DATAMASTER DMT 100159

VERMONT DEPARTMENT OF HEALTH LABORATORY

PERFORMANCE TESTING RESULTS

August 2010

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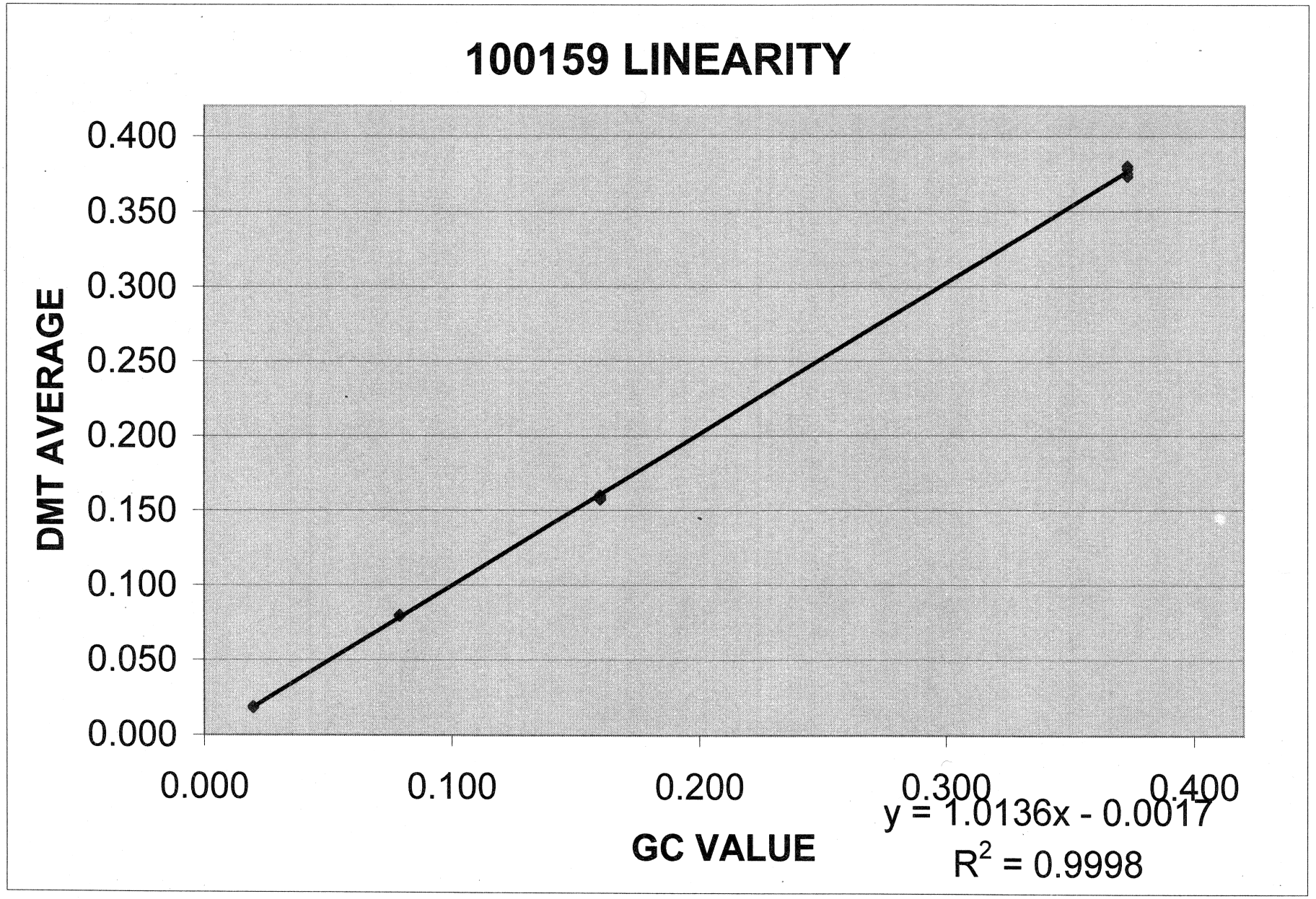
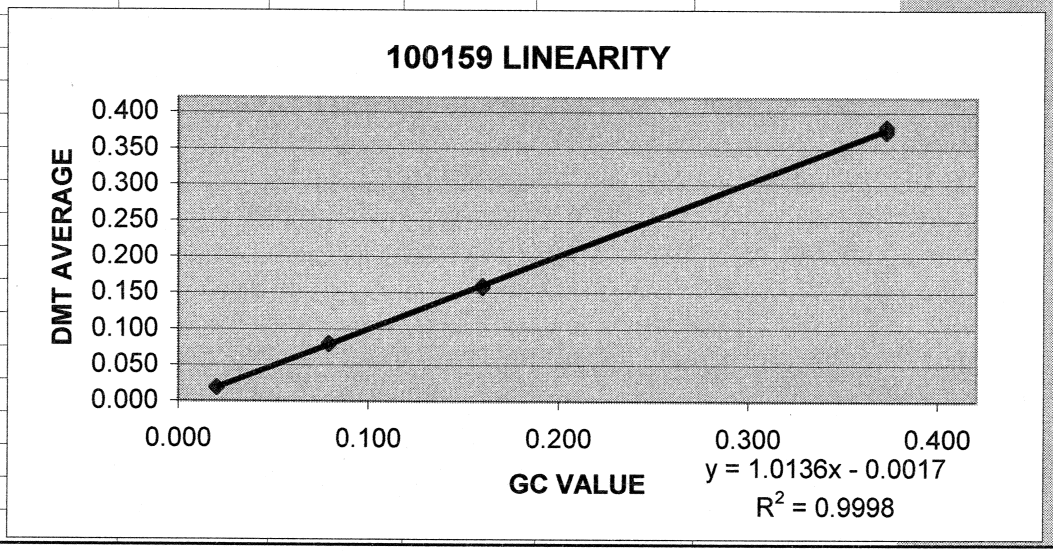
Section 1: Results


100159 LINEARITY
DMT AVERAGE
0.400
0.350
0.300
0.250
0.200
0.150
0.100
0.050
0.000
0.000
0.100
0.200
0.300
0.400
GC VALUE
y = 1.0136x - 0.0017
R2 = 0.9998

Operator	Date	Lot #	GC Value	DMT Result	Std Dev	% Recovery	
ALB	8/26/2010	10-34-020	0.020	0.018	0.0004	90.0	Outside 5%
		10-37-080	0.079	0.080	0.0008	101.3	Outside 10%
		10-31-160	0.160	0.159	0.0007	99.4	
		10-32-400	0.373	0.378	0.0011	101.3	
ALB	8/27/2010	10-34-020	0.020	0.019	0.0004	95.0	
		10-37-080	0.079	0.080	0.0007	101.3	
		10-31-160	0.160	0.160	0.0004	100.0	
		10-32-400	0.373	0.380	0.0009	101.9	
ALB	8/27/2010	10-34-020	0.020	0.019	0.0006	95.0	
		10-37-080	0.079	0.080	0.0004	101.3	
		10-31-160	0.160	0.159	0.0005	99.4	
		10-32-400	0.373	0.378	0.0010	101.3	
ALB	8/30/2010	10-31-160	0.160	0.158	0.0005	98.8	
		10-34-020	0.020	0.018	0.0005	90.0	
		10-32-400	0.373	0.375	0.0013	100.5	
		10-37-080	0.079	0.080	0.0006	101.3	
ALB	8/31/2010	10-31-160	0.160	0.157	0.0009	98.1	
		10-34-020	0.020	0.018	0.0004	90.0	
		10-32-400	0.373	0.373	0.0009	100.0	
		10-37-080	0.079	0.079	0.0006	100.0	
				Average	0.0007	98.3	
				Std Dev	0.0003	4.05	
				Range	0.0004 - 0.0013	90.0 - 101.9	



Operator	Date	Concentration	Lot Number	DMT Result	Apparent EtOH	N = 10
ALB	08/26/10	.01 Acetone in .08 EtOH	10-33-08A	INTERFERENCE	0.08	
ALB	08/26/10	.01 Acetone in .04 EtOH	10-35-04A1	INTERFERENCE	0.04	
ALB	08/26/10	.02 Acetone in .04 EtOH	10-35-04A2	INTERFERENCE	0.04	
ALB	08/26/10	.04 MeOH in water	11-08-04M	9 OUT OF 10	0.02	
ALB	08/26/10	.04 MeOH in .08 EtOH	10-10-08M4	INTERFERENCE	0.1	
ALB	08/26/10	.04 IPA in water	10-26-04I	INTERFERENCE	0.02	
ALB	08/26/10	.04 IPA in .08 EtOH	09-30-08I	INTERFERENCE	0.1	

Section 2: NPAS Tests

CALIBRATION REPORT

DataMaster DMT: 100159
Calibration Date: 06/29/2010
Calibrated by: T T T
Lot: 8765

VERMONT
DEPARTMENT OF HEALTH

```
Ca  =  0.100000
CAL =  0.971698    0.800 <= CAL < 1.200
b1  =  0.000000    0.000 <=  b1 < 0.004
b2  =  0.005966    0.001 <=  b2 < 0.012
b3  =  0.000042    0.000 <=  b3 < 0.004
Xq  =  0.083804    0.050 <=  Xq < 0.200
a21 =  1.179732    1.050 <= a21 < 1.300
a31 =  0.469509    0.300 <= a31 < 0.800
```

Performed by _____ **Date** 06/29/2010

CERTIFICATION REPORT

DataMaster DMT: 100159
Calibration Date: 06/29/2010
Certification Date: 06/29/2010
Certified by: T T T

VERMONT
DEPARTMENT OF HEALTH

Diagnostic Results

VERSIONS
DMT 1.05
PIC 2.06
Modem 1.06
Questions 1.00
Reports 1.02

TEMPERATURES
Sample Chamber = 49.09°C
Breath Tube = 47.80°C

SETTINGS
Lamp Voltage = 2.34 V
Cooler Voltage = 1.69 V
Bias Voltage = 80.4 V
Chopper Freq = 535.2 Hz

PUMP INFO
Flow Rate = 5.586 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX(V)	0.4236	0.4256
MIN(V)	0.4221	0.4242

FILTER INFO
Filter 1 0.426 Zero = true
Filter 2 0.581 Zero = true
Filter 3 0.947 Zero = true

CALIBRATION CHECK
Xq = 0.0839 0.21%

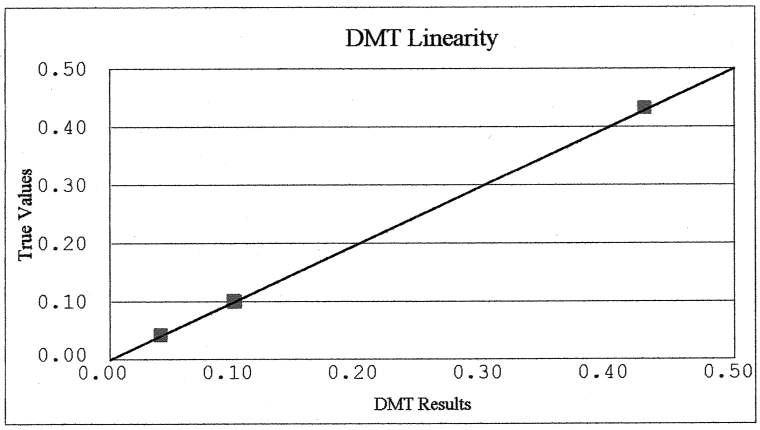
Options

Printer: yes
Number of Copies: 1
Number of Supervisor Tests: 10
Tolerance Check: no
Data Collection: yes
Units: g/210L
Simulator Check: no
Uses Wet Bath Simulator: yes
Simulator Nominal: 0.100
Digital Simulator: none
Simulator Before: yes
Simulator Between: yes
Simulator After: yes
Number of Subject Tests: 2
AskQuestions: yes
Query Refusal: yes
Alcohol Display: yes
Show Two Digits: no
Volume Display: yes
Number of Calibration Tests: 2
Calibrate with Wet Bath: yes
Calibration Nominal: 0.100

Linearity Check Results

True Value	Reported Average	Std Dev
0.042 g/210L Lot # 8I765	0.041 g/210L	0.000
0.100 g/210L Lot # 45678	0.100 g/210L	0.001
0.101 g/210L Lot # 76567	0.099 g/210L	0.001
0.432 g/210L Lot # 58	0.428 g/210L	0.001

$R^2 = 1.0000$



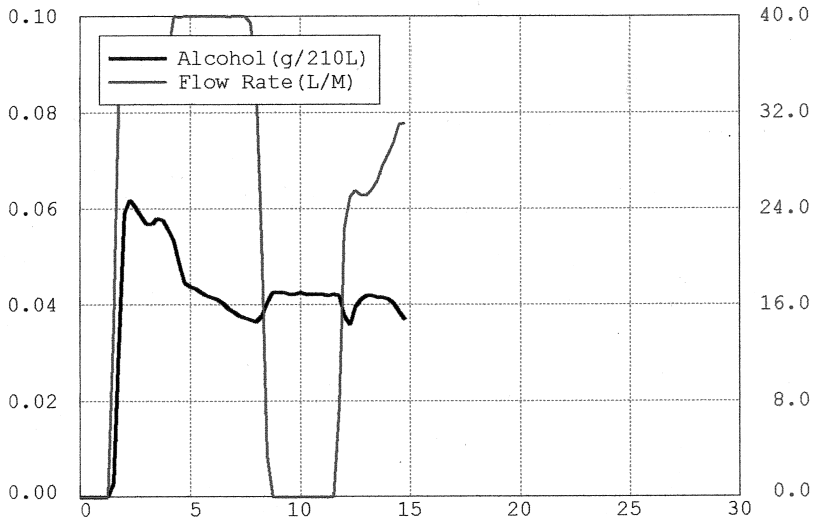
Acetone Interference Test

Lot # 87

Interference Detected

Mouth Alcohol Test

Mouth Alcohol Detected

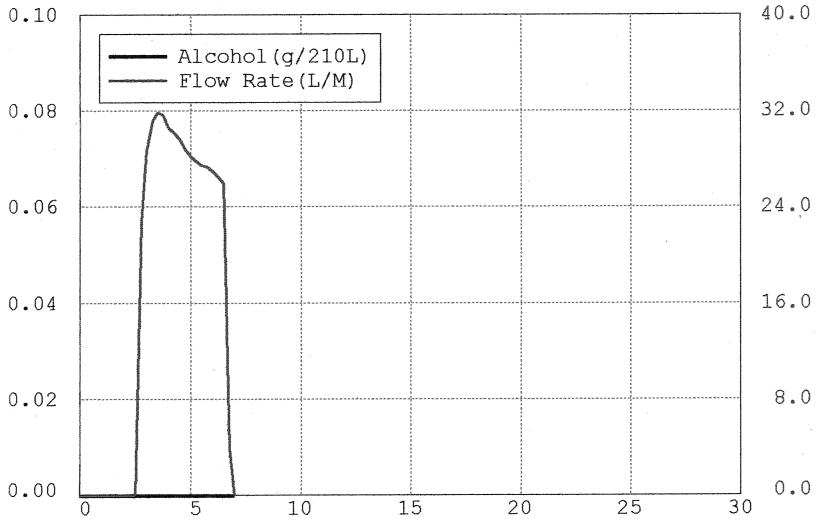


RF Interference Test

RFI detected

Sample Acceptance Test

Passed



CERTIFICATION PASSED

Performed by _____ **Date** 06/29/2010

Reviewed by _____ **Date** _____

INSTALLATION REPORT

DataMaster DMT: 100159
Location: ADDISON COUNTY SO
Calibration Date: 06/29/2010
Certification Date: 06/29/2010
Installation Date: 06/29/2010
Installed By: T T T

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Site meets specification in doc P-ALC-210

Diagnostic Results

VERSIONS
DMT 1.05
PIC 2.06
Modem 1.06
Questions 1.00
Reports 1.02

TEMPERATURES
Sample Chamber = 48.86°C
Breath Tube = 48.09°C

SETTINGS
Lamp Voltage = 2.34 V
Cooler Voltage = 1.69 V
Bias Voltage = 80.4 V
Chopper Freq = 533.8 Hz

PUMP INFO
Flow Rate = 5.640 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX(V)	0.4337	0.4343
MIN(V)	0.4307	0.4305

FILTER INFO
Filter 1 0.435 Zero = true
Filter 2 0.590 Zero = true
Filter 3 0.960 Zero = true

CALIBRATION CHECK
Xq = 0.0838 0.00%

INSTALLATION PASSED

Accuracy and Precision Check

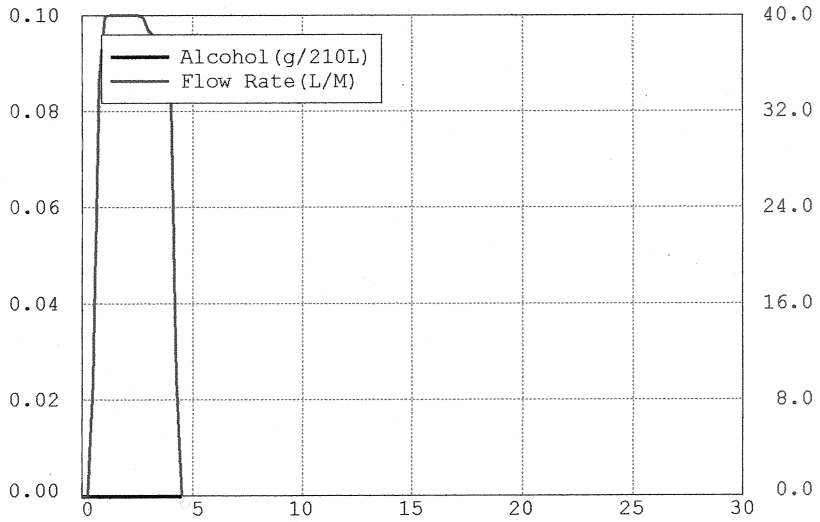
Concentration = 0.100 g/210L
Lot # = 0987
Average = 0.102 g/210L
Std Dev = 0.002

RFI Interference Test

RFI detected

Sample Acceptance Test

Passed



Performed by _____ **Date** 06/29/2010

Reviewed by _____ **Date** _____

National Patent
Analytical Systems, Inc.

Certificate of Calibration

100159

Instrument Serial Number

09380

Standard Reference Number

The above instrument has been calibrated and is hereby certified for use in determining alcohol breath concentration when used in accordance with the operating guidelines by a properly trained operator.

6-29-10

Date

Technician

Section 3: Power-Up Tests

CALIBRATION REPORT

DataMaster DMT: 100159
Calibration Date: 08/23/2010
Calibrated by: AMANDA BOLDUC
Lot: 11-03-100

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DEPARTMENT OF HEALTH

```
Ca  =  0.102000
CAL =  0.995246    0.800 <= CAL < 1.200
b1  =  0.000376    0.000 <=  b1 < 0.004
b2  =  0.006076    0.001 <=  b2 < 0.012
b3  =  0.000846    0.000 <=  b3 < 0.004
Xq  =  0.086418    0.050 <=  Xq < 0.200
a21 =  1.191634    1.050 <= a21 < 1.300
a31 =  0.473206    0.300 <= a31 < 0.800
```

Performed by _____ **Date** 08/23/2010

ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

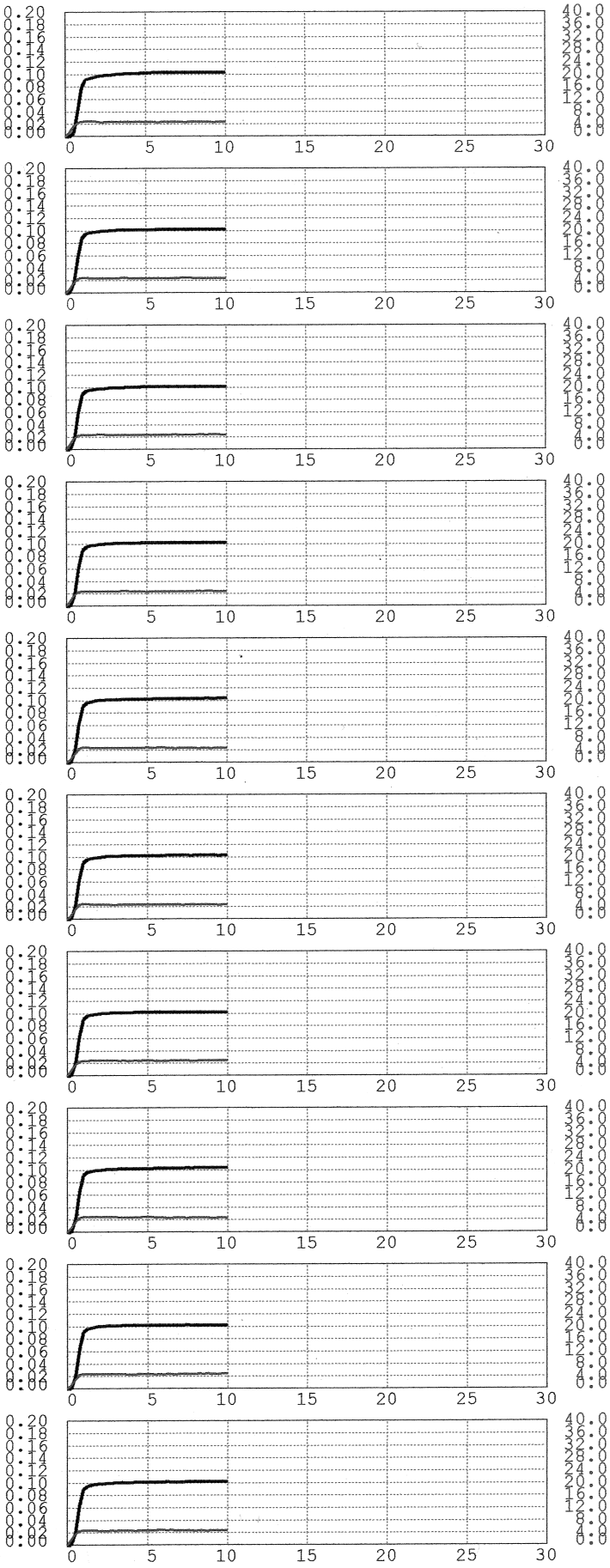
Date: 08/23/2010
Time: 13:48:58

SUPERVISOR NAME: ALB CAL CHECK

SOLUTION LOT #: 11-02-100
SOLUTION CONCENTRATION: 0.100

BLANK TEST	0.000	13:49
CALIBRATION CHECK	PASSED	13:50
SIMULATOR VAPOR	0.101	13:50
SIMULATOR VAPOR	0.102	13:51
SIMULATOR VAPOR	0.101	13:52
SIMULATOR VAPOR	0.102	13:53
SIMULATOR VAPOR	0.102	13:54
SIMULATOR VAPOR	0.103	13:55
SIMULATOR VAPOR	0.102	13:56
SIMULATOR VAPOR	0.102	13:57
SIMULATOR VAPOR	0.102	13:58
SIMULATOR VAPOR	0.102	13:59
BLANK TEST	0.000	13:59

Average = 0.101
Std Dev = 0.0005



CERTIFICATION REPORT

DataMaster DMT: 100159
Calibration Date: 08/23/2010
Certification Date: 08/24/2010
Certified by: AMANDA BOLDUC

VERMONT
DEPARTMENT OF HEALTH

Diagnostic Results

VERSIONS
DMT 1.05
PIC 2.06
Modem 1.06
Questions 1.00
Reports 1.02

TEMPERATURES
Sample Chamber = 48.74°C
Breath Tube = 48.07°C

SETTINGS
Lamp Voltage = 2.29 V
Cooler Voltage = 1.76 V
Bias Voltage = 80.9 V
Chopper Freq = 536.4 Hz

PUMP INFO
Flow Rate = 5.711 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX(V)	0.0474	0.0488
MIN(V)	0.0425	0.0451

FILTER INFO
Filter 1 0.049 Zero = true
Filter 2 0.233 Zero = true
Filter 3 0.615 Zero = true

CALIBRATION CHECK
Xq = 0.0854 1.11%

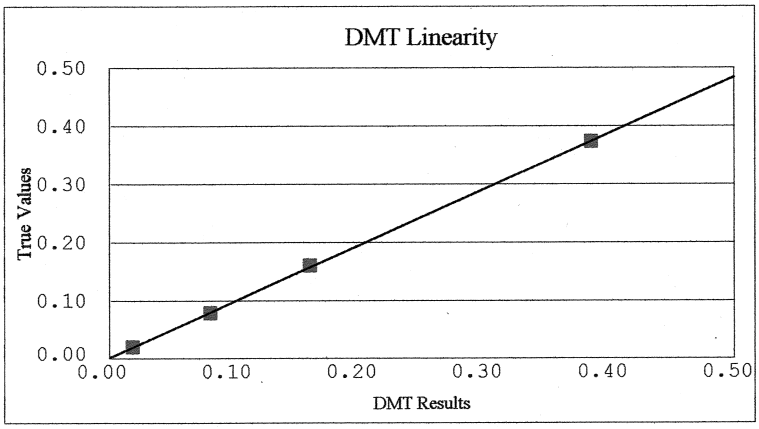
Options

Printer: yes
Number of Copies: 3
Number of Supervisor Tests: 10
Tolerance Check: yes
Data Collection: yes
Units: g/210L
Simulator Check: yes
Uses Wet Bath Simulator: yes
Simulator Nominal: 0.102
Digital Simulator: none
Simulator Before: yes
Simulator Between: yes
Simulator After: no
Number of Subject Tests: 2
AskQuestions: yes
Query Refusal: yes
Alcohol Display: yes
Show Two Digits: no
Volume Display: yes
Number of Calibration Tests: 1
Calibrate with Wet Bath: yes
Calibration Nominal: 0.100

Linearity Check Results

True Value	Reported Average	Std Dev
0.020 g/210L Lot # 10-34-020	0.019 g/210L	0.000
0.079 g/210L Lot # 10-37-080	0.081 g/210L	0.001
0.160 g/210L Lot # 10-31-160	0.161 g/210L	0.001
0.373 g/210L Lot # 10-32-400	0.385 g/210L	0.001

$R^2 = 0.9999$



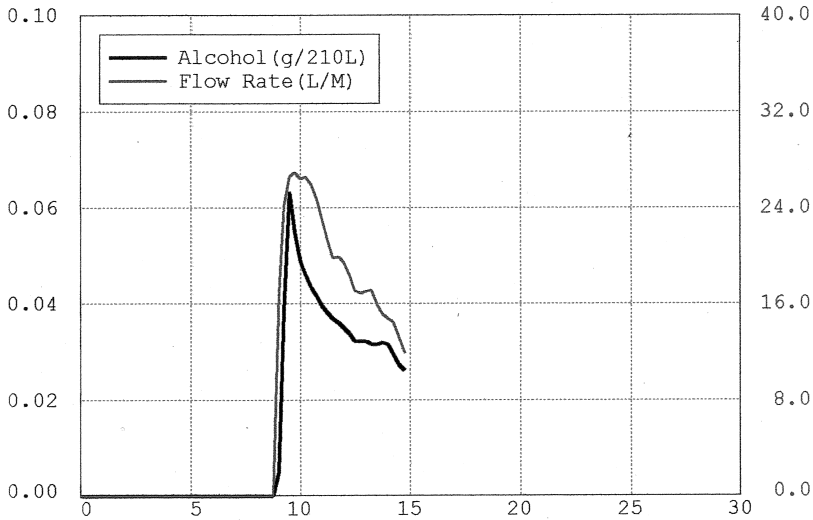
Acetone Interference Test

Lot # 10-33-08A

Interference Detected

Mouth Alcohol Test

Mouth Alcohol Detected

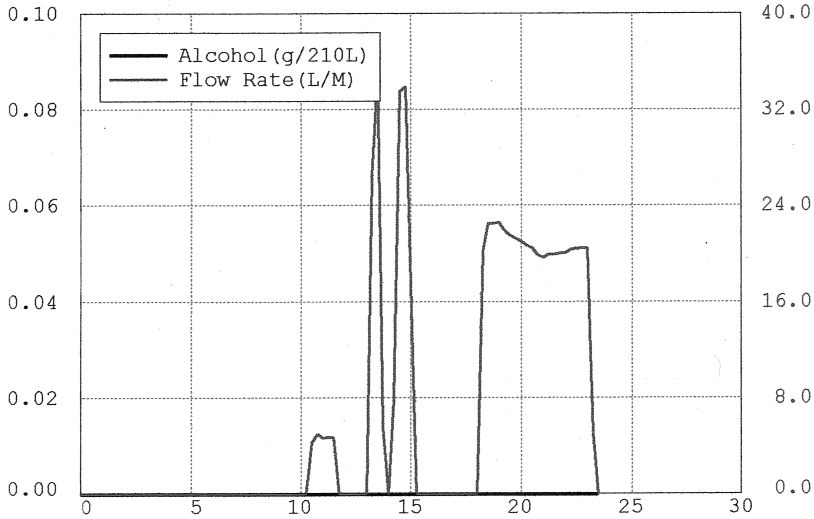


RF Interference Test

RFI detected

Sample Acceptance Test

Passed



CERTIFICATION PASSED

Performed by _____ **Date** 08/24/2010

Reviewed by _____ **Date** _____

Section 4: Linearity

DIAGNOSTIC RESULT

DataMaster DMT: 100159
Location:
Calibration Date: 08/23/2010
Certification Date: 08/24/2010
Installation Date: 08/24/2010
Test Date: 08/26/2010
Time: 14:14

VERMONT
DEPARTMENT OF HEALTH

```
VERSIONS
DMT 1.05
PIC 2.06
Modem 1.06
Questions 1.00
Reports 1.02

TEMPERATURES
Sample Chamber = 49.09°C
Breath Tube    = 48.08°C

SETTINGS
Lamp Voltage   = 2.29 V
Cooler Voltage = 1.76 V
Bias Voltage   = 80.9 V
Chopper Freq   = 537.7 Hz

PUMP INFO
Flow Rate = 5.800 L/M

DETECTOR INFO
PUMP     ON       OFF
MAX(V)   0.0579   0.0608
MIN(V)   0.0563   0.0591

FILTER INFO
Filter 1  0.061  Zero = true
Filter 2  0.241  Zero = true
Filter 3  0.622  Zero = true

CALIBRATION CHECK
Xq = 0.0862  0.20%
```

ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

Date: 08/26/2010
Time: 11:14:34

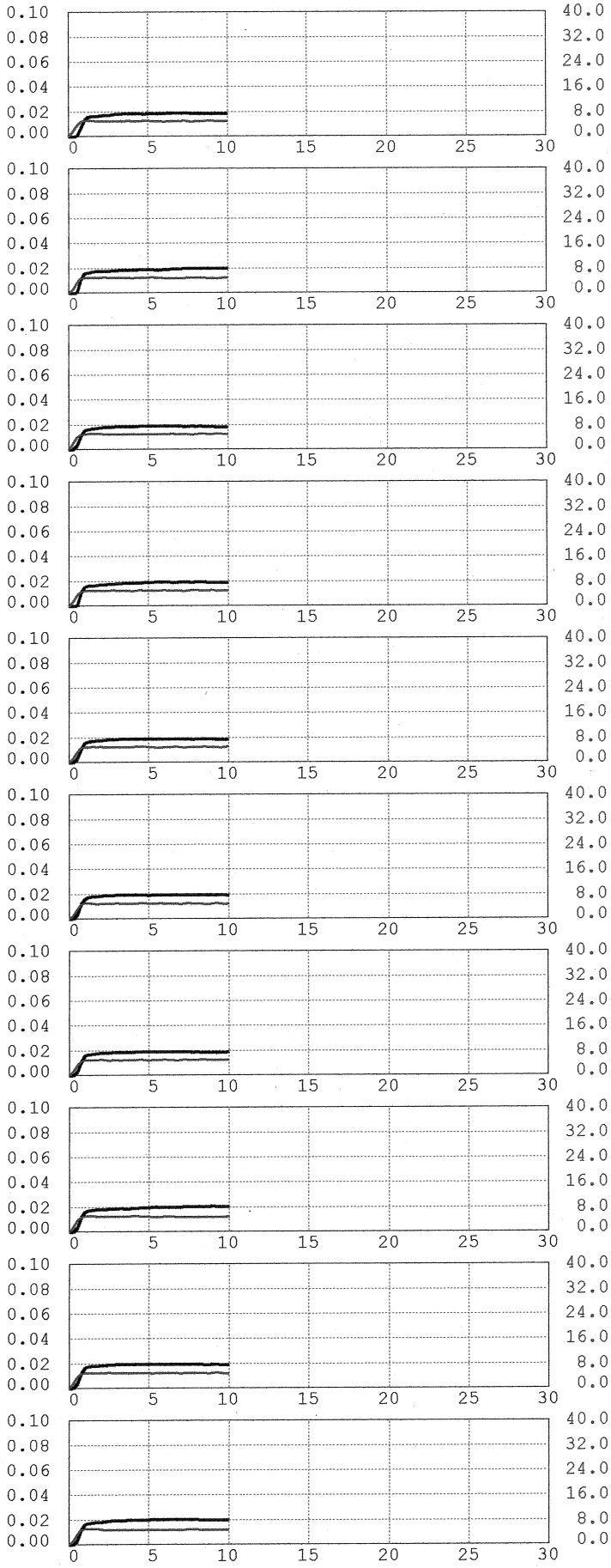
SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-34-020
SOLUTION CONCENTRATION: 0.020

BLANK TEST	0.000	11:15
CALIBRATION CHECK	PASSED	11:15
SIMULATOR VAPOR	0.019	11:15
SIMULATOR VAPOR	0.019	11:16
SIMULATOR VAPOR	0.019	11:17
SIMULATOR VAPOR	0.019	11:18
SIMULATOR VAPOR	0.019	11:19
SIMULATOR VAPOR	0.019	11:20
SIMULATOR VAPOR	0.019	11:21
SIMULATOR VAPOR	0.018	11:22
SIMULATOR VAPOR	0.019	11:23
SIMULATOR VAPOR	0.018	11:24
BLANK TEST	0.000	11:25

Average out of range!

Average = 0.018
Std Dev = 0.0004



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

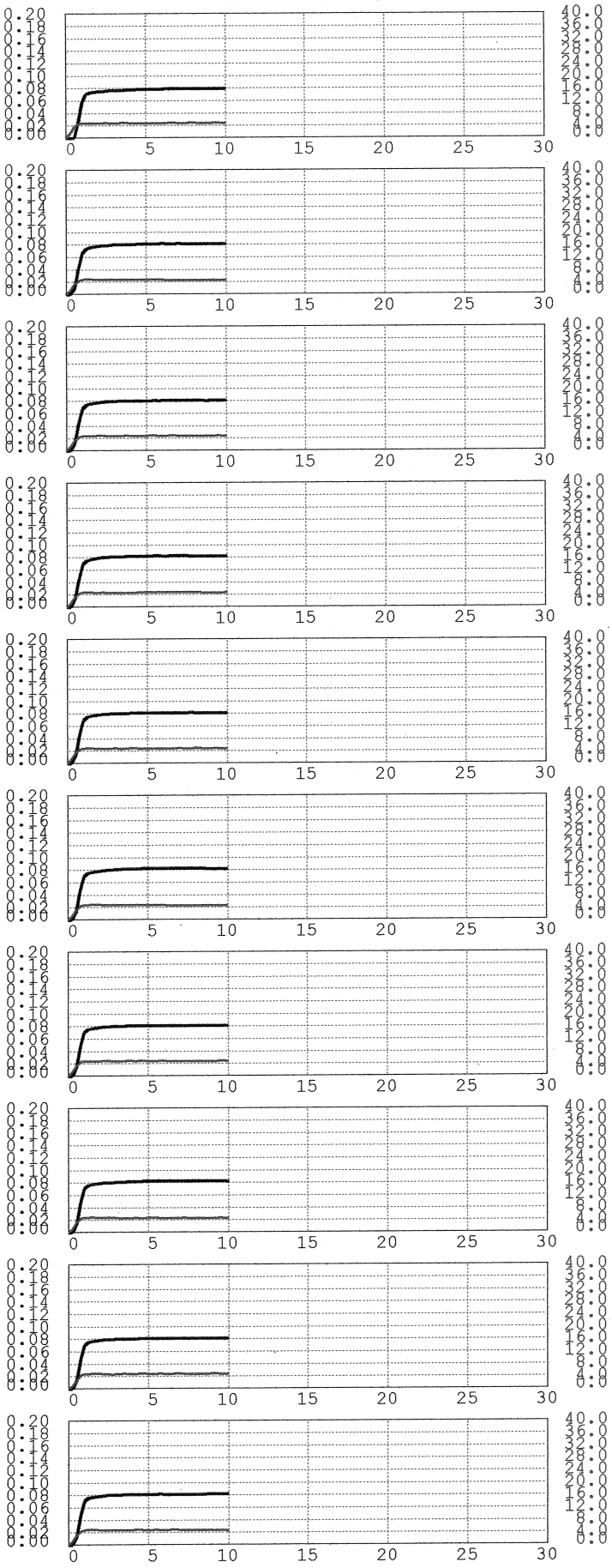
Date: 08/26/2010
Time: 11:46:07

SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-37-080
SOLUTION CONCENTRATION: 0.079

BLANK TEST	0.000	11:47
CALIBRATION CHECK	PASSED	11:47
SIMULATOR VAPOR	0.079	11:47
SIMULATOR VAPOR	0.079	11:48
SIMULATOR VAPOR	0.081	11:49
SIMULATOR VAPOR	0.080	11:50
SIMULATOR VAPOR	0.081	11:51
SIMULATOR VAPOR	0.080	11:52
SIMULATOR VAPOR	0.081	11:53
SIMULATOR VAPOR	0.081	11:54
SIMULATOR VAPOR	0.081	11:55
SIMULATOR VAPOR	0.081	11:56
BLANK TEST	0.000	11:57

Average = 0.080
Std Dev = 0.0008



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

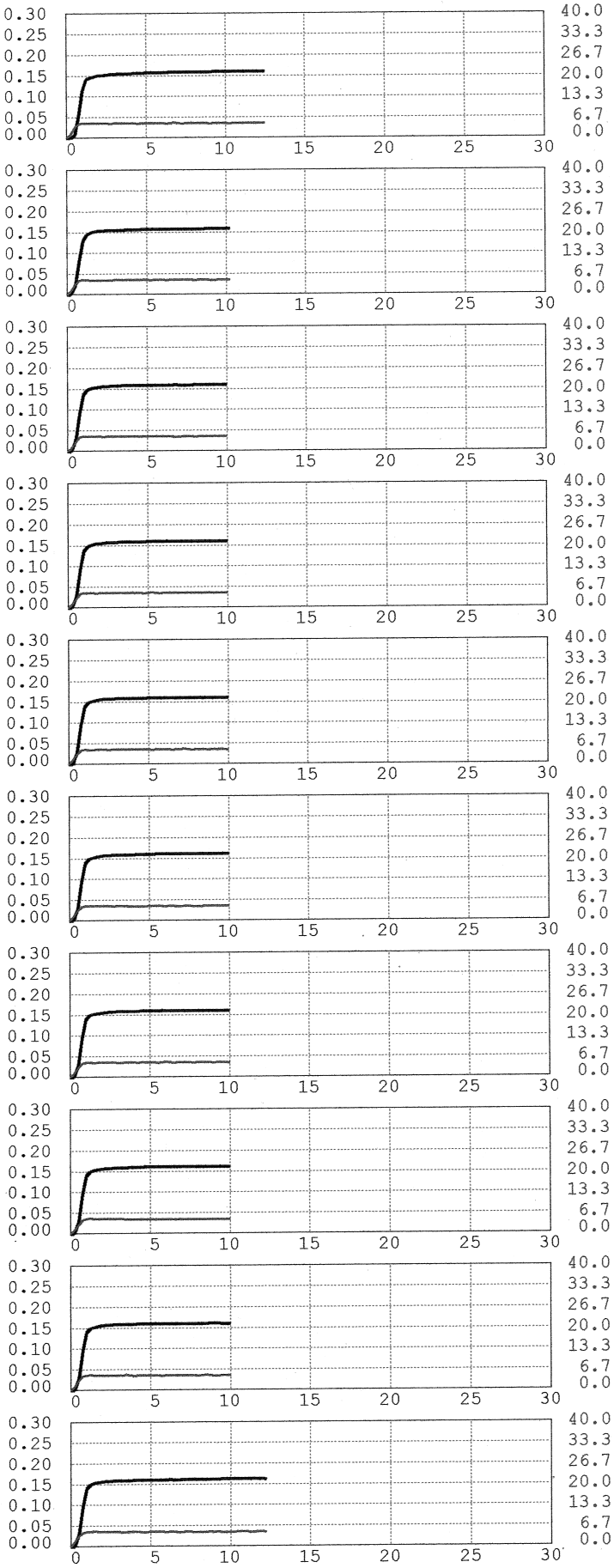
Date: 08/26/2010
Time: 12:17:01

SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-31-160
SOLUTION CONCENTRATION: 0.160

BLANK TEST	0.000	12:17
CALIBRATION CHECK	PASSED	12:18
SIMULATOR VAPOR	0.160	12:18
SIMULATOR VAPOR	0.158	12:19
SIMULATOR VAPOR	0.159	12:20
SIMULATOR VAPOR	0.160	12:21
SIMULATOR VAPOR	0.160	12:22
SIMULATOR VAPOR	0.159	12:23
SIMULATOR VAPOR	0.160	12:24
SIMULATOR VAPOR	0.159	12:25
SIMULATOR VAPOR	0.160	12:26
SIMULATOR VAPOR	0.160	12:27
BLANK TEST	0.000	12:28

Average = 0.159
Std Dev = 0.0007



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

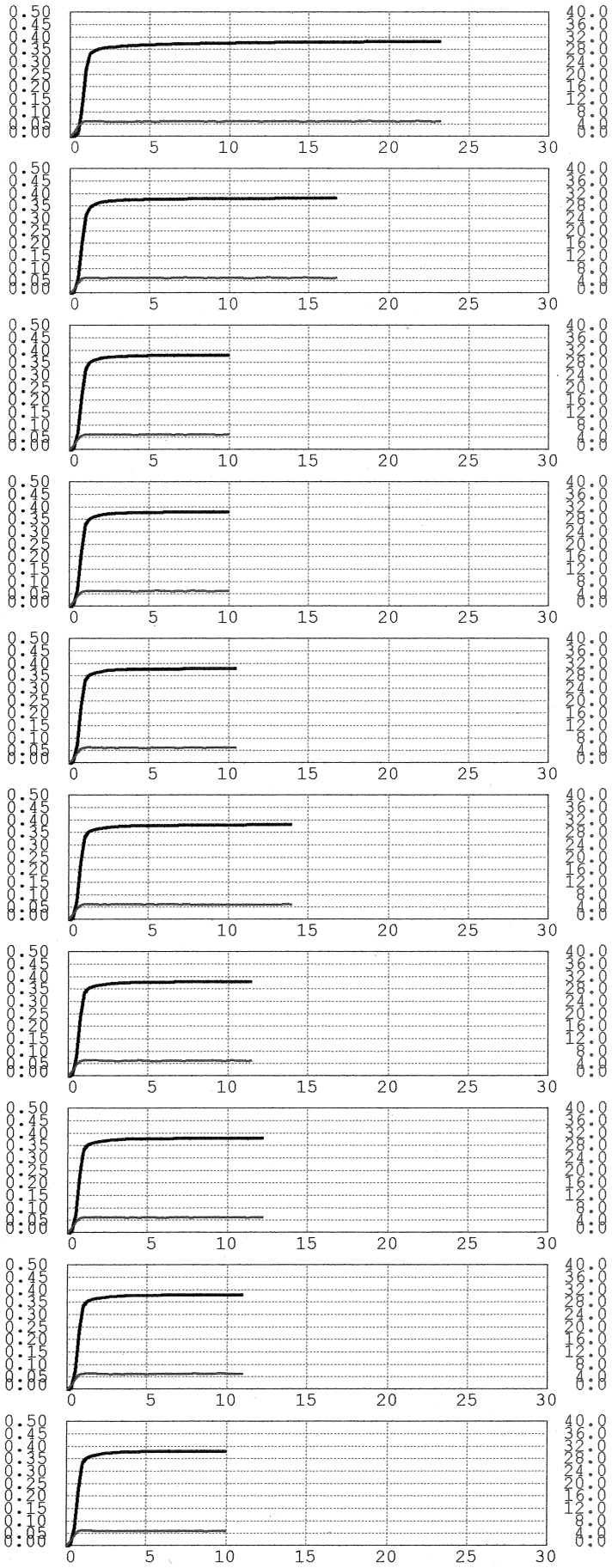
Date: 08/26/2010
Time: 13:52:07

SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-32-400
SOLUTION CONCENTRATION: 0.373

BLANK TEST	0.000	13:53
CALIBRATION CHECK	PASSED	13:53
SIMULATOR VAPOR	0.380	13:53
SIMULATOR VAPOR	0.380	13:54
SIMULATOR VAPOR	0.378	13:55
SIMULATOR VAPOR	0.378	13:56
SIMULATOR VAPOR	0.378	13:57
SIMULATOR VAPOR	0.378	13:59
SIMULATOR VAPOR	0.378	14:00
SIMULATOR VAPOR	0.378	14:01
SIMULATOR VAPOR	0.378	14:02
SIMULATOR VAPOR	0.376	14:03
BLANK TEST	0.000	14:03

Average = 0.378
Std Dev = 0.0011



DIAGNOSTIC RESULT

DataMaster DMT: 100159
Location:
Calibration Date: 08/23/2010
Certification Date: 08/24/2010
Installation Date: 08/24/2010
Test Date: 08/27/2010
Time: 07:36

VERMONT
DEPARTMENT OF HEALTH

```
VERSIONS
DMT 1.05
PIC 2.06
Modem 1.06
Questions 1.00
Reports 1.02

TEMPERATURES
Sample Chamber = 48.74°C
Breath Tube    = 48.08°C

SETTINGS
Lamp Voltage   = 2.29 V
Cooler Voltage = 1.76 V
Bias Voltage   = 80.8 V
Chopper Freq   = 536.3 Hz

PUMP INFO
Flow Rate = 5.843 L/M

DETECTOR INFO
PUMP     ON       OFF
MAX(V)   0.0526   0.0553
MIN(V)   0.0512   0.0539

FILTER INFO
Filter 1  0.056  Zero = true
Filter 2  0.236  Zero = true
Filter 3  0.610  Zero = true

CALIBRATION CHECK
Xq = 0.0857  0.81%
```

ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

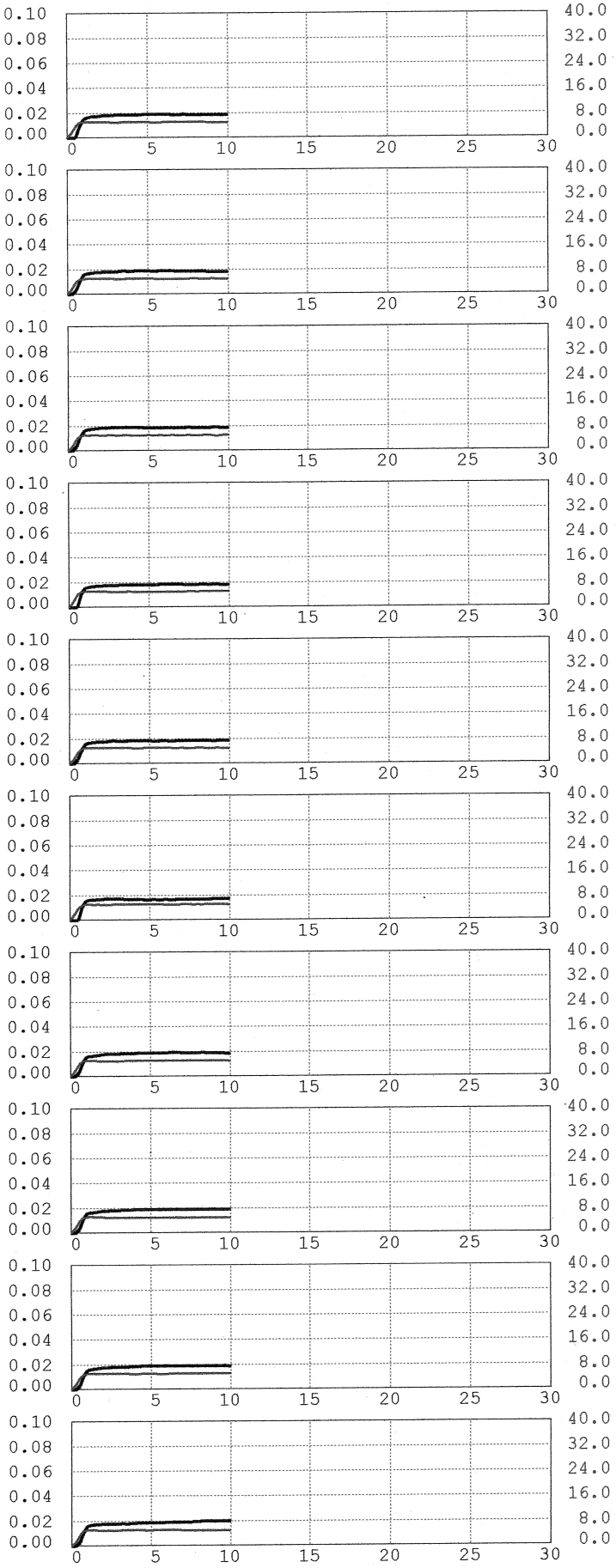
Date: 08/27/2010
Time: 07:52:19

SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-34-020
SOLUTION CONCENTRATION: 0.020

BLANK TEST	0.000	07:53
CALIBRATION CHECK	PASSED	07:53
SIMULATOR VAPOR	0.019	07:53
SIMULATOR VAPOR	0.019	07:54
SIMULATOR VAPOR	0.019	07:55
SIMULATOR VAPOR	0.019	07:56
SIMULATOR VAPOR	0.019	07:57
SIMULATOR VAPOR	0.018	07:58
SIMULATOR VAPOR	0.020	07:59
SIMULATOR VAPOR	0.019	08:00
SIMULATOR VAPOR	0.019	08:01
SIMULATOR VAPOR	0.019	08:02
BLANK TEST	0.000	08:03

Average = 0.019
Std Dev = 0.0004



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

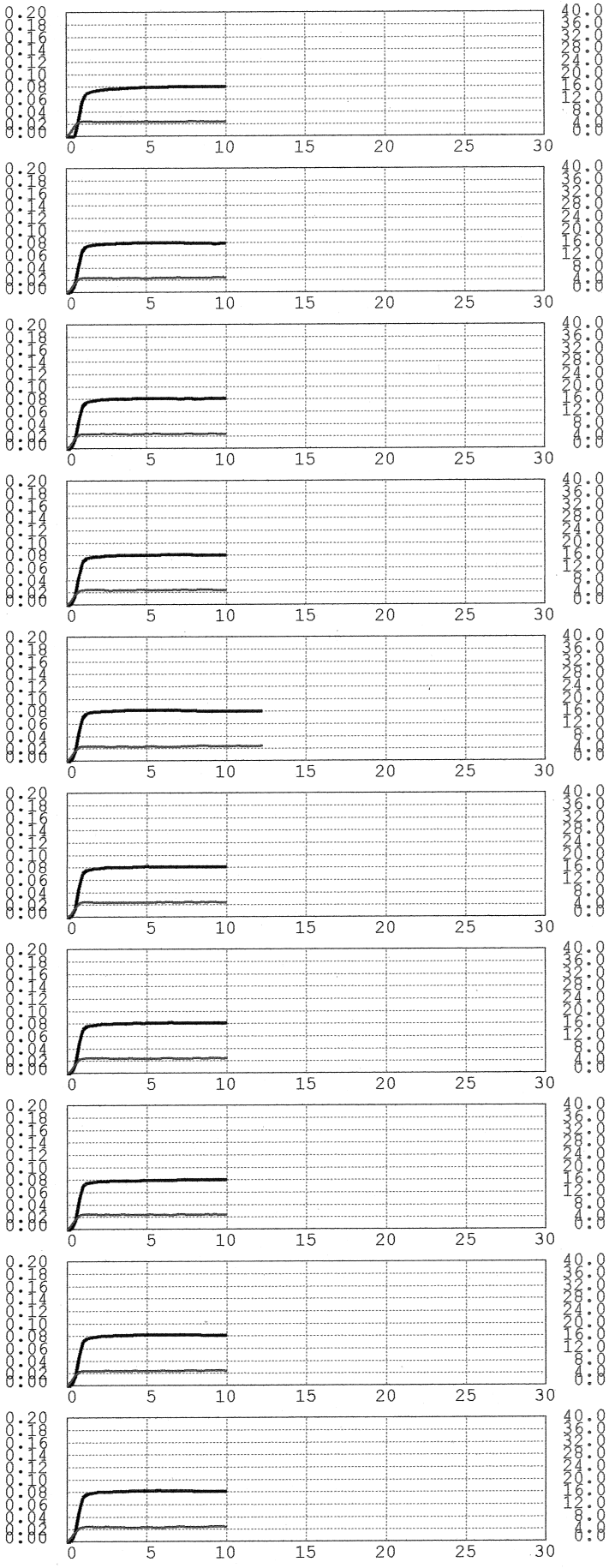
Date: 08/27/2010
Time: 08:06:08

SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-37-080
SOLUTION CONCENTRATION: 0.079

BLANK TEST	0.000	08:07
CALIBRATION CHECK	PASSED	08:07
SIMULATOR VAPOR	0.080	08:07
SIMULATOR VAPOR	0.080	08:08
SIMULATOR VAPOR	0.081	08:09
SIMULATOR VAPOR	0.081	08:10
SIMULATOR VAPOR	0.082	08:11
SIMULATOR VAPOR	0.081	08:12
SIMULATOR VAPOR	0.081	08:13
SIMULATOR VAPOR	0.080	08:14
SIMULATOR VAPOR	0.082	08:15
SIMULATOR VAPOR	0.081	08:16
BLANK TEST	0.000	08:17

Average = 0.080
Std Dev = 0.0007



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

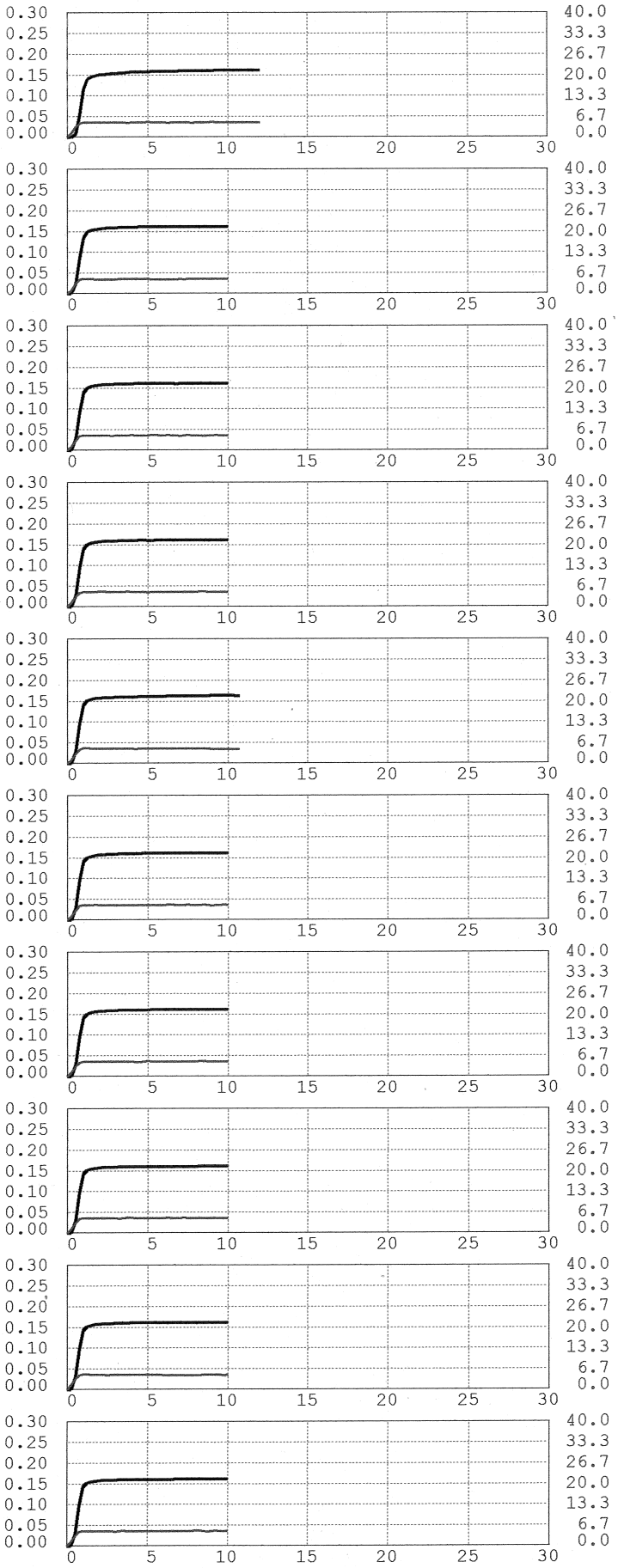
Date: 08/27/2010
Time: 08:23:45

SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-31-160
SOLUTION CONCENTRATION: 0.160

BLANK TEST	0.000	08:24
CALIBRATION CHECK	PASSED	08:24
SIMULATOR VAPOR	0.161	08:25
SIMULATOR VAPOR	0.161	08:26
SIMULATOR VAPOR	0.161	08:27
SIMULATOR VAPOR	0.160	08:28
SIMULATOR VAPOR	0.160	08:29
SIMULATOR VAPOR	0.161	08:30
SIMULATOR VAPOR	0.161	08:31
SIMULATOR VAPOR	0.161	08:32
SIMULATOR VAPOR	0.160	08:33
SIMULATOR VAPOR	0.161	08:34
BLANK TEST	0.000	08:34

Average = 0.160
Std Dev = 0.0004



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

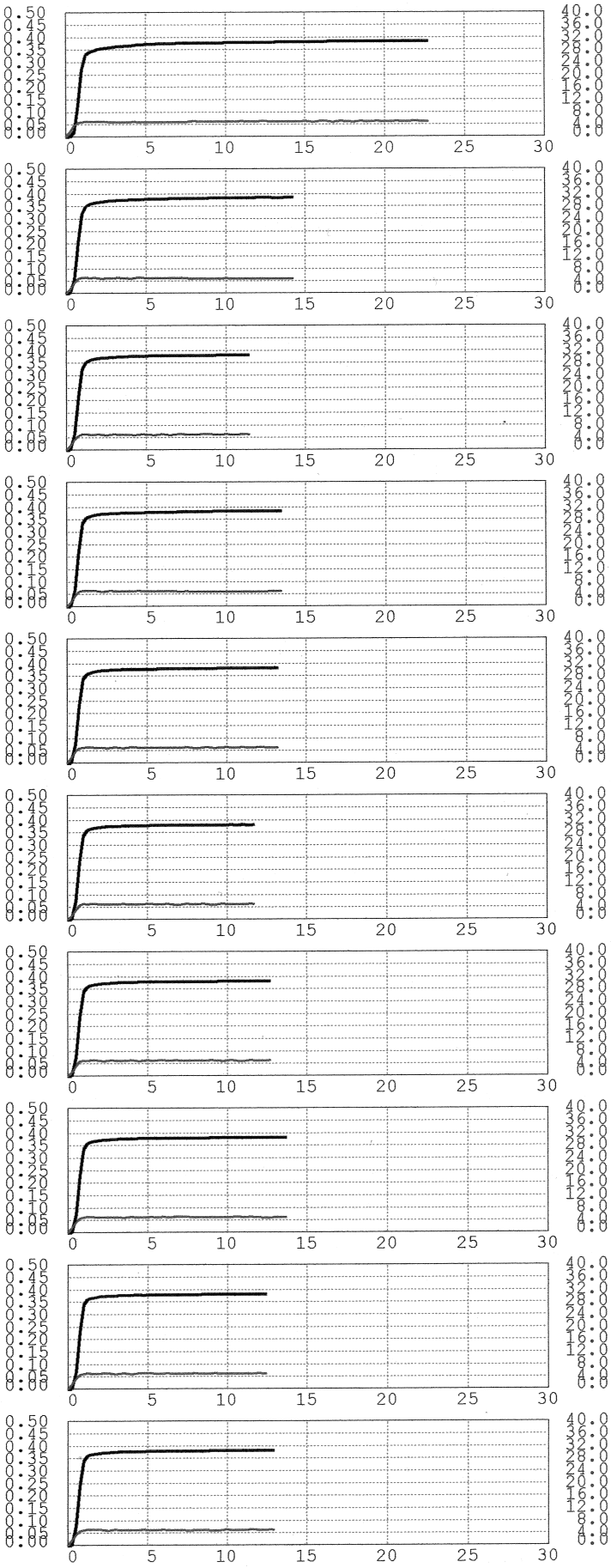
Date: 08/27/2010
Time: 08:44:15

SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-32-400
SOLUTION CONCENTRATION: 0.373

BLANK TEST	0.000	08:45
CALIBRATION CHECK	PASSED	08:45
SIMULATOR VAPOR	0.382	08:45
SIMULATOR VAPOR	0.381	08:47
SIMULATOR VAPOR	0.380	08:48
SIMULATOR VAPOR	0.379	08:49
SIMULATOR VAPOR	0.380	08:50
SIMULATOR VAPOR	0.380	08:51
SIMULATOR VAPOR	0.379	08:52
SIMULATOR VAPOR	0.380	08:53
SIMULATOR VAPOR	0.381	08:54
SIMULATOR VAPOR	0.379	08:55
BLANK TEST	0.000	08:56

Average = 0.380
Std Dev = 0.0009



DIAGNOSTIC RESULT

DataMaster DMT: 100159
Location:
Calibration Date: 08/23/2010
Certification Date: 08/24/2010
Installation Date: 08/24/2010
Test Date: 08/27/2010
Time: 09:04

VERMONT
DEPARTMENT OF HEALTH

```
VERSIONS
DMT 1.05
PIC 2.06
Modem 1.06
Questions 1.00
Reports 1.02

TEMPERATURES
Sample Chamber = 49.03°C
Breath Tube    = 48.09°C

SETTINGS
Lamp Voltage   = 2.29 V
Cooler Voltage = 1.76 V
Bias Voltage   = 80.9 V
Chopper Freq   = 538.8 Hz

PUMP INFO
Flow Rate = 5.828 L/M

DETECTOR INFO
PUMP     ON       OFF
MAX(V)   0.0807   0.0817
MIN(V)   0.0789   0.0803

FILTER INFO
Filter 1  0.083  Zero = true
Filter 2  0.264  Zero = true
Filter 3  0.666  Zero = true

CALIBRATION CHECK
Xq = 0.0857  0.81%
```

ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

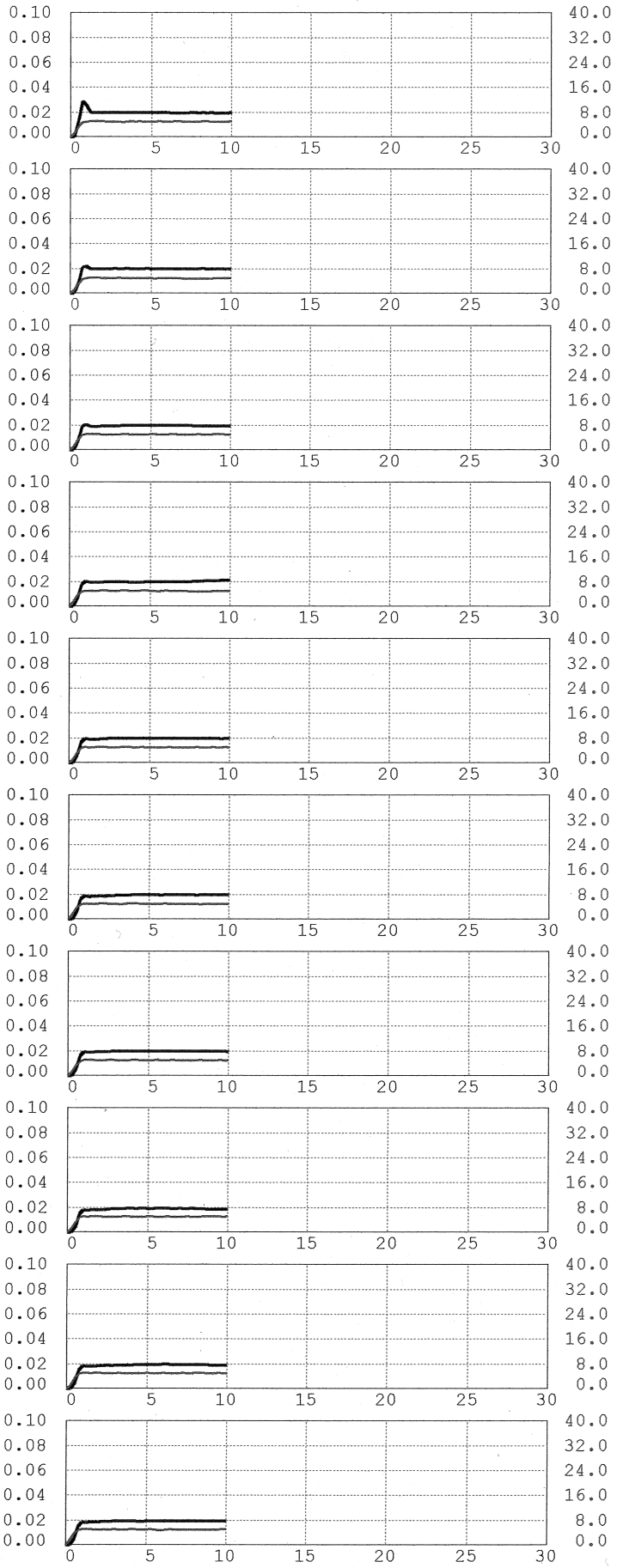
Date: 08/27/2010
Time: 09:08:26

SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-34-020
SOLUTION CONCENTRATION: 0.020

BLANK TEST	0.000	09:09
CALIBRATION CHECK	PASSED	09:09
SIMULATOR VAPOR	0.020	09:09
SIMULATOR VAPOR	0.018	09:10
SIMULATOR VAPOR	0.019	09:11
SIMULATOR VAPOR	0.018	09:12
SIMULATOR VAPOR	0.019	09:13
SIMULATOR VAPOR	0.019	09:14
SIMULATOR VAPOR	0.020	09:15
SIMULATOR VAPOR	0.019	09:16
SIMULATOR VAPOR	0.019	09:17
SIMULATOR VAPOR	0.019	09:18
BLANK TEST	0.000	09:19

Average = 0.019
Std Dev = 0.0006



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

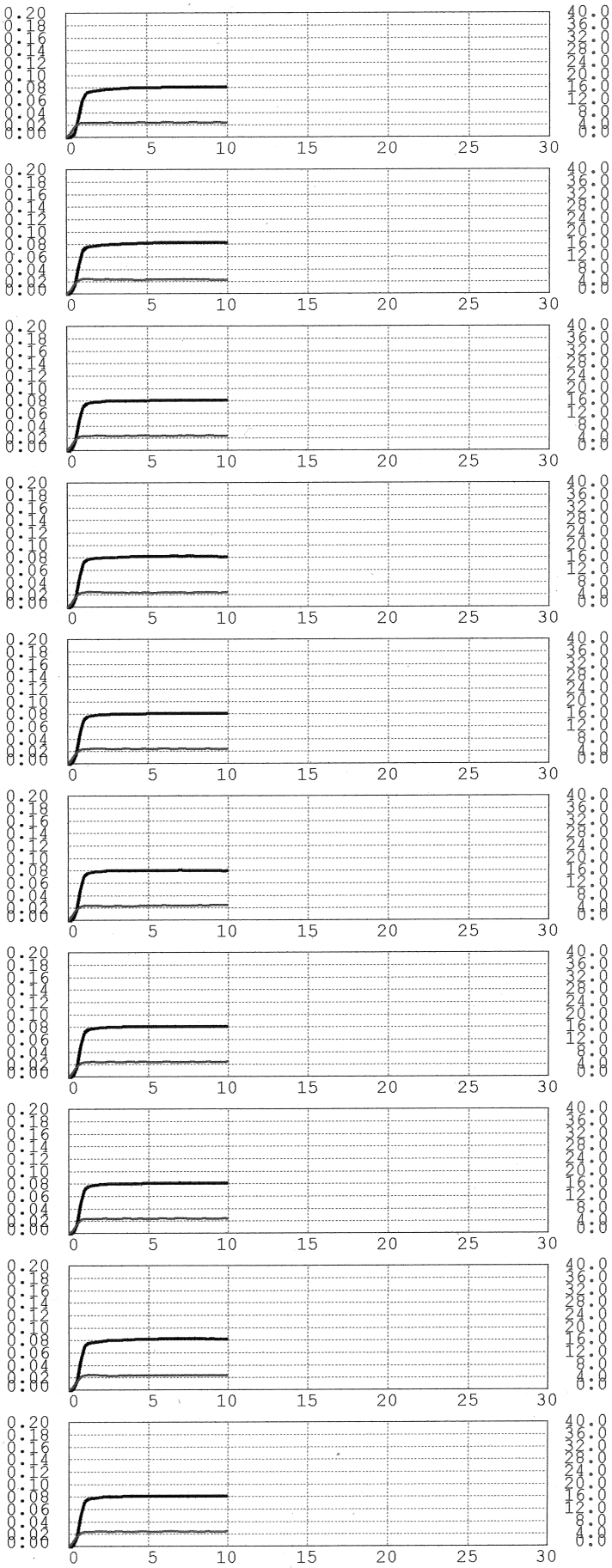
Date: 08/27/2010
Time: 09:39:34

SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-37-080
SOLUTION CONCENTRATION: 0.079

BLANK TEST	0.000	09:40
CALIBRATION CHECK	PASSED	09:40
SIMULATOR VAPOR	0.081	09:40
SIMULATOR VAPOR	0.080	09:41
SIMULATOR VAPOR	0.081	09:42
SIMULATOR VAPOR	0.081	09:43
SIMULATOR VAPOR	0.081	09:44
SIMULATOR VAPOR	0.081	09:45
SIMULATOR VAPOR	0.081	09:46
SIMULATOR VAPOR	0.081	09:47
SIMULATOR VAPOR	0.080	09:48
SIMULATOR VAPOR	0.081	09:49
BLANK TEST	0.000	09:50

Average = 0.080
Std Dev = 0.0004



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

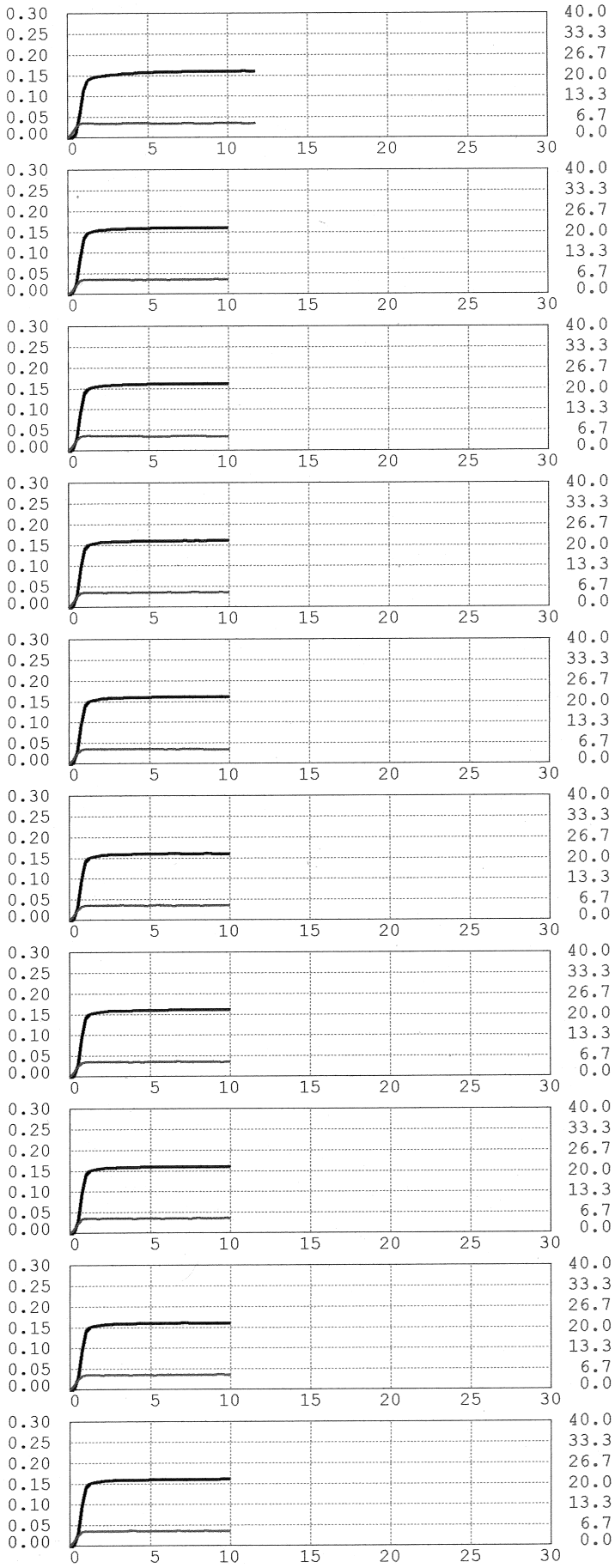
Date: 08/27/2010
Time: 10:05:36

SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-31-160
SOLUTION CONCENTRATION: 0.160

BLANK TEST	0.000	10:06
CALIBRATION CHECK	PASSED	10:06
SIMULATOR VAPOR	0.160	10:06
SIMULATOR VAPOR	0.160	10:08
SIMULATOR VAPOR	0.159	10:09
SIMULATOR VAPOR	0.160	10:10
SIMULATOR VAPOR	0.159	10:10
SIMULATOR VAPOR	0.161	10:11
SIMULATOR VAPOR	0.160	10:12
SIMULATOR VAPOR	0.160	10:13
SIMULATOR VAPOR	0.160	10:14
SIMULATOR VAPOR	0.160	10:15
BLANK TEST	0.000	10:16

Average = 0.159
Std Dev = 0.0005



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

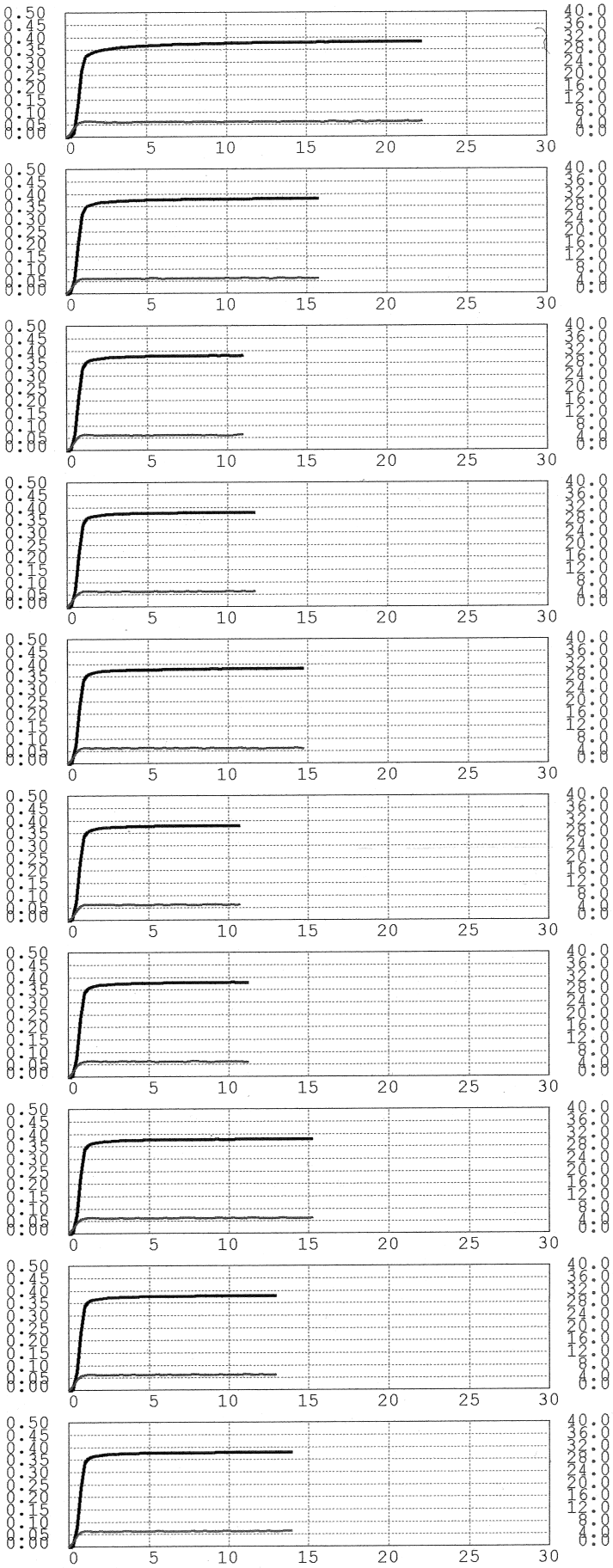
Date: 08/27/2010
Time: 10:23:12

SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-32-400
SOLUTION CONCENTRATION: 0.373

BLANK TEST	0.000	10:24
CALIBRATION CHECK	PASSED	10:24
SIMULATOR VAPOR	0.380	10:24
SIMULATOR VAPOR	0.379	10:26
SIMULATOR VAPOR	0.378	10:27
SIMULATOR VAPOR	0.378	10:28
SIMULATOR VAPOR	0.378	10:29
SIMULATOR VAPOR	0.378	10:30
SIMULATOR VAPOR	0.376	10:31
SIMULATOR VAPOR	0.379	10:32
SIMULATOR VAPOR	0.378	10:33
SIMULATOR VAPOR	0.378	10:34
BLANK TEST	0.000	10:35

Average = 0.378
Std Dev = 0.0010



DIAGNOSTIC RESULT

DataMaster DMT: 100159
Location:
Calibration Date: 08/23/2010
Certification Date: 08/24/2010
Installation Date: 08/24/2010
Test Date: 08/30/2010
Time: 14:14

VERMONT
DEPARTMENT OF HEALTH

```
VERSIONS
DMT 1.05
PIC 2.06
Modem 1.06
Questions 1.00
Reports 1.02

TEMPERATURES
Sample Chamber = 49.09°C
Breath Tube    = 48.13°C

SETTINGS
Lamp Voltage   = 2.28 V
Cooler Voltage = 1.76 V
Bias Voltage   = 80.8 V
Chopper Freq   = 537.9 Hz

PUMP INFO
Flow Rate = 5.869 L/M

DETECTOR INFO
PUMP     ON       OFF
MAX(V)   0.0579   0.0604
MIN(V)   0.0547   0.0587

FILTER INFO
Filter 1  0.061  Zero = true
Filter 2  0.243  Zero = true
Filter 3  0.619  Zero = true

CALIBRATION CHECK
Xq = 0.0883  2.22%
```

ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

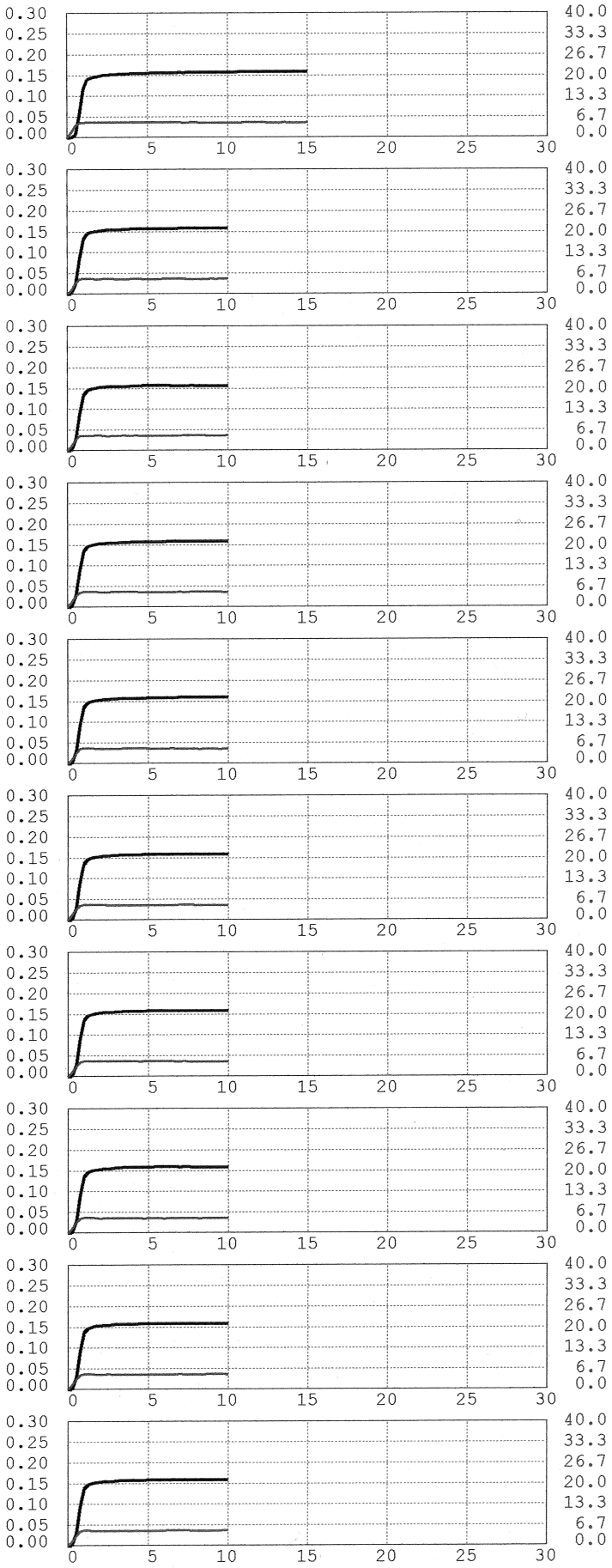
Date: 08/30/2010
Time: 14:16:51

SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-31-160
SOLUTION CONCENTRATION: 0.160

BLANK TEST	0.000	14:17
CALIBRATION CHECK	PASSED	14:17
SIMULATOR VAPOR	0.159	14:18
SIMULATOR VAPOR	0.158	14:19
SIMULATOR VAPOR	0.158	14:20
SIMULATOR VAPOR	0.159	14:21
SIMULATOR VAPOR	0.158	14:22
SIMULATOR VAPOR	0.158	14:23
SIMULATOR VAPOR	0.158	14:24
SIMULATOR VAPOR	0.158	14:25
SIMULATOR VAPOR	0.159	14:26
SIMULATOR VAPOR	0.159	14:27
BLANK TEST	0.000	14:28

Average = 0.158
Std Dev = 0.0005



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

Date: 08/30/2010
Time: 14:40:45

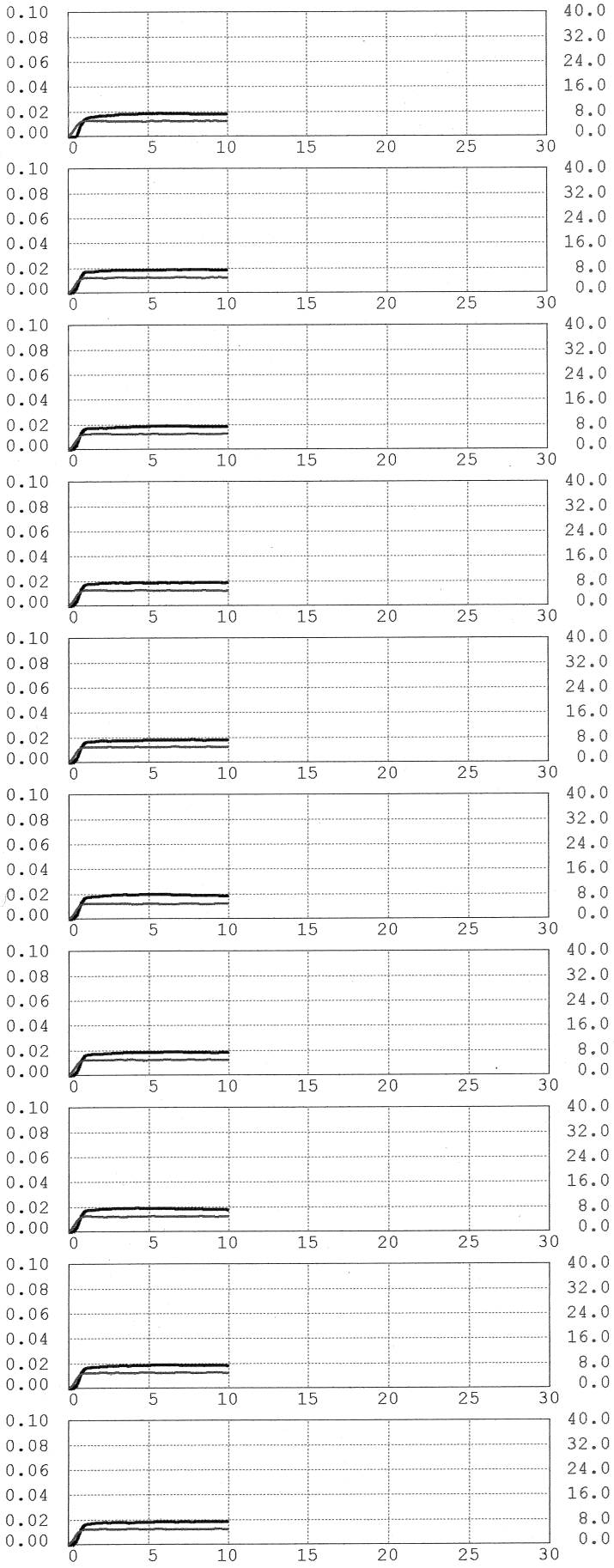
SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-34-020
SOLUTION CONCENTRATION: 0.020

BLANK TEST	0.000	14:41
CALIBRATION CHECK	PASSED	14:41
SIMULATOR VAPOR	0.018	14:42
SIMULATOR VAPOR	0.019	14:43
SIMULATOR VAPOR	0.019	14:44
SIMULATOR VAPOR	0.019	14:45
SIMULATOR VAPOR	0.018	14:45
SIMULATOR VAPOR	0.018	14:46
SIMULATOR VAPOR	0.019	14:47
SIMULATOR VAPOR	0.019	14:48
SIMULATOR VAPOR	0.018	14:49
SIMULATOR VAPOR	0.019	14:50
BLANK TEST	0.000	14:51

Average out of range!

Average = 0.018
Std Dev = 0.0005



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

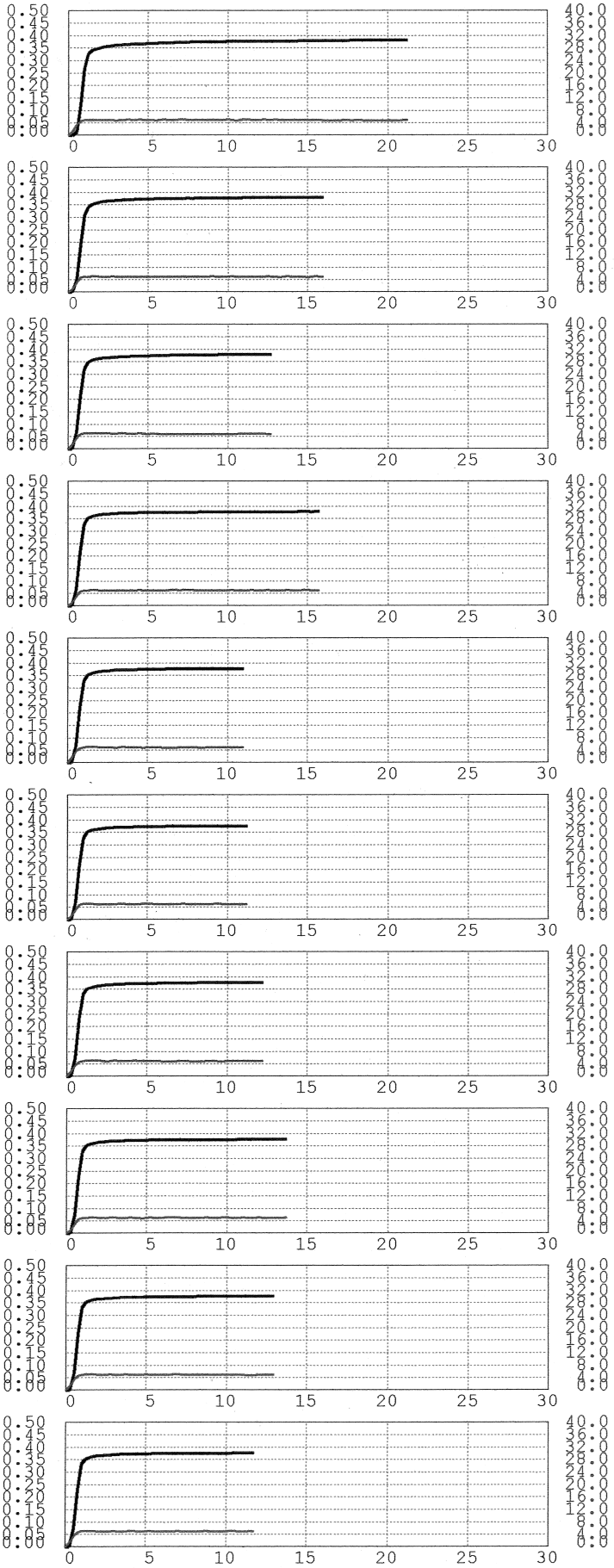
Date: 08/30/2010
Time: 14:53:25

SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-32-400
SOLUTION CONCENTRATION: 0.373

BLANK TEST	0.000	14:54
CALIBRATION CHECK	PASSED	14:54
SIMULATOR VAPOR	0.377	14:54
SIMULATOR VAPOR	0.377	14:56
SIMULATOR VAPOR	0.375	14:57
SIMULATOR VAPOR	0.376	14:58
SIMULATOR VAPOR	0.374	14:59
SIMULATOR VAPOR	0.374	15:00
SIMULATOR VAPOR	0.373	15:01
SIMULATOR VAPOR	0.375	15:02
SIMULATOR VAPOR	0.374	15:03
SIMULATOR VAPOR	0.375	15:04
BLANK TEST	0.000	15:05

Average = 0.375
Std Dev = 0.0013



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

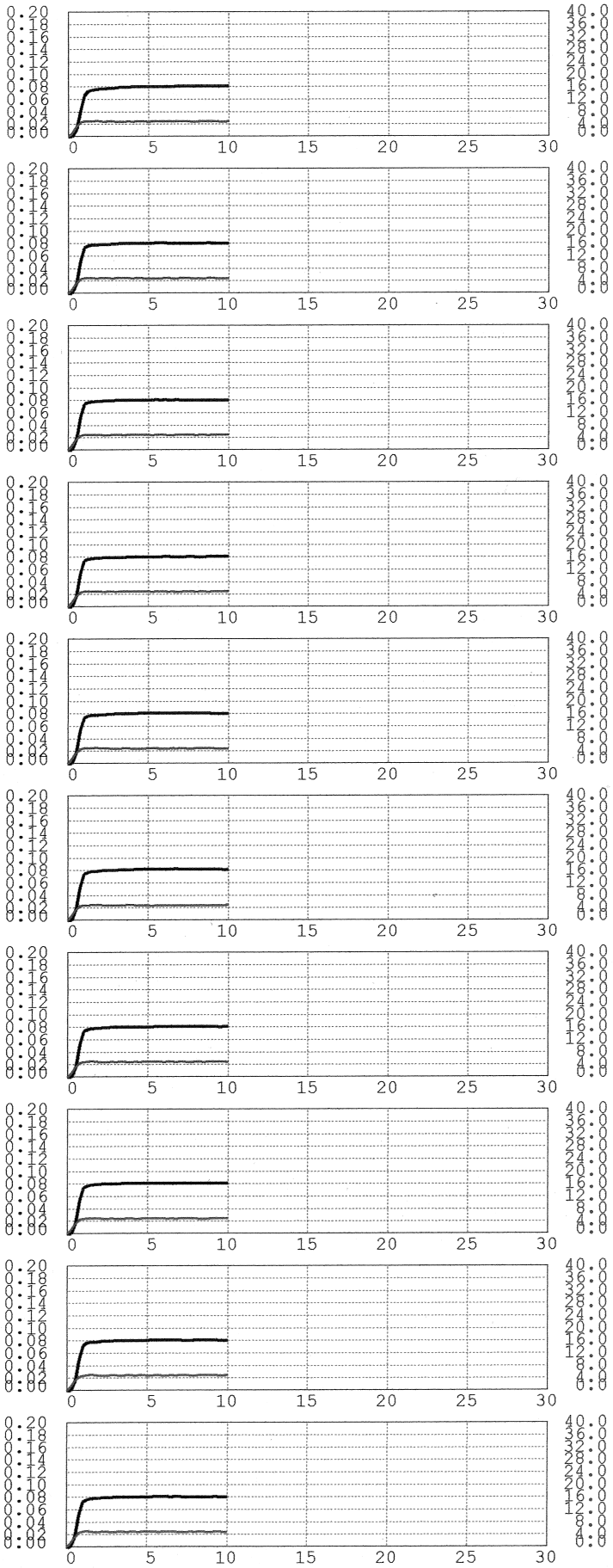
Date: 08/30/2010
Time: 15:08:29

SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-37-080
SOLUTION CONCENTRATION: 0.079

BLANK TEST	0.000	15:09
CALIBRATION CHECK	PASSED	15:09
SIMULATOR VAPOR	0.081	15:09
SIMULATOR VAPOR	0.079	15:10
SIMULATOR VAPOR	0.080	15:11
SIMULATOR VAPOR	0.080	15:12
SIMULATOR VAPOR	0.081	15:13
SIMULATOR VAPOR	0.080	15:14
SIMULATOR VAPOR	0.080	15:15
SIMULATOR VAPOR	0.081	15:16
SIMULATOR VAPOR	0.080	15:17
SIMULATOR VAPOR	0.080	15:18
BLANK TEST	0.000	15:19

Average = 0.080
Std Dev = 0.0006



DIAGNOSTIC RESULT

DataMaster DMT: 100159
Location:
Calibration Date: 08/23/2010
Certification Date: 08/24/2010
Installation Date: 08/24/2010
Test Date: 08/31/2010
Time: 07:22

VERMONT
DEPARTMENT OF HEALTH

```
VERSIONS
DMT 1.05
PIC 2.06
Modem 1.06
Questions 1.00
Reports 1.02

TEMPERATURES
Sample Chamber = 48.97°C
Breath Tube    = 48.09°C

SETTINGS
Lamp Voltage   = 2.29 V
Cooler Voltage = 1.76 V
Bias Voltage   = 80.8 V
Chopper Freq   = 537.0 Hz

PUMP INFO
Flow Rate = 5.810 L/M

DETECTOR INFO
PUMP     ON       OFF
MAX(V)   0.0555   0.0598
MIN(V)   0.0535   0.0555

FILTER INFO
Filter 1  0.059  Zero = true
Filter 2  0.242  Zero = true
Filter 3  0.613  Zero = true

CALIBRATION CHECK
Xq = 0.0865  0.10%
```

ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

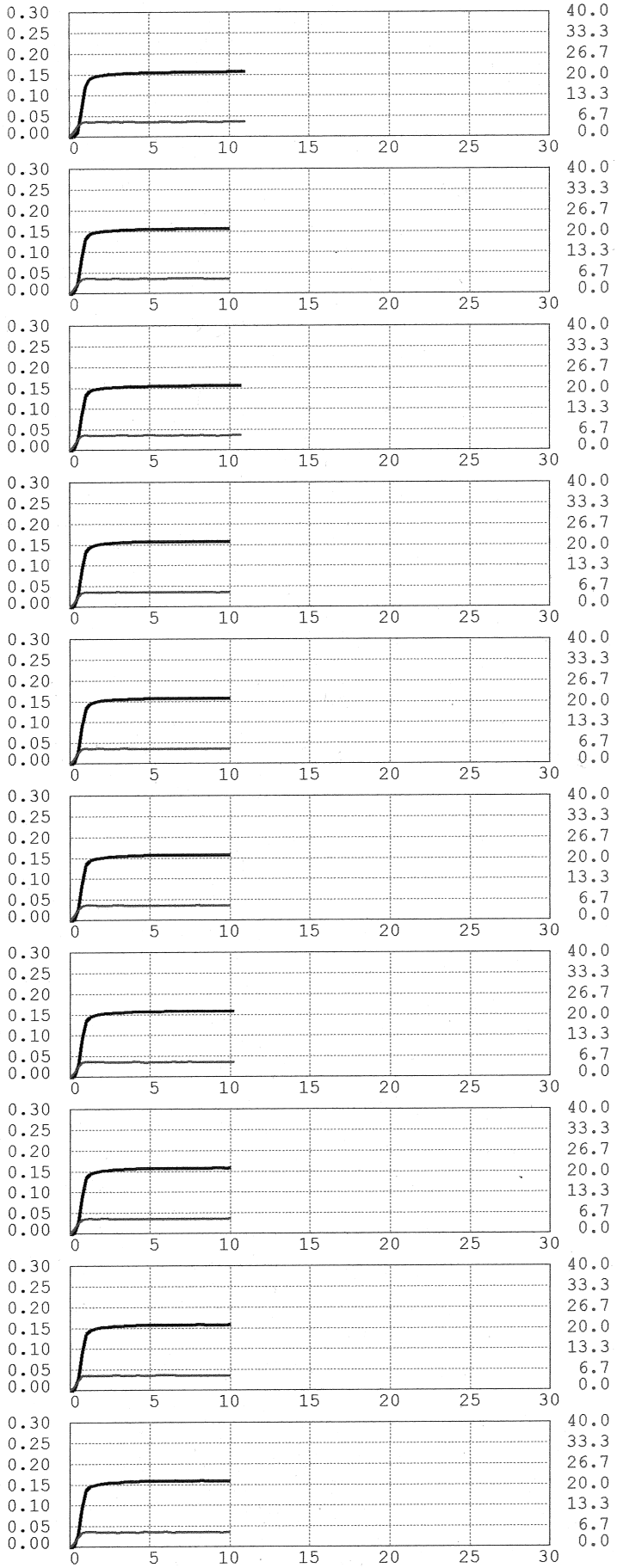
Date: 08/31/2010
Time: 07:24:16

SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-31-160
SOLUTION CONCENTRATION: 0.160

BLANK TEST	0.000	07:25
CALIBRATION CHECK	PASSED	07:25
SIMULATOR VAPOR	0.157	07:25
SIMULATOR VAPOR	0.156	07:26
SIMULATOR VAPOR	0.156	07:27
SIMULATOR VAPOR	0.156	07:28
SIMULATOR VAPOR	0.157	07:29
SIMULATOR VAPOR	0.158	07:30
SIMULATOR VAPOR	0.158	07:31
SIMULATOR VAPOR	0.158	07:32
SIMULATOR VAPOR	0.158	07:33
SIMULATOR VAPOR	0.158	07:34
BLANK TEST	0.000	07:35

Average = 0.157
Std Dev = 0.0009



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

Date: 08/31/2010
Time: 07:40:24

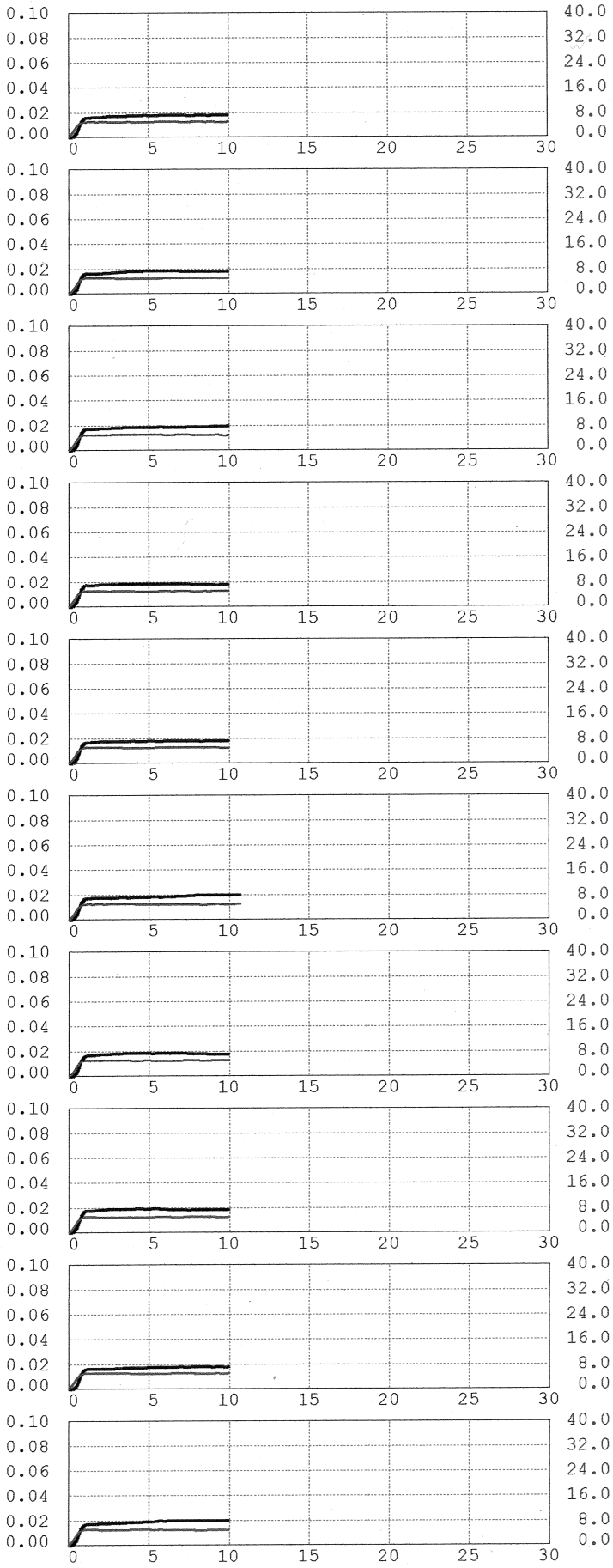
SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-34-020
SOLUTION CONCENTRATION: 0.020

BLANK TEST	0.000	07:41
CALIBRATION CHECK	PASSED	07:41
SIMULATOR VAPOR	0.018	07:41
SIMULATOR VAPOR	0.018	07:42
SIMULATOR VAPOR	0.018	07:43
SIMULATOR VAPOR	0.019	07:44
SIMULATOR VAPOR	0.018	07:45
SIMULATOR VAPOR	0.018	07:46
SIMULATOR VAPOR	0.018	07:47
SIMULATOR VAPOR	0.019	07:48
SIMULATOR VAPOR	0.018	07:49
SIMULATOR VAPOR	0.019	07:50
BLANK TEST	0.000	07:51

Average out of range!

Average = 0.018
Std Dev = 0.0004



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

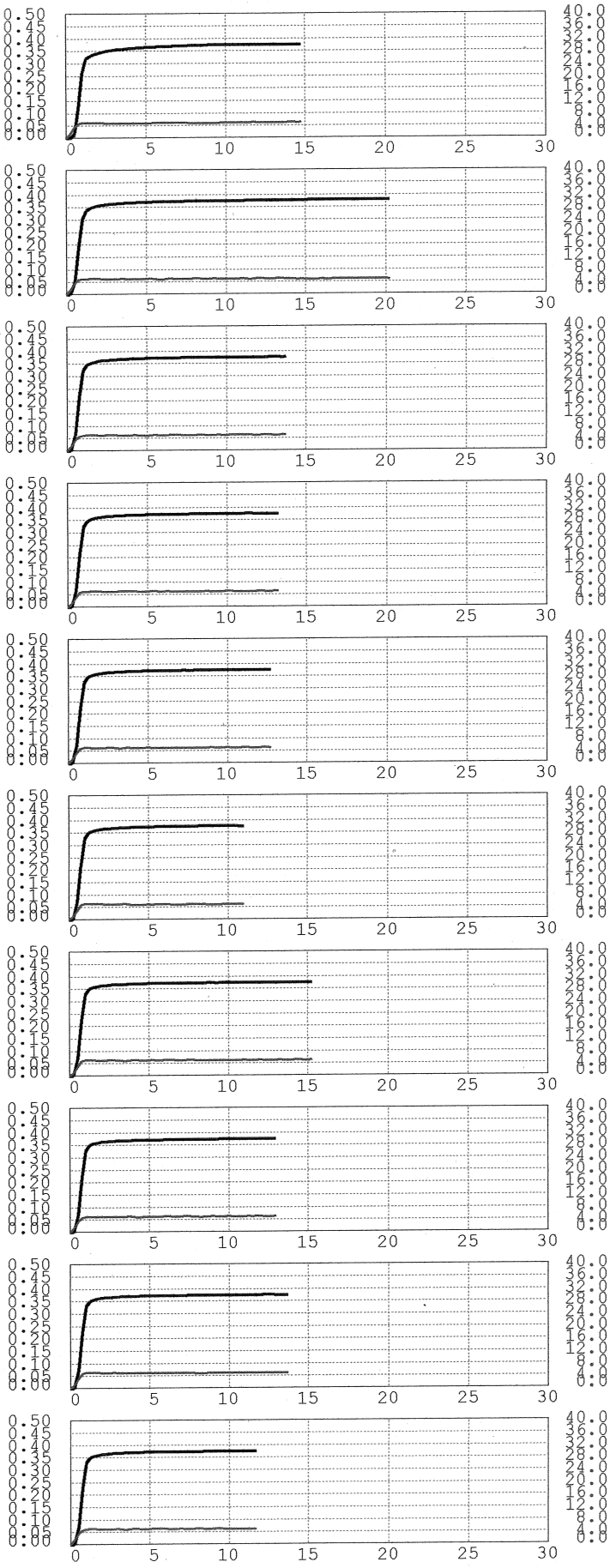
Date: 08/31/2010
Time: 07:52:59

SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-32-400
SOLUTION CONCENTRATION: 0.373

BLANK TEST	0.000	07:53
CALIBRATION CHECK	PASSED	07:54
SIMULATOR VAPOR	0.374	07:54
SIMULATOR VAPOR	0.375	07:55
SIMULATOR VAPOR	0.374	07:57
SIMULATOR VAPOR	0.374	07:58
SIMULATOR VAPOR	0.374	07:59
SIMULATOR VAPOR	0.372	08:00
SIMULATOR VAPOR	0.374	08:01
SIMULATOR VAPOR	0.373	08:02
SIMULATOR VAPOR	0.372	08:03
SIMULATOR VAPOR	0.373	08:04
BLANK TEST	0.000	08:05

Average = 0.373
Std Dev = 0.0009



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

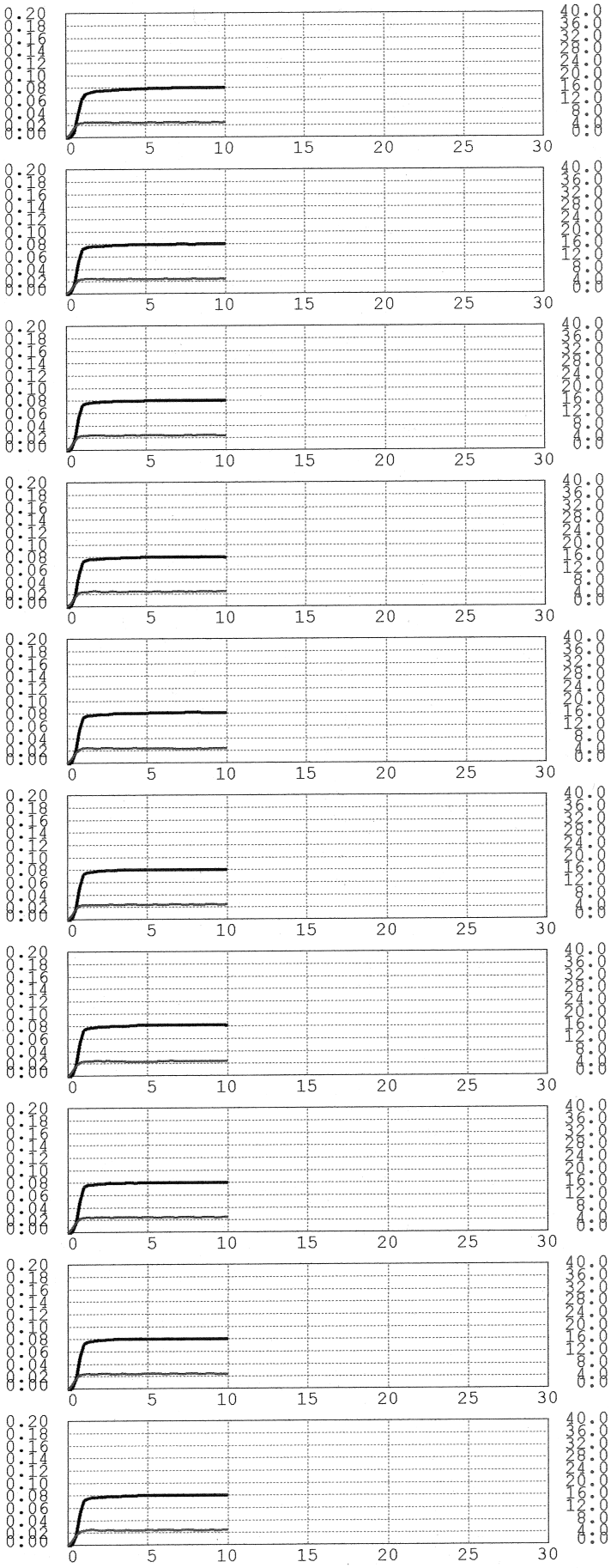
Date: 08/31/2010
Time: 08:17:37

SUPERVISOR NAME: ALB LINEARITY

SOLUTION LOT #: 10-37-080
SOLUTION CONCENTRATION: 0.079

BLANK TEST	0.000	08:18
CALIBRATION CHECK	PASSED	08:18
SIMULATOR VAPOR	0.079	08:18
SIMULATOR VAPOR	0.080	08:19
SIMULATOR VAPOR	0.080	08:20
SIMULATOR VAPOR	0.080	08:21
SIMULATOR VAPOR	0.079	08:22
SIMULATOR VAPOR	0.080	08:23
SIMULATOR VAPOR	0.079	08:24
SIMULATOR VAPOR	0.081	08:25
SIMULATOR VAPOR	0.080	08:26
SIMULATOR VAPOR	0.080	08:27
BLANK TEST	0.000	08:28

Average = 0.079
Std Dev = 0.0006



Section 5: Interference

ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

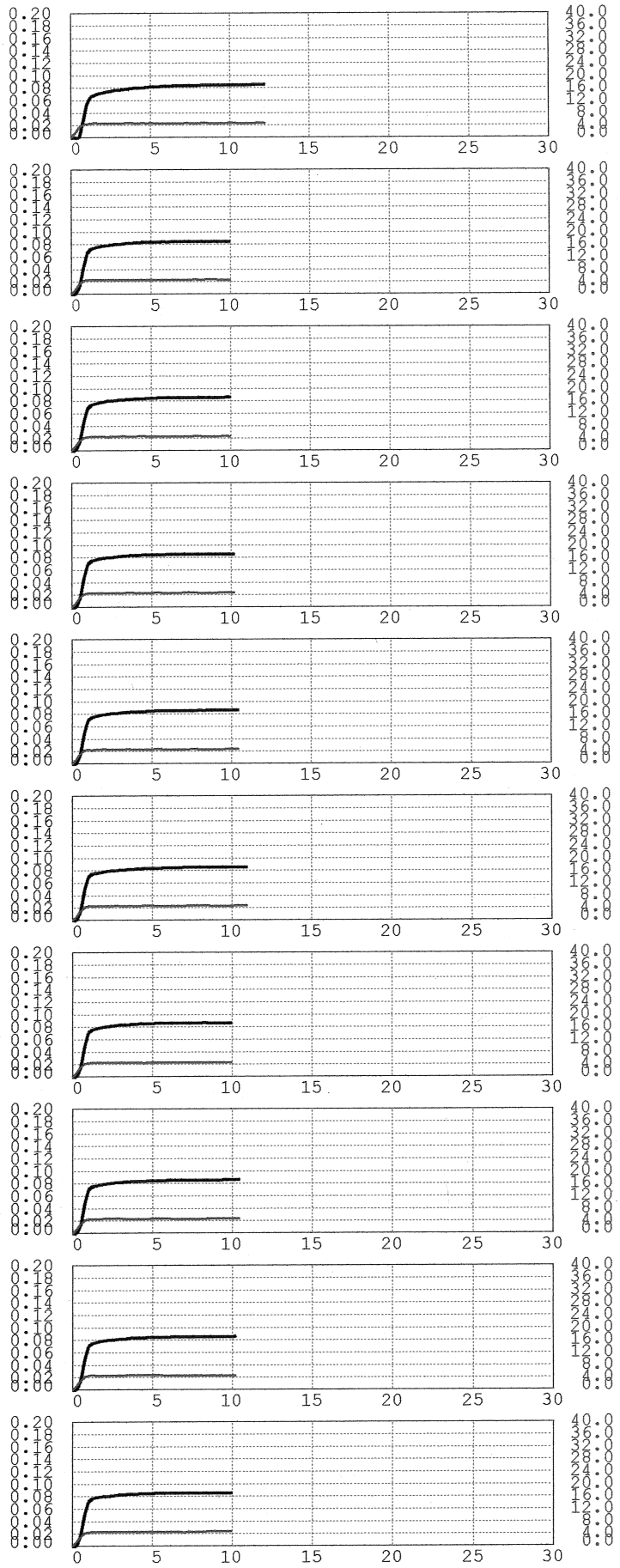
Date: 08/26/2010
Time: 08:08:50

SUPERVISOR NAME: ALB .01ACETONE IN .08ETOH

SOLUTION LOT #: 10-33-08A
SOLUTION CONCENTRATION: 0.080

BLANK TEST	0.000	08:09
CALIBRATION CHECK	PASSED	08:09
SIMULATOR VAPOR	INTERFERENCE	08:10
SIMULATOR VAPOR	INTERFERENCE	08:11
SIMULATOR VAPOR	INTERFERENCE	08:12
SIMULATOR VAPOR	INTERFERENCE	08:13
SIMULATOR VAPOR	INTERFERENCE	08:14
SIMULATOR VAPOR	INTERFERENCE	08:15
SIMULATOR VAPOR	INTERFERENCE	08:16
SIMULATOR VAPOR	INTERFERENCE	08:17
SIMULATOR VAPOR	INTERFERENCE	08:18
SIMULATOR VAPOR	INTERFERENCE	08:19
BLANK TEST	0.000	08:19

Average out of range!



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

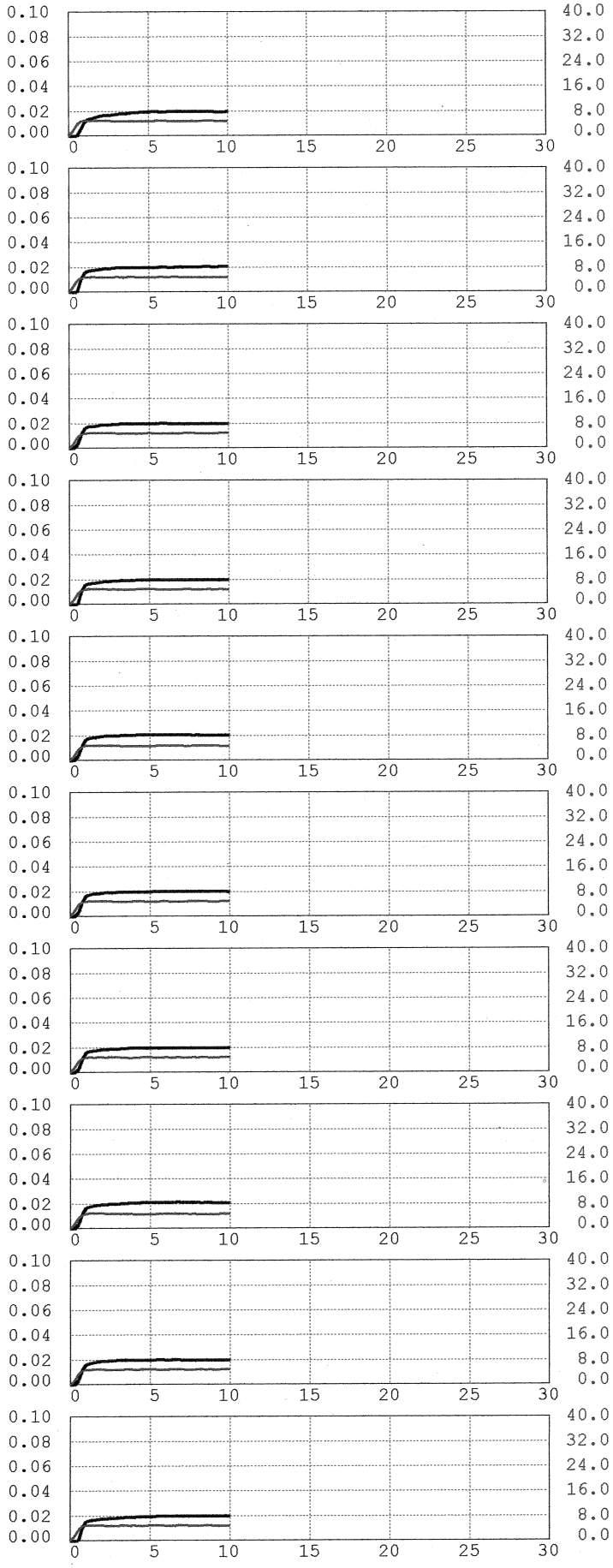
Date: 08/26/2010
Time: 08:52:50

SUPERVISOR NAME: ALB .04IPA IN H2O

SOLUTION LOT #: 10-26-04I
SOLUTION CONCENTRATION: 0.040

BLANK TEST	0.000	08:53
CALIBRATION CHECK	PASSED	08:53
SIMULATOR VAPOR	INTERFERENCE	08:54
SIMULATOR VAPOR	INTERFERENCE	08:55
SIMULATOR VAPOR	INTERFERENCE	08:56
SIMULATOR VAPOR	INTERFERENCE	08:57
SIMULATOR VAPOR	INTERFERENCE	08:58
SIMULATOR VAPOR	INTERFERENCE	08:59
SIMULATOR VAPOR	INTERFERENCE	09:00
SIMULATOR VAPOR	INTERFERENCE	09:00
SIMULATOR VAPOR	INTERFERENCE	09:01
SIMULATOR VAPOR	INTERFERENCE	09:02
BLANK TEST	0.000	09:03

Average out of range!



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

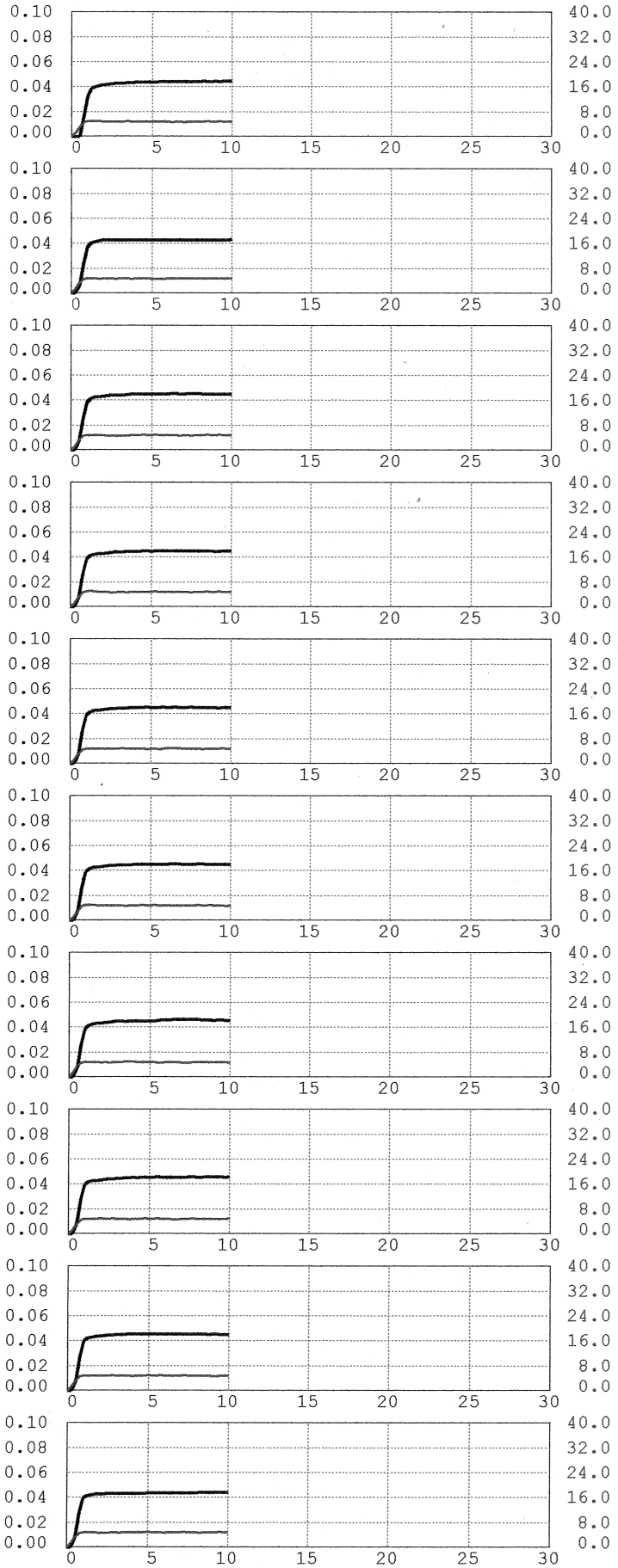
Date: 08/26/2010
Time: 09:08:49

SUPERVISOR NAME: ALB .01 ACETONE IN .04 ETO

SOLUTION LOT #: 10-35-04A1
SOLUTION CONCENTRATION: 0.040

BLANK TEST	0.000	09:09
CALIBRATION CHECK	PASSED	09:09
SIMULATOR VAPOR	INTERFERENCE	09:10
SIMULATOR VAPOR	INTERFERENCE	09:11
SIMULATOR VAPOR	INTERFERENCE	09:12
SIMULATOR VAPOR	INTERFERENCE	09:13
SIMULATOR VAPOR	INTERFERENCE	09:14
SIMULATOR VAPOR	INTERFERENCE	09:15
SIMULATOR VAPOR	INTERFERENCE	09:16
SIMULATOR VAPOR	INTERFERENCE	09:17
SIMULATOR VAPOR	INTERFERENCE	09:17
SIMULATOR VAPOR	INTERFERENCE	09:18
BLANK TEST	0.000	09:19

Average out of range!



ACCURACY AND PRECISION TEST

STATE OF VERMONT

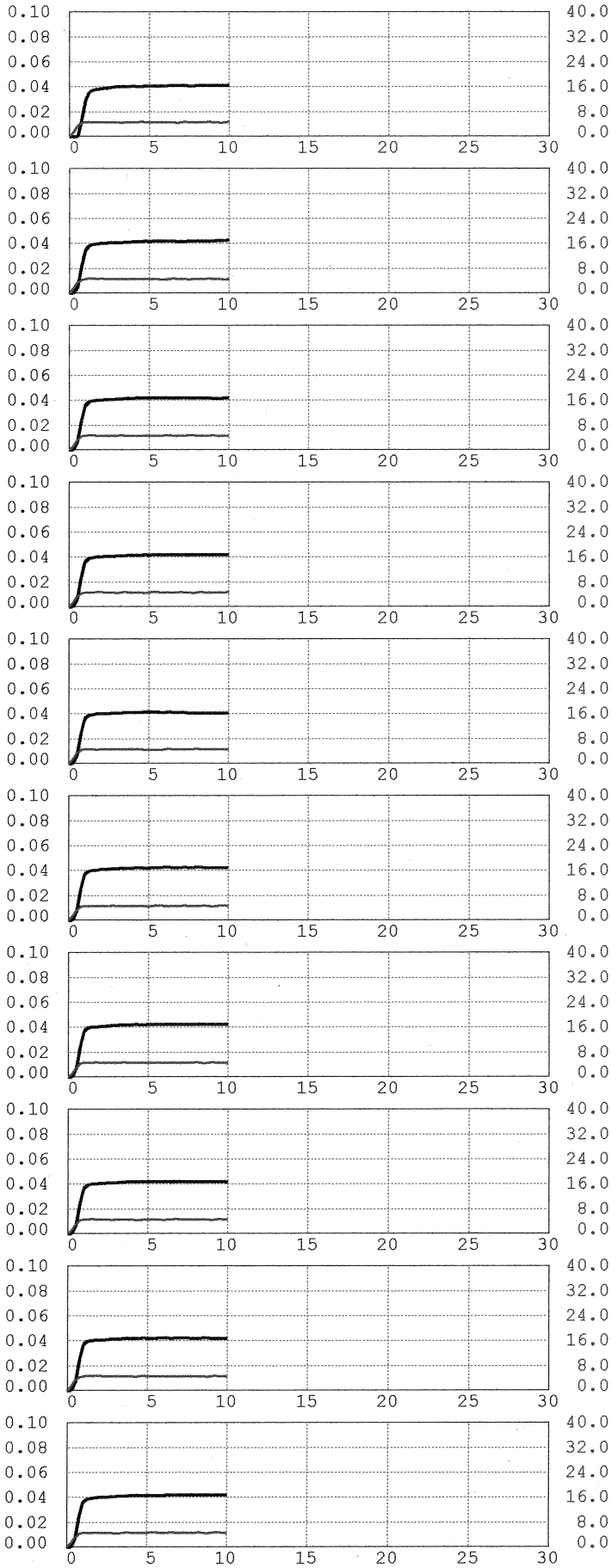
DataMaster DMT: 100159

Date: 08/26/2010
Time: 09:25:17

SUPERVISOR NAME: ALB .02 ACETON EIN .04 ETO

SOLUTION LOT #: 10-35-04A2
SOLUTION CONCENTRATION: 0.040

BLANK TEST	0.000	09:26
CALIBRATION CHECK	PASSED	09:26
SIMULATOR VAPOR	INTERFERENCE	09:26
SIMULATOR VAPOR	INTERFERENCE	09:27
SIMULATOR VAPOR	INTERFERENCE	09:28
SIMULATOR VAPOR	INTERFERENCE	09:29
SIMULATOR VAPOR	INTERFERENCE	09:30
SIMULATOR VAPOR	INTERFERENCE	09:31
SIMULATOR VAPOR	INTERFERENCE	09:32
SIMULATOR VAPOR	INTERFERENCE	09:33
SIMULATOR VAPOR	INTERFERENCE	09:34
SIMULATOR VAPOR	INTERFERENCE	09:35
BLANK TEST	0.000	09:36



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

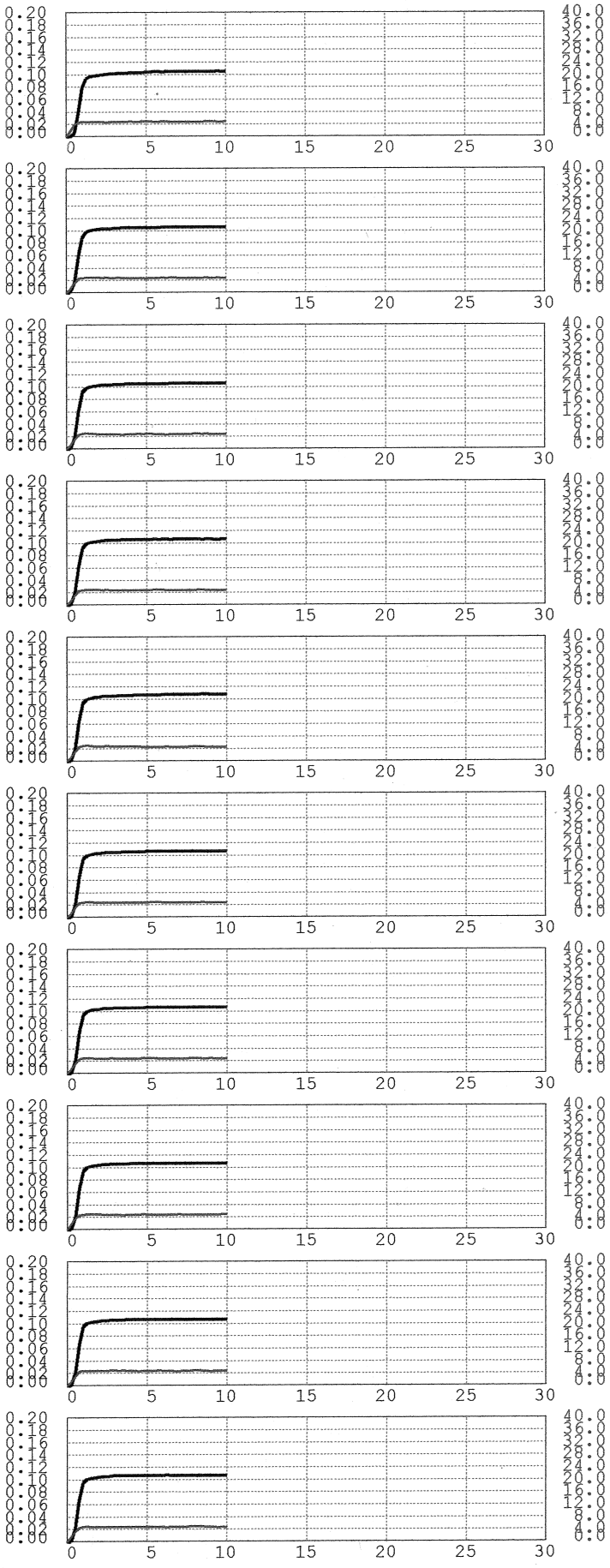
Date: 08/26/2010
Time: 09:44:49

SUPERVISOR NAME: ALB .04MEOH IN .08ETOH

SOLUTION LOT #: 10-10-08M4
SOLUTION CONCENTRATION: 0.080

BLANK TEST	0.000	09:45
CALIBRATION CHECK	PASSED	09:45
SIMULATOR VAPOR	INTERFERENCE	09:46
SIMULATOR VAPOR	INTERFERENCE	09:47
SIMULATOR VAPOR	INTERFERENCE	09:48
SIMULATOR VAPOR	INTERFERENCE	09:49
SIMULATOR VAPOR	INTERFERENCE	09:50
SIMULATOR VAPOR	INTERFERENCE	09:51
SIMULATOR VAPOR	INTERFERENCE	09:52
SIMULATOR VAPOR	INTERFERENCE	09:53
SIMULATOR VAPOR	INTERFERENCE	09:54
SIMULATOR VAPOR	INTERFERENCE	09:55
BLANK TEST	0.000	09:55

Average out of range!



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

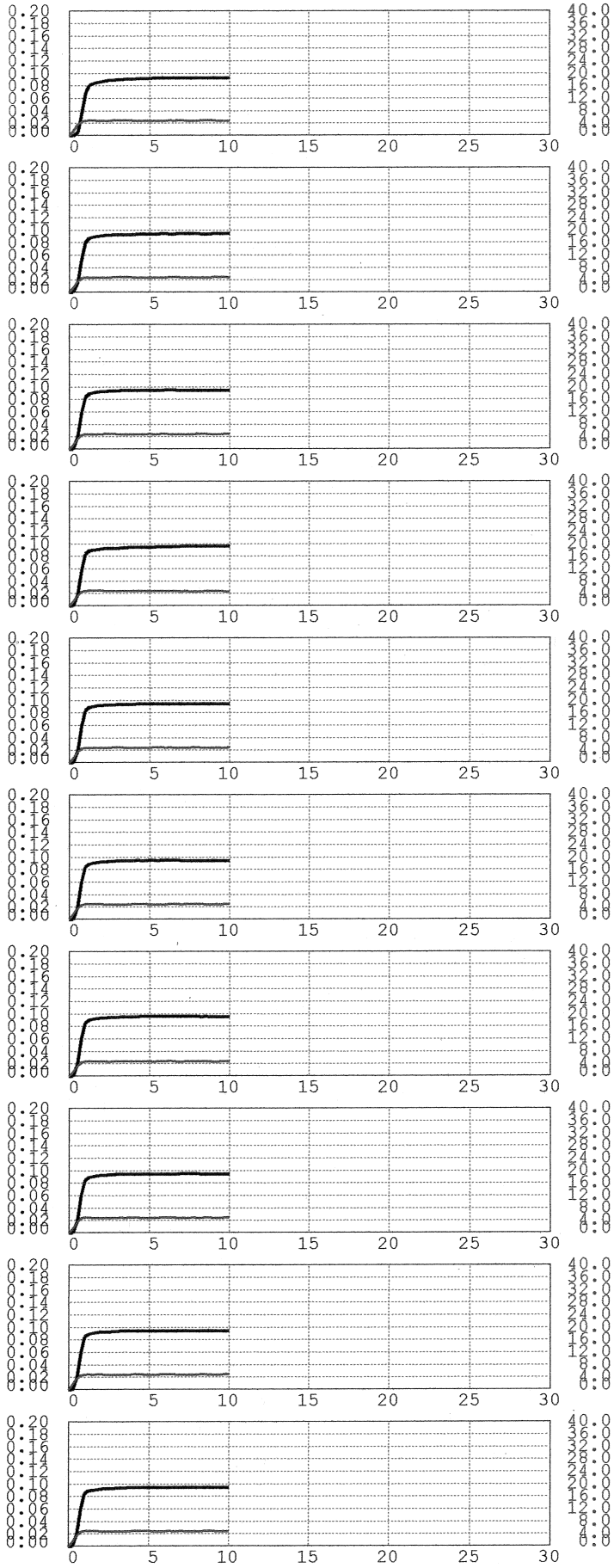
Date: 08/26/2010
Time: 10:08:31

SUPERVISOR NAME: ALB .04IAP IN .08ETOH

SOLUTION LOT #: 09-30-08I
SOLUTION CONCENTRATION: 0.079

BLANK TEST	0.000	10:09
CALIBRATION CHECK	PASSED	10:09
SIMULATOR VAPOR	INTERFERENCE	10:09
SIMULATOR VAPOR	INTERFERENCE	10:10
SIMULATOR VAPOR	INTERFERENCE	10:11
SIMULATOR VAPOR	INTERFERENCE	10:12
SIMULATOR VAPOR	INTERFERENCE	10:13
SIMULATOR VAPOR	INTERFERENCE	10:14
SIMULATOR VAPOR	INTERFERENCE	10:15
SIMULATOR VAPOR	INTERFERENCE	10:16
SIMULATOR VAPOR	INTERFERENCE	10:17
SIMULATOR VAPOR	INTERFERENCE	10:18
BLANK TEST	0.000	10:19

Average out of range!



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

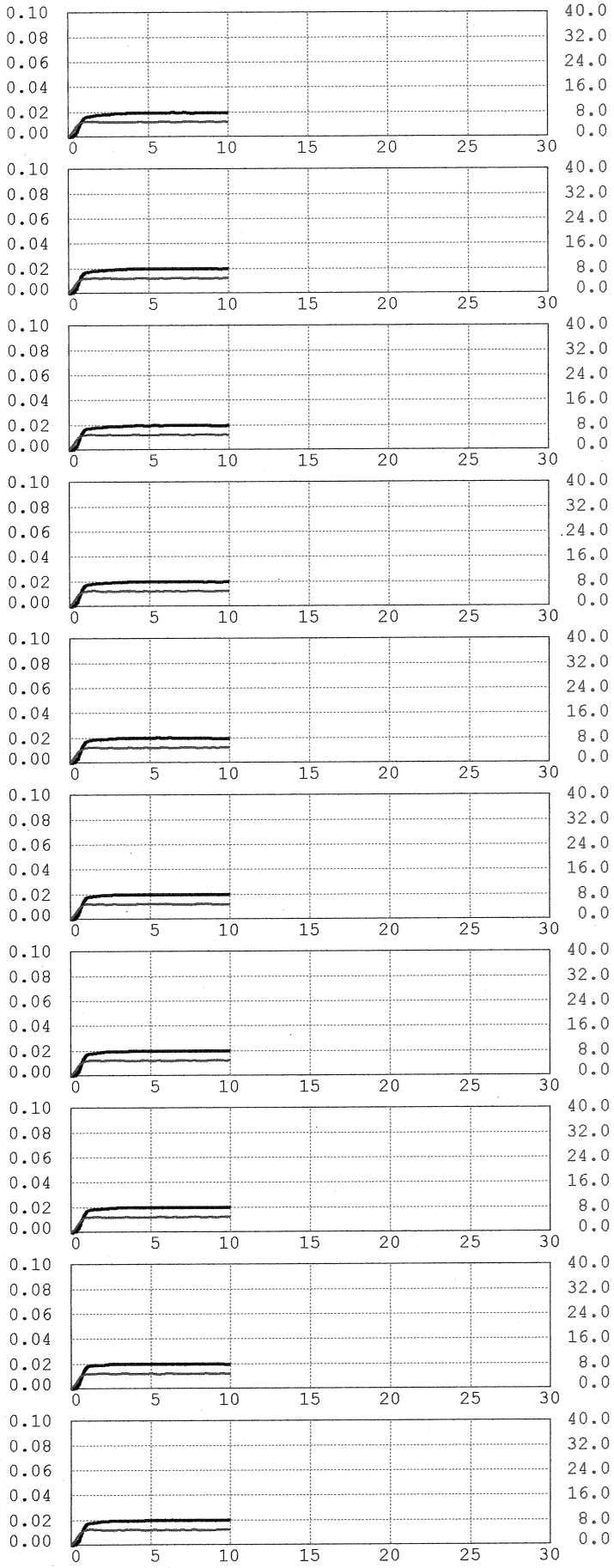
Date: 08/26/2010
Time: 10:24:41

SUPERVISOR NAME: ALB .04MEOH IN H2O

SOLUTION LOT #: 11-08-04M
SOLUTION CONCENTRATION: 0.040

BLANK TEST	0.000	10:25
CALIBRATION CHECK	PASSED	10:25
SIMULATOR VAPOR	INTERFERENCE	10:26
SIMULATOR VAPOR	0.020	10:26
SIMULATOR VAPOR	INTERFERENCE	10:27
SIMULATOR VAPOR	INTERFERENCE	10:28
SIMULATOR VAPOR	INTERFERENCE	10:29
SIMULATOR VAPOR	INTERFERENCE	10:30
SIMULATOR VAPOR	INTERFERENCE	10:31
SIMULATOR VAPOR	INTERFERENCE	10:32
SIMULATOR VAPOR	INTERFERENCE	10:33
SIMULATOR VAPOR	INTERFERENCE	10:34
BLANK TEST	0.000	10:35

Average out of range!



Section 6: Low Level Accuracy

This Instrument not tested for this specification

Section 7: Breath Volume

DMT Serial #100159

Operator	Date	Room Temp	Humidity									
ALB	8/26/2010	71.8	47%									
Target Volume	Set Flow (lpm)	Flow On (lpm)	Time (sec)	1	2	3	4	5	6	7	Average	% s.d.
1.5 L	8.2		11	2.28	2.12	2.27	2.25	2.14	2.13	2.26	2.207	7.296
	15		6	2.42	2.37	2.15	2.23	2.32	2.15	2.1	2.249	12.32
	22.5		4	2.61	2.45	2.32	2.46	2.23	2.32	2.69	2.440	16.57
2.5 L	10		15	3	2.82	2.91	2.82	2.99	2.87	2.82	2.890	7.916
	15		10	2.98	2.99	3.02	2.82	2.89	2.92	3.01	2.947	7.342
	25		6	3.32	3.23	3.09	3.27	3.48	3.03	3.34	3.251	15.31

Section 8: Software Testing

This Instrument not tested for this specification

Section 9: Error Reports

ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

Date: 08/26/2010
Time: 08:27:18

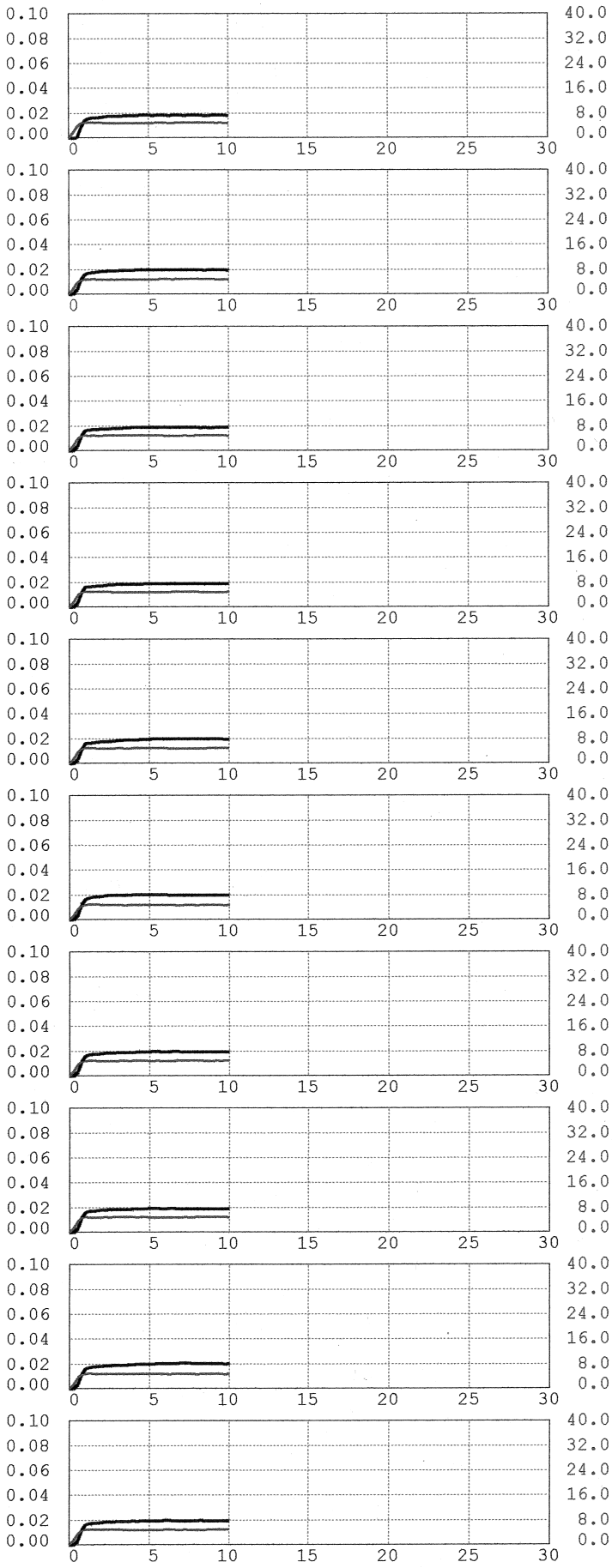
SUPERVISOR NAME: ALB .04MEOH IN H20

SOLUTION LOT #: 10-25-04M
SOLUTION CONCENTRATION: 0.040

BLANK TEST	0.000	08:28
CALIBRATION CHECK	PASSED	08:28
Xq = 0.0856 (0.91%)		
SIMULATOR VAPOR	0.019	08:28
X[1] = 0.0198 (-0.0019) (-0.0027)		
SIMULATOR VAPOR	0.020	08:29
X[1] = 0.0208 (-0.0013) (-0.0033)		
SIMULATOR VAPOR	INTERFERENCE	08:30
X[1] = 0.0199 (-0.0031) (-0.0040)		
SIMULATOR VAPOR	INTERFERENCE	08:31
X[1] = 0.0199 (-0.0035) (-0.0039)		
SIMULATOR VAPOR	0.020	08:32
X[1] = 0.0203 (-0.0015) (-0.0046)		
SIMULATOR VAPOR	INTERFERENCE	08:33
X[1] = 0.0199 (-0.0032) (-0.0049)		
SIMULATOR VAPOR	0.020	08:34
X[1] = 0.0203 (-0.0022) (-0.0029)		
SIMULATOR VAPOR	INTERFERENCE	08:35
X[1] = 0.0201 (-0.0038) (-0.0039)		
SIMULATOR VAPOR	0.020	08:36
X[1] = 0.0202 (-0.0024) (-0.0030)		
SIMULATOR VAPOR	0.020	08:37
X[1] = 0.0203 (-0.0025) (-0.0038)		
BLANK TEST	0.000	08:38

Average out of range!

Solution depleted 8/26/10 ALB



CALIBRATION REPORT

DataMaster DMT: 100159
Calibration Date: 09/07/2010
Calibrated by: AMANDA BOLDUC
Lot: 11-03-100

VERMONT
DEPARTMENT OF HEALTH

Ca =	0.102000		
CAL =	0.994634	0.800 <= CAL < 1.200	
b1 =	0.001180	0.000 <= b1 < 0.004	
b2 =	0.006306	0.001 <= b2 < 0.012	
b3 =	0.000000	0.000 <= b3 < 0.004	
Xq =	0.087724	0.050 <= Xq < 0.200	
a21 =	1.201556	1.050 <= a21 < 1.300	
a31 =	0.487424	0.300 <= a31 < 0.800	

Performed by _____ **Date** 09/07/2010

CALIBRATION REPORT

DataMaster DMT: 100159
Calibration Date: 09/07/2010
Calibrated by: AMANDA BOLDUC
Lot: 11-03-100

VERMONT
DEPARTMENT OF HEALTH

Ca =	0.102000		
CAL =	0.994634	0.800 <= CAL < 1.200	
b1 =	0.001180	0.000 <= b1 < 0.004	
b2 =	0.006306	0.001 <= b2 < 0.012	
b3 =	0.000000	0.000 <= b3 < 0.004	
Xq =	0.087724	0.050 <= Xq < 0.200	
a21 =	1.201556	1.050 <= a21 < 1.300	
a31 =	0.487424	0.300 <= a31 < 0.800	

Performed by _____ **Date** 09/07/2010

CALIBRATION REPORT

DataMaster DMT: 100159
Calibration Date: 09/01/2010
Calibrated by: AMANDA BOLDUC
Lot: 11-03-100

VERMONT
DEPARTMENT OF HEALTH

Ca =	0.102000		
CAL =	0.965599	0.800 <= CAL < 1.200	
b1 =	0.001086	0.000 <= b1 < 0.004	
b2 =	0.005668	0.001 <= b2 < 0.012	
b3 =	0.000000	0.000 <= b3 < 0.004	
Xq =	0.088511	0.050 <= Xq < 0.200	
a21 =	1.203296	1.050 <= a21 < 1.300	
a31 =	0.459627	0.300 <= a31 < 0.800	

recalibrated due to low recoveries on certification attempt
9/1/10

Performed by Amanda Bolduc **Date** 09/01/2010

ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

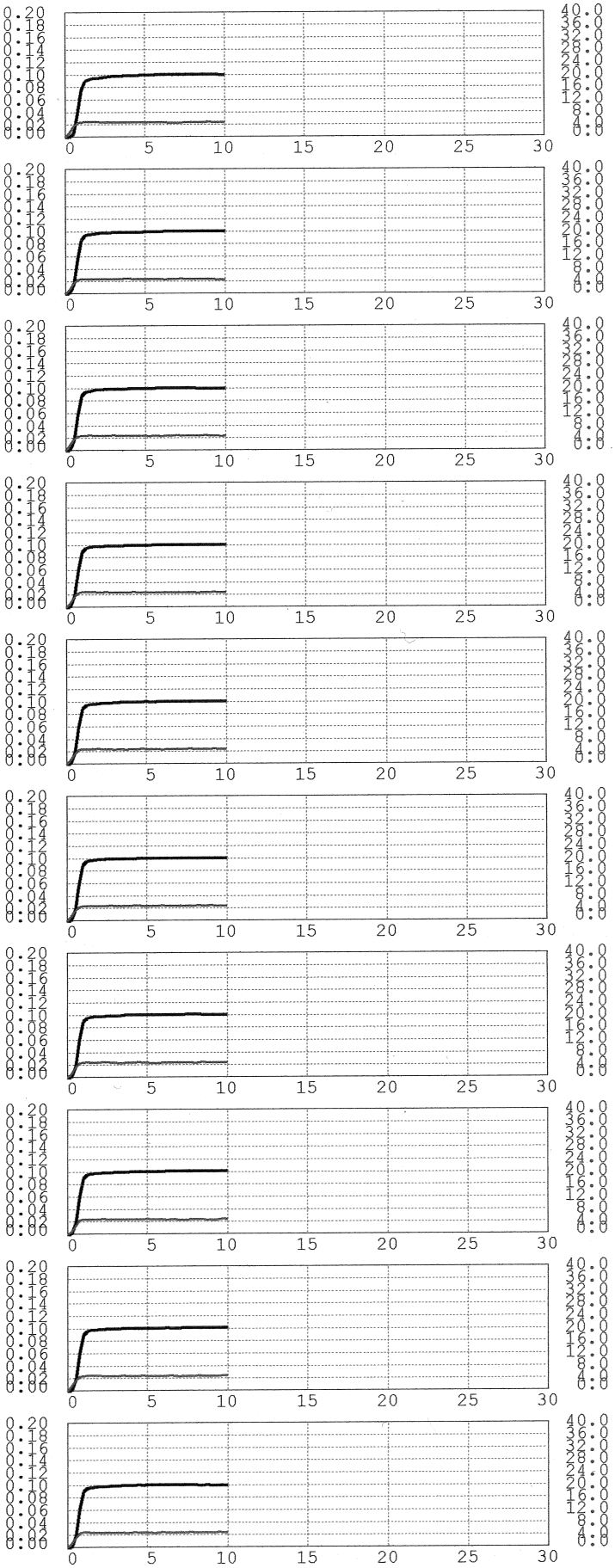
Date: 09/01/2010
Time: 11:39:40

SUPERVISOR NAME: ALB CAL CHECK

SOLUTION LOT #: 11-04-100
SOLUTION CONCENTRATION: 0.098

BLANK TEST	0.000	11:40
CALIBRATION CHECK	PASSED	11:40
SIMULATOR VAPOR	0.100	11:41
SIMULATOR VAPOR	0.100	11:42
SIMULATOR VAPOR	0.099	11:42
SIMULATOR VAPOR	0.100	11:43
SIMULATOR VAPOR	0.100	11:44
SIMULATOR VAPOR	0.100	11:45
SIMULATOR VAPOR	0.100	11:46
SIMULATOR VAPOR	0.100	11:47
SIMULATOR VAPOR	0.100	11:48
SIMULATOR VAPOR	0.099	11:49
BLANK TEST	0.000	11:50

Average = 0.099
Std Dev = 0.0004



CALIBRATION REPORT

DataMaster DMT: 100159
Calibration Date: 09/01/2010
Calibrated by: AMANDA BOLDUC
Lot: 11-03-100

VERMONT
DEPARTMENT OF HEALTH

Ca =	0.102000		
CAL =	0.988498	0.800 <= CAL < 1.200	
b1 =	0.001170	0.000 <= b1 < 0.004	
b2 =	0.005301	0.001 <= b2 < 0.012	
b3 =	0.000000	0.000 <= b3 < 0.004	
Xq =	0.087724	0.050 <= Xq < 0.200	
a21 =	1.217687	1.050 <= a21 < 1.300	
a31 =	0.467730	0.300 <= a31 < 0.800	

Recalibrated due to failure to detect interferences at appropriate level
9/7/10

Performed by Amanda Bolduc **Date** 09/01/2010

ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

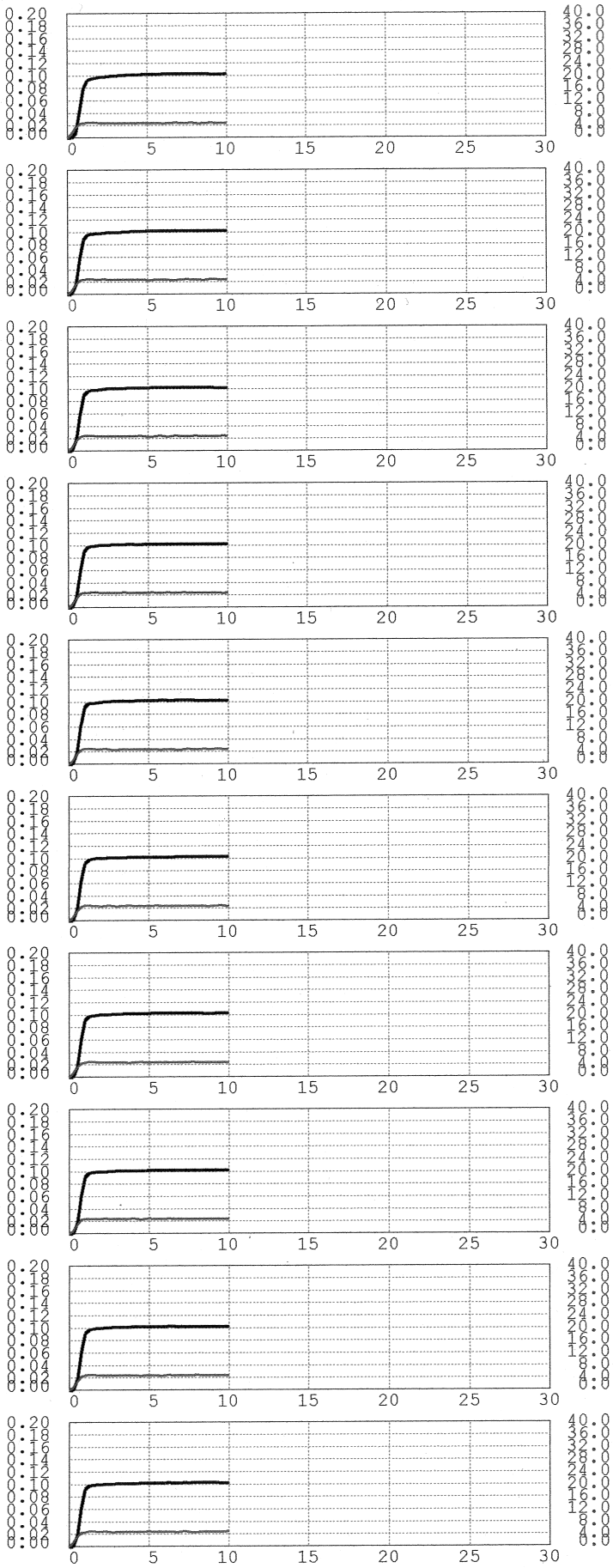
Date: 09/01/2010
Time: 14:32:38

SUPERVISOR NAME: ALB CAL CHECK

SOLUTION LOT #: 11-04-100
SOLUTION CONCENTRATION: 0.098

BLANK TEST	0.000	14:33
CALIBRATION CHECK	PASSED	14:33
SIMULATOR VAPOR	0.102	14:33
SIMULATOR VAPOR	0.101	14:34
SIMULATOR VAPOR	0.101	14:35
SIMULATOR VAPOR	0.102	14:36
SIMULATOR VAPOR	0.101	14:37
SIMULATOR VAPOR	0.102	14:38
SIMULATOR VAPOR	0.101	14:39
SIMULATOR VAPOR	0.101	14:40
SIMULATOR VAPOR	0.101	14:41
SIMULATOR VAPOR	0.102	14:42
BLANK TEST	0.000	14:43

Average = 0.101
Std Dev = 0.0005



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100159

Date: 09/03/2010
Time: 15:09:39

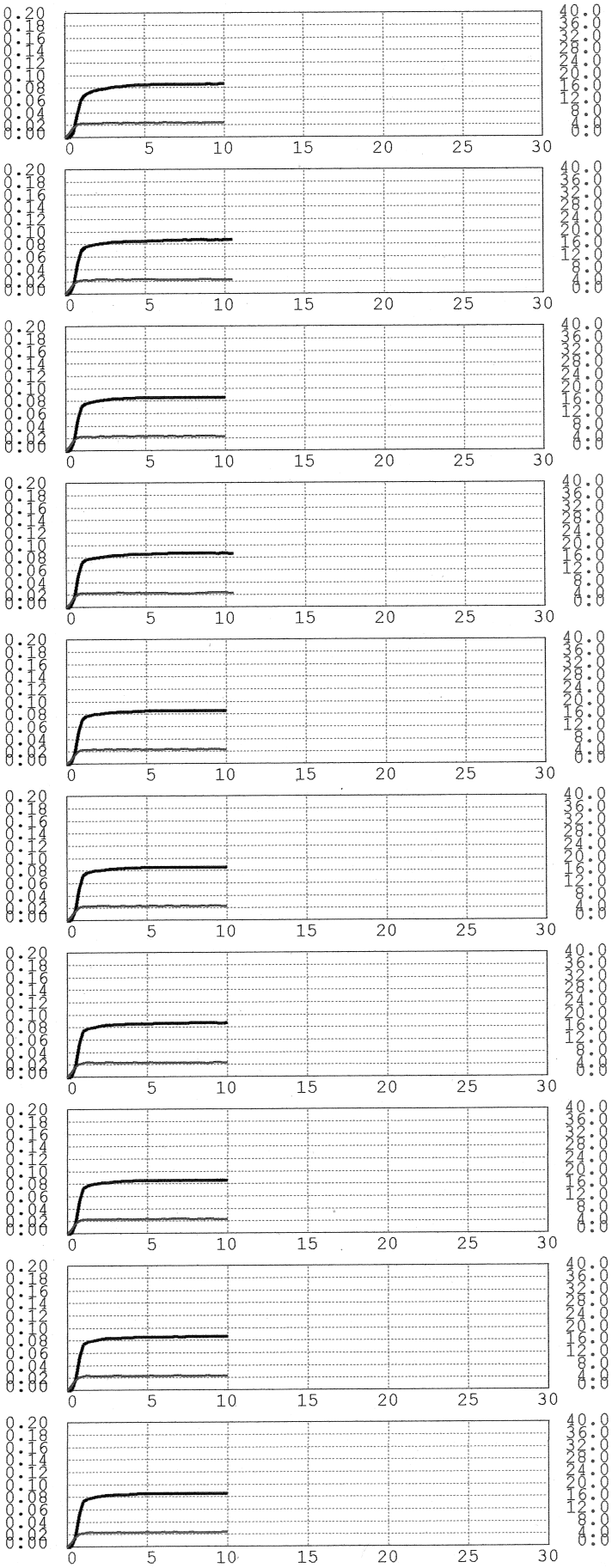
SUPERVISOR NAME: ALB .01ACETONE IN .08ETOH

SOLUTION LOT #: 10-33-08A
SOLUTION CONCENTRATION: 0.080

BLANK TEST	0.000	15:10
CALIBRATION CHECK	PASSED	15:10
Xq = 0.0879 (0.20%)		
SIMULATOR VAPOR	0.086	15:10
X[1] = 0.0863 (-0.0044) (-0.0003)		
SIMULATOR VAPOR	INTERFERENCE	15:11
X[1] = 0.0855 (-0.0054) (0.0012)		
SIMULATOR VAPOR	INTERFERENCE	15:12
X[1] = 0.0858 (-0.0059) (0.0002)		
SIMULATOR VAPOR	INTERFERENCE	15:13
X[1] = 0.0847 (-0.0063) (-0.0011)		
SIMULATOR VAPOR	INTERFERENCE	15:14
X[1] = 0.0862 (-0.0046) (0.0025)		
SIMULATOR VAPOR	0.086	15:15
X[1] = 0.0861 (-0.0044) (-0.0011)		
SIMULATOR VAPOR	INTERFERENCE	15:16
X[1] = 0.0850 (-0.0064) (-0.0019)		
SIMULATOR VAPOR	INTERFERENCE	15:17
X[1] = 0.0859 (-0.0057) (0.0007)		
SIMULATOR VAPOR	0.086	15:18
X[1] = 0.0861 (-0.0050) (0.0008)		
SIMULATOR VAPOR	0.086	15:19
X[1] = 0.0863 (-0.0045) (0.0012)		
BLANK TEST	0.000	15:20

Average out of range!

New Solution opened 9/3/10 @ 1400hrs
AB 9/7/10



ACCURACY AND PRECISION TEST

STATE OF VERMONT

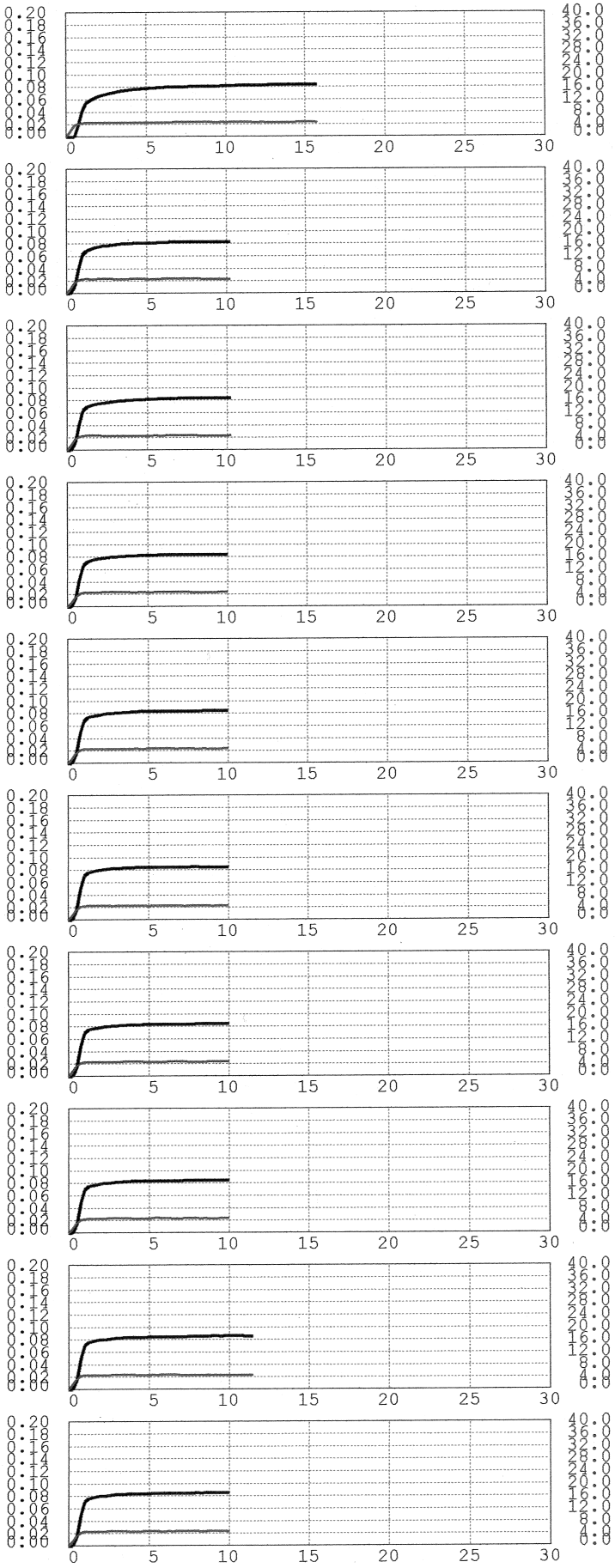
DataMaster DMT: 100159

Date: 09/07/2010
Time: 06:50:56

SUPERVISOR NAME: ALB .01ACETONE .08ETOH

SOLUTION LOT #: 10-33-08A
SOLUTION CONCENTRATION: 0.080

BLANK TEST	0.000	06:51
CALIBRATION CHECK	PASSED	06:51
Xq = 0.0883 (0.70%)		
SIMULATOR VAPOR	0.084	06:52
X[1] = 0.0845 (-0.0038) (-0.0001)		
SIMULATOR VAPOR	INTERFERENCE	06:53
X[1] = 0.0833 (-0.0053) (-0.0016)		
SIMULATOR VAPOR	0.084	06:54
X[1] = 0.0842 (-0.0047) (-0.0014)		
SIMULATOR VAPOR	0.084	06:55
X[1] = 0.0847 (-0.0035) (-0.0017)		
SIMULATOR VAPOR	0.085	06:56
X[1] = 0.0850 (-0.0044) (-0.0005)		
SIMULATOR VAPOR	INTERFERENCE	06:57
X[1] = 0.0846 (-0.0057) (-0.0016)		
SIMULATOR VAPOR	0.085	06:58
X[1] = 0.0850 (-0.0046) (-0.0007)		
SIMULATOR VAPOR	INTERFERENCE	06:59
X[1] = 0.0854 (-0.0058) (-0.0005)		
SIMULATOR VAPOR	INTERFERENCE	07:00
X[1] = 0.0841 (-0.0059) (-0.0015)		
SIMULATOR VAPOR	0.085	07:01
X[1] = 0.0857 (-0.0047) (0.0005)		
BLANK TEST	0.000	07:01



Section 10: Live Subject Tests

This Instrument not tested for this specification

Section 11: Communication Notes

March/April 2010 100159

~~October 2009~~

~~Third~~ 4th Round Testing Protocol for DMT Instruments

Power Up Procedure:

a) Open unit and inspect connections. Ensure all tubing is secure. Check that all cables are properly seated and tied down or strapped together as necessary. Check that all screws are in place and snug; this will require the removal of the side pieces to allow the technician access. Correct as needed.

b) Manually turn the filter wheel. The filter wheel should turn smoothly and should not rub or wobble. Correct as needed.

c) Power on the instrument. Allow approximately one hour for it to come to temperature.

d) Access the SETUP menu. On the MISC tab, type "State of Vermont" in the NAME field. In the EXPLORE box, highlight STYLUS and press the OK button to activate the stylus settings. Recalibrate the stylus. Once complete, exit the SETUP menu by pressing the OK button to save the settings. If you exit the SETUP menu using the CANCEL button, none of the changes will be saved.

e) Enter the TECH screen. Scroll through all of the filter settings to ensure the filter wheel is activating properly.

f) Optimize the detector voltage
-Adjust the cooler voltage setting to 1.70Vdc +/-0.10.
-Manually manipulate the detector position to get the detector voltage as low as possible.
-Adjust the Lamp voltage setting so that the detector voltage displayed is approximately +0.000 +/- 0.100.
-Note the initial noise of the detector voltage once unit has had a minute to equilibrate. Noise tolerance at NPAS is +/-0.003 on a detector.
-Save the voltage settings
-Per VDHL protocol (P-Alc-116 Power-Up SOP), the detector voltage must read 0.000V with a tolerance of +/- 0.100V. Correct as needed.

g) While still in the TECH screen, press SET in the RF Sensitivity box to automatically set the RF sensitivity level. Press SAVE to save the settings. Confirm the setting by keying a radio near the instrument. Correct as needed.

h) Using the large syringe, push 1.5L of air into the breath tube. Monitor the volume of air displayed on the TECH screen. The instrument should read 1.5L +/- 0.2L. If the instrument is out of range, adjust the distance between the "T" fittings on the breath exhaust tubing. Retest until the volume reads appropriately.

i) Once all the TECH settings are correct, re-save every setting. Exit the TECH screen.

j) Close up the instrument using locking screws on the top four holes. Attach the stylus to the DMT using a locking screw in the center right screw hole nearest the simulator tower. Attach the keyboard to the top of the instrument using sticky-back velcro. Wrap a small piece of velcro around the top of the stylus and affix the other side to the front of the instrument so the stylus can rest on the front of the unit.

k) Calibrate the instrument following the Calibration Protocol using Calibration Solution (0.100 EtOH). During Calibration and Certification, it may be necessary to turn off the simulator temperature monitoring if using Guth 2100 Simulators as these do not have BNC connectors for temperature monitoring. To do this, open the SETUP menu. In the Simulator box, select NONE as the type of

8/23/10

100159

simulator. Press OK to exit. Document the room temperature and humidity level at the time of calibration in the communication notebook. ~~8/26~~

l) Certify the instrument following the Certification Protocol.

m) Preliminary interference testing. Run the following concentrations as an Accuracy and Precision Test with n=10. The instrument must report Interference at least 80% of the time.

8/26 0.01% Acetone in 0.08% EtOH
~~8/26~~ 0.04% MeOH in Water Solution depleted on 1st attempt to rerun w/fresh 8/26
8/26 0.04% Isopropanol in Water

The instrument is now ready for performance testing. If any of the above steps fail or there is **any** problem with the instrument, the DataMaster Team should be consulted as to the action required. It may be necessary to return an instrument to the manufacture for refurbishment prior to use by VDHL. All adjustments and repairs to an instrument should be documented in the instrument's testing notebook located in the testing binder. All reports generated during the Power Up Procedure should be filed in the power up section of that instrument's testing binder. If the instrument has passed, it should now be Installed to VDHL.

RFT

100159

Performance Testing

a) Linearity Test: Four concentrations of EtOH solutions will be used, 0.020, 0.080, 0.160, and 0.400. Each solution will be run using the Accuracy and Precision test (n=10). All four concentrations will be run consecutively and will count as one linearity test. Five linearity tests will be run on each instrument. Linearity tests should not be completed back to back. Testing should allow for inter- and intra- day performance. 1) 8/26 2) 8/27 3) 8/27 4) 8/30 5) 8/31

b) Low Level Performance: A solution of 0.040EtOH will be tested using the Accuracy and Precision test (n=10) once

c) Interference Test: The following concentrations will be tested using the Accuracy and Precision test (n=10). The instrument should report Interference at least 80% of the time.

0.01% Acetone in 0.04% EtOH 8/26
0.02% Acetone in 0.04% EtOH 8/26
0.04% MeOH in 0.08% EtOH 8/26
0.04% Isopropanol in 0.08% EtOH 8/26

d) Limited Volume Testing:

Target Volume	Flow (lpm)	Time (sec.)	1	2	3	4	5	6	7	Ave.	% s.d.
1.5 L	8.2	11	2.28	2.12	2.27	2.25	2.17	2.13	2.26		
	15	6	2.42	2.37	2.15	2.23	2.32	2.15	2.10		
	22.5	4	2.61	2.45	2.32	2.46	2.23	2.32	2.69		
2.0 L	10	12	3.00	2.82	2.91	2.82	2.99	2.87	2.82		
	15	8	2.98	2.99	3.02	2.82	2.89	2.92	3.01		
	24	5	3.47	3.23	3.09	3.27	3.48	3.03	3.34		
			3.32								

Pressure: _____ Flow rate +/- _____ time +/- _____

71.8°F 47% humidity

4.47
2.32
15

detector failed post testing will be replaced + Retested for Stability see TSI

9/9/10