



Knox County Health Department

140 Dameron Avenue, Knoxville, TN 37917

Brian Rivera, P.E.
Division Director
Air Quality
Knox County Health Department
140 Dameron Ave,
Knoxville, TN 37917-6413

Aug. 27, 2020

Re: Third Quarter Air Monitoring Audit

Dear Mr. Rivera:

On Aug. 24, 2020 – Aug 26, 2020 internal quality assurance performance audits were performed on Air Quality's monitoring network. The URG was away for repair; therefore, no audit was performed on this instrument. All other instruments and measures were within acceptance criteria. Audit calculations and field notes are included in the following audit report.

Each physical location was inspected. Each site was well maintained. The fire extinguishers were visibly inspected.

Logbooks were reviewed and all documentation was found in order.

The laboratory clean room was inspected. The filter preparation area was clean. The PM_{2.5} storage temperature log was reviewed. Storage temperatures continue to exceed 4.1 °C at least monthly. The exceedance did not affect any filters stored due to higher ambient run temperatures. Filters must be maintained at ≤ 4.0°C or ≤ the ambient temperature of the sampling event, in order to have 30 days to weigh the filters. The Program Manager and Operator have continued the increased defrosting and temperature checks.

The stagnation pressures on the lead monitors have increased to outside the normal ranges. Upon discussion with the operator, and review of the data this appears to be related to a new batch of filters. The issue was brought to the attention of the Program Manager.

If there are any questions regarding this audit, please email Rebecca.Larocque@knoxcounty.org or call 865-215-5941

Rebecca Larocque
Environmental Specialist
Knox County Health Department

Ozone Audit Calculations

Date: 8/25/2020
 Site: Springhill

Audit SN: 179
 Analyzer SN: 2013

Date: 8/26/2020
 Site: East Knox

Audit SN: 179
 Analyzer SN: 4006

Collection Time	Target	Analyzer	Audit Standard	Difference	% Difference
est	ppb	ppb	ppb	ppb	%
8:53:00 AM	110	108	110	-2.0	-1.82
9:03:00 AM	70	69	70	-1.0	-1.43
9:14:00 AM	35	35	35.0	0.0	0.00
9:25:00 AM	15	14	15.0	-1.0	-6.67
9:35:00 AM	0	1	0.0	1.0	N/A

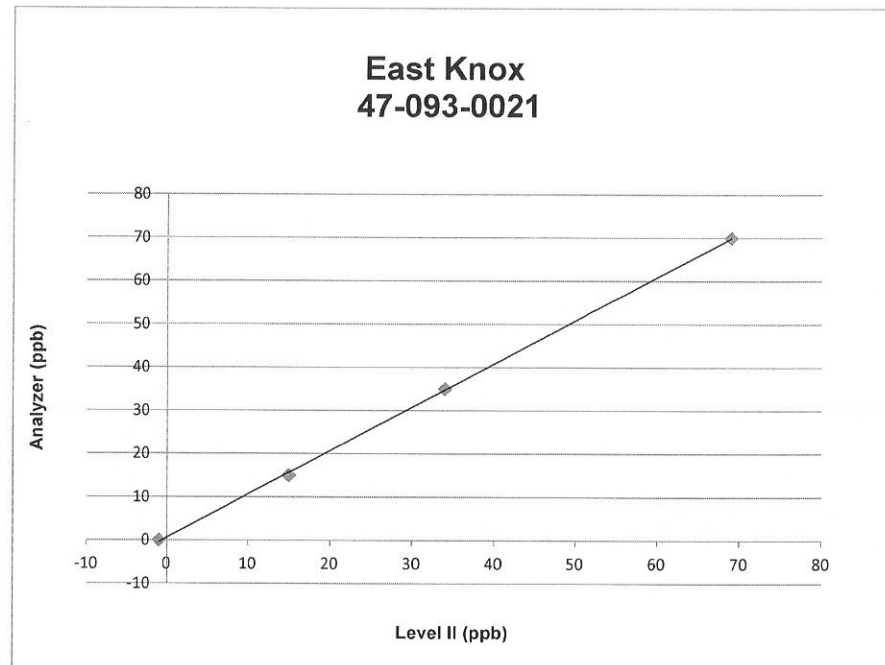
Slope 0.978780 correlation 0.999890
 Intercept 0.38 R2 0.999780

Collection Time	Target	Analyzer	Audit Standard	Difference	% Difference
est	ppb	ppb	ppb	ppb	%
8:52:00 AM	110	108	110	-2.0	-1.82
9:03:00 AM	70	69	70	-1.0	-1.43
9:14:00 AM	35	34	35.0	-1.0	-2.86
9:25:00 AM	15	15	15.0	0.0	0.00
9:35:00 AM	0	-1	0.0	-1.0	NA

Slope 0.987929 correlation 0.999944
 Intercept -0.44 R2 0.999889



Notes: 26 psi pump, 3.5-4.5 excess flow. Pressure stable at 28 psi, no back pressure compensation performed



Notes: 26 psi pump, 4LPM excess flow. Pressure stable at 28 psi, no back pressure compensation performed

Site Name: Spring L.N

Date: 8.25.20

Generate Time est	Read Time est	Target ppb	Analyzer ppb	Audit STD ppb	Stability ppb
8:42	8:53	110	108	110	0.2
8:53	9:03	70	69	70	0.1
9:03	9:14	35	35	35	0.2
9:14	9:25	15	14	15	0.5
9:25	9:35	0	1	0	0.1

Audit std Serial #: 179

Analyzer Serial #: 2013

TEST PARAMETER	CALIBRAT OR VALUE	ACCEPTABLE RANGE
Output Flow (lpm)	4.9	3.0 to 5.5
Reg. Press. (psig)	13.0	10 to 17 psig
Box Temp (°C)	31.0	20 to 35
O3 Gen. Ref. (mV)	0.0	-25 to 5000
O3 Gen. Drive (mV)	—	-25 to 5000
O3 Lamp Temp (°C)	48.0	47 to 49
Photo. Meas. (mV)	4505.6	2500 to 4700
Photo. Ref. (mV)	4505.7	2500 to 4700
Photo. Flow (lpm)	0.7972	0.720 to 0.880
Photo. Lamp Temp. (°C)	58.0	57 to 59
Photo. Smp. Prs. (inHg-A)	28.0	≈ Amb. -1 inHg
Photo. Samp. Temp. (°C)	41.3	25 to 48
Slope (unitless)	0.977	0.850 to 1.150
Offset (ppb)	0.8	-10.0 to +10.0

TEST PARAMETER	ANALYZE R VALUE	ACCEPTABLE RANGE
Stability (ppb)		< 1 ppb @ zero
O3 Meas. (mV)	4127.0	2500 to 4800
O3 Ref. (mV)	4127.0	2500 to 4800
Pressure (inHg-A)	26.8	≈ Amb. -2 inHg
Sample Flow (cc/min)	745	720 to 880
Sample Temp. (°C)	41.9	10 to 50
Photo. Lamp Temp. (°C)	58.0	57 to 59
Box Temp (°C)	32.5	10 to 50
Slope (unitless)	1.026	0.85 to 1.15
Offset (ppb)	-0.2	-10.0 to +10.0

Excess Flow @ Trans. Std. Vent: 26psi

External ZAS Pressure: 3.5-4.5 Lpm

	System	Reference	Difference
Logger Time	8:58:59	8:59:00	-1 sec
Analyzer	8:59:20	8:59:20	0

	Serial #	Actual (°C)	Ref (°C)	Diff (°C)
Shelter Temp Sensor Display		20.2	24.0	-3.8
Data Logger Display		24.2	24.0	0.2
Shelter Thermometer (back up)	140552941	24	24.0	0
Shelter Thermostat		23.9	24.0	-0.1

icen disc 8:25 (erat 8:44 AM)

Site Name: Eastbrook

Date: 8-26-20

Generate Time est	Read Time est	Target ppb	Analyzer ppb	Audit STD ppb	Stability ppb
8:42	8:52	110	108	110	0.4
8:53	9:03	70	69	70	0.2
9:03	9:14	35	34	35	0.5
9:15	9:25	15	15	15	0.2
9:25	9:35	0	-1	0	0.2

Audit std Serial #: 179

Analyzer Serial #: 4006

TEST PARAMETER	CALIBRAT OR VALUE	ACCEPTABLE RANGE
Output Flow (lpm)	4.8	3.0 to 5.5
Reg. Press. (psig)	12.9	10 to 17 psig
Box Temp (°C)	32.5	20 to 35
O3 Gen. Ref. (mV)	0.0	-25 to 5000
O3 Gen. Drive (mV)	—	-25 to 5000
O3 Lamp Temp (°C)	47.9	47 to 49
Photo. Meas. (mV)	4451.1	2500 to 4700
Photo. Ref. (mV)	4451.1	2500 to 4700
Photo. Flow (lpm)	0.7968	0.720 to 0.880
Photo. Lamp Temp. (°C)	58.0	57 to 59
Photo. Smp. Prs. (inHg-A)	28.0	≈ Amb. -1 inHg
Photo. Samp. Temp. (°C)	42.0	25 to 48
Slope (unitless)	0.977	0.850 to 1.150
Offset (ppb)	0.8	-10.0 to +10.0

TEST PARAMETER	ANALYZE R VALUE	ACCEPTABLE RANGE
Stability (ppb)	0.3	< 1 ppb @ zero
O3 Meas. (mV)	4083.9	2500 to 4800
O3 Ref. (mV)	4083.8	2500 to 4800
Pressure (inHg-A)	27.1	≈ Amb. -2 inHg
Sample Flow (cc/min)	837	720 to 880
Sample Temp. (°C)	41.4	10 to 50
Photo. Lamp Temp. (°C)	58.0	57 to 59
Box Temp (°C)	32.2	10 to 50
Slope (unitless)	0.958	0.85 to 1.15
Offset (ppb)	-1.7	-10.0 to +10.0

Excess Flow @ Trans. Stnd. Vent: 4.6 lpm

External ZAS Pressure: 26

	System	Reference	Difference
Logger Time	8:39:55	8:39:56	-1 sec
Analyzer	8:40:14	8:39:23	51 sec

PC #48 sec

	Serial #	Actual (°C)	Ref (°C)	Diff (°C)
Shelter Temp Sensor Display	72.1	22.3	25.3	≈ 3°C
Data Logger Display		25.8	25.3	0.5°C
Shelter Thermometer (back up)	14 055 8788	25	25	0°C
Shelter Thermostat	74	23.4	25.4	≈ 2°C

Pressure stable @ 28 in Hg

PM 2.5 Audit Calculations

Reference device used for Audit: SLP

Serial number : 190706

Date of Certification: 6/19/2020

Date: 8/24/2020

Site: Springhill

Monitor Serial number: 20606

	units	System Value	Reference Value	Difference (S-R)	%	Acceptance Criteria
Time	hh:mm:ss	8:51:00 AM	8:51:20 AM	0:00:20		+/- 1 Min.
Filter T	°C	23.7	24.1	-0.4		+/- 2° C
Ambient T	°C	23.5	23.6	-0.1		+/- 2° C
Pressure	mmHg	736	738	-2		+/- 10 mmHg
Flow Rate	lpm	16.7	16.77	-0.07	-0.4%	+/- 4%

Notes: LC 5mmHg

Date: 8/24/2020

Site: Air Lab

Monitor Serial number: 60909

	units	System Value	Reference Value	Difference (S-A)	%	Acceptance Criteria
Time	hh:mm:ss	10:50:00 AM	10:50:51 AM	0:00:51		+/- 1 Min.
Filter T	°C	30.1	31.1	-1		+/- 2° C
Ambient T	°C	29.9	29.8	0.1		+/- 2° C
Pressure	mmHg	737	740	-3		+/- 10 mmHg
Flow Rate	lpm	16.7	16.74	-0.04	-0.2%	+/- 4%

Notes: LC 4mmHg

Date: 8/24/2020

Site: Rul

Monitor Serial number: 41005

	units	System Value	Reference Value	Difference (S-A)	%	Acceptance Criteria
Time	hh:mm:ss	11:34:09 AM	11:34:19 AM	0:00:10		+/- 1 Min.
Filter T	°C	29.5	29.7	-0.2		+/- 2° C
Ambient T	°C	27.6	28.5	-0.9		+/- 2° C
Pressure	mmHg	736	737	-1		+/- 10 mmHg
Flow Rate	lpm	16.7	16.88	-0.18	-1.1%	+/- 4%

Notes: LC 3mmHg

Date: 8/26/2020

Site: Bearden Official

Monitor Serial number: 40606

	units	System Value	Reference Value	Difference (S-A)	%	Acceptance Criteria
Time	hh:mm:ss	11:13:00 AM	11:13:10 AM	0:00:10		+/- 1 Min.
Filter T	°C	28.7	28.9	-0.2		+/- 2° C
Ambient T	°C	26.7	27.1	-0.4		+/- 2° C
Pressure	mmHg	740	738	2		+/- 10 mmHg
Flow Rate	lpm	16.7	16.81	-0.11	-0.7%	+/- 4%

Notes: LC 6 mmHg

Date: 8/24/2020

Site: Bearden Collocate

Monitor Serial number: 30606

	units	System Value	Reference Value	Difference (S-A)	%	Acceptance Criteria
Time	hh:mm:ss	12:17:05 PM	12:17:12 PM	0:00:07		+/- 1 Min.
Filter T	°C	31.2	32.6	-1.4		+/- 2° C
Ambient T	°C	29	30.8	-1.8		+/- 2° C
Pressure	mmHg	737	738	-1		+/- 10 mmHg
Flow Rate	lpm	16.6	16.76	-0.16	-1.0%	+/- 4%

Notes: LC 11 mmHg

Ref Device:
Serial Number: 190706

Calibration Date: 6-19-20

Site Name: Spring Hill Date: 8-24-20

Sampler ID:	System	Reference	Difference	Acceptance Criteria
<u>20606</u>				
Time (in EST)	<u>8:51:00</u>	<u>8:51:30</u>	<u>-30 sec</u>	+/- 1 Min.
Filter Temperature	<u>23.7</u>	<u>24.1</u>	<u>-0.4°C</u>	+/- 2° C
Ambient Temperature	<u>23.5</u>	<u>23.6</u>	<u>-0.1°C</u>	+/- 2° C
Barometric Pressure	<u>736</u>	<u>737.6</u>	<u>-1.6 in</u>	+/- 10 mmHg
Sample Flow	<u>16.76</u>	<u>16.77</u>	<u>+0.42%</u>	+/- 4%

Leak Check
5 <25mmHG

Site Name: Air Lab Date: 8-24-20

Sampler ID:	System	Reference	Difference	Acceptance Criteria
<u>60209</u>				
Time (in EST)	<u>10:50:00</u>	<u>10:50:57</u>	<u>-57 sec</u>	+/- 1 Min.
Filter Temperature	<u>30.1</u>	<u>31.1</u>	<u>-1°C</u>	+/- 2° C
Ambient Temperature	<u>29.5</u>	<u>29.8</u>	<u>0.1°C</u>	+/- 2° C
Barometric Pressure	<u>737</u>	<u>739.8</u>	<u>-2.8 in</u>	+/- 10 mmHg
Sample Flow	<u>16.70</u>	<u>16.74</u>	<u>+0.24%</u>	+/- 4%

Leak Check
4 <25mmHG

Site Name: ful Date: 8-24-20

Sampler ID:	System	Reference	Difference	Acceptance Criteria
<u>4105</u>				
Time (in EST)	<u>11:34:09</u>	<u>11:34:19</u>	<u>-10 sec</u>	+/- 1 Min.
Filter Temperature	<u>29.5</u>	<u>29.7</u>	<u>-0.2</u>	+/- 2° C
Ambient Temperature	<u>27.6</u>	<u>28.5</u>	<u>-0.9</u>	+/- 2° C
Barometric Pressure	<u>734</u>	<u>736.6</u>	<u>-0.6</u>	+/- 10 mmHg
Sample Flow	<u>16.70</u>	<u>16.88</u>	<u>-1.1%</u>	+/- 4%

Leak Check
3 <25mmHG

Site Name: Bearden Date: 8-24-20 NO COMPUTE 8-26-20

Sampler ID:	System	Reference	Difference	Acceptance Criteria
<u>40606</u>				
Time (in EST)	<u>11:13:00</u>	<u>11:13:10</u>	<u>-10 sec</u>	+/- 1 Min.
Filter Temperature	<u>28.7</u>	<u>28.9</u>	<u>-0.2</u>	+/- 2° C
Ambient Temperature	<u>26.7</u>	<u>27.1</u>	<u>-0.4</u>	+/- 2° C
Barometric Pressure	<u>740</u>	<u>738.1</u>	<u>1.9</u>	+/- 10 mmHg
Sample Flow	<u>16.70</u>	<u>16.81</u>	<u>-0.65%</u>	+/- 4%

Leak Check
10 <25mmHG

Site Name: bearden 60110 Date:

Sampler ID:	System	Reference	Difference	Acceptance Criteria
<u>30606</u>				
Time (in EST)	<u>10:17:05</u>	<u>10:17:12</u>	<u>-7 sec</u>	+/- 1 Min.
Filter Temperature	<u>31.2</u>	<u>32.6</u>	<u>-1.4</u>	+/- 2° C
Ambient Temperature	<u>29.0</u>	<u>30.8</u>	<u>-1.8°C</u>	+/- 2° C
Barometric Pressure	<u>737</u>	<u>738.4</u>	<u>-1.4 in</u>	+/- 10 mmHg
Sample Flow	<u>16.60</u>	<u>16.76</u>	<u>-0.95%</u>	+/- 4%

Leak Check
11 <25mmHG

Lead Audit Calculations

Reference device used for Audit: Hi vol Cal

Serial number : 96

Date of Certification: 4/7/2020

Date: 8/26/2020 Bar Press 738 mmHg
 Monitor ID: P2875 Temp 29.5 °C
 Site: Burnside

Date: 8/26/2020 Bar Press 738 mmHg
 Monitor ID: P4302 Temp 30.6 °C
 Site: Burnside Collor

Qa CFM

39.78	Stag Press: <u>27.8</u> inH2O
	Pa: <u>51.9304</u> mmHg
39.78	Po/Pa: <u>0.929634</u> unitless
39.77	Flow <u>1.133</u> (from table)
39.8	%D: <u>0.53%</u> {Flow- Qa/Qa}x 100
39.83	
39.62	% D Design <u>-0.27%</u> {Qa - 1.13/1.13}
39.89	
39.88	
39.88	
39.86	
39.81 CFM	
1.127 m ³ /min	

Qa CFM

40.17	Stag Press: <u>28.3</u> inH2O
	Pa: <u>52.8644</u> mmHg
40.16	Po/Pa: <u>0.928368</u> unitless
40.17	Flow <u>1.136</u> (from table)
39.97	%D: <u>0.11%</u> {Flow- Qa/Qa}x 100
40.03	
40.08	% D Design <u>0.43%</u> {Qa - 1.13/1.13}
40.06	
40.08	
40.01	
40.02	
40.08 CFM	
1.135 m ³ /min	

Date: 8/26/2020 Bar Press 738 mmHg
 Monitor ID: P-4304 Temp 30.3 °C
 Site: Ameristeel

Notes: Stagnation pressures are running higher with new filters,
 flow extrapolated from charts

Qa CFM

40.45	Stag Press: <u>28.5</u> inH2O
	Pa: <u>53.238</u> mmHg
40.48	Po/Pa: <u>0.927862</u> unitless
40.41	Flow <u>1.145</u> (from table)
40.43	%D: <u>0.13%</u> {Flow- Qa/Qa}x 100
40.43	
40.24	% D Design <u>1.19%</u> {Qa - 1.13/1.13}
40.29	
40.32	
40.37	
40.4	
40.38 CFM	
1.143 m ³ /min	

TSP/Pb **Please circle Reference device used for Audit**

HiVol Cal	DeltaCal	Trical	TetraCal
-----------	----------	--------	----------

Serial Number: 96 Calibration Date: _____

Date: 8-26-20 Timer: 12:19:30 Cell Time: 12:19:40

Date: 8-26-20 Timer: 12:08:00 Cell Time: 12:07:55

Site: Burnside Official Orifice: P02875

Site: Burnside Collocated Orifice: P04302

QaCFM For TSP

59.78
39.78
39.77
39.80
39.83
39.62
39.89
39.88
39.88
39.86

Amb Pres: 738

Temp: 29.5

Stag Pres: ~~24.2~~ 27.8

QaCFM For TSP

40.17
40.16
40.17
39.97
40.03
40.08
40.06
40.08
40.01
40.02

Amb Pres: 738

Temp: 30.6

Stag Pres: 28.3

Leak Check: 24.2 {Between 17-24 inH2O}

Leak Check: 24.1 {Between 17-24 inH2O}

Date: 8-26-20 Timer: 12:33:11 Cell Time: 12:33:28

Date: _____ Timer: _____ Cell Time: _____

Site: Ameristeel Orifice: P04304

Site: _____ Orifice: _____

QaCFM For TSP

40.45
40.48
40.41
40.43
40.43
40.24
40.29
40.32
40.37
40.40

Amb Pres: 738

Temp: ~~32.0~~ 30.3

Stag Pres: 28.5

QaCFM For TSP

Amb Pres: _____

Temp: _____

Stag Pres: _____

Leak Check: 24.1 {Between 17-24 inH2O}

Leak Check: _____ {Between 17

all stag sunny higher but true to regular run - leak check valid verified with auditing check.

PM 2.5 Audit Calculations

Reference device used for Audit: SLP

Serial number : 190706
Date of Certification: Jun-20

Date: 8/24/2020
Site: Air Lab

Monitor Serial number: 192

T640 X

	Units	System	Reference	Difference	%	Criteria
Time	hh:mm:ss	11:16:50 AM	11:16:50 AM	0:00:00		+/- 1 Min.
Shelter T	°C		31	32	-1	+/- 2° C
Amb T	°C		28.7	29.6	-0.9	+/- 2° C
Pressure	mmHg		737.9	739.4	-1.5	+/- 10mmHg
Total Flow	lpm		16.62	16.81	-0.19	-1.130279595 +/- 4 %
MainFlow	lpm		4.99	5.09	-0.1	-1.964636542 +/- 4 %

Notes: LC passed
0.0/0.0 Time is logger
time, instrument was
1min 8 seconds off

Date: _____
Site: _____ Monitor Serial number: _____

	Units	System	Reference	Difference	%	Criteria
Time	hh:mm:ss			0:00:00		+/- 1 Min.
Shelter T	°C			0		+/- 2° C
Amb T	°C			0		+/- 2° C
Pressure	mmHg			0		+/- 10mmHg
Flow Rate	lpm			0	#DIV/0!	+/- 4 %

Notes:

Date: _____
Site: _____ Monitor Serial number: _____

	Units	System	Reference	Difference	%	Criteria
Time	hh:mm:ss			0:00:00		+/- 1 Min.
Shelter T	°C			0		+/- 2° C
Amb T	°C			0		+/- 2° C
Pressure	mmHg			0		+/- 10mmHg
Flow Rate	lpm			0	#DIV/0!	+/- 4 %

Notes:

Date: _____
Site: _____ Monitor Serial number: _____

	Units	System	Reference	Difference	%	Criteria
Time	hh:mm:ss			0:00:00		+/- 1 Min.
Shelter T	°C			0		+/- 2° C
Amb T	°C			0		+/- 2° C
Pressure	mmHg			0		+/- 10mmHg
Flow Rate	lpm			0	#DIV/0!	+/- 4 %

Notes:

Date: _____
Site: _____ Monitor Serial number: _____

	Units	System	Reference	Difference	%	Criteria
Time	hh:mm:ss			0:00:00		+/- 1 Min.
Shelter T	°C			0		+/- 2° C
Amb T	°C			0		+/- 2° C
Pressure	mmHg			0		+/- 10mmHg
Flow Rate	lpm			0	#DIV/0!	+/- 4 %

Notes:

Ref Device: SEP
Serial Number: 190706

Calibration Date: 6/2020

Site Name: _____

Date: 8.24.20

large diesel 10:57 est

T640x	SN: <u>192</u>	System	Reference	Difference	Acceptance Criteria
Time (in EST)		<u>11:03:00</u>	<u>11:02:42</u>	<u>+1m 8sec</u>	+/- 1 Min.
Shelter Temperature		<u>31</u>	<u>31.5</u>	<u>-1°C</u>	+/- 2° C
Ambient Temperature		<u>28.7</u>	<u>29.6</u>	<u>-0.9°C</u>	+/- 2° C
Barometric Pressure		<u>737.9</u>	<u>739.4</u>	<u>-1.5 mmHg</u>	+/- 10mmHg
Total Flow (16.67 l/min)[(Sys-Ref) / ref] * 100		<u>16.62</u>	<u>16.81</u>	<u>-1.1%</u>	+/- 4%
Main Flow		<u>4.99</u>	<u>5.09</u>	<u>-1.9%</u>	+/- 4%

Leak Check

<u>0.0</u>	<u>0.0</u>
------------	------------

SN: 140793699

*copies @ 12:06
serial 12:16*

Site Name: _____

Date: _____

T640	SN:	System	Reference	Difference	Acceptance Criteria
Time (in EST)					+/- 1 Min.
Shelter Temperature					+/- 2° C
Ambient Temperature					+/- 2° C
Barometric Pressure					+/- 10mmHg
Flow					+/- 4%

Leak Check

SN: _____

Site Name: _____

Date: _____

T640	SN:	System	Reference	Difference	Acceptance Criteria
Time (in EST)					+/- 1 Min.
Shelter Temperature					+/- 2° C
Ambient Temperature					+/- 2° C
Barometric Pressure					+/- 10mmHg
Flow					+/- 4%

Leak Check

SN: _____

Site Name: _____

Date: _____

T640	SN:	System	Reference	Difference	Acceptance Criteria
Time (in EST)					+/- 1 Min.
Shelter Temperature					+/- 2° C
Ambient Temperature					+/- 2° C
Barometric Pressure					+/- 10mmHg
Flow					+/- 4%

Leak Check

SN: _____

Speciation Audit Calculations

Reference device used for Audit: **SLP**

Serial number : 190706

Date of Certification: Jun-20

Leak Test	Pass	Fail
URG 3000		
SASS Channel 1	0	
SASS Channel 2	0	

Pressure {Ambient}	System	Reference	Difference
URG 3000N			0.00
SASS	737	738	-1.00

Flow Rate

	System	Reference	% Difference
URG 3000N			#DIV/0!
SASS channel 1	6.6	6.6	0.00%
SASS Channel 2	6.8	6.8	0.00%

Temperature

	System	Reference	Difference
URG 3000N Ambient			0.00
SASS ambient	26.1	26.1	0.00
SASS filter channel 1	26.1	26	0.10
SASSfilter Channel 2	25.9	26.1	-0.20

Notes: URG not onsite due to repairs. No audit completed on URG 3rd quarter

Please circle Reference device used for Audit

Streamline Pro	TetraCal
----------------	----------

Serial Number: 190704 Calibration Date: 6/20

Site Name: _____ Date: _____

URG SN:	System	Reference	Difference	Acceptance Criteria
Time (in EST)				+/- 5 Min.
Ambient Temperature				+/- 2° C
Barometric Pressure				+/- 10 mmHg
Sample Flow (16.67 l/min) [(Sys- Ref) / Ref] * 100				+/- 10 %

Leak Check

Pass/Fail

Site Name: Spryghll Date: 8.24.20

SASS SN:	System	Reference	Difference	Acceptance Criteria
<u>6 9188</u>				
Time (in EST)	9:13:46	9:13:37	<u>+15 sec</u>	+/- 5 Min.
Ambient Temperature	26.1	26.1	0° C	+/- 2° C
Barometric Pressure	737	738	-1 mm Hg	+/- 10 mmHg
Filter Temp 1	26.1	26.0	-0.1° C	+/- 2° C
Filter Temp 2	25.9	26.1	-0.2° C	+/- 2° C
Sample Flow 1 (sys-ref/ref)*100	6.6	6.60	0%	+/- 10 %
Sample Flow2[(Sys-ref) / ref] * 100	6.8	6.78	0.3%	+/- 10 %

Leak Check
 press 0.0
Pass/Fail

round led 0%

Comments:
paused forgot adapt for SLP
return 9:45 est completed audit