	ND
Hexaldehyde		118.554	142.235	ND	ND	ND
2,5-Dimethylbenzaldehyde		ND	ND	4.560	ND	ND

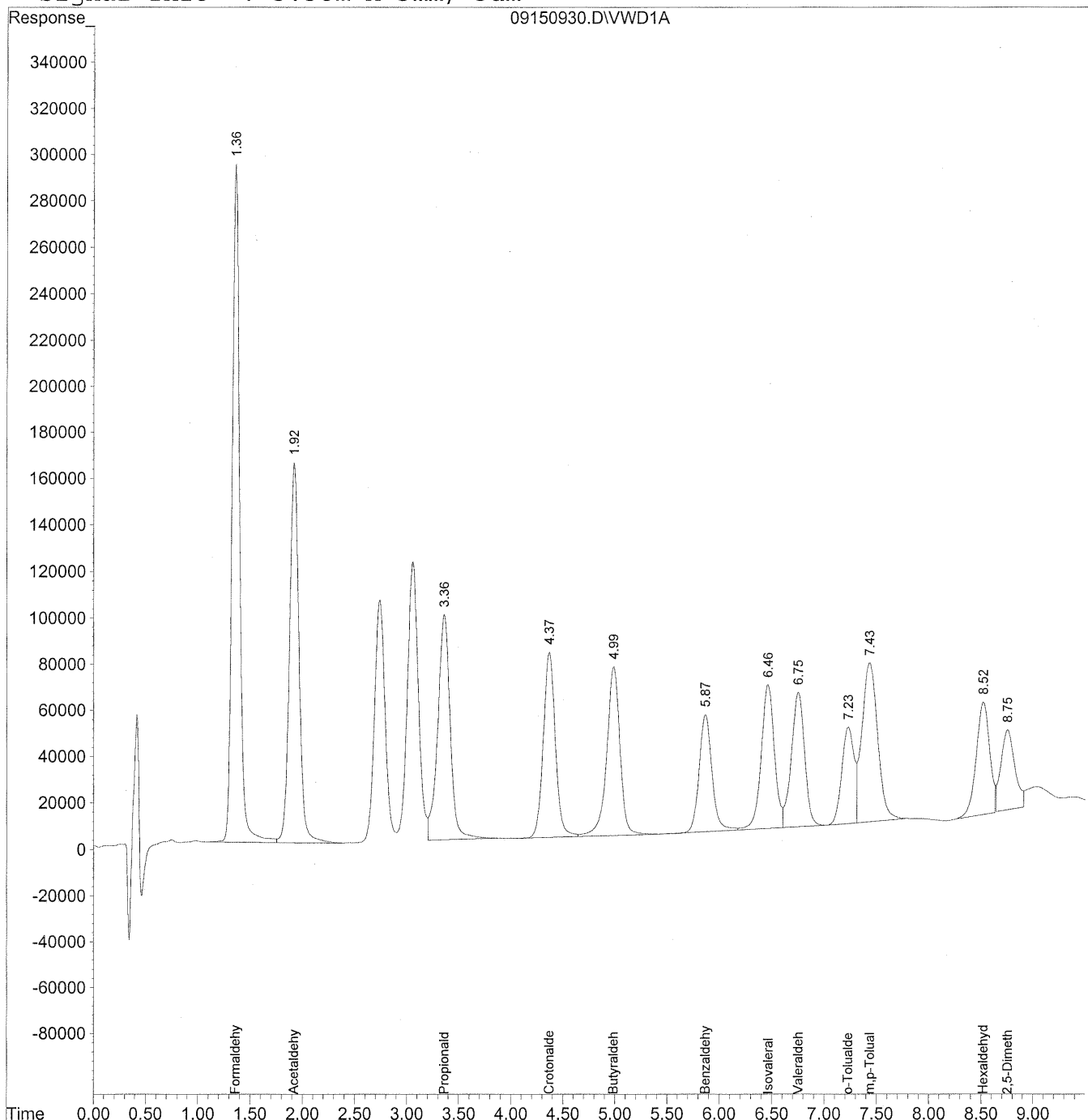
	ppb	ppb	ppb	ppb	ppb	ppb
Formaldehyde		104.033	99.164	ND	ND	ND
Acetaldehyde		15.447	17.028	ND	16.967	ND
Propionaldehyde		4.941	4.100	ND	ND	ND
Crotonaldehyde		ND	ND	ND	ND	ND
Butyraldehyde		ND	ND	ND	ND	ND
Benzaldehyde		2.867	3.162	ND	ND	ND
Isovaleraldehyde		ND	ND	ND	ND	ND
Valeraldehyde		5.140	6.516	ND	ND	ND
o-Tolualdehyde		ND	ND	ND	ND	ND
m,p-Tolualdehyde		ND	ND	ND	ND	ND
Hexaldehyde		28.952	34.735	ND	ND	ND
2,5-Dimethylbenzaldehyde		ND	ND	0.831	ND	ND

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150930.D Vial: 10
Acq On : 15-Sep-2009, 14:09 Operator: MD
Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 18 11:08 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



533

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150930.D Vial: 10
 Acq On : 15-Sep-2009, 14:09 Operator: MD
 Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 18 11:08 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

HC
9/18/09
(MD)
9/18/09

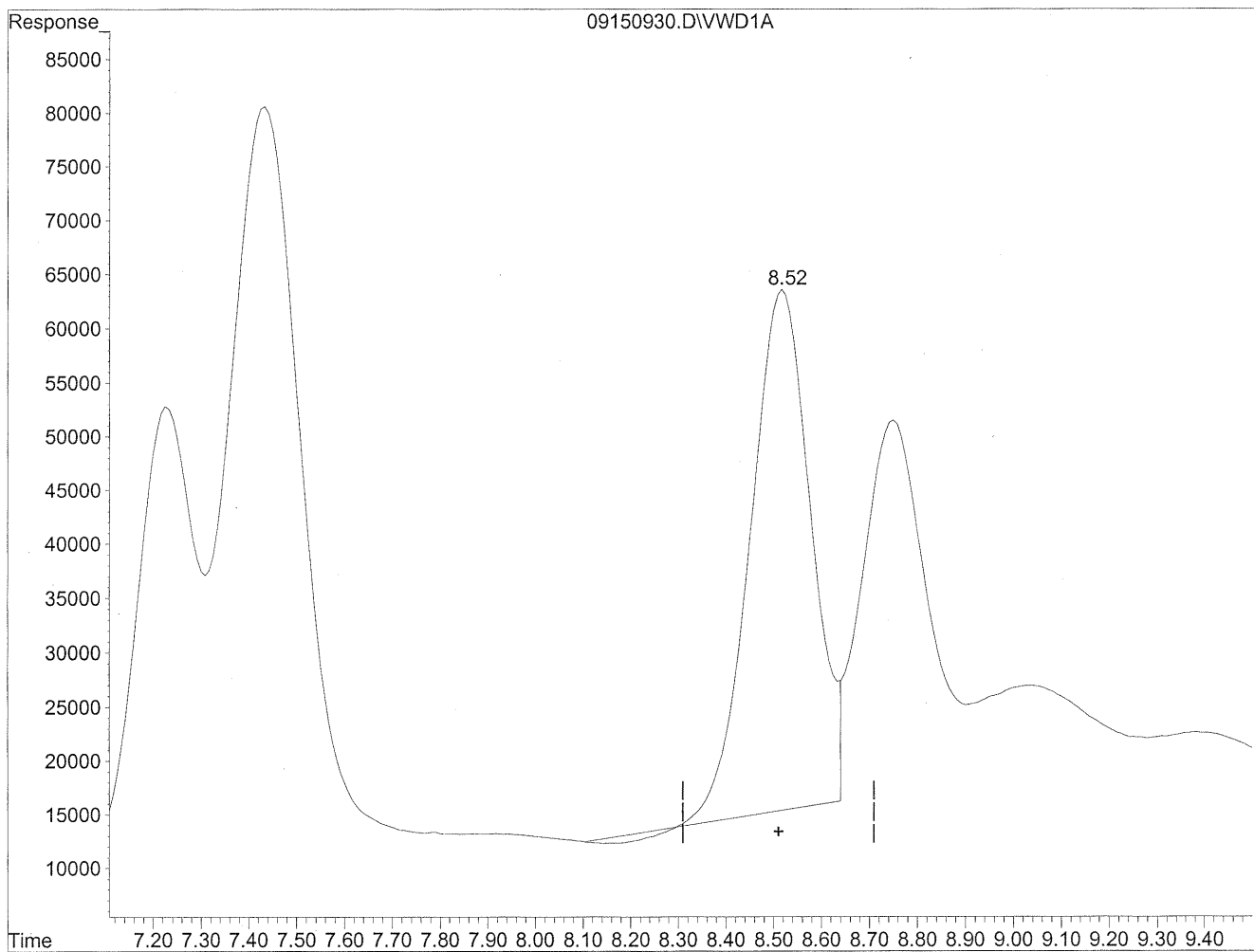
Compound	R.T.	Response	Conc Units

Target Compounds			
1) Formaldehyde	1.36	14443502	1616.430 ng/ml
2) Acetaldehyde	1.92	10351578	1592.355 ng/ml
3) Propionaldehyde	3.36	8103559	1559.029 ng/ml
4) Crotonaldehyde	4.37	6418548	1581.090 ng/ml
5) Butyraldehyde	4.99	6468424	1596.051 ng/ml
6) Benzaldehyde	5.87	4272755	1566.042 ng/ml
7) Isovaleraldehyde	6.47	5409368	1571.674 ng/ml
8) Valeraldehyde	6.76	5101562	1500.619 ng/ml
9) o-Tolualdehyde	7.23	3395131	1547.066 ng/ml
10) m,p-Tolualdehyde	7.43	7251835	3157.198 ng/ml
11) Hexaldehyde	8.52	4271482	1442.715 ng/mlm
12) 2,5-Dimethylbenzaldehyde	8.75	3240237	1623.779 ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150930.D Vial: 10
Acq On : 15-Sep-2009, 14:09 Operator: MD
Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 15 14:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

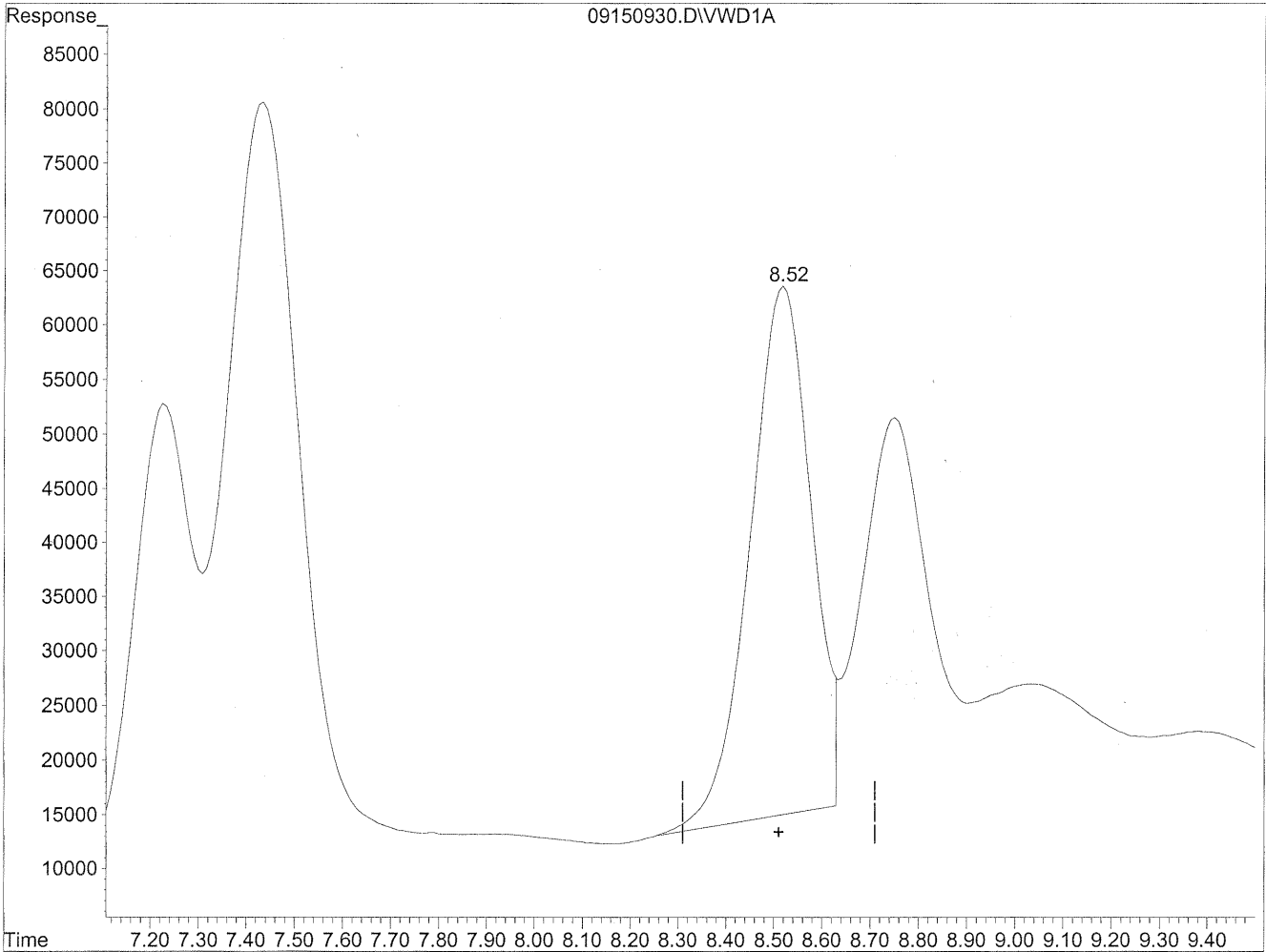


(11) Hexaldehyde
8.52min 1412.963ng/ml
response 4183394

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150930.D Vial: 10
Acq On : 15-Sep-2009, 14:09 Operator: MD
Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 15 14:22 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde
8.52min 1442.715ng/ml m
response 4271482

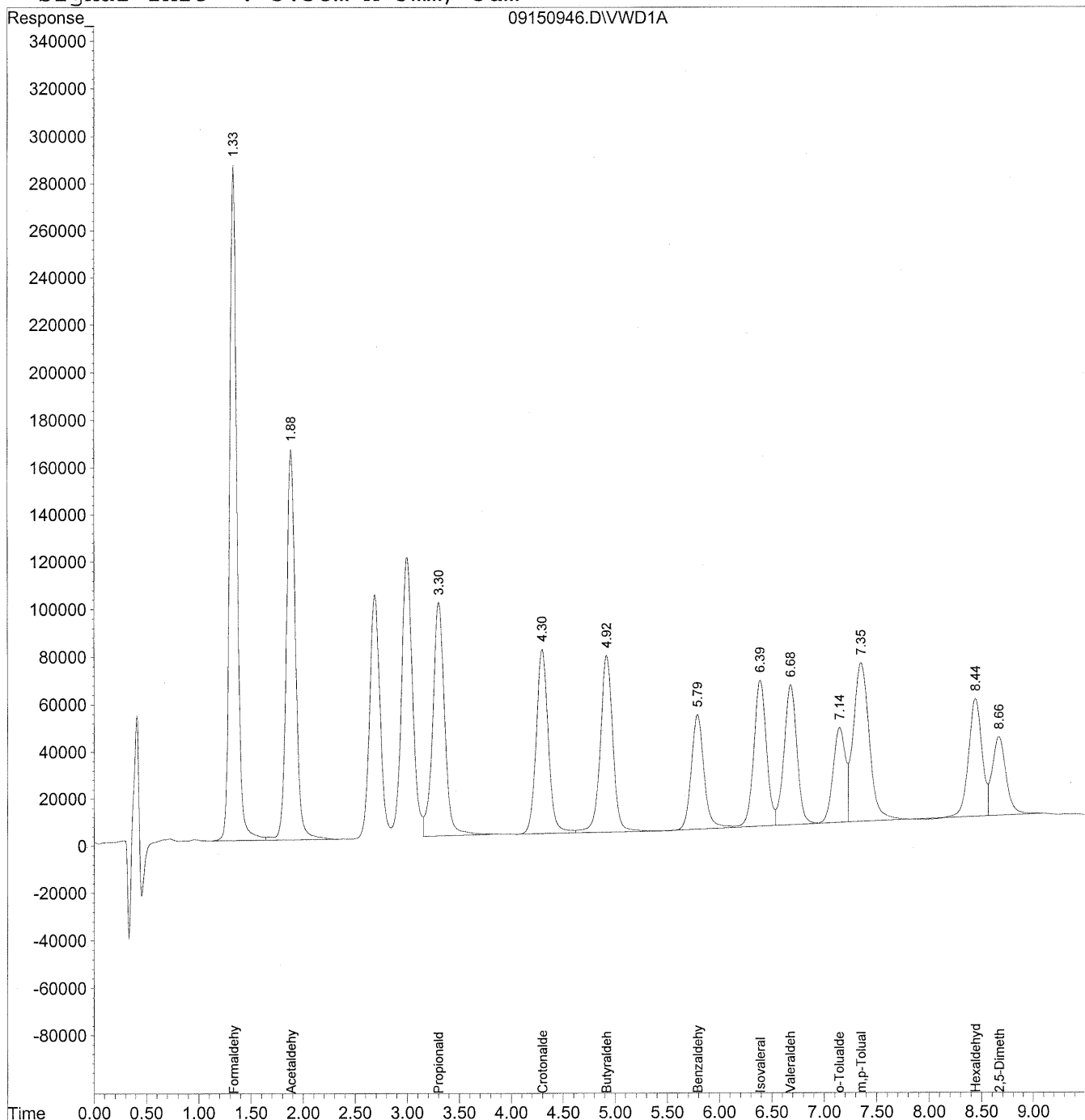
Handwritten notes:
HL
9/18/09
MD
9/18/09
12

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150946.D Vial: 10
Acq On : 15-Sep-2009, 17:20 Operator: MD
Sample : MID CCV 1500ng/ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:08 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150946.D Vial: 10
 Acq On : 15-Sep-2009, 17:20 Operator: MD
 Sample : MID CCV 1500ng/ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 16 8:08 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

Compound	R.T.	Response	Conc Units

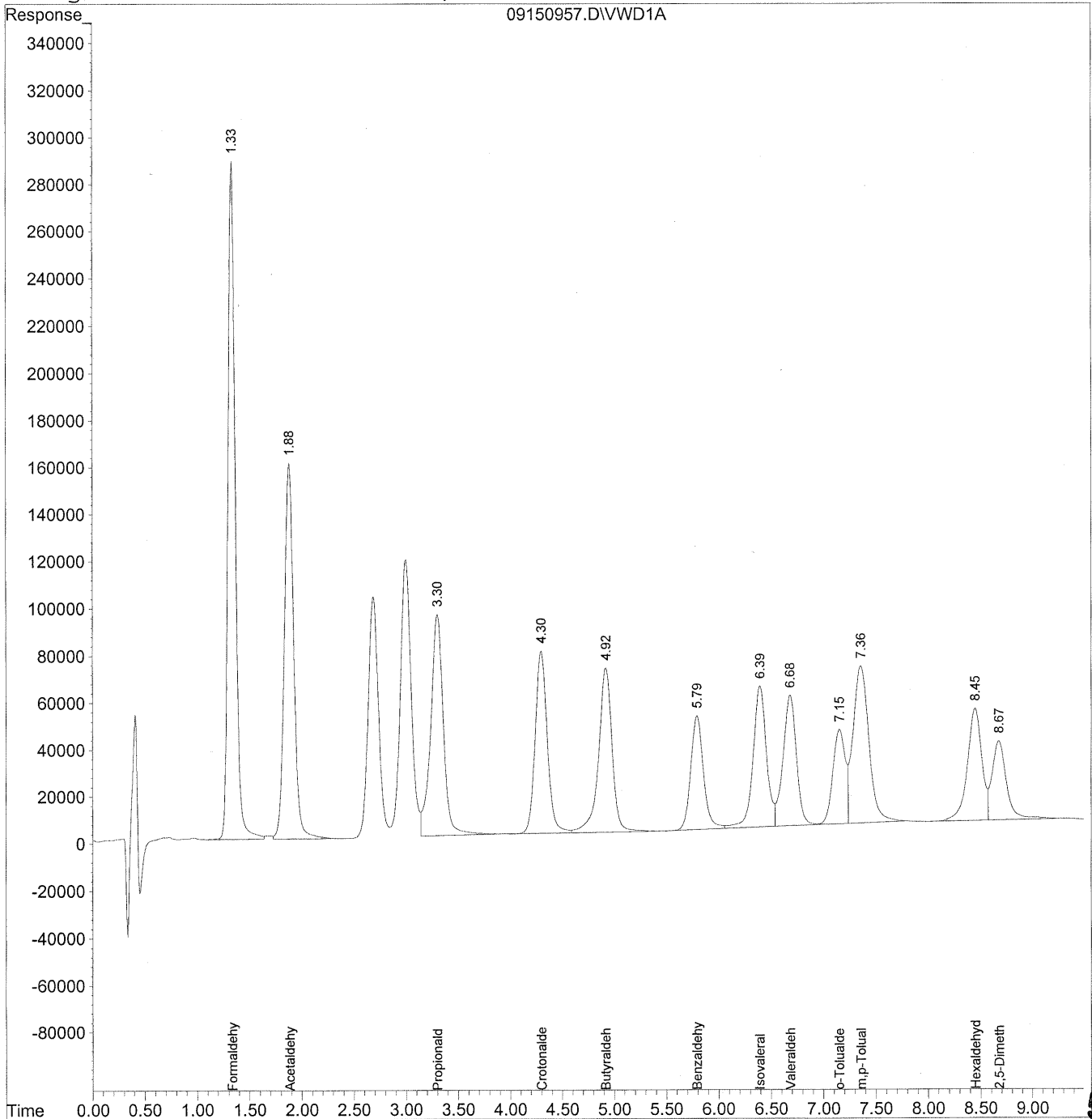
Target Compounds			
1) Formaldehyde	1.34	13807540	1545.257 ng/ml
2) Acetaldehyde	1.89	10066044	1548.432 ng/ml
3) Propionaldehyde	3.31	7856639	1511.525 ng/ml
4) Crotonaldehyde	4.30	6281140	1547.243 ng/ml
5) Butyraldehyde	4.92	6304476	1555.598 ng/ml
6) Benzaldehyde	5.79	4135740	1515.824 ng/ml
7) Isovaleraldehyde	6.39	5214971	1515.192 ng/ml
8) Valeraldehyde	6.68	5065338	1489.963 ng/ml
9) o-Tolualdehyde	7.15	3309994	1508.271 ng/ml
10) m,p-Tolualdehyde	7.35	7152748	3114.058 ng/ml
11) Hexaldehyde	8.44	4396119	1484.812 ng/ml
12) 2,5-Dimethylbenzaldehyde	8.67	3115641	1561.340 ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150957.D Vial: 10
Acq On : 15-Sep-2009, 19:32 Operator: MD
Sample : 1500ng/ml TO-11A S21-0909093 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:08 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



539

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150957.D Vial: 10
 Acq On : 15-Sep-2009, 19:32 Operator: MD
 Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 16 8:08 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

Compound	R.T.	Response	Conc Units

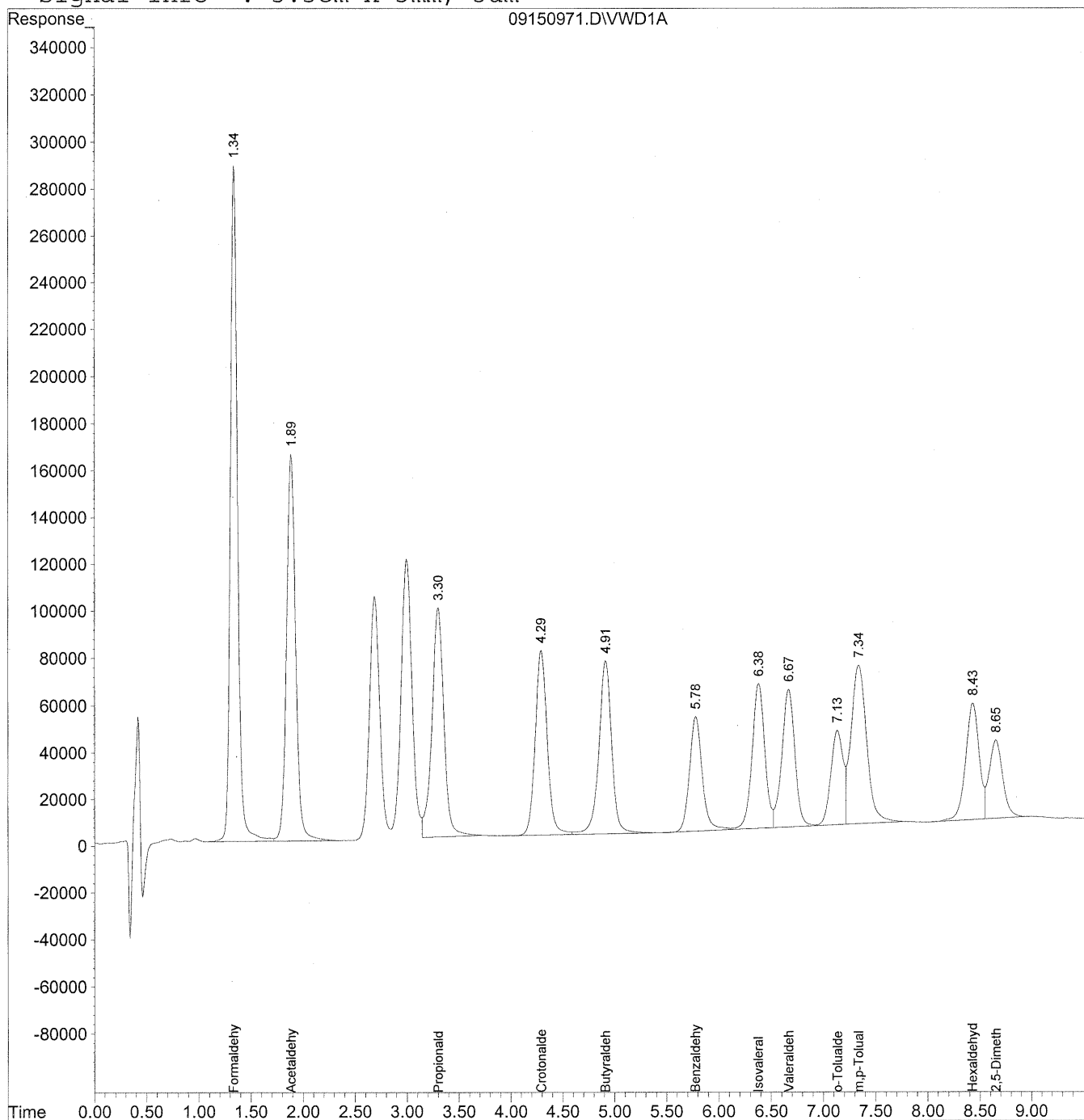
Target Compounds			
1) Formaldehyde	1.34	13769182	1540.965 ng/ml
2) Acetaldehyde	1.88	9958357	1531.867 ng/ml
3) Propionaldehyde	3.30	7948453	1529.189 ng/ml
4) Crotonaldehyde	4.30	6227986	1534.149 ng/ml
5) Butyraldehyde	4.92	6315705	1558.368 ng/ml
6) Benzaldehyde	5.80	4094800	1500.819 ng/ml
7) Isovaleraldehyde	6.40	5375288	1561.772 ng/ml
8) Valeraldehyde	6.68	4951057	1456.348 ng/ml
9) o-Tolualdehyde	7.16	3299326	1503.410 ng/ml
10) m,p-Tolualdehyde	7.36	7105812	3093.625 ng/ml
11) Hexaldehyde	8.45	4532767	1530.966 ng/ml
12) 2,5-Dimethylbenzaldehyde	8.68	3273483	1640.439 ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150971.D Vial: 10
Acq On : 15-Sep-2009, 22:20 Operator: MD
Sample : MID CCV 1500ng/ml Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:09 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



Data File : J:\LC02\DATA\TO11A\2009_09\15\09150971.D Vial: 10
 Acq On : 15-Sep-2009, 22:20 Operator: MD
 Sample : MID CCV 1500ng/ml Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 16 8:09 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

Compound	R.T.	Response	Conc	Units

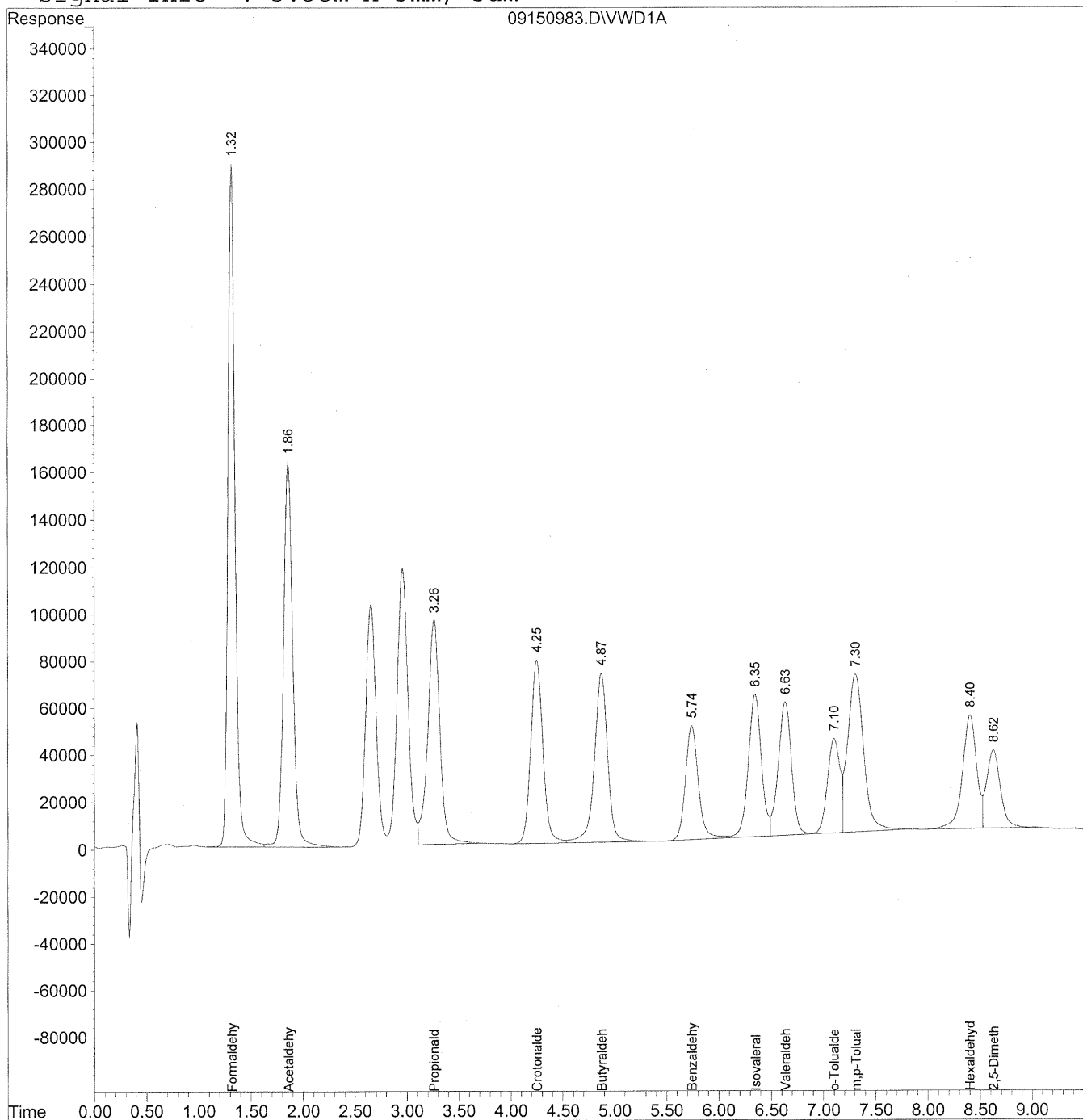
Target Compounds				
1) Formaldehyde	1.34	13901771	1555.803	ng/ml
2) Acetaldehyde	1.89	10008677	1539.608	ng/ml
3) Propionaldehyde	3.30	7832207	1506.824	ng/ml
4) Crotonaldehyde	4.29	6286747	1548.624	ng/ml
5) Butyraldehyde	4.91	6369027	1571.525	ng/ml
6) Benzaldehyde	5.78	4155161	1522.942	ng/ml
7) Isovaleraldehyde	6.38	5247173	1524.548	ng/ml
8) Valeraldehyde	6.67	5097327	1499.373	ng/ml
9) o-Tolualdehyde	7.13	3298021	1502.815	ng/ml
10) m,p-Tolualdehyde	7.34	7155198	3115.125	ng/ml
11) Hexaldehyde	8.43	4456628	1505.249	ng/ml
12) 2,5-Dimethylbenzaldehyde	8.65	3045780	1526.330	ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150983.D Vial: 10
Acq On : 16-Sep-2009, 00:43 Operator: MD
Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 9:53 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 17 16:12:59 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



543

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150983.D Vial: 10
 Acq On : 16-Sep-2009, 00:43 Operator: MD
 Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 9:53 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 17 16:12:59 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

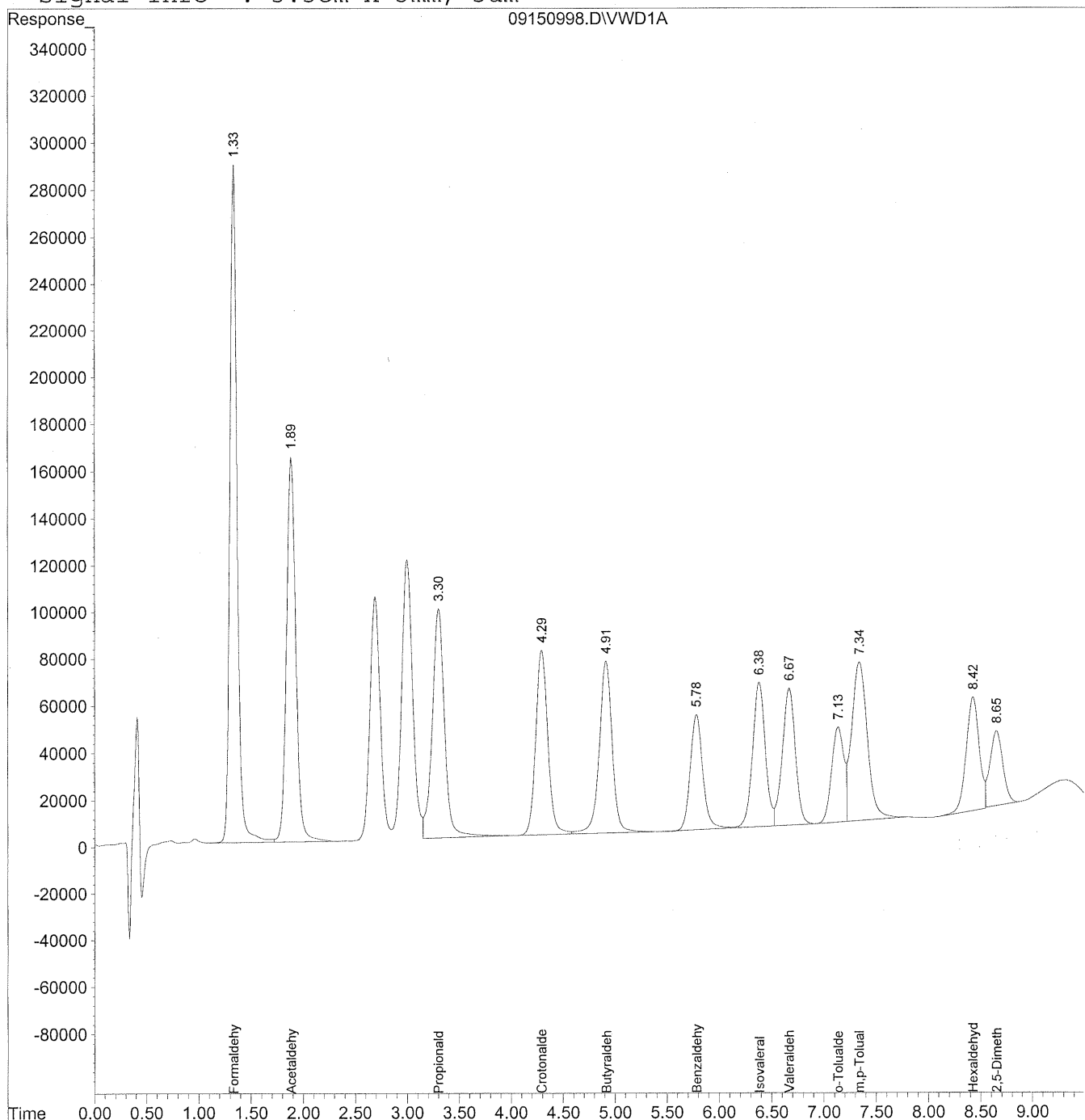
Target Compounds			
1) Formaldehyde	1.32	13732835	1536.897 ng/ml
2) Acetaldehyde	1.86	10007467	1539.421 ng/ml
3) Propionaldehyde	3.27	7796721	1499.997 ng/ml
4) Crotonaldehyde	4.25	6242590	1537.746 ng/ml
5) Butyraldehyde	4.88	6312969	1557.693 ng/ml
6) Benzaldehyde	5.74	4108090	1505.690 ng/ml
7) Isovaleraldehyde	6.35	5216925	1515.760 ng/ml
8) Valeraldehyde	6.64	4944675	1454.471 ng/ml
9) o-Tolualdehyde	7.10	3287897	1498.202 ng/ml
10) m,p-Tolualdehyde	7.31	7128165	3103.356 ng/ml
11) Hexaldehyde	8.40	4500954	1520.220 ng/ml
12) 2,5-Dimethylbenzaldehyde	8.63	3089792	1548.386 ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150998.D Vial: 10
Acq On : 16-Sep-2009, 03:43 Operator: MD
Sample : MID CCV 1500ng/mL Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:17 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 17 16:12:59 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



545

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150998.D Vial: 10
 Acq On : 16-Sep-2009, 03:43 Operator: MD
 Sample : MID CCV 1500ng/mL Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:17 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 17 16:12:59 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

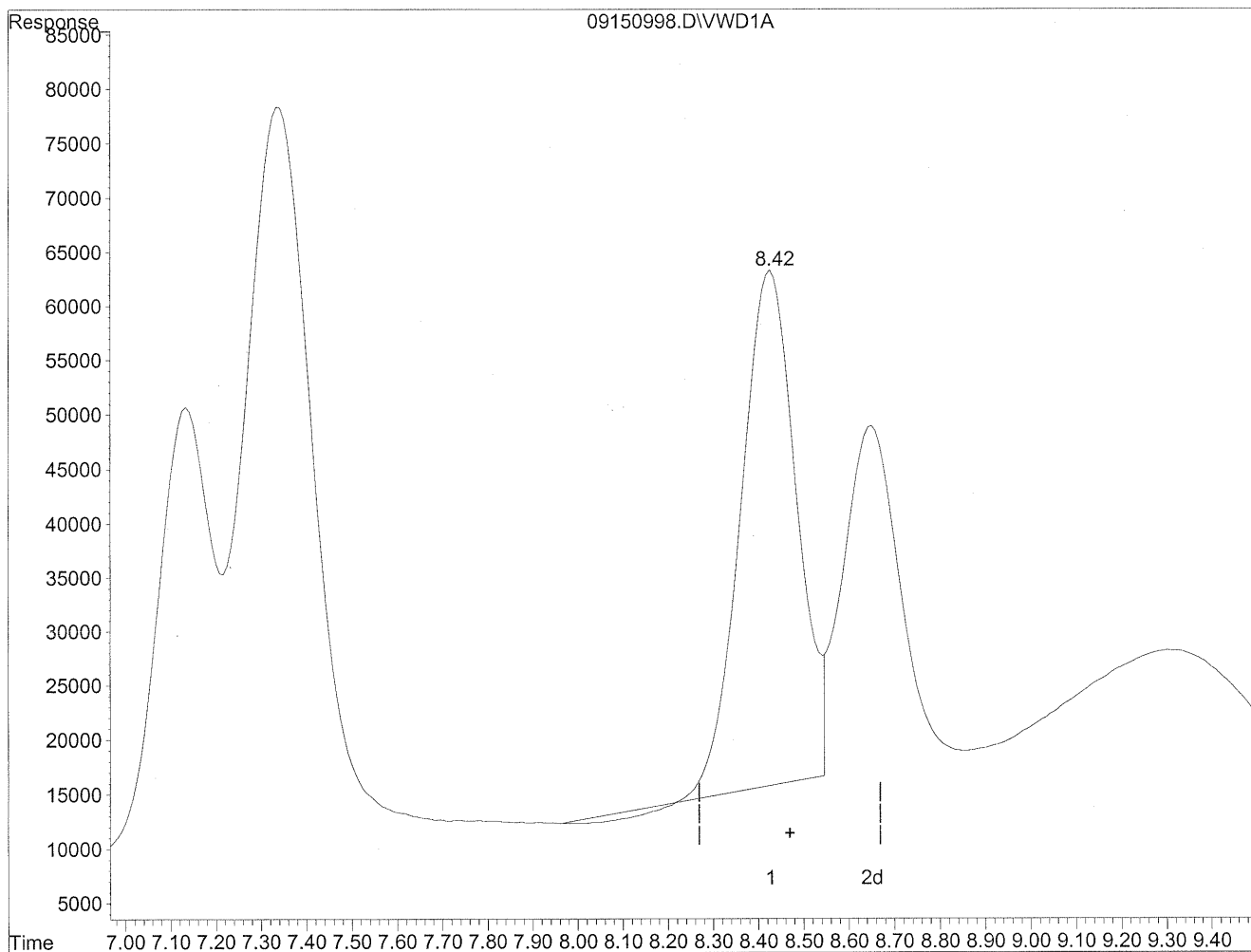
Compound	R.T.	Response	Conc	Units

Target Compounds				
1) Formaldehyde	1.34	13953890	1561.636	ng/ml
2) Acetaldehyde	1.89	10025628	1542.215	ng/ml
3) Propionaldehyde	3.30	7987728	1536.745	ng/ml
4) Crotonaldehyde	4.30	6259636	1541.945	ng/ml
5) Butyraldehyde	4.92	6323701	1560.341	ng/ml
6) Benzaldehyde	5.78	4099089	1502.391	ng/ml
7) Isovaleraldehyde	6.38	5167637	1501.440	ng/ml
8) Valeraldehyde	6.67	4985821	1466.573	ng/ml
9) o-Tolualdehyde	7.14	3247007	1479.570	ng/ml
10) m,p-Tolualdehyde	7.34	7109135	3095.071	ng/ml
11) Hexaldehyde	8.42	4234339	1430.170	ng/mlm
12) 2,5-Dimethylbenzaldehyde	8.65	2719865	1363.005	ng/ml

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150998.D Vial: 10
Acq On : 16-Sep-2009, 03:43 Operator: MD
Sample : MID CCV 1500ng/mL Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:16 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

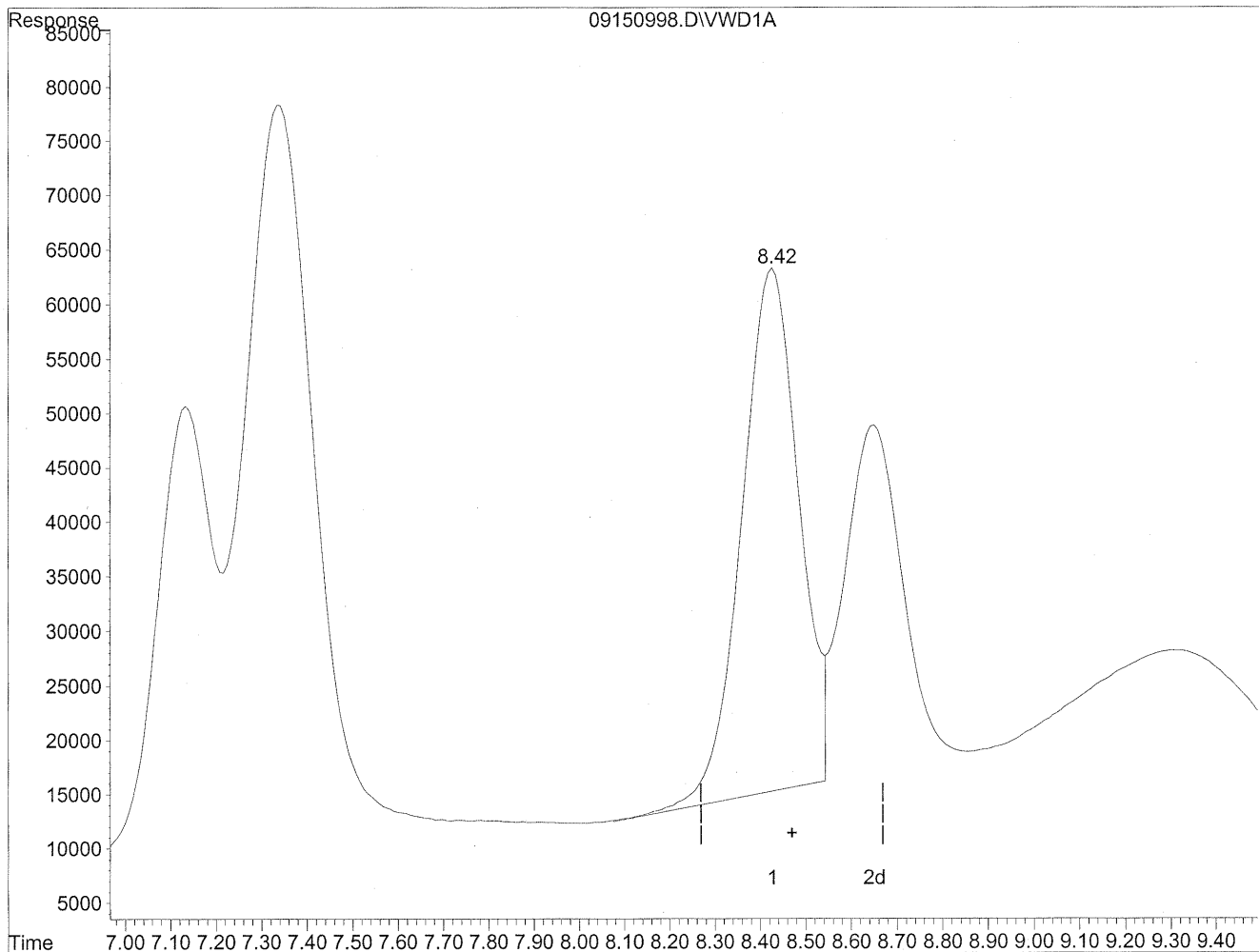


(11) Hexaldehyde
8.43min 1350.502ng/ml
response 3998464

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09150998.D Vial: 10
Acq On : 16-Sep-2009, 03:43 Operator: MD
Sample : MID CCV 1500ng/mL Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:16 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(11) Hexaldehyde
8.42min 1430.170ng/ml m
response 4234339

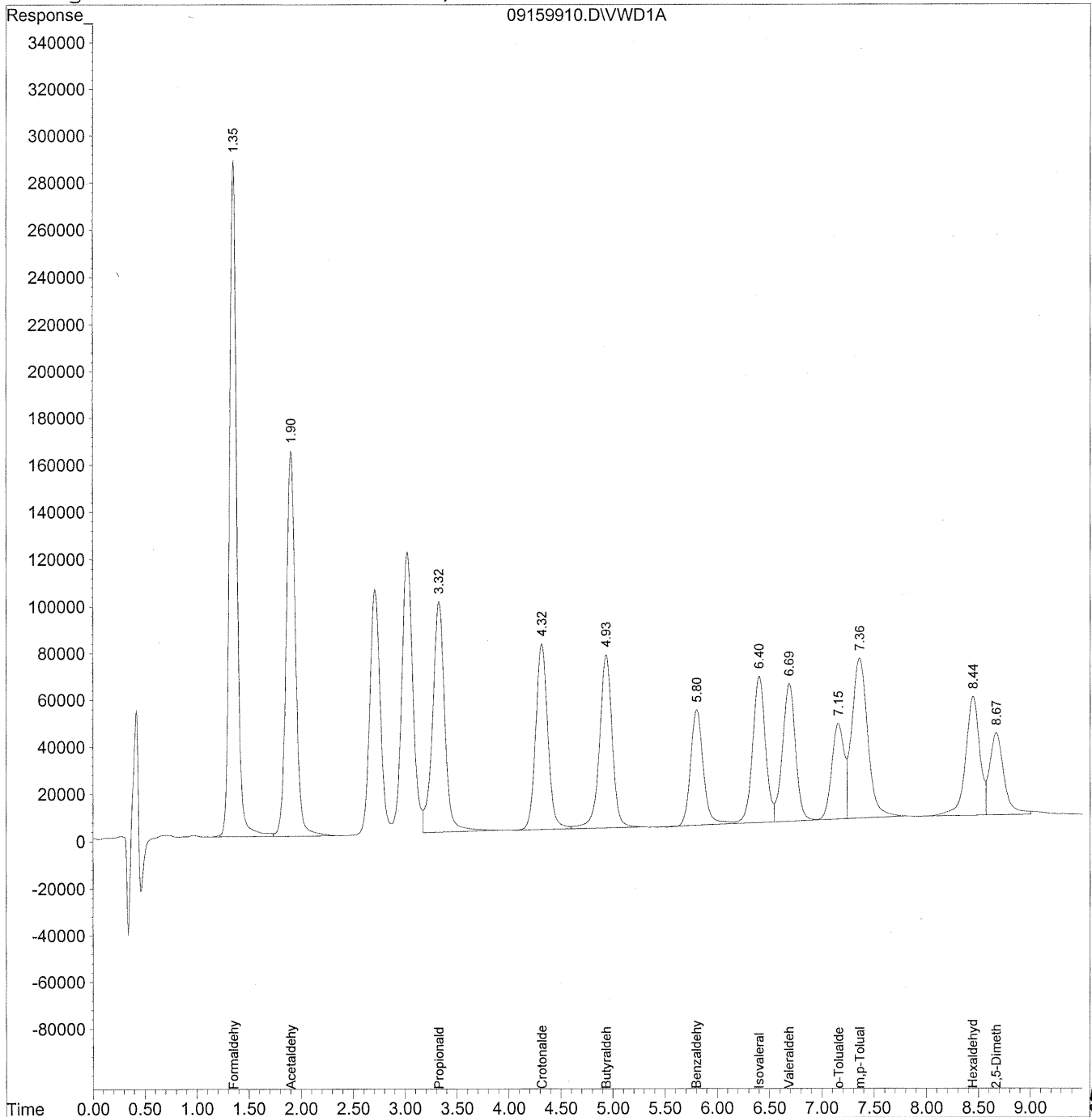
HL
9/21/09
(MD)
9/21/09
12

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159910.D Vial: 10
Acq On : 16-Sep-2009, 05:43 Operator: MD
Sample : 1500ng/ml end std Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 21 10:59 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



549

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159910.D Vial: 10
 Acq On : 16-Sep-2009, 05:43 Operator: MD
 Sample : 1500ng/ml end std Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 21 10:59 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

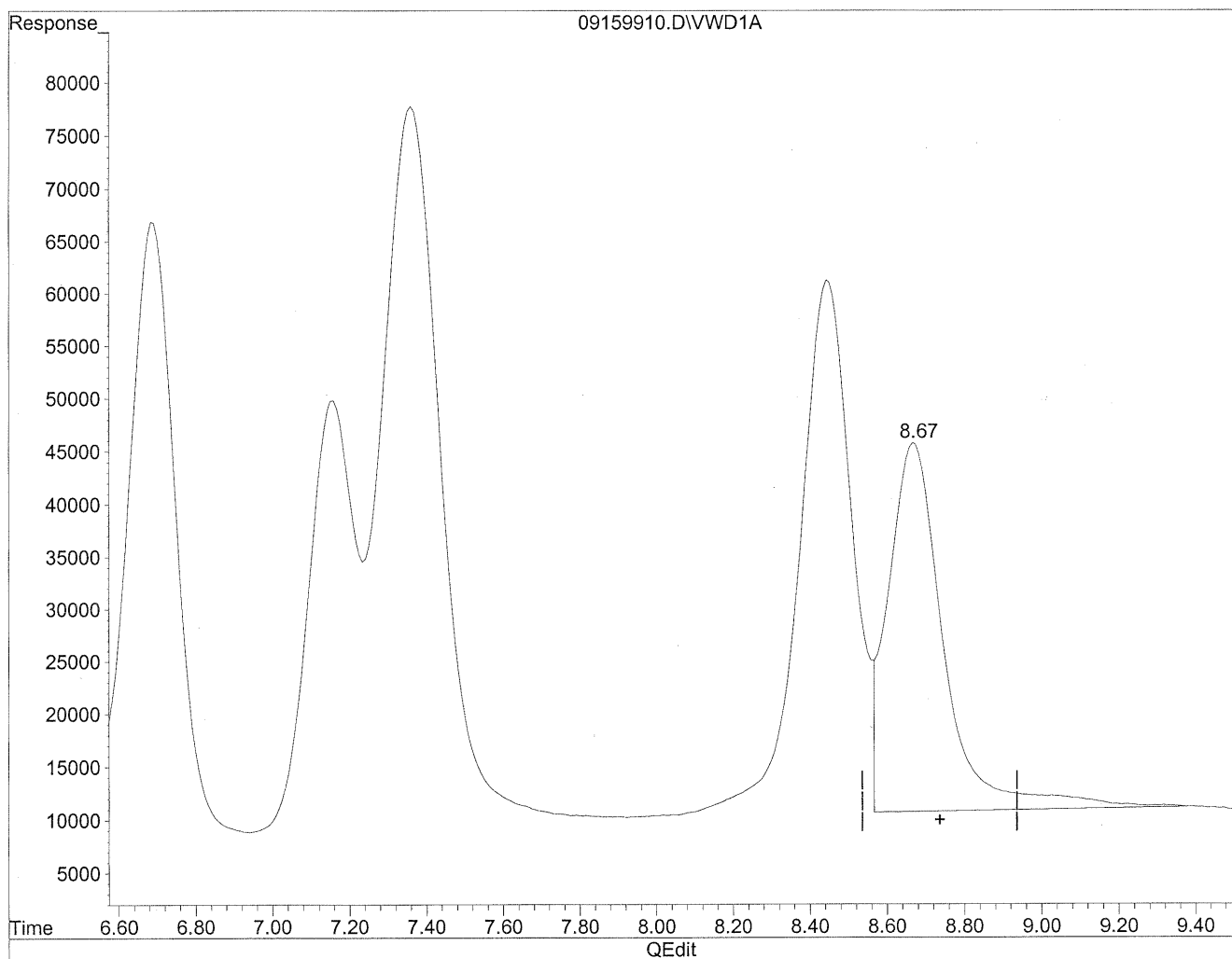
Compound	R.T.	Response	Conc	Units

Target Compounds				
1) Formaldehyde	1.35	14013467	1568.303	ng/ml
2) Acetaldehyde	1.91	10110706	1555.303	ng/ml
3) Propionaldehyde	3.33	7997982	1538.717	ng/ml
4) Crotonaldehyde	4.32	6304246	1552.934	ng/ml
5) Butyraldehyde	4.94	6272108	1547.611	ng/ml
6) Benzaldehyde	5.81	4138201	1516.726	ng/ml
7) Isovaleraldehyde	6.40	5298213	1539.378	ng/ml
8) Valeraldehyde	6.69	5051692	1485.949	ng/ml
9) o-Tolualdehyde	7.16	3312961	1509.623	ng/ml
10) m,p-Tolualdehyde	7.36	7221462	3143.975	ng/ml
11) Hexaldehyde	8.45	4748461	1603.817	ng/ml
12) 2,5-Dimethylbenzaldehyde	8.67	3327587	1667.552	ng/mlm

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\15\09159910.D Vial: 10
Acq On : 16-Sep-2009, 05:43 Operator: MD
Sample : 1500ng/ml end std Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:15 19109 Quant Results File: TO110909.RES

Method : J:\LC02\METHODS\TO110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration

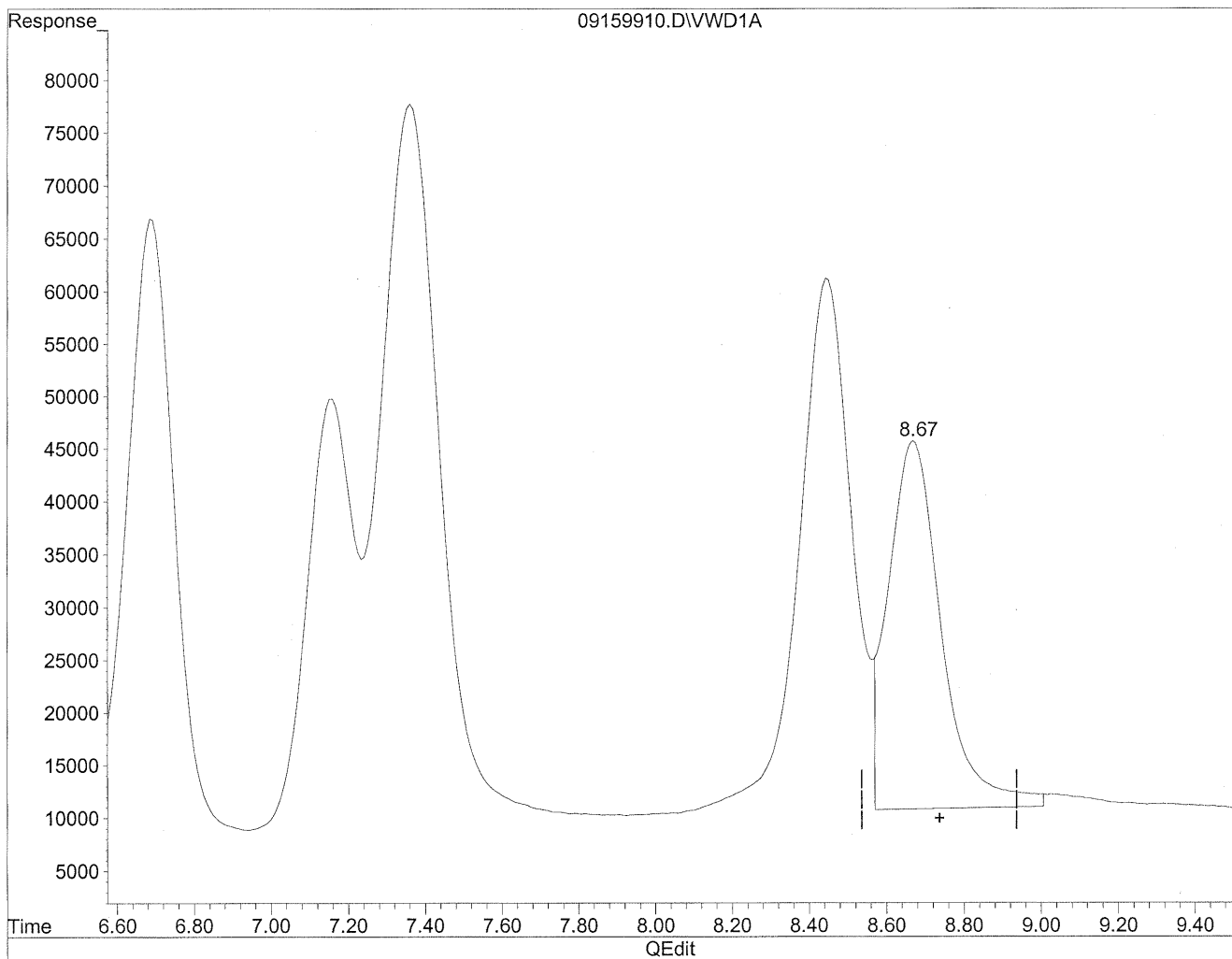


(12) 2,5-Dimethylbenzaldehyde
8.67min 1768.502ng/ml
response 3529031

Quantitation Report

Data File : J:\LC02\DATA\T011A\2009_09\15\09159910.D Vial: 10
Acq On : 16-Sep-2009, 05:43 Operator: MD
Sample : 1500ng/ml end std Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 8:15 19109 Quant Results File: T0110909.RES

Method : J:\LC02\METHODS\T0110909.M (Chemstation Integrator)
Title : LC-1050 TO-11A ICAL
Last Update : Thu Sep 17 16:12:59 2009
Response via : Multiple Level Calibration



(12) 2,5-Dimethylbenzaldehyde

8.67min 1667.552ng/ml m

response 3327587

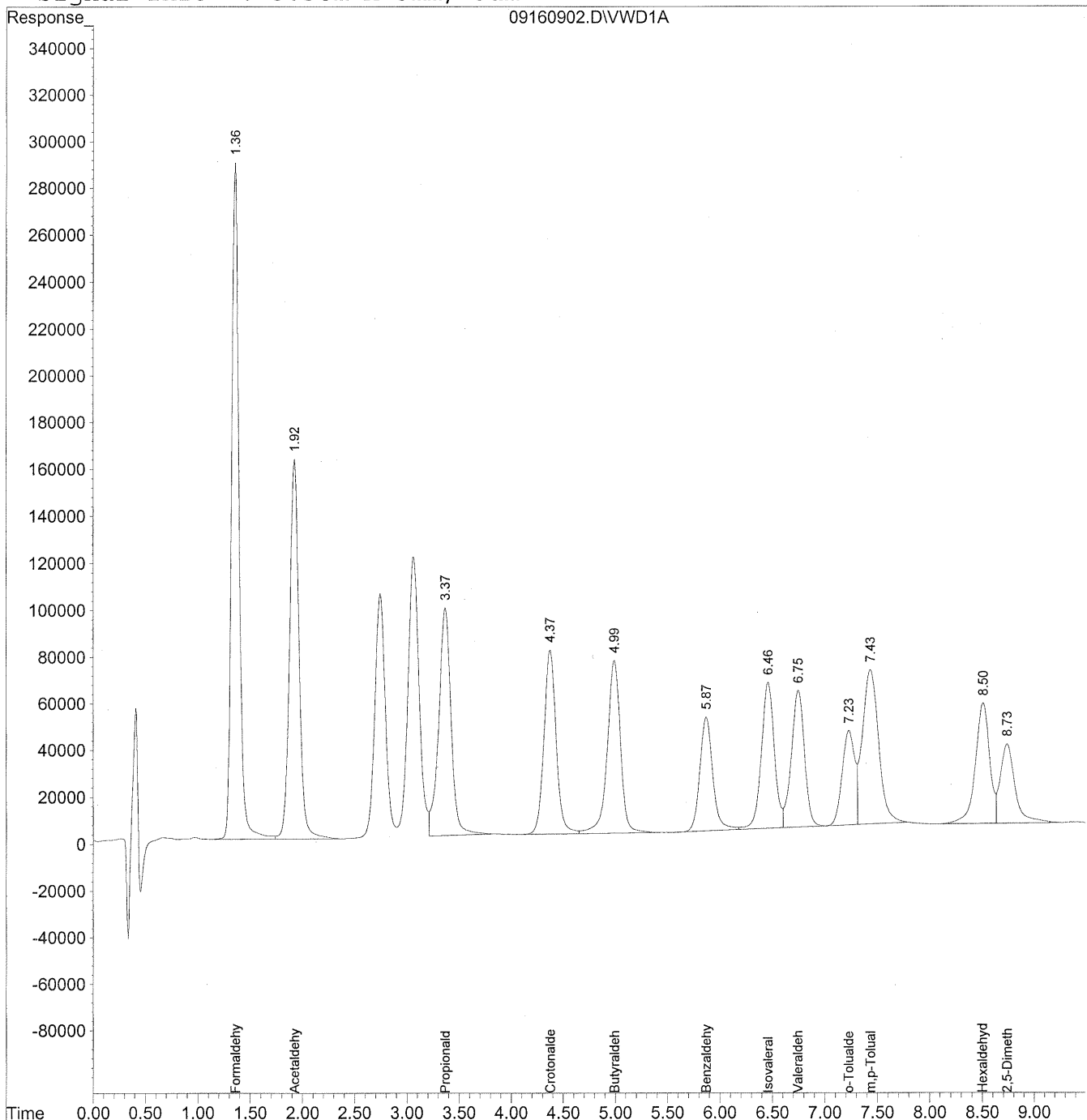
hc
a/21/09
(MD)
a/21/09
SL

Quantitation Report

Data File : J:\LC02\DATA\TO11A\2009_09\16\09160902.D Vial: 10
Acq On : 16-Sep-2009, 11:06 Operator: MD
Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
Misc : Multiplr: 1.00
IntFile : events.e
Quant Time: Sep 16 11:26 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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Data File : J:\LC02\DATA\TO11A\2009_09\16\09160902.D Vial: 10
 Acq On : 16-Sep-2009, 11:06 Operator: MD
 Sample : 1500ng/ml TO-11A S21-09090903 Inst : VWD
 Misc : Multiplr: 1.00
 IntFile : events.e
 Quant Time: Sep 16 11:26 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

Compound	R.T.	Response	Conc Units

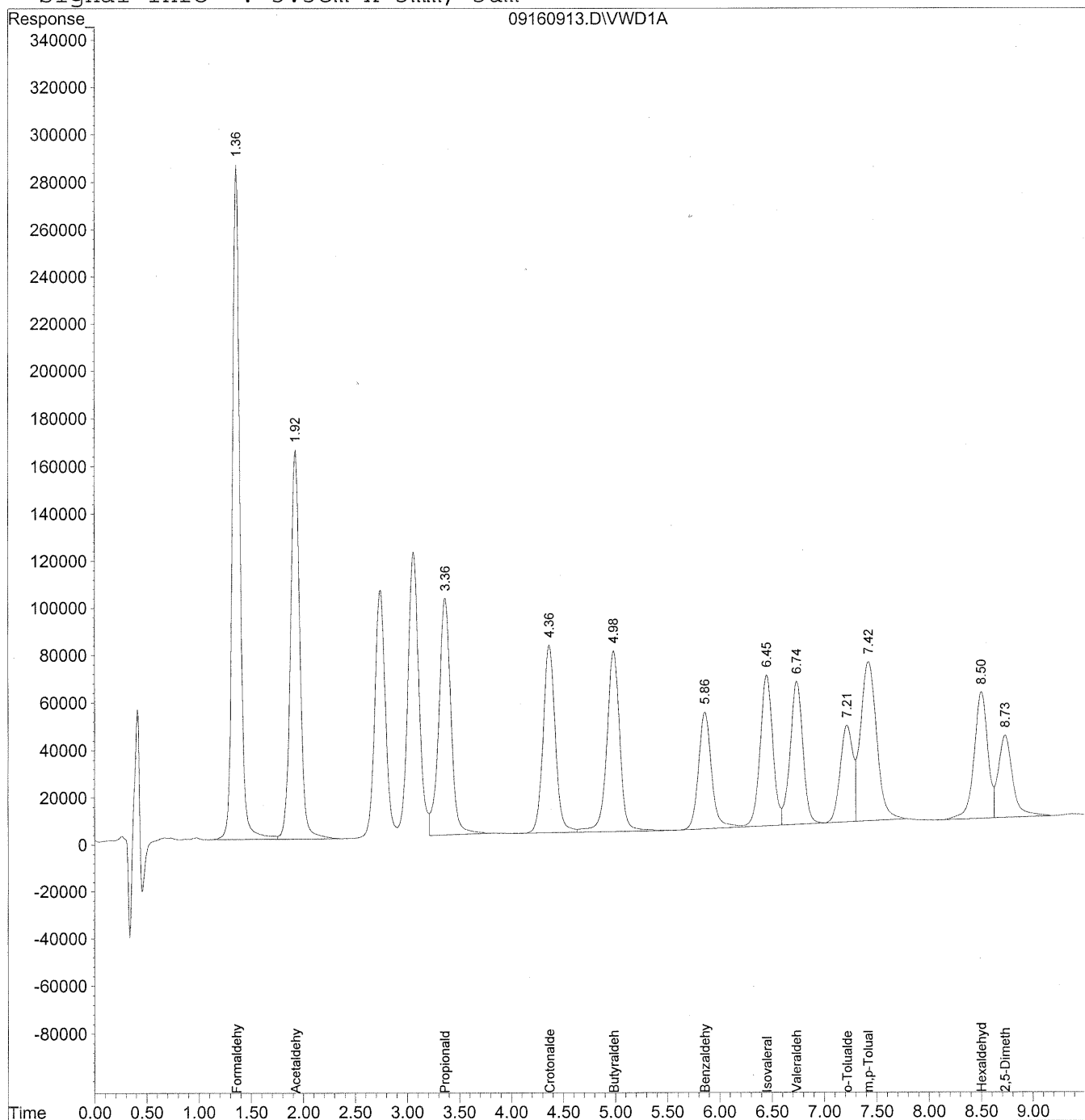
Target Compounds			
1) Formaldehyde	1.36	14246431	1594.375 ng/ml
2) Acetaldehyde	1.93	10292886	1583.327 ng/ml
3) Propionaldehyde	3.37	8038116	1546.439 ng/ml
4) Crotonaldehyde	4.38	6383622	1572.487 ng/ml
5) Butyraldehyde	4.99	6473640	1597.338 ng/ml
6) Benzaldehyde	5.87	4167382	1527.421 ng/ml
7) Isovaleraldehyde	6.46	5409590	1571.738 ng/ml
8) Valeraldehyde	6.75	5068157	1490.792 ng/ml
9) o-Tolualdehyde	7.23	3337833	1520.956 ng/ml
10) m,p-Tolualdehyde	7.44	7148647	3112.273 ng/ml
11) Hexaldehyde	8.51	4795792	1619.804 ng/ml
12) 2,5-Dimethylbenzaldehyde	8.74	3364703	1686.152 ng/ml

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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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

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

RUN LOGS

Injection Log

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

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1		09090901.d	1.			
2		09090902.d	1.			
3	102	09090903.d	1.	TO11 STD TEST		09-Sep-09, 12:4
4	102	09090904.d	1.	TO11 STD TEST		09-Sep-09, 12:5
5	10	09090905.d	1.	TO11 STD TEST		09-Sep-09, 26:1
6	10	09090906.d	1.	TO11 STD TEST		09-Sep-09, 26:3
7	10	09090907.d	1.	ACN BLANK Lot CY331		09-Sep-09, 27:0
8	9	09090908.d	1.	50ng/ml TO-11A S21-09080905		09-Sep-09, 27:2
9	9	09090909.d	1.	50ng/ml TO-11A S21-09080905		09-Sep-09, 27:3
10	9	09090910.d	1.	50ng/ml TO-11A S21-09080905		09-Sep-09, 27:4
11	8	09090911.d	1.	100ng/ml TO-11A S21-09080904		09-Sep-09, 27:5
12	8	09090912.d	1.	100ng/ml TO-11A S21-09080904		09-Sep-09, 28:0
13	8	09090913.d	1.	100ng/ml TO-11A S21-09080904		09-Sep-09, 28:1
14	7	09090914.d	1.	500ng/ml TO-11A S21-09080903		09-Sep-09, 28:2
15	7	09090915.d	1.	500ng/ml TO-11A S21-09080903		09-Sep-09, 28:4
16	7	09090916.d	1.	500ng/ml TO-11A S21-09080903		09-Sep-09, 28:5
17	6	09090917.d	1.	1500ng/ml TO-11A S21-09090903		09-Sep-09, 29:0
18	6	09090918.d	1.	1500ng/ml TO-11A S21-09090903		09-Sep-09, 29:1
19	6	09090919.d	1.	1500ng/ml TO-11A S21-09090903		09-Sep-09, 29:2
20	5	09090920.d	1.	5000ng/ml TO-11A S21-09080902		09-Sep-09, 29:3
21	5	09090921.d	1.	5000ng/ml TO-11A S21-09080902		09-Sep-09, 29:4
22	5	09090922.d	1.	5000ng/ml TO-11A S21-09080902		09-Sep-09, 30:0
23	4	09090923.d	1.	10000ng/ml TO-11A S21-09080901		09-Sep-09, 30:1
24	4	09090924.d	1.	10000ng/ml TO-11A S21-09080902		09-Sep-09, 30:2
25	4	09090925.d	1.	10000ng/ml TO-11A S21-09080902		09-Sep-09, 30:3
26	3	09090926.d	1.	~1500ng/ml TO-11A ICV S21-07270907		09-Sep-09, 30:4
27	3	09090927.d	1.	~1500ng/ml TO-11A ICV S21-07270907		09-Sep-09, 30:5
28	3	09090928.d	1.	~1500ng/ml TO-11A ICV S21-07270907		09-Sep-09, 31:0

> injected ICV 3x
 by mistake (mk)
 9/10/09

Injection Log

Directory: j:\lc02\data\to11a\2009_09\15

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	10	09150901.d	1.	prime		15-Sep-09, 20:2
2	10	09150902.d	1.	1500ng/ml TO-11A S21-09090903		15-Sep-09, 20:3
3	9	09150903.d	1.	ACN blank Lot CY331		15-Sep-09, 20:4
4	101	09150904.d	1.	MB-3 front 1.0ml lot 5855/5994		15-Sep-09, 20:5
5	102	09150905.d	1.	MB-3 back 1.0ml lot 5855/5994		15-Sep-09, 21:0
6	103	09150906.d	1.	P0903143-001 back 1.0ml		15-Sep-09, 21:2
7	104	09150907.d	1.	P0903143-002 back 1.0ml		15-Sep-09, 21:3
8	105	09150908.d	1.	P0903143-003 back 1.0ml		15-Sep-09, 21:4
9	106	09150909.d	1.	P0903143-004 back 1.0ml		15-Sep-09, 21:5
10	107	09150910.d	1.	P0903143-005 back 1.0ml		15-Sep-09, 22:0
11	108	09150911.d	1.	P0903143-001 front 1.0ml		15-Sep-09, 22:2
12	109	09150912.d	1.	P0903143-002 front 1.0ml		15-Sep-09, 22:3
13	110	09150913.d	1.	P0903143-003 front 1.0ml		15-Sep-09, 22:4
14	111	09150914.d	1.	P0903143-004 front 1.0ml		15-Sep-09, 22:5
15	112	09150915.d	1.	P0903143-005 front 1.0ml		15-Sep-09, 23:0
16	10	09150916.d	1.	MID CCV 1500ng/ml		15-Sep-09, 23:2
17	9	09150917.d	1.	ACN blank lot CY331		15-Sep-09, 23:3
18	113	09150918.d	1.	MB-4 front 1.0ml lot 5855/5994		15-Sep-09, 23:4
19	114	09150919.d	1.	MB-4 back 1.0ml lot 5855/5994		15-Sep-09, 23:5
20	115	09150920.d	1.	P0903144-001 back 1.0ml		15-Sep-09, 12:0
21	116	09150921.d	1.	P0903144-002 back 1.0ml		15-Sep-09, 12:2
22	117	09150922.d	1.	P0903144-003 back 1.0ml		15-Sep-09, 12:3
23	118	09150923.d	1.	P0903144-004 back 1.0ml		15-Sep-09, 12:4
24	119	09150924.d	1.	P0903144-005 back 1.0ml		15-Sep-09, 12:5
25	120	09150925.d	1.	P0903144-006 back 1.0ml		15-Sep-09, 25:0
26	121	09150926.d	1.	P0903144-007 back 1.0ml		15-Sep-09, 25:2
27	122	09150927.d	1.	P0903144-001 front 1.0ml		15-Sep-09, 25:3
28	123	09150928.d	1.	P0903144-002 front 1.0ml		15-Sep-09, 25:4
29	124	09150929.d	1.	P0903144-003 front 1.0ml		15-Sep-09, 25:5
30	10	09150930.d	1.	1500ng/ml TO-11A S21-09090903		15-Sep-09, 26:0
31	9	09150931.d	1.	ACN blank lot CY331		15-Sep-09, 26:2
32	125	09150932.d	1.	P0903144-004 front 1.0ml		15-Sep-09, 26:3
33	126	09150933.d	1.	P0903144-005 front 1.0ml		15-Sep-09, 26:4
34	127	09150934.d	1.	P0903144-006 front 1.0ml		15-Sep-09, 26:5
35	128	09150935.d	1.	P0903144-007 front 1.0ml		15-Sep-09, 27:0
36	129	09150936.d	1.	QC LOT 6009/6136	DNPH cntrl box # 44 rec'd 8/27/09	15-Sep-09, 27:0
37	130	09150937.d	1.	MB-1 front 1.0ml lot 5855/5994	9/14	15-Sep-09, 27:2
38	131	09150938.d	1.	MB-1 back 1.0ml lot 5855/5994	9/14	15-Sep-09, 27:3
39	132	09150939.d	1.	P0903198-002 back 1.0ml		15-Sep-09, 27:4
40	133	09150940.d	1.	P0903198-004 back 1.0ml		15-Sep-09, 27:5
41	134	09150941.d	1.	P0903198-006 back 1.0ml		15-Sep-09, 28:0
42	135	09150942.d	1.	P0903198-002 front 1.0ml		15-Sep-09, 28:2
43	136	09150943.d	1.	P0903198-004 front 1.0ml		15-Sep-09, 28:3
44	137	09150944.d	1.	P0903198-006 front 1.0ml		15-Sep-09, 28:4
45	9	09150945.d	1.	acn blank		15-Sep-09, 28:5
46	10	09150946.d	1.	MID CCV 1500ng/ml		15-Sep-09, 29:0
47	140	09150947.d	1.	P0903195-001 back 1.0ml		15-Sep-09, 29:2
48	141	09150948.d	1.	P0903195-002 back 1.0ml		15-Sep-09, 29:3
49	142	09150949.d	1.	P0903195-003 back 1.0ml		15-Sep-09, 29:4
50	143	09150950.d	1.	P0903195-004 back 1.0ml		15-Sep-09, 29:5
51	144	09150951.d	1.	P0903195-005 back 1.0ml		15-Sep-09, 30:0
52	145	09150952.d	1.	P0903195-006 back 1.0ml		15-Sep-09, 30:2
53	146	09150953.d	1.	P0903195-007 back 1.0ml		15-Sep-09, 30:3
54	147	09150954.d	1.	P0903195-008 back 1.0ml		15-Sep-09, 30:4
55	148	09150955.d	1.	P0903195-009 back 1.0ml		15-Sep-09, 30:5
56	149	09150956.d	1.	P0903195-010 back 1.0ml		15-Sep-09, 31:0

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Injection Log

Directory: j:\lc02\data\to11a\2009_09\15

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
57	10	09150957.d	1.	1500ng/ml TO-11A S21-09090903		15-Sep-09, 31:3
58	9	09150958.d	1.	ACN blank lot CY331		15-Sep-09, 31:4
59	150	09150959.d	1.	P0903195-011 back 1.0ml		15-Sep-09, 31:5
60	151	09150960.d	1.	P0903195-012 back 1.0ml		15-Sep-09, 32:0
61	152	09150961.d	1.	P0903195-013 back 1.0ml		15-Sep-09, 32:2
62	153	09150962.d	1.	P0903195-014 back 1.0ml		15-Sep-09, 32:3
63	138	09150963.d	1.	MB-2 front 1.0ml lot 5855/5994	9/14	15-Sep-09, 32:4
64	139	09150964.d	1.	MB-2 back 1.0ml lot 5855/5994	9/14	15-Sep-09, 32:5
65	154	09150965.d	1.	P0903195-015 back 1.0ml		15-Sep-09, 33:0
66	155	09150966.d	1.	P0903195-016 back 1.0ml		15-Sep-09, 33:2
67	156	09150967.d	1.	P0903195-017 back 1.0ml		15-Sep-09, 33:3
68	157	09150968.d	1.	P0903195-018 back 1.0ml		15-Sep-09, 33:4
69	158	09150969.d	1.	P0903195-019 back 1.0ml		15-Sep-09, 33:5
70	159	09150970.d	1.	P0903195-020 back 1.0ml		15-Sep-09, 34:0
71	10	09150971.d	1.	MID CCV 1500ng/ml		15-Sep-09, 34:2
72	160	09150972.d	1.	P0903195-021 back 1.0ml		15-Sep-09, 34:3
73	161	09150973.d	1.	P0903195-022 back 1.0ml		15-Sep-09, 34:4
74	162	09150974.d	1.	P0903195-023 back 1.0ml		15-Sep-09, 34:5
75	163	09150975.d	1.	P0903195-024 back 1.0ml		15-Sep-09, 35:0
76	164	09150976.d	1.	P0903195-001 front 1.0ml		15-Sep-09, 35:2
77	165	09150977.d	1.	P0903195-002 front 1.0ml		15-Sep-09, 35:3
78	166	09150978.d	1.	P0903195-003 front 1.0ml #		15-Sep-09, 35:4
79	167	09150979.d	1.	P0903195-004 front 1.0ml		15-Sep-09, 35:5
80	168	09150980.d	1.	P0903195-005 front 1.0ml * See	Re Run 9/16/09	16-Sep-09, 12:0
81	169	09150981.d	1.	P0903195-006 front 1.0ml		16-Sep-09, 12:2
82	9	09150982.d	1.	acn blank		16-Sep-09, 12:3
83	10	09150983.d	1.	1500ng/ml TO-11A S21-09090903		16-Sep-09, 12:4
84	9	09150984.d	1.	ACN blank lot CY331		16-Sep-09, 12:5
85	170	09150985.d	1.	P0903195-007 front 1.0ml		16-Sep-09, 13:0
86	171	09150986.d	1.	P0903195-008 front 1.0ml		16-Sep-09, 13:1
87	172	09150987.d	1.	P0903195-009 front 1.0ml		16-Sep-09, 13:3
88	173	09150988.d	1.	P0903195-010 front 1.0ml		16-Sep-09, 13:4
89	174	09150989.d	1.	MB-3 front 1.0ml lot 5855/5997	9/14	16-Sep-09, 13:5
90	175	09150990.d	1.	MB-3 back 1.0ml lot 5855/5994	9/14	16-Sep-09, 14:0
91	176	09150991.d	1.	P0903195-011 front 1.0ml		16-Sep-09, 14:2
92	177	09150992.d	1.	P0903195-012 front 1.0ml		16-Sep-09, 14:3
93	178	09150993.d	1.	P0903195-013 front 1.0ml #		16-Sep-09, 14:4
94	179	09150994.d	1.	P0903195-014 front 1.0ml #	# require dilution	16-Sep-09, 14:5
95	180	09150995.d	1.	P0903195-015 front 1.0ml #		16-Sep-09, 15:0
96	181	09150996.d	1.	P0903195-016 front 1.0ml #		16-Sep-09, 15:2
97	9	09150997.d	1.	acn blank		16-Sep-09, 15:3
98	10	09150998.d	1.	MID CCV 1500ng/mL		16-Sep-09, 15:4
99	182	09150999.d	1.	P0903195-017 front 1.0ml		16-Sep-09, 15:5
100	183	09159901.d	1.	P0903195-018 front 1.0ml		16-Sep-09, 16:0
101	184	09159902.d	1.	P0903195-019 front 1.0ml		16-Sep-09, 16:2
102	185	09159903.d	1.	P0903195-020 front 1.0ml		16-Sep-09, 16:3
103	186	09159904.d	1.	P0903195-021 front 1.0ml		16-Sep-09, 16:4
104	187	09159905.d	1.	P0903195-022 front 1.0ml		16-Sep-09, 16:5
105	188	09159906.d	1.	P0903195-023 front 1.0ml		16-Sep-09, 17:0
106	189	09159907.d	1.	P0903195-024 front 1.0ml	See Re-run 9/16/09	16-Sep-09, 17:2
107	9	09159908.d	1.	acn blank		16-Sep-09, 17:3
108		09159909.d	1.			
109	10	09159910.d	1.	1500ng/ml end std		16-Sep-09, 17:4

Injection Log

Directory: j:\lc02\data\to11a\2009_09\16

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:C
3	9	09160903.d	1.	ACN blank Lot CY331		16-Sep-09, 23:1
4	8	09160904.d	1.	P0903144-003 front 10x dil		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		16-Sep-09, 23:5
7	5	09160907.d	1.	P0903195-013 front 10x dil		16-Sep-09, 12:C
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:C
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:C
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:C
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:C
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:C
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:C
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:C
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:C
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:C
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, 33:C