National Performance Audit Program
Site Audit Report Date: 2017-10-11 Audit Performed On: 20171011
PEAT Version: AQSPEAT v1.8.0.20[2017.07.10@1224]
Parameters Audited: Ozone
Parameters Not Audited:

Site ID:	47-093-0021	**Site Name:**	East Knox Elementary School
Address:	9315 RUTLEDGE PIKE MASCOT TN 37806		
AQS Latitude:	36.0855080008984	**AQS Longitude:**	-83.764806
Measured Latitude:	36.0855080008984	**Measured Longitude:**	-83.764806

Parameter	Agency Method Description	NPAP Method Description
O3	MODEL 400 OZONE ANALYZER	MODEL 400 OZONE ANALYZER

Does confirmed Agency Monitor Information match NPAP Monitor Information? YES

Audit Point	Audit Level	Actual Conc.	Station Value	% Diff	Abs Diff	Pass Fail
O3 Point #1	**5**	**0.0854**	**0.0827**	**-2.8**		**Pass**
O3 Point #2	**4**	**0.0604**	**0.0589**	**-2.0**		**Pass**
O3 Point #3	**3**	**0.0353**	**0.0342**	**-2.6**		**Pass**
O3 Point #4	**2**	**0.0153**	**0.0150**	**-0.7**	**0.1**	**Pass**
O3 Point #5						**N/A**
Zero		**0.0003**	**0.0010**			

Comments:

Auditor Name: Brown, Jason **Station Operator:** Daniel Tipton

Signature: **Signature:**

TTP Audit Site Information

AUDIT AGENCY

Site Name:	Knoxville, TN (East Knox)	Airs ID:	47-093-0021
Auditor:	Jason Brown	Audit Date:	10-11-17
Station Manager:	Daniel Tipton	Audit Type:	NPAP-TTP

Station Instrument Information

Instruments	Ozone	CO	SO2	NO/NOX
Manufacturer/Model #	Teledyne 400E			
Property or Serial Number	SN 2013			
Calibration Date	Cal Verification 7-12-17			
Slope/Intercept	1.008 / 0.7			
Indicated Flow	774 cc/m			
In-Line Filter Change	10-10-17			
Local Primary Standard	PHOTOMETER (VERIFIED)	OTHER GAS STANDARDS	OTHER GAS STANDARDS	OTHER GAS STANDARDS
Manifold type	Teflon line			
AQS Methode Code / POC	087/01			

Station Pollutant Standards

Standards	Ozone	CO	SO2	NO/NOX
Type Teledyne 703E Manufacturer/serial # SN189 Concentration 0-400 PPB Cert. expiration date 1-11-18	Level 3			

Station Gas calibrator(s)

Manufacturer	Model #	Serial #	Certification expiration	Notes

Comments:

Site Operator's Signature: Daniel Tipton 10-11-17

		Pollutant (ppm)					
Audit Point	Time	CO	SO_2	NO	NO_2	Nox	Mobile Lab CO Response Before Correction
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							

Audit Point	Time	O_3 (ppm)	Mobile Lab Reponse Before Line loss Correction
1	8:28 est	82.7	84
2	8:42	58.9	60.4
3	9:01	34.2	35.3
4	9:31	15.0	15.3
5	9:47	1.0	0.3

← Portable O3 system

Pre CO Certification	CO (ppm)	Post CO Certification	CO (ppm)
Ultrapure Zero		Ultrapure Zero	
High CO		High CO	
Low CO			

Comments:

Site Operator's Signature: [signature] 10-11-17

TTP Audit Site Information
AUDIT AGENCY

Site Name:	Knoxville, TN	Airs ID:	470930021
Auditor:	Jason Brown	Audit Date:	10/11/2017
Auditor Performing Agency:	1099	Audit Type:	TTP
Station Manager:	Daniel Tipton		

TTP PE Lab Instument and Standards

Instrument	Ozone	CO
Manufacturer	Thermo	Thermo
Model	49 CPS	48i-TLE
Serial Number	72422-371	A77014
Calibration Date	8/15/17	Day of Audit
Slope	1.01000	
Intercept	-0.30000	

GPS Readings

	Degrees	Minutes
Latitude	36	5.129' N
Longitude	83	45.891'W
Altitude (Ft.)	993	

Station Instrument Information

Instruments	Ozone	CO	SO2	NO/NOX
Manufacturer/Model #	Teledyne 400E			
Property Number	SN/ 2013			
Calibration Date	07/12/17			
Slope/Intercept	1.00800 0.70000			
Indicated Flow	774cc/min			
In-Line Filter Change	10/10/17			
Local Primary Standard	PHOTOMETER (VERIFIED)			
Manifold type	Teflon Line	Teflon Line	Teflon Line	Teflon Line
AQS Method Code / POC	087 1			

Station Pollutant Standards

Standards	Ozone	CO	SO2	NO/NOX
Type	Level 3			
Manufacturer/serial #	Teledyne 703E SN/189			
Concentration	0-400 ppb			
Cert. expiration date	1/11/2018			

Station Gas calibrator(s)

Manufacturer	Model #	Serial #	Certification expiration	Notes

Comments:

Site Name: Knoxville, TN
Auditor: Jason Brown
Site Manager: Daniel Tipton

Airs ID: 470930021
Audit Date: 10/11/17

7/18/2017

Environics Ozone setting	Inside	Outside	%D corrected for zero
Pre Zero	0.0006	0.00066	
0.400	0.40116	0.40048	-0.17
0.175	0.17502	0.17432	-0.40
0.080	0.08026	0.07956	-0.87
0.040	0.03992	0.0399	-0.03
0.020	0.0201	0.0199	-0.97
0.010	0.01034	0.0099	-4.40
Post Zero	0.00054	0.00046	
Ave. Zero	0.0006	0.0006	

Ave % Difference=	-1.14
Prev. Qtr Line Loss=	-1.1800
Current Qtr. Line Loss=	-1.16
Current Line Loss Factor=	0.9884

Analyzer Slope	1.0034	Analyzer Intercept	-0.017200

NPAP O3 Standard Verification					
Date	8/15/2017	Slope	1.0034	Intercept	-0.0172

TTP Ozone Audit

Ozone Audit

Audit Point #	Audit Point Description	Environics Ozone setting	NPAP Response (ppm)	NPAP Corrected for line loss (ppm)	Audited Station Response (ppm)	% Difference
1	O3 Point #1	0.085	0.0854	0.084	0.0827	-2.0
2	O3 Point #2	0.060	0.0604	0.060	0.0589	-1.3
3	O3 Point #3	0.035	0.0353	0.035	0.0342	-2.0
4	O3 Point #4	0.015	0.0153	0.015	0.0150	-0.7
5	O3 Point #5					
6	Zero	0.000	0.0003	0.000	0.0010	

Average % Difference	-1.5

PRELIMINARY NPAP THROUGH-THE-PROBE AUDIT REPORT

AUDIT AGENCY

OZONE REPORT

Site Name:	Knoxville, TN	Airs ID:	470930021
Auditor:	Jason Brown	Audit Date:	10/11/17
Station Manager:	Daniel Tipton		

MOBILE PE LAB INSTRUMENTS

Instrument:	Ozone	CO
Manufacturer:	Thermo	Thermo
Model:	49 CPS	48i-TLE
Serial Number:	72422-371	A77014
Calibration Date:	08/15/17	Day of Audit
Slope	1.01	0
Intercept	-0.3	0

STATION INSTRUMENT INFORMATION

Instrument:	Ozone	
Manufacturer/Model #:	Teledyne	400E
Property Number:	SN/ 2013	
Calibration Date:	07/12/17	
Slope/Intercept:	1.0080	0.7000
Indicated Flow:	774cc/min	
In-Line Filter Change:	10/10/17	
Manifold Type:	Teflon Line	

PRELIMINARY OZONE AUDIT RESULTS

NPAP O3 Concentration (ppm)	Site Response (ppm)	Percent Difference
0.084	0.083	-2.0
0.060	0.059	-1.3
0.035	0.034	-2.0
0.015	0.015	-0.7
0.000	0.001	

	Pass/Fail	Warning
O3 Point #1	Pass	
O3 Point #2	Pass	
O3 Point #3	Pass	
O3 Point #4	Pass	
O3 Point #5	N/A	

Auditor: Jason Brown (Print)

Signature

Mike Crowe

EPA person notified in case of audit failure

Audit Limits

Pass	Bias < ±10% OR difference from actual concentration < 24 hour allowable drift (0.003 ppm)
Fail	Bias > ±10% AND difference from actual concentration > 24 hour allowable drift (0.003 ppm)
Warning	Bias > ±7% AND difference from actual concentration > 0.0015 ppm

Comments:

0