



State of Vermont
Department of Public Safety
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DMT Technical Support Inquiry

DMT Serial #: 100146
Agency/Site: Berlin VSP
Date: 07/05/2022
DMT Supervisor: Chelsea Delphia

Problem:

Multiple calibration check errors were observed in DM Host. DMT was returned to the VFL for maintenance.

Work Performed:

808 7/29/2022
On 07/15/22, SGS turned on the DMT and observed an issue with the screen. A different screen was used in the instrument as a test, which worked. The old screen was returned to the instrument and after adjusting some of the connections, the screen worked. The detector block was removed and cleaned with DI water. The detector block was reassembled on 7/18/22, but would not pass subsequent filter wheel tests. The stepper motor tension was adjusted on 7/19/22, but the assembly still would not pass. Due to changing work rotations, JSD took over the TSI from this point forward. On 7/26/22, multiple attempts were made to adjust the detector block assembly, but the the locking pin would not lock properly causing filter wheel issues. Given the inconsistent locking pin firing and filter wheel issues along with the apparent screen issue, the controller board was replaced. The DMT detector block was disassembled, cleaned with DI water and compressed air, and reassembled with a small amount of lubricant. A total of 97 filter wheel cycles were completed in two different sequences with no errors. The detector voltages were adjusted and the instrument was allowed to stabilize. On 7/29/2022, a successful calibration and certification were performed. The instrument is now ready for installation at the agency.

Performed On Site ☐
Performed In house ☒

Performed By: *JSD* *808* Jeff Dukette & Sarah Stratton
Technical Reviewer: *[Signature]*
Administrative Reviewer: *[Signature]*
Director Reviewer: *[Signature]*

Date: *7/29/22*
Date: *8/2/22*
Date: *8/2/22*
Date: *8/3/2022*

CALIBRATION REPORT

DataMaster DMT: 100146
Calibration Date: 07/29/2022
Calibrated by: JEFFERY DUKETTE
Lot: 22-11-100



Ca	=	0.100		
CAL	=	0.978466	0.800	<= CAL < 1.200
b1	=	0.001	0.000	<= b1 < 0.004
b2	=	0.006	0.002	<= b2 < 0.010
b3	=	0.001	0.000	<= b3 < 0.004
Xq	=	0.101	0.050	<= Xq < 0.200
a21	=	1.216045	1.050	<= a21 < 1.300
a31	=	0.563432	0.300	<= a31 < 0.800

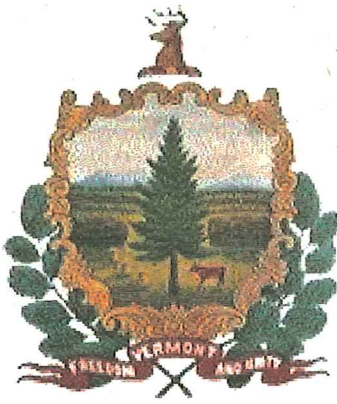
BL-DMT 10222021 34.00°C
JSD 7/29/22

Performed by

JSD

Date

07/29/2022



ACCURACY & PRECISION REPORT

STATE OF VERMONT

DataMaster DMT: 100146

Date: 07/29/2022

Time: 11:40:57

SUPERVISOR NAME:

JSD CAL CHECK

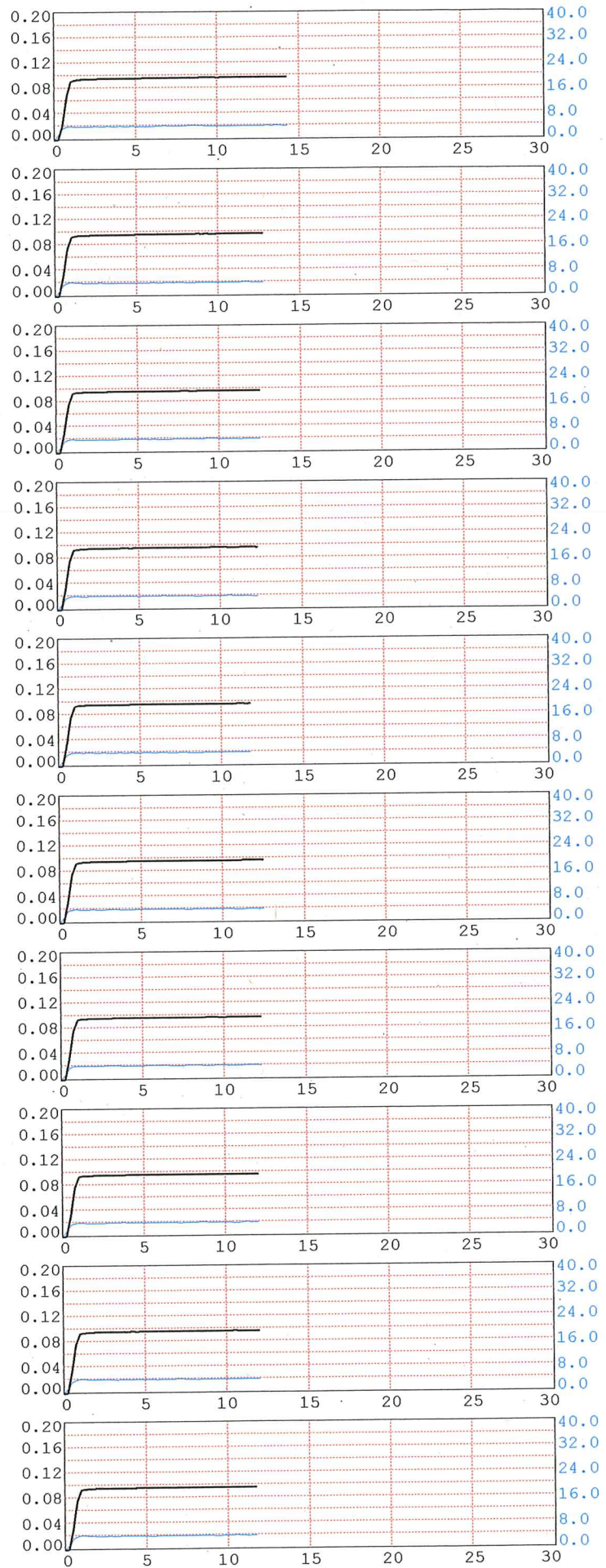
SOLUTION LOT #: 21GP41165

SOLUTION CONCENTRATION: 0.100

BLANK TEST	0.000	11:41
CALIBRATION CHECK	PASSED	11:42
SIMULATOR VAPOR 34.0°C	0.098	11:42
SIMULATOR VAPOR 34.0°C	0.098	11:43
SIMULATOR VAPOR 34.0°C	0.098	11:44
SIMULATOR VAPOR 34.0°C	0.097	11:45
SIMULATOR VAPOR 34.0°C	0.097	11:46
SIMULATOR VAPOR 34.0°C	0.097	11:47
SIMULATOR VAPOR 34.0°C	0.097	11:49
SIMULATOR VAPOR 34.0°C	0.097	11:50
SIMULATOR VAPOR 34.0°C	0.097	11:51
SIMULATOR VAPOR 34.0°C	0.097	11:52
BLANK TEST	0.000	11:53

Average = 0.097

Std Dev = 0.0004



CERTIFICATION REPORT

DataMaster DMT: 100146
Calibration Date: 07/29/2022
Certification Date: 07/29/2022
Certified by: JEFFERY DUKETTE



Diagnostic Results

VERSIONS

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

TEMPERATURES

Sample Chamber = 48.7°C
Breath Tube = 40.8°C
Digital Sim = 34.0°C

SETTINGS

Lamp Voltage = 1.62 V
Cooler Voltage = 1.66 V
Bias Voltage = 80 V
Chopper Freq = 526 Hz

PUMP INFO

Flow Rate = 4.946 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX (V)	0.0470	0.0514
MIN (V)	0.0461	0.0506

FILTER INFO

Filter 1	0.051	Zero = true
Filter 2	0.292	Zero = true
Filter 3	0.553	Zero = true

CALIBRATION CHECK

Xq = 0.101 0.09%

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

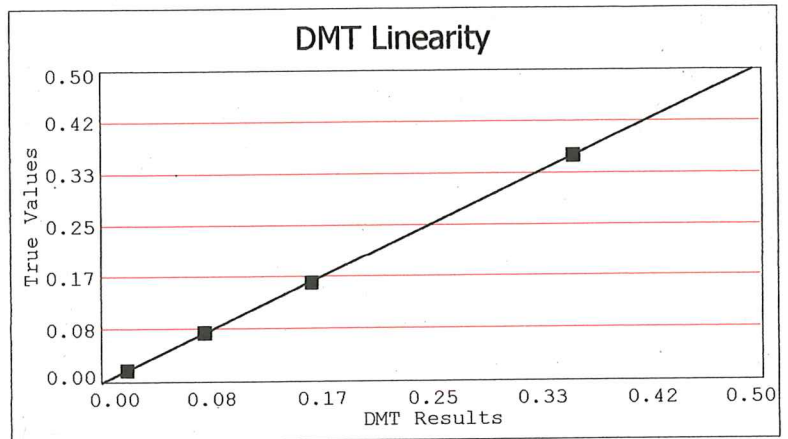
Software Configuration

Data Collection..... yes

Linearity Check Results

True Value	Reported Average	Std Dev
0.020 g/210L	0.019 g/210L	0.0005
Lot # 22-02-020		
0.080 g/210L	0.078 g/210L	0.0005
Lot # 22-08-080		
0.160 g/210L	0.159 g/210L	0.0003
Lot # 22-03-160		
0.363 g/210L	0.357 g/210L	0.0006
Lot # 21-13-360		

$R^2 = 1$



Acetone Interference Test

Lot # 22-09-08A2

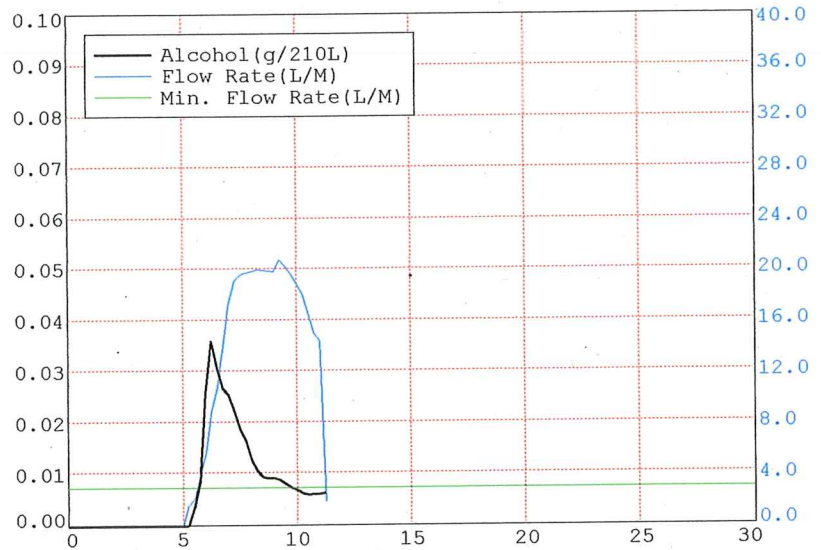
Interference Detected

Mouth Alcohol Test

Mouth Alcohol Detected

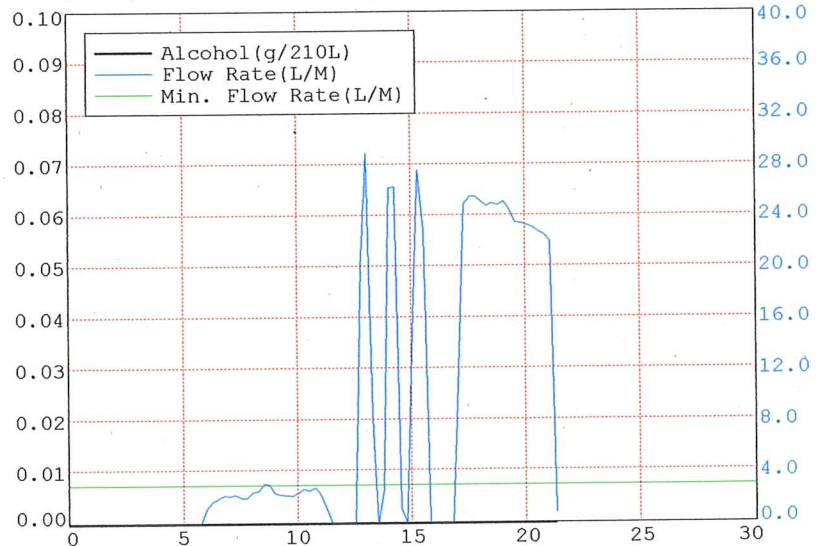
RF Detection Test

Passed



Sample Acceptance Test

Passed



CERTIFICATION PASSED

Performed by

ASD

Date

07/29/2022

Reviewed by

ASD

Date

8/2/22

DMT Serial Number #100146

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100146

ASD

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