



DMT Technical Support Inquiry

DMT Serial #: 100151
Agency/Site: Newport PD
Date: 01/05/2021
DMT Supervisor: Charles Moulton

Problem:

DMT detector voltage was > 1 volt on recent diagnostic tests. DMT returned to VFL for routine maintenance and cleaning.

Work Performed:

On 1/6/21, the interior and exterior of the DMT were dusted and disinfected. The detector block, sample chamber (SC), and tubing connected to the five way valve were removed and cleaned with compressed air and foam swabs. The detector block was reassembled and 65 filter wheel cycles were completed without error. On 1/7/21, a test calibration was performed in order to run a 0.36 solution as a diagnostic tool. Relatively large deviations were observed in the sim vapor concentration and length of time to collect a test. The SC was removed and checked for leaks. An additional test was run on 1/12/21 with similar results. On 1/13/21, further tests were run by SGS with large deviations still observed. On 1/14/21, the filter wheel solenoid was replaced due to stripped wire insulation. The SC was also removed and cleaned again. Additional testing of the 0.36 solution revealed large deviations persisted. The DMT was allowed to stabilize for 5 days. On 1/19/21, the 0.36 solution was run with large deviations observed, so the controller board was replaced. Another 0.36 test was run with similar results. The entire sample chamber was replaced and the DMT was allowed to stabilize. On 1/25/21, a 0.36 test solution was run without any large deviations. A successful calibration adjustment and certification were subsequently performed. The DMT is now ready for installation at the agency.

Performed On Site ☐
Performed In house ☒

Performed By: Jeff Dukette
Technical Reviewer: [Signature]
Administrative Reviewer: [Signature]
Director Reviewer: [Signature]

Date: 1/26/2021
Date: 1/26/21
Date: 1/26/21
Date: 1/26/2021

CALIBRATION REPORT

DataMaster DMT: 100151
Calibration Date: 01/25/2021
Calibrated by: JEFFERY DUKETTE
Lot: 20-07-100



Ca	=	0.101		
CAL	=	0.959543	0.800	<= CAL < 1.200
b1	=	0.001	0.000	<= b1 < 0.004
b2	=	0.006	0.002	<= b2 < 0.010
b3	=	0.000	0.000	<= b3 < 0.004
Xq	=	0.093	0.050	<= Xq < 0.200
a21	=	1.174080	1.050	<= a21 < 1.300
a31	=	0.443593	0.300	<= a31 < 0.800

DI Wenter

BL-DMT01072020 34.00°C

JD 1/25/21

Performed by

A handwritten signature in blue ink, appearing to be "JD", is written over a horizontal line.

Date

01/25/2021



ACCURACY & PRECISION REPORT

STATE OF VERMONT

DataMaster DMT: 100151

Date: 01/25/2021

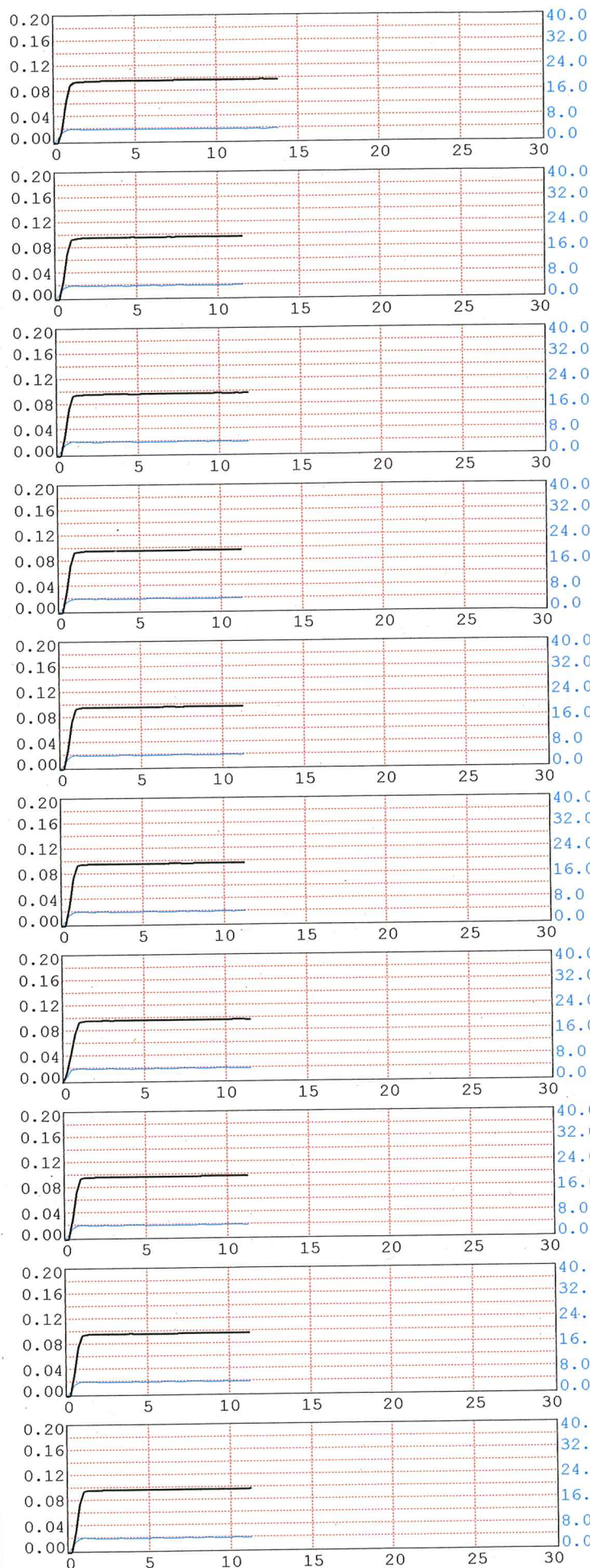
Time: 13:29:12

SUPERVISOR NAME:
JSD CAL CHECK

SOLUTION LOT #: ACS201912C
SOLUTION CONCENTRATION: 0.100

BLANK TEST	0.000	13:30
CALIBRATION CHECK	PASSED	13:30
SIMULATOR VAPOR 34.0°C	0.099	13:30
SIMULATOR VAPOR 34.0°C	0.098	13:31
SIMULATOR VAPOR 34.0°C	0.098	13:32
SIMULATOR VAPOR 34.0°C	0.097	13:33
SIMULATOR VAPOR 34.0°C	0.098	13:35
SIMULATOR VAPOR 34.0°C	0.097	13:36
SIMULATOR VAPOR 34.0°C	0.098	13:37
SIMULATOR VAPOR 34.0°C	0.098	13:38
SIMULATOR VAPOR 34.0°C	0.097	13:39
SIMULATOR VAPOR 34.0°C	0.098	13:40
BLANK TEST	0.000	13:41

Average = 0.097
Std Dev = 0.0006



CERTIFICATION REPORT

DataMaster DMT: 100151
Calibration Date: 01/25/2021
Certification Date: 01/25/2021
Certified by: JEFFERY DUKETTE



Diagnostic Results

VERSIONS

DMT: 2.06
PIC: 3.07
Modem: 2.6
Questions: 2.1

TEMPERATURES

Sample Chamber = 48.8°C
Breath Tube = 45.9°C
Digital Sim = 34.0°C

SETTINGS

Lamp Voltage = 1.86 V
Cooler Voltage = 1.81 V
Bias Voltage = 80 V
Chopper Freq = 528 Hz

PUMP INFO

Flow Rate = 4.947 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX (V)	0.0028	0.0063
MIN (V)	0.0014	0.0051

FILTER INFO

Filter 1	0.006	Zero = true
Filter 2	0.330	Zero = true
Filter 3	1.148	Zero = true

CALIBRATION CHECK

Xq = 0.093 0.00%

Options

OPTIONS

Units

Alcohol..... g/210L

Simulator

Tolerance Check..... yes
Standard Type..... wet
Nominal..... 0.100
Digital Simulator..... Guth

Subject

Ask Questions..... yes
Number of Tests..... 2
Alcohol Display..... yes
Volume Display..... yes
Query Refusal..... yes
Copies..... 3
Simulator Before..... yes
Simulator Between..... yes
Simulator After..... no
Observation Time..... 0

Supervisor

Number of Tests..... 10

Calibration

Standard Type..... wet
Nominal..... 0.100
Nominal (Dry Gas)..... 0.100
Number of Tests..... 1

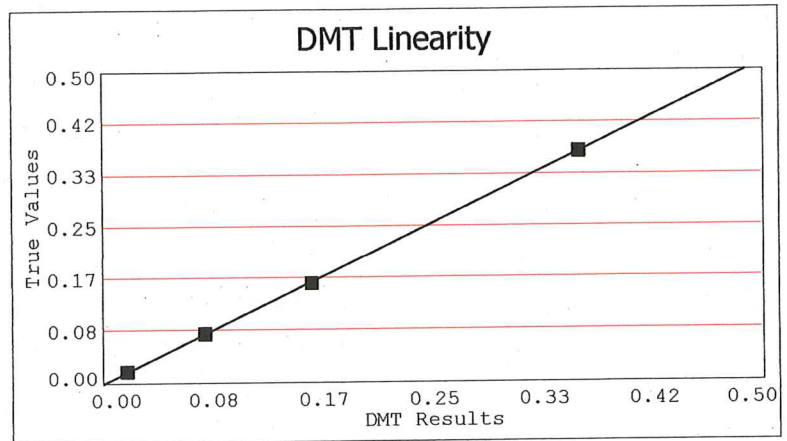
Printer

Printer On..... yes
Software Configuration
Data Collection..... yes

Linearity Check Results

True Value	Reported Average	Std Dev
0.020 g/210L	0.018 g/210L	0.0003
Lot # 20-08-020		
0.080 g/210L	0.077 g/210L	0.0003
Lot # 20-12-080		
0.161 g/210L	0.158 g/210L	0.0000
Lot # 20-09-160		
0.371 g/210L	0.360 g/210L	0.0006
Lot # 20-16-360		

$R^2 = 0.9999$



Acetone Interference Test

Lot # 20-13-08A2

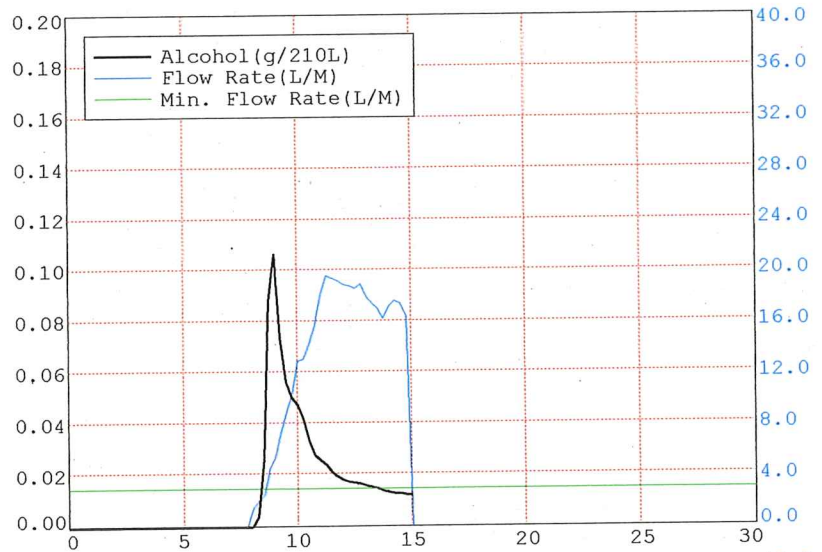
Interference Detected

Mouth Alcohol Test

Mouth Alcohol Detected

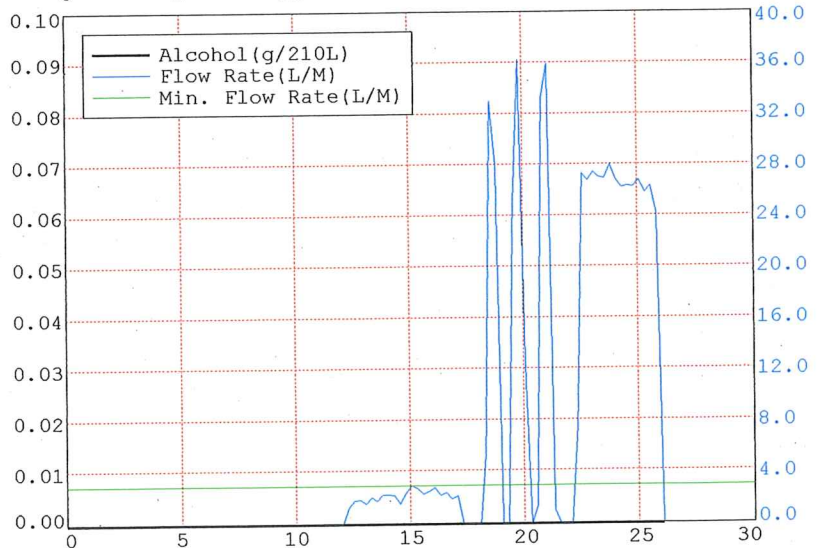
RF Detection Test

Passed



Sample Acceptance Test

Passed



CERTIFICATION PASSED

Performed by

Date

01/25/2021

Reviewed by

Date

1/26/21

DMT Serial Number #100151

Page 2 of 2

01/25/2021 3:17 PM

100151

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CALIBRATION REPORT

DataMaster DMT: 100151
Calibration Date: 01/07/2021
Calibrated by: JEFFERY DUKETTE
Lot: TEST



Ca	=	0.100		
CAL	=	0.967015	0.800	<= CAL < 1.200
b1	=	0.000	0.000	<= b1 < 0.004
b2	=	0.005	0.002	<= b2 < 0.010
b3	=	0.000	0.000	<= b3 < 0.004
Xq	=	0.091	0.050	<= Xq < 0.200
a21	=	1.172120	1.050	<= a21 < 1.300
a31	=	0.435657	0.300	<= a31 < 0.800

Test calibration for troubleshooting.

JSD 1/26/21

Performed by

A handwritten signature in black ink, appearing to be "JD", is written over a horizontal line.

Date

01/07/2021



ACCURACY & PRECISION REPORT

STATE OF VERMONT

DataMaster DMT: 100151

Date: 01/07/2021

Time: 12:05:33

SUPERVISOR NAME:

JEFFERY DUKETTE

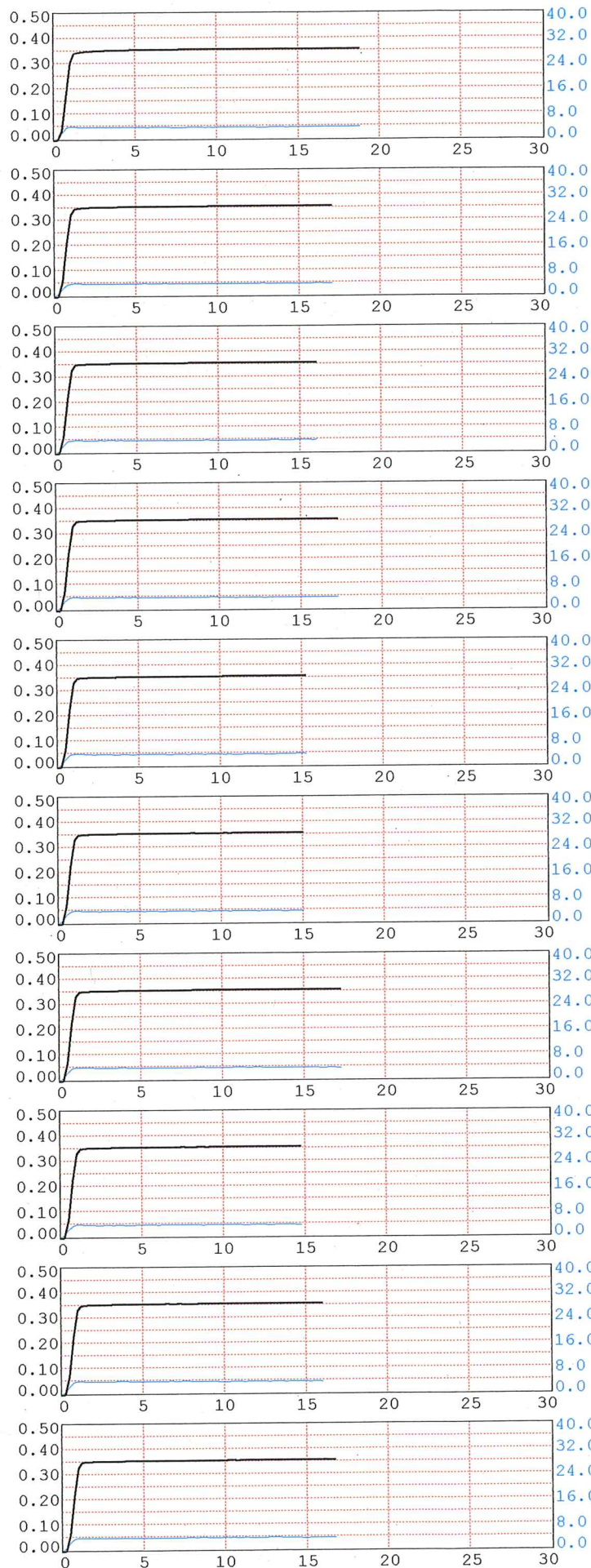
SOLUTION LOT #: 20-02-360

SOLUTION CONCENTRATION: 0.362

BLANK TEST	0.000	12:06
CALIBRATION CHECK	PASSED	12:06
SIMULATOR VAPOR 34.0°C	0.351	12:06
SIMULATOR VAPOR 34.0°C	0.352	12:08
SIMULATOR VAPOR 34.0°C	0.350	12:09
SIMULATOR VAPOR 34.0°C	0.350	12:10
SIMULATOR VAPOR 34.0°C	0.349	12:11
SIMULATOR VAPOR 34.0°C	0.350	12:12
SIMULATOR VAPOR 34.0°C	0.352	12:13
SIMULATOR VAPOR 34.0°C	0.350	12:14
SIMULATOR VAPOR 34.0°C	0.351	12:16
SIMULATOR VAPOR 34.0°C	0.352	12:17
BLANK TEST	0.000	12:18

Average = 0.350
Std Dev = 0.0010

More fluctuation and length of
sampling than expected. Sample
chamber removed and checked for
leaks. JSD 1/7/2021





ACCURACY & PRECISION REPORT

STATE OF VERMONT

DataMaster DMT: 100151

Date: 01/12/2021

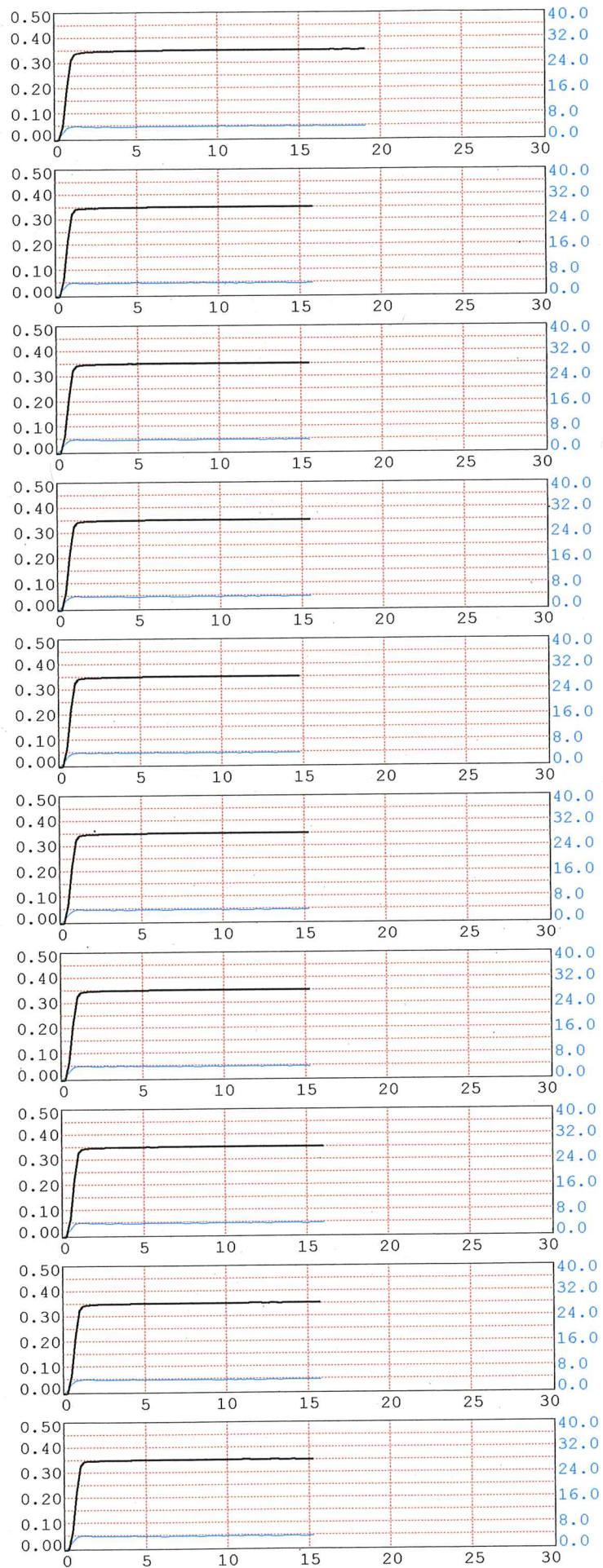
Time: 13:39:39

SUPERVISOR NAME:
JEFFERY DUKETTE

SOLUTION LOT #: 20-02-360
SOLUTION CONCENTRATION: 0.362

BLANK TEST	0.000	13:40
CALIBRATION CHECK	PASSED	13:40
SIMULATOR VAPOR 34.0°C	0.348	13:41
SIMULATOR VAPOR 34.0°C	0.347	13:42
SIMULATOR VAPOR 34.0°C	0.346	13:43
SIMULATOR VAPOR 34.0°C	0.348	13:44
SIMULATOR VAPOR 34.0°C	0.348	13:45
SIMULATOR VAPOR 34.0°C	0.347	13:46
SIMULATOR VAPOR 34.0°C	0.347	13:47
SIMULATOR VAPOR 34.0°C	0.346	13:48
SIMULATOR VAPOR 34.0°C	0.348	13:50
SIMULATOR VAPOR 34.0°C	0.348	13:51
BLANK TEST	0.000	13:51

Average = 0.347
Std Dev = 0.0008





ACCURACY & PRECISION REPORT

STATE OF VERMONT

DataMaster DMT: 100151

Date: 01/13/2021

Time: 09:39:00

SUPERVISOR NAME:

SARAH STRATTON

8218

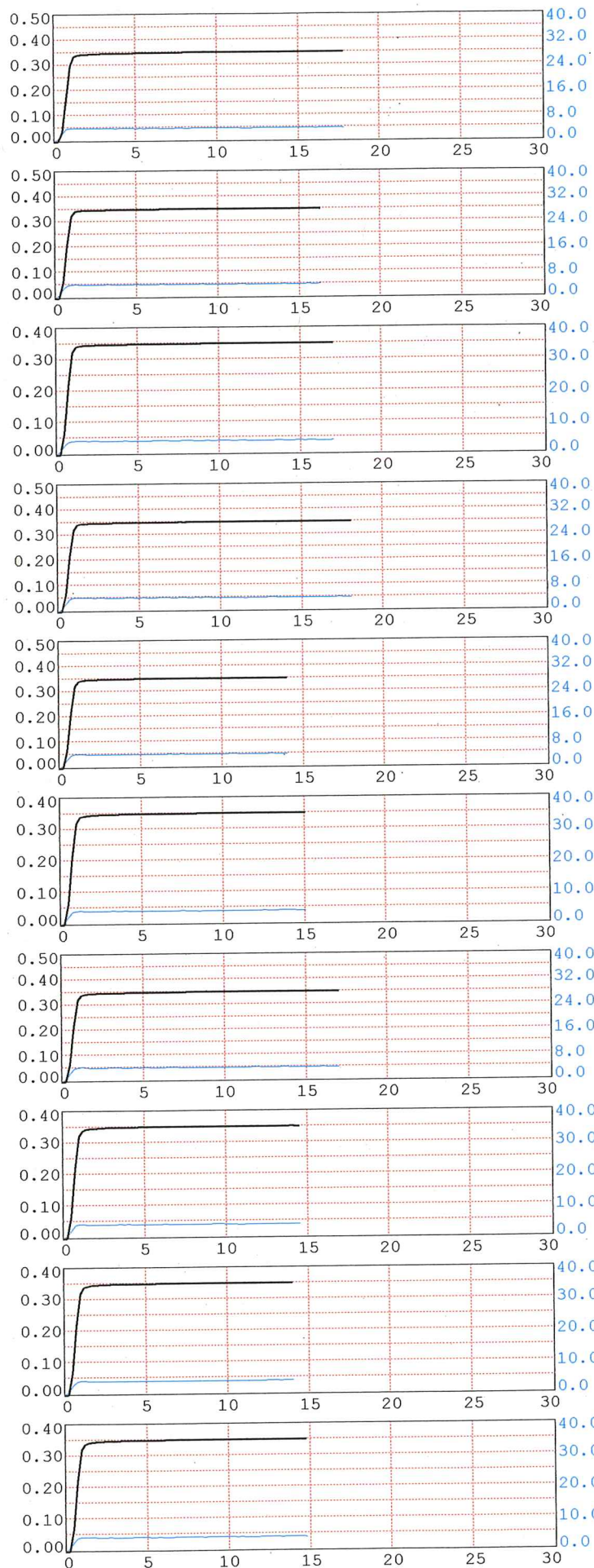
SOLUTION LOT #: 20-02-360

SOLUTION CONCENTRATION: 0.362

BLANK TEST	0.000	09:39
CALIBRATION CHECK	PASSED	09:40
SIMULATOR VAPOR 34.0°C	0.345	09:40
SIMULATOR VAPOR 34.0°C	0.345	09:41
SIMULATOR VAPOR 34.0°C	0.344	09:42
SIMULATOR VAPOR 34.0°C	0.345	09:43
SIMULATOR VAPOR 34.0°C	0.345	09:44
SIMULATOR VAPOR 34.0°C	0.343	09:46
SIMULATOR VAPOR 34.0°C	0.347	09:47
SIMULATOR VAPOR 34.0°C	0.344	09:48
SIMULATOR VAPOR 34.0°C	0.346	09:49
SIMULATOR VAPOR 34.0°C	0.343	09:50
BLANK TEST	0.000	09:51

Average = 0.344

Std Dev = 0.0012



DIAGNOSTIC RESULT



DataMaster DMT: 100151
Location:
Calibration Date: 01/07/2021
Certification Date:
Installation Date:
Test Date: 01/13/2021
Test Time: 11:09:27

VERSIONS

DMT: 2.06
PIC: 2.08
Modem: 2.6
Questions: 2.1

TEMPERATURES

Sample Chamber = 48.6°C
Breath Tube = 46.8°C
Digital Sim = 34.0°C

SETTINGS

Lamp Voltage = 1.70 V
Cooler Voltage = 1.68 V
Bias Voltage = 80 V
Chopper Freq = 532 Hz

PUMP INFO

Flow Rate = 4.907 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX (V)	0.0738	0.0803
MIN (V)	0.0715	0.0780

FILTER INFO

Filter 1	0.078	Zero = true
Filter 2	0.414	Zero = true
Filter 3	1.142	Zero = true

CALIBRATION CHECK

Xq = 0.091 1.16%

Run after adjusting tubing in order to check Xq prior to running a test A & P. SJS 1/13/2021



ACCURACY & PRECISION REPORT

STATE OF VERMONT

DataMaster DMT: 100151

Date: 01/13/2021

Time: 11:11:15

SUPERVISOR NAME:

SARAH STRATTON

SS

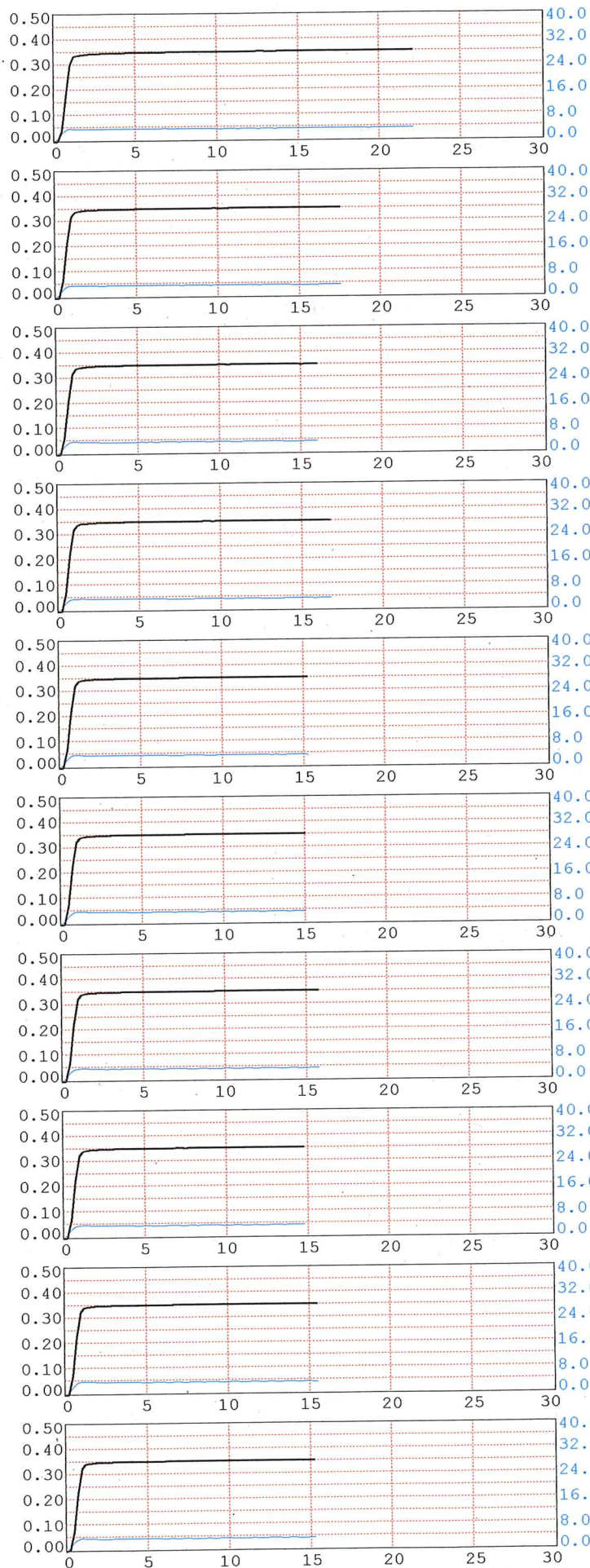
SOLUTION LOT #: 20-02-360

SOLUTION CONCENTRATION: 0.362

BLANK TEST	0.000	11:12
CALIBRATION CHECK	PASSED	11:12
SIMULATOR VAPOR 34.0°C	0.347	11:12
SIMULATOR VAPOR 34.0°C	0.347	11:13
SIMULATOR VAPOR 34.0°C	0.347	11:15
SIMULATOR VAPOR 34.0°C	0.348	11:16
SIMULATOR VAPOR 34.0°C	0.345	11:17
SIMULATOR VAPOR 34.0°C	0.347	11:18
SIMULATOR VAPOR 34.0°C	0.346	11:19
SIMULATOR VAPOR 34.0°C	0.349	11:20
SIMULATOR VAPOR 34.0°C	0.347	11:21
SIMULATOR VAPOR 34.0°C	0.347	11:22
BLANK TEST	0.000	11:23

Average = 0.347

Std Dev = 0.0010





ACCURACY & PRECISION REPORT

STATE OF VERMONT

DataMaster DMT: 100151

Date: 01/14/2021

Time: 14:27:42

SUPERVISOR NAME:

JEFFERY DUKETTE

SOLUTION LOT #: 20-02-360

SOLUTION CONCENTRATION: 0.362

BLANK TEST	0.000	14:28
CALIBRATION CHECK	ERROR	14:28

CALIBRATION CHECK ERROR

CALIBRATION REPORT

DataMaster DMT: 100151
Calibration Date: 01/14/2021
Calibrated by: JEFFERY DUKETTE
Lot: TEST



Ca	=	0.100		
CAL	=	0.977476	0.800	<= CAL < 1.200
b1	=	0.000	0.000	<= b1 < 0.004
b2	=	0.004	0.002	<= b2 < 0.010
b3	=	0.000	0.000	<= b3 < 0.004
Xq	=	0.074	0.050	<= Xq < 0.200
a21	=	1.197013	1.050	<= a21 < 1.300
a31	=	0.463337	0.300	<= a31 < 0.800

Test calibration. DMT not stabilized
jsd 1/26/21

Performed by

A handwritten signature in black ink, appearing to be "JD", is written over a horizontal line.

Date

01/14/2021



ACCURACY & PRECISION REPORT

STATE OF VERMONT

DataMaster DMT: 100151

Date: 01/14/2021

Time: 14:35:01

SUPERVISOR NAME:
JEFFERY DUKETTE

SOLUTION LOT #: 20-02-360

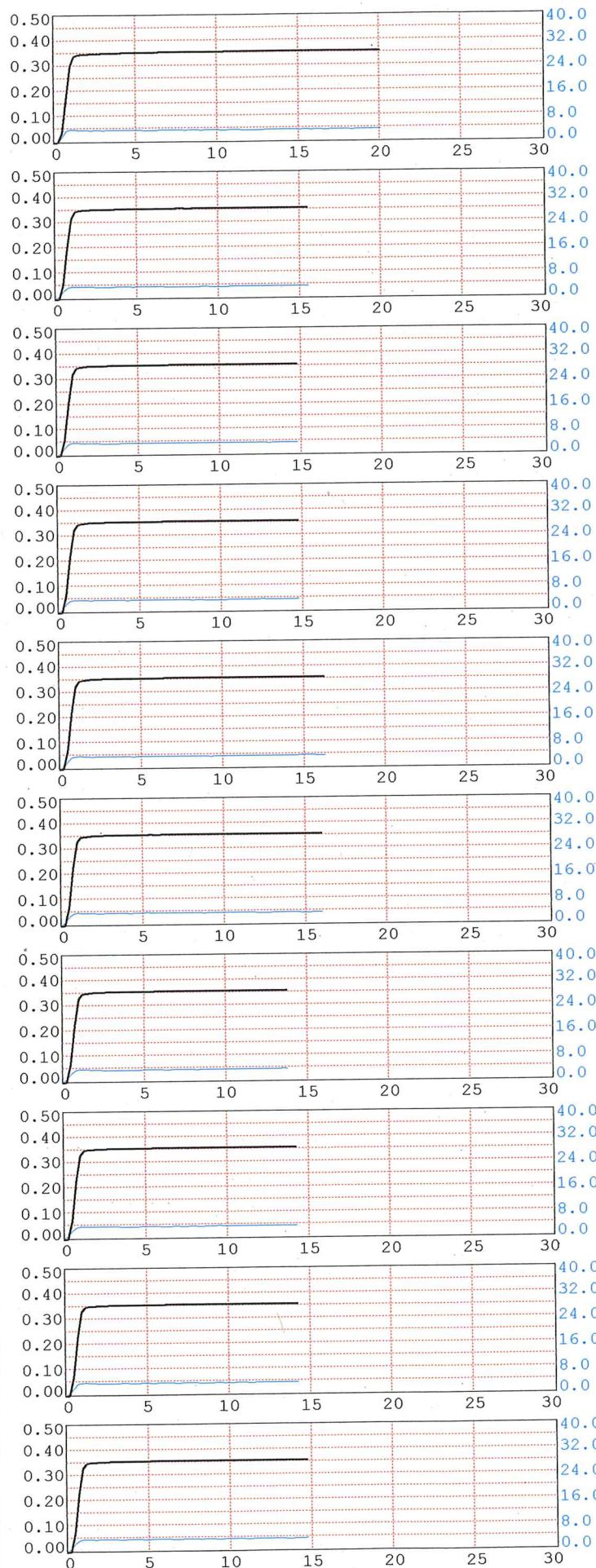
SOLUTION CONCENTRATION: 0.362

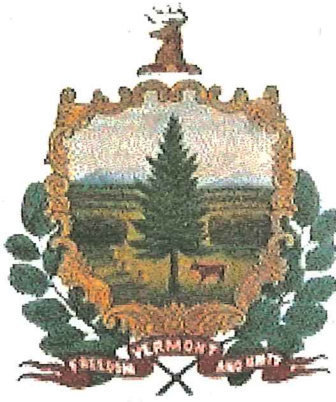
BLANK TEST	0.000	14:35
CALIBRATION CHECK	PASSED	14:36
SIMULATOR VAPOR 34.0°C	0.350	14:36
SIMULATOR VAPOR 34.0°C	0.349	14:37
SIMULATOR VAPOR 34.0°C	0.351	14:38
SIMULATOR VAPOR 34.0°C	0.351	14:39
SIMULATOR VAPOR 34.0°C	0.353 *	14:41
SIMULATOR VAPOR 34.0°C	0.351	14:42
SIMULATOR VAPOR 34.0°C	0.350	14:43
SIMULATOR VAPOR 34.0°C	0.350	14:44
SIMULATOR VAPOR 34.0°C	0.349	14:45
SIMULATOR VAPOR 34.0°C	0.351	14:46
BLANK TEST	0.000	14:47

Average = 0.350
Std Dev = 0.0011

*large deviation. DMT allowed to
stabilize

JSO 1/26/21





ACCURACY & PRECISION REPORT

STATE OF VERMONT

DataMaster DMT: 100151

Date: 01/19/2021

Time: 12:10:56

SUPERVISOR NAME:
JEFFERY DUKETTE

SOLUTION LOT #: 20-16-360
SOLUTION CONCENTRATION: 0.371

BLANK TEST	0.000	12:11
CALIBRATION CHECK	ERROR	12:12

CALIBRATION CHECK ERROR



ACCURACY & PRECISION REPORT

STATE OF VERMONT

DataMaster DMT: 100151

Date: 01/19/2021

Time: 10:45:40

SUPERVISOR NAME:

JEFFERY DUKETTE

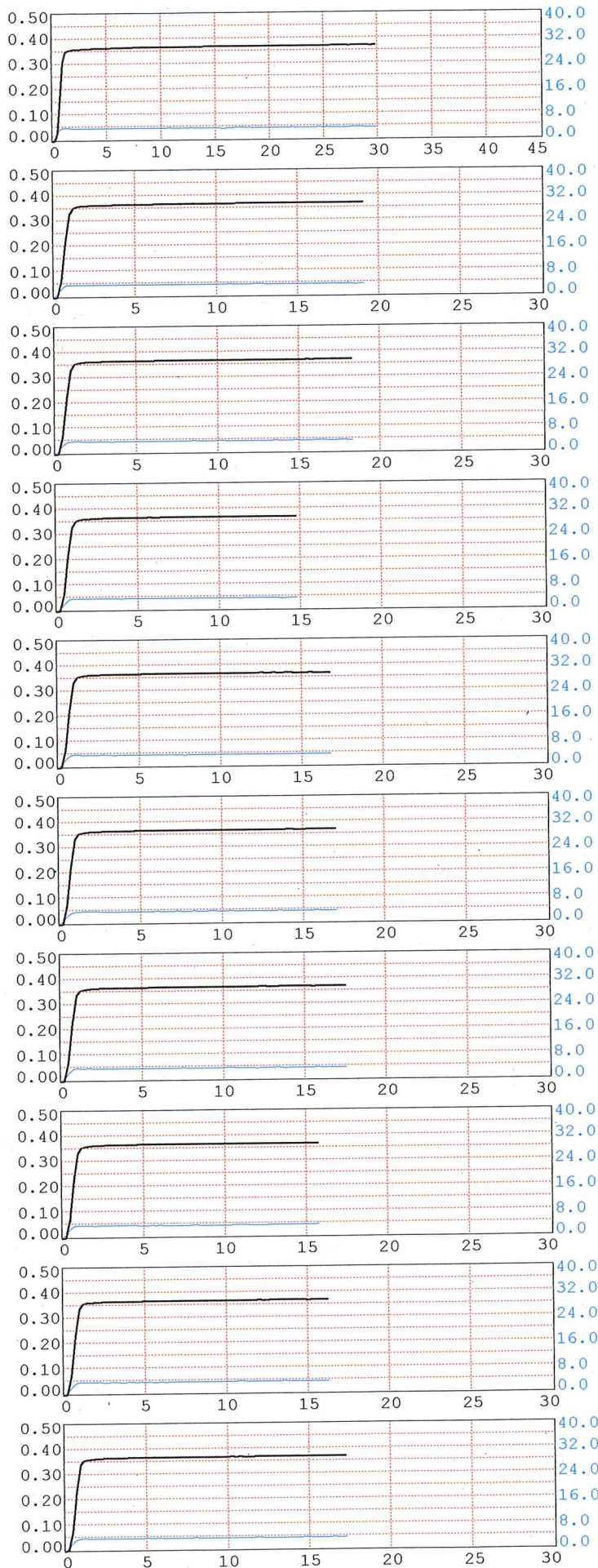
SOLUTION LOT #: 20-16-360

SOLUTION CONCENTRATION: 0.371

BLANK TEST	0.000	10:46
CALIBRATION CHECK	PASSED	10:46
SIMULATOR VAPOR 34.0°C	0.364	10:47
SIMULATOR VAPOR 34.0°C	0.362	10:48
SIMULATOR VAPOR 34.0°C	0.362	10:49
SIMULATOR VAPOR 34.0°C	0.359	10:50
SIMULATOR VAPOR 34.0°C	0.362	10:52
SIMULATOR VAPOR 34.0°C	0.360	10:53
SIMULATOR VAPOR 34.0°C	0.360	10:54
SIMULATOR VAPOR 34.0°C	0.361	10:55
SIMULATOR VAPOR 34.0°C	0.361	10:56
SIMULATOR VAPOR 34.0°C	0.362	10:57
BLANK TEST	0.000	10:58

Average = 0.361
Std Dev = 0.0014

Test run following stabilization.
Large deviations still observed.
Controller board replaced
8/01/2021



CALIBRATION REPORT

DataMaster DMT: 100151
Calibration Date: 01/19/2021
Calibrated by: JEFFERY DUKETTE
Lot: 20-07-100



Ca	=	0.101		
CAL	=	0.960602	0.800	<= CAL < 1.200
b1	=	0.000	0.000	<= b1 < 0.004
b2	=	0.005	0.002	<= b2 < 0.010
b3	=	0.000	0.000	<= b3 < 0.004
Xq	=	0.078	0.050	<= Xq < 0.200
a21	=	1.193134	1.050	<= a21 < 1.300
a31	=	0.452863	0.300	<= a31 < 0.800

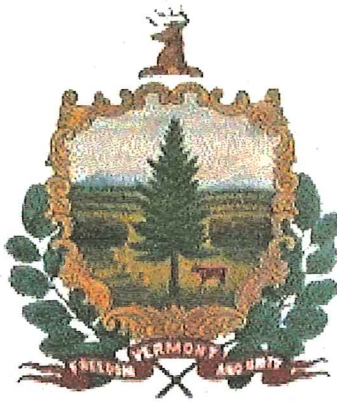
Test calibration. DMT not stabilized
JSD 1/26/21

Performed by

A handwritten signature in black ink, appearing to be "JSD", is written over a horizontal line.

Date

01/19/2021



ACCURACY & PRECISION REPORT

STATE OF VERMONT

DataMaster DMT: 100151

Date: 01/19/2021

Time: 12:53:16

SUPERVISOR NAME:
JEFFERY DUKETTE

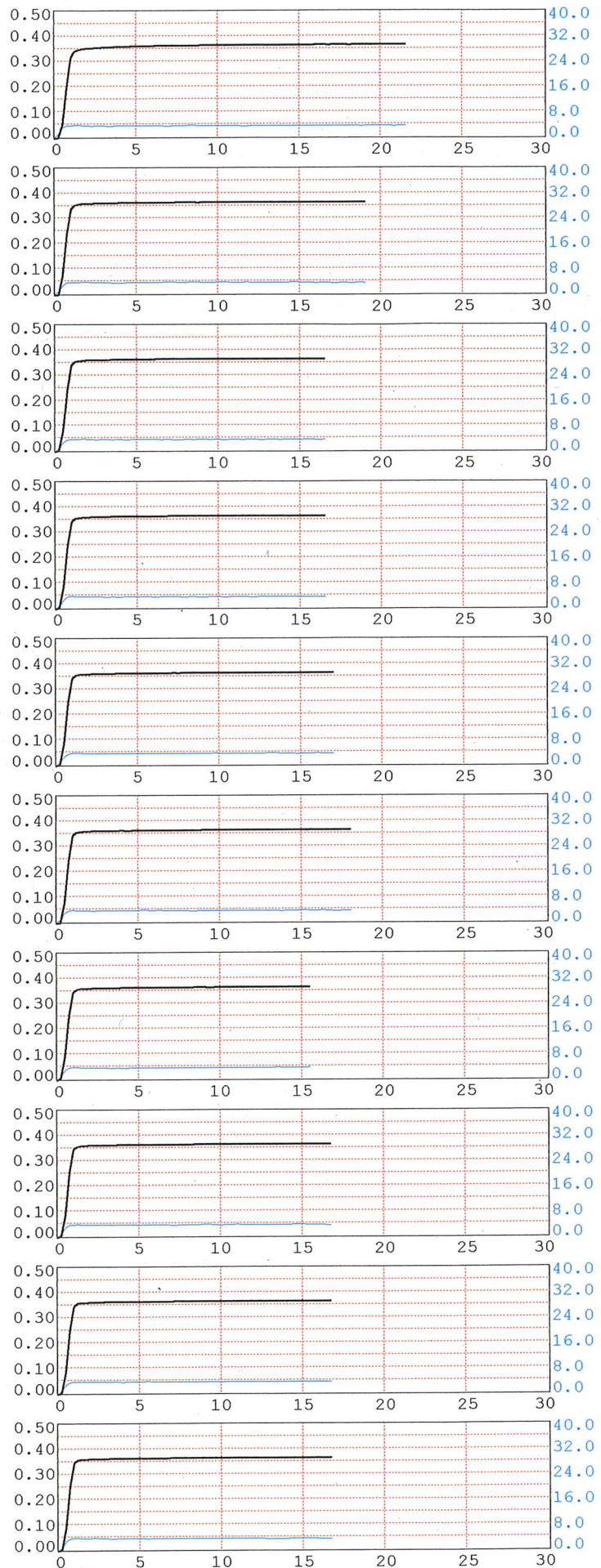
SOLUTION LOT #: ²⁰20-16-360
SOLUTION CONCENTRATION: 0.371

BLANK TEST	0.000	12:54
CALIBRATION CHECK	PASSED	12:54
SIMULATOR VAPOR 34.0°C	0.359	12:54
SIMULATOR VAPOR 34.0°C	0.358	12:56
SIMULATOR VAPOR 34.0°C	0.359	12:57
SIMULATOR VAPOR 34.0°C	0.358	12:58
SIMULATOR VAPOR 34.0°C	0.358	12:59
SIMULATOR VAPOR 34.0°C	0.358	13:01
SIMULATOR VAPOR 34.0°C	0.358	13:02
SIMULATOR VAPOR 34.0°C	0.356	13:03
SIMULATOR VAPOR 34.0°C	0.359	13:04
SIMULATOR VAPOR 34.0°C	0.358	13:05
BLANK TEST	0.000	13:06

Average = 0.358
Std Dev = 0.0008

deviations high. Replaced sample
chamber

JSD 1/26/21



CALIBRATION REPORT

DataMaster DMT: 100151
Calibration Date: 01/25/2021
Calibrated by: JEFFERY DUKETTE
Lot: TEST



Ca	=	0.101		
CAL	=	0.958686	0.800	<= CAL < 1.200
b1	=	0.001	0.000	<= b1 < 0.004
b2	=	0.007	0.002	<= b2 < 0.010
b3	=	0.001	0.000	<= b3 < 0.004
Xq	=	0.093	0.050	<= Xq < 0.200
a21	=	1.175069	1.050	<= a21 < 1.300
a31	=	0.444933	0.300	<= a31 < 0.800

* Test calibration. Not used.

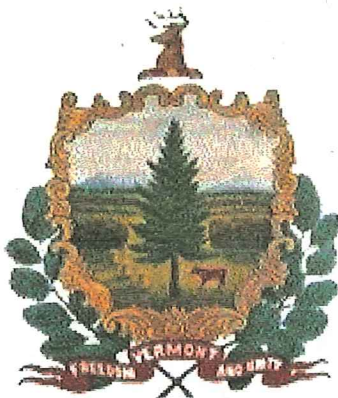
JSO 1/25/21

Performed by

A handwritten signature in black ink, appearing to be "JD", is written over a horizontal line.

Date

01/25/2021



ACCURACY & PRECISION REPORT

STATE OF VERMONT

DataMaster DMT: 100151

Date: 01/25/2021

Time: 10:12:50

SUPERVISOR NAME:

JEFFERY DUKETTE

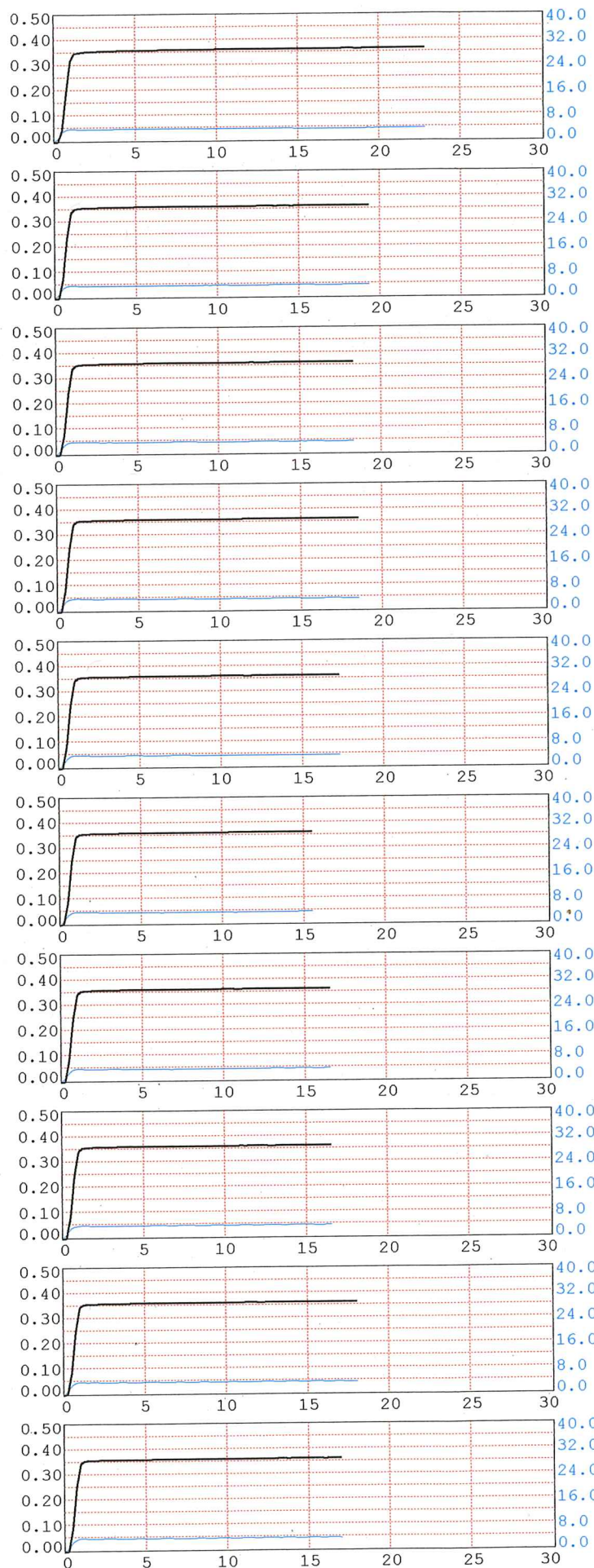
SOLUTION LOT #: 20-16-360

SOLUTION CONCENTRATION: 0.371

BLANK TEST	0.000	10:13
CALIBRATION CHECK	PASSED	10:13
SIMULATOR VAPOR 34.0°C	0.361	10:14
SIMULATOR VAPOR 34.0°C	0.360	10:15
SIMULATOR VAPOR 34.0°C	0.360	10:16
SIMULATOR VAPOR 34.0°C	0.361	10:18
SIMULATOR VAPOR 34.0°C	0.360	10:19
SIMULATOR VAPOR 34.0°C	0.360	10:20
SIMULATOR VAPOR 34.0°C	0.360	10:21
SIMULATOR VAPOR 34.0°C	0.360	10:22
SIMULATOR VAPOR 34.0°C	0.360	10:24
SIMULATOR VAPOR 34.0°C	0.360	10:25
BLANK TEST	0.000	10:26

Average = 0.360

Std Dev = 0.0004



DMT

Dukette, Jeffery <Jeffery.Dukette@vermont.gov>

Wed 2020-12-30 9:53 AM

To: charles.moulton@newportpd.org <charles.moulton@newportpd.org>

Cc: DPS - DMT <DPS.DMT@vermont.gov>

Morning Sgt. Moulton,

I've noticed that your DMT is due for some routine maintenance. I didn't want to pull it prior to the holidays since it's a busy time of year but I am hoping to come grab it next week, get some repairs performed, and have it back to you the following week. Before I do this, I wanted to touch base and make sure the timing is ok and you aren't planning on running some sort of checkpoint or anything next weekend that would require your DMT be in service.

My plan would be to come pull it on Tuesday, Jan 5th. You would likely be without it for a week or so. To my knowledge all other DMTs in your region are in service and ready to go.

Let me know what you think,

Jeff Dukette

Forensic Chemist

Vermont Forensic Laboratory

45 State Drive

Waterbury, VT 05671

(802) 241-5275 (Direct)

(802) 585-5843 (Cell)

Jeffery.Dukette@vermont.gov