DATAMASTER DMT 100137

VERMONT DEPARTMENT OF HEALTH LABORATORY

PERFORMANCE TESTING RESULTS

August 2010

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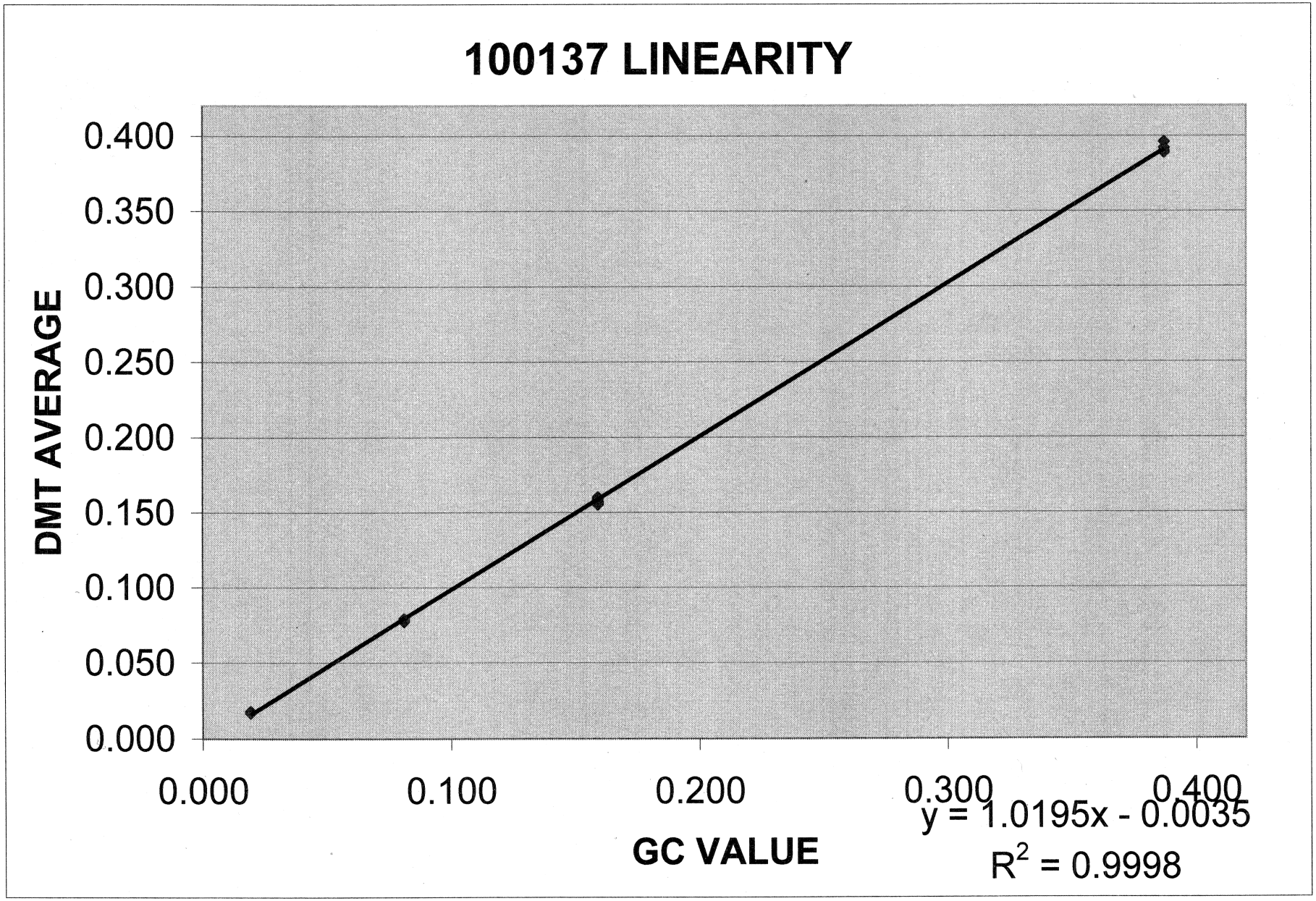
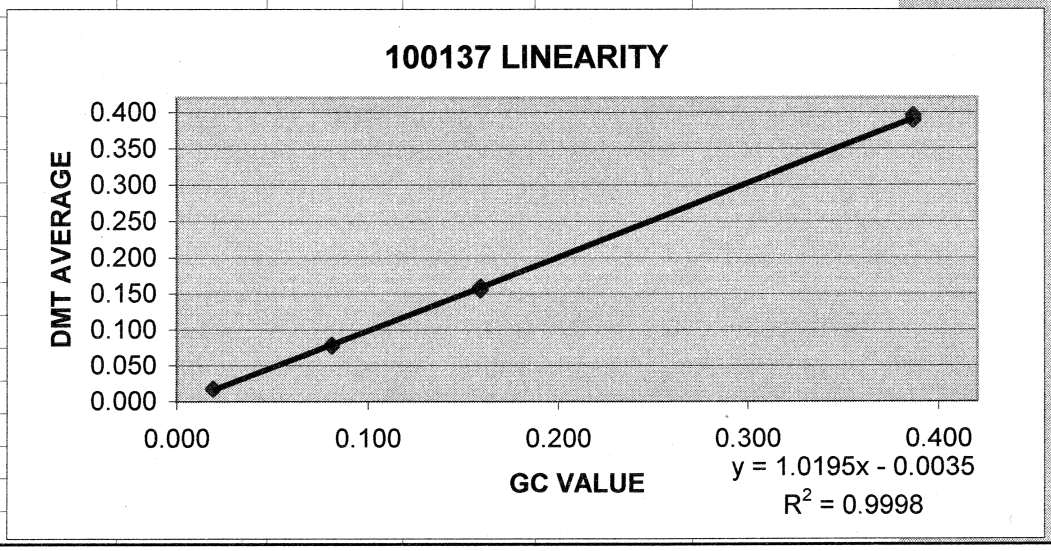
Section 1: Results


100137 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 = 1.0195x - 0.0035
R2 = 0.9998

Operator	Date	Lot #	GC Value	DMT Result	Std Dev	% Recovery	
ALB	4/21/2010	10-21-020	0.019	0.018	0.0005	94.7	Outside 5%
ALB	4/21/2010	10-19-080	0.081	0.079	0.0005	97.5	Outside 10%
DMR	4/21/2010	10-14-400	0.387	0.396	0.0006	102.3	
DMR	4/21/2010	10-20-160	0.159	0.160	0.0010	100.6	
ALB	4/22/2010	10-20-160	0.159	0.156	0.0004	98.1	
ALB	4/22/2010	10-19-080	0.081	0.078	0.0006	96.3	
ALB	4/22/2010	10-21-020	0.019	0.018	0.0004	94.7	
ALB	4/22/2010	10-14-400	0.387	0.392	0.0007	101.3	
DMR	4/22/2010	10-14-400	0.387	0.392	0.0005	101.3	
DMR	4/22/2010	10-20-160	0.159	0.159	0.0008	100.0	
ALB	4/23/2010	10-19-080	0.081	0.078	0.0004	96.3	
ALB	4/23/2010	10-21-020	0.019	0.018	0.0006	94.7	
ALB	4/23/2010	10-14-400	0.387	0.389	0.0005	100.5	
ALB	4/23/2010	10-20-160	0.159	0.155	0.0006	97.5	
ALB	4/23/2010	10-19-080	0.081	0.077	0.0005	95.1	
ALB	4/23/2010	10-21-020	0.019	0.017	0.0005	89.5	
ALB	4/26/2010	10-21-020	0.019	0.018	0.0003	94.7	
ALB	4/26/2010	10-19-080	0.081	0.077	0.0004	95.1	
ALB	4/26/2010	10-20-160	0.159	0.157	0.0004	98.7	
ALB	4/26/2010	10-14-400	0.387	0.390	0.0006	100.8	
				Average	0.0005	97.5	
				Std Dev	0.0002	3.24	
				Range	0.0000 - 0.0010	89.5 - 102.3	



Operator	Date	Concentration	Lot Number	DMT Result	Apparent EtOH	N = 10
ALB	04/26/10	.01 Acetone in .08 EtOH	10-24-08A	9 out of 10	0.08	
SH	04/21/10	.01 Acetone in .04 EtOH	09-27-04A1	INTERFERENCE	0.04	
SH	04/21/10	.02 Acetone in .04 EtOH	09-31-04A2	INTERFERENCE	0.05	
DMR	04/26/10	.04 MeOH in water	10-25-04M	INTERFERENCE	0.02	
SH	04/21/10	.04 MeOH in .08 EtOH	10-10-08M4	INTERFERENCE	0.11	
DMR	04/26/10	.04 IPA in water	10-26-04I	INTERFERENCE	0.02	
SH	04/21/10	.04 IPA in .08 EtOH	09-30-08I	INTERFERENCE	0.1	

Section 2: NPAS Tests

National Patent
Analytical Systems, Inc.

Certificate of Calibration

100137
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.

3-22-10
Date

Charles C Townsend
Technician

Section 3: Power-Up Tests

CALIBRATION REPORT

DataMaster DMT: 100137
Calibration Date: 04/20/2010
Calibrated by: STEVEN E HARNOIS
Lot: 10-22-100

VERMONT
DEPARTMENT OF HEALTH

```
Ca  =  0.101000
CAL =  1.002418    0.800 <= CAL < 1.200
b1  =  0.000000    0.000 <=  b1 < 0.004
b2  =  0.004914    0.001 <=  b2 < 0.012
b3  =  0.000000    0.000 <=  b3 < 0.004
Xq  =  0.082326    0.050 <=  Xq < 0.200
a21 =  1.211729    1.050 <= a21 < 1.300
a31 =  0.600544    0.300 <= a31 < 0.800
```

Performed by x _____ Date 04/20/2010

ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

Date: 04/20/2010
Time: 09:34:21

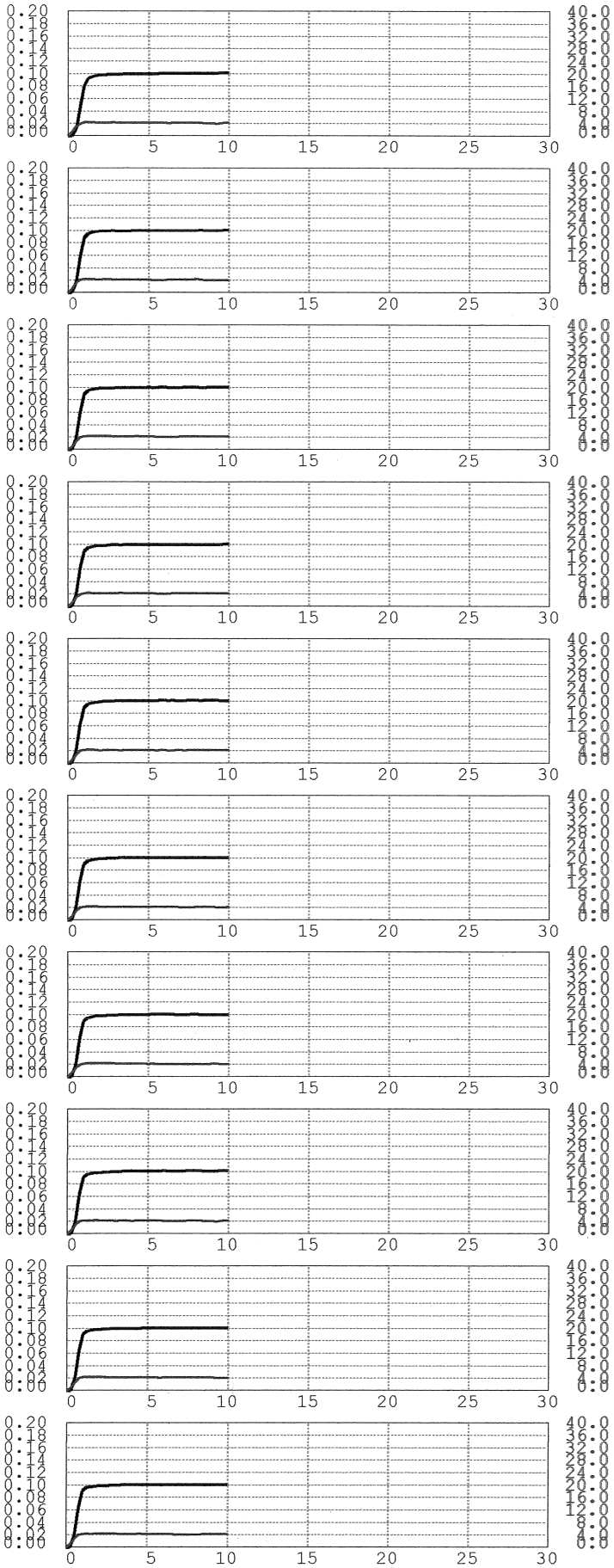
SUPERVISOR NAME: SEH CAL CHECK

SOLUTION LOT #: 10-23-100
SOLUTION CONCENTRATION: 0.101

BLANK TEST	0.000	09:35
CALIBRATION CHECK	PASSED	09:35
SIMULATOR VAPOR	0.102	09:35
SIMULATOR VAPOR	0.100	09:36
SIMULATOR VAPOR	0.100	09:37
SIMULATOR VAPOR	0.101	09:38
SIMULATOR VAPOR	0.101	09:39
SIMULATOR VAPOR	0.101	09:40
SIMULATOR VAPOR	0.100	09:41
SIMULATOR VAPOR	0.101	09:42
SIMULATOR VAPOR	0.101	09:43
SIMULATOR VAPOR	0.101	09:44
BLANK TEST	0.000	09:45

Average = 0.100
Std Dev = 0.0006

TV = 0.100
4/21/10



CERTIFICATION REPORT

DataMaster DMT: 100137
Calibration Date: 04/20/2010
Certification Date: 04/20/2010
Certified by: STEVEN E HARNOIS

VERMONT
DEPARTMENT OF HEALTH

Diagnostic Results

VERSIONS
DMT 1.05
PIC 2.05
Modem 1.06
Questions 1.00
Reports 1.02

TEMPERATURES
Sample Chamber = 49.03°C
Breath Tube = 48.10°C

SETTINGS
Lamp Voltage = 1.59 V
Cooler Voltage = 1.66 V
Bias Voltage = 80.3 V
Chopper Freq = 542.1 Hz

PUMP INFO
Flow Rate = 5.306 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX(V)	-0.0313	-0.0287
MIN(V)	-0.0331	-0.0301

FILTER INFO
Filter 1 -0.030 Zero = true
Filter 2 0.232 Zero = true
Filter 3 0.449 Zero = true

CALIBRATION CHECK
Xq = 0.0826 0.42%

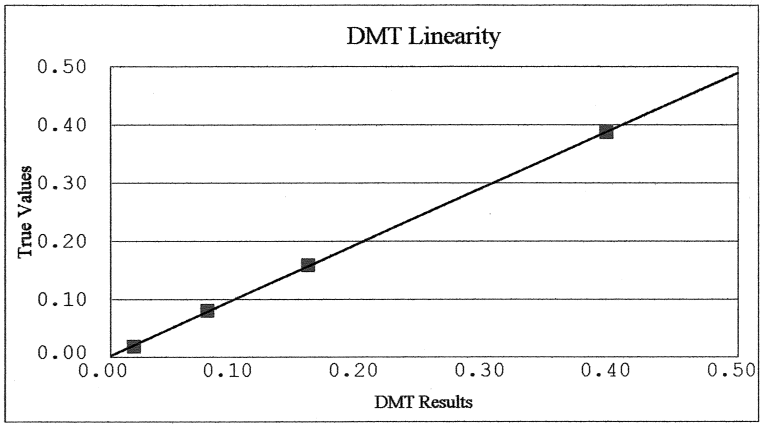
Options

Printer: yes
Number of Copies: 1
Number of Supervisor Tests: 10
Tolerance Check: yes
Data Collection: yes
Units: g/210L
Simulator Check: yes
Uses Wet Bath Simulator: yes
Simulator Nominal: 0.101
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
0.019 g/210L Lot # 10-21-020	0.019 g/210L	0.001
0.081 g/210L Lot # 10-19-080	0.078 g/210L	0.000
0.159 g/210L Lot # 10-20-160	0.158 g/210L	0.001
0.387 g/210L Lot # 10-14-400	0.395 g/210L	0.001

$R^2 = 0.9998$



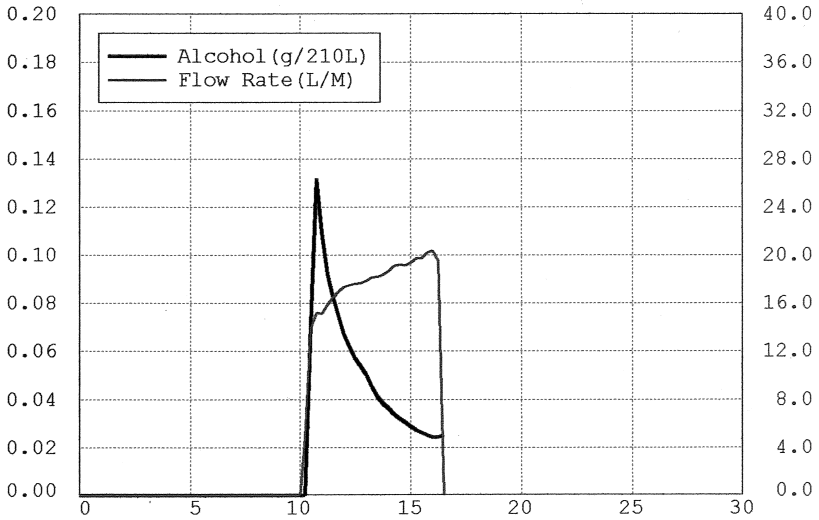
Acetone Interference Test

Lot # 10-24-08A

Interference Detected

Mouth Alcohol Test

Mouth Alcohol Detected

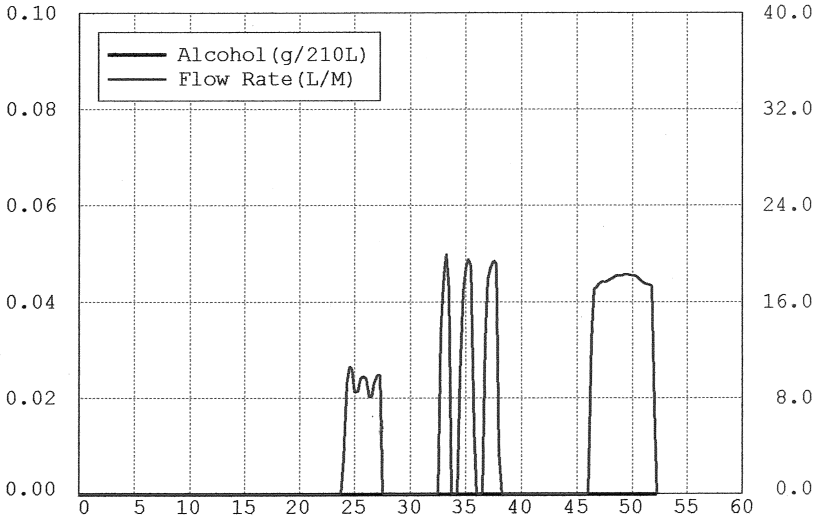


RF Interference Test

RFI detected

Sample Acceptance Test

Passed



CERTIFICATION PASSED

Performed by _____ **Date** 04/21/2010

Reviewed by _____ **Date** 4/21/10

Section 4: Linearity

DIAGNOSTIC RESULT

DataMaster DMT: 100137
Location:
Calibration Date: 04/20/2010
Certification Date: 04/20/2010
Installation Date: 04/20/2010
Test Date: 04/21/2010
Time: 07:16

VERMONT
DEPARTMENT OF HEALTH

```
VERSIONS
DMT 1.05
PIC 2.05
Modem 1.06
Questions 1.00
Reports 1.02

TEMPERATURES
Sample Chamber = 48.68°C
Breath Tube    = 48.10°C

SETTINGS
Lamp Voltage   = 1.59 V
Cooler Voltage = 1.67 V
Bias Voltage   = 80.2 V
Chopper Freq   = 540.9 Hz

PUMP INFO
Flow Rate = 5.305 L/M

DETECTOR INFO
PUMP     ON        OFF
MAX(V)  -0.0321   -0.0299
MIN(V)  -0.0341   -0.0313

FILTER INFO
Filter 1 -0.031  Zero = true
Filter 2  0.232  Zero = true
Filter 3  0.447  Zero = true

CALIBRATION CHECK
Xq = 0.0818  0.53%
```

ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

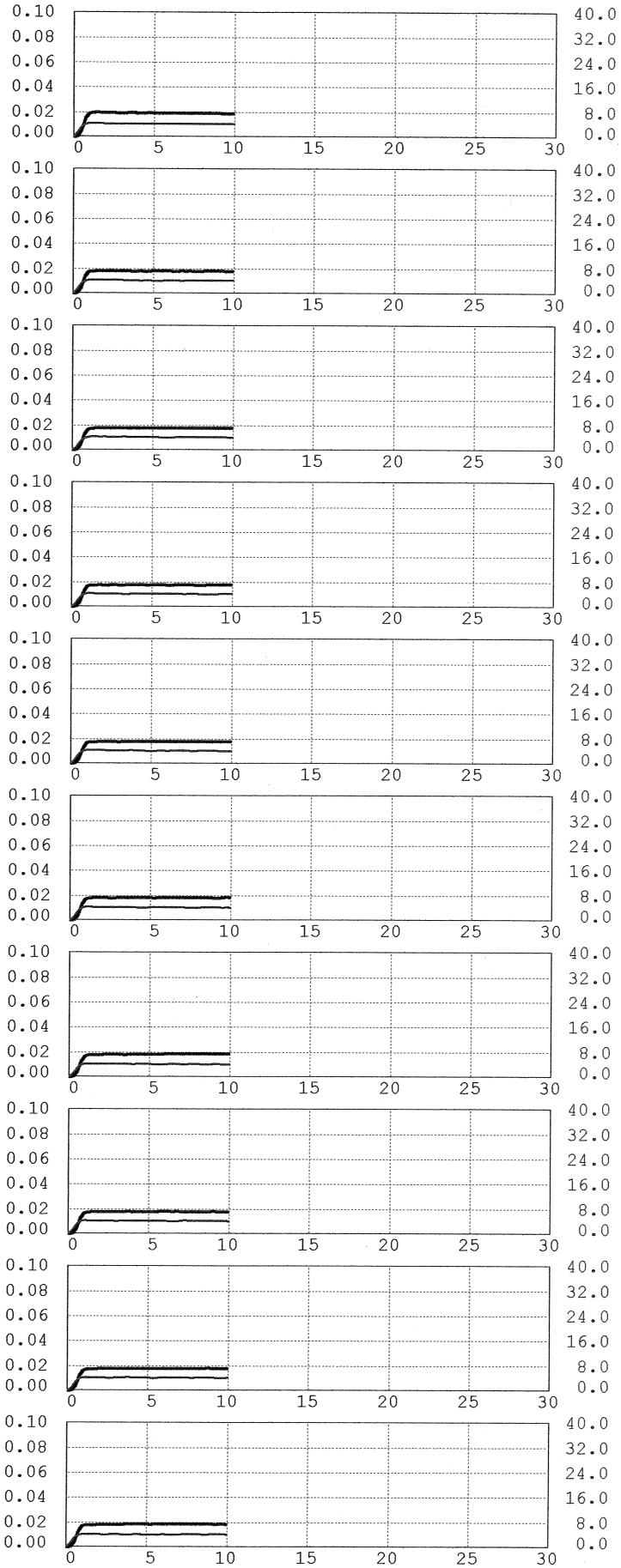
Date: 04/21/2010
Time: 15:00:15

SUPERVISOR NAME: A L B

SOLUTION LOT #: ~~1-0~~-21-020 10 DMB 8/6/10
SOLUTION CONCENTRATION: 0.019

BLANK TEST	0.000	15:01
CALIBRATION CHECK	PASSED	15:01
SIMULATOR VAPOR	0.019	15:01
SIMULATOR VAPOR	0.018	15:02
SIMULATOR VAPOR	0.019	15:03
SIMULATOR VAPOR	0.018	15:04
SIMULATOR VAPOR	0.019	15:05
SIMULATOR VAPOR	0.019	15:06
SIMULATOR VAPOR	0.019	15:07
SIMULATOR VAPOR	0.018	15:08
SIMULATOR VAPOR	0.018	15:09
SIMULATOR VAPOR	0.019	15:10
BLANK TEST	0.000	15:11

Average = 0.018
Std Dev = 0.0005



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

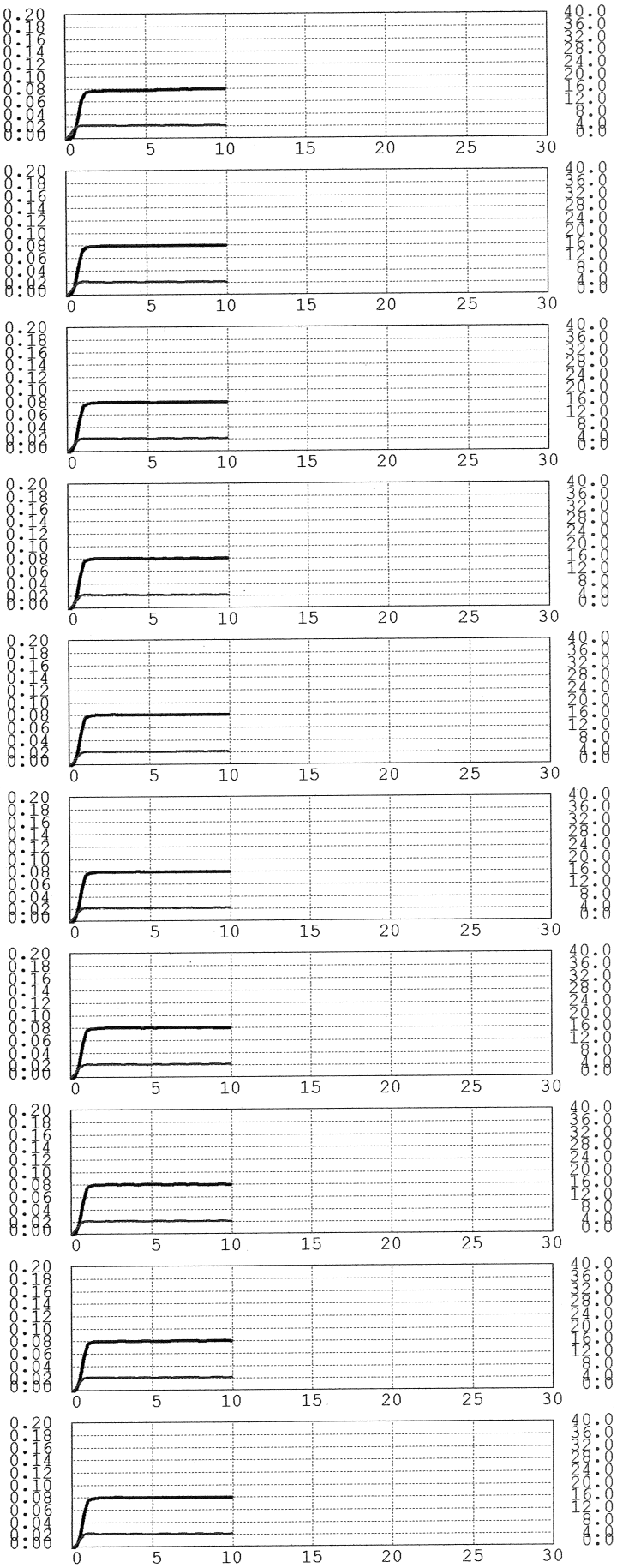
Date: 04/21/2010
Time: 15:24:01

SUPERVISOR NAME: A L B

SOLUTION LOT #: 10-19-080
SOLUTION CONCENTRATION: 0.081

BLANK TEST	0.000	15:24
CALIBRATION CHECK	PASSED	15:25
SIMULATOR VAPOR	0.079	15:25
SIMULATOR VAPOR	0.079	15:26
SIMULATOR VAPOR	0.079	15:27
SIMULATOR VAPOR	0.080	15:28
SIMULATOR VAPOR	0.080	15:29
SIMULATOR VAPOR	0.080	15:30
SIMULATOR VAPOR	0.080	15:31
SIMULATOR VAPOR	0.080	15:32
SIMULATOR VAPOR	0.080	15:33
SIMULATOR VAPOR	0.079	15:34
BLANK TEST	0.000	15:34

Average = 0.079
Std Dev = 0.0005



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

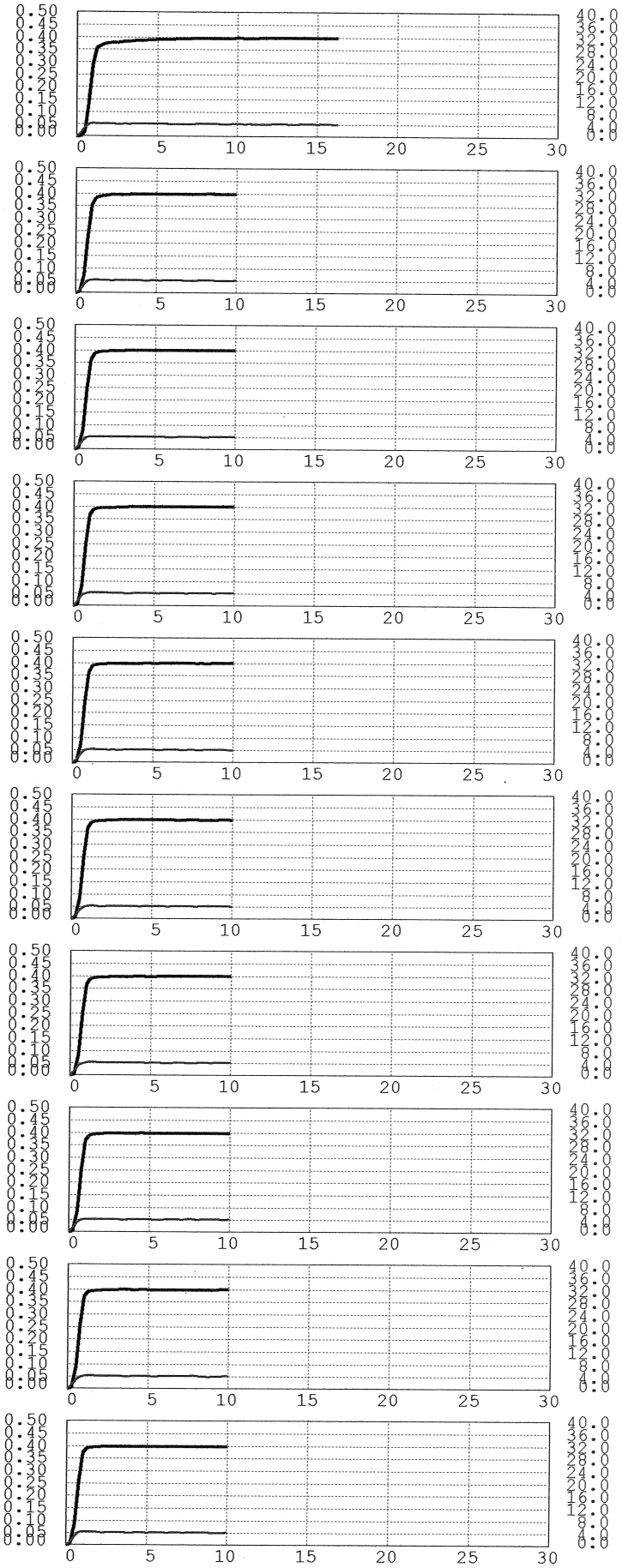
Date: 04/21/2010
Time: 16:57:06

SUPERVISOR NAME: DARCY M RICHARDSON

SOLUTION LOT #: 10-14-400
SOLUTION CONCENTRATION: 0.387

BLANK TEST	0.000	16:58
CALIBRATION CHECK	PASSED	16:58
SIMULATOR VAPOR	0.395	16:58
SIMULATOR VAPOR	0.396	16:59
SIMULATOR VAPOR	0.397	17:00
SIMULATOR VAPOR	0.397	17:01
SIMULATOR VAPOR	0.397	17:02
SIMULATOR VAPOR	0.396	17:03
SIMULATOR VAPOR	0.397	17:04
SIMULATOR VAPOR	0.396	17:05
SIMULATOR VAPOR	0.396	17:06
SIMULATOR VAPOR	0.396	17:07
BLANK TEST	0.000	17:08

Average = 0.396
Std Dev = 0.0006



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

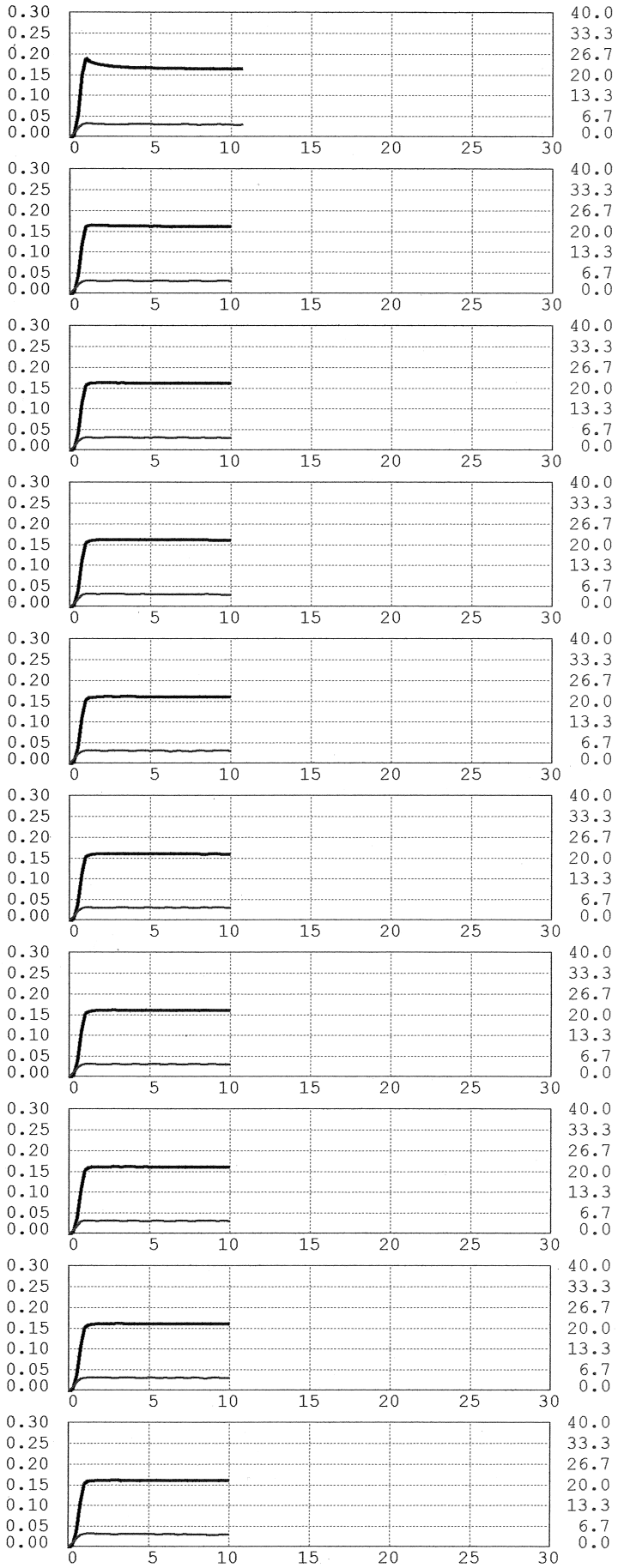
Date: 04/21/2010
Time: 17:22:49

SUPERVISOR NAME: DARCY M RICHARDSON

SOLUTION LOT #: 10-20-160
SOLUTION CONCENTRATION: 0.159

BLANK TEST	0.000	17:23
CALIBRATION CHECK	PASSED	17:23
SIMULATOR VAPOR	0.163	17:24
SIMULATOR VAPOR	0.161	17:25
SIMULATOR VAPOR	0.161	17:26
SIMULATOR VAPOR	0.161	17:27
SIMULATOR VAPOR	0.160	17:28
SIMULATOR VAPOR	0.159	17:29
SIMULATOR VAPOR	0.160	17:30
SIMULATOR VAPOR	0.160	17:31
SIMULATOR VAPOR	0.160	17:32
SIMULATOR VAPOR	0.160	17:33
BLANK TEST	0.000	17:33

Average = 0.160
Std Dev = 0.0010



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

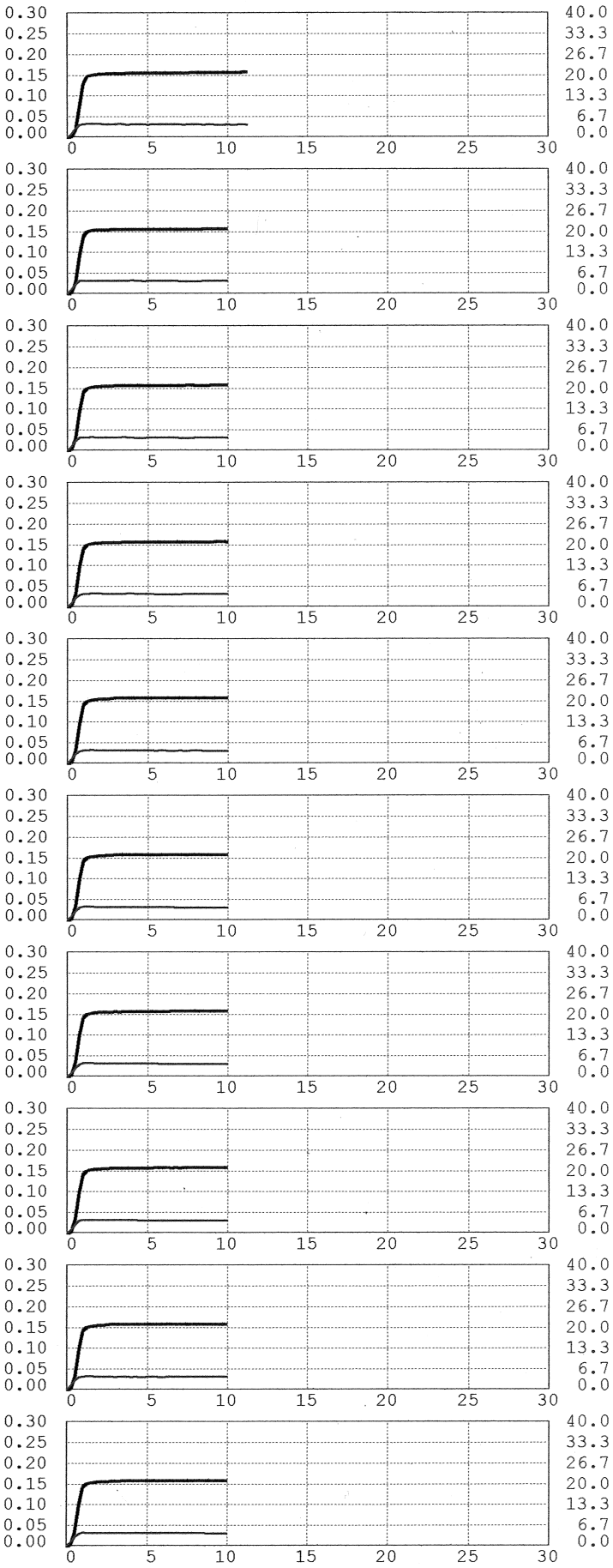
Date: 04/22/2010
Time: 07:57:33

SUPERVISOR NAME: A L B

SOLUTION LOT #: 10-20-160
SOLUTION CONCENTRATION: 0.159

BLANK TEST	0.000	07:58
CALIBRATION CHECK	PASSED	07:58
SIMULATOR VAPOR	0.157	07:58
SIMULATOR VAPOR	0.156	07:59
SIMULATOR VAPOR	0.157	08:00
SIMULATOR VAPOR	0.156	08:01
SIMULATOR VAPOR	0.157	08:02
SIMULATOR VAPOR	0.157	08:03
SIMULATOR VAPOR	0.157	08:04
SIMULATOR VAPOR	0.157	08:05
SIMULATOR VAPOR	0.157	08:06
SIMULATOR VAPOR	0.157	08:07
BLANK TEST	0.000	08:08

Average = 0.156
Std Dev = 0.0004



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

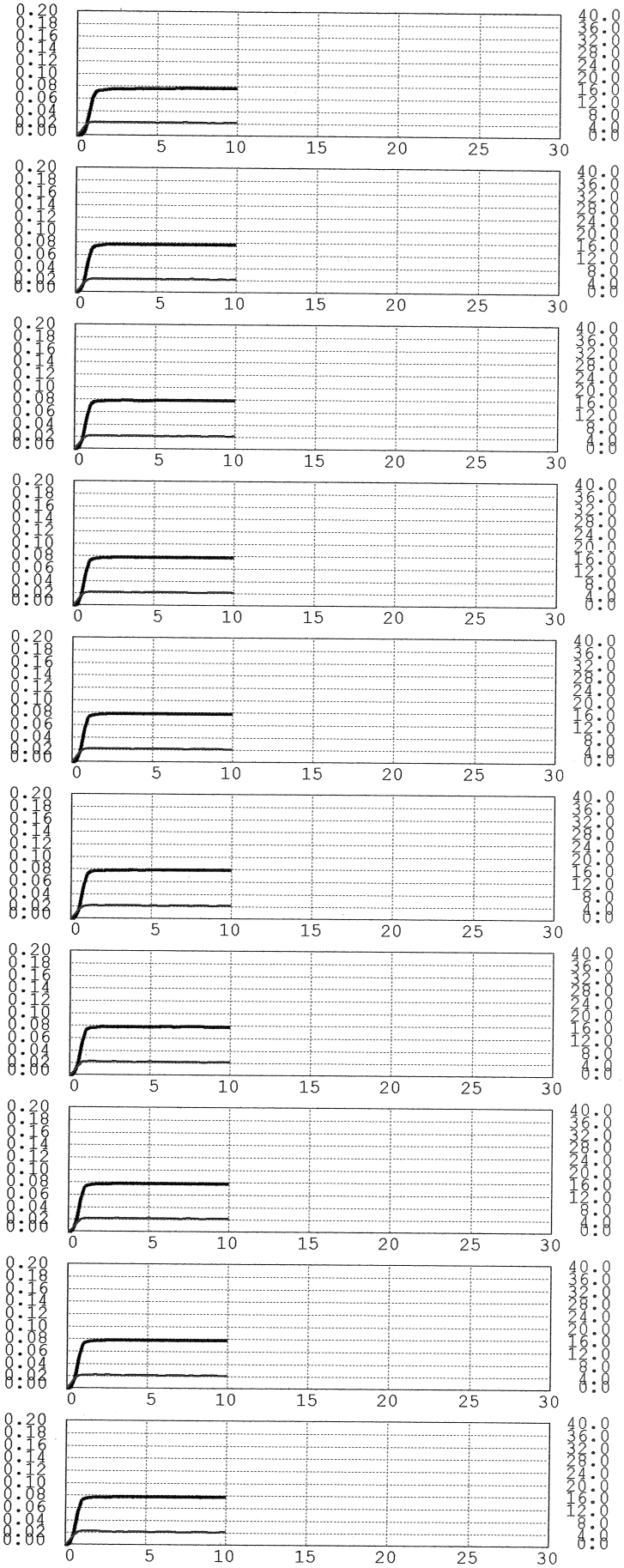
Date: 04/22/2010
Time: 08:28:22

SUPERVISOR NAME: A L B

SOLUTION LOT #: 10-19-080
SOLUTION CONCENTRATION: 0.081

BLANK TEST	0.000	08:29
CALIBRATION CHECK	PASSED	08:29
SIMULATOR VAPOR	0.077	08:29
SIMULATOR VAPOR	0.078	08:30
SIMULATOR VAPOR	0.079	08:31
SIMULATOR VAPOR	0.078	08:32
SIMULATOR VAPOR	0.078	08:33
SIMULATOR VAPOR	0.079	08:34
SIMULATOR VAPOR	0.079	08:35
SIMULATOR VAPOR	0.078	08:36
SIMULATOR VAPOR	0.079	08:37
SIMULATOR VAPOR	0.078	08:38
BLANK TEST	0.000	08:39

Average = 0.078
Std Dev = 0.0006



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

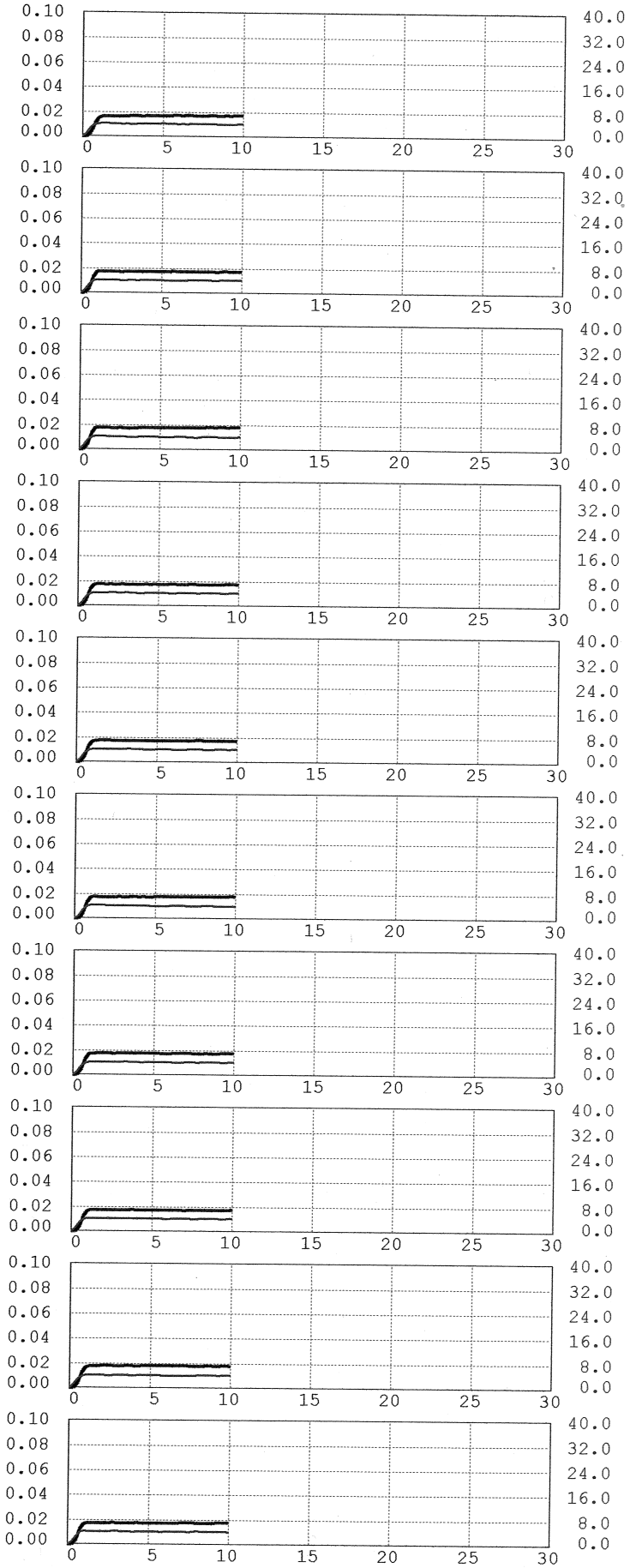
Date: 04/22/2010
Time: 08:59:25

SUPERVISOR NAME: A L B

SOLUTION LOT #: 10-21-020
SOLUTION CONCENTRATION: 0.019

BLANK TEST	0.000	09:00
CALIBRATION CHECK	PASSED	09:00
SIMULATOR VAPOR	0.018	09:00
SIMULATOR VAPOR	0.018	09:01
SIMULATOR VAPOR	0.019	09:02
SIMULATOR VAPOR	0.018	09:03
SIMULATOR VAPOR	0.018	09:04
SIMULATOR VAPOR	0.019	09:05
SIMULATOR VAPOR	0.018	09:06
SIMULATOR VAPOR	0.018	09:07
SIMULATOR VAPOR	0.018	09:08
SIMULATOR VAPOR	0.018	09:09
BLANK TEST	0.000	09:10

Average = 0.018
Std Dev = 0.0004



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

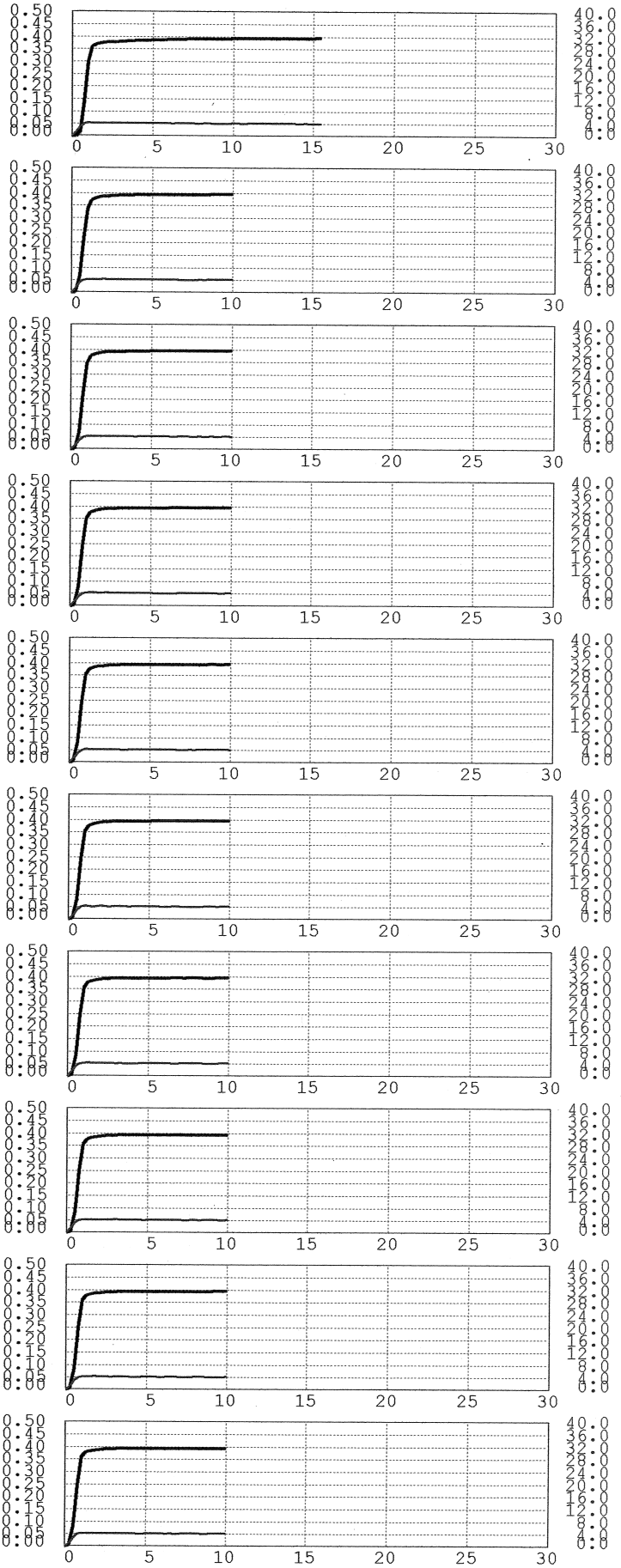
Date: 04/22/2010
Time: 10:38:37

SUPERVISOR NAME: A L B

SOLUTION LOT #: 10-14-400
SOLUTION CONCENTRATION: 0.387

BLANK TEST	0.000	10:39
CALIBRATION CHECK	PASSED	10:39
SIMULATOR VAPOR	0.391	10:40
SIMULATOR VAPOR	0.392	10:41
SIMULATOR VAPOR	0.393	10:42
SIMULATOR VAPOR	0.393	10:43
SIMULATOR VAPOR	0.391	10:44
SIMULATOR VAPOR	0.392	10:45
SIMULATOR VAPOR	0.393	10:46
SIMULATOR VAPOR	0.392	10:47
SIMULATOR VAPOR	0.392	10:48
SIMULATOR VAPOR	0.392	10:49
BLANK TEST	0.000	10:49

Average = 0.392
Std Dev = 0.0007



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

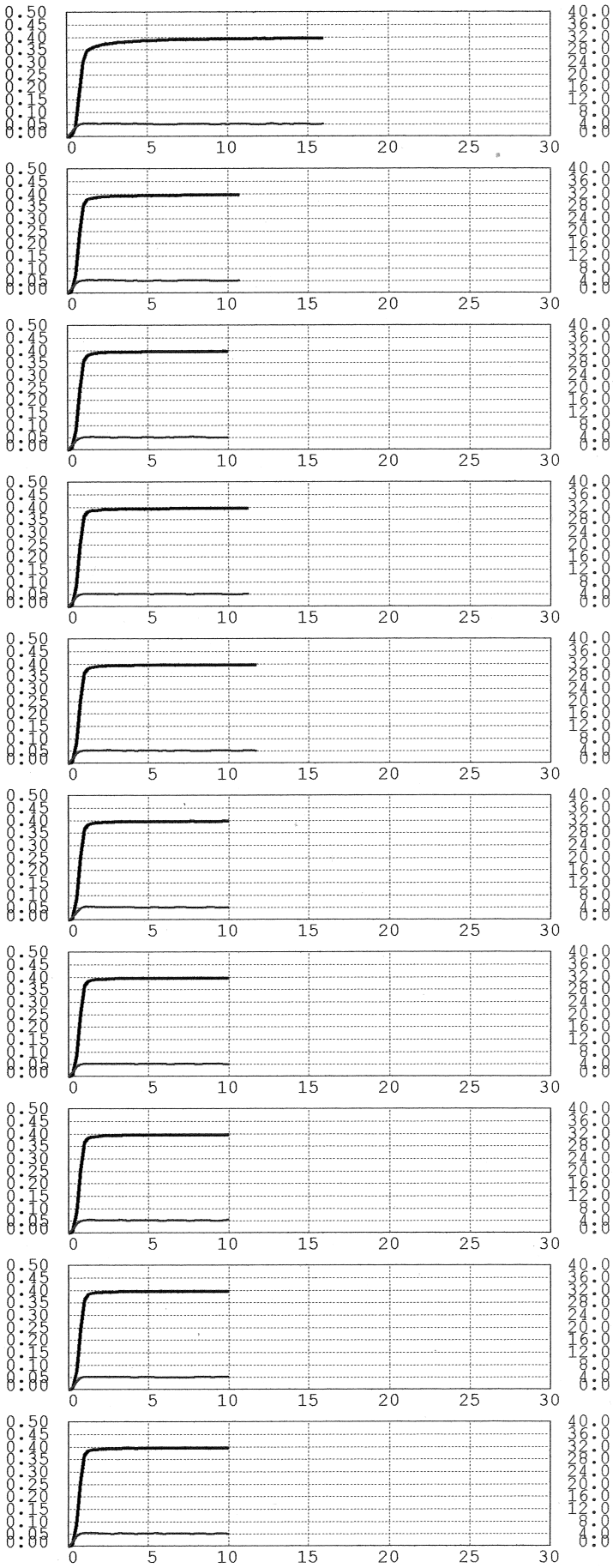
Date: 04/22/2010
Time: 15:29:59

SUPERVISOR NAME: DARCY M RICHARDSON

SOLUTION LOT #: 10-14-400
SOLUTION CONCENTRATION: 0.387

BLANK TEST	0.000	15:30
CALIBRATION CHECK	PASSED	15:31
SIMULATOR VAPOR	0.392	15:31
SIMULATOR VAPOR	0.392	15:32
SIMULATOR VAPOR	0.393	15:33
SIMULATOR VAPOR	0.394	15:34
SIMULATOR VAPOR	0.393	15:35
SIMULATOR VAPOR	0.393	15:36
SIMULATOR VAPOR	0.393	15:37
SIMULATOR VAPOR	0.393	15:38
SIMULATOR VAPOR	0.393	15:39
SIMULATOR VAPOR	0.393	15:40
BLANK TEST	0.000	15:41

Average = 0.392
Std Dev = 0.0005



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

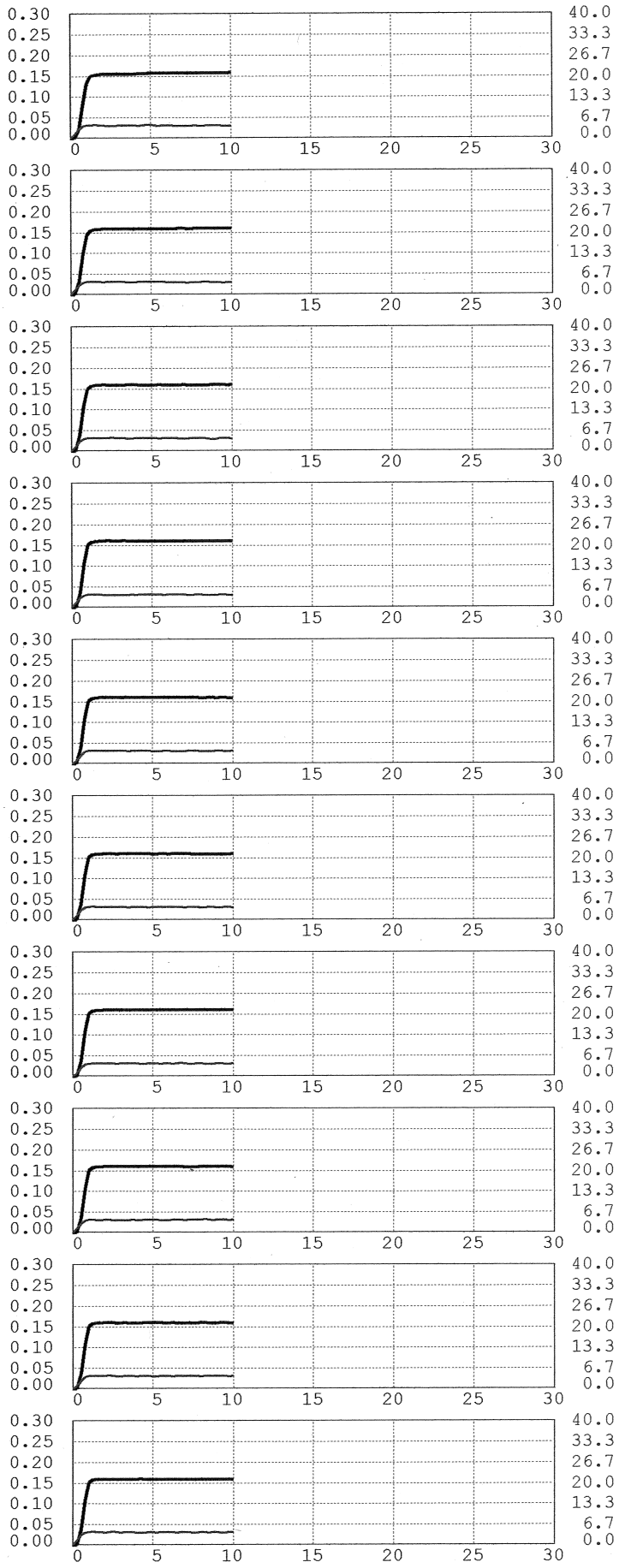
Date: 04/22/2010
Time: 15:43:19

SUPERVISOR NAME: DARCY M RICHARDSON

SOLUTION LOT #: 10-20-160
SOLUTION CONCENTRATION: 0.159

BLANK TEST	0.000	15:44
CALIBRATION CHECK	PASSED	15:44
SIMULATOR VAPOR	0.157	15:44
SIMULATOR VAPOR	0.160	15:45
SIMULATOR VAPOR	0.159	15:46
SIMULATOR VAPOR	0.160	15:47
SIMULATOR VAPOR	0.159	15:48
SIMULATOR VAPOR	0.159	15:49
SIMULATOR VAPOR	0.159	15:50
SIMULATOR VAPOR	0.159	15:51
SIMULATOR VAPOR	0.159	15:52
SIMULATOR VAPOR	0.159	15:53
BLANK TEST	0.000	15:54

Average = 0.159
Std Dev = 0.0008



DIAGNOSTIC RESULT

DataMaster DMT: 100137
Location:
Calibration Date: 04/20/2010
Certification Date: 04/20/2010
Installation Date: 04/20/2010
Test Date: 04/22/2010
Time: 15:20

VERMONT
DEPARTMENT OF HEALTH

```
VERSIONS
DMT 1.05
PIC 2.05
Modem 1.06
Questions 1.00
Reports 1.02

TEMPERATURES
Sample Chamber = 49.03°C
Breath Tube    = 48.08°C

SETTINGS
Lamp Voltage   = 1.59 V
Cooler Voltage = 1.66 V
Bias Voltage   = 80.2 V
Chopper Freq   = 542.5 Hz

PUMP INFO
Flow Rate = 5.285 L/M

DETECTOR INFO
PUMP    ON       OFF
MAX(V) -0.0256  -0.0234
MIN(V) -0.0276  -0.0248

FILTER INFO
Filter 1 -0.025  Zero = true
Filter 2  0.240  Zero = true
Filter 3  0.458  Zero = true

CALIBRATION CHECK
Xq = 0.0833  1.27%
```

DIAGNOSTIC RESULT

DataMaster DMT: 100137
Location:
Calibration Date: 04/20/2010
Certification Date: 04/20/2010
Installation Date: 04/20/2010
Test Date: 04/23/2010
Time: 09:01

VERMONT
DEPARTMENT OF HEALTH

```
VERSIONS
DMT 1.05
PIC 2.05
Modem 1.06
Questions 1.00
Reports 1.02

TEMPERATURES
Sample Chamber = 48.74°C
Breath Tube    = 48.09°C

SETTINGS
Lamp Voltage   = 1.59 V
Cooler Voltage = 1.66 V
Bias Voltage   = 80.3 V
Chopper Freq   = 543.0 Hz

PUMP INFO
Flow Rate = 5.231 L/M

DETECTOR INFO
PUMP     ON        OFF
MAX(V)  -0.0224   -0.0193
MIN(V)  -0.0244   -0.0205

FILTER INFO
Filter 1 -0.020  Zero = true
Filter 2  0.243  Zero = true
Filter 3  0.462  Zero = true

CALIBRATION CHECK
Xq = 0.0826  0.42%
```

ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

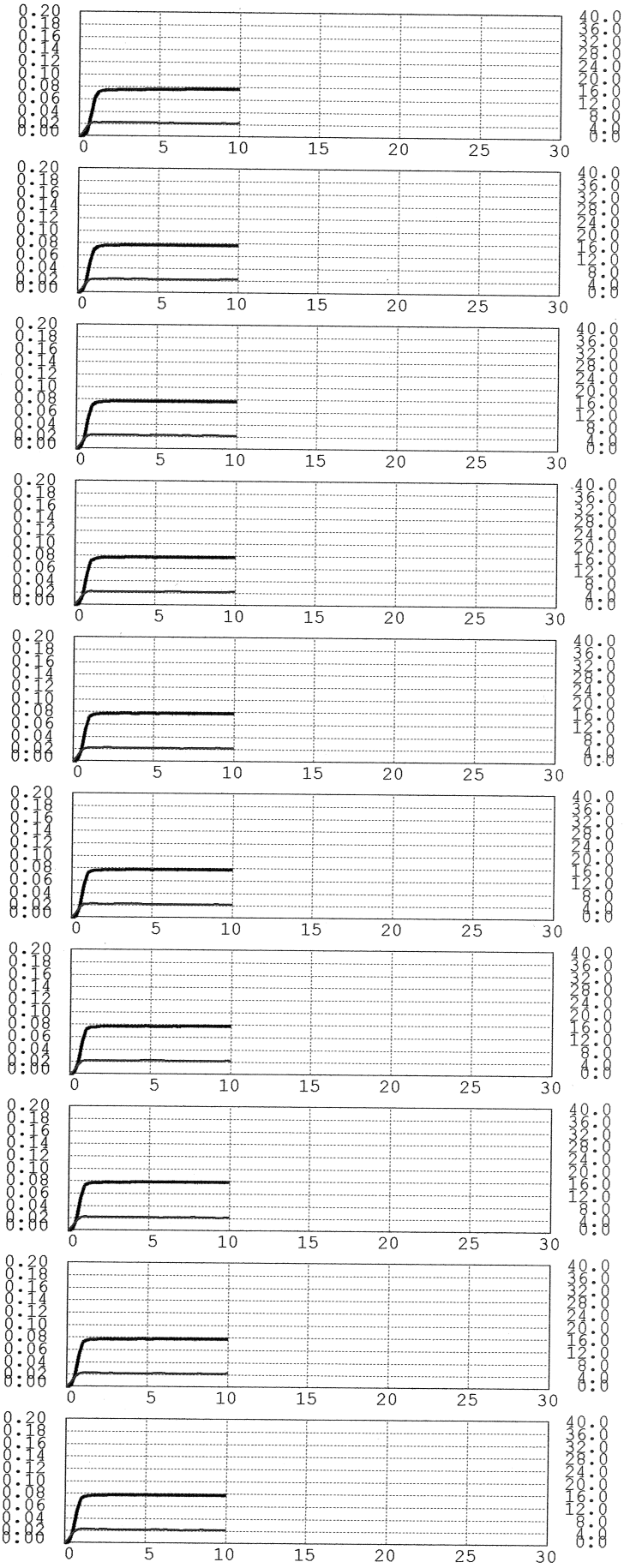
Date: 04/23/2010
Time: 07:33:09

SUPERVISOR NAME: A L B

SOLUTION LOT #: 10-19-080
SOLUTION CONCENTRATION: 0.081

BLANK TEST	0.000	07:34
CALIBRATION CHECK	PASSED	07:34
SIMULATOR VAPOR	0.078	07:34
SIMULATOR VAPOR	0.078	07:35
SIMULATOR VAPOR	0.078	07:36
SIMULATOR VAPOR	0.078	07:37
SIMULATOR VAPOR	0.079	07:38
SIMULATOR VAPOR	0.078	07:39
SIMULATOR VAPOR	0.078	07:40
SIMULATOR VAPOR	0.079	07:41
SIMULATOR VAPOR	0.078	07:42
SIMULATOR VAPOR	0.078	07:43
BLANK TEST	0.000	07:44

Average = 0.078
Std Dev = 0.0004



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

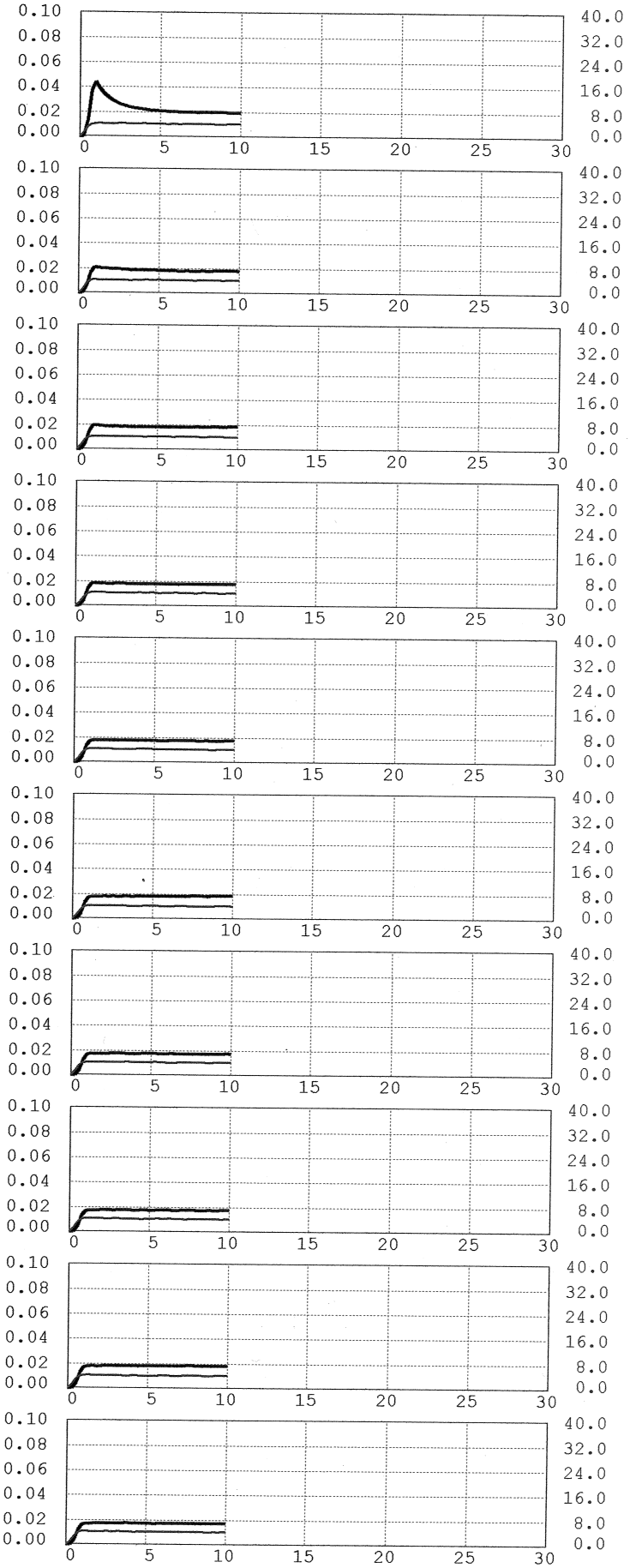
Date: 04/23/2010
Time: 07:51:31

SUPERVISOR NAME: A L B

SOLUTION LOT #: 10-21-020
SOLUTION CONCENTRATION: 0.019

BLANK TEST	0.000	07:52
CALIBRATION CHECK	PASSED	07:52
SIMULATOR VAPOR	0.020	07:52
SIMULATOR VAPOR	0.019	07:53
SIMULATOR VAPOR	0.019	07:54
SIMULATOR VAPOR	0.018	07:55
SIMULATOR VAPOR	0.018	07:56
SIMULATOR VAPOR	0.019	07:57
SIMULATOR VAPOR	0.018	07:58
SIMULATOR VAPOR	0.018	07:59
SIMULATOR VAPOR	0.019	08:00
SIMULATOR VAPOR	0.018	08:01
BLANK TEST	0.000	08:02

Average = 0.018
Std Dev = 0.0006



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

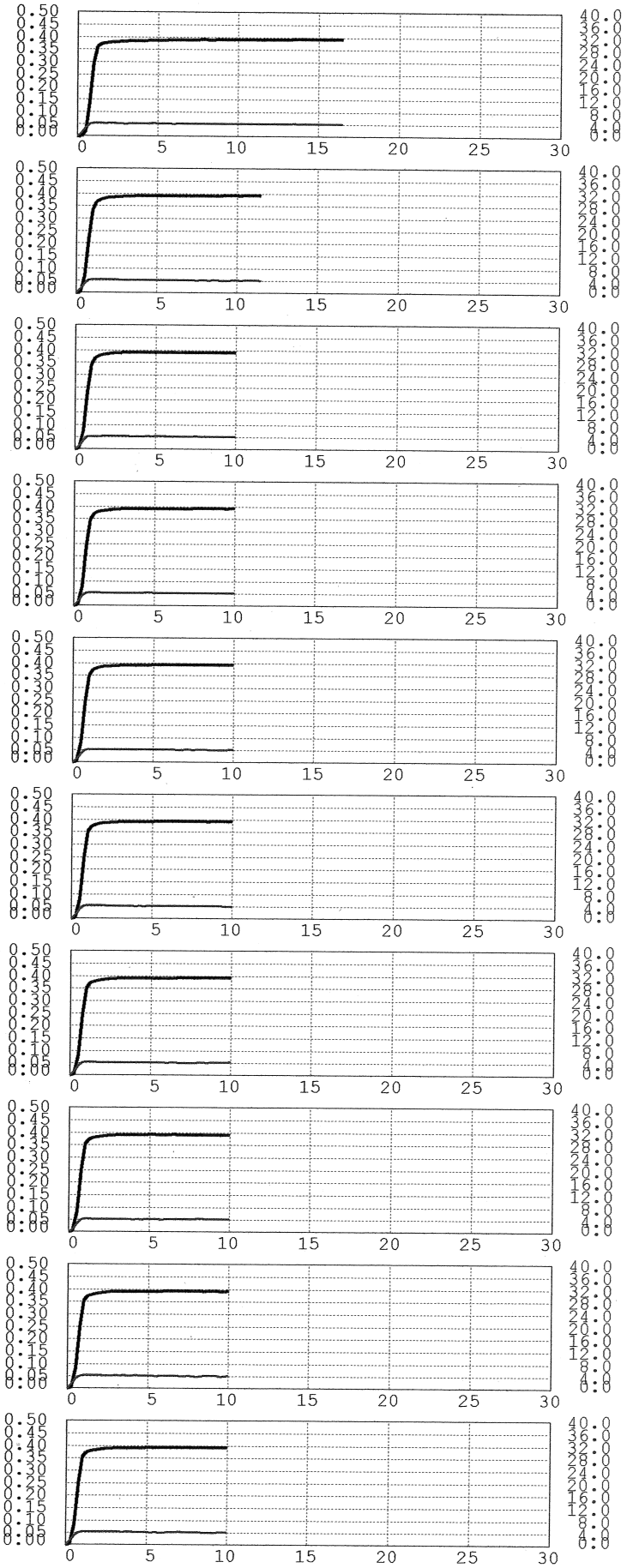
Date: 04/23/2010
Time: 10:30:35

SUPERVISOR NAME: A L B

SOLUTION LOT #: 10-14-400
SOLUTION CONCENTRATION: 0.387

BLANK TEST	0.000	10:31
CALIBRATION CHECK	PASSED	10:31
SIMULATOR VAPOR	0.390	10:32
SIMULATOR VAPOR	0.389	10:33
SIMULATOR VAPOR	0.389	10:34
SIMULATOR VAPOR	0.390	10:35
SIMULATOR VAPOR	0.390	10:36
SIMULATOR VAPOR	0.390	10:37
SIMULATOR VAPOR	0.389	10:38
SIMULATOR VAPOR	0.389	10:39
SIMULATOR VAPOR	0.390	10:40
SIMULATOR VAPOR	0.390	10:41
BLANK TEST	0.000	10:41

Average = 0.389
Std Dev = 0.0005



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

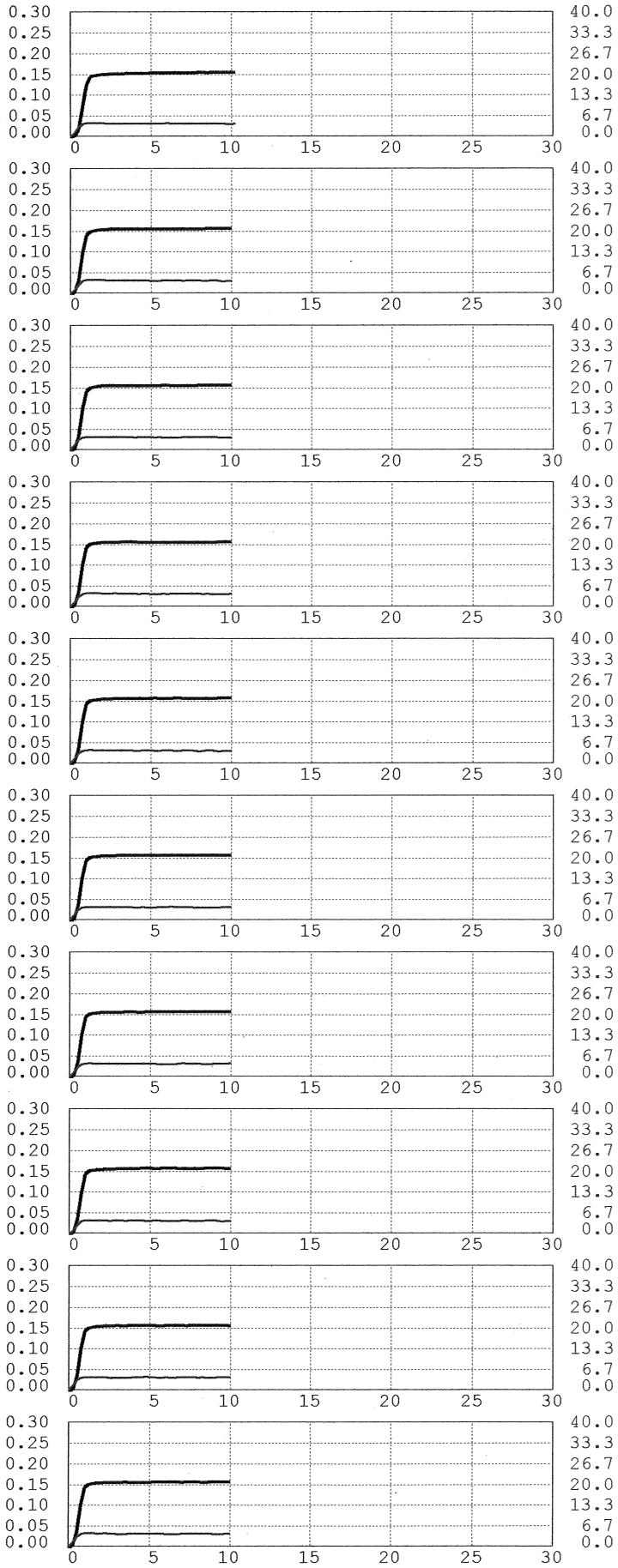
Date: 04/23/2010
Time: 10:50:29

SUPERVISOR NAME: A L B

SOLUTION LOT #: 10-20-160
SOLUTION CONCENTRATION: 0.159

BLANK TEST	0.000	10:51
CALIBRATION CHECK	PASSED	10:51
SIMULATOR VAPOR	0.155	10:51
SIMULATOR VAPOR	0.156	10:52
SIMULATOR VAPOR	0.155	10:53
SIMULATOR VAPOR	0.156	10:54
SIMULATOR VAPOR	0.157	10:55
SIMULATOR VAPOR	0.156	10:56
SIMULATOR VAPOR	0.156	10:57
SIMULATOR VAPOR	0.156	10:58
SIMULATOR VAPOR	0.156	10:59
SIMULATOR VAPOR	0.155	11:00
BLANK TEST	0.000	11:01

Average = 0.155
Std Dev = 0.0006



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

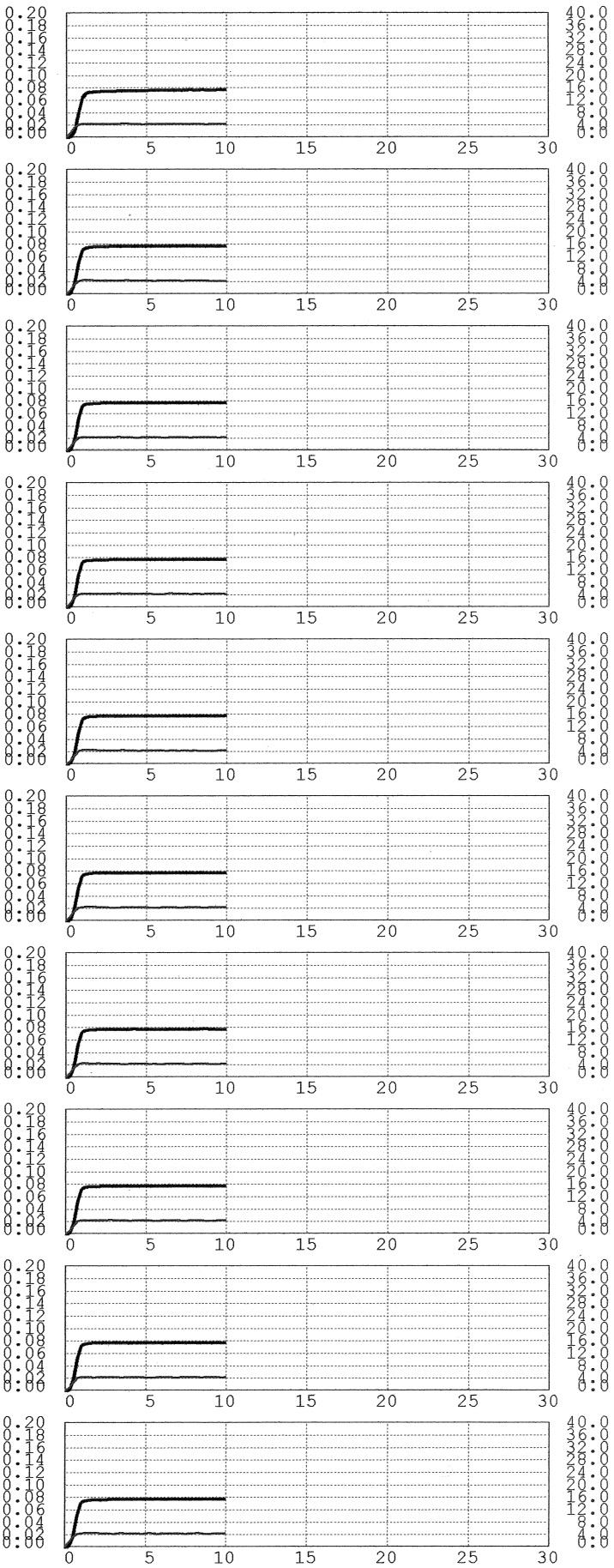
Date: 04/23/2010
Time: 11:09:23

SUPERVISOR NAME: A L B

SOLUTION LOT #: 10-19-080
SOLUTION CONCENTRATION: 0.081

BLANK TEST	0.000	11:10
CALIBRATION CHECK	PASSED	11:10
SIMULATOR VAPOR	0.077	11:10
SIMULATOR VAPOR	0.078	11:11
SIMULATOR VAPOR	0.077	11:12
SIMULATOR VAPOR	0.077	11:13
SIMULATOR VAPOR	0.078	11:14
SIMULATOR VAPOR	0.078	11:15
SIMULATOR VAPOR	0.078	11:16
SIMULATOR VAPOR	0.078	11:17
SIMULATOR VAPOR	0.078	11:18
SIMULATOR VAPOR	0.077	11:19
BLANK TEST	0.000	11:20

Average = 0.077
Std Dev = 0.0005



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

Date: 04/23/2010
Time: 13:27:51

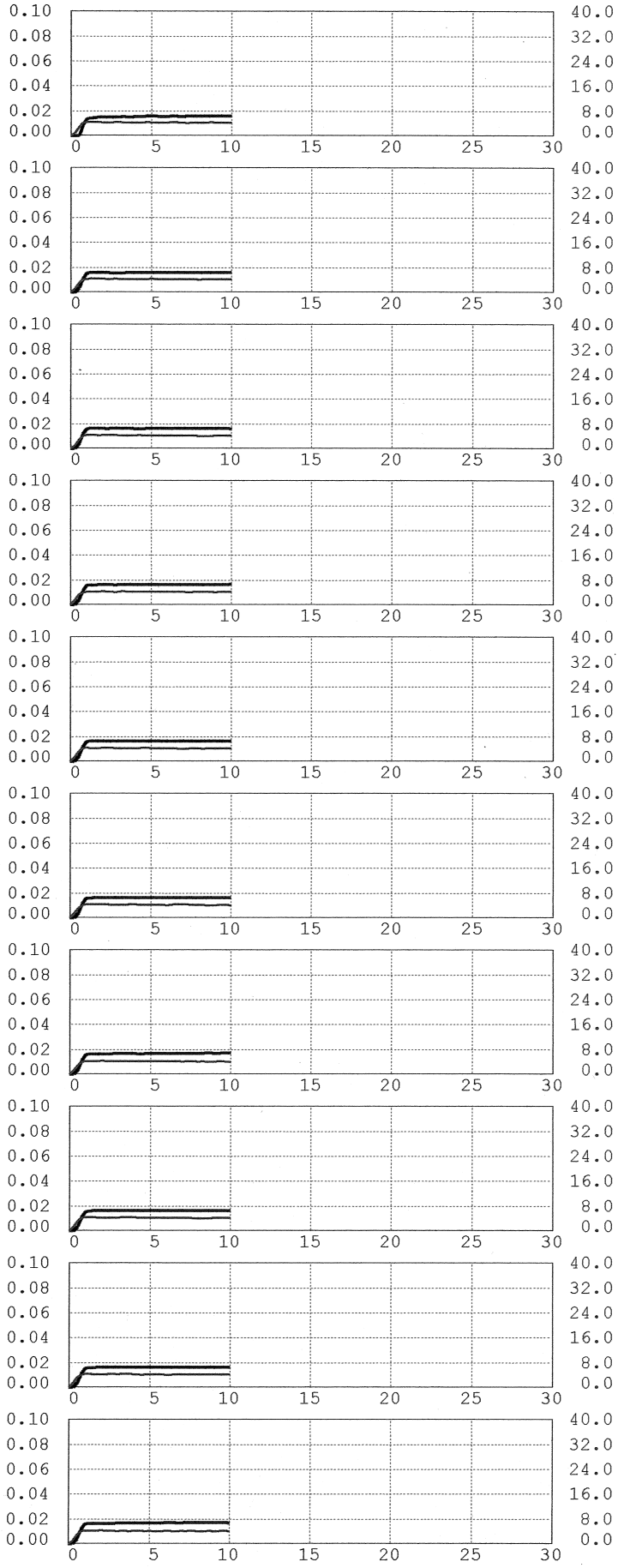
SUPERVISOR NAME: A L B

SOLUTION LOT #: 10-21-020
SOLUTION CONCENTRATION: 0.019

BLANK TEST	0.000	13:28
CALIBRATION CHECK	PASSED	13:28
SIMULATOR VAPOR	0.017	13:29
SIMULATOR VAPOR	0.017	13:30
SIMULATOR VAPOR	0.017	13:31
SIMULATOR VAPOR	0.018	13:32
SIMULATOR VAPOR	0.017	13:33
SIMULATOR VAPOR	0.017	13:34
SIMULATOR VAPOR	0.018	13:35
SIMULATOR VAPOR	0.017	13:35
SIMULATOR VAPOR	0.018	13:36
SIMULATOR VAPOR	0.018	13:37
BLANK TEST	0.000	13:38

Average out of range!

Average = 0.017
Std Dev = 0.0005



DIAGNOSTIC RESULT

DataMaster DMT: 100137
Location:
Calibration Date: 04/20/2010
Certification Date: 04/20/2010
Installation Date: 04/20/2010
Test Date: 04/26/2010
Time: 10:03

VERMONT
DEPARTMENT OF HEALTH

```
VERSIONS
DMT 1.05
PIC 2.05
Modem 1.06
Questions 1.00
Reports 1.02

TEMPERATURES
Sample Chamber = 48.86°C
Breath Tube    = 47.99°C

SETTINGS
Lamp Voltage   = 1.59 V
Cooler Voltage = 1.66 V
Bias Voltage   = 80.3 V
Chopper Freq   = 543.1 Hz

PUMP INFO
Flow Rate = 5.152 L/M

DETECTOR INFO
PUMP     ON        OFF
MAX(V)  -0.0331   -0.0297
MIN(V)  -0.0348   -0.0321

FILTER INFO
Filter 1 -0.031  Zero = true
Filter 2  0.233  Zero = true
Filter 3  0.447  Zero = true

CALIBRATION CHECK
Xq = 0.0823  0.00%
```

ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

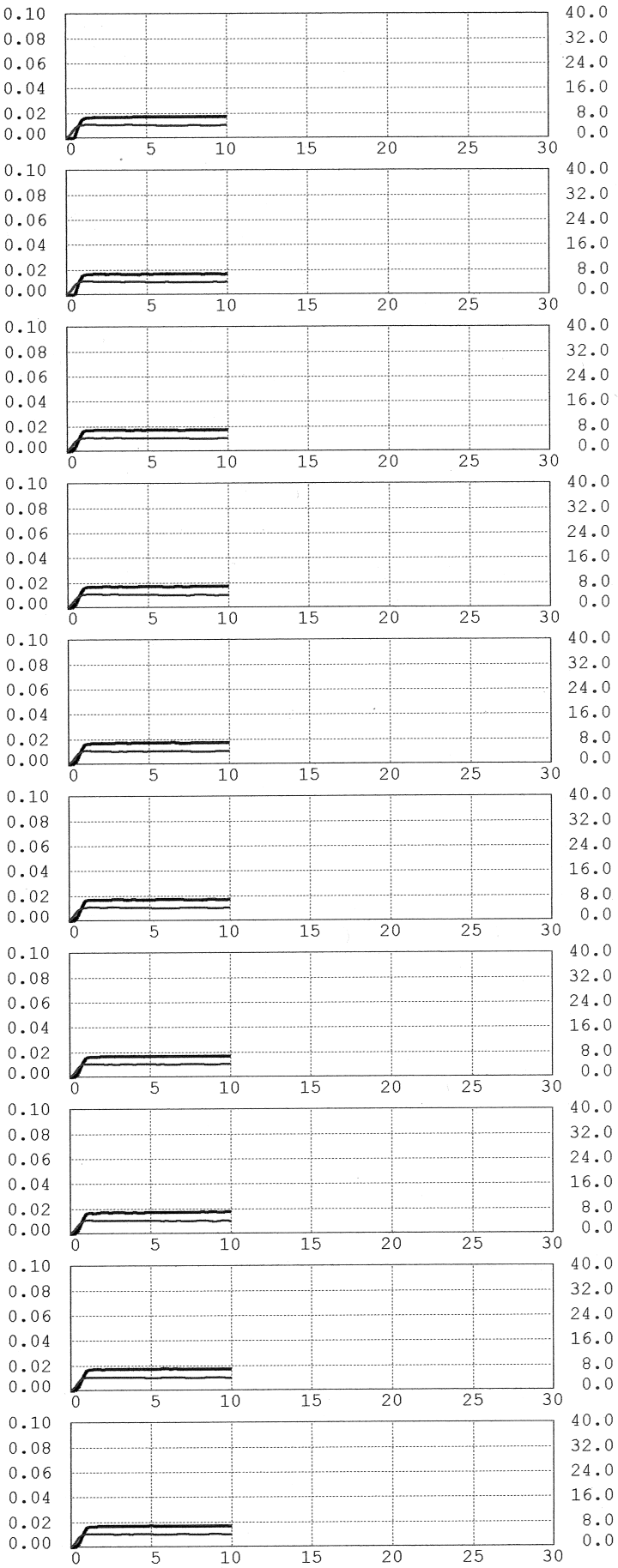
Date: 04/26/2010
Time: 10:04:41

SUPERVISOR NAME: A L B

SOLUTION LOT #: 10-21-020
SOLUTION CONCENTRATION: 0.019

BLANK TEST	0.000	10:05
CALIBRATION CHECK	PASSED	10:05
SIMULATOR VAPOR	0.018	10:06
SIMULATOR VAPOR	0.018	10:07
SIMULATOR VAPOR	0.018	10:07
SIMULATOR VAPOR	0.018	10:08
SIMULATOR VAPOR	0.018	10:09
SIMULATOR VAPOR	0.018	10:10
SIMULATOR VAPOR	0.018	10:11
SIMULATOR VAPOR	0.019	10:12
SIMULATOR VAPOR	0.018	10:13
SIMULATOR VAPOR	0.018	10:14
BLANK TEST	0.000	10:15

Average = 0.018
Std Dev = 0.0003



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

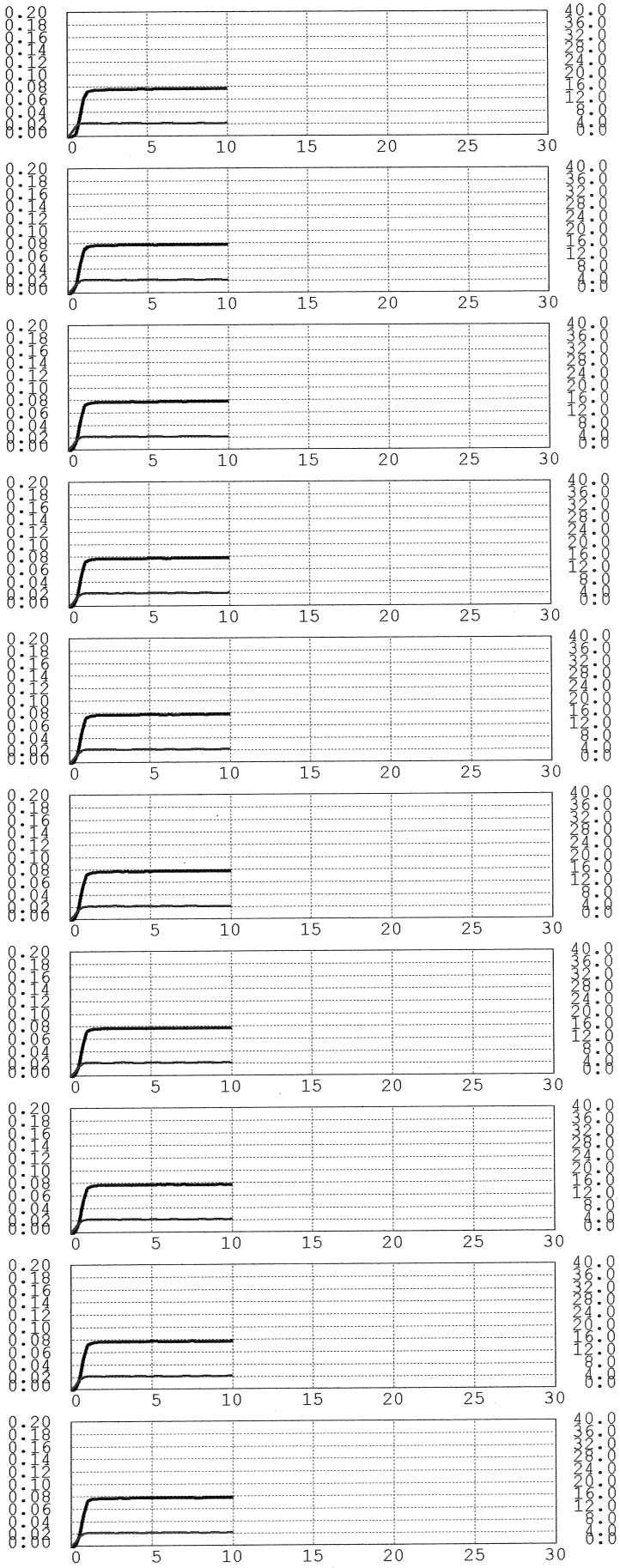
Date: 04/26/2010
Time: 10:33:19

SUPERVISOR NAME: A L B

SOLUTION LOT #: 10-19-080
SOLUTION CONCENTRATION: 0.081

BLANK TEST	0.000	10:34
CALIBRATION CHECK	PASSED	10:34
SIMULATOR VAPOR	0.077	10:34
SIMULATOR VAPOR	0.078	10:35
SIMULATOR VAPOR	0.078	10:36
SIMULATOR VAPOR	0.078	10:37
SIMULATOR VAPOR	0.078	10:38
SIMULATOR VAPOR	0.078	10:39
SIMULATOR VAPOR	0.077	10:40
SIMULATOR VAPOR	0.078	10:41
SIMULATOR VAPOR	0.078	10:42
SIMULATOR VAPOR	0.078	10:43
BLANK TEST	0.000	10:44

Average = 0.077
Std Dev = 0.0004



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

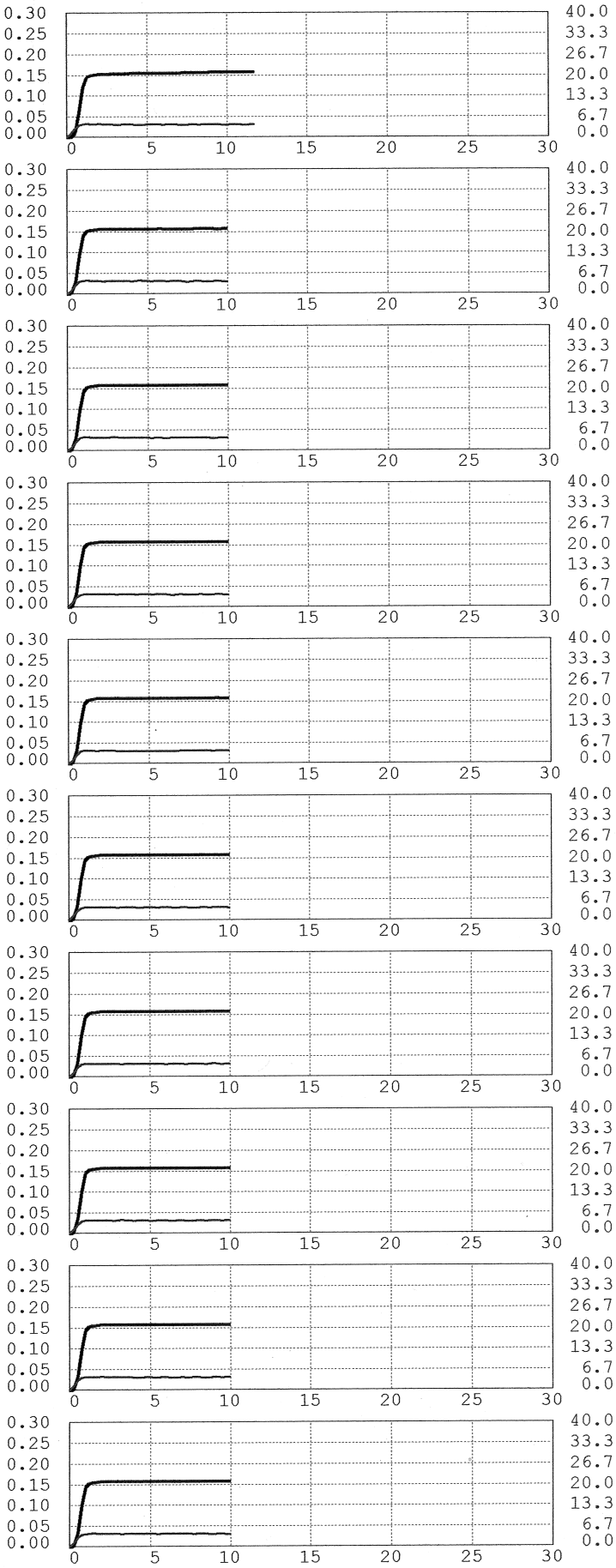
Date: 04/26/2010
Time: 10:48:59

SUPERVISOR NAME: A L B

SOLUTION LOT #: 10-20-160
SOLUTION CONCENTRATION: 0.159

BLANK TEST	0.000	10:49
CALIBRATION CHECK	PASSED	10:50
SIMULATOR VAPOR	0.157	10:50
SIMULATOR VAPOR	0.156	10:51
SIMULATOR VAPOR	0.157	10:52
SIMULATOR VAPOR	0.157	10:53
SIMULATOR VAPOR	0.158	10:54
SIMULATOR VAPOR	0.157	10:55
SIMULATOR VAPOR	0.157	10:56
SIMULATOR VAPOR	0.157	10:57
SIMULATOR VAPOR	0.157	10:58
SIMULATOR VAPOR	0.157	10:59
BLANK TEST	0.000	10:59

Average = 0.157
Std Dev = 0.0004



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

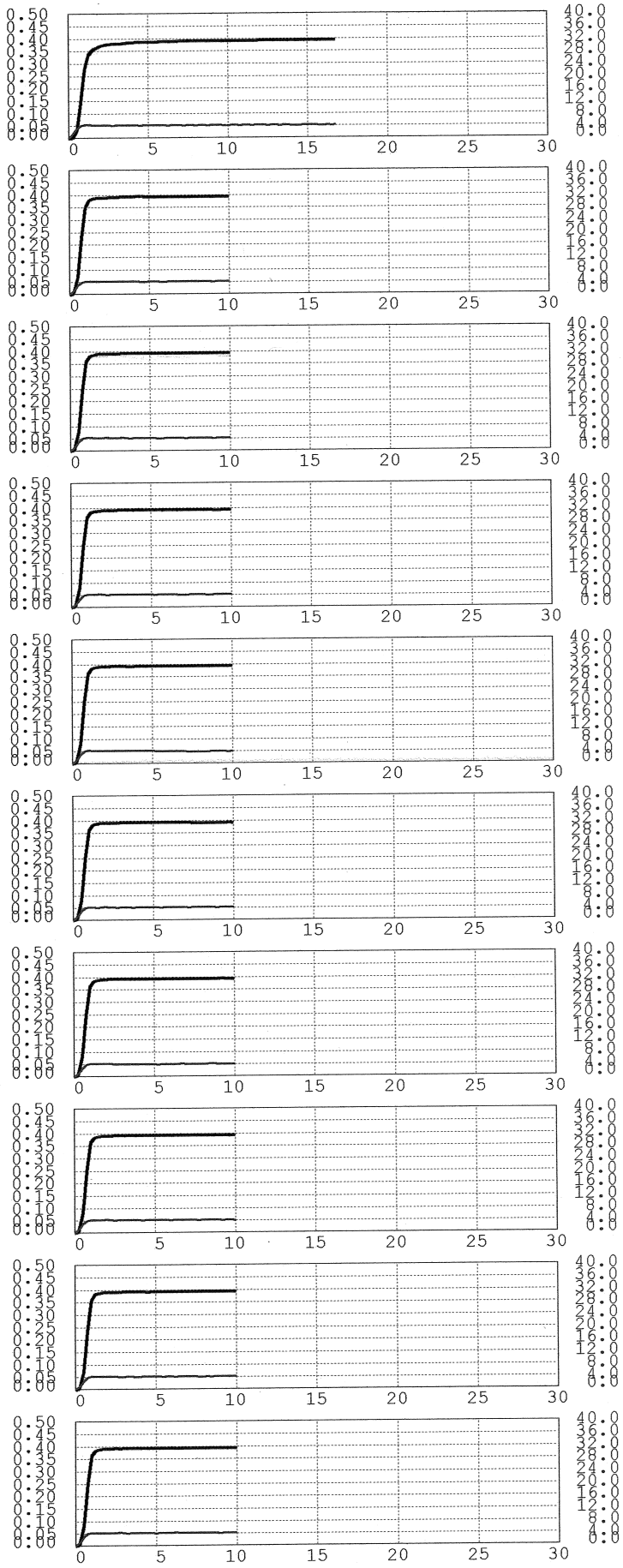
Date: 04/26/2010
Time: 11:05:25

SUPERVISOR NAME: A L B

SOLUTION LOT #: 10-14-400
SOLUTION CONCENTRATION: 0.387

BLANK TEST	0.000	11:06
CALIBRATION CHECK	PASSED	11:06
SIMULATOR VAPOR	0.390	11:06
SIMULATOR VAPOR	0.390	11:07
SIMULATOR VAPOR	0.391	11:08
SIMULATOR VAPOR	0.389	11:09
SIMULATOR VAPOR	0.391	11:10
SIMULATOR VAPOR	0.390	11:11
SIMULATOR VAPOR	0.390	11:12
SIMULATOR VAPOR	0.390	11:13
SIMULATOR VAPOR	0.389	11:14
SIMULATOR VAPOR	0.390	11:15
BLANK TEST	0.000	11:16

Average = 0.390
Std Dev = 0.0006



Section 5: Interference

ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

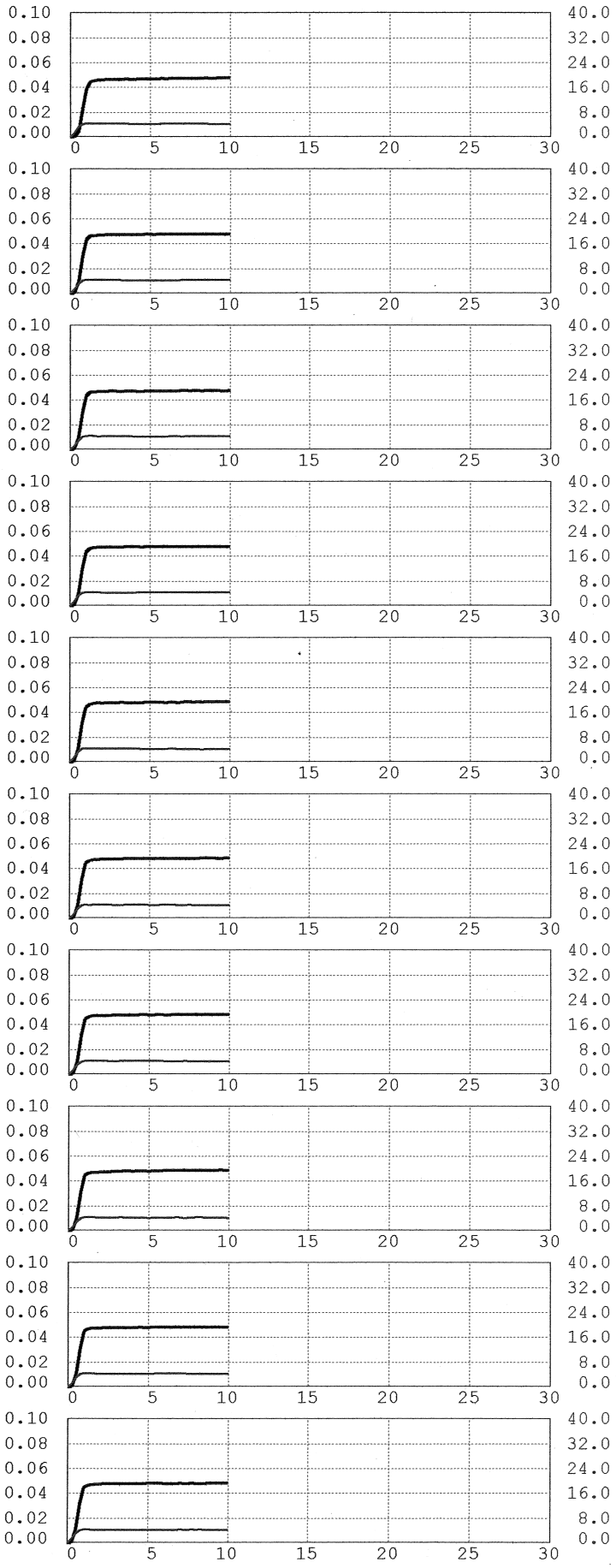
Date: 04/21/2010
Time: 07:18:22

SUPERVISOR NAME: SEH TEST .02ACETONE .04ETO

SOLUTION LOT #: 09-31-04A2
SOLUTION CONCENTRATION: 0.040

BLANK TEST	0.000	07:19
CALIBRATION CHECK	PASSED	07:19
SIMULATOR VAPOR	INTERFERENCE	07:19
SIMULATOR VAPOR	INTERFERENCE	07:20
SIMULATOR VAPOR	INTERFERENCE	07:21
SIMULATOR VAPOR	INTERFERENCE	07:22
SIMULATOR VAPOR	INTERFERENCE	07:23
SIMULATOR VAPOR	INTERFERENCE	07:24
SIMULATOR VAPOR	INTERFERENCE	07:25
SIMULATOR VAPOR	INTERFERENCE	07:26
SIMULATOR VAPOR	INTERFERENCE	07:27
SIMULATOR VAPOR	INTERFERENCE	07:28
BLANK TEST	0.000	07:29

Average out of range!



ACCURACY AND PRECISION TEST

STATE OF VERMONT

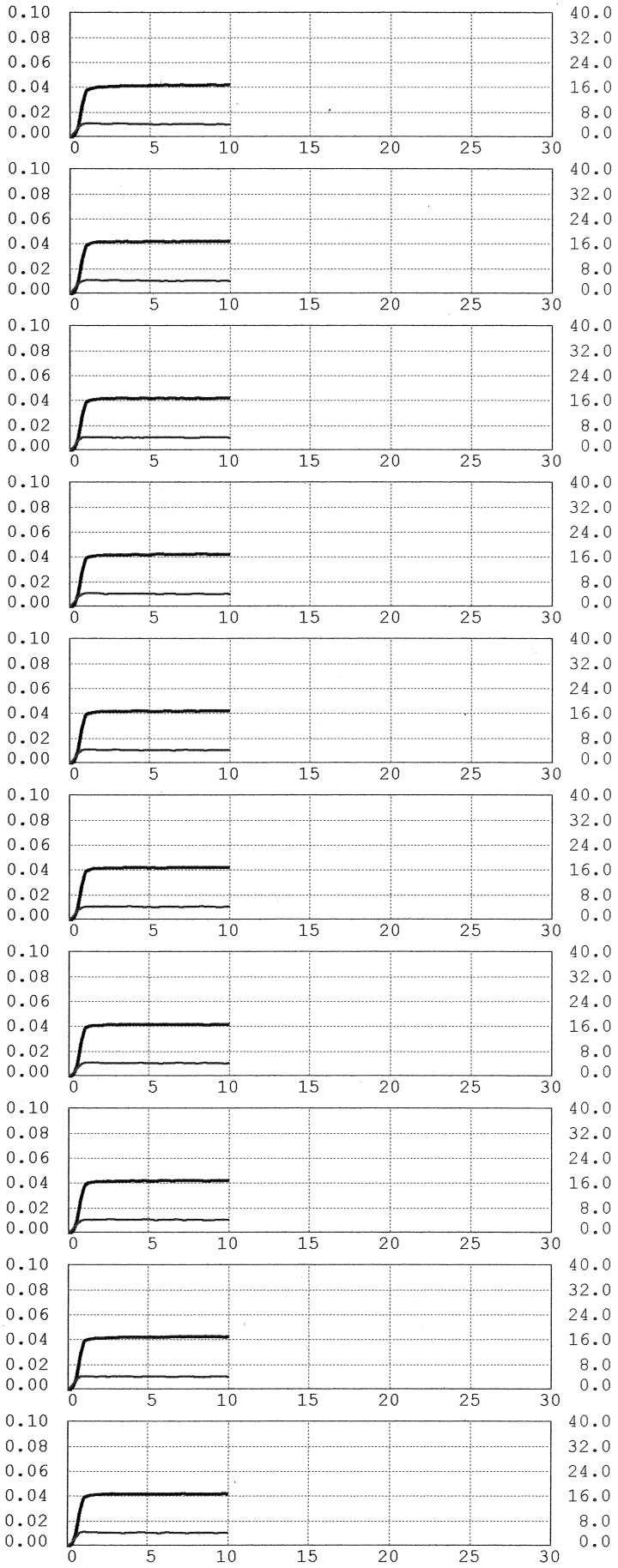
DataMaster DMT: 100137

Date: 04/21/2010
Time: 07:33:22

SUPERVISOR NAME: SEH TEST .01ACETONE .04ETO

SOLUTION LOT #: 09-27-04A1
SOLUTION CONCENTRATION: 0.040

BLANK TEST	0.000	07:34
CALIBRATION CHECK	PASSED	07:34
SIMULATOR VAPOR	INTERFERENCE	07:34
SIMULATOR VAPOR	INTERFERENCE	07:35
SIMULATOR VAPOR	INTERFERENCE	07:36
SIMULATOR VAPOR	INTERFERENCE	07:37
SIMULATOR VAPOR	INTERFERENCE	07:38
SIMULATOR VAPOR	INTERFERENCE	07:39
SIMULATOR VAPOR	INTERFERENCE	07:40
SIMULATOR VAPOR	INTERFERENCE	07:41
SIMULATOR VAPOR	INTERFERENCE	07:42
SIMULATOR VAPOR	INTERFERENCE	07:43
BLANK TEST	0.000	07:44



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

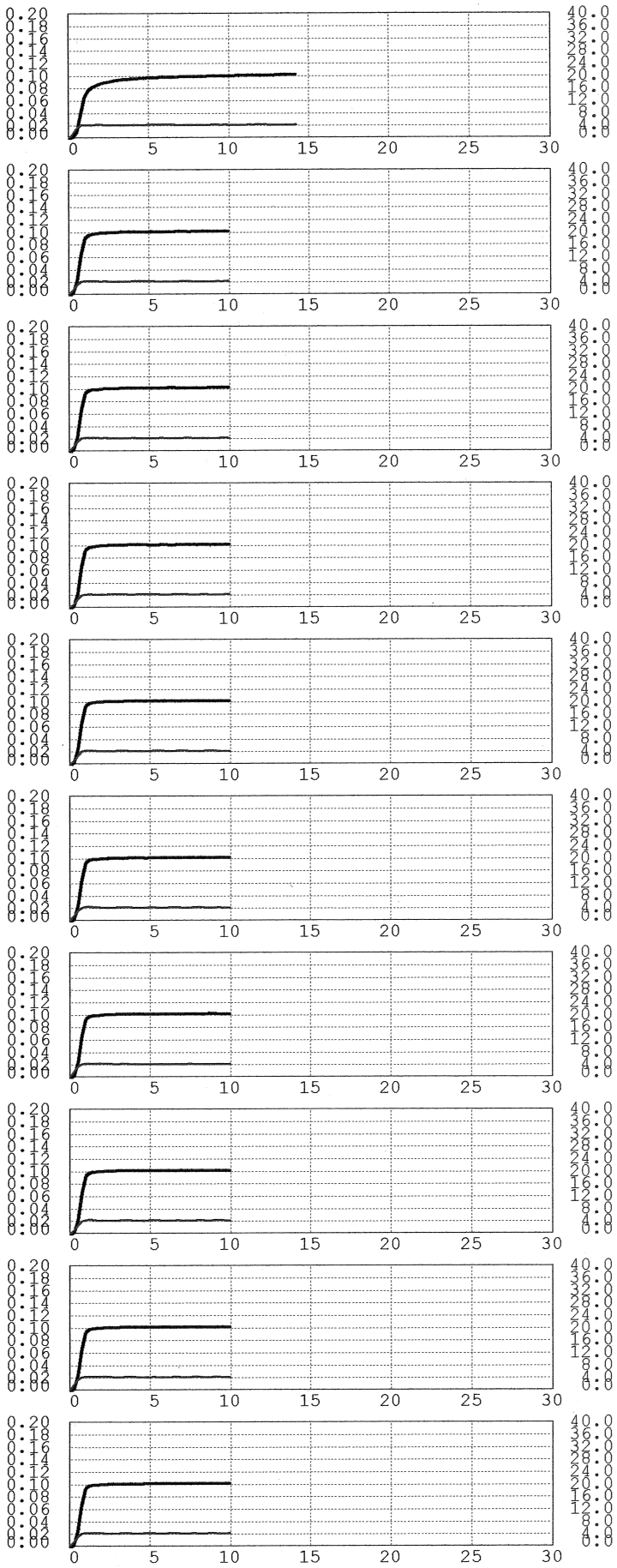
Date: 04/21/2010
Time: 08:02:56

SUPERVISOR NAME: SEH TEST .04IPA .08 ETOH

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

BLANK TEST	0.000	08:03
CALIBRATION CHECK	PASSED	08:03
SIMULATOR VAPOR	INTERFERENCE	08:04
SIMULATOR VAPOR	INTERFERENCE	08:05
SIMULATOR VAPOR	INTERFERENCE	08:06
SIMULATOR VAPOR	INTERFERENCE	08:07
SIMULATOR VAPOR	INTERFERENCE	08:08
SIMULATOR VAPOR	INTERFERENCE	08:09
SIMULATOR VAPOR	INTERFERENCE	08:10
SIMULATOR VAPOR	INTERFERENCE	08:11
SIMULATOR VAPOR	INTERFERENCE	08:12
SIMULATOR VAPOR	INTERFERENCE	08:13
BLANK TEST	0.000	08:13

Average out of range!



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

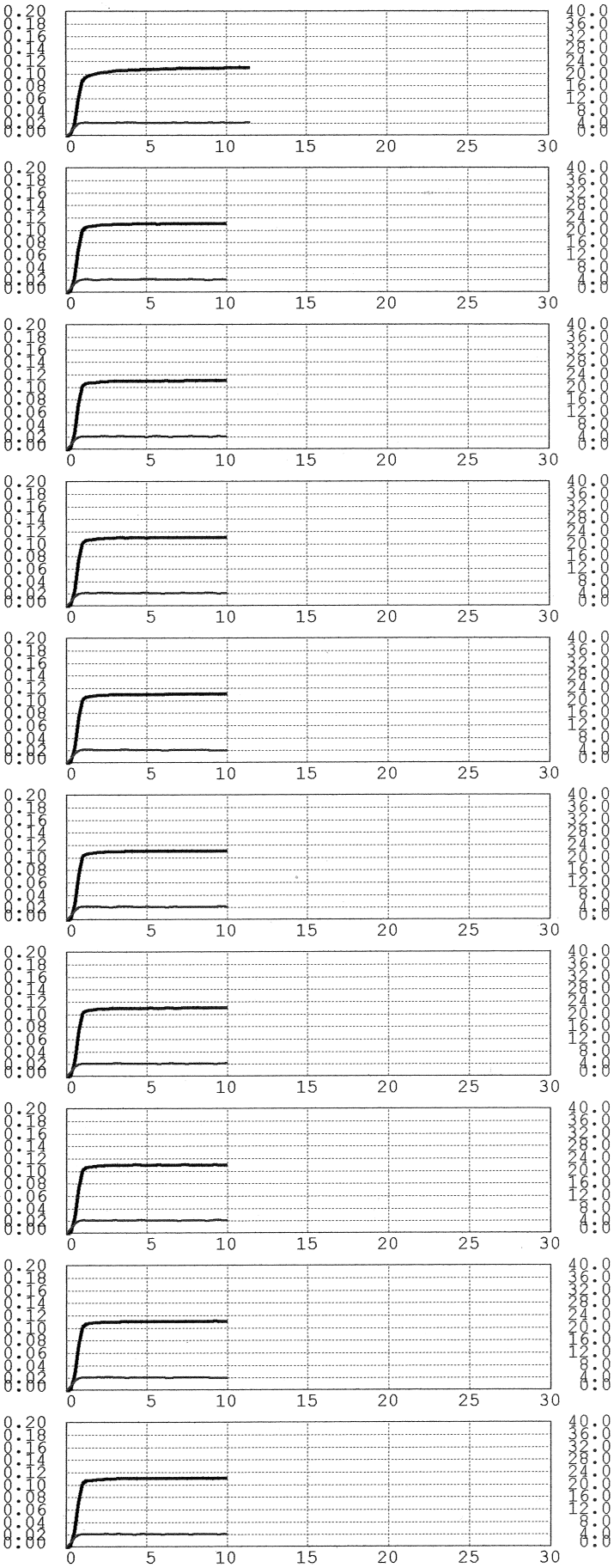
Date: 04/21/2010
Time: 08:28:21

SUPERVISOR NAME: SEH TEST .08ETOH .04 MEOH

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

BLANK TEST	0.000	08:29
CALIBRATION CHECK	PASSED	08:29
SIMULATOR VAPOR	INTERFERENCE	08:29
SIMULATOR VAPOR	INTERFERENCE	08:30
SIMULATOR VAPOR	INTERFERENCE	08:31
SIMULATOR VAPOR	INTERFERENCE	08:32
SIMULATOR VAPOR	INTERFERENCE	08:33
SIMULATOR VAPOR	INTERFERENCE	08:34
SIMULATOR VAPOR	INTERFERENCE	08:35
SIMULATOR VAPOR	INTERFERENCE	08:36
SIMULATOR VAPOR	INTERFERENCE	08:37
SIMULATOR VAPOR	INTERFERENCE	08:38
BLANK TEST	0.000	08:39

Average out of range!



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

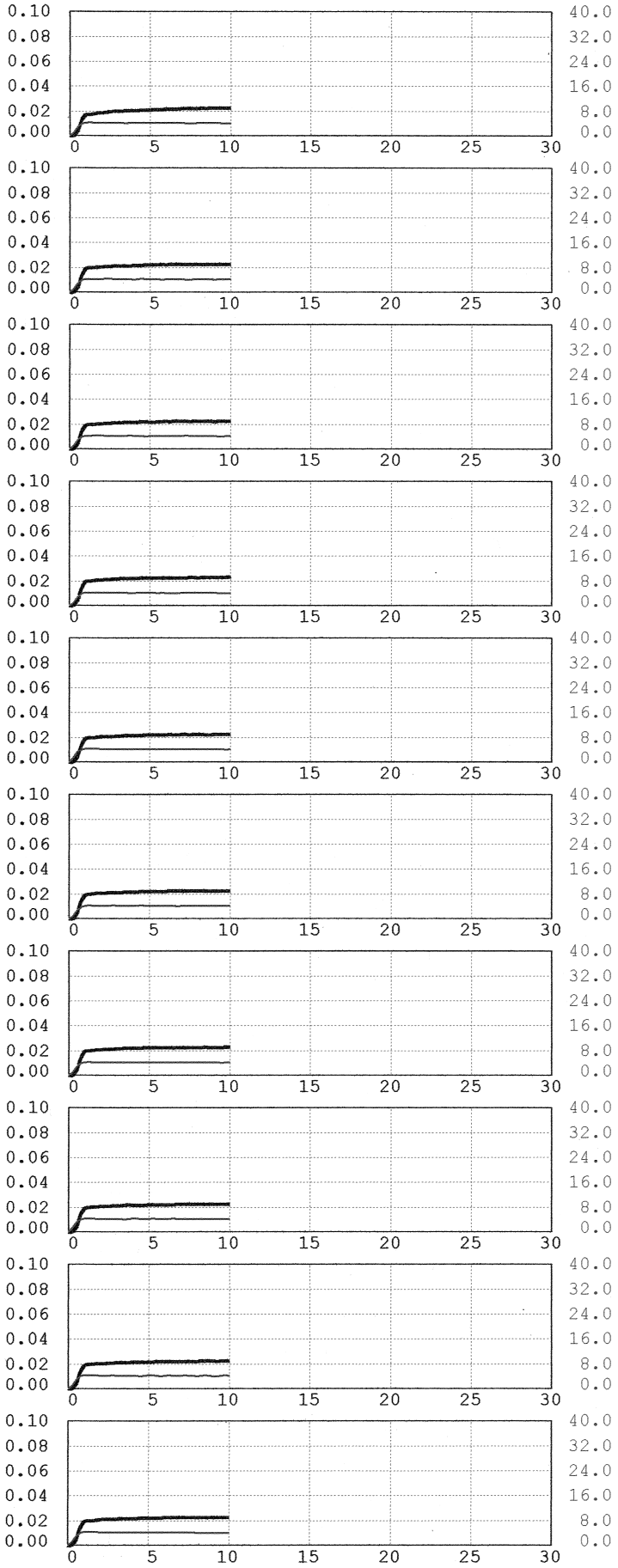
Date: 04/26/2010
Time: 16:26:26

SUPERVISOR NAME: DMR 04 IPA IN H20

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

BLANK TEST	0.000	16:27
CALIBRATION CHECK	PASSED	16:27
SIMULATOR VAPOR	INTERFERENCE	16:27
SIMULATOR VAPOR	INTERFERENCE	16:28
SIMULATOR VAPOR	INTERFERENCE	16:29
SIMULATOR VAPOR	INTERFERENCE	16:30
SIMULATOR VAPOR	INTERFERENCE	16:31
SIMULATOR VAPOR	INTERFERENCE	16:32
SIMULATOR VAPOR	INTERFERENCE	16:33
SIMULATOR VAPOR	INTERFERENCE	16:34
SIMULATOR VAPOR	INTERFERENCE	16:35
SIMULATOR VAPOR	INTERFERENCE	16:36
BLANK TEST	0.000	16:37

Average out of range!



ACCURACY AND PRECISION TEST

STATE OF VERMONT

DataMaster DMT: 100137

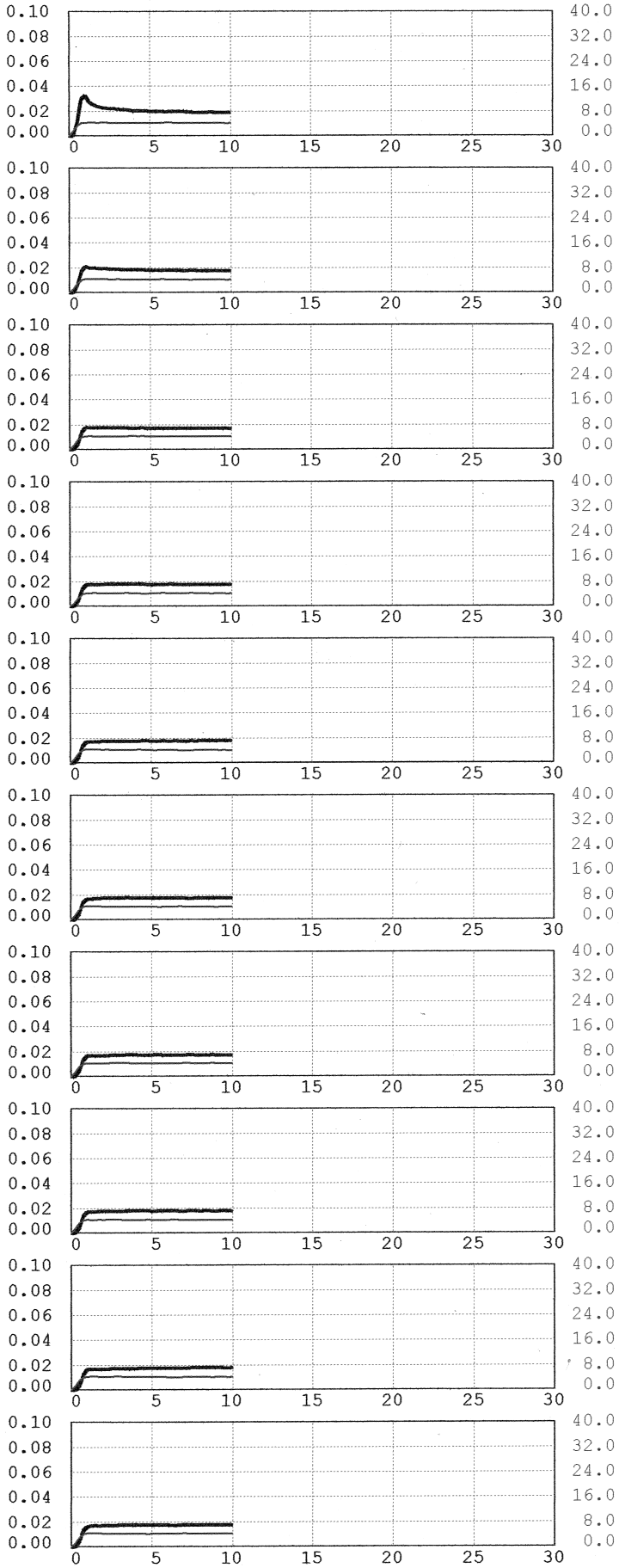
Date: 04/26/2010
Time: 15:59:26

SUPERVISOR NAME: DMR 04 MEOH IN H20

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

BLANK TEST		0.000	16:00
CALIBRATION CHECK		PASSED	16:00
Xq = 0.0831 (0.95%)			
SIMULATOR VAPOR		INTERFERENCE	16:00
X[1] = 0.0202	(-0.0053)	(-0.0022)	
SIMULATOR VAPOR		INTERFERENCE	16:01
X[1] = 0.0194	(-0.0063)	(-0.0025)	
SIMULATOR VAPOR		INTERFERENCE	16:02
X[1] = 0.0188	(-0.0060)	(-0.0037)	
SIMULATOR VAPOR		INTERFERENCE	16:03
X[1] = 0.0192	(-0.0066)	(-0.0040)	
SIMULATOR VAPOR		INTERFERENCE	16:04
X[1] = 0.0200	(-0.0059)	(-0.0034)	
SIMULATOR VAPOR		INTERFERENCE	16:05
X[1] = 0.0190	(-0.0061)	(-0.0036)	
SIMULATOR VAPOR		INTERFERENCE	16:06
X[1] = 0.0190	(-0.0063)	(-0.0028)	
SIMULATOR VAPOR		INTERFERENCE	16:07
X[1] = 0.0194	(-0.0065)	(-0.0038)	
SIMULATOR VAPOR		INTERFERENCE	16:08
X[1] = 0.0197	(-0.0060)	(-0.0030)	
SIMULATOR VAPOR		INTERFERENCE	16:09
X[1] = 0.0190	(-0.0062)	(-0.0031)	
BLANK TEST		0.000	16:10

Average out of range!



ACCURACY AND PRECISION TEST

STATE OF VERMONT

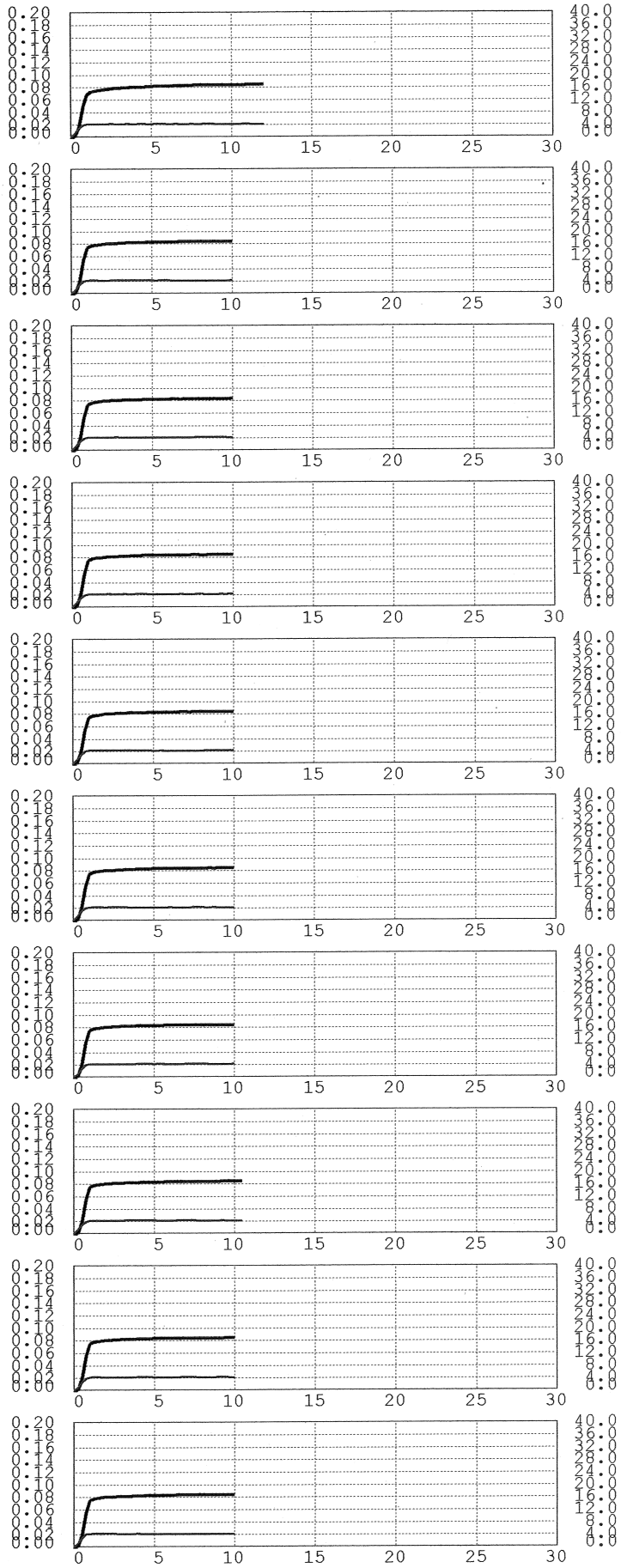
DataMaster DMT: 100137

Date: 04/26/2010
Time: 14:33:31

SUPERVISOR NAME: ALB .01ACETONE IN .08ETOH

SOLUTION LOT #: 10-24-08A
SOLUTION CONCENTRATION: 0.081

BLANK TEST	0.000	14:34
CALIBRATION CHECK	PASSED	14:34
SIMULATOR VAPOR	INTERFERENCE	14:34
SIMULATOR VAPOR	INTERFERENCE	14:35
SIMULATOR VAPOR	0.084	14:36
SIMULATOR VAPOR	INTERFERENCE	14:37
SIMULATOR VAPOR	INTERFERENCE	14:38
SIMULATOR VAPOR	INTERFERENCE	14:39
SIMULATOR VAPOR	INTERFERENCE	14:40
SIMULATOR VAPOR	INTERFERENCE	14:41
SIMULATOR VAPOR	INTERFERENCE	14:42
SIMULATOR VAPOR	INTERFERENCE	14:43
BLANK TEST	0.000	14:44



Section 6: Low Level Accuracy

This Instrument not tested for this specification

Section 7: Breath Volume

This Instrument not tested for this specification

Section 8: Software Testing

This Instrument not tested for this specification

Section 9: Error Reports

Section 10: Live Subject Tests

This Instrument not tested for this specification

Section 11: Communication Notes

March/April 2010 100137

~~October 2009~~

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

Power Up Procedure:

SH 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.

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

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

SH 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.

SH 4/13/10 e) Enter the TECH screen. Scroll through all of the filter settings to ensure the filter wheel is activating properly.

SH 4/20/10 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.

SH 4/13/10 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.

SH 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.

SH 4/20/10 i) Once all the TECH settings are correct, re-save every setting. Exit the TECH screen.

SH 4/20/10 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. — Need SH 4/20

SH 4/20/10 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

ART

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

4/20

SH

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.

Needs To Be Done SH 4/22/10

0.01% Acetone in 0.08% EtOH 4/26 a

0.04% MeOH in Water 4/26 DM

0.04% Isopropanol in Water 4/26 DM

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.

DRAFT

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.

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.

SH 4/21/10

- 0.01% Acetone in 0.04% EtOH
- 0.02% Acetone in 0.04% EtOH
- 0.04% MeOH in 0.08% EtOH
- 0.04% Isopropanol in 0.08% EtOH

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									
	15	6									
	22.5	4									
2.0 L	10	12									
	15	8									
	24	5									

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

RF