

Alaska Scientific Crime Detection Laboratory

DataMaster Evaluation Form

Issued: 7/10/2015
Effective: 7/10/2015

Version: DMEF2015 R0
Status: Active

Instrument # 100697

Date: 9/13/16

Analyst: Colleen O'Bryant

1. Reason for instrument evaluation

Removed from service for possible RFI issues.

2. Visual Inspection

3. Troubleshooting/Repair

Performed a VOC and replaced o-ring on the regulator - VOC ended with an ambient fail. Repeated test and received (2) internal standard failures and a detector overflow. Adjusted the detector voltage down from ~2.0v to 0.10v using the lamp/cooler voltages. Attempted a VOC again that resulted in an internal standard failure (6.2%). I replaced the detector and controller board, purged the sample chamber and the instrument. Still gave an internal standard error on an attempted VOC.

4. VOC (attached)

5. Internal Standard value $\leq 3.00\%$ Yes No

6. Verify software version

Return to Factory for Repair

Ready For Calibration

Ready For Certification

VERIFICATION OF CALIBRATION REPORT

of DataMaster dmt Breath Test Instrument

State of Alaska

Serial #: 100697

Scientific Crime Detection Laboratory - Statewide Breath Alcohol Program

Date: 09/13/2016

External Standard Test Values

EXTERNAL STANDARD INFORMATION

NOMINAL: 0.080
TARGET AT 29.54: 0.079
LOT #: AG608504
EXPIRATION: 03/25/2018
TANK PRESSURE: 591 psi

Ambient Fail

Diagnostic Check

VERSIONS

DMT: 3.02
PIC: 3.02
Modem: 2.6
Questions: 2.2

TEMPERATURES

Sample Chamber = 48.8°C PASSED
(44.0°C - 52.0°C)
Breath Tube = 46.8°C PASSED
(38.0°C - 50.0°C)

SETTINGS

Lamp Voltage = 1.70 V PASSED
(1.01 V - 2.35 V)
Cooler Voltage = 1.68 V PASSED
(1.00 V - 2.32 V)
Bias Voltage = 80 V PASSED
(48 V - 112 V)
Chopper Freq = 530 Hz PASSED
(475 Hz - 575 Hz)
Barometer = 29.5 in

PUMP INFO

Flow Rate = 4.324 L/M PASSED
(3.500 L/M - 6.500 L/M)

DETECTOR INFO

PUMP ON PASSED
(0.001 V <= 0.010 V)
PUMP OFF PASSED
(0.001 V <= 0.010 V)

FILTER INFO

Filter 1 PASSED
Filter 2 PASSED
Filter 3 PASSED

INTERNAL STANDARD

Xq = 0.085 1.21% (0.00% - 4.00%) PASSED

VERIFICATION OF CALIBRATION REPORT

of DataMaster dmt Breath Test Instrument

State of Alaska

Serial #: 100697

Scientific Crime Detection Laboratory - Statewide Breath Alcohol Program

Date: 09/13/2016

External Standard Test Values

Diagnostic Check

VERSIONS

DMT: 3.02

FIC: 3.02

Modem: 2.6

Questions: 2.2

TEMPERATURES

Sample Chamber = 49.2°C
(44.0°C - 52.0°C)

PASSED

Breath Tube = 46.4°C
(38.0°C - 50.0°C)

PASSED

SETTINGS

Lamp Voltage = 1.70 V
(1.01 V - 2.35 V)

PASSED

Cooler Voltage = 1.68 V
(1.00 V - 2.32 V)

PASSED

Bias Voltage = 80 V
(48 V - 112 V)

PASSED

Chopper Freq = 530 Hz
(475 Hz - 575 Hz)

PASSED

Barometer = 29.5 in

PUMP INFO

Flow Rate = 4.453 L/M
(3.500 L/M - 6.500 L/M)

PASSED

DETECTOR INFO

PUMP ON
(0.007 V <= 0.010 V)

PASSED

PUMP OFF
(0.007 V <= 0.010 V)

PASSED

FILTER INFO

Filter 1

PASSED

Filter 2

PASSED

Filter 3

PASSED

INTERNAL STANDARD

FAILED

Xq = 0.09% 8.08% (0.00% - 4.00%)

Diagnostic Check Failed

VERIFICATION OF CALIBRATION REPORT

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State of Alaska

Serial #: 100697

Scientific Crime Detection Laboratory - Statewide Breath Alcohol Program

Date: 09/13/2016

External Standard Test Values

Diagnostic Check

VERSIONS

DMT: 3.02

PIC: 3.02

Modem: 2.6

Questions: 2.2

TEMPERATURES

Sample Chamber = 48.7°C PASSED
(44.0°C - 52.0°C)

Breath Tube = 42.1°C PASSED
(38.0°C - 50.0°C)

SETTINGS

Lamp Voltage = 1.70 V PASSED
(1.01 V - 2.35 V)

Cooler Voltage = 1.68 V PASSED
(1.00 V - 2.32 V)

Bias Voltage = 80 V PASSED
(48 V - 112 V)

Chopper Freq = 530 Hz PASSED
(475 Hz - 575 Hz)

Barometer = 29.5 in

PUMP INFO

Flow Rate = 4.450 L/M PASSED
(3.500 L/M - 6.500 L/M)

DETECTOR INFO

PUMP ON FAILED
(0.020 V <= 0.010 V)

PUMP OFF FAILED
(0.029 V <= 0.010 V)

FILTER INFO

Filter 1 PASSED

Filter 2 PASSED

Filter 3 FAILED

INTERNAL STANDARD

Xq = 0.410 373.94% (0.00% - 4.00%) FAILED

Diagnostic Check Failed

VERIFICATION OF CALIBRATION REPORT

of DataMaster dmt Breath Test Instrument

State of Alaska

Serial #: 100697

Scientific Crime Detection Laboratory - Statewide Breath Alcohol Program

Date: 09/13/2016

External Standard Test Values

Diagnostic Check

VERSIONS
DMT: 3.02
PIC: 3.02
Modem: 2.6
Questions: 2.2

TEMPERATURES

Sample Chamber = 48.8°C	PASSED
Breath Tube = 44.8°C	PASSED

PUMP INFO

Flow Rate = 4.442 L/M	PASSED
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DETECTOR INFO

PUMP ON	FAILED
PUMP OFF	FAILED

Detector Overflow

Technician Screen

DATAMASTER dmt: 100697

Date: 09/13/2016

Time: 3:03 PM

Temperatures (°C)

Sample Cell: 48.7°C

Breath Tube: 40.9°C

Current Barometer 29.5 in

Volume (Ltr) 0.00

Settings

Lamp: 1.94 V

Bias: 80 V

Cooler: 1.84 V

Chopper: 524 Hz

Voltages (V)

Flow: 1.07 V

Detector: 0.023 V

VERIFICATION OF CALIBRATION REPORT

of DataMaster dmt Breath Test Instrument

State of Alaska

Serial #: 100697

Scientific Crime Detection Laboratory - Statewide Breath Alcohol Program

Date: 09/13/2016

External Standard Test Values

Diagnostic Check

VERSIONS

DMT: 3.02

PIC: 3.02

Modem: 2.6

Questions: 2.2

TEMPERATURES

Sample Chamber = 48.7°C

(44.0°C - 52.0°C)

PASSED

Breath Tube = 42.3°C

(38.0°C - 50.0°C)

PASSED

SETTINGS

Lamp Voltage = 1.94 V

(1.01 V - 2.35 V)

PASSED

Cooler Voltage = 1.84 V

(1.00 V - 2.32 V)

PASSED

Bias Voltage = 80 V

(48 V - 112 V)

PASSED

Chopper Freq = 526 Hz

(475 Hz - 575 Hz)

PASSED

Barometer = 29.5 in

PUMP INFO

Flow Rate = 4.478 L/M

(3.500 L/M - 6.500 L/M)

PASSED

DETECTOR INFO

PUMP ON

(-100.160 V <= 0.010 V)

PASSED

PUMP OFF

(0.014 V <= 0.010 V)

FAILED

FILTER INFO

Filter 1

FAILED

Filter 2

PASSED

Filter 3

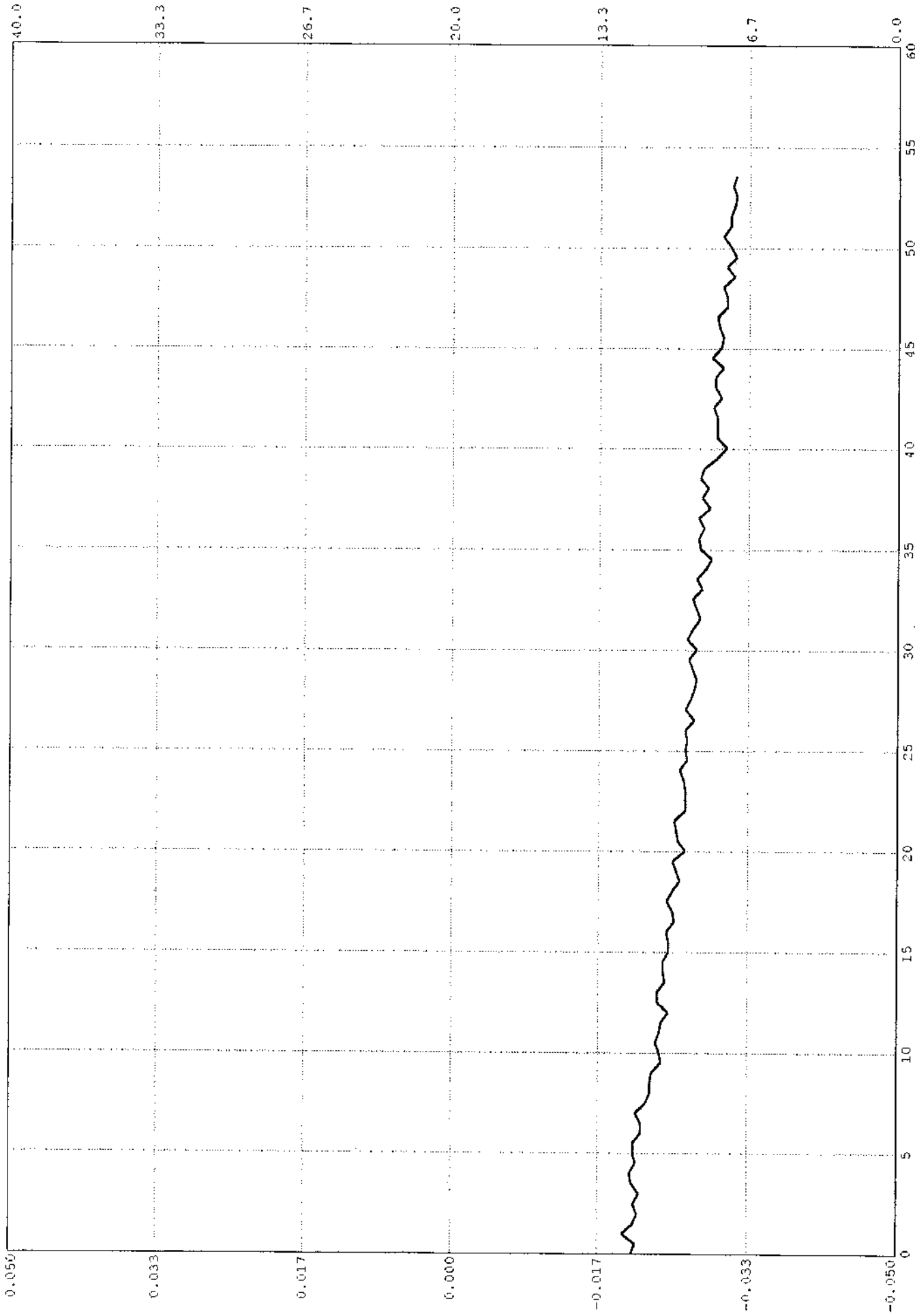
PASSED

INTERNAL STANDARD

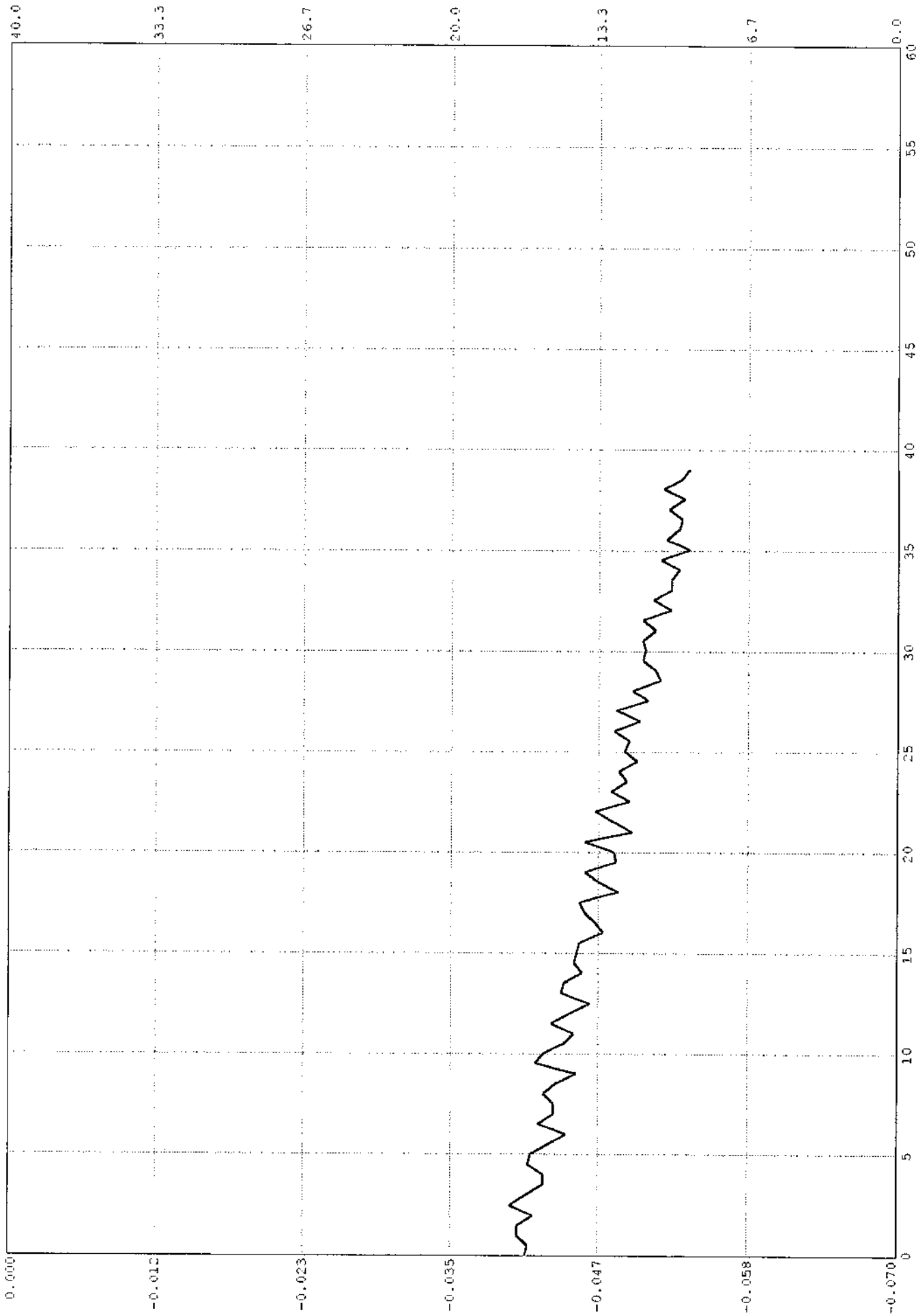
FAILED

Xq = 0.032 62.68% (0.00% - 4.00%)

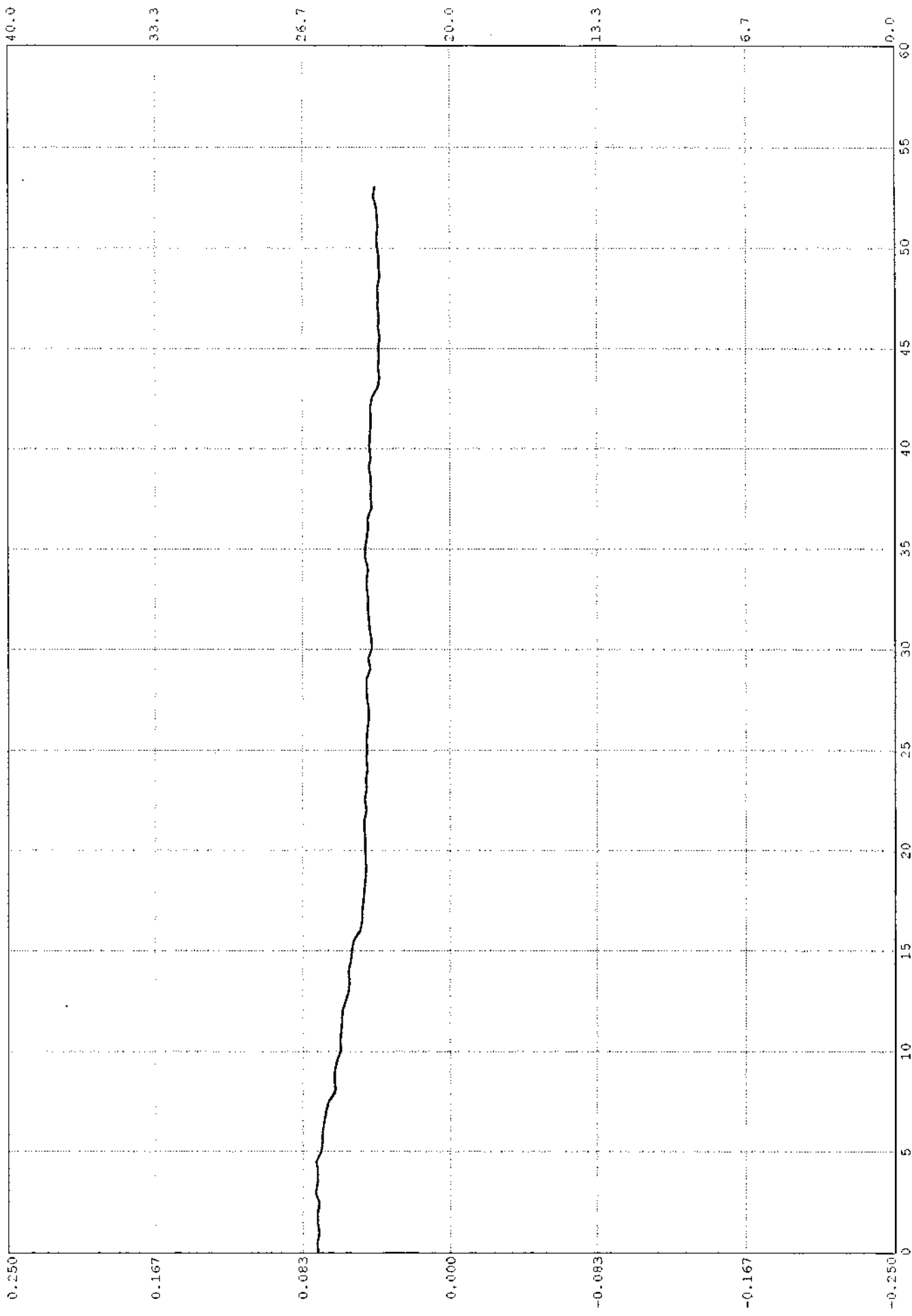
Diagnostic Check Failed



original detector + controller board



original detector, replacement controller board



replacement detector, original controller board

VERIFICATION OF CALIBRATION REPORT

of DataMaster dmt Breath Test Instrument

State of Alaska

Serial #: 100697

Scientific Crime Detection Laboratory - Statewide Breath Alcohol Program

Date: 10/26/2016

External Standard Test Values

Diagnostic Check

VERSIONS

DMT: 3.02
PIC: 3.03
Modem: 2.6
Questions: 2.2

TEMPERATURES

Sample Chamber = 49.7°C PASSED
(44.0°C - 52.0°C)
Breath Tube = 44.3°C PASSED
(38.0°C - 50.0°C)

SETTINGS

Lamp Voltage = 1.64 V PASSED
(1.01 V - 2.35 V)
Cooler Voltage = 1.69 V PASSED
(1.00 V - 2.32 V)
Bias Voltage = 80 V PASSED
(48 V - 112 V)
Chopper Freq = 546 Hz PASSED
(475 Hz - 575 Hz)
Barometer = 29.6 in

PUMP INFO

Flow Rate = 4.336 L/M PASSED
(3.500 L/M - 6.500 L/M)

DETECTOR INFO

PUMP ON PASSED
(0.003 V <= 0.010 V)
PUMP OFF PASSED
(0.002 V <= 0.010 V)

FILTER INFO

Filter 1 PASSED
Filter 2 PASSED
Filter 3 PASSED

INTERNAL STANDARD

Xq = 0.083 4.23% (0.00% - 4.00%) FAILED

Diagnostic Check Failed