



VERMONT FORENSIC LABORATORY

PO BOX 47
WATERBURY, VERMONT 05676-0047
TEL: 802-244-8788
FAX: 802-241-5557
<http://vfl.vermont.gov>

DATAMASTER TECHNICAL SUPPORT INQUIRY

Agency/Site: Middlesex VSP DataMaster Serial #: 100146

Date: 10/3/2016 Requestor: Chelsea Delphia

Instrument Supervisor: Chelsea Delphia Phone #: (802) 229-9191

Taken By: Robert Driscoll

Problem: Cal. Check error during DUI Subject Test

Laboratory Response: Remove from service until Alcohol program staff can troubleshoot the instrument.

Work Performed: Performed a Diagnostic test and the Cal. Check passed at 3.60%. Tried to run an Accuracy and Precision test and the instrument had a Cal. Check error. Brought the instrument back to the VFL where it was disassembled and the internal standard cleaned. The filter assembly was rebuilt and tested with 70 filter cycles. A Calibration was performed then the Cal. Check was tested with Diagnostic tests over the next several days. The Cal Check remained below 1% so the instrument was Certified and is now ready for installation at the agency.

☐ On Site ☒ In-house

Attachments: 16 pages

Performed By: Robert Driscoll *RD*

Date: 10/11/2016

Final Review: *AS*

Date: 10/11/16

CALIBRATION REPORT

DataMaster DMT: 100146
Calibration Date: 10/04/2016
Calibrated by: ROBERT DRISCOLL
Lot: 15-26-100



Ca	=	0.100		
CAL	=	0.982026	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	=	0.079	0.050	<= Xq < 0.200
a21	=	1.212761	1.050	<= a21 < 1.300
a31	=	0.532518	0.300	<= a31 < 0.800

Performed by

RD

Date

10/04/2016



ACCURACY & PRECISION REPORT

STATE OF VERMONT

DataMaster DMT: 100146

Date: 10/04/2016

Time: 11:36:15

SUPERVISOR NAME:

RCD CAL CHECK

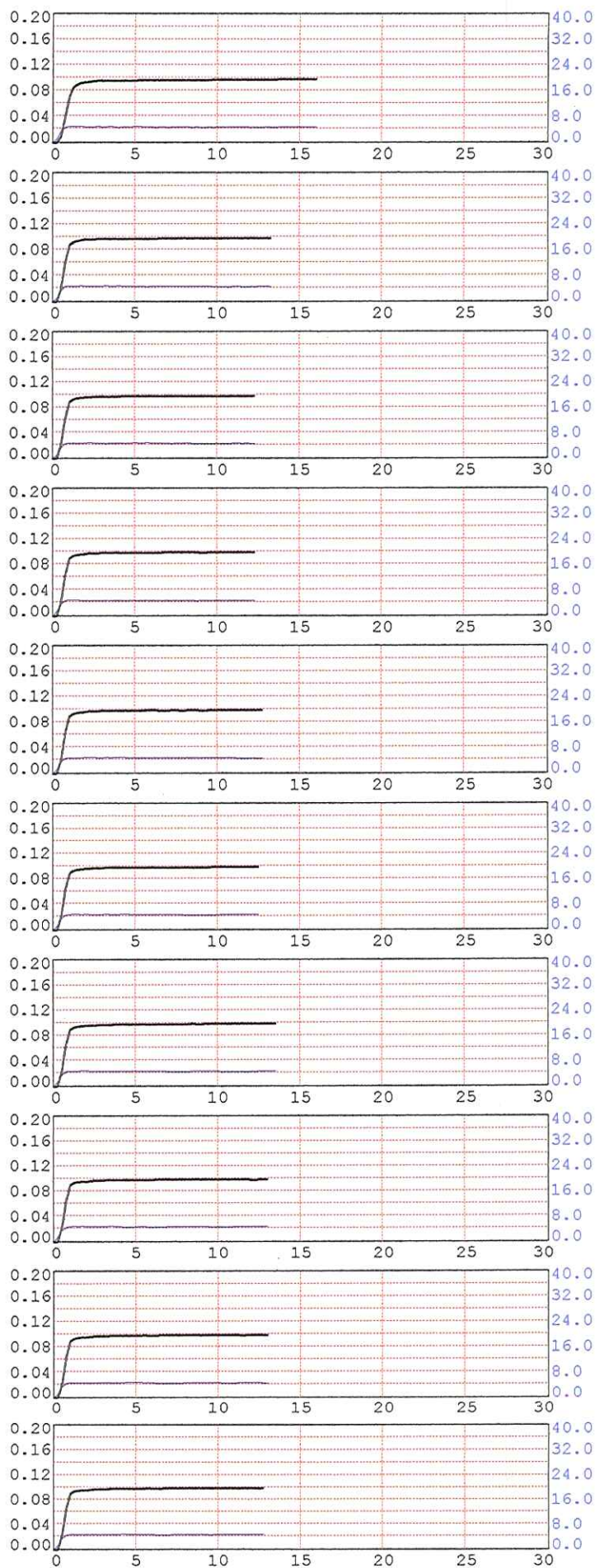
SOLUTION LOT #: GUTH 15120

SOLUTION CONCENTRATION: 0.100

BLANK TEST	0.000	11:37
CALIBRATION CHECK	PASSED	11:37
SIMULATOR VAPOR 34.2°C	0.098	11:37
SIMULATOR VAPOR 34.1°C	0.099	11:38
SIMULATOR VAPOR 34.1°C	0.099	11:39
SIMULATOR VAPOR 34.1°C	0.099	11:40
SIMULATOR VAPOR 34.2°C	0.099	11:41
SIMULATOR VAPOR 34.1°C	0.099	11:42
SIMULATOR VAPOR 34.1°C	0.099	11:43
SIMULATOR VAPOR 34.2°C	0.099	11:45
SIMULATOR VAPOR 34.1°C	0.099	11:46
SIMULATOR VAPOR 34.2°C	0.099	11:47
BLANK TEST	0.000	11:47

Average = 0.098

Std Dev = 0.0003



CERTIFICATION REPORT

DataMaster DMT: 100146
Calibration Date: 10/04/2016
Certification Date: 10/10/2016
Certified by: ROBERT DRISCOLL



Diagnostic Results

VERSIONS

DMT: 2.00
PIC: 2.05
Modem: 2.6
Questions: 2.1

TEMPERATURES

Sample Chamber = 48.9°C
Breath Tube = 46.7°C
Digital Sim = 34.1°C

SETTINGS

Lamp Voltage = 1.72 V
Cooler Voltage = 1.69 V
Bias Voltage = 80 V
Chopper Freq = 551 Hz

PUMP INFO

Flow Rate = 6.009 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX (V)	0.0089	0.0128
MIN (V)	0.0079	0.0112

FILTER INFO

Filter 1	0.012	Zero = true
Filter 2	0.241	Zero = true
Filter 3	0.520	Zero = true

CALIBRATION CHECK

Xq = 0.079 0.00%

Options

OPTIONS

Units

Alcohol..... g/210L

Simulator

Tolerance Check..... yes
Standard Type..... wet
Nominal..... 0.100
Digital Simulator..... Guth34CNP

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

True Value	Reported Average	Std Dev
0.020 g/210L Lot # 16-19-020	0.020 g/210L	0.0005
0.079 g/210L Lot # 15-22-080	0.081 g/210L	0.0000
0.160 g/210L Lot # 15-27-160	0.157 g/210L	0.0003
0.401 g/210L Lot # 15-28-400	0.392 g/210L	0.0005

Lot # 16-14-080A1
Interference Detected

Mouth Alcohol Test

Mouth Alcohol Detected

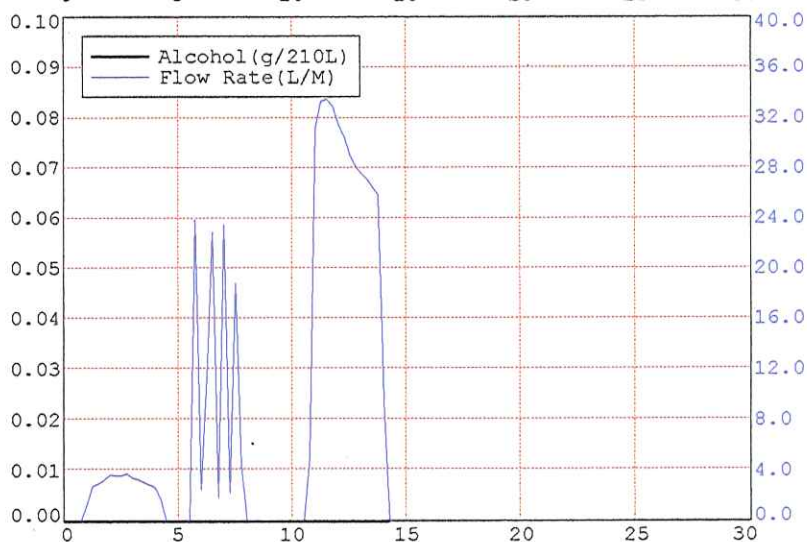
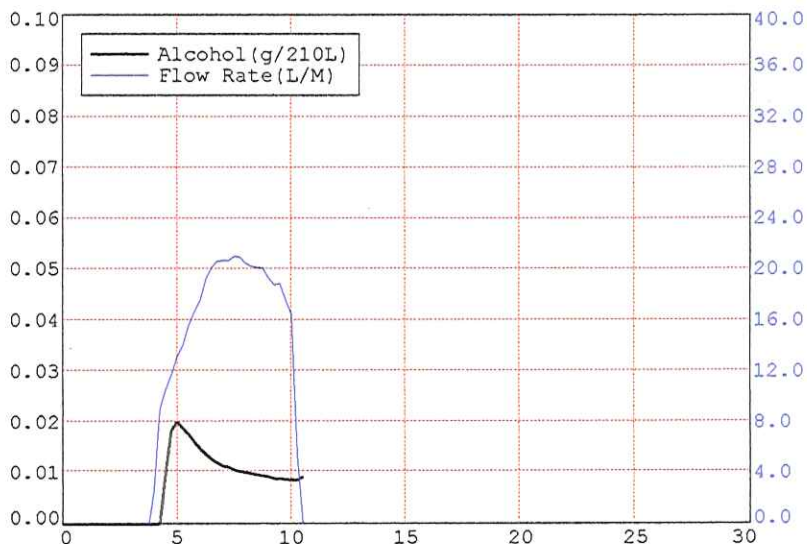
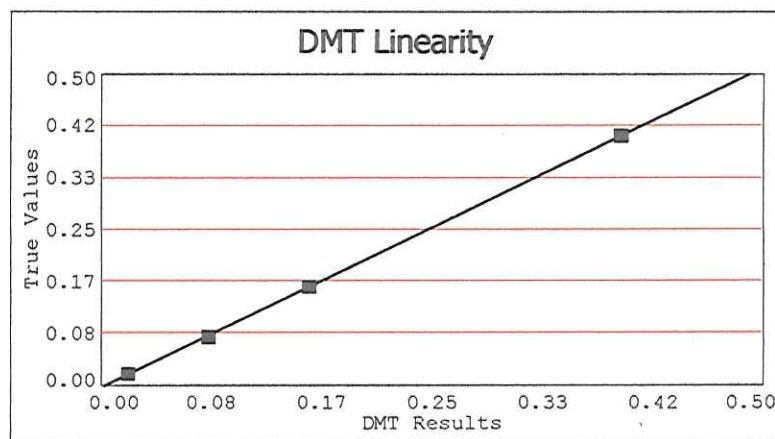
RF Detection Test

Passed

Sample Acceptance Test

Passed

CERTIFICATION PASSED



Performed by  R.S.

Date 10/10/2016

Reviewed by _____

Date 10/11/16

5 RQ

DIAGNOSTIC RESULT

DataMaster DMT: 100146
Location:
Calibration Date: 10/04/2016
Certification Date: 10/10/2016
Installation Date:
Test Date: 10/11/2016
Test Time: 07:54:58



VERSIONS

DMT: 2.00
PIC: 2.05
Modem: 2.6
Questions: 2.1

TEMPERATURES

Sample Chamber = 49.1°C
Breath Tube = 46.7°C
Digital Sim = 34.2°C

SETTINGS

Lamp Voltage = 1.72 V
Cooler Voltage = 1.69 V
Bias Voltage = 80 V
Chopper Freq = 550 Hz

PUMP INFO

Flow Rate = 6.161 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX (V)	0.0098	0.0132
MIN (V)	0.0085	0.0118

FILTER INFO

Filter 1	0.013	Zero = true
Filter 2	0.241	Zero = true
Filter 3	0.521	Zero = true

CALIBRATION CHECK

Xq = 0.078 0.66%

DIAGNOSTIC RESULT

DataMaster DMT: 100146
Location:
Calibration Date: 10/04/2016
Certification Date:
Installation Date:
Test Date: 10/10/2016
Test Time: 11:05:56



VERSIONS

DMT: 2.00
PIC: 2.05
Modem: 2.6
Questions: 2.1

TEMPERATURES

Sample Chamber = 48.8°C
Breath Tube = 46.4°C
Digital Sim = 34.2°C

SETTINGS

Lamp Voltage = 1.72 V
Cooler Voltage = 1.69 V
Bias Voltage = 80 V
Chopper Freq = 551 Hz

PUMP INFO

Flow Rate = 6.104 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX (V)	0.0081	0.0122
MIN (V)	0.0069	0.0106

FILTER INFO

Filter 1	0.011	Zero = true
Filter 2	0.240	Zero = true
Filter 3	0.519	Zero = true

CALIBRATION CHECK

Xq = 0.079 0.11%

DIAGNOSTIC RESULT

DataMaster DMT: 100146
Location:
Calibration Date: 10/04/2016
Certification Date:
Installation Date:
Test Date: 10/10/2016
Test Time: 06:44:22



VERSIONS

DMT: 2.00
PIC: 2.05
Modem: 2.6
Questions: 2.1

TEMPERATURES

Sample Chamber = 48.7°C
Breath Tube = 47.1°C
Digital Sim = 34.1°C

SETTINGS

Lamp Voltage = 1.72 V
Cooler Voltage = 1.69 V
Bias Voltage = 80 V
Chopper Freq = 551 Hz

PUMP INFO

Flow Rate = 5.995 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX(V)	0.0091	0.0124
MIN(V)	0.0079	0.0110

FILTER INFO

Filter 1	0.011	Zero = true
Filter 2	0.241	Zero = true
Filter 3	0.521	Zero = true

CALIBRATION CHECK

Xq = 0.079 0.55%

DIAGNOSTIC RESULT

DataMaster DMT: 100146
Location:
Calibration Date: 10/04/2016
Certification Date:
Installation Date:
Test Date: 10/07/2016
Test Time: 06:51:31



VERSIONS

DMT: 2.00
PIC: 2.05
Modem: 2.6
Questions: 2.1

TEMPERATURES

Sample Chamber = 49.0°C
Breath Tube = 47.4°C
Digital Sim = 34.2°C

SETTINGS

Lamp Voltage = 1.72 V
Cooler Voltage = 1.69 V
Bias Voltage = 80 V
Chopper Freq = 551 Hz

PUMP INFO

Flow Rate = 6.077 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX (V)	0.0161	0.0195
MIN (V)	0.0146	0.0181

FILTER INFO

Filter 1	0.019	Zero = true
Filter 2	0.250	Zero = true
Filter 3	0.528	Zero = true

CALIBRATION CHECK

Xq = 0.079 0.11%

DIAGNOSTIC RESULT

DataMaster DMT: 100146
Location:
Calibration Date: 10/04/2016
Certification Date:
Installation Date:
Test Date: 10/06/2016
Test Time: 06:51:48



VERSIONS

DMT: 2.00
PIC: 2.05
Modem: 2.6
Questions: 2.1

TEMPERATURES

Sample Chamber = 49.0°C
Breath Tube = 47.4°C
Digital Sim = 34.1°C

SETTINGS

Lamp Voltage = 1.72 V
Cooler Voltage = 1.69 V
Bias Voltage = 80 V
Chopper Freq = 551 Hz

PUMP INFO

Flow Rate = 6.131 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX(V)	0.0187	0.0226
MIN(V)	0.0173	0.0205

FILTER INFO

Filter 1	0.021	Zero = true
Filter 2	0.252	Zero = true
Filter 3	0.529	Zero = true

CALIBRATION CHECK

Xq = 0.079 0.22%

DIAGNOSTIC RESULT

DataMaster DMT: 100146
Location:
Calibration Date: 10/04/2016
Certification Date:
Installation Date:
Test Date: 10/04/2016
Test Time: 15:05:07



VERSIONS

DMT: 2.00
PIC: 2.05
Modem: 2.6
Questions: 2.1

TEMPERATURES

Sample Chamber = 48.7°C
Breath Tube = 46.2°C
Digital Sim = 34.1°C

SETTINGS

Lamp Voltage = 1.72 V
Cooler Voltage = 1.69 V
Bias Voltage = 80 V
Chopper Freq = 550 Hz

PUMP INFO

Flow Rate = 6.187 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX (V)	0.0344	0.0382
MIN (V)	0.0333	0.0370

FILTER INFO

Filter 1	0.037	Zero = true
Filter 2	0.268	Zero = true
Filter 3	0.542	Zero = true

CALIBRATION CHECK

Xq = 0.079 0.00%

DIAGNOSTIC RESULT

DataMaster DMT: 100146
Location:
Calibration Date: 10/04/2016
Certification Date:
Installation Date:
Test Date: 10/04/2016
Test Time: 13:58:13



VERSIONS

DMT: 2.00
PIC: 2.05
Modem: 2.6
Questions: 2.1

TEMPERATURES

Sample Chamber = 48.6°C
Breath Tube = 47.2°C
Digital Sim = 34.2°C

SETTINGS

Lamp Voltage = 1.72 V
Cooler Voltage = 1.69 V
Bias Voltage = 80 V
Chopper Freq = 550 Hz

PUMP INFO

Flow Rate = 6.123 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX (V)	0.0388	0.0421
MIN (V)	0.0378	0.0409

FILTER INFO

Filter 1	0.042	Zero = true
Filter 2	0.272	Zero = true
Filter 3	0.545	Zero = true

CALIBRATION CHECK

Xq = 0.079 0.11%

DIAGNOSTIC RESULT

DataMaster DMT: 100146
Location:
Calibration Date: 10/04/2016
Certification Date:
Installation Date:
Test Date: 10/04/2016
Test Time: 11:53:12



VERSIONS

DMT: 2.00
PIC: 2.05
Modem: 2.6
Questions: 2.1

TEMPERATURES

Sample Chamber = 49.1°C
Breath Tube = 46.3°C
Digital Sim = 34.1°C

SETTINGS

Lamp Voltage = 1.72 V
Cooler Voltage = 1.69 V
Bias Voltage = 80 V
Chopper Freq = 551 Hz

PUMP INFO

Flow Rate = 6.180 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX(V)	0.0610	0.0646
MIN(V)	0.0602	0.0630

FILTER INFO

Filter 1	0.064	Zero = true
Filter 2	0.293	Zero = true
Filter 3	0.577	Zero = true

CALIBRATION CHECK

Xq = 0.079 0.33%

DIAGNOSTIC RESULT

DataMaster DMT: 100146
Location: MIDDLESEX VSP
Calibration Date: 02/25/2016
Certification Date: 02/25/2016
Installation Date: 09/29/2016
Test Date: 10/04/2016
Test Time: 08:34:19



VERSIONS

DMT: 2.00
PIC: 2.05
Modem: 2.6
Questions: 2.1

TEMPERATURES

Sample Chamber = 48.7°C
Breath Tube = 47.9°C
Digital Sim = 0.0°C

SETTINGS

Lamp Voltage = 1.72 V
Cooler Voltage = 1.69 V
Bias Voltage = 80 V
Chopper Freq = 551 Hz

PUMP INFO

Flow Rate = 6.218 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX (V)	0.0998	0.1030
MIN (V)	0.0982	0.1016

FILTER INFO

Filter 1	0.103	Zero = true
Filter 2	0.325	Zero = true
Filter 3	0.602	Zero = true

CALIBRATION CHECK

Xq = 0.087 3.50%



ACCURACY & PRECISION REPORT

STATE OF VERMONT

DataMaster DMT: 100146
Location: MIDDLESEX VSP

Date: 10/03/2016
Time: 14:21:26

SUPERVISOR NAME:
ROBERT DRISCOLL

SOLUTION LOT #: 16-21-100
SOLUTION CONCENTRATION: 0.098

BLANK TEST 0.000 14:22
CALIBRATION CHECK ERROR 14:22

CALIBRATION CHECK ERROR

DIAGNOSTIC RESULT

DataMaster DMT: 100146
Location: MIDDLESEX VSP
Calibration Date: 02/25/2016
Certification Date: 02/25/2016
Installation Date: 09/29/2016
Test Date: 10/03/2016
Test Time: 14:19:01



VERSIONS
DMT: 2.00
PIC: 2.05
Modem: 2.6
Questions: 2.1

TEMPERATURES

Sample Chamber = 49.1°C
Breath Tube = 47.0°C
Digital Sim = 34.1°C

SETTINGS

Lamp Voltage = 1.72 V
Cooler Voltage = 1.69 V
Bias Voltage = 80 V
Chopper Freq = 553 Hz

PUMP INFO

Flow Rate = 6.076 L/M

DETECTOR INFO

PUMP	ON	OFF
MAX(V)	0.1587	0.1606
MIN(V)	0.1569	0.1589

FILTER INFO

Filter 1	0.159	Zero = true
Filter 2	0.381	Zero = true
Filter 3	0.667	Zero = true

CALIBRATION CHECK

Xq = 0.087 3.60%

Re: Datamaster

Driscoll, Rob

Mon 10/3/2016 9:24 AM

Sent Items

To: Delphia, Chelsea <Chelsea.Delphia@vermont.gov>;

Chelsea,

It is an internal check that the instrument runs before performing a test. Please put the instrument out of service and I will come take it back to the Lab for repair.

Thanks,
Rob

Robert Driscoll
Vermont Forensic Laboratory
45 State Drive
Waterbury, VT 05671
Electronics Technician
Rob.Driscoll@Vermont.gov
Desk: (802) 241-5817
Cell: (802) 585-0123

From: Delphia, Chelsea
Sent: Monday, October 3, 2016 9:22:43 AM
To: Driscoll, Rob
Subject: Datamaster

Good morning Rob,

Over the weekend one of the troops tried to use the Datamaster and got a message displaying calibration check error. I ran an accuracy and precision report and got the same message. What can I do to fix this?

Thank you,
Chelsea Delphia

100146

17 of 17 RD