



DMT Technical Support Inquiry

DMT Serial #: 100160
Agency/Site: St Albans PD
Date: 8/19/2022
DMT Supervisor: Keith McMahon

Problem:

VFL staff noted that the DMT was having persistent interference errors for the external standard readings and subject tests. When responding to the agency, the analyst verified that there was no chemical odor in the room and that cleaning supplies and hand sanitizers were not being kept near the instrument.

Work Performed:

The DMT was brought to the lab on 8/26/22. The detector voltages fluctuated and decreased over time. The detector block was removed, disassembled, and cleaned with DI water. Upon reassembly, a filter wheel error occurred so the stepper motor tension was adjusted and the detector block was taken apart and put back together. This time upon reassembly, 81 filter wheel cycles were completed without any errors. Two previously used detectors were tried in the instrument, but both had high lamp and cooler voltages and one had increasing voltages over time. Returned the original detector and removed the sample chamber. One end of the sample chamber was loose. Cleaned the sample chamber with DI water, isopropanol on the mirrors, dry swabs, and air. After returning the sample chamber to the DMT, the screen was non-functional. After adjusting the wiring, the screen began working again. Adjusted the detector position and optimized the voltage. An A&P test was run to verify the sample chamber seals. On 10/12/22, a successful calibration adjustment and certification were performed. Instrument is now ready for installation at agency.

Performed On Site
Performed In house

Performed By: ⁸²⁸ Sarah Stratton

Date: 10/12/2022

Technical Reviewer: [Signature]

Date: 10/14/22

Administrative Reviewer: [Signature]

Date: 10/18/22

Director Reviewer: [Signature]

Date: 10/18/2022

CALIBRATION REPORT

DataMaster DMT: 100160
Calibration Date: 10/12/2022
Calibrated by: SARAH STRATTON
Lot: 22-11-100



Ca	=	0.100			
CAL	=	0.957849	0.800	<=	CAL < 1.200
b1	=	0.001	0.000	<=	b1 < 0.004
b2	=	0.005	0.002	<=	b2 < 0.010
b3	=	0.000	0.000	<=	b3 < 0.004
Xq	=	0.087	0.050	<=	Xq < 0.200
a21	=	1.169743	1.050	<=	a21 < 1.300
a31	=	0.410027	0.300	<=	a31 < 0.800

DI Water
BL-DMT10222021 34.01°C SDS 10/12/2022

Performed by SDS SDS

Date 10/12/2022



ACCURACY & PRECISION REPORT

STATE OF VERMONT

DataMaster DMT: 100160

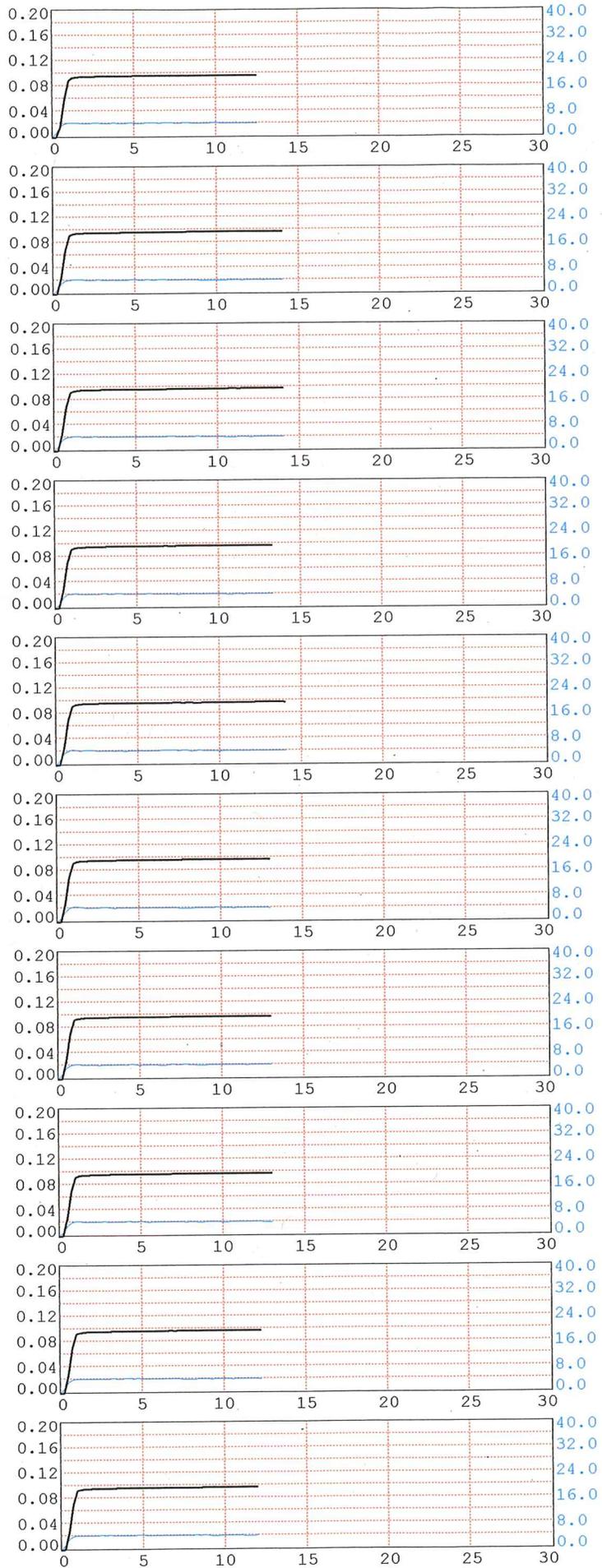
Date: 10/12/2022
Time: 14:48:14

SUPERVISOR NAME:
SGS CAL CHECK

SOLUTION LOT #: 21GP41165
SOLUTION CONCENTRATION: 0.100

BLANK TEST	0.000	14:49
CALIBRATION CHECK	PASSED	14:49
SIMULATOR VAPOR 34.0°C	0.098	14:49
SIMULATOR VAPOR 34.0°C	0.098	14:50
SIMULATOR VAPOR 34.0°C	0.098	14:51
SIMULATOR VAPOR 34.0°C	0.097	14:52
SIMULATOR VAPOR 34.0°C	0.098	14:53
SIMULATOR VAPOR 34.0°C	0.097	14:54
SIMULATOR VAPOR 34.0°C	0.097	14:55
SIMULATOR VAPOR 34.0°C	0.097	14:57
SIMULATOR VAPOR 34.0°C	0.098	14:58
SIMULATOR VAPOR 34.0°C	0.097	14:59
BLANK TEST	0.000	14:59

Average = 0.097
Std Dev = 0.0005



CERTIFICATION REPORT

DataMaster DMT: 100160
Calibration Date: 10/12/2022
Certification Date: 10/12/2022
Certified by: SARAH STRATTON



Diagnostic Results

VERSIONS

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

TEMPERATURES

Sample Chamber = 48.8°C
Breath Tube = 46.5°C
Digital Sim = 34.0°C

SETTINGS

Lamp Voltage = 1.67 V
Cooler Voltage = 1.66 V
Bias Voltage = 80 V
Chopper Freq = 545 Hz

PUMP INFO

Flow Rate = 5.132 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX (V)	0.0126	0.0161
MIN (V)	0.0112	0.0146

FILTER INFO

Filter 1	0.014	Zero = true
Filter 2	0.319	Zero = true
Filter 3	1.533	Zero = true

CALIBRATION CHECK

Xq = 0.087 0.30%

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



ACCURACY & PRECISION REPORT

STATE OF VERMONT

DataMaster DMT: 100160
 Location: ST. ALBANS PD

Date: 10/10/2022
 Time: 09:47:53

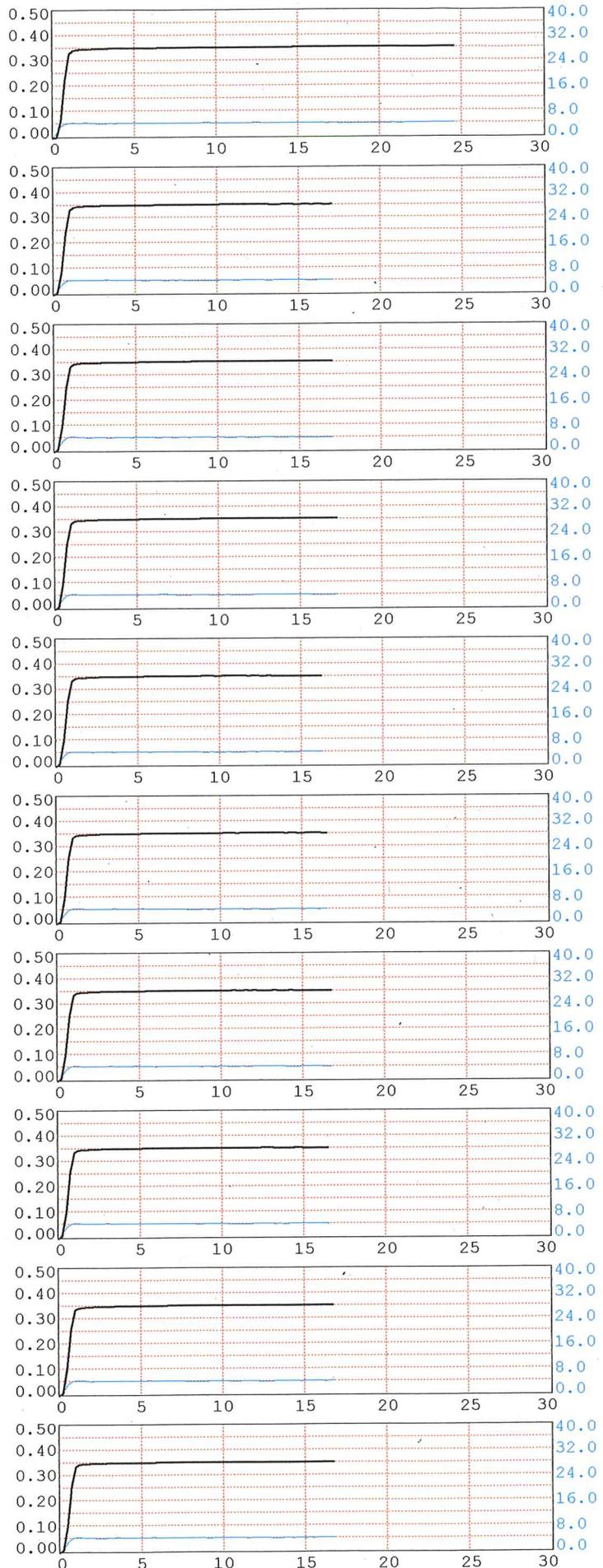
SUPERVISOR NAME:
 SARAH STRATTON

SOLUTION LOT #: 21-13-360 *
 SOLUTION CONCENTRATION: 0.363

BLANK TEST	0.000	09:48
CALIBRATION CHECK	PASSED	09:48
SIMULATOR VAPOR 34.0°C	0.352	09:49
SIMULATOR VAPOR 34.0°C	0.351	09:50
SIMULATOR VAPOR 34.0°C	0.352	09:51
SIMULATOR VAPOR 34.0°C	0.351	09:52
SIMULATOR VAPOR 34.0°C	0.351	09:53
SIMULATOR VAPOR 34.0°C	0.351	09:55
SIMULATOR VAPOR 34.0°C	0.351	09:56
SIMULATOR VAPOR 34.0°C	0.351	09:57
SIMULATOR VAPOR 34.0°C	0.351	09:58
SIMULATOR VAPOR 34.0°C	0.351	09:59
BLANK TEST	0.000	10:00

Average = 0.351
 Std Dev = 0.0004

**Run as test on uncalibrated instrument
 to check sample chamber seals.
 SJS 10/10/2022*



DIAGNOSTIC RESULT



DataMaster DMT: 100160
Location: ST. ALBANS PD
Calibration Date: 05/12/2020
Certification Date: 05/12/2020
Installation Date: 10/22/2021
Test Date: 10/10/2022
Test Time: 09:41:07

VERSIONS

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

TEMPERATURES

Sample Chamber = 48.9°C
Breath Tube = 48.1°C
Digital Sim = 0.0°C

SETTINGS

Lamp Voltage = 1.67 V
Cooler Voltage = 1.66 V
Bias Voltage = 80 V
Chopper Freq = 545 Hz

PUMP INFO

Flow Rate = 5.102 L/M

DETECTOR INFO

	ON	OFF
MAX (V)	0.0049	0.0087
MIN (V)	0.0037	0.0073

FILTER INFO

Filter 1	0.008	Zero = true
Filter 2	0.312	Zero = true
Filter 3	1.521	Zero = true

CALIBRATION CHECK

Xq = 0.085 2.58%

Re: St Albans RPC

Keith McMahon <keith.mcmahon@stalbanspd.com>

Wed 2022-08-24 10:55 AM

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

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

Yes I did an rpc because the solution was out of range but it had an RPC needed message in the corner so I just did it anyway. I thought this was odd but did it anyways because it asked me too. As far as the intermittent errors, no one has tried to fix anything. I did run many cycles of checks and it finally corrected itself.

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From: DPS - DMT <DPS.DMT@vermont.gov>**Sent:** Wednesday, August 24, 2022 10:51:42 AM**To:** Keith McMahon <Keith.McMahon@stalbanspd.com>**Subject:** St Albans RPC

Good morning,

We have received an RPC from your agency's DMT. Since it has not been performed during an RPC month, you will still need to perform the October RPC. Remember that you should only perform RPCs during RPC months. There is the SSC if a solution change is needed and other diagnostic tests that can be run, which will save time for any maintenance needed outside of the RPC months. Looking at your instrument records, I suspect you may have been attempting to fix the intermittent interference errors. The RPC will not accomplish this; I will be by later this week to pick up your DMT and bring it to the lab for maintenance. As always, if you have questions please reach out to us.

Thank you,
Sarah

100160

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